Planning Commission Meeting Agenda

Tuesday, September 09, 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.** August 12, 2025 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: Brightland Homes of Tennessee, LLC has submitted construction plans for Southbend Crossing, a proposed residential development consisting of 219 lots across approximately 58.71 acres. The property is primarily zoned R-3 (High Density Residential**)**, with a portion zoned R-2 (Medium Density Residential). It is located off South Cross Bridges Road, near the intersection with US Highway 43. The site is identified as Tax Map 133, Parcel 01.01, and is recorded in Book R3049, Page 645.
   - **B.** Applicant: Samantha Larson (on behalf of Lab Land Holdings, LLC) An application has been submitted for site plan approval for a proposed 4,000-square-foot industrial building on a 3.32-acre parcel located on Hoover Mason Road. The property is identified as Tax Map 129, Parcel 45.16.
   - **C.** Applicant: Jessica K. Lucyshyn (on behalf of Stewart Parker and the Maury County Industrial Development Board) An application has been submitted for site plan approval for *Project Mustang*, a proposed 186,000-square-foot industrial facility to be constructed on 36.9 acres within the Cherry Glenn Industrial Park. The property is identified as Tax Map 126, Parcel 041.01.
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, August 12, 2025 at 6:00 PM

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

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1. **Call to Order**

   Chair John Hunter called the meeting to order.

2. **Pledge of Allegiance / Invocation**

   Member Hollis led the Pledge of Allegiance and Secretary \ City Commissioner Johnston gave the invocation.

3. **Roll Call**

   All members were present along with Director Chris Brooks, City Manager Phillip Grooms, City Attorney Kori Bledsoe Jones, and City Planning Consutant Will Hager.

   A. John Hunter - *Chair*

   Jennifer Graham - *Vice Chair*

   Pam Johnston - *Secretary / City Commissioner*

   Kris Irvin - *Member*

   Cedric Hollis - *Member*

   PRESENT
   Chair John Hunter
   Vice Chair Jennifer Graham
   Secretary / City Commissioner Pam Johnston
   Member Cedric Hollis
   Member Kris Irvin

4. **Approval / Correction of Minutes from Prior Meetings**

   A. July 8, 2025 meeting minutes

   Motion made by Member Hollis, Seconded by Member Irvin.
   Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, 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**

   None at this time.

7. **New Business**

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

A. Applicant *CBC Properties, LLC* requests approval for the construction of a 12,000 sq. ft. structure to expand the existing development at **301 Canaan Road**. The property is recorded in **Book R2805, Page 1075**, identified as **Parcel 25.0 on Tax Map 127**.

Motion made by Secretary / City Commissioner Johnston, Seconded by Vice Chair Graham.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

Motion made by Member Hollis, Seconded by Secretary / City Commissioner Johnston.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

Motion made by Vice Chair Graham, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

Motion made by Vice Chair Graham, Seconded by Secretary / City Commissioner Johnston.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

B. Applicant *Greg Glaser*, representing *Tractor Supply Company (TSC)*, has submitted an application for **final plat approval** for the property located at **207 South Cross Bridges Road**, designated as **Tax Map 133, Parcel 1.00**.

Motion made by Secretary / City Commissioner Johnston, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

C. Applicant *Mark D. Spalding*, on behalf of the *Maury County Industrial Development Board*, has submitted an application for **mass grading approval** for **Project Mustang**. The subject property is identified as **Map 126, Parcel 041.01**, recorded in **Book 1335, Page 55**.

Motion made by Member Hollis, Seconded by Member Irvin.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

D. Applicant *Allen O'Leary*, representing *Brightland Homes of Tennessee LLC*, seeks **final plat approval** for a residential development comprising **71 lots**. The property is identified as **Map 127, Parcel 025.04**, and recorded in **Book R3010, Page 216**.

Motion made by Member Hollis, Seconded by Secretary / City Commissioner Johnston.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

E. Applicant *Allen O'Leary*, on behalf of *Brightland Homes of Tennessee LLC*, requests to establish a **Letter of Credit for Phase 2** of the **Cottages of Bearwood Final Plat**. This phase includes **71 residential lots** and is presented under **Resolution 2025-PC-06**.

Motion made by Secretary / City Commissioner Johnston, Seconded by Member Hollis.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

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

None at this time.

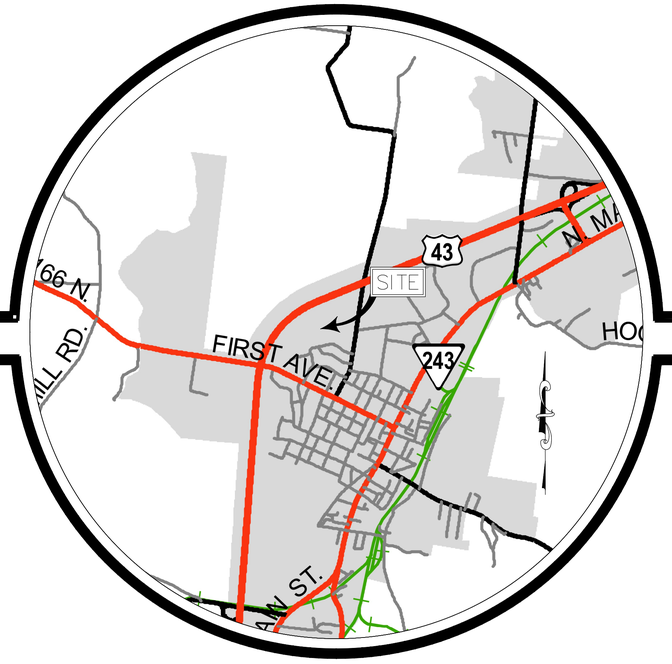
9. Board / Staff Comments / Adjournment

Motion made by Vice Chair Graham, Seconded by Member Hollis.
Voting Yea: Chair Hunter, Vice Chair Graham, Secretary / City Commissioner Johnston, Member Hollis, Member Irvin

A CONSTRUCTION PLAN FOR

SOUTHBEND CROSSINGS

PROPOSED RESIDENTIAL SUBDIVISION
SOUTH CROSS BRIDGES - BYPASS PROPERTY
TAX MAP 133, PARCEL 01.01



LOCATION MAP
NOT TO SCALE
MT. PLEASANT, MAURY COUNTY, TENNESSEE

THIS SITE PLAN HAS BEEN DESIGNED TO MEET THE CRITERIA OF THE CITY OF MT. PLEASANT, TENNESSEE. THE PLANS ARE NOT RELEASED FOR CONSTRUCTION UNTIL THE RELATIVE PERMIT HAS BEEN ISSUED BY THE MUNICIPALITY. CHANGES SHALL NOT BE MADE TO THE APPROVED SITE PLAN UNLESS APPROVED BY THE RELEVANT DEPARTMENT SUPERINTENDANT OR THE PLANNING COMMISSION.

SHEET INDEX

C - 0.0	COVER SHEET	C-4.3	EPSC DETAILS
C-1.0	EXISTING CONDITIONS	C-4.4	ESPC DETAILS
C-1.1 - C-1.8	SITE & UTILITY LAYOUT	C-5.0	CONSTRUCTION DETAILS
C-2.0 - C-2.8	GRADING & DRAINAGE PLAN	C-5.1	CONSTRUCTION DETAILS
C-3.0 - C-3.10	ROADWAY PLAN & PROFILE	C-6.0 - C-6.15	SANITARY SEWER PLAN & PROFILE
C-4.0	EPSC - PHASE 1	C-6.16	SANITARY SEWER DETAILS
C-4.1	EPSC - PHASE 2		
C-4.2	EPSC - PHASE 3		

GENERAL NOTES

1. PROPOSED USE: SINGLE FAMILY RESIDENTIAL
2. A PRE CONSTRUCTION MEETING WITH THE MUNICIPALITY IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING AND PROPOSED UTILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION.
4. THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION, OR VARIANCE FROM THESE PLANS.
5. DEVELOPER SHALL COMPLY WITH TDEC EROSION PREVENTION AND SEDIMENTATION CONTROL HANDBOOK, CURRENT EDITION.
6. UNDERGROUND DRY UTILITIES SHALL BE EXTENDED FROM EXISTING LOCATIONS TO SERVICE THIS SITE AS REQUIRED BY UTILITY COMPANIES.
7. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. HANDICAP PARKING SPACES SHALL BE MARKED WITH ABOVE GRADE SIGNS IN ACCORDANCE WITH CURRENT ADA STANDARDS. VAN ACCESSIBLE SPACES SHALL BE MARKED AS SUCH.
9. ALL ON-SITE TRAFFIC SIGNS SHALL MEET THE REQUIREMENTS OF THE CITY ENGINEERING REQUIREMENT, ZONING ORDINANCE, & THE MUTCD.
10. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MOUNT PLEASANT TENNESSEE.
11. UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 4 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT UTILITY COMPANY AND "TENNESSEE ONE CALL" AT 811 (1-800-351-1111) THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATION OF ALL EXISTING UTILITIES.
12. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP COMMUNITY PANEL NO. 47119C0265E, (ZONE X') EFFECTIVE DATE APRIL 16, 2007
13. THE LIMIT OF CONSTRUCTION IS SHOWN ON THE CONSTRUCTION PLANS. ANY WORK OUTSIDE OF THE LIMIT OF CONSTRUCTION IS TO BE COORDINATED BY THE CONTRACTOR AND PRE-APPROVED BY THE APPROPRIATE PROPERTY OWNER.

SITE DATA

PARCEL NUMBER	TAX MAP 133 PCL 01.01 DEED BOOK: R2653, PG 582
PARCEL ADDRESS:	SOUTH CROSS BRIDGES ROAD MT. PLEASANT, TENNESSEE 38474
EXISTING ZONING:	R2 & R3
ACREAGE OF SITE:	±58.71 ACRES
DISTURBED ACREAGE:	±43.83 ACRES

MINIMUM REQUIRED BUILDING SETBACK LINES:

R-2
25' FRONT
20' REAR
10' SIDE
R-3
20' FRONT
20' REAR
5' SIDE

PROPERTY OWNER: BRIGHTLAND HOMES OF TENNESSEE, LLC
BARTON CREEK PLAZA III, 3815 SOUTH CAPITOL OF TEXAS, SUITE 275
AUSTIN, TEXAS 78704

SOUTHBEND CROSSINGS
SOUTH CROSS BRIDGES - BYPASS PROPERTIES
MT. PLEASANT, TENNESSEE

PROPRIETOR

BRIGHTLAND HOMES OF TENNESSEE, LLC
BARTON CREEK PLAZA III, 3815 SOUTH CAPITOL OF TEXAS, SUITE 275
AUSTIN, TEXAS 78704

SPECIFIED SEQUENCE OF WORK FOR THE SELECTED CONTRACTOR:

1. INSTALL PHASE 1 OF EROSION PREVENTION & SEDIMENT CONTROL MEASURES.
2. BEGIN SITE EXCAVATION & FILLING TO CONSTRUCT DETENTION BASINS TO FUNCTION AS SEDIMENT BASINS DURING CONSTRUCTION.
3. BEGIN PAVEMENT CONSTRUCTION FOR MASS GRADING.
4. COMPLETE SOIL STABILIZATION (FINAL DRESSING SITE) ONCE SUBGRADE AND PAD ELEVATIONS IS NEARING COMPLETION.
5. COMPLETE PUNCH LIST ITEMS, AS-BUILT AS REQUIRED

UTILITY COMPANIES:

UTILITIES SHOWN ARE BASED ON LIMITED DATA. THERE IS NO GUARANTEE AS TO THEIR LOCATION OR SIZE. PLEASE CONTACT RESPECTIVE UTILITY COMPANIES PRIOR TO CONSTRUCTION. POSSIBLE CONTACTS IN THIS AREA INCLUDE:

MUNICIPALITY:	ELECTRIC:	CABLE TELEVISION:
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	MT. PLEASANT POWER SYSTEM 123 N. MAIN ST. MT. PLEASANT, TN 38474 (931) 379-3233	SPECTRUM 2008 S. MAIN ST. COLUMBIA, TN 38401 (866) 874-2389
STORM WATER:	**WATER:**	**CABLE TELEVISION:**
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	AT&T 904 S. HIGH ST. COLUMBIA, TN 38401 (931) 380-3448
SANITARY:	**TELEPHONE:**	**GAS:**
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	AT&T 618 S. JAMES CAMPBELL BLVD. COLUMBIA, TN 38401 (931) 388-2414	CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717

Tennessee811
Know what's **below**
Call before you dig.

PRIMARY CONTRACTOR INFORMATION:

COMPANY NAME: _____
CONTACT PHONE: _____

TDEC LEVEL I CERTIFIED 24 HOUR POINT OF CONTACT FOR SOIL EROSION CONTROL:
NAME: _____
PHONE: _____

STATE OF TENNESSEE NPDES PERMIT - NOTICE OF COVERAGE
TRACKING NUMBER: TNR183316
DATE: JULY 11, 2025

WES ENGINEERS & SURVEYORS
WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

SOUTHBEND CROSSINGS
SOUTH CROSS BRIDGES ROAD
MT. PLEASANT, TENNESSEE

ENGINEER'S SEAL
GERALD W. NICK
REGISTERED ENGINEER
No. 107415
STATE OF TENNESSEE

REVISIONS	DATE

PROJECT No. 22529
DATE: AUGUST 12, 2025

© 2025

gerald@wesengineers.com

FILE:X:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt. Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

EXISTING CONDITIONS

© 2025

BENCHMARK

BENCHMARK #1
EXISTING 1/2" IRON PIN WITH
CONTROL CAP
ELEV = 655.65'
N = 444,385.9
E = 1,608,735.3
TENNESSEE STATE PLANE
COORDINATE SYSTEM
NAD 83 AND NAVD88 DATUM

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 Know what's **below** **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		W
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (P1)
ASPHALT
CONCRETE (4" CONCRETE)
PARKING SPACES (1-4)

HIGHWAY 43

N 67°50'00" E 1,136.29'

N 65°57'44" E 292.78'

A=821.81'
R=5404.04'
Δ=13°44'18"
CB=N 57°40'43" E
CL=819.04'

N 49°39'19" E 637.71'

N 34°13'54" E 294.16'

N 82°01'39" W 161.60'

N 84°17'43" W 445.26' total

N 85°31'21" W 15.97'

S 03°09'24" W 91.65'

339.15'

1,475.44' total

S 08°42'39" W 1,428.36' total

A=123.10'
R=775.00'
Δ=9°06'03"
CB=W 85°52'12" W
CL=122.97'

A=39.27'
R=25.00'
Δ=90°00'00"
CB=S 53°40'50" W
CL=35.36'

N 81°19'10" W 152.36'

S 81°19'10" E 152.36'

S 08°40'50" W 39.84'

S 75°25'23" W 330.51'

S 75°44'15" W 68.25'

S 75°33'02" W 225.98'

S 75°13'56" W 135.69'

S 76°29'22" W 139.84'

S 55°24'01" W 41.13'

S 75°55'28" W 100.06'

S 76°00'11" W 99.80'

S 76°51'02" W 100.01'

S 76°28'11" W 105.17'

S 77°52'13" W 104.92'

S 77°14'05" W 100.54'

S 77°23'40" W 54.57'

S 76°50'41" W 90.29'

S 77°45'25" W 109.30'

S 85°02'17" W 102.43'

N 84°42'42" W 58.21'

126.17'

EXISTING WETLANDS NOT TO BE DISTURBED

TN GRID NORTH

SOUTH CROSS BRIDGES ROAD - 50'-R/W VARIES

GRAY LANE

BM 1

GEOTECHNICAL NOTE:

CONTRACTOR TO REFER TO COMPLETED GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM THE GEOTECH REPORT. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER, BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

WES ENGINEERS & SURVEYORS

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

GERALD W. GOLDEN
REGISTERED LAND SURVEYOR
No. 1074115
STATE OF TENNESSEE

gerald@wesengineers.com

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

WES ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
EXISTING CONDITIONS PLAN (ONCE MASS GRADING COMPLETE)

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: 1"=100'
Horizontal:

C-1.0

FILE: J:_WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

SITE LAYOUT & UTILITY PLAN

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS, AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 — Know what's **below** **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN	W	W
SANITARY SEWER	SS	SS
STORM SEWER	18"ST	18"ST
OVERHEAD	OHE	
FENCE		
GAS	G	G
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)

BENCHMARK

BENCHMARK #1
EXISTING 1/2" IRON PIN WITH
CONTROL CAP
ELEV = 655.65'
N = 444,385.9
E = 1,608,735.3
TENNESSEE STATE PLANE
COORDINATE SYSTEM
NAD 83 AND NAVD88 DATUM

PAVING NOTES:

1. PROPOSED ASPHALT PAVEMENT CROSS-SECTION TO CONFORM TO CITY OF MT. PLEASANT STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 3' (THREE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT. YELLOW TM5495. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

STORMWATER NOTES:

1. ROOF DRAINAGE TO SHEET FLOW ACROSS PARCEL AT THE FRONT AND REAR OF LOTS, INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0265E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO CITY OF MT. PLEASANT DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF MT PLEASANT WATER DEPARTMENT.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

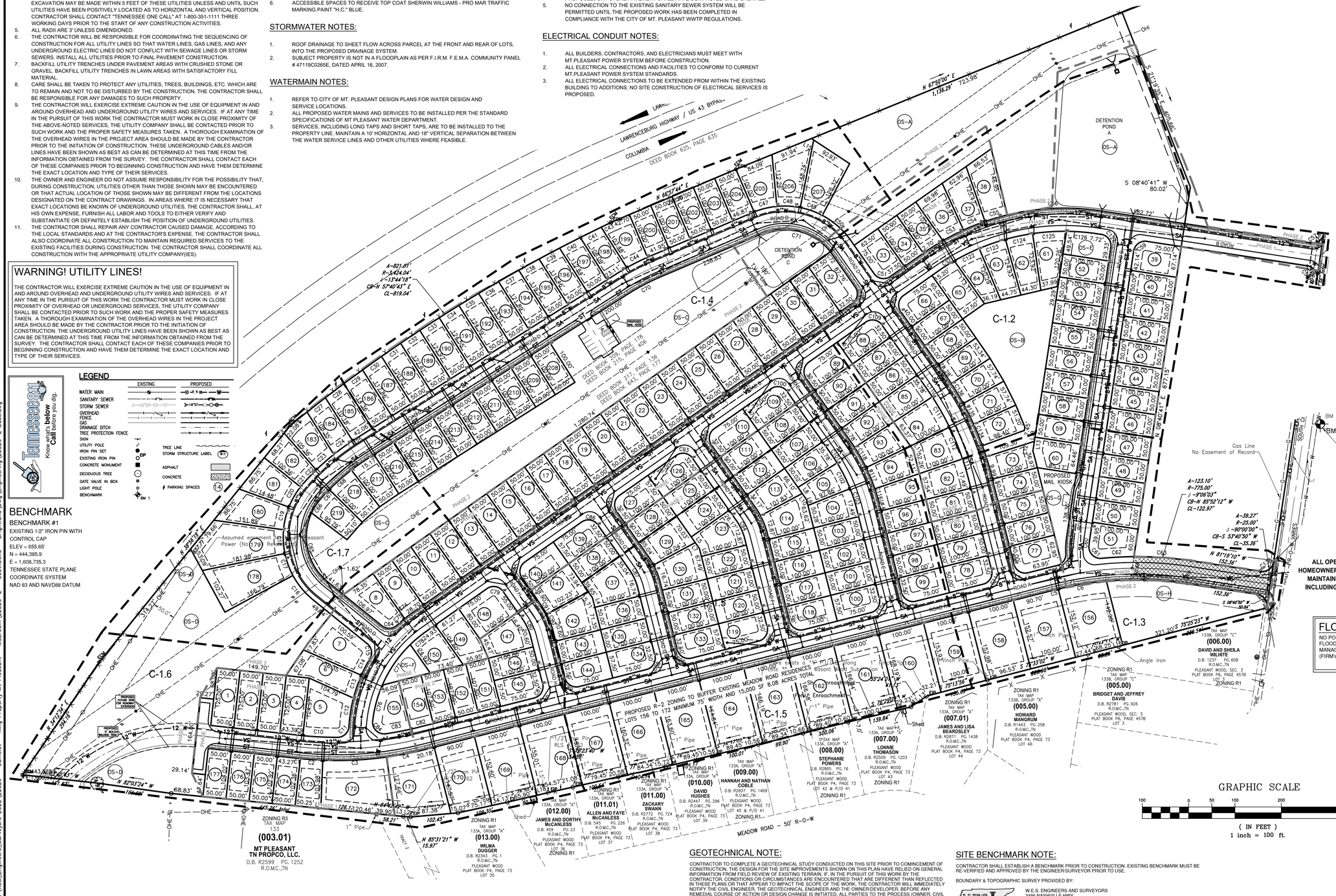
1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT CITY OF MT. PLEASANT WWTP STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. NO CONNECTION TO THE EXISTING SANITARY SEWER SYSTEM WILL BE PERMITTED UNTIL THE PROPOSED WORK HAS BEEN COMPLETED IN COMPLIANCE WITH THE CITY OF MT. PLEASANT WWTP REGULATIONS.

ELECTRICAL CONDUIT NOTES:

1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH MT.PLEASANT POWER SYSTEM BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT MT.PLEASANT POWER SYSTEM STANDARDS.
3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GENERAL NOTE:
PHASE ONE LOTS INCLUDE-
1-74, 81-89, 109, 110, 126, 127, 139, 140, 148-150, 155, 172-177

PHASE TWO LOTS INCLUDE-
75-80, 90-108, 111-125, 128-138, 141-147, 151-154, 156-171


LAWRENCEBURG HIGHWAY / US 43 BYPASS
COLUMBIA
DEED BOOK 625, PAGE 635
N 67°50'00" E 1,136.29'
723.36'
S 21°19'35" E 405.66'
OS-A
DETENTION POND A
OS-A
S 08°40'41" W 80.02'
N 08°40'41" E 977.15'
A=821.01'
R=3424.04'
∆=13°44'18"
CB=N 57°40'43" E
CL=819.04'
C-1.4
C-1.5
C-1.2
C-1.7
C-1.6
C-1.3
DETENTION POND C
OS-C
OS-B
OS-G
OS-H
OS-F
PROPOSED MAIL KIOSK
MEADOW ROAD - 50' R-O-W
PROPOSED R-2 ZONING TO BUFFER EXISTING MEADOW ROAD RESIDENCES 15' WIDTH AND 15,000 SF 8.08 ACRES TOTAL
A=39.27'
R=25.00'
∆=90°00'00"
CB=S 53°40'50" W
CL=35.35'
A=123.10'
R=775.00'
∆=9°06'03"
CB=N 85°52'12" W
CL=122.97'
Gas Line
No Easement of Record
Assumed easement Power (No Record)
Angle Iron
Inch Pipe
1" Pipe
1/2" Iron Pipe
Shed
Enroachment
SOUTH CROSS BRIDGES - PHASE 1
SOUTH CROSS BRIDGES - PHASE 2
PROPOSED 8" SEWER SYSTEM EXTENSION
PROPOSED 12" WATER SYSTEM EXTENSION
PROPOSED 8" SEWER SYSTEM EXTENSION
PROPOSED 12" WATER SYSTEM EXTENSION
ZONING R3
TAX MAP 133
(003.01)
MT PLEASANT TN PROPCO, LLC.
D.B. R2599 PG. 1252
R.O.M.C.,TN
ZONING R1
TAX MAP 133A, GROUP "A"
(013.00)
WILMA DUGGER
D.B. R2343 PG. 1
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 35
(012.00)
JAMES AND DORTHY McCANLESS
D.B. 459 PG. 23
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 36
(011.01)
ALLEN AND FAYE McCANLESS
D.B. 545 PG. 226
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 37
(011.00)
ZACKARY SWANN
D.B. R2772 PG. 724
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 38
(010.00)
DAVID HUGHES
D.B. R2447 PG. 296
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 39
(009.00)
HANNAH AND NATHAN COBLE
D.B. R2607 PG. 1469
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 40 & P/O 41
(008.00)
STEPHANIE POWERS
D.B. R2865 PG. 16
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 42 & P/O 41
(007.00)
LONNIE THOMASON
D.B. R2509 PG. 1203
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 43
(007.01)
JAMES AND LISA BEARDSLEY
D.B. R2871 PG. 1438
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 44
(005.00)
HOWARD MANGRUM
D.B. R1443 PG. 258
R.O.M.C.,TN
PLEASANT WOOD PLAT BOOK P4, PAGE 73 LOT 46
(005.00)
BRIDGET AND JEFFREY DAVIS
D.B. R2781 PG. 926
R.O.M.C.,TN
PLEASANT WOOD, SEC. 3 PLAT BOOK P6, PAGE 457B LOT 3
(006.00)
DAVID AND SHEILA WILHITE
D.B. 1237 PG. 608
R.O.M.C.,TN
PLEASANT WOOD, SEC. 3 PLAT BOOK P6, PAGE 457B LOT 2
ZONING R1
TAX MAP 133B, GROUP "C"
(005.00)
ZONING R1
TAX MAP 133B, GROUP "C"
(004.00)
ZONING R1
TAX MAP 133B, GROUP "C"
(003.00)
BM 1
N 82°03'24" W 68.83'
N 85°51'21" W 15.97'
S 75°25'23" W 321.20'
S 75°13'56" W 96.53'
S 77°33'02" W 152.72'
S 08°40'30" W 50.64'
N 81°19'10" W 152.36'
S 75°13'56" W 152.72'
S 77°33'02" W 152.72'
S 08°40'30" W 50.64'
N 81°19'10" W 152.36'
S 75°25'23" W 321.20'
S 75°13'56" W 96.53

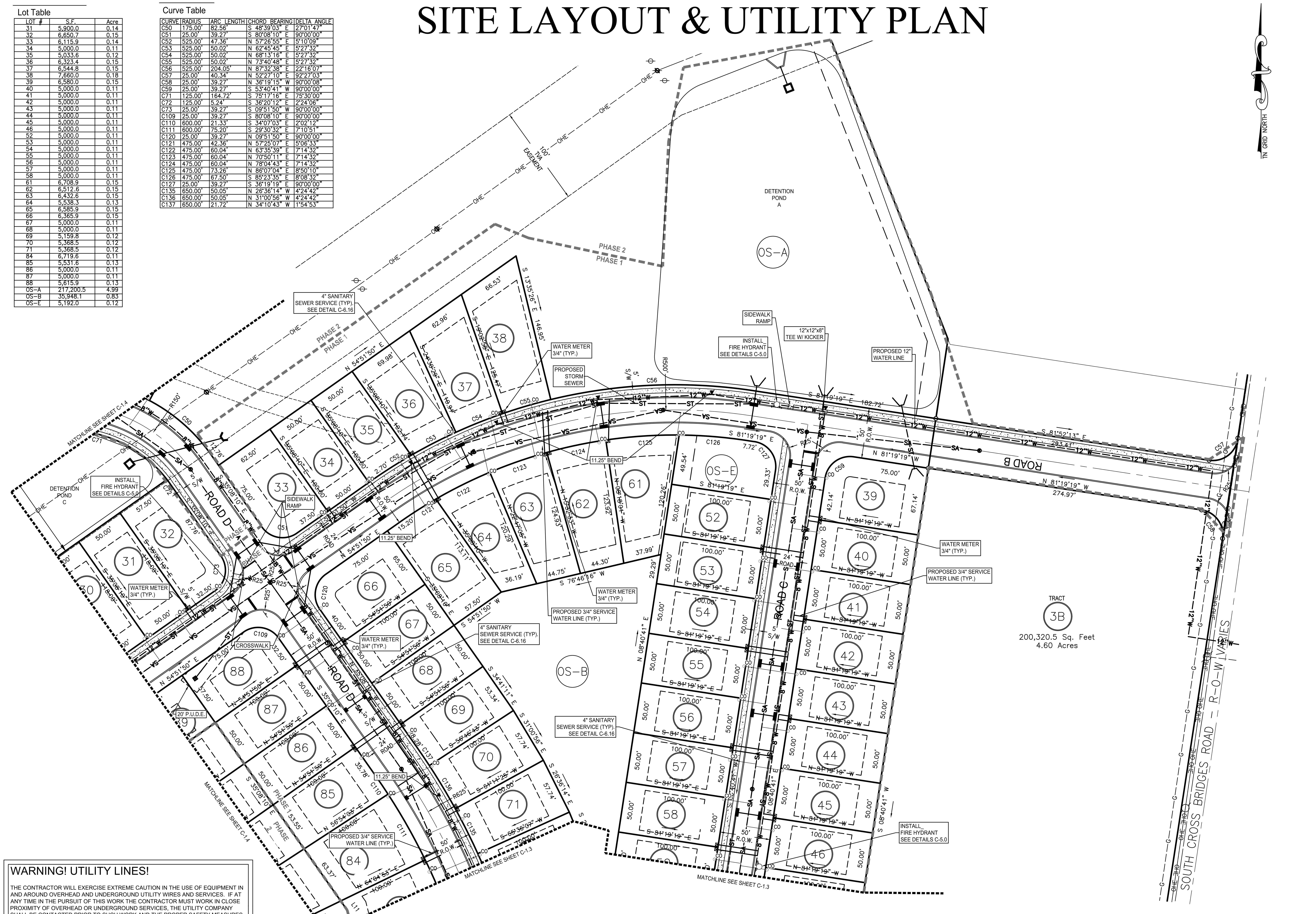
SITE LAYOUT & UTILITY PLAN

Lot Table

LOT #	S.F.	Acre
31	5,900.0	0.14
32	6,650.7	0.15
33	6,115.9	0.14
34	5,000.0	0.11
35	5,033.6	0.12
36	6,323.4	0.15
37	6,544.8	0.15
38	7,660.0	0.18
39	6,580.0	0.15
40	5,000.0	0.11
41	5,000.0	0.11
42	5,000.0	0.11
43	5,000.0	0.11
44	5,000.0	0.11
45	5,000.0	0.11
46	5,000.0	0.11
52	5,000.0	0.11
53	5,000.0	0.11
54	5,000.0	0.11
55	5,000.0	0.11
56	5,000.0	0.11
57	5,000.0	0.11
58	5,000.0	0.11
61	6,708.9	0.15
62	6,512.6	0.15
63	6,432.6	0.15
64	5,538.3	0.13
65	6,585.9	0.15
66	6,365.9	0.15
67	5,000.0	0.11
68	5,000.0	0.11
69	5,159.8	0.12
70	5,368.5	0.12
71	5,368.5	0.12
84	6,719.6	0.11
85	5,531.6	0.13
86	5,000.0	0.11
87	5,000.0	0.11
88	5,615.9	0.13
OS–A	217,200.5	4.99
OS–B	35,948.1	0.83
OS–E	5,192.0	0.12

Curve Table

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C50	175.00'	82.56'	S 48°39'03" E	27°01'47"
C51	25.00'	39.27'	S 80°08'10" E	90°00'00"
C52	525.00'	47.36'	N 57°26'55" E	5°10'09"
C53	525.00'	50.02'	N 62°45'45" E	5°27'32"
C54	525.00'	50.02'	N 68°13'16" E	5°27'32"
C55	525.00'	50.02'	N 73°40'48" E	5°27'32"
C56	525.00'	204.05'	N 87°32'38" E	22°16'07"
C57	25.00'	40.34'	N 52°27'10" E	92°27'03"
C58	25.00'	39.27'	N 36°19'15" W	90°00'08"
C59	25.00'	39.27'	S 53°40'41" W	90°00'00"
C71	125.00'	164.72'	S 75°17'16" E	75°30'00"
C72	125.00'	5.24'	S 36°20'12" E	2°24'06"
C73	25.00'	39.27'	S 09°51'50" W	90°00'00"
C109	25.00'	39.27'	S 80°08'10" E	90°00'00"
C110	600.00'	21.33'	S 34°07'03" E	2°02'12"
C111	600.00'	75.20'	S 29°30'32" E	7°10'51"
C120	25.00'	39.27'	N 09°51'50" E	90°00'00"
C121	475.00'	42.36'	N 57°25'07" E	5°06'33"
C122	475.00'	60.04'	N 63°35'39" E	7°14'32"
C123	475.00'	60.04'	N 70°50'11" E	7°14'32"
C124	475.00'	60.04'	N 78°04'43" E	7°14'32"
C125	475.00'	73.26'	N 86°07'04" E	8°50'10"
C126	475.00'	67.50'	S 85°23'35" E	8°08'32"
C127	25.00'	39.27'	S 36°19'19" E	90°00'00"
C135	650.00'	50.05'	N 26°36'14" W	4°24'42"
C136	650.00'	50.05'	N 31°00'56" W	4°24'42"
C137	650.00'	21.72'	N 34°10'43" W	1°54'53"



WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 — Know what's **below** **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER	8"SA	8"SA
STORM SEWER	15"ST	18"ST
OVERHEAD		
FENCE	x	x
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		TP
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE; STORM STRUCTURE LABEL (R-1); ASPHALT; CONCRETE; # PARKING SPACES (14)

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS, AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

PAVING NOTES:

1. PROPOSED ASPHALT PAVEMENT CROSS-SECTION TO CONFORM TO MT. PLEASANT STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 3' (THREE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT, YELLOW TM5495. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

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1. ROOF DRAINAGE TO SHEET FLOW ACROSS PARCEL AT THE FRONT AND REAR OF LOTS, INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0265E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO CITY OF MT. PLEASANT DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF MT. PLEASANT.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT MT. PLEASANT WWTP STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. NO CONNECTION TO THE EXISTING SANITARY SEWER SYSTEM WILL BE PERMITTED UNTIL THE PROPOSED WORK HAS BEEN COMPLETED IN COMPLIANCE WITH MT. PLEASANT WWTP REGULATIONS.

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1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH MT.PLEASANT POWER SYSTEM BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT MT.PLEASANT POWER SYSTEM STANDARDS.
3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

GERALD W. VICK — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 107415 — STATE OF TENNESSEE — 8/27/25

gerald@wesengineers.com

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CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

Client: BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE | REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: —— Horizontal: 1"=50'

C-1.2

FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

SITE LAYOUT & UTILITY PLAN

Curve Table

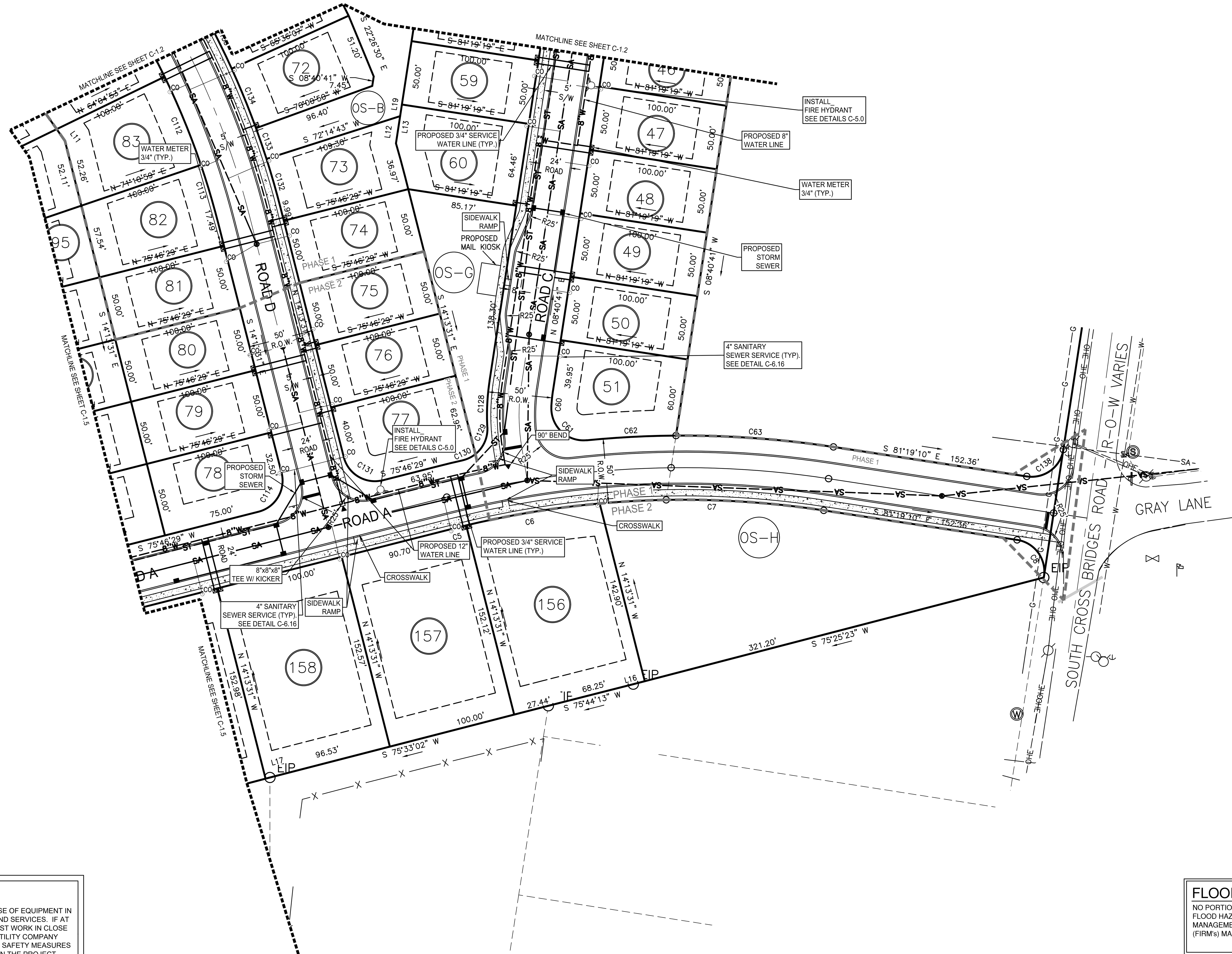
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C5	725.00'	9.30'	N 76°08'33" E	0°44'07"
C6	725.00'	105.48'	N 80°40'41" E	8°20'09"
C7	725.00'	175.06'	S 88°14'12" E	13°50'04"
C8	25.02'	40.11'	S 35°22'30" E	91°50'46"
C60	125.00'	12.46'	S 05°49'22" W	5°42'39"
C61	25.00'	43.00'	S 46°18'26" E	98°32'57"
C62	775.00'	69.81'	N 86°59'56" E	5°09'41"
C63	775.00'	123.10'	S 85°52'12" E	9°06'03"
C112	600.00'	74.37'	S 22°22'04" E	7°06'06"
C113	600.00'	48.08'	S 16°31'16" E	4°35'30"
C114	25.00'	39.27'	S 30°46'29" W	90°00'00"
C128	175.00'	36.14'	S 02°45'44" W	11°49'54"
C129	25.00'	23.66'	S 23°57'47" W	54°14'00"
C130	25.00'	11.38'	S 64°07'30" W	26°05'25"
C131	25.00'	39.27'	N 59°13'31" W	90°00'00"
C132	650.00'	40.04'	N 15°59'24" W	3°31'46"
C133	650.00'	25.32'	N 18°52'14" W	2°13'54"
C134	650.00'	50.05'	N 22°11'32" W	4°24'42"

Line Table

LINE	BEARING	DISTANCE
L11	S 35°08'10" E	11.13'
L12	S 08°40'41" W	21.45'
L13	S 08°40'41" W	30.60'
L16	S 75°25'23" W	9.30'
L17	S 75°13'56" W	3.47'
L19	S 08°40'41" W	9.15'

Lot Table

LOT #	S.F.	Acre
47	5,000.0	0.11
48	5,000.0	0.11
49	5,000.0	0.11
50	5,000.0	0.11
51	6,768.9	0.16
59	5,000.0	0.11
60	6,190.5	0.14
71	5,368.5	0.12
72	5,363.2	0.12
73	5,399.1	0.12
74	5,000.0	0.11
75	5,000.0	0.11
76	5,000.0	0.11
77	6,362.1	0.15
78	5,615.9	0.13
79	5,000.0	0.11
80	5,000.0	0.11
81	5,000.0	0.11
82	6,134.8	0.14
83	6,500.6	0.15
156	15,622.6	0.36
157	15,237.5	0.35
158	15,276.9	0.35
159	15,345.7	0.35
OS-G	8,679.9	0.20
OS-H	29,826.9	0.68



TN GRID NORTH

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS, AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

PAVING NOTES:

1. PROPOSED ASPHALT PAVEMENT CROSS-SECTION TO CONFORM TO MT. PLEASANT STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 3' (THREE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT, YELLOW TM5495. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

STORMWATER NOTES:

1. ROOF DRAINAGE TO SHEET FLOW ACROSS PARCEL AT THE FRONT AND REAR OF LOTS, INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0265E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO CITY OF MT. PLEASANT DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF MT. PLEASANT.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT MT. PLEASANT WWTP STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. NO CONNECTION TO THE EXISTING SANITARY SEWER SYSTEM WILL BE PERMITTED UNTIL THE PROPOSED WORK HAS BEEN COMPLETED IN COMPLIANCE WITH MT. PLEASANT WWTP REGULATIONS.

ELECTRICAL CONDUIT NOTES:

1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH MT.PLEASANT POWER SYSTEM BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT MT.PLEASANT POWER SYSTEM STANDARDS.
3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

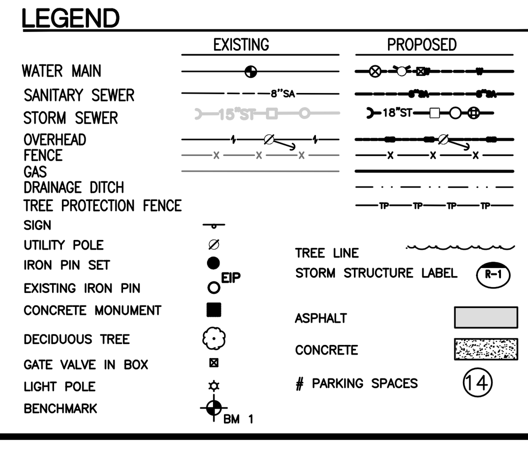
W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 — Know what's **below**. **Call** before you dig.

LEGEND



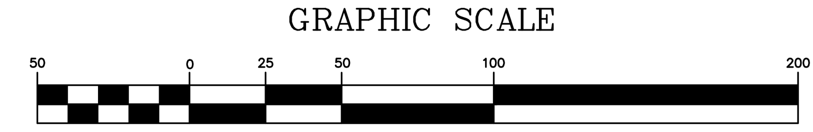
FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT.

GRAPHIC SCALE



(IN FEET)
1 inch = 50 ft.

GERALD W. VICK — REGISTERED ENGINEER — No. 107415 — STATE OF TENNESSEE — 8/27/25

gerald@wesengineers.com

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

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Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE | REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical:
Horizontal: 1"=50'

C-1.3

FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

SITE LAYOUT & UTILITY PLAN

Lot Table

LOT #	S.F.	Acre
13	5,900.0	0.14
14	5,900.0	0.14
15	5,900.0	0.14
16	5,900.0	0.14
17	5,900.0	0.14
18	5,900.0	0.14
19	5,900.0	0.14
20	5,900.0	0.14
21	5,900.0	0.14
22	5,900.0	0.14
23	5,900.0	0.14
24	5,900.0	0.14
25	5,900.0	0.14
26	5,300.0	0.14
27	5,900.0	0.14
28	5,900.0	0.14
29	5,900.0	0.14
30	5,900.0	0.14
31	5,900.0	0.14
89	5,615.9	0.13
90	5,000.0	0.11
91	5,000.0	0.11
107	5,000.0	0.11
108	5,000.0	0.11
109	5,615.9	0.13
110	5,615.9	0.13
111	5,000.0	0.11
112	5,000.0	0.11
124	5,500.0	0.13
125	5,000.0	0.11
126	5,615.9	0.13
127	5,615.9	0.13
128	5,000.0	0.11
138	5,000.0	0.11
139	5,615.9	0.13
140	5,615.9	0.13
141	6,797.1	0.16
186	5,187.4	0.12
177	5,215.1	0.12
178	13,016.6	0.30
179	14,932.3	0.34
180	8,441.4	0.19
181	7,118.8	0.16
182	6,536.2	0.15
183	6,336.2	0.15
184	5,446.3	0.13
185	5,615.2	0.13
186	5,808.6	0.13
187	5,965.4	0.14
188	6,085.6	0.14
189	6,169.1	0.14
190	6,216.1	0.14
191	6,226.5	0.14

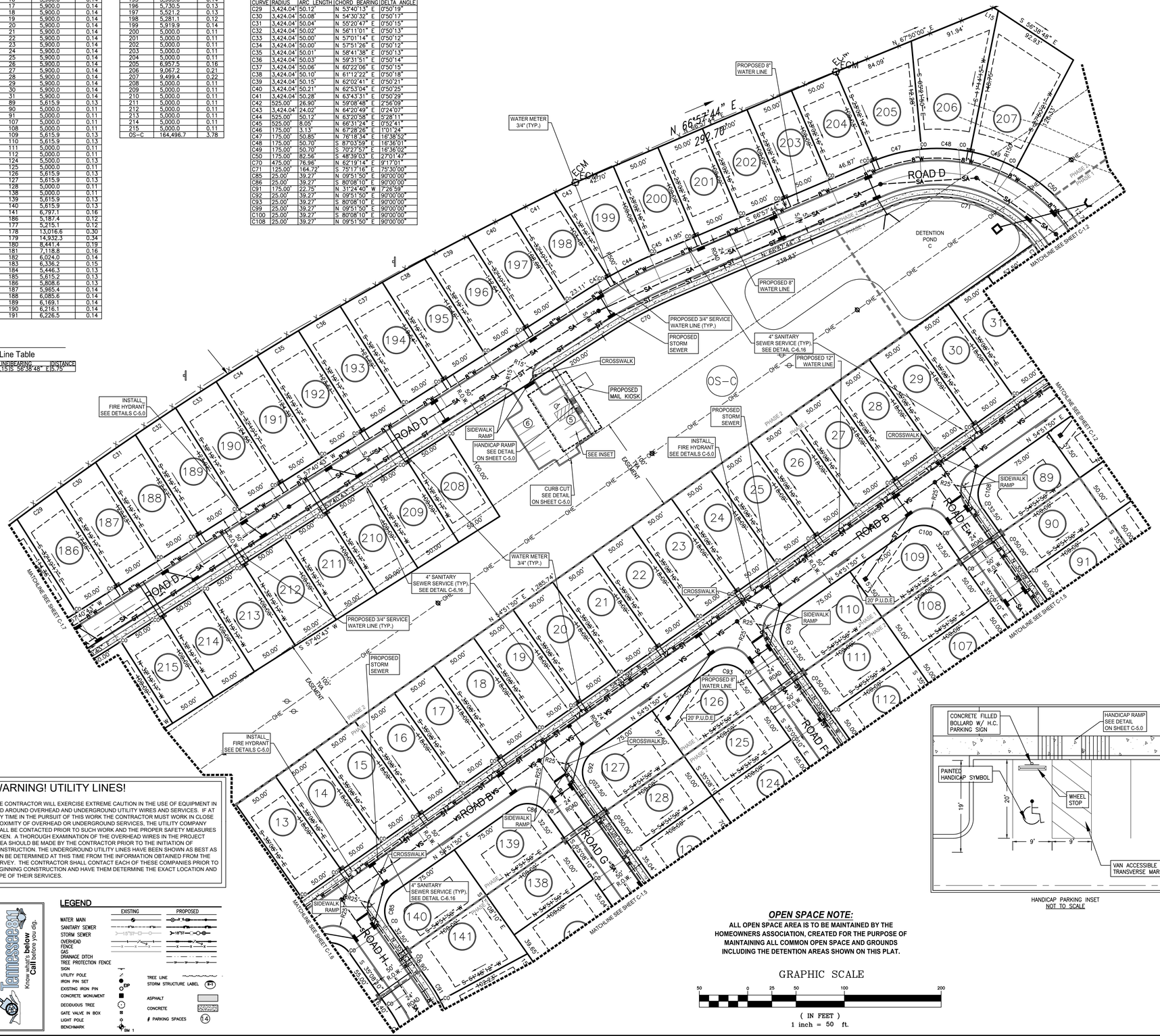
LOT #	S.F.	Acre
192	6,200.5	0.14
193	6,137.9	0.14
194	6,038.8	0.14
195	5,903.0	0.14
196	5,730.5	0.13
197	5,521.2	0.13
198	5,281.1	0.12
199	5,919.9	0.14
200	5,000.0	0.11
201	5,000.0	0.11
202	5,000.0	0.11
203	5,000.0	0.11
204	5,000.0	0.11
205	6,957.5	0.16
206	9,067.2	0.21
207	9,499.4	0.22
208	5,000.0	0.11
209	5,000.0	0.11
210	5,000.0	0.11
211	5,000.0	0.11
212	5,000.0	0.11
213	5,000.0	0.11
214	5,000.0	0.11
215	5,000.0	0.11
OS-C	164,496.7	3.78

Curve Table

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C29	3,424.04'	50.12'	N 53°40'13" E	0°50'19"
C30	3,424.04'	50.08'	N 54°30'32" E	0°50'17"
C31	3,424.04'	50.04'	N 55°20'47" E	0°50'15"
C32	3,424.04'	50.02'	N 56°11'01" E	0°50'13"
C33	3,424.04'	50.00'	N 57°01'14" E	0°50'12"
C34	3,424.04'	50.00'	N 57°51'26" E	0°50'12"
C35	3,424.04'	50.01'	N 58°41'38" E	0°50'13"
C36	3,424.04'	50.03'	N 59°31'51" E	0°50'14"
C37	3,424.04'	50.06'	N 60°22'06" E	0°50'15"
C38	3,424.04'	50.10'	N 61°12'22" E	0°50'18"
C39	3,424.04'	50.15'	N 62°02'41" E	0°50'21"
C40	3,424.04'	50.21'	N 62°53'04" E	0°50'25"
C41	3,424.04'	50.28'	N 63°43'31" E	0°50'29"
C42	525.00'	26.90'	N 59°08'48" E	2°56'09"
C43	3,424.04'	24.02'	N 64°20'49" E	0°24'07"
C44	525.00'	50.12'	N 63°20'58" E	5°28'11"
C45	525.00'	8.05'	N 66°31'24" E	0°52'41"
C46	175.00'	3.13'	N 67°28'26" E	1°01'24"
C47	175.00'	50.85'	N 76°18'34" E	16°38'52"
C48	175.00'	50.70'	S 87°03'59" E	16°36'01"
C49	175.00'	50.70'	S 70°27'57" E	16°36'02"
C50	175.00'	82.56'	S 48°39'03" E	27°01'47"
C70	475.00'	76.96'	N 62°19'14" E	9°17'01"
C71	125.00'	164.72'	S 75°17'16" E	75°30'00"
C85	25.00'	39.27'	N 09°51'50" E	90°00'00"
C86	25.00'	39.27'	S 80°08'10" E	90°00'00"
C91	175.00'	22.75'	N 31°24'40" W	7°26'59"
C92	25.00'	39.27'	N 09°51'50" E	90°00'00"
C93	25.00'	39.27'	S 80°08'10" E	90°00'00"
C99	25.00'	39.27'	N 09°51'50" E	90°00'00"
C100	25.00'	39.27'	S 80°08'10" E	90°00'00"
C108	25.00'	39.27'	N 09°51'50" E	90°00'00"

Line Table

LINE	BEARING	DISTANCE
L15	S 36°38'48" E	15.76'



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2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0265E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO CITY OF MT. PLEASANT DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF MT. PLEASANT.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL CLEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT MT. PLEASANT WWTP STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. NO CONNECTION TO THE EXISTING SANITARY SEWER SYSTEM WILL BE PERMITTED UNTIL THE PROPOSED WORK HAS BEEN COMPLETED IN COMPLIANCE WITH MT. PLEASANT WWTP REGULATIONS.

ELECTRICAL CONDUIT NOTES:

1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH MT.PLEASANT POWER SYSTEM BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT MT.PLEASANT POWER SYSTEM STANDARDS.
3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

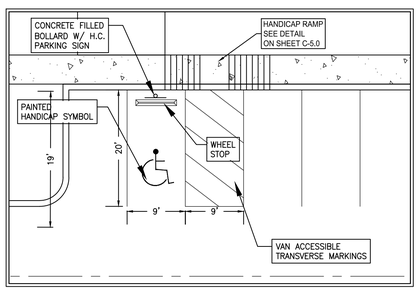
CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.



HANDICAP PARKING INSET
NOT TO SCALE

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 Know what's below. Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		
ASPHALT		
CONCRETE		
# PARKING SPACES		

OPEN SPACE NOTE:

ALL OPEN SPACE AREA IS TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION, CREATED FOR THE PURPOSE OF MAINTAINING ALL COMMON OPEN SPACE AND GROUNDS INCLUDING THE DETENTION AREAS SHOWN ON THIS PLAT.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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WES ENGINEERS & SURVEYORS
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COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE

SITE LAYOUT & UTILITY PLAN

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: 1"=50'
Horizontal:

C-1.4

GERALD HANCOCK
LICENSED PROFESSIONAL ENGINEER
AGRICULTURAL ENGINEER
NUMBER 107415
STATE OF TENNESSEE
gerald@wesengineers.com

FILE: J:\ WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529 - 2 - Southbend - Brightland\Dwg\Engineering\22529 - 2 Base.dwg

Section 7, Item A.

SITE LAYOUT & UTILITY PLAN

Curve Table

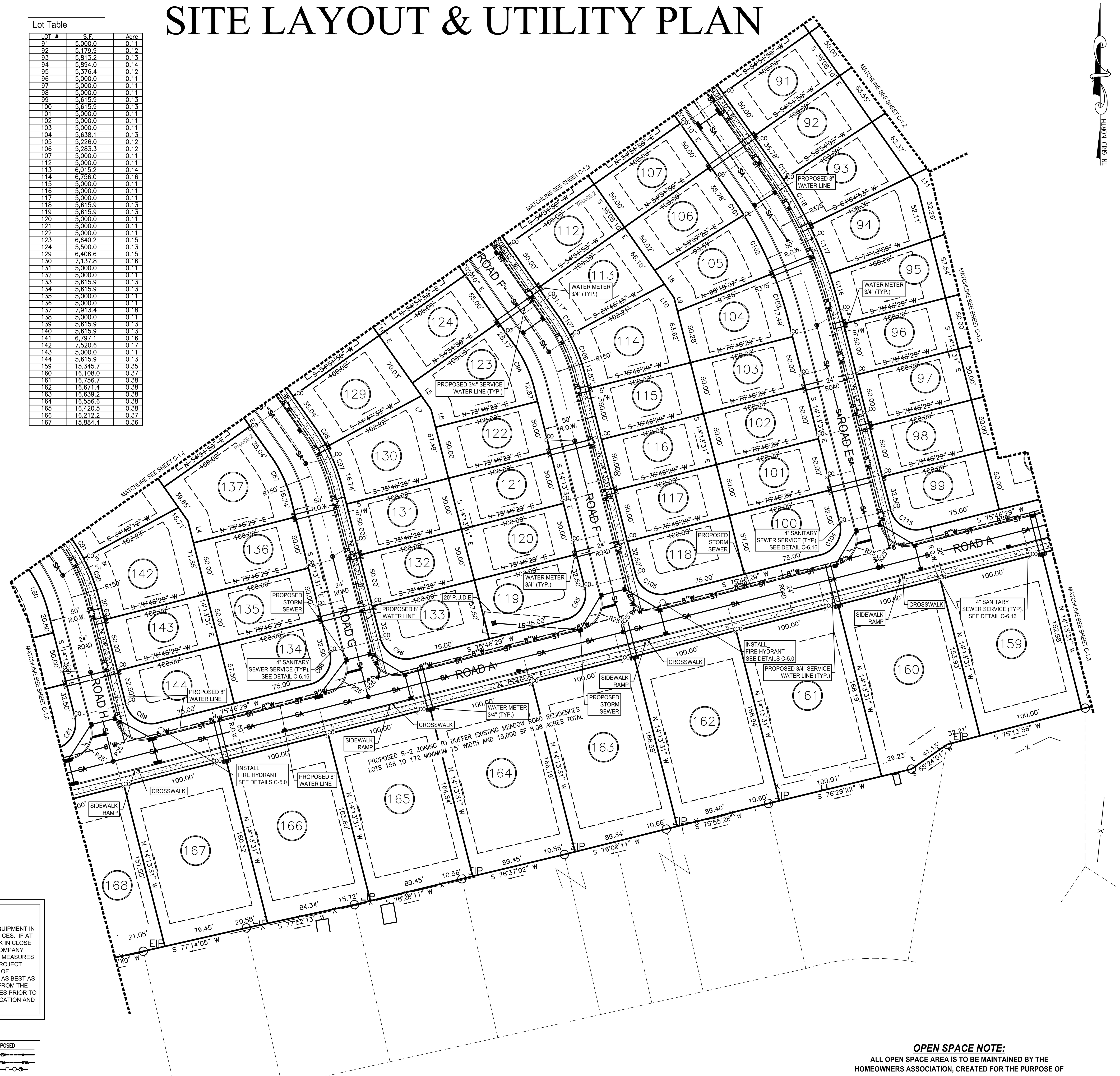
CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C80	125.00'	45.62'	S 24°40'50" E	20°54'39"
C81	25.00'	39.27'	S 30°46'29" W	90°00'00"
C82	725.00'	19.20'	S 76°32'00" W	1°31'02"
C83	725.00'	54.64'	S 79°27'04" W	4°19'05"
C84	25.00'	45.84'	N 45°51'20" W	105°04'07"
C85	25.00'	39.27'	N 09°51'50" E	90°00'00"
C86	25.00'	39.27'	S 80°08'10" E	90°00'00"
C87	125.00'	45.62'	S 24°40'50" E	20°54'39"
C88	25.00'	39.27'	S 30°46'29" W	90°00'00"
C89	25.00'	39.27'	N 59°13'31" W	90°00'00"
C90	175.00'	41.11'	N 20°57'21" W	13°27'40"
C91	175.00'	22.75'	N 31°24'40" W	7°26'59"
C92	25.00'	39.27'	N 09°51'50" E	90°00'00"
C93	25.00'	39.27'	S 80°08'10" E	90°00'00"
C94	125.00'	45.62'	S 24°40'50" E	20°54'39"
C95	25.00'	39.27'	S 30°46'29" W	90°00'00"
C96	25.00'	39.27'	N 59°13'31" W	90°00'00"
C97	175.00'	41.14'	N 20°57'38" W	13°28'15"
C98	175.00'	22.72'	N 31°24'58" W	7°26'24"
C101	350.00'	19.91'	S 33°30'22" E	3°15'36"
C102	350.00'	62.17'	S 26°47'14" E	10°10'41"
C103	350.00'	45.65'	S 17°57'42" E	7°28'23"
C104	25.00'	39.27'	S 30°46'29" W	90°00'00"
C105	25.00'	39.27'	N 59°13'31" W	90°00'00"
C106	175.00'	41.18'	N 20°58'00" W	13°28'59"
C107	175.00'	22.69'	N 31°25'19" W	7°25'41"
C115	25.00'	39.27'	N 59°13'31" W	90°00'00"
C116	400.00'	32.06'	N 16°31'16" W	4°35'30"
C117	400.00'	49.58'	N 22°22'04" W	7°06'06"
C118	400.00'	50.13'	N 29°30'32" W	7°10'51"
C119	400.00'	14.22'	N 34°07'03" W	2°02'12"

Line Table

LINE	BEARING	DISTANCE
L4	N 14°13'31" W	21.35'
L5	S 35°08'10" E	30.78'
L6	S 14°13'31" E	17.49'
L7	S 35°08'10" E	15.75'
L8	S 35°08'10" E	31.89'
L9	S 14°13'31" E	13.34'
L10	S 35°08'10" E	15.81'
L11	S 35°08'10" E	11.13'

Lot Table

LOT #	S.F.	Acre
91	5,000.0	0.11
92	5,179.9	0.12
93	5,813.2	0.13
94	5,894.0	0.14
95	5,376.4	0.12
96	5,000.0	0.11
97	5,000.0	0.11
98	5,000.0	0.11
99	5,615.9	0.13
100	5,615.9	0.13
101	5,000.0	0.11
102	5,000.0	0.11
103	5,000.0	0.11
104	5,638.1	0.13
105	5,226.0	0.12
106	5,283.3	0.12
107	5,000.0	0.11
112	5,000.0	0.11
113	6,015.2	0.14
114	6,756.0	0.16
115	5,000.0	0.11
116	5,000.0	0.11
117	5,000.0	0.11
118	5,615.9	0.13
119	5,615.9	0.13
120	5,000.0	0.11
121	5,000.0	0.11
122	5,000.0	0.11
123	6,640.2	0.15
124	5,500.0	0.13
129	6,406.6	0.15
130	7,137.8	0.16
131	5,000.0	0.11
132	5,000.0	0.11
133	5,615.9	0.13
134	5,615.9	0.13
135	5,000.0	0.11
136	5,000.0	0.11
137	7,913.4	0.18
138	5,000.0	0.11
139	5,615.9	0.13
140	5,615.9	0.13
141	6,797.1	0.16
142	7,520.6	0.17
143	5,000.0	0.11
144	5,615.9	0.13
159	15,345.7	0.35
160	16,108.0	0.37
161	16,756.7	0.38
162	16,671.4	0.38
163	16,639.2	0.38
164	16,556.6	0.38
165	16,420.5	0.38
166	16,212.2	0.37
167	15,884.4	0.36



WARNING! UTILITY LINES!

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Tennessee811 Know what's **below** **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER	8"SA	8"SA
STORM SEWER	15"ST	18"ST
OVERHEAD		
FENCE	x	x
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		TP
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (R-1)
ASPHALT
CONCRETE
PARKING SPACES (14)

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS, AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

PAVING NOTES:

1. PROPOSED ASPHALT PAVEMENT CROSS-SECTION TO CONFORM TO MT. PLEASANT STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 3' (THREE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT, YELLOW TM5495. (TO BE WHITE IF REQUIRED BY ARCHITECTURAL REVIEW COMMITTEE)
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

STORMWATER NOTES:

1. ROOF DRAINAGE TO SHEET FLOW ACROSS PARCEL AT THE FRONT AND REAR OF LOTS, INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0265E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. REFER TO CITY OF MT. PLEASANT DESIGN PLANS FOR WATER DESIGN AND SERVICE LOCATIONS.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF MT. PLEASANT.
3. SERVICES, INCLUDING LONG TAPS AND SHORT TAPS, ARE TO BE INSTALLED TO THE PROPERTY LINE. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.

SANITARY SEWER LEAD NOTES:

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3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
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3. ALL ELECTRICAL CONNECTIONS TO BE EXTENDED FROM WITHIN THE EXISTING BUILDING TO ADDITIONS. NO SITE CONSTRUCTION OF ELECTRICAL SERVICES IS PROPOSED.

GEOTECHNICAL NOTE:

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

GERALD W. VICK
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 107415
STATE OF TENNESSEE
8/27/25

gerald@wesengineers.com

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PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical:
Horizontal: 1"=50'

C-1.5

FILE: J:\WES_Engineers_Surveyors 2022\22529\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

SITE LAYOUT & UTILITY PLAN

Lot Table

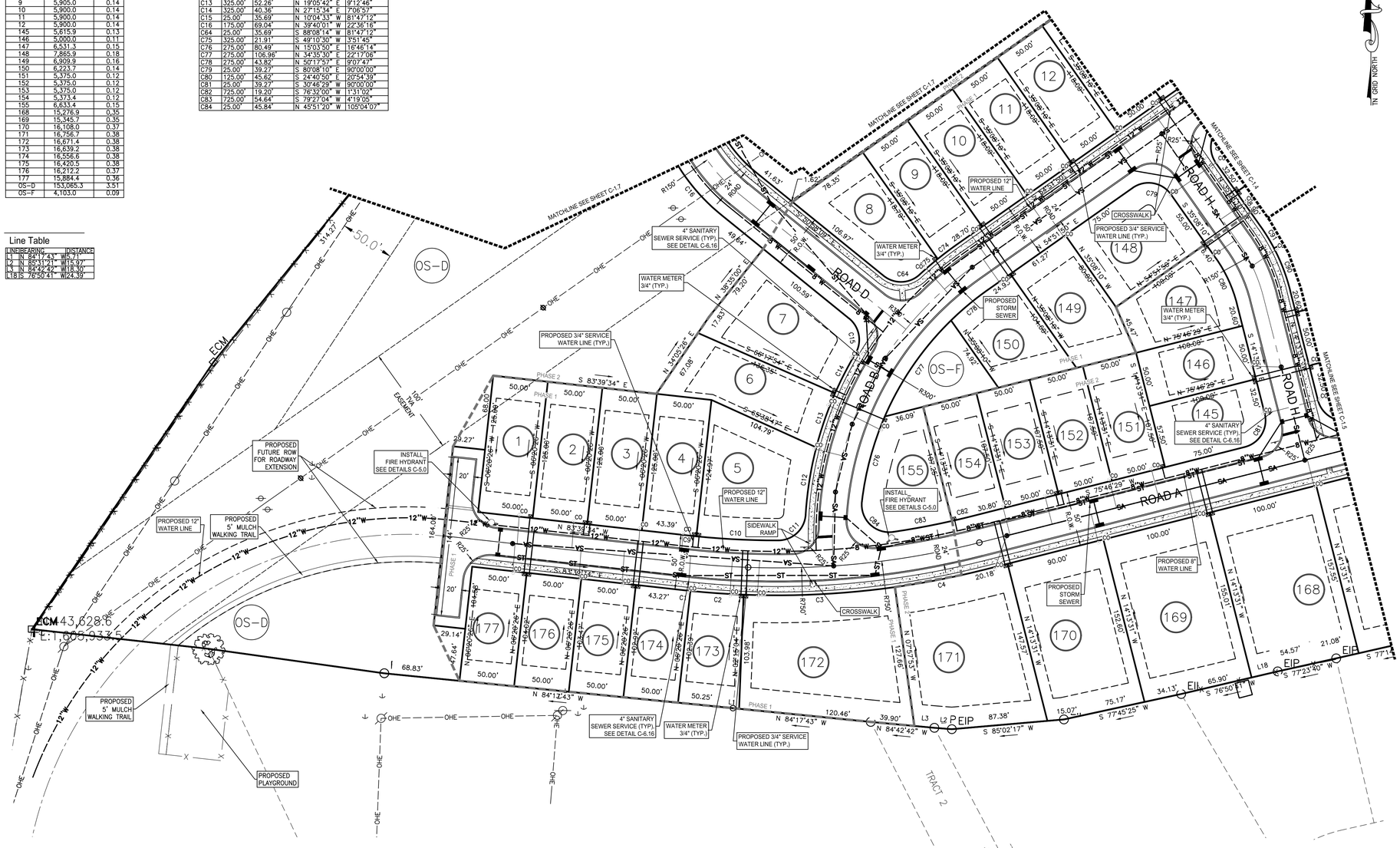
LOT #	S.F.	Acre
1	6,225.8	0.14
2	6,261.8	0.14
3	6,267.7	0.14
4	6,273.6	0.14
5	10,275.0	0.24
6	7,598.1	0.17
7	10,048.4	0.23
8	7,308.9	0.17
9	5,905.0	0.14
10	5,900.0	0.14
11	5,900.0	0.14
12	5,900.0	0.14
145	5,615.9	0.13
146	5,000.0	0.11
147	6,531.3	0.15
148	7,865.9	0.18
149	6,909.9	0.16
150	6,723.7	0.16
151	5,375.0	0.12
152	5,375.0	0.12
153	5,375.0	0.12
154	5,373.4	0.12
155	6,633.4	0.15
168	15,276.9	0.35
169	15,345.7	0.35
170	16,108.0	0.37
171	16,756.7	0.38
172	16,871.4	0.38
173	16,639.2	0.38
174	16,556.6	0.38
175	16,420.0	0.38
176	16,212.2	0.37
177	15,884.4	0.36
OS–D	153,065.3	3.51
OS–F	4,103.0	0.09

Curve Table

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C1	775.00'	6.73'	S 83°54'30" E	0°29'52"
C2	775.00'	48.58'	S 85°57'11" E	3°35'30"
C3	775.00'	138.18'	N 87°08'36" E	10°12'57"
C4	775.00'	84.68'	N 78°54'18" E	6°15'38"
C9	725.00'	6.61'	S 83°55'15" E	0°31'22"
C10	725.00'	74.76'	S 87°08'11" E	5°54'30"
C11	25.00'	37.69'	N 46°43'21" E	86°22'26"
C12	325.00'	62.13'	N 09°00'44" E	10°57'11"
C13	325.00'	52.26'	N 19°05'42" E	9°12'46"
C14	325.00'	40.36'	N 27°15'34" E	7°06'57"
C15	25.00'	35.69'	N 10°04'33" W	81°47'12"
C16	175.00'	69.04'	N 39°40'01" W	22°36'16"
C64	25.00'	35.69'	S 88°08'14" W	81°47'12"
C75	325.00'	21.91'	S 49°10'30" W	3°51'45"
C76	275.00'	80.49'	N 15°03'50" E	16°46'14"
C77	275.00'	106.96'	N 34°35'50" E	22°17'06"
C78	275.00'	43.82'	N 50°17'57" E	9°07'47"
C79	25.00'	39.27'	S 80°08'10" E	90°00'00"
C80	125.00'	45.62'	S 24°40'50" E	20°54'39"
C81	25.00'	39.27'	S 30°46'29" W	90°00'00"
C82	725.00'	19.20'	S 76°32'00" W	1°31'02"
C83	725.00'	54.64'	S 79°27'04" W	4°19'05"
C84	25.00'	45.84'	N 45°51'20" W	105°04'07"

Line Table

LINE	BEARING	DISTANCE
L1	N 84°17'43" W	5.71'
L2	N 85°02'17" E	W13.37'
L3	N 84°42'42" W	W15.40'
L18	S 76°50'41" W	W24.39'



WARNING! UTILITY LINES!

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Tennessee811 Know what's below. Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		R1
ASPHALT		
CONCRETE		
# PARKING SPACES		14

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

TN GRID NORTH

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4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
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2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT MT. PLEASANT WWTP STANDARDS.
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4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
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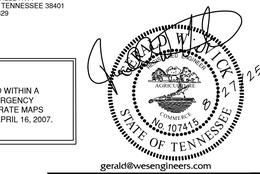
BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.



geraldv@wesengineers.com

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COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE

REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: 1"=50'
Horizontal:

C-1.6

FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529–2 – Southbend – Brightland\Dwg\Engineering\22529–2 Base.dwg

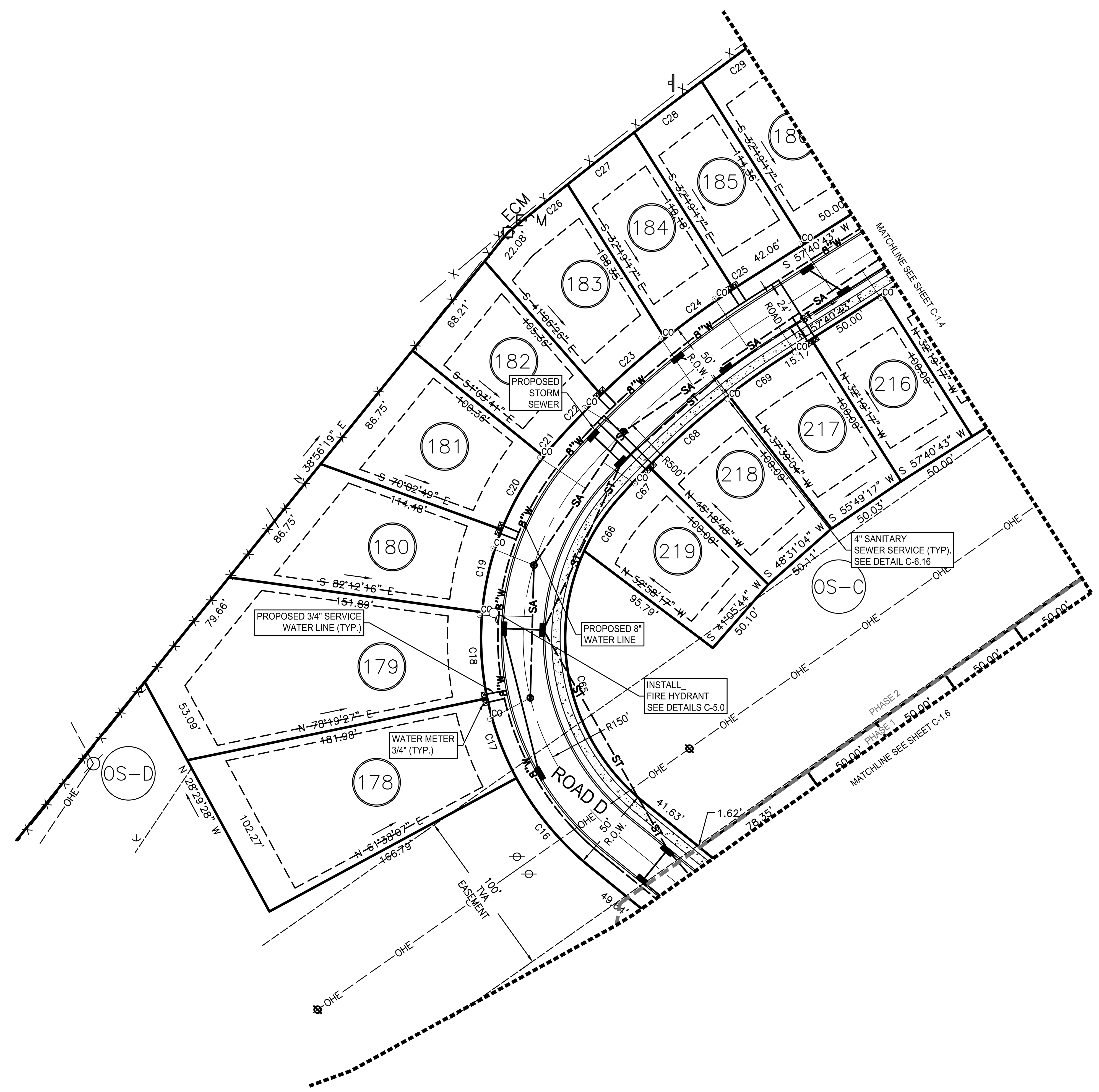
SITE LAYOUT & UTILITY PLAN

Lot Table

LOT #	S.F.	Acre
178	15,621.3	0.36
179	15,398.5	0.35
180	13,579.6	0.31
181	15,574.1	0.36
182	16,830.8	0.39
183	5,376.0	0.12
184	5,132.0	0.12
185	5,159.6	0.12
186	5,187.4	0.12
177	5,215.1	0.12
178	13,016.6	0.30
179	14,932.3	0.34
180	8,441.4	0.19
181	7,118.8	0.16
182	6,024.0	0.14
183	6,336.2	0.15
184	5,446.3	0.13
185	5,615.2	0.13
216	5,000.0	0.11
217	5,491.9	0.13
218	5,711.6	0.13
219	5,654.4	0.13
OS–C	164,496.7	3.78
OS–D	153,065.3	3.51

Curve Table

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C16	175.00'	69.04'	N 39°40'01" W	22°36'16"
C17	175.00'	50.72'	N 20°03'44" W	16°36'19"
C18	175.00'	51.46'	N 03°20'06" W	16°50'58"
C19	175.00'	50.55'	N 13°21'52" E	16°32'57"
C20	175.00'	50.30'	N 29°52'23" E	16°28'05"
C21	175.00'	10.23'	N 39°46'57" E	3°21'02"
C22	525.00'	39.91'	N 43°38'08" E	4°21'21"
C23	525.00'	50.66'	N 48°34'40" E	5°31'42"
C24	525.00'	50.12'	N 54°04'37" E	5°28'11"
C25	525.00'	7.94'	N 57°14'43" E	0°52'01"
C26	3,424.04'	45.48'	N 51°11'24" E	0°45'40"
C27	3,424.04'	50.25'	N 51°59'27" E	0°50'27"
C28	3,424.04'	50.18'	N 52°49'52" E	0°50'23"
C29	3,424.04'	50.12'	N 53°40'13" E	0°50'19"
C65	125.00'	164.74'	N 13°12'51" W	75°30'37"
C66	125.00'	36.91'	N 32°59'58" E	16°55'01"
C67	475.00'	26.77'	N 43°04'20" E	3°13'44"
C68	475.00'	63.52'	N 48°31'04" E	7°39'44"
C69	475.00'	44.19'	N 55°00'50" E	5°19'47"



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(931) 388-2329

FLOOD STUDY NOTE:

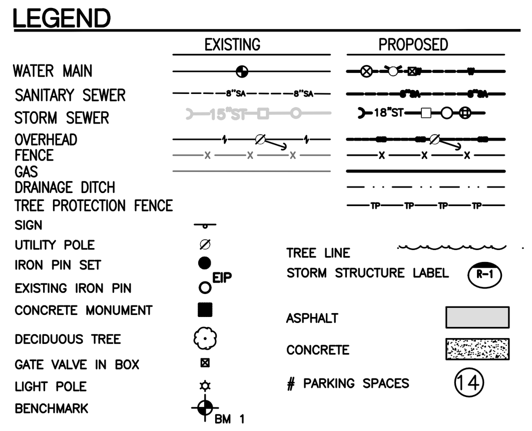
NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811
Know what's **below**
Call before you dig.

LEGEND



FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529–2 – Southbend – Brightland\Dwg\Engineering\22529–2 Base.dwg

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WES ENGINEERS & SURVEYORS
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COLUMBIA, TN 38401
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www.wesengineers.com
ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: ___
Horizontal: 1"=50'

GERALD W. VICK — REGISTERED ENGINEER — AGRICULTURE — COMMERCE — No. 107415 — STATE OF TENNESSEE — 8/27/25
gerald@wesengineers.com

C-1.7

SITE LAYOUT & UTILITY PLAN

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Curve Table

CURVE	RADIUS	ARC LENGTH	CHORD BEARING	DELTA ANGLE
C1	775.00'	6.73'	S 83°54'30" E	0°29'52"
C2	775.00'	48.58'	S 85°57'11" E	3°35'30"
C3	775.00'	138.18'	N 87°08'36" E	10°12'57"
C4	775.00'	84.68'	N 78°54'18" E	6°15'38"
C5	725.00'	9.30'	N 76°08'33" E	0°44'07"
C6	725.00'	105.48'	N 80°40'41" E	8°20'09"
C7	725.00'	175.06'	S 88°14'12" E	13°50'04"
C8	25.02'	40.11'	S 35°22'30" E	91°50'46"
C9	725.00'	6.61'	S 83°55'15" E	0°31'22"
C10	725.00'	74.76'	S 87°08'11" E	5°54'30"
C11	25.00'	37.69'	N 46°43'21" E	86°22'26"
C12	325.00'	62.13'	N 09°00'44" E	10°57'11"
C13	325.00'	52.26'	N 19°05'42" E	9°12'46"
C14	325.00'	40.36'	N 27°15'34" E	7°06'57"
C15	25.00'	35.69'	N 10°04'33" W	81°47'12"
C16	175.00'	69.04'	N 39°40'01" W	22°36'16"
C17	175.00'	50.72'	N 20°03'44" W	16°36'19"
C18	175.00'	51.46'	N 03°20'06" W	16°50'58"
C19	175.00'	50.55'	N 13°21'52" E	16°32'57"
C20	175.00'	50.30'	N 29°52'23" E	16°28'05"
C21	175.00'	10.23'	N 39°46'57" E	3°21'02"
C22	525.00'	39.91'	N 43°38'08" E	4°21'21"
C23	525.00'	50.66'	N 48°34'40" E	5°31'42"
C24	525.00'	50.12'	N 54°04'37" E	5°28'11"
C25	525.00'	7.94'	N 57°14'43" E	0°52'01"
C26	3,424.04'	45.48'	N 51°11'24" E	0°45'40"
C27	3,424.04'	50.25'	N 51°59'27" E	0°50'27"
C28	3,424.04'	50.18'	N 52°49'52" E	0°50'23"
C29	3,424.04'	50.12'	N 53°40'13" E	0°50'19"
C30	3,424.04'	50.08'	N 54°30'32" E	0°50'17"
C31	3,424.04'	50.04'	N 55°20'47" E	0°50'15"
C32	3,424.04'	50.02'	N 56°11'01" E	0°50'13"
C33	3,424.04'	50.00'	N 57°01'14" E	0°50'12"
C34	3,424.04'	50.00'	N 57°51'26" E	0°50'12"
C35	3,424.04'	50.01'	N 58°41'38" E	0°50'13"
C36	3,424.04'	50.03'	N 59°31'51" E	0°50'14"
C37	3,424.04'	50.06'	N 60°22'06" E	0°50'15"
C38	3,424.04'	50.10'	N 61°12'22" E	0°50'18"
C39	3,424.04'	50.15'	N 62°02'41" E	0°50'21"
C40	3,424.04'	50.21'	N 62°53'04" E	0°50'25"
C41	3,424.04'	50.28'	N 63°43'31" E	0°50'29"
C42	525.00'	26.90'	N 59°08'48" E	2°56'09"
C43	3,424.04'	24.02'	N 64°20'49" E	0°24'07"
C44	525.00'	50.12'	N 63°20'58" E	5°28'11"
C45	525.00'	8.05'	N 66°31'24" E	0°52'41"
C46	175.00'	3.13'	N 67°28'26" E	1°01'24"
C47	175.00'	50.85'	N 76°18'34" E	16°38'52"
C48	175.00'	50.70'	S 87°03'59" E	16°36'01"
C49	175.00'	50.70'	S 70°27'57" E	16°36'02"
C50	175.00'	82.56'	S 48°39'03" E	27°01'47"
C51	25.00'	39.27'	S 80°08'10" E	90°00'00"
C52	525.00'	47.36'	N 57°26'55" E	5°10'09"
C53	525.00'	50.02'	N 62°45'45" E	5°27'32"
C54	525.00'	50.02'	N 68°13'16" E	5°27'32"
C55	525.00'	50.02'	N 73°40'48" E	5°27'32"
C56	525.00'	204.05'	N 87°32'38" E	22°16'07"
C57	25.00'	40.34'	N 52°27'10" E	92°27'03"
C58	25.00'	39.27'	N 36°19'15" W	90°00'08"
C59	25.00'	39.27'	S 53°40'41" W	90°00'00"
C60	125.00'	12.46'	S 05°49'22" W	5°42'39"
C61	25.00'	43.00'	S 46°18'26" E	98°32'57"
C62	775.00'	69.81'	N 86°59'56" E	5°09'41"
C63	775.00'	123.10'	S 85°52'12" E	9°06'03"
C64	25.00'	35.69'	S 88°08'14" W	81°47'12"
C65	125.00'	164.74'	N 13°12'51" W	75°30'37"
C66	125.00'	36.91'	N 32°59'58" E	16°55'01"
C67	475.00'	26.77'	N 43°04'20" E	3°13'44"
C68	475.00'	63.52'	N 48°31'04" E	7°39'44"
C69	475.00'	44.19'	N 55°00'50" E	5°19'47"
C70	475.00'	76.96'	N 62°19'14" E	9°17'01"
C71	125.00'	164.72'	S 75°17'16" E	75°30'00"
C72	125.00'	5.24'	S 36°20'12" E	2°24'06"
C73	25.00'	39.27'	S 09°51'50" W	90°00'00"
C74	325.00'	21.31'	S 52°59'07" W	3°45'28"
C75	325.00'	21.91'	S 49°10'30" W	3°51'45"
C76	275.00'	80.49'	N 15°03'50" E	16°46'14"
C77	275.00'	106.96'	N 34°35'30" E	22°17'06"
C78	275.00'	43.82'	N 50°17'57" E	9°07'47"
C79	25.00'	39.27'	S 80°08'10" E	90°00'00"
C80	125.00'	45.62'	S 24°40'50" E	20°54'39"
C81	25.00'	39.27'	S 30°46'29" W	90°00'00"
C82	725.00'	19.20'	S 76°32'00" W	1°31'02"
C83	725.00'	54.64'	S 79°27'04" W	4°19'05"
C84	25.00'	45.84'	N 45°51'20" W	105°04'07"
C85	25.00'	39.27'	N 09°51'50" E	90°00'00"
C86	25.00'	39.27'	S 80°08'10" E	90°00'00"
C87	125.00'	45.62'	S 24°40'50" E	20°54'39"
C88	25.00'	39.27'	S 30°46'29" W	90°00'00"
C89	25.00'	39.27'	N 59°13'31" W	90°00'00"
C90	175.00'	41.11'	N 20°57'21" W	13°27'40"
C91	175.00'	22.75'	N 31°24'40" W	7°26'59"
C92	25.00'	39.27'	N 09°51'50" E	90°00'00"
C93	25.00'	39.27'	S 80°08'10" E	90°00'00"
C94	125.00'	45.62'	S 24°40'50" E	20°54'39"
C95	25.00'	39.27'	S 30°46'29" W	90°00'00"
C96	25.00'	39.27'	N 59°13'31" W	90°00'00"
C97	175.00'	41.14'	N 20°57'38" W	13°28'15"
C98	175.00'	22.72'	N 31°24'58" W	7°26'24"
C99	25.00'	39.27'	N 09°51'50" E	90°00'00"
C100	25.00'	39.27'	S 80°08'10" E	90°00'00"
C101	350.00'	19.91'	S 33°30'22" E	3°15'36"
C102	350.00'	62.17'	S 26°47'14" E	10°10'41"
C103	350.00'	45.65'	S 17°57'42" E	7°28'23"
C104	25.00'	39.27'	S 30°46'29" W	90°00'00"
C105	25.00'	39.27'	N 59°13'31" W	90°00'00"
C106	175.00'	41.18'	N 20°58'00" W	13°28'59"
C107	175.00'	22.69'	N 31°25'19" W	7°25'41"
C108	25.00'	39.27'	N 09°51'50" E	90°00'00"
C109	25.00'	39.27'	S 80°08'10" E	90°00'00"
C110	600.00'	21.33'	S 34°07'03" E	2°02'12"
C111	600.00'	75.20'	S 29°30'32" E	7°10'51"
C112	600.00'	74.37'	S 22°22'04" E	7°06'06"
C113	600.00'	48.08'	S 16°31'16" E	4°35'30"
C114	25.00'	39.27'	S 30°46'29" W	90°00'00"
C115	25.00'	39.27'	N 59°13'31" W	90°00'00"
C116	400.00'	32.06'	N 16°31'16" W	4°35'30"
C117	400.00'	49.58'	N 22°22'04" W	7°06'06"
C118	400.00'	50.13'	N 29°30'32" W	7°10'51"
C119	400.00'	14.22'	N 34°07'03" W	2°02'12"
C120	25.00'	39.27'	N 09°51'50" E	90°00'00"
C121	475.00'	42.36'	N 57°25'07" E	5°06'33"
C122	475.00'	60.04'	N 63°35'39" E	7°14'32"
C123	475.00'	60.04'	N 70°50'11" E	7°14'32"
C124	475.00'	60.04'	N 78°04'43" E	7°14'32"
C125	475.00'	73.26'	N 86°07'04" E	8°50'10"
C126	475.00'	67.50'	S 85°23'35" E	8°08'32"
C127	25.00'	39.27'	S 36°19'19" E	90°00'00"
C128	175.00'	36.14'	S 02°45'44" W	11°49'54"
C129	25.00'	23.66'	S 23°57'47" W	54°14'00"
C130	25.00'	11.38'	S 64°07'30" W	26°05'25"
C131	25.00'	39.27'	N 59°13'31" W	90°00'00"
C132	650.00'	40.04'	N 15°59'24" W	3°31'46"
C133	650.00'	25.32'	N 18°52'14" W	2°13'54"
C134	650.00'	50.05'	N 22°11'32" W	4°24'42"
C135	650.00'	50.05'	N 26°36'14" W	4°24'42"
C136	650.00'	50.05'	N 31°00'56" W	4°24'42"
C137	650.00'	21.72'	N 34°10'43" W	1°54'53"
C138	25.00'	39.27'	N 53°40'50" E	90°00'00"

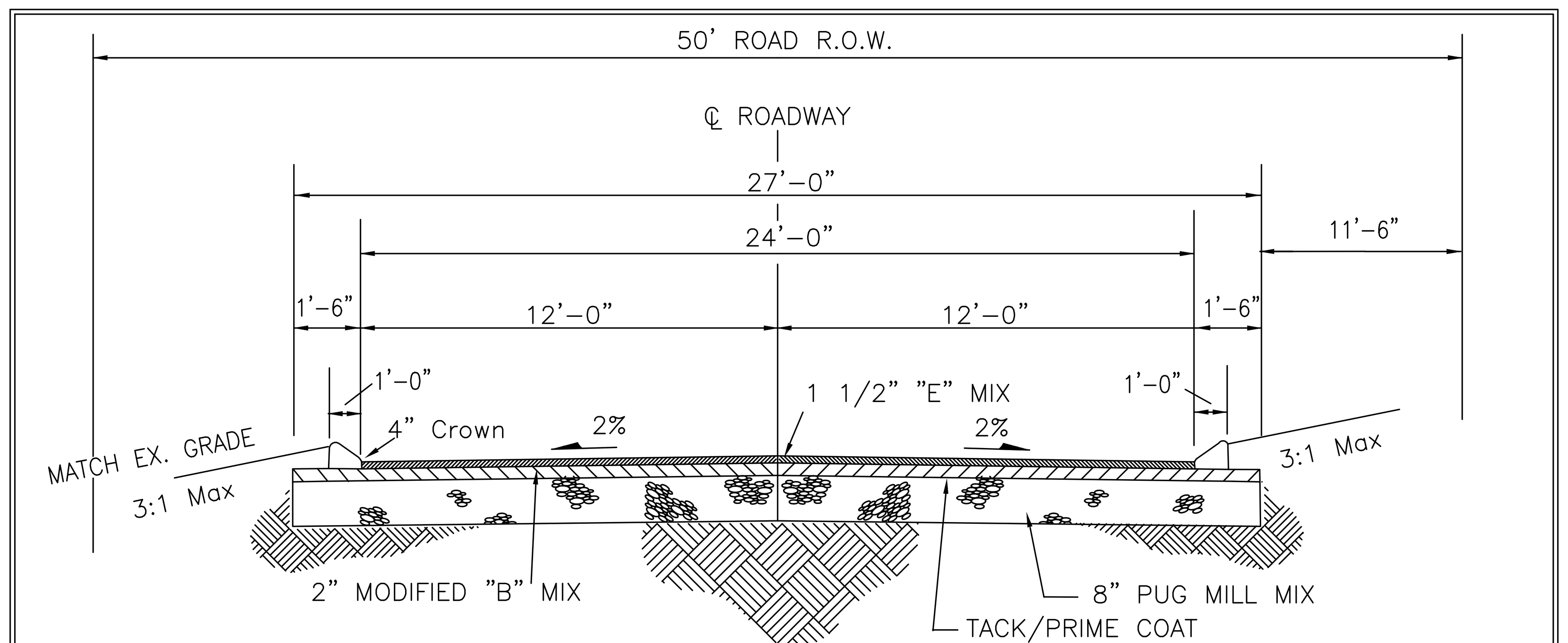
Line Table

LINE	BEARING	DISTANCE
L1	N 84°17'43" W	5.71'
L2	N 85°31'21" W	15.97'
L3	N 84°42'42" W	18.30'
L4	N 14°13'31" W	21.35'
L5	S 35°08'10" E	30.78'
L6	S 14°13'31" E	17.49'
L7	S 35°08'10" E	15.75'
L8	S 35°08'10" E	31.89'
L9	S 14°13'31" E	13.34'
L10	S 35°08'10" E	15.81'
L11	S 35°08'10" E	11.13'
L12	S 08°40'41" W	21.45'
L13	S 08°40'41" W	30.60'
L14	N 14°13'31" W	17.49'
L15	S 56°38'48" E	5.75'
L16	S 75°25'23" W	9.30'
L17	S 75°13'56" W	3.47'
L18	S 76°50'41" W	24.39'
L19	S 08°40'41" W	9.15'

Lot Table

LOT #	S.F.	Acre
1	6,225.8	0.14
2	6,261.8	0.14
3	6,267.7	0.14
4	6,273.6	0.14
5	10,275.0	0.24
6	7,598.1	0.17
7	10,048.4	0.23
8	7,308.9	0.17
9	5,905.0	0.14
10	5,900.0	0.14
11	5,900.0	0.14
12	5,900.0	0.14
13	5,900.0	0.14
14	5,900.0	0.14
15	5,900.0	0.14
16	5,900.0	0.14
17	5,900.0	0.14
18	5,900.0	0.14
19	5,900.0	0.14
20	5,900.0	0.14
21	5,900.0	0.14
22	5,900.0	0.14
23	5,900.0	0.14
24	5,900.0	0.14
25	5,900.0	0.14
26	5,900.0	0.14
27	5,900.0	0.14
28	5,900.0	0.14
29	5,900.0	0.14
30	5,900.0	0.14
31	5,900.0	0.14
32	6,650.7	0.15
33	6,115.9	0.14
34	5,000.0	0.11
35	5,033.6	0.12
36	6,323.4	0.15
37	6,544.8	0.15
38	7,660.0	0.18
39	6,580.0	0.15
40	5,000.0	0.11
41	5,000.0	0.11
42	5,000.0	0.11
43	5,000.0	0.11
44	5,000.0	0.11
45	5,000.0	0.11
46	5,000.0	0.11
47	5,000.0	0.11
48	5,000.0	0.11
49	5,000.0	0.11
50	5,000.0	0.11
51	6,768.9	0.16
52	5,000.0	0.11
53	5,000.0	0.11
54	5,000.0	0.11
55	5,000.0	0.11
56	5,000.0	0.11
57	5,000.0	0.11
58	5,000.0	0.11
59	5,000.0	0.11
60	6,190.5	0.14
61	6,708.9	0.15
62	6,512.6	0.15
63	6,432.6	0.15
64	5,538.3	0.13
65	6,585.9	0.15
66	6,365.9	0.15
67	5,000.0	0.11
68	5,000.0	0.11
69	5,159.8	0.12
70	5,368.5	0.12
71	5,368.5	0.12
72	5,363.2	0.12
73	5,399.1	0.12
74	5,000.0	0.11
75	5,000.0	0.11
76	5,000.0	0.11
77	6,362.1	0.15
78	5,615.9	0.13
79	5,000.0	0.11
80	5,000.0	0.11
81	5,000.0	0.11
82	6,134.8	0.14
83	6,500.6	0.15
84	6,719.6	0.11
85	5,531.6	0.13
86	5,000.0	0.11
87	5,000.0	0.11
88	5,615.9	0.13
89	5,615.9	0.13
90	5,000.0	0.11
91	5,000.0	0.11
92	5,179.9	0.12
93	5,813.2	0.13
94	5,894.0	0.14
95	5,376.4	0.12
96	5,000.0	0.11
97	5,000.0	0.11
98	5,000.0	0.11
99	5,615.9	0.13
100	5,615.9	0.13
101	5,000.0	0.11
102	5,000.0	0.11
103	5,000.0	0.11
104	5,638.1	0.13
105	5,226.0	0.12
106	5,283.3	0.12
107	5,000.0	0.11
108	5,000.0	0.11
109	5,615.9	0.13
110	5,615.9	0.13
111	5,000.0	0.11
112	5,000.0	0.11
113	6,015.2	0.14
114	6,756.0	0.16
115	5,000.0	0.11
116	5,000.0	0.11
117	5,000.0	0.11
118	5,615.9	0.13
119	5,615.9	0.13
120	5,000.0	0.11

LOT #	S.F.	Acre
121	5,000.0	0.11
122	5,000.0	0.11
123	6,640.2	0.15
124	5,500.0	0.13
125	5,000.0	0.11
126	5,615.9	0.13
127	5,615.9	0.13
128	5,000.0	0.11
129	6,406.6	0.15
130	7,137.8	0.16
131	5,000.0	0.11
132	5,000.0	0.11
133	5,615.9	0.13
134	5,615.9	0.13
135	5,000.0	0.11
136	5,000.0	0.11
137	7,913.4	0.18
138	5,000.0	0.11
139	5,615.9	0.13
140	5,615.9	0.13
141	6,797.1	0.16
142	7,520.6	0.17
143	5,000.0	0.11
144	5,615.9	0.13
145	5,615.9	0.13
146	5,000.0	0.11
147	6,531.3	0.15
148	7,865.9	0.18
149	6,909.9	0.16
150	6,223.7	0.14
151	5,375.0	0.12
152	5,375.0	0.12
153	5,375.0	0.12
154	5,373.4	0.12
155	6,633.4	0.15
156	15,622.6	0.36
157	15,237.5	0.35
158	15,276.9	0.35
159	15,345.7	0.35
160	16,108.0	0.37
161	16,756.7	0.38
162	16,671.4	0.38
163	16,639.2	0.38
164	16,556.6	0.38
165	16,420.5	0.38
166	16,212.2	0.37
167	15,237.5	0.35
168	15,276.9	0,35
169	15,345.7	0.35
170	16,108.0	0.37
171	16,756.7	0.38
172	16,671.4	0.38
173	16,639.2	0.38
174	16,556.6	0.38
175	16,420.5	0.38
176	16,212.2	0.37
177	15,884.4	0.36
178	15,621.3	0.36
179	15,398.5	0.35
180	13,579.6	0.31
181	15,574.1	0.36
182	16,830.8	0.39
183	5,376.0	0.12
184	5,132.0	0.12
185	5,159.6	0.12
186	5,187.4	0.12
177	5,215.1	0.12
178	13,016.6	0.30
179	14,932.3	0.34
180	8,441.4	0.19
181	7,118.8	0.16
182	6,024.0	0.14
183	6,336.2	0.15
184	5,446.3	0.13
185	5,615.2	0.13
186	5,808.6	0.13
187	5,965.4	0.14
188	6,085.6	0.14
189	6,169.1	0.14
190	6,216.1	0.14
191	6,226.5	0.14
192	6,200.5	0.14
193	6,137.9	0.14
194	6,038.8	0.14
195	5,903.0	0.14
196	5,730.5	0.13
197	5,521.2	0.13
198	5,281.1	0.12
199	5,919.9	0.14
200	5,000.0	0.11
201	5,000.0	0.11
202	5,000.0	0.11
203	5,000.0	0.11
204	5,000.0	0.11
205	6,957.5	0.16
206	9,067.2	0.21
207	9,499.4	0.22
208	5,000.0	0.11
209	5,000.0	0.11
210	5,000.0	0.11
211	5,000.0	0.11
212	5,000.0	0.11
213	5,000.0	0.11
214	5,000.0	0.11
215	5,000.0	0.11
216	5,000.0	0.11
217	5,491.9	0.13
218	5,711.6	0.13
219	5,654.4	0.13
OS-A	217,200.5	4.99
OS-B	35,948.1	0.83
OS-C	164,496.7	3.78
OS-D	153,065.3	3.51
OS-E	5,192.0	0.12
OS-F	4,103.0	0.09
OS-G	8,679.9	0.20
OS-H	29,826.9	0.68



NOTE:
SIDEWALKS TO BE INSTALLED
AS SHOWN ON PLAN.

TYPICAL SECTION
50' R.O.W.

WES Engineers & Surveyors
CIVIL ENGINEERS & LAND SURVEYORS
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COLUMBIA, TN 38401
PHONE: (931) 388-2329
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WES ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SITE LAYOUT & UTILITY PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: ____
Horizontal: 1"=100'

gerald@wesengineers.com

C-1.8

FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING & DRAINAGE PLAN

GENERAL GRADING AND DRAINAGE NOTES

1. ALL GRADING AND DRAINAGE WORK AS SHOWN ON THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL ENGINEERING DEPARTMENT.
2. THE NECESSARY PERMITS FOR THE WORK SHOWN ON THESE SITE DEVELOPMENT PLANS WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK ON THIS PROJECT. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES INVOLVED IN SECURING SAID PERMITS. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL LOCAL AND STATE BUILDING CODES, ORDINANCES AND REGULATIONS RELATING TO THE CONSTRUCTION OF THE ITEMS SHOWN ON THESE PLANS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID DAMAGE TO ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. IF DAMAGE DOES OCCUR TO ANY SUCH EXISTING INSTALLATIONS, FULL REPAIR SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AS PER THE CURRENT SPECIFICATIONS FOR SUCH WORK FOR THE RESPONSIBLE AGENCY.
4. THE LOCATION OF EXISTING PIPING AND UNDERGROUND UTILITIES (I.E., WATER AND GAS LINES, ELECTRICAL AND TELEPHONE CONDUITS, ETC.) AS SHOWN ON THIS PORTION OF THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION FROM ACTUAL SURVEYS, OR TAKEN FROM THE RECORDS AND DRAWINGS OF THE EXISTING UTILITIES. HOWEVER, THE CIVIL ENGINEER DOES NOT ASSUME RESPONSIBILITY THAT, DURING CONSTRUCTION, THE POSSIBILITY OF UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT THE ACTUAL LOCATIONS OF UTILITIES SHOWN MAY VARY SOMEWHAT FROM THE LOCATIONS DESIGNATED ON THIS PORTION OF THE PLANS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATIONS OF UNDERGROUND UTILITIES BE KNOWN, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE LOCATION OF THE UTILITIES.
5. ALL DELETERIOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR AS PER THE INSPECTION AND FINAL APPROVAL OF THE ENGINEER AND OWNER. ALL FILL MATERIAL TO BE USED FOR SITE GRADING SHALL BE AN INORGANIC SOIL, FREE OF DEBRIS AND APPROVED BY THE ENGINEER AND OWNER.
6. THE PLACING AND SPREADING OF ANY FILL MATERIAL IS TO BE STARTED AT THE LOWEST POINT AND BROUGHT UP IN HORIZONTAL LAYERS OF 8-INCH THICKNESS. SAID FILL MATERIAL IS TO BE SOIL AND ROCK ONLY, FREE OF SOD, ROOTS, FROZEN SOILS, OR ANY OTHER DECOMPOSABLE MATERIAL. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) IN ALL AREAS OF FILL, AND COMPACTION OF 98% OF SAME SPECIFICATION FOR MATERIALS USED IN THE UPPER 12 INCHES BENEATH PAVEMENT AND GRADE SLABS.
7. THE CONTRACTOR IS TO CHECK AND VERIFY ALL MEASUREMENTS, LEVELS, ETC., BEFORE ORDERING MATERIALS AND PROCEEDING WITH WORK, AND IS RESPONSIBLE FOR THE SAME.
8. CONTRACTOR IS RESPONSIBLE FOR SECURING WRITTEN APPROVAL FROM ADJOINING PROPERTY OWNER FOR OFF-SITE GRADING WORK THAT RESULTS FROM CONSTRUCTION ACTIVITIES.

BERM CONSTRUCTION NOTES

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5. THE EMBANKMENT OF THE DETENTION POND SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATION IMMEDIATELY AFTER INSTALLATION OF THE BASIN.
6. ALL STATE AND LOCAL REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS WARNING THE PUBLIC OF THE HAZARDS OF SOFT, SATURATED SEDIMENT AND FLOOD WATERS.

WARNING! UTILITY LINES!

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Tennessee811 Know what's **below** **Call** before you dig.

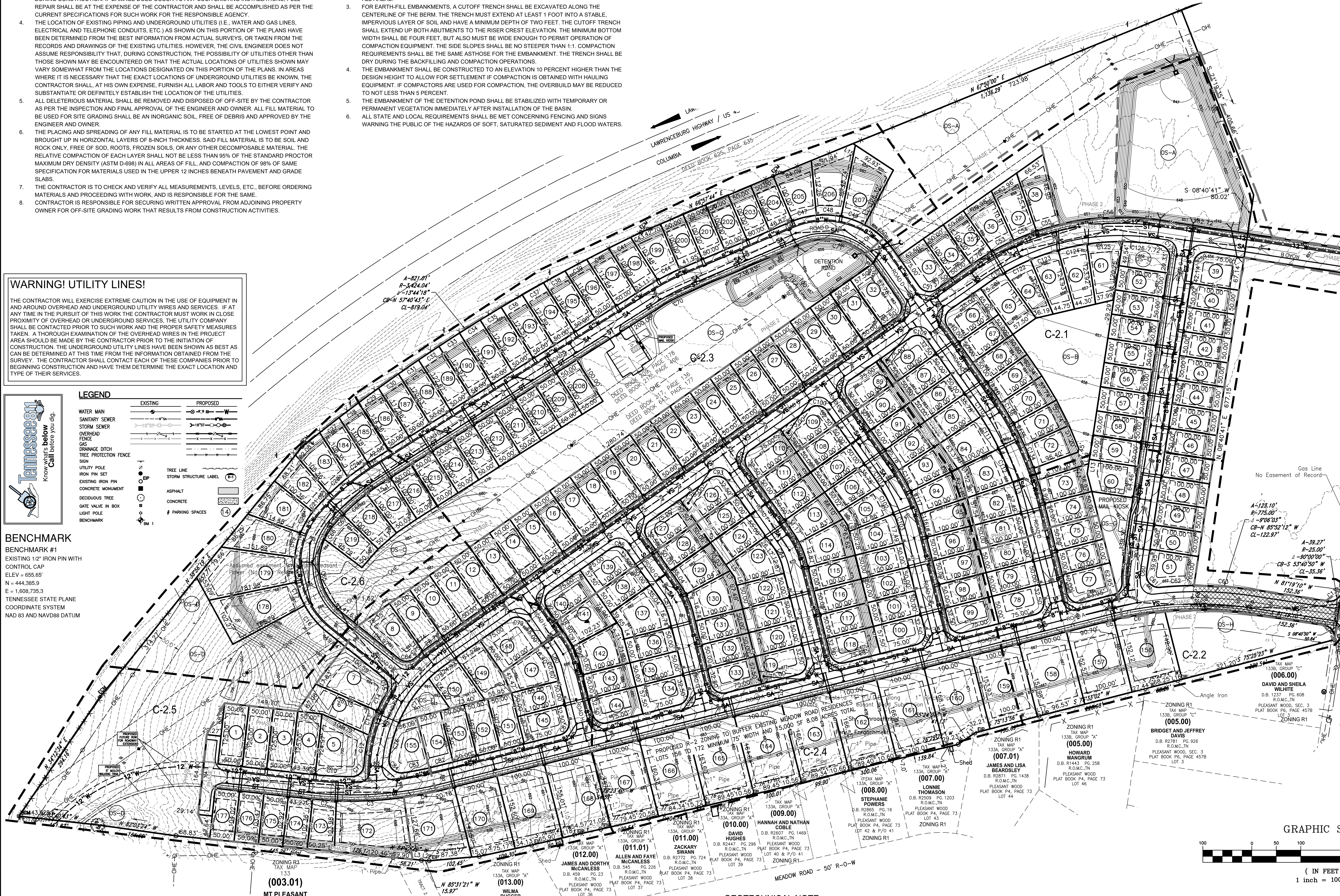
LEGEND

EXISTING / PROPOSED

WATER MAIN
SANITARY SEWER
STORM SEWER
OVERHEAD
FENCE
GAS
DRAINAGE DITCH
TREE PROTECTION FENCE
SIGN
UTILITY POLE
IRON PIN SET
EXISTING IRON PIN
CONCRETE MONUMENT
DECIDUOUS TREE
GATE VALVE IN BOX
LIGHT POLE
BENCHMARK
TREE LINE
STORM STRUCTURE LABEL
ASPHALT
CONCRETE
PARKING SPACES

BENCHMARK

BENCHMARK #1
EXISTING 1/2" IRON PIN WITH CONTROL CAP
ELEV = 655.65'
N = 444,385.9
E = 1,608,735.3
TENNESSEE STATE PLANE COORDINATE SYSTEM
NAD 83 AND NAVD88 DATUM



OPEN SPACE NOTE:

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FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
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GERALD W. ... STATE OF TENNESSEE REGISTERED ENGINEER AGRICULTURE COMMERCE No. 107415 8/27/25
gerald@wesengineers.com

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ENGINEERS & SURVEYORS

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BARTON CREEK PLAZA III
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AUSTIN, TEXAS 78704

DATE | REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
OVERALL GRADING & DRAINAGE PLAN

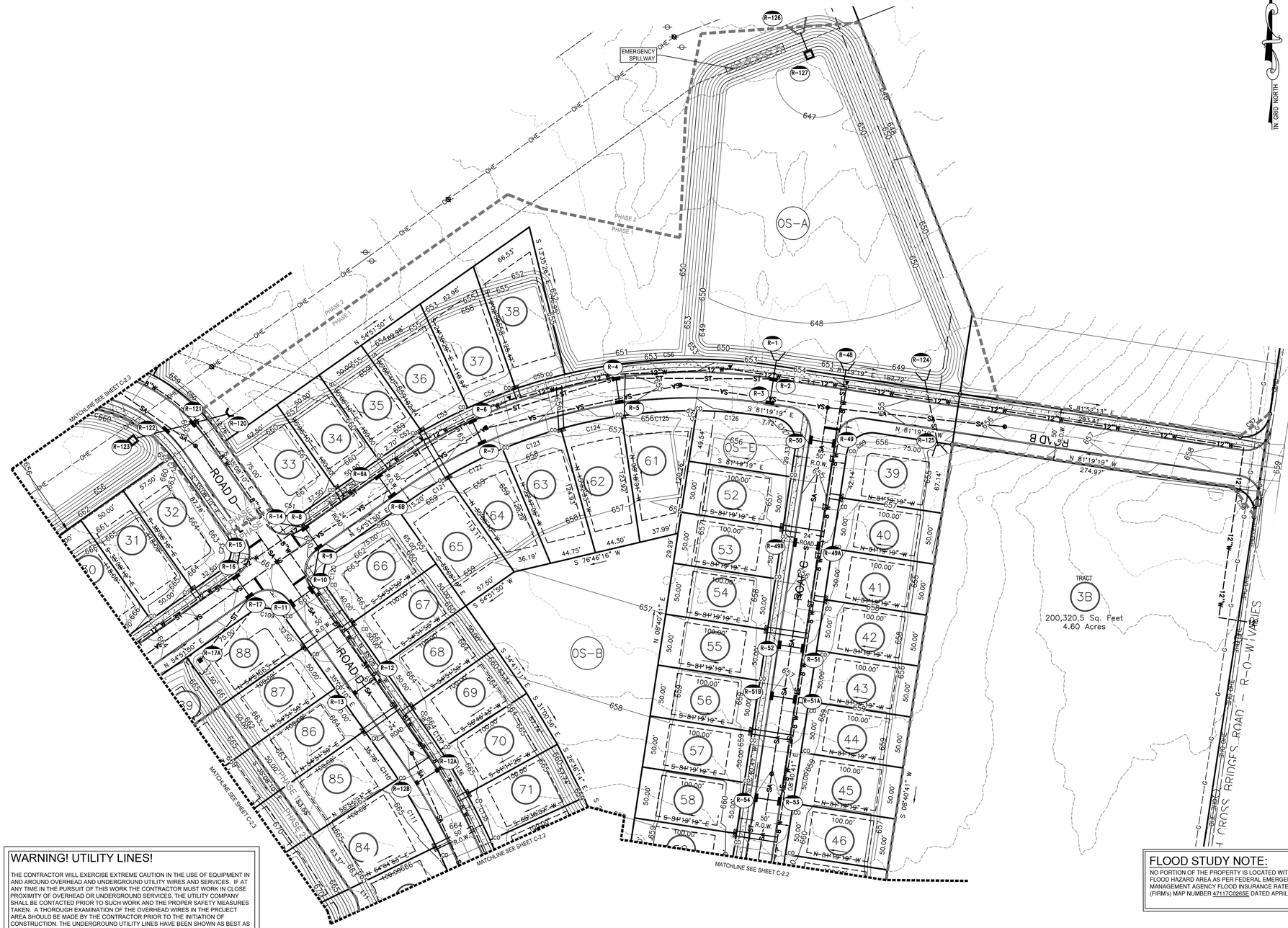
Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: Horizontal: 1"=100'

C-2.0

FILE: J:\WES_Engineers_Surveyors 2022\22529\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING & DRAINAGE PLAN



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Tennessee811 Know what's **below**. **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		R-1
ASPHALT		
CONCRETE		
# PARKING SPACES		14

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

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W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GERALD W. BRICKEY — No. 107415 — STATE OF TENNESSEE — REGISTERED ENGINEER
geraldw@wesengineers.com

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3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS | DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

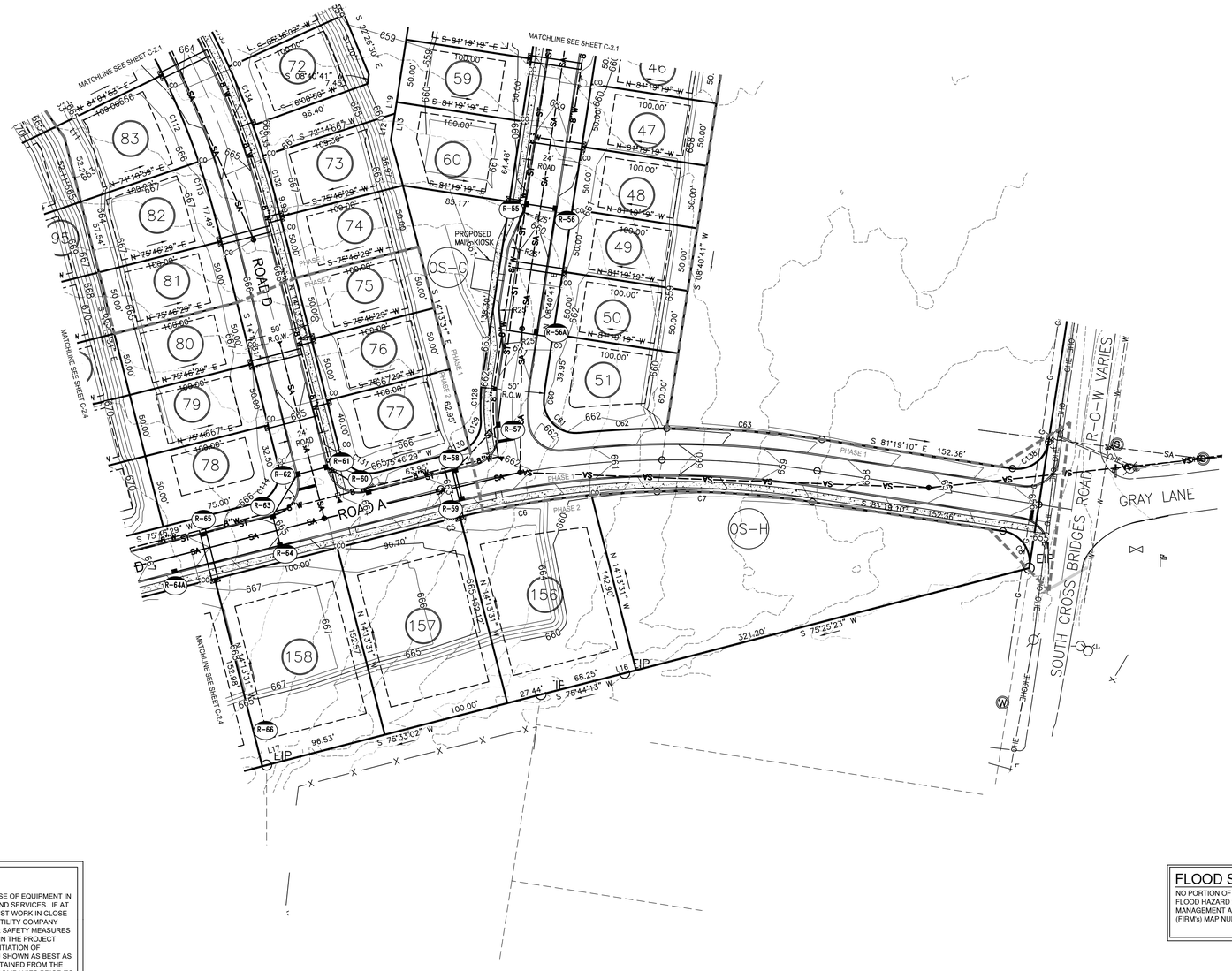
Drawn: BD | Checked: JG | Approved: GV | Date: 08/12/2025

Job. no. 22529-3 | Scale: Vertical: 1"=50' Horizontal:

C-2.1

FILE: z:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING & DRAINAGE PLAN



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www.wesengineers.com

ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

Drawn: BD | Checked: JG | Approved: GV | Date: 09/12/2025

Job. no. 22529-3 | Scale: Vertical: 1"=50' Horizontal: | C-2.2

WARNING! UTILITY LINES!

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Tennessee811
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	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		R-1
ASPHALT		
CONCRETE		
# PARKING SPACES		14

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

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GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

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2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
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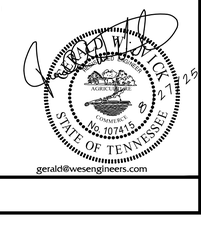
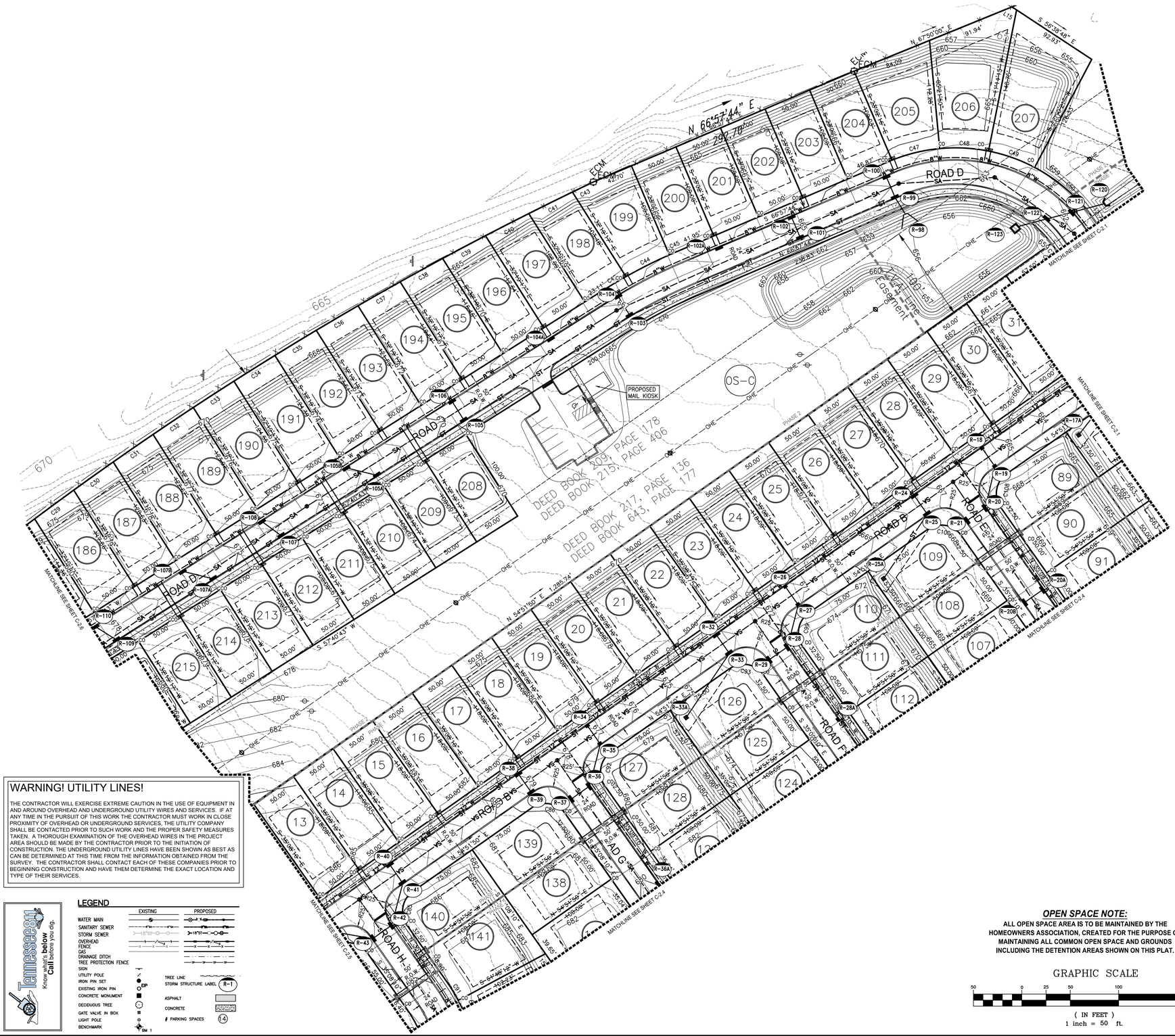


geraldb@wesengineers.com

GRADING & DRAINAGE PLAN



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Client
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AUSTIN, TEXAS 78704

DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

Drawn: BD | Checked: JG | Approved: GV | Date: 08/12/2025

Job. no. 22529-3 | Scale: Vertical: 1"=50' Horizontal:

C-2.3

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Tennessee811 Know what's below Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		R-1
ASPHALT		
CONCRETE		
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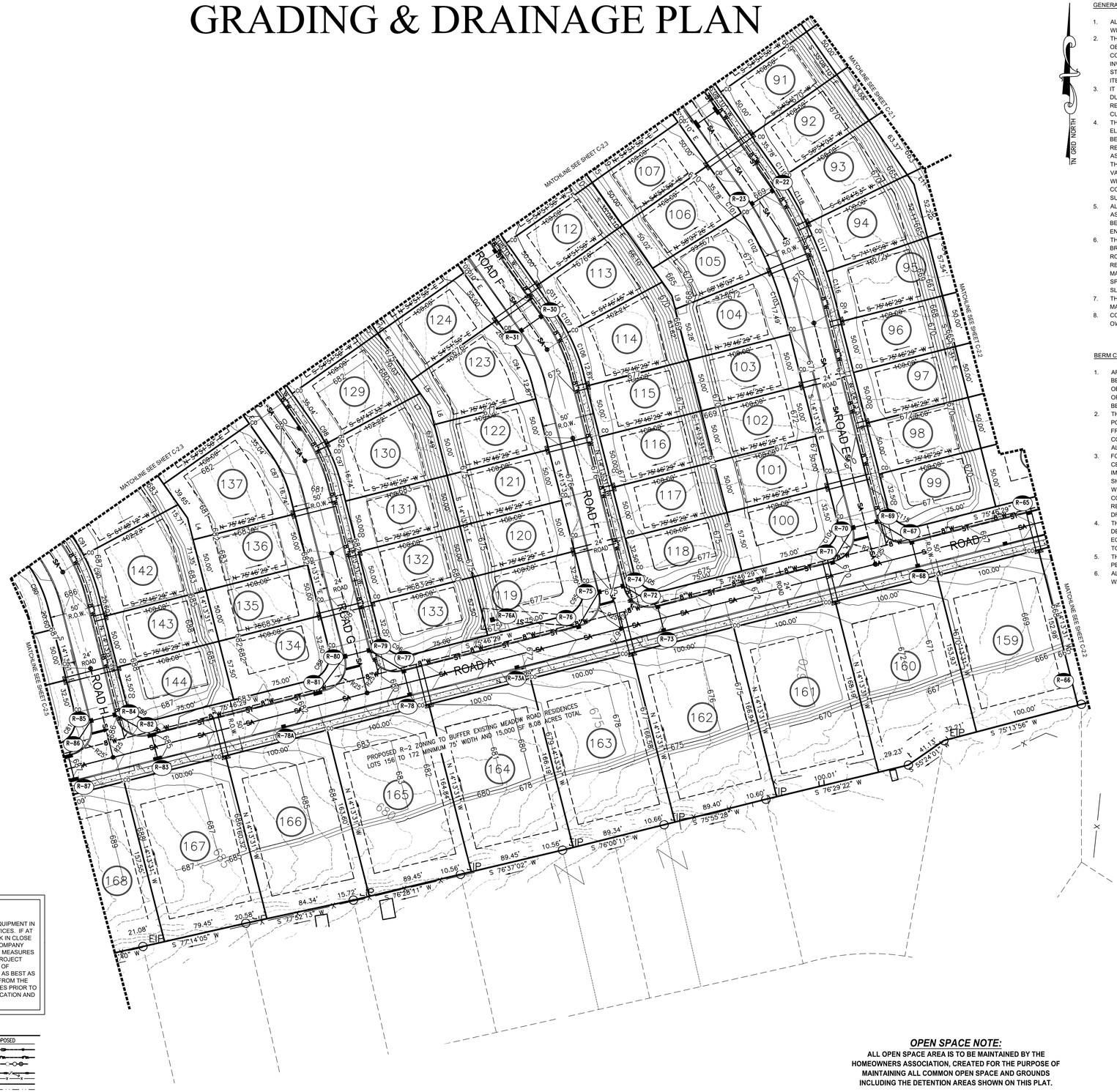
GERALD HANCOCK — LICENSED PROFESSIONAL ENGINEER — AGRICULTURAL ENGINEER — NUMBER 107413 — STATE OF TENNESSEE

gerald@wesengineers.com

FILE: J:\ WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING & DRAINAGE PLAN



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ASPHALT		
CONCRETE		
# PARKING SPACES		14

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(IN FEET)
1 inch = 50 ft.

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

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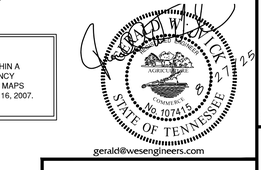

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Client
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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

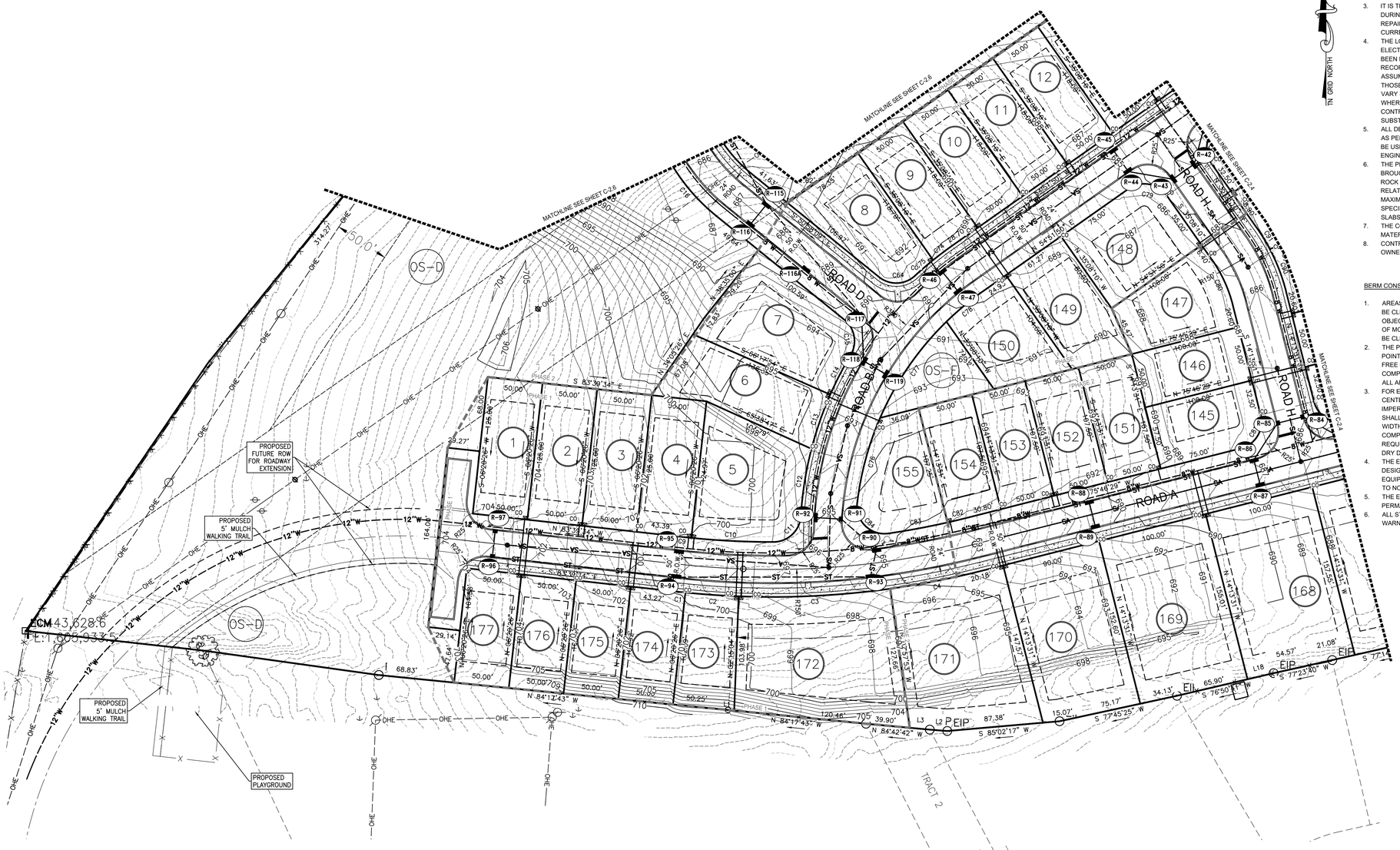
Drawn: BD
Checked: JG
Approved: GV
Date: 09/12/2025

Job. no. 22529-3
Scale:
Vertical: 1"=50'
Horizontal:

C-2.4

FILE: J:\ WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529–2 – Southbend – Brightland\Dwg\Engineering\22529–2 Base.dwg

GRADING & DRAINAGE PLAN



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3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID DAMAGE TO ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. IF DAMAGE DOES OCCUR TO ANY SUCH EXISTING INSTALLATIONS, FULL REPAIR SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AS PER THE CURRENT SPECIFICATIONS FOR SUCH WORK FOR THE RESPONSIBLE AGENCY.
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Tennessee811 Know what's below Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER	18"ST	18"ST
OVERHEAD	OHE	
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		IPS
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
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ASPHALT
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PARKING SPACES (14)

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LICENSED PROFESSIONAL ENGINEER — AGRICULTURAL & BIOSYSTEMS ENGINEERING — GERALD W. WICK III — No. 107415 — STATE OF TENNESSEE

geraldt@wesengineers.com

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DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

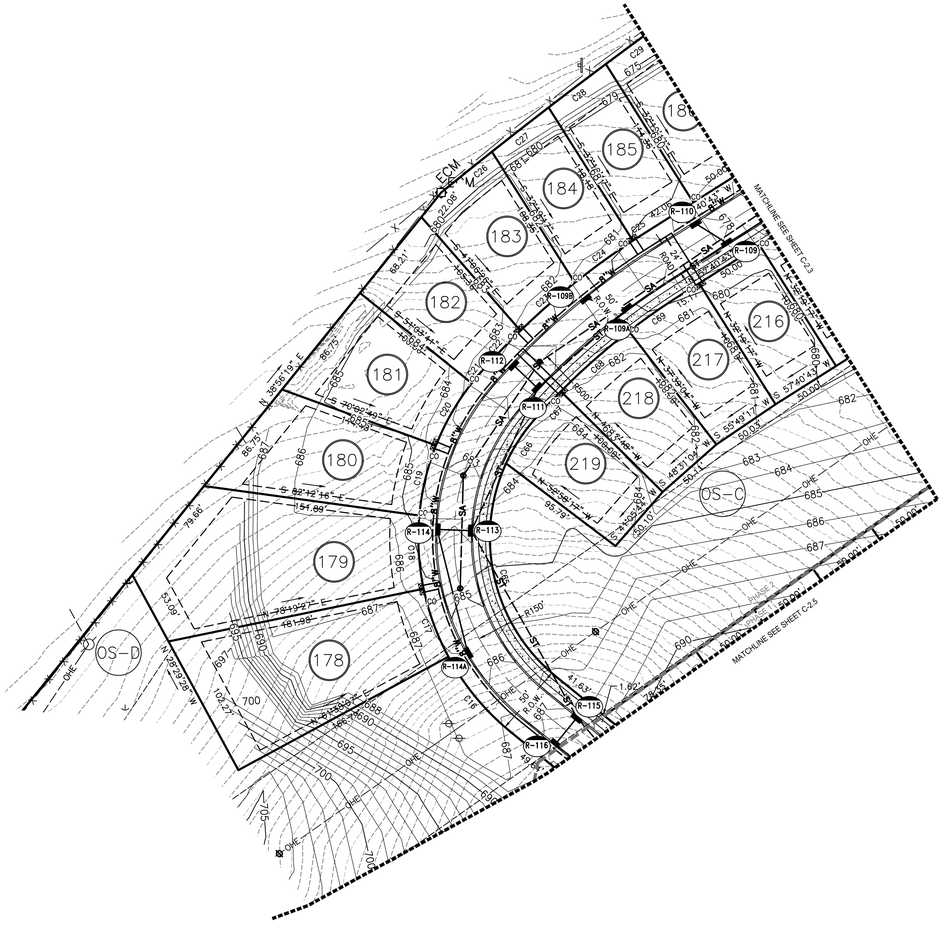
Drawn: BD | Checked: JG | Approved: GV | Date: 06/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=50' Horizontal:

C-2.5

FILE: J:_WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING & DRAINAGE PLAN



TN GRID NORTH

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REVISIONS	DATE

Southbend Crossings

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MT. PLEASANT, MAURY COUNTY, TENNESSEE
GRADING & DRAINAGE PLAN

Drawn: BD | Checked: JG | Approved: GV | Date: 09/12/2025

Job. no. 22529-3 | Scale: Vertical: 1"=50' Horizontal:

C-2.6

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Tennessee811
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WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
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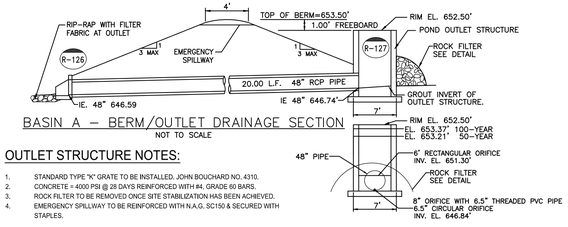
GERALD W. JOHNSON
REGISTERED
AGRICULTURAL ENGINEER
No. 107415
STATE OF TENNESSEE

geraldj@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING AND DRAINAGE PLAN

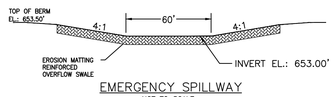
DETENTION BASIN A DETAILS



BASIN A – BERM/OUTLET DRAINAGE SECTION
NOT TO SCALE

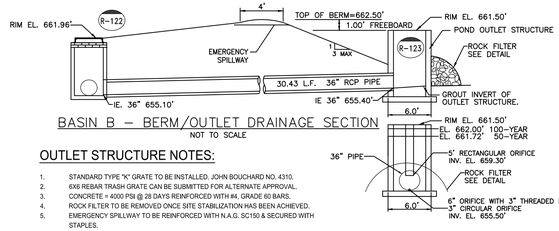
OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
3. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
4. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.



EMERGENCY SPILLWAY
NOT TO SCALE

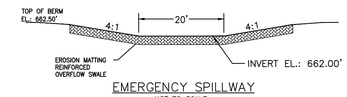
DETENTION BASIN B DETAILS



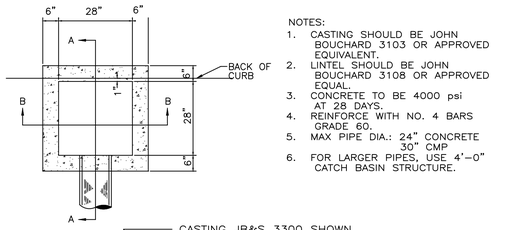
BASIN B – BERM/OUTLET DRAINAGE SECTION
NOT TO SCALE

OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. 6X6 REBAR TRASH GRATE CAN BE SUBMITTED FOR ALTERNATE APPROVAL.
3. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
4. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
5. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.

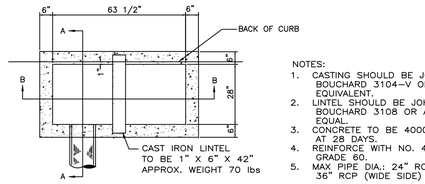


EMERGENCY SPILLWAY
NOT TO SCALE



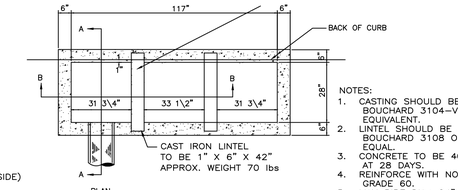
NOTES:
1. CASTING SHOULD BE JOHN BOUCHARD 3103 OR APPROVED EQUIVALENT.
2. LINTEL SHOULD BE JOHN BOUCHARD 3108 OR APPROVED EQUAL.
3. CONCRETE TO BE 4000 psi AT 28 DAYS.
4. REINFORCE WITH NO. 4 BARS GRADE 60.
5. MAX PIPE DIA.: 24" CONCRETE 30" CMP
6. FOR LARGER PIPES, USE 4'-0" CATCH BASIN STRUCTURE.

SINGLE INLET (PRECAST)
NOT TO SCALE



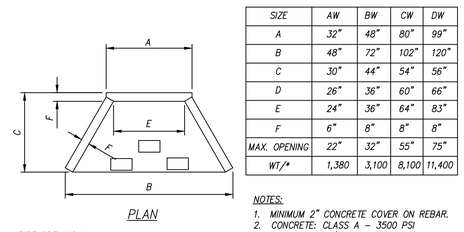
NOTES:
1. CASTING SHOULD BE JOHN BOUCHARD 3104-V OR APPROVED EQUIVALENT.
2. LINTEL SHOULD BE JOHN BOUCHARD 3108 OR APPROVED EQUAL.
3. CONCRETE TO BE 4000 psi AT 28 DAYS.
4. REINFORCE WITH NO. 4 BARS GRADE 60.
5. MAX PIPE DIA.: 24" RCP (NARROW SIDE) 36" RCP (WIDE SIDE)

DOUBLE INLET (PRECAST)
NOT TO SCALE



NOTES:
1. CASTING SHOULD BE JOHN BOUCHARD 3104-V OR APPROVED EQUIVALENT.
2. LINTEL SHOULD BE JOHN BOUCHARD 3108 OR APPROVED EQUAL.
3. CONCRETE TO BE 4000 psi AT 28 DAYS.
4. REINFORCE WITH NO. 4 BARS GRADE 60.
5. MAX PIPE DIA.: 24" RCP (NARROW SIDE) 36" RCP (WIDE SIDE)

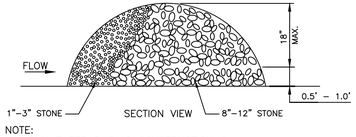
TRIPLE INLET (PRECAST)
NOT TO SCALE



SIZE	AW	BW	CW	DW
A	32"	48"	80"	99"
B	48"	72"	102"	120"
C	30"	44"	54"	56"
D	26"	36"	60"	66"
E	24"	36"	64"	83"
F	6"	8"	8"	8"
MAX. OPENING	22"	32"	55"	75"
WT/*	1,380	3,100	8,100	11,400

NOTES:
1. MINIMUM 2" CONCRETE COVER ON REBAR.
2. CONCRETE: CLASS A – 3500 PSI @ 28 DAYS W/ AIR ENTRAINMENT.
3. ALL PICK UP POINTS AND PIPE OPENINGS TO BE GROUTED BY CONTRACTOR WITH NON-SHRINK GROUT.
4. 3/4" CHAMFER ON ALL EXPOSED EDGES.

CONCRETE HEADWALL W/ENERGY DISSIPATORS
NOT TO SCALE



NOTE:
MAINTAIN FILTER DURING CONSTRUCTION & REMOVE ONCE SLOPES ARE STABILIZED.

ROCK FILTER CONSTRUCTION
NOT TO SCALE

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WES Engineers & Surveyors
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COLUMBIA, TN 38401
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ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
DRAINAGE PLAN

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical:
Horizontal:

C-2.7

gerald@wesengineers.com

FILE: I:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

GRADING AND DRAINAGE PLAN

© 2025

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
R-1		HEADWALL OUTLET	---	---	648.31	---	---	---
	R2-R1	42" PIPE	---	648.44	648.31	18.58	0.70	---
R-2		CURB INLET [3]	654.28	648.94	648.44	---	---	TRIPLE INLET
	R3-R2	18" PIPE	---	651.03	648.94	24.00	8.71	---
R-3		CURB INLET [3]	654.28	--	651.03	---	---	TRIPLE INLET
	R4-R2	42" PIPE	---	650.08	648.94	152.82	0.75	---
R-4		CURB INLET	655.17	650.28	650.08	---	---	TRIPLE INLET
	R5-R4	18" PIPE	---	651.92	650.28	24.00	6.83	---
R-5		CURB INLET	655.17	--	651.92	---	---	TRIPLE INLET
	R6-R4	42" PIPE	---	651.51	650.28	145.51	0.67	---
R-6		CURB INLET	656.60	651.71	651.51	---	---	DOUBLE INLET
	R6A-R6	42" PIPE	---	652.26	651.71	105.63	0.52	---
R-6A		CURB INLET	657.81	652.46	652.26	---	---	DOUBLE INLET
	R6B-R6A	18" PIPE	---	654.06	652.46	24.00	6.67	---
R-6B		CURB INLET	657.81	---	654.06	---	---	DOUBLE INLET
	R7-R6	18" PIPE	---	653.35	651.71	24.00	6.83	---
R-7		CURB INLET	656.60	--	653.35	---	---	DOUBLE INLET
	R8-R6A	42" PIPE	---	652.98	652.46	87.20	0.60	---
R-8		CURB INLET	659.68	653.18	652.98	---	---	DOUBLE INLET
	R9-R8	18" PIPE	---	655.73	653.18	24.00	10.67	---
R-9		CURB INLET	659.68	655.93	655.73	---	---	DOUBLE INLET
	R10-R9	18" PIPE	---	656.53	655.93	41.01	1.46	---
R-10		CURB INLET	660.72	656.73	656.53	---	---	DOUBLE INLET
	R11-R10	18" PIPE	---	656.97	656.73	24.00	1.00	---
R-11		CURB INLET	660.72	--	656.97	---	---	DOUBLE INLET
	R12-R10	18" PIPE	---	657.74	656.73	105.99	0.95	---
R-12		CURB INLET	661.93	657.94	657.74	---	---	DOUBLE INLET
	R13-R12	18" PIPE	---	658.18	657.94	24.00	1.00	---
R-13		CURB INLET	661.93	--	658.18	---	---	DOUBLE INLET
	R12A-R12	18" PIPE	---	658.97	657.94	107.48	0.96	---
R-12A		CURB INLET	663.16	659.17	658.97	---	---	DOUBLE INLET
	R12B-R12A	18" PIPE	---	659.41	659.17	24.00	1.00	---
R-12B		CURB INLET	663.16	--	659.41	---	---	DOUBLE INLET
	R14-R8	36" PIPE	---	654.54	654.18	41.01	0.88	---
R-14		CURB INLET	660.68	654.74	654.54	---	---	DOUBLE INLET
	R15-R14	36" PIPE	---	654.98	654.74	24.00	1.00	---
R-15		CURB INLET	660.68	655.18	654.98	---	---	DOUBLE INLET
	R16-R15	36" PIPE	---	655.82	655.18	41.01	1.56	---
R-16		CURB INLET	661.58	656.02	655.18	---	---	DOUBLE INLET
	R17-R16	18" PIPE	---	656.26	656.02	24.00	1.00	---
R-17		CURB INLET	661.58	656.46	656.26	---	---	DOUBLE INLET
	R17A-R17	18" PIPE	---	657.25	656.46	78.45	1.01	---
R-17A		AREA DRAIN	660.00	---	657.25	---	---	---
	R18-R16	36" PIPE	---	659.68	656.02	164.51	2.22	---
R-18		CURB INLET	665.38	661.88	659.68	---	---	DOUBLE INLET
	R19-R18	18" PIPE	---	661.43	661.88	24.00	6.46	---
R-19		CURB INLET	665.38	661.63	661.43	---	---	DOUBLE INLET
	R20-R19	18" PIPE	---	662.32	661.63	43.55	1.58	---
R-20		CURB INLET	666.51	662.52	662.32	---	---	DOUBLE INLET
	R20A-R20	18" PIPE	---	663.54	662.52	103.42	0.99	---
R-20A		CURB INLET	667.73	663.74	663.54	---	---	DOUBLE INLET
	R20B-R20A	18" PIPE	---	663.98	663.74	24.00	1.00	---
R-20B		CURB INLET	667.73	--	663.98	---	---	DOUBLE INLET
	R21-R20	18" PIPE	---	662.76	662.52	24.00	1.00	---
R-21		CURB INLET	666.51	--	662.76	---	---	DOUBLE INLET
	R22-R20A	18" PIPE	---	664.62	663.74	93.43	0.94	---
R-22		CURB INLET	668.81	664.82	664.62	---	---	TRIPLE INLET
	R23-R22	18" PIPE	---	665.06	664.82	24.00	1.00	---
R-23		CURB INLET	668.81	--	665.06	---	---	DOUBLE INLET
	R24-R18	36" PIPE	---	661.41	659.88	85.49	1.79	---
R-24		CURB INLET	667.36	661.61	661.41	---	---	DOUBLE INLET
	R25-R24	18" PIPE	---	661.85	661.61	24.00	1.00	---
R-25		CURB INLET	667.36	662.05	661.85	---	---	DOUBLE INLET

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300–V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R25A-R25	18" PIPE	---	662.85	662.05	80.49	1.00	---
R-25A		CURB INLET	665.60	--	662.85	---	---	---
	R26-R24	36" PIPE	---	665.44	661.61	163.00	2.35	---
R-26		CURB INLET	671.14	666.64	665.44	---	---	DOUBLE INLET
	R27-R26	18" PIPE	---	667.19	666.64	24.00	6.46	---
R-27		CURB INLET	671.14	667.39	667.19	---	---	SINGLE INLET
	R28-R27	18" PIPE	---	668.10	667.39	44.69	1.59	---
R-28		CURB INLET	672.29	668.30	668.10	---	---	DOUBLE INLET
	R28A-R28	18" PIPE	---	669.22	668.30	91.50	1.01	---
R-28A		CURB INLET	672.29	669.42	669.22	---	---	DOUBLE INLET
	R29-R28	18" PIPE	---	668.54	668.30	24.00	1.00	---
R-29		CURB INLET	672.29	--	668.54	---	---	TRIPLE INLET
	R30-R28A	18" PIPE	---	669.98	669.42	76.48	0.73	---
R-30		CURB INLET	674.17	670.18	669.98	---	---	DOUBLE INLET
	R31-R30	18" PIPE	---	670.42	670.18	24.00	1.00	---
R-31		HEADWALL INLET	674.17	--	670.42	---	---	TRIPLE INLET
	R32-R26	36" PIPE	---	666.81	665.64	87.00	1.34	---
R-32		CURB INLET	673.15	667.01	666.81	---	---	DOUBLE INLET
	R33-R32	18" PIPE	---	667.25	667.01	24.00	1.00	---
R-33		CURB INLET	673.15	667.45	667.25	---	---	DOUBLE INLET
	R33A-R33	18" PIPE	---	668.25	667.45	79.90	1.00	---
R-33A		CURB INLET	671.00	--	668.25	---	---	---
	R34-R32	36" PIPE	---	671.73	667.01	163.00	2.90	---
R-34		CURB INLET	676.93	671.93	671.73	---	---	SINGLE INLET
	R35-R34	18" PIPE	---	672.98	671.93	24.00	4.38	---
R-35		CURB INLET	676.93	673.18	672.98	---	---	DOUBLE INLET
	R36-R35	18" PIPE	---	673.98	673.18	44.69	1.79	---
R-36		CURB INLET	678.17	674.18	673.98	---	---	DOUBLE INLET
	R36A-R36	18" PIPE	---	676.20	674.18	122.10	1.65	---
R-36A		CURB INLET	679.95	--	676.20	---	---	SINGLE INLET
	R37-R36	18" PIPE	---	674.42	674.18	24.00	1.00	---
R-37		CURB INLET	678.17	--	674.42	---	---	DOUBLE INLET
	R38-R34	24" PIPE	---	674.49	671.93	87.00	2.94	---
R-38		CURB INLET	678.94	674.69	674.49	---	---	DOUBLE INLET
	R39-R38	18" PIPE	---	675.19	674.69	24.00	2.08	---
R-39		CURB INLET	678.94	--	675.19	---	---	SINGLE INLET
	R40-R38	24" PIPE	---	676.82	674.69	162.51	1.31	---
R-40		CURB INLET	682.71	677.02	676.82	---	---	DOUBLE INLET
	R41-R40	24" PIPE	---	677.26	677.02	24.00	1.00	---
R-41		CURB INLET	682.71	677.46	677.26	---	---	DOUBLE INLET
	R42-R41	24" PIPE	---	679.29	677.46	45.06	4.06	---
R-42		CURB INLET	683.96	679.49	679.29	---	---	TRIPLE INLET
	R43-R42	18" PIPE	---	679.73	679.49	24.00	1.00	---
R-43		CURB INLET	683.96	679.93	679.73	---	---	DOUBLE INLET
	R44-R43	18" PIPE	---	680.34	679.93	41.01	1.00	---
R-44		CURB INLET	684.73	680.54	680.34	---	---	DOUBLE INLET
	R45-R44	18" PIPE	---	680.78	680.54	24.00	1.00	---
R-45		CURB INLET	684.73	680.98	680.78	---	---	SINGLE INLET
	R46-R45	18" PIPE	---	684.94	680.98	190.84	2.08	---
R-46		CURB INLET	689.13	685.14	684.94	---	---	SINGLE INLET
	R47-R46	18" PIPE	---	685.38	685.14	24.00	1.00	---
R-47		CURB INLET	689.13	--	685.38	---	---	SINGLE INLET
R-48		HEADWALL OUTLET	---	--	648.31	---	---	---
	R49-R48	36" PIPE	---	649.00	648.31	72.21	0.96	---
R-49		CURB INLET	654.46	649.20	649.00	---	---	TRIPLE INLET
	R49A-R49	36" PIPE	---	649.99	649.20	100.57	0.79	---
R-49A		CURB INLET	655.49	650.19	649.99	---	---	DOUBLE INLET
	R49B-R49A	18" PIPE	---	651.74	650.19	24.00	6.46	---
R-49B		CURB INLET	655.49	--	651.74	---	---	DOUBLE INLET
	R50-R49	18" PIPE	---	651.21	650.00	24.00	5.04	---

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3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
R-50		CURB INLET	654.46	--	651.21	---	---	TRIPLE INLET
	R51-R49A	36" PIPE	---	651.21	650.19	100.57	1.01	---
R-51		CURB INLET	656.52	651.41	651.21	---	---	SINGLE INLET
	R51A-R51	36" PIPE	---	651.78	651.41	50.00	0.74	---
R-51A		CURB INLET	657.03	651.98	651.78	---	---	SINGLE INLET
	R51B-R51A	18" PIPE	---	653.28	651.98	24.00	5.42	---
R-51B		CURB INLET	657.03	--	653.28	---	---	SINGLE INLET
	R52-R51A	18" PIPE	---	652.77	651.41	24.00	5.67	---
R-52		CURB INLET	656.52	--	652.77	---	---	SINGLE INLET
	R53-R51A	36" PIPE	---	652.55	651.98	100.00	0.57	---
R-53		CURB INLET	658.05	652.75	652.55	---	---	DOUBLE INLET
	R54-R53	36" PIPE	---	652.92	652.75	24.00	0.71	---
R-54		CURB INLET	658.05	653.12	652.92	---	---	DOUBLE INLET
	R55-R54	36" PIPE	---	654.25	653.12	151.38	0.75	---
R-55		CURB INLET	659.60	654.45	654.25	---	---	DOUBLE INLET
	R56-R55	18" PIPE	---	655.85	655.25	24.00	2.50	---
R-56		CURB INLET	659.60	656.05	655.85	---	---	DOUBLE INLET
	R56A-R56	18" PIPE	---	657.04	656.05	98.62	1.00	---
R-56A		CURB INLET	660.61	--	657.04	---	---	SINGLE INLET
	R57-R55	36" PIPE	---	655.77	654.45	176.11	0.75	---
R-57		CURB INLET	661.37	655.97	655.77	---	---	DOUBLE INLET
	R58-R57	36" PIPE	---	656.34	655.97	48.93	0.76	---
R-58		CURB INLET	662.64	656.54	656.34	---	---	SINGLE INLET
	R59-R58	18" PIPE	---	658.89	658.54	24.00	1.46	---
R-59		CURB INLET	662.64	--	658.89	---	---	DOUBLE INLET
	R60-R58	36" PIPE	---	657.39	656.54	70.82	1.20	---
R-60		CURB INLET	663.69	657.59	657.39	---	---	SINGLE INLET
	R61-R60	36" PIPE	---	658.05	657.59	38.18	1.20	---
R-61		CURB INLET	664.31	658.25	658.05	---	---	SINGLE INLET
	R62-R61	36" PIPE	---	658.53	658.25	24.00	1.17	---
R-62		CURB INLET	664.31	658.73	658.53	---	---	SINGLE INLET
	R63-R62	36" PIPE	---	659.19	658.73	38.18	1.20	---
R-63		CURB INLET	664.86	659.36	659.19	---	---	SINGLE INLET
	R64-R63	18" PIPE	---	661.11	660.19	24.00	3.83	---
R-64		CURB INLET	664.86	661.31	661.11	---	---	DOUBLE INLET
	R64A-R64	18" PIPE	---	662.61	661.31	86.00	1.51	---
R-64A		CURB INLET	666.36	--	662.61	---	---	DOUBLE INLET
	R65-R63	36" PIPE	---	660.09	659.36	56.62	1.29	---
R-65		CURB INLET	665.79	660.29	660.09	---	---	SINGLE INLET
	R67-R65	36" PIPE	---	662.32	660.29	115.38	1.76	---
R-67		CURB INLET	668.26	662.52	662.32	---	---	SINGLE INLET
	R68-R67	18" PIPE	---	664.76	664.32	24.00	1.83	---
R-68		CURB INLET	668.26	--	664.76	---	---	DOUBLE INLET
	R69-R67	36" PIPE	---	663.03	662.52	38.18	1.34	---
R-69		CURB INLET	669.17	663.23	663.03	---	---	SINGLE INLET
	R70-R69	36" PIPE	---	663.47	663.23	24.00	1.00	---
R-70		CURB INLET	669.17	663.67	663.47	---	---	SINGLE INLET
	R71-R70	36" PIPE	---	664.32	663.67	38.18	1.70	---
R-71		CURB INLET	670.02	664.52	664.32	---	---	SINGLE INLET
	R72-R71	36" PIPE	---	667.62	664.52	172.00	1.80	---
R-72		CURB INLET	673.88	667.82	667.62	---	---	SINGLE INLET
	R73-R72	18" PIPE	---	670.13	667.82	24.00	9.62	---
R-73		CURB INLET	673.88	670.33	670.13	---	---	DOUBLE INLET
	R73A-R73	18" PIPE	---	673.38	670.33	144.36	2.11	---
R-73A		CURB INLET	677.13	--	673.38	---	---	DOUBLE INLET
	R74-R72	36" PIPE	---	668.20	667.82	38.18	1.00	---
R-74		CURB INLET	674.79	668.40	668.20	---	---	SINGLE INLET

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300–V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R75-R74	36" PIPE	---	668.64	668.40	24.00	1.00	---
R-75		CURB INLET	674.79	668.84	668.64	---	---	SINGLE INLET
	R76-R75	36" PIPE	---	669.22	698.84	38.18	1.00	---
R-76		CURB INLET	675.64	669.42	669.22	---	---	SINGLE INLET
	R76A-R76	36" PIPE	---	670.25	669.42	82.30	1.00	---
R-76A		AREA DRAIN	673.00	---	670.25	---	---	---
	R77-R76	36" PIPE	---	673.81	670.14	172.00	2.13	---
R-77		CURB INLET	679.51	674.01	673.81	---	---	SINGLE INLET
	R78-R77	18" PIPE	---	675.76	675.31	24.00	1.88	---
R-78		CURB INLET	679.51	675.96	675.76	---	---	DOUBLE INLET
	R78A-R78	18" PIPE	---	678.54	675.96	124.00	2.08	---
R-78A		CURB INLET	682.29	--	678.54	---	---	SINGLE INLET
	R79-R77	24" PIPE	---	675.52	674.01	38.18	3.95	---
R-79		CURB INLET	680.41	675.72	675.52	---	---	SINGLE INLET
	R80-R79	24" PIPE	---	675.96	675.72	24.00	1.00	---
R-80		CURB INLET	680.41	676.16	675.96	---	---	SINGLE INLET
	R81-R80	24" PIPE	---	676.96	676.16	43.12	1.86	---
R-81		HEADWALL INLET	681.41	677.16	676.96	---	---	SINGLE INLET
	R82-R81	24" PIPE	---	680.39	677.16	163.38	1.98	---
R-82		CURB INLET	685.08	680.59	680.39	---	---	SINGLE INLET
	R83-R82	18" PIPE	---	681.33	680.59	24.00	3.08	---
R-83		CURB INLET	685.08	--	681.33	---	---	SINGLE INLET
	R84-R82	24" PIPE	---	681.14	680.59	39.62	1.39	---
R-84		CURB INLET	686.03	681.34	681.14	---	---	SINGLE INLET
	R85-R84	24" PIPE	---	681.58	681.34	24.00	1.00	---
R-85		CURB INLET	686.03	681.78	681.58	---	---	SINGLE INLET
	R86-R85	24" PIPE	---	682.47	681.78	39.62	1.74	---
R-86		CURB INLET	686.92	682.67	682.67	---	---	SINGLE INLET
	R87-R86	18" PIPE	---	683.17	682.67	24.00	2.08	---
R-87		CURB INLET	686.92	--	683.17	---	---	DOUBLE INLET
	R88-R86	24" PIPE	---	686.21	682.67	154.62	2.29	---
R-88		CURB INLET	690.40	686.41	686.21	---	---	SINGLE INLET
	R89-R88	18" PIPE	---	686.65	686.41	24.00	1.00	---
R-89		CURB INLET	690.40	--	686.65	---	---	DOUBLE INLET
	R90-R88	18" PIPE	---	690.10	686.41	198.15	1.86	---
R-90		CURB INLET	694.89	690.30	690.10	---	---	SINGLE INLET
	R91-R90	18" PIPE	---	690.72	690.30	42.20	1.00	---
R-91		CURB INLET	694.91	690.92	690.72	---	---	SINGLE INLET
	R92-R91	18" PIPE	---	691.16	690.92	24.00	1.00	---
R-92		CURB INLET	694.91	--	691.16	---	---	SINGLE INLET
	R93-R90	18" PIPE	---	691.14	690.30	25.49	3.30	---
R-93		CURB INLET	695.09	691.34	691.14	---	---	DOUBLE INLET
	R94-R93	18" PIPE	---	694.60	691.34	176.22	1.85	---
R-94		CURB INLET	698.99	694.80	694.60	---	---	DOUBLE INLET
	R95-R94	18" PIPE	---	695.04	694.80	24.00	1.00	---
R-95		CURB INLET	698.99	--	695.04	---	---	SINGLE INLET
	R96-R94	18" PIPE	---	698.56	695.24	168.55	1.97	---
R-96		CURB INLET	702.78	698.76	698.56	---	---	SINGLE INLET
	R97-R96	18" PIPE	---	699.00	698.76	24.00	1.00	---
R-97		CURB INLET	702.78	--	699.00	---	---	SINGLE INLET
R-98		HEADWALL OUTLET	---	--	---	---	---	---
	R99-R98	36" PIPE	---	658.07	657.50	20.24	2.82	---
R-99		CURB INLET	663.77	--	658.27	---	---	SINGLE INLET
	R100-R99	36" PIPE	---	660.02	658.27	24.00	7.29	---
R-100		CURB INLET	663.77	--	660.02	---	---	DOUBLE INLET
	R101-R99	36" PIPE	---	658.71	658.27	106.43	0.41	---
R-101		HEADWALL OUTLET	664.84	658.91	658.71	---	---	DOUBLE INLET
	R102-R101	18" PIPE	---	661.09	658.91	24.00	9.08	---
R-102		CURB INLET	664.84	661.29	661.09	---	---	DOUBLE INLET
	R102A-R102	18" PIPE	---	661.90	661.29	81.44	0.75	---
R-102A		CURB INLET	665.65	--	661.90	---	---	DOUBLE INLET
	R103-R101	36" PIPE	---	660.85	658.91	193.51	1.00	---
R-103		CURB INLET	666.79	661.05	660.85	---	---	DOUBLE INLET

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4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R104-R103	18" PIPE	---	661.29	661.05	24.00	1.00	---
R-104		CURB INLET	666.79	661.49	661.29	---	---	DOUBLE INLET
	R104A-R104	18" PIPE	---	663.86	661.49	82.33	1.00	---
R-104A		CURB INLET	667.61	--	663.86	---	---	DOUBLE INLET
	R105-R103	36" PIPE	---	663.65	661.05	202.63	1.28	---
R-105		CURB INLET	669.35	663.85	663.65	---	---	DOUBLE INLET
	R105A-R105	36" PIPE	---	665.89	663.85	106.15	1.92	---
R-105A		CURB INLET	671.49	666.09	665.89	---	---	DOUBLE INLET
	R105B-R105A	18" PIPE	---	668.18	666.09	33.32	6.27	---
R-105B		CURB INLET	671.96	---	668.18	---	---	DOUBLE INLET
	R106-R105	18" PIPE	---	665.60	663.85	24.00	7.29	---
R-106		HEADWALL INLET	669.35	--	665.60	---	---	DOUBLE INLET
	R107-R105A	36" PIPE	---	668.16	666.09	117.03	1.77	---
R-107		CURB INLET	673.86	668.36	668.16	---	---	DOUBLE INLET
	R107A-R107	24" PIPE	---	671.08	668.36	82.97	3.28	---
R-107A		CURB INLET	675.53	671.28	671.08	---	---	DOUBLE INLET
	R107B-R107A	18" PIPE	---	672.25	671.28	33.32	2.91	---
R-107B		CURB INLET	676.00	---	672.25	---	---	DOUBLE INLET
	R108-R107	18" PIPE	---	670.30	668.36	25.75	7.53	---
R-108		CURB INLET	674.05	--	670.30	---	---	DOUBLE INLET
	R109-R107A	24" PIPE	---	672.80	671.28	118.37	1.28	---
R-109		CURB INLET	677.93	673.00	672.80	---	---	DOUBLE INLET
	R109A-R109	24" PIPE	---	675.26	673.00	2.71	1.28	---
R-109A		CURB INLET	679.63	675.46	675.26	---	---	DOUBLE INLET
	R109B-R109A	18" PIPE	---	675.77	675.46	30.55	1.01	---
R-109B		CURB INLET	680.02	---	675.77	---	---	DOUBLE INLET
	R110-R109	18" PIPE	---	674.41	673.00	26.57	5.31	---
R-110		CURB INLET	678.16	--	674.41	---	---	DOUBLE INLET
	R111-R109A	24" PIPE	---	676.92	675.46	83.65	1.74	---
R-111		CURB INLET	681.37	677.12	676.92	---	---	DOUBLE INLET
	R112-R111	18" PIPE	---	677.87	677.12	24.00	3.13	---
R-112		CURB INLET	681.37	--	677.87	---	---	DOUBLE INLET
	R113-R111	18" PIPE	---	679.88	677.12	109.77	2.51	---
R-113		CURB INLET	683.82	680.08	679.88	---	---	DOUBLE INLET
	R114-R113	18" PIPE	---	680.32	680.08	24.00	1.00	---
R-114		CURB INLET	683.82	680.52	680.32	---	---	DOUBLE INLET
	R114A-R114	18" PIPE	---	681.78	680.52	89.10	1.41	---
R-114A		CURB INLET	685.53	--	681.78	---	---	DOUBLE INLET
	R115-R113	18" PIPE	---	683.27	680.08	150.00	2.13	---
R-115		CURB INLET	687.21	683.47	683.27	---	---	DOUBLE INLET
	R116-R115	18" PIPE	---	683.71	683.47	24.00	1.00	---
R-116		CURB INLET	687.21	683.91	683.71	---	---	DOUBLE INLET
	R116A-R116	18" PIPE	---	684.78	683.91	65.17	1.33	---
R-116A		CURB INLET	688.53	--	684.78	---	---	SINGLE INLET
	R117-R115	18" PIPE	---	686.15	683.47	132.54	2.02	---
R-117		CURB INLET	689.85	686.35	686.15	---	---	DOUBLE INLET
	R118-R117	18" PIPE	---	687.61	686.35	41.77	3.02	---
R-118		CURB INLET	691.55	687.81	687.61	---	---	DOUBLE INLET
	R119-R118	18" PIPE	---	688.05	687.81	24.00	1.00	---
R-119		CURB INLET	691.55	--	688.05	---	---	SINGLE INLET
R-120		HEADWALL	655.00	--	654.27	---	---	---
	R121-R120	36" PIPE	---	654.62	654.27	35.02	1.00	---
R-121		CURB INLET	661.85	654.72	654.62	---	---	SINGLE INLET
	R122-R121	36" PIPE	---	655.00	654.72	27.65	1.01	---
R-122		CURB INLET	661.96	655.10	655.00	---	---	SINGLE INLET
	R123-R122	36" PIPE	---	655.40	655.10	30.43	0.99	---
R-123		RISER	---	--	655.40	---	---	---
R-124		HEADWALL	---	654.39	654.19	---	---	---
	R125-R124	18" PIPE	---	650.95	650.00	64.97	1.46	---
R-125		HEADWALL	---	--	--	---	---	---

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Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE

REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
DRAINAGE PLAN

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical:
Horizontal:

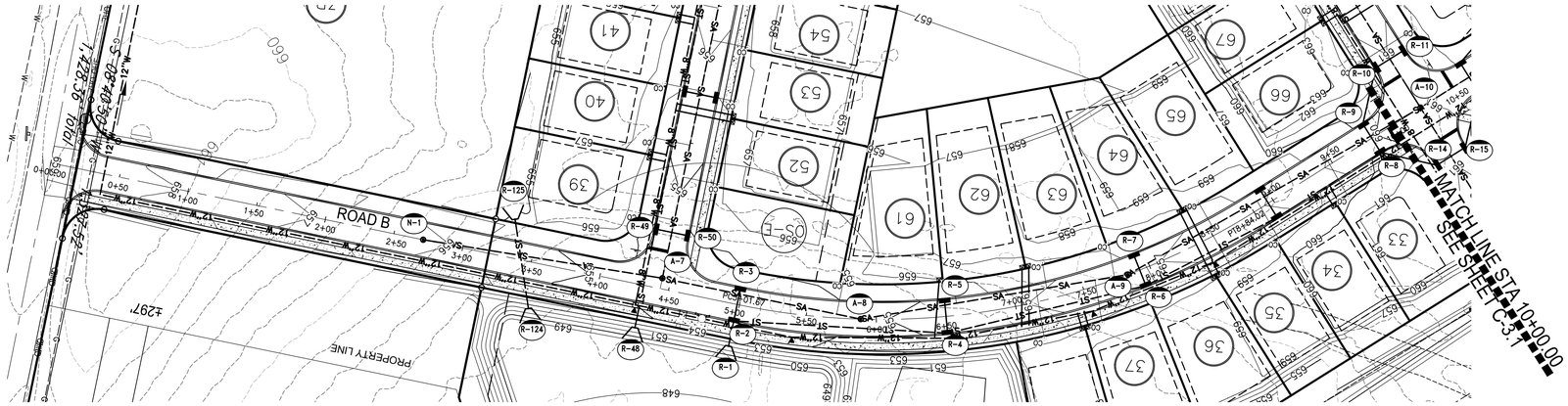
GERALD W. [illegible] REGISTERED ENGINEER AGRICULTURE COMMERCE No. 107415 STATE OF TENNESSEE 8-27-25

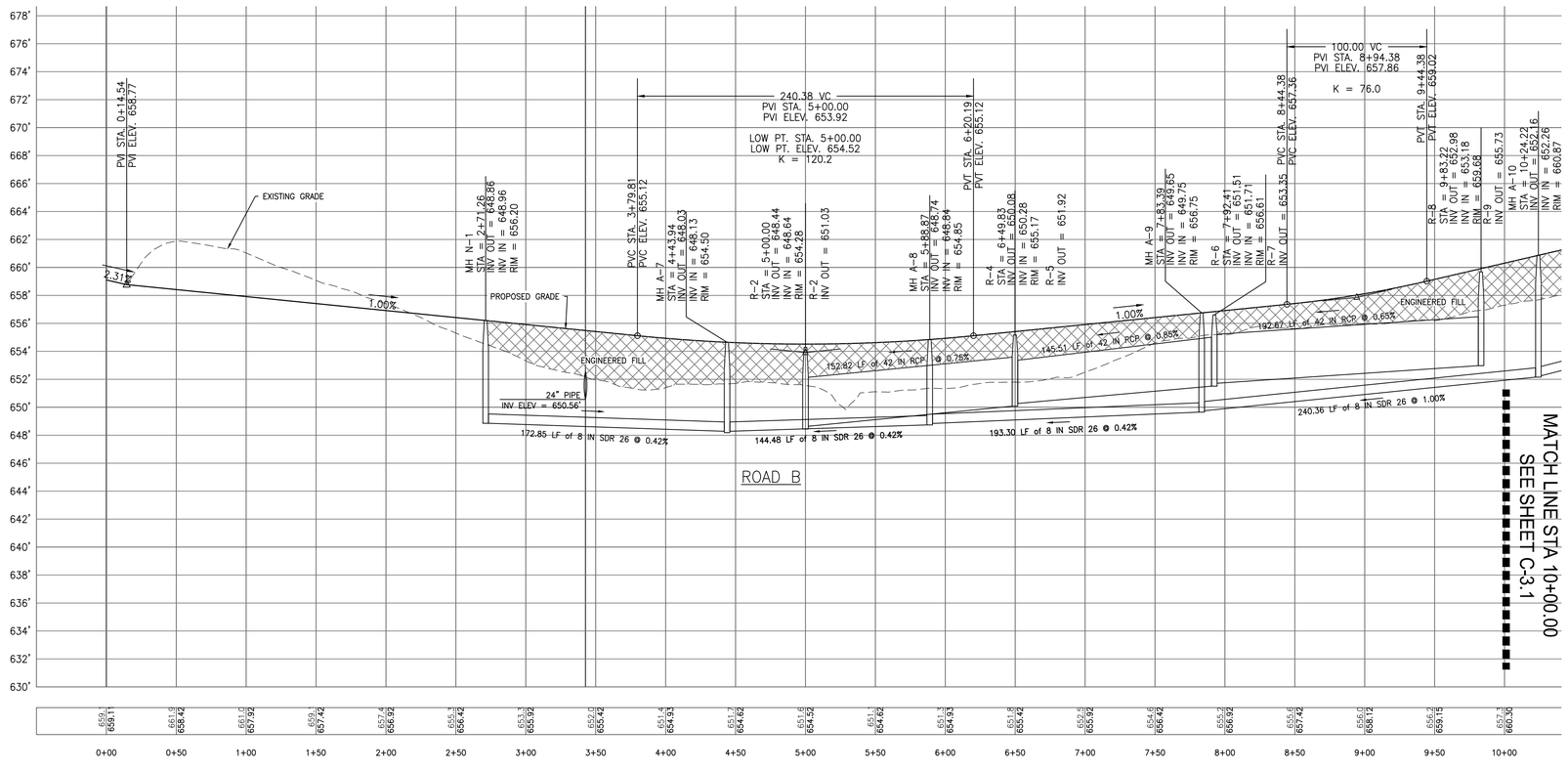
gerald@wesengineers.com

C-2.8

FILE: J:\WES_Engineers_Surveyors 2022\22529\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

ROAD B ROADWAY PLAN & PROFILE





GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

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3815 SOUTH CAPITOL OF TEXAS
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REVISIONS | DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY A PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

C-3.0

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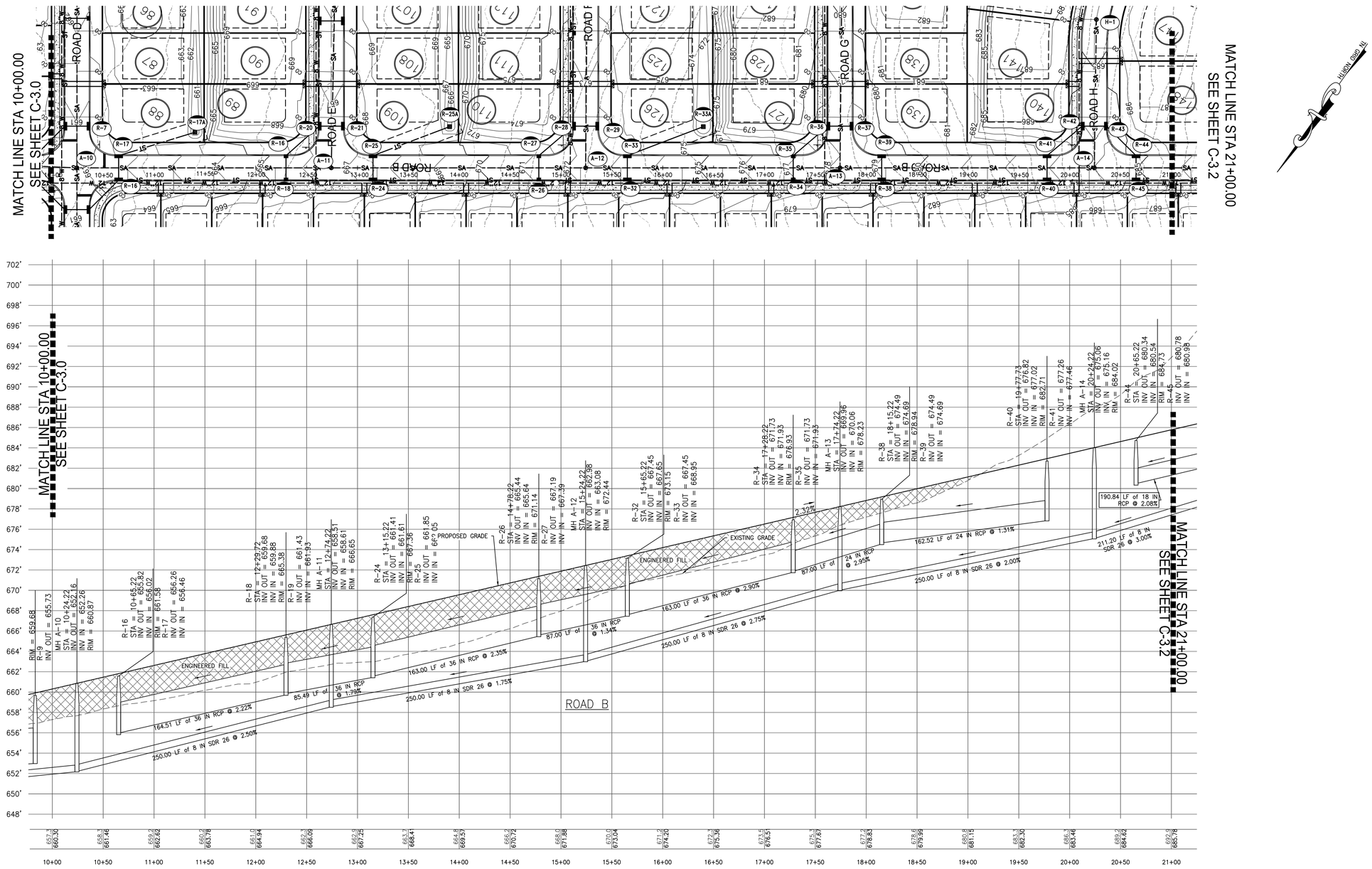
ROAD B ROADWAY PLAN & PROFILE



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AUSTIN, TEXAS 78704

REVISIONS | DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY A PLAN AND PROFILE

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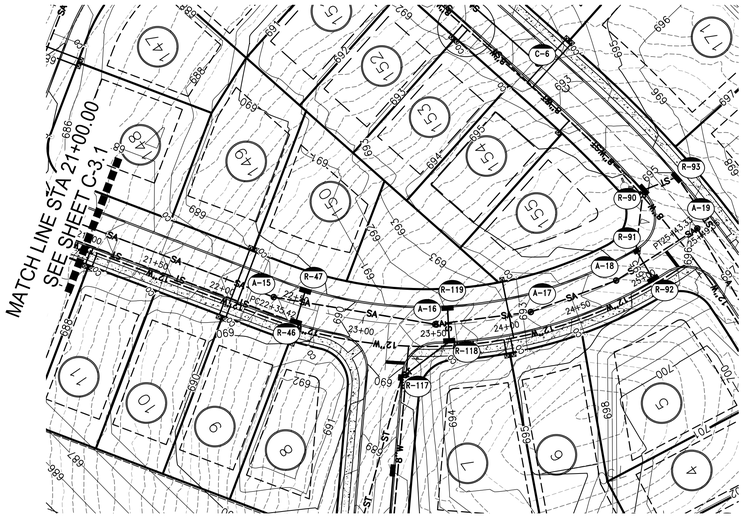
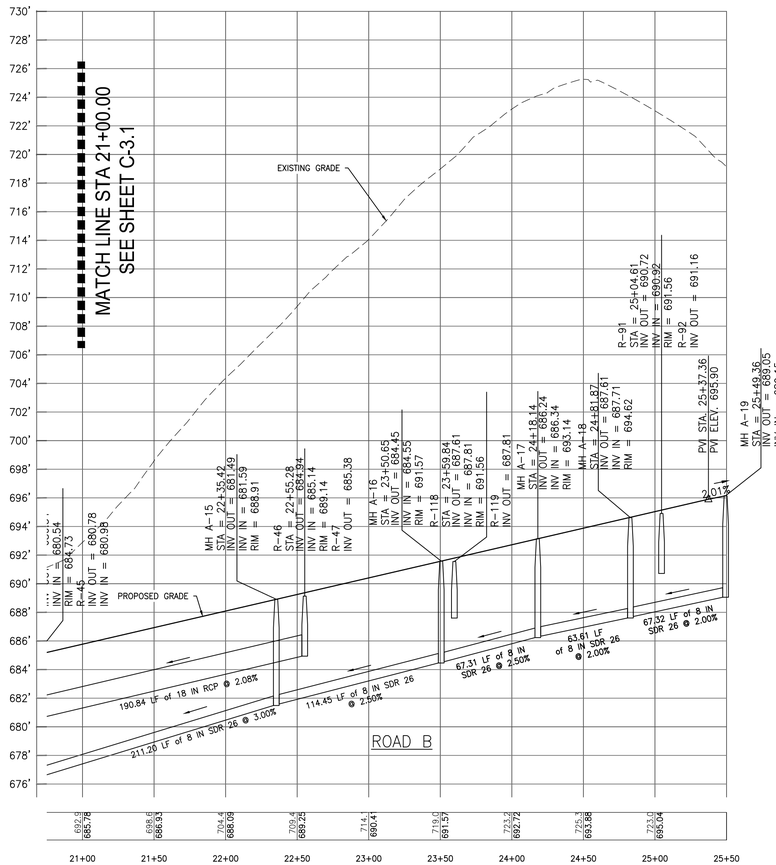
ROAD B ROADWAY PLAN & PROFILE





GRAPHIC SCALE

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AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY A PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 06/12/2025

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C-3.2

geraldv@wesengineers.com

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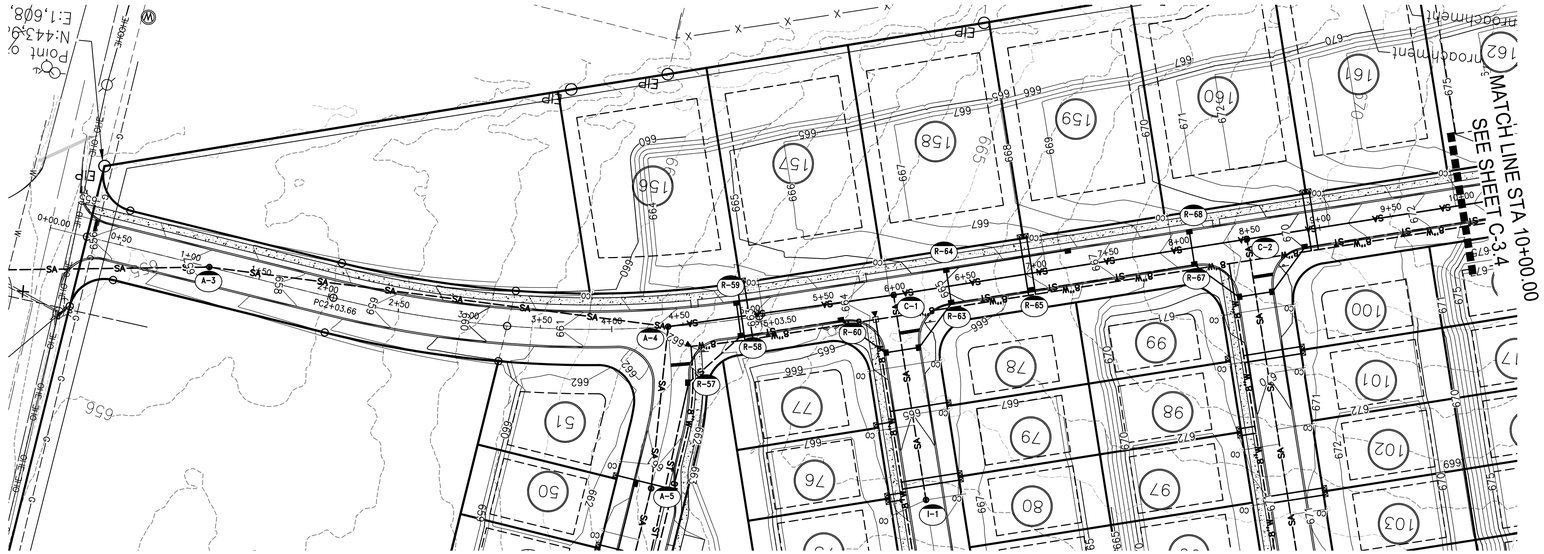
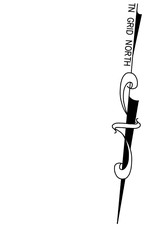
ROAD A ROADWAY PLAN & PROFILE





GRAPHIC SCALE

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REVISIONS | DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY A PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
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C-3.3

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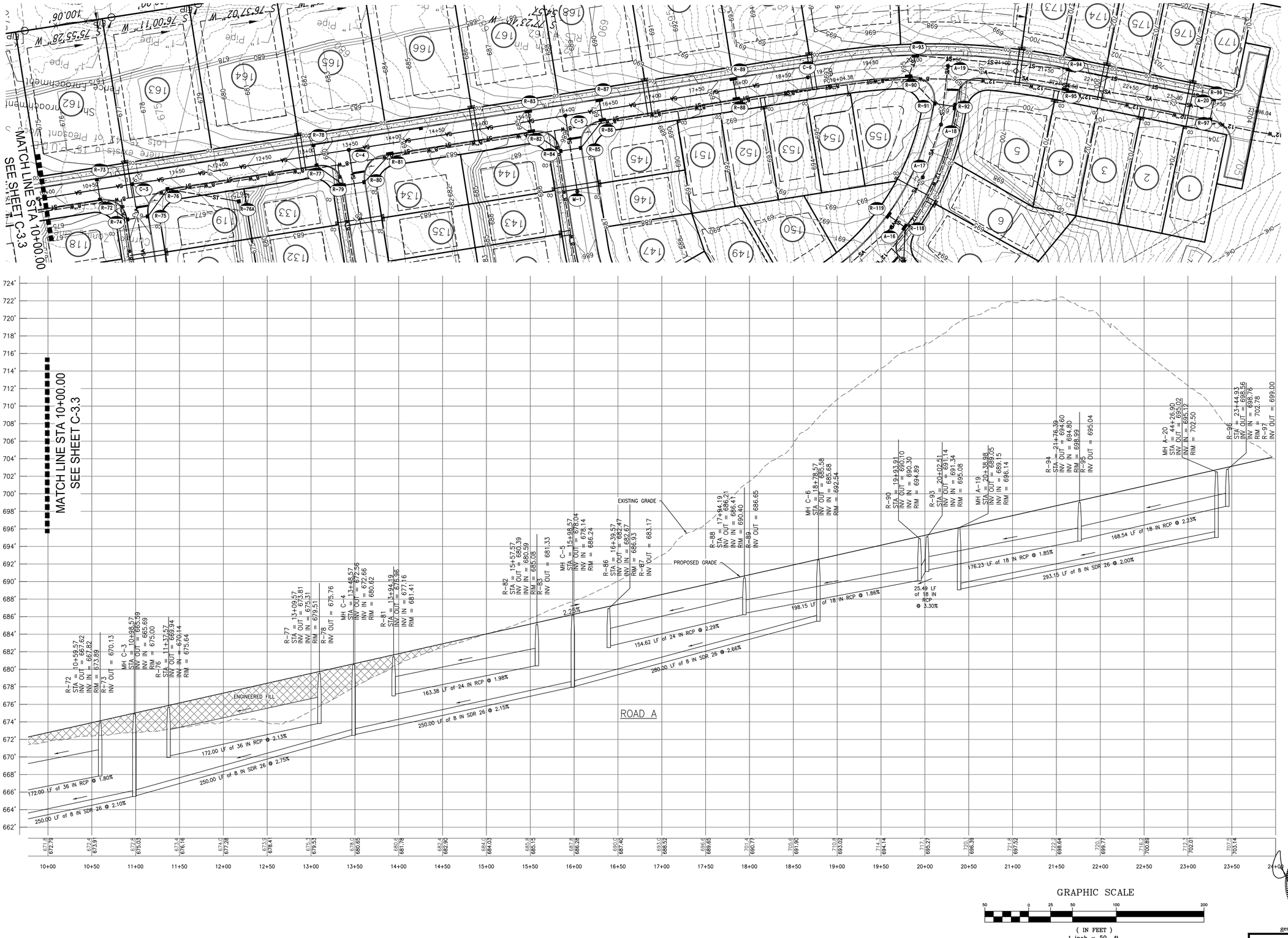
ROAD A ROADWAY PLAN & PROFILE



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SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY A PLAN AND PROFILE

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

GERALD W. DYCK
STATE OF TENNESSEE
No. 107415
8/21/25

gerald@wesengineers.com

C-3.4

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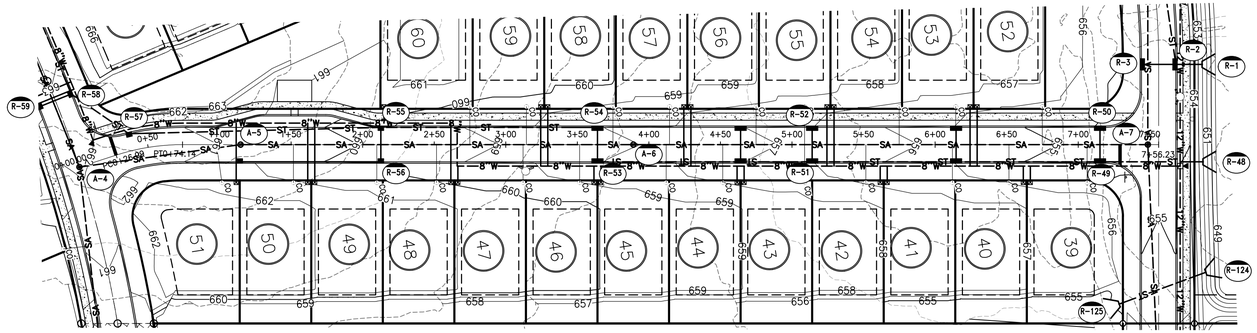
ROAD C ROADWAY PLAN & PROFILE



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ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE

REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE

ROADWAY C PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3

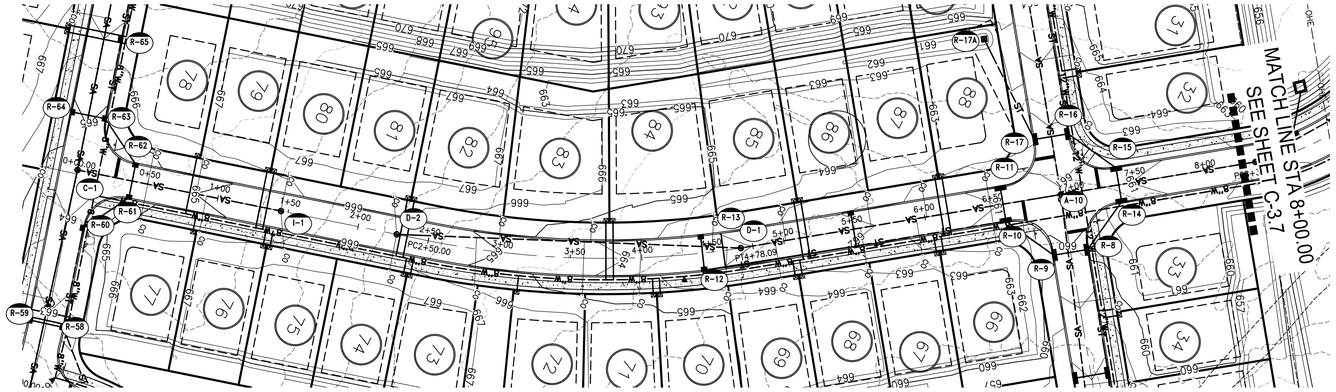
Scale:
Vertical: 1"=5'
Horizontal: 1"=50'

C-3.5

gerald@wesengineers.com

FILE:J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

ROAD D ROADWAY PLAN & PROFILE



MATCH LINE STA 8+00.00
SEE SHEET C-3.7

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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Southbend Crossings
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MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY D PLAN AND PROFILE

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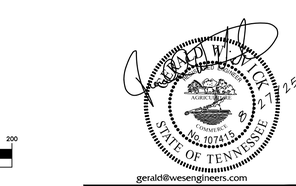
Scale: Vertical: 1"=5'
Horizontal: 1"=50'

C-3.6



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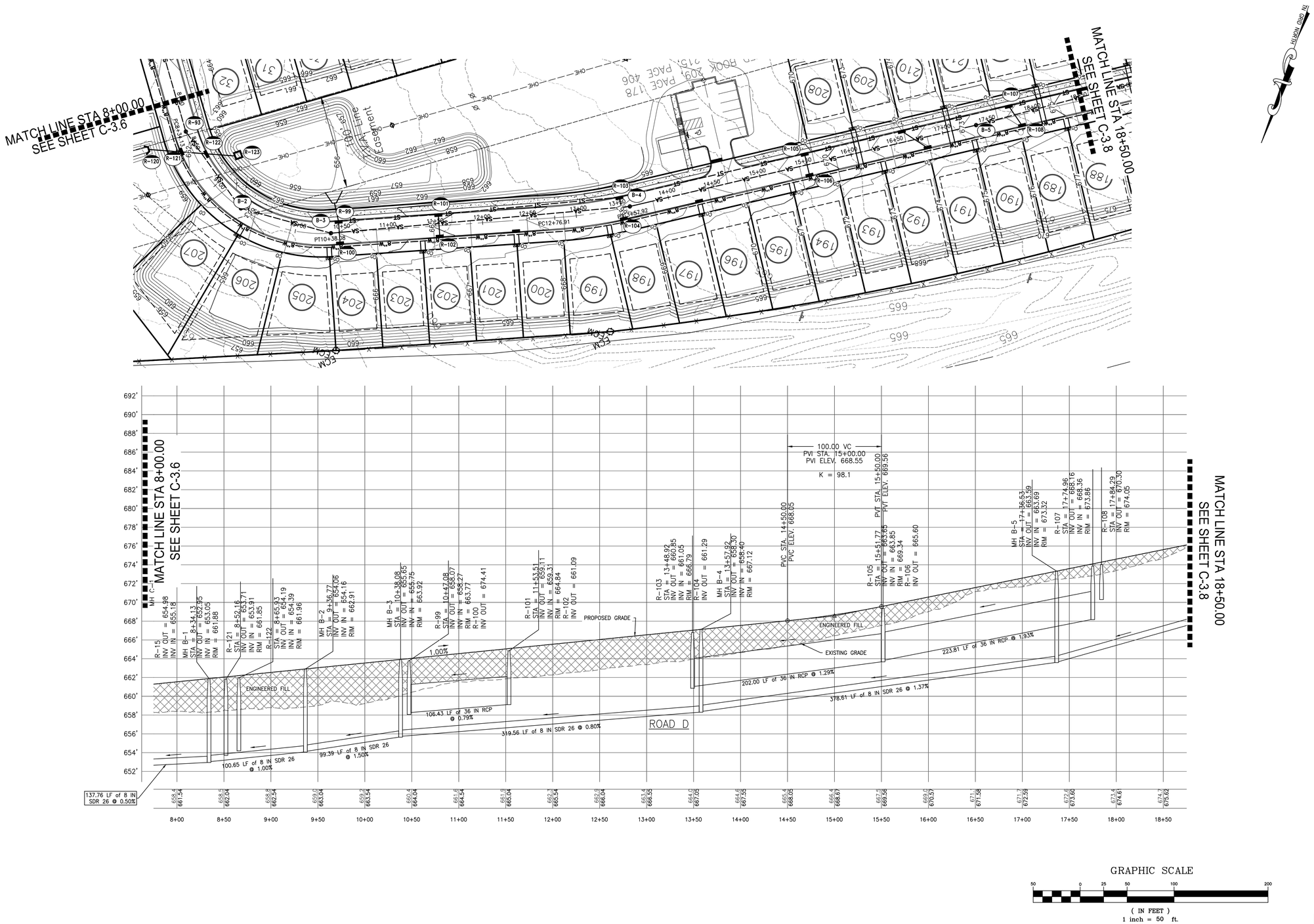
ROAD D ROADWAY PLAN & PROFILE



GRAPHIC SCALE

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Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY D PLAN AND PROFILE

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

GERALD W. WOYCK
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No. 107415
8-12-25

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C-3.7

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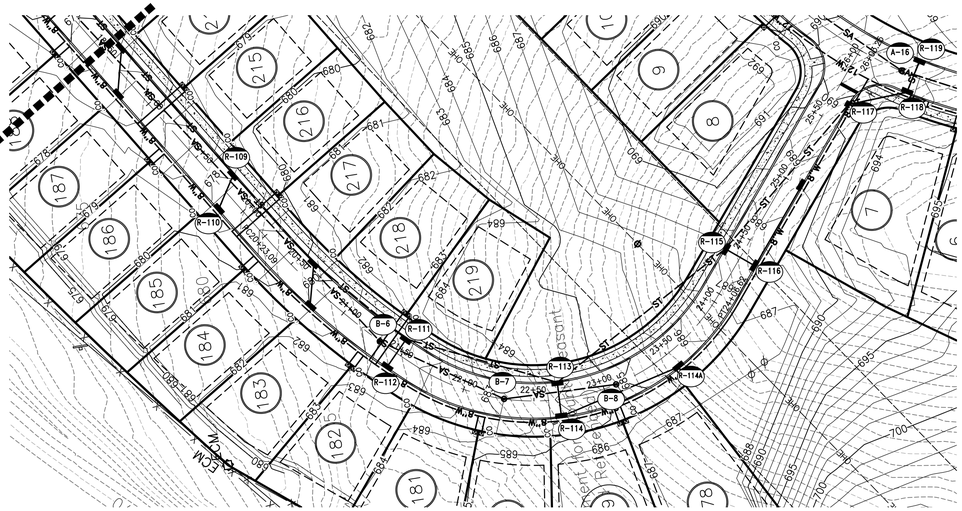
ROAD D ROADWAY PLAN & PROFILE



GRAPHIC SCALE

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(IN FEET)
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REVISIONS | DATE

Southend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY D PLAN AND PROFILE

Drawn: BD | Checked: JG | Approved: GV | Date: 08/12/2025

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GERALD H. GRACE
REGISTERED PROFESSIONAL ENGINEER
AGRICULTURE & COMMERCE
No. 107415
STATE OF TENNESSEE
gerald@wesengineers.com

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ROAD E AND ROAD F ROADWAY PLAN & PROFILE

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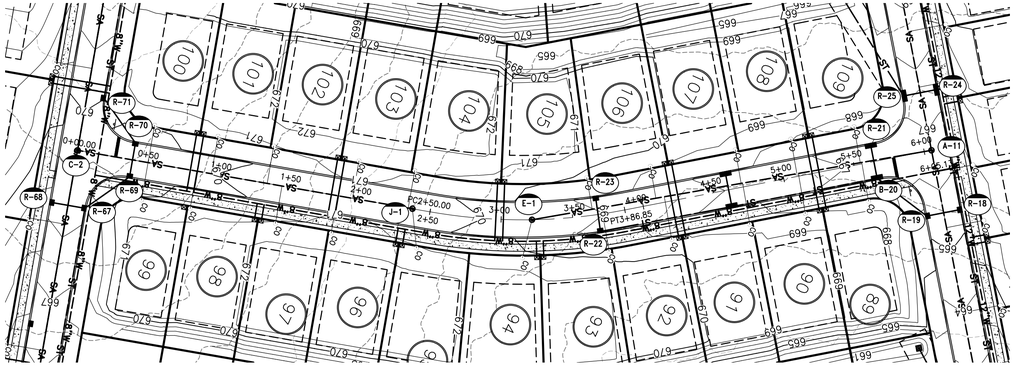

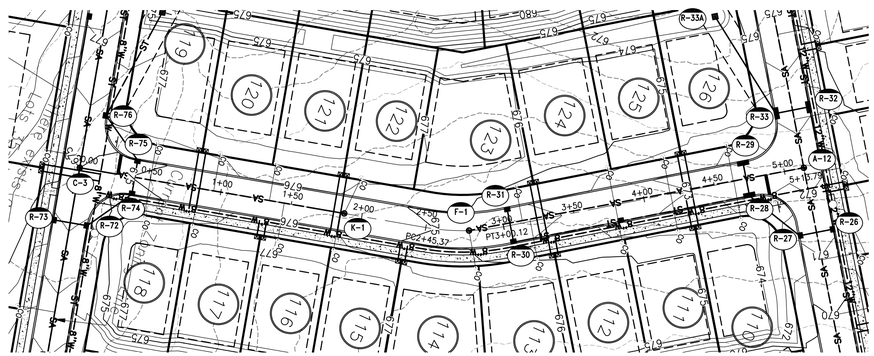

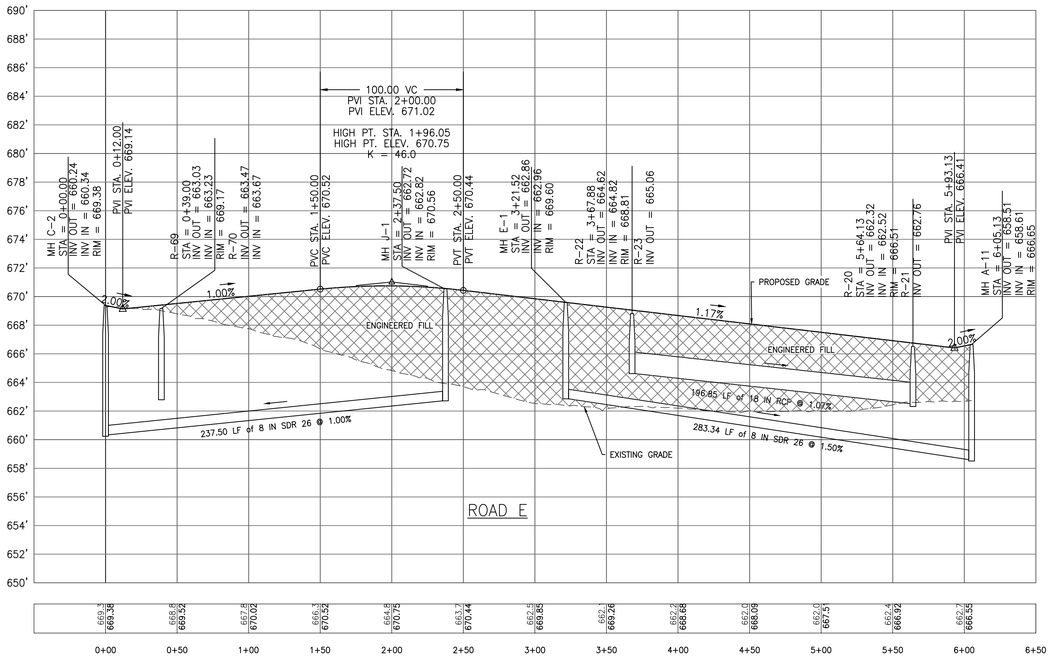

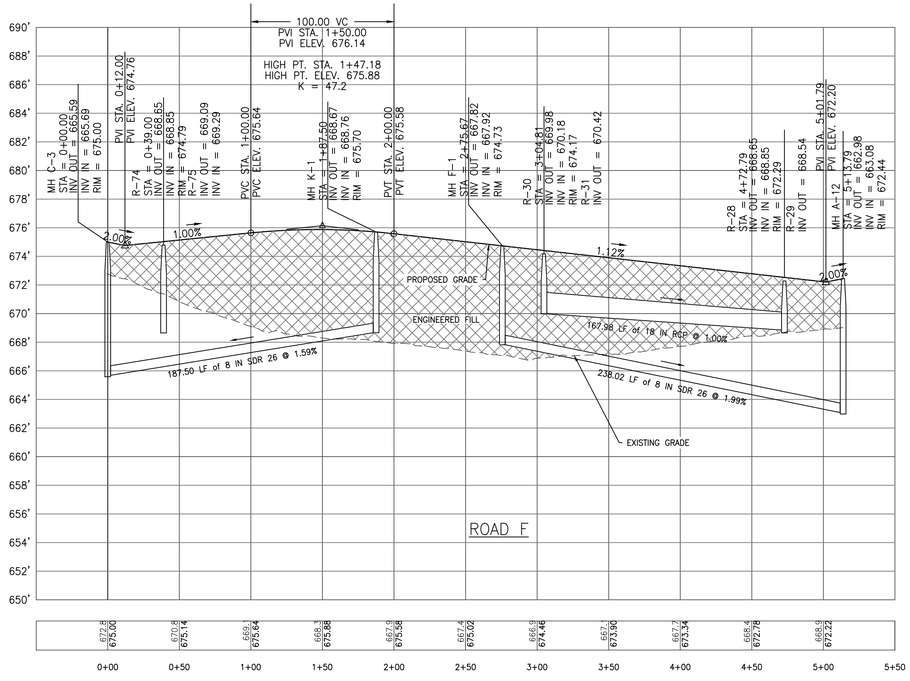

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ENGINEERS & SURVEYORS

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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE

REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY E AND F PLAN AND PROFILE

Drawn: BD
Checked: JC
Approved: GV
Date: 08/12/2025

Job. no. 22529-3

Scale:
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Horizontal: 1"=50'

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RECORD DRAWING
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REGISTERED
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STATE OF TENNESSEE
geraldv@wesengineers.com

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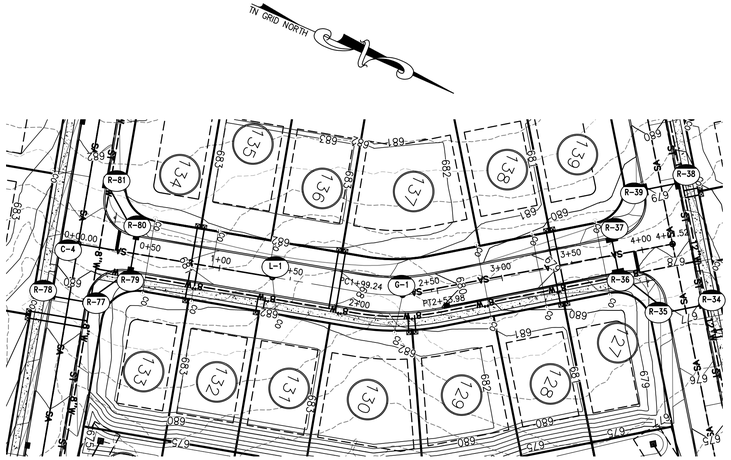
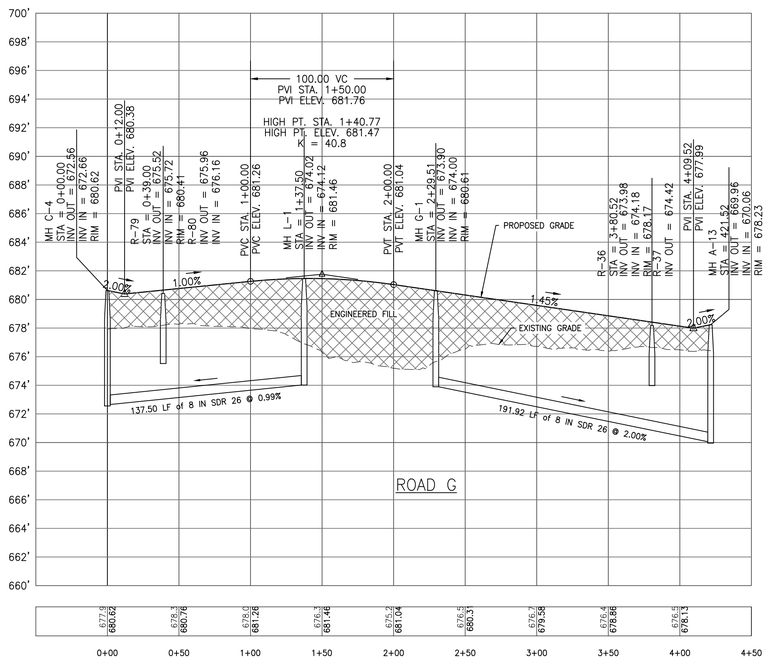
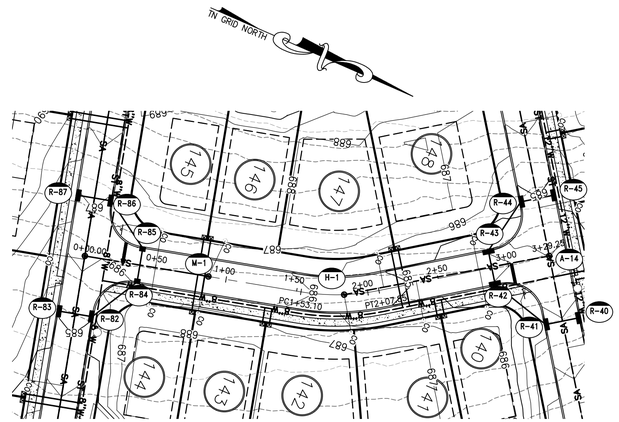
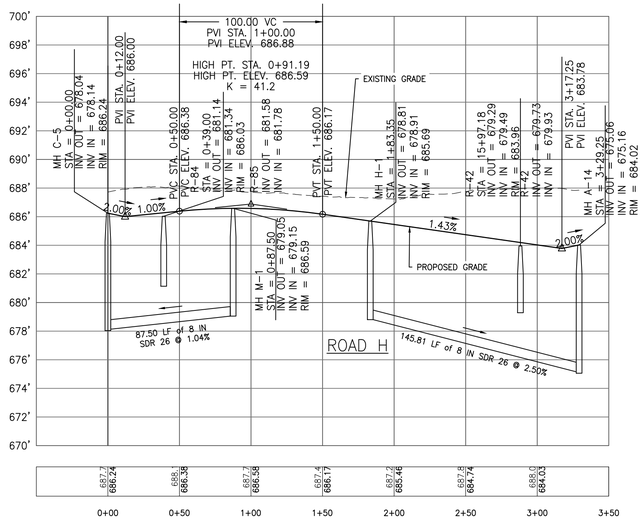
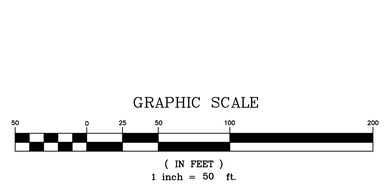
ROAD G AND ROAD H ROADWAY PLAN & PROFILE

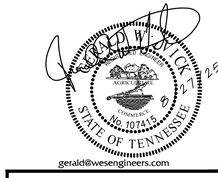












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Southend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
ROADWAY G AND H PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

C-3.10

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EROSION PREVENTION AND SEDIMENT CONTROL PLAN

EROSION/SILTATION CONTROL NOTES

1. EXPOSED AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MINIMUM WHENEVER POSSIBLE. APPLICATION OF TEMPORARY OR PERMANENT STABILIZATION MUST BE INITIATED WITHIN 14 DAYS TO DISTURBED AREAS OF A SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
2. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
6. EROSION/SILTATION FENCING SHOWN IS TO BE USED AS A TEMPORARY SEDIMENT BARRIER. FENCING IS TO BE FIRM AND SECURELY TIED AS SHOWN ON THE INCLUDED DETAIL.
7. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM SEDIMENT LOSS DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD & ACCEPTABLE STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION 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.
9. A STONE ACCESS RAMP IS TO BE CONSTRUCTED WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. EROSION AND SEDIMENT CONTROL MUST BE IMPLEMENTED AND MAINTAINED. PERFORM ALL WORK IN ACCORDANCE WITH THE "TDEC EROSION AND SEDIMENT CONTROL HANDBOOK", AUGUST 2012. FAILURE TO COMPLY TO THESE BMP PRACTICES MAY RESULT IN A STOP WORK ORDER AND FINES.
11. IN AREAS OF 2:1 OR GREATER SLOPE THAT EXCEED 5-FEET IN UNINTERRUPTED VERTICAL ELEVATION CHANGE WILL RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MAT SEEDED FOR STABILIZATION (TEMPORARY OR PERMANENT). FOLLOW STABILIZATION PLAN INCLUDED IN APPROVED SWPPP FOR TEMPORARY & PERMANENT STABILIZATION OF SITE.
12. ALL PROPOSED INLETS WILL BE INSTALLED WITH SILT FENCE EROSION PROTECTION OR APPROVED MAT TYPE INLET FILTER UNTIL STABILIZATION IS ESTABLISHED.
13. PHASE I EP&SC SHOWN. ADJUSTMENTS TO BE MADE WHEN SLOPE CONSTRUCTION BEGINS TO KEEP SILT FENCE @ TOE OF SLOPE.
14. ALL OPEN FLOW CHANNELS AND OUTLET STRUCTURES ARE TO RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MATTING FOR STABILIZATION.

BEST MANAGEMENT PRACTICES (BMP) NOTES:

1. LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUCH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
2. DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 15 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, MATTING SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF EROSION CONTROL MATTING AND FASTEN TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOIL.
3. STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
4. STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
5. ALL MATTED AREAS TO RECEIVE PERMANENT SEEDING.
6. PLEASE CALL THE CITY OF MT. PLEASANT FOR INSPECTION OF EROSION CONTROL MEASURES BEFORE GRADING COMMENCES.

SUPPLEMENTAL NOTES

1. THE CONTRACTOR MUST OBTAIN AND REVIEW A COPY OF THE APPROVED STORM WATER POLLUTION PLAN SUBMITTED TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION. CONTRACTOR IS EXPECTED TO READ AND FOLLOW THIS PLAN DURING THE CONSTRUCTION OF THIS PROJECT. THE APPROVED SWPPP IS CONSIDERED TO BE A PART OF THE FINAL CONSTRUCTION DOCUMENTS.
2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 1 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
3. ADJUSTMENTS TO THE EPSC MEASURES WILL BE REQUIRED DURING NORMAL PROGRESSION OF THE PROJECT. REVIEW ALL PHASES OF THE EPSC PLANS INCLUDED IN THE SWPPP FOR ADDITIONAL INFORMATION. COST ASSOCIATED WITH THESE ADJUSTMENTS ARE TO BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.
4. UNDERCUT / REPLACEMENT OF SOFT SOILS SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER AND FOLLOWING THE REQUIREMENTS ESTABLISHED BY THE GEOTECHNICAL ENGINEER. THE REPLACEMENT OF MATERIAL MAY INCLUDE EXISTING SOILS MEETING THE GEOTECHNICAL REQUIREMENTS.
5. CONTRACTOR IS TO MARK THE LIMIT OF DISTURBANCE PRIOR TO START OF CONSTRUCTION AND OBSERVE THESE LIMITS FOR THE DURATION OF THE PROJECT.
6. MAINTAIN EROSION CONTROL MEASURES AS INDICATED IN THE SWPPP BETWEEN PHASES AND REPLACE BMP MATERIALS BEFORE FAILURE RESULTS DUE TO DEGREDATION.

BENCHMARK

BENCHMARK #1
EXISTING 1/2" IRON PIN WITH CONTROL CAP
ELEV = 655.65'
N = 444,385.9
E = 1,608,735.3
TENNESSEE STATE PLANE COORDINATE SYSTEM
NAD 83 AND NAVD88 DATUM

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 Know what's below. Call before you dig.

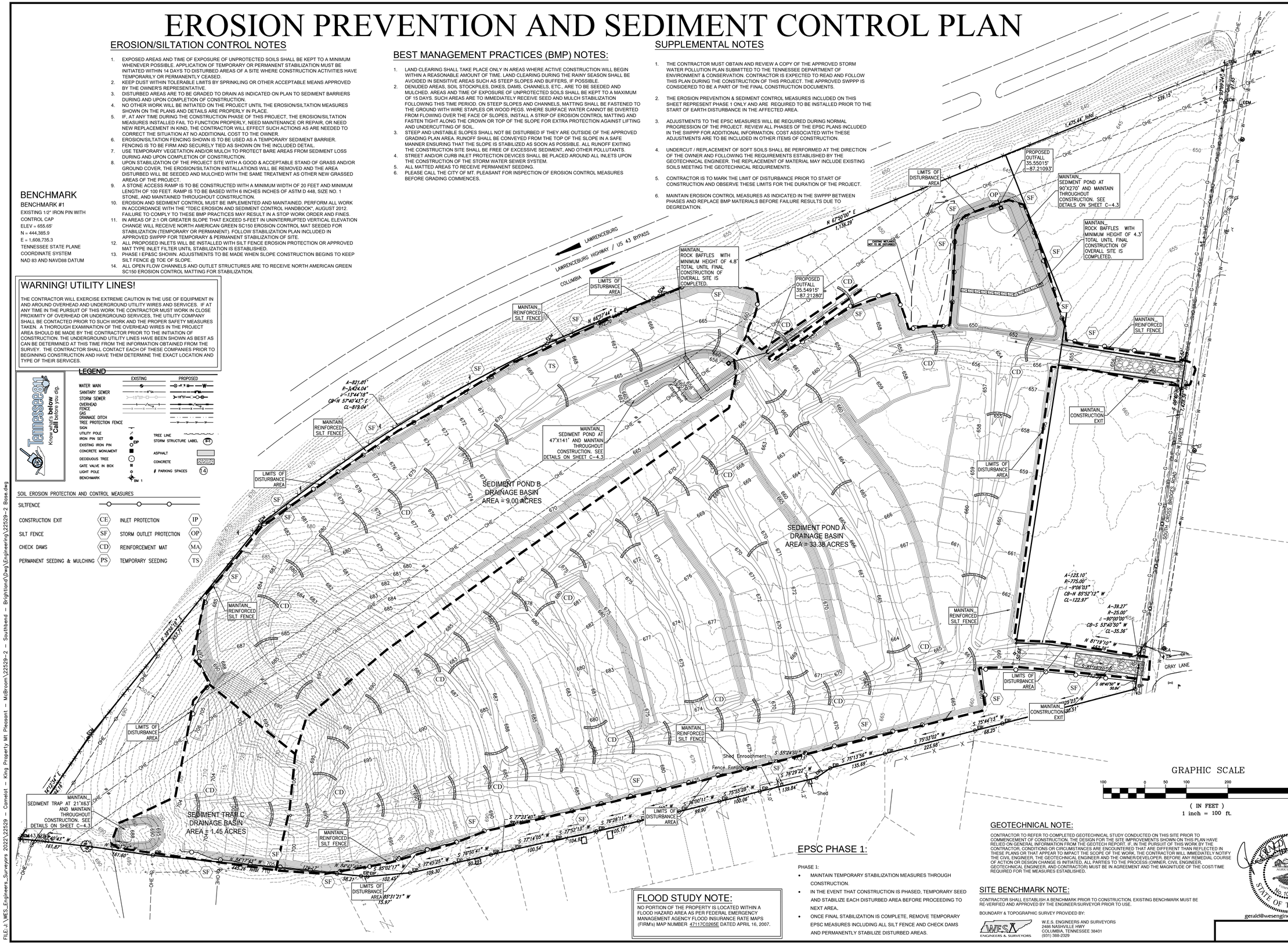
LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (S#1)
ASPHALT
CONCRETE
PARKING SPACES (14)

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE			
CONSTRUCTION EXIT	CE	INLET PROTECTION	IP
SILT FENCE	SF	STORM OUTLET PROTECTION	OP
CHECK DAMS	CD	REINFORCEMENT MAT	MA
PERMANENT SEEDING & MULCHING	PS	TEMPORARY SEEDING	TS



EPSC PHASE 1:

PHASE 1:

- MAINTAIN TEMPORARY STABILIZATION MEASURES THROUGH CONSTRUCTION.
- IN THE EVENT THAT CONSTRUCTION IS PHASED, TEMPORARY SEED AND STABILIZE EACH DISTURBED AREA BEFORE PROCEEDING TO NEXT AREA.
- ONCE FINAL STABILIZATION IS COMPLETE, REMOVE TEMPORARY EPSC MEASURES INCLUDING ALL SILT FENCE AND CHECK DAMS AND PERMANENTLY STABILIZE DISTURBED AREAS.

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

GEOTECHNICAL NOTE:

CONTRACTOR TO REFER TO COMPLETED GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM THE GEOTECH REPORT. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

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(931) 388-2329

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AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 1

Drawn: BD | Checked: JG | Approved: GV | Date: 08/12/2025

Job no. 22529-3
Scale: Vertical: 1"=100' Horizontal:

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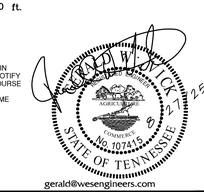

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EROSION PREVENTION AND SEDIMENT CONTROL PLAN

EROSION/SILTATION CONTROL NOTES

1. EXPOSED AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MINIMUM WHENEVER POSSIBLE. APPLICATION OF TEMPORARY OR PERMANENT STABILIZATION MUST BE INITIATED WITHIN 14 DAYS TO DISTURBED AREAS OF A SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
2. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
6. EROSION/SILTATION FENCING SHOWN IS TO BE USED AS A TEMPORARY SEDIMENT BARRIER. FENCING IS TO BE FIRM AND SECURELY TIED AS SHOWN ON THE INCLUDED DETAIL.
7. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM SEDIMENT LOSS DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD & ACCEPTABLE STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION 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.
9. A STONE ACCESS RAMP IS TO BE CONSTRUCTED WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. EROSION AND SEDIMENT CONTROL MUST BE IMPLEMENTED AND MAINTAINED. PERFORM ALL WORK IN ACCORDANCE WITH THE "TDEC EROSION AND SEDIMENT CONTROL HANDBOOK", AUGUST 2012. FAILURE TO COMPLY TO THESE BMP PRACTICES MAY RESULT IN A STOP WORK ORDER AND FINES.
11. IN AREAS OF 2:1 OR GREATER SLOPE THAT EXCEED 5-FEET IN UNINTERRUPTED VERTICAL ELEVATION CHANGE WILL RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MAT SEEDED FOR STABILIZATION (TEMPORARY OR PERMANENT) FOLLOW STABILIZATION PLAN INCLUDED IN APPROVED SWPPP FOR TEMPORARY & PERMANENT STABILIZATION OF SITE.
12. ALL PROPOSED INLETS WILL BE INSTALLED WITH SILT FENCE EROSION PROTECTION OR APPROVED MAT TYPE INLET FILTER UNTIL STABILIZATION IS ESTABLISHED.
13. PHASE I EP&SC SHOWN. ADJUSTMENTS TO BE MADE WHEN SLOPE CONSTRUCTION BEGINS TO KEEP SILT FENCE @ TOE OF SLOPE.
14. ALL OPEN FLOW CHANNELS AND OUTLET STRUCTURES ARE TO RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MATTING FOR STABILIZATION.

BEST MANAGEMENT PRACTICES (BMP) NOTES:

1. LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUCH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
2. DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 15 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, MATTING SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF EROSION CONTROL MATTING AND FASTEN TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOIL.
3. STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
4. STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
5. ALL MATTED AREAS TO RECEIVE PERMANENT SEEDING.
6. PLEASE CALL THE CITY OF MT. PLEASANT FOR INSPECTION OF EROSION CONTROL MEASURES BEFORE GRADING COMMENCES.

SUPPLEMENTAL NOTES

1. THE CONTRACTOR MUST OBTAIN AND REVIEW A COPY OF THE APPROVED STORM WATER POLLUTION PLAN SUBMITTED TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION. CONTRACTOR IS EXPECTED TO READ AND FOLLOW THIS PLAN DURING THE CONSTRUCTION OF THIS PROJECT. THE APPROVED SWPPP IS CONSIDERED TO BE A PART OF THE FINAL CONSTRUCTION DOCUMENTS.
2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 2 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
3. ADJUSTMENTS TO THE EPSC MEASURES WILL BE REQUIRED DURING NORMAL PROGRESSION OF THE PROJECT. REVIEW ALL PHASES OF THE EPSC PLANS INCLUDED IN THE SWPPP FOR ADDITIONAL INFORMATION. COST ASSOCIATED WITH THESE ADJUSTMENTS ARE TO BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.
4. UNDERCUT / REPLACEMENT OF SOFT SOILS SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER AND FOLLOWING THE REQUIREMENTS ESTABLISHED BY THE GEOTECHNICAL ENGINEER. THE REPLACEMENT OF MATERIAL MAY INCLUDE EXISTING SOILS MEETING THE GEOTECHNICAL REQUIREMENTS.
5. CONTRACTOR IS TO MARK THE LIMIT OF DISTURBANCE PRIOR TO START OF CONSTRUCTION AND OBSERVE THESE LIMITS FOR THE DURATION OF THE PROJECT.
6. MAINTAIN EROSION CONTROL MEASURES AS INDICATED IN THE SWPPP BETWEEN PHASES AND REPLACE BMP MATERIALS BEFORE FAILURE RESULTS DUE TO DEGREDATION.

BENCHMARK

BENCHMARK #1
EXISTING 1/2" IRON PIN WITH CONTROL CAP
ELEV = 655.65'
N = 444,385.9
E = 1,608,735.3
TENNESSEE STATE PLANE COORDINATE SYSTEM
NAD 83 AND NAVD88 DATUM

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 Know what's below. Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK		

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE			
CONSTRUCTION EXIT	CE	INLET PROTECTION	IP
SILT FENCE	SF	STORM OUTLET PROTECTION	OP
CHECK DAMS	CD	REINFORCEMENT MAT	MA
PERMANENT SEEDING & MULCHING	PS	TEMPORARY SEEDING	TS

SEDIMENT POND B
DRAINAGE BASIN
AREA = 9.00 ACRES
SEDIMENT POND A
DRAINAGE BASIN
AREA = 33.38 ACRES
MAINTAIN_ ROCK BAFFLES WITH MINIMUM HEIGHT OF 4.8' TOTAL UNTIL FINAL CONSTRUCTION OF OVERALL SITE IS COMPLETED.
MAINTAIN_ SEDIMENT POND AT 47'X141' AND MAINTAIN THROUGHOUT CONSTRUCTION. SEE DETAILS ON SHEET C-4.3
MAINTAIN_ SEDIMENT POND AT 90'X270' AND MAINTAIN THROUGHOUT CONSTRUCTION. SEE DETAILS ON SHEET C-4.3
MAINTAIN_ ROCK BAFFLES WITH MINIMUM HEIGHT OF 4.3' TOTAL UNTIL FINAL CONSTRUCTION OF OVERALL SITE IS COMPLETED.
MAINTAIN_ SEDIMENT TRAP AT 21'X63' AND MAINTAIN THROUGHOUT CONSTRUCTION. SEE DETAILS ON SHEET C-4.3
MAINTAIN REINFORCED SILT FENCE
LIMITS OF DISTURBANCE AREA
PROPOSED OUTFALL 35.55015° -87.21093°
PROPOSED OUTFALL 35.54915° -87.21280°
EXISTING BUILDING NOT TO BE DISTURBED
239,962.5 Sq. Feet 5.51 Acres
200,320.5 Sq. Feet 4.60 Acres
MAINTAIN CONSTRUCTION EXIT
TRACT
PROPOSED MAIL KIOSK
REMOVE REINFORCED SILT FENCE
PROPOSED R-2 ZONING TO BUFFER EXISTING MEADOW ROAD RESIDENCES TOTAL 8.08 ACRES
ZONING R1
N 67°50'00" E 1,136.29'
S 08°40'41" W 80.02'
S 08°40'50" W 101.07'
N 08°40'41" E 677.15'
S 08°40'50" W 30.64'
N 67°50'00" E 723.98'
S 22°19'05" E 1,475.44' total
339.15'
A=123.10' R=775.00' Δ=9°06'03" CB=N 85°52'12" W CL=122.97'
A=39.27' R=25.00' Δ=90°00'00" CB=S 53°40'50" W CL=35.36'
N 81°19'10" W 152.51'
S 08°40'50" W 30.64'
S 75°25'23" W 50.51'
S 75°13'56" W 223.98'
S 76°28'27" W 139.84'
S 75°45'59" W 104.92'
S 77°14'45" W 105.17'
S 78°43'32" W 100.54'
S 79°23'40" W 90.29'
S 85°31'21" W 15.97'
N 43°39'55" W 161.87'
N 46°20'05" E 161.60'
A=21.01' R=3404.04' Δ=0°34'18" CB=N 57°40'43" E CL=21.01'
A=819.04' R=3404.04' Δ=13°47'18" CB=N 57°40'43" E CL=819.04'
N 65°57'44" E 315.22'
N 58°58'19" E 151.69'
N 58°58'19" E 181.38'
N 58°58'19" E 149.70'
S 43°39'55" E 143.39'
S 46°20'05" W 161.87'
S 43°39'55" E 161.60'
S 46°20'05" W 161.60'
S 43°39'55" E 58.21'
S 46°20'05" W 102.45'
S 43°39'55" E 109.30'
S 46°20'05" W 102.45

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2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 3 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
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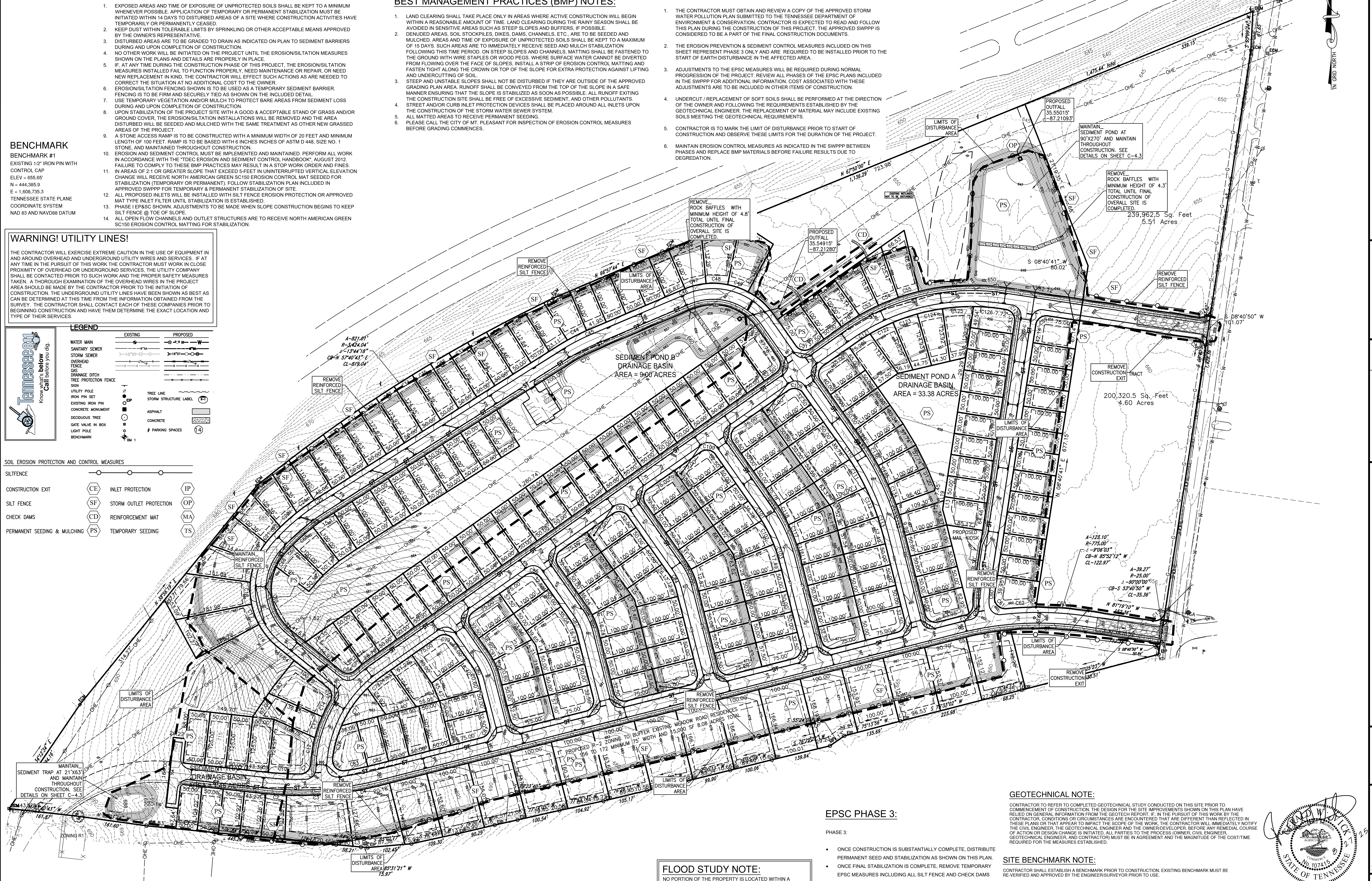
Tennessee811 — Know what's **below**. **Call** before you dig.

LEGEND

EXISTING / PROPOSED: WATER MAIN; SANITARY SEWER; STORM SEWER; OVERHEAD; FENCE; GAS; DRAINAGE DITCH; TREE PROTECTION FENCE; SIGN; UTILITY POLE; IRON PIN SET; EXISTING IRON PIN (EIP); CONCRETE MONUMENT; DECIDUOUS TREE; GATE VALVE IN BOX; LIGHT POLE; BENCHMARK (BM 1); TREE LINE; STORM STRUCTURE LABEL (R-1); ASPHALT; CONCRETE; # PARKING SPACES (14)

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE			
CONSTRUCTION EXIT	CE	INLET PROTECTION	IP
SILT FENCE	SF	STORM OUTLET PROTECTION	OP
CHECK DAMS	CD	REINFORCEMENT MAT	MA
PERMANENT SEEDING & MULCHING	PS	TEMPORARY SEEDING	TS



EPSC PHASE 3:

PHASE 3:

- ONCE CONSTRUCTION IS SUBSTANTIALLY COMPLETE, DISTRIBUTE PERMANENT SEED AND STABILIZATION AS SHOWN ON THIS PLAN.
- ONCE FINAL STABILIZATION IS COMPLETE, REMOVE TEMPORARY EPSC MEASURES INCLUDING ALL SILT FENCE AND CHECK DAMS AND PERMANENTLY STABILIZE DISTURBED AREAS.
- IN THE EVENT THAT CONSTRUCTION IS PHASED, PERMANENT SEED AND STABILIZATION AREAS OF DISTURBANCE IN EACH PHASE BEFORE PROCEEDING TO NEXT AREA.

FLOOD STUDY NOTE:

NO PORTION OF THE PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0265E DATED APRIL 16, 2007.

GEOTECHNICAL NOTE:

CONTRACTOR TO REFER TO COMPLETED GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM THE GEOTECH REPORT. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

GERALD W. VICK — REGISTERED ENGINEER — AGRICULTURE COMMERCE — No. 107415 — STATE OF TENNESSEE — 8/27/25

gerald@wesengineers.com

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www.wesengineers.com
WES ENGINEERS & SURVEYORS

Client: BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE | REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 3

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

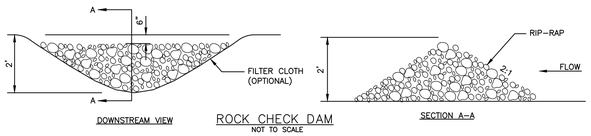
Job. no. 22529-3
Scale: Vertical: — Horizontal: 1"=100'

C-4.2

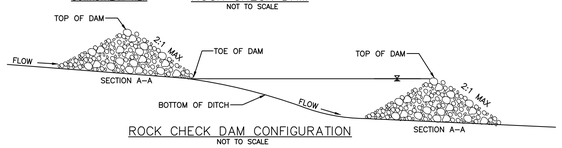
FILE: J:\WES_Engineers_Surveyors 2022\22529 – Camelot – King Property Mt Pleasant – McBroom\22529-2 – Southbend – Brightland\Dwg\Engineering\22529-2 Base.dwg

EROSION PREVENTION AND SEDIMENT CONTROL DETAILS

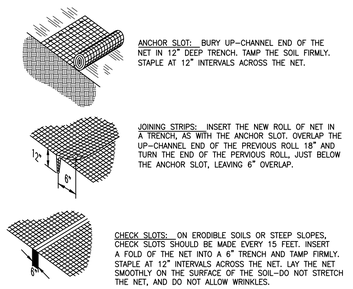
© 2025



ROCK CHECK DAM
NOT TO SCALE



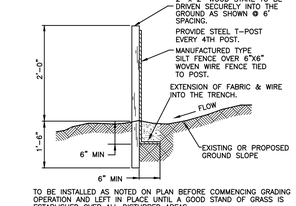
ROCK CHECK DAM CONFIGURATION
NOT TO SCALE



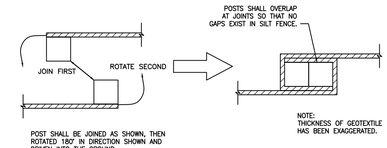
NOTE:

1. FOLLOW N.A.G. INSTALLATION INSTRUCTIONS FOR STAPLE PATTERN GUIDE.
2. INSTALL USING 3.75 STAPLES PER SQUARE YARD UNLESS OTHERWISE INDICATED ON THE PLANS.
3. ALL SLOPES 3:1 AND/OR GREATER TO RECEIVE EROSION CONTROL MATTING.

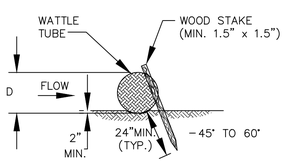
TEMPORARY EROSION CONTROL MATTING
NOT TO SCALE



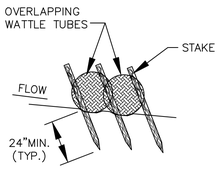
REINFORCED
EROSION/SILTATION FENCE
NOT TO SCALE



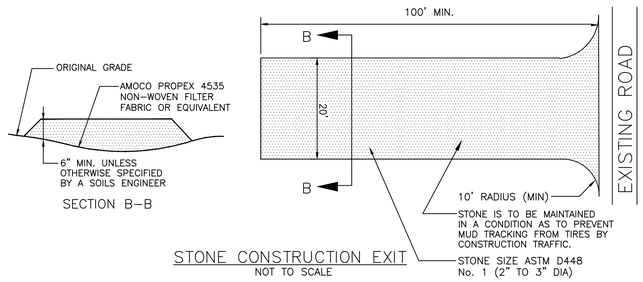
SILT FENCE JOINTS



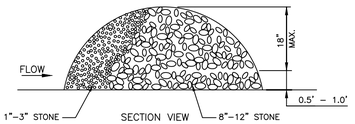
STAKING DETAIL



SECTION C-C

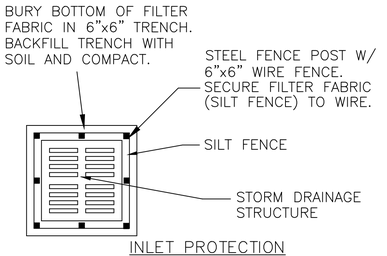


STONE CONSTRUCTION EXIT
NOT TO SCALE

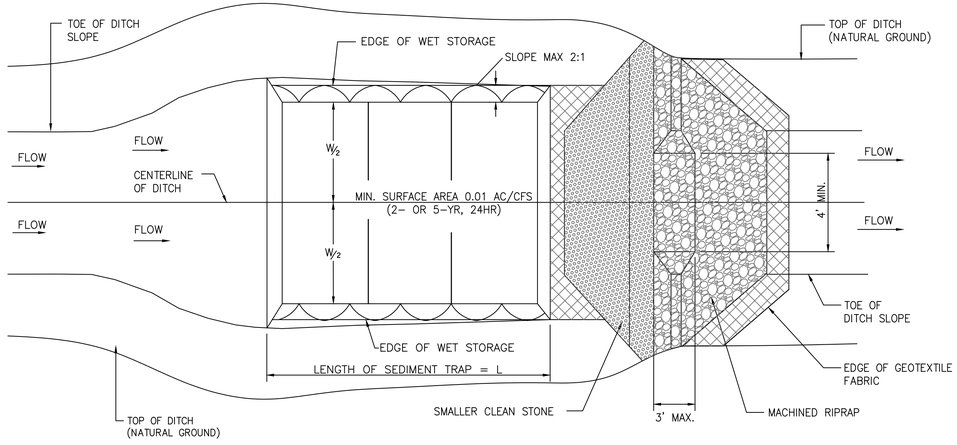


NOTE:
MAINTAIN FILTER DURING CONSTRUCTION & REMOVE ONCE SLOPES ARE STABILIZED.

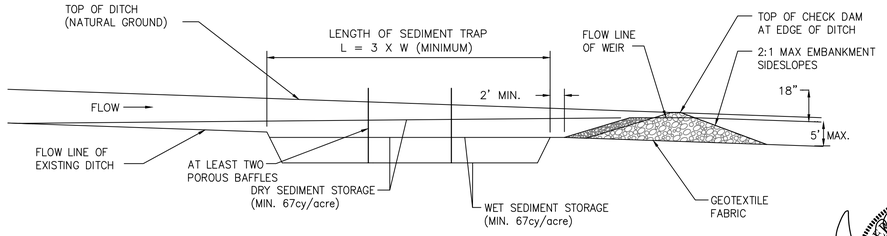
ROCK FILTER CONSTRUCTION
NOT TO SCALE



INLET PROTECTION
NOT TO SCALE



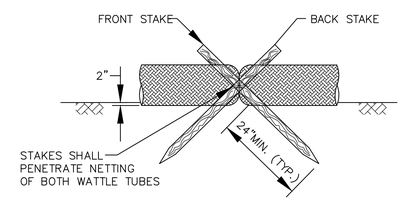
PLAN VIEW



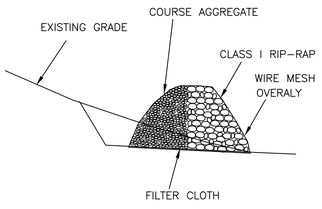
SEDIMENT TRAP C
NOT TO SCALE

PROFILE VIEW

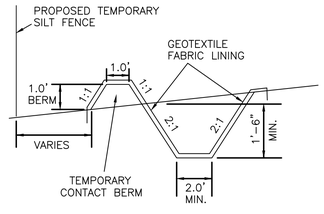
SEDIMENT TRAP C - 21'x63'



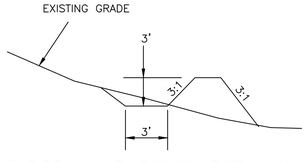
JOINT STAKING DETAIL



TEMPORARY EARTHEN BERM OUTLET DETAIL
NOT TO SCALE



TEMPORARY DIVERSION DITCH WITH LINING
NOT TO SCALE



TEMPORARY EARTHEN BERM DETAIL
NOT TO SCALE

WES ENGINEERS & SURVEYORS
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ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
EROSION PREVENTION AND SEDIMENT CONTROL DETAILS

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

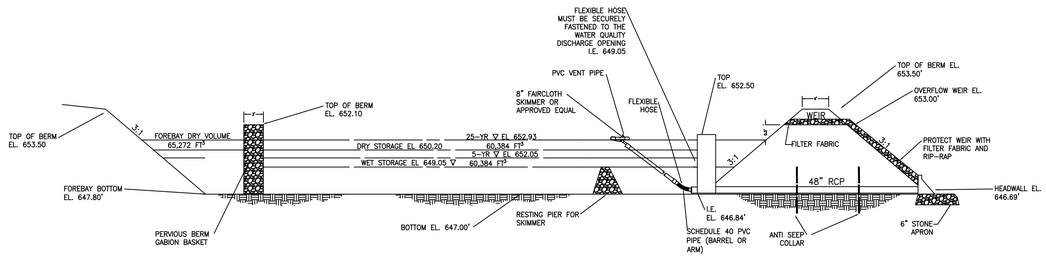
Job. no. 22529-3
Scale:
Vertical:
Horizontal:

C-4.3

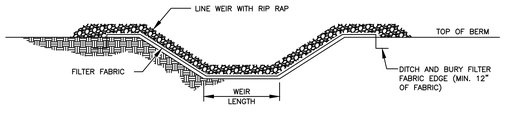
gerald@wesengineers.com

FILE: I:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

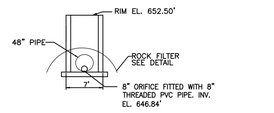
EROSION PREVENTION AND SEDIMENT CONTROL DETAILS



SEDIMENT BASIN CROSS SECTION

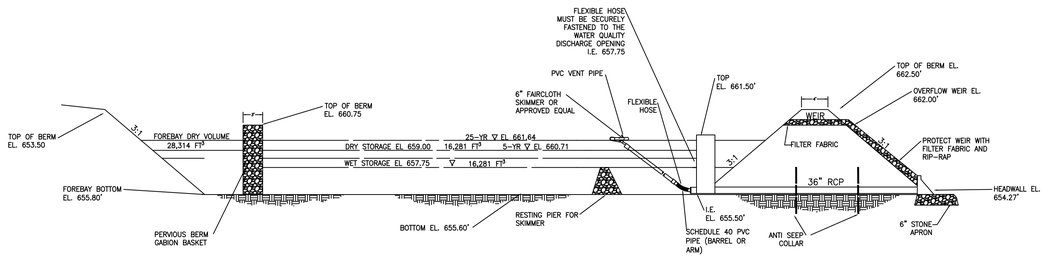


WEIR CROSS SECTION

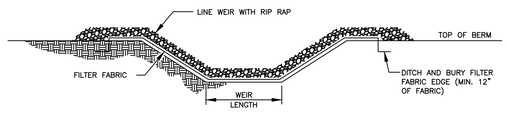


OUTLET CONTROL STRUCTURE SECTION

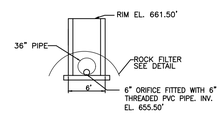
TEMPORARY SEDIMENT BASIN A



SEDIMENT BASIN CROSS SECTION



WEIR CROSS SECTION



OUTLET CONTROL STRUCTURE SECTION

TEMPORARY SEDIMENT BASIN B

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Southbend Crossings
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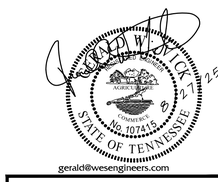
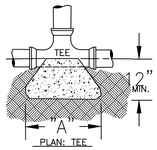


gerald@wesengineers.com

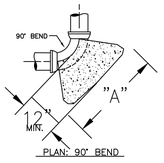
FILE: I:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southend - Brightland\Dwg\Engineering\22529-2 Base.dwg

CONSTRUCTION DETAILS

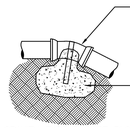


PLAN: TEE

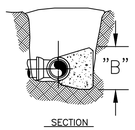
NOTES :
1. CONCRETE TO BE CLASS "B" (3000PSI) OR STRONGER.
2. DIMENSIONS AS SHOWN ARE APPROXIMATE, SUBJECT TO CHANGE AT DIRECTION OF OR APPROVAL OF ENGINEER.
3. KEEPCONCRETE CLEAR OF ANY PIPE JOINT, GLAND BOLTS, ETC.
4> CONCRETE TO BEAR AGAINST UNDISTURBED EARTH WITH BEARING AREA EQUIVALENT TO AT LEAST AxB.



PLAN: 90° BEND



GRAVITY—TYPE THRUST BLOCK

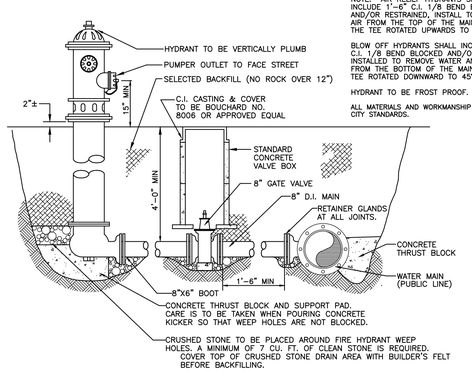


SECTION

SCHEDULE OF MINUMIM BEARING AREA REQUIRED BASED ON 2000 PSI INTERNAL PRESSURE AND 4000 PSI SOIL BEARING CAPACITY *					
PIPE SIZE	TEE OR DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/2° BEND
4"	1.0	1.5	1.0	1.0	1.0
6"	2.5	3.0	2.0	1.0	1.0
8"	4.0	5.5	3.0	1.5	1.0
10"	6.0	8.5	4.5	2.5	1.5
12"	8.5	12.0	6.5	3.0	2.0
16"	15.0	21.5	11.0	6.0	3.0
VALUES ARE TABULATED IN SQUARE FEET					

* ENGINEER TO CONFIRM ACTUAL REQUIREMENTS BEFORE CONSTRUCTION OF THE THRUST BLOCK. BEARING AREA (SQUARE FEET) = A(FEET)xB(FEET) .

CONCRETE THRUST BLOCK
NOT TO SCALE



NOTE: AIR RELIEF HYDRANTS SHALL INCLUDE 1'-6" C.I. 1/8 BEND BLOCKED AND/OR RESTRAINED, INSTALL TO RELEASE AIR FROM THE TOP OF THE MAIN WITH THE TEE ROTATED UPWARDS TO 45°.

BLOW OFF HYDRANTS SHALL INCLUDE 1'-6" C.I. 1/8 BEND BLOCKED AND/OR RESTRAINED INSTALLED TO REMOVE WATER AND SEDIMENT FROM THE BOTTOM OF THE MAIN WITH THE TEE ROTATED DOWNWARD TO 45°.

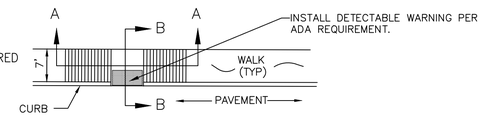
HYDRANT TO BE FROST PROOF.

ALL MATERIALS AND WORKMANSHIP TO MEET MT PLEASANT CITY STANDARDS.

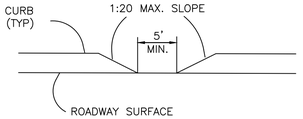
FIRE HYDRANT ASSEMBLY
NOT TO SCALE

NOTES:

1. FOLLOW ADA REQUIREMENTS FOR REQUIRED LOCATIONS AND PLACEMENT OF DETECTABLE WARNINGS.

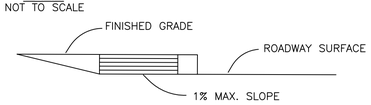


PLAN
NOT TO SCALE

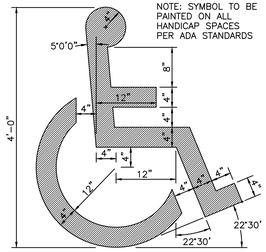


SECTION A—A
NOT TO SCALE

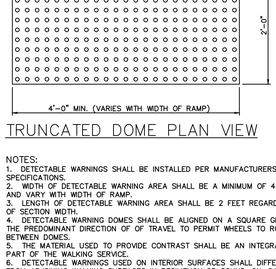
ACCESSABLE RAMP DETAIL
NOT TO SCALE



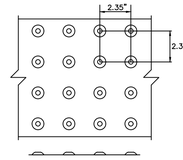
SECTION B—B
NOT TO SCALE



PAINTED HANDICAP SYMBOL
NOT TO SCALE



TRUNCATED DOME PLAN VIEW



TRUNCATED DOME SPACING

TRUNCATED DOME SECTION

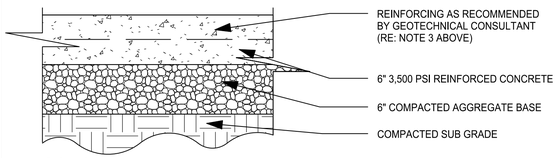
NOTES:
1. DETECTABLE WARNINGS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
2. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
3. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
4. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
5. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SERVICE.
6. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND—ON—CANE CONTACT.
7. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70% CONTRAST IN PERCENT IS DETERMINED BY:

CONTRAST = [(B1—B2)/B1] X 100

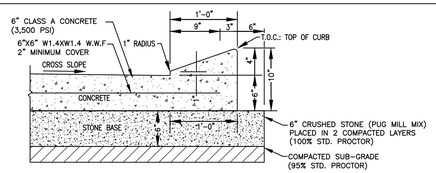
WHERE B1= LIGHT REFECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.
(NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.

1. THE SUBGRADE MATERIALS SHALL BE PROOF ROLLED AND/OR SCARIFIED AND COMPACTED PRIOR TO PLACEMENT OF BASE MATERIAL. WHERE EXISTING SUBGRADE MATERIALS ARE UNSUITABLE, THEY SHALL BE REMOVED AND REPLACED WITH COMPACTED SELECT MATERIAL IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
2. CONCRETE PAVEMENT JOINTING PLAN SHALL BE PROVIDED TO ENGINEER FOR PRIOR APPROVAL. ALL JOINTS MUST BE SEALED WITH AN APPROVED SEALANT. STEEL REINFORCING SHALL BE USED AT JOINTS. REFER TO ACI 330R (GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS) FOR JOINT DESIGN AND LAYOUT. REFER TO ADDITIONAL CONCRETE PAVEMENT DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS.
3. CONCRETE PAVEMENT AND ROLLOVER CURB TO BE MONOLITHIC CLASS "A" CONCRETE (4,000 PSI) PLACED ON PUG MILL MIX.
4. ALL TRANSVERSE JOINTS ARE TO BE SAW JOINTS AT A DEPTH OF T/4 AT THE SPACING INDICATED IN THE DETAILS.
5. ALL SAW JOINTS TO BE SEALED WITH LOW MODULUS HOT-POURED POLYMERIC SEALANT TYPE COMPOUND.
6. ALL TRANSVERSE JOINTS ARE UNDOWELLED AND EDGE SUPPORT IS REQUIRED (TIED CURB AND GUTTER)
7. ALL ISOLATION JOINTS ARE TO BE DOWELLED AND THICKENED AS SHOWN IN THE DETAILS. ISOLATION JOINT FILLER AND SEALER IS REQUIRED AT ALL ISOLATION JOINTS.
8. ISOLATE ALL STRUCTURES THAT ARE LOCATED IN OR PROTRUDE INTO THE CONCRETE PAVEMENT.
9. PROVIDE ISOLATION JOINTS BEFORE RADII OF ALL INTERSECTIONS WITHIN THE PROJECT. SPACE ISOLATION JOINTS TO COORDINATE WITH THE TRANSVERSE JOINTS.
10. FIBER REINFORCEMENT REQUIRED AS INDICATED IN DETAILS.
11. INSTALLATION TO FOLLOW TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 2006

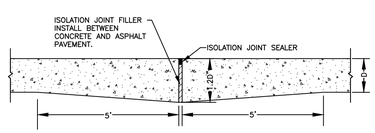
CONCRETE PAVEMENT (ALTERNATE)



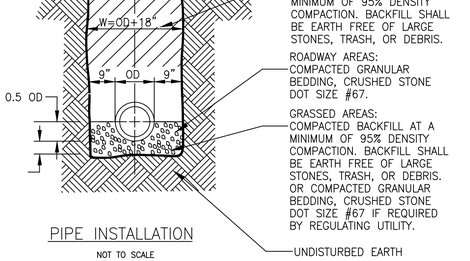
CONCRETE PAVEMENT DETAIL
SCALE: NOT TO SCALE



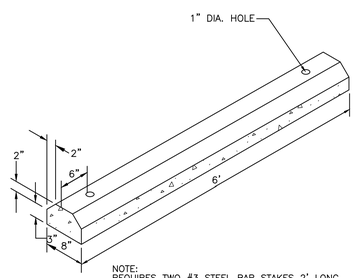
MONOLITHIC CURB DETAIL
SCALE: NOT TO SCALE



THICKENED EDGE ISOLATION JOINT DETAIL
SCALE: NOT TO SCALE

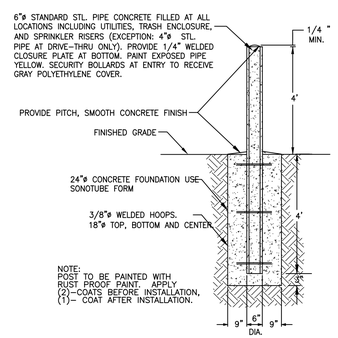


PIPE INSTALLATION
NOT TO SCALE

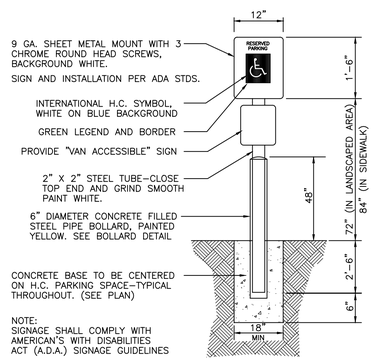


NOTE:
REQUIRES TWO #3 STEEL BAR STAKES 2' LONG FOR EACH CURB SECTION. DRIVE #3 BARS FLUSH WITH TOP. LOCATE WHEEL STOP 2" FROM FACE OF SIDEWALK HEADER OR EDGE OF PAVEMENT

CONCRETE WHEEL STOP
NOT TO SCALE

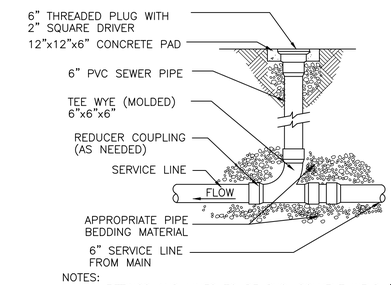


CONCRETE FILLED BOLLARD
NOT TO SCALE



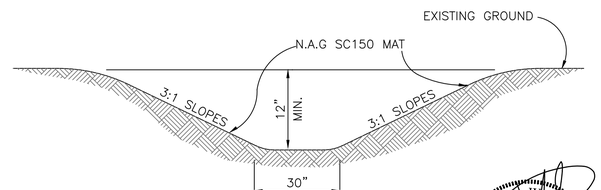
NOTE:
SIGNAGE SHALL COMPLY WITH AMERICAN'S WITH DISABILITIES ACT (A.D.A.) SIGNAGE GUIDELINES

ACCESSIBLE SIGN
NOT TO SCALE



NOTES:
1. ALL FITTINGS AND LINES TO BE PVC. SOLVENT WELD (SDR—33).
2. WHEN SERVICE LINE FROM MAIN LINE IS 4", ALL FITTINGS AND LINES TO BE 4".

CLEANOUT
NOT TO SCALE



DITCH SECTION
NOT TO SCALE

gerald@wesengineers.com

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Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE	REVISIONS

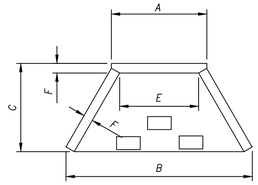
Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
CONSTRUCTION DETAILS

Drawn: BD
Checked: JG
Approved: GW
Date: 09/12/2025

Job. no. 22529-3
Scale:
Vertical:
Horizontal:

C-5.0

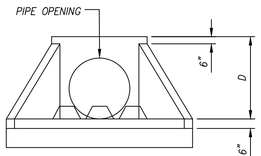
CONSTRUCTION DETAILS



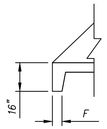
PLAN

SIZE	AW	BW	CW	DW
A	32"	48"	80"	99"
B	48"	72"	102"	120"
C	30"	44"	54"	56"
D	26"	36"	60"	66"
E	24"	36"	64"	83"
F	6"	8"	8"	8"
MAX. OPENING	22"	32"	55"	75"
WT/*	1,380	3,100	8,100	11,400

NOTES:
1. MINIMUM 2" CONCRETE COVER ON REBAR.
2. CONCRETE: CLASS A – 3500 PSI @ 28 DAYS W/ AIR ENTRAINMENT.
3. ALL PICK UP POINTS AND PIPE OPENINGS TO BE GROUTED BY CONTRACTOR WITH NON-SHRINK GROUT.
4. 3/4" CHAMFER ON ALL EXPOSED EDGES.



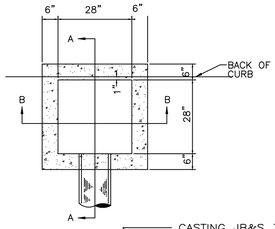
ELEVATION



TOE DETAIL

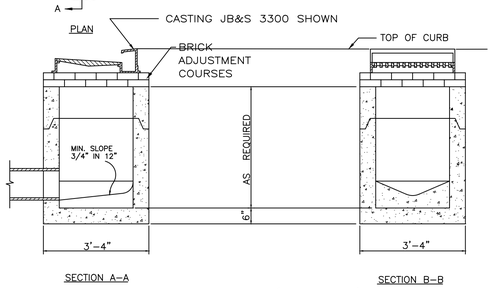
CONCRETE HEADWALL W/ENERGY DISSIPATORS

NOT TO SCALE



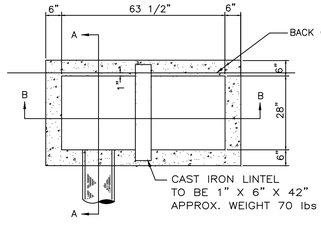
PLAN

NOTES:
1. CASTING SHOULD BE JOHN BOUCHARD 3103 OR APPROVED EQUIVALENT.
2. LINTEL SHOULD BE JOHN BOUCHARD 3108 OR APPROVED EQUAL.
3. CONCRETE TO BE 4000 psi AT 28 DAYS.
4. REINFORCE WITH NO. 4 BARS GRADE 60.
5. MAX PIPE DIA.: 24" CONCRETE 30" CMP
6. FOR LARGER PIPES, USE 4'–0" CATCH BASIN STRUCTURE.



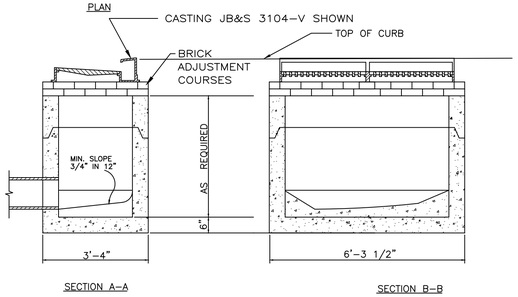
SINGLE INLET (PRECAST)

NOT TO SCALE



PLAN

NOTES:
1. CASTING SHOULD BE JOHN BOUCHARD 3104–V OR APPROVED EQUIVALENT.
2. LINTEL SHOULD BE JOHN BOUCHARD 3108 OR APPROVED EQUAL.
3. CONCRETE TO BE 4000 psi AT 28 DAYS.
4. REINFORCE WITH NO. 4 BARS GRADE 60.
5. MAX PIPE DIA.: 24" RCP (NARROW SIDE) 36" RCP (WIDE SIDE)



DOUBLE INLET (PRECAST)

NOT TO SCALE

TECHNICAL SPECIFICATION

8" STONE BASE SPECIFICATIONS

PROOF ROLLING

1. QUALITY ASSURANCE
   A. THE CONTRACTOR WILL SELECT A TESTING AGENCY TO BE SUB-CONTRACTED BY THE CONTRACTOR TO OBSERVE PROOF-ROLLING OPERATIONS AND REPORT ON ALL REQUIRED TESTING OPERATIONS.
   B. DO NOT PERFORM PROOF-ROLLING OPERATIONS UN-LESS TESTING AGENCY AND CITY PERSONNEL ARE PRESENT.
   C. NEITHER PROOF-ROLLING OPERATIONS OR SUBSEQUENT FILL OPERATIONS WILL BE ACCEPTABLE FOR PAYMENT UNLESS TESTING AGENCY AND CITY PERSONNEL VIEWS PROOF-ROLLING.
2. MATERIALS
   A. VEHICLE: LOADED RUBBER TIRED DUMP TRUCK HAVING A SINGLE AXLE WEIGHT OF APPROXIMATELY 30,000 LBS.
3. PROOF-ROLLING
   A. OBSERVATION: RUN VEHICLE AT NORMAL WALKING SPEED SO THAT THE TESTING AGENCY PERSONNEL MAY OBSERVE THE GROUND AT ALL TIMES. TESTING PERSONNEL WILL CONDUCT ADDITIONAL TESTS THEY DEEM NECESSARY TO DETERMINE EXISTING CONDITIONS. TESTING PERSONNEL WILL DIRECT REMEDIAL ACTIONS THEY DEEM NECESSARY.

TESTING REQUIREMENTS

THE CONTRACTOR WILL BE RESPONSIBLE FOR SUB-CONTRACTING AN INDEPENDENT TESTING AGENCY THAT IS SELECTED BY AN OWNER'S REPRESENTATIVE AND SHALL PROVIDE THE OWNER WITH TEST RESULTS VERIFYING THAT CONSTRUCTION WAS PERFORMED TO ACCEPTABLE STANDARDS.

SECTION 02203

EMBANKMENT

PART 1 GENERAL

1.3 CONDUCT ALL EMBANKMENT OPERATIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE EROSION CONTROL PLAN APPROVED BY THE A/E.

1.4 EMBANKMENT UNDER BUILDING PADS SHOULD BE IN ACCORDANCE WITH RECOMMENDATIONS FROM A GEOTECHNICAL ENGINEER.

PART 2 PRODUCTS

2.1 USE ONLY ACCEPTABLE MATERIALS IN EMBANKMENT FORMATION. PLACE NO FROZEN MATERIAL, STUMPS, LOGS, ROOTS OR OTHER PERISHABLE MATERIALS IN ANY EMBANKMENT. PLACE NO STONE OR MASONRY FRAGMENT GREATER THAN 4 INCHES IN ANY DIMENSION WITHIN 12 INCHES OF THE FINISHED SUBGRADE ELEVATIONS.

3.1 REMOVE TOPSOIL FROM ALL EMBANKMENT AREAS.

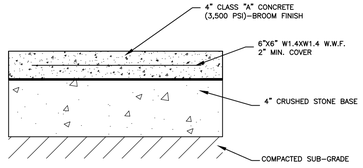
3.5 COMPACT THE EMBANKMENT TO A DENSITY OF AT LEAST 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR)

3.7 PERFORM CONSTRUCTION OPERATIONS SO THAT SIMULTANEOUS ROLLING AND PLACING OF MATERIAL IN THE SAME LANE OR SECTION IS PREVENTED. TO AVOID UNEVEN COMPACTION, SEE THAT HAULING EQUIPMENT TRAVERSES THE FULL WIDTH OF THE CROSS-SECTION AS MUCH AS POSSIBLE. COMPACT EACH LAYER AS NECESSARY BEFORE DEPOSITING MATERIAL FOR THE NEXT LAYER.

3.8 THE DENSITY REQUIREMENTS SHALL BE THE CONTROLLING FACTOR IN COMPACTION. USE ONLY SUCH EQUIPMENT THAT WILL SATISFY THE DENSITY REQUIREMENTS AT ALL TIMES.

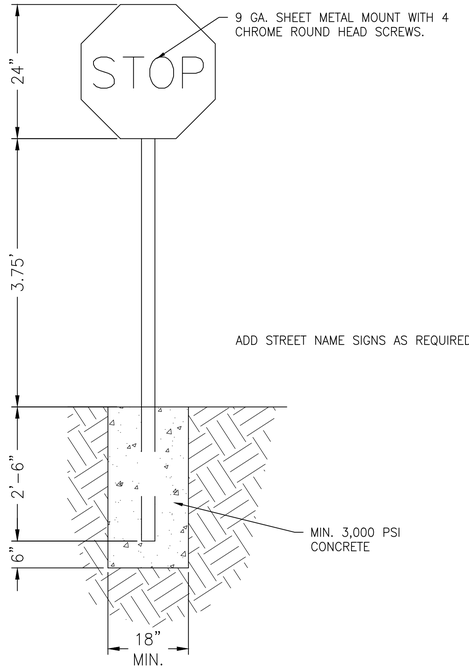
ASPHALTIC CONCRETE PAVING

1. QUALITY ASSURANCE
   A: PERFORM WORK IN ACCORDANCE WITH THE STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION HEREINAFTER REFERRED TO AS "STATE HIGHWAY SPECIFICATIONS" MEASUREMENTS AND PAYMENTS PORTIONS OF THOSE STATE SPECIFICATIONS DO NOT APPLY TO WORK PERFORMED UNDER THIS CONTRACT.
   B: MIXING PLANT: COMPLY WITH STATE HIGHWAY SPECIFICATIONS.
   C: OBTAIN MATERIALS FROM THE SAME SOURCE THROUGHOUT.
2: ENVIRONMENTAL REQUIREMENTS
   A: DO NOT PLACE ASPHALT MATERIALS WHEN BASE SURFACE TEMPERATURE IS LESS THAN 40° F.
   B: DO NOT APPLY MATERIALS WHEN SUBSTRATA IS WET OR CONTAINS SUFFICIENT MOISTURE TO PREVENT UNIFORM DISTRIBUTION AND PROPER PENETRATION.
3: PLACING ASPHALT PAVEMENT
   A: PLACE MATERIALS IN ACCORDANCE WITH REFERENCED STATE HIGHWAY SPECIFICATIONS.
   B: DEVELOP ROLLING WITH CONSECUTIVE PASSES TO ACHIEVE EVEN AND SMOOTH FINISH OF UNIFORM TEXTURE, WITHOUT ROLLER MARKS.
   C: MAKE JOINTS BETWEEN SUCCESSIVE DAYS WORK, OR BETWEEN OLD AND NEW PAVEMENTS IN ACCORDANCE WITH REFERENCED HIGHWAY STANDARDS. ENSURE A CONTINUOUS BOND IS ATTAINED.
4: SCHEDULE OF PAVEMENT SECTIONS
   A: PLACE AND COMPACT MATERIALS TO THE THICKNESS CALLED FOR ON THE DRAWINGS.

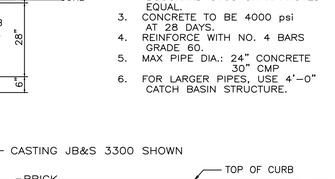


CONCRETE SIDEWALK

NOTE:
CONTROL JOINT EVERY 5'
EXPANSION JOINT EVERY 25'
UNLESS OTHERWISE NOTED.

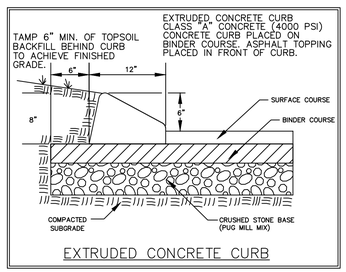


ADD STREET NAME SIGNS AS REQUIRED

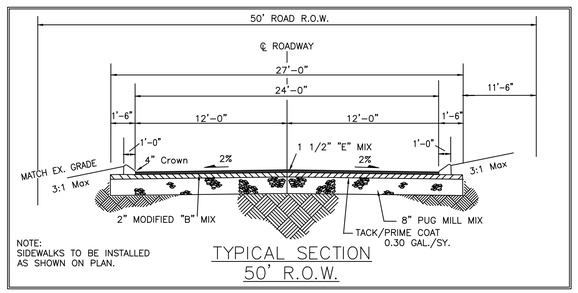


THERMOPLASTIC PAVEMENT MARKINGS

NOT TO SCALE

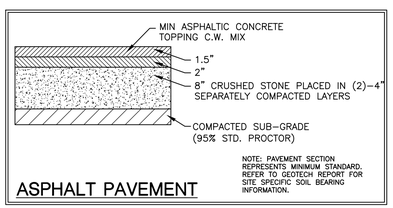


EXTRUDED CONCRETE CURB



NOTE:
SIDEWALKS TO BE INSTALLED AS SHOWN ON PLAN.

TYPICAL SECTION 50' R.O.W.



NOTE: PAVEMENT SECTION REPRESENTS MINIMUM STANDARD. REFER TO GEOTECH REPORT FOR SITE SPECIFIC SOIL BEARING INFORMATION.

ASPHALT PAVEMENT

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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
CONSTRUCTION DETAILS

Drawn: BG
Checked: JS
Approved: GV
Date: 06/12/2025

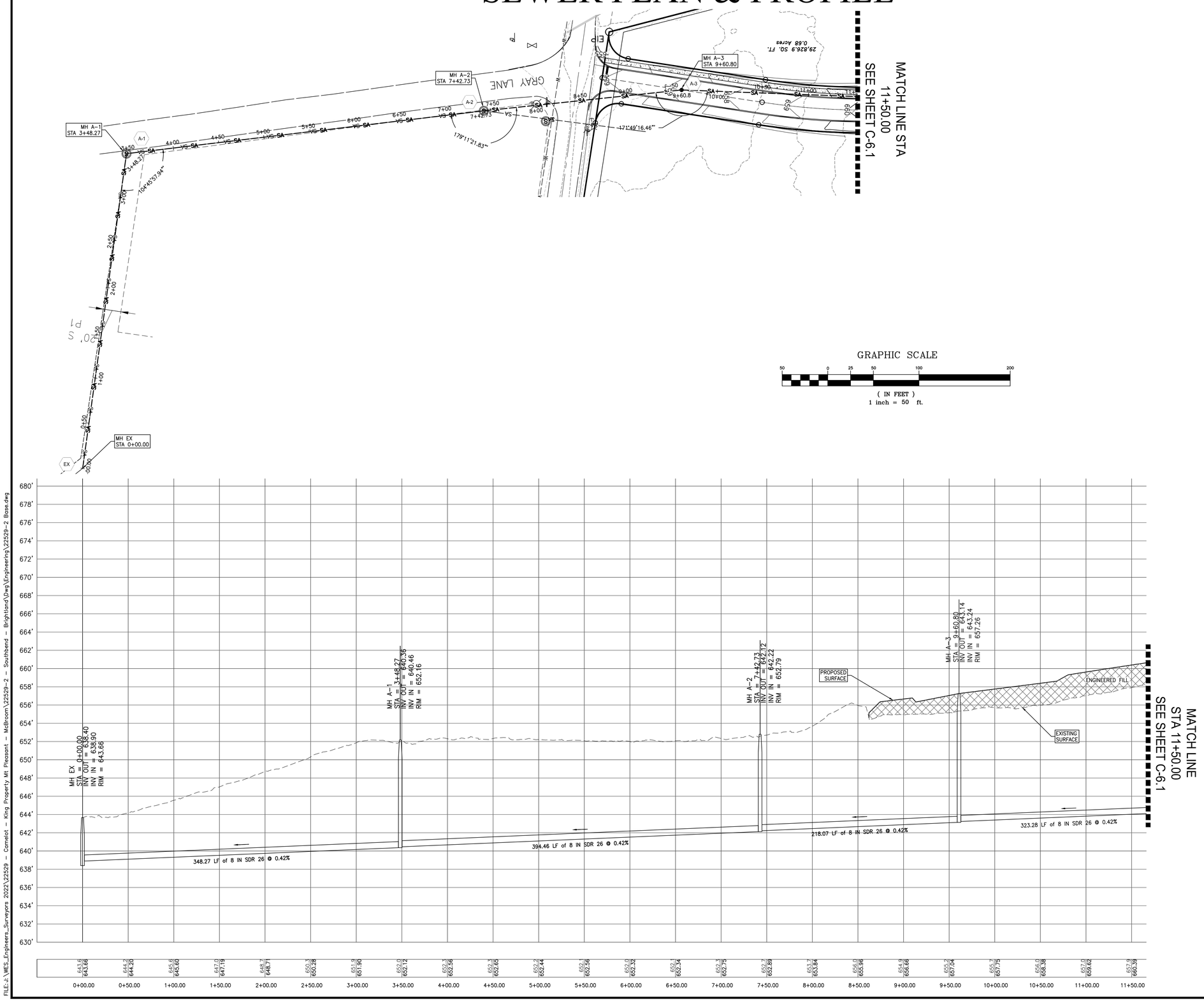
Job. no. 22529-3
Scale:
Vertical:
Horizontal:

C-5.1

GERALD W. WICK 2-17-25
REGISTERED ENGINEER
No. 107415
STATE OF TENNESSEE
gerald@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE



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SEWER PLAN AND PROFILE

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

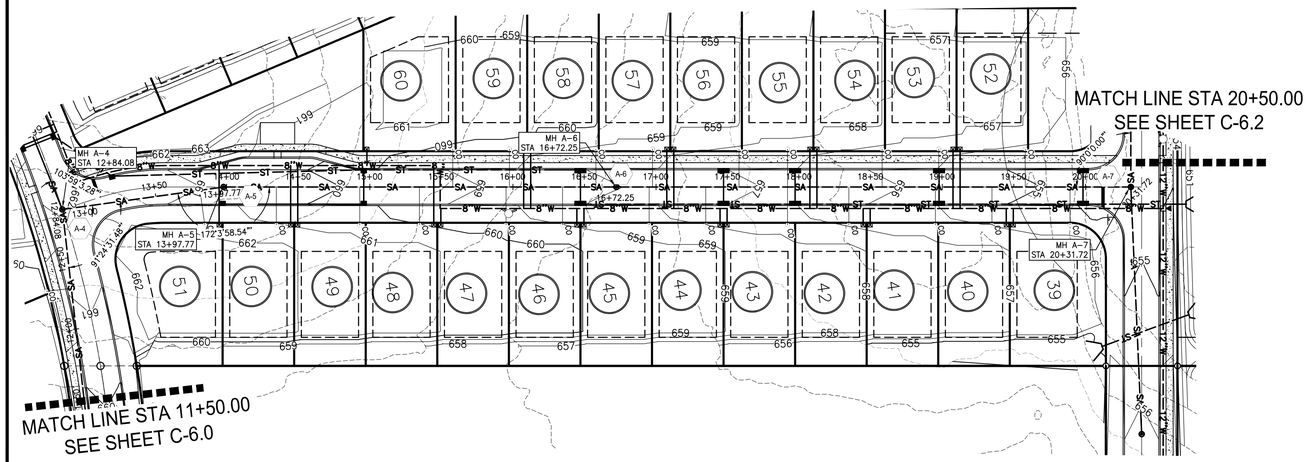
Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

GERALD W. VICK
No. 107415
STATE OF TENNESSEE
8/27/25

gerald@wesengineers.com

C-6.0

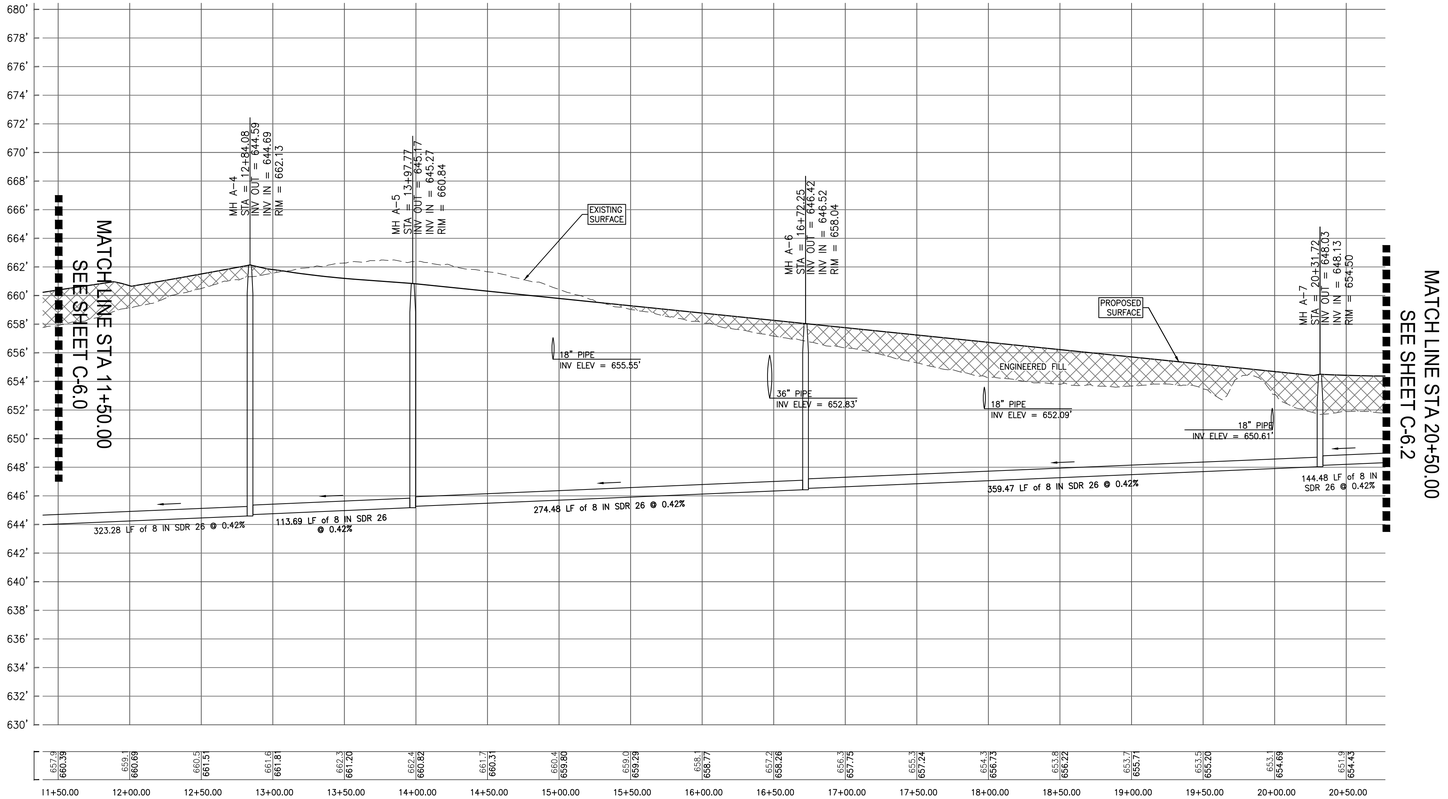
SEWER PLAN & PROFILE



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.



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08/12/2025

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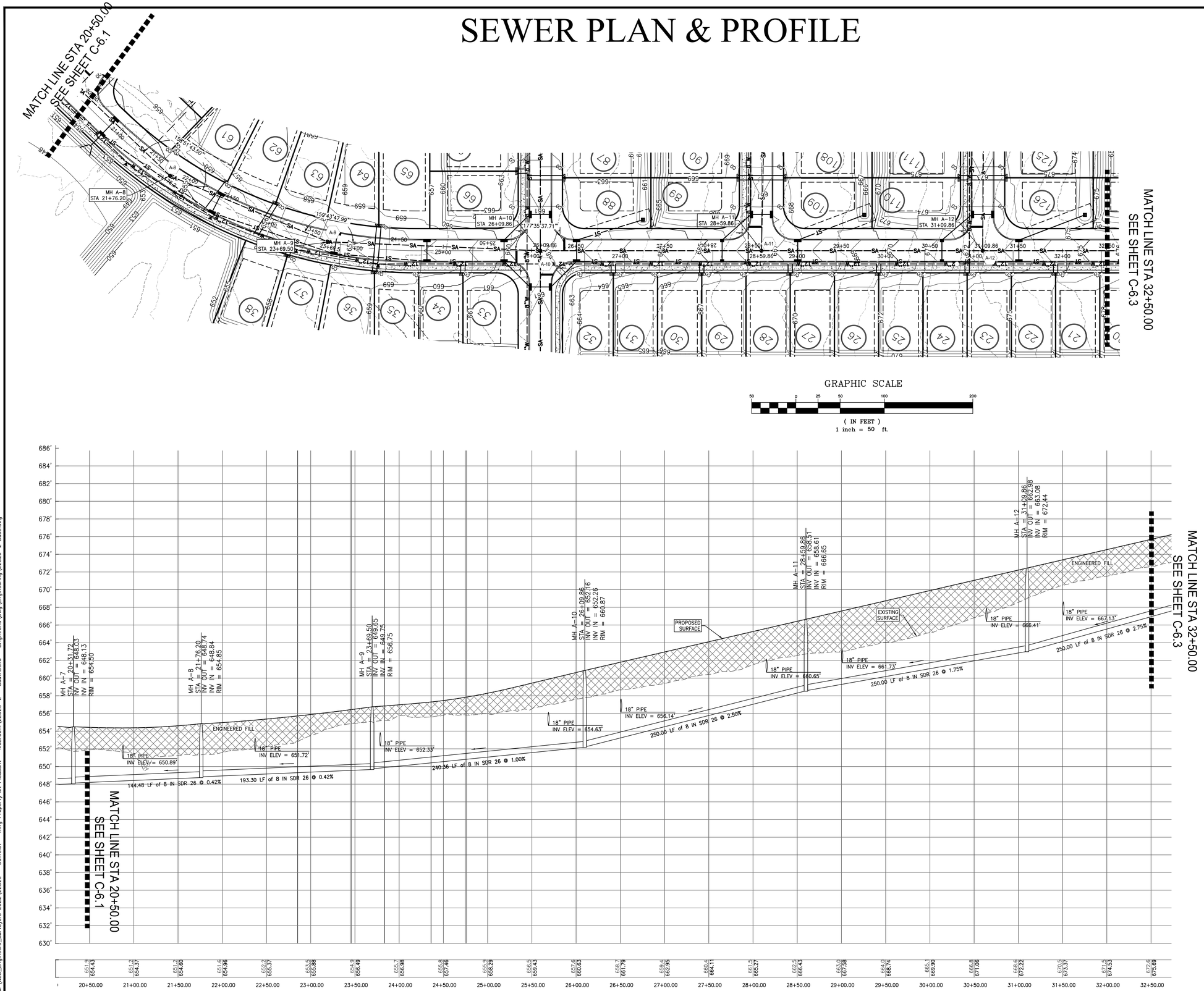
C-6.1

SEWER PLAN & PROFILE



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8/27/25

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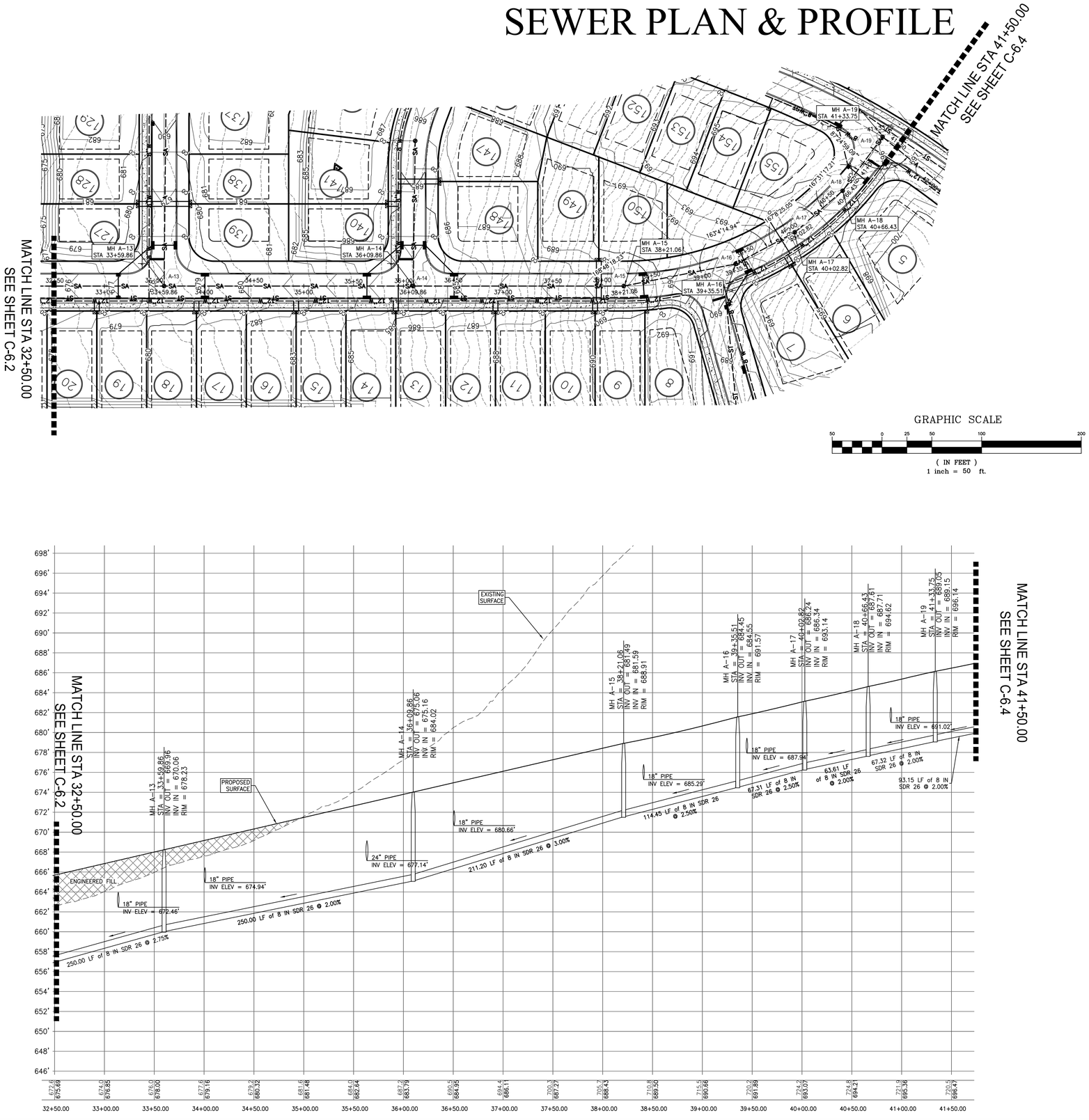

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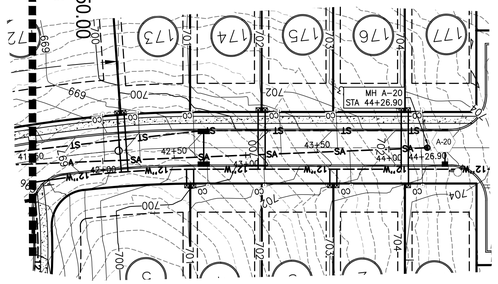

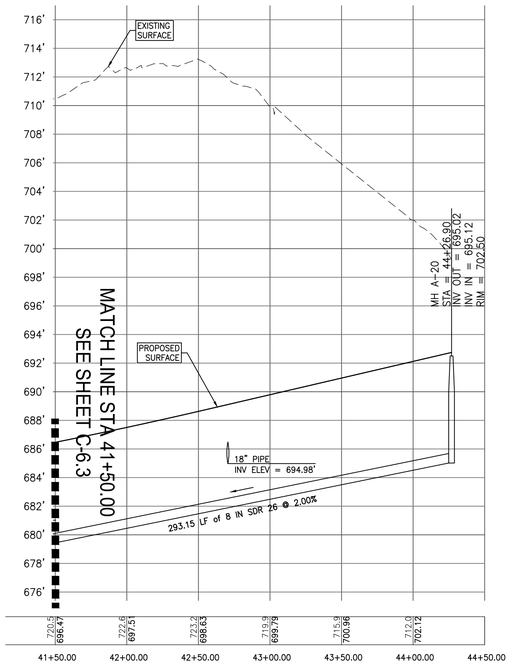

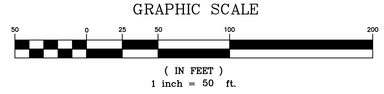

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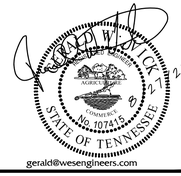

geralc@wesengineers.com

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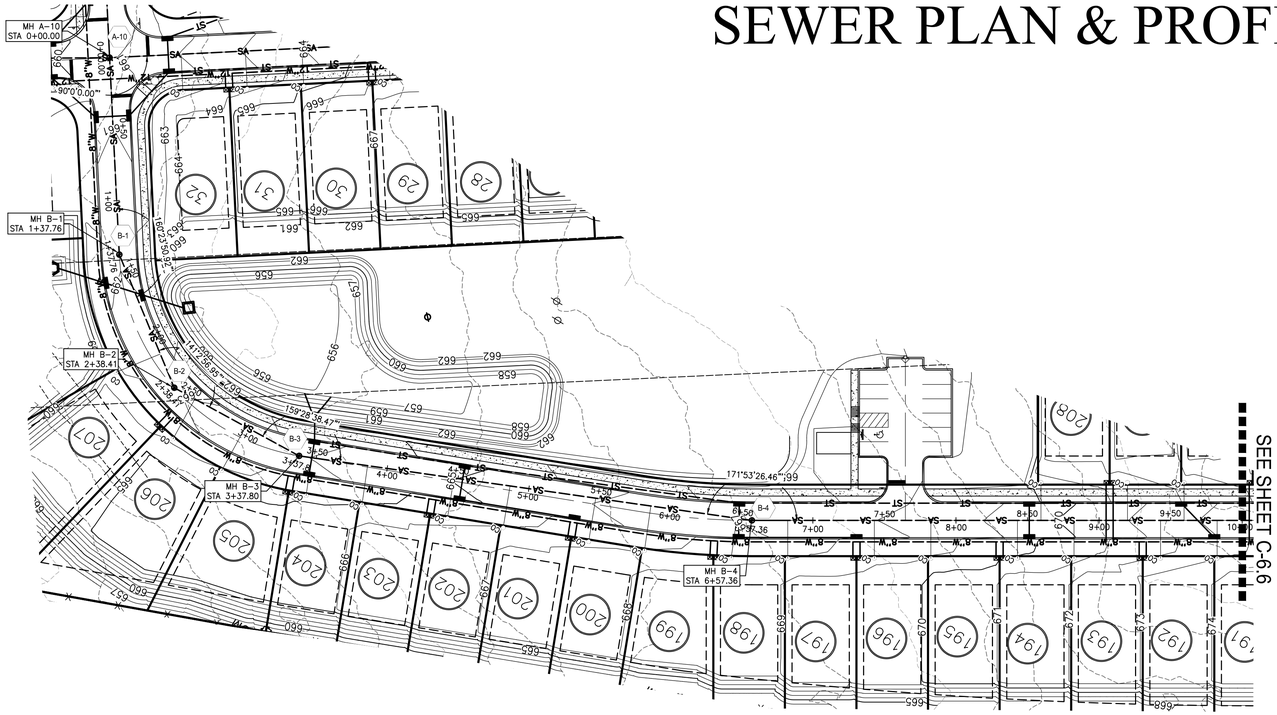
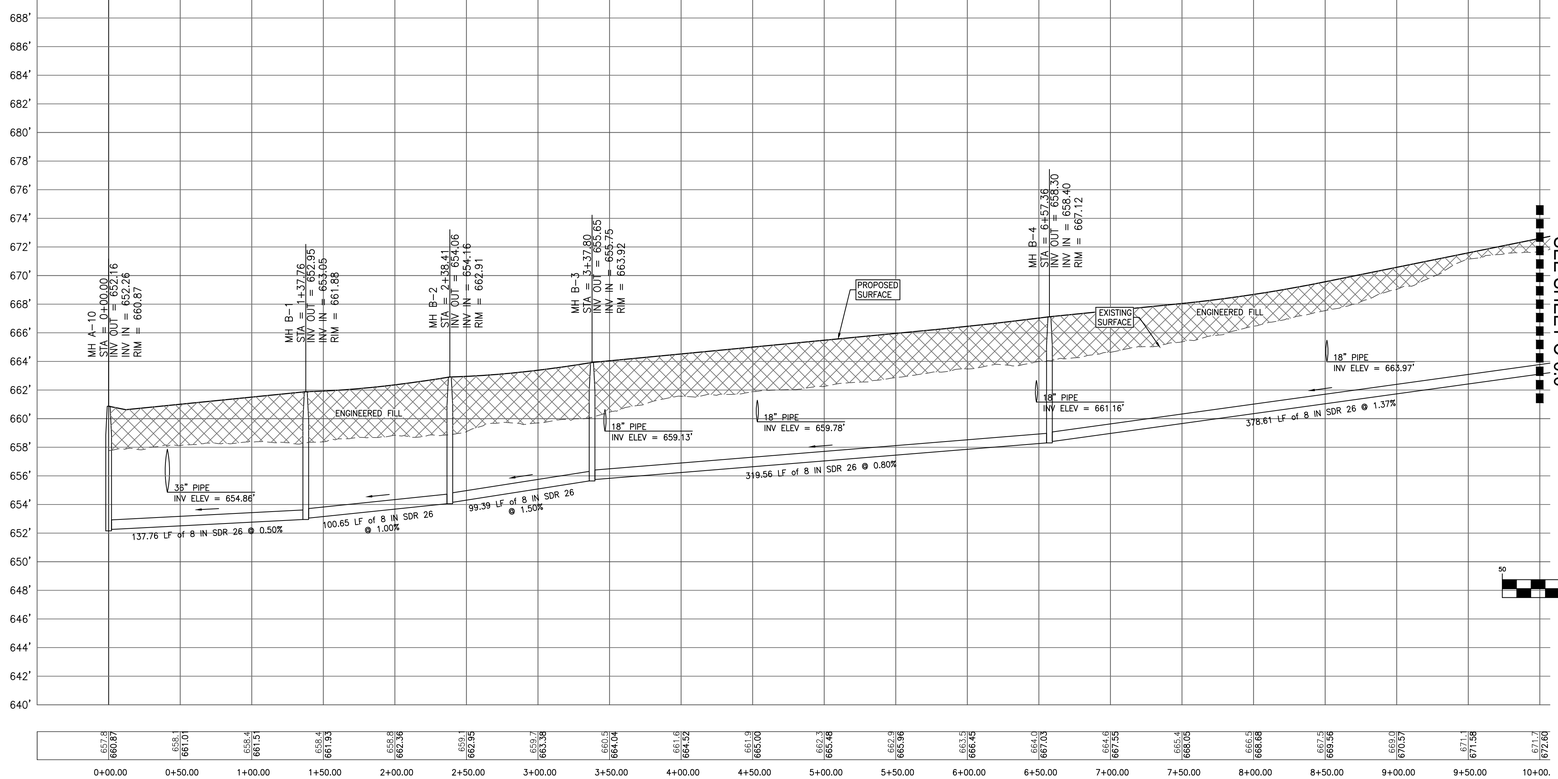
SEWER PLAN & PROFILE





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ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS | DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD | Checked: JC | Approved: GV | Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

C-6.5

gerald@wesengineers.com

FILE: I:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

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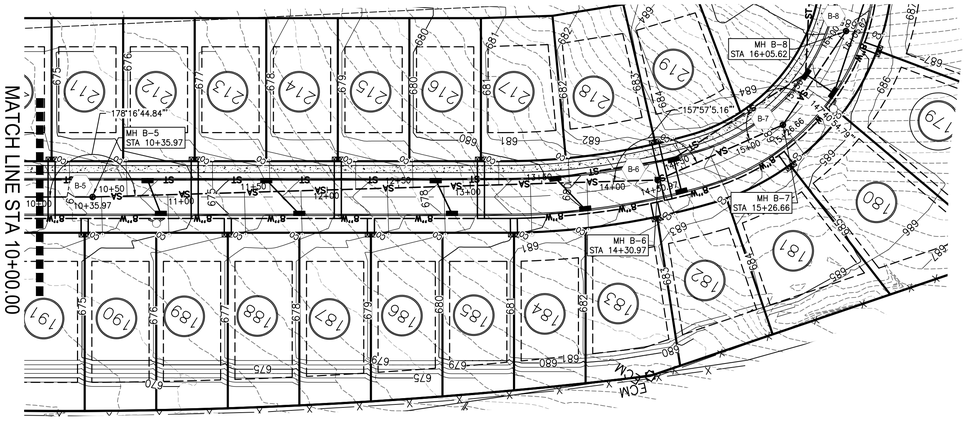

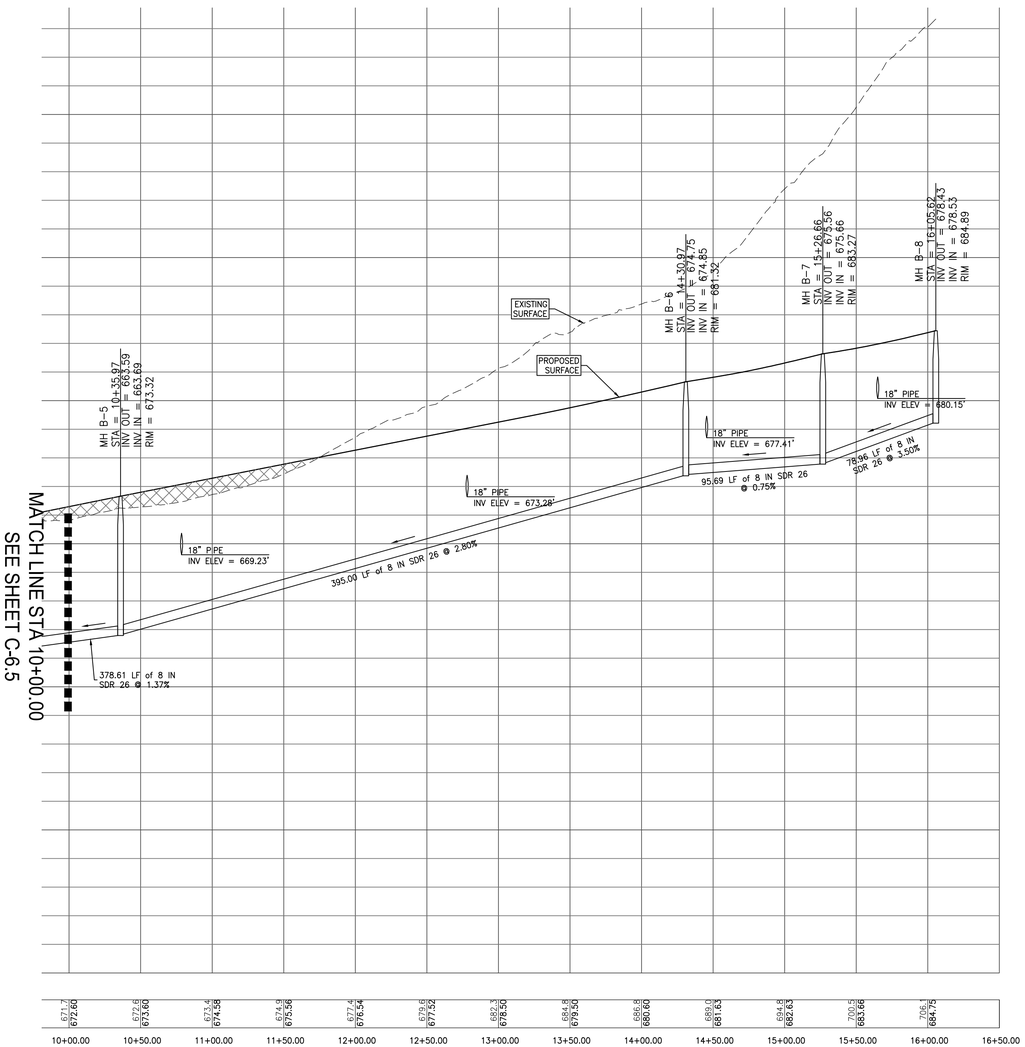

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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Client
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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

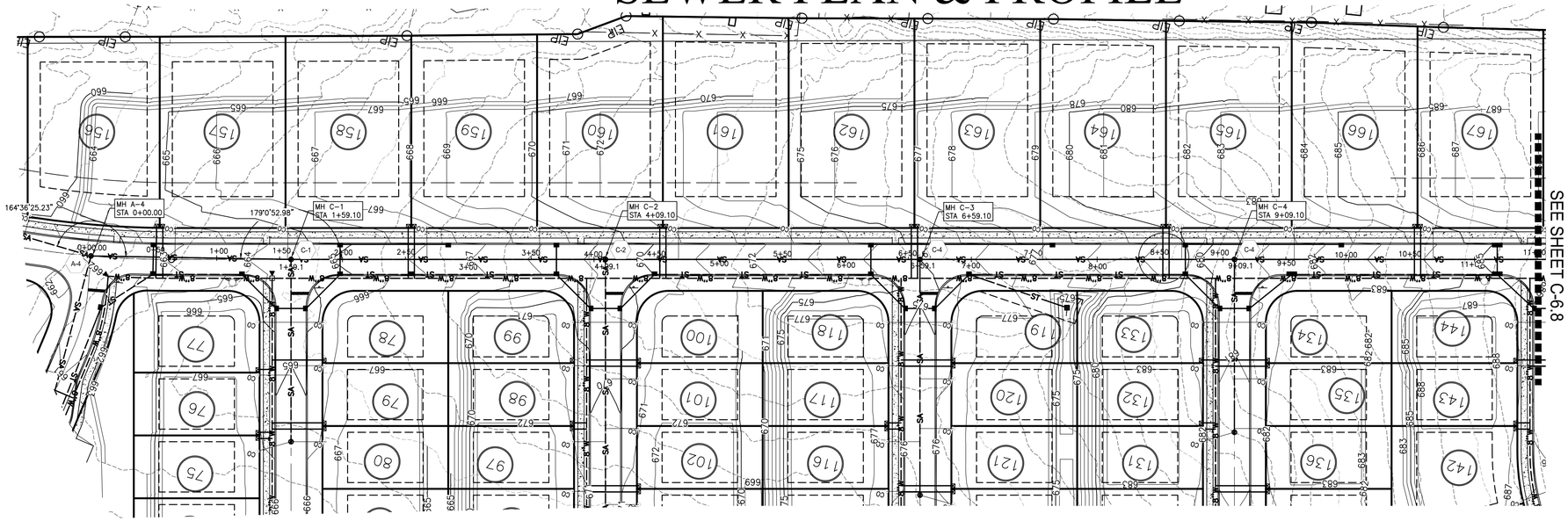
Job. no. 22529-3
Scale:
Vertical: 1"=5'
Horizontal: 1"=50'

C-6.6

geraldt@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE



GRAPHIC SCALE

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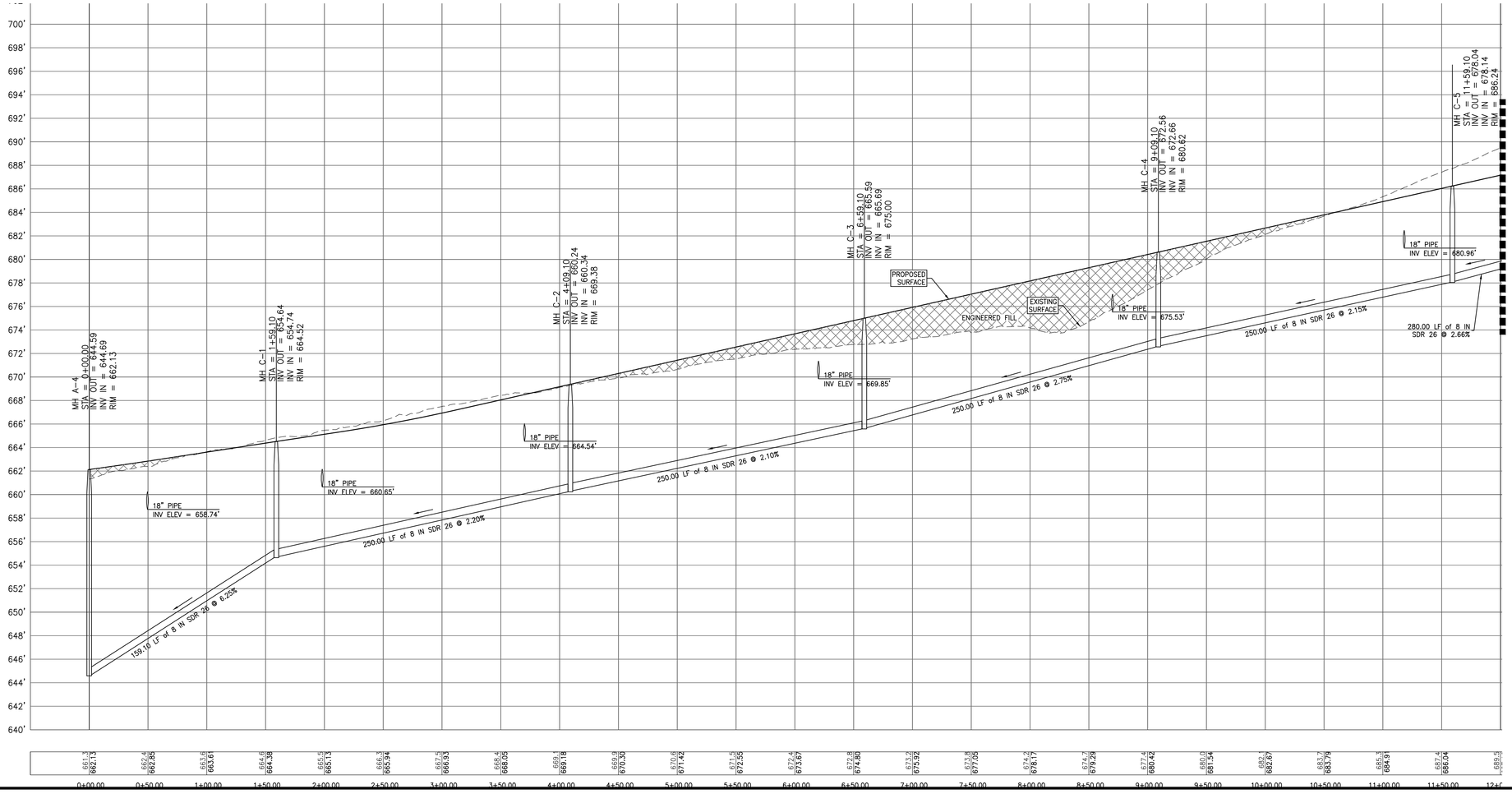
(IN FEET)
1 inch = 50 ft.



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AUSTIN, TEXAS 78704

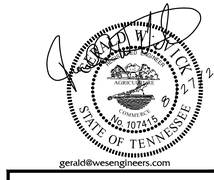
REVISIONS
DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: 1"=5'
Horizontal: 1"=50'

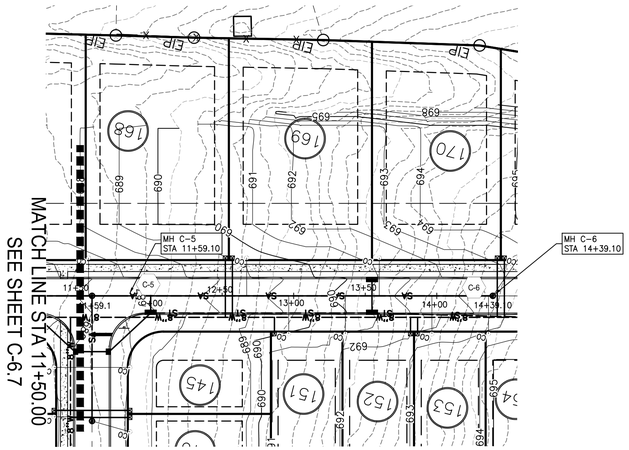
C-6.7



gerald@wesengineers.com

FILE:J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE



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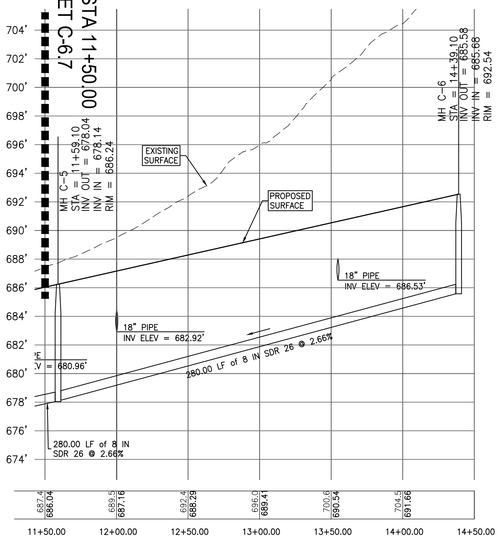

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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

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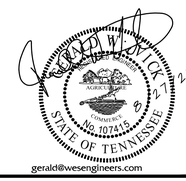

geralcl@wesengineers.com

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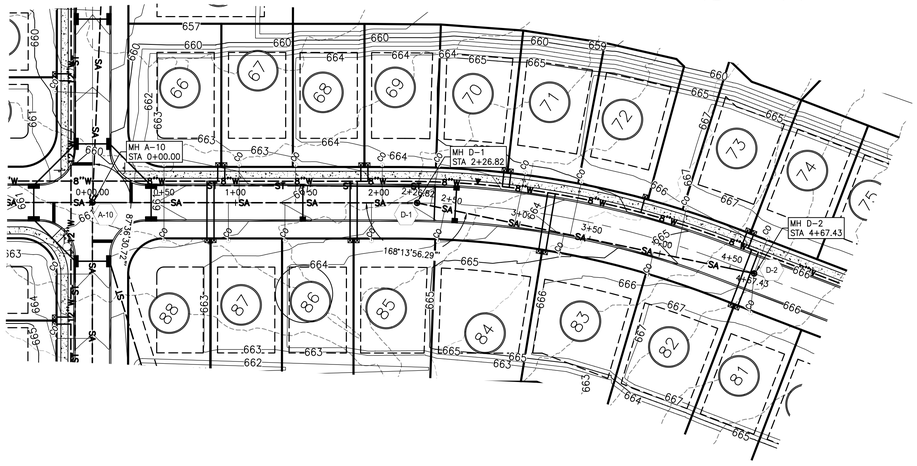
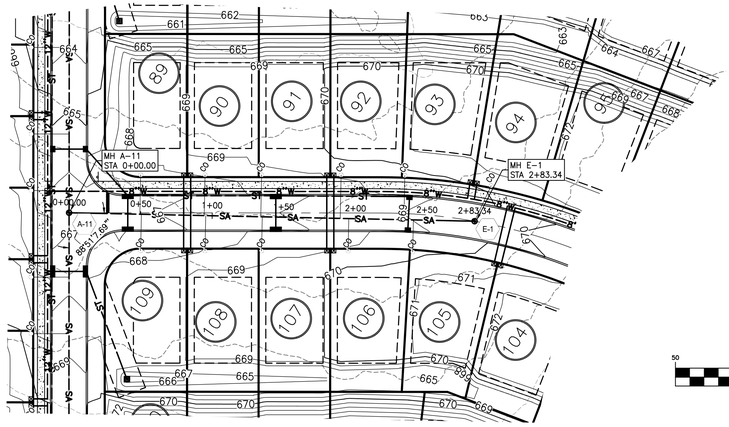
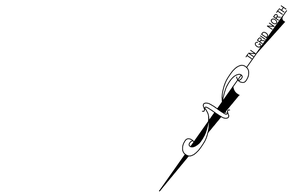
SEWER PLAN & PROFILE







GRAPHIC SCALE

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Client
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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE	REVISIONS

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 06/12/2025

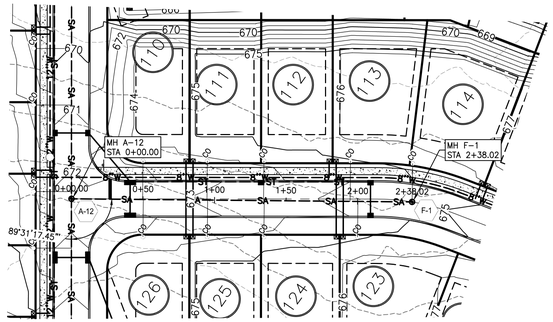
Job. no. 22529-3
Scale:
Vertical: 1"=5'
Horizontal: 1"=50'

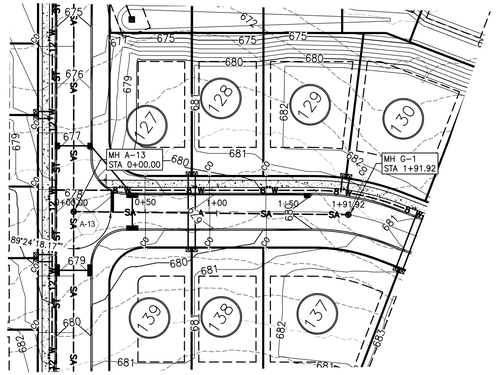
C-6.9

geraldt@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE





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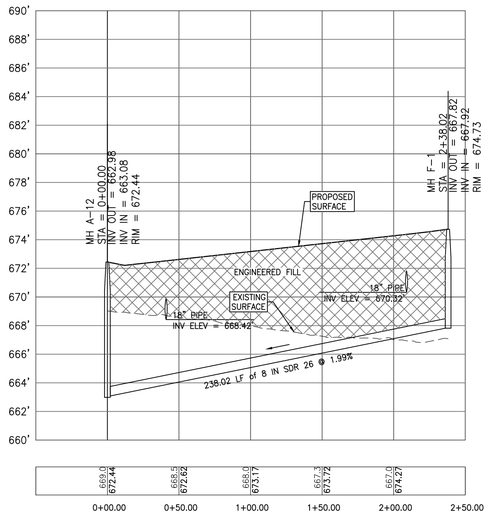

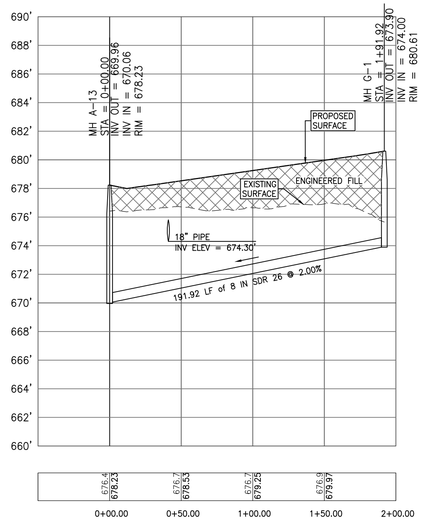

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Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS | DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

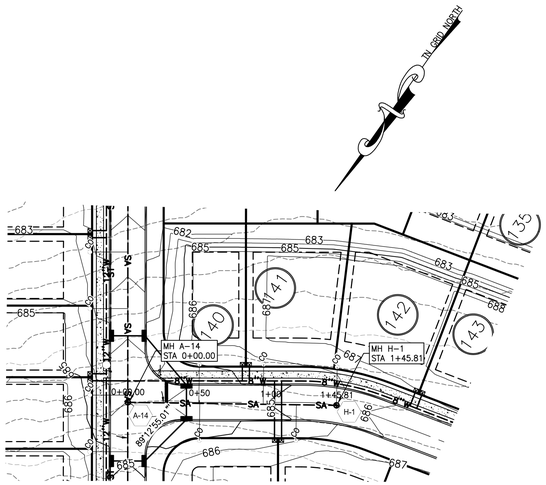
GERALD W. VOLTICK
No. 107415
STATE OF TENNESSEE
8-27-25

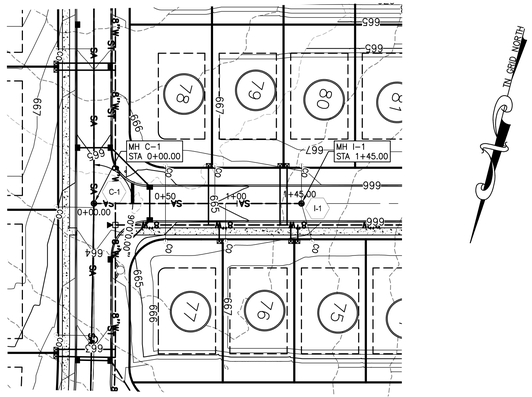
gerald@wesengineers.com

C-6.10

FILE:J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE





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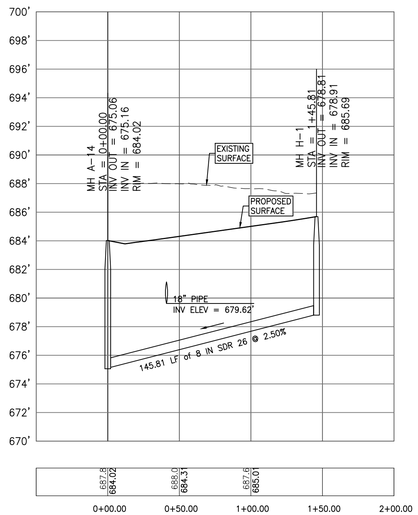
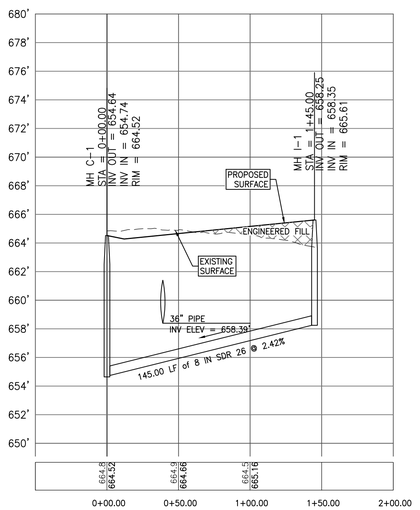
(IN FEET)
1 inch = 50 ft.





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ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE

REVISIONS

Southend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE

SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3

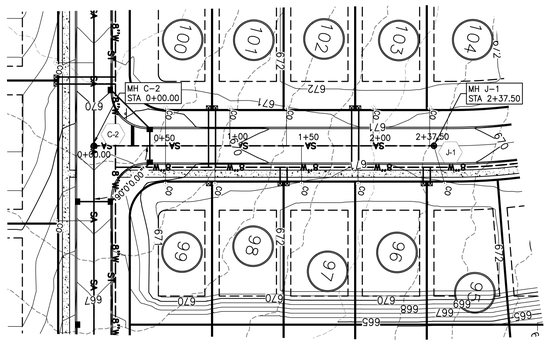
Scale:
Vertical: 1"=5'
Horizontal: 1"=50'

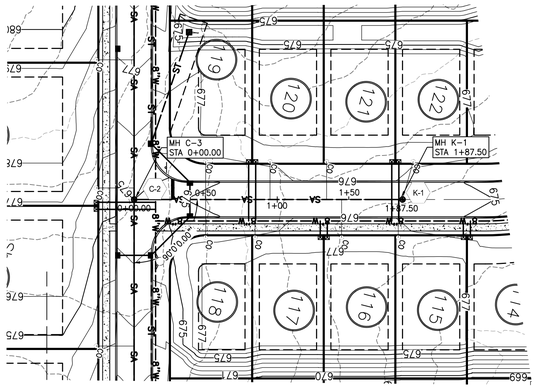
C-6.11

gerald@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE





GRAPHIC SCALE

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(IN FEET)
1 inch = 50 ft.

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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BO
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: 1"=5'
Vertical: 1"=50'
Horizontal:

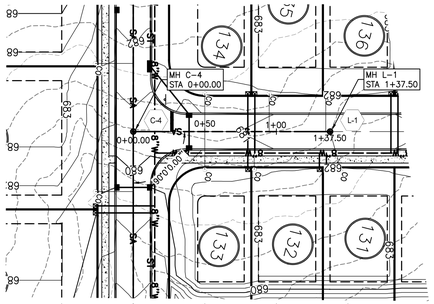
GERALD W. VICK
No. 107415
STATE OF TENNESSEE
8-27-25

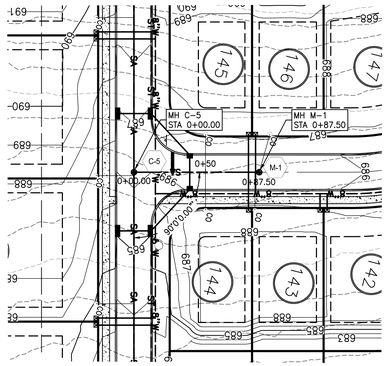
gerald@wesengineers.com

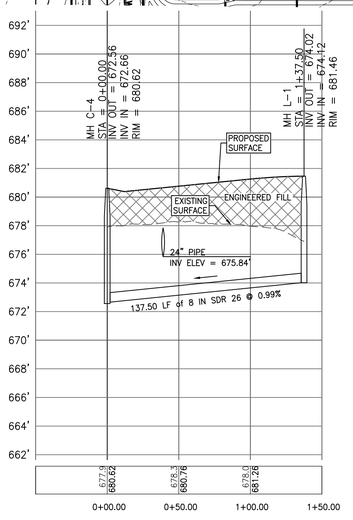
C-6.12

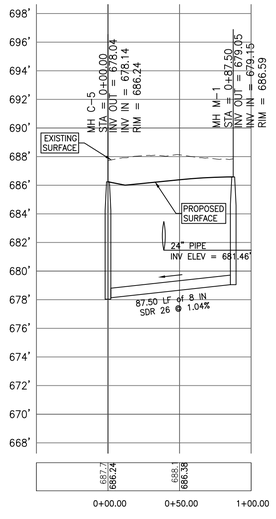
FILE:J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE









GRAPHIC SCALE

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(IN FEET)
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ENGINEERS & SURVEYORS

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AUSTIN, TEXAS 78704

REVISIONS	DATE

Southbend Crossings

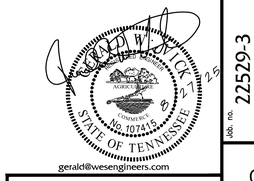
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD	Checked: JG	Approved: GV	Date: 08/12/2025

Job. no. 22529-3

Scale: Vertical: 1"=5' Horizontal: 1"=50'

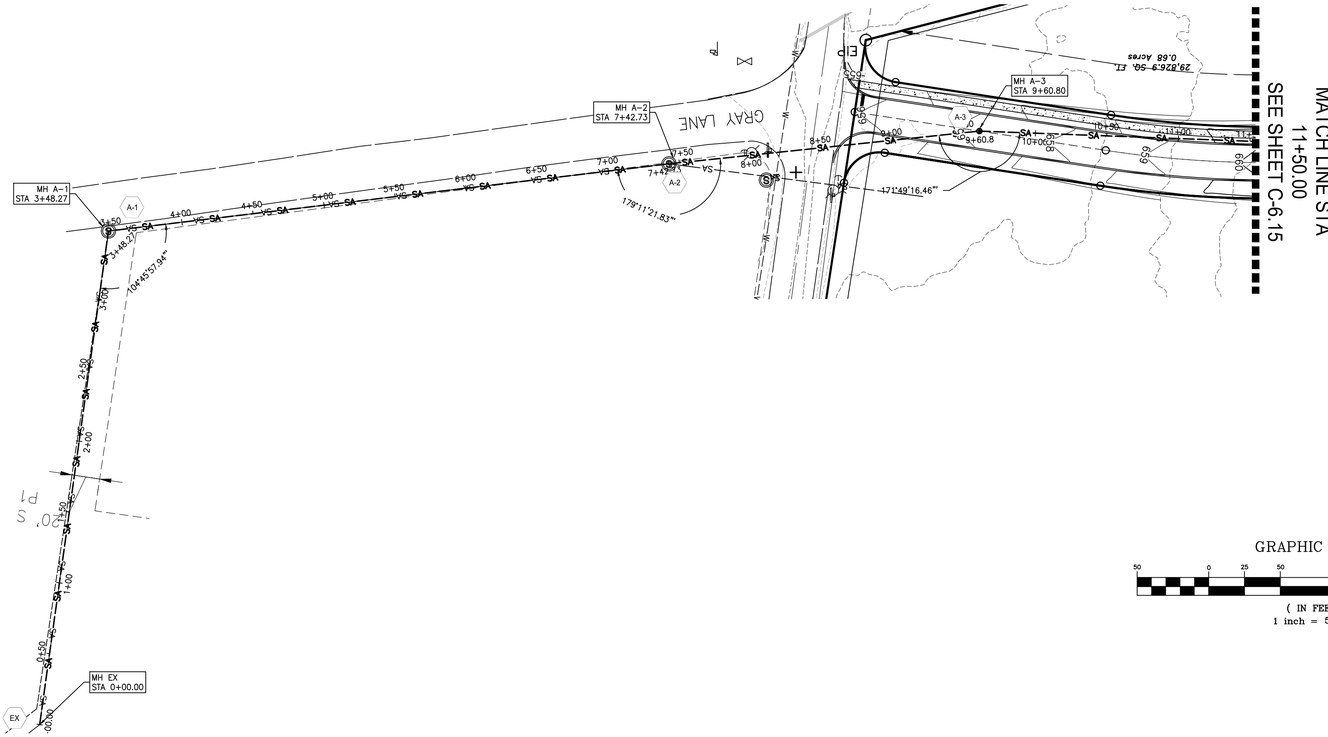
C-6.13



gerald@wesengineers.com

FILE:J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

SEWER PLAN & PROFILE



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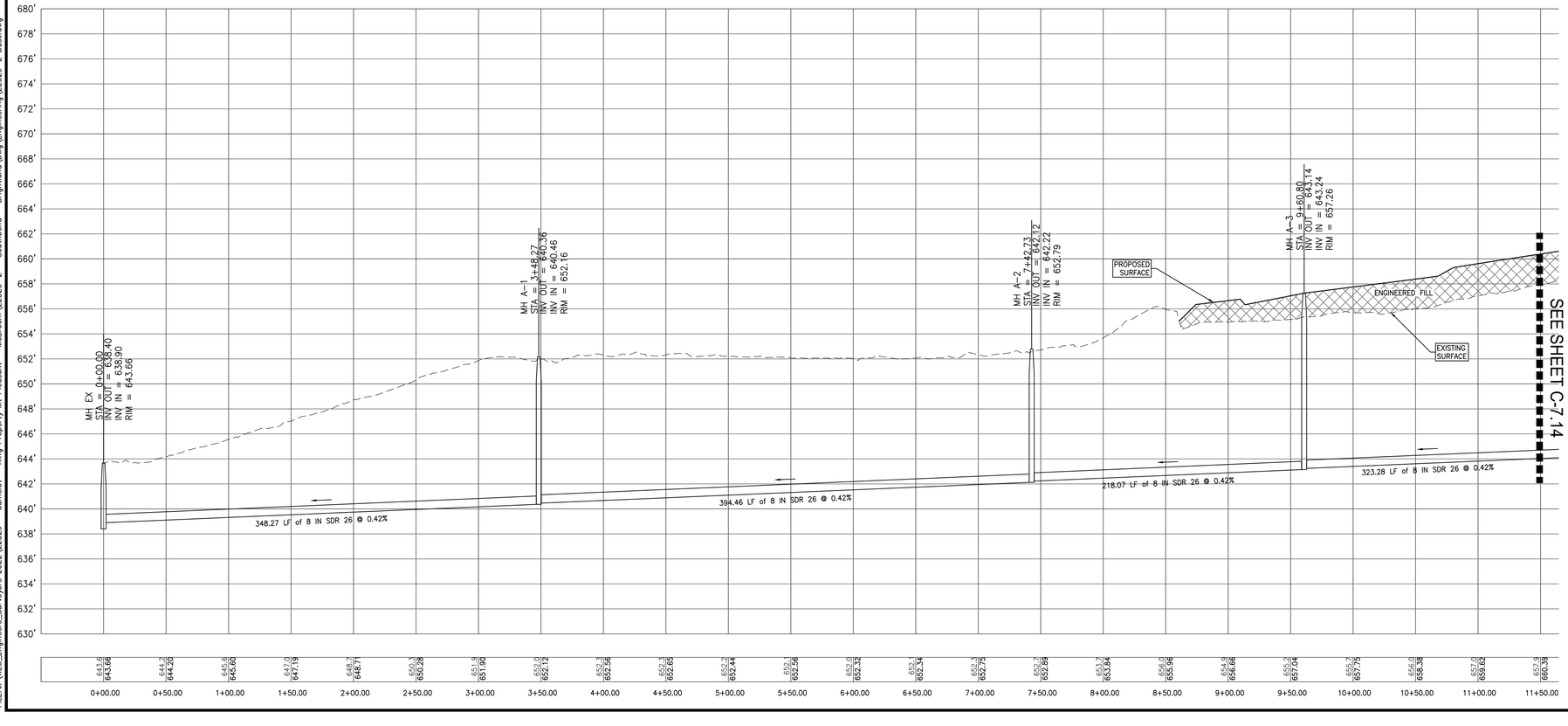

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SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: 1"=5' Horizontal: 1"=50'

C-6.14

gerald@wesengineers.com

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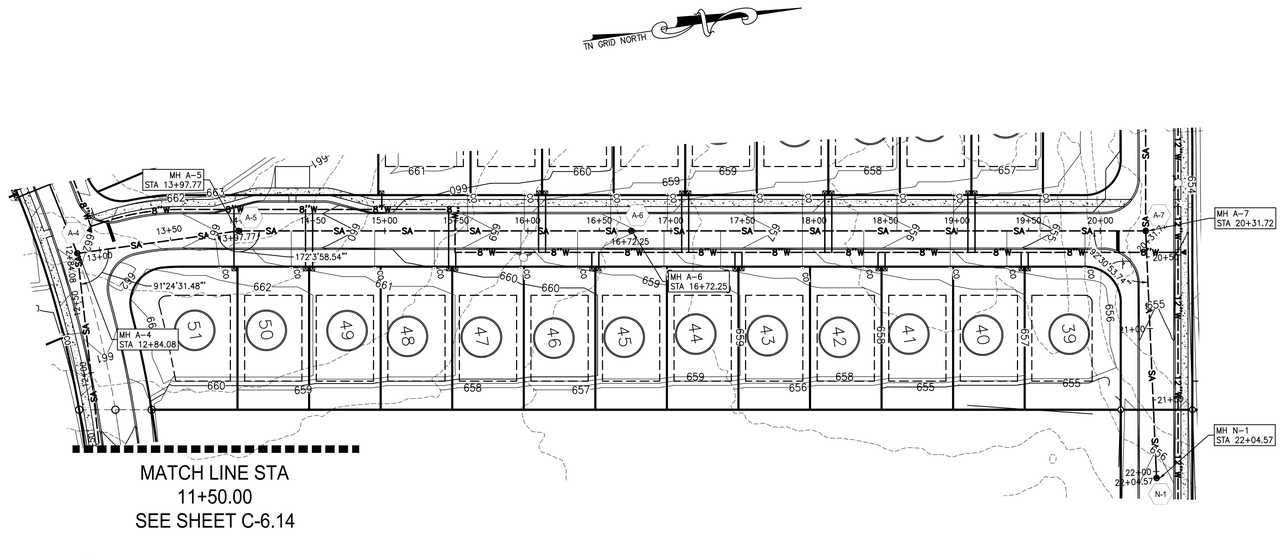
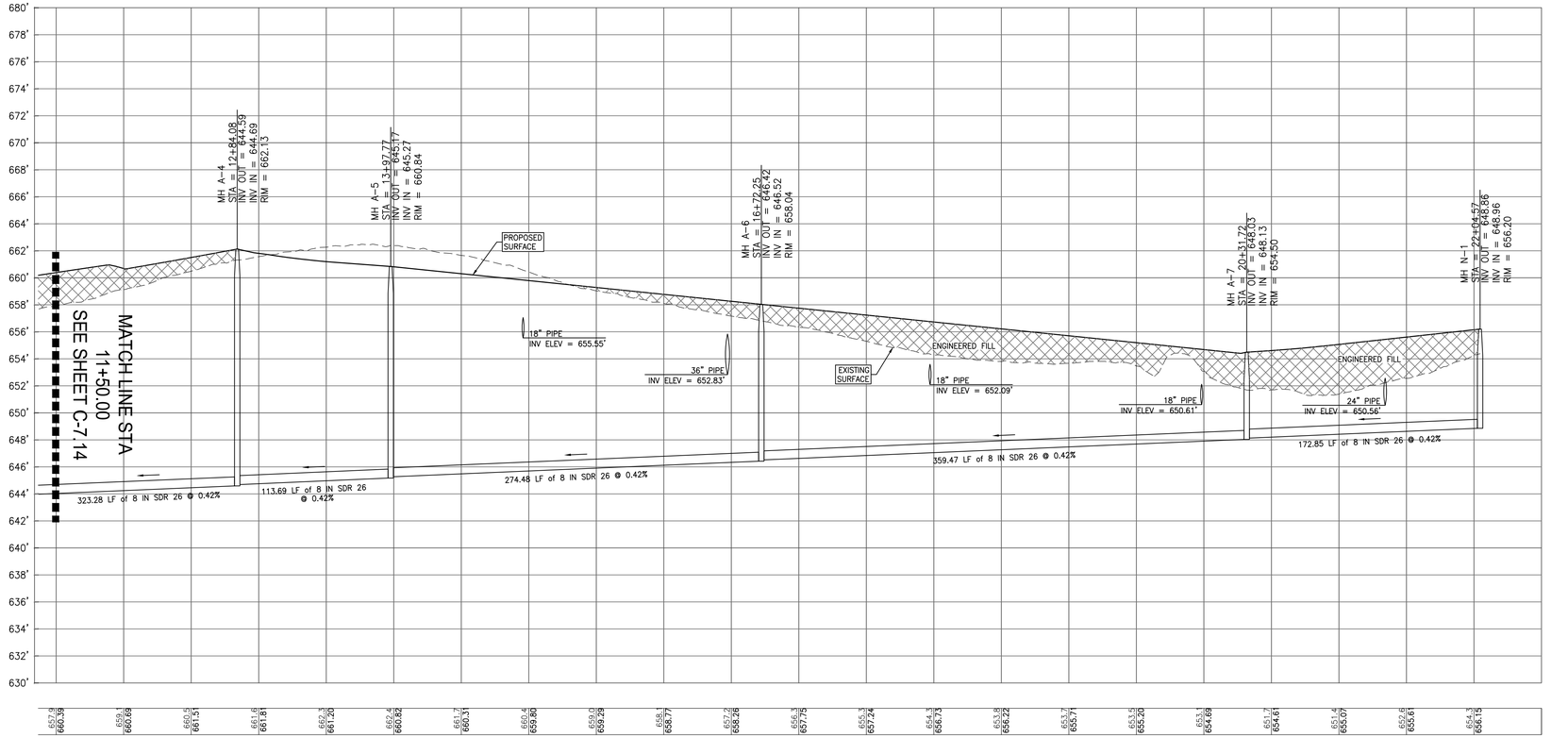
SEWER PLAN & PROFILE





GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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Client
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BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

REVISIONS | DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SEWER PLAN AND PROFILE

Drawn: BD
Checked: JG
Approved: GV
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Horizontal: 1"=50'

C-6.15

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SANITARY SEWER DETAILS

Southbend Crossings - Residential Subdivision
Proposed 8" Sewer

I. Data:

A. Proposed Sewer line extension - Southbend Crossings

B. 8" Gravity Sewer System with minimum slope of 0.42%

C. 219 Residential Subdivision (100 gpd per person)

II. Design Flow:

A. Method 1: (TDEC)

Per Capita Flow (Section 2.2.2.1 of State Sewer Regulations)
Indicates Minimum Design Peak Flow is not less than 400% of ADF.

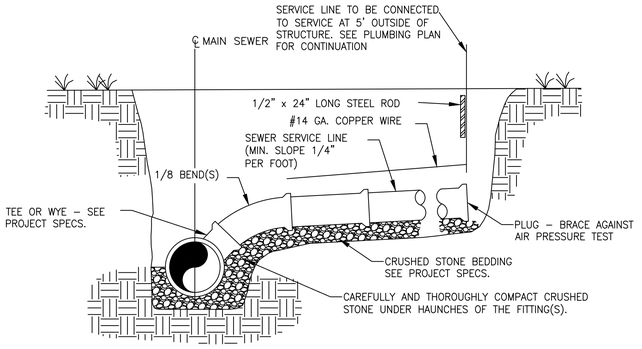
DEMAND 8" PIPE: ASSUME 4 PERSON PER LOT: 4*(219)*100 = 60.8 GPM or 0.135 CFS
PEAK 8" PIPE: ASSUME 4 PERSON PER LOT: 4*(112)*100*(400%) = 243.3 GPM or 0.54 CFS

B The minimum slope for the proposed sewer extension is 0.42% slope for 8" SDR 26 PVC pipe. The full capacity flow @ 0.42% for 8" pipe is 426.4 gpm or 0.95 cfs.

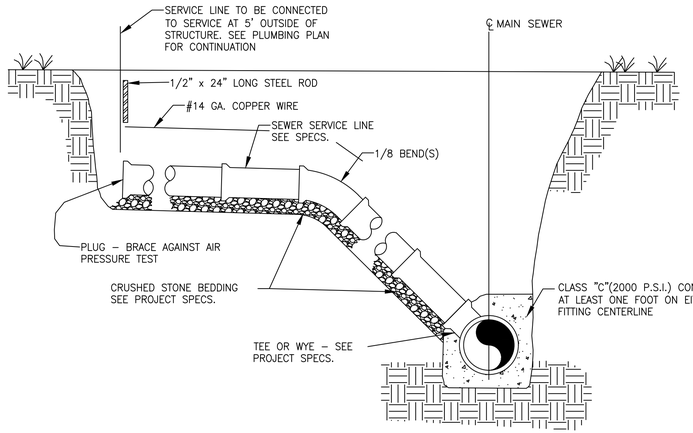
SEWER HYDRAULIC CALCULATIONS

PROJECT: Southbend Crossings
PROJ. NO. 22529-2 DATE: 8/7/2025

STREET	FROM MH	TO MH	LENGTH feet	MAX AREA SERVED	NUMBER OF UNITS	n= 0.0113	MAX SEWAGE FLOW cfs	PEAK SEWAGE FLOW cfs	PIPE DIAM. in	INVERT UPPER MH	INVERT LOWER MH	SEWER GRADE %	SEWER FALL feet	VELOCITY FLOWING FULL f/s	CAPACITY FLOWING FULL cfs
Line "A"															
	A-1	EX	348.3	60 Ac	0	0.0113	0.168	0.673	8	640.36	638.90	0.42	1.46	2.6	0.897
	A-2	A-1	394.5	60 Ac	0	0.0113	0.168	0.673	8	642.12	640.46	0.42	1.66	2.6	0.899
	A-3	A-2	218.1	60 Ac	0	0.0113	0.168	0.673	8	643.13	642.22	0.42	0.91	2.6	0.895
	A-4	A-3	323.3	60 Ac	1	0.0113	0.168	0.673	8	644.59	643.24	0.42	1.35	2.6	0.895
	A-5	A-4	113.7	60 Ac	1	0.0113	0.135	0.540	8	645.17	644.69	0.42	0.48	2.6	0.900
	A-6	A-5	274.5	60 Ac	8	0.0113	0.101	0.406	8	646.42	645.27	0.42	1.15	2.6	0.897
	A-7	A-6	359.5	60 Ac	13	0.0113	0.097	0.386	8	648.03	646.52	0.42	1.51	2.6	0.898
	A-8	A-7	144.5	60 Ac	1	0.0113	0.089	0.354	8	648.74	648.13	0.42	0.61	2.6	0.900
	A-9	A-8	193.3	60 Ac	5	0.0113	0.088	0.352	8	649.65	648.84	0.42	0.81	2.6	0.897
	A-10	A-9	240.4	60 Ac	5	0.0113	0.085	0.339	8	652.16	649.75	1.00	2.41	4.0	1.387
	A-11	A-10	250.0	60 Ac	5	0.0113	0.045	0.181	8	658.51	652.26	2.50	6.25	6.3	2.191
	A-12	A-11	250.0	60 Ac	5	0.0113	0.035	0.141	8	664.86	658.61	2.50	6.25	6.3	2.191
	A-13	A-12	250.0	60 Ac	5	0.0113	0.027	0.106	8	669.96	664.96	2.00	5.00	5.6	1.960
	A-14	A-13	250.0	60 Ac	5	0.0113	0.019	0.077	8	675.06	670.06	2.00	5.00	5.6	1.960
	A-15	A-14	211.2	60 Ac	6	0.0113	0.013	0.052	8	681.49	675.16	3.00	6.33	6.9	2.399
	A-16	A-15	114.5	60 Ac	1	0.0113	0.009	0.037	8	684.45	681.59	2.50	2.86	6.3	2.190
	A-17	A-16	67.3	60 Ac	3	0.0113	0.009	0.035	8	686.24	684.55	2.51	1.69	6.3	2.196
	A-18	A-17	63.6	60 Ac	1	0.0113	0.007	0.027	8	687.61	686.34	2.00	1.27	5.6	1.958
	A-19	A-18	67.3	60 Ac	0	0.0113	0.006	0.025	8	689.05	687.71	1.99	1.34	5.6	1.955
	A-20	A-19	293.2	60 Ac	10	0.0113	0.006	0.025	8	695.02	689.15	2.00	5.87	5.6	1.961
Line "B"															
	B-1	A-10	137.8	60 Ac	0	0.0113	0.026	0.104	8	652.95	652.26	0.50	0.69	2.8	0.981
	B-2	B-1	100.7	60 Ac	1	0.0113	0.026	0.104	8	654.06	653.05	1.00	1.01	4.0	1.388
	B-3	B-2	99.4	60 Ac	2	0.0113	0.025	0.101	8	655.65	654.16	1.50	1.49	4.9	1.697
	B-4	B-3	319.6	60 Ac	7	0.0113	0.024	0.097	8	658.30	655.75	0.80	2.55	3.5	1.238
	B-5	B-4	378.6	60 Ac	11	0.0113	0.020	0.079	8	663.59	658.40	1.37	5.19	4.6	1.622
	B-6	B-5	395.0	60 Ac	16	0.0113	0.013	0.052	8	674.75	663.69	2.80	11.06	6.6	2.319
	B-7	B-6	95.7	60 Ac	2	0.0113	0.003	0.012	8	675.56	674.85	0.74	0.71	3.4	1.194
	B-8	B-7	79.0	60 Ac	3	0.0113	0.002	0.007	8	678.43	675.66	3.51	2.77	7.4	2.595
Line "C"															
	C-1	A-4	159.1	60 Ac	2	0.0113	0.033	0.131	8	654.64	644.69	6.25	9.95	9.9	3.465
	C-2	C-1	250.0	60 Ac	2	0.0113	0.028	0.111	8	660.24	654.74	2.20	5.50	5.9	2.055
	C-3	C-2	250.0	60 Ac	2	0.0113	0.020	0.082	8	665.59	660.34	2.10	5.25	5.8	2.008
	C-4	C-3	250.0	60 Ac	3	0.0113	0.014	0.057	8	672.56	665.69	2.75	6.87	6.6	2.297
	C-5	C-4	250.0	60 Ac	3	0.0113	0.009	0.035	8	678.04	672.66	2.15	5.38	5.8	2.033
	C-6	C-5	280.0	60 Ac	7	0.0113	0.004	0.017	8	685.58	678.14	2.66	7.44	6.5	2.259
Line "D"															
	D-1	A-10	226.8	60 Ac	8	0.0113	0.011	0.042	8	655.89	652.26	1.60	3.63	5.0	1.753
	D-2	D-1	240.6	60 Ac	9	0.0113	0.006	0.022	8	658.88	651.95	2.88	6.93	6.7	2.352
Line "E"															
	E-1	A-11	283.3	60 Ac	11	0.0113	0.007	0.027	8	662.86	658.61	1.50	4.25	4.9	1.697
Line "F"															
	F-1	A-12	238.0	60 Ac	9	0.0113	0.006	0.022	8	667.82	664.96	1.20	2.86	4.4	1.519
Line "G"															
	G-1	A-13	191.9	60 Ac	7	0.0113	0.004	0.017	8	673.90	670.06	2.00	3.84	5.6	1.960
Line "H"															
	H-1	A-14	145.8	60 Ac	5	0.0113	0.003	0.012	8	678.81	675.16	2.50	3.65	6.3	2.192
Line "I"															
	I-1	C-1	145.0	60 Ac	6	0.0113	0.004	0.015	8	658.25	654.74	2.42	3.51	6.2	2.156
Line "J"															
	J-1	C-2	237.5	60 Ac	10	0.0113	0.006	0.025	8	662.72	660.34	1.00	2.38	4.0	1.387
Line "K"															
	K-1	C-3	187.5	60 Ac	8	0.0113	0.005	0.020	8	668.67	665.69	1.59	2.98	5.0	1.747
Line "L"															
	L-1	C-4	137.5	60 Ac	6	0.0113	0.004	0.015	8	674.02	672.66	0.99	1.36	3.9	1.378
Line "M"															
	M-1	C-5	87.5	60 Ac	4	0.0113	0.002	0.010	8	679.05	678.14	1.04	0.91	4.0	1.413
Line "N"															
	N-1	A-7	172.9	60 Ac	0	0.0113	0.000	0.000	8	648.86	648.13	0.42	0.73	2.6	0.900

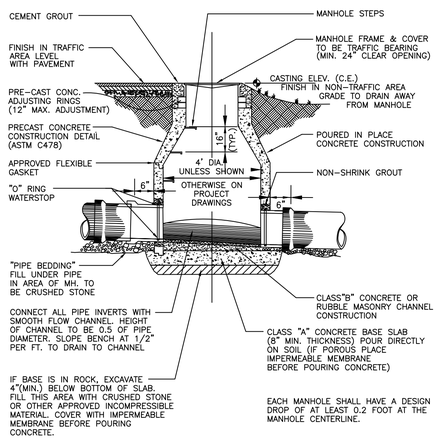


NORMAL DEPTH SERVICE

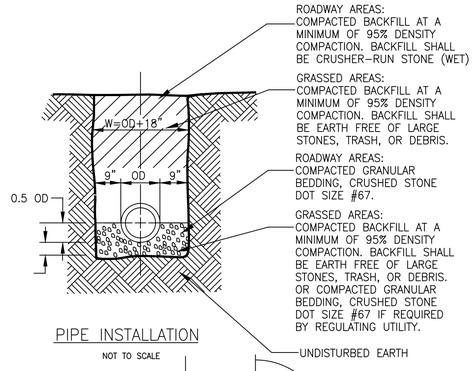


DEEP SEWER SERVICE
USE WHERE DIRECTED BY ENGINEER

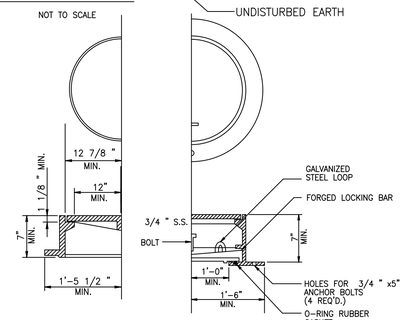
SEWER SERVICE
NOT TO SCALE



CONNECTION TO EXISTING MANHOLE
(PRE–CAST AND POURED IN PLACE CONSTRUCTION)

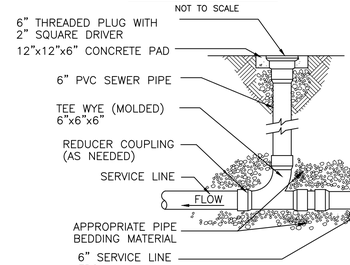


PIPE INSTALLATION
NOT TO SCALE



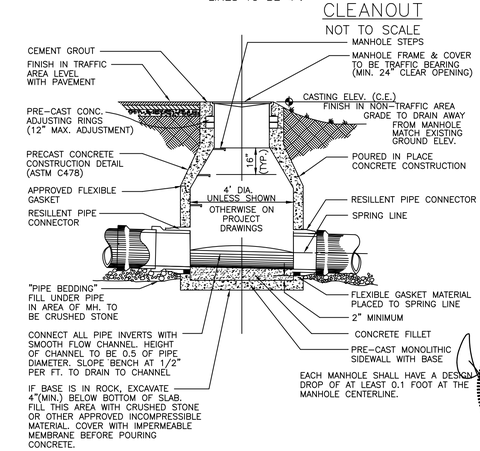
NOTES:
1. ANCHOR W.T. CASTINGS TO TOP CONE W/4 3/4" BOLTS.
2. ANCHOR BOLTS TO BE CAST WITH CONCRETE CONE.
3. ALL MATERIALS AND WORK TO COMPLY WITH CITY OF SPRING HILL WASTE WATER DEPARTMENT STANDARD SEWER SPECIFICATIONS FOR SUBDIVISIONS AND GENRAL SYSTEM ADDITIONS.

FRAME AND COVER
NOT TO SCALE



NOTES:
1. ALL FITTINGS AND LINES TO BE PVC. SOLVENT WELD (SDR–33).
2. WHEN SERVICE LINE FROM MAIN LINE IS 4", ALL FITTINGS AND LINES TO BE 4".

CLEANOUT
NOT TO SCALE



STANDARD MANHOLE
(PRE–CAST AND POURED IN PLACE CONSTRUCTION)
NOT TO SCALE

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Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

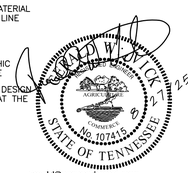
REVISIONS	DATE

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
SANITARY SEWER DETAILS

Drawn: BD | Checked: JC | Approved: GV | Date: 08/12/2025

Job. no. 22529-3 | Scale: | Vertical: | Horizontal:

C-6.16



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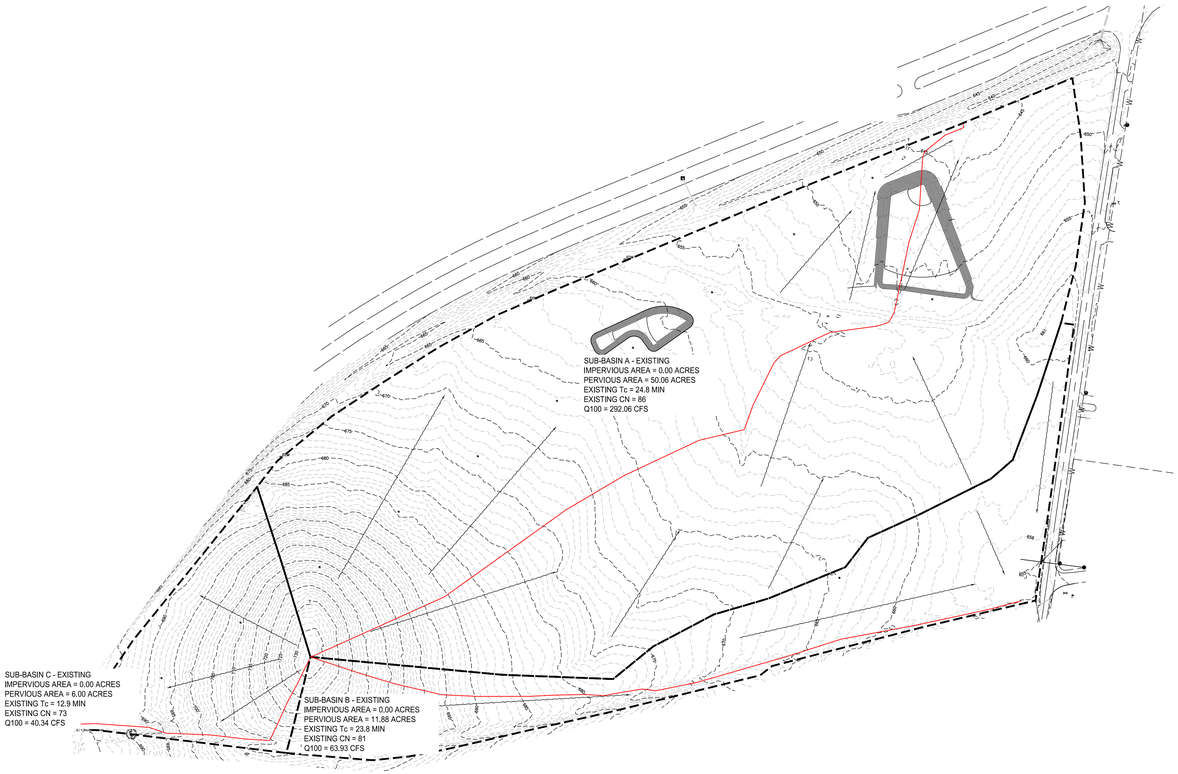
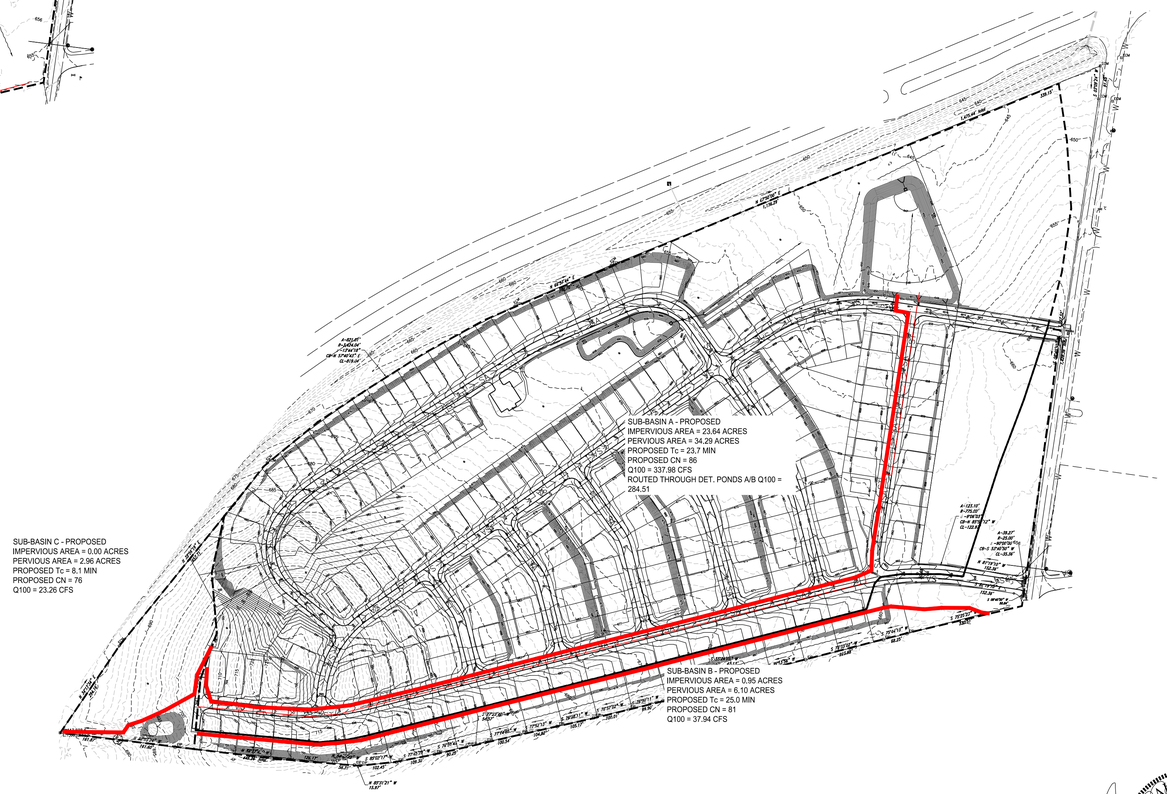
DRAINAGE MAP



EXISTING CONDITIONS



PROPOSED CONDITIONS

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

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TN GRID NORTH

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DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
DRAINAGE AREA MAP

Drawn: BG
Checked: JC
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale: Vertical: SEE PLAN
Horizontal:

MP-1

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Drainage and Water Quality System Calculations

For

Southbend Crossings

Located on

South Cross Bridges Road

Mt. Pleasant, Tennessee

August 12, 2025
(Revised August 27, 2025)

Prepared For:

Brightland Homes of Tennessee, LLC
Barton Creek Plaza III
3815 South Capitol of Texas, Suite 275
Austin, TX 78704

Prepared By:

WES
ENGINEERS & SURVEYORS
2486 Nashville Highway
Columbia, TN 38401
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Methods and Assumptions	4
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Hydraulic Characteristics	5
Summary of Discharge	5
Outlet Condition	5
Conclusions	5
Appendix 1:	Hydroflow Model Output
Appendix 2:	Drainage Calculations Summary & Storm Sewer Design Table Existing TC Proposed TC
Appendix 3:	MP-1 - Drainage Area Map (See 24”x36” insert).

List of Figures

Figure No.	Title
1	Location Map
2	Mt Pleasant IDF Curve
3	Detention Basin: Stage-Discharge-Storage Tables
4	Pond Report

Southbend Crossings – South Cross Bridges Road – Mt. Pleasant, TN
Detention Summary

The subject property consists of ±58.71 acres of gently rolling terrain located at the southwest corner of the intersection of South Crossing Bridges Road and US Route 43 in Mt. Pleasant, TN. The project includes 43.83 acres disturbed for 16 townhome units with related appurtenances.

The existing drainage pattern of the site is directed primarily to the east across the site through a series of sheet flow and shallow drainage swales eventually entering Sugar Creek off-site. In its existing condition, the natural drainage patterns of the site are primarily directed towards the east by means of overland flow, and natural draws. The general soil information indicates the native soil is primarily Donerail silt loam (Hydrologic Soil Group C) and Mimosa silty clay loam (Hydrologic Soil Group C). For existing flow characteristics see Appendix 3, *Drainage Area Map.*

The SCS Method was used to calculate runoff hydrographs for pre- and post-development conditions for the 2, 5, 10, 25, 50 and 100-year rainfall events. Rainfall information for the basin was obtained from the Intensity-Duration-Frequency Curves and Depth-Duration Data Table (Figure 2-1 of the NOAA Atlas 14 point precipitation frequency events from Mount Pleasant 2 SW 40-6340 included in this report, see Figure 3). Times of concentration for the pre-development site for subbasins A, B, and C are 24.8, 23.8, and 12.9 minutes respectively. Post development site of 21.2, 25.0, and 8.1 minutes respectively were used for the design of the proposed detention facility. Calculations can be found in Appendix 2.

The pre-development curve number was calculated for subbasin area A, B, and C were 86, 81, and 73. The post development curve number has been calculated to be 86, 81, and 76 respectively for the proposed site. The existing development curve number has been established based on the existing conditions of wooded areas and row cropping. The proposed development curve number has been established based on the anticipation of the roadways, drives, and rooftop areas being 98% impervious and the transition of pervious surfaces to manicured lawns.

Stormwater management of this site will include two detention basins located as shown in the construction documents and as part of subbasin area A. The proposed detention system for Basin A includes 309,172 c.f. and for Basin B includes 95,040 in the detention basin as shown on the plans. The outlet control structures for the basin provides a controlled release of storm events while retaining smaller storms for water quality infiltration in the basins and reduction of the peak runoff of a given storm event as indicated in the summary charts below. Sediment is designed to drop and accumulate in the drainage basins and access for removal of sediment is allowed from the basin and the outlet structure. The drainage basins provide storage of the 100-year storm event at elevations indicated in the chart below (contains the 100-year storm event). Stormwater runoff flows overland across the proposed site, entering a surface drainage network that transfers the water to the detention basin. The detention basin discharge **below** the calculated pre-development rate through the design outlet structures, rectangular weirs, and outfalls into the existing ditch line as shown on the plan. The layout and configuration of the detention basin have been

included in the submitted construction documents and the detail of the propo outlet structures for the Basins are included in this document (Appendix 2). The report that follows defines the characteristics of the proposed drainage network. Note that offsite drainage that comes onto the property is captured and directed through the existing drainage network as shown in the construction documents. A scenario of the proposed detention pond was looked at as if the low flow orifice was completely clogged. This would not allow for any discharge at the 2-yr and 5-y storm event accept from exfiltration in the detention pond. Based on this design scenario, the detention pond would still be able to handle the 100-yr event without overtopping the detention pond and an increase of 0.01 cfs from normal operating conditions. A summary of each of the rainfall events, the routed flows from post-development into the water quality facilities and their respective elevations numerically for 2, 5, 10, 25, 50, and 100 year storms are represented in the following tables:

Detention Basin:

Subbasin Area A:

Storm Event	***Rainfall***	***Rainfall***	***Post-Developed***	***Pre-Developed***	***Total Proposed Runoff***
(YR)	IN (24-HR)	IN (6-HR)	Flow (CFS)	Flow (CFS)	CFS
2	3.90	2.60	138.37	119.57	43.96
5	4.75	3.17	181.28	156.65	71.54
10	5.42	3.66	215.28	186.04	94.30
25	6.35	4.34	262.52	226.85	126.13
50	7.08	4.92	299.53	258.84	177.75
100	7.84	5.54	337.98	292.06	249.57

Subbasin Area B:

Storm Event	***Rainfall***	***Rainfall***	***Post-Developed***	***Pre-Developed***	***Total Proposed Runoff***
(YR)	IN (24-HR)	IN (6-HR)	Flow (CFS)	Flow (CFS)	CFS
2	3.90	2.60	13.95	23.51	13.95
5	4.75	3.17	18.99	32.00	18.99
10	5.42	3.66	23.05	38.84	23.05
25	6.35	4.34	28.74	48.44	28.74
50	7.08	4.92	33.24	56.02	33.24
100	7.84	5.54	37.94	63.93	37.94

Subbasin Area C:

Storm Event	*Rainfall*	*Rainfall*	*Post-Developed*	*Pre-Developed*	*Total Proposed Runoff*
(YR)	IN (24-HR)	IN (6-HR)	Flow (CFS)	Flow (CFS)	CFS
2	3.90	2.60	7.80	12.41	7.80
5	4.75	3.17	10.95	17.94	10.95
10	5.42	3.66	13.55	22.60	13.55
25	6.35	4.34	17.24	29.30	17.24
50	7.08	4.92	20.17	34.67	20.17
100	7.84	5.54	23.26	40.34	23.26

Total Site:

Storm Event	*Rainfall*	*Rainfall*	*Post-Developed*	*Pre-Developed*	*Total Proposed Runoff*
(YR)	IN (24-HR)	IN (6-HR)	Flow (CFS)	Flow (CFS)	CFS
2	3.90	2.60	169.10	151.09	60.51
5	4.75	3.17	222.01	200.01	95.26
10	5.42	3.66	264.12	238.97	123.16
25	6.35	4.34	322.81	293.28	160.75
50	7.08	4.92	368.94	335.95	207.20
100	7.84	5.54	416.94	380.35	286.01

Introduction

A hydrologic and hydraulic analysis was performed for the proposed property located on South Cross Bridges Road, Mt. Pleasant, Tennessee (See Fig. 1, Location Map).

This analysis outlines the calculations used to size the on-site drainage network and the system's detention basin.

The proposed drainage areas contributing storm water runoff to the proposed system is shown in appendix 3, *Drainage Area Map*. The system is designed to restrict the flow rate for the post-development site to improve the quality of the runoff as it exits the site (See Appendix 3, Drainage Area Map). The detention basin and

outlet structure was analyzed to satisfy these criteria. The 2-year, 5-year, 10-y 25-year, 50-yr, and 100-yr design storm events were also modeled with the results included in this report.

The Hydroflow Hydrographs computer program was used in this analysis in order to appropriately size the outlet structure and route the design storm events through the proposed detention system.

Methods and Assumptions

The Hydroflow Hydrographs computer program, was used for the hydrologic analysis in this report.

Within the Hydroflow Hydrographs program, the drainage area was characterized by sub-basin(s) for the fully built-out post-development conditions for the tributary area to the detention system. Modified Rational Method hydrology was used within Hydroflow Hydrographs program to characterize the sub-basin using appropriate curve numbers and times of concentration (Tc). A design rainfall values were taken from the Intensity – Duration - Frequency curves established at the NOAA Atlas 14 point precipitation frequency events from Mount Pleasant 2 SW 40-6340, and shown in Figure 2, Mt. Pleasant IDF Curve.

The detention basin was modeled by entering a stage-storage-discharge relationship into Hydroflow Hydrographs. The stage-discharge-volume relationship was established based upon trial & error methods comparing the pre & post development flow values.

Sub-Basin Identification

Sub-basins were established based on hydrologic characteristics and by hydraulic junction locations. The drainage area on site was represented by two sub-basins: *pre-development & post-development.*

The *pre-development* sub-basin is the total area tributary to the system in the undeveloped condition.

The *post-development* sub-basin is the total area tributary to the system in the developed condition.

Hydraulic Characteristics

The stage – storage - discharge relationship for the detention system can be found in Figure 3. These hydraulic characteristics were used in the Hydroflow Hydrographs model to produce the results identified in this report.

Summary of Discharge

The Detention Calculation summary, located in Appendix 2, identifies the peak flow for the design storm events for the areas draining through the site at pre development and post development rates. The Sub-basin locations and various HEC-HMS model components can be identified in Appendix 1, Hydroflow Hydrographs Summary.

Outlet Condition

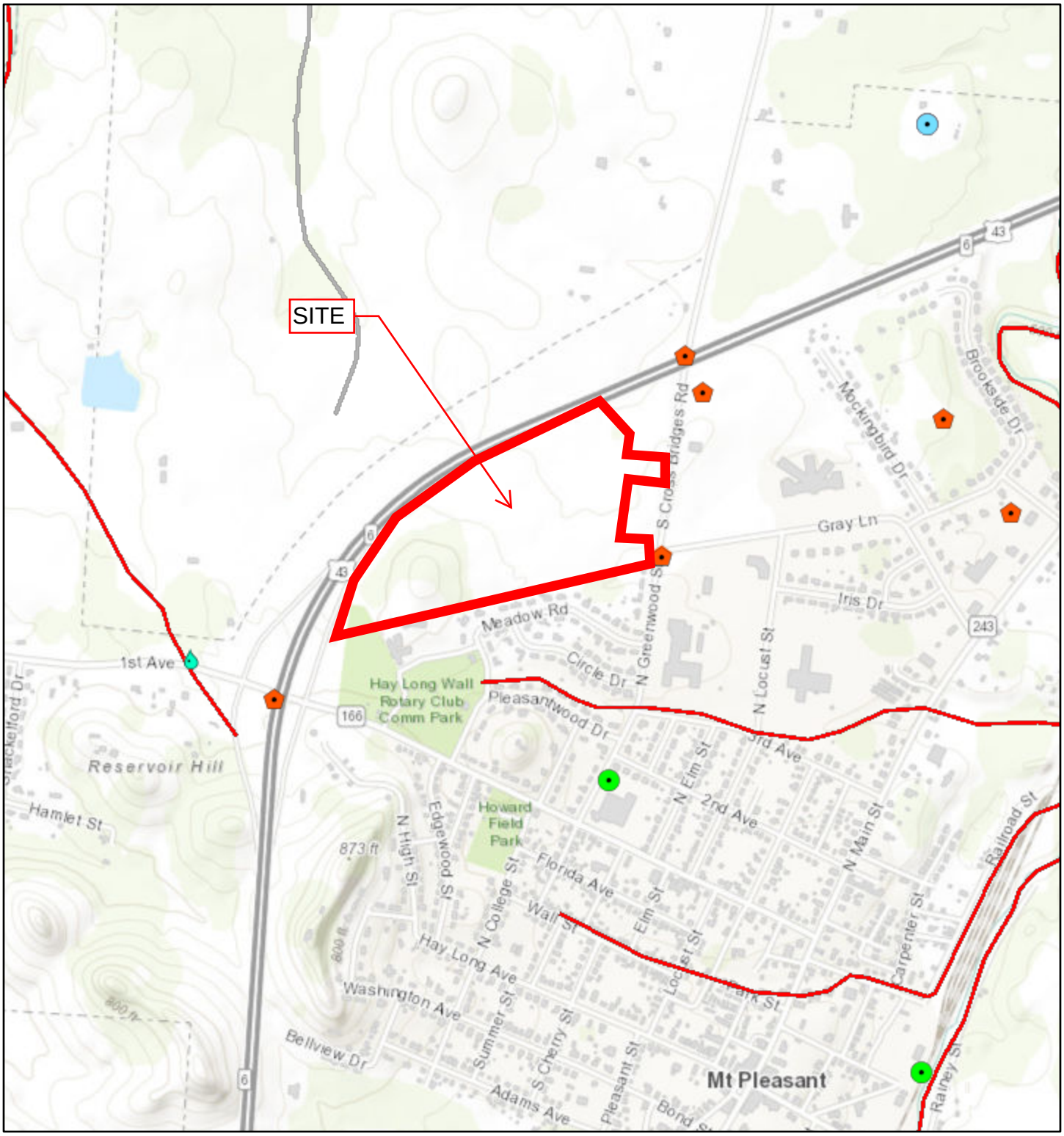
The Outlet Structure for the Detention Basin is designed to release the drainage at a rate below the pre-development rate. The structure restricts the storm water flow using a rectangular weir design with a drawdown orifice, restricting the flow until reaching the invert of the weir, then releasing the storm water runoff to an outlet pipe. The outlet structure will impede stormwater flow causing water to rise in the basins allowing suspended sediment to settle into the basins improving the quality of the runoff. Sediment is designed to drop and accumulate in the basins with access for removal of sediment from the surface. The system is designed to overflow across the emergency overflow for events in excess of the 100-year storm event and includes 1-foot of freeboard within the design. The top of the weir elevation of the outlet structure is greater than the design 100-year water surface elevation.

Conclusions

As can be seen in the summary, calculations and within Appendix 1, the drainage system provides the desired detention of the storm water runoff, using the design parameters in this report. Therefore, from the analysis presented in this report, the proposed system will improve the water quality of the runoff from the proposed development.

The post developed runoff from this site (100-year) has been ***reduced*** by **94.34** cfs by design.

ArcGIS Web Map



5/13/2025, 7:27:08 AM

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Counties

Water Quality Assessment Waterbodies

- Fully Supporting
- Not Assessed
- Not Supporting

Water Quality Assessment

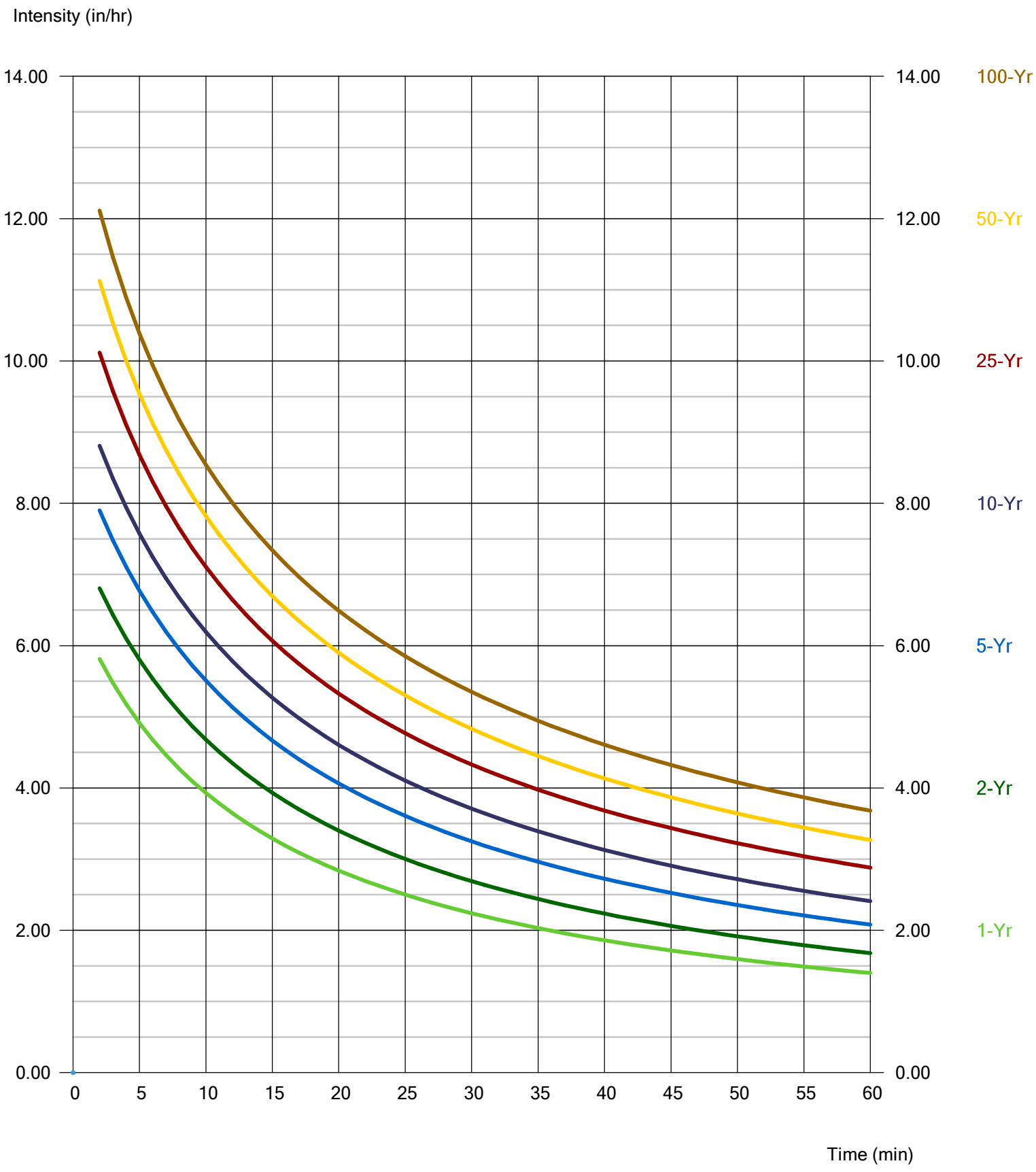
- Fully Supporting
- Fully Supporting (Evaluated)
- Not Assessed
- Not Supporting
- Not Supporting (Evaluated)

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Rich Cochran

ArcGIS Web AppBuilder
Rich Cochran | Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA |

Hydraflow IDF Curves

IDF file: Mt Pleasant.IDF



Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	92.02	119.57	-------	156.65	186.04	226.85	258.84	292.06	Existing Conditions Subbasin A
2	SCS Runoff	------	106.49	138.37	-------	181.28	215.28	262.52	299.53	337.98	Proposed Conditions Subbasin A
4	SCS Runoff	------	17.34	23.51	-------	32.00	38.84	48.44	56.02	63.93	Exsting Conditions Subbasin B
5	SCS Runoff	------	10.29	13.95	-------	18.99	23.05	28.74	33.24	37.94	Proposed Conditions Subbasin B
7	SCS Runoff	------	8.544	12.41	-------	17.94	22.60	29.30	34.67	40.34	Existing Conditions Subbasin C
8	SCS Runoff	------	5.587	7.804	-------	10.95	13.55	17.24	20.17	23.26	Proposed Conditions Subbasin C
11	SCS Runoff	------	59.02	73.88	-------	93.56	109.00	130.32	146.99	164.27	Stormsewer to Detention A
12	SCS Runoff	------	8.003	10.90	-------	14.90	18.12	22.65	26.22	29.96	Sheetflow to Detention A
13	Combine	11, 12	65.45	82.51	-------	105.43	123.53	148.58	168.19	188.54	Total to Detention A
14	Reservoir	13	2.137	4.783	-------	15.36	29.16	63.89	100.42	138.21	Outfall Detention A
16	SCS Runoff	------	19.54	24.74	-------	31.65	37.09	44.60	50.47	56.55	Stormsewer to Detention B
17	SCS Runoff	------	12.12	16.08	-------	21.46	25.76	31.75	36.47	41.37	Sheetflow to Detention B
18	Combine	16, 17	31.25	40.22	-------	52.27	61.87	75.24	85.72	96.61	Total to Detention B
19	Reservoir	18	4.654	13.87	-------	27.62	38.56	52.02	62.37	71.08	Outfall Detention B
21	SCS Runoff	------	24.67	33.69	-------	46.14	56.19	70.33	81.52	93.20	Bypass Subbasin A
23	Combine	14, 19, 21,	26.62	43.96	-------	71.54	94.30	126.13	177.75	249.57	Total Proposed Subbasin A
25	Combine	1, 4, 7,	115.01	151.09	-------	200.01	238.97	293.28	335.95	380.35	Total Existing Conditions
26	Combine	5, 8, 13,	129.99	169.10	-------	222.01	264.12	322.81	368.94	416.94	Total Proposed Conditions
27	Combine	18, 21, 5, 8, 23,	39.80	60.51	-------	95.26	123.16	160.75	207.20	286.01	Total Proposed Outfall

Pond Report

Pond No. 1 - Detention Pond A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 646.84 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	646.84	10	0	0
0.16	647.00	2,676	152	152
1.16	648.00	37,731	16,817	16,969
2.16	649.00	48,940	43,210	60,179
3.16	650.00	51,729	50,323	110,502
4.16	651.00	54,574	53,140	163,641
5.16	652.00	57,476	56,013	219,655
6.16	653.00	60,420	58,936	278,591
6.66	653.50	61,920	30,581	309,172

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 48.00	6.50	0.00	0.00
Span (in)	= 48.00	6.50	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 646.74	646.84	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 0.75	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

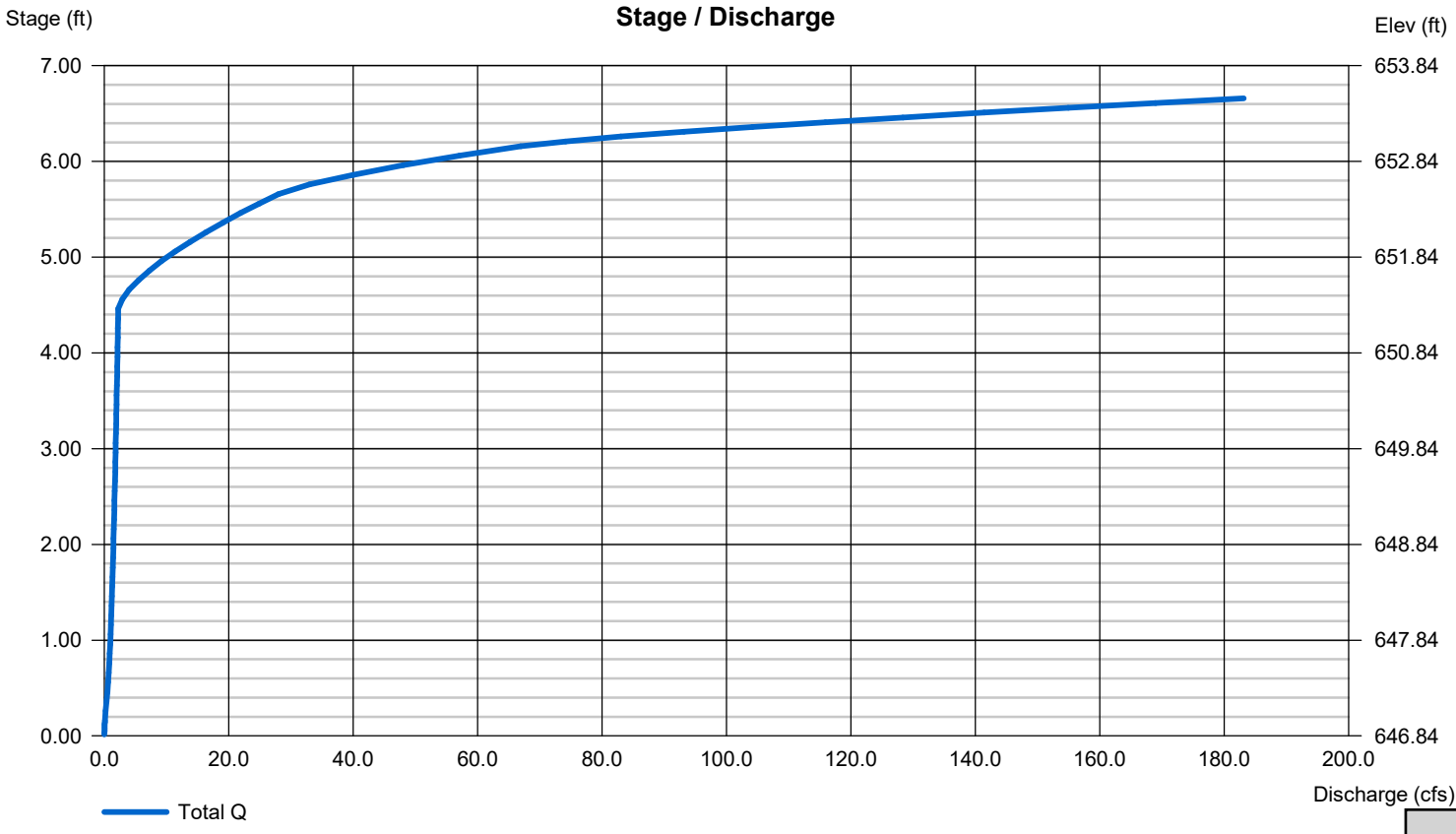
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 18.00	6.00	60.00	0.00
Crest El. (ft)	= 652.50	651.30	653.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Ciplti	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Pond No. 3 - Detention Pond B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 655.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	655.50	10	0	0
0.50	656.00	5,463	951	951
1.50	657.00	9,304	7,298	8,249
2.50	658.00	12,507	10,865	19,114
3.50	659.00	14,408	13,445	32,559
4.50	660.00	16,367	15,376	47,935
5.50	661.00	18,228	17,287	65,222
6.50	662.00	20,454	19,328	84,550
7.00	662.50	21,511	10,489	95,040

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 655.40	655.50	0.00	0.00
Length (ft)	= 30.43	0.00	0.00	0.00
Slope (%)	= 0.99	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

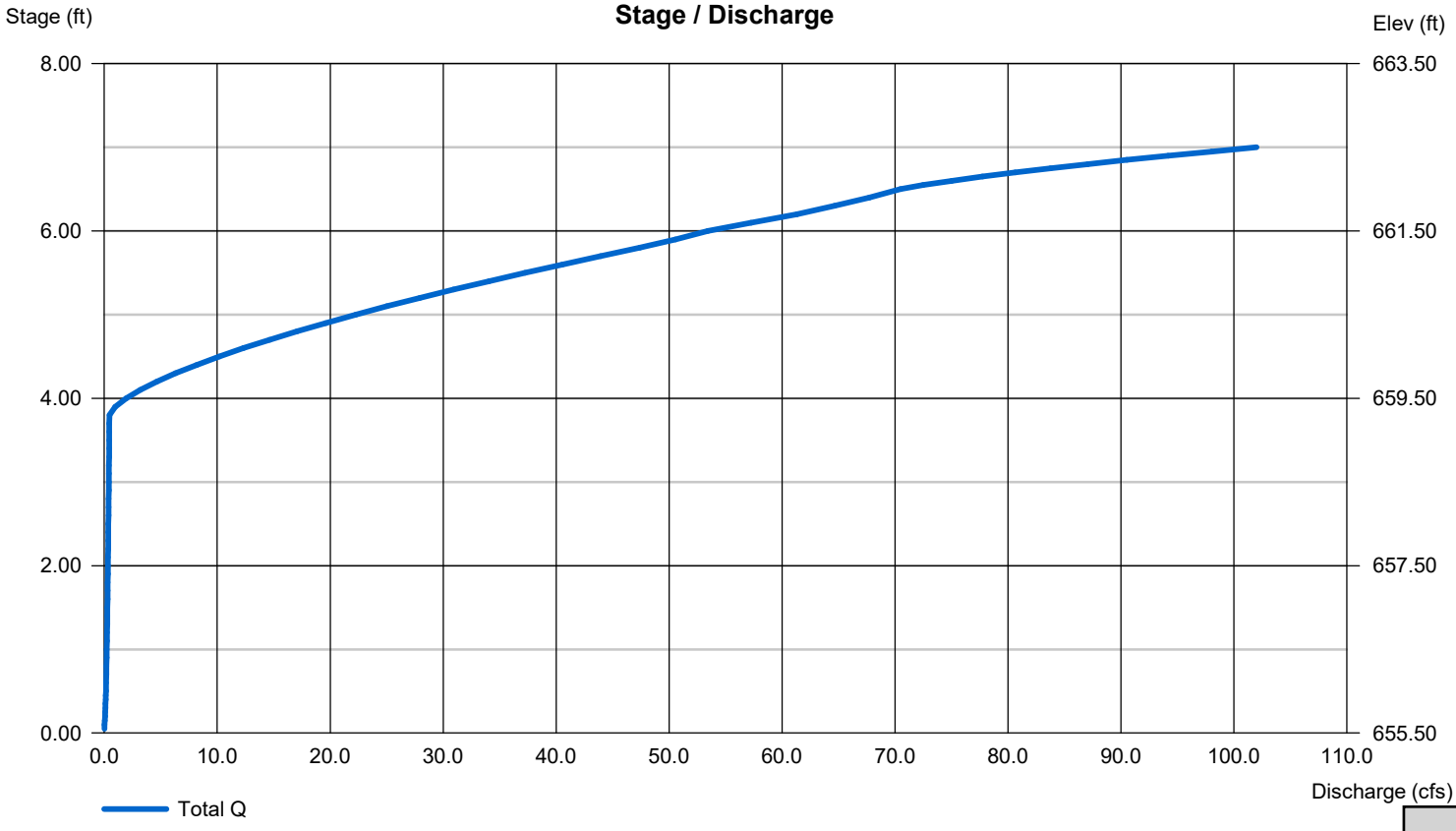
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	5.00	20.00	0.00
Crest El. (ft)	= 661.50	659.30	662.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Ciplti	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

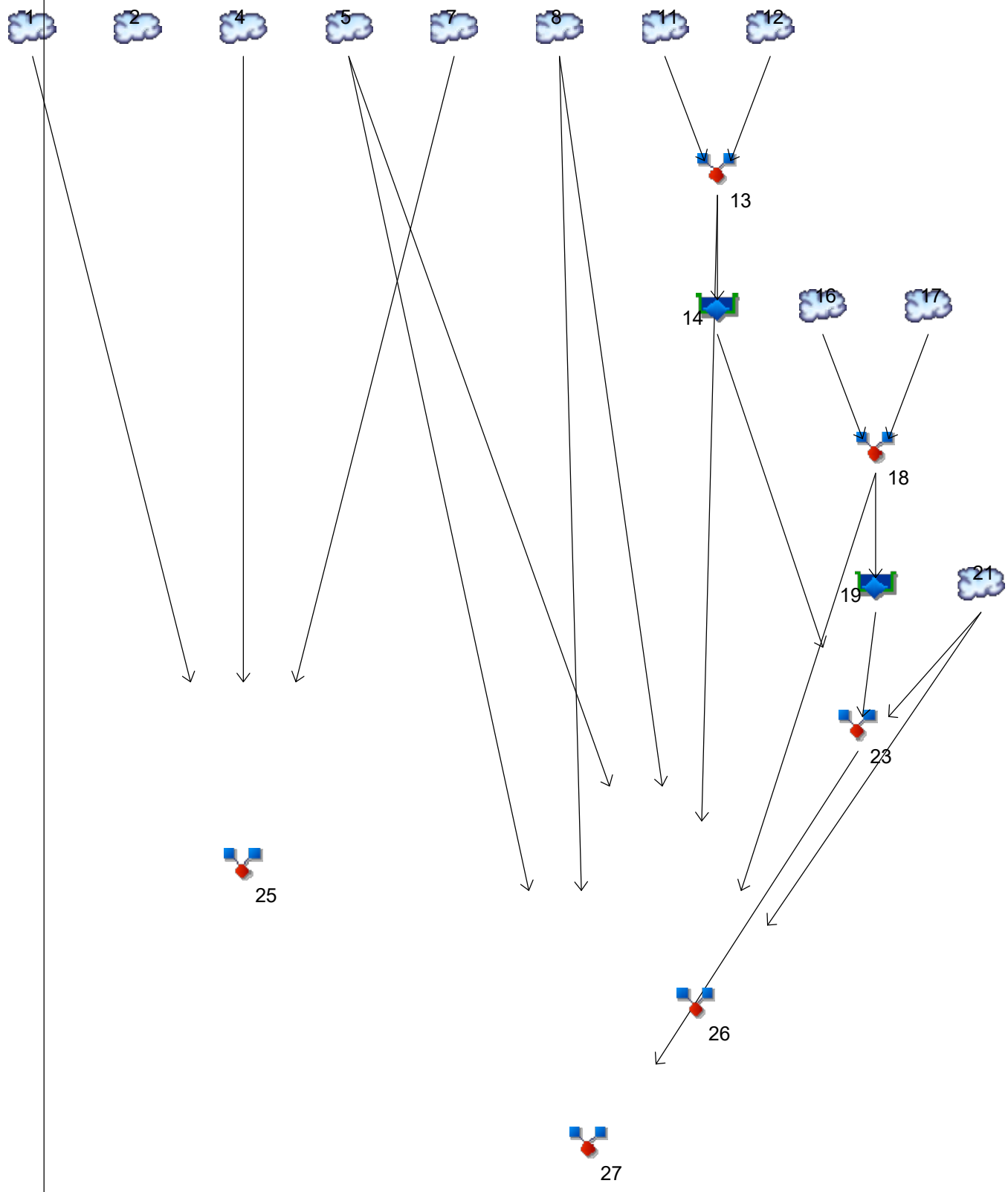
Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Appendix 1

Hydroflow Hydrographs
Model Output
Summary

Watershed Model Schematic



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	92.02	2	728	337,610	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	106.49	2	728	390,687	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	17.34	2	728	64,371	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	10.29	2	728	38,200	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	8.544	2	722	22,940	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	5.587	2	720	12,829	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	59.02	2	728	219,012	------	------	------	Stormsewer to Detention A
12	SCS Runoff	8.003	2	722	22,604	------	------	------	Sheetflow to Detention A
13	Combine	65.45	2	728	241,615	11, 12	------	------	Total to Detention A
14	Reservoir	2.137	2	972	241,600	13	650.96	161,334	Outfall Detention A
16	SCS Runoff	19.54	2	720	51,184	------	------	------	Stormsewer to Detention B
17	SCS Runoff	12.12	2	722	33,988	------	------	------	Sheetflow to Detention B
18	Combine	31.25	2	722	85,171	16, 17	------	------	Total to Detention B
19	Reservoir	4.654	2	744	85,154	18	659.70	43,324	Outfall Detention B
21	SCS Runoff	24.67	2	724	78,067	------	------	------	Bypass Subbasin A
23	Combine	26.62	2	724	404,820	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	115.01	2	728	424,922	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	129.99	2	724	455,882	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	39.80	2	724	455,849	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	119.57	2	728	439,310	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	138.37	2	728	508,375	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	23.51	2	728	86,501	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	13.95	2	728	51,333	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	12.41	2	722	32,705	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	7.804	2	720	17,861	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	73.88	2	728	276,452	------	------	------	Stormsewer to Detention A
12	SCS Runoff	10.90	2	722	30,581	------	------	------	Sheetflow to Detention A
13	Combine	82.51	2	728	307,033	11, 12	------	------	Total to Detention A
14	Reservoir	4.783	2	838	307,017	13	651.55	194,622	Outfall Detention A
16	SCS Runoff	24.74	2	720	65,389	------	------	------	Stormsewer to Detention B
17	SCS Runoff	16.08	2	722	45,075	------	------	------	Sheetflow to Detention B
18	Combine	40.22	2	722	110,464	16, 17	------	------	Total to Detention B
19	Reservoir	13.87	2	734	110,447	18	660.17	50,817	Outfall Detention B
21	SCS Runoff	33.69	2	724	105,618	------	------	------	Bypass Subbasin A
23	Combine	43.96	2	728	523,082	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	151.09	2	728	558,516	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	169.10	2	724	592,309	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	60.51	2	728	592,276	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	156.65	2	728	578,560	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	181.28	2	728	669,516	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	32.00	2	728	117,398	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	18.99	2	728	69,668	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	17.94	2	720	46,857	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	10.95	2	718	25,047	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	93.56	2	728	353,853	------	------	------	Stormsewer to Detention A
12	SCS Runoff	14.90	2	722	41,766	------	------	------	Sheetflow to Detention A
13	Combine	105.43	2	726	395,619	11, 12	------	------	Total to Detention A
14	Reservoir	15.36	2	762	395,603	13	652.06	223,348	Outfall Detention A
16	SCS Runoff	31.65	2	720	84,645	------	------	------	Stormsewer to Detention B
17	SCS Runoff	21.46	2	722	60,428	------	------	------	Sheetflow to Detention B
18	Combine	52.27	2	722	145,073	16, 17	------	------	Total to Detention B
19	Reservoir	27.62	2	730	145,056	18	660.69	59,852	Outfall Detention B
21	SCS Runoff	46.14	2	724	144,247	------	------	------	Bypass Subbasin A
23	Combine	71.54	2	726	684,905	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	200.01	2	728	742,815	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	222.01	2	724	779,654	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	95.26	2	726	779,620	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	186.04	2	728	690,602	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	215.28	2	728	799,173	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	38.84	2	728	142,603	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	23.05	2	728	84,625	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	22.60	2	720	58,719	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	13.55	2	718	31,004	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	109.00	2	728	415,447	------	------	------	Stormsewer to Detention A
12	SCS Runoff	18.12	2	722	50,919	------	------	------	Sheetflow to Detention A
13	Combine	123.53	2	726	466,366	11, 12	------	------	Total to Detention A
14	Reservoir	29.16	2	752	466,349	13	652.52	250,507	Outfall Detention A
16	SCS Runoff	37.09	2	720	100,030	------	------	------	Stormsewer to Detention B
17	SCS Runoff	25.76	2	722	72,881	------	------	------	Sheetflow to Detention B
18	Combine	61.87	2	720	172,910	16, 17	------	------	Total to Detention B
19	Reservoir	38.56	2	728	172,893	18	661.04	65,990	Outfall Detention B
21	SCS Runoff	56.19	2	724	175,857	------	------	------	Bypass Subbasin A
23	Combine	94.30	2	726	815,099	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	238.97	2	728	891,923	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	264.12	2	724	930,762	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	123.16	2	726	930,728	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	226.85	2	728	848,389	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	262.52	2	728	981,765	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	48.44	2	728	178,463	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	28.74	2	728	105,906	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	29.30	2	720	75,944	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	17.24	2	718	39,584	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	130.32	2	728	501,503	------	------	------	Stormsewer to Detention A
12	SCS Runoff	22.65	2	722	63,970	------	------	------	Sheetflow to Detention A
13	Combine	148.58	2	726	565,474	11, 12	------	------	Total to Detention A
14	Reservoir	63.89	2	744	565,458	13	652.97	276,777	Outfall Detention A
16	SCS Runoff	44.60	2	720	121,587	------	------	------	Stormsewer to Detention B
17	SCS Runoff	31.75	2	722	90,521	------	------	------	Sheetflow to Detention B
18	Combine	75.24	2	720	212,107	16, 17	------	------	Total to Detention B
19	Reservoir	52.02	2	728	212,090	18	661.45	73,929	Outfall Detention B
21	SCS Runoff	70.33	2	724	220,932	------	------	------	Bypass Subbasin A
23	Combine	126.13	2	728	998,481	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	293.28	2	728	1,102,796	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	322.81	2	724	1,144,003	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	160.75	2	726	1,143,968	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	258.84	2	728	973,575	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	299.53	2	728	1,126,632	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	56.02	2	728	207,138	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	33.24	2	728	122,923	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	34.67	2	720	89,940	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	20.17	2	718	46,510	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	146.99	2	728	569,374	------	------	------	Stormsewer to Detention A
12	SCS Runoff	26.22	2	722	74,424	------	------	------	Sheetflow to Detention A
13	Combine	168.19	2	726	643,798	11, 12	------	------	Total to Detention A
14	Reservoir	100.42	2	740	643,782	13	653.18	289,787	Outfall Detention A
16	SCS Runoff	50.47	2	720	138,625	------	------	------	Stormsewer to Detention B
17	SCS Runoff	36.47	2	722	104,579	------	------	------	Sheetflow to Detention B
18	Combine	85.72	2	720	243,204	16, 17	------	------	Total to Detention B
19	Reservoir	62.37	2	728	243,187	18	661.73	79,366	Outfall Detention B
21	SCS Runoff	81.52	2	724	257,039	------	------	------	Bypass Subbasin A
23	Combine	177.75	2	736	1,144,008	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	335.95	2	728	1,270,653	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	368.94	2	724	1,313,476	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	207.20	2	736	1,313,440	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	292.06	2	728	1,104,821	------	------	------	Existing Conditions Subbasin A
2	SCS Runoff	337.98	2	728	1,278,511	------	------	------	Proposed Conditions Subbasin A
4	SCS Runoff	63.93	2	728	237,361	------	------	------	Exsting Conditions Subbasin B
5	SCS Runoff	37.94	2	728	140,858	------	------	------	Proposed Conditions Subbasin B
7	SCS Runoff	40.34	2	720	104,856	------	------	------	Existing Conditions Subbasin C
8	SCS Runoff	23.26	2	718	53,858	------	------	------	Proposed Conditions Subbasin C
11	SCS Runoff	164.27	2	728	640,251	------	------	------	Stormsewer to Detention A
12	SCS Runoff	29.96	2	722	85,457	------	------	------	Sheetflow to Detention A
13	Combine	188.54	2	726	725,708	11, 12	------	------	Total to Detention A
14	Reservoir	138.21	2	736	725,692	13	653.34	299,251	Outfall Detention A
16	SCS Runoff	56.55	2	720	156,443	------	------	------	Stormsewer to Detention B
17	SCS Runoff	41.37	2	722	119,362	------	------	------	Sheetflow to Detention B
18	Combine	96.61	2	720	275,805	16, 17	------	------	Total to Detention B
19	Reservoir	71.08	2	726	275,788	18	662.01	84,860	Outfall Detention B
21	SCS Runoff	93.20	2	724	295,141	------	------	------	Bypass Subbasin A
23	Combine	249.57	2	734	1,296,621	14, 19, 21,	------	------	Total Proposed Subbasin A
25	Combine	380.35	2	728	1,447,038	1, 4, 7,	------	------	Total Existing Conditions
26	Combine	416.94	2	724	1,491,369	5, 8, 13,	------	------	Total Proposed Conditions
27	Combine	286.01	2	734	1,491,336	18, 21, 5, 8, 23,	------	------	Total Proposed Outfall

Hydrograph Report

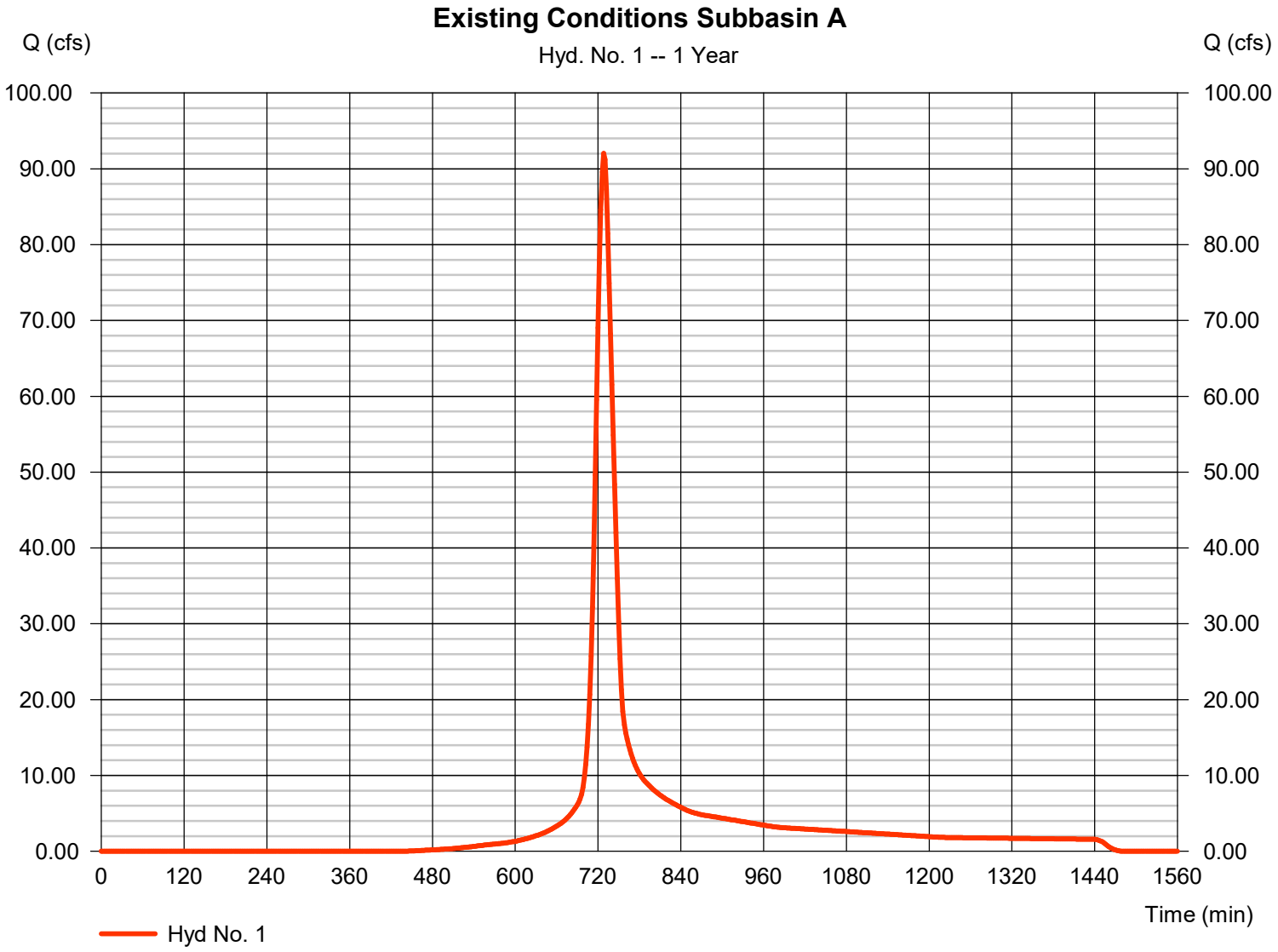
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 92.02 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 337,610 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



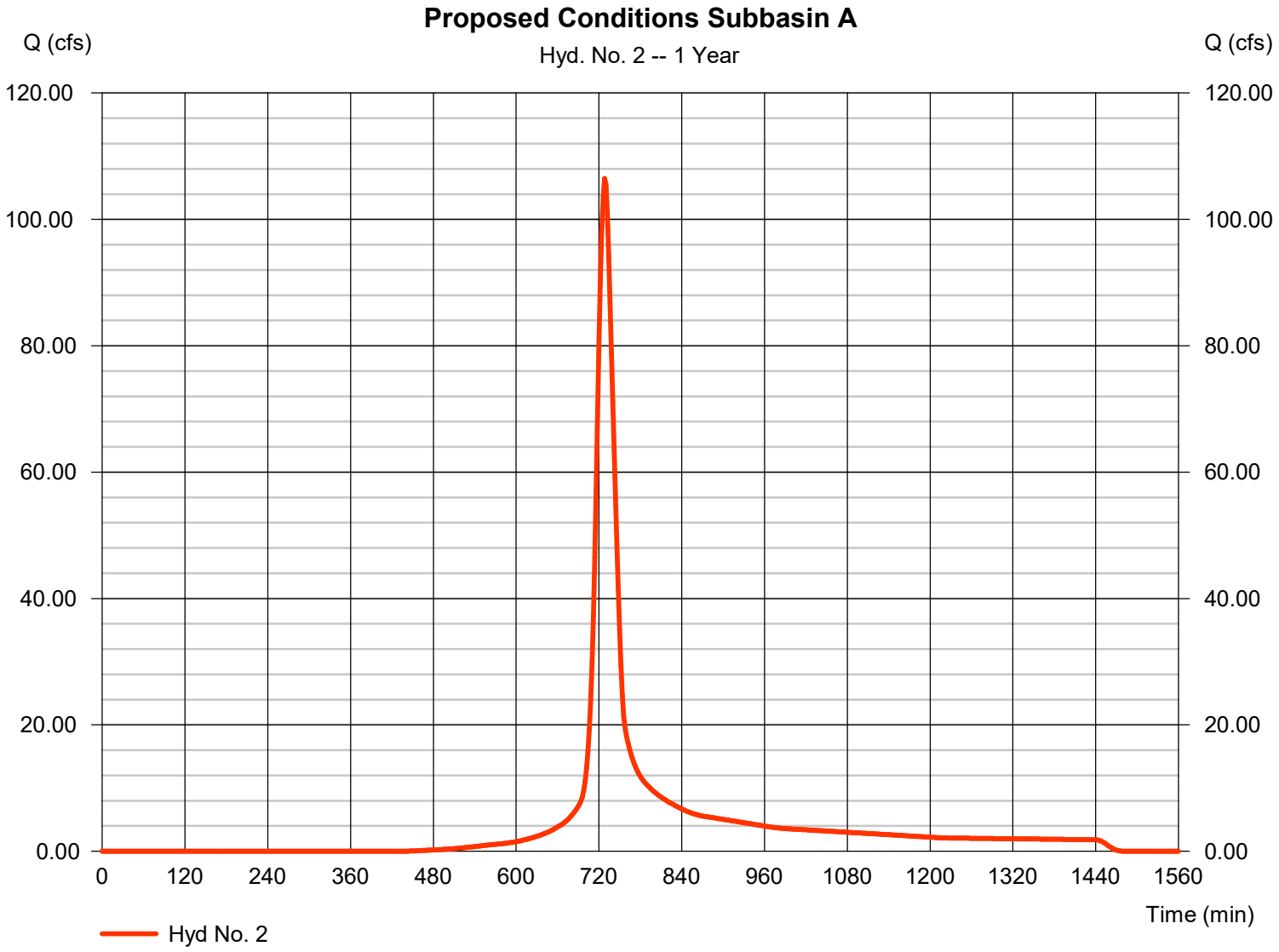
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 106.49 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 390,687 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



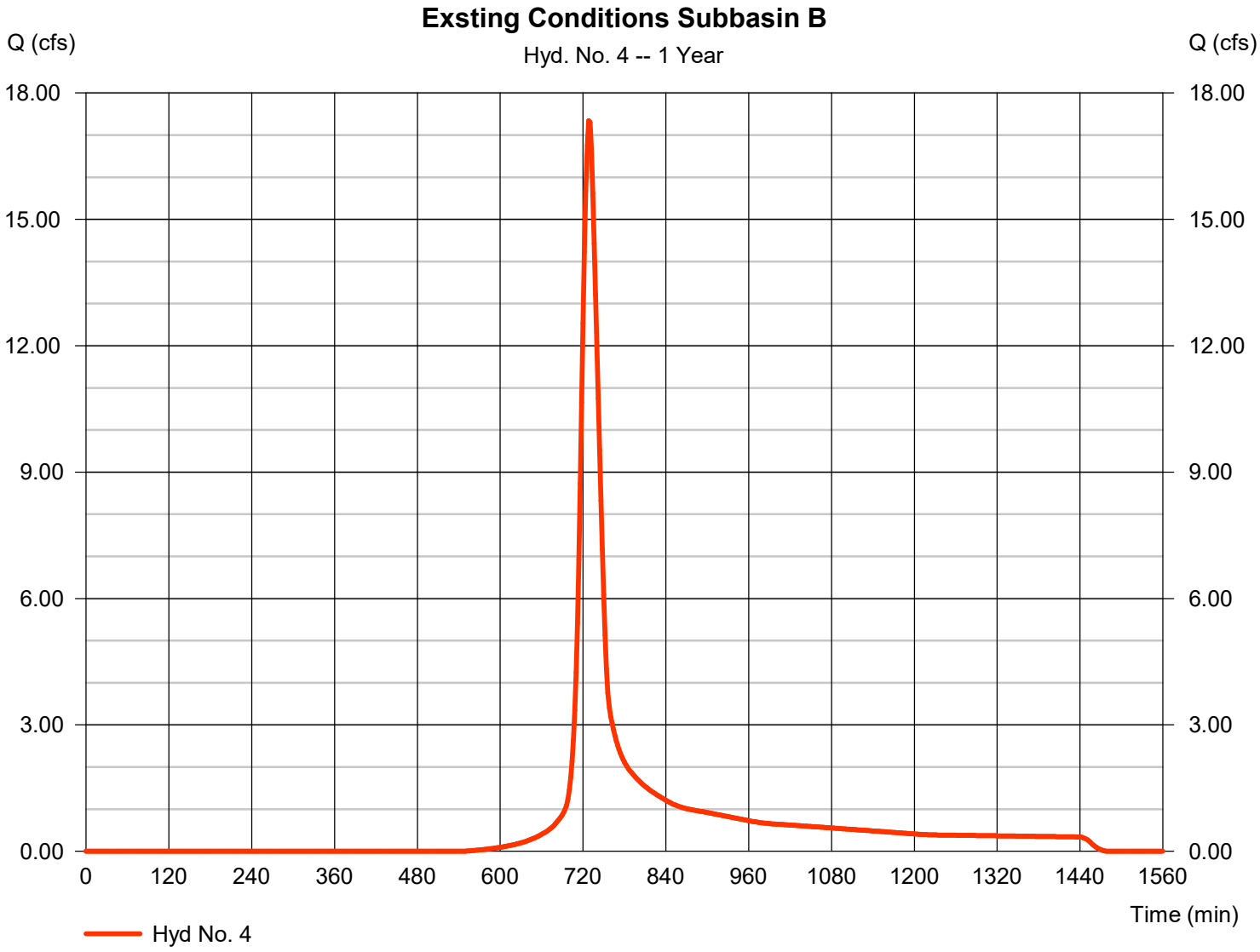
Hydrograph Report

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 17.34 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 64,371 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



Hydrograph Report

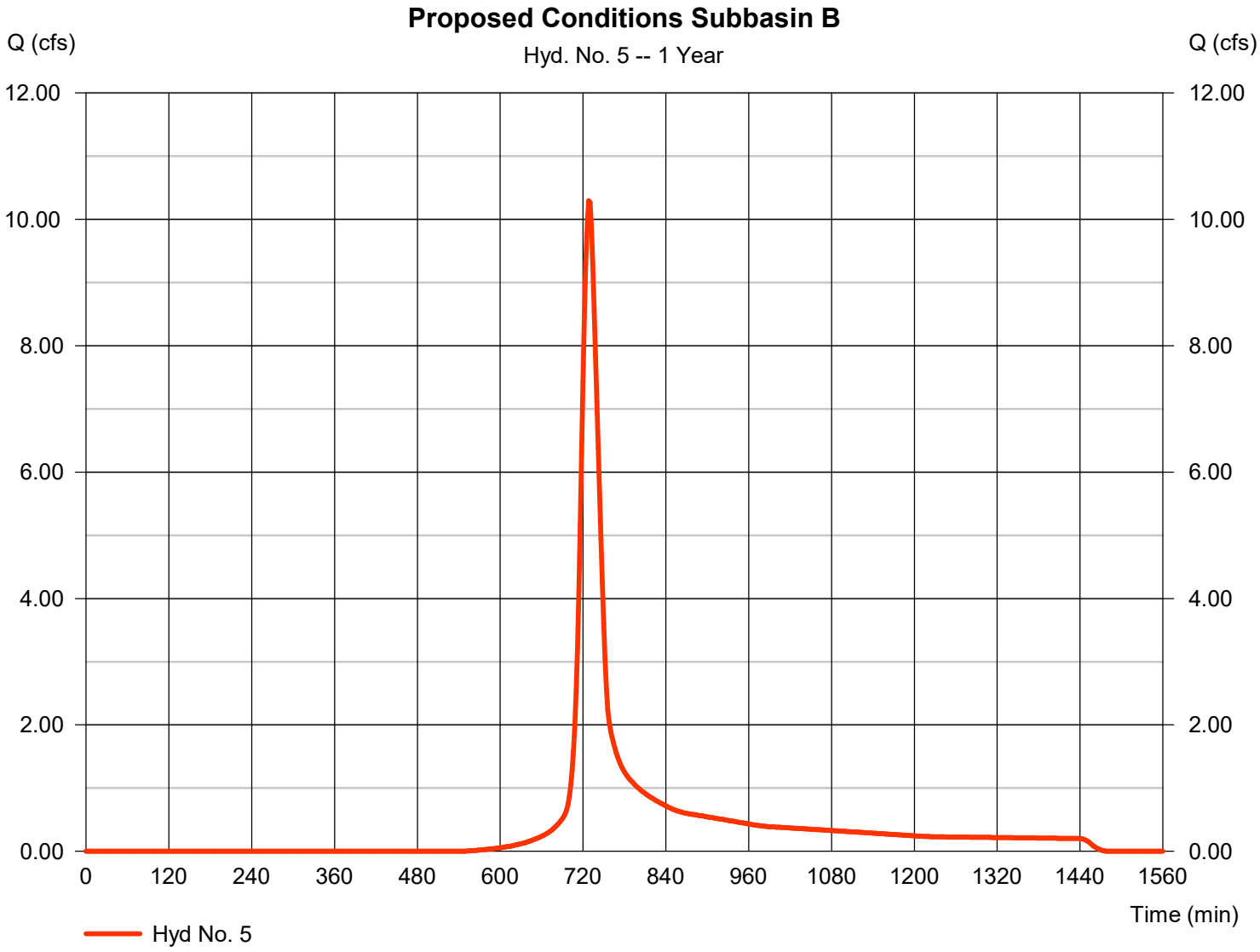
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 10.29 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 38,200 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

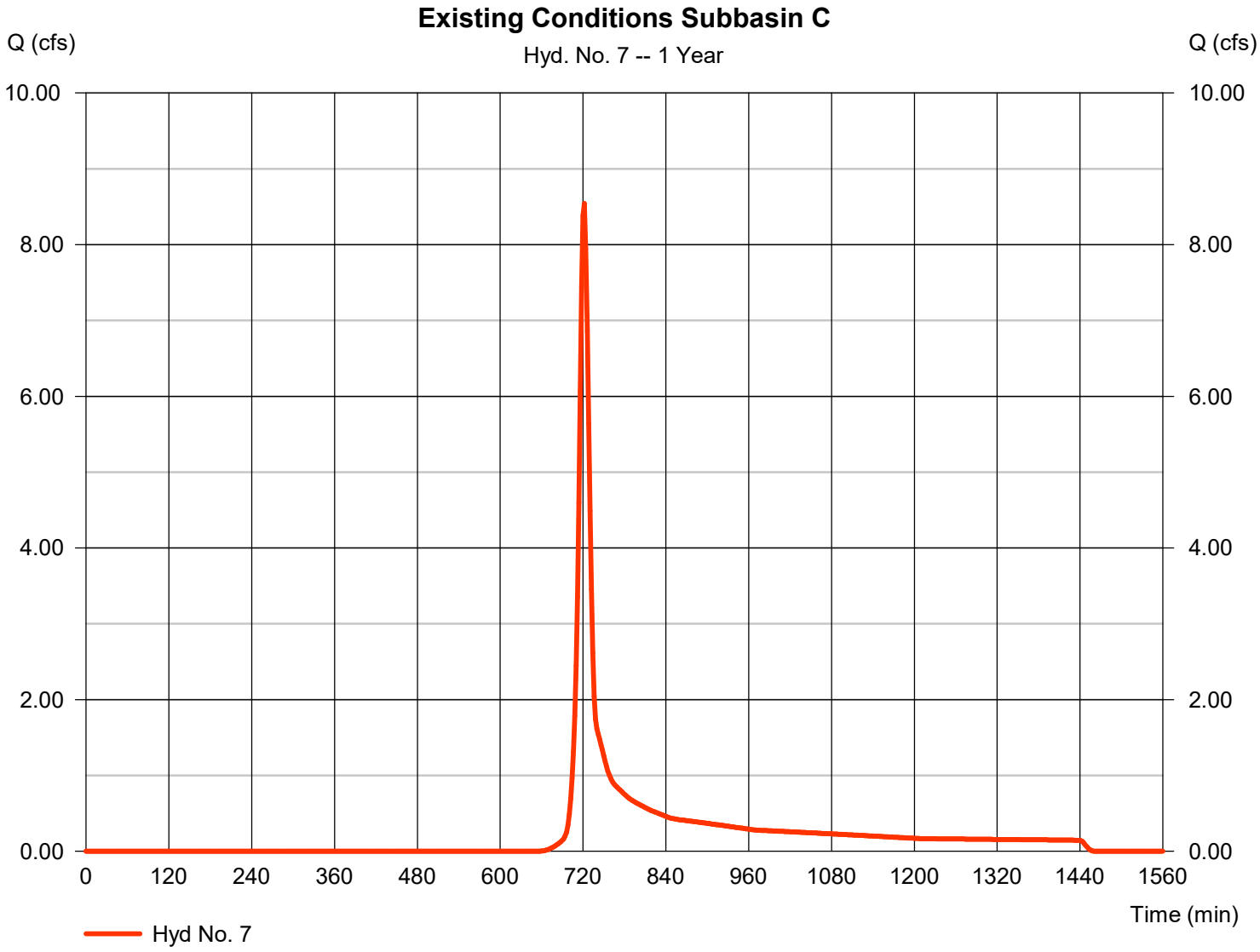
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 8.544 cfs
Storm frequency	= 1 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 22,940 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



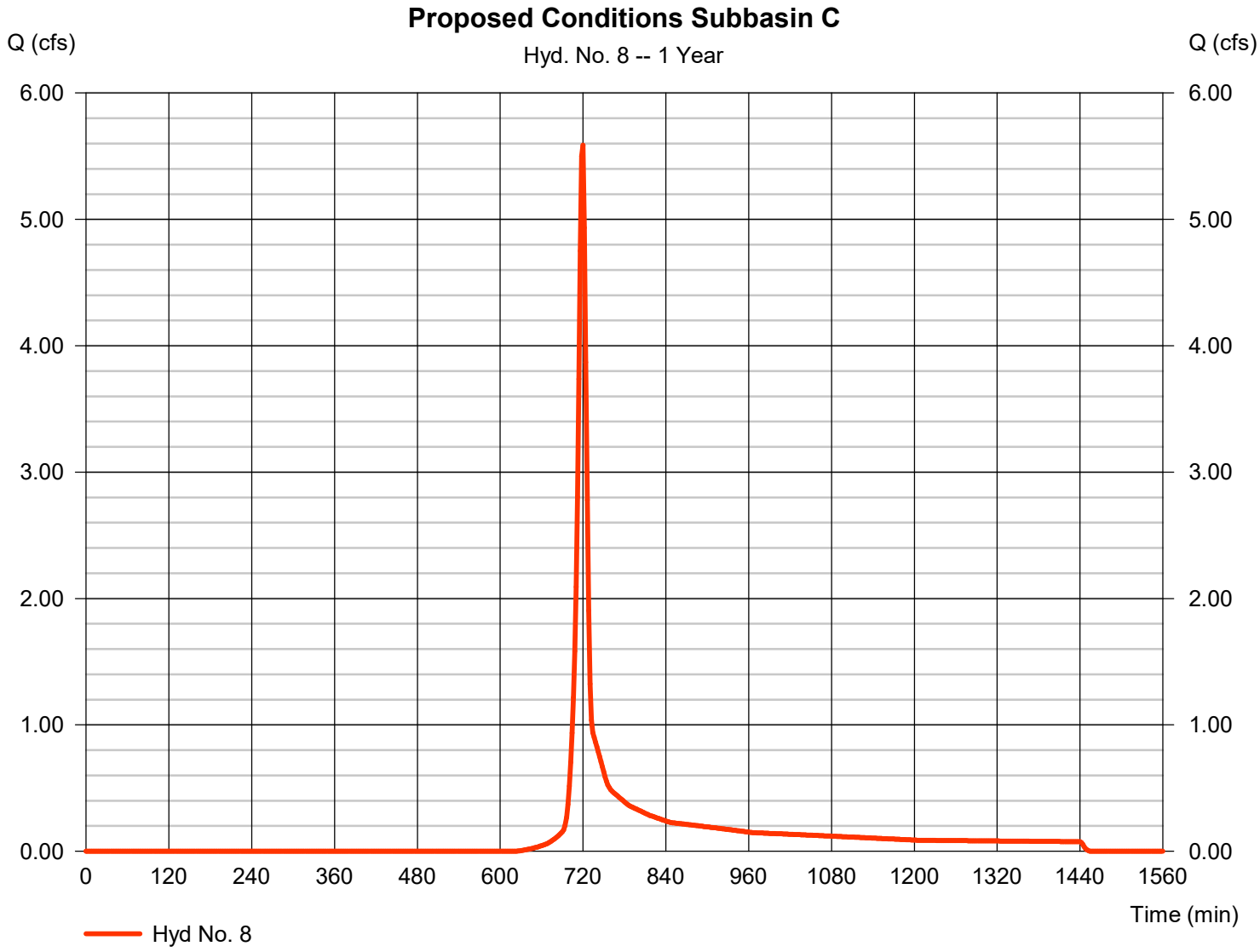
Hydrograph Report

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 5.587 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 12,829 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



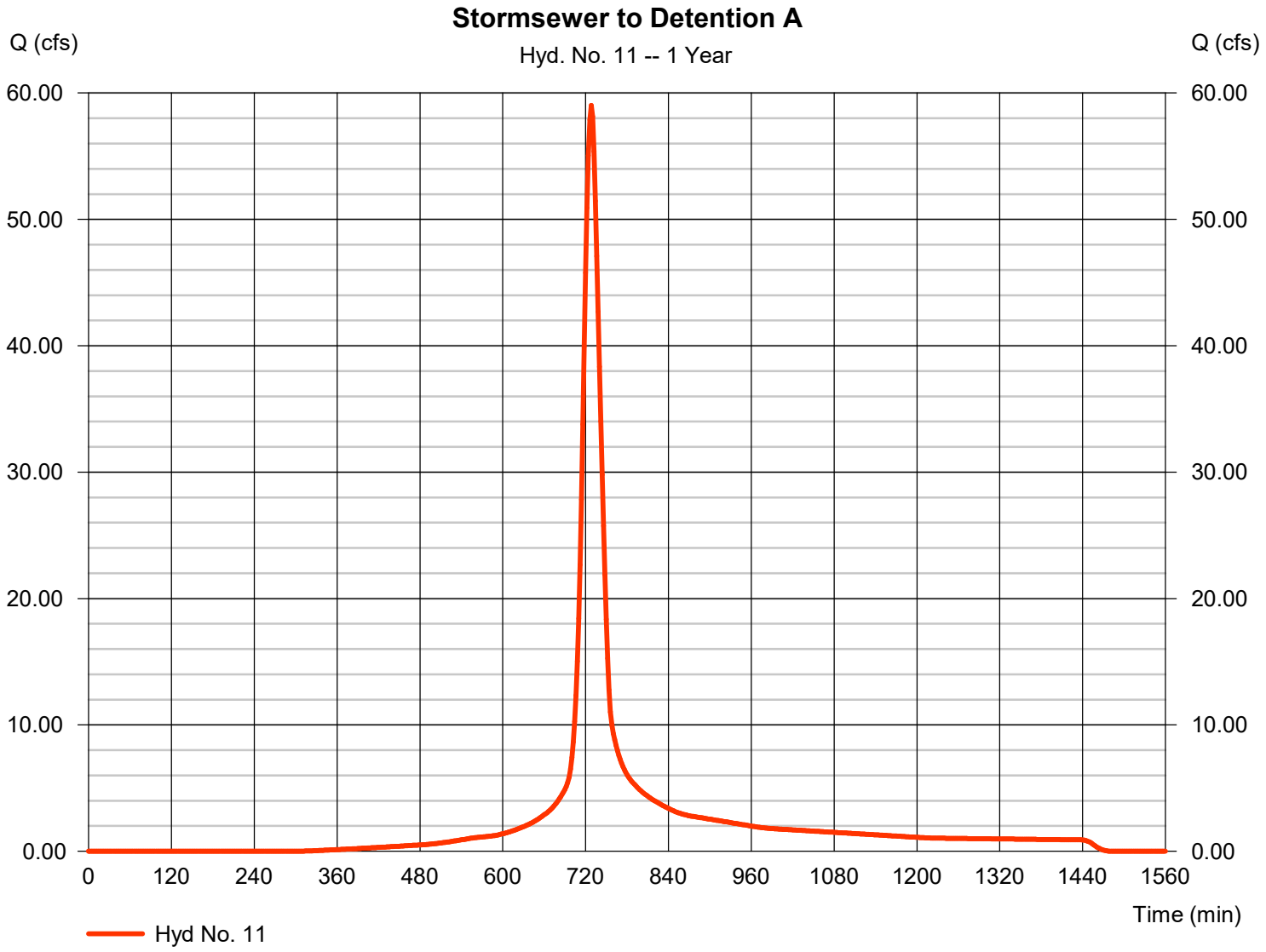
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 59.02 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 219,012 cuft
Drainage area	= 26.480 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.70 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



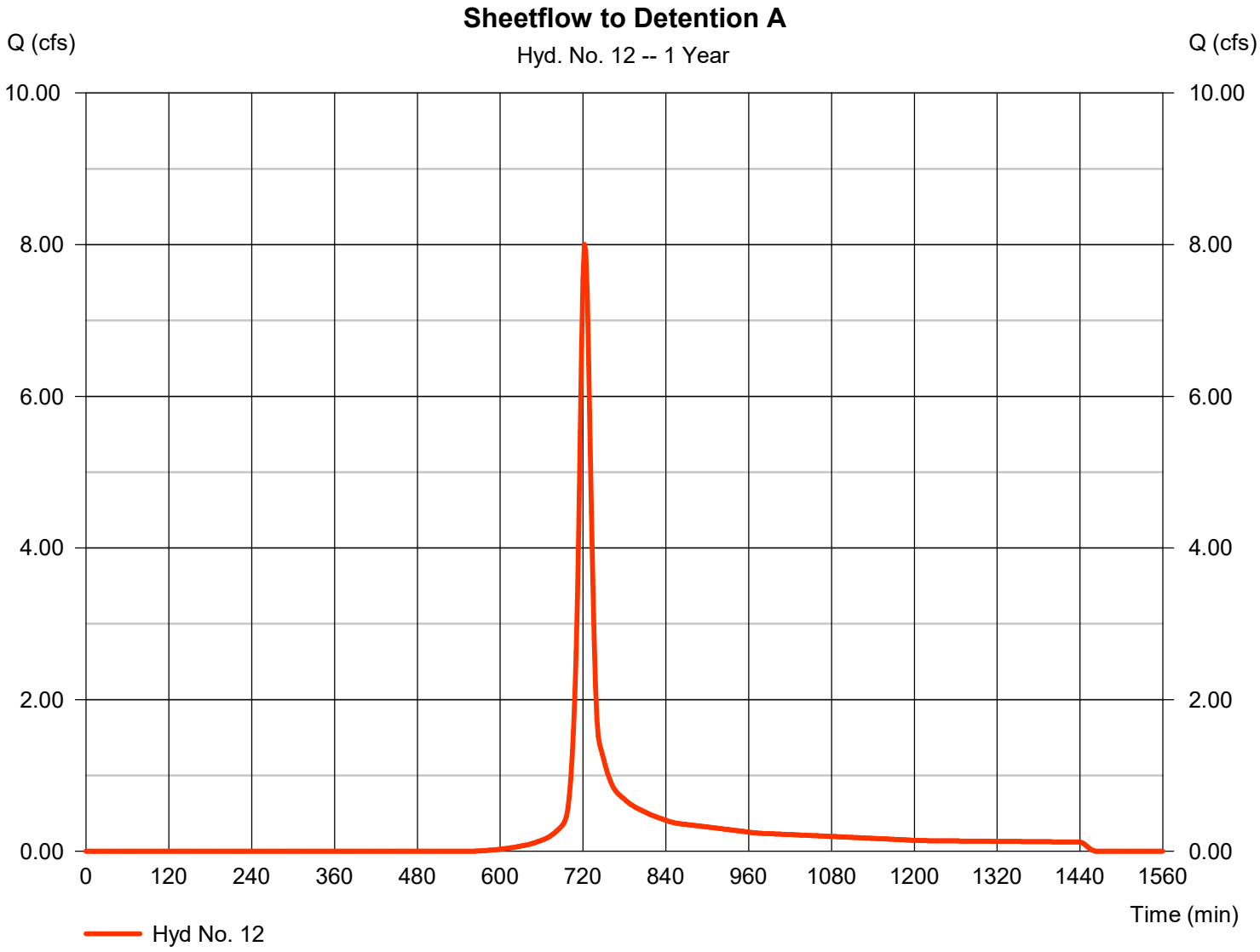
Hydrograph Report

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 8.003 cfs
Storm frequency	= 1 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 22,604 cuft
Drainage area	= 4.410 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 14.90 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

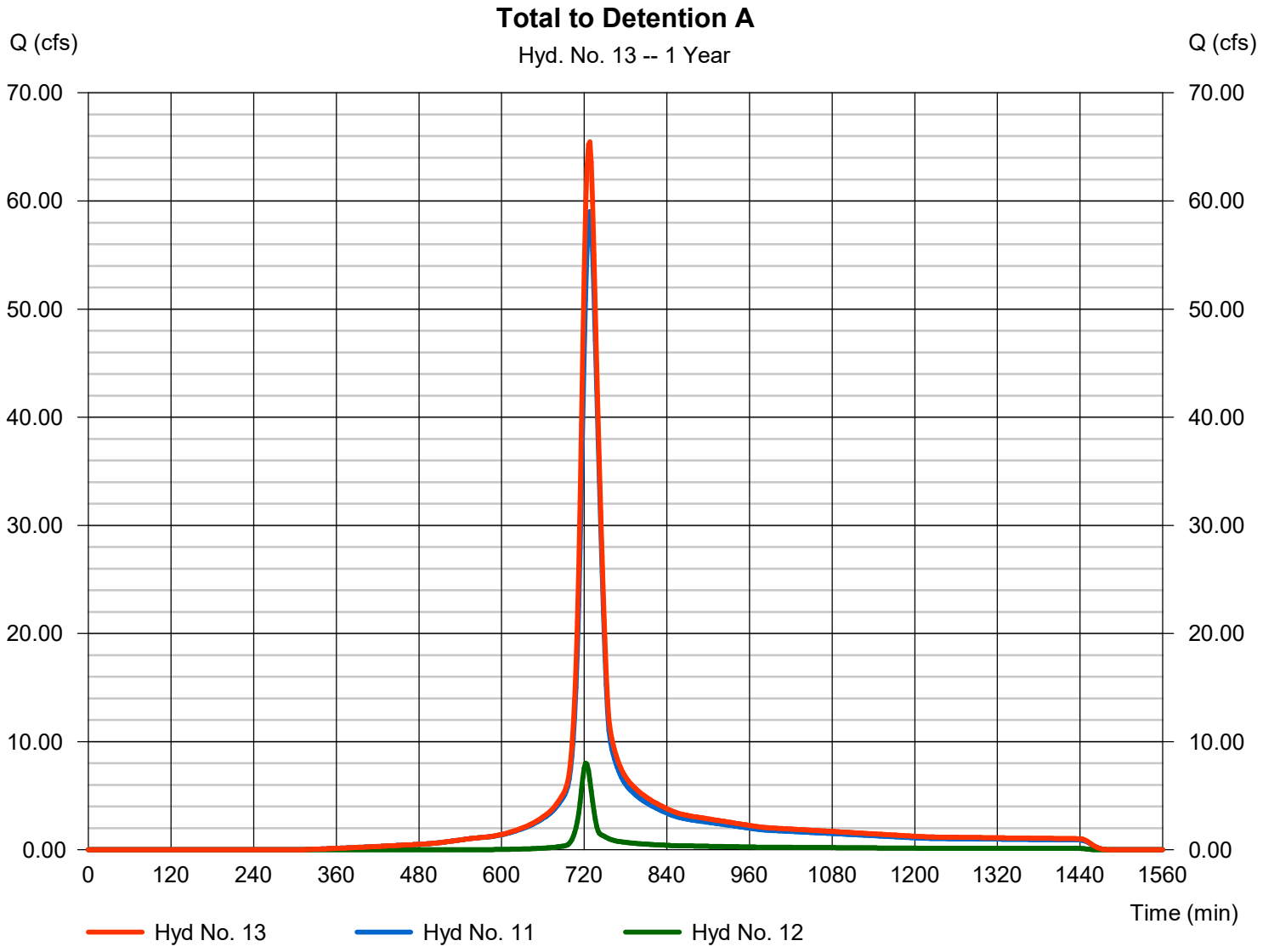


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 65.45 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 241,615 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



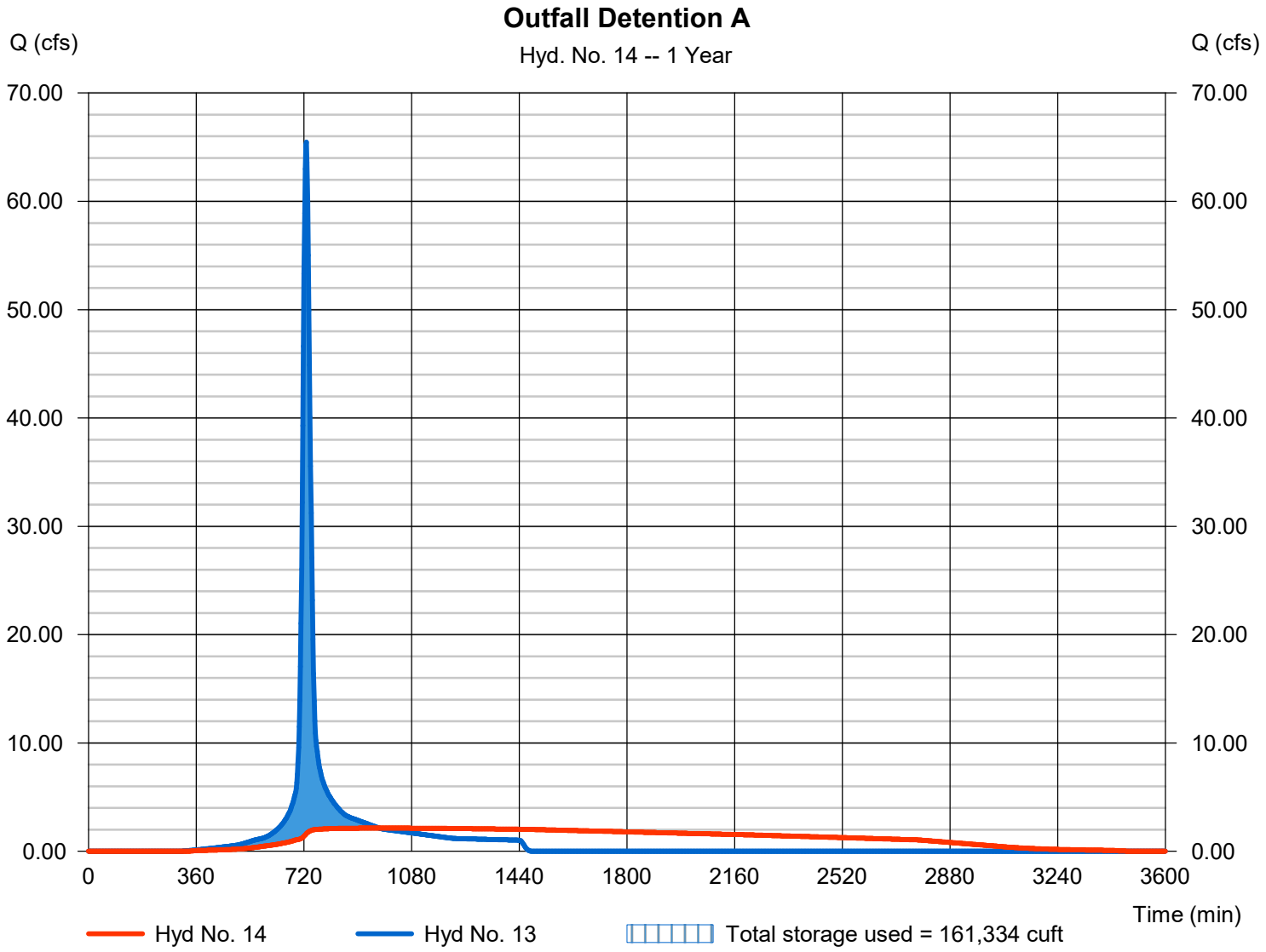
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	2.137 cfs
Storm frequency	=	1 yrs	Time to peak	=	972 min
Time interval	=	2 min	Hyd. volume	=	241,600 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	650.96 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	161,334 cuft

Storage Indication method used.



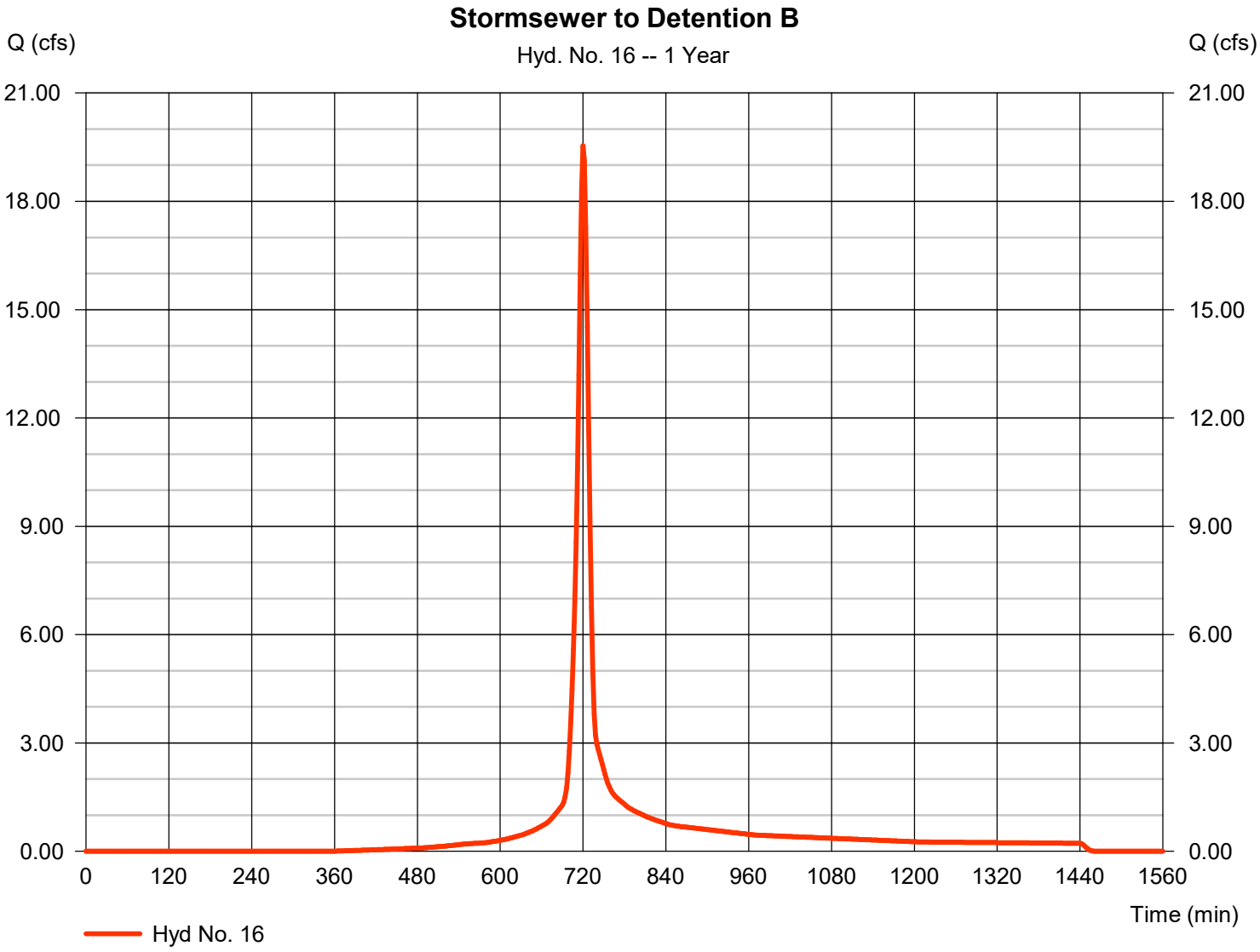
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	19.54 cfs
Storm frequency	=	1 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	51,184 cuft
Drainage area	=	6.400 ac	Curve number	=	89*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.20 min
Total precip.	=	3.26 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



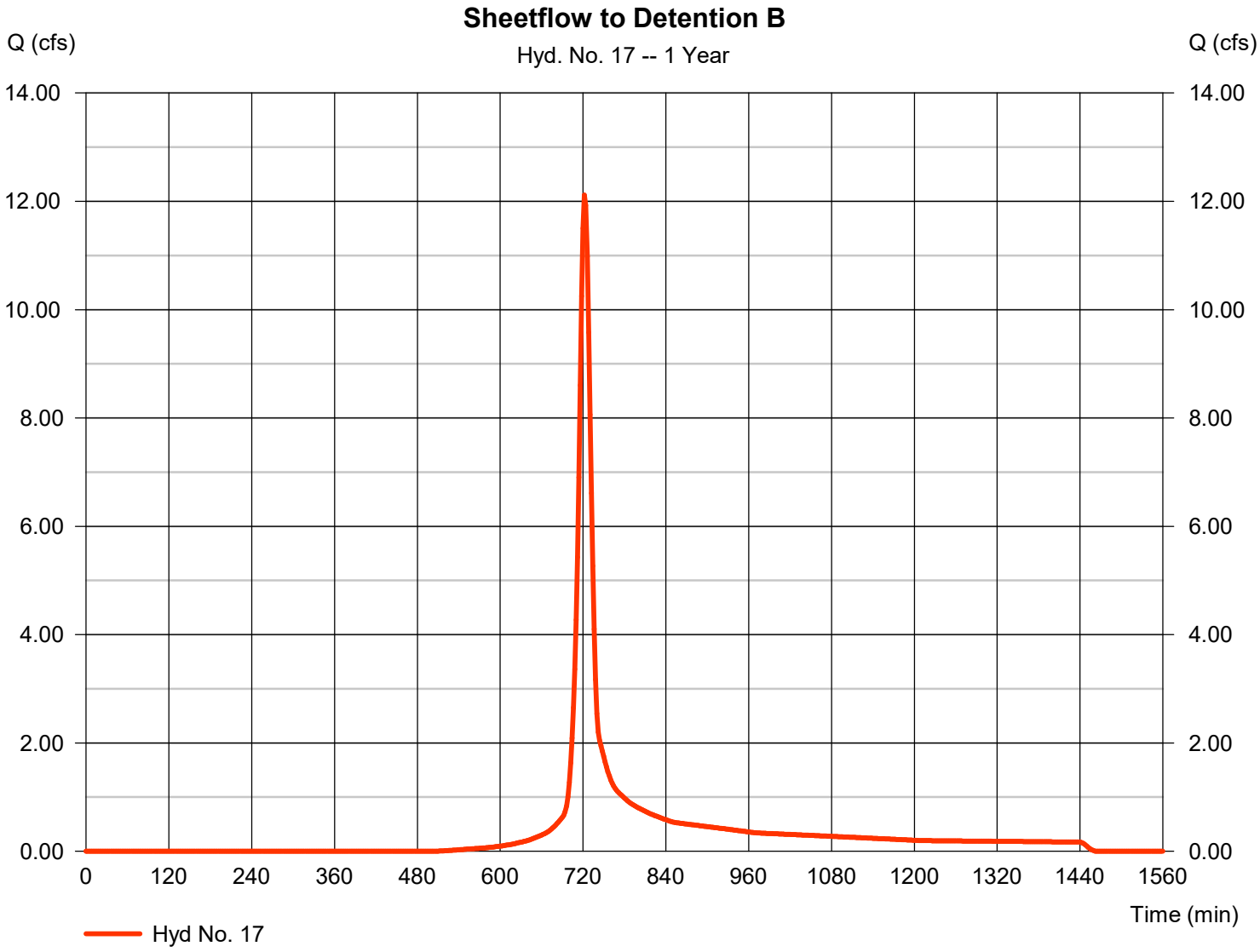
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 12.12 cfs
Storm frequency	= 1 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 33,988 cuft
Drainage area	= 5.790 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 13.80 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

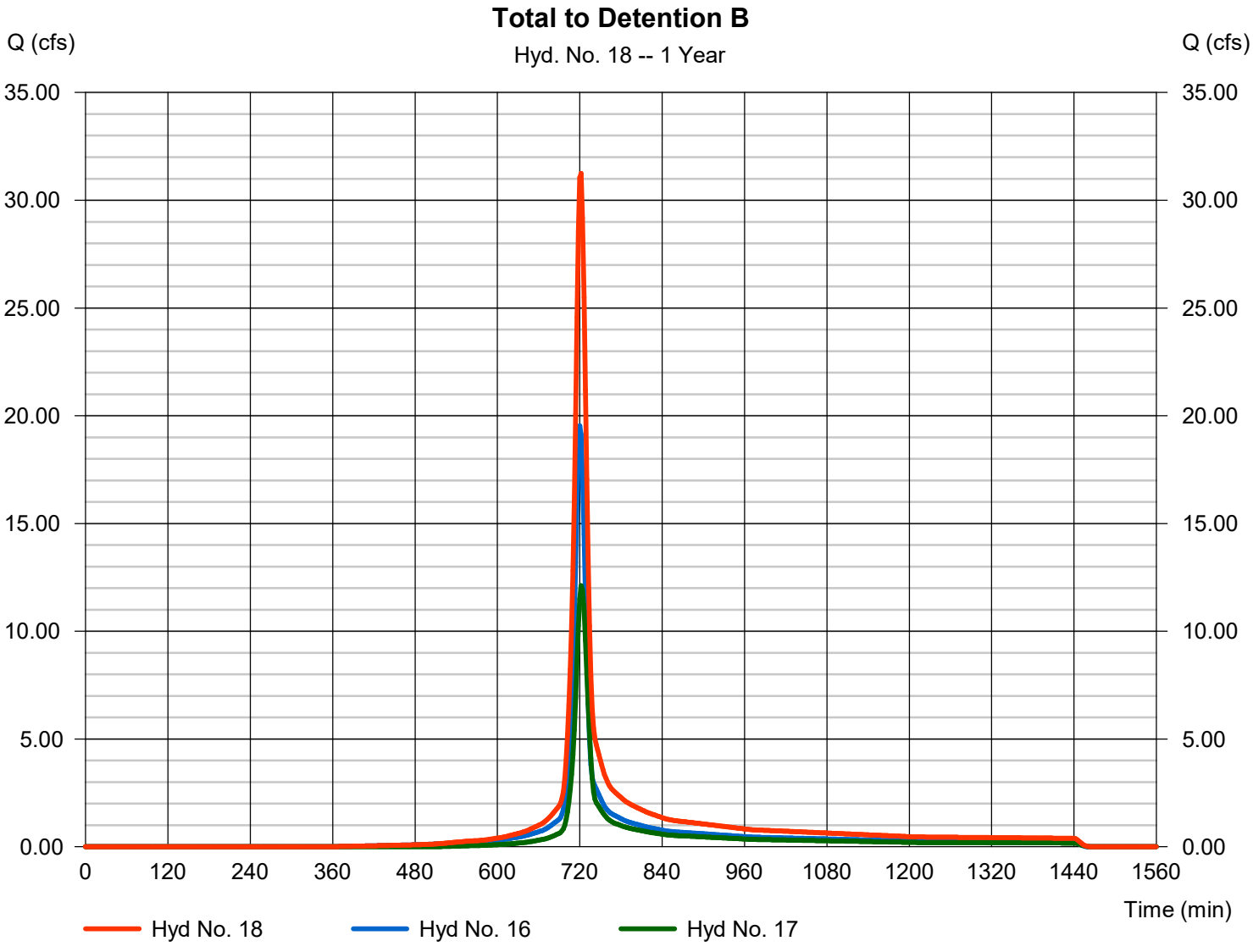


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 31.25 cfs
Storm frequency	= 1 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 85,171 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



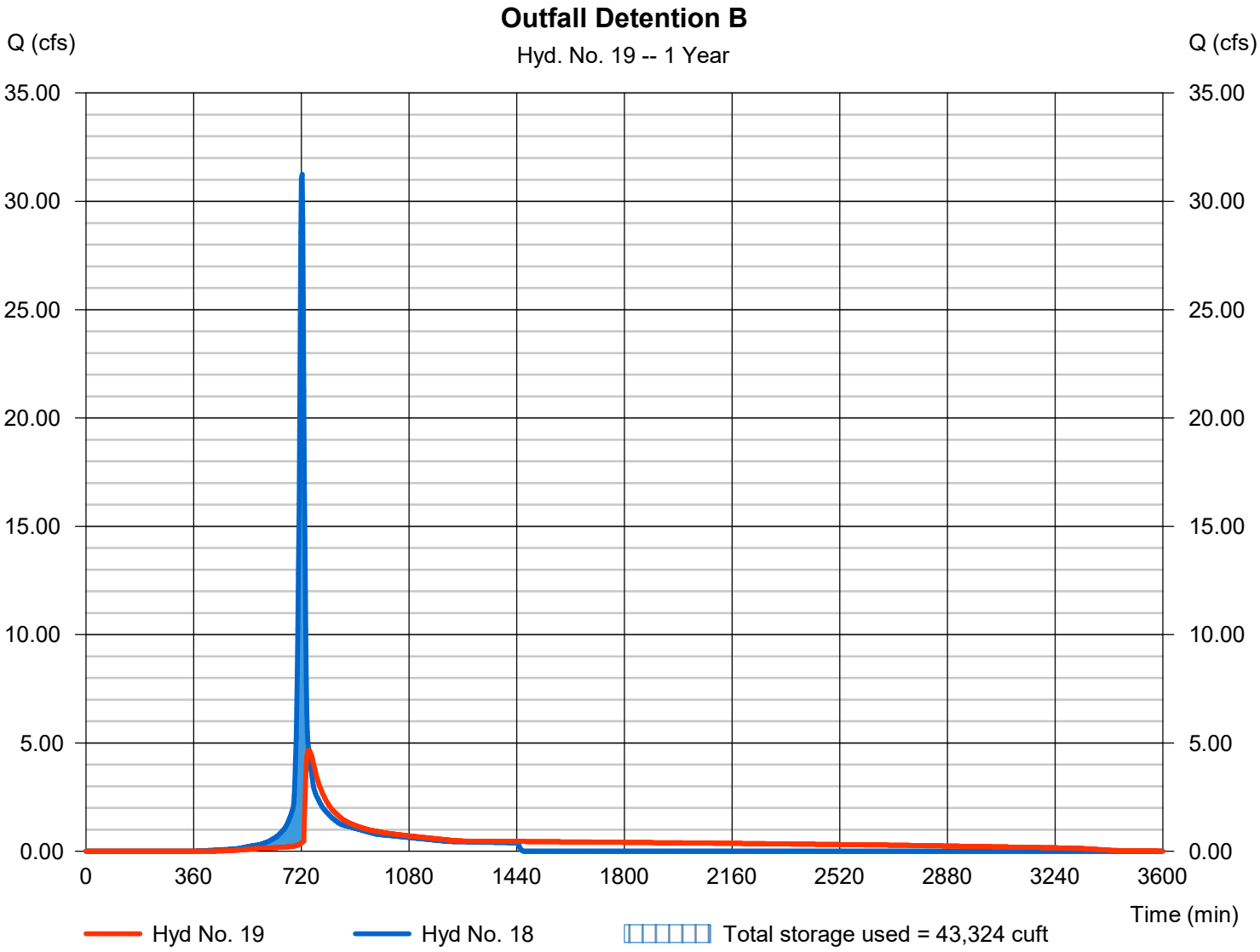
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	4.654 cfs
Storm frequency	=	1 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	85,154 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	659.70 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	43,324 cuft

Storage Indication method used.



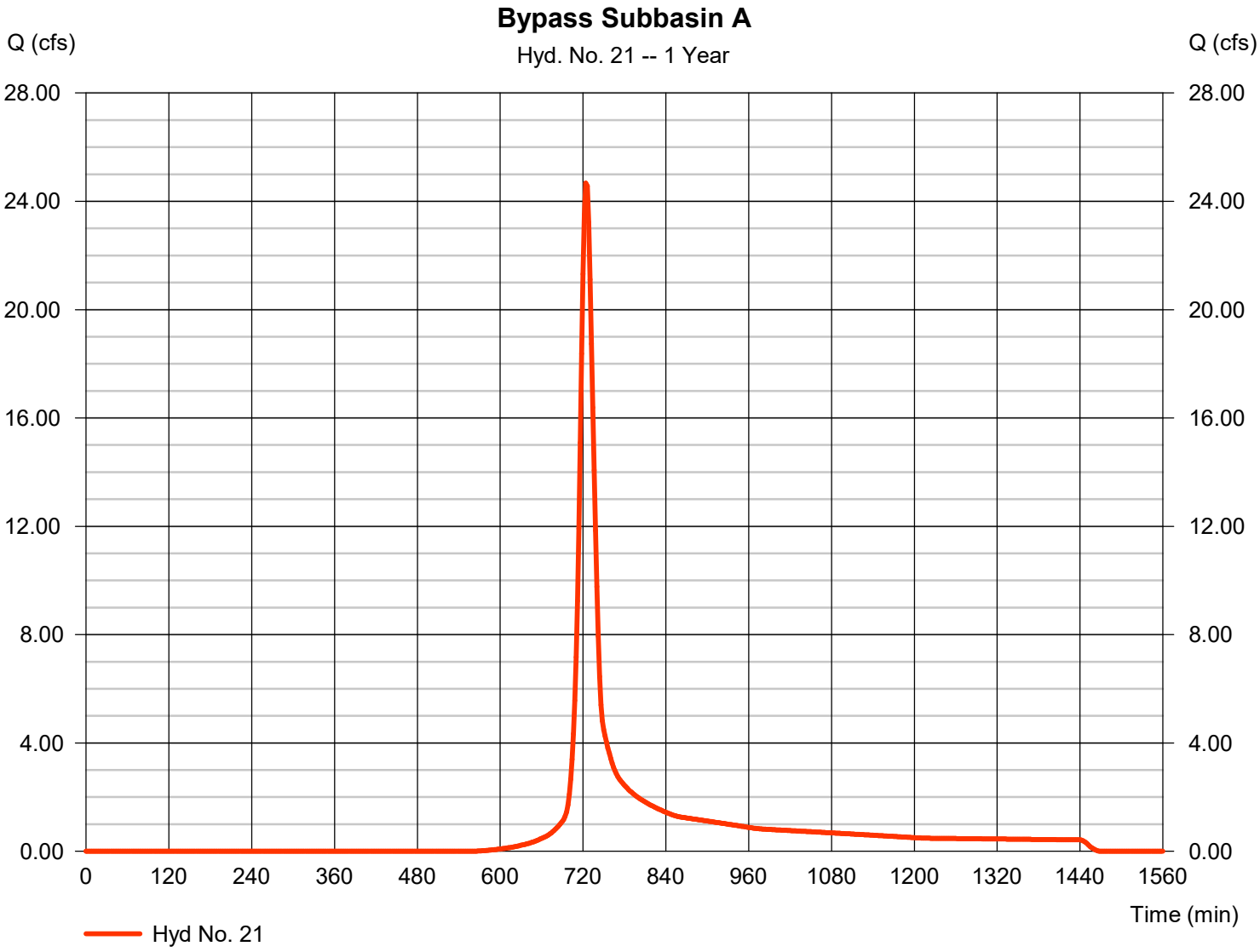
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 24.67 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 78,067 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

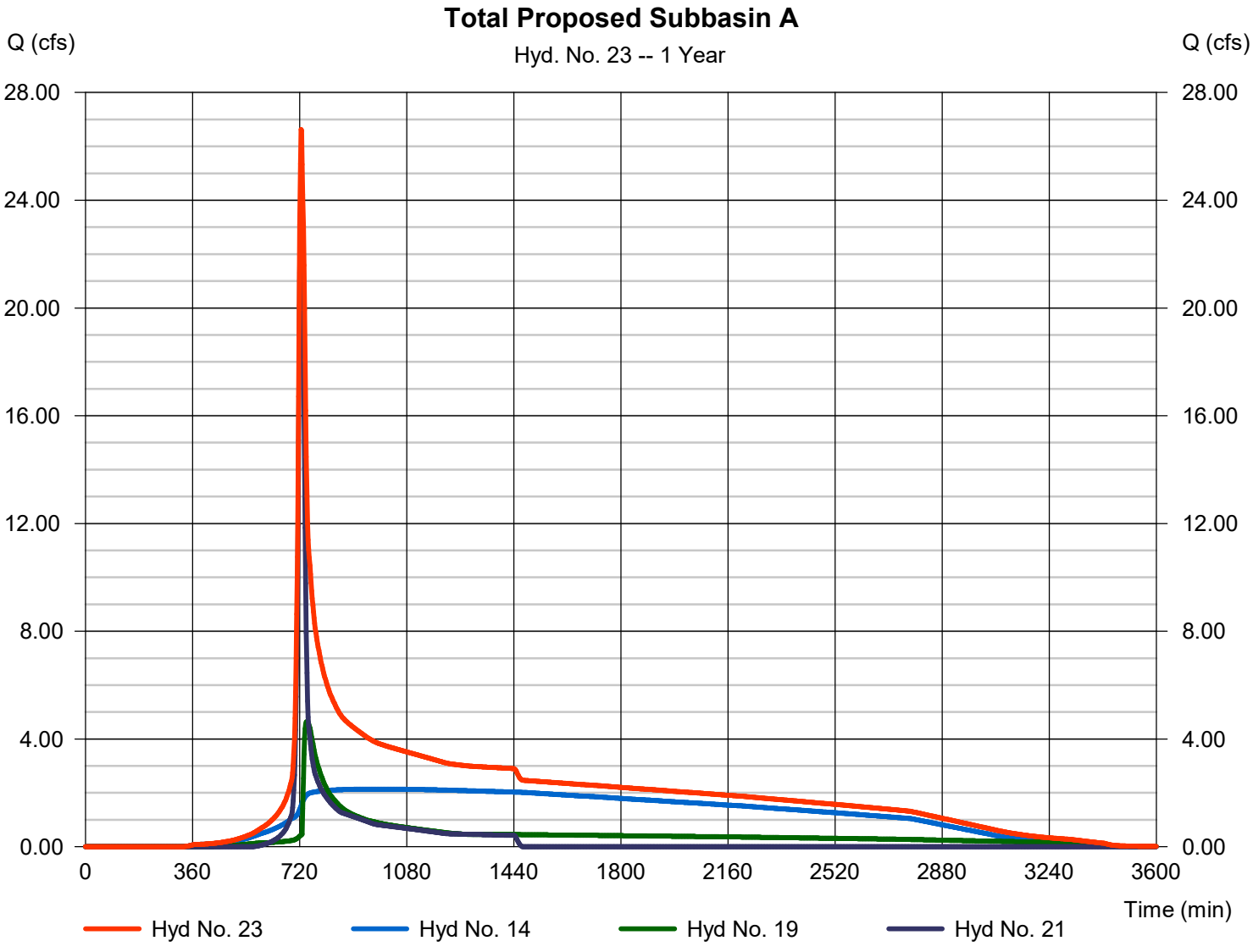


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 26.62 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 404,820 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

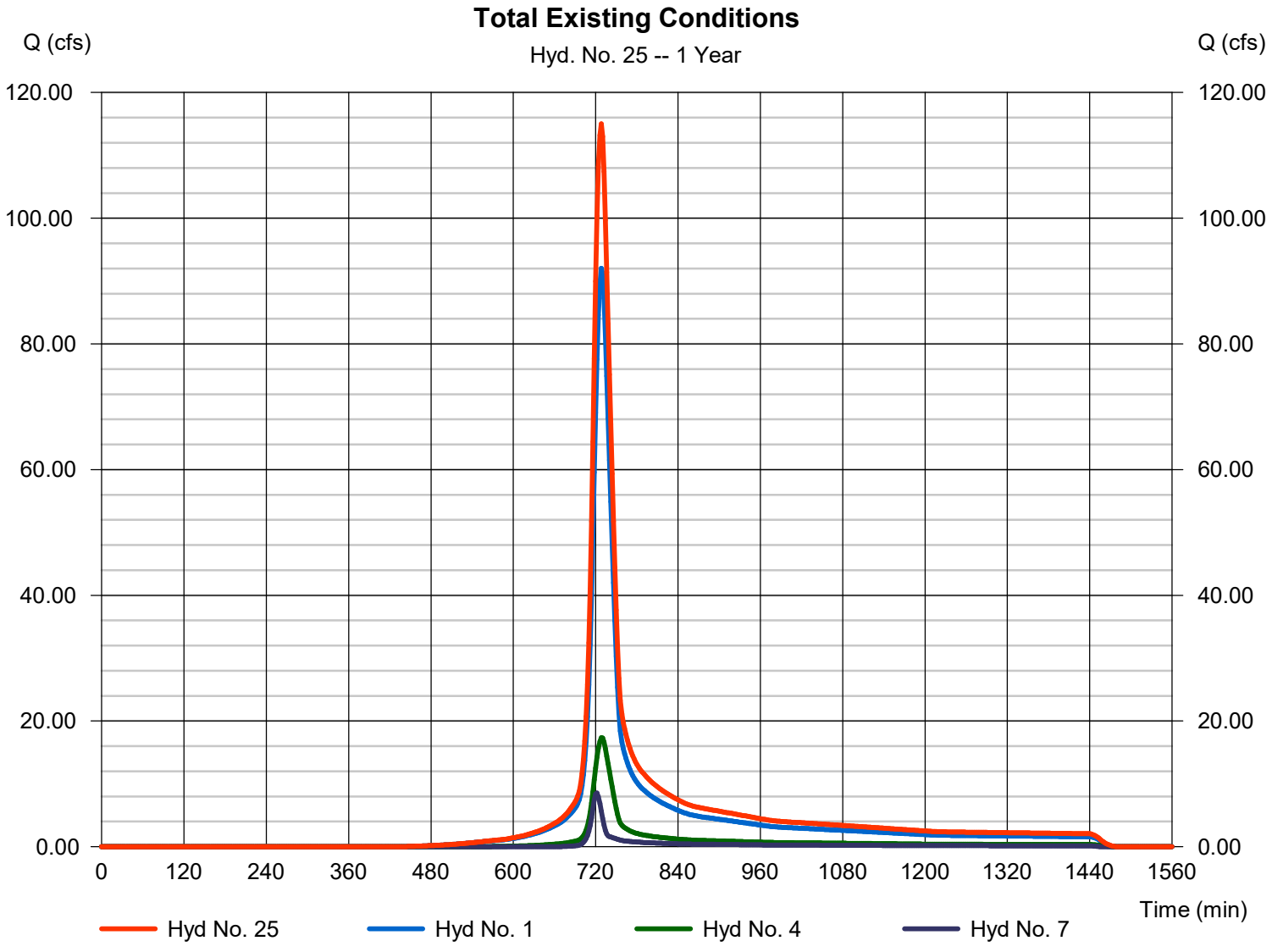


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 115.01 cfs
Storm frequency	= 1 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 424,922 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac

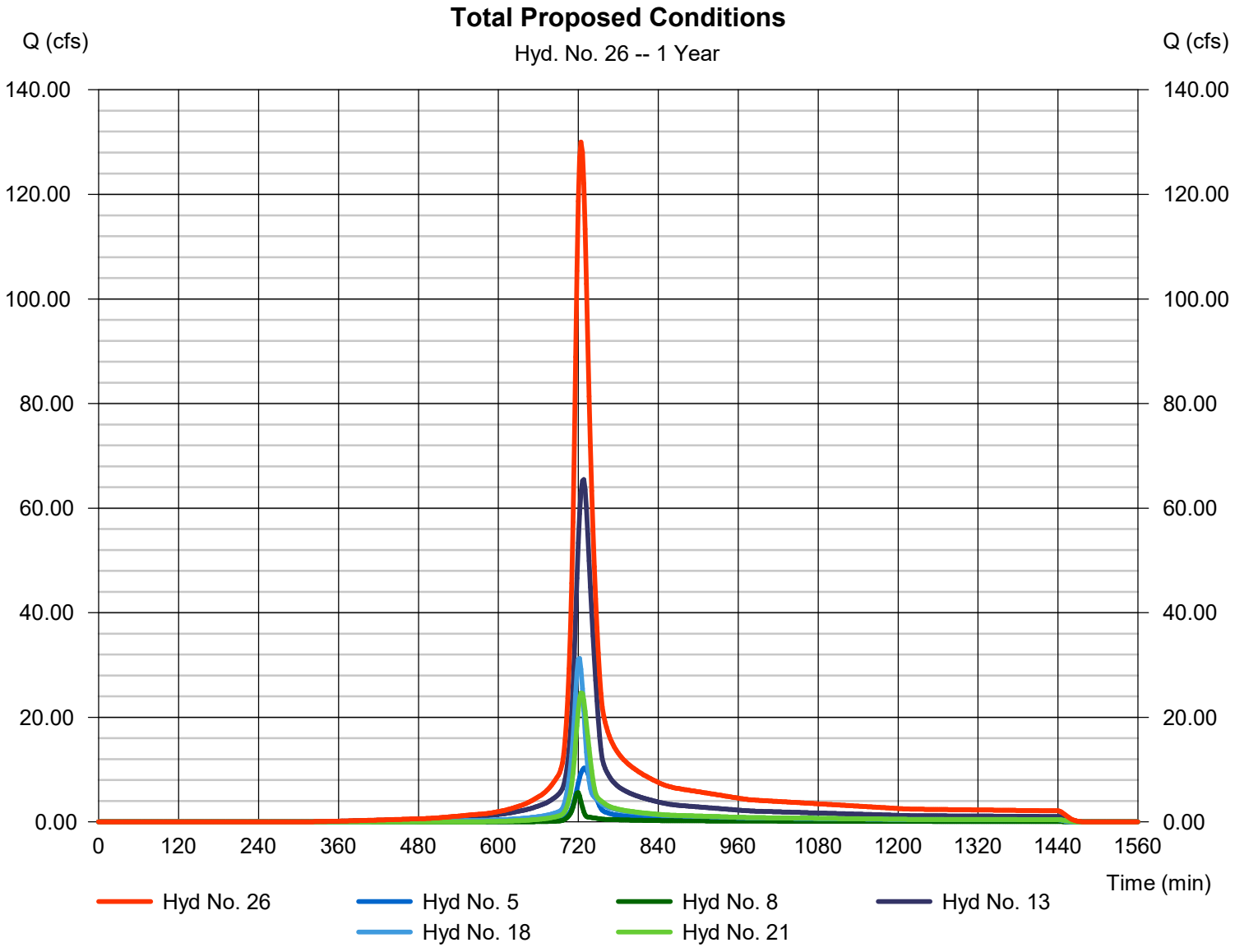


Hydrograph Report

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 129.99 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 455,882 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

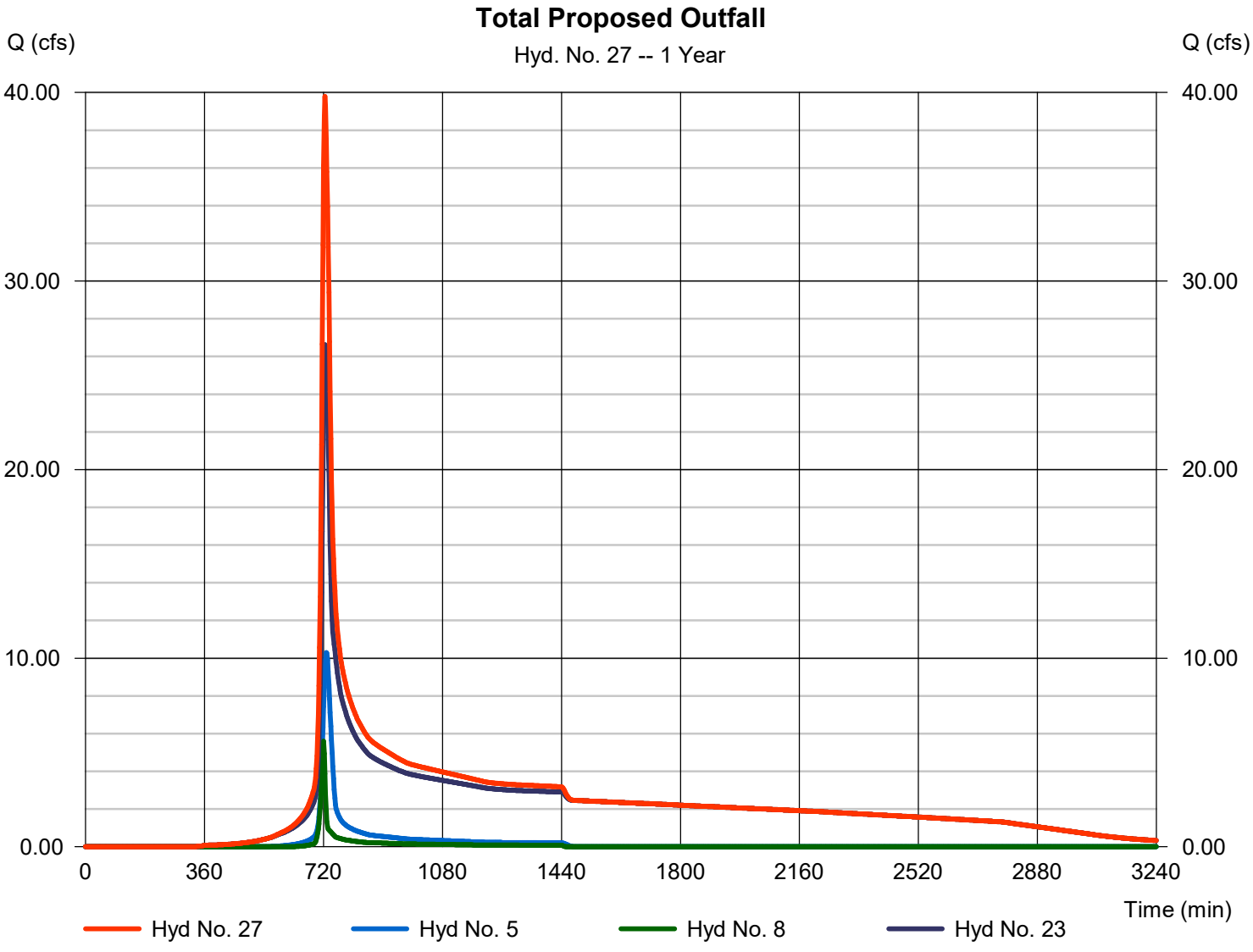


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	= Combine	Peak discharge	= 39.80 cfs
Storm frequency	= 1 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 455,849 cuft
Inflow hyds.	= 5, 8, 23	Contrib. drain. area	= 10.010 ac



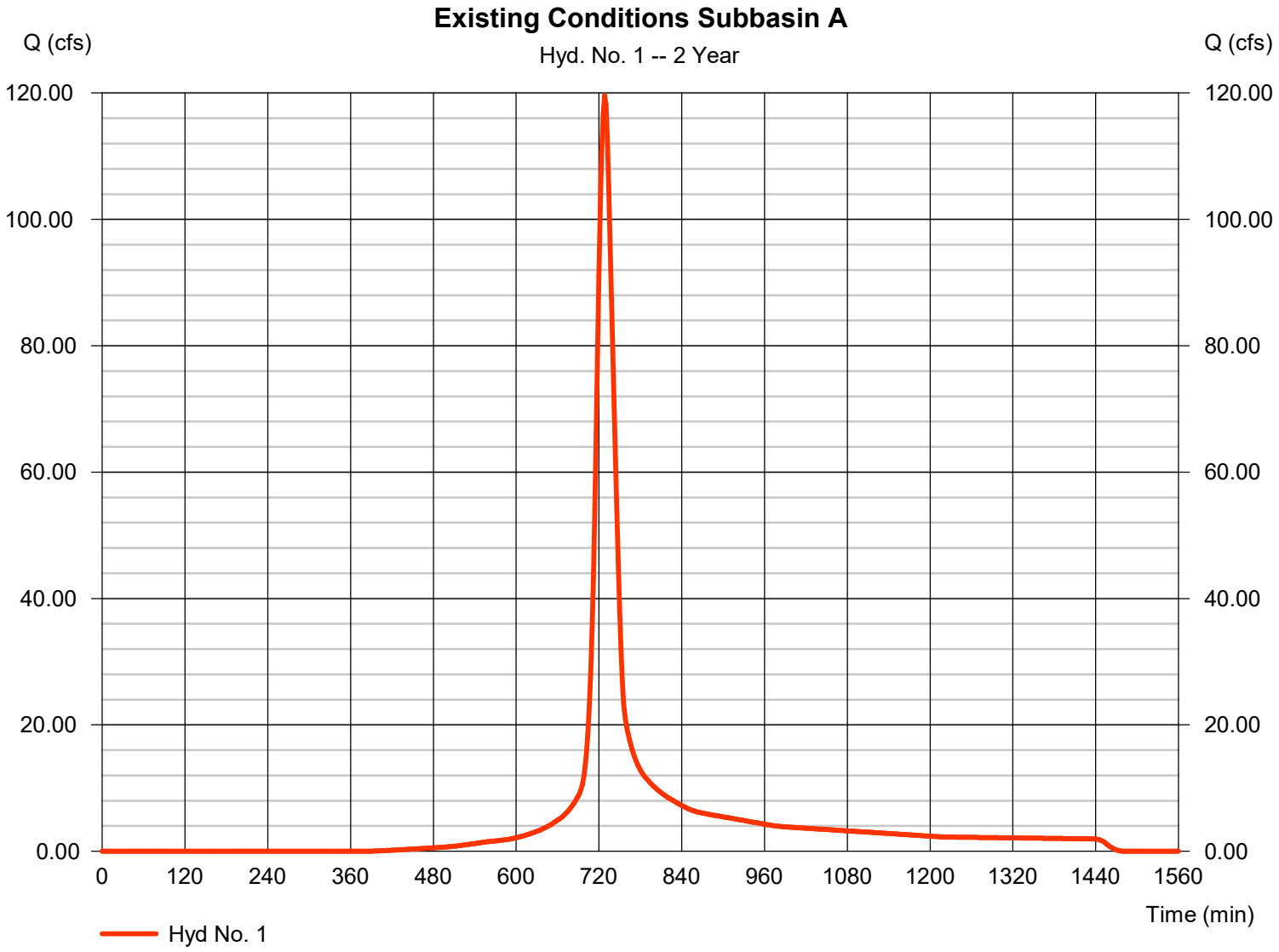
Hydrograph Report

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 119.57 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 439,310 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



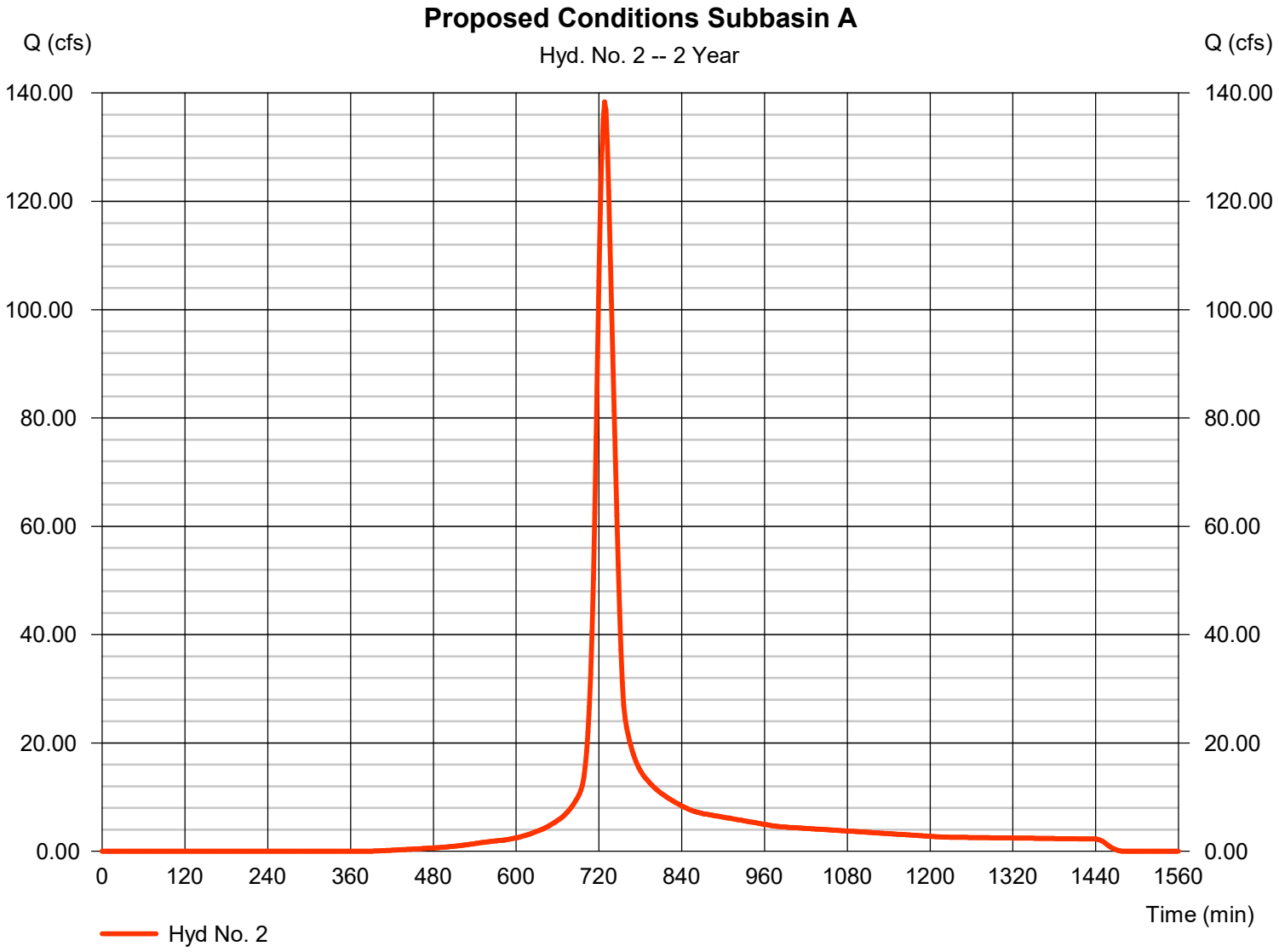
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 138.37 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 508,375 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



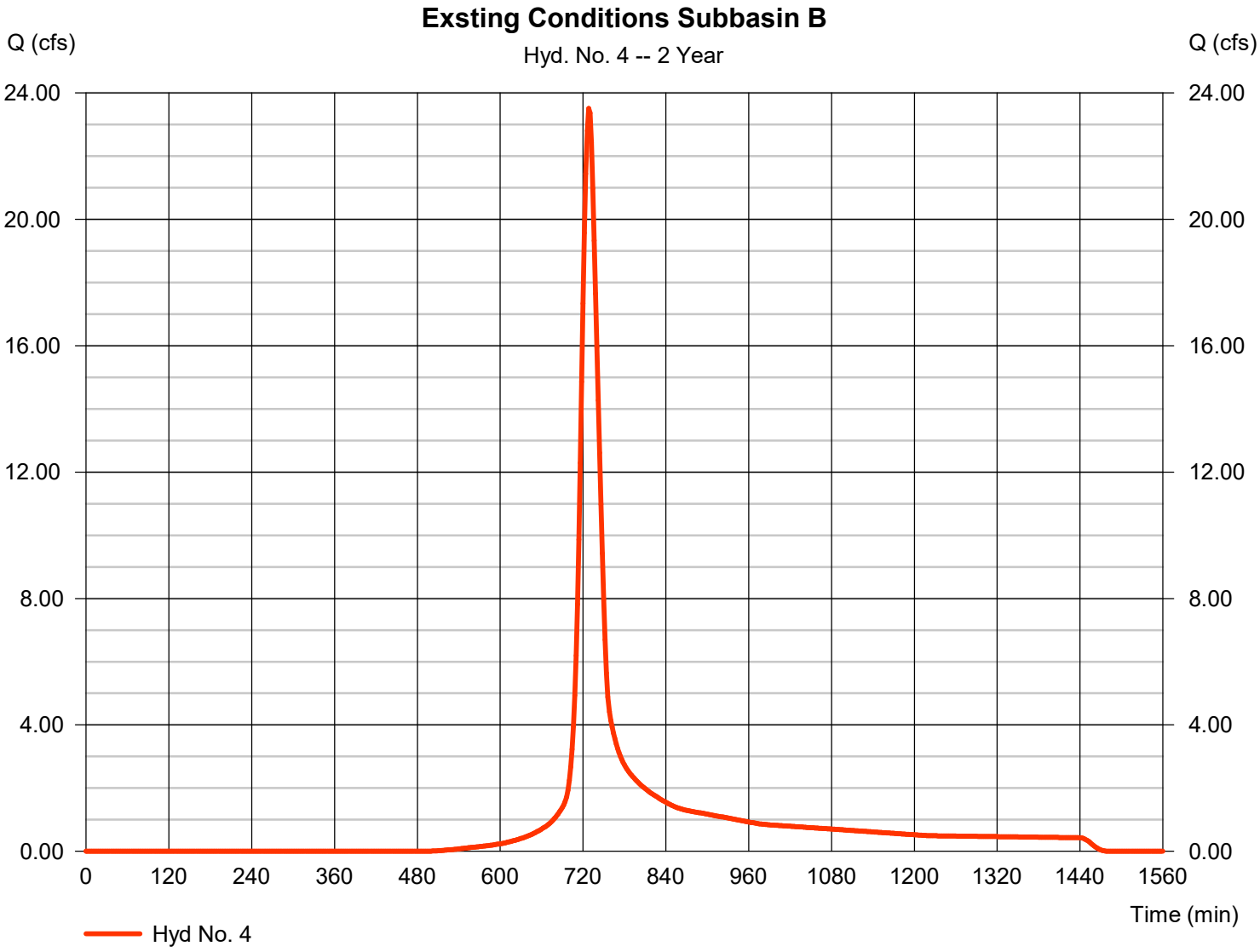
Hydrograph Report

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 23.51 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 86,501 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



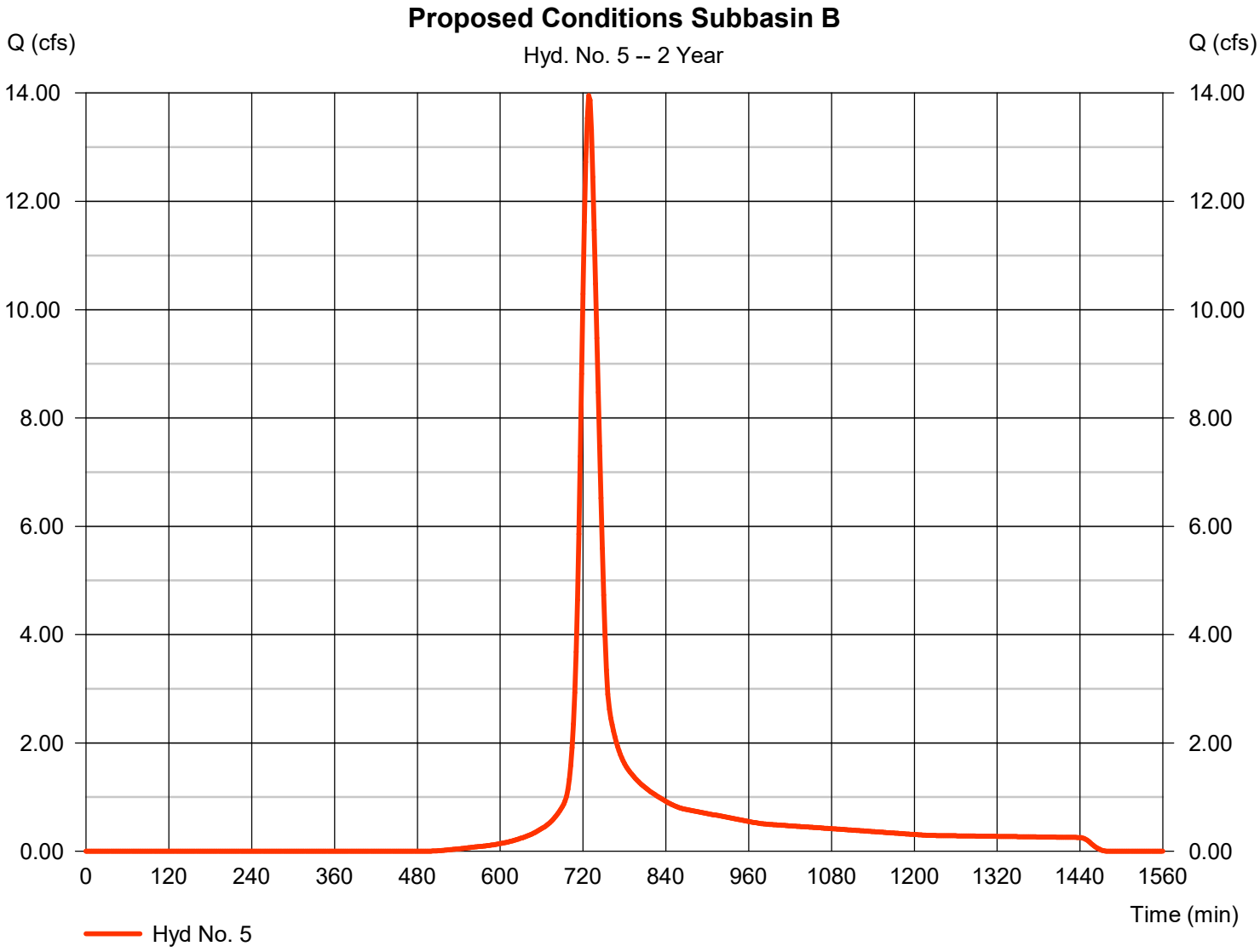
Hydrograph Report

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 13.95 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 51,333 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



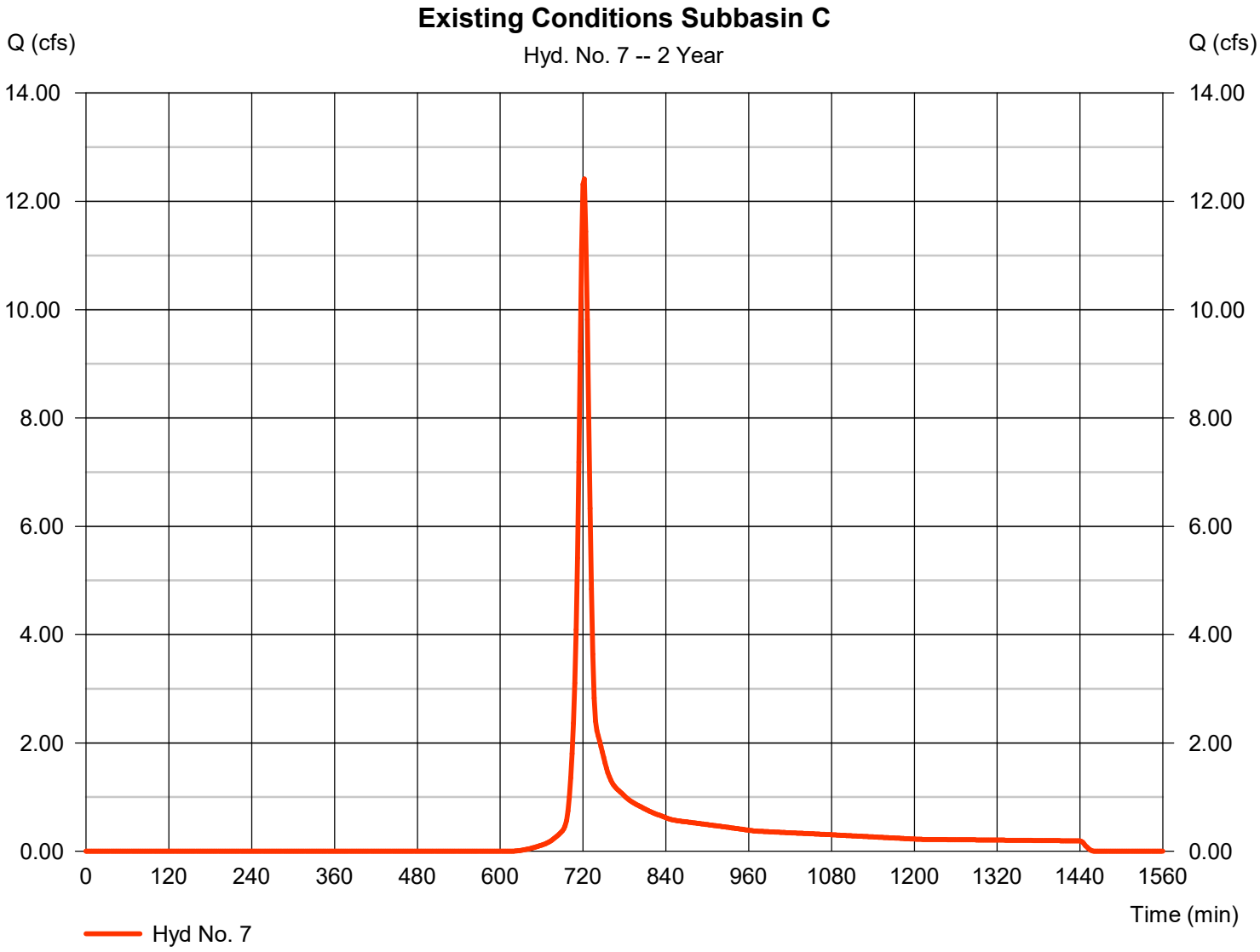
Hydrograph Report

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 12.41 cfs
Storm frequency	= 2 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 32,705 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



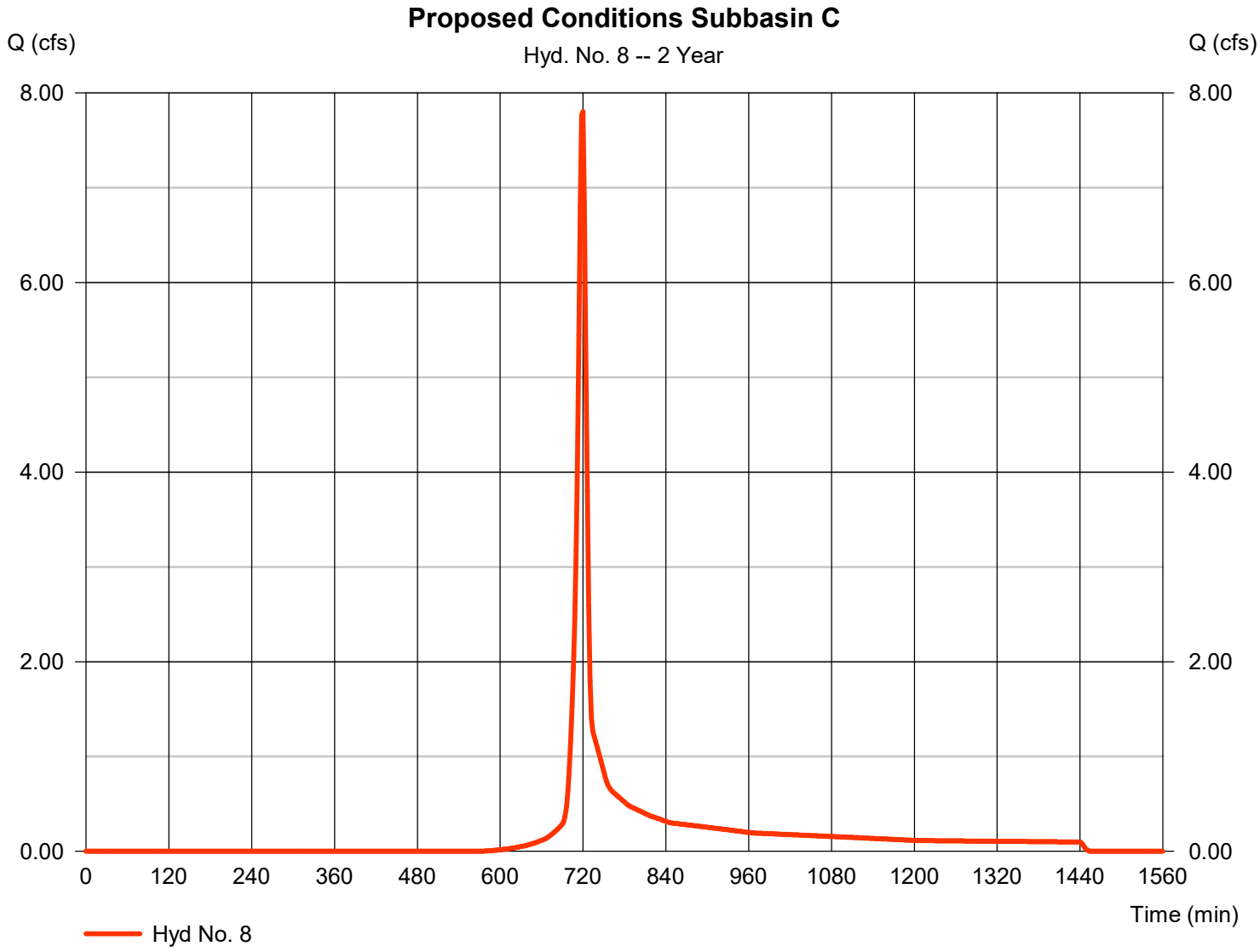
Hydrograph Report

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 7.804 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 17,861 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



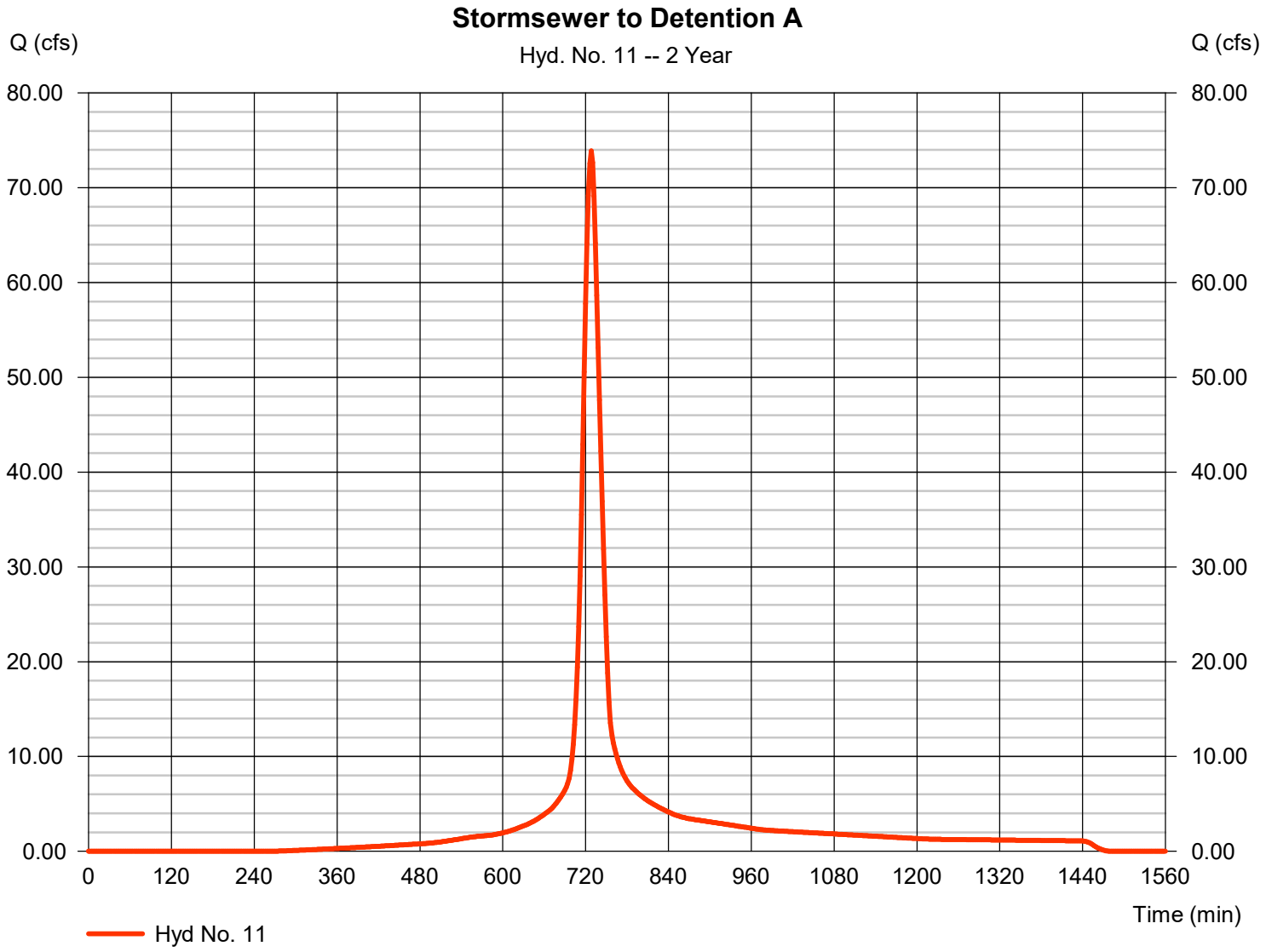
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 73.88 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 276,452 cuft
Drainage area	= 26.480 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.70 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



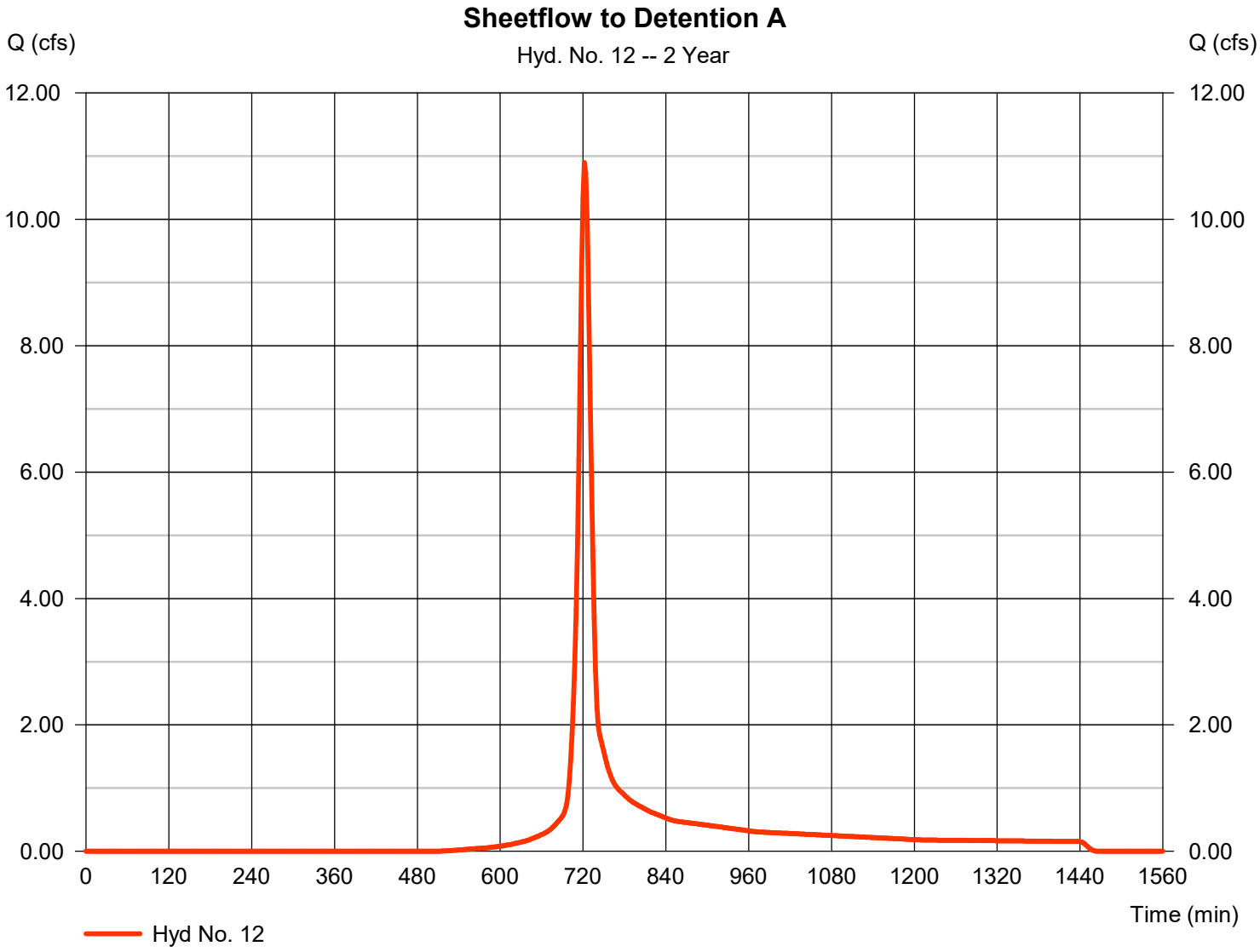
Hydrograph Report

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 10.90 cfs
Storm frequency	= 2 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 30,581 cuft
Drainage area	= 4.410 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 14.90 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

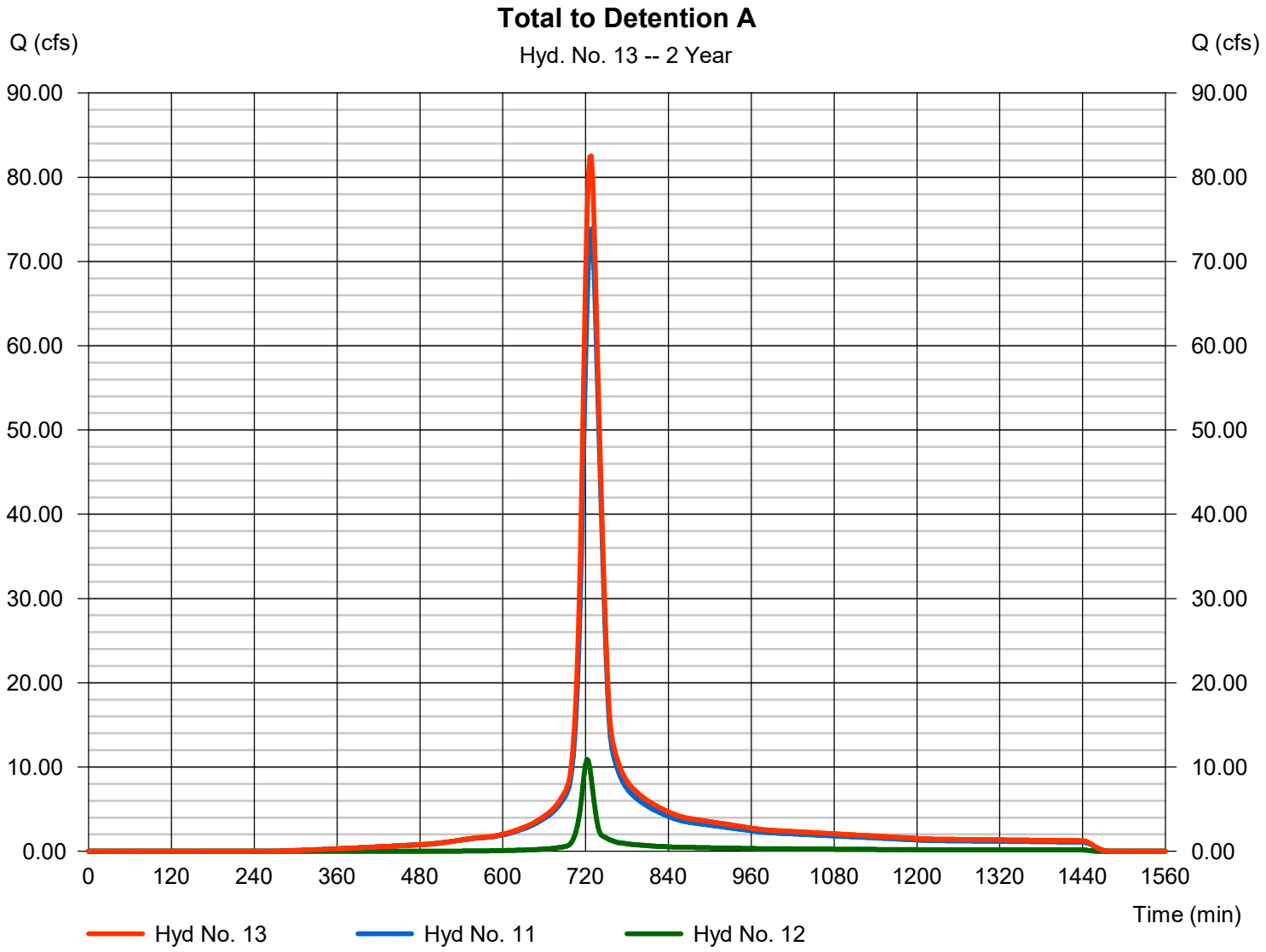


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 82.51 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 307,033 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



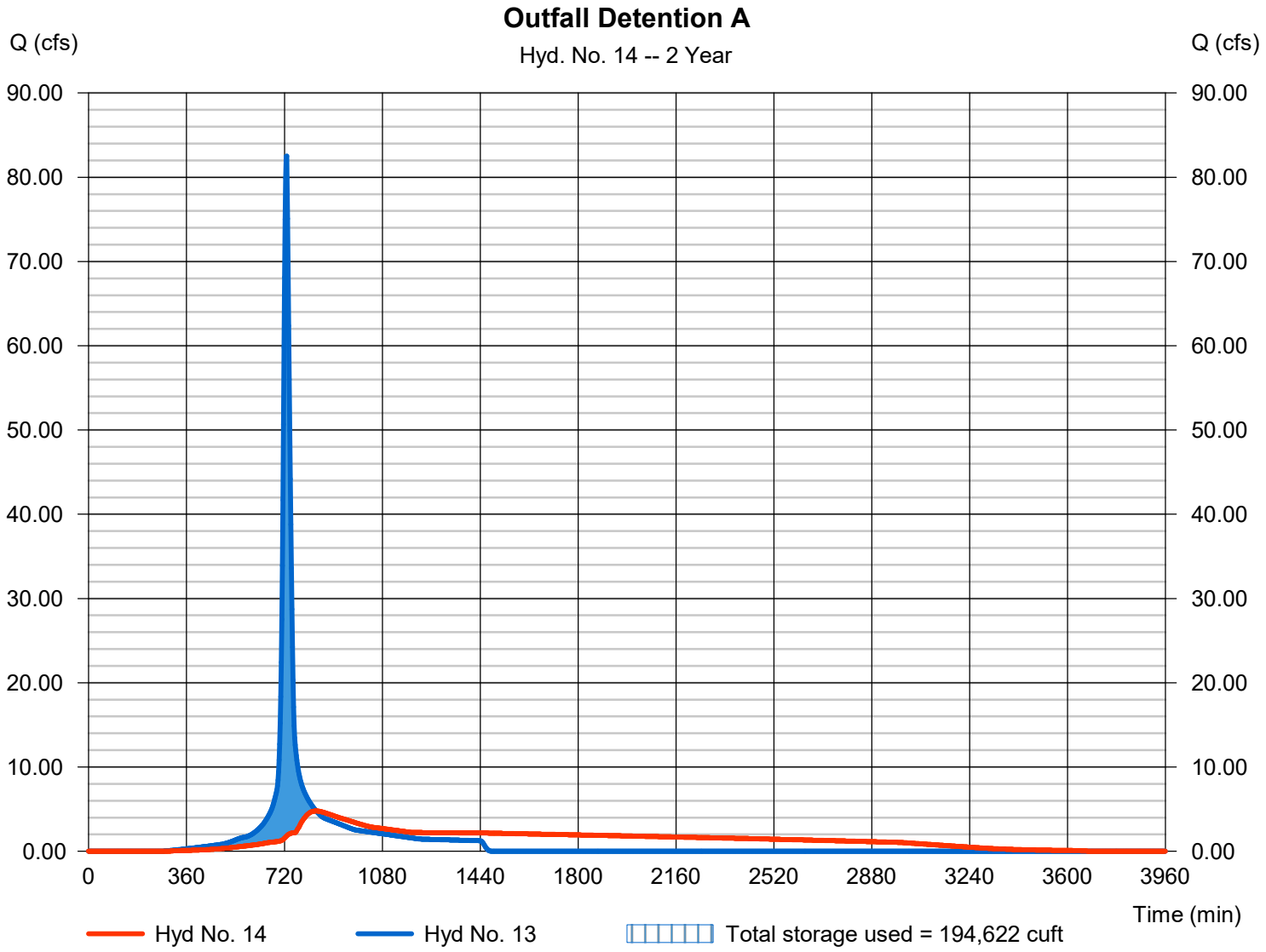
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	4.783 cfs
Storm frequency	=	2 yrs	Time to peak	=	838 min
Time interval	=	2 min	Hyd. volume	=	307,017 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	651.55 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	194,622 cuft

Storage Indication method used.



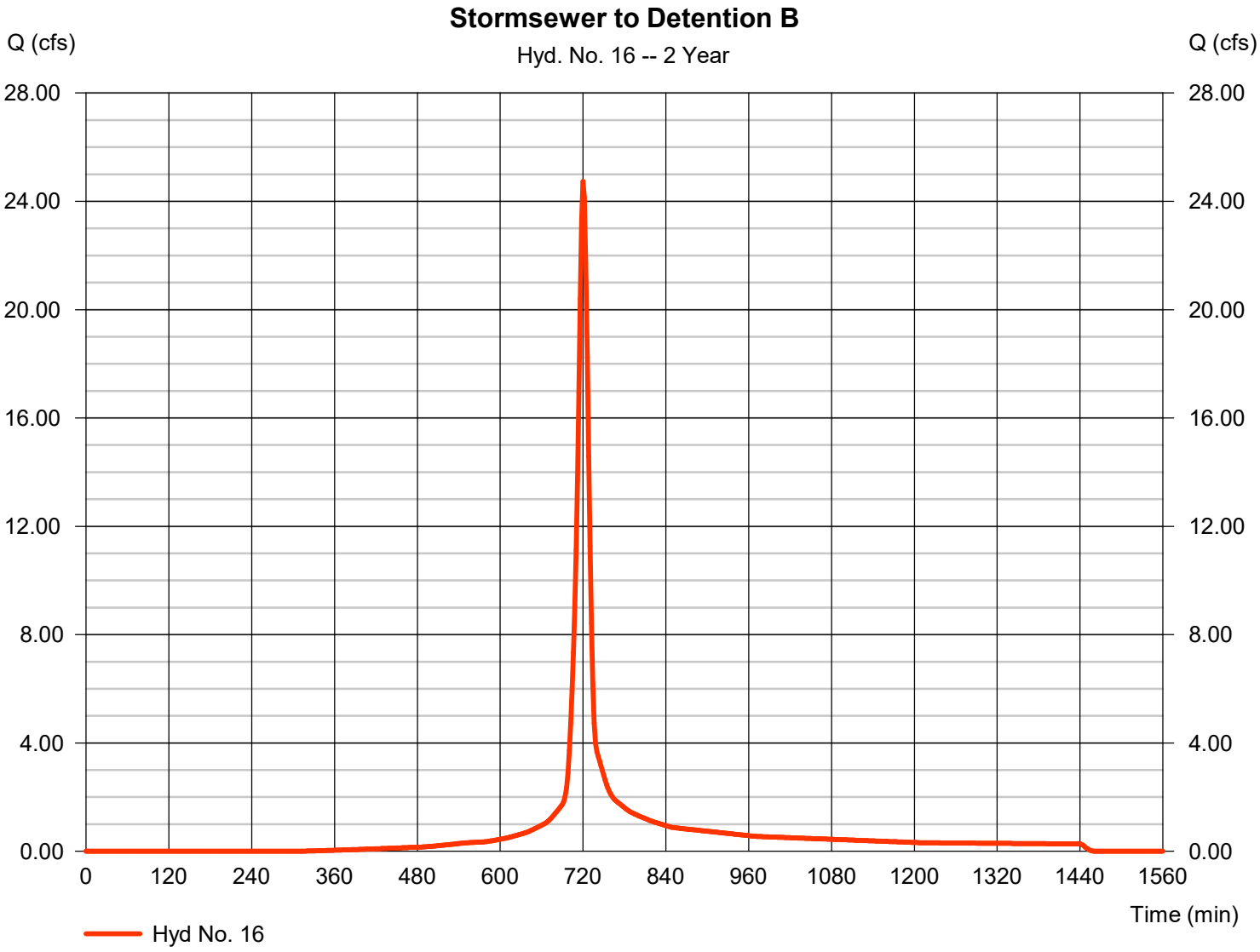
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 24.74 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 65,389 cuft
Drainage area	= 6.400 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



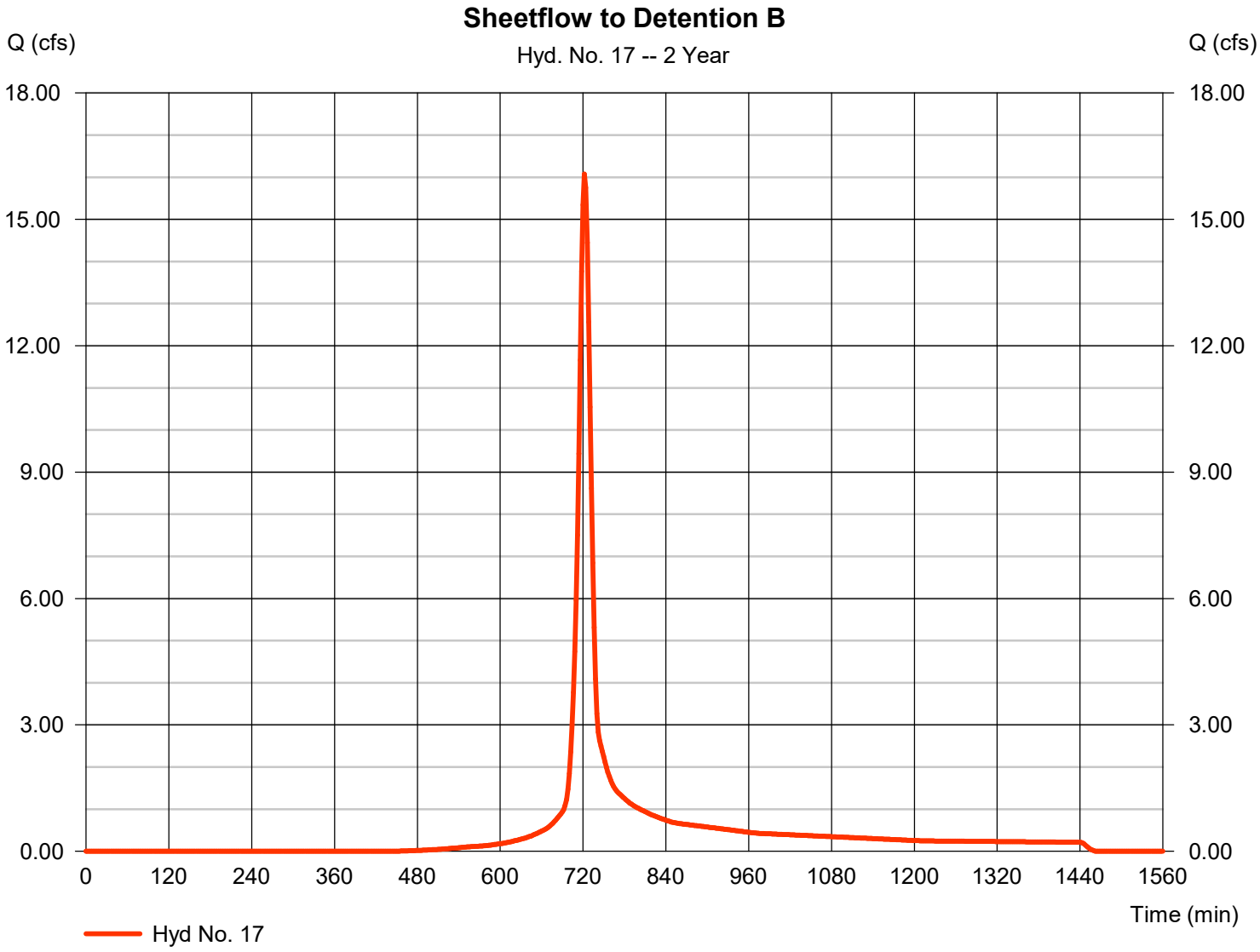
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.08 cfs
Storm frequency	=	2 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	45,075 cuft
Drainage area	=	5.790 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.80 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

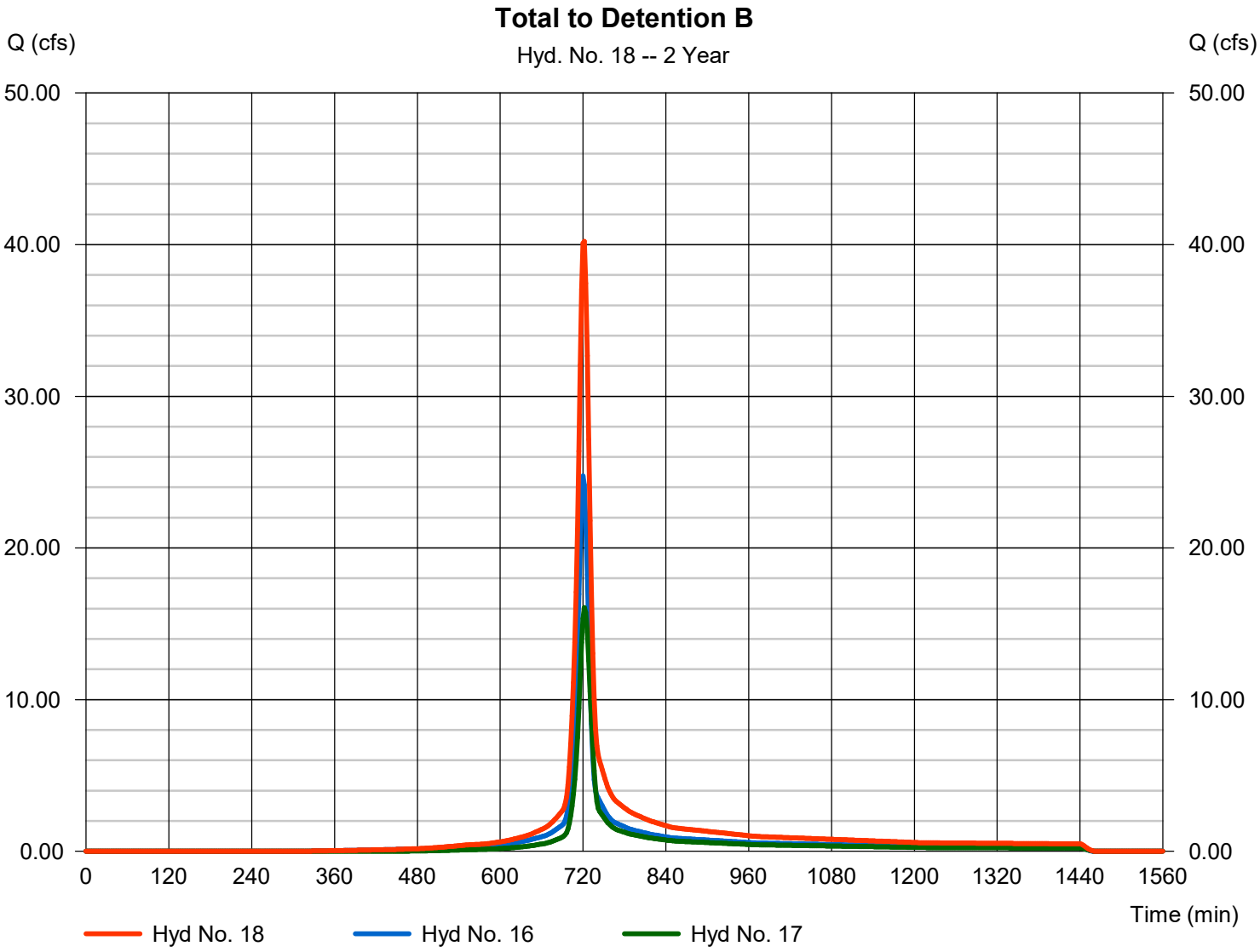


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 40.22 cfs
Storm frequency	= 2 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 110,464 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



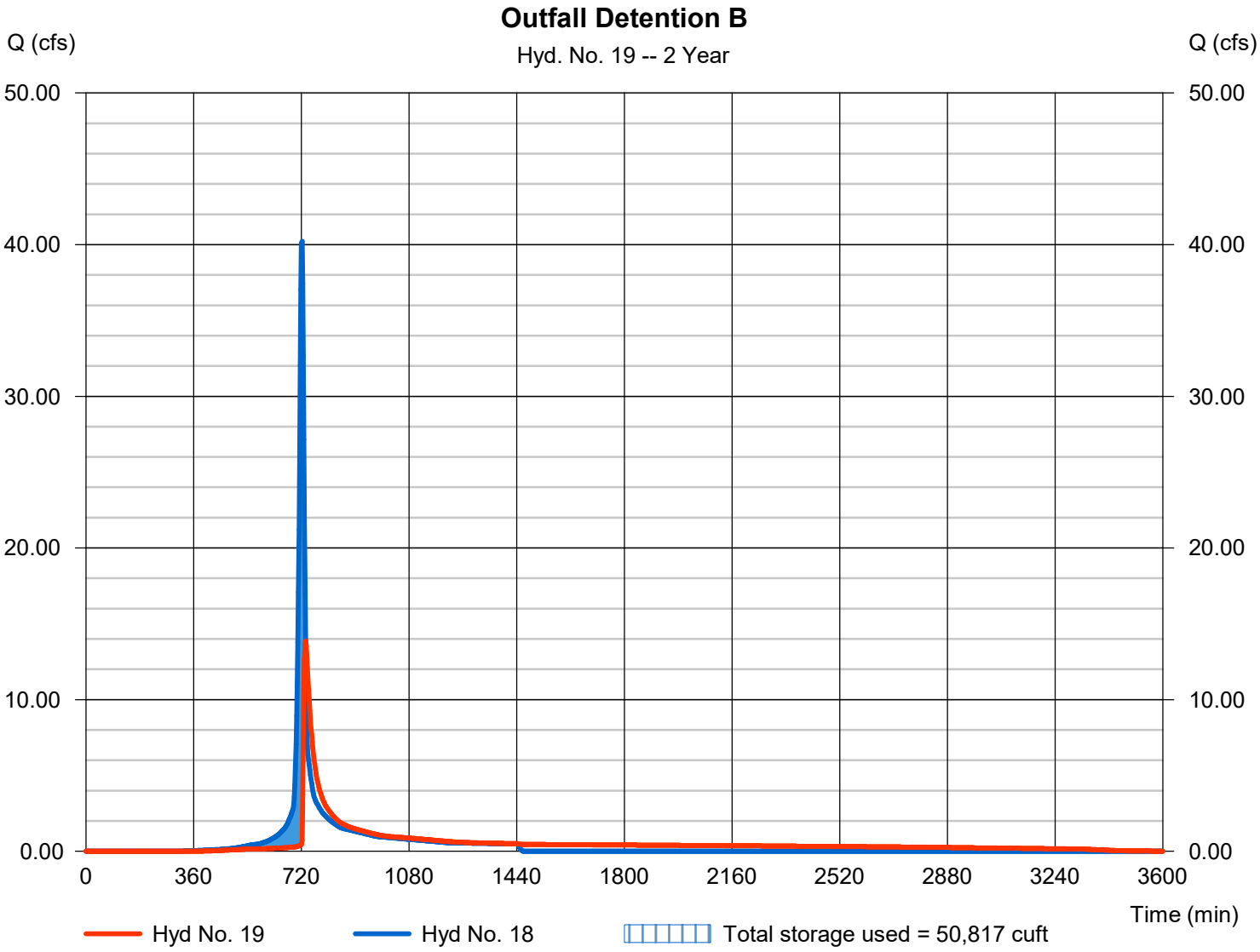
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	13.87 cfs
Storm frequency	=	2 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	110,447 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	660.17 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	50,817 cuft

Storage Indication method used.



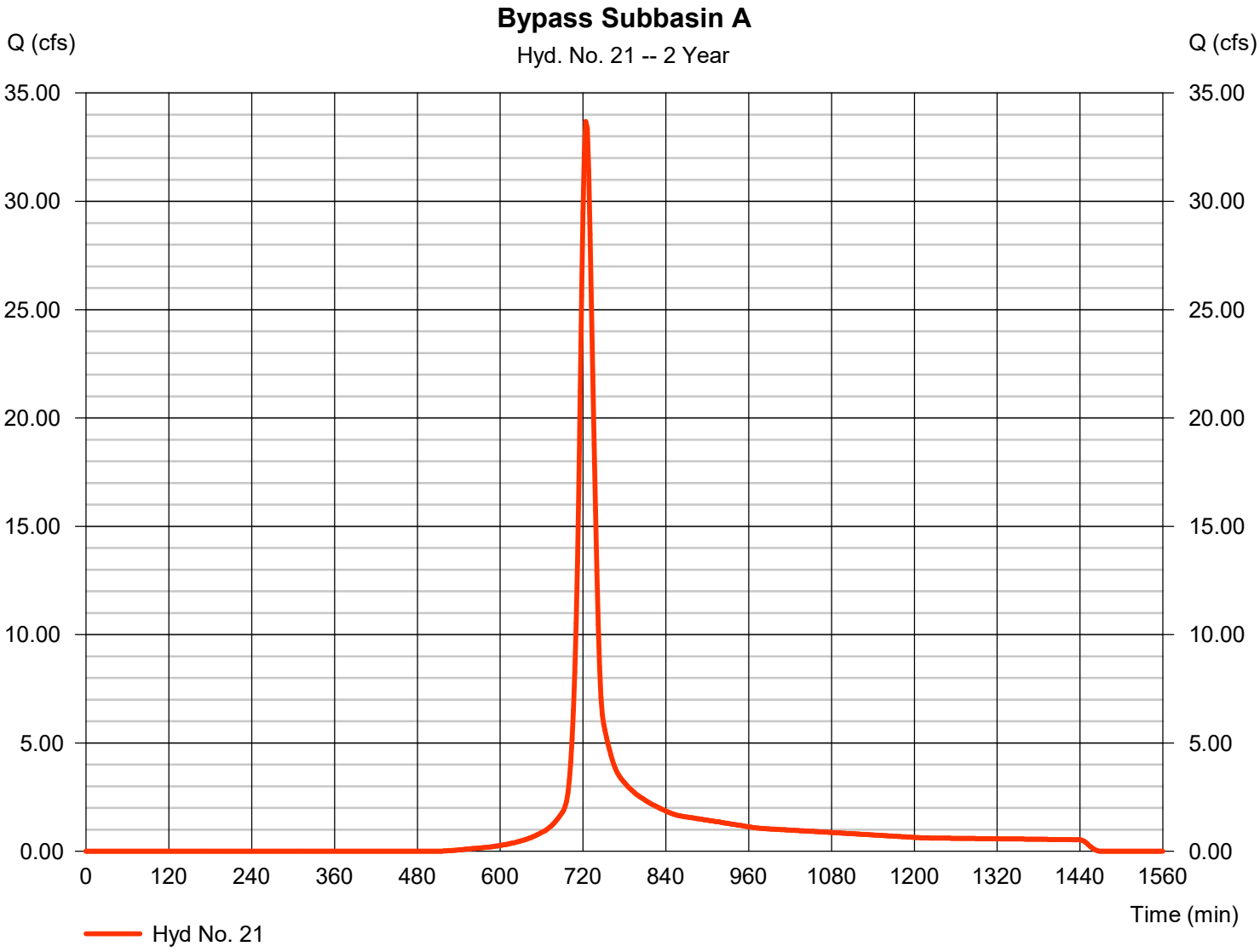
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 33.69 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 105,618 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

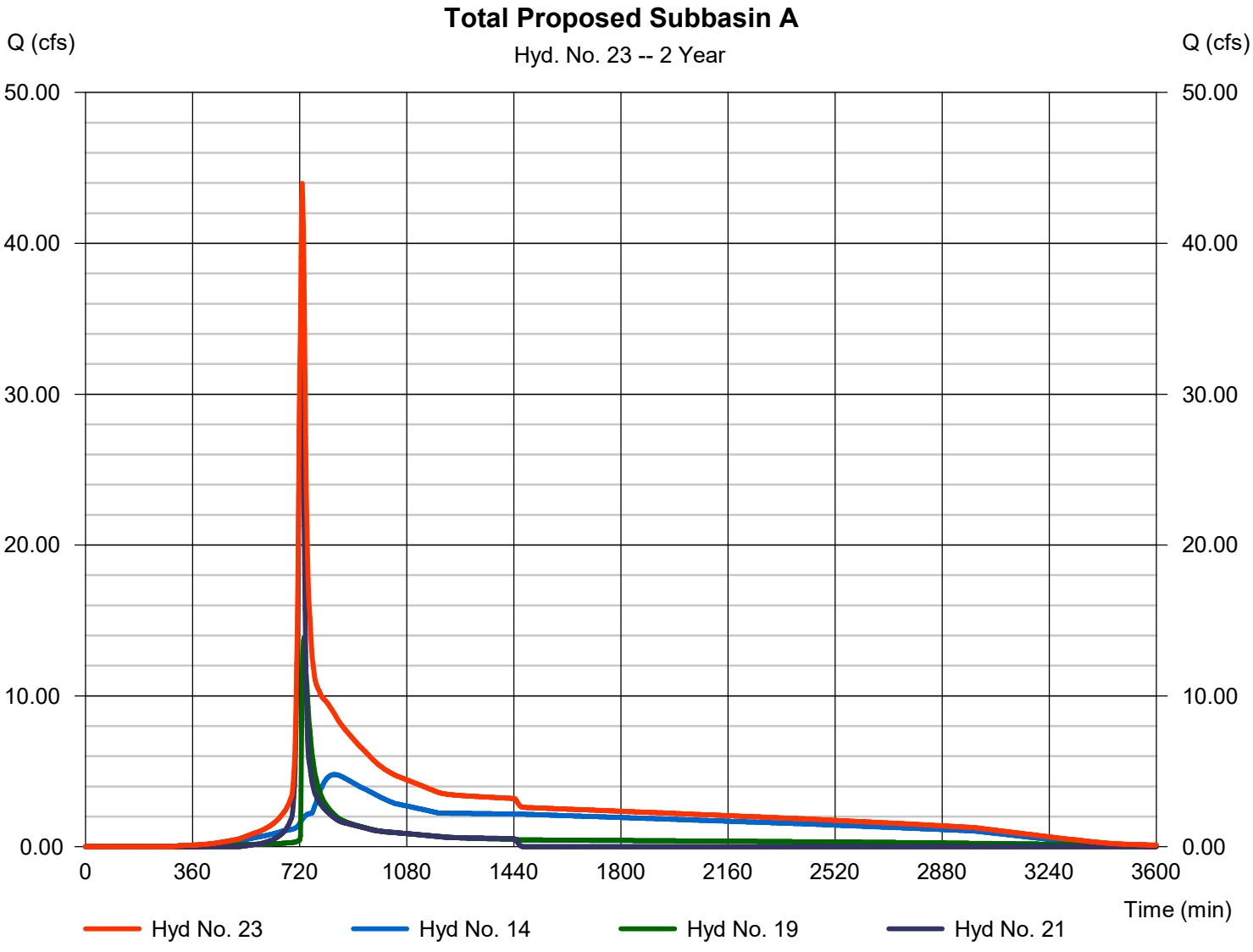


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 43.96 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 523,082 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

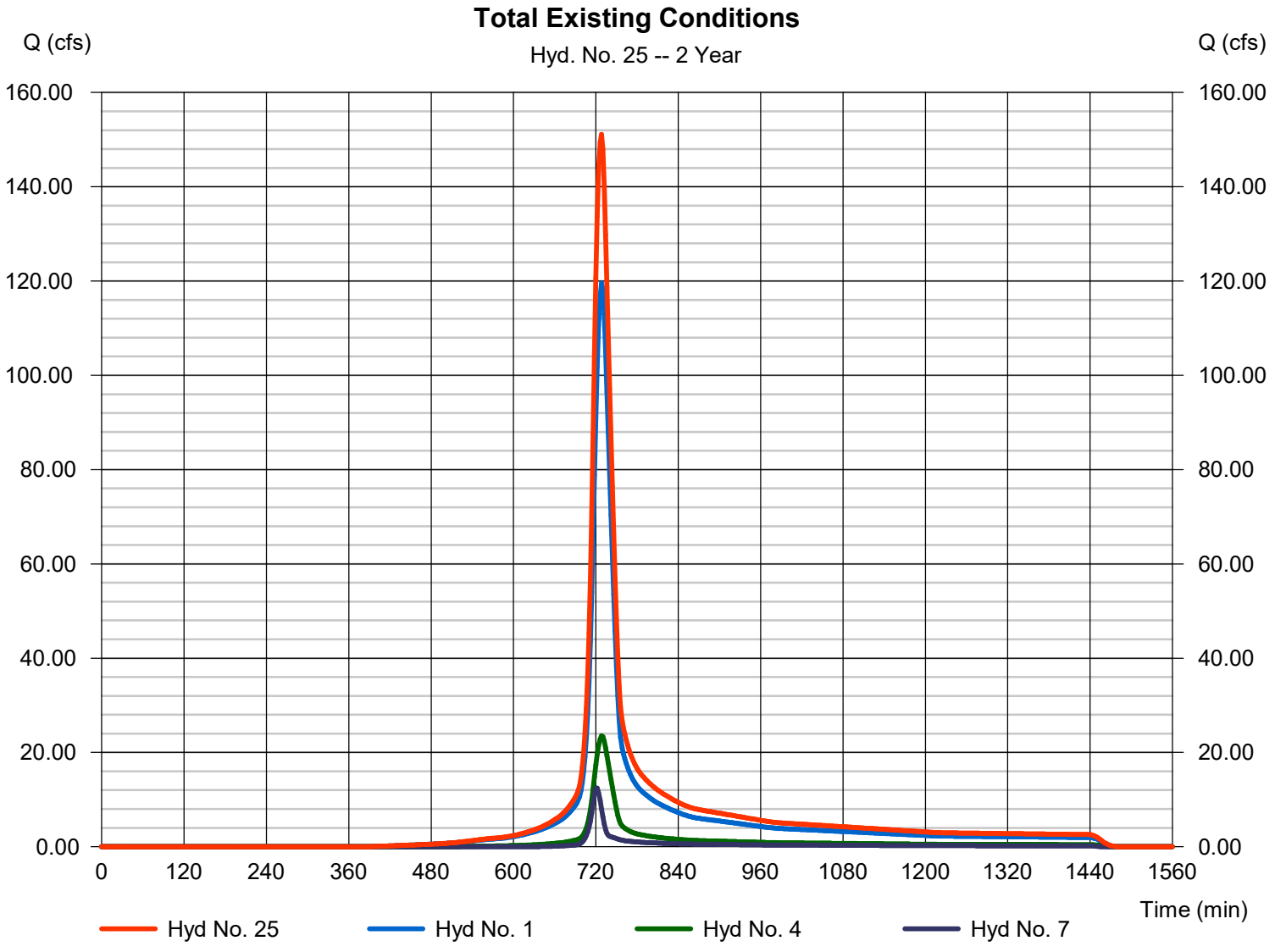


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 151.09 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 558,516 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac

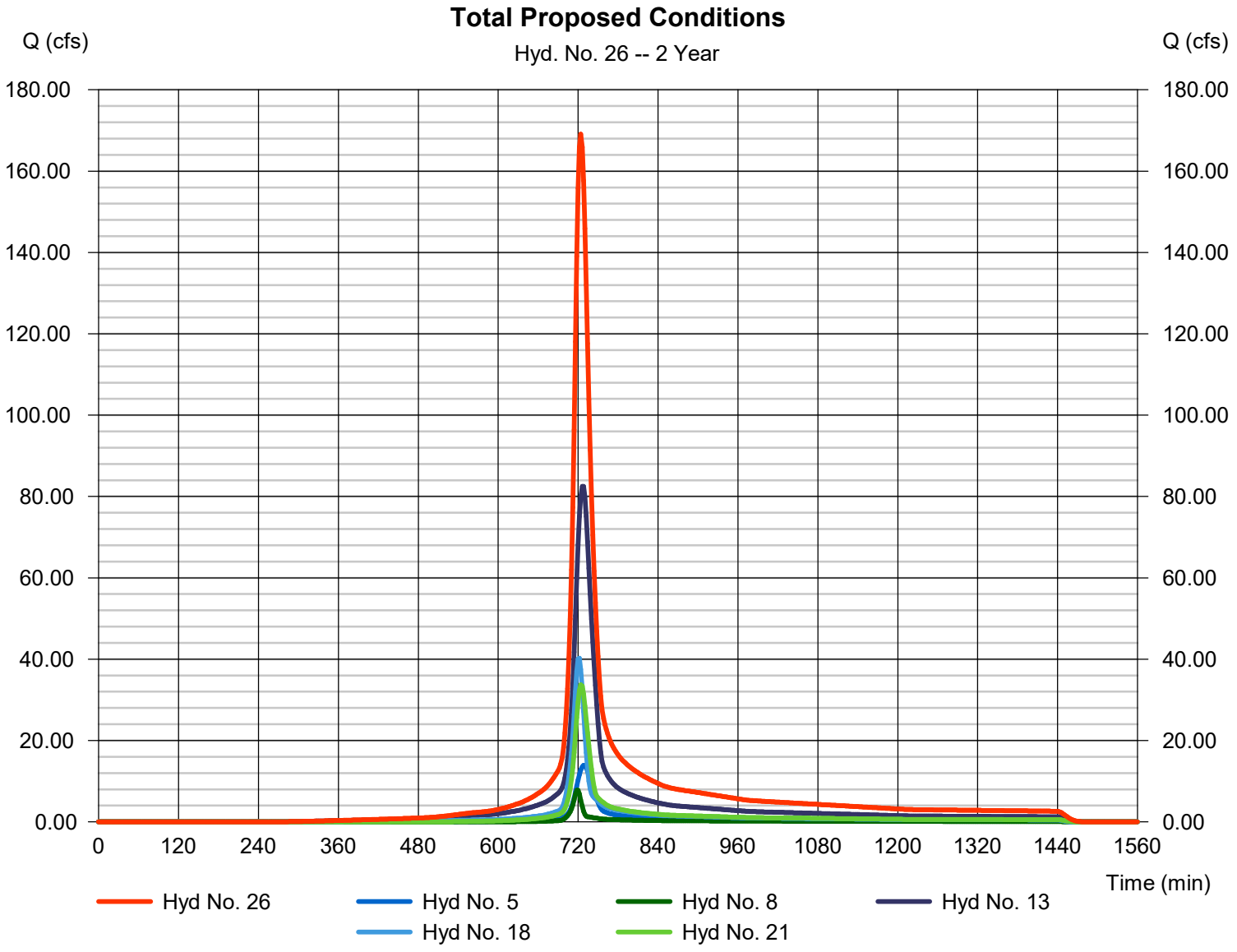


Hydrograph Report

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 169.10 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 592,309 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

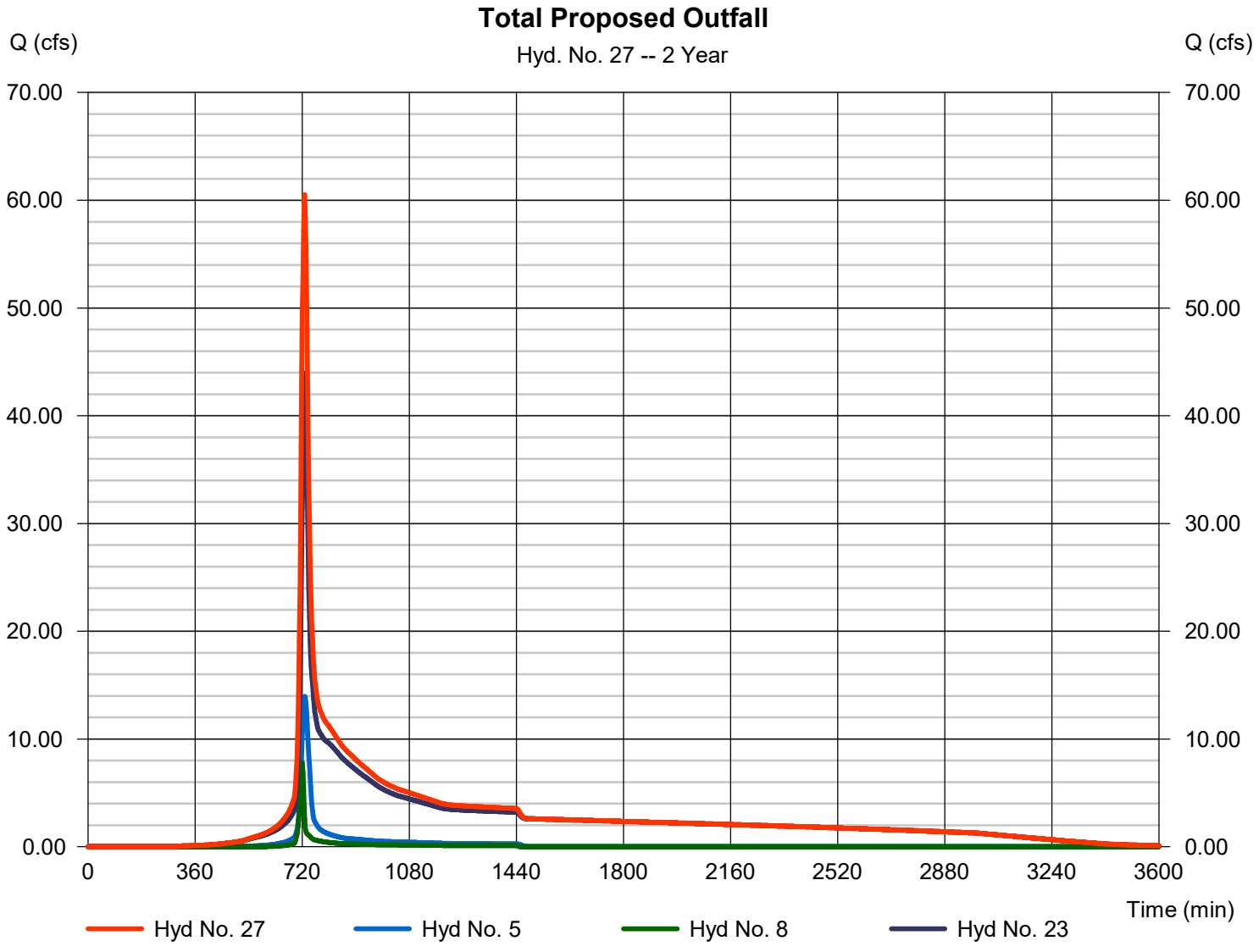


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	= Combine	Peak discharge	= 60.51 cfs
Storm frequency	= 2 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 592,276 cuft
Inflow hyds.	= 5, 8, 23	Contrib. drain. area	= 10.010 ac



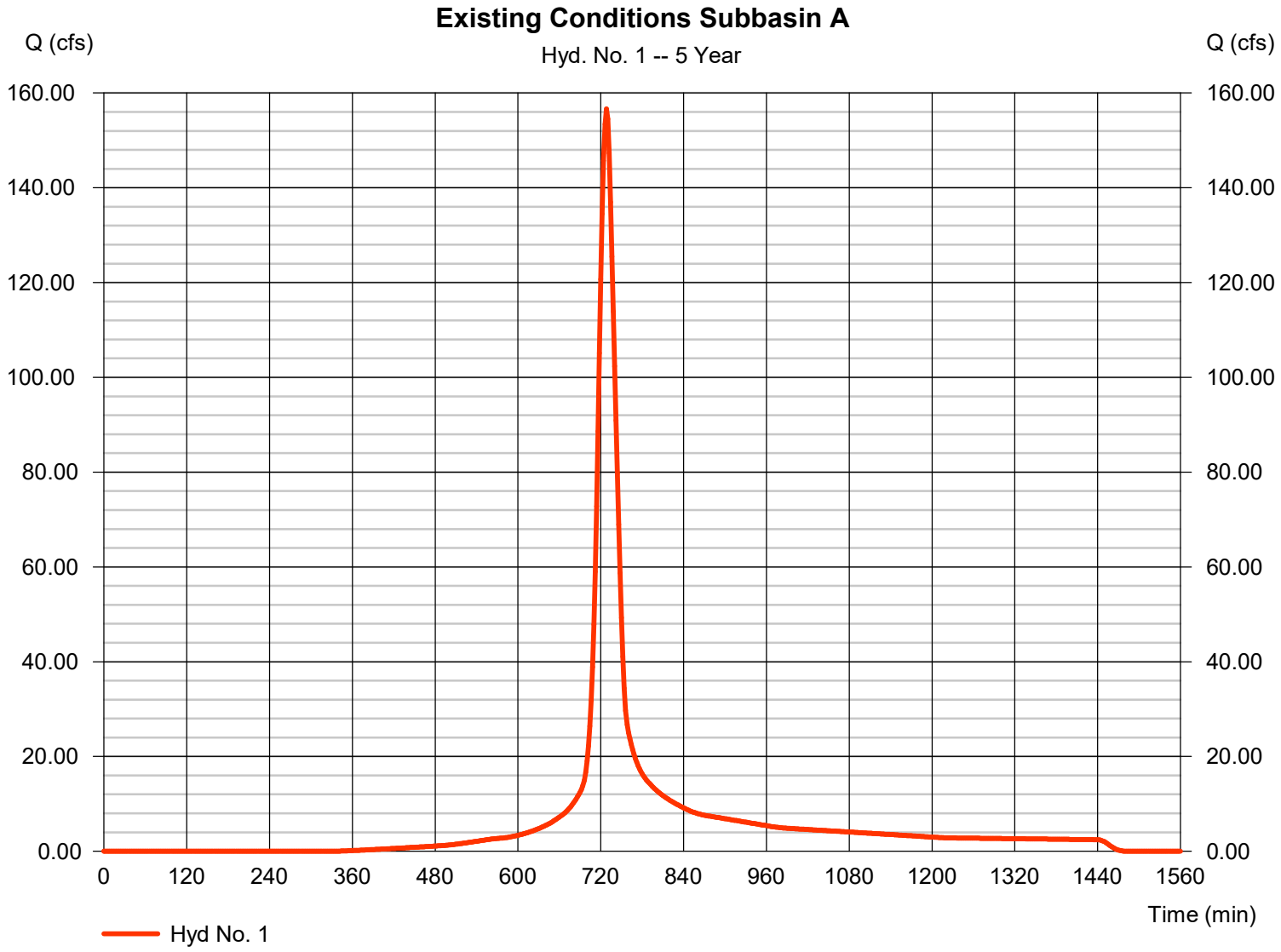
Hydrograph Report

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 156.65 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 578,560 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



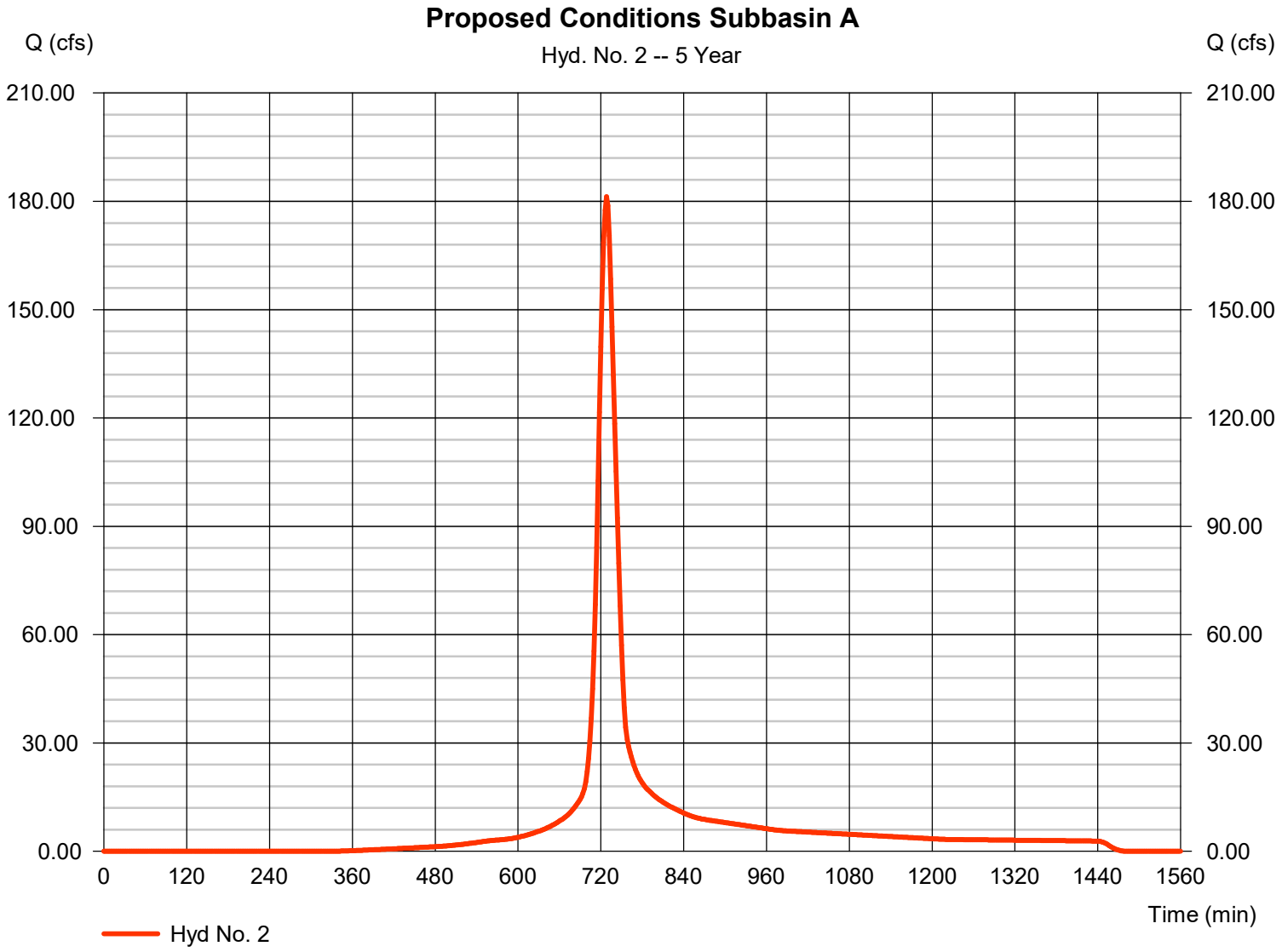
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 181.28 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 669,516 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



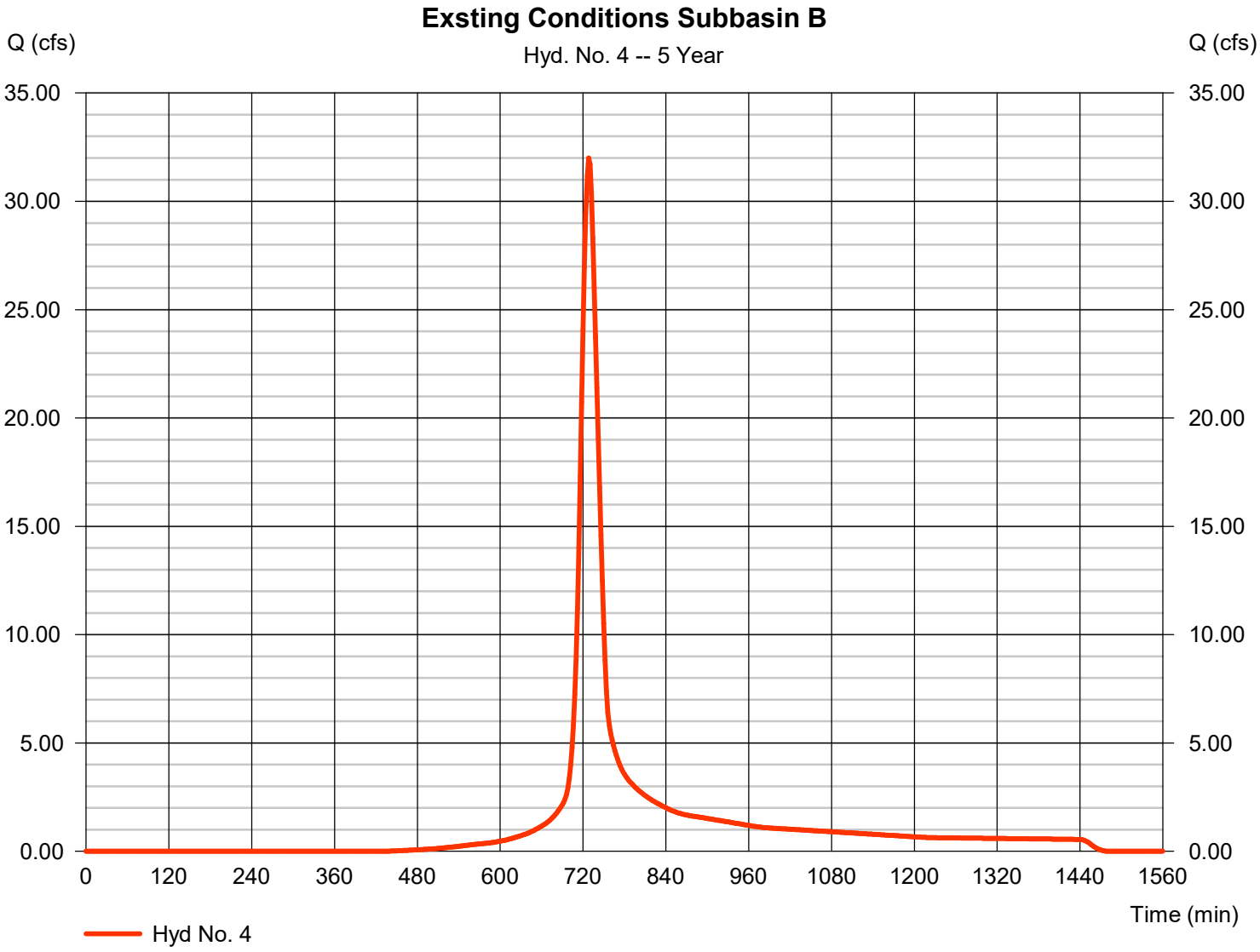
Hydrograph Report

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 32.00 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 117,398 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



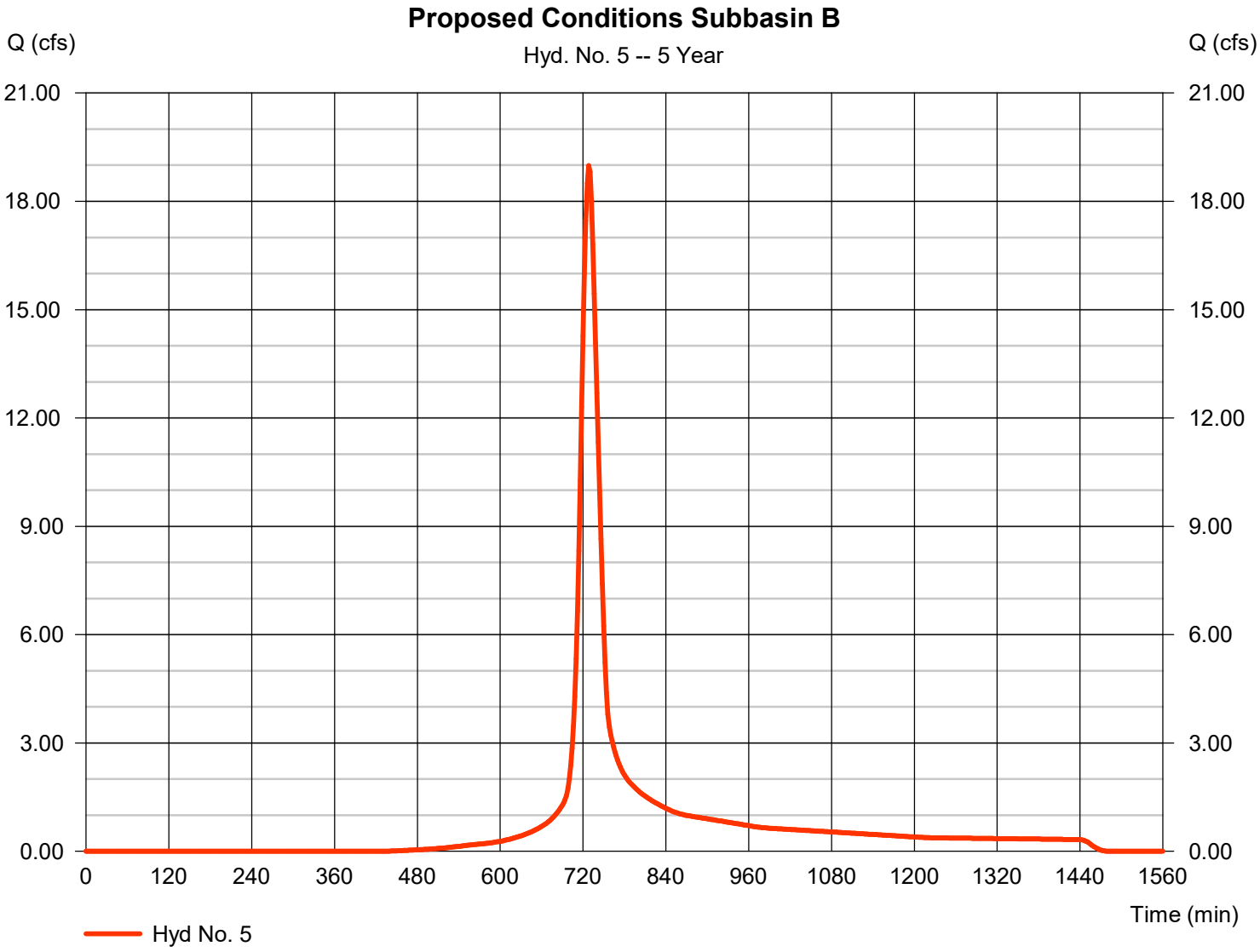
Hydrograph Report

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 18.99 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 69,668 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

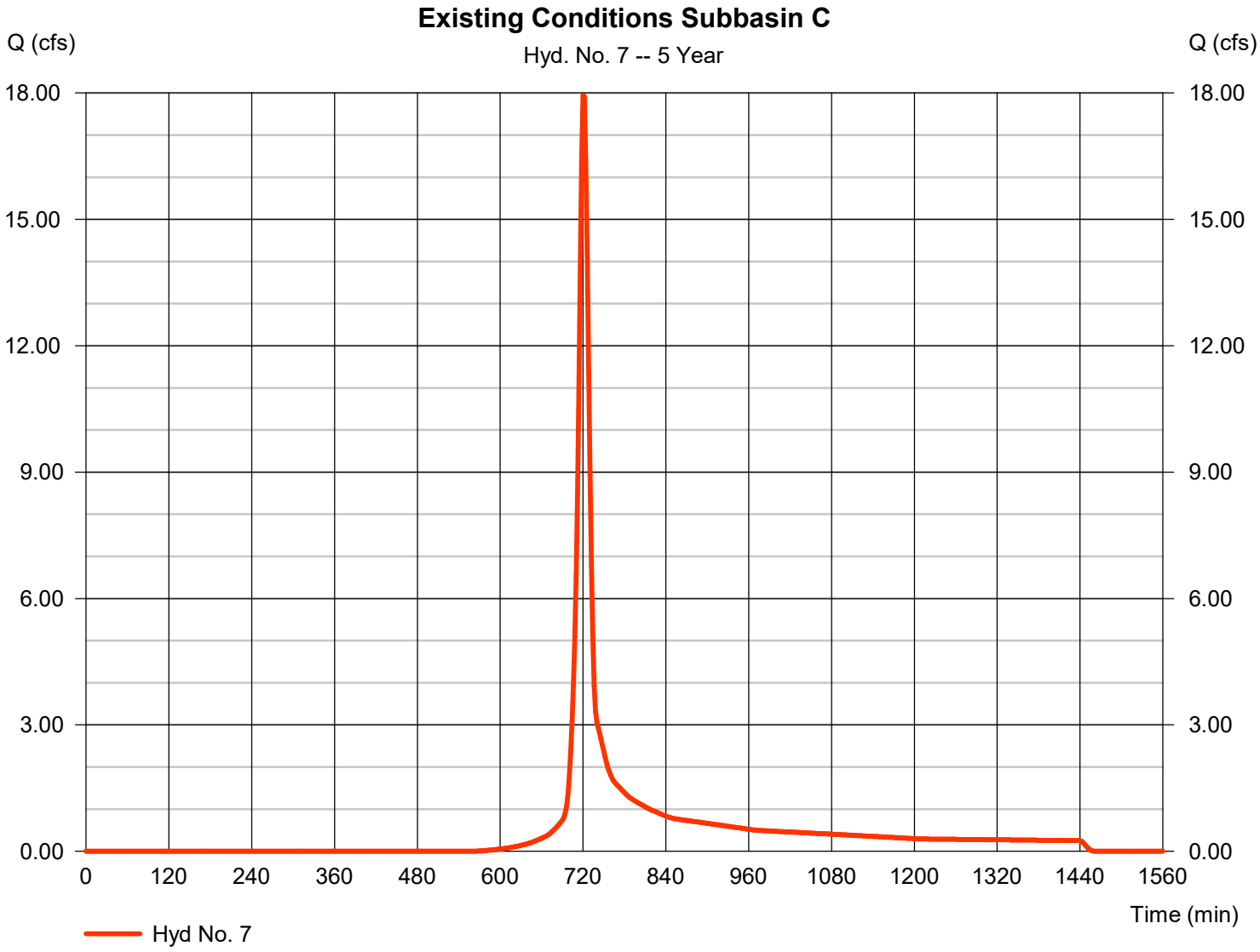
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 17.94 cfs
Storm frequency	= 5 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 46,857 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



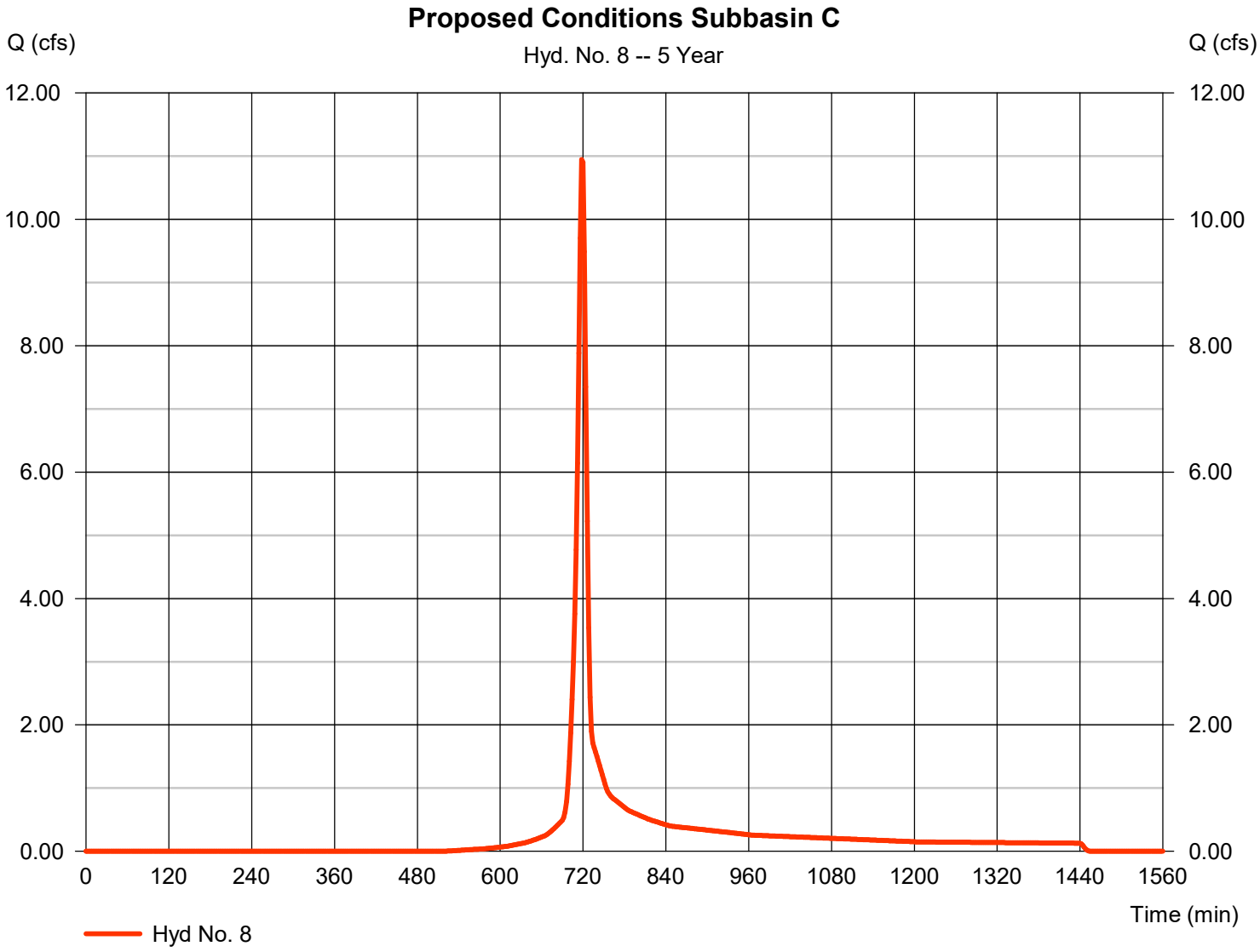
Hydrograph Report

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 10.95 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 25,047 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



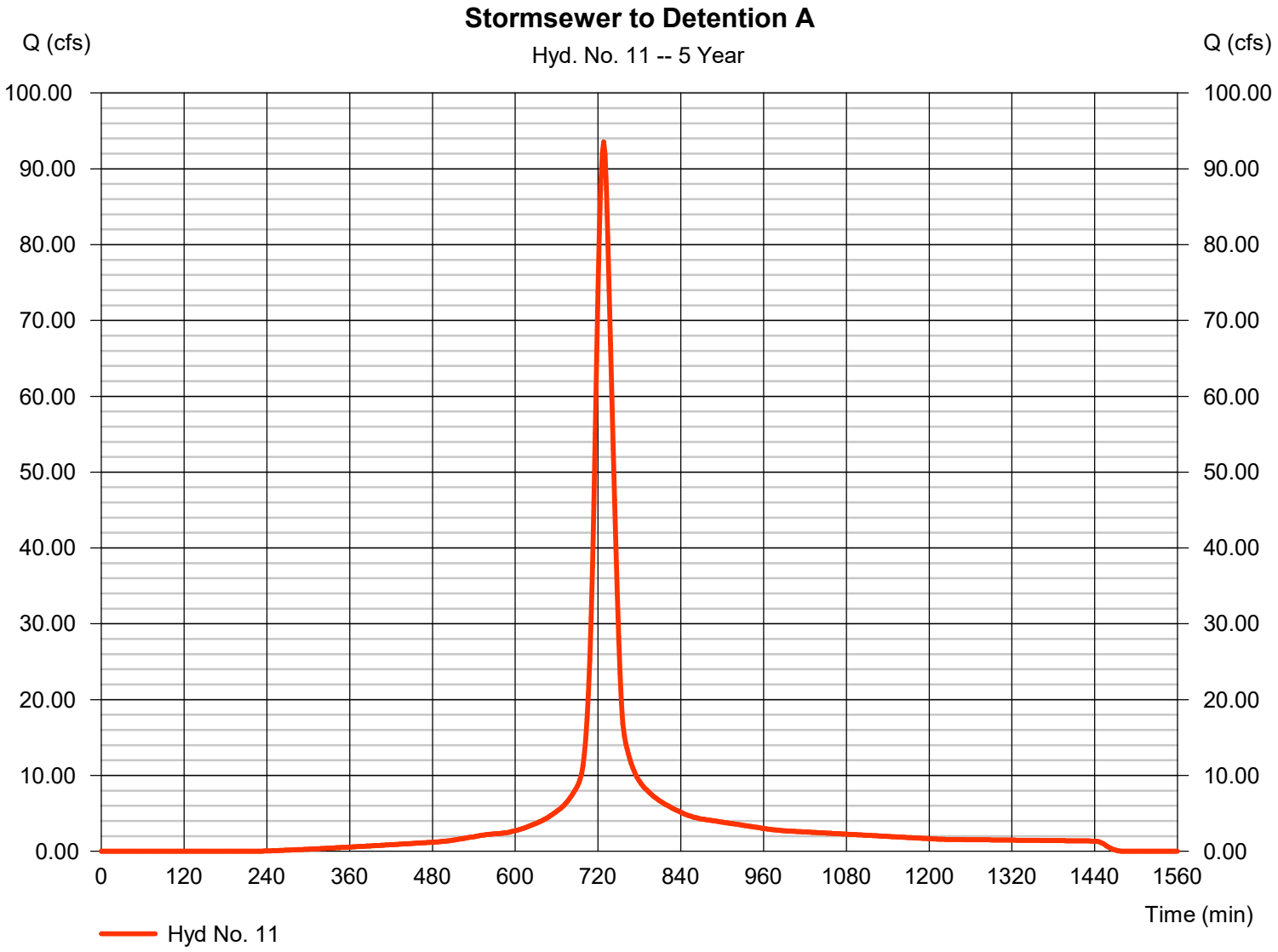
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	93.56 cfs
Storm frequency	=	5 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	353,853 cuft
Drainage area	=	26.480 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.70 min
Total precip.	=	4.75 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



Hydrograph Report

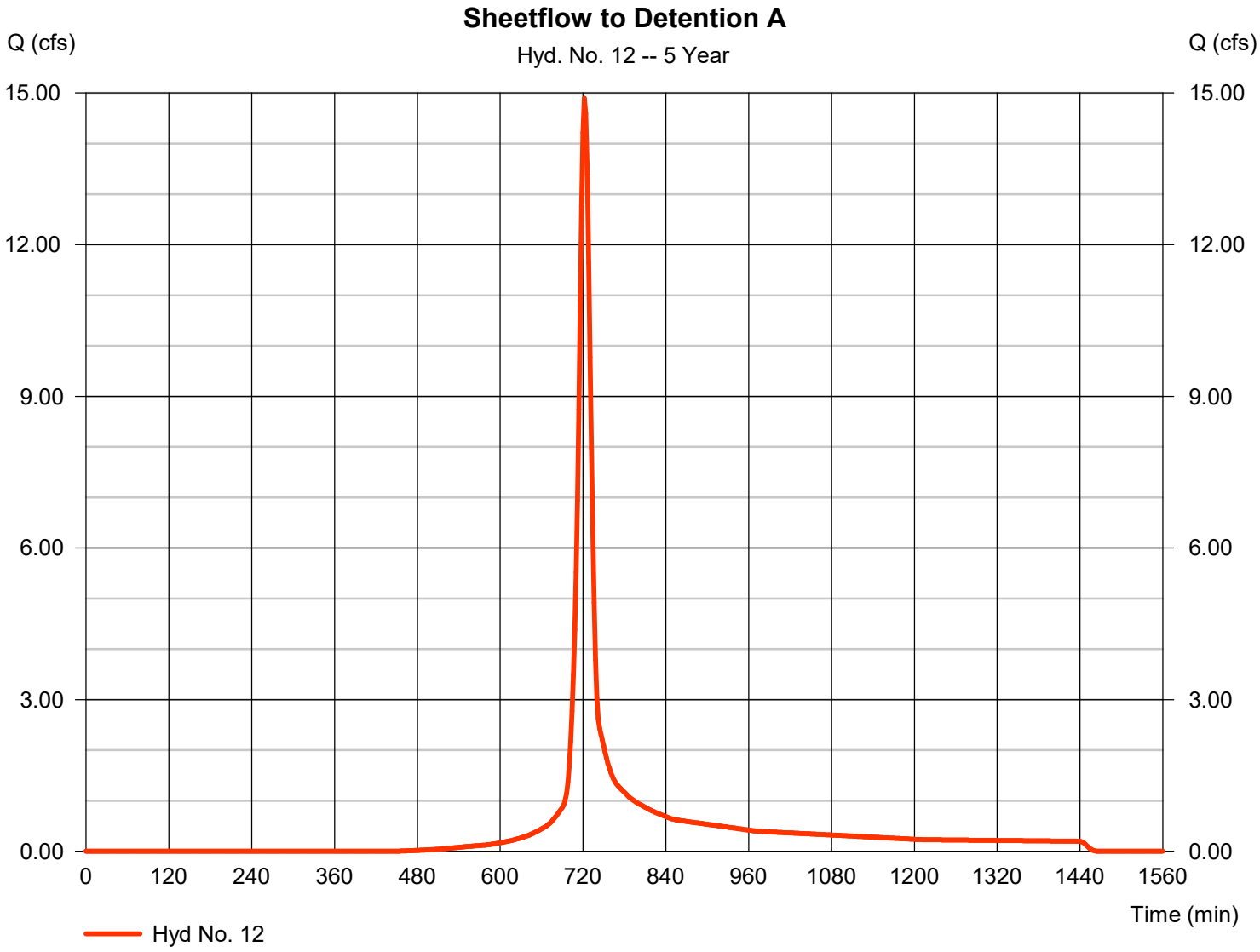
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 14.90 cfs
Storm frequency	= 5 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 41,766 cuft
Drainage area	= 4.410 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 14.90 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

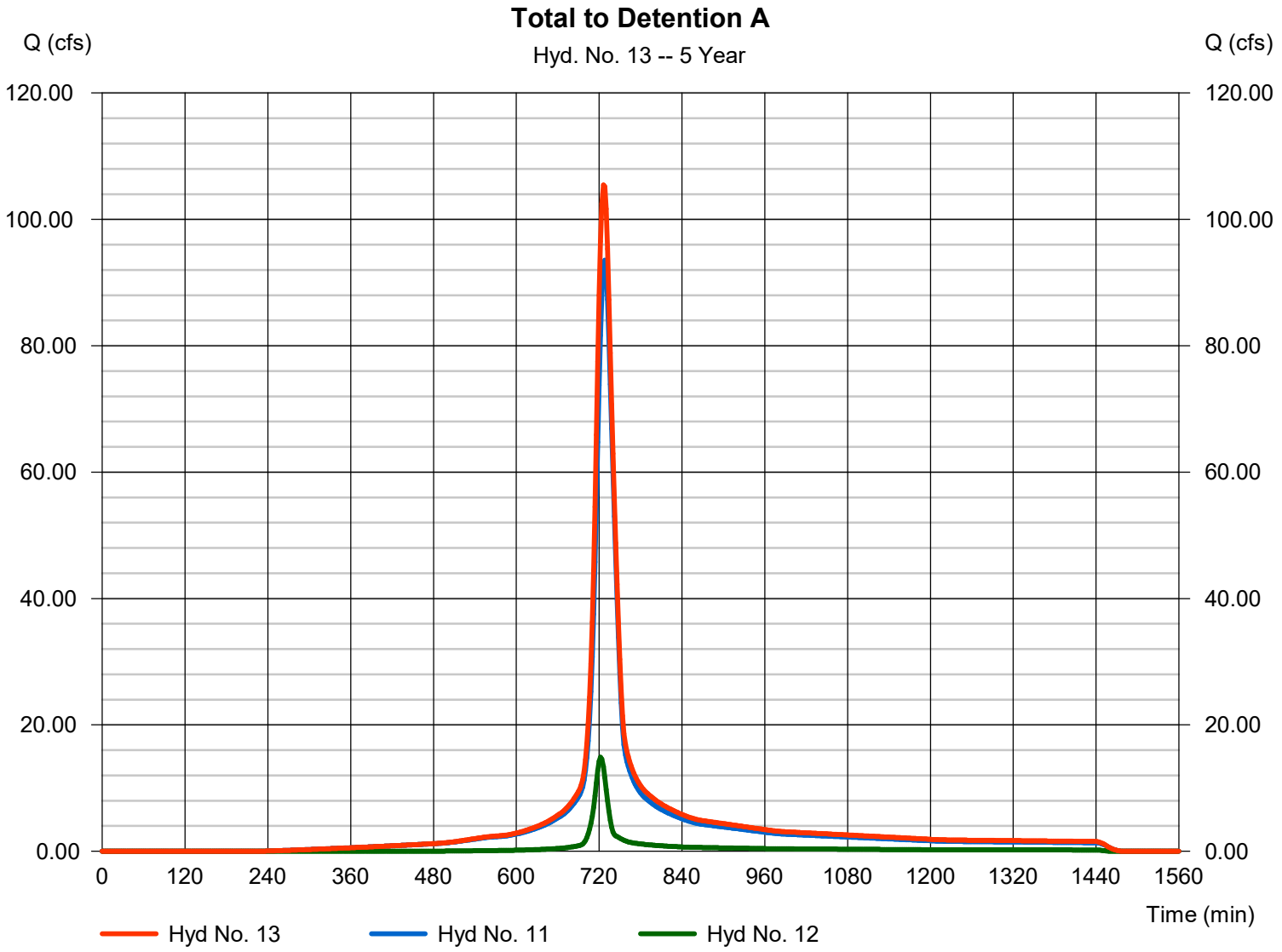


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 105.43 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 395,619 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



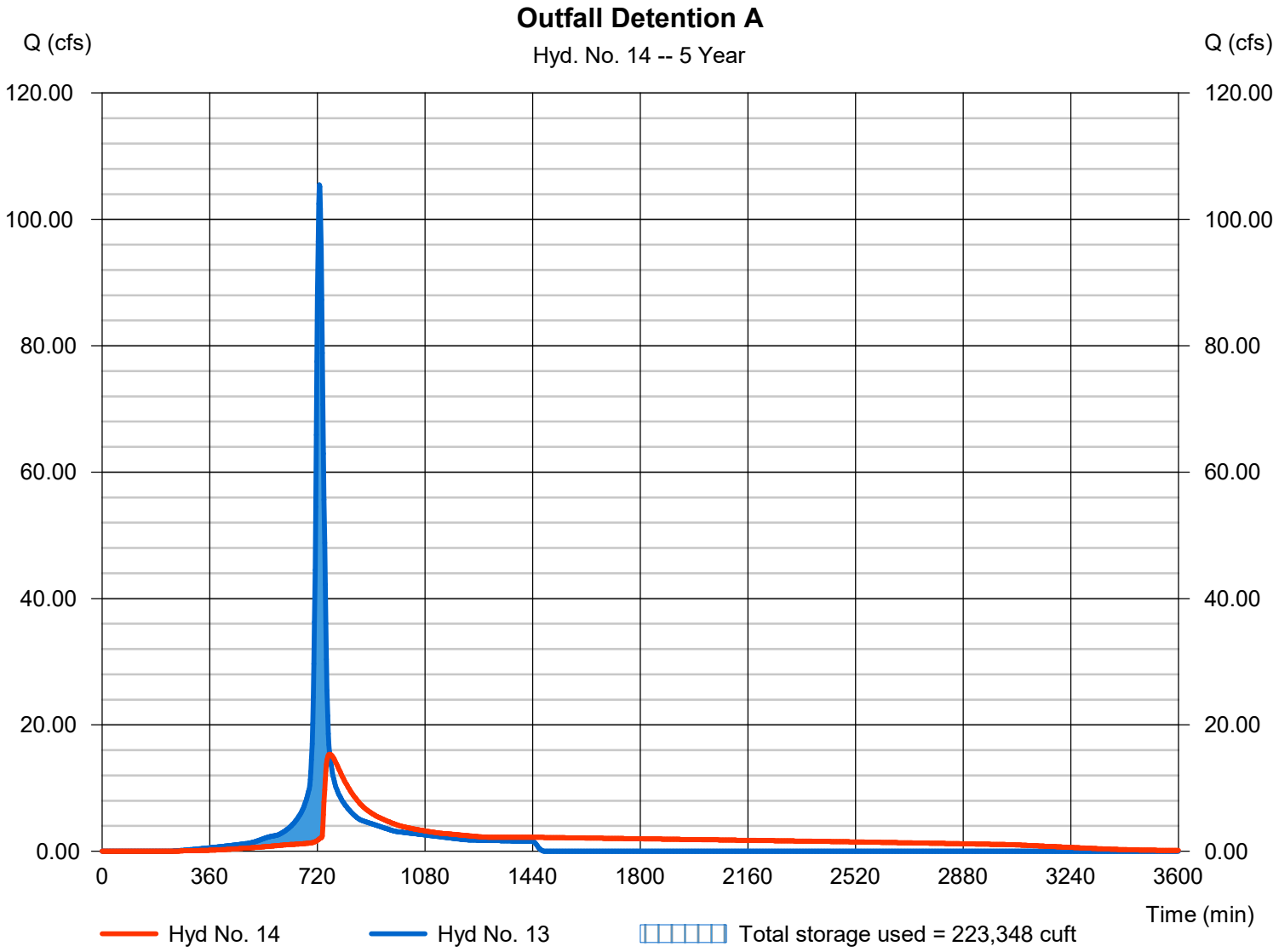
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	15.36 cfs
Storm frequency	=	5 yrs	Time to peak	=	762 min
Time interval	=	2 min	Hyd. volume	=	395,603 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	652.06 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	223,348 cuft

Storage Indication method used.



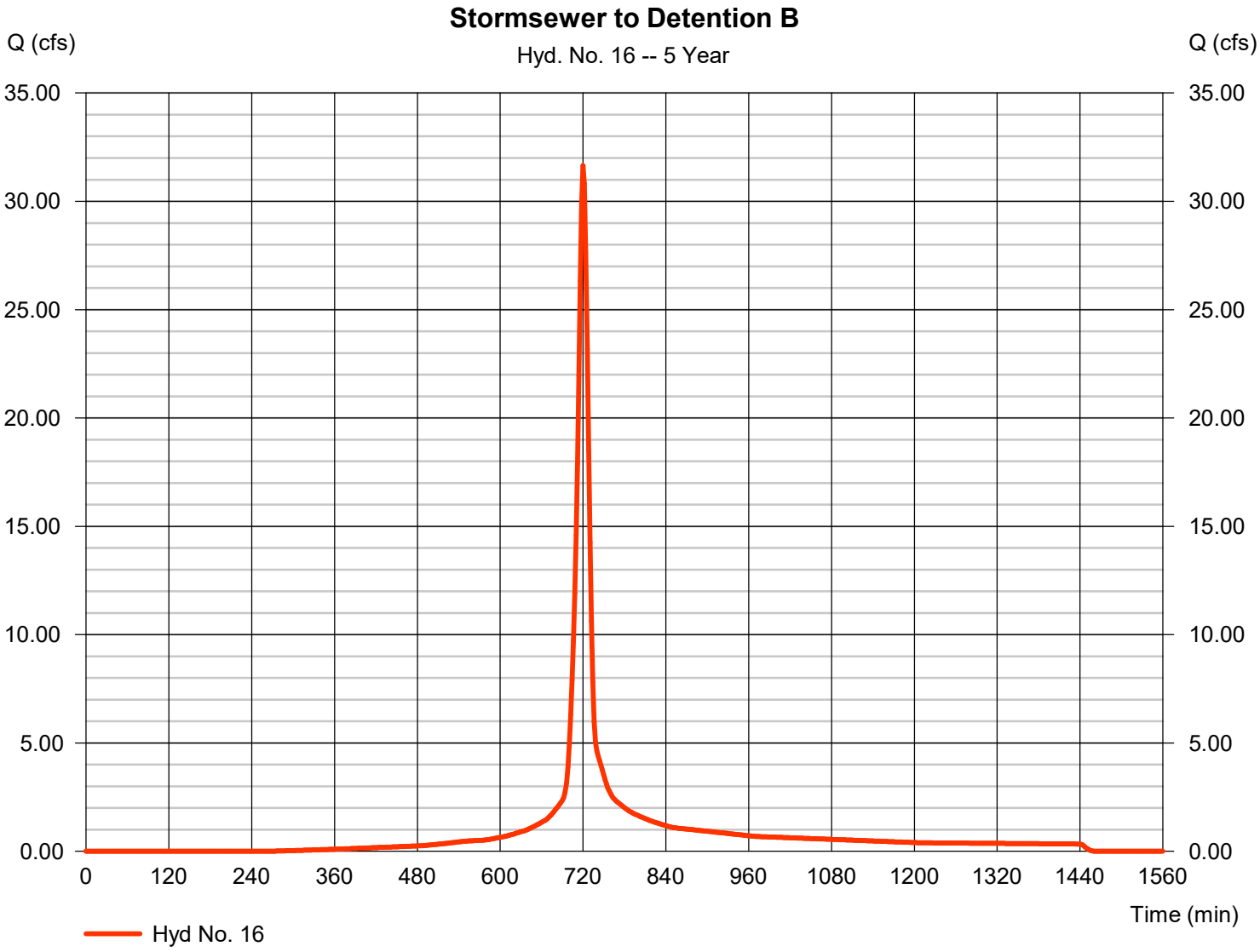
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 31.65 cfs
Storm frequency	= 5 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 84,645 cuft
Drainage area	= 6.400 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

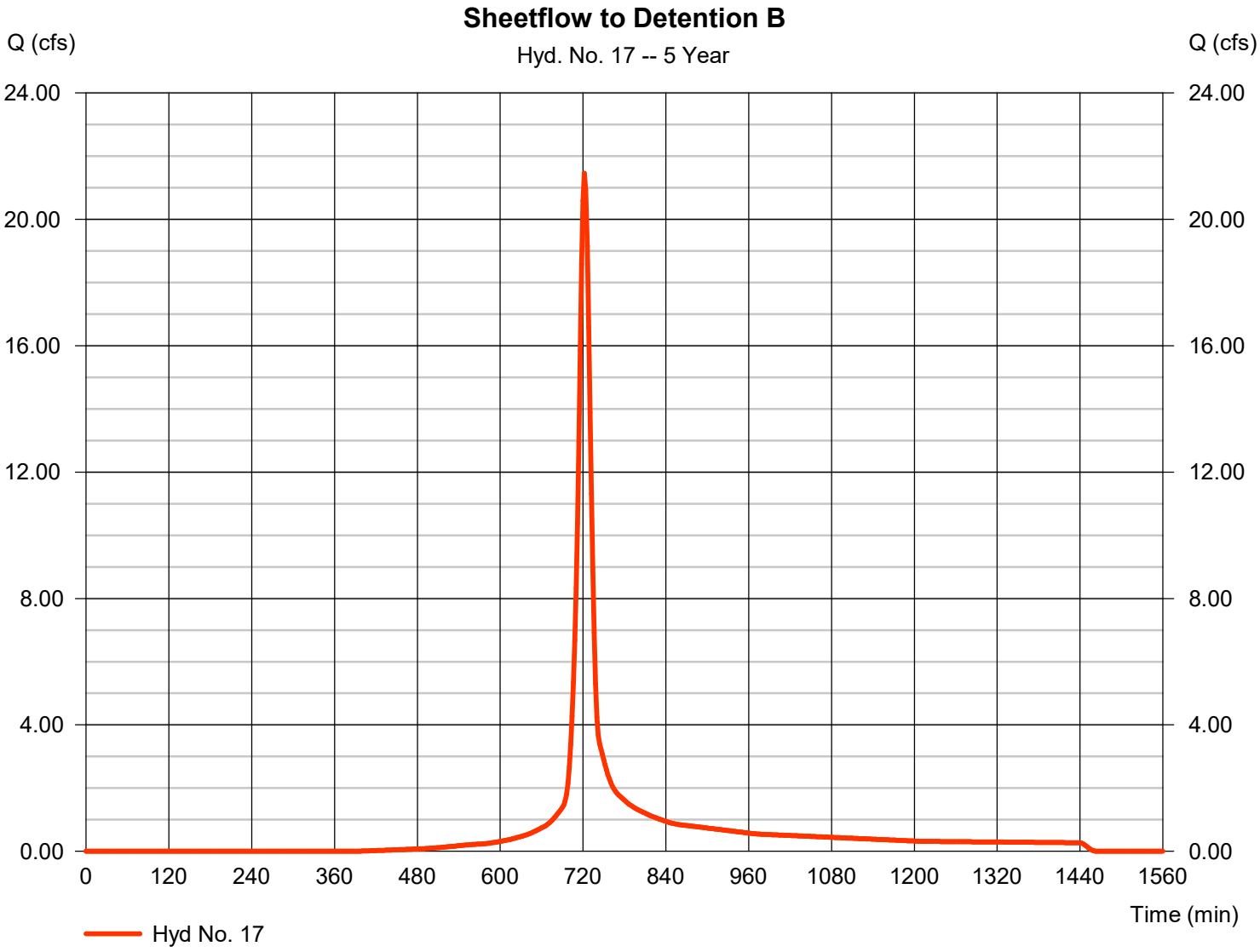
Wednesday, 08 / 27 / 2025

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 21.46 cfs
Storm frequency	= 5 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 60,428 cuft
Drainage area	= 5.790 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 13.80 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

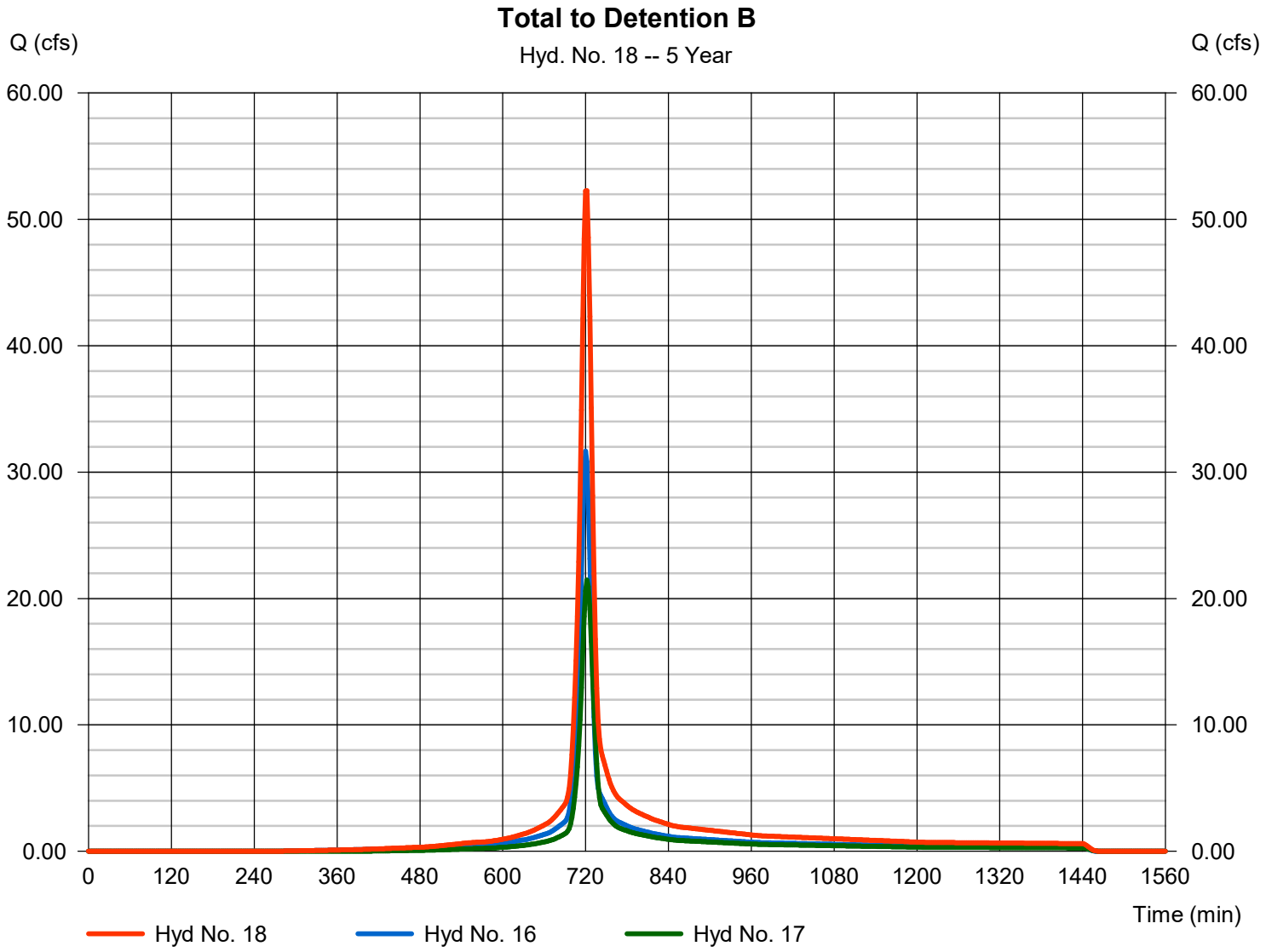


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 52.27 cfs
Storm frequency	= 5 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 145,073 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



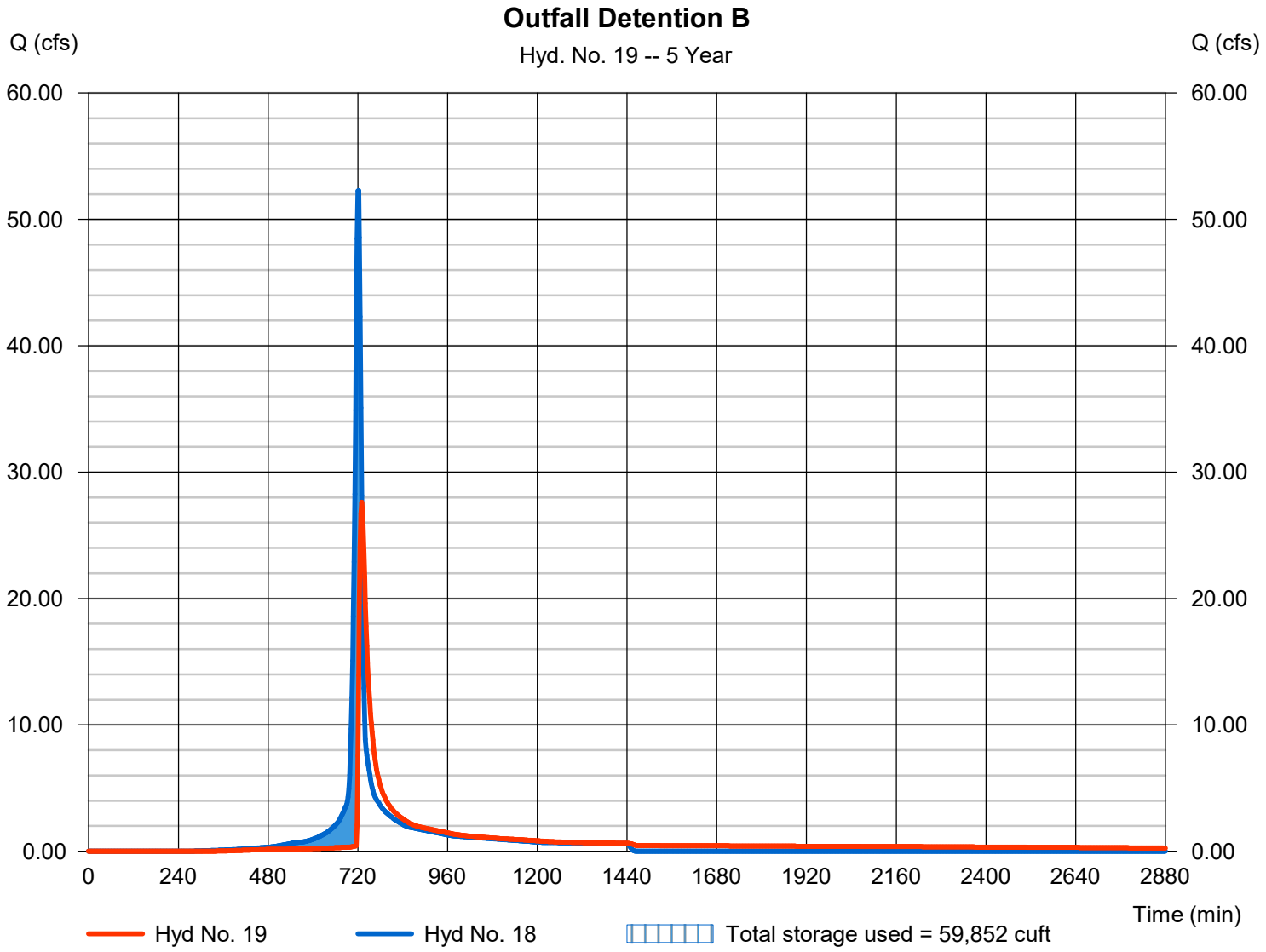
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	27.62 cfs
Storm frequency	=	5 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	145,056 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	660.69 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	59,852 cuft

Storage Indication method used.



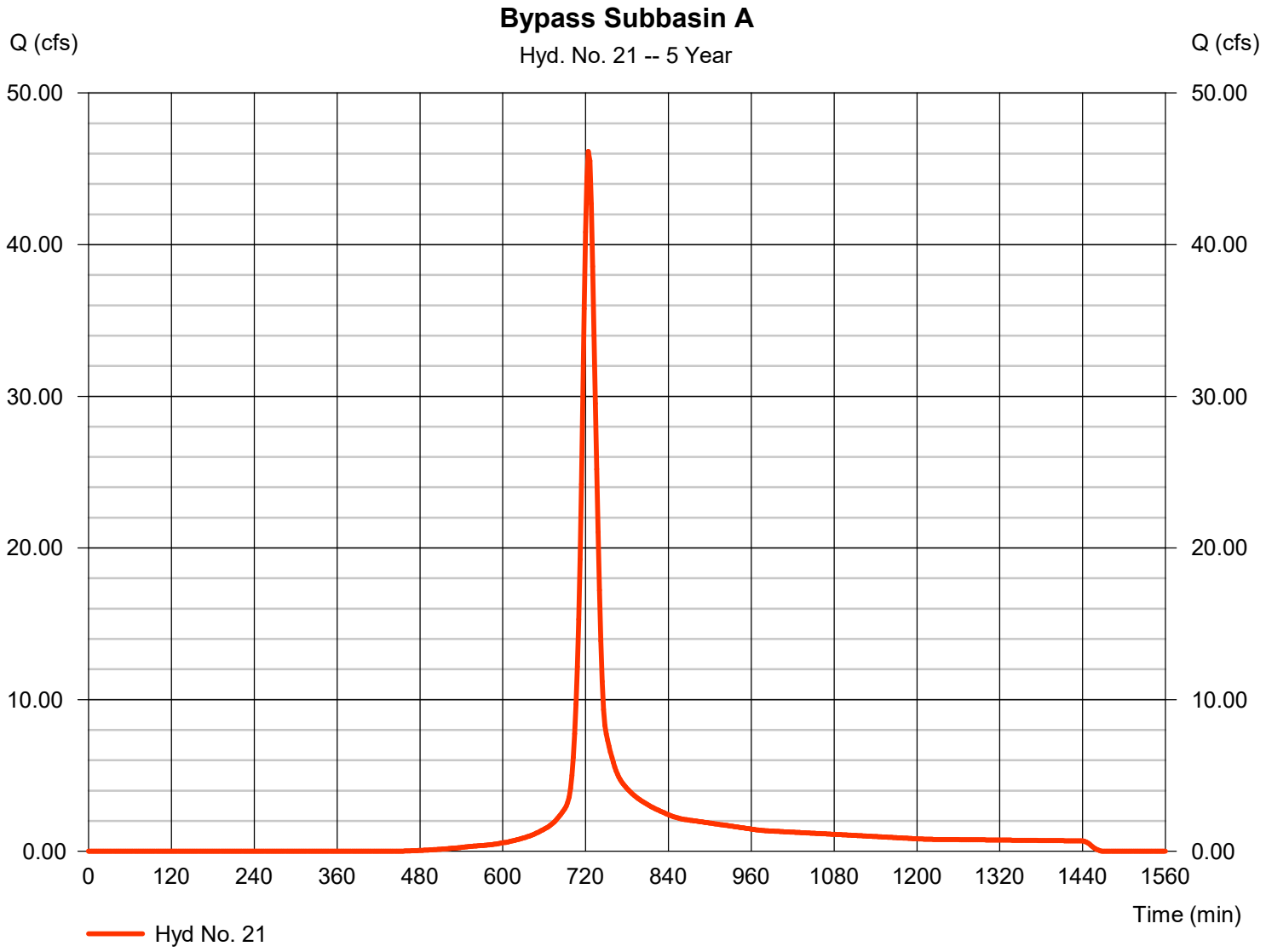
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 46.14 cfs
Storm frequency	= 5 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 144,247 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

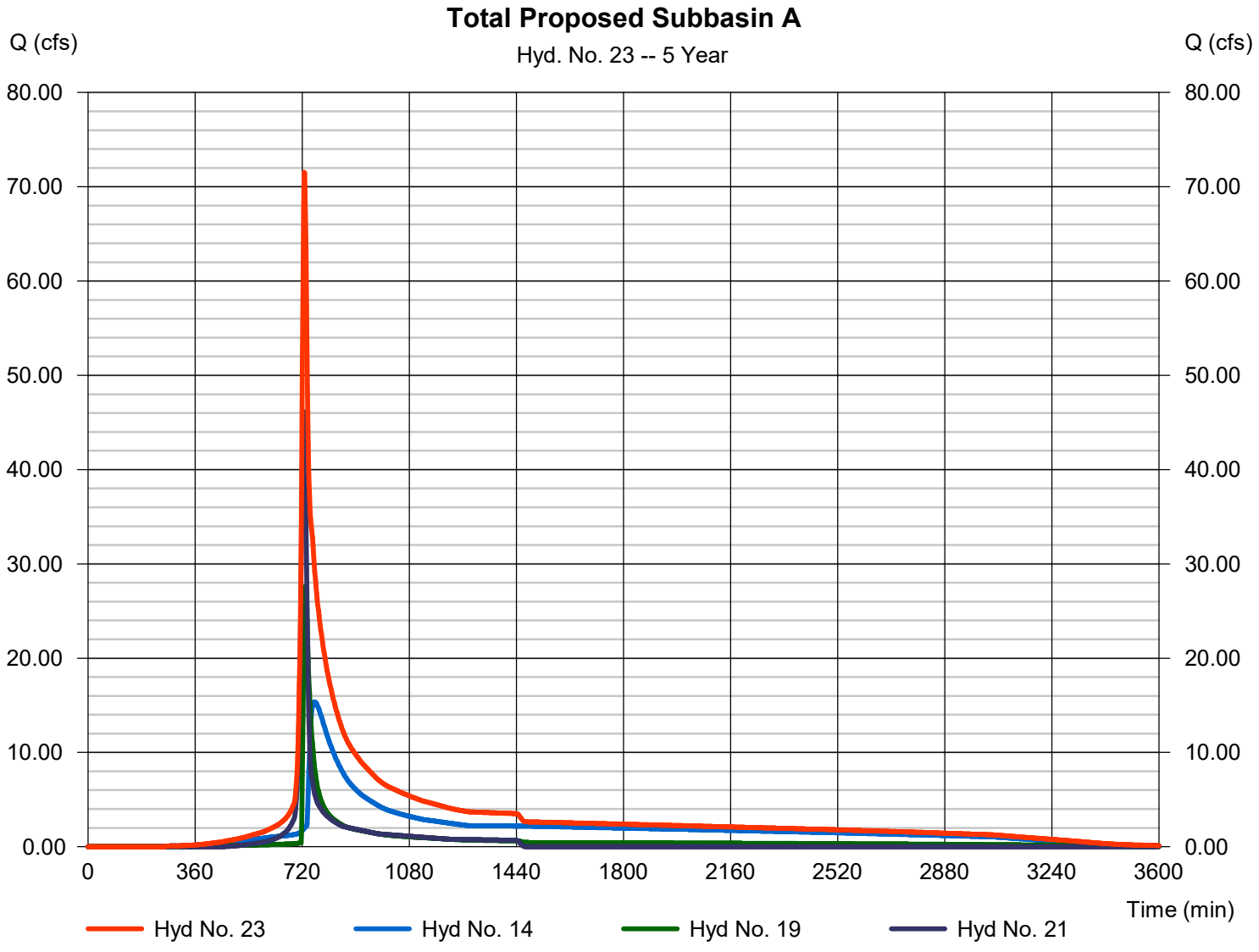


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 71.54 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 684,905 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

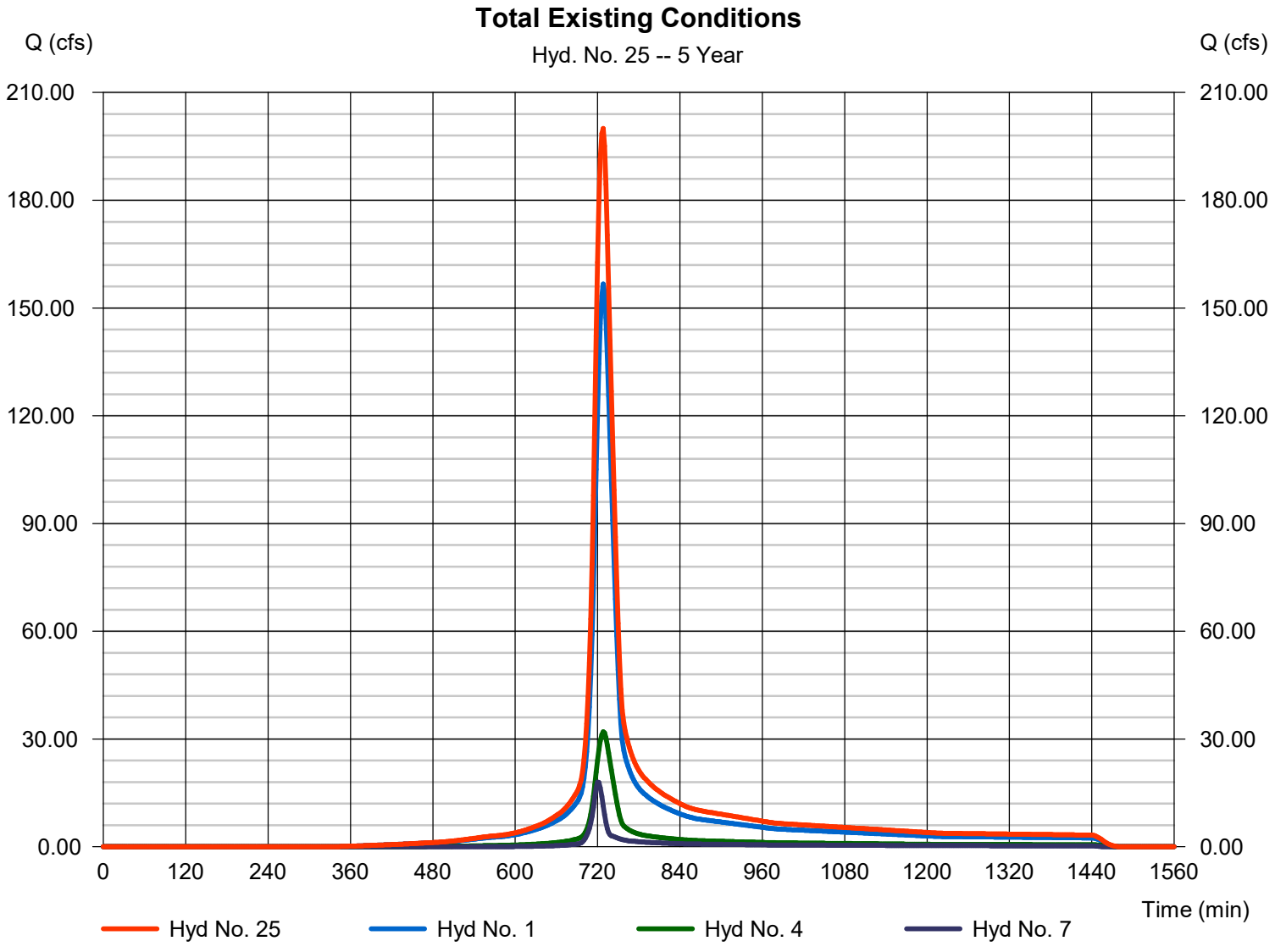


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 200.01 cfs
Storm frequency	= 5 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 742,815 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac

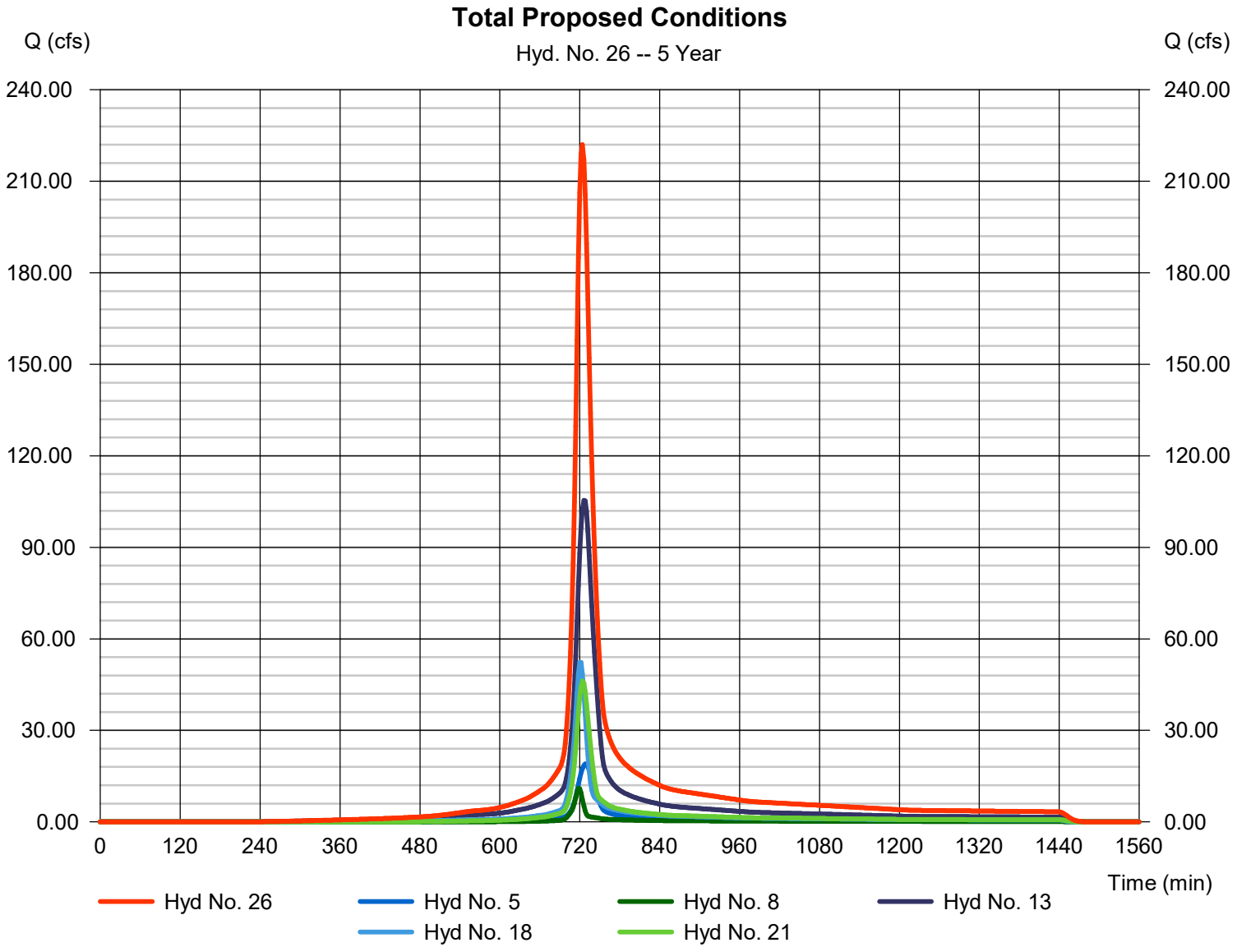


Hydrograph Report

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 222.01 cfs
Storm frequency	= 5 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 779,654 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

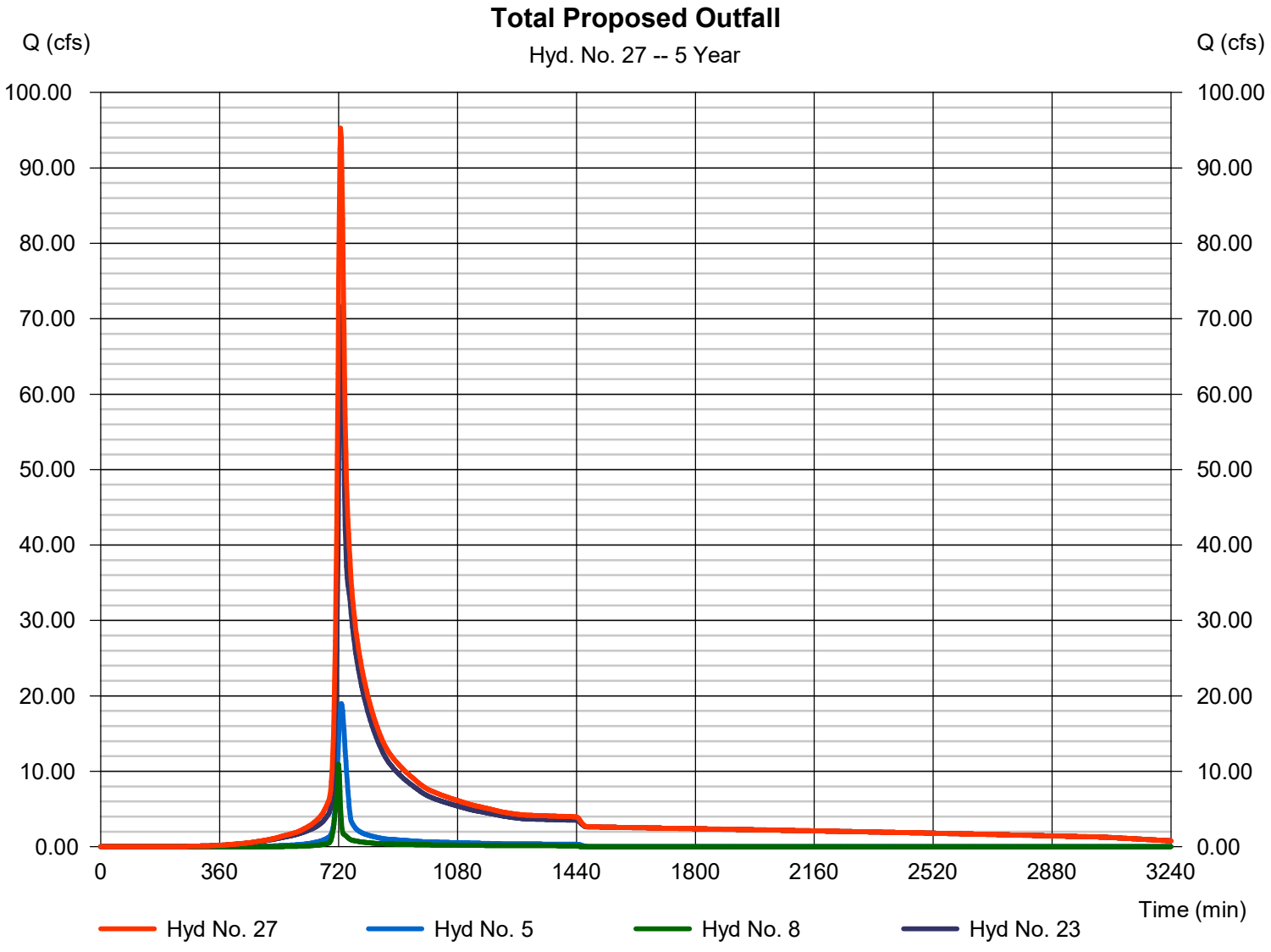


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	= Combine	Peak discharge	= 95.26 cfs
Storm frequency	= 5 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 779,620 cuft
Inflow hyds.	= 5, 8, 23	Contrib. drain. area	= 10.010 ac



Hydrograph Report

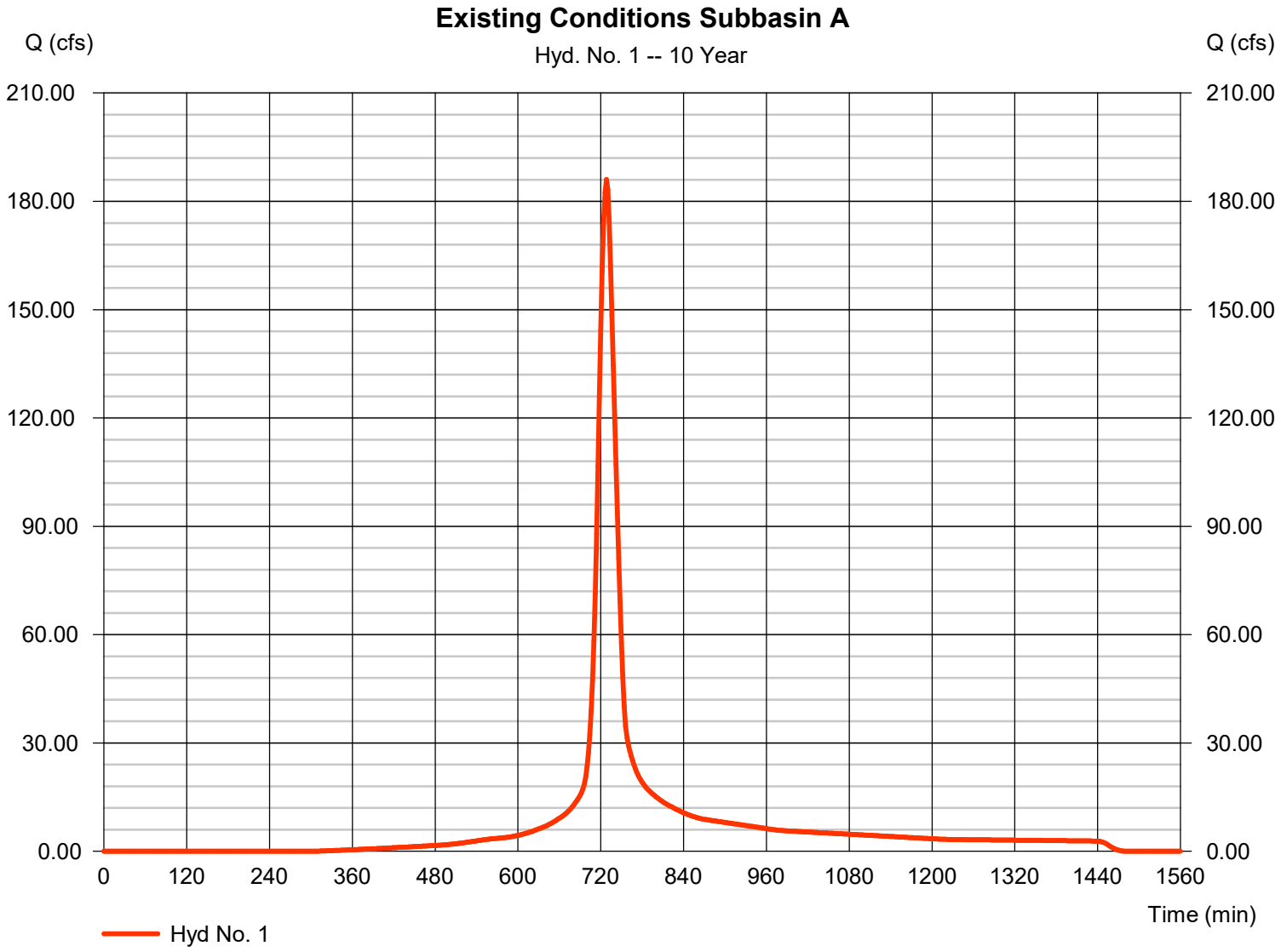
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 186.04 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 690,602 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



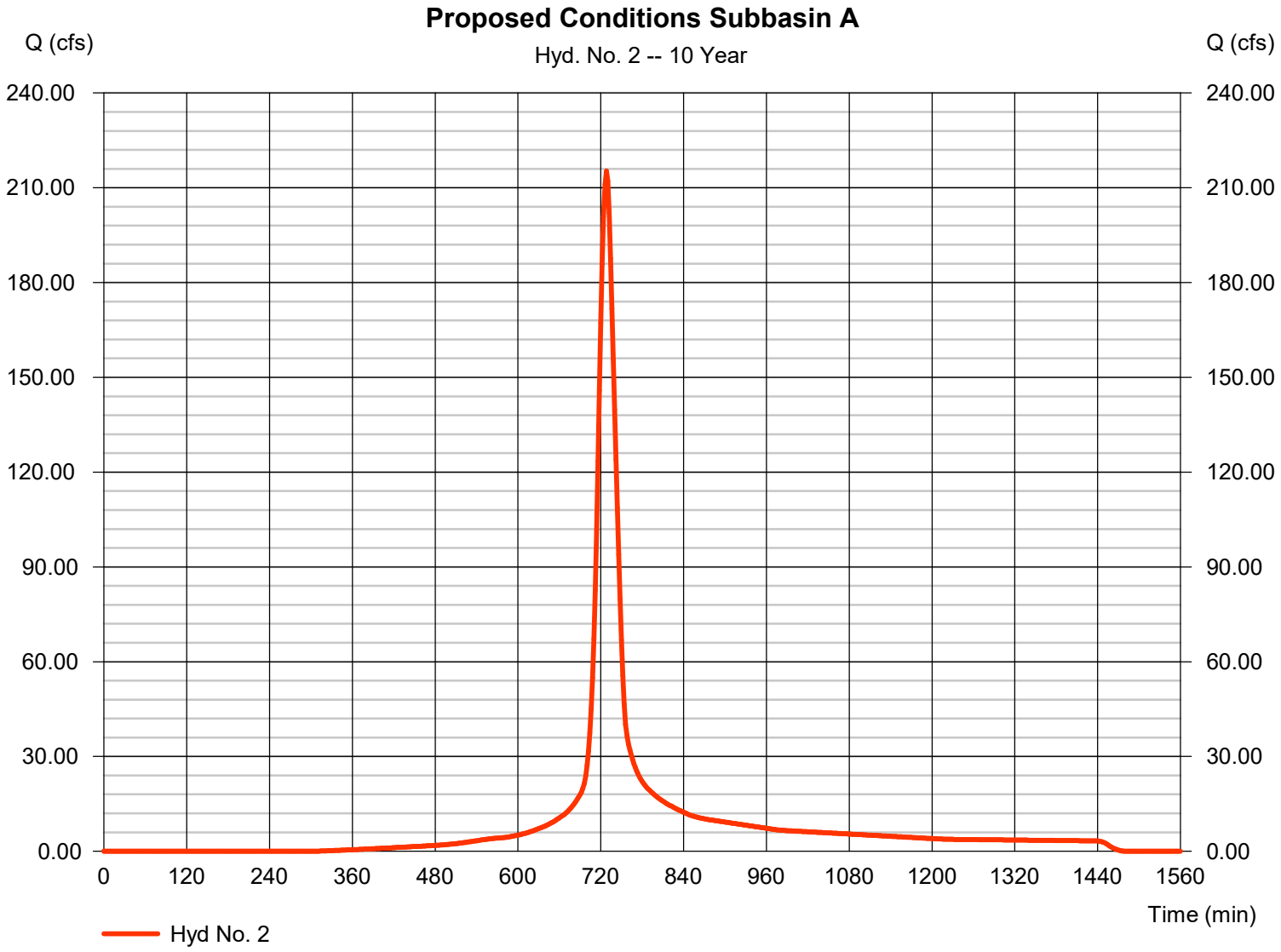
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 215.28 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 799,173 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



Hydrograph Report

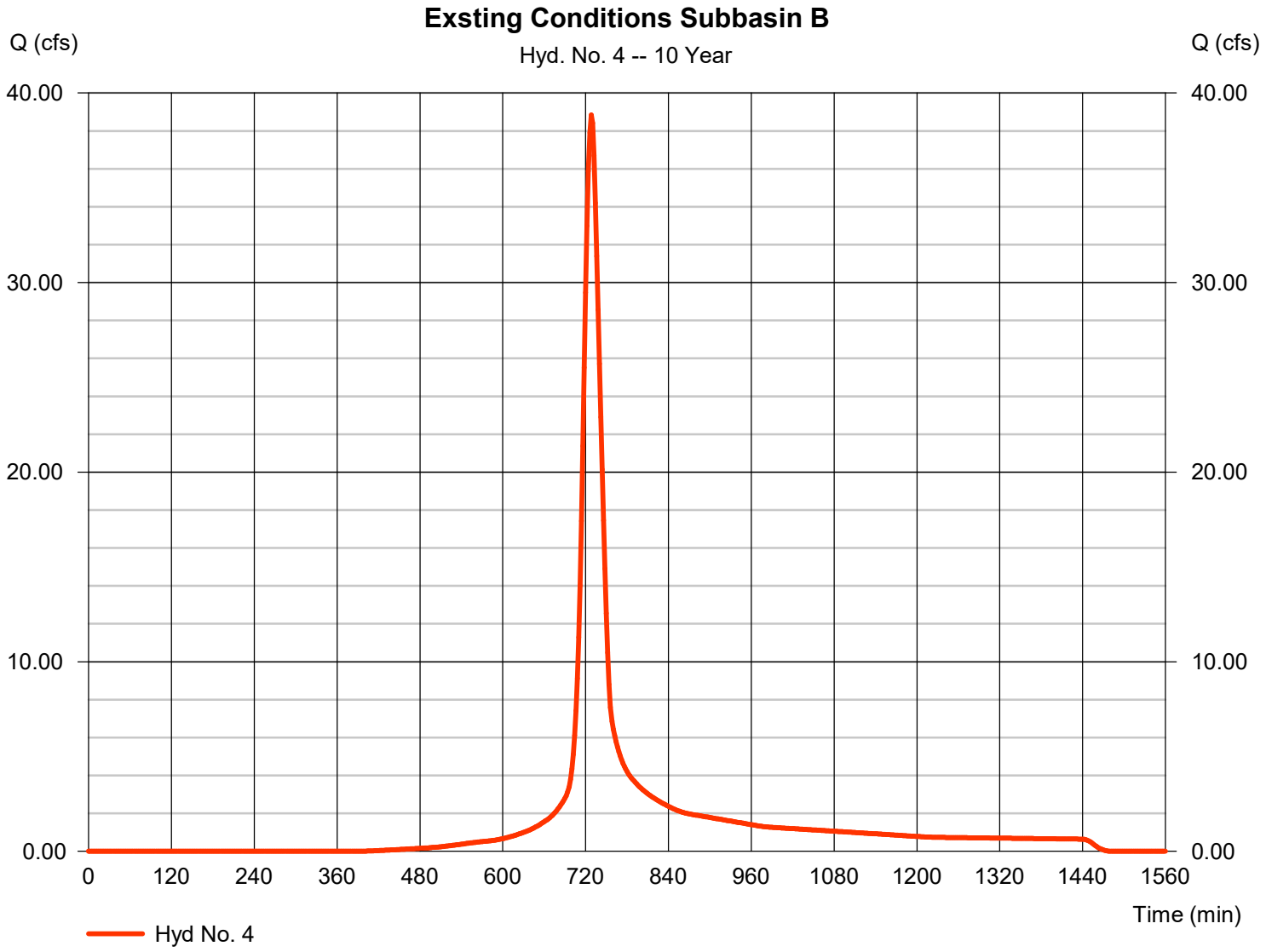
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 38.84 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 142,603 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



Hydrograph Report

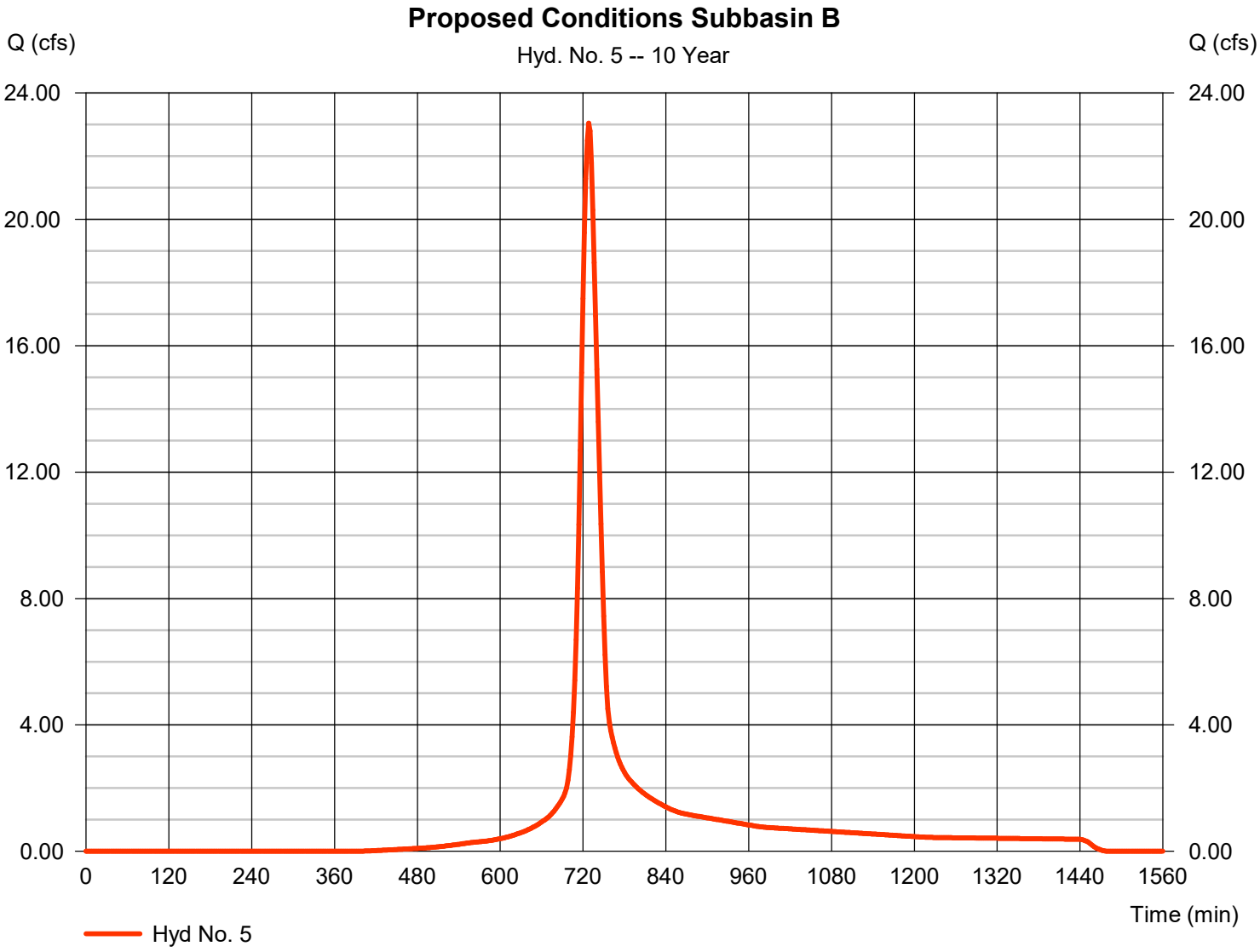
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 23.05 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 84,625 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

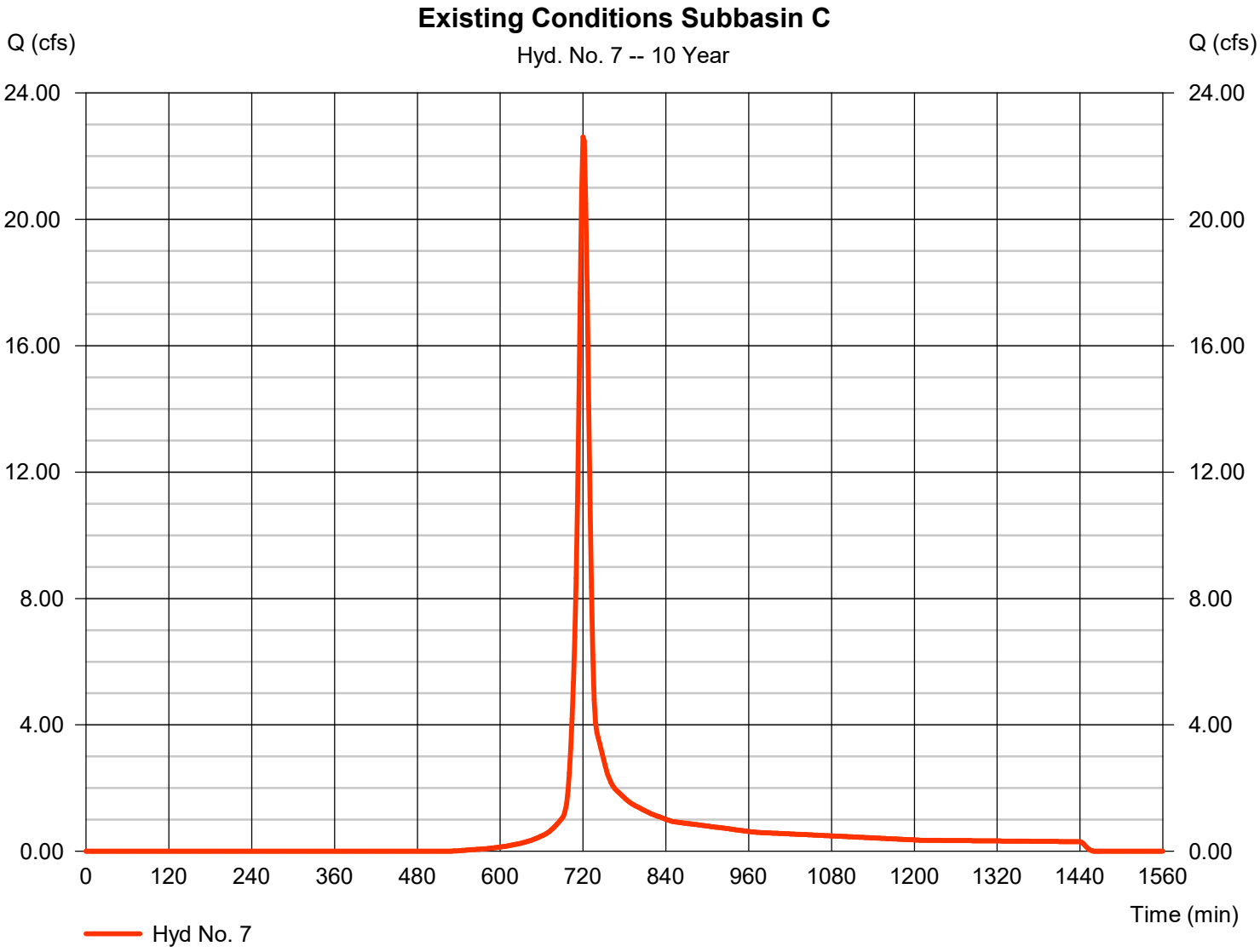
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 22.60 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 58,719 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



Hydrograph Report

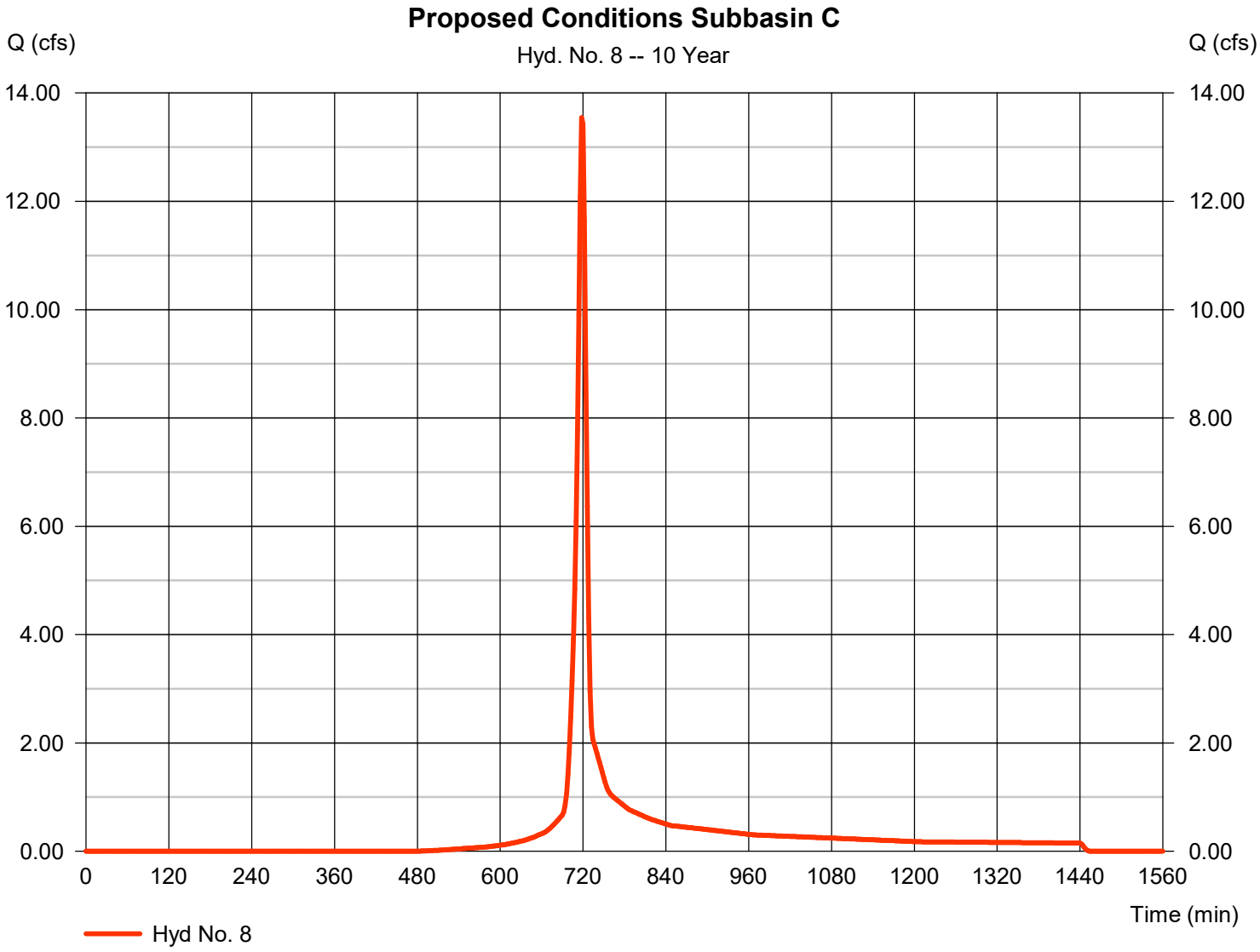
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 13.55 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 31,004 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



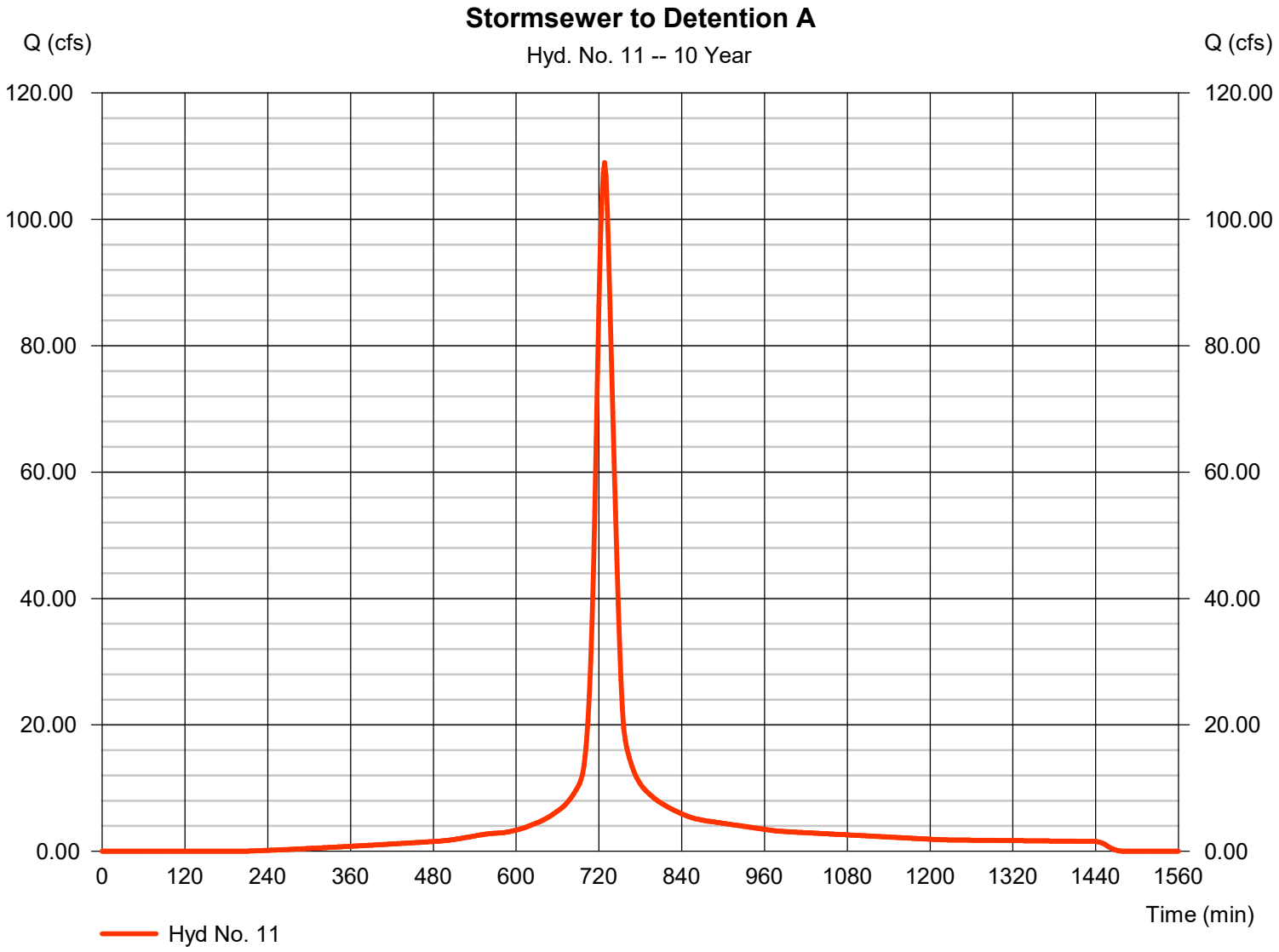
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 109.00 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 415,447 cuft
Drainage area	= 26.480 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.70 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



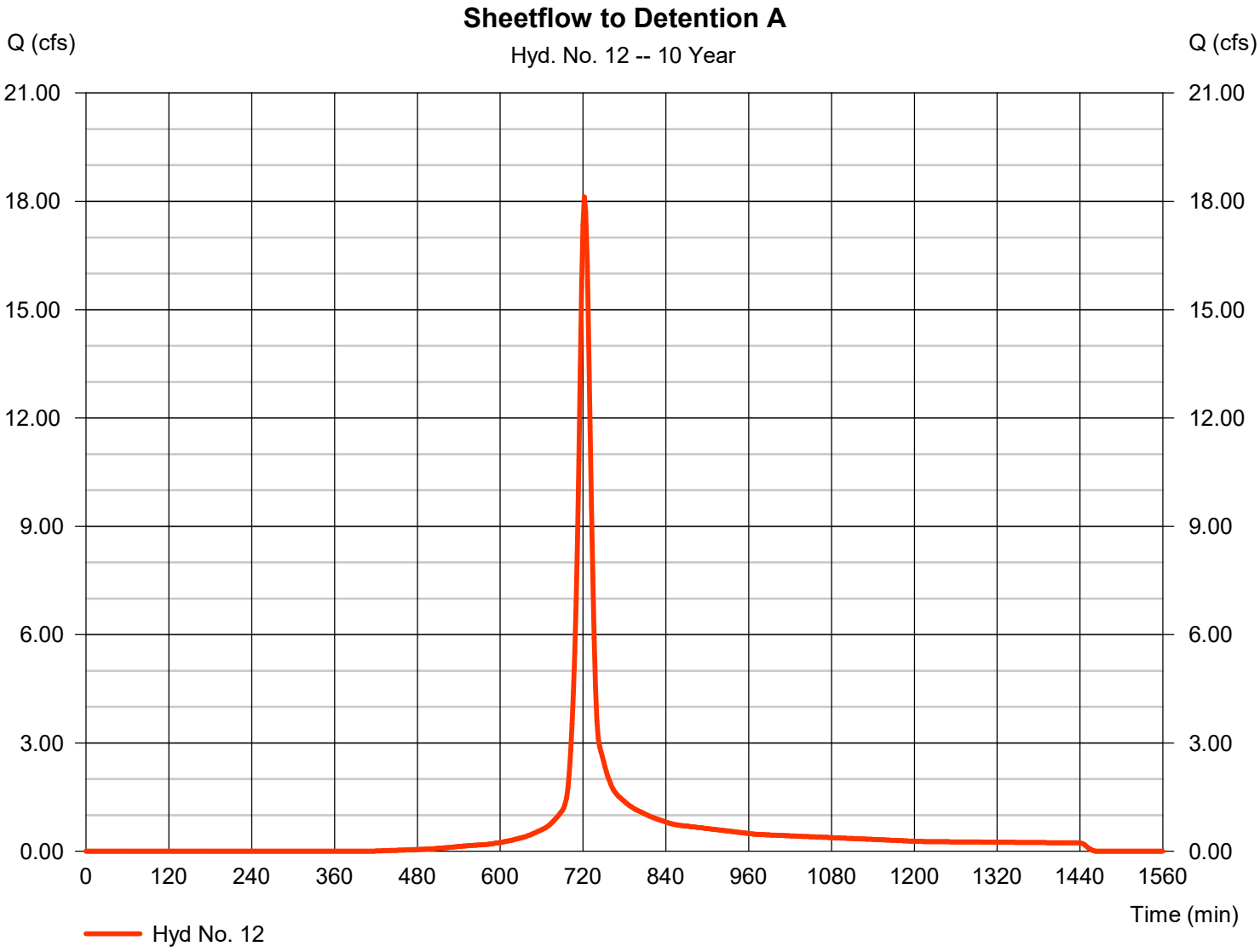
Hydrograph Report

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 18.12 cfs
Storm frequency	= 10 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 50,919 cuft
Drainage area	= 4.410 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 14.90 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

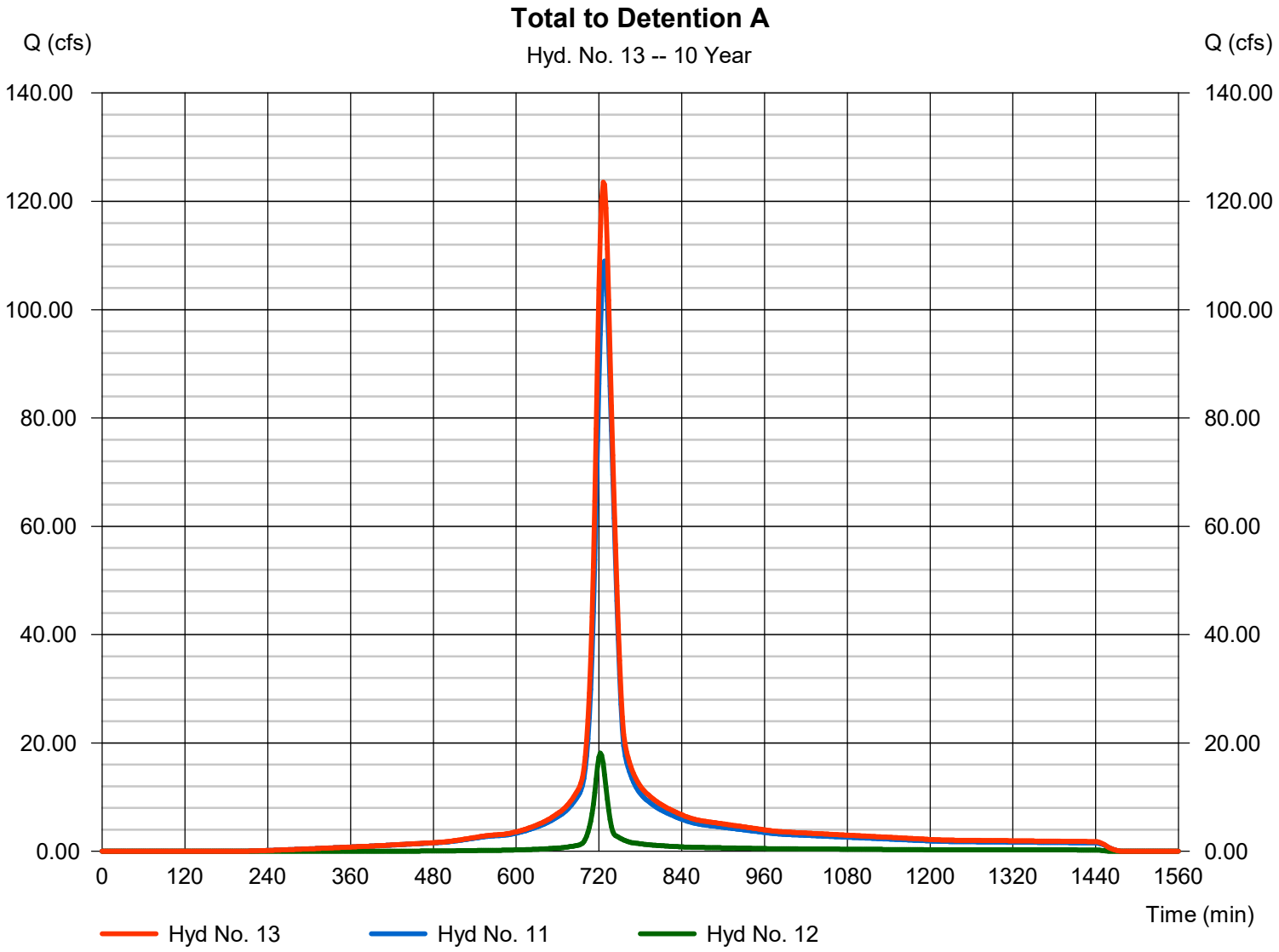


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 123.53 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 466,366 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



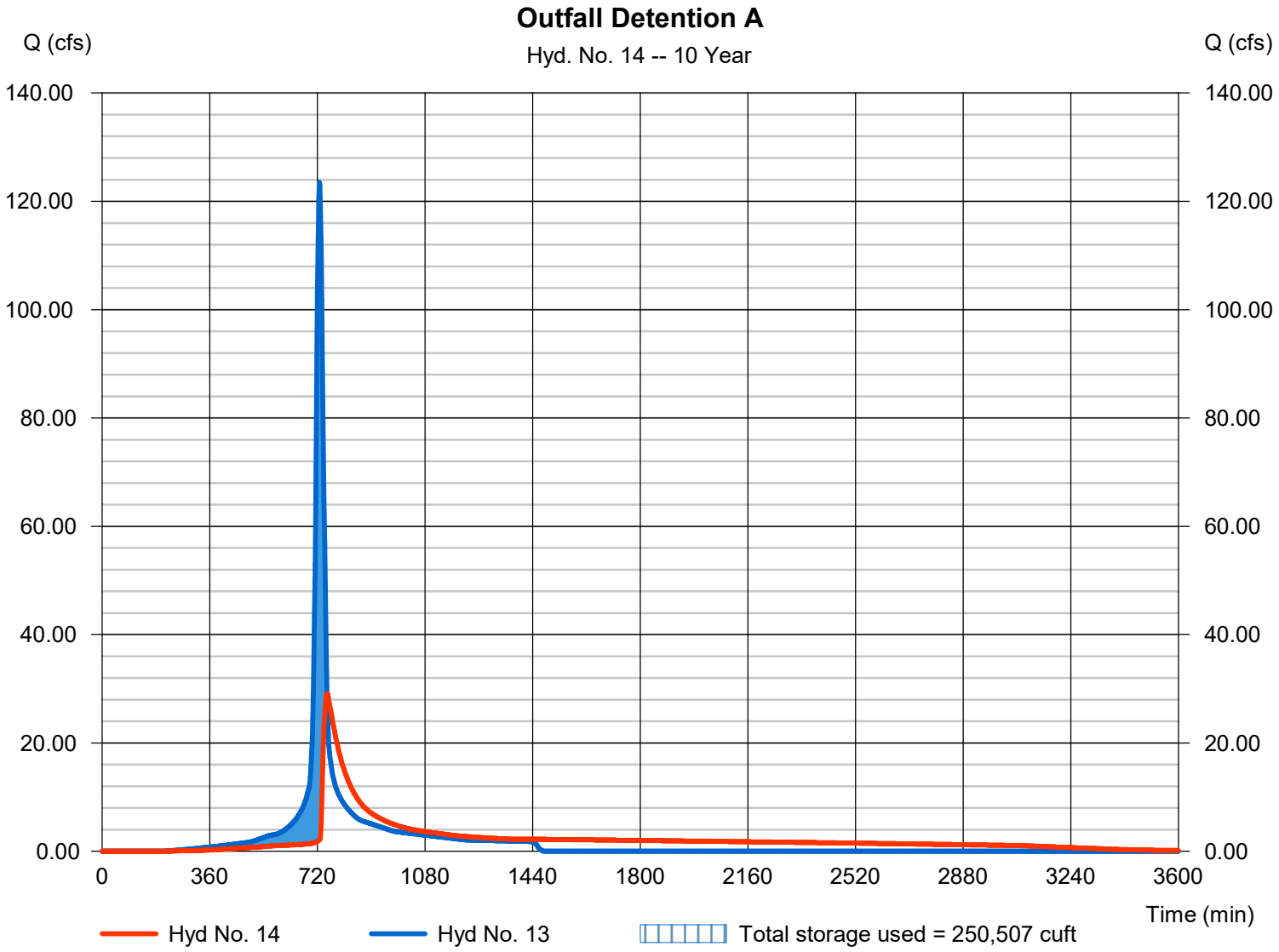
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	29.16 cfs
Storm frequency	=	10 yrs	Time to peak	=	752 min
Time interval	=	2 min	Hyd. volume	=	466,349 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	652.52 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	250,507 cuft

Storage Indication method used.



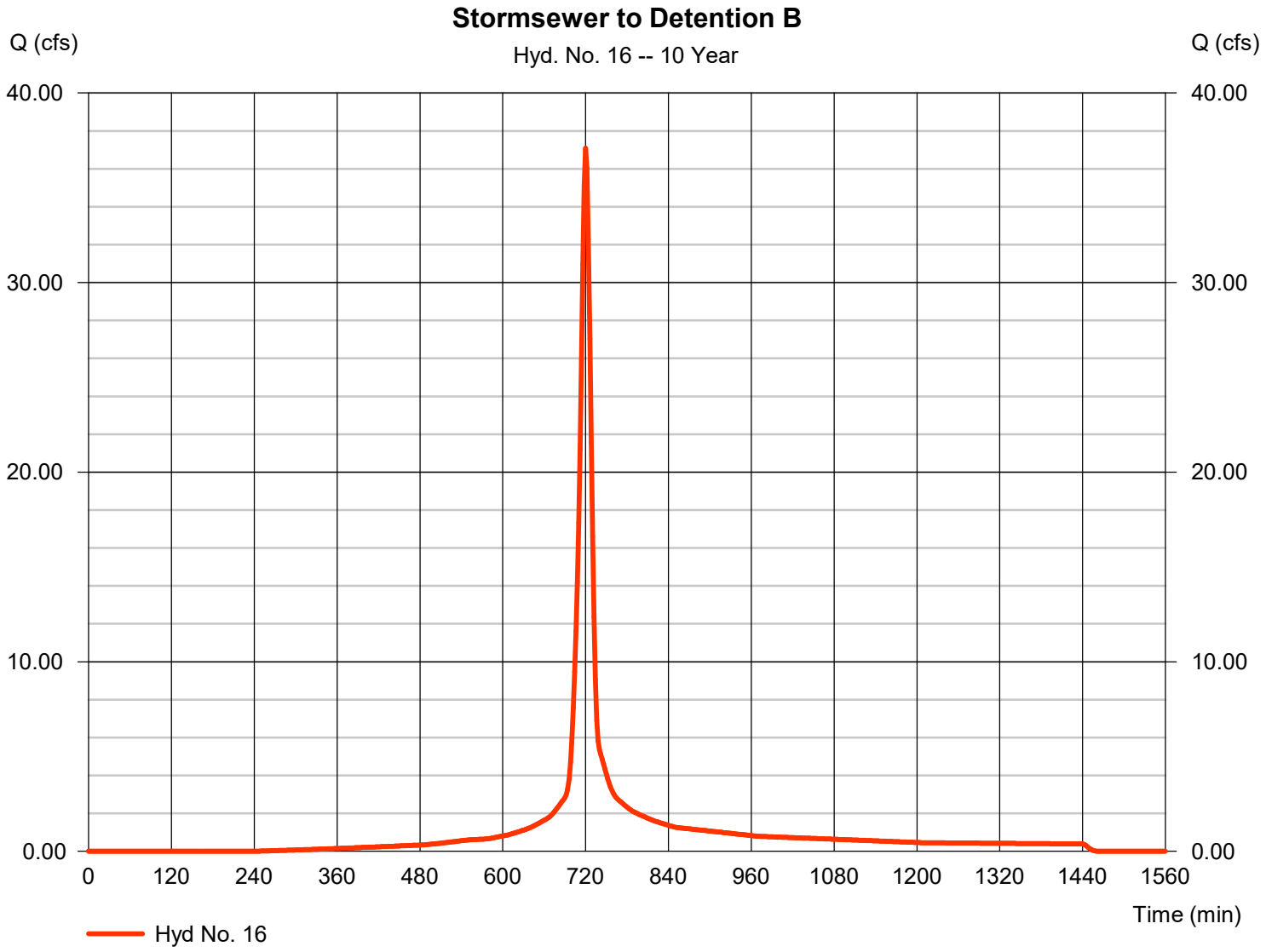
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 37.09 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 100,030 cuft
Drainage area	= 6.400 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



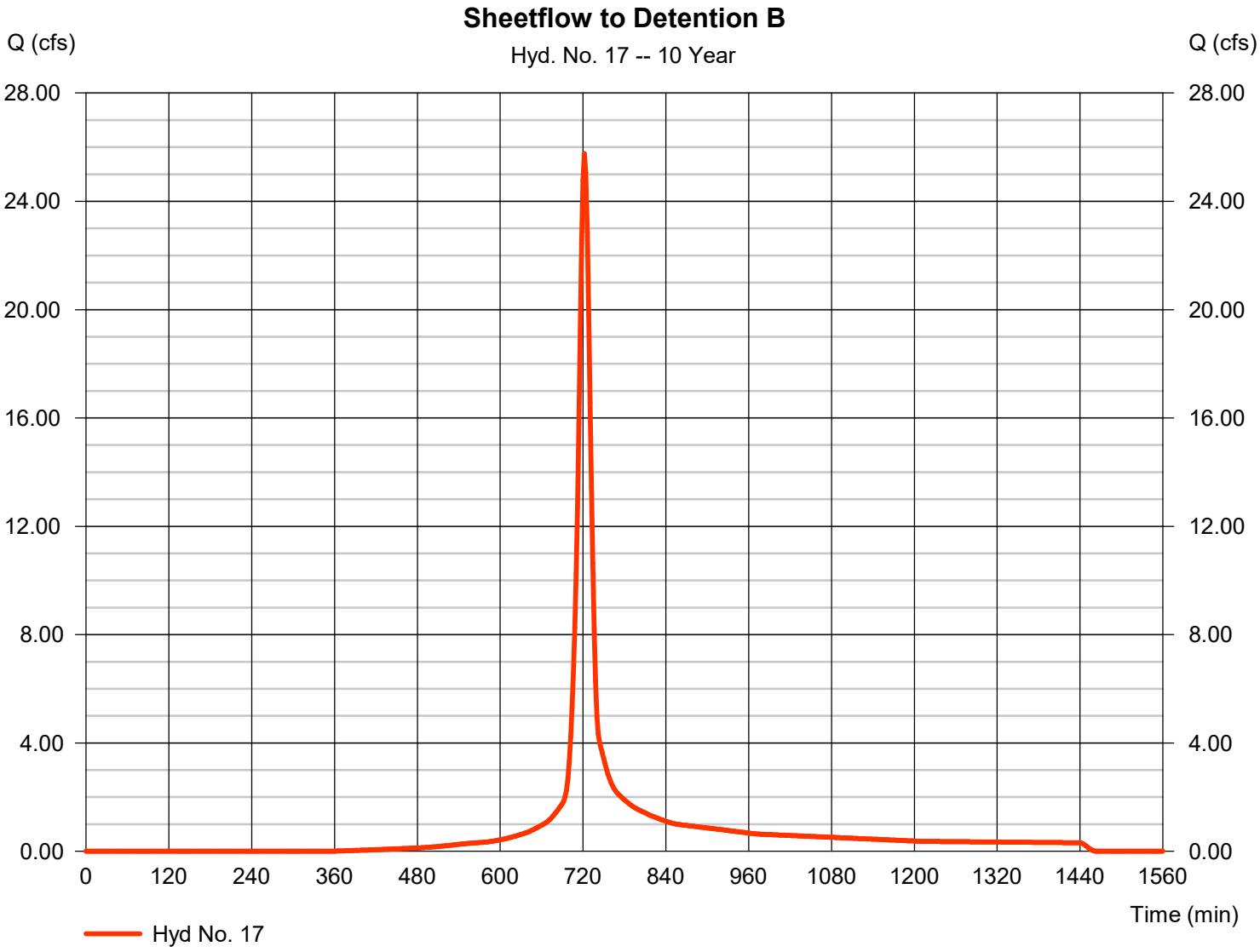
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	25.76 cfs
Storm frequency	=	10 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	72,881 cuft
Drainage area	=	5.790 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.80 min
Total precip.	=	5.42 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

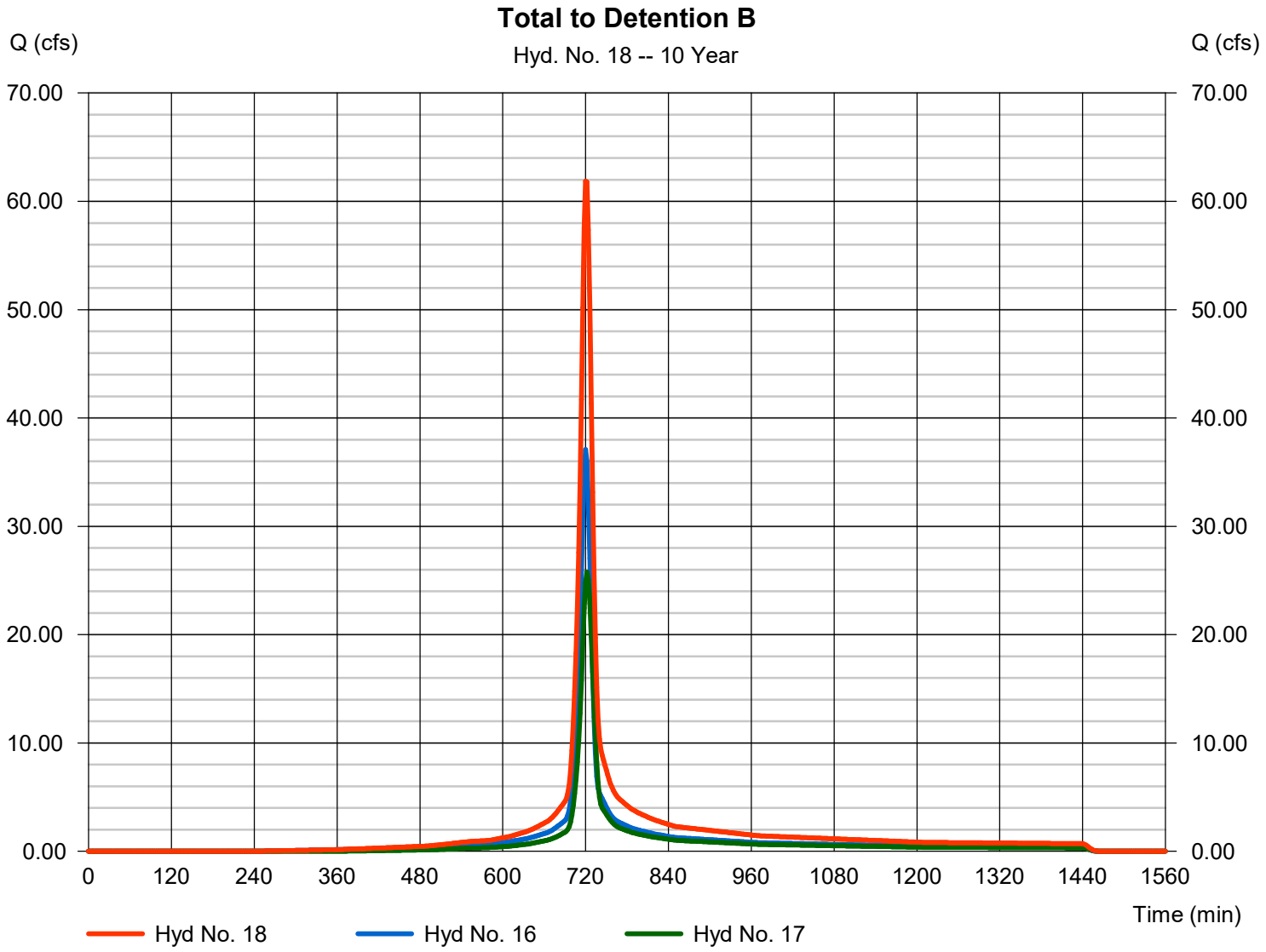


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 61.87 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 172,910 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



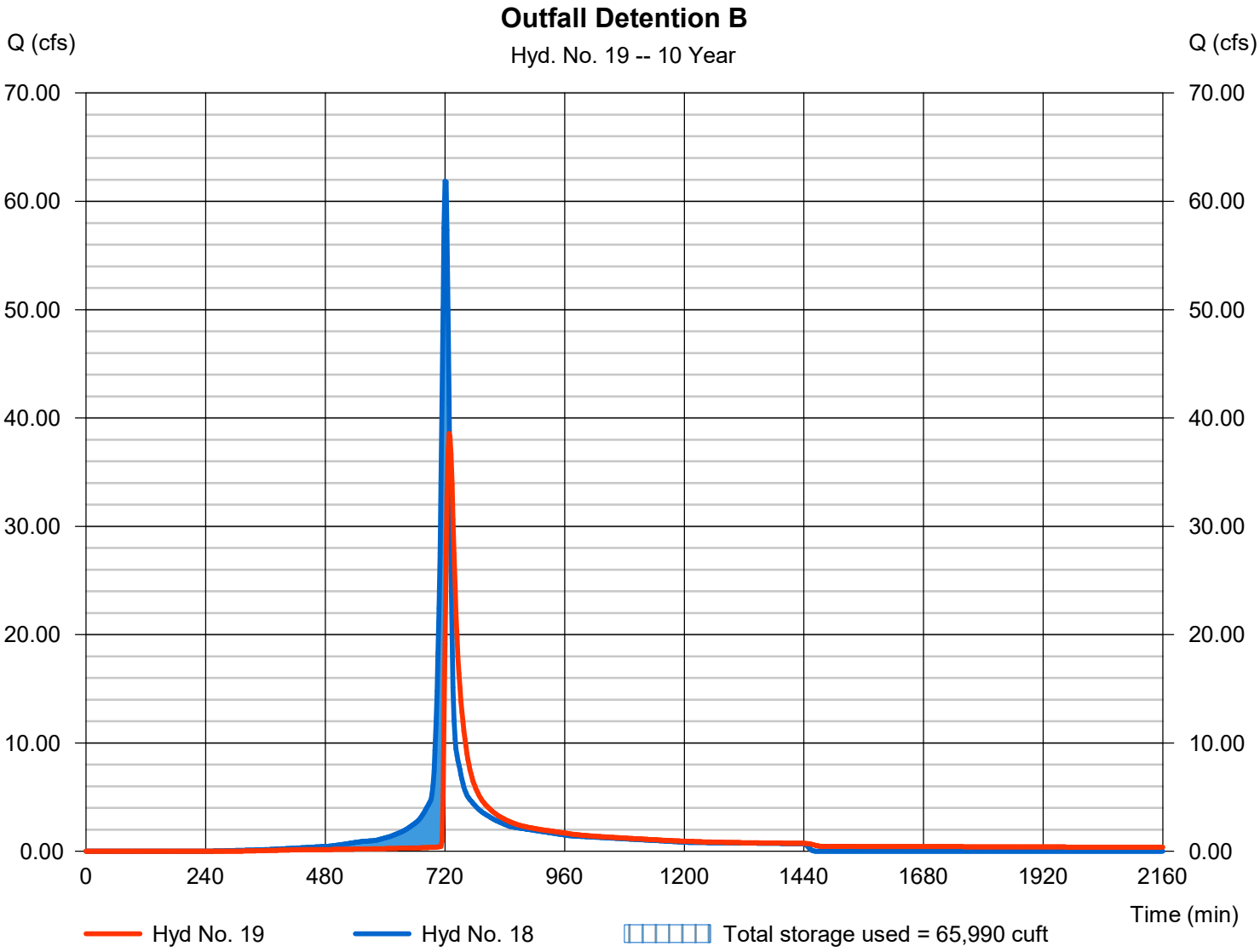
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	38.56 cfs
Storm frequency	=	10 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	172,893 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	661.04 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	65,990 cuft

Storage Indication method used.



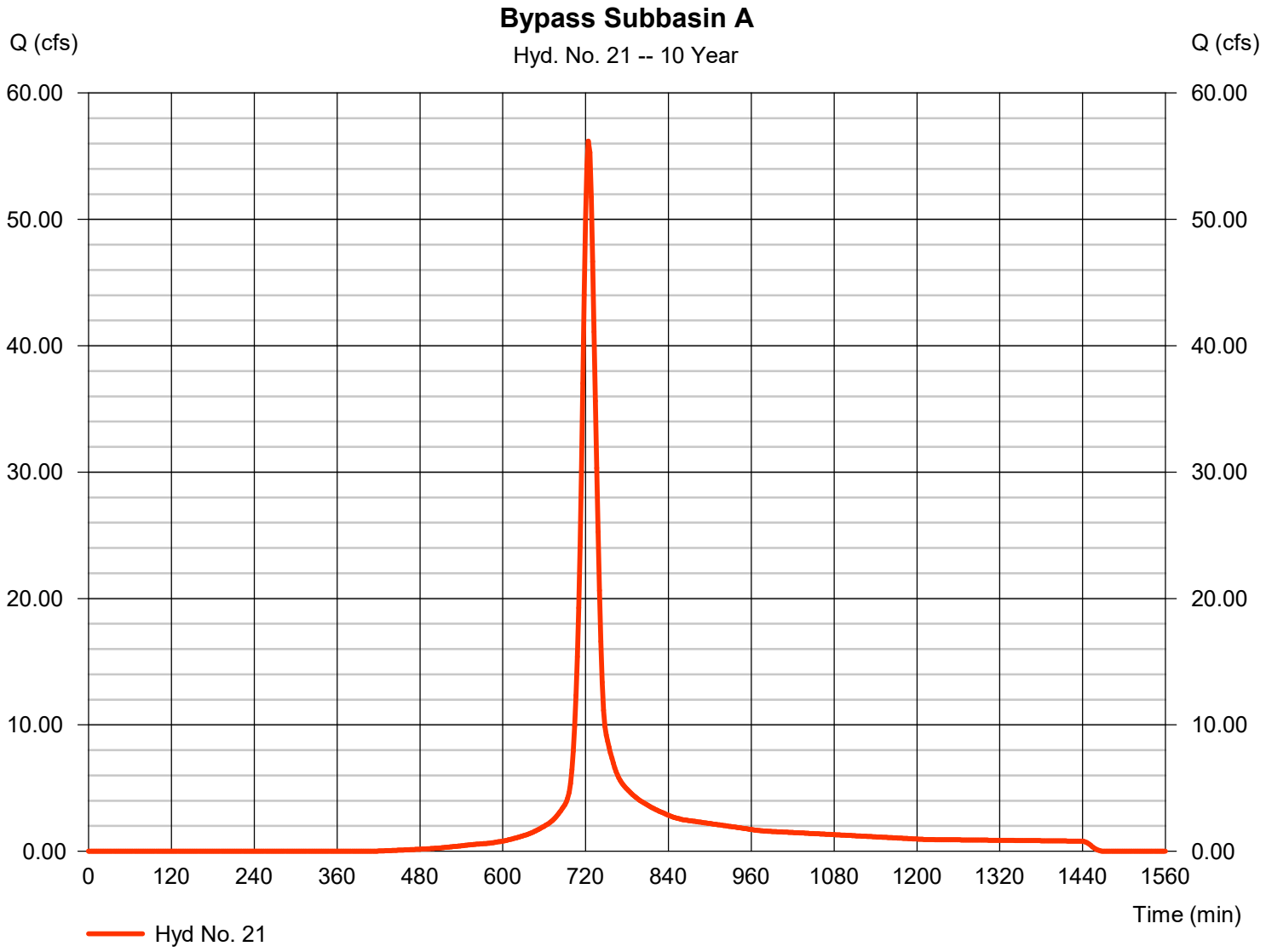
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	56.19 cfs
Storm frequency	=	10 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	175,857 cuft
Drainage area	=	14.850 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	18.30 min
Total precip.	=	5.42 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

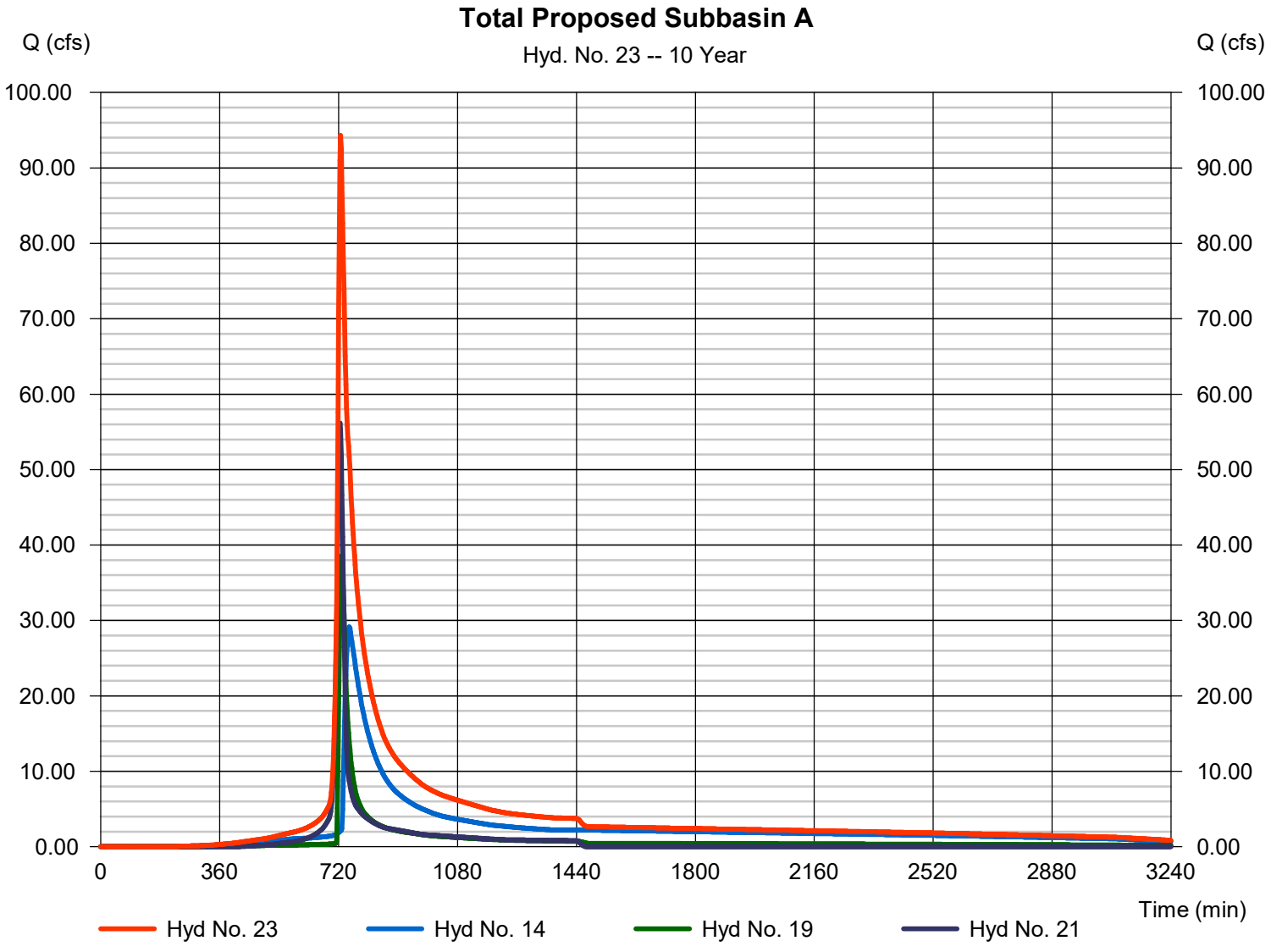


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 94.30 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 815,099 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

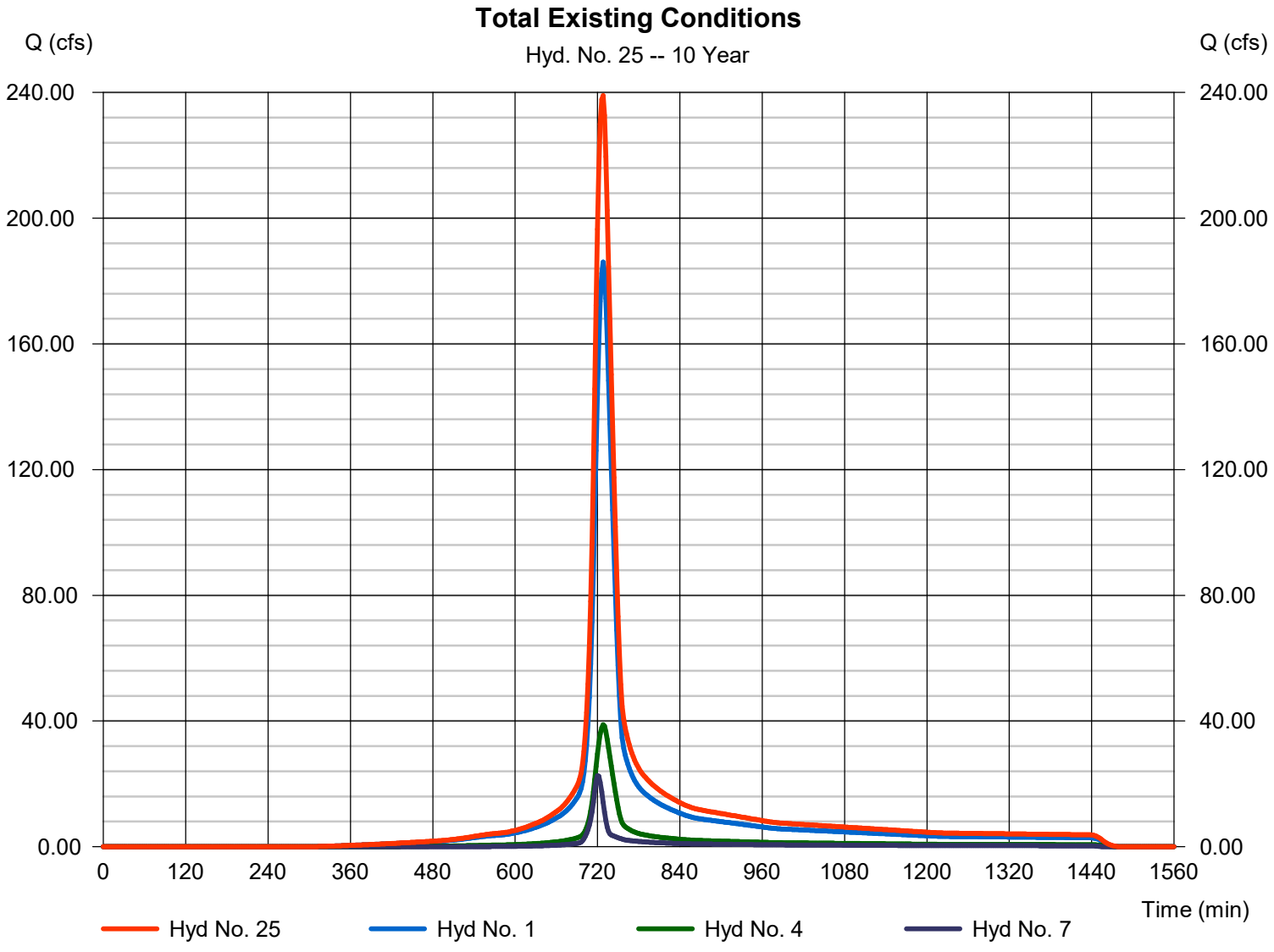


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 238.97 cfs
Storm frequency	= 10 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 891,923 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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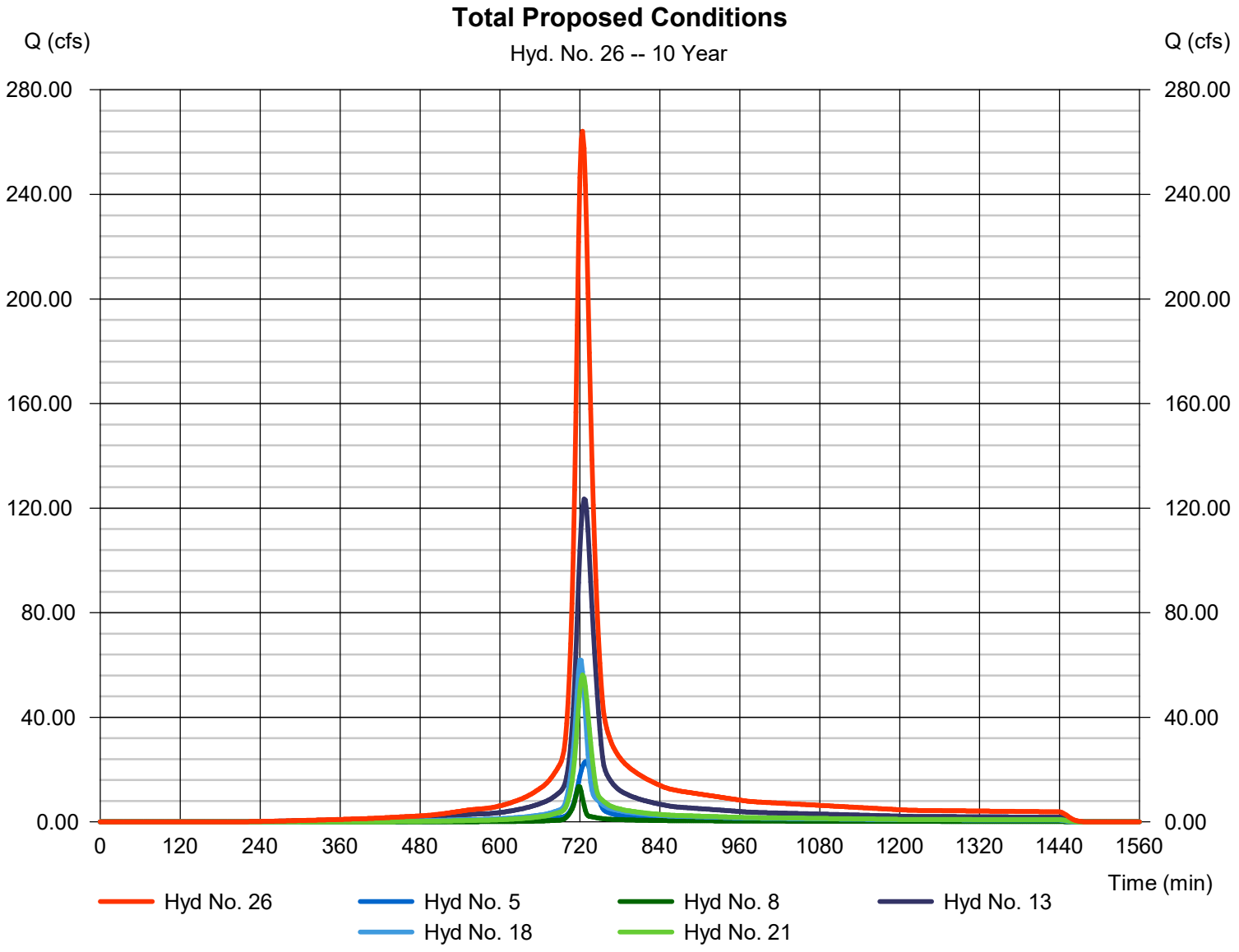
Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 264.12 cfs
Storm frequency	= 10 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 930,762 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

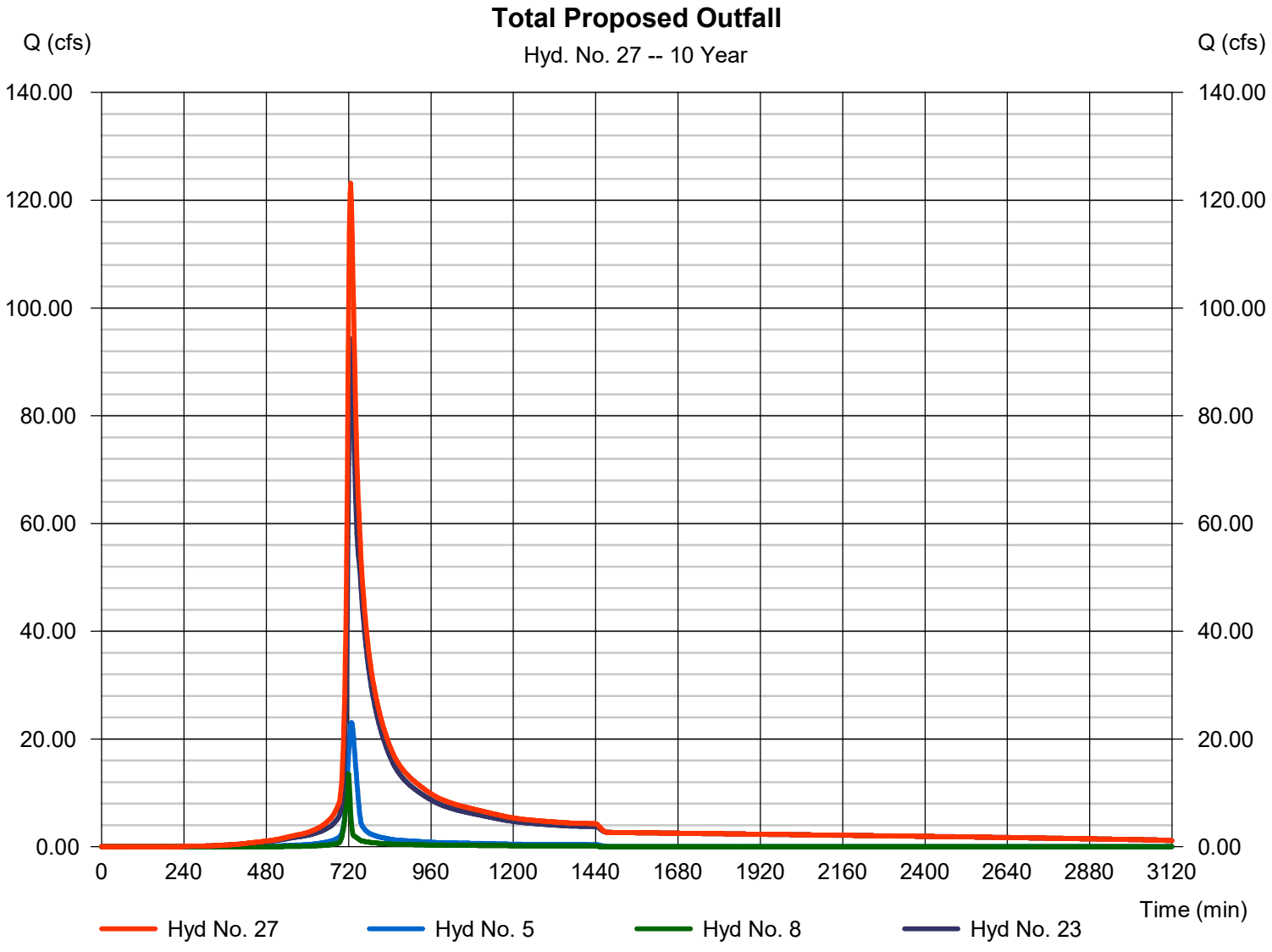


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	= Combine	Peak discharge	= 123.16 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 930,728 cuft
Inflow hyds.	= 5, 8, 23	Contrib. drain. area	= 10.010 ac



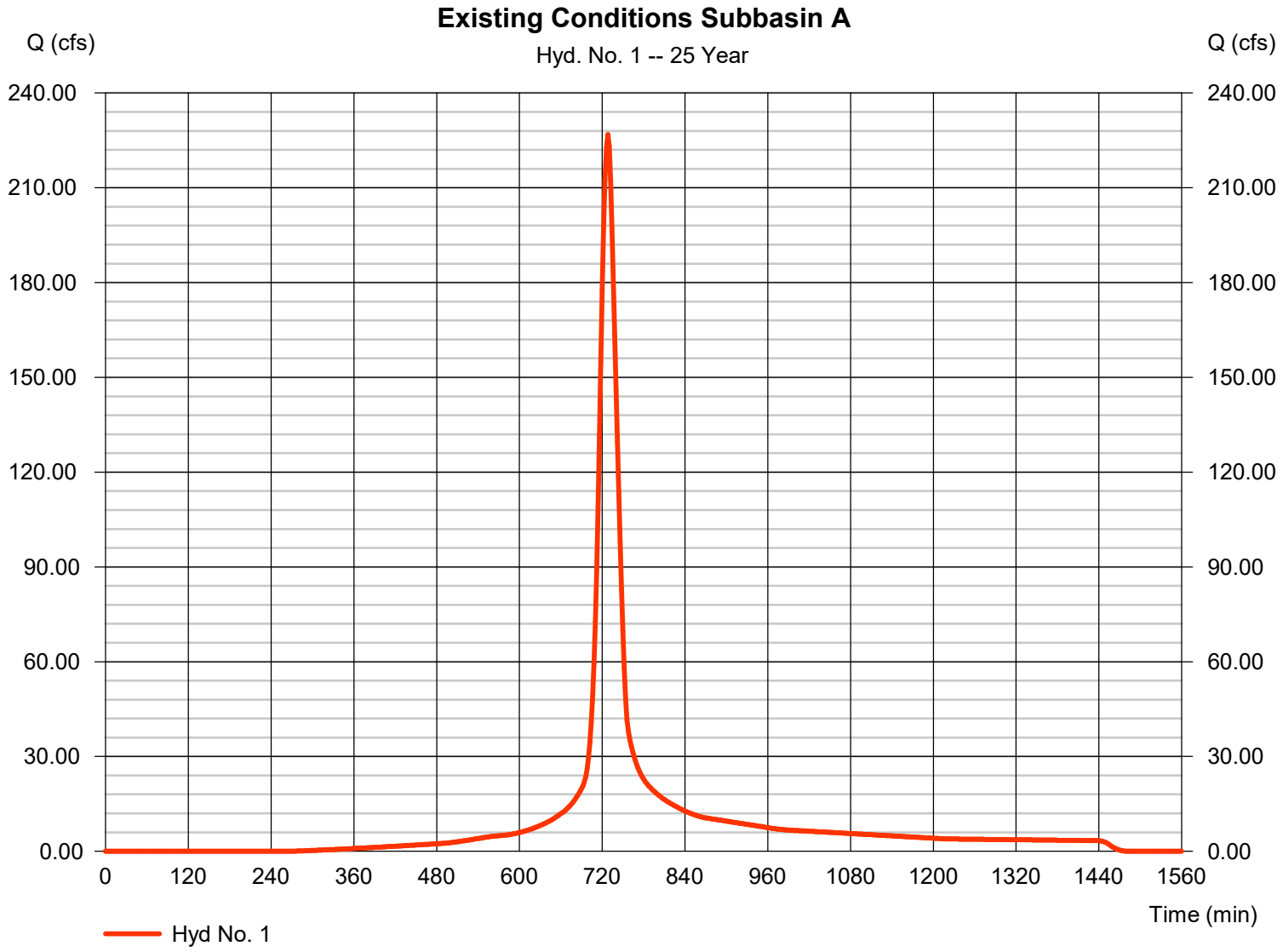
Hydrograph Report

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 226.85 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 848,389 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



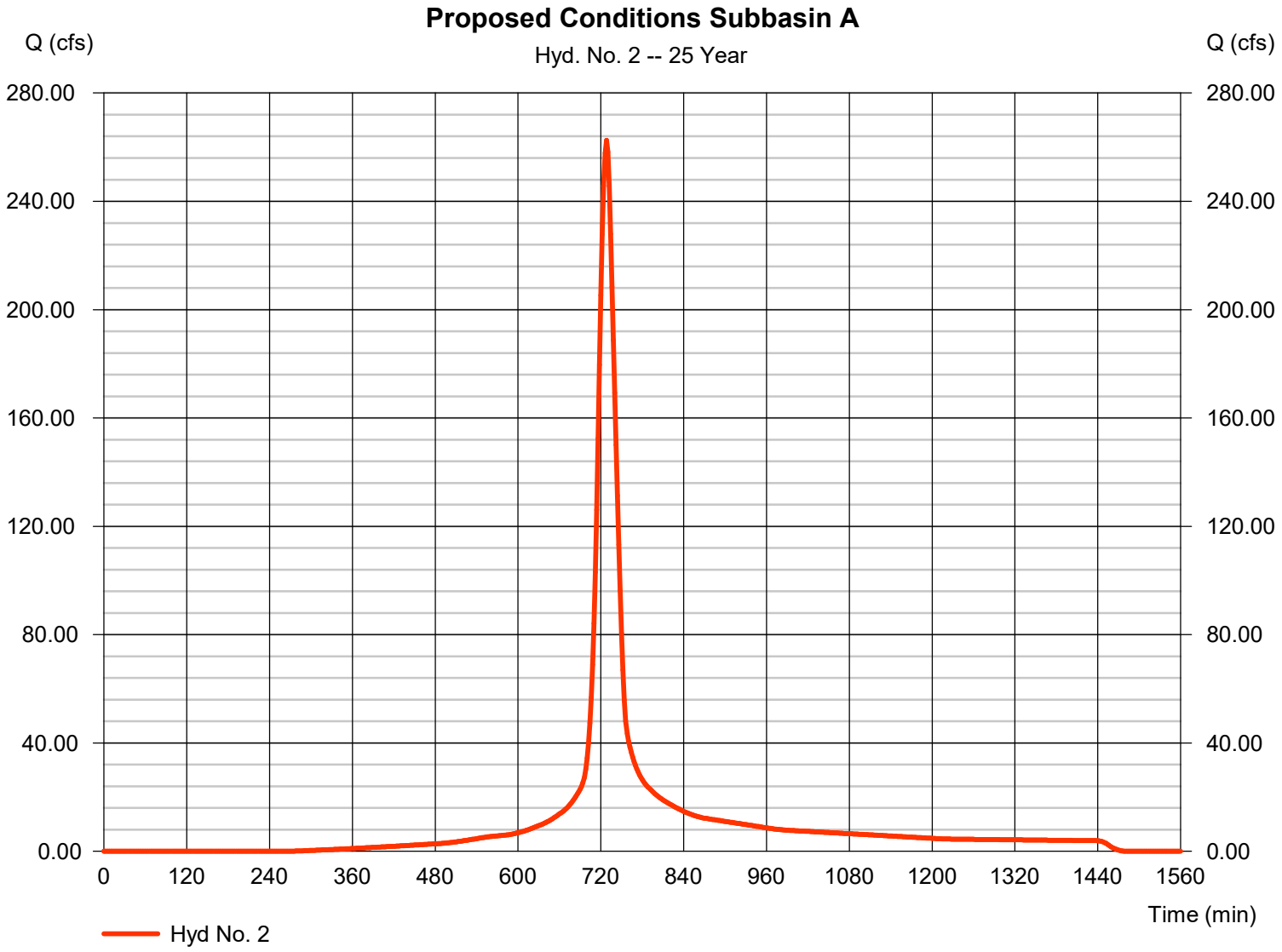
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 262.52 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 981,765 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



Hydrograph Report

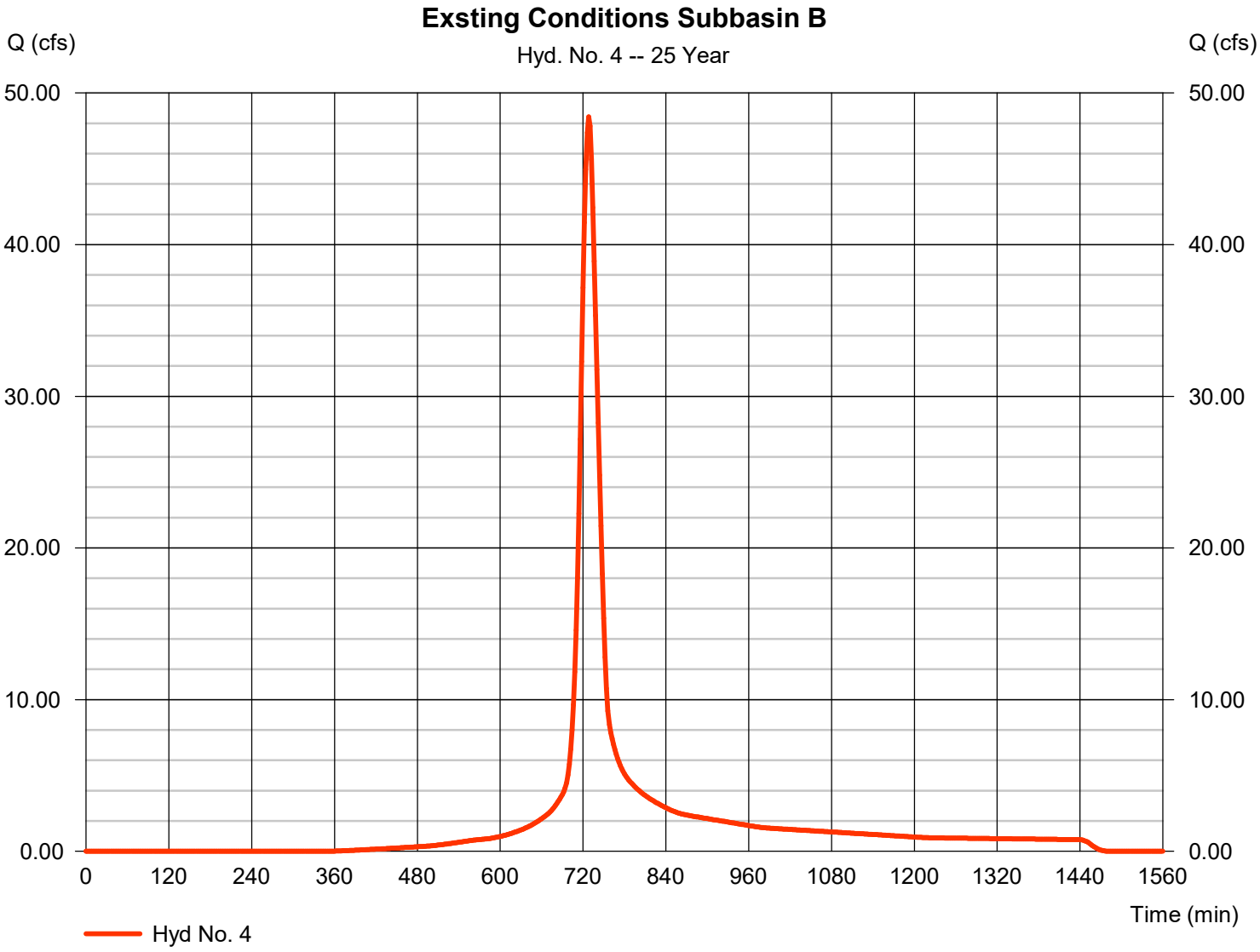
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 48.44 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 178,463 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



Hydrograph Report

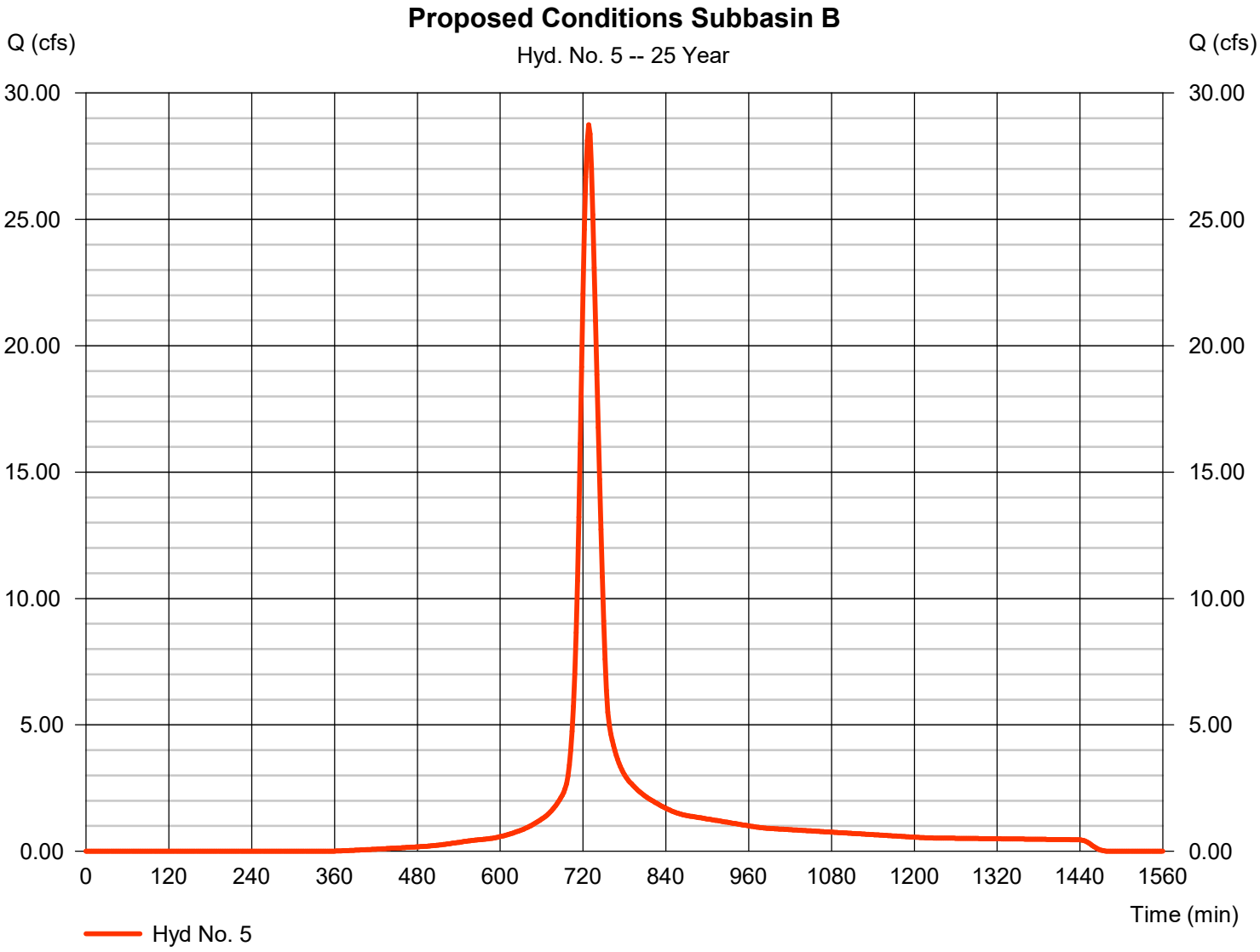
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 28.74 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 105,906 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

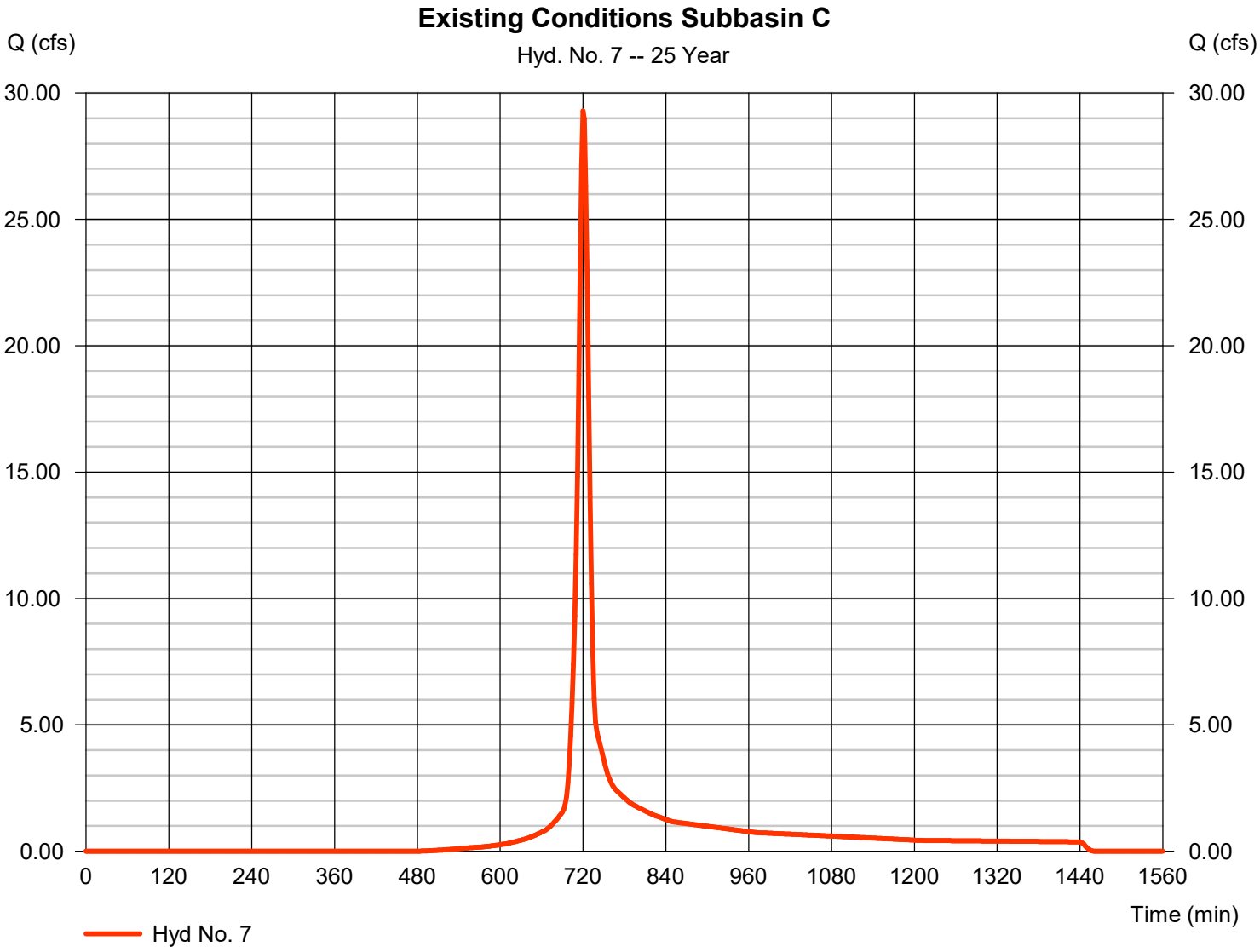
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 29.30 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 75,944 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



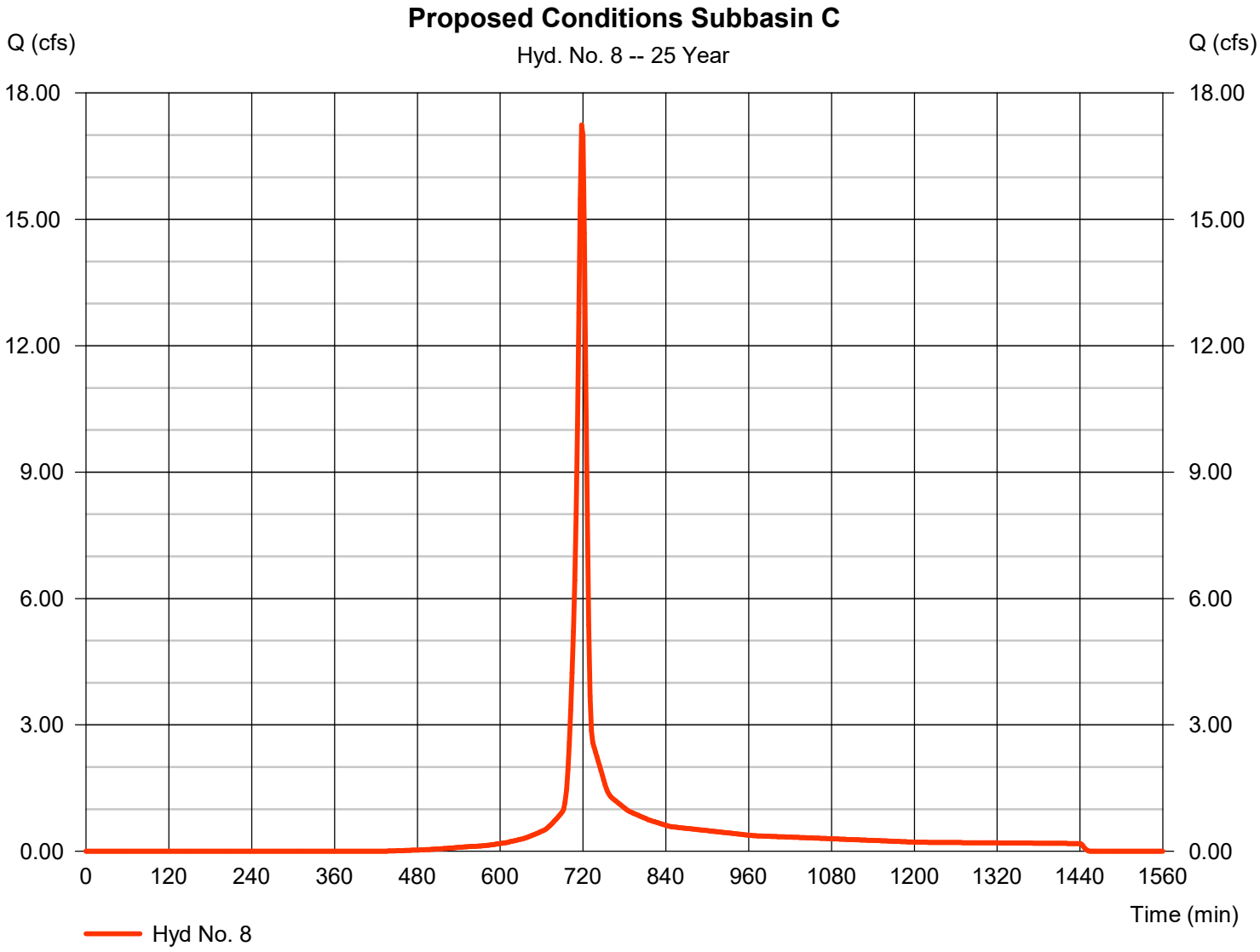
Hydrograph Report

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 17.24 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 39,584 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



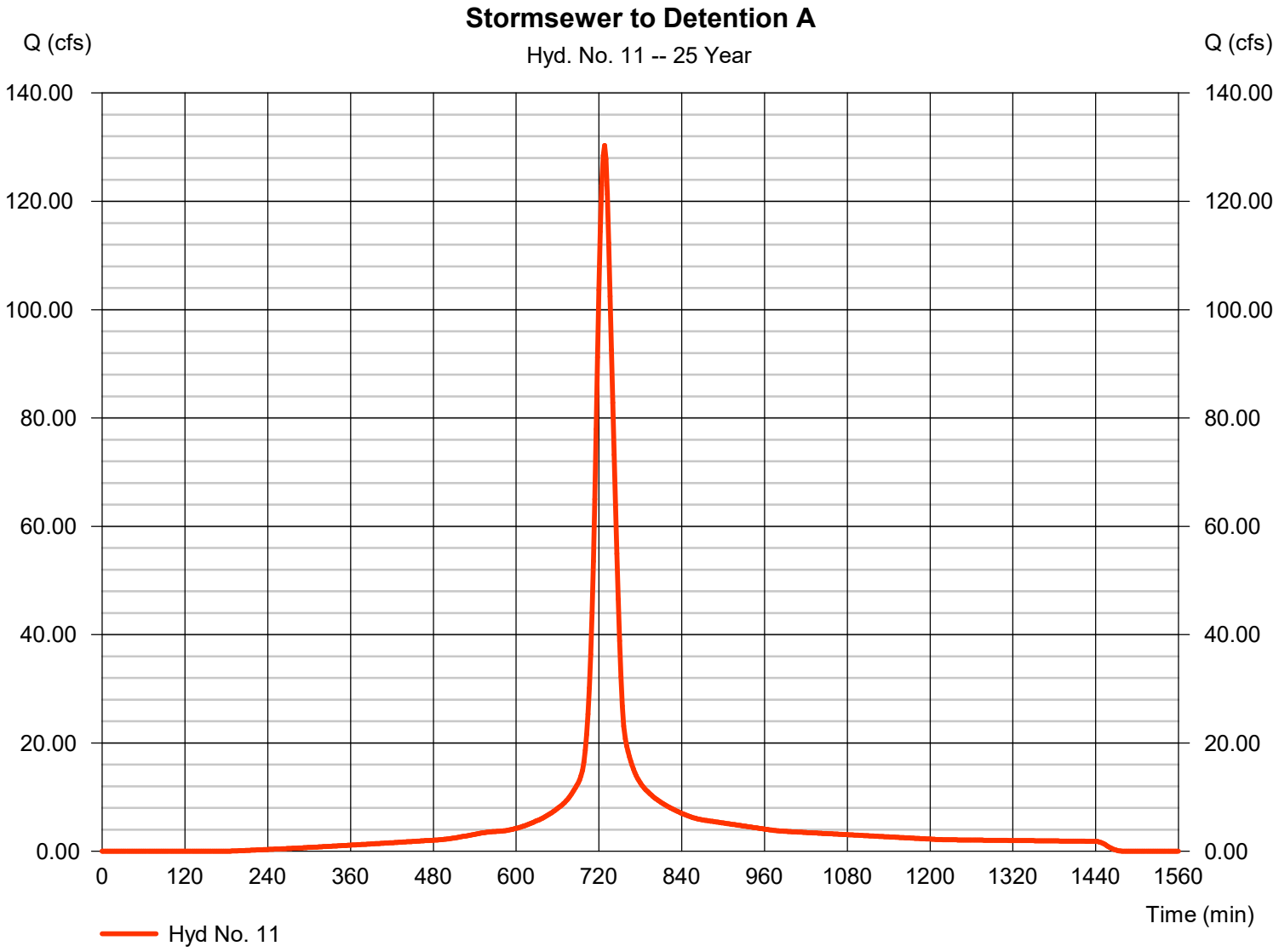
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	130.32 cfs
Storm frequency	=	25 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	501,503 cuft
Drainage area	=	26.480 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.70 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

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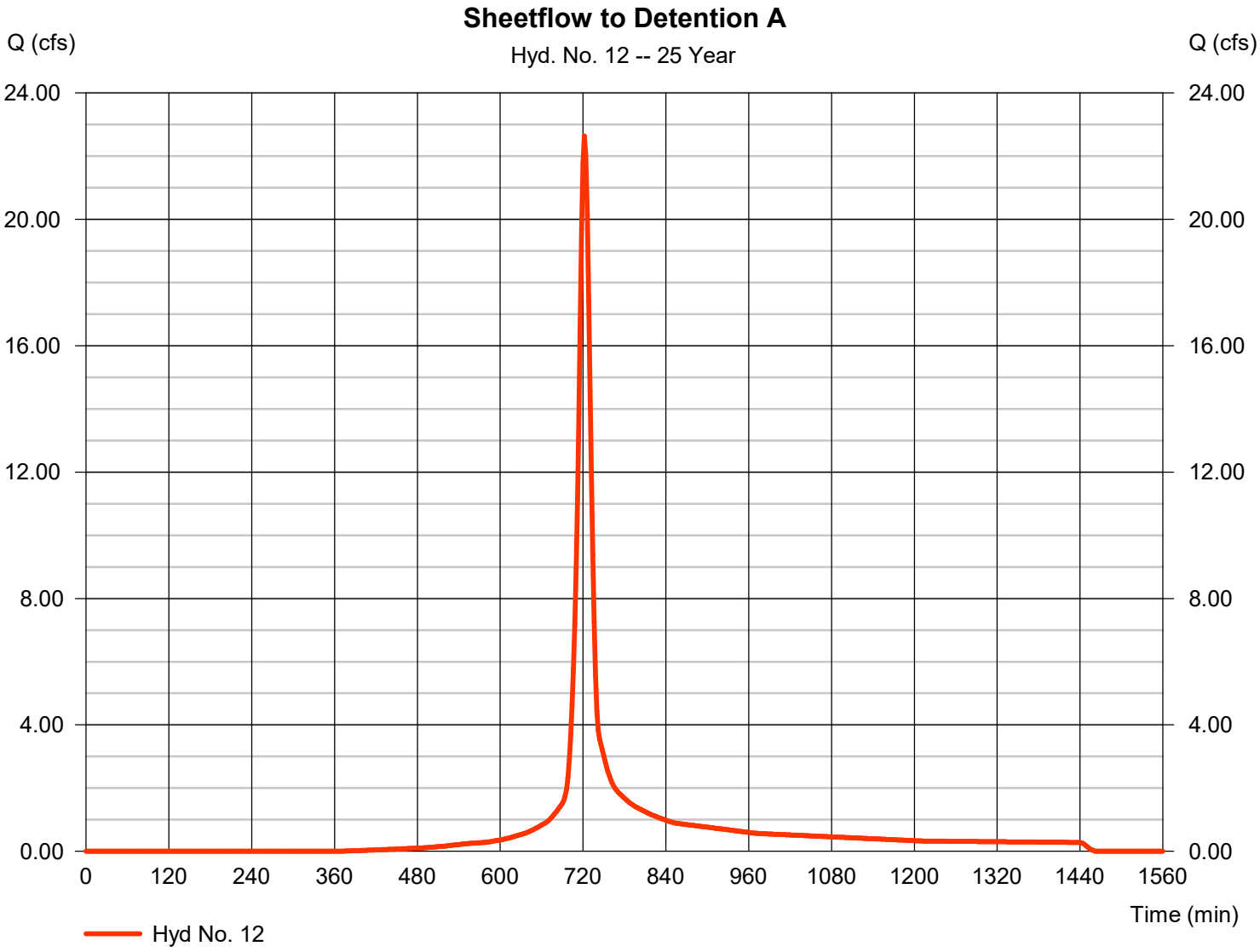
Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.65 cfs
Storm frequency	=	25 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	63,970 cuft
Drainage area	=	4.410 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.90 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

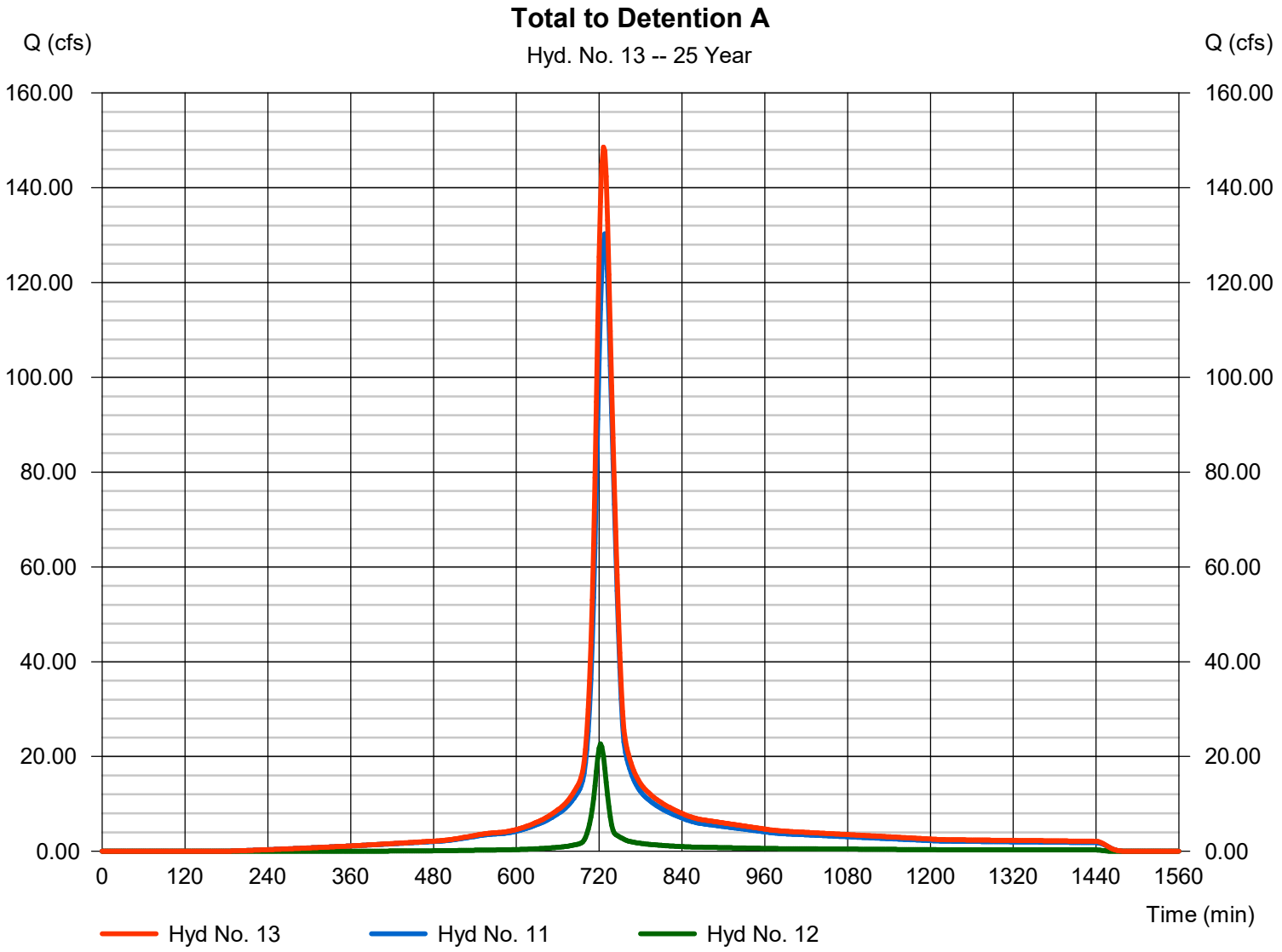


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 148.58 cfs
Storm frequency	= 25 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 565,474 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



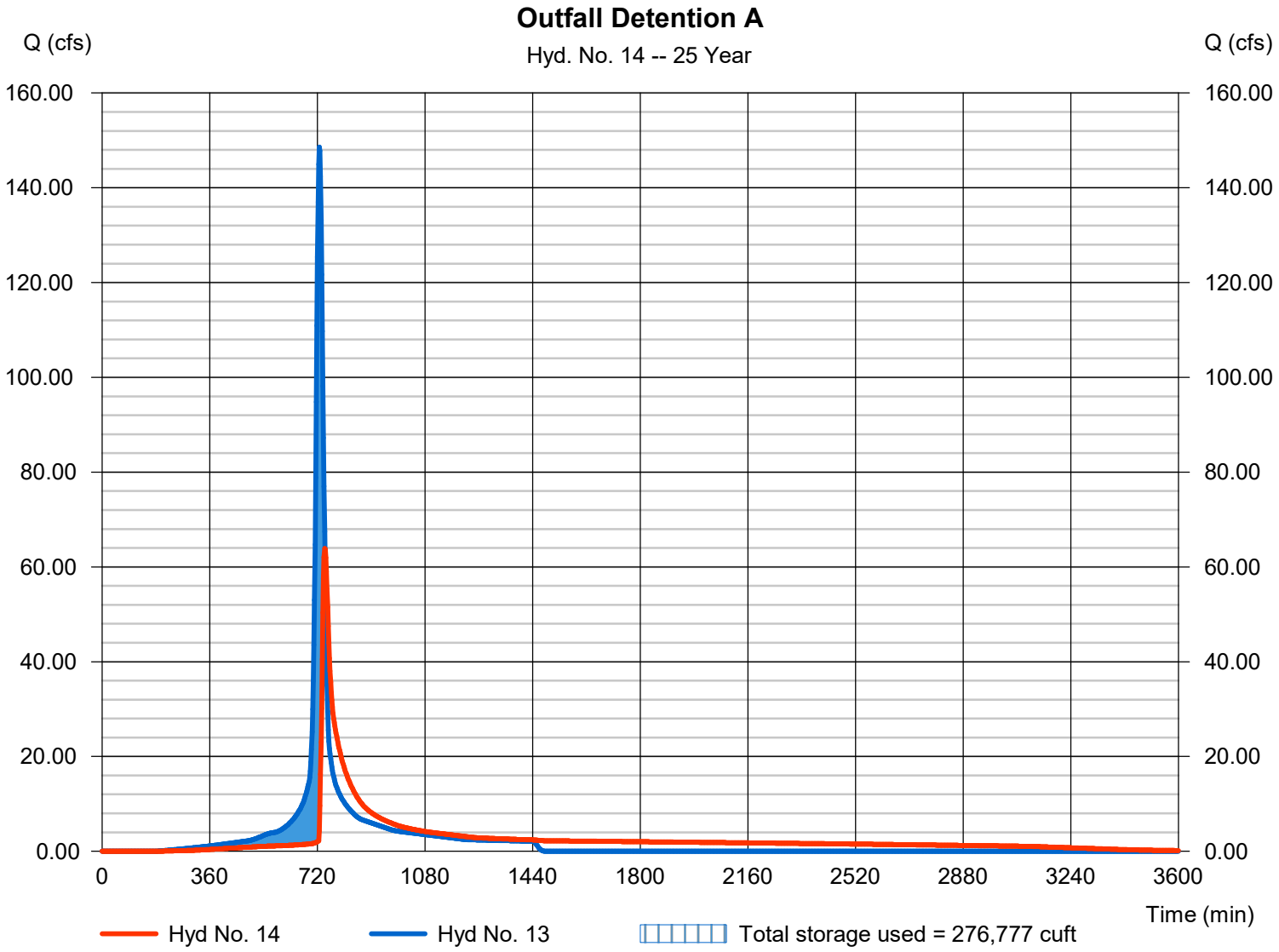
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	63.89 cfs
Storm frequency	=	25 yrs	Time to peak	=	744 min
Time interval	=	2 min	Hyd. volume	=	565,458 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	652.97 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	276,777 cuft

Storage Indication method used.



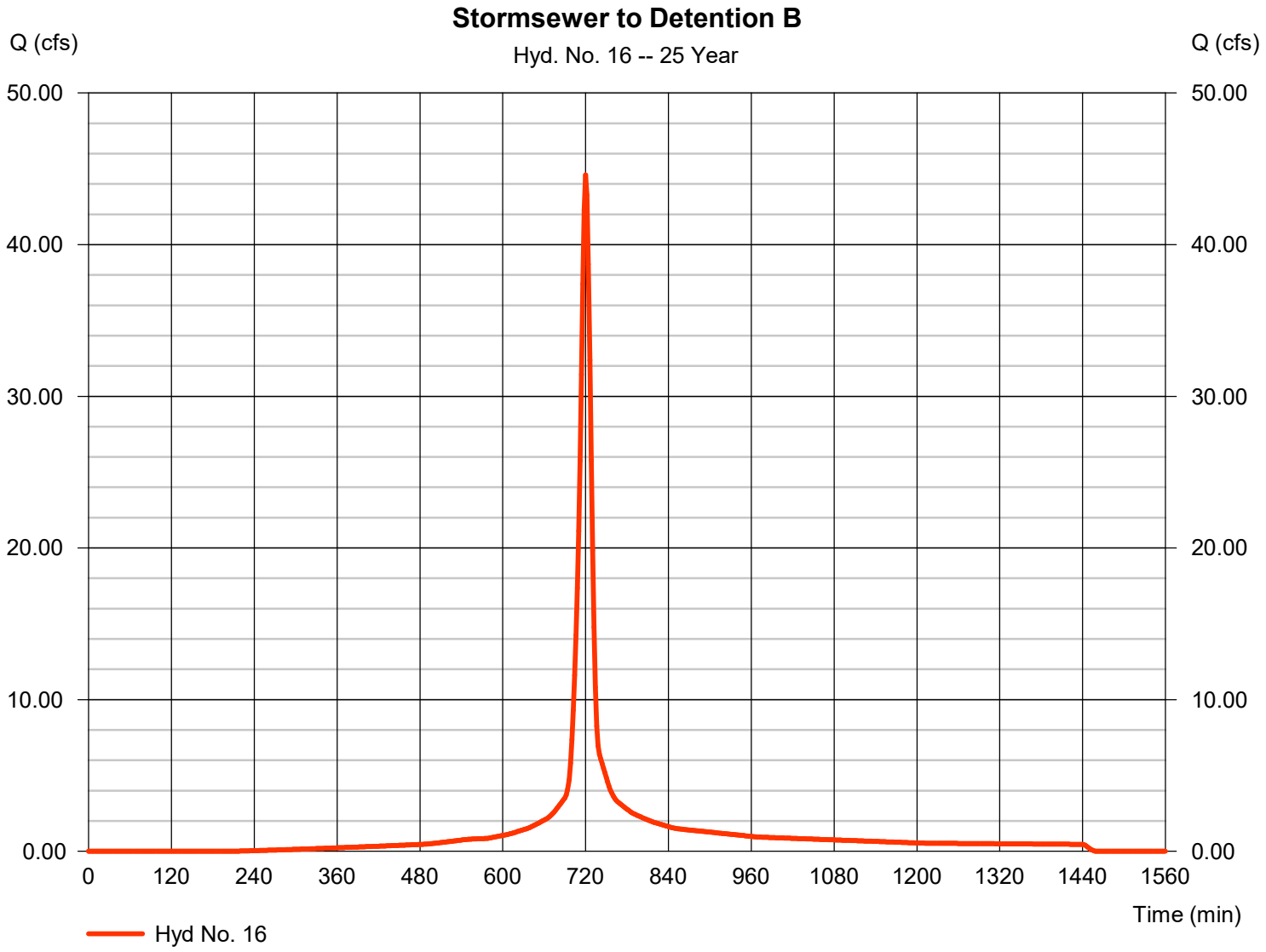
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	= SCS Runoff	Peak discharge	= 44.60 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 121,587 cuft
Drainage area	= 6.400 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 11.20 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



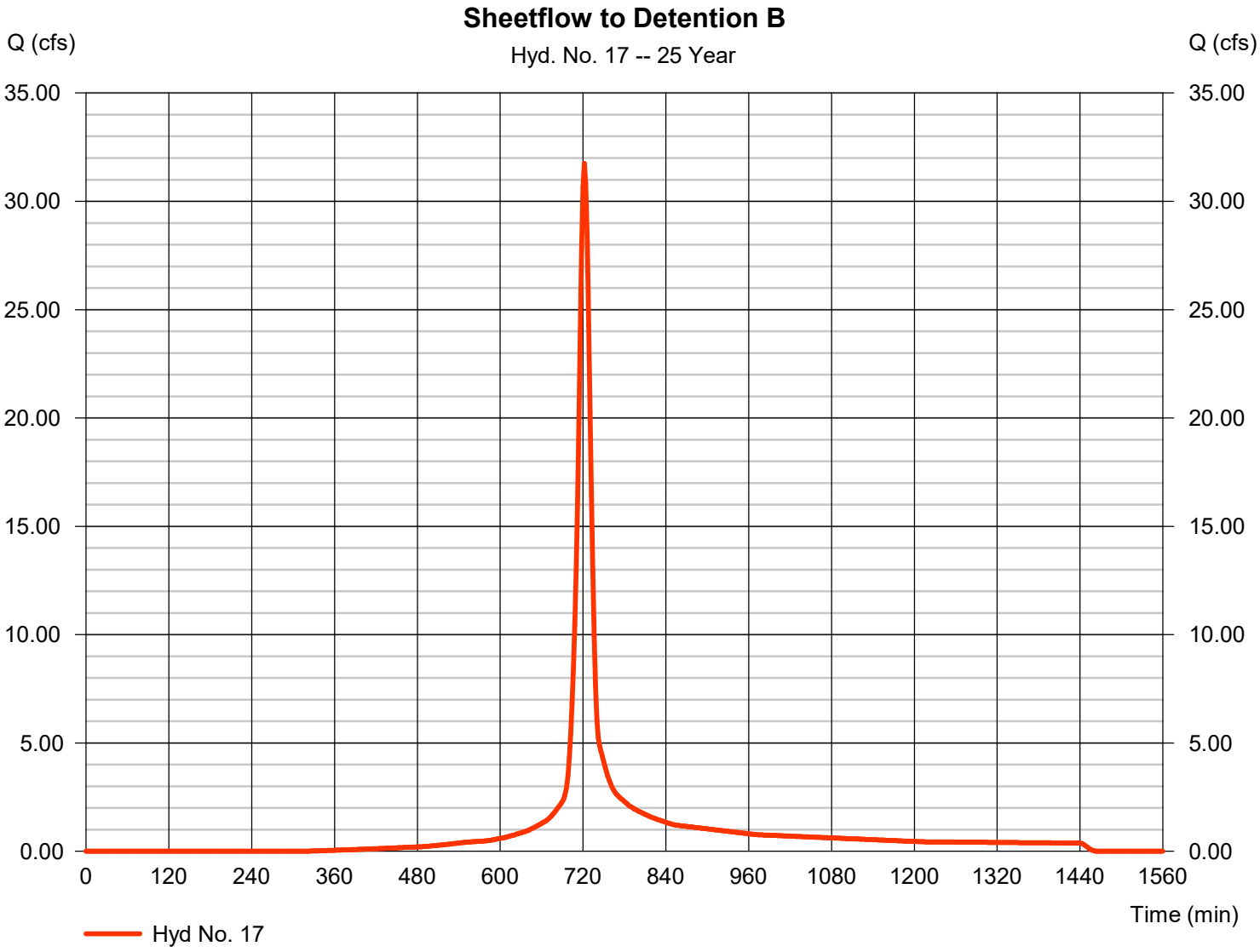
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	31.75 cfs
Storm frequency	=	25 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	90,521 cuft
Drainage area	=	5.790 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.80 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

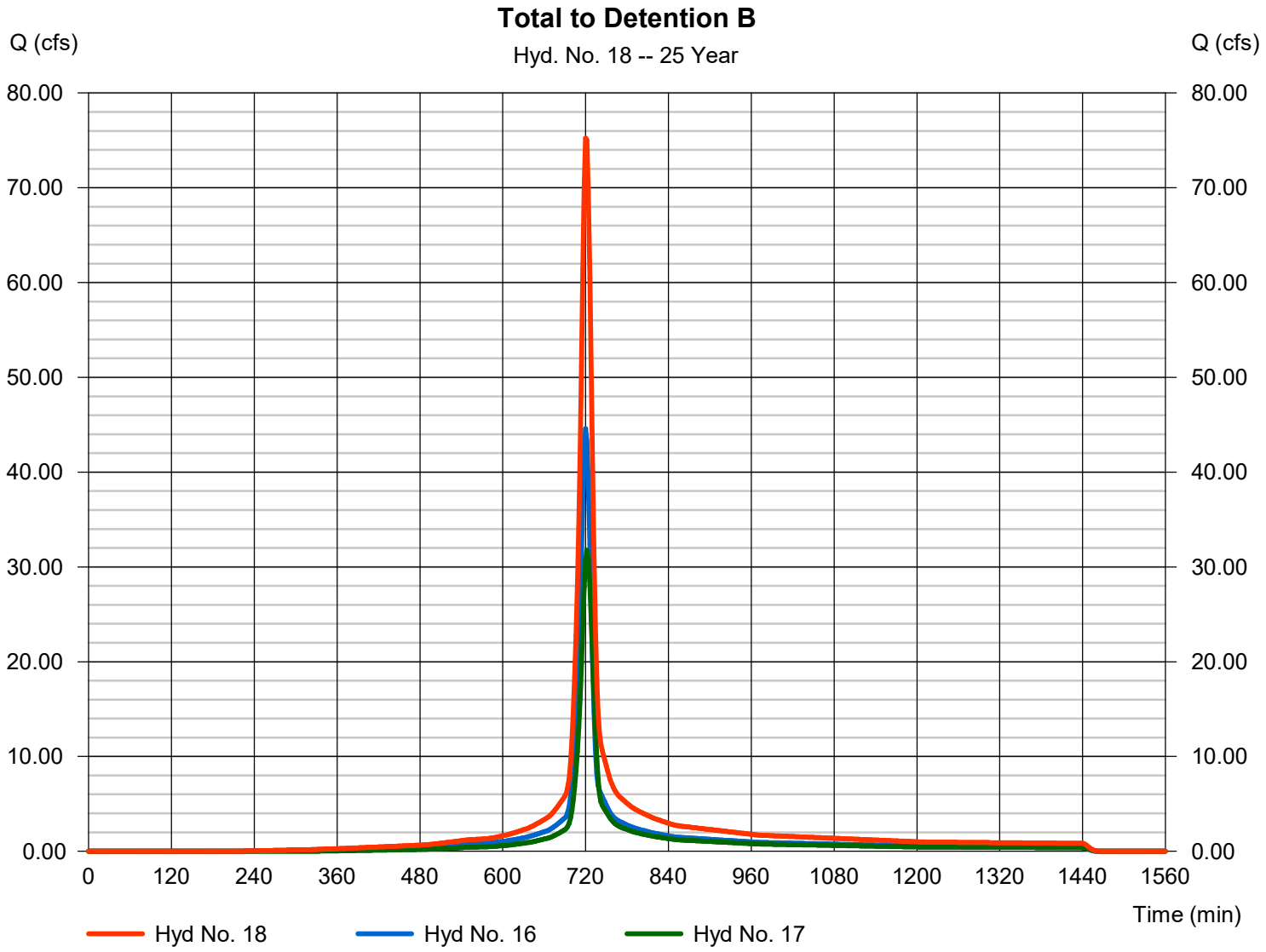


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 75.24 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 212,107 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



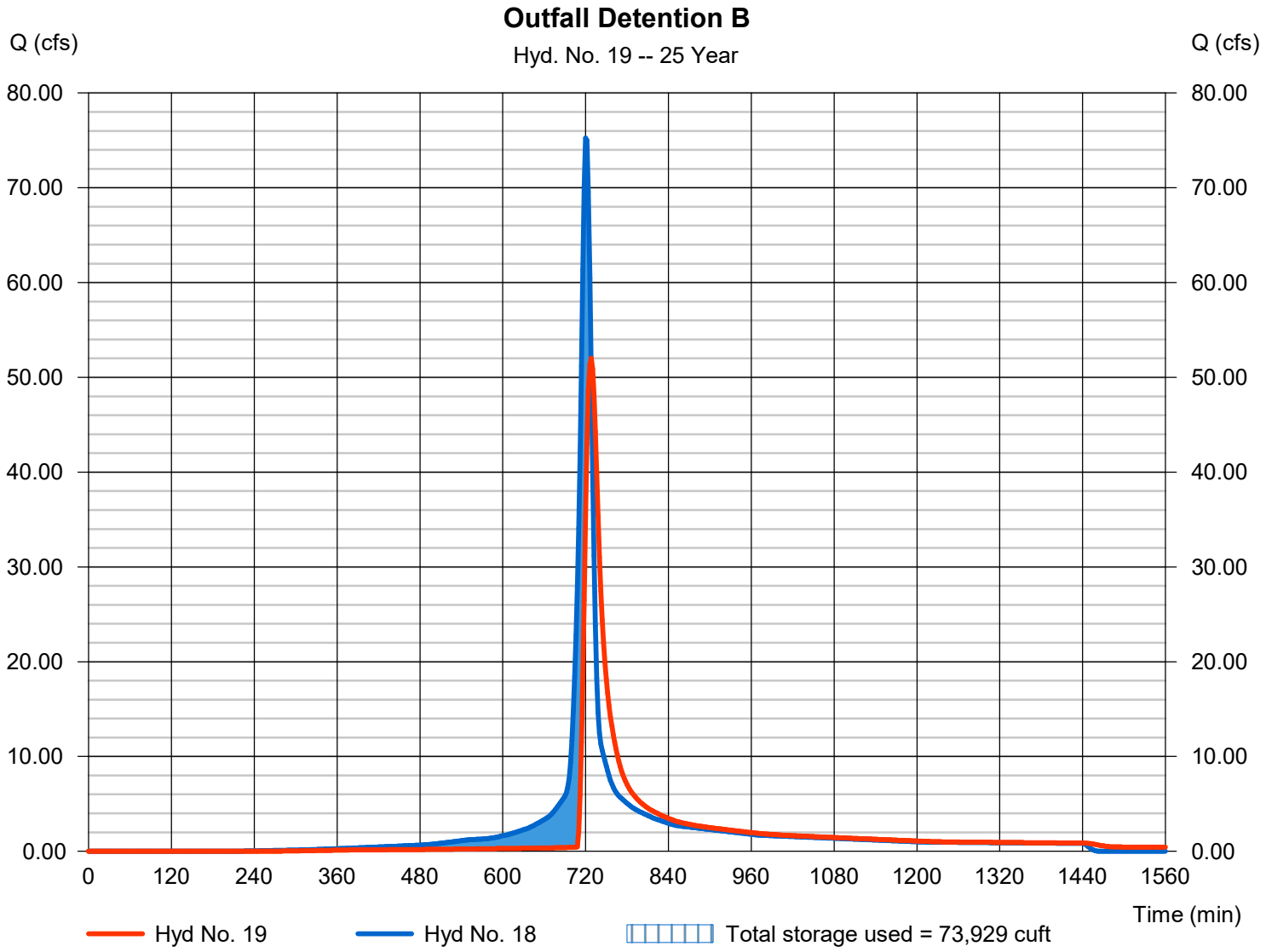
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	52.02 cfs
Storm frequency	=	25 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	212,090 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	661.45 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	73,929 cuft

Storage Indication method used.



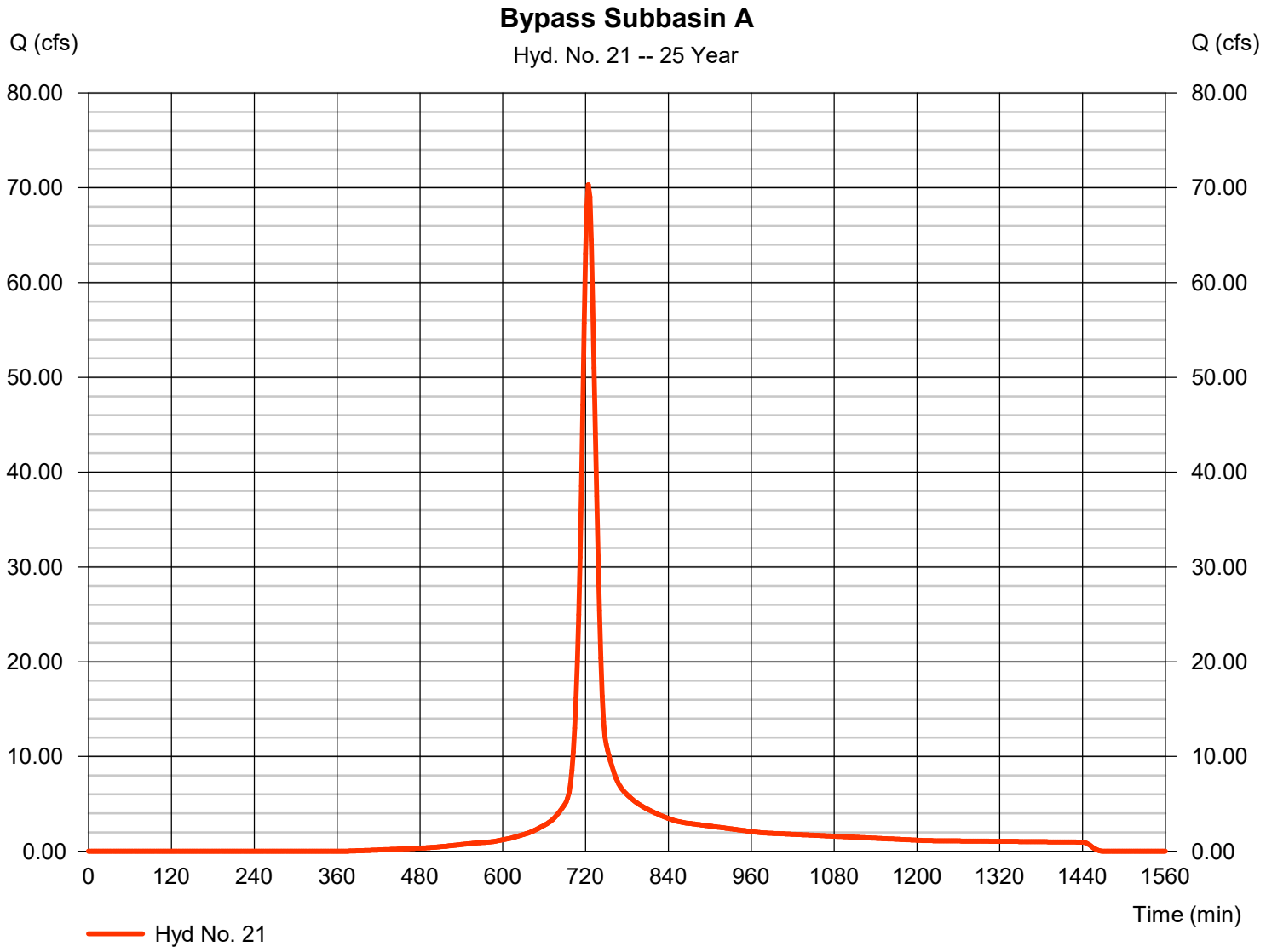
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 70.33 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 220,932 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

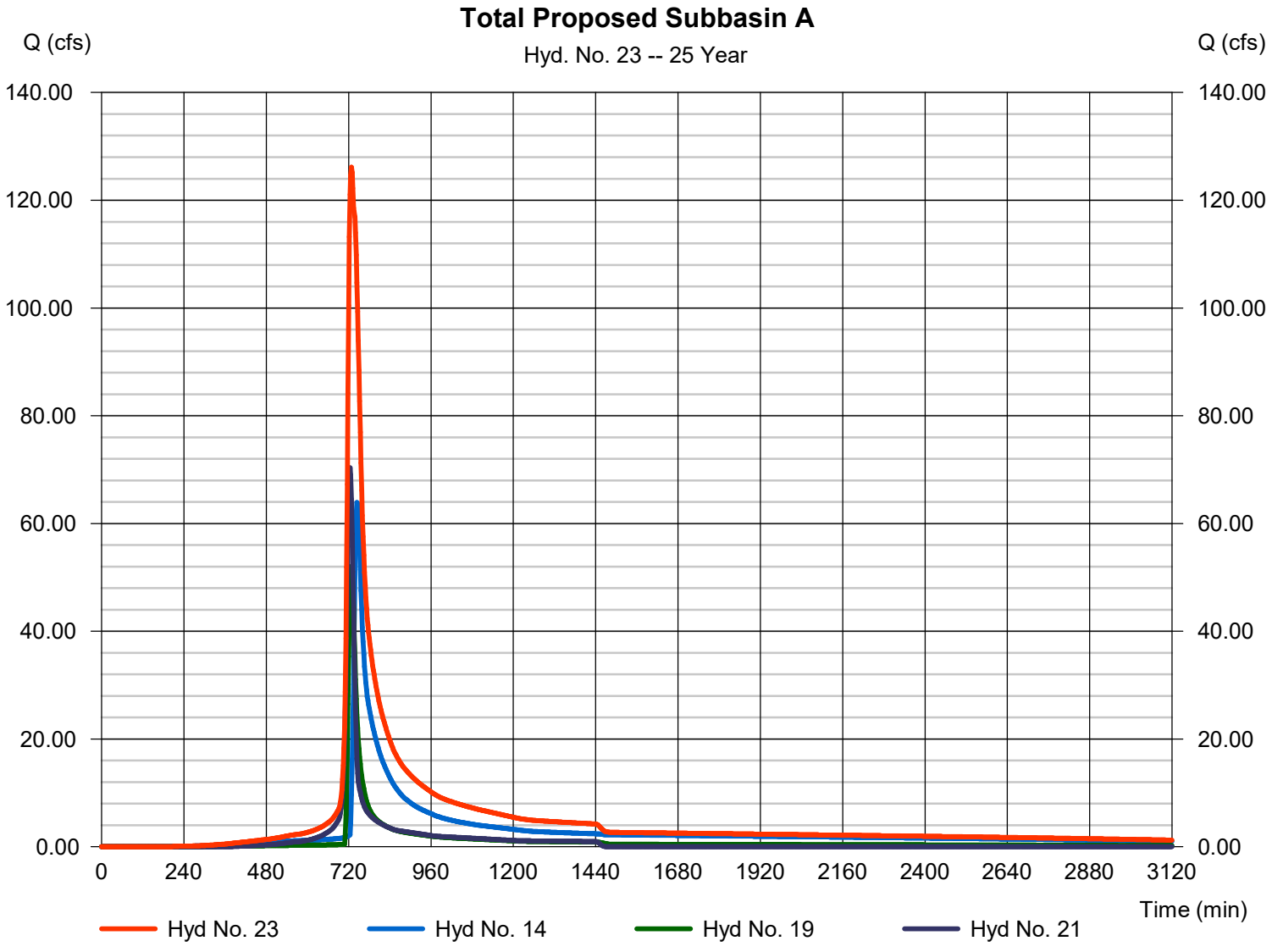


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 126.13 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 998,481 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

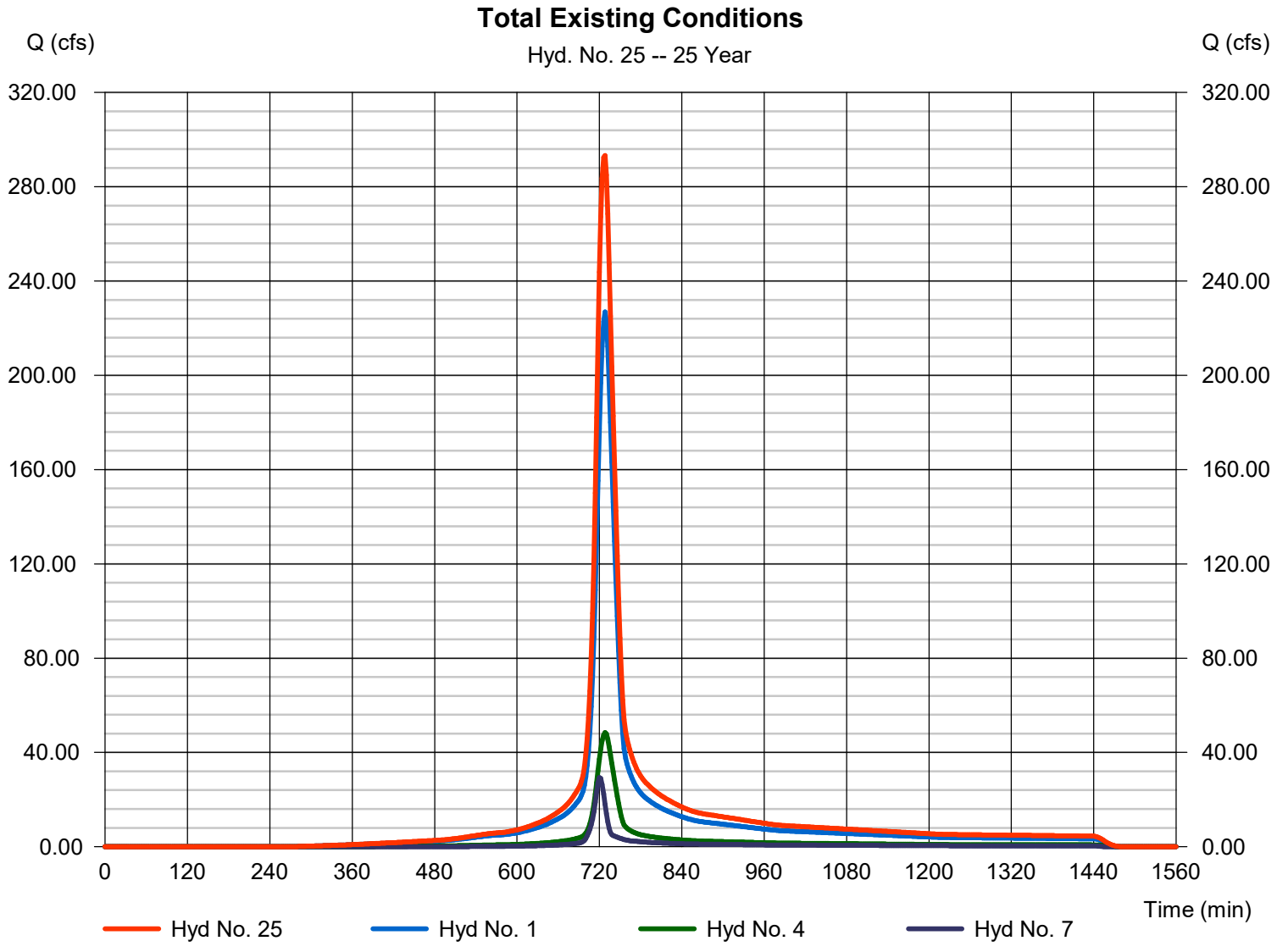


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 293.28 cfs
Storm frequency	= 25 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,102,796 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac

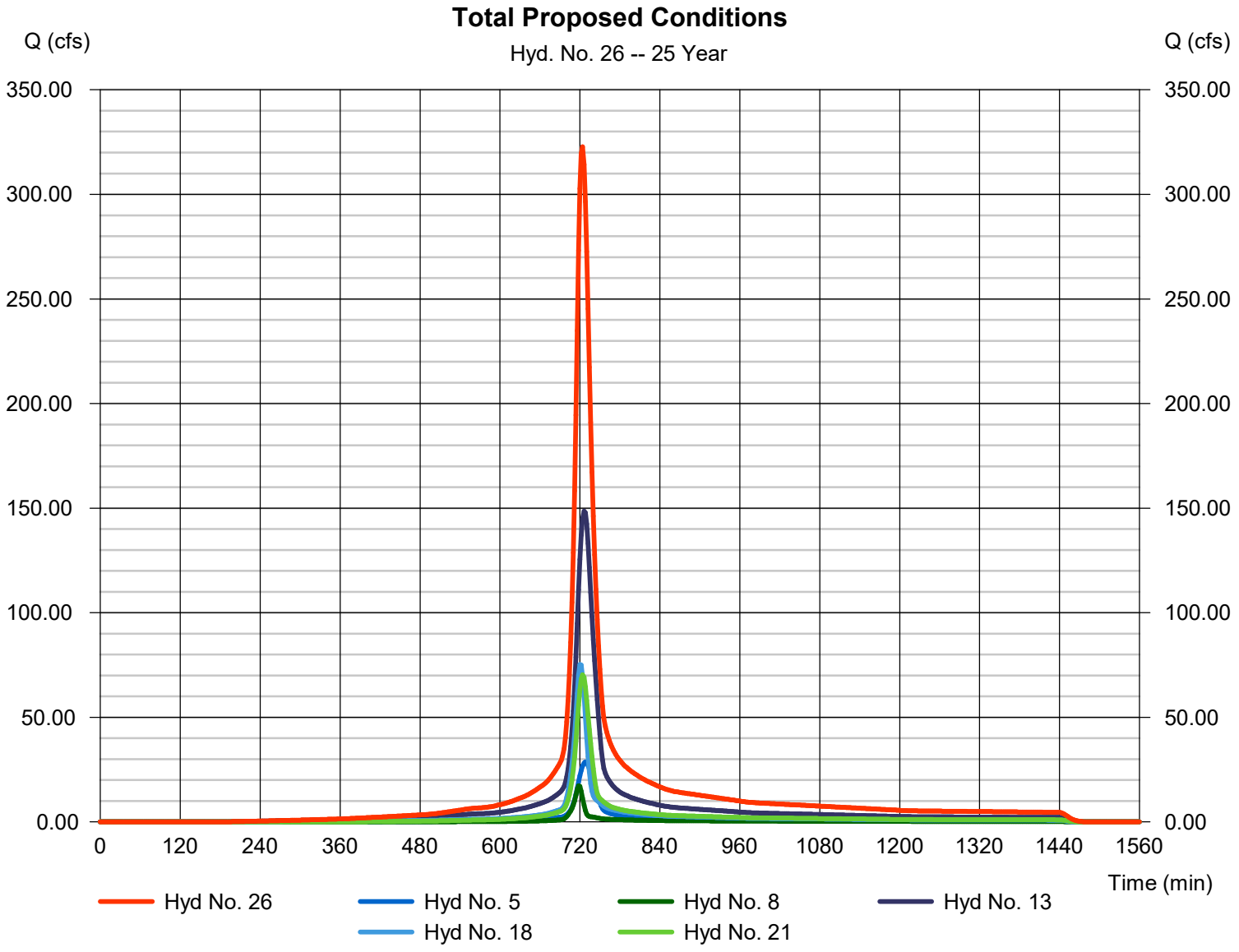


Hydrograph Report

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 322.81 cfs
Storm frequency	= 25 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 1,144,003 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

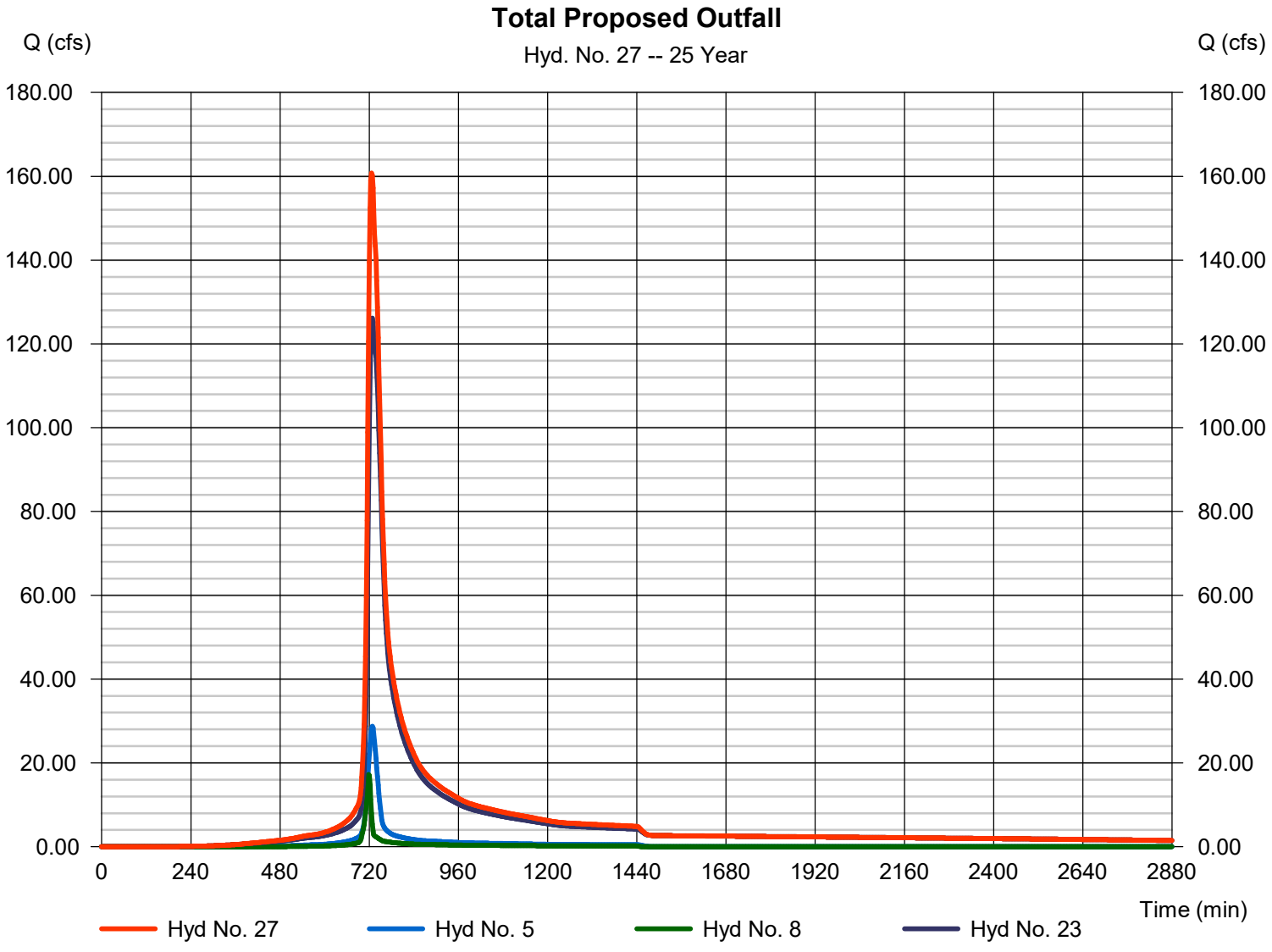


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	=	Combine	Peak discharge	=	160.75 cfs
Storm frequency	=	25 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	1,143,968 cuft
Inflow hyds.	=	5, 8, 23	Contrib. drain. area	=	10.010 ac



Hydrograph Report

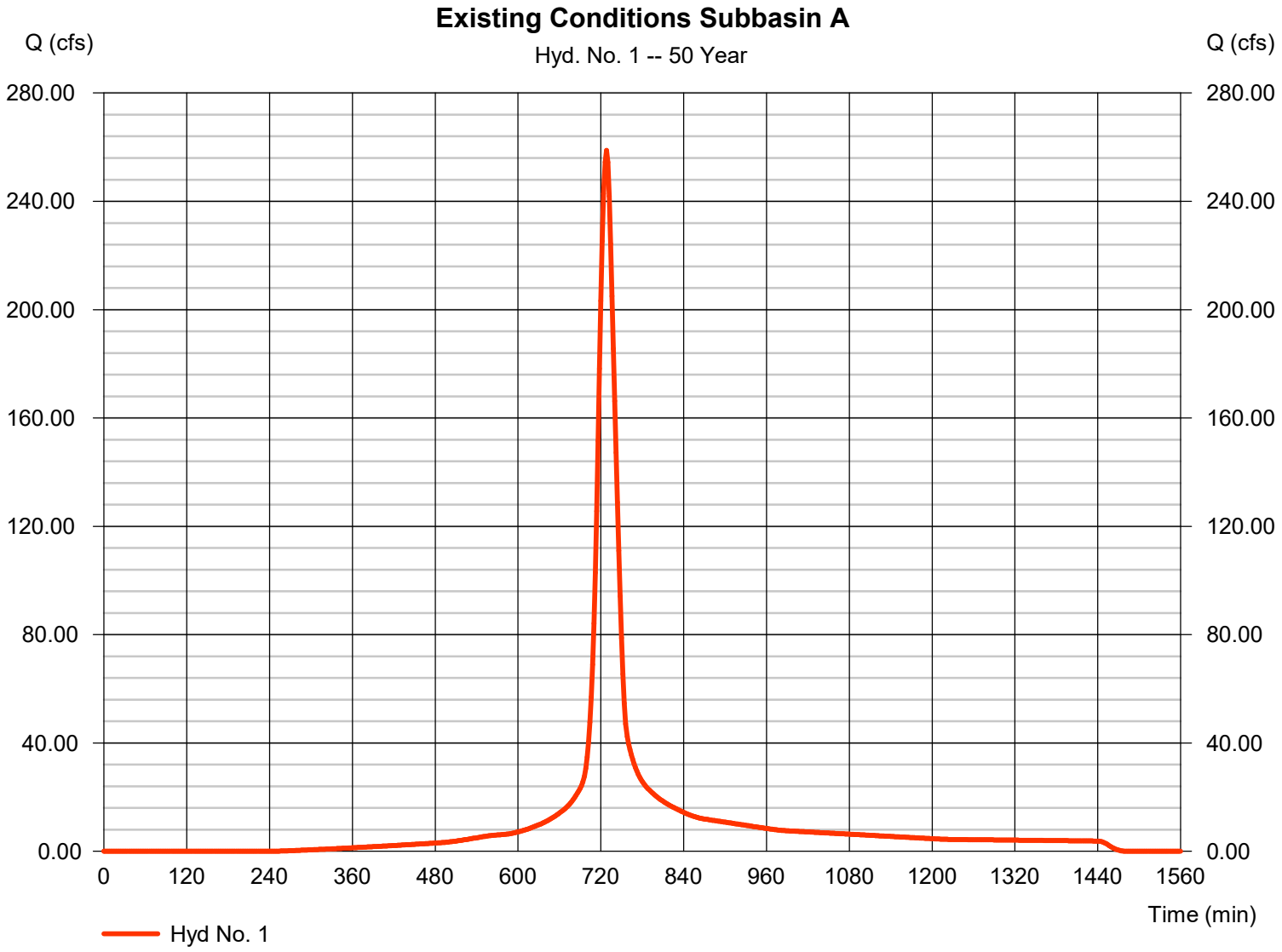
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 258.84 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 973,575 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



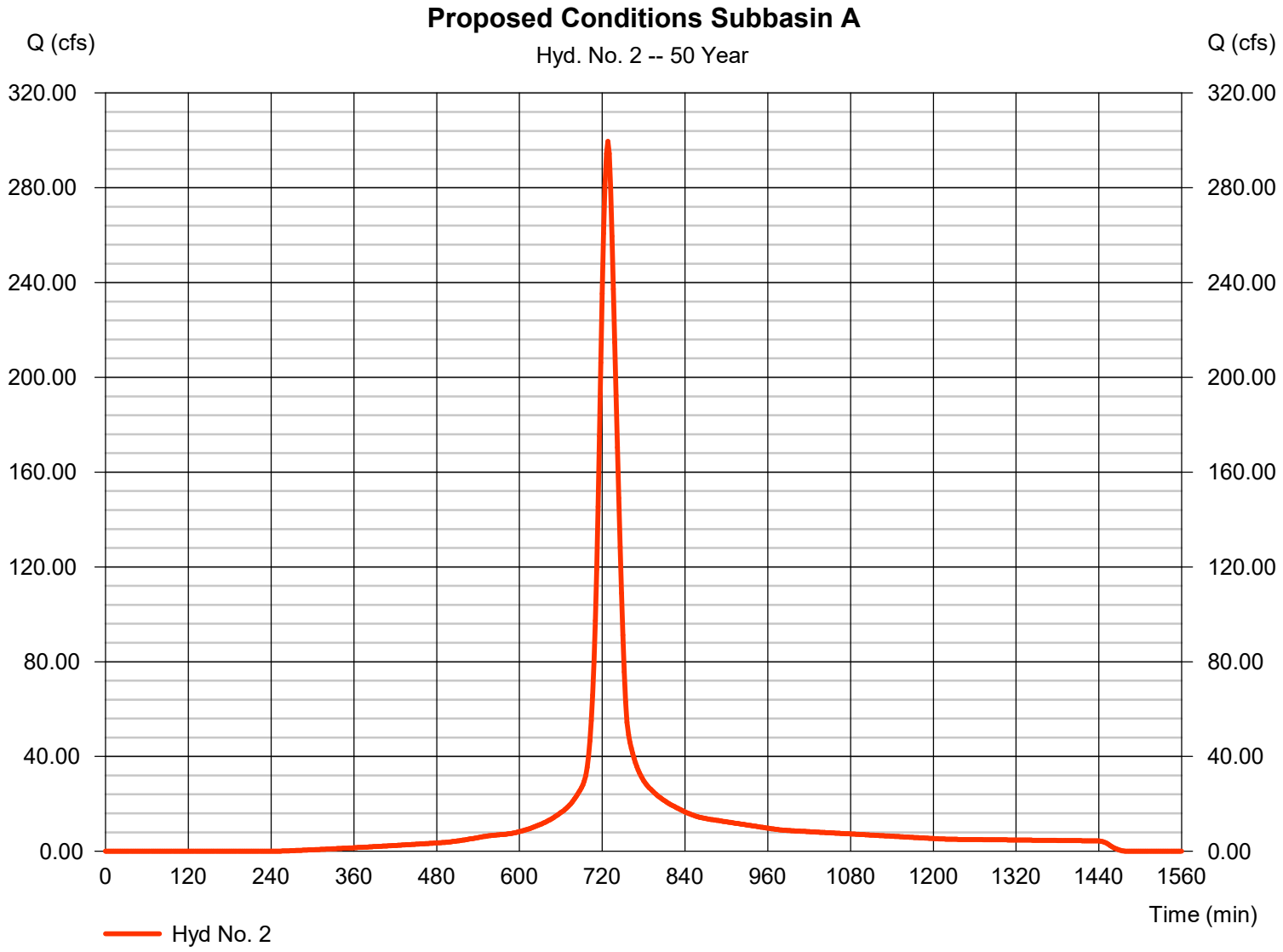
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 299.53 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,126,632 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



Hydrograph Report

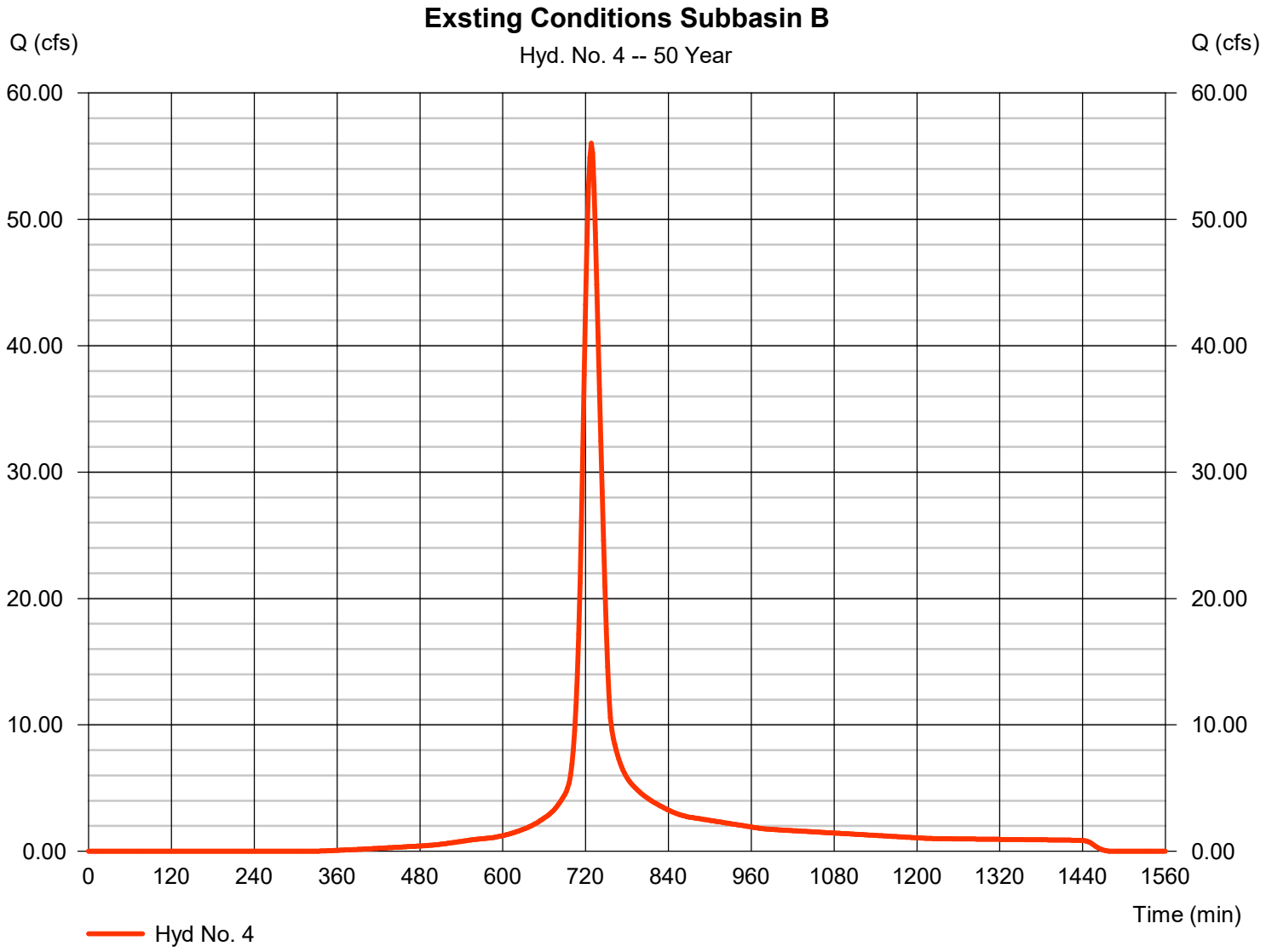
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 56.02 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 207,138 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



Hydrograph Report

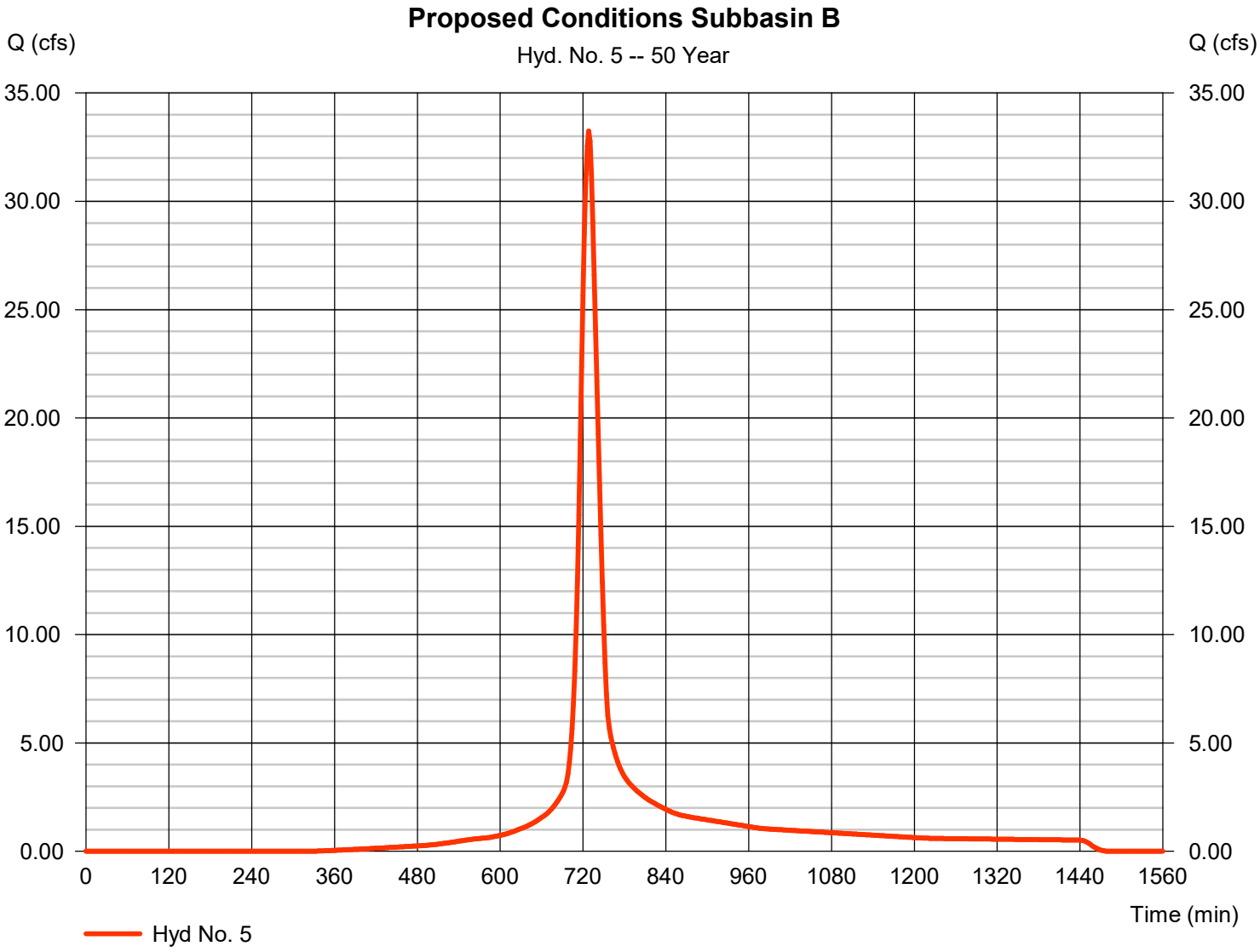
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 33.24 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 122,923 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

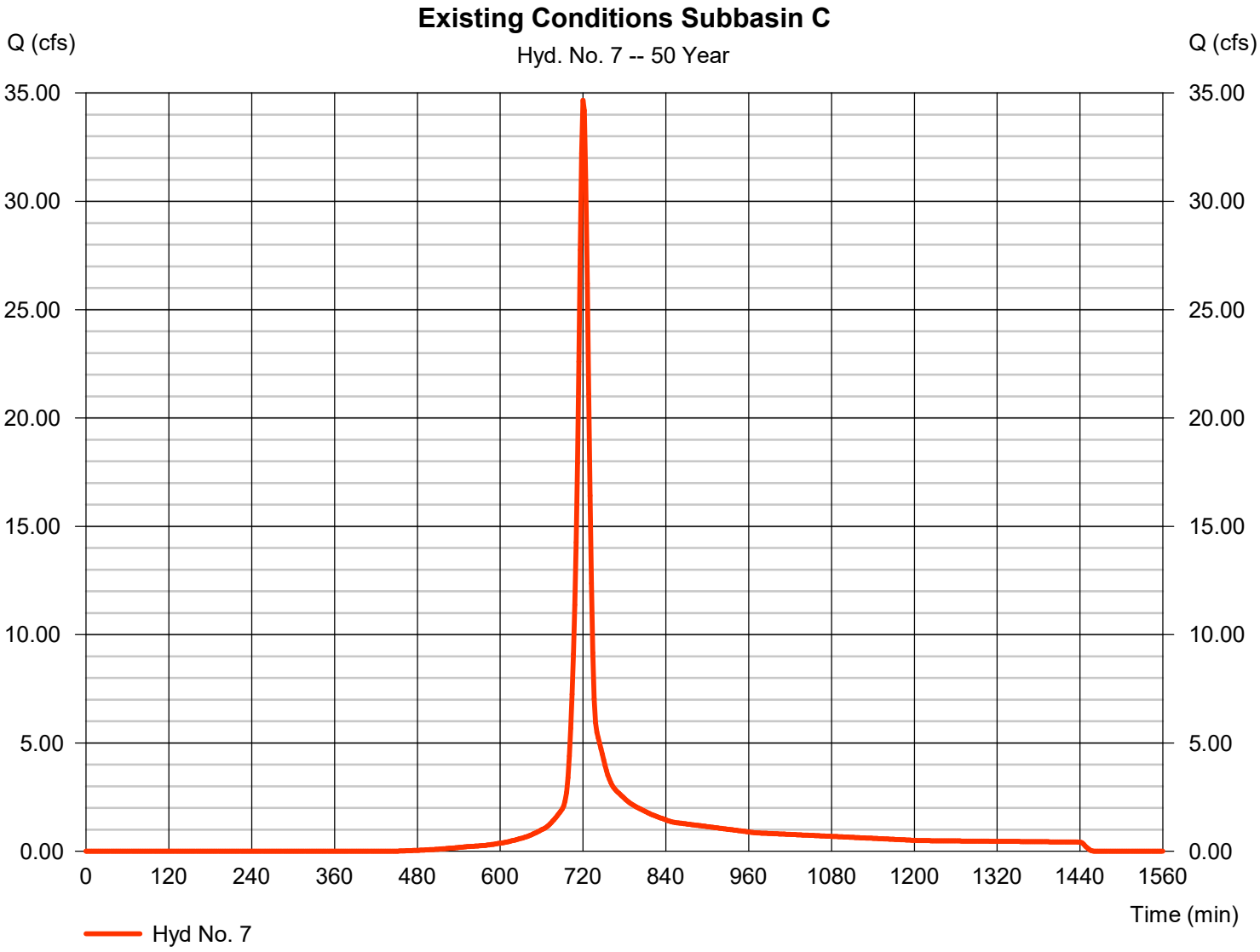
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 34.67 cfs
Storm frequency	= 50 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 89,940 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



Hydrograph Report

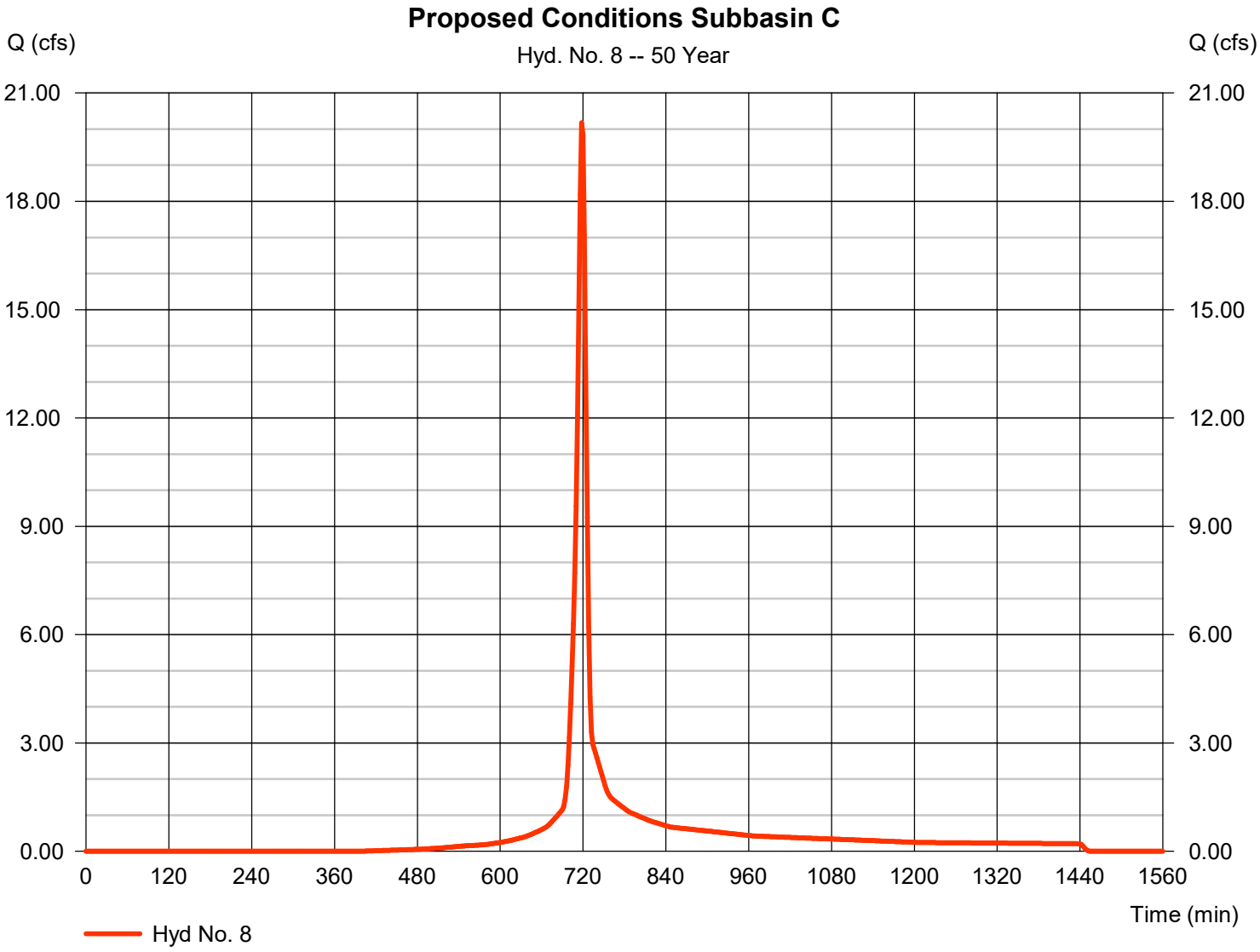
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 20.17 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 46,510 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



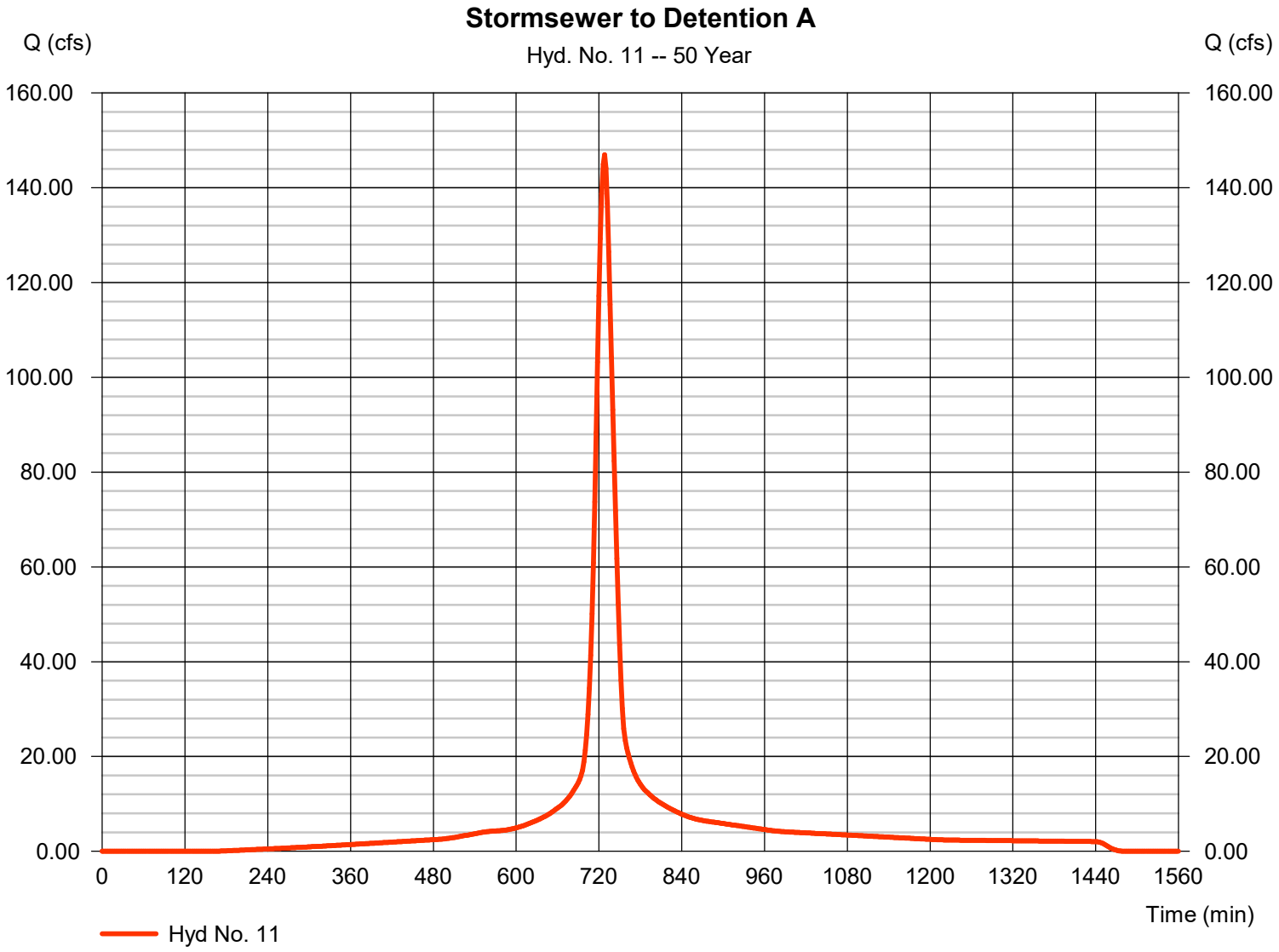
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	146.99 cfs
Storm frequency	=	50 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	569,374 cuft
Drainage area	=	26.480 ac	Curve number	=	91*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	23.70 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



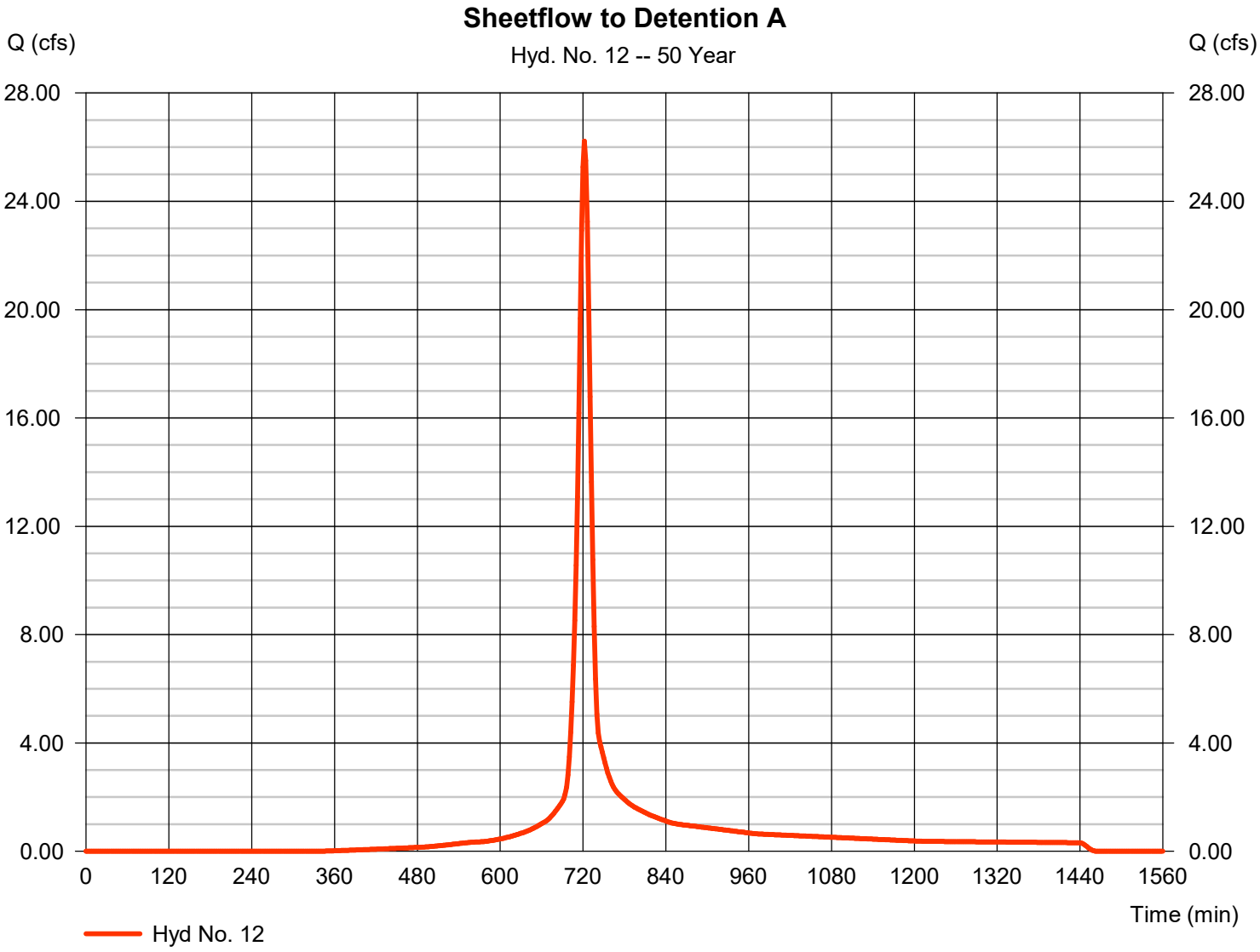
Hydrograph Report

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	26.22 cfs
Storm frequency	=	50 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	74,424 cuft
Drainage area	=	4.410 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.90 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

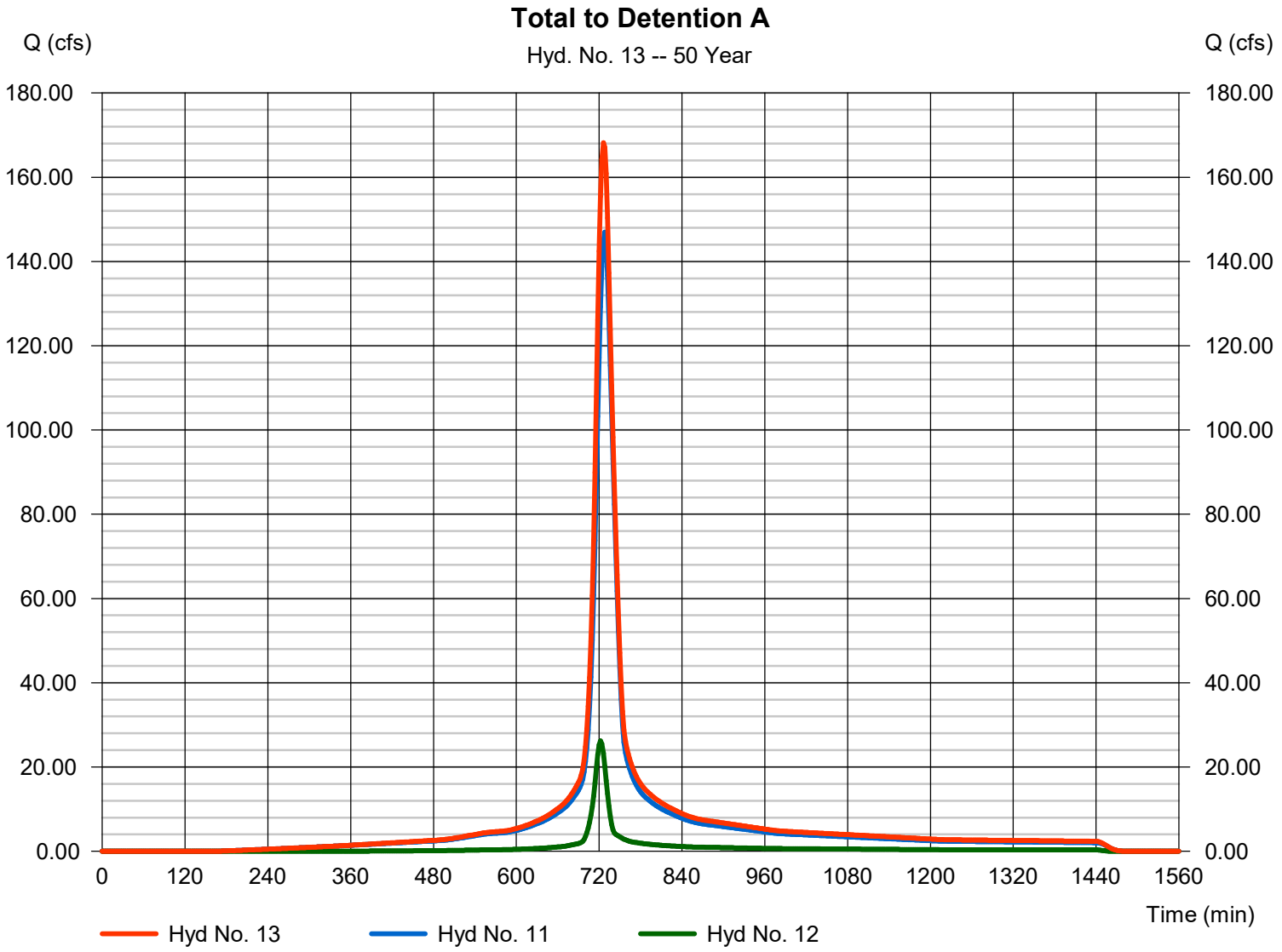


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 168.19 cfs
Storm frequency	= 50 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 643,798 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



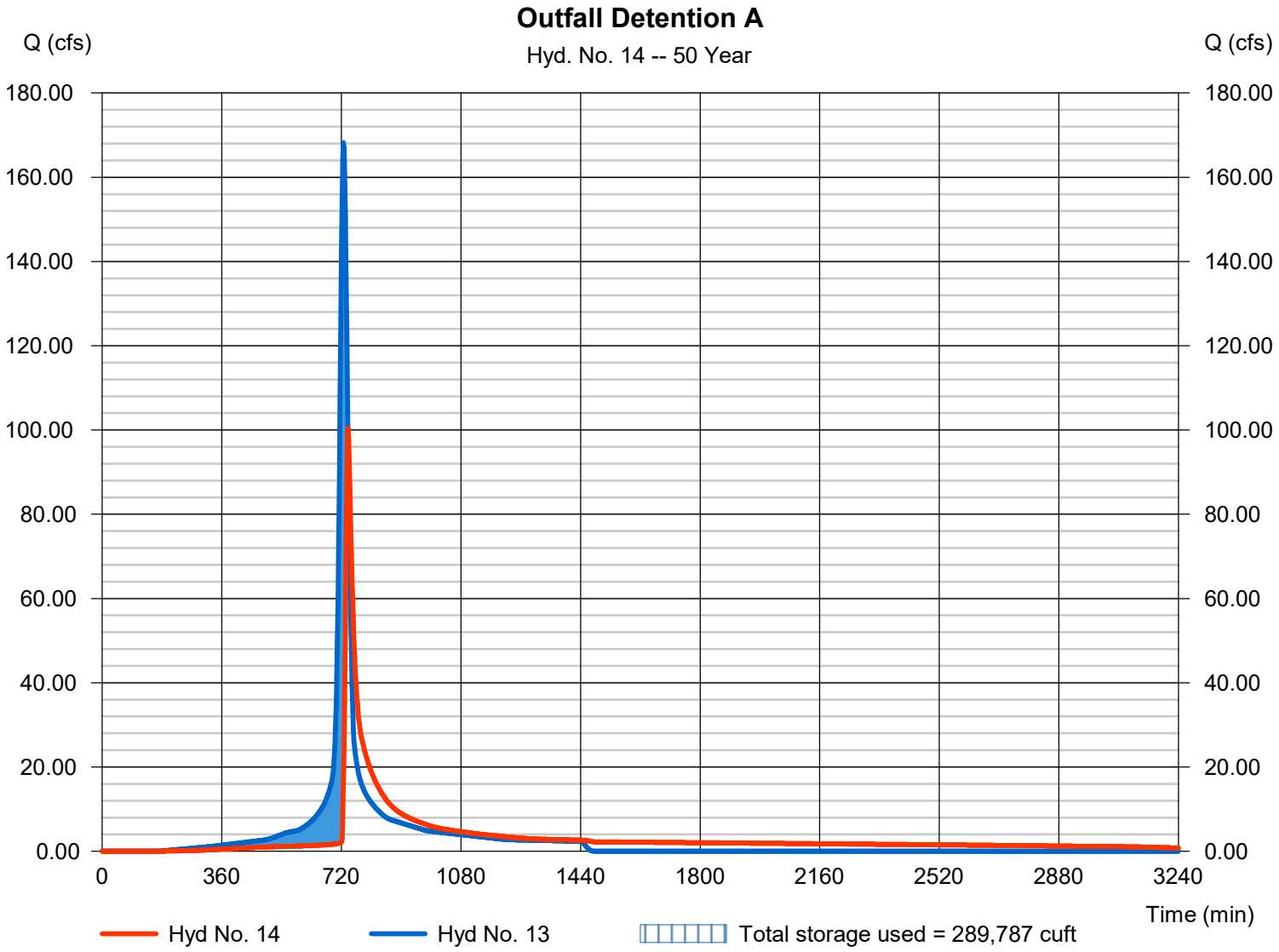
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	100.42 cfs
Storm frequency	=	50 yrs	Time to peak	=	740 min
Time interval	=	2 min	Hyd. volume	=	643,782 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	653.18 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	289,787 cuft

Storage Indication method used.



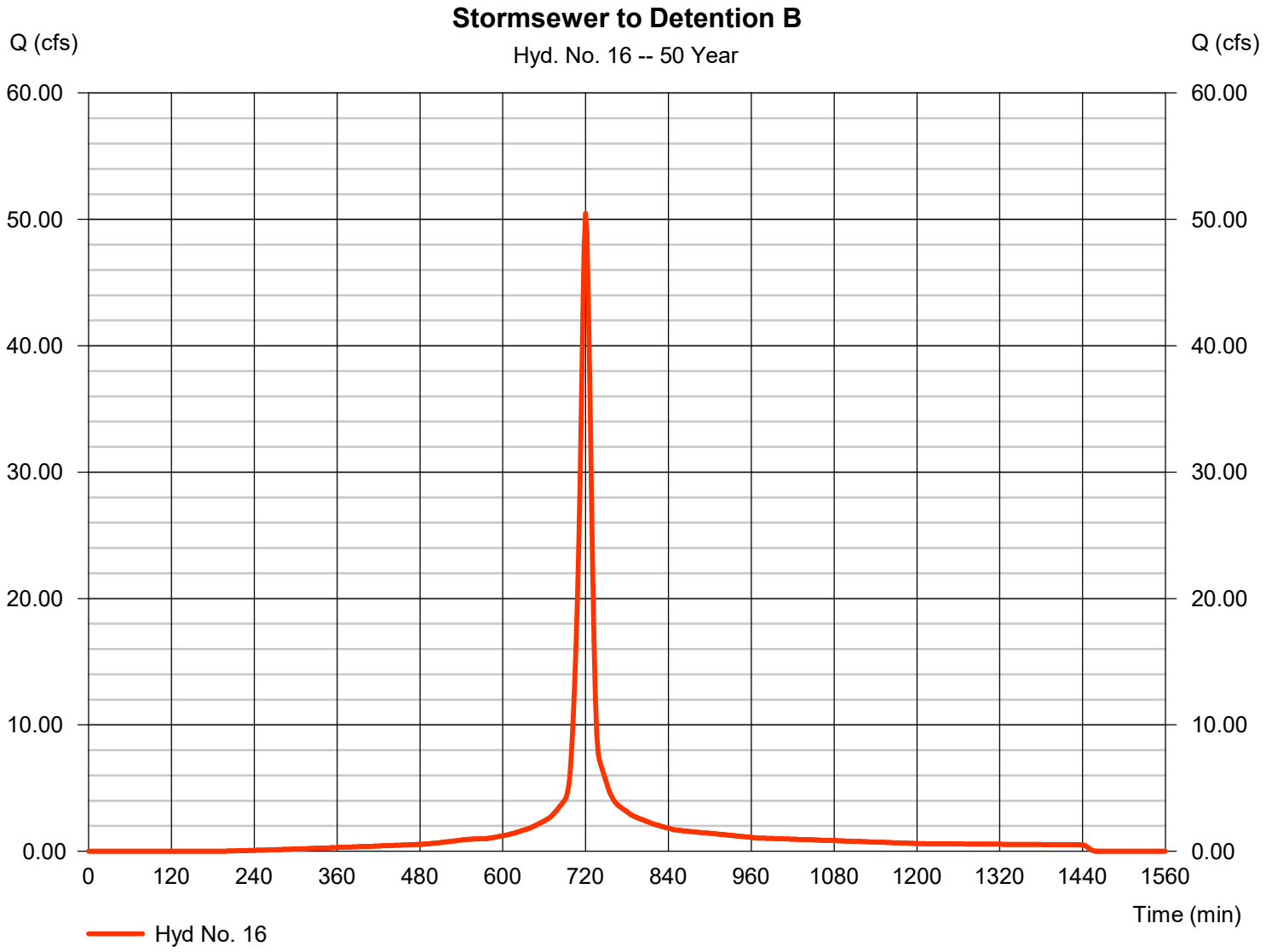
Hydrograph Report

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	50.47 cfs
Storm frequency	=	50 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	138,625 cuft
Drainage area	=	6.400 ac	Curve number	=	89*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.20 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



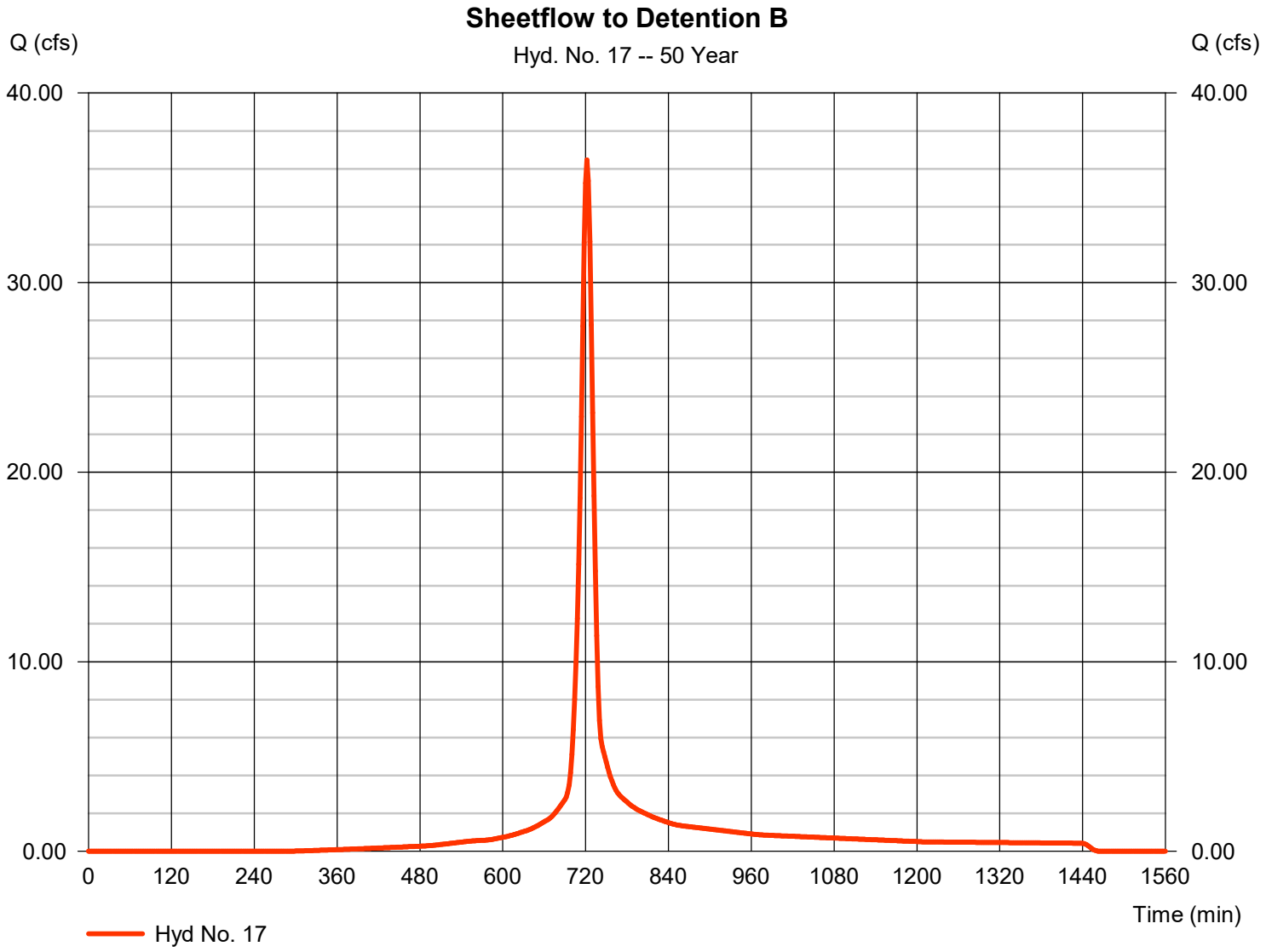
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	36.47 cfs
Storm frequency	=	50 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	104,579 cuft
Drainage area	=	5.790 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.80 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

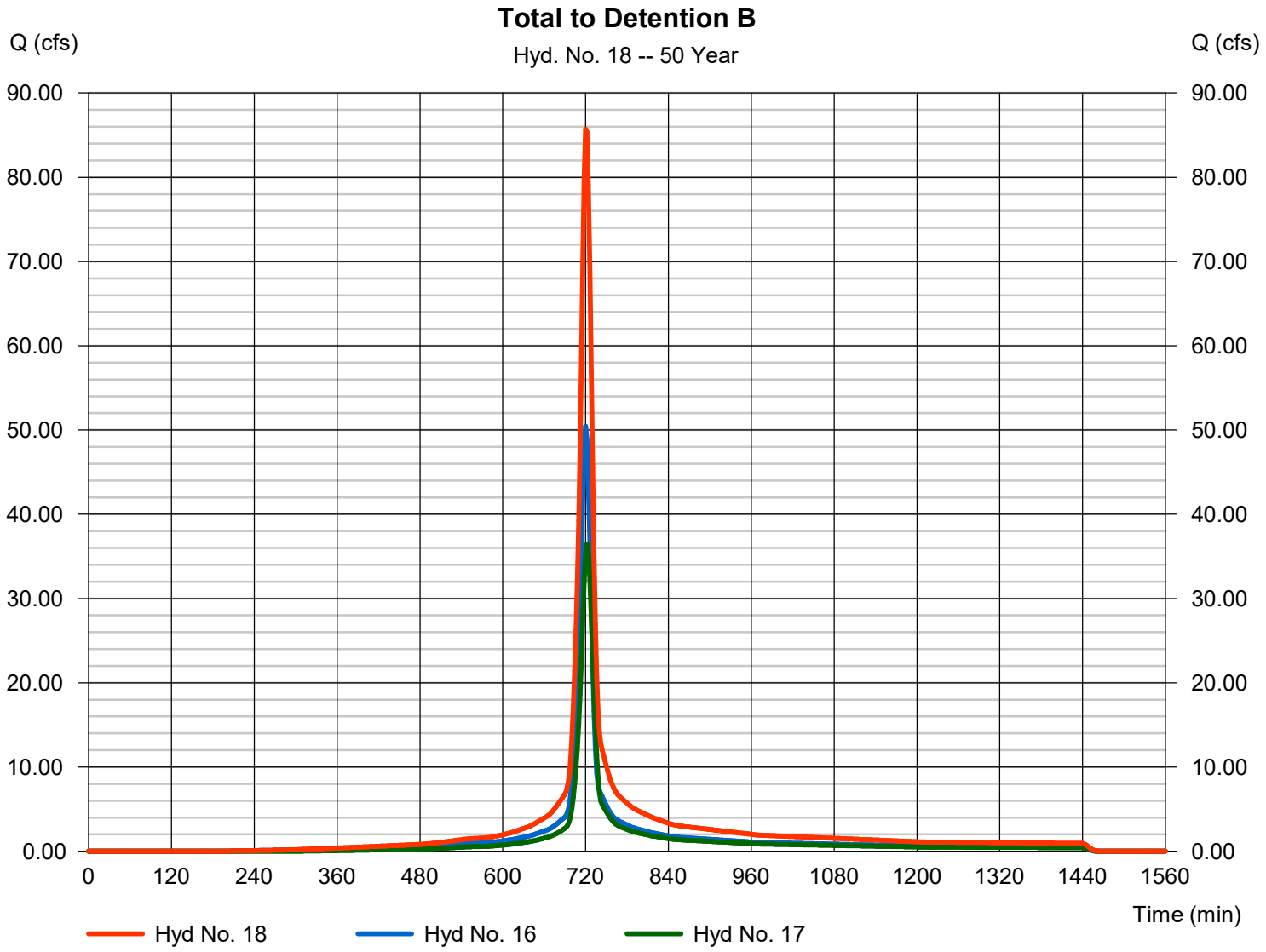


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 85.72 cfs
Storm frequency	= 50 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 243,204 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



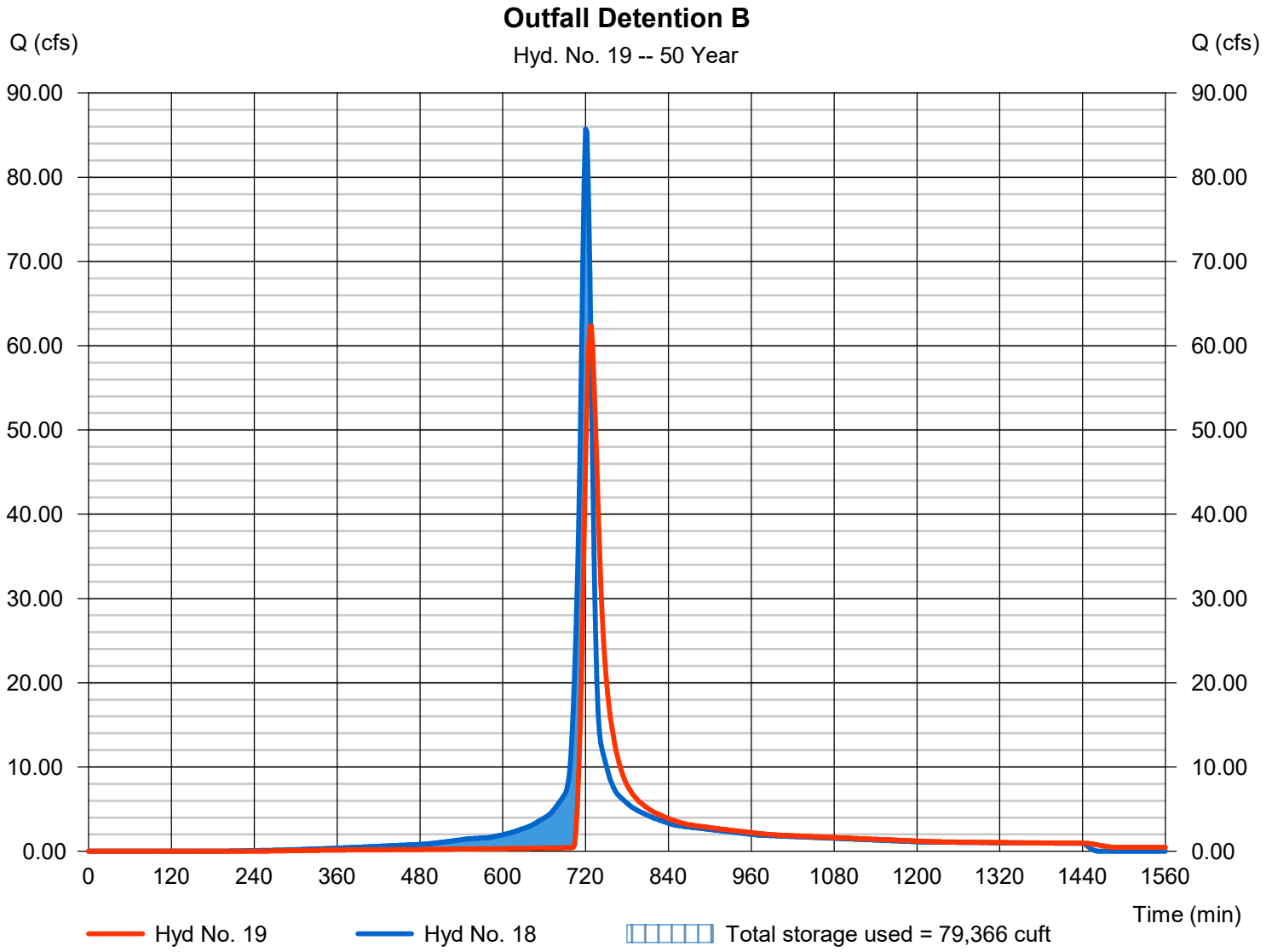
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	62.37 cfs
Storm frequency	=	50 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	243,187 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	661.73 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	79,366 cuft

Storage Indication method used.



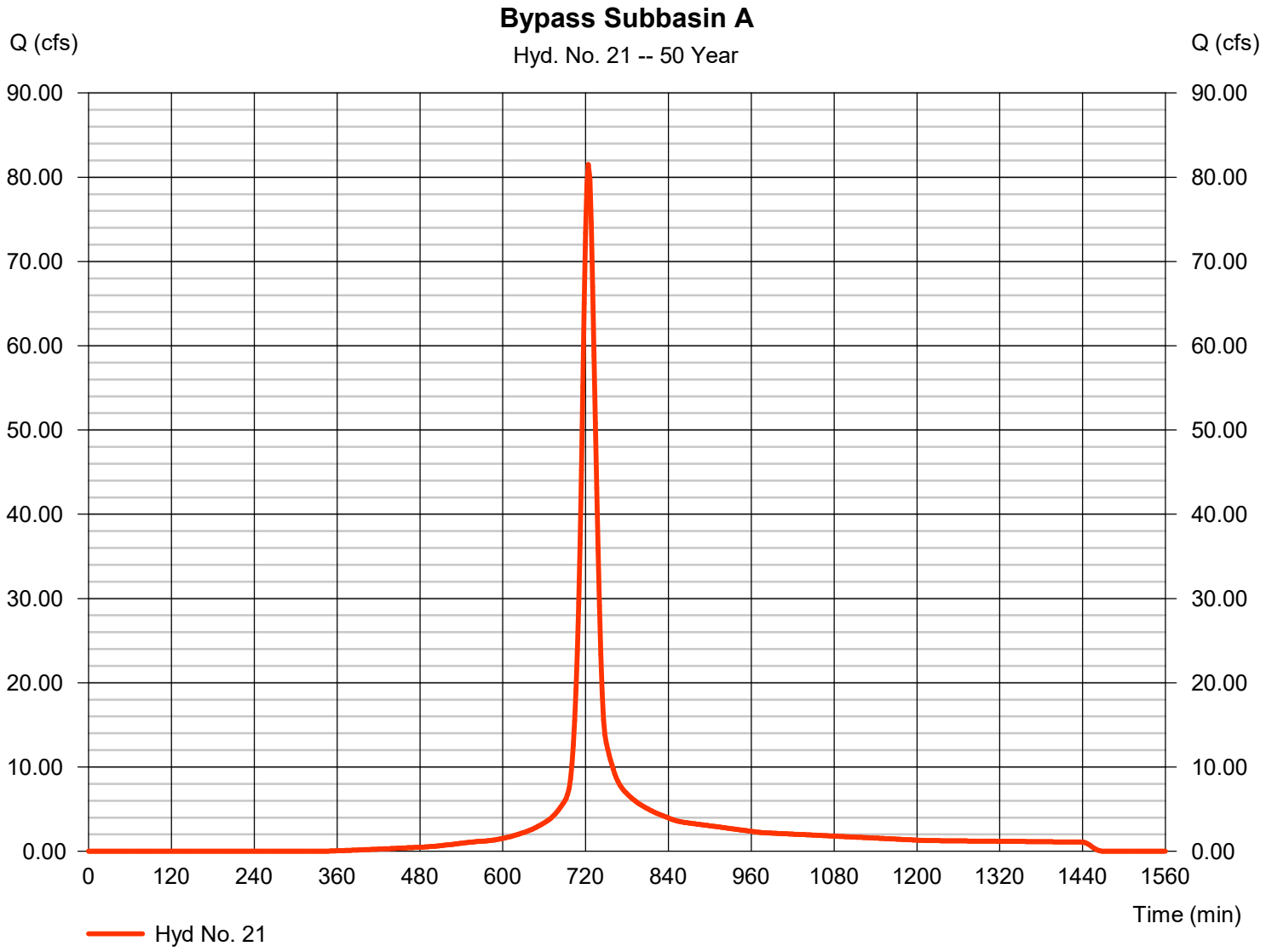
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 81.52 cfs
Storm frequency	= 50 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 257,039 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

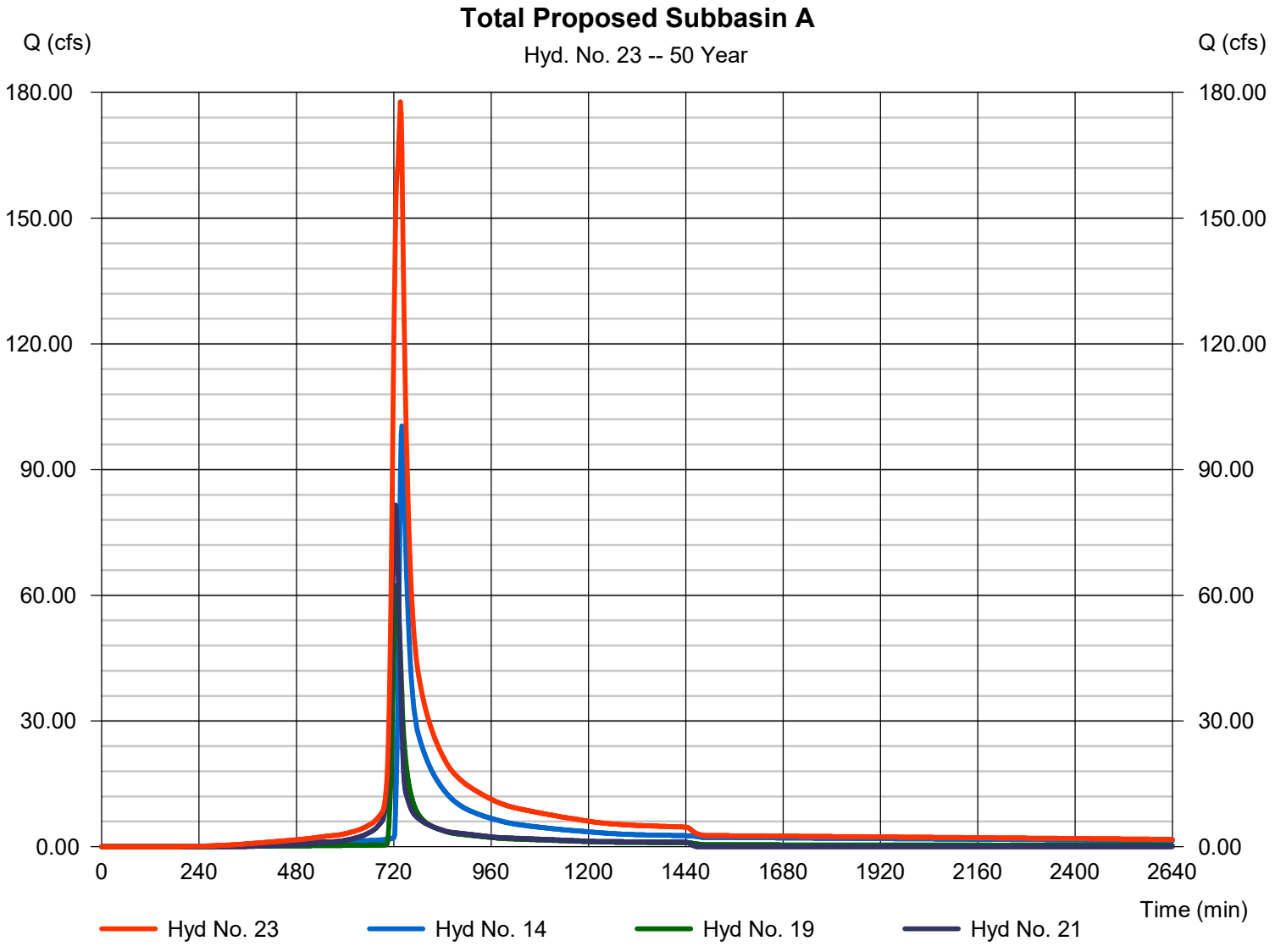


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 177.75 cfs
Storm frequency	= 50 yrs	Time to peak	= 736 min
Time interval	= 2 min	Hyd. volume	= 1,144,008 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

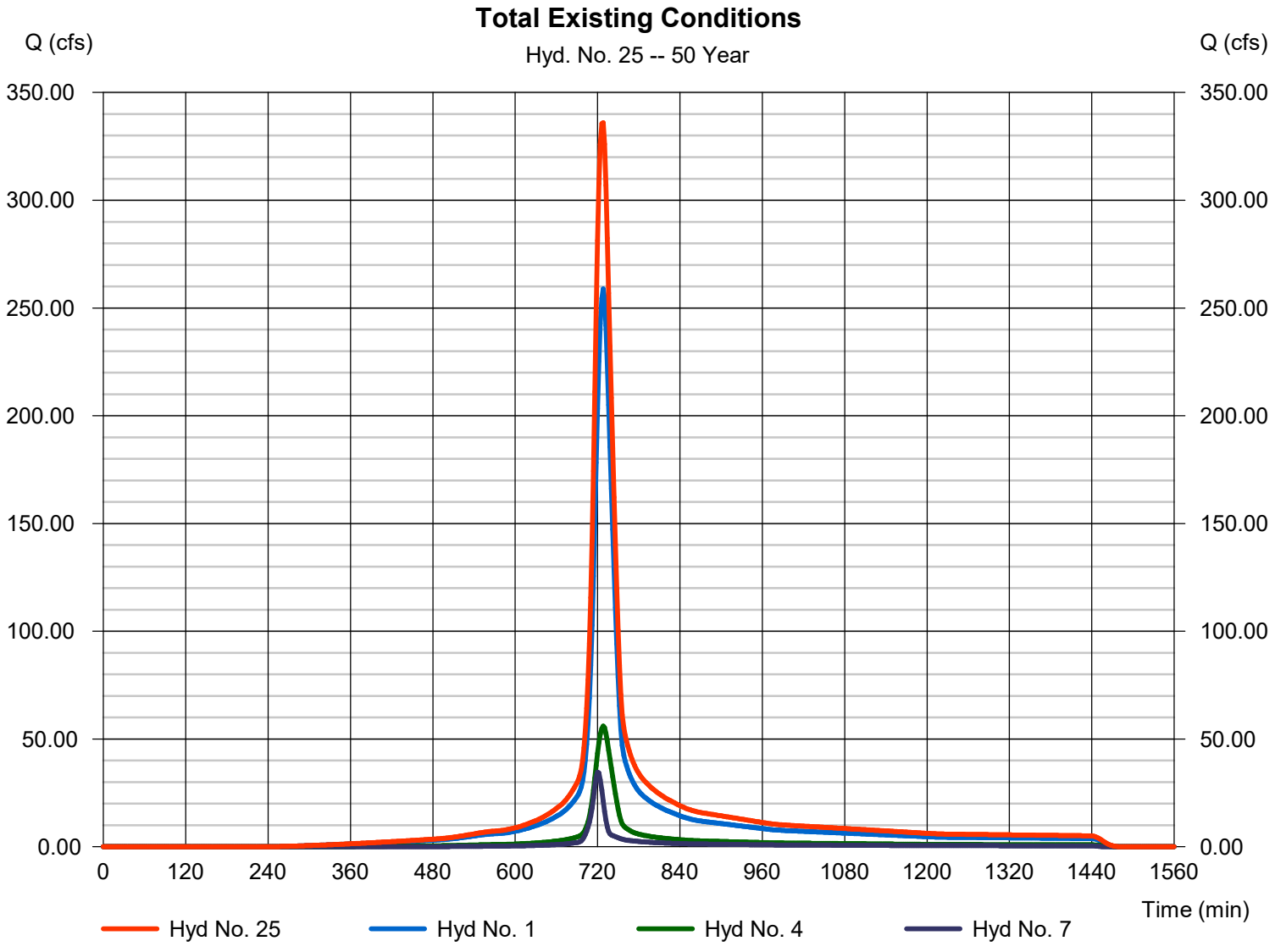


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 335.95 cfs
Storm frequency	= 50 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,270,653 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac



Hydrograph Report

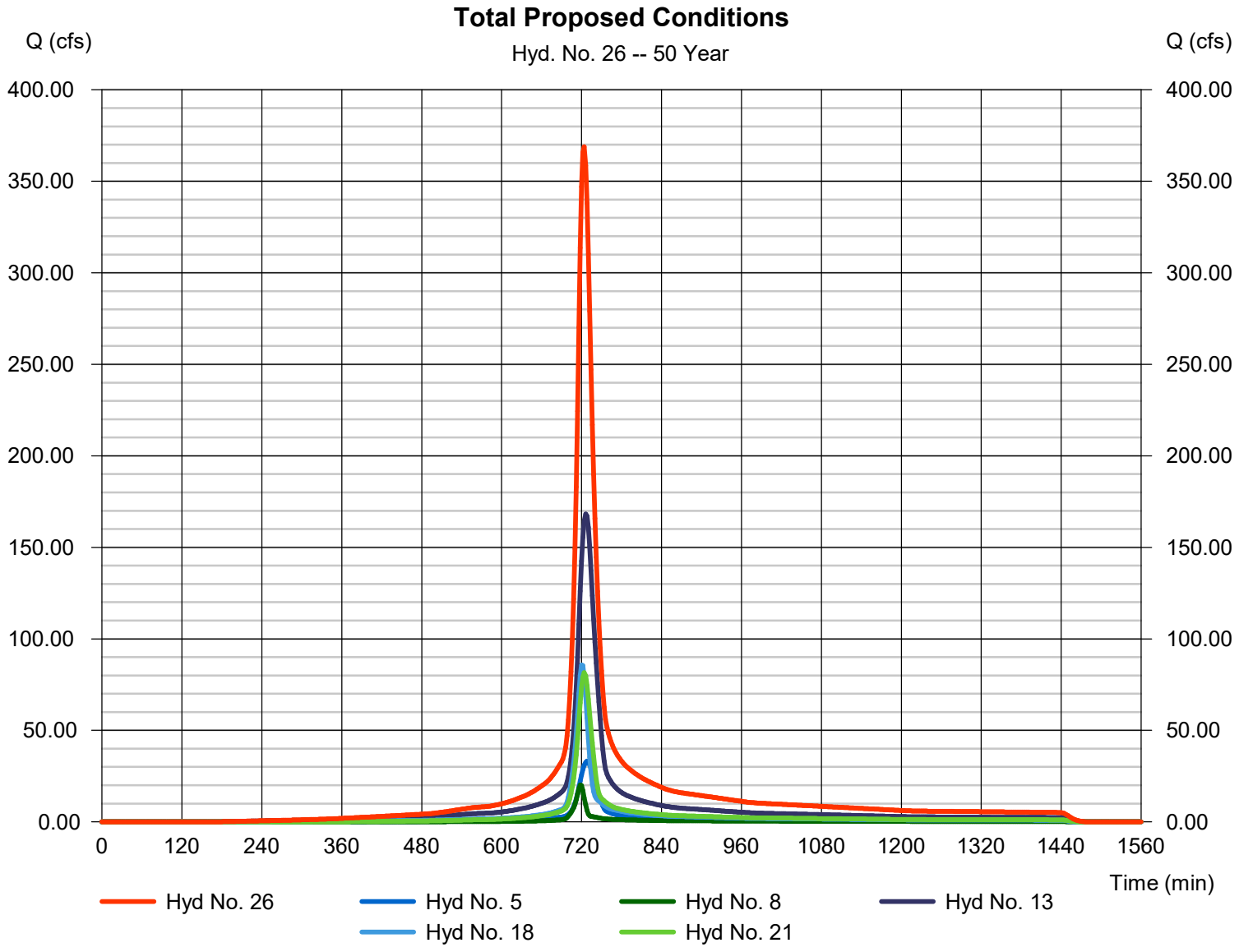
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Wednesday, 08 / 27 / 2025

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	=	Combine	Peak discharge	=	368.94 cfs
Storm frequency	=	50 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	1,313,476 cuft
Inflow hyds.	=	5, 8, 13, 18, 21	Contrib. drain. area	=	24.860 ac

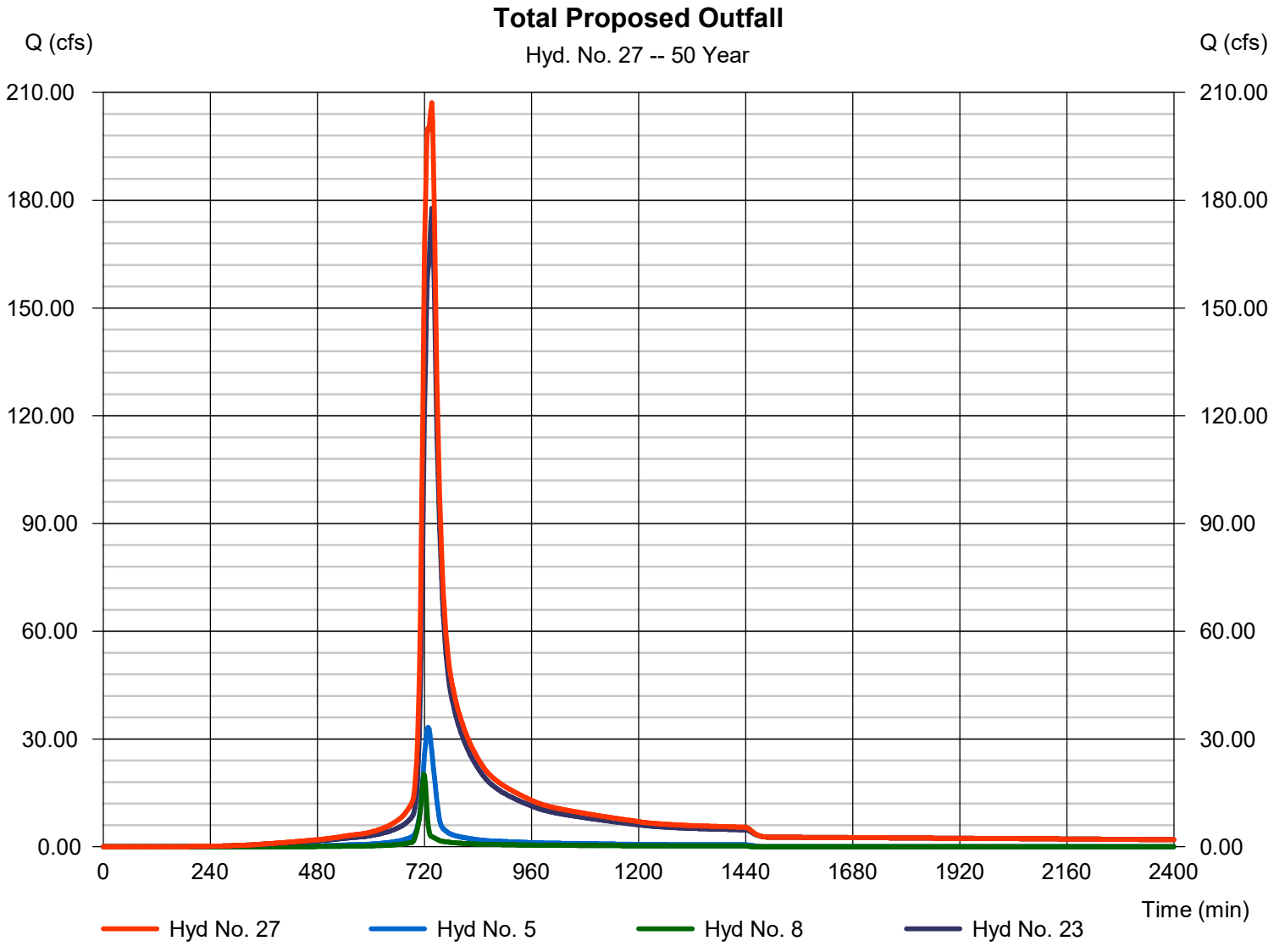


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	=	Combine	Peak discharge	=	207.20 cfs
Storm frequency	=	50 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	1,313,440 cuft
Inflow hyds.	=	5, 8, 23	Contrib. drain. area	=	10.010 ac



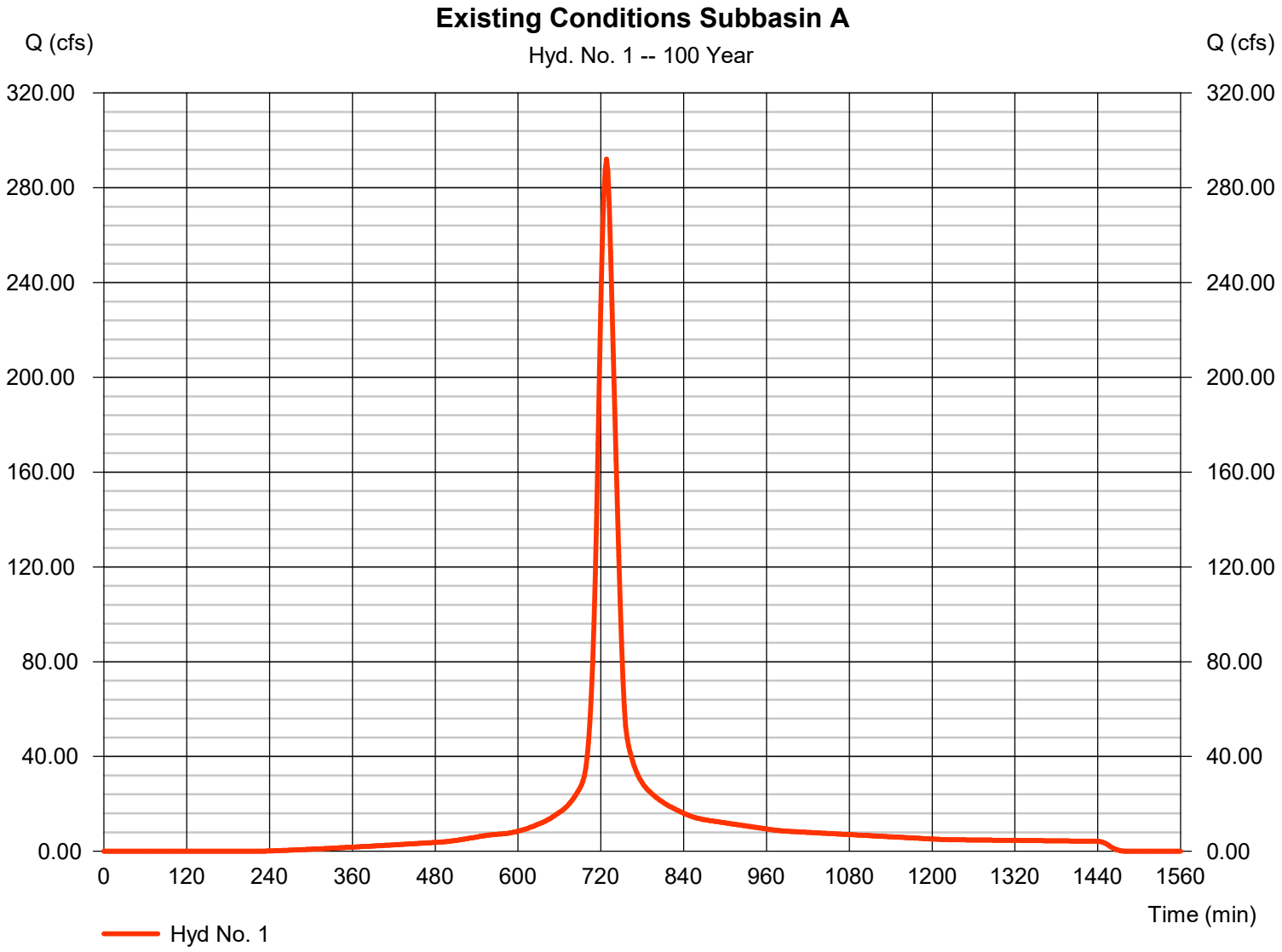
Hydrograph Report

Hyd. No. 1

Existing Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 292.06 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,104,821 cuft
Drainage area	= 50.060 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 24.76 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(44.870 x 88) + (5.190 x 70)] / 50.060



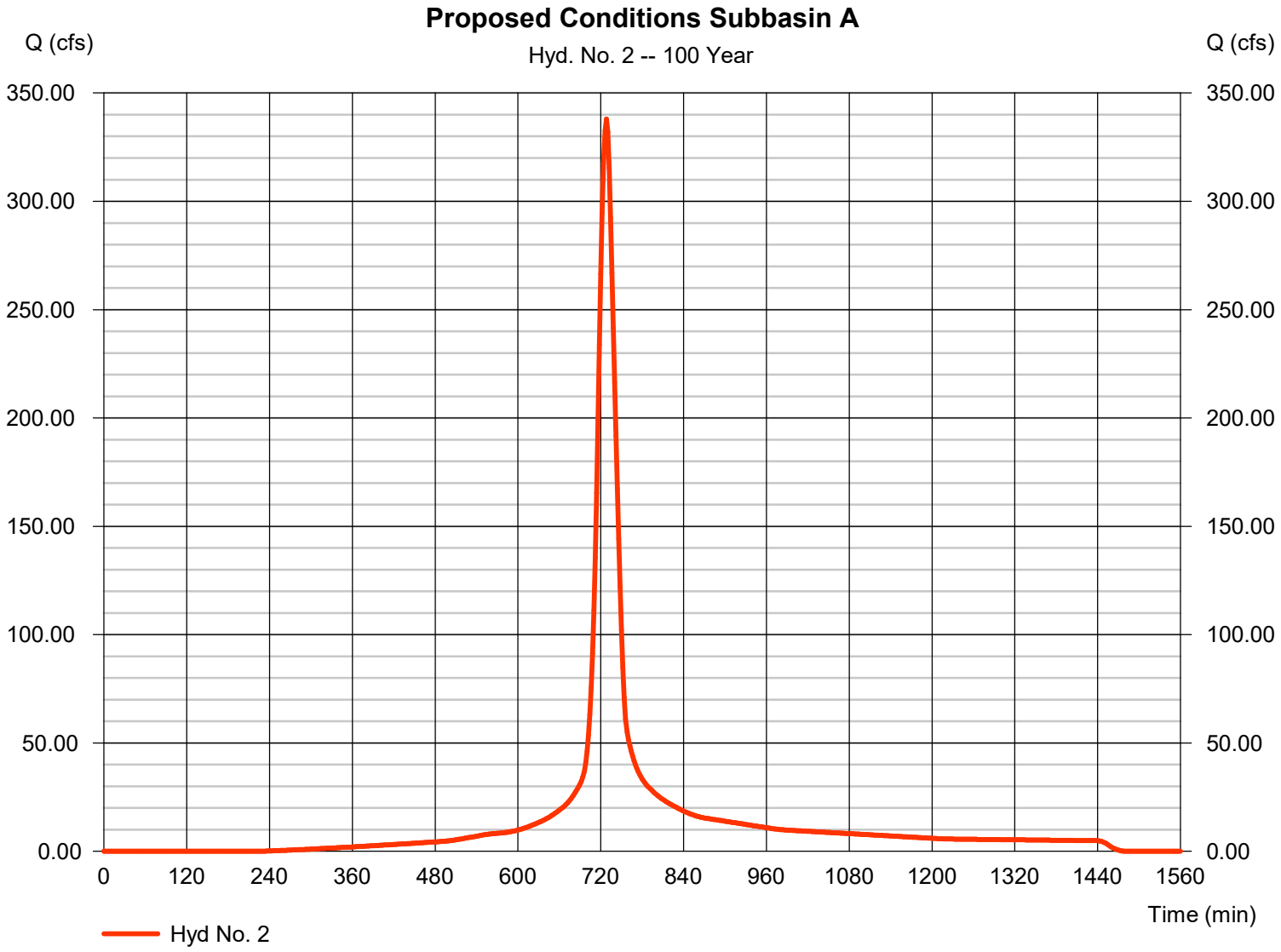
Hydrograph Report

Hyd. No. 2

Proposed Conditions Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 337.98 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,278,511 cuft
Drainage area	= 57.930 ac	Curve number	= 86*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.70 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(23.640 x 98) + (34.290 x 78)] / 57.930



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

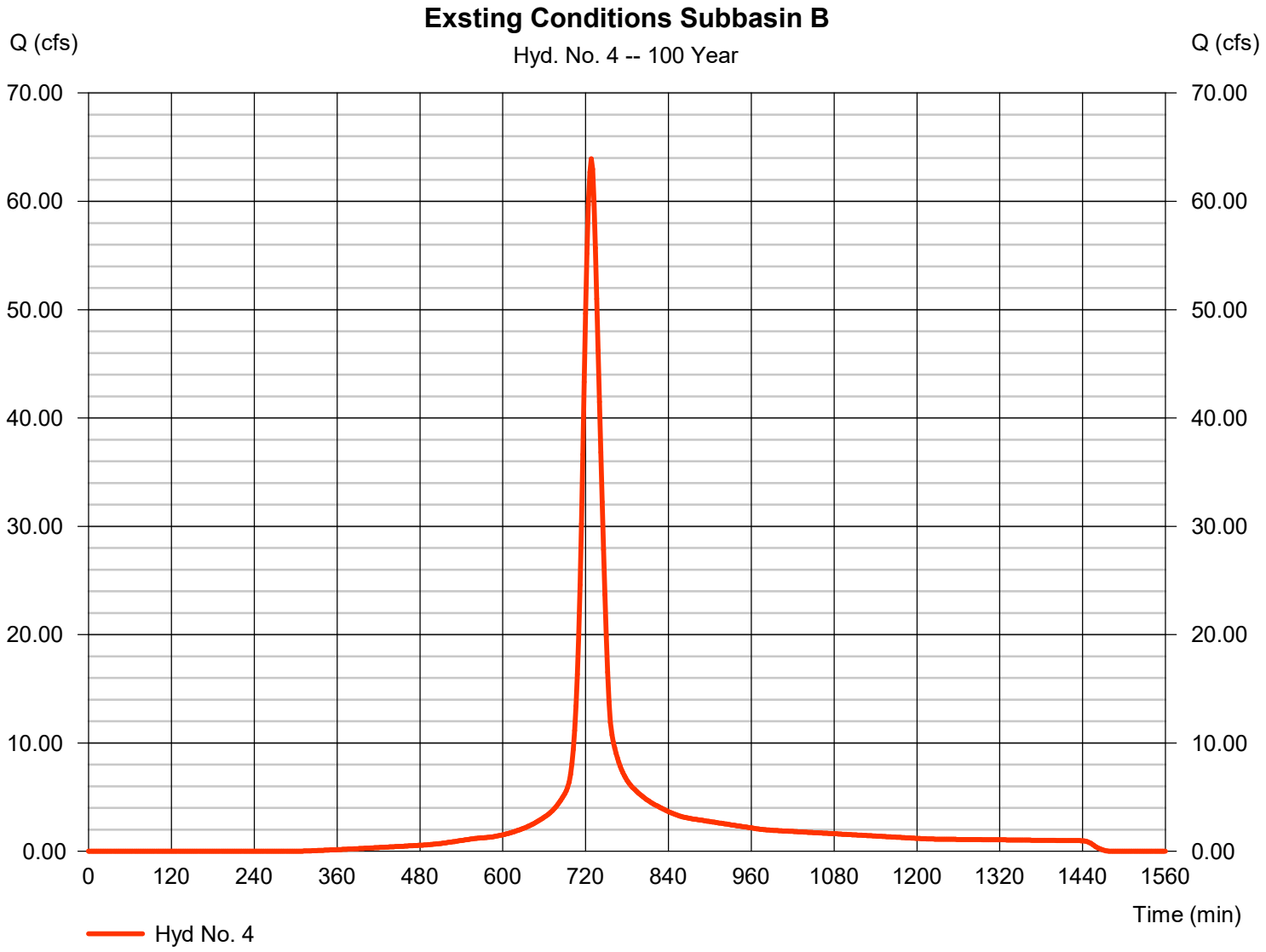
Wednesday, 08 / 27 / 2025

Hyd. No. 4

Exsting Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 63.93 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 237,361 cuft
Drainage area	= 11.880 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.80 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(6.940 x 88) + (4.940 x 70)] / 11.880



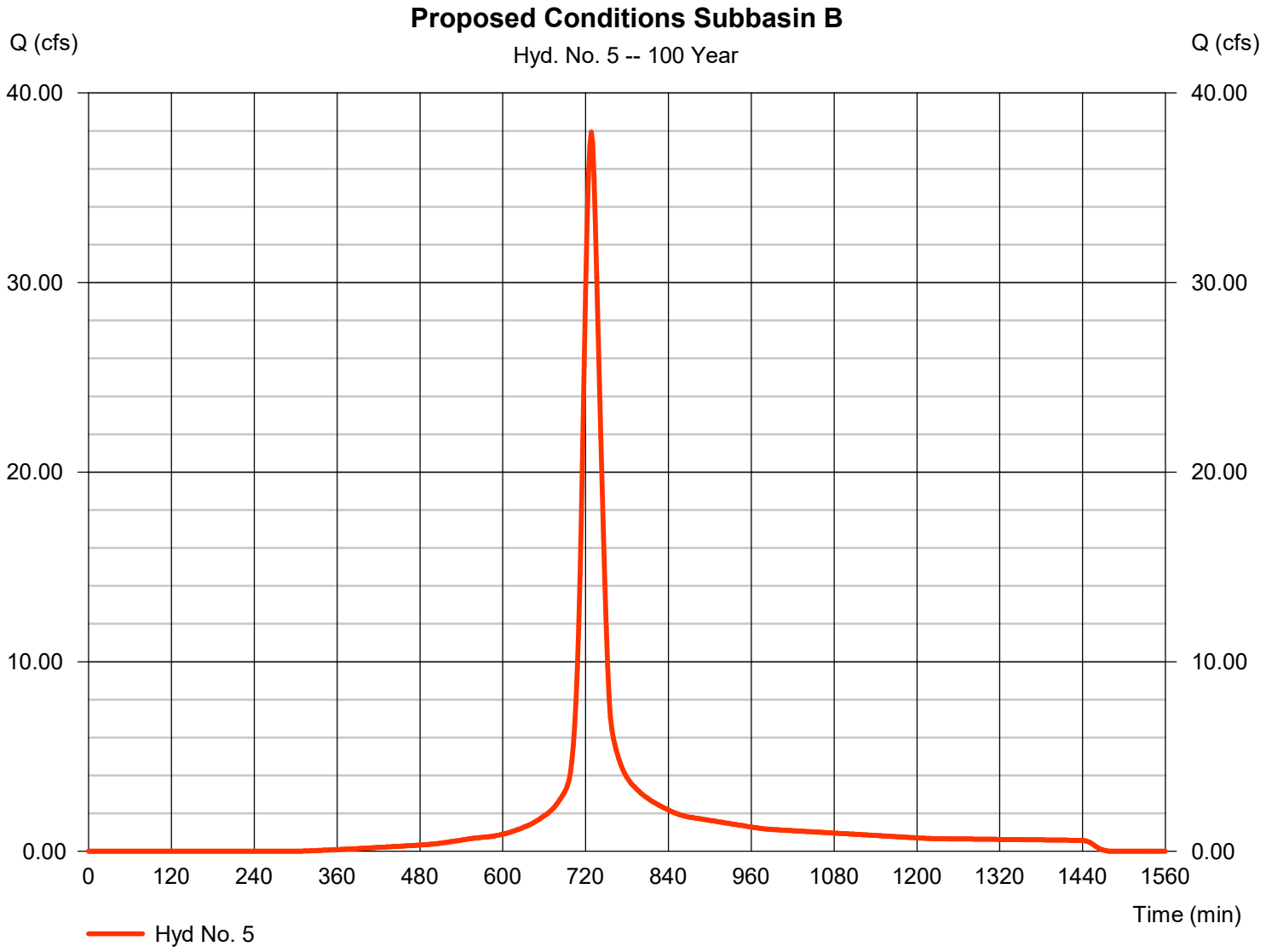
Hydrograph Report

Hyd. No. 5

Proposed Conditions Subbasin B

Hydrograph type	= SCS Runoff	Peak discharge	= 37.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 140,858 cuft
Drainage area	= 7.050 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 25.00 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.950 x 98) + (6.100 x 78)] / 7.050



Hydrograph Report

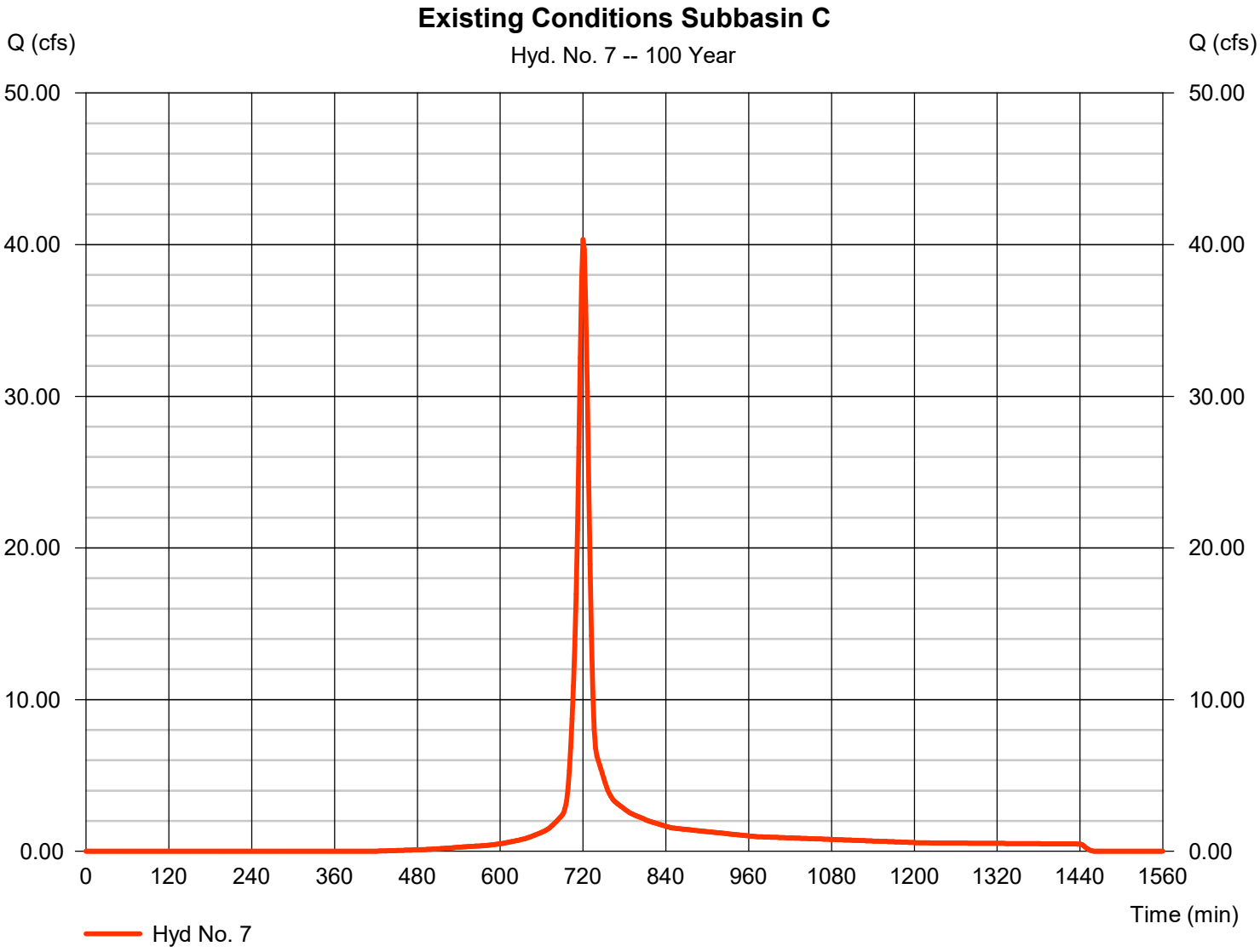
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 7

Existing Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 40.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 104,856 cuft
Drainage area	= 6.000 ac	Curve number	= 73*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 12.90 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.990 x 79) + (4.010 x 70)] / 6.000



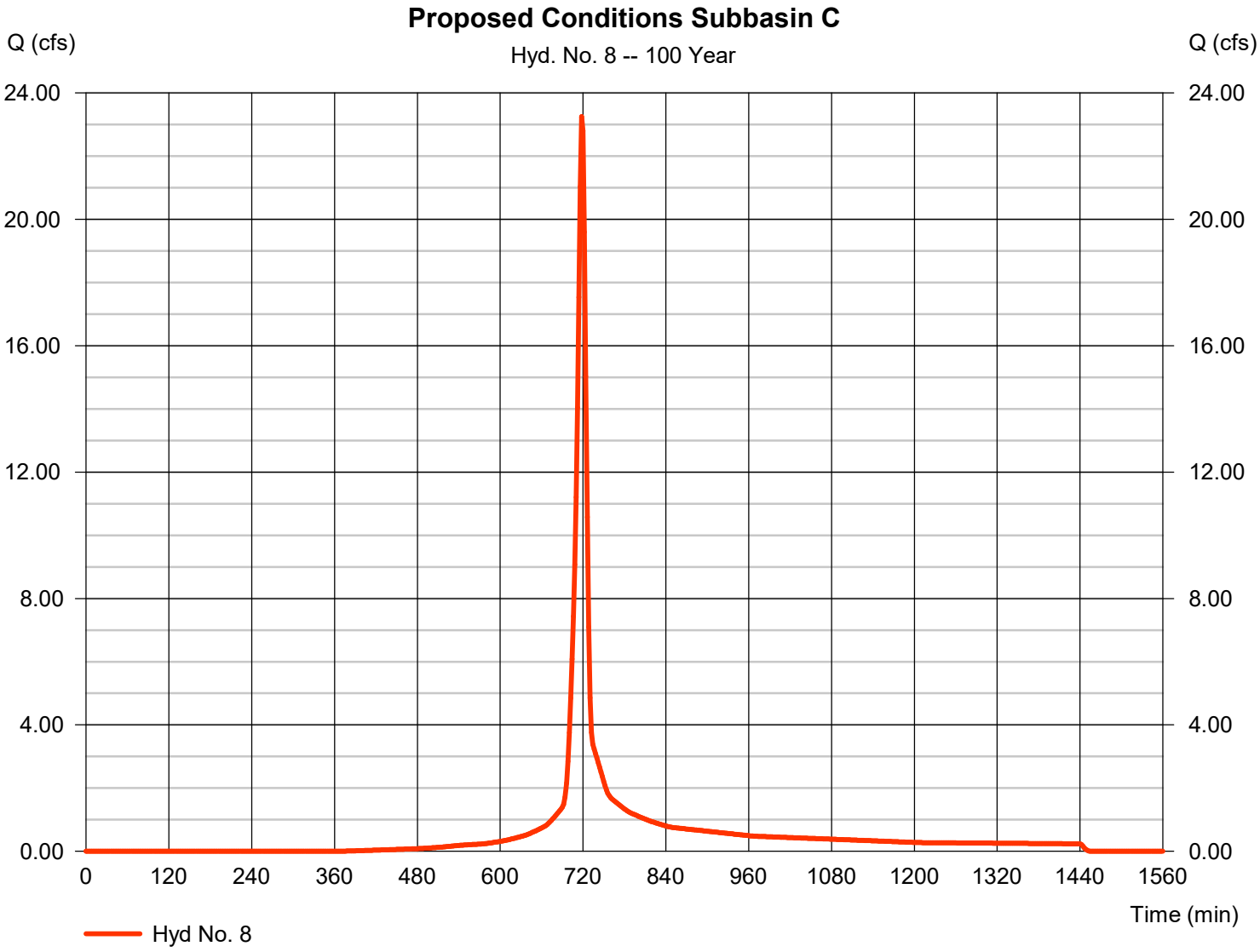
Hydrograph Report

Hyd. No. 8

Proposed Conditions Subbasin C

Hydrograph type	= SCS Runoff	Peak discharge	= 23.26 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 53,858 cuft
Drainage area	= 2.960 ac	Curve number	= 76*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.08 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.820 x 79) + (1.140 x 70)] / 2.960



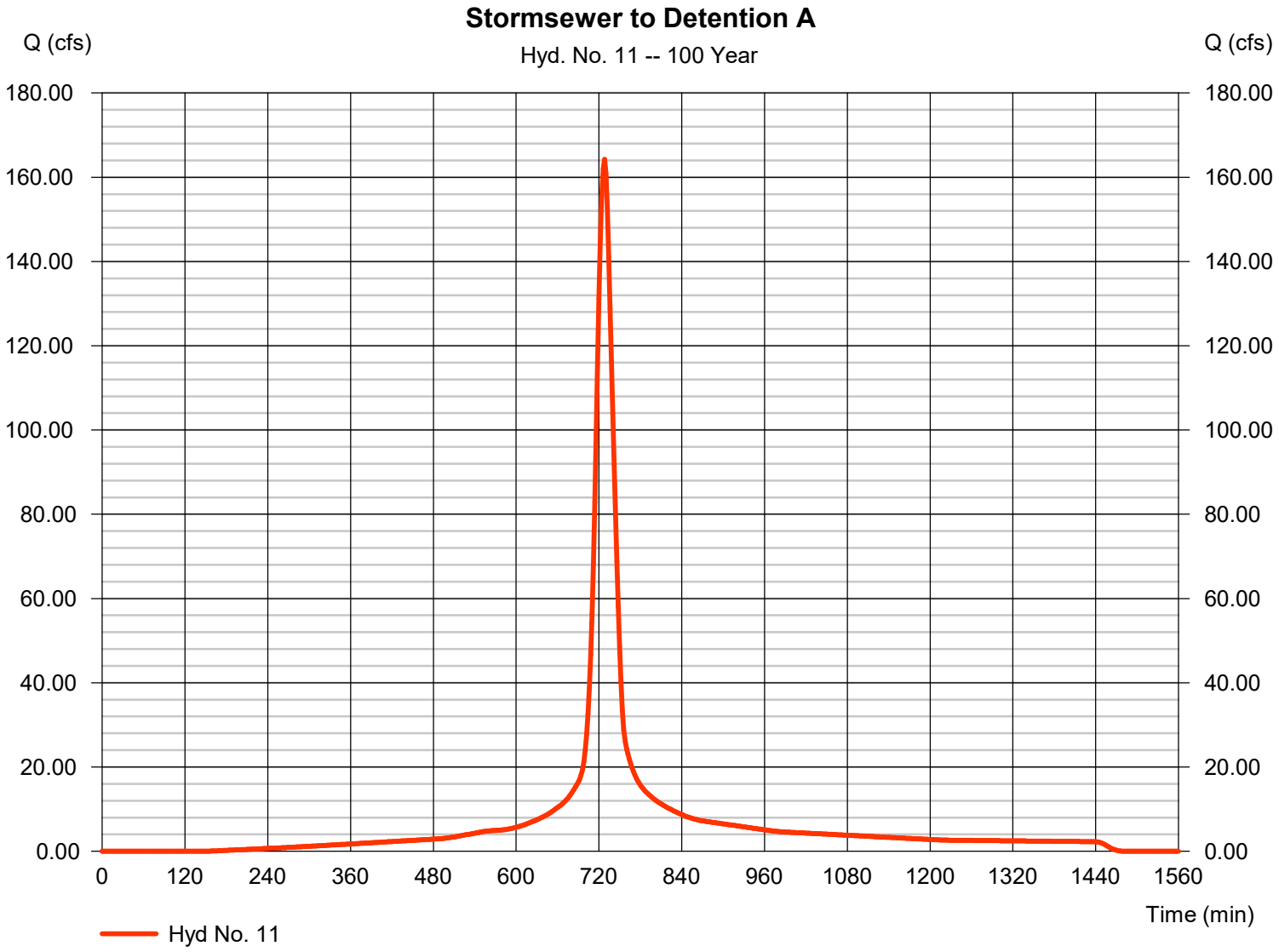
Hydrograph Report

Hyd. No. 11

Stormsewer to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 164.27 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 640,251 cuft
Drainage area	= 26.480 ac	Curve number	= 91*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 23.70 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(17.100 x 98) + (9.380 x 78)] / 26.480



Hydrograph Report

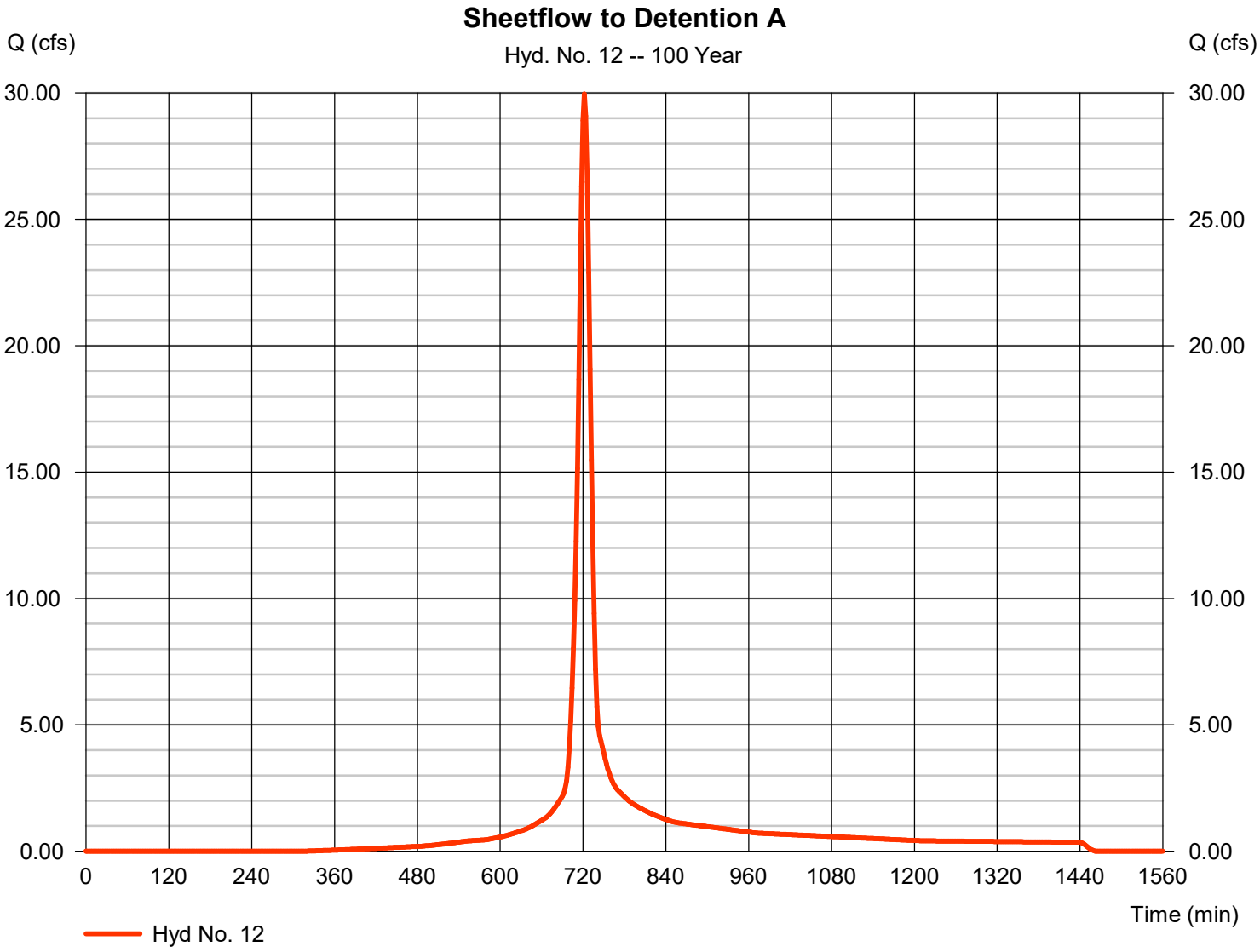
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 12

Sheetflow to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	29.96 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	85,457 cuft
Drainage area	=	4.410 ac	Curve number	=	80*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.90 min
Total precip.	=	7.84 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.380 x 98) + (4.030 x 78)] / 4.410

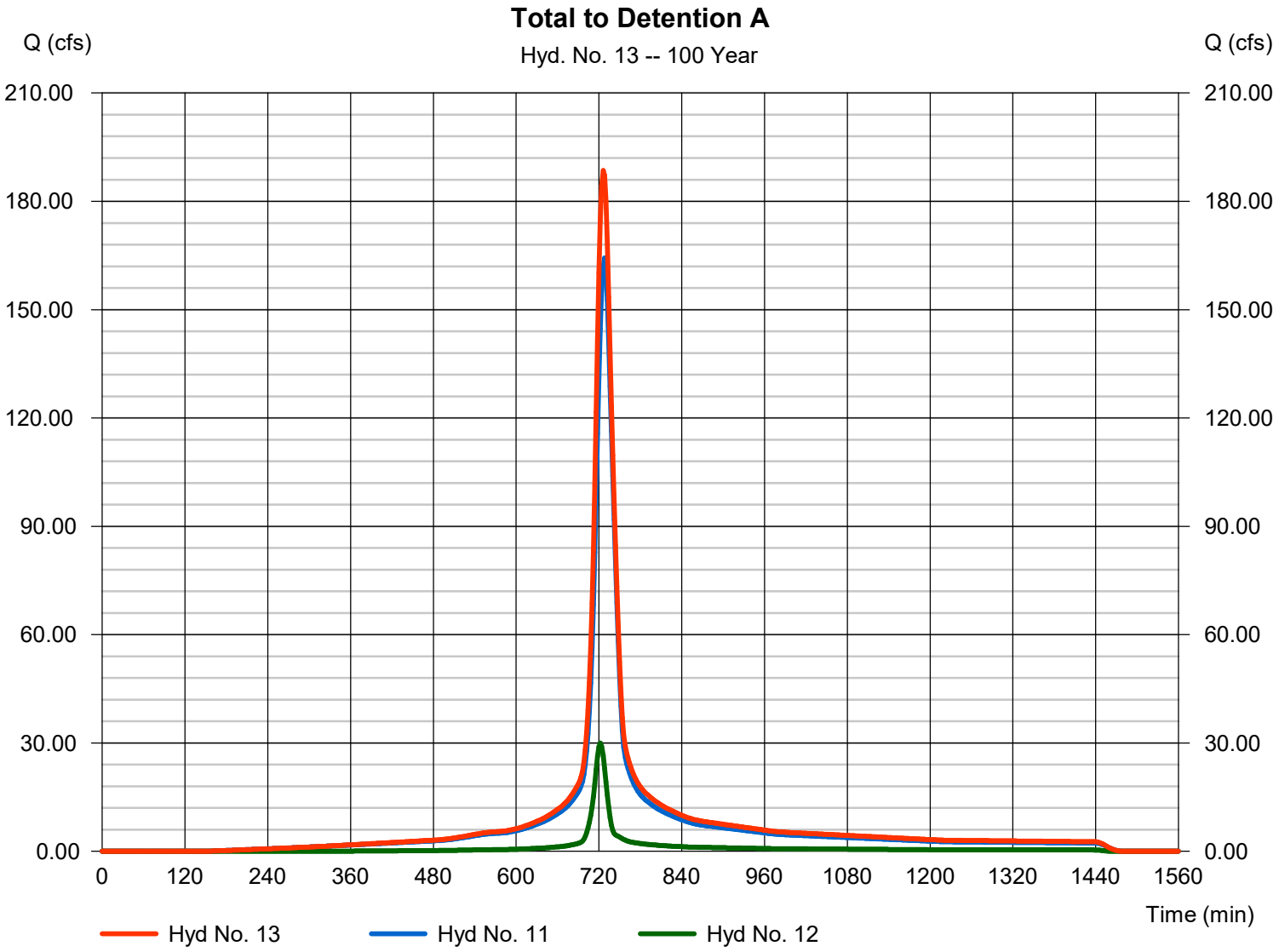


Hydrograph Report

Hyd. No. 13

Total to Detention A

Hydrograph type	= Combine	Peak discharge	= 188.54 cfs
Storm frequency	= 100 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 725,708 cuft
Inflow hyds.	= 11, 12	Contrib. drain. area	= 30.890 ac



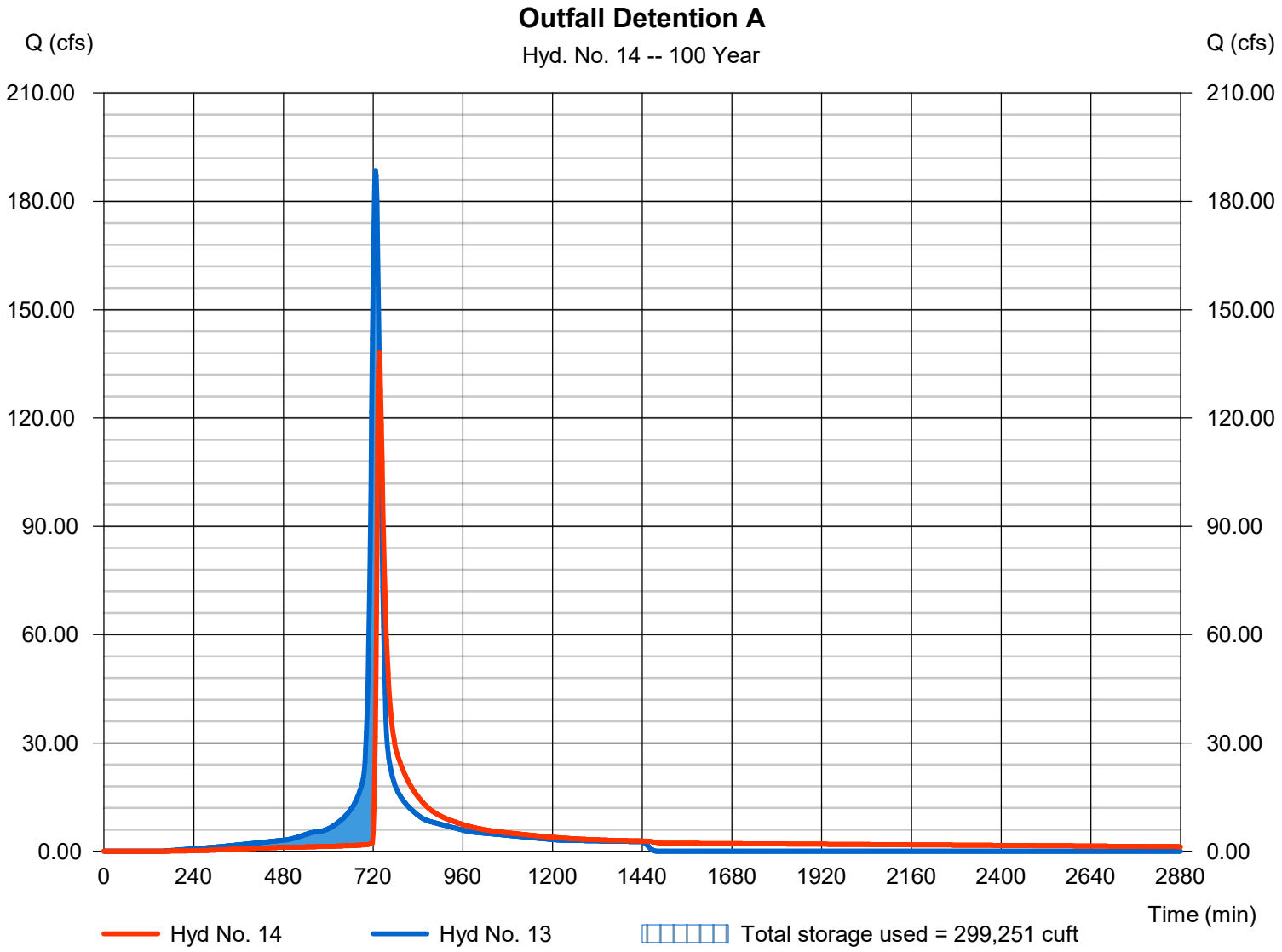
Hydrograph Report

Hyd. No. 14

Outfall Detention A

Hydrograph type	=	Reservoir	Peak discharge	=	138.21 cfs
Storm frequency	=	100 yrs	Time to peak	=	736 min
Time interval	=	2 min	Hyd. volume	=	725,692 cuft
Inflow hyd. No.	=	13 - Total to Detention A	Max. Elevation	=	653.34 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	299,251 cuft

Storage Indication method used.



Hydrograph Report

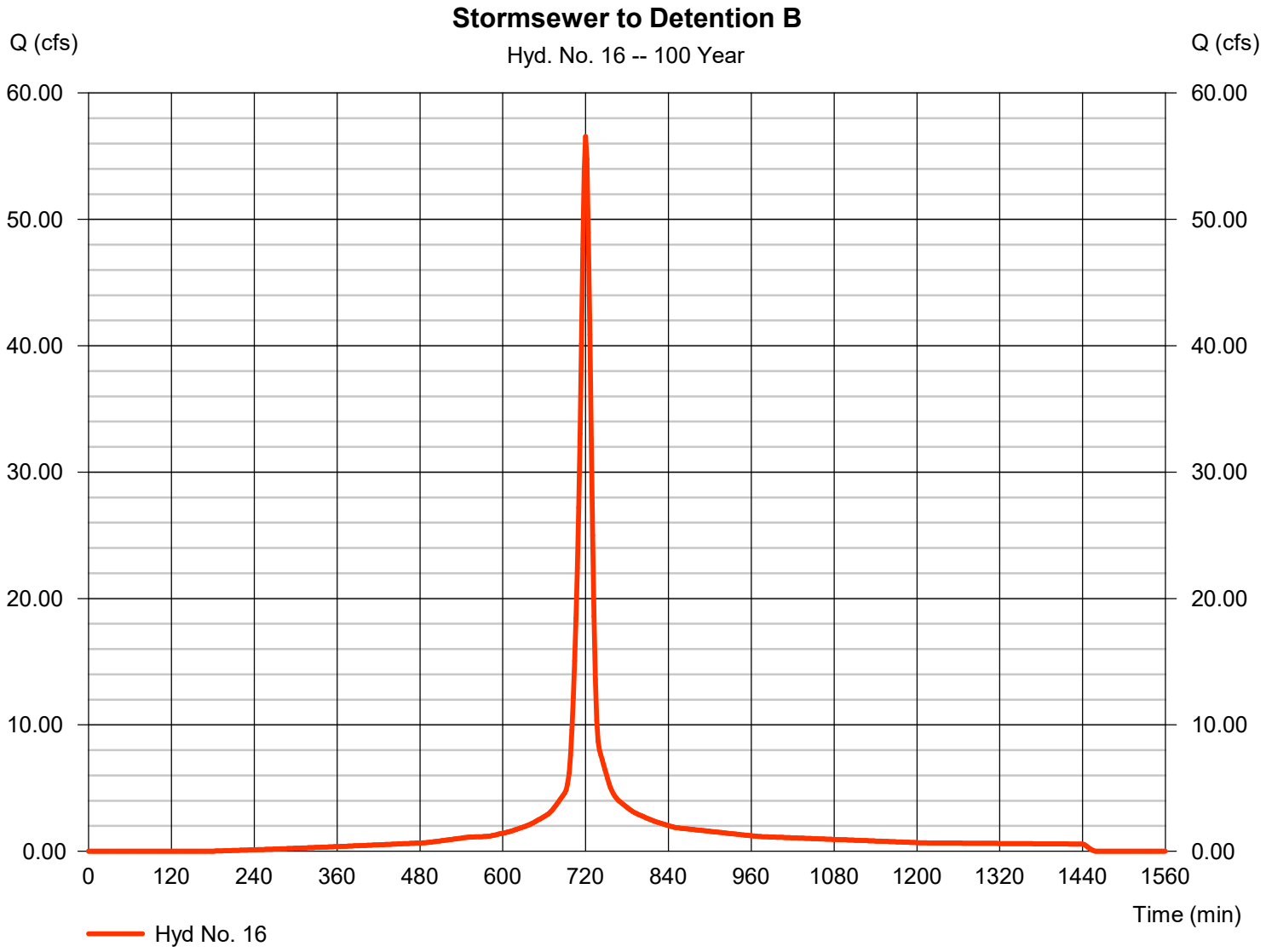
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Hyd. No. 16

Stormsewer to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	56.55 cfs
Storm frequency	=	100 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	156,443 cuft
Drainage area	=	6.400 ac	Curve number	=	89*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.20 min
Total precip.	=	7.84 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(3.630 x 98) + (2.770 x 78)] / 6.400



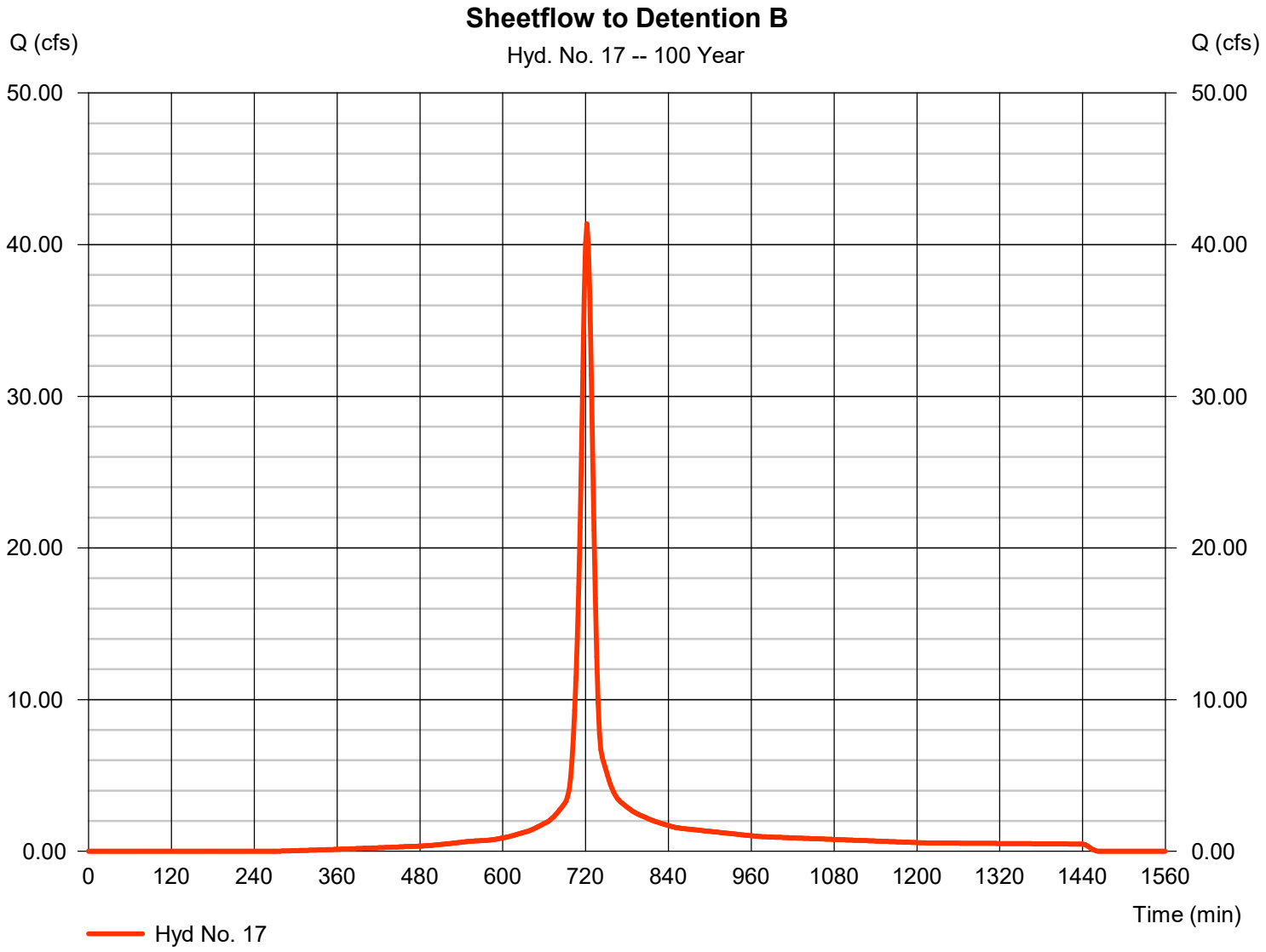
Hydrograph Report

Hyd. No. 17

Sheetflow to Detention B

Hydrograph type	=	SCS Runoff	Peak discharge	=	41.37 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	119,362 cuft
Drainage area	=	5.790 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	13.80 min
Total precip.	=	7.84 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.390 x 98) + (4.400 x 78)] / 5.790

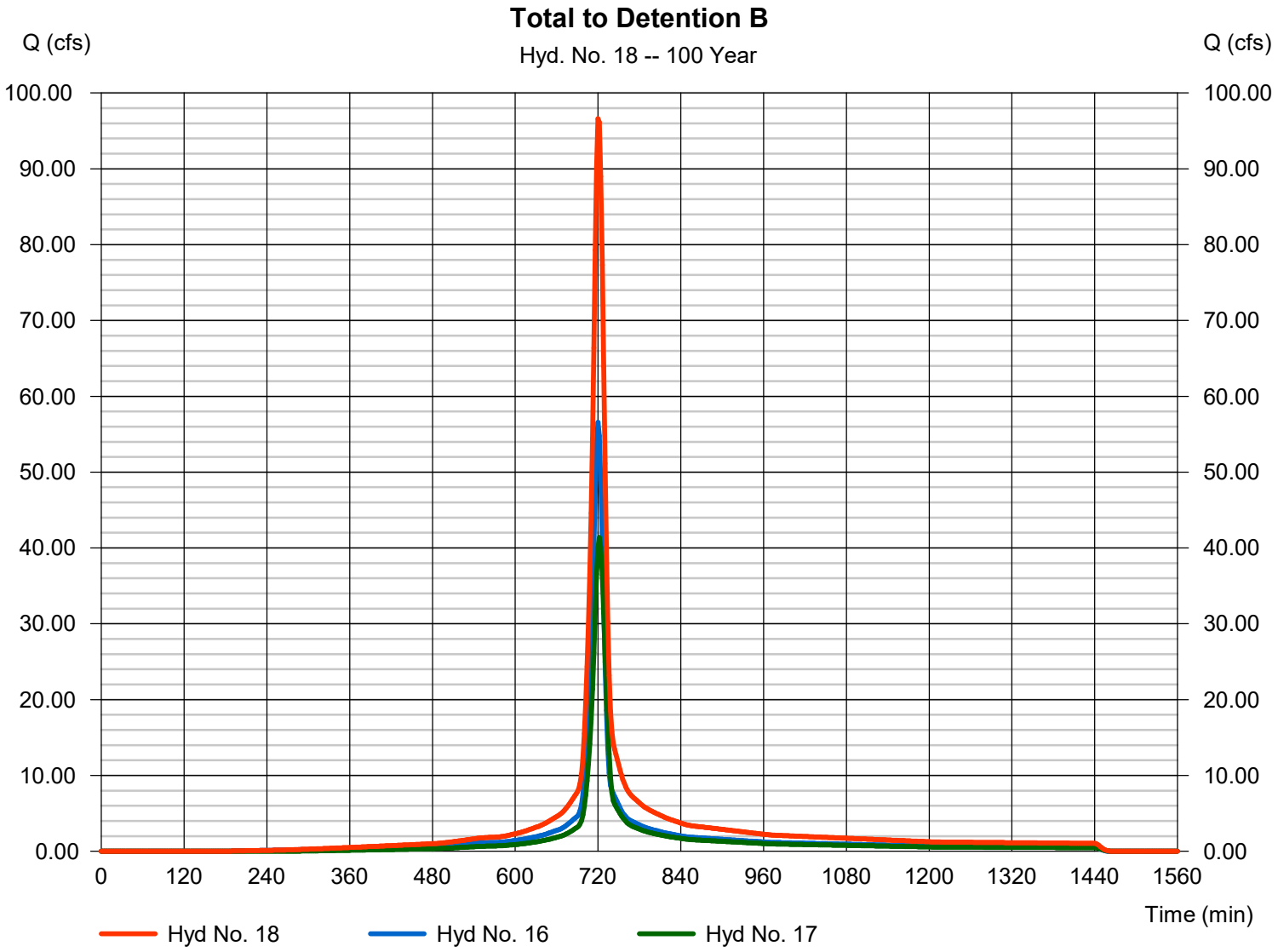


Hydrograph Report

Hyd. No. 18

Total to Detention B

Hydrograph type	= Combine	Peak discharge	= 96.61 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 275,805 cuft
Inflow hyds.	= 16, 17	Contrib. drain. area	= 12.190 ac



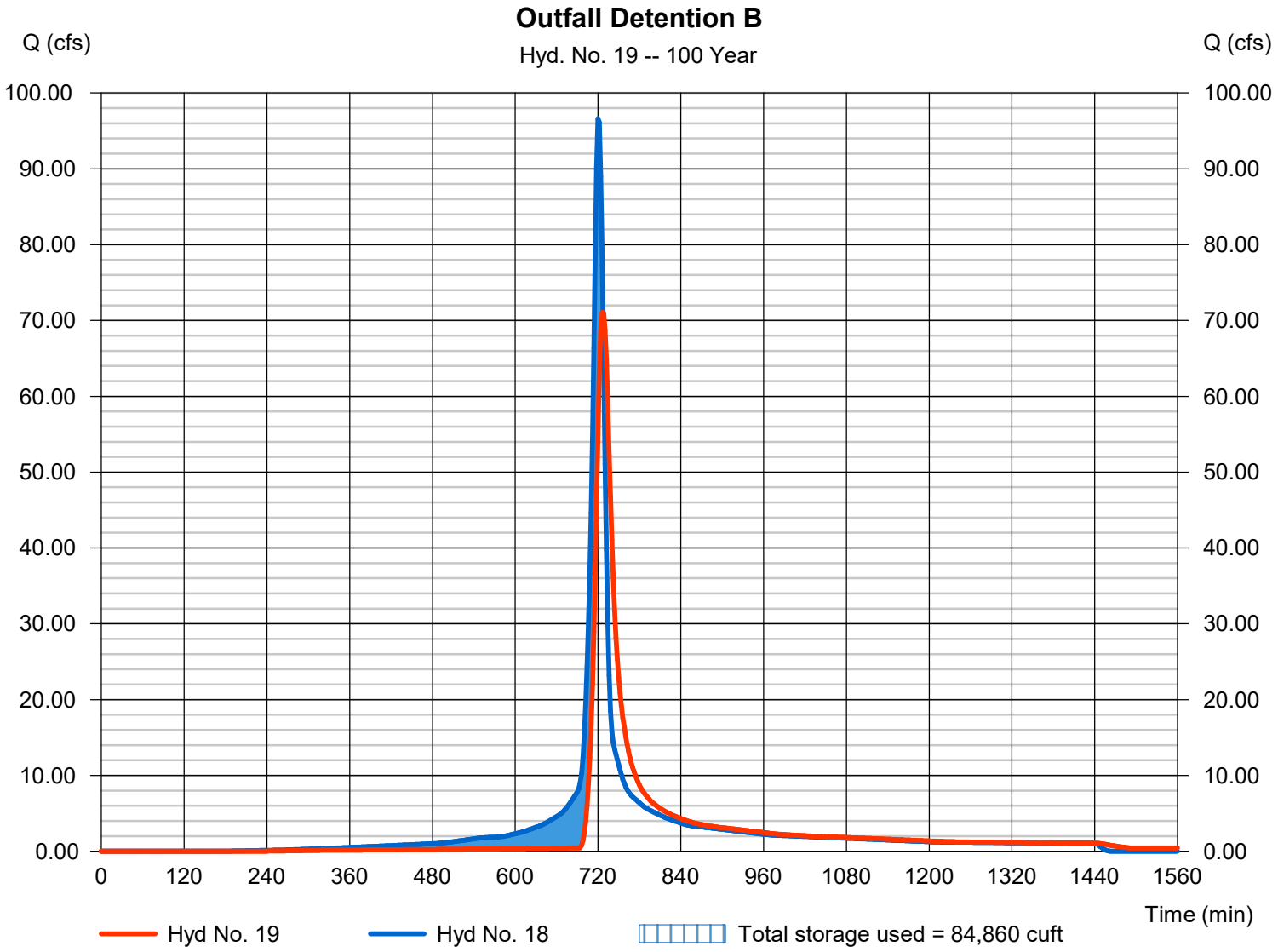
Hydrograph Report

Hyd. No. 19

Outfall Detention B

Hydrograph type	=	Reservoir	Peak discharge	=	71.08 cfs
Storm frequency	=	100 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	275,788 cuft
Inflow hyd. No.	=	18 - Total to Detention B	Max. Elevation	=	662.01 ft
Reservoir name	=	Detention Pond B	Max. Storage	=	84,860 cuft

Storage Indication method used.



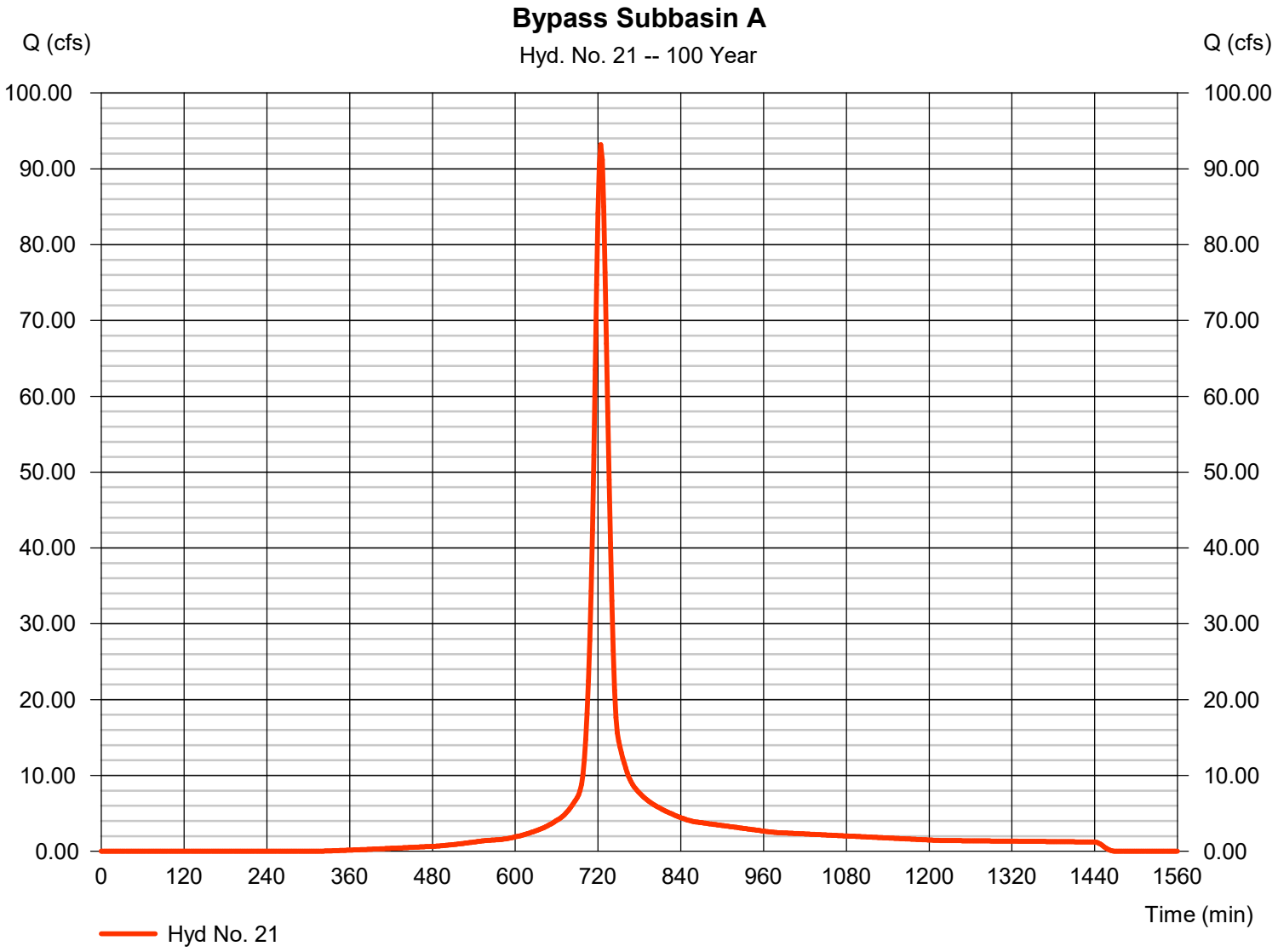
Hydrograph Report

Hyd. No. 21

Bypass Subbasin A

Hydrograph type	= SCS Runoff	Peak discharge	= 93.20 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 295,141 cuft
Drainage area	= 14.850 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 18.30 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.140 x 98) + (13.710 x 78)] / 14.850

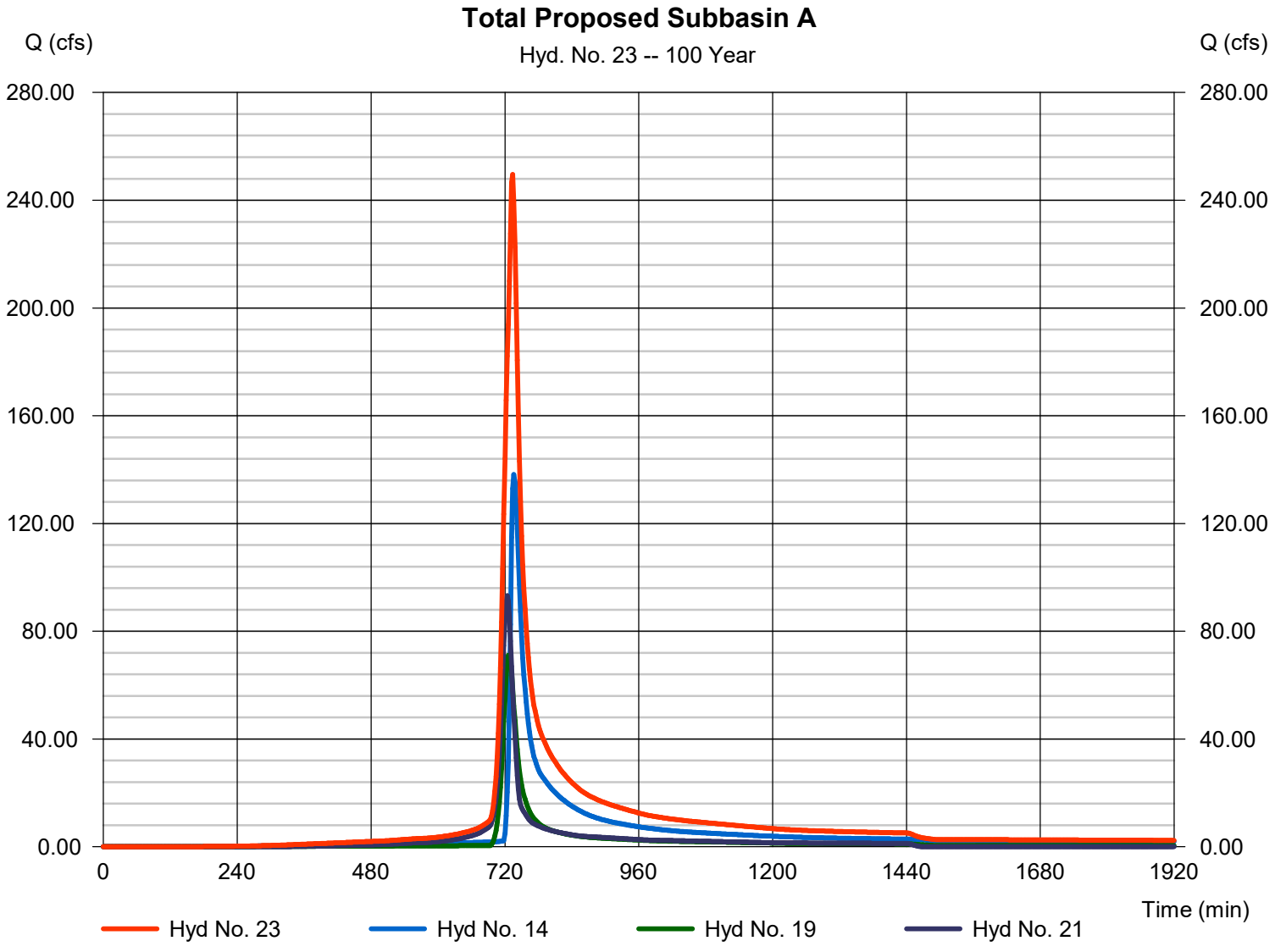


Hydrograph Report

Hyd. No. 23

Total Proposed Subbasin A

Hydrograph type	= Combine	Peak discharge	= 249.57 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 1,296,621 cuft
Inflow hyds.	= 14, 19, 21	Contrib. drain. area	= 14.850 ac

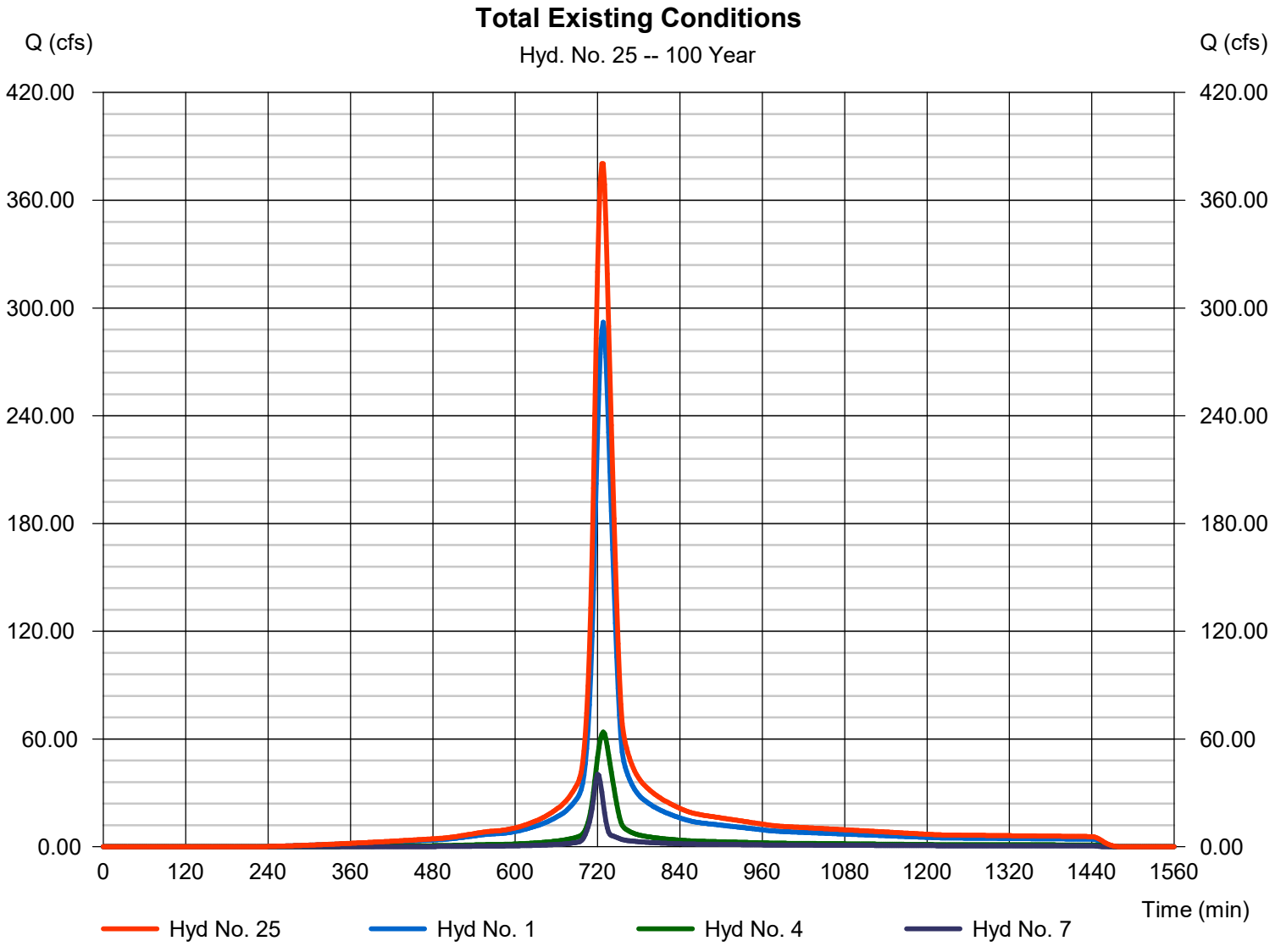


Hydrograph Report

Hyd. No. 25

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 380.35 cfs
Storm frequency	= 100 yrs	Time to peak	= 728 min
Time interval	= 2 min	Hyd. volume	= 1,447,038 cuft
Inflow hyds.	= 1, 4, 7	Contrib. drain. area	= 67.940 ac

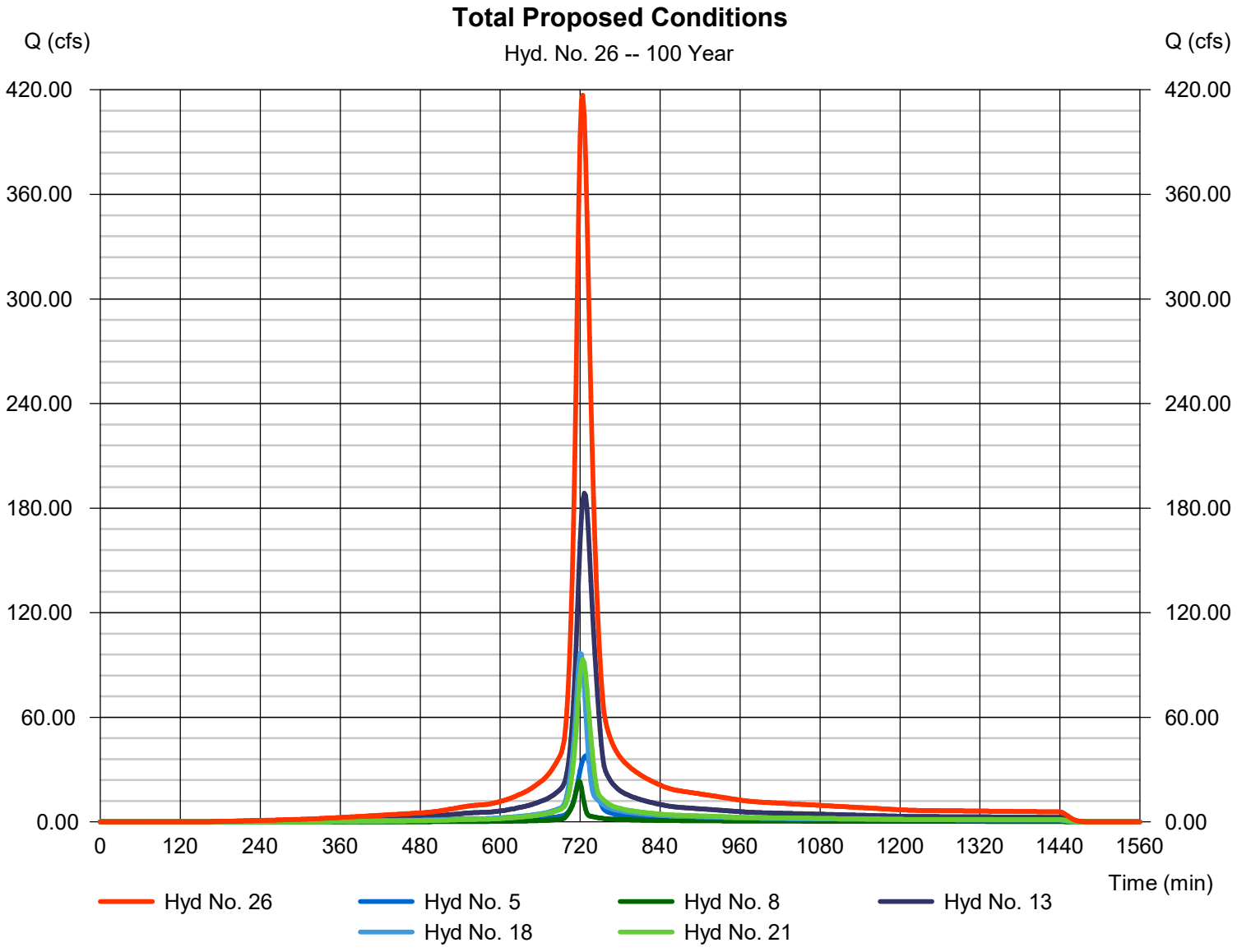


Hydrograph Report

Hyd. No. 26

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 416.94 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 1,491,369 cuft
Inflow hyds.	= 5, 8, 13, 18, 21	Contrib. drain. area	= 24.860 ac

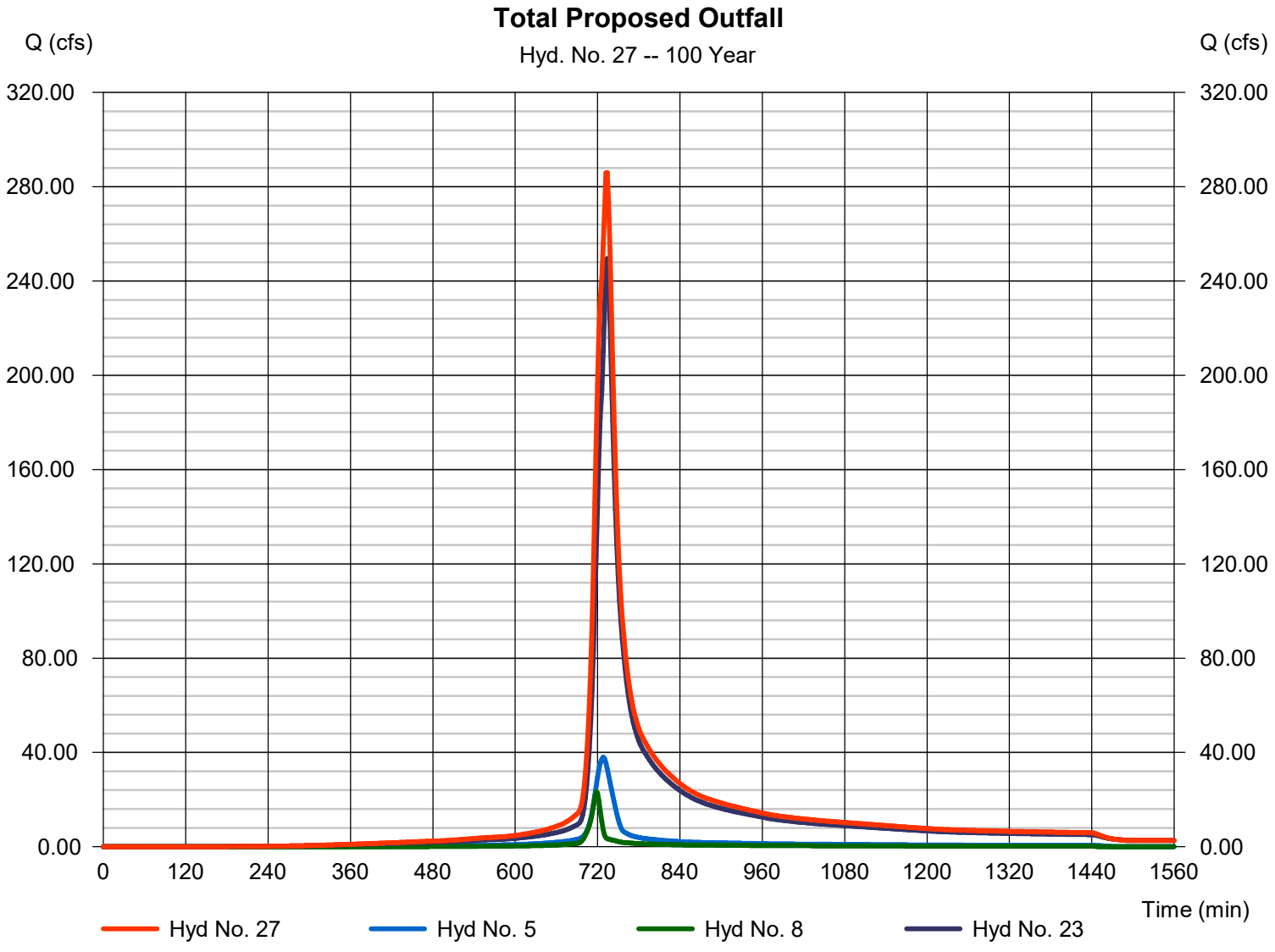


Hydrograph Report

Hyd. No. 27

Total Proposed Outfall

Hydrograph type	= Combine	Peak discharge	= 286.01 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 1,491,336 cuft
Inflow hyds.	= 5, 8, 23	Contrib. drain. area	= 10.010 ac



Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	48.42	66.74	-------	92.35	113.12	142.44	165.69	190.02	Sub. A To Sed. A
2	Reservoir	1	1.478	2.085	-------	2.745	6.403	26.05	69.45	116.47	Outfall Sed. Basin A
4	SCS Runoff	------	11.86	16.37	-------	22.66	27.76	34.96	40.67	46.65	Sub. A to Sed. B
5	Reservoir	4	0.415	0.469	-------	0.531	0.736	3.314	9.706	20.25	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	48.42	2	728	170,439	------	------	------	Sub. A To Sed. A
2	Reservoir	1.478	2	1094	105,314	1	650.16	118,852	Outfall Sed. Basin A
4	SCS Runoff	11.86	2	730	44,442	------	------	------	Sub. A to Sed. B
5	Reservoir	0.415	2	1060	44,425	4	658.72	28,732	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	66.74	2	726	232,190	------	------	------	Sub. A To Sed. A
2	Reservoir	2.085	2	1048	166,855	1	650.92	159,538	Outfall Sed. Basin A
4	SCS Runoff	16.37	2	728	60,544	------	------	------	Sub. A to Sed. B
5	Reservoir	0.469	2	1120	60,527	4	659.58	41,546	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	92.35	2	726	319,149	------	------	------	Sub. A To Sed. A
2	Reservoir	2.745	2	1040	253,468	1	652.05	222,652	Outfall Sed. Basin A
4	SCS Runoff	22.66	2	728	83,219	------	------	------	Sub. A to Sed. B
5	Reservoir	0.531	2	1172	83,202	4	660.71	60,243	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	113.12	2	726	390,530	------	------	------	Sub. A To Sed. A
2	Reservoir	6.403	2	844	324,667	1	652.62	256,109	Outfall Sed. Basin A
4	SCS Runoff	27.76	2	728	101,832	------	------	------	Sub. A to Sed. B
5	Reservoir	0.736	2	1106	101,815	4	661.51	75,207	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	142.44	2	726	492,560	------	------	------	Sub. A To Sed. A
2	Reservoir	26.05	2	754	426,645	1	652.93	274,730	Outfall Sed. Basin A
4	SCS Runoff	34.96	2	728	128,437	------	------	------	Sub. A to Sed. B
5	Reservoir	3.314	2	790	128,420	4	661.64	77,735	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	165.69	2	726	574,441	------	------	------	Sub. A To Sed. A
2	Reservoir	69.45	2	744	508,493	1	653.21	291,386	Outfall Sed. Basin A
4	SCS Runoff	40.67	2	728	149,787	------	------	------	Sub. A to Sed. B
5	Reservoir	9.706	2	754	149,771	4	661.82	81,250	Outfall Sed. Basin B

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	190.02	2	726	660,956	------	------	------	Sub. A To Sed. A
2	Reservoir	116.47	2	738	594,986	1	653.38	302,079	Outfall Sed. Basin A
4	SCS Runoff	46.65	2	728	172,347	------	------	------	Sub. A to Sed. B
5	Reservoir	20.25	2	746	172,330	4	662.03	85,343	Outfall Sed. Basin B

Pond Report

Pond No. 1 - Sediment Pond A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 646.84 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	646.84	10	0	0
0.16	647.00	2,676	152	152
1.16	648.00	37,731	16,817	16,969
2.16	649.00	48,940	43,210	60,179
3.16	650.00	51,729	50,323	110,502
4.16	651.00	54,574	53,140	163,641
5.16	652.00	57,476	56,013	219,655
6.16	653.00	60,420	58,936	278,591
6.66	653.50	61,920	30,581	309,172

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 48.00	8.00	0.00	0.00
Span (in)	= 48.00	8.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 646.74	649.05	0.00	0.00
Length (ft)	= 20.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

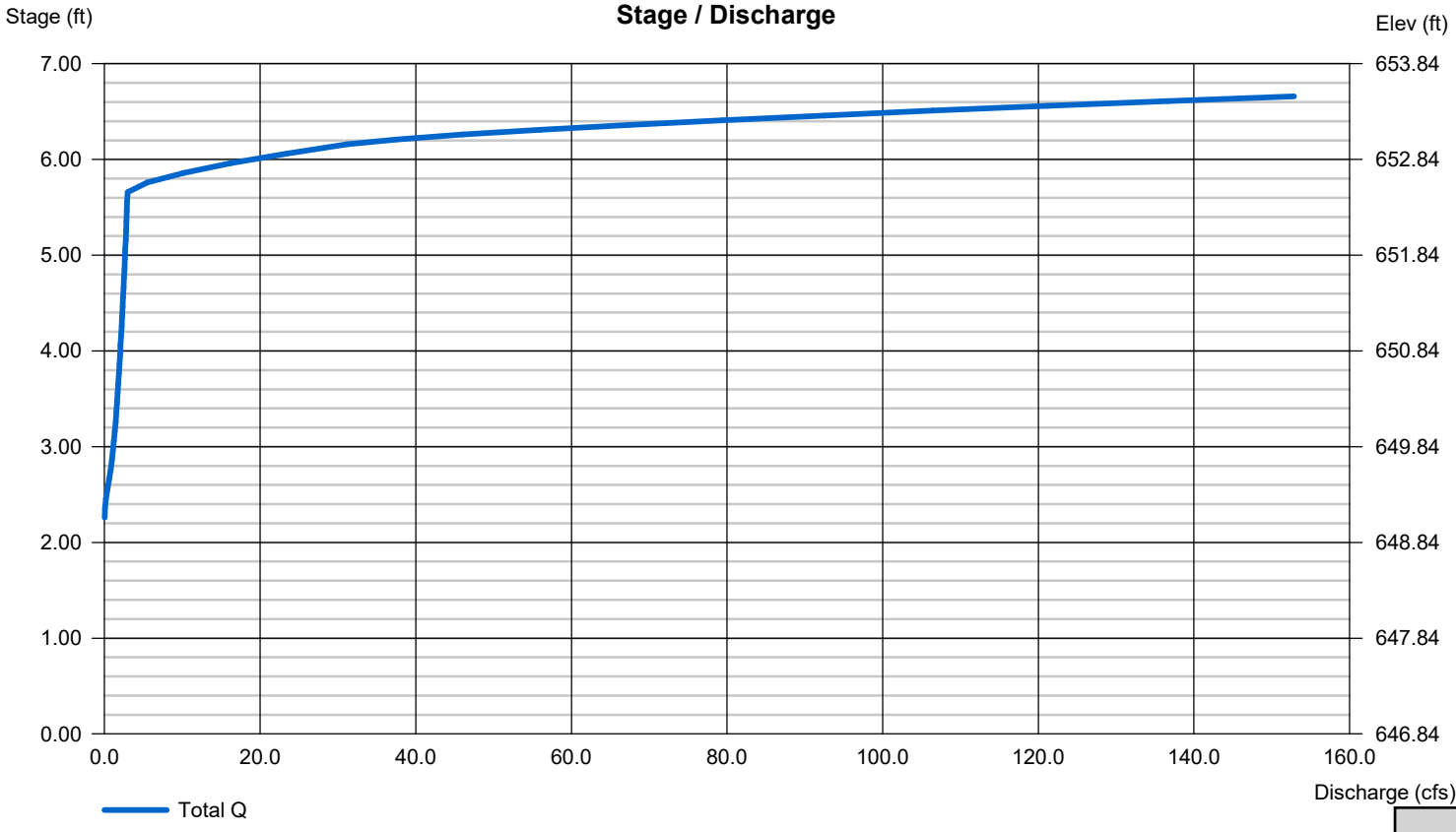
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 24.00	0.00	60.00	0.00
Crest El. (ft)	= 652.50	0.00	653.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	Ciplti	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Wednesday, 08 / 27 / 2025

Pond No. 3 - Sediment Pond B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 655.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	655.50	10	0	0
0.50	656.00	5,463	951	951
1.50	657.00	9,304	7,298	8,249
2.50	658.00	12,507	10,865	19,114
3.50	659.00	14,408	13,445	32,559
4.50	660.00	16,367	15,376	47,935
5.50	661.00	18,383	17,364	65,298
6.50	662.00	20,454	19,407	84,705
7.00	662.50	21,511	10,489	95,195

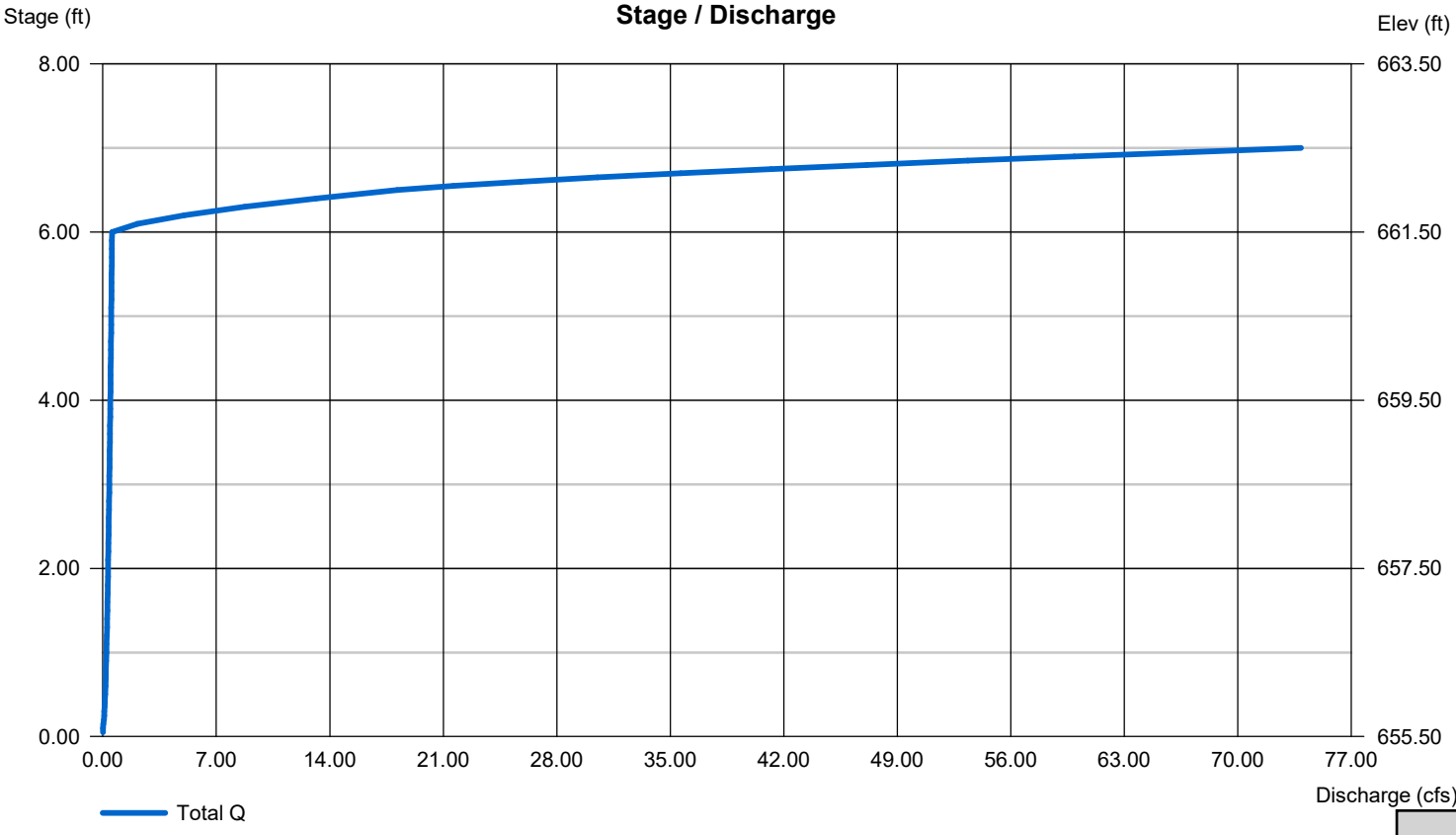
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 36.00	3.00	0.00	0.00
Span (in)	= 36.00	3.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 655.40	655.50	0.00	0.00
Length (ft)	= 30.43	0.00	0.00	0.00
Slope (%)	= 0.99	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 15.00	20.00	0.00	0.00
Crest El. (ft)	= 661.50	662.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Ciplti	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Pond Report

Pond No. 9 - Forebay A Dry

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 649.05 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	649.05	19,308	0	0
0.95	650.00	20,628	18,964	18,964
1.95	651.00	21,980	21,298	40,263
2.95	652.00	23,364	22,666	62,929
3.05	652.10	23,505	2,343	65,272

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .000	.000	.000	n/a
Orifice Coeff.	= 0.00	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	649.05	---	---	---	---	---	---	---	---	---	---	0.000
0.95	18,964	650.00	---	---	---	---	---	---	---	---	---	---	0.000
1.95	40,263	651.00	---	---	---	---	---	---	---	---	---	---	0.000
2.95	62,929	652.00	---	---	---	---	---	---	---	---	---	---	0.000
3.05	65,272	652.10	---	---	---	---	---	---	---	---	---	---	0.000

Pond Report

Pond No. 11 - Forebay B Dry

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 657.75 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	657.75	6,538	0	0
0.25	658.00	7,850	1,796	1,796
1.25	659.00	9,146	8,489	10,285
2.25	660.00	10,471	9,800	20,085
3.00	660.75	11,483	8,229	28,314

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .000	.000	.000	n/a
Orifice Coeff.	= 0.00	0.00	0.00	0.00
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 0.00	0.00	0.00	0.00
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	657.75	---	---	---	---	---	---	---	---	---	---	0.000
0.25	1,796	658.00	---	---	---	---	---	---	---	---	---	---	0.000
1.25	10,285	659.00	---	---	---	---	---	---	---	---	---	---	0.000
2.25	20,085	660.00	---	---	---	---	---	---	---	---	---	---	0.000
3.00	28,314	660.75	---	---	---	---	---	---	---	---	---	---	0.000

Southbend Crossings Hand Calculations

Low Flow Orifice Calculation

Detention Basin A

$$WQ_v = A * D$$

$Where$: $WQ_v = Water\ Quality\ Volume$

$A = impervious\ area\ (SQ.FT.)$

$D = first\ flush\ depth\ (2.5\ in\ or\ 0.083\ ft)$

$$WQ_v = 17.10\ Acres * \frac{43{,}560\ Sq.Ft.}{Acre} * 0.208 = 155{,}182.5\ cuft$$

$$Q_{avg} = \frac{WQ_V}{t * (\frac{3600sec}{hr})}$$

$Where$: $Q_{avg} = average\ flow\ rate\ (cfs)$

$t = draw\ down\ time\ (24 - hr)$

$$Q_{avg} = \frac{155{,}182.5}{24hr * (\frac{3600sec}{hr})} = 1.796\ cfs$$

$$a = \frac{Q_{avg}}{C\sqrt{2 * g * h_{avg}}}$$

$Where$: $a = orifice\ area\ (SQ.FT.)$

$C = orifice\ coefficient$

$g = gravitational\ acceleration\ \left(32.2\frac{ft}{sec^2}\right)$

$h_{avg} = head\ (ft)$

And: $h_{avg} = \frac{h}{2}$

$Where$: $h = height\ of\ pond\ in\ relation\ to\ water\ quality\ treatment\ volume$

$$h_{avg} = \frac{4.41}{2} = 2.205\ ft$$

As provided in stormwater package tabulation for detention pond

$$a = \frac{1.796}{0.60\sqrt{2 * 32.2 * 2.205}} = 0.251\ SQ.FT.$$

$$d = \sqrt{\frac{4a}{\pi}}$$

$Where$: $d = diameter\ of\ orifice\ (in)$

$$d = \sqrt{\frac{4 * 0.251}{\pi}} = 0.566\ ft\ or\ 6.8\ in$$

For design considerations, an orifice sized at 6.5 in for low-flow orifice was used increasing drawdown time duration.

Southbend Crossings Hand Calculations

Low Flow Orifice Calculation

Detention Basin B

$$WQ_v = A * D$$

$Where$: $WQ_v = Water\ Quality\ Volume$

$A = impervious\ area\ (SQ.FT.)$

$D = first\ flush\ depth\ (2.5\ in\ or\ 0.083\ ft)$

$$WQ_v = 3.63\ Acres * \frac{43{,}560\ Sq.Ft.}{Acre} * 0.208 = 32{,}942.25\ cuft$$

$$Q_{avg} = \frac{WQ_V}{t * (\frac{3600sec}{hr})}$$

$Where$: $Q_{avg} = average\ flow\ rate\ (cfs)$

$t = draw\ down\ time\ (24 - hr)$

$$Q_{avg} = \frac{32{,}942.25}{24hr * (\frac{3600sec}{hr})} = 0.381\ cfs$$

$$a = \frac{Q_{avg}}{C\sqrt{2 * g * h_{avg}}}$$

$Where$: $a = orifice\ area\ (SQ.FT.)$

$C = orifice\ coefficient$

$g = gravitational\ acceleration\ \left(32.2\frac{ft}{sec^2}\right)$

$h_{avg} = head\ (ft)$

And: $h_{avg} = \frac{h}{2}$

$Where$: $h = height\ of\ pond\ in\ relation\ to\ water\ quality\ treatment\ volume$

$$h_{avg} = \frac{3.80}{2} = 1.90\ ft$$

As provided in stormwater package tabulation for detention pond

$$a = \frac{0.381}{0.60\sqrt{2 * 32.2 * 1.90}} = 0.057\ SQ.FT.$$

$$d = \sqrt{\frac{4a}{\pi}}$$

$Where$: $d = diameter\ of\ orifice\ (in)$

$$d = \sqrt{\frac{4 * 0.057}{\pi}} = 0.269\ ft\ or\ 3.23\ in$$

For design considerations, an orifice sized at 3.00 in for low-flow orifice was used increasing drawdown time duration.

Forebay Size Calculation

Sediment Pond A

Dry Storage Volume = 60,384 cu. ft. (provided in sediment basin calculations)

Forebay A Volume = 81,068 cu. ft. (provided in pond report located in stormwater report)

Then:

$$\frac{Forebay}{Dry\ Storage\ Volume} = Precentage\ of\ forebay\ volume$$

Where:

$$\frac{65{,}272}{60{,}384} = 1.081\ or\ 108.1\%$$

Sediment Pond B

Dry Storage Volume = 16,281 cu. ft. (provided in sediment basin calculations)

Forebay B Volume = 36,594 cu. ft. (provided in pond report located in stormwater report)

Then:

$$\frac{Forebay}{Dry\ Storage\ Volume} = Precentage\ of\ forebay\ volume$$

Where:

$$\frac{28{,}314}{16{,}281} = 1.739\ or\ 173.9\%$$

Appendix 2

Stormwater Calculations
Summary and Outlet Detail

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
R-1		HEADWALL OUTLET	---	---	648.31	---	---	---
	R2-R1	42" PIPE	---	648.44	648.31	18.58	0.70	---
R-2		CURB INLET [3]	654.28	648.94	648.44	---	---	TRIPLE INLET
	R3-R2	18" PIPE	---	651.03	648.94	24.00	8.71	---
R-3		CURB INLET [3]	654.28	--	651.03	---	---	TRIPLE INLET
	R4-R2	42" PIPE	---	650.08	648.94	152.82	0.75	---
R-4		CURB INLET	655.17	650.28	650.08	---	---	TRIPLE INLET
	R5-R4	18" PIPE	---	651.92	650.28	24.00	6.83	---
R-5		CURB INLET	655.17	--	651.92	---	---	TRIPLE INLET
	R6-R4	42" PIPE	---	651.51	650.28	145.51	0.67	---
R-6		CURB INLET	656.60	651.71	651.51	---	---	DOUBLE INLET
	R6A-R6	42" PIPE	---	652.26	651.71	105.63	0.52	---
R-6A		CURB INLET	657.81	652.46	652.26	---	---	DOUBLE INLET
	R6B-R6A	18" PIPE	---	654.06	652.46	24.00	6.67	---
R-6B		CURB INLET	657.81	---	654.06	---	---	DOUBLE INLET
	R7-R6	18" PIPE	---	653.35	651.71	24.00	6.83	---
R-7		CURB INLET	656.60	--	653.35	---	---	DOUBLE INLET
	R8-R6A	42" PIPE	---	652.98	652.46	87.20	0.60	---
R-8		CURB INLET	659.68	653.18	652.98	---	---	DOUBLE INLET
	R9-R8	18" PIPE	---	655.73	653.18	24.00	10.67	---
R-9		CURB INLET	659.68	655.93	655.73	---	---	DOUBLE INLET
	R10-R9	18" PIPE	---	656.53	655.93	41.01	1.46	---
R-10		CURB INLET	660.72	656.73	656.53	---	---	DOUBLE INLET
	R11-R10	18" PIPE	---	656.97	656.73	24.00	1.00	---
R-11		CURB INLET	660.72	--	656.97	---	---	DOUBLE INLET
	R12-R10	18" PIPE	---	657.74	656.73	105.99	0.95	---
R-12		CURB INLET	661.93	657.94	657.74	---	---	DOUBLE INLET
	R13-R12	18" PIPE	---	658.18	657.94	24.00	1.00	---
R-13		CURB INLET	661.93	--	658.18	---	---	DOUBLE INLET
	R12A-R12	18" PIPE	---	658.97	657.94	107.48	0.96	---
R-12A		CURB INLET	663.16	659.17	658.97	---	---	DOUBLE INLET
	R12B-R12A	18" PIPE	---	659.41	659.17	24.00	1.00	---
R-12B		CURB INLET	663.16	--	659.41	---	---	DOUBLE INLET
	R14-R8	36" PIPE	---	654.54	654.18	41.01	0.88	---
R-14		CURB INLET	660.68	654.74	654.54	---	---	DOUBLE INLET
	R15-R14	36" PIPE	---	654.98	654.74	24.00	1.00	---
R-15		CURB INLET	660.68	655.18	654.98	---	---	DOUBLE INLET
	R16-R15	36" PIPE	---	655.82	655.18	41.01	1.56	---
R-16		CURB INLET	661.58	656.02	655.18	---	---	DOUBLE INLET
	R17-R16	18" PIPE	---	656.26	656.02	24.00	1.00	---
R-17		CURB INLET	661.58	656.46	656.26	---	---	DOUBLE INLET
	R17A-R17	18" PIPE	---	657.25	656.46	78.45	1.01	---
R-17A		AREA DRAIN	660.00	---	657.25	---	---	---
	R18-R16	36" PIPE	---	659.68	656.02	164.51	2.22	---
R-18		CURB INLET	665.38	661.88	659.68	---	---	DOUBLE INLET
	R19-R18	18" PIPE	---	661.43	661.88	24.00	6.46	---
R-19		CURB INLET	665.38	661.63	661.43	---	---	DOUBLE INLET
	R20-R19	18" PIPE	---	662.32	661.63	43.55	1.58	---
R-20		CURB INLET	666.51	662.52	662.32	---	---	DOUBLE INLET
	R20A-R20	18" PIPE	---	663.54	662.52	103.42	0.99	---
R-20A		CURB INLET	667.73	663.74	663.54	---	---	DOUBLE INLET
	R20B-R20A	18" PIPE	---	663.98	663.74	24.00	1.00	---
R-20B		CURB INLET	667.73	--	663.98	---	---	DOUBLE INLET
	R21-R20	18" PIPE	---	662.76	662.52	24.00	1.00	---
R-21		CURB INLET	666.51	--	662.76	---	---	DOUBLE INLET
	R22-R20A	18" PIPE	---	664.62	663.74	93.43	0.94	---
R-22		CURB INLET	668.81	664.82	664.62	---	---	TRIPLE INLET
	R23-R22	18" PIPE	---	665.06	664.82	24.00	1.00	---
R-23		CURB INLET	668.81	--	665.06	---	---	DOUBLE INLET
	R24-R18	36" PIPE	---	661.41	659.88	85.49	1.79	---
R-24		CURB INLET	667.36	661.61	661.41	---	---	DOUBLE INLET
	R25-R24	18" PIPE	---	661.85	661.61	24.00	1.00	---
R-25		CURB INLET	667.36	662.05	661.85	---	---	DOUBLE INLET

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300-V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R25A–R25	18" PIPE	---	662.85	662.05	80.49	1.00	---
R-25A		CURB INLET	665.60	--	662.85	---	---	---
	R26–R24	36" PIPE	---	665.44	661.61	163.00	2.35	---
R-26		CURB INLET	671.14	666.64	665.44	---	---	DOUBLE INLET
	R27–R26	18" PIPE	---	667.19	666.64	24.00	6.46	---
R-27		CURB INLET	671.14	667.39	667.19	---	---	SINGLE INLET
	R28–R27	18" PIPE	---	668.10	667.39	44.69	1.59	---
R-28		CURB INLET	672.29	668.30	668.10	---	---	DOUBLE INLET
	R28A–R28	18" PIPE	---	669.22	668.30	91.50	1.01	---
R-28A		CURB INLET	672.29	669.42	669.22	---	---	DOUBLE INLET
	R29–R28	18" PIPE	---	668.54	668.30	24.00	1.00	---
R-29		CURB INLET	672.29	--	668.54	---	---	TRIPLE INLET
	R30–R28A	18" PIPE	---	669.98	669.42	76.46	0.73	---
R-30		CURB INLET	674.17	670.18	669.98	---	---	DOUBLE INLET
	R31–R30	18" PIPE	---	670.42	670.18	24.00	1.00	---
R-31		HEADWALL INLET	674.17	--	670.42	---	---	TRIPLE INLET
	R32–R26	36" PIPE	---	666.81	665.64	87.00	1.34	---
R-32		CURB INLET	673.15	667.01	666.81	---	---	DOUBLE INLET
	R33–R32	18" PIPE	---	667.25	667.01	24.00	1.00	---
R-33		CURB INLET	673.15	667.45	667.25	---	---	DOUBLE INLET
	R33A–R33	18" PIPE	---	668.25	667.45	79.90	1.00	---
R-33A		CURB INLET	671.00	--	668.25	---	---	---
	R34–R32	36" PIPE	---	671.73	667.01	163.00	2.90	---
R-34		CURB INLET	676.93	671.93	671.73	---	---	SINGLE INLET
	R35–R34	18" PIPE	---	672.98	671.93	24.00	4.38	---
R-35		CURB INLET	676.93	673.18	672.98	---	---	DOUBLE INLET
	R36–R35	18" PIPE	---	673.98	673.18	44.69	1.79	---
R-36		CURB INLET	678.17	674.18	673.98	---	---	DOUBLE INLET
	R36A–R36	18" PIPE	---	676.20	674.18	122.10	1.65	---
R-36A		CURB INLET	679.95	--	676.20	---	---	SINGLE INLET
	R37–R36	18" PIPE	---	674.42	674.18	24.00	1.00	---
R-37		CURB INLET	678.17	--	674.42	---	---	DOUBLE INLET
	R38–R34	24" PIPE	---	674.49	671.93	87.00	2.94	---
R-38		CURB INLET	678.94	674.69	674.49	---	---	DOUBLE INLET
	R39–R38	18" PIPE	---	675.19	674.69	24.00	2.08	---
R-39		CURB INLET	678.94	--	675.19	---	---	SINGLE INLET
	R40–R38	24" PIPE	---	676.82	674.69	162.51	1.31	---
R-40		CURB INLET	682.71	677.02	676.82	---	---	DOUBLE INLET
	R41–R40	24" PIPE	---	677.26	677.02	24.00	1.00	---
R-41		CURB INLET	682.71	677.46	677.26	---	---	DOUBLE INLET
	R42–R41	24" PIPE	---	679.29	677.46	45.06	4.06	---
R-42		CURB INLET	683.96	679.49	679.29	---	---	TRIPLE INLET
	R43–R42	18" PIPE	---	679.73	679.49	24.00	1.00	---
R-43		CURB INLET	683.96	679.93	679.73	---	---	DOUBLE INLET
	R44–R43	18" PIPE	---	680.34	679.93	41.01	1.00	---
R-44		CURB INLET	684.73	680.54	680.34	---	---	DOUBLE INLET
	R45–R44	18" PIPE	---	680.78	680.54	24.00	1.00	---
R-45		CURB INLET	684.73	680.98	680.78	---	---	SINGLE INLET
	R46–R45	18" PIPE	---	684.94	680.98	190.84	2.08	---
R-46		CURB INLET	689.13	685.14	684.94	---	---	SINGLE INLET
	R47–R46	18" PIPE	---	685.38	685.14	24.00	1.00	---
R-47		CURB INLET	689.13	--	685.38	---	---	SINGLE INLET
R-48		HEADWALL OUTLET	---	--	648.31	---	---	---
	R49–R48	36" PIPE	---	649.00	648.31	72.21	0.96	---
R-49		CURB INLET	654.46	649.20	649.00	---	---	TRIPLE INLET
	R49A–R49	36" PIPE	---	649.99	649.20	100.57	0.79	---
R-49A		CURB INLET	655.49	650.19	649.99	---	---	DOUBLE INLET
	R49B–R49A	18" PIPE	---	651.74	650.19	24.00	6.46	---
R-49B		CURB INLET	655.49	--	651.74	---	---	DOUBLE INLET
	R50–R49	18" PIPE	---	651.21	650.00	24.00	5.04	---

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300–V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
R-50		CURB INLET	654.46	--	651.21	---	---	TRIPLE INLET
	R51-R49A	36" PIPE	---	651.21	650.19	100.57	1.01	---
R-51		CURB INLET	656.52	651.41	651.21	---	---	SINGLE INLET
	R51A-R51	36" PIPE	---	651.78	651.41	50.00	0.74	---
R-51A		CURB INLET	657.03	651.98	651.78	---	---	SINGLE INLET
	R51B-R51A	18" PIPE	---	653.28	651.98	24.00	5.42	---
R-51B		CURB INLET	657.03	--	653.28	---	---	SINGLE INLET
	R52-R51A	18" PIPE	---	652.77	651.41	24.00	5.67	---
R-52		CURB INLET	656.52	--	652.77	---	---	SINGLE INLET
	R53-R51A	36" PIPE	---	652.55	651.98	100.00	0.57	---
R-53		CURB INLET	658.05	652.75	652.55	---	---	DOUBLE INLET
	R54-R53	36" PIPE	---	652.92	652.75	24.00	0.71	---
R-54		CURB INLET	658.05	653.12	652.92	---	---	DOUBLE INLET
	R55-R54	36" PIPE	---	654.25	653.12	151.38	0.75	---
R-55		CURB INLET	659.60	654.45	654.25	---	---	DOUBLE INLET
	R56-R55	18" PIPE	---	655.85	655.25	24.00	2.50	---
R-56		CURB INLET	659.60	656.05	655.85	---	---	DOUBLE INLET
	R56A-R56	18" PIPE	---	657.04	656.05	98.62	1.00	---
R-56A		CURB INLET	660.61	--	657.04	---	---	SINGLE INLET
	R57-R55	36" PIPE	---	655.77	654.45	176.11	0.75	---
R-57		CURB INLET	661.37	655.97	655.77	---	---	DOUBLE INLET
	R58-R57	36" PIPE	---	656.34	655.97	48.93	0.76	---
R-58		CURB INLET	662.64	656.54	656.34	---	---	SINGLE INLET
	R59-R58	18" PIPE	---	658.89	658.54	24.00	1.46	---
R-59		CURB INLET	662.64	--	658.89	---	---	DOUBLE INLET
	R60-R58	36" PIPE	---	657.39	656.54	70.82	1.20	---
R-60		CURB INLET	663.69	657.59	657.39	---	---	SINGLE INLET
	R61-R60	36" PIPE	---	658.05	657.59	38.18	1.20	---
R-61		CURB INLET	664.31	658.25	658.05	---	---	SINGLE INLET
	R62-R61	36" PIPE	---	658.53	658.25	24.00	1.17	---
R-62		CURB INLET	664.31	658.73	658.53	---	---	SINGLE INLET
	R63-R62	36" PIPE	---	659.19	658.73	38.18	1.20	---
R-63		CURB INLET	664.86	659.36	659.19	---	---	SINGLE INLET
	R64-R63	18" PIPE	---	661.11	660.19	24.00	3.83	---
R-64		CURB INLET	664.86	661.31	661.11	---	---	DOUBLE INLET
	R64A-R64	18" PIPE	---	662.61	661.31	86.00	1.51	---
R-64A		CURB INLET	666.36	--	662.61	---	---	DOUBLE INLET
	R65-R63	36" PIPE	---	660.09	659.36	56.62	1.29	---
R-65		CURB INLET	665.79	660.29	660.09	---	---	SINGLE INLET
	R67-R65	36" PIPE	---	662.32	660.29	115.38	1.76	---
R-67		CURB INLET	668.26	662.52	662.32	---	---	SINGLE INLET
	R68-R67	18" PIPE	---	664.76	664.32	24.00	1.83	---
R-68		CURB INLET	668.26	--	664.76	---	---	DOUBLE INLET
	R69-R67	36" PIPE	---	663.03	662.52	38.18	1.34	---
R-69		CURB INLET	669.17	663.23	663.03	---	---	SINGLE INLET
	R70-R69	36" PIPE	---	663.47	663.23	24.00	1.00	---
R-70		CURB INLET	669.17	663.67	663.47	---	---	SINGLE INLET
	R71-R70	36" PIPE	---	664.32	663.67	38.18	1.70	---
R-71		CURB INLET	670.02	664.52	664.32	---	---	SINGLE INLET
	R72-R71	36" PIPE	---	667.62	664.52	172.00	1.80	---
R-72		CURB INLET	673.88	667.82	667.62	---	---	SINGLE INLET
	R73-R72	18" PIPE	---	670.13	667.82	24.00	9.62	---
R-73		CURB INLET	673.88	670.33	670.13	---	---	DOUBLE INLET
	R73A-R73	18" PIPE	---	673.38	670.33	144.36	2.11	---
R-73A		CURB INLET	677.13	--	673.38	---	---	DOUBLE INLET
	R74-R72	36" PIPE	---	668.20	667.82	38.18	1.00	---
R-74		CURB INLET	674.79	668.40	668.20	---	---	SINGLE INLET

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300-V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

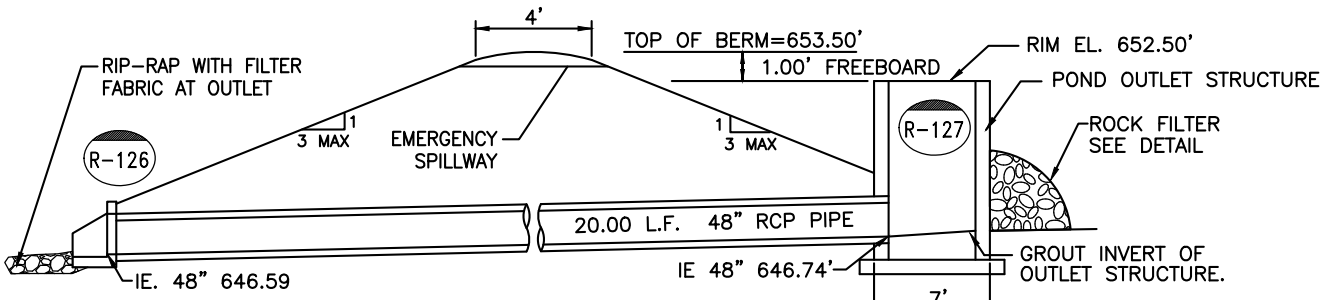
STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R75–R74	36" PIPE	---	668.64	668.40	24.00	1.00	---
R-75		CURB INLET	674.79	668.84	668.64	---	---	SINGLE INLET
	R76–R75	36" PIPE	---	669.22	668.84	38.18	1.00	---
R-76		CURB INLET	675.64	669.42	669.22	---	---	SINGLE INLET
	R76A–R76	36" PIPE	---	670.25	669.42	82.30	1.00	---
R-76A		AREA DRAIN	673.00	---	670.25	---	---	---
	R77–R76	36" PIPE	---	673.81	670.14	172.00	2.13	---
R-77		CURB INLET	679.51	674.01	673.81	---	---	SINGLE INLET
	R78–R77	18" PIPE	---	675.76	675.31	24.00	1.88	---
R-78		CURB INLET	679.51	675.96	675.76	---	---	DOUBLE INLET
	R78A–R78	18" PIPE	---	678.54	675.96	124.00	2.08	---
R-78A		CURB INLET	682.29	---	678.54	---	---	SINGLE INLET
	R79–R77	24" PIPE	---	675.52	674.01	38.18	3.95	---
R-79		CURB INLET	680.41	675.72	675.52	---	---	SINGLE INLET
	R80–R79	24" PIPE	---	675.96	675.72	24.00	1.00	---
R-80		CURB INLET	680.41	676.16	675.96	---	---	SINGLE INLET
	R81–R80	24" PIPE	---	676.96	676.16	43.12	1.86	---
R-81		HEADWALL INLET	681.41	677.16	676.96	---	---	SINGLE INLET
	R82–R81	24" PIPE	---	680.39	677.16	163.38	1.98	---
R-82		CURB INLET	685.08	680.59	680.39	---	---	SINGLE INLET
	R83–R82	18" PIPE	---	681.33	680.59	24.00	3.08	---
R-83		CURB INLET	685.08	---	681.33	---	---	SINGLE INLET
	R84–R82	24" PIPE	---	681.14	680.59	39.62	1.39	---
R-84		CURB INLET	686.03	681.34	681.14	---	---	SINGLE INLET
	R85–R84	24" PIPE	---	681.58	681.34	24.00	1.00	---
R-85		CURB INLET	686.03	681.78	681.58	---	---	SINGLE INLET
	R86–R85	24" PIPE	---	682.47	681.78	39.62	1.74	---
R-86		CURB INLET	686.92	682.67	682.67	---	---	SINGLE INLET
	R87–R86	18" PIPE	---	683.17	682.67	24.00	2.08	---
R-87		CURB INLET	686.92	---	683.17	---	---	DOUBLE INLET
	R88–R86	24" PIPE	---	686.21	682.67	154.62	2.29	---
R-88		CURB INLET	690.40	686.41	686.21	---	---	SINGLE INLET
	R89–R88	18" PIPE	---	686.65	686.41	24.00	1.00	---
R-89		CURB INLET	690.40	---	686.65	---	---	DOUBLE INLET
	R90–R88	18" PIPE	---	690.10	686.41	198.15	1.86	---
R-90		CURB INLET	694.89	690.30	690.10	---	---	SINGLE INLET
	R91–R90	18" PIPE	---	690.72	690.30	42.20	1.00	---
R-91		CURB INLET	694.91	690.92	690.72	---	---	SINGLE INLET
	R92–R91	18" PIPE	---	691.16	690.92	24.00	1.00	---
R-92		CURB INLET	694.91	---	691.16	---	---	SINGLE INLET
	R93–R90	18" PIPE	---	691.14	690.30	25.49	3.30	---
R-93		CURB INLET	695.09	691.34	691.14	---	---	DOUBLE INLET
	R94–R93	18" PIPE	---	694.60	691.34	176.22	1.85	---
R-94		CURB INLET	698.99	694.80	694.60	---	---	DOUBLE INLET
	R95–R94	18" PIPE	---	695.04	694.80	24.00	1.00	---
R-95		CURB INLET	698.99	---	695.04	---	---	SINGLE INLET
	R96–R94	18" PIPE	---	698.56	695.24	168.55	1.97	---
R-96		CURB INLET	702.78	698.76	698.56	---	---	SINGLE INLET
	R97–R96	18" PIPE	---	699.00	698.76	24.00	1.00	---
R-97		CURB INLET	702.78	---	699.00	---	---	SINGLE INLET
R-98		HEADWALL OUTLET	---	---	---	---	---	---
	R99–R98	36" PIPE	---	658.07	657.50	20.24	2.82	---
R-99		CURB INLET	663.77	---	658.27	---	---	SINGLE INLET
	R100–R99	36" PIPE	---	660.02	658.27	24.00	7.29	---
R-100		CURB INLET	663.77	---	660.02	---	---	DOUBLE INLET
	R101–R99	36" PIPE	---	658.71	658.27	106.43	0.41	---
R-101		HEADWALL OUTLET	664.84	658.91	658.71	---	---	DOUBLE INLET
	R102–R101	18" PIPE	---	661.09	658.91	24.00	9.08	---
R-102		CURB INLET	664.84	661.29	661.09	---	---	DOUBLE INLET
	R102A–R102	18" PIPE	---	661.90	661.29	81.44	0.75	---
R-102A		CURB INLET	665.65	---	661.90	---	---	DOUBLE INLET
	R103–R101	36" PIPE	---	660.85	658.91	193.51	1.00	---
R-103		CURB INLET	666.79	661.05	660.85	---	---	DOUBLE INLET

1. PIPE MATERIAL SHALL BE RCP CLASS III
2. STANDARD TYPE "V" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300–V OR APPROVED EQUAL ON ALL CURB INLETS EXCEPT WHERE NOTED.
3. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 3300 OR APPROVED EQUAL.
4. STANDARD TYPE "K" GRATE TO BE INSTALLED – JOHN BOUCHARD NO. 4310 OR APPROVED EQUAL.

PROPOSED STORM SEWER STRUCTURE SCHEDULE

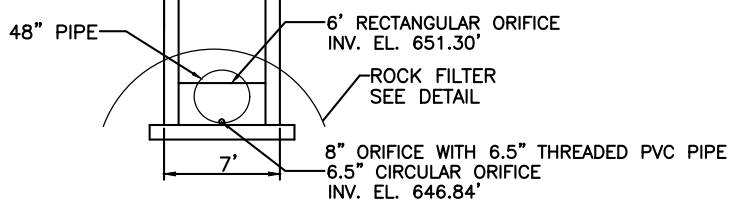
STR. NO.	PIPE	TYPE	RIM ELEV.	INV. IN	INV. OUT	LENGTH	SLOPE	NOTES
	R104–R103	18" PIPE	---	661.29	661.05	24.00	1.00	---
R-104		CURB INLET	666.79	661.49	661.29	---	---	DOUBLE INLET
	R104A–R104	18" PIPE	---	663.86	661.49	82.33	1.00	---
R-104A		CURB INLET	667.61	--	663.86	---	---	DOUBLE INLET
	R105–R103	36" PIPE	---	663.65	661.05	202.63	1.28	---
R-105		CURB INLET	669.35	663.85	663.65	---	---	DOUBLE INLET
	R105A–R105	36" PIPE	---	665.89	663.85	106.15	1.92	---
R-105A		CURB INLET	671.49	666.09	665.89	---	---	DOUBLE INLET
	R105B–R105A	18" PIPE	---	668.18	666.09	33.32	6.27	---
R-105B		CURB INLET	671.96	---	668.18	---	---	DOUBLE INLET
	R106–R105	18" PIPE	---	665.60	663.85	24.00	7.29	---
R-106		HEADWALL INLET	669.35	--	665.60	---	---	DOUBLE INLET
	R107–R105A	36" PIPE	---	668.16	666.09	117.03	1.77	---
R-107		CURB INLET	673.86	668.36	668.16	---	---	DOUBLE INLET
	R107A–R107	24" PIPE	---	671.08	668.36	82.97	3.28	---
R-107A		CURB INLET	675.53	671.28	671.08	---	---	DOUBLE INLET
	R107B–R107A	18" PIPE	---	672.25	671.28	33.32	2.91	---
R-107B		CURB INLET	676.00	---	672.25	---	---	DOUBLE INLET
	R108–R107	18" PIPE	---	670.30	668.36	25.75	7.53	---
R-108		CURB INLET	674.05	--	670.30	---	---	DOUBLE INLET
	R109–R107A	24" PIPE	---	672.80	671.28	118.37	1.28	---
R-109		CURB INLET	677.93	673.00	672.80	---	---	DOUBLE INLET
	R109A–R109	24" PIPE	---	675.26	673.00	2.71	1.28	---
R-109A		CURB INLET	679.63	675.46	675.26	---	---	DOUBLE INLET
	R109B–R109A	18" PIPE	---	675.77	675.46	30.55	1.01	---
R-109B		CURB INLET	680.02	---	675.77	---	---	DOUBLE INLET
	R110–R109	18" PIPE	---	674.41	673.00	26.57	5.31	---
R-110		CURB INLET	678.16	--	674.41	---	---	DOUBLE INLET
	R111–R109A	24" PIPE	---	676.92	675.46	83.65	1.74	---
R-111		CURB INLET	681.37	677.12	676.92	---	---	DOUBLE INLET
	R112–R111	18" PIPE	---	677.87	677.12	24.00	3.13	---
R-112		CURB INLET	681.37	--	677.87	---	---	DOUBLE INLET
	R113–R111	18" PIPE	---	679.88	677.12	109.77	2.51	---
R-113		CURB INLET	683.82	680.08	679.88	---	---	DOUBLE INLET
	R114–R113	18" PIPE	---	680.32	680.08	24.00	1.00	---
R-114		CURB INLET	683.82	680.52	680.32	---	---	DOUBLE INLET
	R114A–R114	18" PIPE	---	681.78	680.52	89.10	1.41	---
R-114A		CURB INLET	685.53	--	681.78	---	---	DOUBLE INLET
	R115–R113	18" PIPE	---	683.27	680.08	150.00	2.13	---
R-115		CURB INLET	687.21	683.47	683.27	---	---	DOUBLE INLET
	R116–R115	18" PIPE	---	683.71	683.47	24.00	1.00	---
R-116		CURB INLET	687.21	683.91	683.71	---	---	DOUBLE INLET
	R116A–R116	18" PIPE	---	684.78	683.91	65.17	1.33	---
R-116A		CURB INLET	688.53	--	684.78	---	---	SINGLE INLET
	R117–R115	18" PIPE	---	686.15	683.47	132.54	2.02	---
R-117		CURB INLET	689.85	686.35	686.15	---	---	DOUBLE INLET
	R118–R117	18" PIPE	---	687.61	686.35	41.77	3.02	---
R-118		CURB INLET	691.55	687.81	687.61	---	---	DOUBLE INLET
	R119–R118	18" PIPE	---	688.05	687.81	24.00	1.00	---
R-119		CURB INLET	691.55	--	688.05	---	---	SINGLE INLET
R-120		HEADWALL	655.00	--	654.27	---	---	---
	R121–R120	36" PIPE	---	654.62	654.27	35.02	1.00	---
R-121		CURB INLET	661.85	654.72	654.62	---	---	SINGLE INLET
	R122–R121	36" PIPE	---	655.00	654.72	27.65	1.01	---
R-122		CURB INLET	661.96	655.10	655.00	---	---	SINGLE INLET
	R123–R122	36" PIPE	---	655.40	655.10	30.43	0.99	---
R-123		RISER	---	--	655.40	---	---	---
R-124		HEADWALL	---	654.39	654.19	---	---	---
	R125–R124	18" PIPE	---	650.95	650.00	64.97	1.46	---
R-125		HEADWALL	---	--	--	---	---	---

DETENTION BASIN A DETAILS



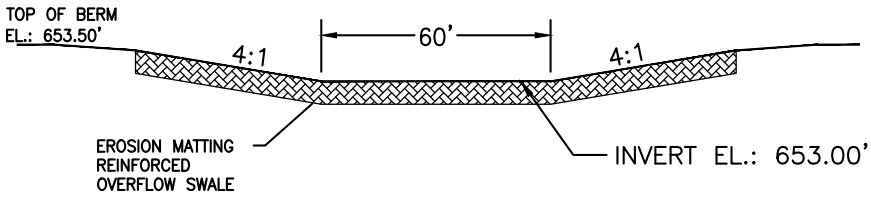
BASIN A – BERM/OUTLET DRAINAGE SECTION

NOT TO SCALE



OUTLET STRUCTURE NOTES:

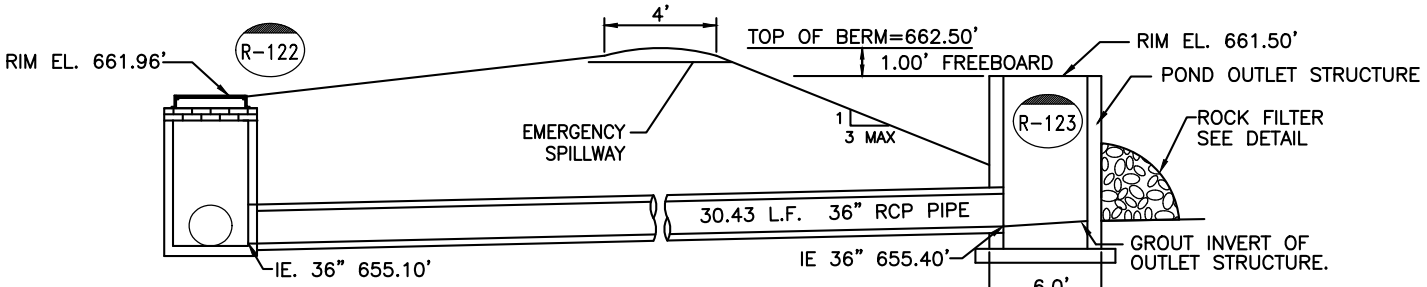
1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
3. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
4. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.



EMERGENCY SPILLWAY

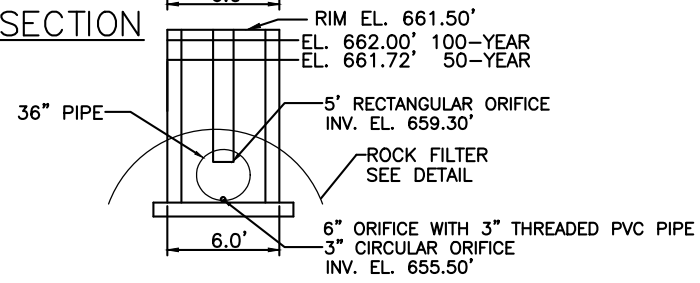
NOT TO SCALE

DETENTION BASIN B DETAILS



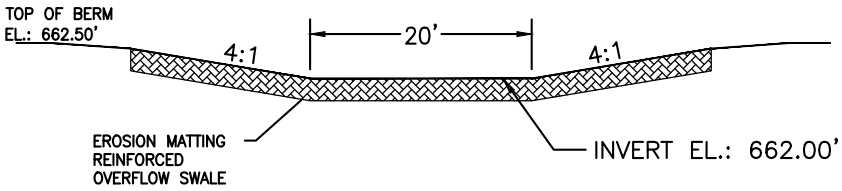
BASIN B – BERM/OUTLET DRAINAGE SECTION

NOT TO SCALE



OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. 6X6 REBAR TRASH GRATE CAN BE SUBMITTED FOR ALTERNATE APPROVAL.
3. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
4. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
5. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.



EMERGENCY SPILLWAY

NOT TO SCALE

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	R-99	Combination	663.77	Cir	4.00	4.00	36	Cir	658.07	18 36	Cir Cir	658.27 658.27
2	R-100	Combination	663.77	Cir	4.00	4.00	18	Cir	660.02			
3	R-101	Combination	664.84	Cir	4.00	4.00	36	Cir	658.71	18 36	Cir Cir	658.91 658.91
4	R-102	Combination	664.84	Cir	4.00	4.00	18	Cir	661.09	18	Cir	661.29
5	R-103	Combination	666.79	Cir	4.00	4.00	36	Cir	660.85	18 36	Cir Cir	661.05 661.05
6	R-104	Combination	666.79	Cir	4.00	4.00	18	Cir	661.29	18	Cir	661.49
7	R-105	Combination	669.35	Cir	4.00	4.00	36	Cir	663.65	18 36	Cir Cir	663.85 663.85
8	R-106	Combination	669.35	Cir	4.00	4.00	18	Cir	665.60			
9	R-105A	Combination	671.49	Cir	4.00	4.00	36	Cir	665.89	36 18	Cir Cir	666.09 666.09
10	R-107	Combination	673.86	Cir	4.00	4.00	36	Cir	668.16	18 24	Cir Cir	668.36 668.36
11	R-108	Combination	674.05	Cir	4.00	4.00	18	Cir	670.30			
12	R-107A	Combination	675.53	Cir	4.00	4.00	24	Cir	671.08	24 18	Cir Cir	671.28 671.28
13	R-109	Combination	677.93	Cir	4.00	4.00	24	Cir	672.80	18 24	Cir Cir	673.00 673.00
14	R-110	Combination	678.16	Cir	4.00	4.00	18	Cir	674.41			
15	R-109A	Combination	679.63	Cir	4.00	4.00	24	Cir	675.26	24 18	Cir Cir	675.46 675.46
16	R-111	Combination	681.37	Cir	4.00	4.00	24	Cir	676.92	18 18	Cir Cir	677.12 677.12
17	R-112	Combination	681.37	Cir	4.00	4.00	18	Cir	677.87			
18	R-113	Combination	683.82	Cir	4.00	4.00	18	Cir	679.88	18 18	Cir Cir	680.08 680.08

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
19	R-114	Combination	683.82	Cir	4.00	4.00	18	Cir	680.32	18	Cir	680.52
20	R-115	Combination	687.21	Cir	4.00	4.00	18	Cir	683.27	18 18	Cir Cir	683.47 683.47
21	R-116	Combination	687.21	Cir	4.00	4.00	18	Cir	683.71	18	Cir	683.91
22	R-117	Combination	689.85	Cir	4.00	4.00	18	Cir	686.15	18	Cir	686.35
23	R-118	Combination	691.55	Cir	4.00	4.00	18	Cir	687.61	18	Cir	687.81
24	R-119	Combination	691.55	Cir	4.00	4.00	18	Cir	688.05			
25	R-114A	Combination	685.53	Cir	4.00	4.00	18	Cir	681.78			
26	R-116A	Combination	688.53	Cir	4.00	4.00	18	Cir	684.78			
27	R-109B	Combination	680.02	Cir	4.00	4.00	18	Cir	675.77			
28	R-107B	Combination	676.00	Cir	4.00	4.00	18	Cir	672.25			
29	R-105B	Combination	671.96	Cir	4.00	4.00	18	Cir	668.18			
30	R-104A	Combination	667.61	Cir	4.00	4.00	18	Cir	663.86			
31	R-102A	Combination	665.65	Cir	4.00	4.00	18	Cir	661.90			
32	R-121	Combination	661.85	Cir	4.00	4.00	36	Cir	654.62	36	Cir	654.72
33	R-122	Combination	661.96	Cir	4.00	4.00	36	Cir	655.00	36	Cir	655.10
34	R-123	Manhole	660.50	Cir	4.00	4.00	36	Cir	655.40			
35	R-49	Combination	654.46	Cir	4.00	4.00	36	Cir	649.00	18 36	Cir Cir	650.00 649.20
36	R-50	Combination	654.46	Cir	4.00	4.00	18	Cir	651.21			
37	R-49A	Combination	655.49	Cir	4.00	4.00	36	Cir	649.99	36 18	Cir Cir	650.19 650.19
38	R-51	Combination	656.52	Cir	4.00	4.00	36	Cir	651.21	18 36	Cir Cir	651.41 651.41
39	R-52	Combination	656.52	Cir	4.00	4.00	18	Cir	652.77			

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
40	R-51A	Combination	657.03	Cir	4.00	4.00	36	Cir	651.78	36 18	Cir Cir	651.98 651.98
41	R-53	Combination	658.05	Cir	4.00	4.00	36	Cir	652.55	36	Cir	652.75
42	R-54	Combination	658.05	Cir	4.00	4.00	36	Cir	652.92	36	Cir	653.12
43	R-55	Combination	659.60	Cir	4.00	4.00	36	Cir	654.25	18 36	Cir Cir	655.25 654.45
44	R-56	Combination	659.60	Cir	4.00	4.00	18	Cir	655.85	18	Cir	656.05
45	R-57	Combination	661.37	Cir	4.00	4.00	36	Cir	655.77	36	Cir	655.97
46	R-58	Combination	662.64	Cir	4.00	4.00	36	Cir	656.34	18 36	Cir Cir	658.54 656.54
47	R-59	Combination	662.64	Cir	4.00	4.00	18	Cir	658.89			
48	R-60	Combination	663.69	Cir	4.00	4.00	36	Cir	657.39	36	Cir	657.59
49	R-61	Combination	664.31	Cir	4.00	4.00	36	Cir	658.05	36	Cir	658.25
50	R-62	Combination	664.31	Cir	4.00	4.00	36	Cir	658.53	36	Cir	658.73
51	R-63	Combination	664.86	Cir	4.00	4.00	36	Cir	659.19	18 36	Cir Cir	660.19 659.36
52	R-64	Combination	664.86	Cir	4.00	4.00	18	Cir	661.11	18	Cir	661.31
53	R-65	Combination	665.79	Cir	4.00	4.00	36	Cir	660.09	36	Cir	660.29
54	R-67	Combination	669.17	Cir	4.00	4.00	36	Cir	662.32	18 36	Cir Cir	664.32 662.52
55	R-68	Combination	668.26	Cir	4.00	4.00	18	Cir	664.76			
56	R-69	Combination	669.17	Cir	4.00	4.00	36	Cir	663.03	36	Cir	663.23
57	R-70	Combination	669.17	Cir	4.00	4.00	36	Cir	663.47	36	Cir	663.67
58	R-71	Combination	670.02	Cir	4.00	4.00	36	Cir	664.32	36	Cir	664.52
59	R-72	Combination	673.88	Cir	4.00	4.00	36	Cir	667.62	18 36	Cir Cir	667.82 667.82

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
60	R-73	Combination	673.88	Cir	4.00	4.00	18	Cir	670.13	18	Cir	670.33
61	R-74	Combination	674.79	Cir	4.00	4.00	36	Cir	668.20	36	Cir	668.40
62	R-75	Combination	674.79	Cir	4.00	4.00	36	Cir	668.64	36	Cir	668.84
63	R-76	Combination	675.64	Cir	4.00	4.00	36	Cir	669.22	36 18	Cir Cir	670.14 669.42
64	R-77	Combination	679.51	Cir	4.00	4.00	36	Cir	673.81	18 24	Cir Cir	675.31 674.01
65	R-78	Combination	679.51	Cir	4.00	4.00	18	Cir	675.76	18	Cir	675.96
66	R-79	Combination	680.41	Cir	4.00	4.00	24	Cir	675.52	24	Cir	675.72
67	R-80	Combination	680.41	Cir	4.00	4.00	24	Cir	675.96	24	Cir	676.16
68	R-81	Combination	681.41	Cir	4.00	4.00	24	Cir	676.96	24	Cir	677.16
69	R-82	Combination	685.08	Cir	4.00	4.00	24	Cir	680.39	18 24	Cir Cir	680.59 680.59
70	R-83	Combination	685.08	Cir	4.00	4.00	18	Cir	681.33			
71	R-84	Combination	686.03	Cir	4.00	4.00	24	Cir	681.14	24	Cir	681.34
72	R-85	Combination	686.03	Cir	4.00	4.00	24	Cir	681.58	24	Cir	681.78
73	R-86	Combination	686.92	Cir	4.00	4.00	24	Cir	682.47	18 18	Cir Cir	682.67 682.67
74	R-87	Combination	686.92	Cir	4.00	4.00	18	Cir	683.17			
75	R-88	Combination	690.40	Cir	4.00	4.00	18	Cir	686.21	18 18	Cir Cir	686.41 686.41
76	R-89	Combination	690.40	Cir	4.00	4.00	18	Cir	686.65			
77	R-90	Combination	694.89	Cir	4.00	4.00	18	Cir	690.10	18 18	Cir Cir	690.30 690.30
78	R-91	Combination	698.99	Cir	4.00	4.00	18	Cir	690.72	18	Cir	690.92
79	R-92	Combination	694.91	Cir	4.00	4.00	18	Cir	691.16			

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
80	R-93	Combination	695.09	Cir	4.00	4.00	18	Cir	691.14	18	Cir	691.34
81	R-94	Combination	698.99	Cir	4.00	4.00	18	Cir	694.60	18 18	Cir Cir	694.80 695.24
82	R-95	Combination	698.99	Cir	4.00	4.00	18	Cir	695.04			
83	R-96	Combination	702.78	Cir	4.00	4.00	18	Cir	698.56	18	Cir	698.76
84	R-97	Combination	702.78	Cir	4.00	4.00	18	Cir	699.00			
85	R-76A	DropGrate	673.00	Cir	4.00	4.00	18	Cir	670.25			
86	R-49B	Combination	655.49	Cir	4.00	4.00	18	Cir	651.74			
87	R-51B	Combination	657.03	Cir	4.00	4.00	18	Cir	653.28			
88	R-56A	Combination	660.61	Cir	4.00	4.00	18	Cir	657.04			
89	R-64A	Combination	666.36	Cir	4.00	4.00	18	Cir	662.61			
90	R-73A	Combination	677.13	Cir	4.00	4.00	18	Cir	673.38			
91	R-78A	Combination	682.29	Cir	4.00	4.00	18	Cir	678.54			
92	R-2	Combination	654.28	Cir	4.00	4.00	42	Cir	648.44	18 42	Cir Cir	648.94 648.94
93	R-3	Combination	654.28	Cir	4.00	4.00	18	Cir	651.03			
94	R-4	Combination	655.17	Cir	4.00	4.00	42	Cir	650.08	18 42	Cir Cir	650.28 650.28
95	R-5	Combination	655.17	Cir	4.00	4.00	18	Cir	651.92			
96	R-6	Combination	656.60	Cir	4.00	4.00	42	Cir	651.51	18 42	Cir Cir	651.71 651.71
97	R-7	Combination	656.60	Cir	4.00	4.00	18	Cir	653.35			
98	R-6A	Combination	657.81	Cir	4.00	4.00	42	Cir	652.26	42 18	Cir Cir	652.46 652.46
99	R-8	Combination	659.68	Cir	4.00	4.00	42	Cir	652.98	18 36	Cir Cir	653.18 654.18

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
100	R-9	Combination	659.68	Cir	4.00	4.00	18	Cir	655.73	18	Cir	655.93
101	R-10	Combination	660.72	Cir	4.00	4.00	18	Cir	656.53	18 18	Cir Cir	656.73 656.73
102	R-11	Combination	660.72	Cir	4.00	4.00	18	Cir	656.97			
103	R-14	Combination	660.68	Cir	4.00	4.00	36	Cir	654.54	36	Cir	654.74
104	R-12	Combination	661.93	Cir	4.00	4.00	18	Cir	657.74	18 18	Cir Cir	657.94 657.94
105	R-15	Combination	660.68	Cir	4.00	4.00	36	Cir	654.98	36	Cir	655.18
106	R-13	Combination	661.93	Cir	4.00	4.00	18	Cir	658.18			
107	R-16	Combination	661.58	Cir	4.00	4.00	36	Cir	655.82	18 36	Cir Cir	656.02 656.02
108	R-17	Combination	661.58	Cir	4.00	4.00	18	Cir	656.26	18	Cir	656.46
109	R-18	Combination	665.38	Cir	4.00	4.00	36	Cir	659.68	18 36	Cir Cir	659.88 659.88
110	R-19	Combination	665.38	Cir	4.00	4.00	18	Cir	661.43	18	Cir	661.63
111	R-20	Combination	666.51	Cir	4.00	4.00	18	Cir	662.32	18 18	Cir Cir	662.52 662.52
112	R-21	Combination	666.51	Cir	4.00	4.00	18	Cir	662.76			
113	R-24	Combination	667.36	Cir	4.00	4.00	36	Cir	661.41	18 36	Cir Cir	661.61 661.61
114	R-20A	Combination	667.73	Cir	4.00	4.00	18	Cir	663.54	18 18	Cir Cir	663.74 663.74
115	R-22	Combination	668.81	Cir	4.00	4.00	18	Cir	664.62	18	Cir	664.82
116	R-25	Combination	667.36	Cir	4.00	4.00	18	Cir	661.85	18	Cir	662.05
117	R-23	Combination	667.36	Cir	4.00	4.00	18	Cir	665.06			
118	R-26	Combination	671.14	Cir	4.00	4.00	36	Cir	665.44	18 36	Cir Cir	665.64 665.64

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
119	R-27	Combination	671.14	Cir	4.00	4.00	18	Cir	667.19	18	Cir	667.39
120	R-28	Combination	672.29	Cir	4.00	4.00	18	Cir	668.10	18 18	Cir Cir	668.30 668.30
121	R-29	Combination	0.00	Cir	4.00	4.00	18	Cir	668.54			
122	R-32	Combination	673.15	Cir	4.00	4.00	36	Cir	666.81	18 36	Cir Cir	667.01 667.01
123	R-28A	Combination	673.31	Cir	4.00	4.00	18	Cir	669.22	18	Cir	669.42
124	R-30	Combination	674.17	Cir	4.00	4.00	18	Cir	669.98	18	Cir	670.18
125	R-33	Combination	673.15	Cir	4.00	4.00	18	Cir	667.25	18	Cir	667.45
126	R-31	Combination	674.17	Cir	4.00	4.00	18	Cir	670.42			
127	R-34	Combination	676.93	Cir	4.00	4.00	36	Cir	671.73	18 24	Cir Cir	671.93 671.93
128	R-35	Combination	676.93	Cir	4.00	4.00	18	Cir	672.98	18	Cir	673.18
129	R-36	Combination	678.17	Cir	4.00	4.00	18	Cir	673.98	18 18	Cir Cir	674.18 674.18
130	R-37	Combination	678.17	Cir	4.00	4.00	18	Cir	674.42			
131	R-38	Combination	678.94	Cir	4.00	4.00	24	Cir	674.49	18 24	Cir Cir	674.69 674.69
132	R-39	Combination	678.94	Cir	4.00	4.00	18	Cir	675.19			
133	R-40	Combination	682.71	Cir	4.00	4.00	24	Cir	676.82	24	Cir	677.02
134	R-41	Combination	682.71	Cir	4.00	4.00	24	Cir	677.26	24	Cir	677.46
135	R-42	Combination	683.96	Cir	4.00	4.00	24	Cir	679.29	18	Cir	679.49
136	R-43	Combination	683.96	Cir	4.00	4.00	18	Cir	679.73	18	Cir	679.93
137	R-44	Combination	684.73	Cir	4.00	4.00	18	Cir	680.34	18	Cir	680.54
138	R-45	Combination	684.73	Cir	4.00	4.00	18	Cir	680.78	18	Cir	680.98

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
139	R-46	Combination	689.13	Cir	4.00	4.00	18	Cir	684.94	18	Cir	685.14
140	R-47	Combination	689.13	Cir	4.00	4.00	18	Cir	685.38			
141	R-17A	DropGrate	660.00	Cir	4.00	4.00	18	Cir	657.25			
142	R-25A	DropGrate	665.60	Cir	4.00	4.00	18	Cir	662.85			
143	R-33A	DropGrate	671.00	Cir	4.00	4.00	18	Cir	668.25			
144	R-36A	Combination	679.95	Cir	4.00	4.00	18	Cir	676.20			
145	R-20B	Combination	667.73	Cir	4.00	4.00	18	Cir	663.98			
146	R-12A	Combination	663.16	Cir	4.00	4.00	18	Cir	658.97	18	Cir	659.17
147	R-12B	Combination	663.16	Cir	4.00	4.00	18	Cir	659.41			
148	R-6B	Combination	657.81	Cir	4.00	4.00	18	Cir	654.06			
149	R-125	OpenHeadwall	652.00	n/a	n/a	n/a	18	Cir	650.95			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	R98-R99	22.13	36	Cir	20.272	657.50	658.07	2.812	659.76	659.58	n/a	659.58 j	End	Combination
2	R99-R100	1.28	18	Cir	23.972	658.27	660.02	7.300	659.58	660.44	n/a	660.44 j	1	Combination
3	R99-R101	21.41	36	Cir	106.371	658.27	658.71	0.414	659.77	660.21	1.06	661.27	1	Combination
4	R101-R102	1.99	18	Cir	24.001	658.91	661.09	9.083	661.27	661.62	n/a	661.62 j	3	Combination
5	R101-R103	20.18	36	Cir	193.585	658.91	660.85	1.002	661.27	662.29	n/a	662.29 j	3	Combination
6	R103-R104	2.05	18	Cir	23.946	661.05	661.29	1.002	662.29	661.83	n/a	661.83	5	Combination
7	R103-R105	18.86	36	Cir	202.611	661.05	663.65	1.283	662.29	665.04	n/a	665.04	5	Combination
8	R105-R106	1.35	18	Cir	24.023	663.85	665.60	7.285	665.04	666.03	n/a	666.03 j	7	Combination
9	R105-R105A	17.47	36	Cir	105.765	663.85	665.89	1.929	665.04	667.23	0.58	667.23	7	Combination
10	R105-R107(2)	16.00	36	Cir	117.445	666.09	668.16	1.762	667.23	669.44	n/a	669.44	9	Combination
11	R107-R108	0.92	18	Cir	25.688	668.36	670.30	7.552	669.44	670.66	n/a	670.66 j	10	Combination
12	R107-R107A	14.20	24	Cir	82.775	668.36	671.08	3.286	669.44	672.44	n/a	672.44	10	Combination
13	R107-R109(2)	12.37	24	Cir	118.535	671.28	672.80	1.282	672.44	674.06	n/a	674.06	12	Combination
14	R109-R110	1.21	18	Cir	26.583	673.00	674.41	5.304	674.06	674.82	n/a	674.82 j	13	Combination
15	R109-R109A	10.61	24	Cir	83.450	673.00	675.26	2.708	674.06	676.43	n/a	676.43	13	Combination
16	R109A-R111	9.24	24	Cir	83.680	675.46	676.92	1.745	676.43	678.00	0.67	678.00	15	Combination
17	R111-R112	1.48	18	Cir	23.980	677.12	677.87	3.128	678.00	678.33	n/a	678.33 j	16	Combination
18	R111-R113	6.88	18	Cir	109.800	677.12	679.88	2.514	678.00	680.89	0.86	680.89	16	Combination
19	R113-R114	1.98	18	Cir	23.891	680.08	680.32	1.005	680.89	680.85	n/a	680.85 j	18	Combination
20	R113-R115	4.83	18	Cir	150.041	680.08	683.27	2.126	680.89	684.11	n/a	684.11	18	Combination
21	R115-R116	2.14	18	Cir	24.200	683.47	683.71	0.992	684.11	684.26	n/a	684.26 j	20	Combination
22	R115-R117	2.39	18	Cir	132.521	683.47	686.15	2.022	684.11	686.74	n/a	686.74 j	20	Combination
23	R117-R118	2.29	18	Cir	41.773	686.35	687.61	3.016	686.74	688.18	n/a	688.18	22	Combination
24	R118-R119	0.78	18	Cir	24.069	687.81	688.05	0.997	688.18	688.38	n/a	688.38 j	23	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
25	R114-R114A	0.64	18	Cir	89.000	680.52	681.78	1.416	680.85	682.08	n/a	682.08 j	19	Combination
26	R116-R116A	1.15	18	Cir	65.030	683.91	684.78	1.338	684.26	685.18	n/a	685.18	21	Combination
27	R109A-R109B	0.70	18	Cir	31.000	675.46	675.77	1.000	676.43	676.08	0.11	676.08	15	Combination
28	R107A-R107B	1.35	18	Cir	28.352	671.28	672.25	3.421	672.44	672.68	n/a	672.68 j	12	Combination
29	R105A-R105B	1.23	18	Cir	33.520	666.09	668.18	6.235	667.23	668.59	n/a	668.59 j	9	Combination
30		1.24	18	Cir	82.330	661.49	663.86	2.879	661.83	664.28	n/a	664.28	6	Combination
31	R102-R102A	1.27	18	Cir	81.490	661.29	661.90	0.749	661.67	662.32	n/a	662.32	4	Combination
32	R120-R121	1.81	36	Cir	35.034	654.27	654.62	0.999	655.98	655.04	n/a	655.04	End	Combination
33	R121-R122	1.43	36	Cir	27.667	654.72	655.00	1.012	655.04	655.37	n/a	655.37	32	Combination
34	R122-R123	1.02	36	Cir	30.380	655.10	655.40	0.988	655.37	655.71	n/a	655.71	33	Manhole
35	R48-R49	34.24	36	Cir	72.199	648.31	649.00	0.956	650.76	650.90	n/a	650.90 j	End	Combination
36	R49-R50	0.93	18	Cir	24.020	650.00	651.21	5.037	650.90	651.57	n/a	651.57 j	35	Combination
37	R49-R49A	33.31	36	Cir	100.575	649.20	649.99	0.785	650.90	651.86	1.20	651.86	35	Combination
38	R49A-R51	32.38	36	Cir	101.000	650.19	651.21	1.010	651.86	653.05	1.29	653.05	37	Combination
39	R51-R52	0.65	18	Cir	24.025	651.41	652.77	5.661	653.05	653.07	0.11	653.07	38	Combination
40	R51-R51A	31.74	36	Cir	49.579	651.41	651.78	0.746	653.05	653.61	n/a	653.61	38	Combination
41	R51-R53(2)	30.84	36	Cir	100.419	651.98	652.55	0.568	653.68	654.35	1.13	654.35	40	Combination
42	R53-R54	30.05	36	Cir	24.025	652.75	652.92	0.708	654.35	654.69	1.11	654.69	41	Combination
43	R54-R55	29.53	36	Cir	151.376	653.12	654.25	0.746	654.69	656.01	1.29	656.01	42	Combination
44	R55-R56	1.48	18	Cir	23.901	655.25	655.85	2.510	656.01	656.31	n/a	656.31 j	43	Combination
45	R55-R57	28.57	36	Cir	176.130	654.45	655.77	0.749	656.01	657.50	n/a	657.50	43	Combination
46	R57-R58	28.57	36	Cir	48.902	655.97	656.34	0.757	657.50	658.07	n/a	658.07	45	Combination
47	R58-R59	1.27	18	Cir	23.985	658.54	658.89	1.459	658.86	659.31	n/a	659.31	46	Combination
48	R58-R60	27.67	36	Cir	70.881	656.54	657.39	1.199	658.07	659.09	n/a	659.09	46	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
49	R60-R61	27.54	36	Cir	38.132	657.59	658.05	1.206	659.09	659.75	n/a	659.75	48	Combination
50	R61-R62	26.66	36	Cir	23.988	658.25	658.53	1.167	659.75	660.20	0.76	660.20	49	Combination
51	R62-R63	25.81	36	Cir	38.234	658.73	659.19	1.203	660.20	660.83	n/a	660.83	50	Combination
52	R63-R64	1.21	18	Cir	23.981	660.19	661.11	3.836	660.83	661.52	n/a	661.52 j	51	Combination
53	R63-R65	24.83	36	Cir	56.610	659.36	660.09	1.290	660.83	661.70	n/a	661.70	51	Combination
54	R65-R67	24.80	36	Cir	115.410	660.29	662.32	1.759	661.70	663.93	n/a	663.93	53	Combination
55	R67-R68	2.09	18	Cir	24.042	664.32	664.76	1.830	664.71	665.31	0.20	665.31	54	Combination
56	R67-R69	23.30	36	Cir	38.132	662.52	663.03	1.337	663.93	664.58	n/a	664.58	54	Combination
57	R69-R70	22.38	36	Cir	23.988	663.23	663.47	1.000	664.58	664.99	n/a	664.99	56	Combination
58	R70-R71	21.51	36	Cir	38.169	663.67	664.32	1.703	664.99	665.81	n/a	665.81	57	Combination
59	R71-R72	21.41	36	Cir	172.019	664.52	667.62	1.802	665.81	669.11	0.99	669.11	58	Combination
60	R72-R73	1.86	18	Cir	24.011	667.82	670.13	9.621	669.11	670.64	n/a	670.64 j	59	Combination
61	R72-R74	19.78	36	Cir	38.239	667.82	668.20	0.994	669.11	669.63	0.62	669.63	59	Combination
62	R74-R75	19.03	36	Cir	23.988	668.40	668.64	1.000	669.63	670.04	n/a	670.04	61	Combination
63	R75-R76	18.32	36	Cir	38.169	668.84	669.22	0.995	670.04	670.59	0.72	670.59	62	Combination
64	R76-R77	16.35	36	Cir	172.019	670.14	673.81	2.133	670.97	675.10	n/a	675.10	63	Combination
65	R77-R78	1.81	18	Cir	24.011	675.31	675.76	1.874	675.67	676.27	n/a	676.27	64	Combination
66	R77-R79	14.64	24	Cir	38.132	674.01	675.52	3.960	675.10	676.90	0.71	676.90	64	Combination
67	R79-R80	13.78	24	Cir	24.000	675.72	675.96	1.000	676.90	677.30	n/a	677.30	66	Combination
68	R80-R81	12.95	24	Cir	43.125	676.16	676.96	1.855	677.30	678.25	0.57	678.25	67	Combination
69	R81-R82	12.52	24	Cir	163.387	677.16	680.39	1.977	678.25	681.66	0.90	681.66	68	Combination
70	R82-R83	1.07	18	Cir	24.011	680.59	681.33	3.082	681.66	681.72	n/a	681.72 j	69	Combination
71	R82-R84	11.51	24	Cir	39.620	680.59	681.14	1.388	681.66	682.36	n/a	682.36	69	Combination
72	R84-R85	11.06	24	Cir	23.981	681.34	681.58	1.001	682.36	682.77	n/a	682.77	71	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
73	R85-R86	10.57	24	Cir	39.648	681.78	682.47	1.740	682.77	683.63	0.79	683.63	72	Combination
74	R86-R87	1.34	18	Cir	24.000	682.67	683.17	2.083	683.63	683.60	n/a	683.60 j	73	Combination
75	R86-R88	8.66	18	Cir	154.617	682.67	686.21	2.290	683.63	687.35	n/a	687.35	73	Combination
76	R88-R89	1.80	18	Cir	23.981	686.41	686.65	1.001	687.35	687.15	0.19	687.15	75	Combination
77	R88-R90	5.94	18	Cir	198.099	686.41	690.10	1.863	687.35	691.04	n/a	691.04	75	Combination
78	R90-R91	0.84	18	Cir	42.180	690.30	690.72	0.996	691.04	691.06	n/a	691.06 j	77	Combination
79	R91-R92	0.76	18	Cir	24.043	690.92	691.16	0.998	691.19	691.48	n/a	691.48	78	Combination
80	R90-R93	5.17	18	Cir	25.503	690.30	691.14	3.294	691.04	692.01	0.53	692.01	77	Combination
81	R93-R94	4.11	18	Cir	176.250	691.34	694.60	1.850	692.01	695.38	0.49	695.38	80	Combination
82	R94-R95	1.95	18	Cir	23.988	694.80	695.04	1.000	695.38	695.57	n/a	695.57 j	81	Combination
83	R94-R96	1.14	18	Cir	168.529	695.24	698.56	1.970	695.52	698.96	n/a	698.96	81	Combination
84	R96-R97	0.62	18	Cir	24.019	698.76	699.00	0.999	699.01	699.29	n/a	699.29	83	Combination
85	R76-R76A	2.42	18	Cir	82.250	669.42	670.25	1.009	670.59	670.84	n/a	670.84 j	63	DropGrate
86	R49A-R49B	0.93	18	Cir	24.000	650.19	651.74	6.458	651.86	652.10	n/a	652.10 j	37	Combination
87	R51A-R51B	0.98	18	Cir	23.980	651.98	653.28	5.421	653.61	653.65	0.13	653.65	40	Combination
88	R56-R56A	0.64	18	Cir	98.200	656.05	657.04	1.008	656.31	657.34	0.10	657.34	44	Combination
89	R64-R64A	0.72	18	Cir	85.730	661.31	662.61	1.516	661.55	662.93	n/a	662.93	52	Combination
90	R73-R73A	1.09	18	Cir	144.260	670.33	673.38	2.114	670.64	673.77	0.14	673.77	60	Combination
91	R78-R78A	1.05	18	Cir	123.770	675.96	678.54	2.084	676.27	678.92	0.14	678.92	65	Combination
92	R1-R2	52.54	42	Cir	18.580	648.31	648.44	0.700	651.19	650.70	n/a	650.70	End	Combination
93	R2-R3	2.58	18	Cir	24.025	648.94	651.03	8.699	650.70	651.64	n/a	651.64 j	92	Combination
94	R2-R4	50.38	42	Cir	153.000	648.94	650.08	0.745	650.85	652.30	n/a	652.30	92	Combination
95	R4-R5	1.31	18	Cir	24.007	650.28	651.92	6.831	652.30	652.35	0.15	652.35	94	Combination
96	R4-R6	49.28	42	Cir	145.471	650.28	651.51	0.846	652.30	653.70	1.55	653.70	94	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
97	R6-R7	0.89	18	Cir	23.996	651.71	653.35	6.834	653.70	653.70	0.12	653.70	96	Combination
98	R6-R6A	48.36	42	Cir	99.693	651.71	652.26	0.552	653.76	654.43	1.39	654.43	96	Combination
99	R6-R8(2)	47.40	42	Cir	93.014	652.46	652.98	0.559	654.48	655.13	n/a	655.13	98	Combination
100	R8-R9	7.80	18	Cir	24.034	653.18	655.73	10.610	655.13	656.81	n/a	656.81 j	99	Combination
101	R9-R10	7.49	18	Cir	41.030	655.93	656.53	1.462	656.81	657.59	0.55	657.59	100	Combination
102	R10-R11	1.20	18	Cir	23.998	656.73	656.97	1.000	657.59	657.38	n/a	657.38	101	Combination
103	R8-R14	41.32	36	Cir	40.983	654.18	654.54	0.878	655.96	656.63	n/a	656.63	99	Combination
104	R10-R12	5.31	18	Cir	106.070	656.73	657.74	0.952	657.59	658.63	n/a	658.63	101	Combination
105	R14-R15	41.19	36	Cir	23.998	654.74	654.98	1.000	656.63	657.07	1.08	657.07	103	Combination
106	R12-R13	1.54	18	Cir	24.000	657.94	658.18	1.000	658.63	658.65	n/a	658.65 j	104	Combination
107	R15-R16	40.90	36	Cir	41.008	655.18	655.82	1.561	657.07	657.90	n/a	657.90	105	Combination
108	R16-R17	7.72	18	Cir	23.963	656.02	656.26	1.002	657.90*	658.03*	0.43	658.46	107	Combination
109	R16-R18	34.70	36	Cir	164.589	656.02	659.68	2.224	657.90	661.59	n/a	661.59	107	Combination
110	R18-R19	7.36	18	Cir	24.034	659.88	661.43	6.449	661.59	662.48	n/a	662.48 j	109	Combination
111	R19-R20	7.07	18	Cir	43.541	661.63	662.32	1.585	662.48	663.35	n/a	663.35	110	Combination
112	R20-R21	1.08	18	Cir	23.998	662.52	662.76	1.000	663.35	663.15	n/a	663.15	111	Combination
113	R18-R24	28.70	36	Cir	85.451	659.88	661.41	1.790	661.59	663.14	n/a	663.14	109	Combination
114	R20-R20A	5.26	18	Cir	103.423	662.52	663.54	0.986	663.35	664.42	0.55	664.42	111	Combination
115	R20-R22(2)	3.46	18	Cir	93.577	663.74	664.62	0.940	664.42	665.33	0.41	665.33	114	Combination
116	R24-R25	6.63	18	Cir	24.034	661.61	661.85	0.999	663.14	663.21	0.34	663.55	113	Combination
117	R22-R23	1.72	18	Cir	23.946	664.82	665.06	1.002	665.33	665.55	n/a	665.55 j	115	Combination
118	R24-R26	23.03	36	Cir	162.961	661.61	665.44	2.350	663.14	666.98	1.09	666.98	113	Combination
119	R26-R27	6.15	18	Cir	23.963	665.64	667.19	6.468	666.98	668.15	n/a	668.15 j	118	Combination
120	R27-R28	5.82	18	Cir	44.688	667.39	668.10	1.589	668.15	669.03	0.48	669.03	119	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
121	R28-R29	1.52	18	Cir	23.998	668.30	668.54	1.000	669.03	669.00	n/a	669.00 j	120	Combination
122	R26-R32	17.76	36	Cir	87.079	665.64	666.81	1.344	666.98	668.16	n/a	668.16	118	Combination
123	R28-R28A	3.71	18	Cir	91.611	668.30	669.22	1.004	669.03	669.95	n/a	669.95	120	Combination
124	R28A-R30	3.01	18	Cir	76.415	669.42	669.98	0.733	670.02	670.64	0.38	670.64	123	Combination
125	R32-R33	2.98	18	Cir	24.034	667.01	667.25	0.999	668.16	667.91	n/a	667.91	122	Combination
126	R30-R31	1.40	18	Cir	23.998	670.18	670.42	1.000	670.64	670.86	n/a	670.86 j	124	Combination
127	R32-R34	14.56	36	Cir	162.961	667.01	671.73	2.896	668.16	672.94	n/a	672.94	122	Combination
128	R34-R35	4.05	18	Cir	24.034	671.93	672.98	4.369	672.94	673.75	n/a	673.75 j	127	Combination
129	R35-R36	3.74	18	Cir	44.688	673.18	673.98	1.790	673.75	674.72	0.35	674.72	128	Combination
130	R36-R37	1.93	18	Cir	23.998	674.18	674.42	1.000	674.72	674.94	n/a	674.94 j	129	Combination
131	R34-R38	10.43	24	Cir	86.995	671.93	674.49	2.943	672.94	675.65	n/a	675.65	127	Combination
132	R38-R39	0.94	18	Cir	23.963	674.69	675.19	2.087	675.65	675.55	0.13	675.55	131	Combination
133	R38-R40	8.49	24	Cir	162.000	674.69	676.82	1.315	675.65	677.86	n/a	677.86	131	Combination
134	R40-R41	7.79	24	Cir	23.963	677.02	677.26	1.002	677.86	678.25	0.47	678.25	133	Combination
135	R41-R42	7.53	24	Cir	45.055	677.46	679.29	4.062	678.25	680.26	n/a	680.26	134	Combination
136	R42-R43	6.11	18	Cir	23.998	679.49	679.73	1.000	680.31	680.68	0.47	680.68	135	Combination
137	R43-R44	4.85	18	Cir	40.983	679.93	680.34	1.001	680.68	681.19	0.39	681.19	136	Combination
138	R44-R45	3.09	18	Cir	24.034	680.54	680.78	0.999	681.19	681.45	0.38	681.45	137	Combination
139	R45-R46	1.45	18	Cir	190.793	680.98	684.94	2.076	681.45	685.39	n/a	685.39 j	138	Combination
140	R46-R47	0.84	18	Cir	24.041	685.14	685.38	0.998	685.43	685.72	0.12	685.72	139	Combination
141	R17-R17A	6.85	18	Cir	78.460	656.46	657.25	1.007	658.46	658.75	0.23	658.98	108	DropGrate
142	R25-R25A	5.77	18	Cir	79.820	662.05	662.85	1.002	663.55	663.78	n/a	663.78 j	116	DropGrate
143	R33-R33A	2.20	18	Cir	80.000	667.45	668.25	1.000	667.92	668.81	0.21	668.81	125	DropGrate
144	R36-R36A	1.17	18	Cir	122.180	674.18	676.20	1.653	674.72	676.60	n/a	676.60 j	129	Combination

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
145	R20A-R20B	1.02	18	Cir	23.660	663.74	663.98	1.014	664.42	664.36	n/a	664.36	114	Combination
146	R12-1212A	2.78	18	Cir	107.530	657.94	658.97	0.958	658.63	659.60	n/a	659.60 j	104	Combination
147	R12A-R12B	1.54	18	Cir	24.000	659.17	659.41	1.000	659.60	659.88	0.17	659.88	146	Combination
148	R6A-R6B	0.89	18	Cir	24.000	652.46	654.06	6.667	654.43	654.41	0.12	654.54	98	Combination
149	R124-R125	8.72	18	Cir	65.001	650.00	650.95	1.462	651.32	652.09	n/a	652.09 j	End	OpenHeadwall

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	R-99	0.26	0.07	0.28	0.04	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.09	4.37	0.17	2.05	1.5	33
2	R-100	1.28	0.19	1.20	0.28	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.72	0.21	4.12	1.5	32
3	R-101	0.52	0.11	0.57	0.07	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.62	0.17	2.40	1.5	1
4	R-102	0.89	0.29	0.98	0.19	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.09	0.20	3.59	1.5	2
5	R-103	0.55	0.30	0.74	0.11	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.13	6.28	0.18	2.93	1.5	3
6	R-104	0.99	0.32	1.09	0.23	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.40	0.20	3.85	1.5	31
7	R-105	1.02	0.41	1.13	0.30	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.70	0.20	3.73	1.5	5
8	R-106	1.35	0.32	1.29	0.38	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	7.10	0.21	4.09	1.5	30
9	R-105A	1.27	0.47	1.34	0.41	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	7.22	0.21	4.20	1.5	7
10	R-107	1.58	0.34	1.44	0.47	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.15	7.47	0.21	4.43	1.5	9
11	R-108	0.92	0.38	1.04	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.46	0.20	3.51	1.5	29
12	R-107A	1.23	0.32	1.21	0.34	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	6.90	0.20	3.91	1.5	10
13	R-109	1.17	0.33	1.17	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	6.81	0.20	3.83	1.5	12
14	R-110	1.21	0.22	1.13	0.30	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.70	0.20	3.73	1.5	28
15	R-109A	1.17	0.35	1.19	0.33	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	6.85	0.20	3.86	1.5	13
16	R-111	1.53	0.04	1.22	0.35	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	6.94	0.20	3.94	1.5	15
17	R-112	1.48	0.46	1.45	0.48	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.15	7.50	0.21	4.46	1.5	27
18	R-113	0.42	0.07	0.45	0.04	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.09	4.48	0.16	1.81	1.5	16
19	R-114	1.71	0.16	1.41	0.46	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.15	7.40	0.21	4.37	1.5	17
20	R-115	0.63	0.00	0.56	0.07	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.10	4.93	0.17	2.18	1.5	18
21	R-116	1.15	0.40	1.21	0.34	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.14	6.90	0.20	3.91	1.5	25
22	R-117	0.16	0.58	0.65	0.10	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.11	5.26	0.17	2.46	1.5	26
23	R-118	1.61	0.56	1.59	0.58	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.63	0.22	4.67	1.5	22

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
24	R-119	0.78	0.00	0.59	0.18	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.10	5.20	0.19	3.03	1.5	140
25	R-114A	0.64	0.34	0.82	0.16	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.12	5.81	0.18	2.93	1.5	19
26	R-116A	1.15	0.10	0.85	0.40	Comb	6.0	2.90	0.00	2.90	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.37	0.21	4.14	1.5	21
27	R-109B	0.70	0.48	0.96	0.22	Comb	6.0	5.80	0.00	5.80	1.92	0.020	2.00	0.020	0.020	0.013	0.12	6.24	0.19	3.32	1.5	14
28	R-107B	1.35	0.30	1.27	0.38	Comb	6.0	5.80	0.00	5.80	1.92	0.020	2.00	0.020	0.020	0.013	0.14	7.07	0.21	4.07	1.5	11
29	R-105B	1.23	0.25	1.16	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.020	2.00	0.020	0.020	0.013	0.14	6.79	0.20	3.81	1.5	8
30	R-104A	1.24	0.38	1.30	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.010	2.00	0.020	0.020	0.013	0.16	8.00	0.21	4.37	1.5	6
31	R-102A	1.27	0.23	1.22	0.29	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.77	0.21	4.17	1.5	4
32	R-121	0.52	0.28	0.59	0.21	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.12	6.12	0.20	3.70	1.5	103
33	R-122	0.48	0.04	0.42	0.10	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.10	5.22	0.18	2.85	1.5	105
34	R-123	1.02*	0.00	0.00	1.02	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
35	R-49	1.11	0.27	1.25	0.13	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.52	0.19	3.09	1.5	93
36	R-50	0.93	0.22	1.06	0.09	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.03	0.18	2.75	1.5	93
37	R-49A	1.11	0.34	1.18	0.27	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.67	0.21	4.08	1.5	35
38	R-51	0.65	0.44	0.75	0.34	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	6.90	0.21	4.46	1.5	37
39	R-52	0.65	0.44	0.75	0.34	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	6.89	0.21	4.44	1.5	86
40	R-51A	0.98	0.33	0.86	0.44	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.37	0.10	4.91	0.0	38
41	R-53	1.42	0.22	1.31	0.33	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.16	8.03	0.21	4.39	1.5	40
42	R-54	1.55	0.06	1.29	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.98	0.21	4.34	1.5	87
43	R-55	0.58	0.05	0.56	0.06	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.61	0.17	2.39	1.5	42
44	R-56	1.15	0.15	1.07	0.22	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.34	0.20	3.80	1.5	41
45	R-57	0.23	0.33	0.51	0.05	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.39	0.17	2.22	1.5	43
46	R-58	0.46	0.63	0.76	0.33	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.13	6.40	0.21	4.10	1.5	45

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
47	R-59	1.27	0.15	1.14	0.28	Comb	6.0	5.80	0.00	5.80	1.92	0.015	1.92	0.020	0.020	0.013	0.14	7.05	0.20	3.85	1.5	Off
48	R-60	0.39	1.30	1.06	0.63	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.15	7.53	0.23	5.21	1.5	46
49	R-61	1.50	0.00	0.96	0.54	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.76	0.23	5.29	1.5	48
50	R-62	1.50	0.00	0.96	0.54	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.76	0.23	5.29	1.5	48
51	R-63	0.39	0.46	0.62	0.22	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.12	5.81	0.20	3.53	1.5	48
52	R-64	0.68	0.28	0.81	0.15	Comb	6.0	5.80	0.00	5.80	1.92	0.015	1.92	0.020	0.020	0.013	0.12	6.09	0.19	3.01	1.5	47
53	R-65	0.56	0.81	0.91	0.46	Comb	6.0	2.90	0.00	2.90	1.92	0.019	1.92	0.020	0.020	0.013	0.13	6.66	0.21	4.42	1.5	51
54	R-67	0.39	1.67	1.24	0.81	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.54	0.23	5.33	1.5	53
55	R-68	2.09	0.25	1.69	0.65	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.92	0.22	4.91	1.5	89
56	R-69	1.50	0.00	0.96	0.54	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.76	0.23	5.29	1.5	54
57	R-70	1.50	0.00	0.96	0.54	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	7.76	0.23	5.29	1.5	54
58	R-71	0.93	0.72	1.05	0.59	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	6.94	0.22	4.73	1.5	54
59	R-72	0.39	1.49	1.16	0.72	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.29	0.23	5.08	1.5	58
60	R-73	1.09	0.19	1.03	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.13	6.31	0.19	3.43	1.5	55
61	R-74	1.21	0.00	0.82	0.40	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.17	0.22	4.72	1.5	59
62	R-75	1.21	0.00	0.82	0.40	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.17	0.22	4.72	1.5	59
63	R-76	1.21	0.63	1.15	0.70	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	7.25	0.23	5.04	1.5	59
64	R-77	0.39	1.34	1.09	0.63	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	7.06	0.22	4.85	1.5	63
65	R-78	1.05	0.82	1.40	0.46	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.27	0.21	4.31	1.5	91
66	R-79	1.24	0.00	0.83	0.41	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.24	0.22	4.78	1.5	64
67	R-80	1.24	0.00	0.83	0.41	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.24	0.22	4.78	1.5	64
68	R-81	0.93	0.57	0.98	0.52	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.13	6.71	0.21	4.50	1.5	64
69	R-82	0.39	1.23	1.04	0.57	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	6.89	0.22	4.68	1.5	68

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
70	R-83	1.07	0.51	1.02	0.56	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	6.83	0.22	4.63	1.5	91
71	R-84	0.66	0.00	0.51	0.15	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.71	0.19	3.31	1.5	69
72	R-85	0.73	0.00	0.55	0.18	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.12	5.94	0.20	3.53	1.5	69
73	R-86	1.40	0.79	1.30	0.89	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.72	0.24	5.51	1.5	69
74	R-87	1.34	0.65	1.48	0.51	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.46	0.21	4.48	1.5	70
75	R-88	2.01	0.00	1.22	0.79	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.49	0.23	5.27	1.5	73
76	R-89	1.80	0.55	1.69	0.65	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.93	0.22	4.91	1.5	74
77	R-90	0.15	0.00	0.15	0.00	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.06	2.83	0.14	0.77	1.5	75
78	R-91	0.11	0.00	0.11	0.00	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.05	2.50	0.13	0.47	1.5	24
79	R-92	0.76	0.82	1.03	0.56	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.79	0.22	4.60	1.5	23
80	R-93	1.55	0.53	1.54	0.55	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.58	0.22	4.59	1.5	76
81	R-94	1.93	0.11	1.51	0.53	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.52	0.22	4.54	1.5	80
82	R-95	1.95	0.13	1.25	0.82	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.57	0.23	5.36	1.5	79
83	R-96	0.58	0.00	0.47	0.11	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.09	4.69	0.18	2.53	1.5	81
84	R-97	0.62	0.00	0.50	0.13	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.10	4.82	0.18	2.65	1.5	82
85	R-76A	2.42	0.00	2.42	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.000	0.17	26.79	0.17	26.79	0.0	Off
86	R-49B	0.93	0.34	1.05	0.22	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.30	0.20	3.77	1.5	36
87	R-51B	0.98	0.32	0.86	0.44	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.35	0.22	4.89	1.5	39
88	R-56A	0.64	0.00	0.49	0.15	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.63	0.19	3.24	1.5	44
89	R-64A	0.72	0.65	1.09	0.28	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.60	0.20	3.63	1.5	52
90	R-73A	1.09	0.00	0.90	0.19	Comb	6.0	5.90	0.00	5.90	1.92	0.022	1.92	0.020	0.020	0.013	0.12	5.95	0.19	3.08	1.5	60
91	R-78A	1.05	1.02	1.25	0.82	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.55	0.23	5.34	1.5	65
92	R-2	1.67	0.14	1.82	0.00	Comb	6.0	8.70	3.96	8.70	1.92	Sag	1.92	0.020	0.020	0.000	0.09	4.47	0.21	4.47	1.5	Off

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
93	R-3	2.58	0.37	2.94	0.00	Comb	6.0	8.70	1.98	8.70	1.92	Sag	1.92	0.020	0.020	0.000	0.14	6.99	0.26	6.99	1.5	Off
94	R-4	1.24	0.24	1.33	0.14	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.73	0.19	3.24	1.5	92
95	R-5	1.31	0.17	1.33	0.14	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.73	0.19	3.23	1.5	93
96	R-6	1.09	0.25	1.10	0.24	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.45	0.20	3.89	1.5	94
97	R-7	0.89	0.20	0.92	0.17	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.14	6.90	0.19	3.43	1.5	95
98	R-6A	1.09	0.19	1.04	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.017	1.92	0.020	0.020	0.013	0.13	6.66	0.20	3.58	1.5	96
99	R-8	0.39	0.70	0.90	0.19	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.12	5.91	0.19	3.09	1.5	98
100	R-9	0.40	0.87	1.02	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.12	6.25	0.19	3.40	1.5	148
101	R-10	1.33	0.31	1.30	0.33	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.16	7.88	0.21	4.34	1.5	100
102	R-11	1.20	0.40	1.28	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.16	7.82	0.21	4.28	1.5	100
103	R-14	0.30	0.21	0.46	0.04	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.10	5.15	0.17	2.04	1.5	99
104	R-12	1.32	0.23	1.24	0.31	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.15	7.72	0.21	4.20	1.5	101
105	R-15	0.61	0.10	0.63	0.08	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.12	5.87	0.18	2.60	1.5	99
106	R-13	1.54	0.30	1.44	0.40	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.16	8.24	0.22	4.65	1.5	102
107	R-16	1.82	0.33	1.57	0.58	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.61	0.22	4.65	1.5	99
108	R-17	0.98	0.19	0.96	0.22	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.12	6.06	0.19	3.23	1.5	100
109	R-18	0.89	0.63	1.18	0.33	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.68	0.20	3.79	1.5	107
110	R-19	0.37	0.71	0.89	0.19	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.12	5.87	0.19	3.06	1.5	108
111	R-20	1.01	0.21	1.01	0.21	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.14	6.94	0.20	3.60	1.5	110
112	R-21	1.08	0.26	1.10	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.14	7.20	0.20	3.82	1.5	110
113	R-24	1.93	0.35	1.65	0.63	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	7.78	0.22	4.81	1.5	109
114	R-20A	1.01	0.22	1.01	0.21	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.14	6.95	0.20	3.61	1.5	111
115	R-22	1.81	0.00	1.59	0.22	Comb	6.0	8.70	0.00	8.70	1.92	0.012	1.92	0.020	0.020	0.013	0.16	8.05	0.20	3.63	1.5	114

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
116	R-25	0.98	0.29	1.03	0.25	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.26	0.19	3.41	1.5	110
117	R-23	1.72	0.00	1.35	0.37	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.16	7.90	0.21	4.43	1.5	145
118	R-26	0.88	0.70	1.22	0.35	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.76	0.20	3.87	1.5	113
119	R-27	0.42	0.62	0.74	0.29	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.12	5.78	0.20	3.61	1.5	116
120	R-28	0.90	0.20	0.92	0.17	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.14	6.79	0.19	3.41	1.5	119
121	R-29	1.52	0.14	1.47	0.18	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.16	7.91	0.19	3.45	1.5	119
122	R-32	1.93	0.51	1.74	0.70	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	7.97	0.22	4.99	1.5	118
123	R-28A	0.84	0.35	0.99	0.20	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.14	6.98	0.20	3.57	1.5	120
124	R-30	1.68	0.00	1.33	0.35	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.16	7.96	0.21	4.41	1.5	123
125	R-33	0.93	0.38	1.05	0.26	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.32	0.19	3.46	1.5	119
126	R-31	1.40	0.00	1.26	0.14	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.15	7.44	0.19	3.11	1.5	121
127	R-34	0.88	0.61	0.98	0.51	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.62	0.21	4.42	1.5	122
128	R-35	0.42	1.23	1.27	0.38	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.89	0.20	3.98	1.5	125
129	R-36	1.17	0.37	1.21	0.32	Comb	6.0	5.80	0.00	5.80	1.92	0.015	1.92	0.020	0.020	0.013	0.15	7.26	0.21	4.04	1.5	128
130	R-37	1.93	0.00	1.44	0.48	Comb	6.0	5.80	0.00	3.80	1.92	0.015	1.92	0.020	0.020	0.013	0.16	7.91	0.22	4.70	1.5	128
131	R-38	1.87	0.36	1.62	0.61	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.71	0.22	4.74	1.5	127
132	R-39	0.94	0.39	0.90	0.43	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.36	0.21	4.17	1.5	128
133	R-40	0.92	0.67	1.23	0.36	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.79	0.20	3.89	1.5	131
134	R-41	0.42	1.26	1.28	0.39	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.92	0.21	4.02	1.5	132
135	R-42	1.77	0.00	1.55	0.22	Comb	6.0	8.70	0.00	8.70	1.92	0.014	1.92	0.020	0.020	0.013	0.16	7.76	0.20	3.56	1.5	134
136	R-43	1.58	0.00	1.25	0.33	Comb	6.0	5.80	0.00	5.80	1.92	0.014	1.92	0.020	0.020	0.013	0.15	7.44	0.21	4.14	1.5	134
137	R-44	2.17	0.29	1.75	0.70	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	7.99	0.23	5.00	1.5	134
138	R-45	2.23	0.14	1.70	0.67	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	7.89	0.22	4.91	1.5	133

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

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Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
139	R-46	0.67	0.00	0.52	0.14	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.10	4.90	0.18	2.75	1.5	138
140	R-47	0.84	0.18	0.73	0.29	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.12	5.75	0.20	3.58	1.5	137
141	R-17A	6.85	0.00	6.85	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.000	0.34	43.60	0.34	43.60	0.0	Off
142	R-25A	5.77	0.00	5.77	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.000	0.30	39.96	0.30	39.96	0.0	Off
143	R-33A	2.20	0.00	2.20	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.000	0.16	25.75	0.16	25.75	0.0	Off
144	R-36A	1.17	0.00	0.80	0.37	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.13	6.55	0.21	4.25	1.5	129
145	R-20B	1.02	0.37	1.13	0.26	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.15	7.29	0.20	3.89	1.5	112
146	R-12A	1.30	0.00	1.07	0.23	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.14	7.23	0.20	3.78	1.5	104
147	R-12B	1.54	0.00	1.23	0.30	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.15	7.70	0.21	4.19	1.5	106
148	R-6B	0.89	0.25	0.94	0.20	Comb	6.0	5.80	0.00	5.80	1.92	0.017	1.92	0.020	0.020	0.013	0.13	6.36	0.19	3.32	1.5	97
149	R-125	8.72	0.00	8.72	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off

22529-2 - Southbend Crossings | Number of lines: 149 | Run Date: 8/27/2025

NOTES: Inlet N-Values = 0.016; Intensity = 77.83 / (Inlet time + 12.70) ^ 0.81; Return period = 10 Yrs. ; * Indicates Known Q added. All curb inlets are Horiz throat.

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
1	R-99	Combination	663.77	Cir	4.00	4.00	36	Cir	658.07	18 36	Cir Cir	658.27 658.27
2	R-100	Combination	663.77	Cir	4.00	4.00	18	Cir	660.02			
3	R-101	Combination	664.84	Cir	4.00	4.00	36	Cir	658.71	18 36	Cir Cir	658.91 658.91
4	R-102	Combination	664.84	Cir	4.00	4.00	18	Cir	661.09			
5	R-103	Combination	666.79	Cir	4.00	4.00	36	Cir	660.85	18 36	Cir Cir	661.05 661.05
6	R-104	Combination	666.79	Cir	4.00	4.00	18	Cir	661.29			
7	R-105	Combination	669.35	Cir	4.00	4.00	36	Cir	663.65	18 36	Cir Cir	663.85 663.85
8	R-106	Combination	669.35	Cir	4.00	4.00	18	Cir	665.60			
9	R-107	Combination	673.86	Cir	4.00	4.00	36	Cir	668.16	18 24	Cir Cir	668.36 668.36
10	R-108	Combination	674.05	Cir	4.00	4.00	18	Cir	670.30			
11	R-109	Combination	677.93	Cir	4.00	4.00	24	Cir	672.80	18 24	Cir Cir	673.00 673.00
12	R-110	Combination	678.16	Cir	4.00	4.00	18	Cir	674.41			
13	R-111	Combination	681.37	Cir	4.00	4.00	24	Cir	676.92	18 18	Cir Cir	677.12 677.12
14	R-112	Combination	681.37	Cir	4.00	4.00	18	Cir	677.87			
15	R-113	Combination	683.82	Cir	4.00	4.00	18	Cir	679.88	18 18	Cir Cir	680.08 680.08
16	R-114	Combination	683.82	Cir	4.00	4.00	18	Cir	680.32	12	Cir	680.82
17	R-115	Combination	687.21	Cir	4.00	4.00	18	Cir	683.27	18 18	Cir Cir	683.47 683.47
18	R-116	Combination	687.21	Cir	4.00	4.00	18	Cir	683.71			

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
19	R-117	Combination	689.85	Cir	4.00	4.00	18	Cir	686.15	18	Cir	686.35
20	R-118	Combination	691.55	Cir	4.00	4.00	18	Cir	687.61	18	Cir	687.81
21	R-119	Combination	691.55	Cir	4.00	4.00	18	Cir	688.05			
22	R-114A	Combination	685.53	Cir	4.00	4.00	12	Cir	681.21			
23	R-121	Combination	661.85	Cir	4.00	4.00	24	Cir	654.85	24	Cir	655.05
24	R-122	Combination	661.96	Cir	4.00	4.00	24	Cir	655.33	24	Cir	655.53
25	R-123	Manhole	660.50	Cir	4.00	4.00	24	Cir	655.83			
26	R-49	Combination	654.46	Cir	4.00	4.00	36	Cir	649.00	18 36	Cir Cir	650.00 649.20
27	R-50	Combination	654.46	Cir	4.00	4.00	18	Cir	651.21			
28	R-51	Combination	656.52	Cir	4.00	4.00	36	Cir	651.21	18 36	Cir Cir	651.41 651.41
29	R-52	Combination	656.52	Cir	4.00	4.00	18	Cir	652.77			
30	R-53	Combination	658.05	Cir	4.00	4.00	36	Cir	652.55	36	Cir	652.75
31	R-54	Combination	658.05	Cir	4.00	4.00	36	Cir	652.92	36	Cir	653.12
32	R-55	Combination	659.60	Cir	4.00	4.00	36	Cir	654.25	18 36	Cir Cir	655.25 654.45
33	R-56	Combination	659.60	Cir	4.00	4.00	18	Cir	655.85			
34	R-57	Combination	661.37	Cir	4.00	4.00	36	Cir	655.77	36	Cir	655.97
35	R-58	Combination	662.64	Cir	4.00	4.00	36	Cir	656.34	18 36	Cir Cir	658.54 656.54
36	R-59	Combination	662.64	Cir	4.00	4.00	18	Cir	658.89			
37	R-60	Combination	663.69	Cir	4.00	4.00	36	Cir	657.39	36	Cir	657.59
38	R-61	Combination	664.31	Cir	4.00	4.00	36	Cir	658.05	36	Cir	658.25
39	R-62	Combination	664.31	Cir	4.00	4.00	36	Cir	658.53	36	Cir	658.73

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
40	R-63	Combination	664.86	Cir	4.00	4.00	36	Cir	659.19	18 36	Cir Cir	660.19 659.36
41	R-64	Combination	664.86	Cir	4.00	4.00	18	Cir	661.11			
42	R-65	Combination	665.79	Cir	4.00	4.00	36	Cir	660.09	18 36	Cir Cir	660.29 660.29
43	R-66	DropGrate	664.50	Cir	4.00	4.00	18	Cir	661.75			
44	R-67	Combination	669.17	Cir	4.00	4.00	36	Cir	662.32	18 36	Cir Cir	664.32 662.52
45	R-68	Combination	668.26	Cir	4.00	4.00	18	Cir	664.76			
46	R-69	Combination	669.17	Cir	4.00	4.00	36	Cir	663.03	36	Cir	663.23
47	R-70	Combination	669.17	Cir	4.00	4.00	36	Cir	663.47	36	Cir	663.67
48	R-71	Combination	670.02	Cir	4.00	4.00	36	Cir	664.32	36	Cir	664.52
49	R-72	Combination	673.88	Cir	4.00	4.00	36	Cir	667.62	18 36	Cir Cir	667.82 667.82
50	R-73	Combination	673.88	Cir	4.00	4.00	18	Cir	670.13			
51	R-74	Combination	674.79	Cir	4.00	4.00	36	Cir	668.20	36	Cir	668.40
52	R-75	Combination	674.79	Cir	4.00	4.00	36	Cir	668.64	36	Cir	668.84
53	R-76	Combination	675.64	Cir	4.00	4.00	36	Cir	669.22	36 18	Cir Cir	670.14 669.42
54	R-77	Combination	679.51	Cir	4.00	4.00	36	Cir	673.81	18 24	Cir Cir	675.31 674.01
55	R-78	Combination	679.51	Cir	4.00	4.00	18	Cir	675.76			
56	R-79	Combination	680.41	Cir	4.00	4.00	24	Cir	675.52	24	Cir	675.72
57	R-80	Combination	680.41	Cir	4.00	4.00	24	Cir	675.96	24	Cir	676.16
58	R-81	Combination	681.41	Cir	4.00	4.00	24	Cir	676.96	24	Cir	677.16
59	R-82	Combination	685.08	Cir	4.00	4.00	24	Cir	680.39	18 24	Cir Cir	680.59 680.59

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
60	R-83	Combination	685.08	Cir	4.00	4.00	18	Cir	681.33			
61	R-84	Combination	686.03	Cir	4.00	4.00	24	Cir	681.14	24	Cir	681.34
62	R-85	Combination	686.03	Cir	4.00	4.00	24	Cir	681.58	24	Cir	681.78
63	R-86	Combination	686.92	Cir	4.00	4.00	24	Cir	682.47	18 18	Cir Cir	682.67 682.67
64	R-87	Combination	686.92	Cir	4.00	4.00	18	Cir	683.17			
65	R-88	Combination	690.40	Cir	4.00	4.00	18	Cir	686.21	18 18	Cir Cir	686.41 686.41
66	R-89	Combination	690.40	Cir	4.00	4.00	18	Cir	686.65			
67	R-90	Combination	694.89	Cir	4.00	4.00	18	Cir	690.10	18 18	Cir Cir	690.30 690.30
68	R-91	Combination	698.99	Cir	4.00	4.00	18	Cir	690.72	18	Cir	690.92
69	R-92	Combination	694.91	Cir	4.00	4.00	18	Cir	691.16			
70	R-93	Combination	695.09	Cir	4.00	4.00	18	Cir	691.14	18	Cir	691.34
71	R-94	Combination	698.99	Cir	4.00	4.00	18	Cir	694.60	18 18	Cir Cir	694.80 695.24
72	R-95	Combination	698.99	Cir	4.00	4.00	18	Cir	695.04			
73	R-96	Combination	702.78	Cir	4.00	4.00	18	Cir	698.56	18	Cir	698.76
74	R-97	Combination	702.78	Cir	4.00	4.00	18	Cir	699.00			
75	R-76A	DropGrate	673.00	Cir	4.00	4.00	18	Cir	670.25			
76	R-2	Combination	654.28	Cir	4.00	4.00	42	Cir	648.44	18 42	Cir Cir	648.94 648.94
77	R-3	Combination	654.28	Cir	4.00	4.00	18	Cir	651.03			
78	R-4	Combination	655.17	Cir	4.00	4.00	42	Cir	650.08	18 42	Cir Cir	650.28 650.28
79	R-5	Combination	655.17	Cir	4.00	4.00	18	Cir	651.92			

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
80	R-6	Combination	656.60	Cir	4.00	4.00	42	Cir	651.51	18 42	Cir Cir	651.71 651.04
81	R-7	Combination	656.60	Cir	4.00	4.00	18	Cir	653.35			
82	R-8	Combination	659.68	Cir	4.00	4.00	42	Cir	652.98	18 36	Cir Cir	653.18 654.18
83	R-9	Combination	659.68	Cir	4.00	4.00	18	Cir	655.73	18	Cir	655.93
84	R-10	Combination	660.72	Cir	4.00	4.00	18	Cir	656.53	18 18	Cir Cir	656.73 656.73
85	R-11	Combination	660.72	Cir	4.00	4.00	18	Cir	656.97			
86	R-14	Combination	660.68	Cir	4.00	4.00	36	Cir	654.54	36	Cir	654.74
87	R-12	Combination	662.98	Cir	4.00	4.00	18	Cir	658.79	18	Cir	658.99
88	R-15	Combination	660.68	Cir	4.00	4.00	36	Cir	654.98	36	Cir	655.18
89	R-13	Combination	662.98	Cir	4.00	4.00	18	Cir	659.23			
90	R-16	Combination	661.58	Cir	4.00	4.00	36	Cir	655.82	18 36	Cir Cir	656.02 656.02
91	R-17	Combination	661.58	Cir	4.00	4.00	18	Cir	656.26	18	Cir	656.46
92	R-18	Combination	665.38	Cir	4.00	4.00	36	Cir	659.68	18 36	Cir Cir	659.88 659.88
93	R-19	Combination	665.38	Cir	4.00	4.00	18	Cir	661.43	18	Cir	661.63
94	R-20	Combination	666.51	Cir	4.00	4.00	18	Cir	662.32	18 18	Cir Cir	662.52 662.52
95	R-21	Combination	666.51	Cir	4.00	4.00	18	Cir	662.76			
96	R-24	Combination	667.36	Cir	4.00	4.00	36	Cir	661.41	18 36	Cir Cir	661.61 661.61
97	R-22	Combination	668.81	Cir	4.00	4.00	18	Cir	664.62	18	Cir	664.82
98	R-25	Combination	667.36	Cir	4.00	4.00	18	Cir	661.85	18	Cir	662.05

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
99	R-23	Combination	667.36	Cir	4.00	4.00	18	Cir	665.06			
100	R-26	Combination	671.14	Cir	4.00	4.00	36	Cir	665.44	18 36	Cir Cir	665.64 665.64
101	R-27	Combination	671.14	Cir	4.00	4.00	18	Cir	667.19	18	Cir	667.39
102	R-28	Combination	672.29	Cir	4.00	4.00	18	Cir	668.10	18 18	Cir Cir	668.30 668.30
103	R-29	Combination	0.00	Cir	4.00	4.00	18	Cir	668.54			
104	R-32	Combination	673.15	Cir	4.00	4.00	36	Cir	666.81	18 36	Cir Cir	667.01 667.01
105	R-30	Combination	674.17	Cir	4.00	4.00	18	Cir	669.98	18	Cir	670.18
106	R-33	Combination	673.15	Cir	4.00	4.00	18	Cir	667.25	18	Cir	667.45
107	R-31	Combination	674.17	Cir	4.00	4.00	18	Cir	670.42			
108	R-34	Combination	676.93	Cir	4.00	4.00	36	Cir	671.73	18 24	Cir Cir	671.93 671.93
109	R-35	Combination	676.93	Cir	4.00	4.00	18	Cir	672.98	18	Cir	673.18
110	R-36	Combination	678.17	Cir	4.00	4.00	18	Cir	673.98	18	Cir	674.18
111	R-37	Combination	678.17	Cir	4.00	4.00	18	Cir	674.42			
112	R-38	Combination	678.94	Cir	4.00	4.00	24	Cir	674.49	18 24	Cir Cir	674.69 674.69
113	R-39	Combination	678.94	Cir	4.00	4.00	18	Cir	675.19			
114	R-40	Combination	682.71	Cir	4.00	4.00	24	Cir	676.82	24	Cir	677.02
115	R-41	Combination	682.71	Cir	4.00	4.00	24	Cir	677.26	24	Cir	677.46
116	R-42	Combination	683.96	Cir	4.00	4.00	24	Cir	679.29	18	Cir	679.49
117	R-43	Combination	683.96	Cir	4.00	4.00	18	Cir	679.73	18	Cir	679.93
118	R-44	Combination	684.73	Cir	4.00	4.00	18	Cir	680.34	18	Cir	680.54

Structure Report

Struct No.	Structure ID	Junction Type	Rim Elev (ft)	Structure			Line Out			Line In		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)	Size (in)	Shape	Invert (ft)
119	R-45	Combination	684.73	Cir	4.00	4.00	18	Cir	680.78	18	Cir	680.98
120	R-46	Combination	689.13	Cir	4.00	4.00	18	Cir	684.94	18	Cir	685.14
121	R-47	Combination	689.13	Cir	4.00	4.00	18	Cir	685.38			
122	R-17A	DropGrate	660.00	Cir	4.00	4.00	18	Cir	657.25			
123	R-25A	DropGrate	665.60	Cir	4.00	4.00	18	Cir	662.85			
124	R-33A	DropGrate	671.00	Cir	4.00	4.00	18	Cir	668.25			
125	R-125	OpenHeadwall	652.00	n/a	n/a	n/a	18	Cir	650.95			

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	R98-R99	26.76	36	Cir	20.272	657.50	658.07	2.812	659.02	659.74	1.01	659.74	End	Combination
2	R99-R100	1.47	18	Cir	23.972	658.27	660.02	7.300	659.74	660.47	n/a	660.47 j	1	Combination
3	R99-R101	25.85	36	Cir	106.371	658.27	658.71	0.414	659.95	660.39	1.17	661.56	1	Combination
4	R101-R102	2.48	18	Cir	24.001	658.91	661.09	9.083	661.56	661.69	0.22	661.69	3	Combination
5	R101-R103	24.28	36	Cir	193.585	658.91	660.85	1.002	661.56	662.44	n/a	662.44 j	3	Combination
6	R103-R104	2.56	18	Cir	23.946	661.05	661.29	1.002	662.44	661.90	n/a	661.90	5	Combination
7	R103-R105	22.61	36	Cir	202.611	661.05	663.65	1.283	662.44	665.18	n/a	665.18	5	Combination
8	R105-R106	2.95	18	Cir	24.023	663.85	665.60	7.285	665.18	666.25	n/a	666.25 j	7	Combination
9	R105-R107	19.13	36	Cir	223.209	663.85	668.16	1.931	665.18	669.56	n/a	669.56	7	Combination
10	R107-R108	2.60	18	Cir	25.688	668.36	670.30	7.552	669.56	670.91	n/a	670.91 j	9	Combination
11	R107-R109	14.76	24	Cir	201.310	668.36	672.80	2.206	669.56	674.18	1.19	674.18	9	Combination
12	R109-R110	2.19	18	Cir	26.583	673.00	674.41	5.304	674.18	674.97	n/a	674.97 j	11	Combination
13	R109-R111	11.05	24	Cir	166.695	673.00	676.92	2.352	674.18	678.11	n/a	678.11	11	Combination
14	R111-R112	1.69	18	Cir	23.983	677.12	677.87	3.127	678.11	678.36	n/a	678.36 j	13	Combination
15	R111-R113	8.21	18	Cir	109.801	677.12	679.88	2.514	678.11	680.99	n/a	680.99	13	Combination
16	R113-R114	2.51	18	Cir	23.891	680.08	680.32	1.005	680.99	680.92	n/a	680.92 j	15	Combination
17	R113-R115	5.62	18	Cir	150.041	680.08	683.27	2.126	680.99	684.18	0.68	684.18	15	Combination
18	R115-R116	2.63	18	Cir	23.993	683.47	683.71	1.001	684.18	684.32	n/a	684.32 j	17	Combination
19	R115-R117	2.77	18	Cir	132.521	683.47	686.15	2.022	684.18	686.78	n/a	686.78 j	17	Combination
20	R117-R118	2.64	18	Cir	41.773	686.35	687.61	3.016	686.78	688.23	n/a	688.23	19	Combination
21	R118-R119	0.89	18	Cir	24.069	687.81	688.05	0.997	688.23	688.40	n/a	688.40 j	20	Combination
22	R114-R114A	0.73	12	Cir	89.000	680.82	681.21	0.438	681.20	681.59	0.11	681.70	16	Combination
23	R120-R121	2.05	24	Cir	35.034	654.50	654.85	0.999	655.39	655.35	n/a	655.35 j	End	Combination
24	R121-R122	1.54	24	Cir	27.667	655.05	655.33	1.012	655.40	655.76	0.08	655.76	23	Combination

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
25	R122-R123	1.03	24	Cir	30.380	655.53	655.83	0.987	655.82	656.18	n/a	656.18	24	Manhole
26	R48-R49	0.88	36	Cir	72.199	648.31	649.00	0.956	650.94	649.29	0.16	649.29	End	Combination
27	R49-R50	2.14	18	Cir	24.020	650.00	651.21	5.037	650.31	651.76	n/a	651.76	26	Combination
28	R49-R51	0.82	36	Cir	201.150	649.20	651.21	0.999	649.43	651.49	0.16	651.49	26	Combination
29	R51-R52	1.87	18	Cir	24.025	651.41	652.77	5.661	651.69	653.28	0.19	653.28	28	Combination
30	R51-R53	0.77	36	Cir	149.997	651.41	652.55	0.760	651.65	652.82	n/a	652.82	28	Combination
31	R53-R54	0.74	36	Cir	24.025	652.75	652.92	0.708	652.99	653.19	n/a	653.19	30	Combination
32	R54-R55	0.72	36	Cir	151.376	653.12	654.25	0.746	653.35	654.51	0.16	654.51	31	Combination
33	R55-R56	2.04	18	Cir	23.901	655.25	655.85	2.510	655.60	656.39	0.20	656.39	32	Combination
34	R55-R57	0.68	36	Cir	176.130	654.45	655.77	0.749	654.68	656.02	n/a	656.02	32	Combination
35	R57-R58	0.68	36	Cir	48.902	655.97	656.34	0.757	656.20	656.59	0.12	656.59	34	Combination
36	R58-R59	1.46	18	Cir	23.985	658.54	658.89	1.459	658.88	659.34	0.16	659.34	35	Combination
37	R58-R60	0.65	36	Cir	70.881	656.54	657.39	1.199	656.74	657.64	n/a	657.64	35	Combination
38	R60-R61	0.65	36	Cir	38.132	657.59	658.05	1.206	657.79	658.30	0.10	658.30	37	Combination
39	R61-R62	0.62	36	Cir	23.988	658.25	658.53	1.167	658.45	658.77	n/a	658.77	38	Combination
40	R62-R63	0.60	36	Cir	38.234	658.73	659.19	1.203	658.92	659.43	0.14	659.43	39	Combination
41	R63-R64	1.60	18	Cir	23.981	660.19	661.11	3.836	660.47	661.59	0.17	661.59	40	Combination
42	R63-R65	0.57	36	Cir	56.610	659.36	660.09	1.290	659.55	660.32	n/a	660.32	40	Combination
43	R65-R66	0.00	18	Cir	157.000	660.29	661.75	0.930	660.32	663.25	0.00	663.25	42	DropGrate
44	R65-R67	29.04	36	Cir	115.410	660.29	662.32	1.759	661.47	664.06	n/a	664.06	42	Combination
45	R67-R68	2.50	18	Cir	24.042	664.32	664.76	1.830	664.75	665.36	0.22	665.36	44	Combination
46	R67-R69	27.14	36	Cir	38.132	662.52	663.03	1.337	664.06	664.71	n/a	664.71	44	Combination
47	R69-R70	26.04	36	Cir	23.988	663.23	663.47	1.000	664.71	665.12	0.75	665.12	46	Combination
48	R70-R71	24.98	36	Cir	38.169	663.67	664.32	1.703	665.12	665.93	n/a	665.93	47	Combination

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
49	R71-R72	24.79	36	Cir	172.019	664.52	667.62	1.802	665.93	669.22	1.09	669.22	48	Combination
50	R72-R73	2.50	18	Cir	24.011	667.82	670.13	9.621	669.22	670.73	n/a	670.73 j	49	Combination
51	R72-R74	22.83	36	Cir	38.239	667.82	668.20	0.994	669.22	669.74	n/a	669.74	49	Combination
52	R74-R75	21.92	36	Cir	23.988	668.40	668.64	1.000	669.74	670.14	0.67	670.14	51	Combination
53	R75-R76	21.05	36	Cir	38.169	668.84	669.22	0.995	670.14	670.69	0.79	670.69	52	Combination
54	R76-R77	18.63	36	Cir	172.019	670.14	673.81	2.133	671.03	675.19	0.90	675.19	53	Combination
55	R77-R78	2.45	18	Cir	24.011	675.31	675.76	1.874	675.73	676.35	0.22	676.35	54	Combination
56	R77-R79	16.54	24	Cir	38.132	674.01	675.52	3.960	675.19	676.99	0.79	676.99	54	Combination
57	R79-R80	15.77	24	Cir	24.000	675.72	675.96	1.000	676.99	677.39	0.68	677.39	56	Combination
58	R80-R81	15.03	24	Cir	43.125	676.16	676.96	1.855	677.39	678.36	0.65	678.36	57	Combination
59	R81-R82	14.48	24	Cir	163.387	677.16	680.39	1.977	678.36	681.76	n/a	681.76	58	Combination
60	R82-R83	1.22	18	Cir	24.011	680.59	681.33	3.082	681.76	681.74	n/a	681.74 j	59	Combination
61	R82-R84	13.28	24	Cir	39.620	680.59	681.14	1.388	681.76	682.45	n/a	682.45	59	Combination
62	R84-R85	12.96	24	Cir	23.981	681.34	681.58	1.001	682.45	682.87	0.62	682.87	61	Combination
63	R85-R86	12.54	24	Cir	39.648	681.78	682.47	1.740	682.87	683.74	n/a	683.74	62	Combination
64	R86-R87	1.54	18	Cir	24.000	682.67	683.17	2.083	683.74	683.64	0.17	683.64	63	Combination
65	R86-R88	10.26	18	Cir	154.617	682.67	686.21	2.290	683.74	687.44	1.32	687.44	63	Combination
66	R88-R89	2.06	18	Cir	23.981	686.41	686.65	1.001	687.44	687.19	0.20	687.19	65	Combination
67	R88-R90	7.02	18	Cir	198.099	686.41	690.10	1.863	687.44	691.12	n/a	691.12 j	65	Combination
68	R90-R91	0.97	18	Cir	42.180	690.30	690.72	0.996	691.12	691.09	n/a	691.09 j	67	Combination
69	R91-R92	0.88	18	Cir	24.043	690.92	691.16	0.998	691.21	691.51	0.12	691.51	68	Combination
70	R90-R93	6.10	18	Cir	25.503	690.30	691.14	3.294	691.12	692.09	0.61	692.09	67	Combination
71	R93-R94	4.83	18	Cir	176.250	691.34	694.60	1.850	692.09	695.44	n/a	695.44	70	Combination
72	R94-R95	2.23	18	Cir	23.988	694.80	695.04	1.000	695.44	695.60	n/a	695.60 j	71	Combination

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
73	R94-R96	1.32	18	Cir	168.529	695.24	698.56	1.970	695.54	698.99	n/a	698.99	71	Combination
74	R96-R97	0.71	18	Cir	24.019	698.76	699.00	0.999	699.02	699.31	n/a	699.31	73	Combination
75	R76-R76A	2.78	18	Cir	82.250	669.42	670.25	1.009	670.69	670.88	n/a	670.88 j	53	DropGrate
76	R1-R2	64.87	42	Cir	18.580	648.31	648.44	0.700	651.11	650.96	1.77	650.96	End	Combination
77	R2-R3	2.95	18	Cir	24.025	648.94	651.03	8.699	650.96	651.68	n/a	651.68 j	76	Combination
78	R2-R4	62.17	42	Cir	153.000	648.94	650.08	0.745	651.13	652.55	1.95	652.55	76	Combination
79	R4-R5	1.50	18	Cir	24.007	650.28	651.92	6.831	652.55	652.50	0.09	652.59	78	Combination
80	R4-R6	60.77	42	Cir	145.471	650.28	651.51	0.846	652.55	653.95	n/a	653.95	78	Combination
81	R6-R7	2.04	18	Cir	23.996	651.71	653.35	6.834	653.95	653.89	0.20	653.89	80	Combination
82	R6-R8	58.40	42	Cir	192.708	651.04	652.98	1.007	653.95	655.37	n/a	655.37	80	Combination
83	R8-R9	9.97	18	Cir	24.034	653.18	655.73	10.610	655.37	656.95	n/a	656.95 j	82	Combination
84	R9-R10	9.59	18	Cir	41.030	655.93	656.53	1.462	656.95	657.72	n/a	657.72	83	Combination
85	R10-R11	2.00	18	Cir	23.998	656.73	656.97	1.000	657.72	657.50	0.20	657.50	84	Combination
86	R8-R14	50.57	36	Cir	40.983	654.18	654.54	0.878	656.23	656.85	1.32	656.85	82	Combination
87	R10-R12	6.08	18	Cir	198.577	656.73	658.79	1.037	657.72	659.74	n/a	659.74 j	84	Combination
88	R14-R15	50.40	36	Cir	23.998	654.74	654.98	1.000	656.85	657.29	n/a	657.29	86	Combination
89	R12-R13	2.84	18	Cir	23.939	658.99	659.23	1.002	659.74	659.87	n/a	659.87 j	87	Combination
90	R15-R16	50.03	36	Cir	41.008	655.18	655.82	1.561	657.29	658.12	n/a	658.12	88	Combination
91	R16-R17	8.86	18	Cir	23.963	656.02	656.26	1.002	658.12*	658.29*	0.57	658.86	90	Combination
92	R16-R18	42.52	36	Cir	164.589	656.02	659.68	2.224	658.12	661.80	n/a	661.80	90	Combination
93	R18-R19	8.29	18	Cir	24.034	659.88	661.43	6.449	661.80	662.54	n/a	662.54 j	92	Combination
94	R19-R20	7.96	18	Cir	43.541	661.63	662.32	1.585	662.54	663.41	0.61	663.41	93	Combination
95	R20-R21	2.26	18	Cir	23.998	662.52	662.76	1.000	663.41	663.33	0.21	663.33	94	Combination
96	R18-R24	35.39	36	Cir	85.451	659.88	661.41	1.790	661.80	663.34	n/a	663.34	92	Combination

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
97	R20-R22	3.98	18	Cir	197.000	662.52	664.62	1.066	663.41	665.38	n/a	665.38 j	94	Combination
98	R24-R25	7.62	18	Cir	24.034	661.61	661.85	0.999	663.34*	663.47*	0.41	663.88	96	Combination
99	R22-R23	1.97	18	Cir	23.946	664.82	665.06	1.002	665.38	665.59	n/a	665.59 j	97	Combination
100	R24-R26	28.53	36	Cir	162.961	661.61	665.44	2.350	663.34	667.17	n/a	667.17 j	96	Combination
101	R26-R27	7.14	18	Cir	23.963	665.64	667.19	6.468	667.17	668.22	n/a	668.22 j	100	Combination
102	R27-R28	6.76	18	Cir	44.688	667.39	668.10	1.589	668.22	669.11	0.54	669.11	101	Combination
103	R28-R29	1.81	18	Cir	23.998	668.30	668.54	1.000	669.11	669.05	n/a	669.05 j	102	Combination
104	R26-R32	22.15	36	Cir	87.079	665.64	666.81	1.344	667.17	668.32	n/a	668.32 j	100	Combination
105	R28-R30	3.46	18	Cir	168.025	668.30	669.98	1.000	669.11	670.69	n/a	670.69 j	102	Combination
106	R32-R33	3.44	18	Cir	24.034	667.01	667.25	0.999	668.32	667.96	0.39	667.96	104	Combination
107	R30-R31	1.60	18	Cir	23.998	670.18	670.42	1.000	670.69	670.90	n/a	670.90 j	105	Combination
108	R32-R34	18.26	36	Cir	162.961	667.01	671.73	2.896	668.32	673.10	n/a	673.10	104	Combination
109	R34-R35	5.90	18	Cir	24.034	671.93	672.98	4.369	673.10	673.92	n/a	673.92 j	108	Combination
110	R35-R36	5.49	18	Cir	44.688	673.18	673.98	1.790	673.92	674.88	n/a	674.88	109	Combination
111	R36-R37	2.54	18	Cir	23.998	674.18	674.42	1.000	674.88	675.02	n/a	675.02 j	110	Combination
112	R34-R38	12.81	24	Cir	86.995	671.93	674.49	2.943	673.10	675.78	0.84	675.78	108	Combination
113	R38-R39	1.08	18	Cir	23.963	674.69	675.19	2.087	675.78	675.58	n/a	675.58	112	Combination
114	R38-R40	10.48	24	Cir	162.000	674.69	676.82	1.315	675.78	677.98	0.72	677.98	112	Combination
115	R40-R41	9.66	24	Cir	23.963	677.02	677.26	1.002	677.98	678.37	n/a	678.37	114	Combination
116	R41-R42	9.33	24	Cir	45.055	677.46	679.29	4.062	678.37	680.38	0.46	680.38	115	Combination
117	R42-R43	7.38	18	Cir	23.998	679.49	679.73	1.000	680.42	680.78	n/a	680.78	116	Combination
118	R43-R44	5.69	18	Cir	40.983	679.93	680.34	1.001	680.78	681.26	n/a	681.26	117	Combination
119	R44-R45	3.62	18	Cir	24.034	680.54	680.78	0.999	681.26	681.51	n/a	681.51	118	Combination
120	R45-R46	1.67	18	Cir	190.793	680.98	684.94	2.076	681.51	685.42	n/a	685.42 j	119	Combination

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
121	R46-R47	0.96	18	Cir	24.041	685.14	685.38	0.998	685.45	685.74	0.13	685.74	120	Combination
122	R17-R17A	7.85	18	Cir	78.460	656.46	657.25	1.007	658.86*	659.30*	0.31	659.60	91	DropGrate
123	R25-R25A	6.61	18	Cir	79.820	662.05	662.85	1.002	663.88	664.14	0.26	664.40	98	DropGrate
124	R33-R33A	2.52	18	Cir	80.000	667.45	668.25	1.000	667.96	668.85	n/a	668.85	106	DropGrate
125	R124-R125	10.00	18	Cir	65.001	650.00	650.95	1.462	651.14	652.17	0.66	652.17	End	OpenHeadwall

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Return period = 25 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	R-99	0.30	0.14	0.36	0.07	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.10	4.88	0.18	2.53	1.5	24
2	R-100	1.47	1.08	1.90	0.64	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.19	9.47	0.24	5.66	1.5	23
3	R-101	0.60	0.37	0.83	0.14	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.13	6.60	0.19	3.18	1.5	1
4	R-102	2.48	1.14	2.54	1.08	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.22	10.81	0.26	6.86	1.5	2
5	R-103	0.63	1.14	1.41	0.37	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.17	8.28	0.22	4.60	1.5	3
6	R-104	2.56	1.19	2.62	1.14	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.22	10.96	0.27	7.01	1.5	4
7	R-105	2.63	0.83	2.31	1.14	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.19	9.32	0.25	6.16	1.5	5
8	R-106	2.95	0.61	2.37	1.19	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.19	9.44	0.25	6.26	1.5	6
9	R-107	3.21	0.59	2.97	0.83	Comb	6.0	8.70	0.00	8.70	1.92	0.020	1.92	0.020	0.020	0.013	0.19	9.66	0.23	5.46	1.5	7
10	R-108	2.60	0.52	2.51	0.61	Comb	6.0	8.70	0.00	8.70	1.92	0.020	1.92	0.020	0.020	0.013	0.18	8.98	0.22	4.87	1.5	8
11	R-109	2.62	0.43	2.46	0.59	Comb	6.0	8.70	0.00	8.70	1.92	0.020	1.92	0.020	0.020	0.013	0.18	8.90	0.22	4.81	1.5	9
12	R-110	2.19	0.62	2.29	0.52	Comb	6.0	8.70	0.00	8.70	1.92	0.020	1.92	0.020	0.020	0.013	0.17	8.63	0.22	4.58	1.5	10
13	R-111	1.75	0.06	1.37	0.43	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.15	7.32	0.21	4.29	1.5	11
14	R-112	1.69	0.58	1.66	0.62	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.16	7.98	0.22	4.90	1.5	12
15	R-113	0.48	0.09	0.51	0.06	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.10	4.75	0.17	2.03	1.5	13
16	R-114	1.96	0.24	1.61	0.58	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.16	7.87	0.22	4.79	1.5	14
17	R-115	0.72	0.00	0.63	0.09	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.10	5.19	0.17	2.40	1.5	15
18	R-116	2.63	0.15	2.27	0.51	Comb	6.0	8.70	0.00	8.70	1.92	0.020	1.92	0.020	0.020	0.013	0.17	8.60	0.22	4.55	1.5	22
19	R-117	0.19	0.75	0.79	0.15	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.11	5.72	0.18	2.86	1.5	18
20	R-118	1.84	0.72	1.81	0.75	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	8.12	0.23	5.13	1.5	19
21	R-119	0.89	0.00	0.66	0.23	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.11	5.47	0.19	3.30	1.5	121
22	R-114A	0.73	0.51	1.00	0.24	Comb	6.0	5.80	0.00	5.80	1.92	0.020	1.92	0.020	0.020	0.013	0.13	6.35	0.19	3.41	1.5	16
23	R-121	0.59	0.64	0.83	0.41	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	7.22	0.22	4.77	1.5	86

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
24	R-122	0.55	0.07	0.48	0.14	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.59	0.19	3.19	1.5	88
25	R-123	1.03*	0.00	0.00	1.03	MH	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.000	0.00	0.00	0.00	0.00	0.0	Off
26	R-49	2.54	0.57	2.24	0.87	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.20	10.21	0.25	6.32	1.5	77
27	R-50	2.14	0.55	1.99	0.70	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.19	9.67	0.24	5.83	1.5	77
28	R-51	1.87	0.49	1.78	0.57	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.18	9.20	0.23	5.41	1.5	26
29	R-52	1.87	0.43	1.74	0.55	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.18	9.11	0.23	5.33	1.5	27
30	R-53	1.87	0.25	1.63	0.49	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.18	8.83	0.23	5.09	1.5	28
31	R-54	1.85	0.09	1.52	0.43	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.17	8.56	0.22	4.85	1.5	29
32	R-55	0.66	0.09	0.66	0.09	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.12	5.98	0.18	2.68	1.5	31
33	R-56	2.04	0.00	1.80	0.25	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.17	8.72	0.20	3.95	1.5	30
34	R-57	0.26	0.47	0.65	0.09	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.12	5.95	0.18	2.66	1.5	32
35	R-58	0.53	0.85	0.91	0.47	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.14	6.98	0.22	4.67	1.5	34
36	R-59	1.46	0.79	1.67	0.58	Comb	6.0	5.80	0.00	5.80	1.92	0.015	1.92	0.020	0.020	0.013	0.17	8.38	0.23	5.05	1.5	Off
37	R-60	0.44	1.64	1.23	0.85	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.16	8.14	0.24	5.81	1.5	35
38	R-61	1.71	0.00	1.06	0.65	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	8.17	0.24	5.69	1.5	37
39	R-62	1.71	0.00	1.06	0.65	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	8.17	0.24	5.69	1.5	37
40	R-63	0.44	0.64	0.75	0.33	Comb	6.0	2.90	0.00	2.90	1.92	0.015	1.92	0.020	0.020	0.013	0.13	6.37	0.21	4.07	1.5	37
41	R-64	1.60	1.17	1.98	0.79	Comb	6.0	5.80	0.00	5.80	1.92	0.015	1.92	0.020	0.020	0.013	0.18	9.06	0.24	5.67	1.5	36
42	R-65	0.64	1.08	1.08	0.64	Comb	6.0	2.90	0.00	2.90	1.92	0.019	1.92	0.020	0.020	0.013	0.14	7.24	0.22	5.00	1.5	40
43	R-66	0.00	0.00	0.00	0.00	DrGrt	0.0	0.00	3.06	2.63	2.63	Sag	10.00	0.020	0.020	0.013	0.00	10.09	0.00	10.09	0.0	Off
44	R-67	0.44	2.07	1.44	1.08	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.16	8.13	0.24	5.92	1.5	42
45	R-68	2.50	0.97	2.31	1.17	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.18	9.18	0.25	6.10	1.5	41
46	R-69	1.71	0.00	1.06	0.65	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	8.17	0.24	5.69	1.5	44

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
47	R-70	1.71	0.00	1.06	0.65	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.16	8.17	0.24	5.69	1.5	44
48	R-71	1.06	0.90	1.20	0.76	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.42	0.23	5.20	1.5	44
49	R-72	0.44	1.77	1.31	0.90	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.76	0.24	5.54	1.5	48
50	R-73	2.50	0.57	2.09	0.97	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.18	8.76	0.24	5.70	1.5	45
51	R-74	1.39	0.00	0.90	0.48	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.55	0.23	5.09	1.5	49
52	R-75	1.39	0.00	0.90	0.48	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.15	7.55	0.23	5.09	1.5	49
53	R-76	1.39	0.65	1.23	0.80	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.52	0.23	5.30	1.5	49
54	R-77	0.44	1.30	1.10	0.65	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	7.09	0.22	4.89	1.5	53
55	R-78	2.45	0.47	2.35	0.57	Comb	6.0	8.70	0.00	8.70	1.92	0.022	1.92	0.020	0.020	0.013	0.17	8.60	0.22	4.65	1.5	50
56	R-79	1.08	0.00	0.75	0.34	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	6.88	0.21	4.43	1.5	54
57	R-80	1.08	0.00	0.75	0.34	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.14	6.88	0.21	4.43	1.5	54
58	R-81	1.06	0.66	1.09	0.63	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	7.06	0.22	4.85	1.5	54
59	R-82	0.44	1.33	1.11	0.66	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.14	7.13	0.22	4.92	1.5	58
60	R-83	1.22	0.67	1.42	0.47	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.15	7.30	0.21	4.34	1.5	55
61	R-84	0.47	0.00	0.38	0.08	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.10	5.01	0.18	2.65	1.5	59
62	R-85	0.62	0.00	0.48	0.14	Comb	6.0	2.90	0.00	2.90	1.92	0.010	1.92	0.020	0.020	0.013	0.11	5.58	0.19	3.19	1.5	59
63	R-86	1.60	0.96	1.46	1.10	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.16	8.19	0.24	5.97	1.5	59
64	R-87	1.54	0.83	1.70	0.67	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.95	0.22	4.94	1.5	60
65	R-88	2.31	0.01	1.35	0.96	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.88	0.24	5.66	1.5	63
66	R-89	2.06	0.69	1.92	0.83	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.17	8.42	0.23	5.38	1.5	64
67	R-90	0.17	0.00	0.16	0.01	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.06	2.98	0.14	0.90	1.5	65
68	R-91	0.13	0.00	0.12	0.00	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.05	2.63	0.14	0.60	1.5	21
69	R-92	0.88	1.01	1.17	0.72	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.14	7.23	0.23	5.04	1.5	20

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
70	R-93	1.78	0.66	1.74	0.69	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.16	8.04	0.23	5.02	1.5	66
71	R-94	2.21	0.14	1.70	0.66	Comb	6.0	5.80	0.00	5.80	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.94	0.22	4.92	1.5	70
72	R-95	2.23	0.16	1.39	1.01	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.16	7.98	0.24	5.77	1.5	69
73	R-96	0.66	0.00	0.52	0.14	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.10	4.94	0.18	2.77	1.5	71
74	R-97	0.71	0.00	0.55	0.16	Comb	6.0	2.90	0.00	2.90	1.92	0.022	1.92	0.020	0.020	0.013	0.10	5.07	0.18	2.90	1.5	72
75	R-76A	2.78	0.00	2.78	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.013	0.18	28.38	0.18	28.38	0.0	53
76	R-2	1.92	0.21	2.12	0.00	Comb	6.0	8.70	3.96	8.70	1.92	Sag	1.92	0.020	0.020	0.000	0.10	5.20	0.23	5.20	1.5	Off
77	R-3	2.95	1.78	4.73	0.00	Comb	6.0	8.70	1.98	8.70	1.92	Sag	1.92	0.020	0.020	0.013	0.21	10.39	0.33	10.39	1.5	Off
78	R-4	1.42	0.41	1.63	0.21	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.17	8.37	0.20	3.70	1.5	76
79	R-5	1.50	0.37	1.65	0.21	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.17	8.43	0.20	3.74	1.5	77
80	R-6	2.51	0.29	2.39	0.41	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.20	9.81	0.22	4.77	1.5	78
81	R-7	2.04	0.57	2.25	0.37	Comb	6.0	8.70	0.00	8.70	1.92	0.010	1.92	0.020	0.020	0.013	0.19	9.56	0.22	4.58	1.5	79
82	R-8	0.45	0.93	1.10	0.29	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.13	6.45	0.20	3.58	1.5	80
83	R-9	0.46	1.68	1.57	0.57	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.59	0.22	4.62	1.5	81
84	R-10	1.96	0.55	1.87	0.64	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.19	9.26	0.24	5.56	1.5	83
85	R-11	2.00	0.43	1.82	0.61	Comb	6.0	5.80	0.00	5.80	1.92	0.011	1.92	0.020	0.020	0.013	0.18	9.15	0.23	5.46	1.5	83
86	R-14	0.34	0.41	0.66	0.09	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.12	5.98	0.18	2.68	1.5	82
87	R-12	3.31	0.00	2.76	0.55	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.21	10.26	0.23	5.24	1.5	84
88	R-15	0.70	0.14	0.73	0.11	Comb	6.0	5.80	0.00	5.80	1.92	0.010	1.92	0.020	0.020	0.013	0.12	6.24	0.18	2.89	1.5	82
89	R-13	2.84	0.00	2.41	0.43	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.19	9.70	0.22	4.80	1.5	85
90	R-16	2.08	0.45	1.79	0.74	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	8.09	0.23	5.09	1.5	82
91	R-17	1.13	0.62	1.33	0.42	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	7.03	0.21	4.11	1.5	83
92	R-18	1.02	0.81	1.38	0.45	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	7.15	0.21	4.22	1.5	90

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
93	R-19	0.42	1.83	1.63	0.62	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.73	0.22	4.76	1.5	91
94	R-20	2.31	0.27	1.89	0.68	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.18	9.19	0.24	5.59	1.5	93
95	R-21	2.26	0.45	1.98	0.74	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.19	9.38	0.24	5.75	1.5	93
96	R-24	2.21	0.48	1.89	0.81	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.17	8.28	0.23	5.27	1.5	92
97	R-22	2.07	0.00	1.80	0.27	Comb	6.0	8.70	0.00	8.70	1.92	0.012	1.92	0.020	0.020	0.013	0.17	8.47	0.20	3.95	1.5	94
98	R-25	1.13	0.59	1.31	0.41	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.99	0.21	4.07	1.5	93
99	R-23	1.97	0.00	1.52	0.45	Comb	6.0	5.80	0.00	5.80	1.92	0.012	1.92	0.020	0.020	0.013	0.17	8.31	0.22	4.80	1.5	95
100	R-26	1.00	0.91	1.43	0.48	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.27	0.21	4.34	1.5	96
101	R-27	0.48	1.16	1.05	0.59	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.87	0.22	4.67	1.5	98
102	R-28	1.99	0.77	2.35	0.41	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.19	9.59	0.22	4.71	1.5	101
103	R-29	1.81	0.59	2.07	0.33	Comb	6.0	8.70	0.00	8.70	1.92	0.011	1.92	0.020	0.020	0.013	0.18	9.10	0.21	4.34	1.5	101
104	R-32	2.21	0.69	2.00	0.91	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.17	8.52	0.23	5.50	1.5	100
105	R-30	1.92	0.00	1.16	0.77	Comb	6.0	2.90	0.00	2.90	1.92	0.011	1.92	0.020	0.020	0.013	0.17	8.37	0.24	5.93	1.5	102
106	R-33	1.06	0.67	1.32	0.41	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.14	7.02	0.21	4.10	1.5	101
107	R-31	1.60	0.00	1.01	0.59	Comb	6.0	2.90	0.00	2.90	1.92	0.011	1.92	0.020	0.020	0.013	0.16	7.83	0.23	5.39	1.5	103
108	R-34	1.00	0.84	1.15	0.69	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.14	7.18	0.22	4.98	1.5	104
109	R-35	0.48	1.90	1.71	0.67	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.16	7.90	0.22	4.91	1.5	106
110	R-36	3.02	0.00	2.49	0.53	Comb	6.0	8.70	0.00	8.70	1.92	0.015	1.92	0.020	0.020	0.013	0.19	9.36	0.22	4.89	1.5	109
111	R-37	2.54	0.00	1.79	0.76	Comb	6.0	5.80	0.00	3.80	1.92	0.015	1.92	0.020	0.020	0.013	0.18	8.77	0.24	5.57	1.5	109
112	R-38	2.14	0.62	1.92	0.84	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.17	8.35	0.23	5.35	1.5	108
113	R-39	1.08	0.60	1.07	0.61	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.14	6.94	0.22	4.74	1.5	109
114	R-40	1.06	1.20	1.64	0.62	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.74	0.22	4.77	1.5	112
115	R-41	0.48	1.73	1.61	0.60	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.15	7.69	0.22	4.72	1.5	113

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
116	R-42	2.37	0.00	2.02	0.35	Comb	6.0	8.70	0.00	8.70	1.92	0.014	1.92	0.020	0.020	0.013	0.17	8.66	0.21	4.25	1.5	115
117	R-43	2.06	0.00	1.56	0.50	Comb	6.0	5.80	0.00	5.80	1.92	0.014	1.92	0.020	0.020	0.013	0.16	8.22	0.22	4.84	1.5	115
118	R-44	2.48	0.36	1.97	0.88	Comb	6.0	5.80	0.00	5.80	1.92	0.023	1.92	0.020	0.020	0.013	0.17	8.45	0.23	5.44	1.5	115
119	R-45	2.55	0.18	1.53	1.20	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.17	8.32	0.25	6.11	1.5	114
120	R-46	0.76	0.00	0.59	0.18	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.10	5.16	0.18	2.99	1.5	119
121	R-47	0.96	0.23	0.83	0.36	Comb	6.0	2.90	0.00	2.90	1.92	0.023	1.92	0.020	0.020	0.013	0.12	6.09	0.20	3.91	1.5	118
122	R-17A	7.85	0.00	7.85	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.013	0.37	46.80	0.37	46.80	0.0	91
123	R-25A	6.61	0.00	6.61	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.013	0.33	42.81	0.33	42.81	0.0	98
124	R-33A	2.52	0.00	2.52	0.00	DrGrt	0.0	0.00	3.06	2.93	2.93	Sag	10.00	0.020	0.020	0.013	0.17	27.25	0.17	27.25	0.0	106
125	R-125	10.00	0.00	10.00	0.00	Hdwl	0.0	0.00	0.00	0.00	0.00	Sag	0.00	0.000	0.000	0.013	0.00	0.00	0.00	0.00	0.0	Off

22529-2 - Southbend Crossings | Number of lines: 125 | Run Date: 8/10/2025

NOTES: Inlet N-Values = 0.016; Intensity = 69.22 / (Inlet time + 11.20) ^ 0.75; Return period = 25 Yrs. ; * Indicates Known Q added.All curb inlets are Horiz throat.

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	Travel Time (min)
1	R98-R99	User																		5.00
2	R99-R100	User																		5.00
3	R99-R101	User																		5.00
4	R101-R102	User																		5.00
5	R101-R103	User																		5.00
6	R103-R104	User																		5.00
7	R103-R105	User																		5.00
8	R105-R106	User																		5.00
9	R105-R107	User																		5.00
10	R107-R108	User																		5.00
11	R107-R109	User																		5.00
12	R109-R110	User																		5.00
13	R109-R111	User																		5.00
14	R111-R112	User																		5.00
15	R111-R113	User																		5.00
16	R113-R114	User																		5.00
17	R113-R115	User																		5.00
18	R115-R116	User																		5.00
19	R115-R117	User																		5.00
20	R117-R118	User																		5.00
21	R118-R119	User																		5.00
22	R114-R114A	User																		5.00
23	R120-R121	User																		5.00
24	R121-R122	User																		5.00

22529-2 - Southbend Crossings | Min. Tc used for intensity calculations = 5 min | Number of lines: 125 | Date: 8/10/2025

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	
25	R122-R123	User																		5.00
26	R48-R49	User																		5.00
27	R49-R50	User																		5.00
28	R49-R51	User																		5.00
29	R51-R52	User																		5.00
30	R51-R53	User																		5.00
31	R53-R54	User																		5.00
32	R54-R55	User																		5.00
33	R55-R56	User																		5.00
34	R55-R57	User																		5.00
35	R57-R58	User																		5.00
36	R58-R59	User																		5.00
37	R58-R60	User																		5.00
38	R60-R61	User																		5.00
39	R61-R62	User																		5.00
40	R62-R63	User																		5.00
41	R63-R64	User																		5.00
42	R63-R65	User																		5.00
43	R65-R66	User																		5.00
44	R65-R67	User																		5.00
45	R67-R68	User																		5.00
46	R67-R69	User																		5.00
47	R69-R70	User																		5.00
48	R70-R71	User																		5.00

22529-2 - Southbend Crossings | Min. Tc used for intensity calculations = 5 min | Number of lines: 125 | Date: 8/10/2025

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	
49	R71-R72	User																		5.00
50	R72-R73	User																		5.00
51	R72-R74	User																		5.00
52	R74-R75	User																		5.00
53	R75-R76	User																		5.00
54	R76-R77	User																		5.00
55	R77-R78	User																		5.00
56	R77-R79	User																		5.00
57	R79-R80	User																		5.00
58	R80-R81	User																		5.00
59	R81-R82	User																		5.00
60	R82-R83	User																		5.00
61	R82-R84	User																		5.00
62	R84-R85	User																		5.00
63	R85-R86	User																		5.00
64	R86-R87	User																		5.00
65	R86-R88	User																		5.00
66	R88-R89	User																		5.00
67	R88-R90	User																		5.00
68	R90-R91	User																		5.00
69	R91-R92	User																		5.00
70	R90-R93	User																		5.00
71	R93-R94	User																		5.00
72	R94-R95	User																		5.00

22529-2 - Southbend Crossings | Min. Tc used for intensity calculations = 5 min | Number of lines: 125 | Date: 8/10/2025

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	
73	R94-R96	User																		5.00
74	R96-R97	User																		5.00
75	R76-R76A	User																		5.00
76	R1-R2	User																		5.00
77	R2-R3	User																		5.00
78	R2-R4	User																		5.00
79	R4-R5	User																		5.00
80	R4-R6	User																		5.00
81	R6-R7	User																		5.00
82	R6-R8	User																		5.00
83	R8-R9	User																		5.00
84	R9-R10	User																		5.00
85	R10-R11	User																		5.00
86	R8-R14	User																		5.00
87	R10-R12	User																		5.00
88	R14-R15	User																		5.00
89	R12-R13	User																		5.00
90	R15-R16	User																		5.00
91	R16-R17	User																		5.00
92	R16-R18	User																		5.00
93	R18-R19	User																		5.00
94	R19-R20	User																		5.00
95	R20-R21	User																		5.00
96	R18-R24	User																		5.00

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	
97	R20-R22	User																		5.00
98	R24-R25	User																		5.00
99	R22-R23	User																		5.00
100	R24-R26	User																		5.00
101	R26-R27	User																		5.00
102	R27-R28	User																		5.00
103	R28-R29	User																		5.00
104	R26-R32	User																		5.00
105	R28-R30	User																		5.00
106	R32-R33	User																		5.00
107	R30-R31	User																		5.00
108	R32-R34	User																		5.00
109	R34-R35	User																		5.00
110	R35-R36	User																		5.00
111	R36-R37	User																		5.00
112	R34-R38	User																		5.00
113	R38-R39	User																		5.00
114	R38-R40	User																		5.00
115	R40-R41	User																		5.00
116	R41-R42	User																		5.00
117	R42-R43	User																		5.00
118	R43-R44	User																		5.00
119	R44-R45	User																		5.00
120	R45-R46	User																		5.00

22529-2 - Southbend Crossings | Min. Tc used for intensity calculations = 5 min | Number of lines: 125 | Date: 8/10/2025

Storm Sewer Inlet Time Tabulation

Line No.	Line ID	Tc Method	Sheet Flow					Shallow Concentrated Flow					Channel Flow							Total Travel Time (min)
			n-Value	flow Length (ft)	2-yr 24h P (in)	Land Slope (%)	Travel Time (min)	flow Length (ft)	Water Slope (%)	Surf Descr	Ave Vel (ft/s)	Travel Time (min)	X-sec Area (sqft)	Wetted Perim (ft)	Chan Slope (%)	n-Value	Vel	flow Length (ft)	Travel Time (min)	
121	R46-R47	User																		5.00
122	R17-R17A	User																		5.00
123	R25-R25A	User																		5.00
124	R33-R33A	User																		5.00
125	R124-R125	User																		5.00

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 1

Existing Conditions Subbasin A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.400		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 10.25		0.00		0.00		
Travel Time (min)	**= 10.12**	**+**	**0.00**	**+**	**0.00**	**=**	**10.12**
Shallow Concentrated Flow							
Flow length (ft)	= 311.41		1614.86		464.48		
Watercourse slope (%)	= 10.30		2.51		1.50		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=5.18		2.56		2.49		
Travel Time (min)	**= 1.00**	**+**	**10.53**	**+**	**3.11**	**=**	**14.64**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 24.76 min

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 2

Proposed Conditions Subbasin A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 57.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 2.20		0.00		0.00		
Travel Time (min)	**= 5.45**	**+**	**0.00**	**+**	**0.00**	**=**	**5.45**
Shallow Concentrated Flow							
Flow length (ft)	= 42.30		0.00		0.00		
Watercourse slope (%)	= 4.70		0.00		0.00		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=3.50		0.00		0.00		
Travel Time (min)	**= 0.20**	**+**	**0.00**	**+**	**0.00**	**=**	**0.20**
Channel Flow							
X sectional flow area (sqft)	= 0.44		0.53		0.61		
Wetted perimeter (ft)	= 6.73		7.40		7.96		
Channel slope (%)	= 2.50		1.50		1.00		
Manning's n-value	= 0.013		0.015		0.013		
Velocity (ft/s)	=2.90		2.07		2.05		
Flow length (ft)	({0})1627.0		250.1		816.6		
Travel Time (min)	**= 9.36**	**+**	**2.01**	**+**	**6.65**	**=**	**18.03**

Total Travel Time, Tc ..... 23.68 min

TR55 Tc Worksheet

Hyd. No. 4

Exsting Conditions Subbasin B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.400		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 8.14		0.00		0.00		
Travel Time (min)	**= 11.09**	**+**	**0.00**	**+**	**0.00**	**=**	**11.09**
Shallow Concentrated Flow							
Flow length (ft)	= 328.69		996.60		711.12		
Watercourse slope (%)	= 8.02		3.20		1.63		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=4.57		2.89		2.06		
Travel Time (min)	**= 1.20**	**+**	**5.75**	**+**	**5.75**	**=**	**12.71**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 23.80 min

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 5

Proposed Conditions Subbasin B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 1.82		0.00		0.00		
Travel Time (min)	**= 9.22**	**+**	**0.00**	**+**	**0.00**	**=**	**9.22**
Shallow Concentrated Flow							
Flow length (ft)	= 1475.70		362.37		396.57		
Watercourse slope (%)	= 2.15		1.81		2.47		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=2.37		2.17		2.54		
Travel Time (min)	**= 10.40**	**+**	**2.78**	**+**	**2.61**	**=**	**15.78**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 25.00 min

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 7

Existing Conditions Subbasin C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.400		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 8.86		0.00		0.00		
Travel Time (min)	**= 10.72**	**+**	**0.00**	**+**	**0.00**	**=**	**10.72**
Shallow Concentrated Flow							
Flow length (ft)	= 188.91		168.38		191.50		
Watercourse slope (%)	= 10.18		7.82		4.44		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=5.15		4.51		3.40		
Travel Time (min)	**= 0.61**	**+**	**0.62**	**+**	**0.94**	**=**	**2.17**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 12.90 min

TR55 Tc Worksheet

Hyd. No. 8

Proposed Conditions Subbasin C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 4.87		0.00		0.00		
Travel Time (min)	**= 6.22**	**+**	**0.00**	**+**	**0.00**	**=**	**6.22**
Shallow Concentrated Flow							
Flow length (ft)	= 150.68		238.71		0.00		
Watercourse slope (%)	= 5.42		4.26		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=3.76		3.33		0.00		
Travel Time (min)	**= 0.67**	**+**	**1.19**	**+**	**0.00**	**=**	**1.86**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 8.08 min

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

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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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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

Map Scale: 1:4,650 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 19, Sep 12, 2024

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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	4.5	7.5%
Ag	Armour silt loam, 5 to 12 percent slopes	3.2	5.4%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	0.0	0.0%
Df	Donerail silt loam, gently sloping phase	21.4	36.2%
Ga	Godwin silt loam	13.5	22.8%
Mb	Maury silt loam, eroded gently sloping phase	0.2	0.3%
Me	Maury silty clay loam, eroded sloping phase	0.2	0.4%
Mo	Mimosa silty clay loam, 5 to 12 percent slopes, eroded	8.4	14.2%
Rd	Rockland, Mimosa and Inman materials, sloping	7.9	13.3%
Totals for Area of Interest		**59.2**	**100.0%**

Map Unit Descriptions

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

Ag—Armour silt loam, 5 to 12 percent slopes

Map Unit Setting

National map unit symbol: 2td32

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: Not prime farmland

Map Unit Composition

Armour and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Armour

Setting

Landform: Stream terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Parent material: Silty alluvium over clayey residuum weathered from phosphatic limestone

Typical profile

A - 0 to 19 inches: silt loam
Bt - 19 to 58 inches: silty clay loam
BC - 58 to 79 inches: clay

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
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 11.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F123XY004TN - Deep Loamy Terraces And Depressions
Hydric soil rating: No

Minor Components

Byler

Percent of map unit: 4 percent
Landform: Stream terraces
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Dellrose

Percent of map unit: 4 percent
Landform: Hillsides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Mimosa

Percent of map unit: 2 percent
Landform: Escarpments
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave, convex
Across-slope shape: Linear, convex
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

Ga—Godwin silt loam

Map Unit Setting

National map unit symbol: kq66
Elevation: 600 to 1,000 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Godwin and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Godwin

Setting

Landform: Hillslopes
Landform position (three-dimensional): Base slope
Parent material: Clayey alluvium derived from limestone

Typical profile

H1 - 0 to 18 inches: silt loam
H2 - 18 to 30 inches: silty clay loam
H3 - 30 to 60 inches: clay

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F123XY005TN - Floodplains
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

Me—Maury silty clay loam, eroded sloping phase

Map Unit Setting

National map unit symbol: kq75
Elevation: 560 to 890 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: Not 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): Side slope
Parent material: Loess over clayey residuum and/or alluvium derived from limestone

Typical profile

H1 - 0 to 16 inches: silty clay loam
H2 - 16 to 40 inches: silty clay
H3 - 40 to 60 inches: clay

Properties and qualities

Slope: 5 to 12 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 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Ecological site: F123XY001TN - Limestone Uplands
Hydric soil rating: No

Mo—Mimosa silty clay loam, 5 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2v640
Elevation: 460 to 1,160 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: Not prime farmland

Map Unit Composition

Mimosa and similar soils: 78 percent
Minor components: 22 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mimosa

Setting

Landform: Escarpments
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey residuum weathered from limestone

Typical profile

Ap - 0 to 6 inches: silty clay loam
Bt - 6 to 50 inches: clay
C - 50 to 55 inches: clay
R - 55 to 65 inches: bedrock

Properties and qualities

Slope: 5 to 12 percent
Depth to restrictive feature: 39 to 59 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
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 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F123XY001TN - Limestone Uplands
Hydric soil rating: No

Minor Components

Dellrose

Percent of map unit: 8 percent
Landform: Hillsides
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Armour

Percent of map unit: 7 percent
Landform: Stream terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Gladdice

Percent of map unit: 4 percent
Landform: Escarpments
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ashwood

Percent of map unit: 3 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Rd—Rockland, Mimosa and Inman materials, sloping

Map Unit Setting

National map unit symbol: kq7v
Elevation: 500 to 1,100 feet
Mean annual precipitation: 48 to 54 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 205 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 40 percent

Mimosa and similar soils: 30 percent
Inman and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Typical profile
R - 0 to 10 inches: bedrock

Description of Mimosa

Setting
Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Clayey residuum weathered from limestone

Typical profile
H1 - 0 to 6 inches: silt loam
H2 - 6 to 20 inches: clay
H3 - 20 to 55 inches: clay
R - 55 to 65 inches: bedrock

Properties and qualities
Slope: 3 to 12 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F123XY001TN - Limestone Uplands
Hydric soil rating: No

Description of Inman

Setting
Landform: Hillslopes
Landform position (three-dimensional): Crest
Parent material: Clayey residuum weathered from limestone and shale

Typical profile
H1 - 0 to 6 inches: flaggy silty clay loam
H2 - 6 to 32 inches: flaggy clay
Cr - 32 to 42 inches: bedrock

Properties and qualities
Slope: 3 to 12 percent
Depth to restrictive feature: 20 to 39 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 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: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: F123XY001TN - Limestone Uplands
Hydric soil rating: No

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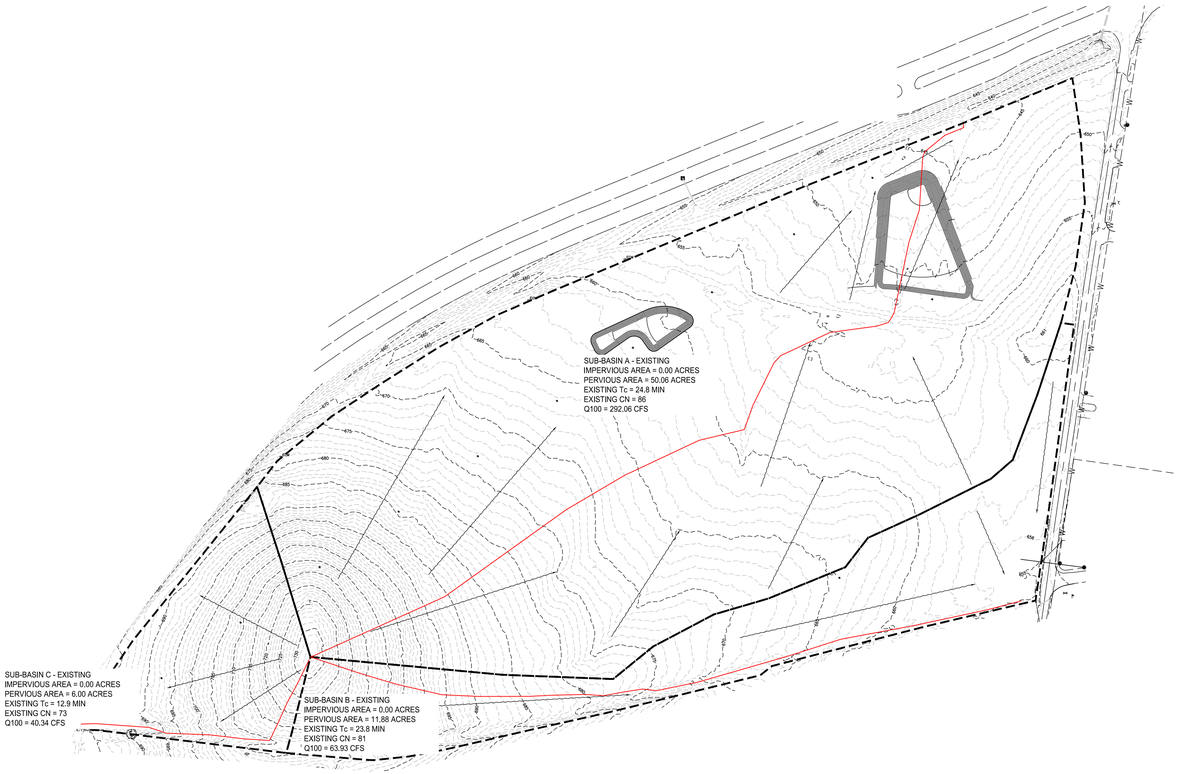
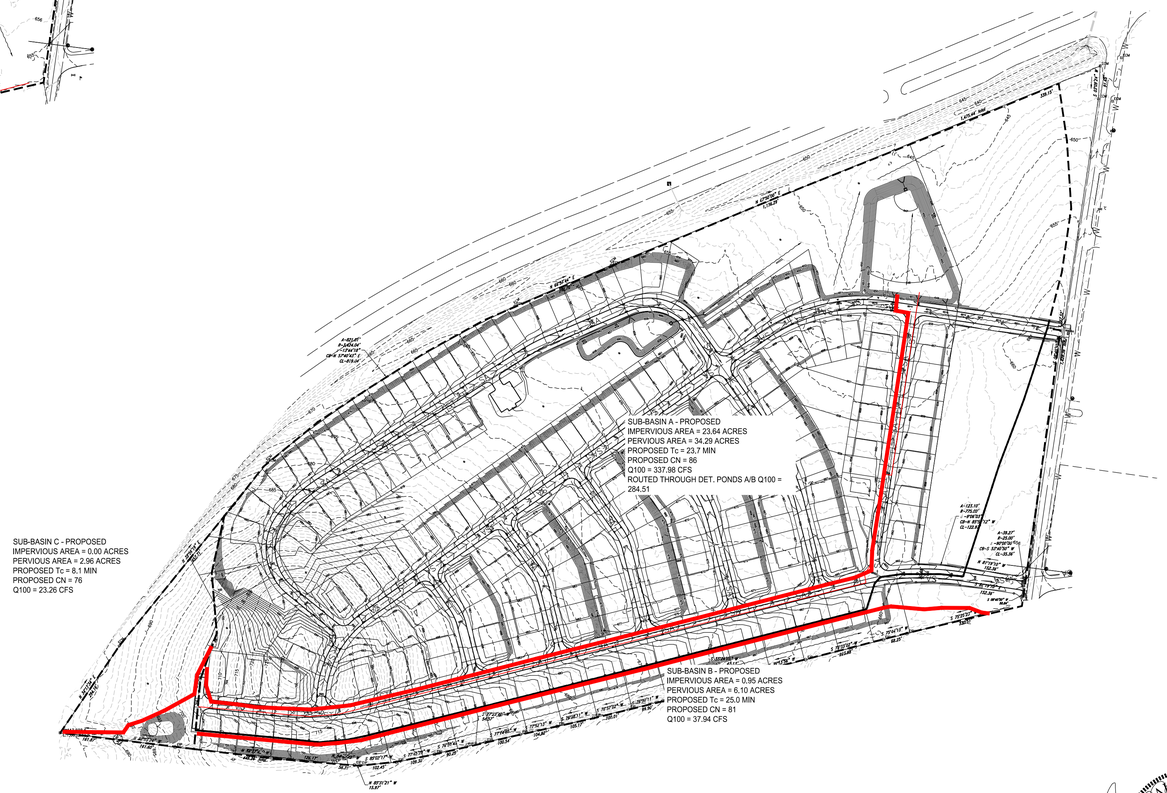
Appendix 3

Drainage Map

DRAINAGE MAP



EXISTING CONDITIONS



PROPOSED CONDITIONS

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

TN GRID NORTH

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2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
BRIGHTLAND HOMES OF TN, LLC
BARTON CREEK PLAZA III
3815 SOUTH CAPITOL OF TEXAS
AUSTIN, TEXAS 78704

DATE
REVISIONS

Southbend Crossings
SOUTH CROSS BRIDGES - BYPASS PROPERTY
MT. PLEASANT, MAURY COUNTY, TENNESSEE
DRAINAGE AREA MAP

Drawn: BG
Checked: JC
Approved: GV
Date: 08/12/2025

Job. no. 22529-3
Scale:
Vertical: SEE PLAN
Horizontal:

MP-1

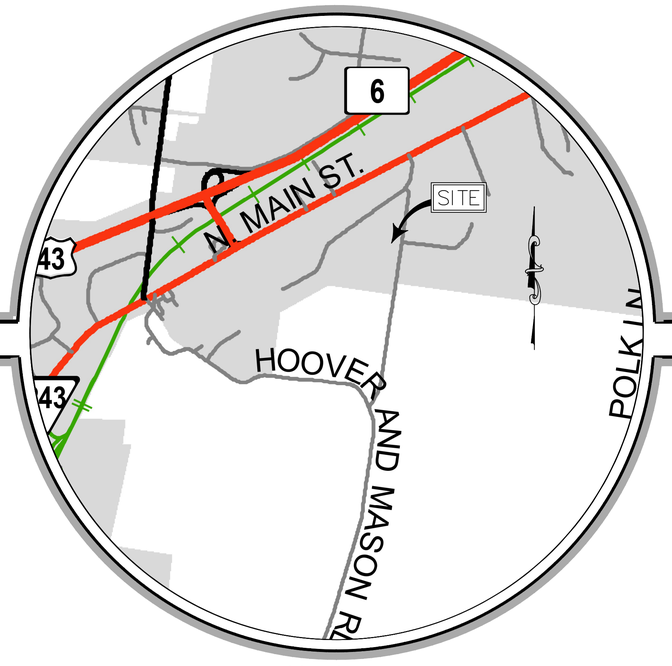
GERALD W. VICK
REGISTERED ENGINEER
No. 107415
STATE OF TENNESSEE
gerald@wesengineers.com

FILE: J:\WES_Engineers_Surveyors 2022\22529 - Camelot - King Property Mt Pleasant - McBroom\22529-2 - Southbend - Brightland\Dwg\Engineering\22529-2 Base.dwg

A SITE PLAN FOR

LAB LAND HOLDINGS, LLC

HOOVER MASON LN, MT PLEASANT, TENNESSEE
TAX MAP 126, PARCEL 45.16
+/- 4,000 SF INDUSTRIAL BUILDING



LOCATION MAP
NOT TO SCALE
MT PLEASANT, MAURY COUNTY, TENNESSEE

THIS SITE PLAN HAS BEEN DESIGNED TO MEET THE CRITERIA OF THE CITY OF MT PLEASANT, TENNESSEE. THE PLANS ARE NOT RELEASED FOR CONSTRUCTION UNTIL THE RELATIVE PERMIT HAS BEEN ISSUED BY THE MUNICIPALITY. CHANGES SHALL NOT BE MADE TO THE APPROVED SITE PLAN UNLESS APPROVED BY THE RELEVANT DEPARTMENT SUPERINTENDANT OR THE PLANNING COMMISSION.

SHEET INDEX

C-0.1	COVER (THIS SHEET)	C-4.0	CONSTRUCTION DETAILS
C-1.0	LAYOUT & UTILITY PLAN	C-4.1	CONSTRUCTION DETAILS
C-2.0	GRADING & DRAINAGE PLAN	C5.0	LANDSCAPE PLAN
C-3.0	EPSC PLAN PHASE 1		
C-3.1	EPSC PLAN PHASE 2	REFERENCES:	
C-3.2	EPSC DETAILS		
		1 OF 1	BOUNDARY SURVEY
		1 OF 1	SITE LIGHTING PHOTOMETRIC PLAN

GENERAL NOTES

1. PROPOSED USE: INDUSTRIAL/DISTRIBUTION FACILITY - HELIOS
2. A PRE CONSTRUCTION MEETING WITH THE MUNICIPALITY IS REQUIRED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING AND PROPOSED UTILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION.
4. THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION, OR VARIANCE FROM THESE PLANS.
5. DEVELOPER SHALL COMPLY WITH TDEC EROSION PREVENTION AND SEDIMENTATION CONTROL HANDBOOK, CURRENT EDITION.
6. UNDERGROUND DRY UTILITIES SHALL BE EXTENDED FROM EXISTING LOCATIONS TO SERVICE THIS SITE AS REQUIRED BY UTILITY COMPANIES.
7. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. HANDICAP PARKING SPACES SHALL BE MARKED WITH ABOVE GRADE SIGNS IN ACCORDANCE WITH CURRENT ADA STANDARDS. VAN ACCESSIBLE SPACES SHALL BE MARKED AS SUCH.
9. ALL ON-SITE TRAFFIC SIGNS SHALL MEET THE REQUIREMENTS OF THE CITY ENGINEERING REQUIREMENT, ZONING ORDINANCE, & THE MUTCD.
10. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF MT PLEASANT TENNESSEE.
11. UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 4 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT UTILITY COMPANY AND "TENNESSEE ONE CALL" AT 811 (1-800-351-1111) THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATION OF ALL EXISTING UTILITIES.
12. THIS PROPERTY IS NOT LOCATED IN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD BOUNDARY AND FLOODWAY MAP COMMUNITY PANEL NO. 47119C0270E, (ZONE X')
13. THE LIMIT OF CONSTRUCTION IS SHOWN ON THE CONSTRUCTION PLANS. ANY WORK OUTSIDE OF THE LIMIT OF CONSTRUCTION IS TO BE COORDINATED BY THE CONTRACTOR AND PRE-APPROVED BY THE APPROPRIATE PROPERTY OWNER.

SITE DATA

PARCEL NUMBER	TAX MAP 126, PARCEL 45.16 DEED BOOK: R3061, PG 41 PLAT BOOK: 23, PG 544
PARCEL ADDRESS:	HOOVER MASON LANE MT PLEASANT, TENNESSEE 38474
EXISTING ZONING:	IL - LIGHT INDUSTRIAL
ACREAGE OF SITE:	± 3.32 ACRES
DISTURBED ACREAGE:	± 2.65 ACRES
MINIMUM REQUIRED BUILDING SETBACK LINES:	50' FRONT (MINOR) 50' REAR 50' SIDE
PROPOSED PARKING:	CONTRACTOR OFFICE & STORAGE YARD 1 PER 400 OFC & 1 PER 5000 STORAGE OFFICE: 2,000 SF - 5 SPACES STORAGE: 23,685 - 5 SPACES 10 SPACES REQUIRED 10 SPACES PROVIDED
PROPERTY OWNER:	LAB LAND HOLDINGS, LLC 2411 DARKS MILL ROAD COLUMBIA, TN 38401 SAMANTHA LARSON

LAB LAND HOLDINGS (HELIOS)
HOOVER MASON LANE
MT PLEASANT, TENNESSEE

PROPRIETOR

LAB LAND HOLDINGHS
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
CONTACT: SAMANTHA LARSON

SPECIFIED SEQUENCE OF WORK FOR THE SELECTED CONTRACTOR:

1. INSTALL PHASE 1 OF EROSION PREVENTION & SEDIMENT CONTROL MEASURES.
2. BEGIN SITE EXCAVATION & FILLING TO CONSTRUCT DETENTION BASIN TO FUNCTION AS SEDIMENT TRAP DURING CONSTRUCTION.
3. BEGIN BUILDING CONSTRUCTION & UTILITY CONSTRUCTION.
4. CONSTRUCT / INSTALL PAVEMENT BASE STONE & BINDER ONCE UTILITY CONSTRUCTION IS COMPLETE.
5. COMPLETE SOIL STABILIZATION (FINAL DRESSING SITE) ONCE BUILDING IS NEARING COMPLETION.
6. COMPLETE PUNCH LIST ITEMS, AS-BUILT, INFRASTRUCTURE CERTIFICATIONS AS REQUIRED FOR C.O.

UTILITY COMPANIES:

UTILITIES SHOWN ARE BASED ON LIMITED DATA. THERE IS NO GUARANTEE AS TO THEIR LOCATION OR SIZE. PLEASE CONTACT RESPECTIVE UTILITY COMPANIES PRIOR TO CONSTRUCTION. POSSIBLE CONTACTS IN THIS AREA INCLUDE:

MUNICIPALITY:	ELECTRIC:	CABLE TELEVISION:
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	MT. PLEASANT POWER SYSTEM 123 N. MAIN ST. MT. PLEASANT, TN 38474 (931) 379-3233	SPECTRUM 2008 S. MAIN ST. COLUMBIA, TN 38401 (866) 874-2389
STORM WATER:	**WATER:**	**CABLE TELEVISION:**
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	AT&T 904 S. HIGH ST. COLUMBIA, TN 38401 (931) 380-3448
SANITARY:	**TELEPHONE:**	**GAS:**
CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717	AT&T 618 S. JAMES CAMPBELL BLVD. COLUMBIA, TN 38401 (931) 388-2414	CITY OF MT. PLEASANT 100 PUBLIC SQUARE MT. PLEASANT, TN 38474 (931) 379-7717

Tennessee811
Know what's **below**
Call before you dig.

PRIMARY CONTRACTOR INFORMATION:

COMPANY NAME: _____
CONTACT PHONE: _____

TDEC LEVEL I CERTIFIED 24 HOUR POINT OF CONTACT FOR SOIL EROSION CONTROL:
NAME: _____
PHONE: _____

STATE OF TENNESSEE NPDES PERMIT - NOTICE OF COVERAGE
TRACKING NUMBER: _____
DATE: _____

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
gerald@wesengineers.com

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RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

LAB LAND HOLDINGS, LLC (HELIOS)
2411 DARKS MILL ROAD
COLUMBIA, TN 38401

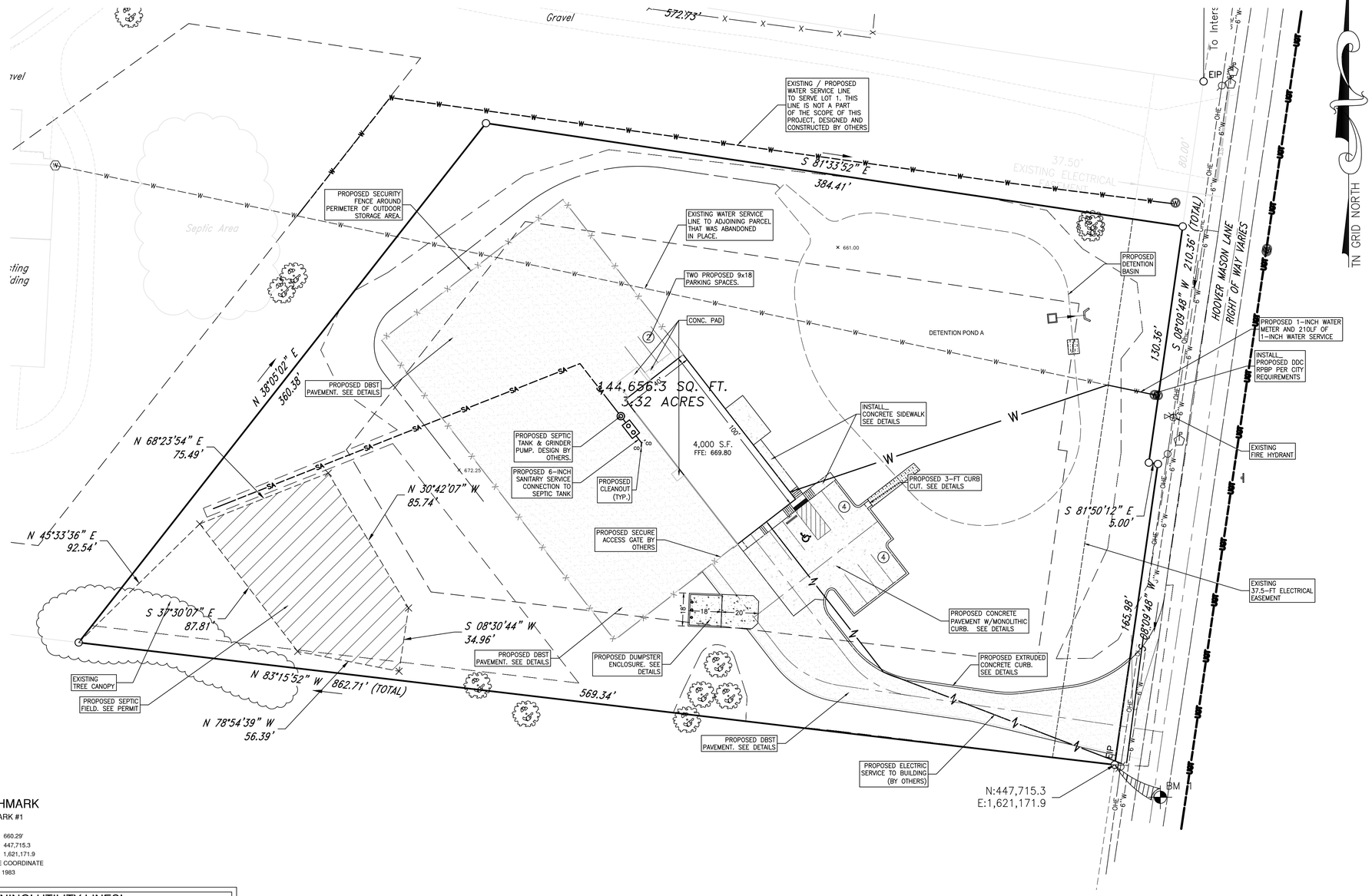
ENGINEER'S SEAL
JERALD W. WOLFE
REGISTERED
No. 107415
STATE OF TENNESSEE
12-31-25

REVISIONS	DATE
Addressed Staff Comments	8/28/25

PROJECT No. 25-526
SHEET 1 OF 11
DATE: 8/11/2025

FILE: J:\WES_Engineers_Surveyors 2025\25526 - Hoover Mason - Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

SITE LAYOUT & UTILITY PLAN



BENCHMARK

BENCHMARK #1
IRON ROD
ELEV. 660.29'
NORTHING: 447,715.3
EASTING: 1,621,171.9
TENNESSEE COORDINATE SYSTEM OF 1983
NAVD 88

WARNING! UTILITY LINES!

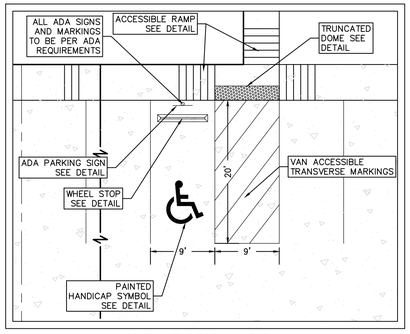
THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811 Know what's **below**. **Call** before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK		

TREE LINE
STORM STRUCTURE LABEL
ASPHALT
CONCRETE
PARKING SPACES
P.U.D.E.



ACCESSIBLE PARKING DETAIL
N.T.S.

GENERAL NOTES:

1. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, AND PAY ALL LEGAL FEES. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS.
2. THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 10 FT IN WIDTH ON FRONT AND REAR PROPERTY LINES AND ON ALL PROPERTY LINES PARALLEL TO OR ABUTTING ROADS, AND THERE IS A PUBLIC UTILITY AND DRAINAGE EASEMENT, 5 FT IN WIDTH ON ALL OTHER INTERIOR LOT LINES, EXCEPT AS OTHERWISE SHOWN.
3. TEMPORARY INLET FILTERS SHALL BE INSTALLED IN ALL EXISTING CATCH BASINS IN AREA PRIOR TO EARTH DISRUPTION.
4. EXISTING UTILITIES AS SHOWN INDICATE THE APPROXIMATE LOCATION OF FACILITIES ONLY AND NO GUARANTEE IS GIVEN TO THE COMPLETENESS OR ACCURACY THEREOF. NO EXCAVATION MAY BE MADE WITHIN 5 FEET OF THESE UTILITIES UNLESS AND UNTIL SUCH UTILITIES HAVE BEEN POSITIVELY LOCATED AS TO HORIZONTAL AND VERTICAL POSITION. CONTRACTOR SHALL CONTACT "TENNESSEE ONE CALL" AT 1-800-351-1111 THREE WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
5. ALL RADII ARE 3' UNLESS DIMENSIONED.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND ANY UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SEWAGE LINES OR STORM SEWERS. INSTALL ALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
7. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL.
8. CARE SHALL BE TAKEN TO PROTECT ANY UTILITIES, TREES, BUILDINGS, ETC. WHICH ARE TO REMAIN AND NOT TO BE DISTURBED BY THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO SUCH PROPERTY.
9. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THESE UNDERGROUND CABLES AND/OR LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.
10. THE OWNER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR THE POSSIBILITY THAT, DURING CONSTRUCTION, UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY BE DIFFERENT FROM THE LOCATIONS DESIGNATED ON THE CONTRACT DRAWINGS. IN AREAS WHERE IT IS NECESSARY THAT EXACT LOCATIONS BE KNOWN OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE POSITION OF UNDERGROUND UTILITIES.
11. THE CONTRACTOR SHALL REPAIR ANY CONTRACTOR CAUSED DAMAGE, ACCORDING TO THE LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL ALSO COORDINATE ALL CONSTRUCTION TO MAINTAIN REQUIRED SERVICES TO THE EXISTING FACILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY(IES).

PAVING NOTES:

1. PROPOSED PAVEMENT CROSS-SECTION TO CONFORM TO CITY OF MT PLEASANT STANDARDS. REFERENCE DETAIL PROVIDED.
2. ALL CURVE RADII = 3' (THREE FEET) UNLESS NOTED OTHERWISE.
3. SURFACES TO RECEIVE MARKING PAINT SHALL BE CLEAN, DRY AND METAL SURFACES ARE TO BE FREE FROM HEAVY RUST.
4. YELLOW CURBING AND BOLLARDS ARE TO RECEIVE 2 COATS SHERWIN WILLIAMS - KEM 4000 ACRYLIC ALKYD ENAMEL SAFETY YELLOW B55Y300.
5. 4" WIDE TRANSVERSE PAVEMENT MARKING TO RECEIVE TOP COAT SHERWIN WILLIAMS -PRO MAR TRAFFIC MARKING PAINT, YELLOW TM5495.
6. ACCESSIBLE SPACES TO RECEIVE TOP COAT SHERWIN WILLIAMS - PRO MAR TRAFFIC MARKING PAINT "H.C." BLUE.

STORMWATER NOTES:

1. ROOF DRAINAGE TO SHEET FLOW ACROSS PAVEMENT AT THE REAR OF THE BUILDING, INTO THE PROPOSED DRAINAGE SYSTEM.
2. SUBJECT PROPERTY IS NOT IN A FLOODPLAIN AS PER F.I.R.M. F.E.M.A. COMMUNITY PANEL # 47119C0270E, DATED APRIL 16, 2007.

WATERMAIN NOTES:

1. COORDINATE INSTALLATION OF PROPOSED WATER SERVICE METER WITH THE MOUNT PLEASANT UTILITY DEPARTMENT.
2. ALL PROPOSED WATER MAINS AND SERVICES TO BE INSTALLED PER THE STANDARD SPECIFICATIONS OF THE CITY OF MT PLEASANT, TENNESSEE.
3. MAINTAIN A 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN THE WATER SERVICE LINES AND OTHER UTILITIES WHERE FEASIBLE.
4. ALL EXISTING UTILITIES ARE TO BE PROTECTED DURING THE COURSE OF THE CONSTRUCTION OF THIS PROJECT. COORDINATE ALL UTILITY REPAIRS WITH THE RELEVANT UTILITY SERVICE PROVIDERS.

SANITARY SEWER LEAD NOTES:

1. MAINTAIN A MINIMUM OF 18" VERTICAL CLEARANCE, AND 10' HORIZONTAL LEARANCE BETWEEN ALL UTILITIES.
2. ALL MATERIALS AND WORKMANSHIP FOR SANITARY SEWER LEADS SHALL BE IN STRICT COMPLIANCE WITH CURRENT TDEC STANDARDS.
3. SEWER SERVICE LEADS ARE TO BE EXTENDED TO A POINT 5-FT. OUTSIDE THE BUILDING WHERE THE PLUMBING CONTRACTOR WILL COMPLETE THE CONNECTION TO THE BUILDING PLUMBING SYSTEM.
4. ALL SANITARY SEWER LEADS WITHIN A 1:1 INFLUENCE OF EXISTING, PROPOSED, OR FUTURE PAVEMENT SHALL HAVE COMPACTED SAND BACKFILL.
5. SANITARY SEWER SERVICE CONNECTION AND GRINDER PUMP STATION SHALL MEET THE CITY OF MT. PLEASANT STANDARD SEWER SPECIFICATIONS (TDEC APPROVED SPECIFICATIONS DATED 4/25/24).

ELECTRICAL CONDUIT NOTES:

1. ALL BUILDERS, CONTRACTORS, AND ELECTRICIANS MUST MEET WITH MT PLEASANT POWER SYSTEM BEFORE CONSTRUCTION.
2. ALL ELECTRICAL CONNECTIONS AND FACILITIES TO CONFORM TO CURRENT MT PLEASANT POWER SYSTEMS STANDARDS.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

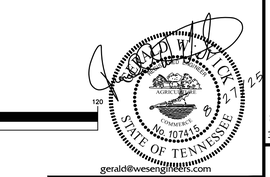
BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

THE PROPERTY IS NOT LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRMs) MAP NUMBER 47117C0270E DATED APRIL 16, 2007.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.



geraldr@wesengineers.com

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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2486 NASHVILLE HIGHWAY
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ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
241 I DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)
6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
SITE LAYOUT & UTILITY PLAN

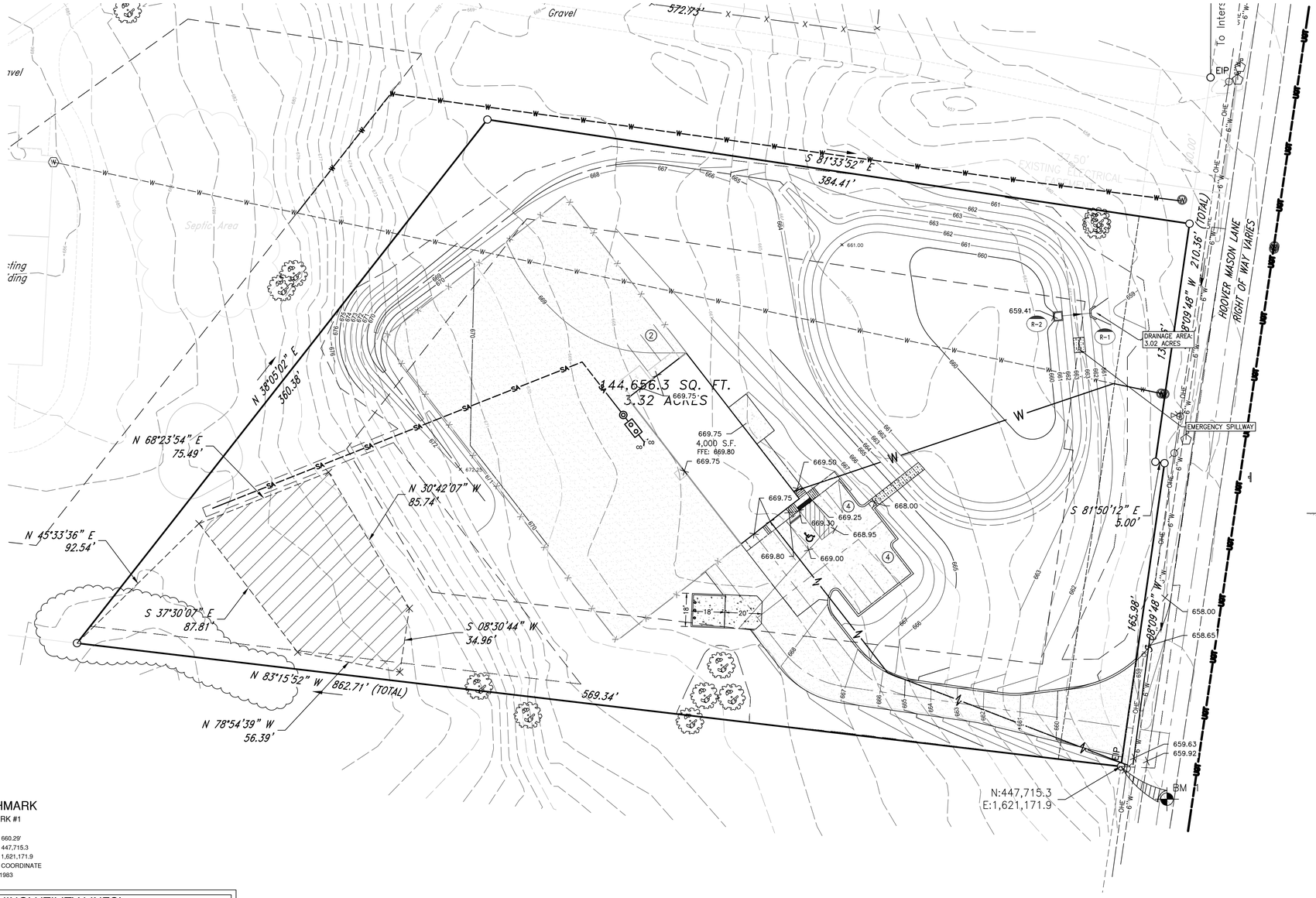
Drawn: bo
Checked: gv
Approved: GV
Date: 8/11/2025

Job. no. 25526
Scale: Vertical: Horizontal: 1"=30'

C-1.0

FILE: J:\ WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

GRADING AND DRAINAGE PLAN



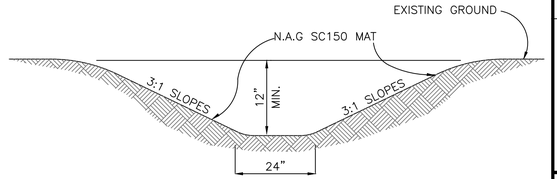
TN GRID NORTH

GENERAL GRADING AND DRAINAGE NOTES

1. ALL GRADING AND DRAINAGE WORK AS SHOWN ON THIS PLAN SHALL BE DONE IN STRICT ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL ENGINEERING DEPARTMENT.
2. THE NECESSARY PERMITS FOR THE WORK SHOWN ON THESE SITE DEVELOPMENT PLANS WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK ON THIS PROJECT. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL FEES INVOLVED IN SECURING SAID PERMITS. THE CONTRACTOR SHALL ALSO COMPLY WITH ALL LOCAL AND STATE BUILDING CODES, ORDINANCES AND REGULATIONS RELATING TO THE CONSTRUCTION OF THE ITEMS SHOWN ON THESE PLANS.
3. IT IS THE CONTRACTORS RESPONSIBILITY TO AVOID DAMAGE TO ALL EXISTING UTILITIES TO REMAIN DURING CONSTRUCTION. IF DAMAGE DOES OCCUR TO ANY SUCH EXISTING INSTALLATIONS, FULL REPAIR SHALL BE AT THE EXPENSE OF THE CONTRACTOR AND SHALL BE ACCOMPLISHED AS PER THE CURRENT SPECIFICATIONS FOR SUCH WORK FOR THE RESPONSIBLE AGENCY.
4. THE LOCATION OF EXISTING PIPING AND UNDERGROUND UTILITIES (I.E., WATER AND GAS LINES, ELECTRICAL AND TELEPHONE CONDUITS, ETC.) AS SHOWN ON THIS PORTION OF THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION FROM ACTUAL SURVEYS, OR TAKEN FROM THE RECORDS AND DRAWINGS OF THE EXISTING UTILITIES. HOWEVER, THE CIVIL ENGINEER DOES NOT ASSUME RESPONSIBILITY THAT, DURING CONSTRUCTION, THE POSSIBILITY OF UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT THE ACTUAL LOCATIONS OF UTILITIES SHOWN MAY VARY SOMEWHAT FROM THE LOCATIONS DESIGNATED ON THIS PORTION OF THE PLANS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATIONS OF UNDERGROUND UTILITIES BE KNOWN, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITELY ESTABLISH THE LOCATION OF THE UTILITIES.
5. ALL DELETERIOUS MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR AS PER THE INSPECTION AND FINAL APPROVAL OF THE ENGINEER AND OWNER. ALL FILL MATERIAL TO BE USED FOR SITE GRADING SHALL BE AN INORGANIC SOIL, FREE OF DEBRIS AND APPROVED BY THE ENGINEER AND OWNER.
6. THE PLACING AND SPREADING OF ANY FILL MATERIAL IS TO BE STARTED AT THE LOWEST POINT AND BROUGHT UP IN HORIZONTAL LAYERS OF 8-INCH THICKNESS. SAID FILL MATERIAL IS TO BE SOIL AND ROCK ONLY, FREE OF SOD, ROOTS, FROZEN SOILS, OR ANY OTHER DECOMPOSABLE MATERIAL. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) IN ALL AREAS OF FILL, AND COMPACTION OF 98% OF SAME SPECIFICATION FOR MATERIALS USED IN THE UPPER 12 INCHES BENEATH PAVEMENT AND GRADE SLABS.
7. THE CONTRACTOR IS TO CHECK AND VERIFY ALL MEASUREMENTS, LEVELS, ETC., BEFORE ORDERING MATERIALS AND PROCEEDING WITH WORK, AND IS RESPONSIBLE FOR THE SAME.
8. CONTRACTOR IS RESPONSIBLE FOR SECURING WRITTEN APPROVAL FROM ADJOINING PROPERTY OWNER FOR OFF-SITE GRADING WORK THAT RESULTS FROM CONSTRUCTION ACTIVITIES.

BERM CONSTRUCTION NOTES

1. AREAS UNDER THE EMBANKMENT OR ANY STRUCTURAL WORKS RELATED TO THE BASIN SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL, TREES, VEGETATION, ROOTS, OR OTHER OBJECTIONABLE MATERIAL. IN ORDER TO FACILITATE CLEANOUT AND RESTORATION, THE AREA OF MOST FREQUENT INUNDATION (MEASURED FROM THE TOP OF THE PRINCIPAL SPILLWAY) WILL BE CLEARED OF ALL BRUSH AND TREES.
2. THE PLACING AND SPREADING OF EMBANKMENT MATERIALS IS TO BE STARTED AT THE LOWEST POINT AND BROUGHT UP IN HORIZONTAL LAYERS OF 8" THICKNESS. SAID MATERIAL IS TO BE FREE OF SOD, ROOTS, FROZEN SOIL, OR ANY OTHER DECOMPOSABLE MATERIAL. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF STANDARD PROCTOR TEST IN ALL AREAS.
3. FOR EARTH-FILL EMBANKMENTS, A CUTOFF TRENCH SHALL BE EXCAVATED ALONG THE CENTERLINE OF THE BERM. THE TRENCH MUST EXTEND AT LEAST 1 FOOT INTO A STABLE, IMPERVIOUS LAYER OF SOIL AND HAVE A MINIMUM DEPTH OF TWO FEET. THE CUTOFF TRENCH SHALL EXTEND UP BOTH ABUTMENTS TO THE RISER CREST ELEVATION. THE MINIMUM BOTTOM WIDTH SHALL BE FOUR FEET, BUT ALSO MUST BE WIDE ENOUGH TO PERMIT OPERATION OF COMPACTION EQUIPMENT. THE SIDE SLOPES SHALL BE NO STEEPER THAN 1:1. COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE FOR THE EMBANKMENT. THE TRENCH SHALL BE DRY DURING THE BACKFILLING AND COMPACTION OPERATIONS.
4. THE EMBANKMENT SHALL BE CONSTRUCTED TO AN ELEVATION 10 PERCENT HIGHER THAN THE DESIGN HEIGHT TO ALLOW FOR SETTLEMENT IF COMPACTION IS OBTAINED WITH HAULING EQUIPMENT. IF COMPACTORS ARE USED FOR COMPACTION, THE OVERBUILD MAY BE REDUCED TO NOT LESS THAN 5 PERCENT.
5. THE EMBANKMENT OF THE DETENTION POND SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT VEGETATION IMMEDIATELY AFTER INSTALLATION OF THE BASIN.
6. ALL STATE AND LOCAL REQUIREMENTS SHALL BE MET CONCERNING FENCING AND SIGNS WARNING THE PUBLIC OF THE HAZARDS OF SOFT, SATURATED SEDIMENT AND FLOOD WATERS.



DITCH SECTION
NOT TO SCALE

BENCHMARK

BENCHMARK #1
IRON ROD
ELEV. 660.29'
NORTHING: 447,715.3
EASTING: 1,621,171.9
TENNESSEE COORDINATE SYSTEM OF 1983
NAVD 88

WARNING! UTILITY LINES!

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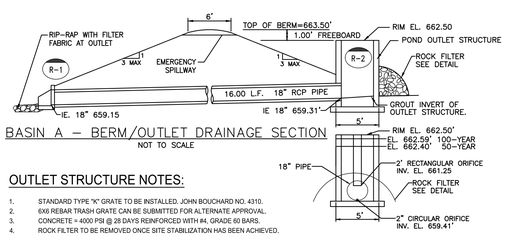
Tennessee811
Know what's below
Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN		
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	
TREE LINE		
STORM STRUCTURE LABEL		
ASPHALT		
CONCRETE		
# PARKING SPACES		
P.U.D.E.		

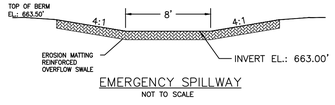
DETENTION BASIN A DETAILS



BASIN A – BERM/OUTLET DRAINAGE SECTION
NOT TO SCALE

OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. 6X6 REBAR TRASH GRATE CAN BE SUBMITTED FOR ALTERNATE APPROVAL.
3. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
4. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
5. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.



EMERGENCY SPILLWAY
NOT TO SCALE

FLOOD STUDY NOTE:

THE PROPERTY IS NOT LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0270E DATED APRIL 16, 2007.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN, IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER, BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

GERALD W. LICK
REGISTERED ENGINEER
AGRICULTURE & ENVIRONMENT
COMMISSIONED
No. 107415
STATE OF TENNESSEE

geraldl@wesengineers.com

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)

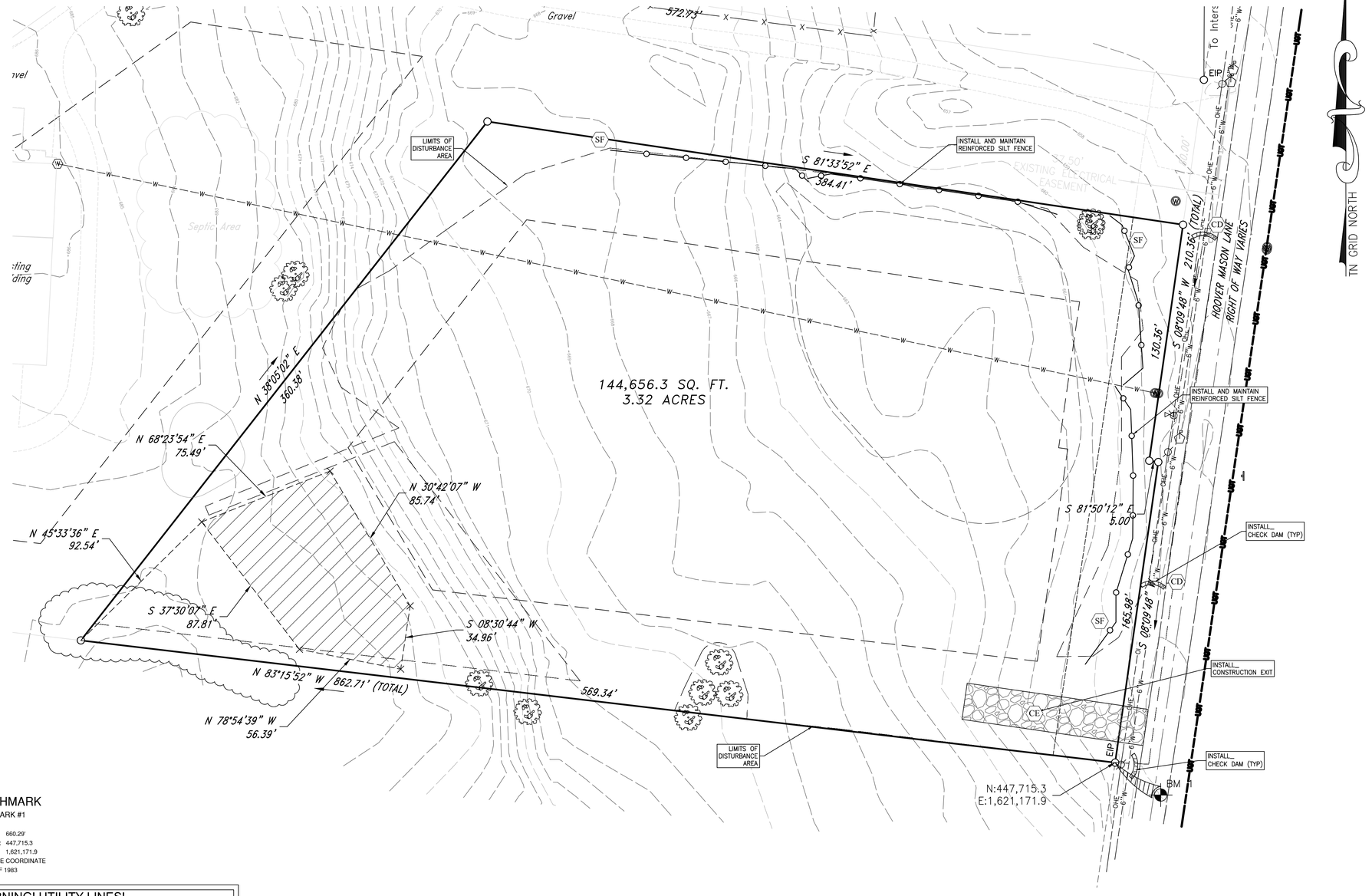
6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
GRADING AND DRAINAGE PLAN

Drawn:	bo
Checked:	gv
Approved:	GV
Date:	8/11/2025

Job. no. 25526
Scale: Vertical: 1"=30' Horizontal:
C-2.0

FILE: J:\WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 1



BENCHMARK

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IRON ROD
ELEV. 660.29'
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Tennessee811
Know what's below
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LEGEND

	EXISTING	PROPOSED
WATER MAIN		
SANITARY SEWER		
STORM SEWER		
OVERHEAD FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)
P.U.D.E.

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE

CONSTRUCTION EXIT	CE	INLET PROTECTION	IP
SILT FENCE	SF	STORM OUTLET PROTECTION	OP
CHECK DAMS	CD	REINFORCEMENT MAT	MA
PERMANENT SEEDING & MULCHING	PS	TEMPORARY SEEDING	TS

EROSION/SILTATION CONTROL NOTES

1. EXPOSED AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MINIMUM WHENEVER POSSIBLE.
2. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS APPROVED BY THE OWNER'S REPRESENTATIVE.
3. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
6. EROSION/SILTATION FENCING SHOWN IS TO BE USED AS A TEMPORARY SEDIMENT BARRIER. FENCING IS TO BE FIRM AND SECURELY TIED AS SHOWN ON THE INCLUDED DETAIL.
7. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM SEDIMENT LOSS DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD & ACCEPTABLE STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION 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.
9. A STONE ACCESS RAMP IS TO BE CONSTRUCTED WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. EROSION AND SEDIMENT CONTROL MUST BE IMPLEMENTED AND MAINTAINED. PERFORM ALL WORK IN ACCORDANCE WITH THE "TDEC EROSION AND SEDIMENT CONTROL HANDBOOK", AUGUST 2012. FAILURE TO COMPLY TO THESE BMP PRACTICES MAY RESULT IN A STOP WORK ORDER AND FINES.
11. IN AREAS OF 2:1 OR GREATER SLOPE THAT EXCEED 5-FEET IN UNINTERRUPTED VERTICAL ELEVATION CHANGE WILL RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MAT SEEDED FOR STABILIZATION (TEMPORARY OR PERMANENT). FOLLOW STABILIZATION PLAN INCLUDED IN APPROVED SWPPP FOR TEMPORARY & PERMANENT STABILIZATION OF SITE.
12. ALL PROPOSED INLETS WILL BE INSTALLED WITH SILT FENCE EROSION PROTECTION OR APPROVED MAT TYPE INLET FILTER UNTIL STABILIZATION IS ESTABLISHED.
13. PHASE I EP&SC SHOWN. ADJUSTMENTS TO BE MADE WHEN SLOPE CONSTRUCTION BEGINS TO KEEP SILT FENCE @ TOE OF SLOPE.
14. ALL OPEN FLOW CHANNELS AND OUTLET STRUCTURES ARE TO RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MATTING FOR STABILIZATION.

BEST MANAGEMENT PRACTICES (BMP) NOTES:

1. LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUCH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
2. DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 14 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, MATTING SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF EROSION CONTROL MATTING AND FASTEN TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOIL.
3. STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
4. STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
5. ALL MATTED AREAS TO RECEIVE PERMANENT SEEDING.
6. PLEASE CALL THE LOCAL JURISDICTION FOR INSPECTION OF EROSION CONTROL MEASURES BEFORE GRADING COMMENCES.

SUPPLEMENTAL NOTES

1. THE CONTRACTOR MUST OBTAIN AND REVIEW A COPY OF THE APPROVED STORM WATER POLLUTION PLAN SUBMITTED TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION. CONTRACTOR IS EXPECTED TO READ AND FOLLOW THIS PLAN DURING THE CONSTRUCTION OF THIS PROJECT. THE APPROVED SWPPP IS CONSIDERED TO BE A PART OF THE FINAL CONSTRUCTION DOCUMENTS.
2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 1 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
3. ADJUSTMENTS TO THE EPSC MEASURES WILL BE REQUIRED DURING NORMAL PROGRESSION OF THE PROJECT. REVIEW ALL PHASES OF THE EPSC PLANS INCLUDED IN THE SWPPP FOR ADDITIONAL INFORMATION. COST ASSOCIATED WITH THESE ADJUSTMENTS ARE TO BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.
4. UNDERCUT / REPLACEMENT OF SOFT SOILS SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER AND FOLLOWING THE REQUIREMENTS ESTABLISHED BY THE GEOTECHNICAL ENGINEER. THE REPLACEMENT OF MATERIAL MAY INCLUDE EXISTING SOILS MEETING THE GEOTECHNICAL REQUIREMENTS.
5. CONTRACTOR IS TO MARK THE LIMIT OF DISTURBANCE PRIOR TO START OF CONSTRUCTION AND OBSERVE THESE LIMITS FOR THE DURATION OF THE PROJECT.
6. MAINTAIN EROSION CONTROL MEASURES AS INDICATED IN THE SWPPP BETWEEN PHASES AND REPLACE BMP MATERIALS BEFORE FAILURE RESULTS DUE TO DEGREDATION.

GEOTECHNICAL NOTE:

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BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

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EPSC PHASE 1:

PHASE 1:

- CONSTRUCT CONSTRUCTION EXIT AND TEMPORARY EPSC MEASURES.
- CALL THE TOWN OF MT PLEASANT FOR INSPECTION OF EROSION CONTROL INSTALLATION PRIOR TO PROCEEDING.
- TEMPORARY SEED AND STABILIZATION OF EACH DISTURBED AREA BEFORE PROCEEDING TO NEXT AREA.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com
ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)

6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 1

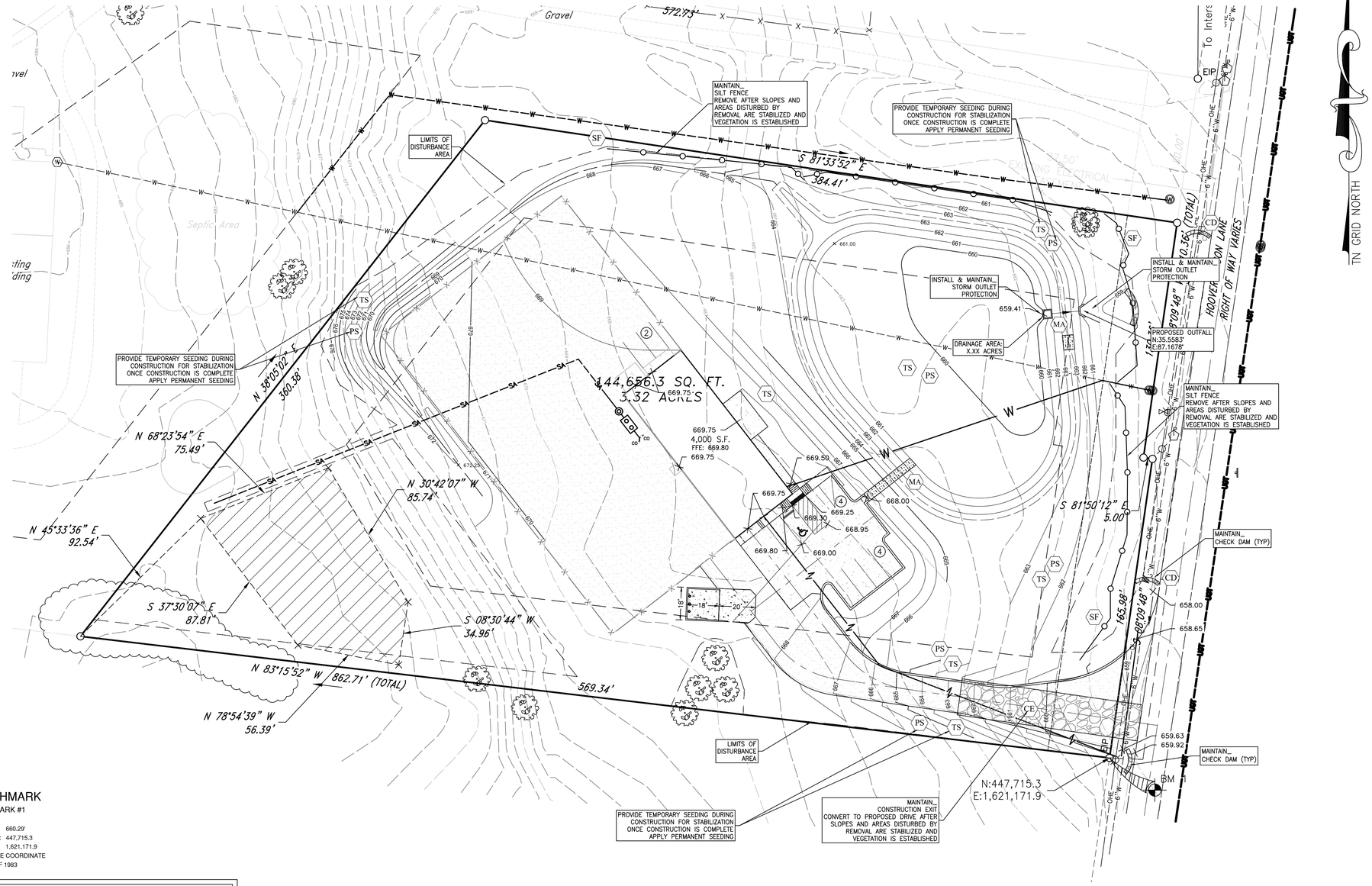
Drawn: bb
Checked: gv
Approved: GV
Date: 8/11/2025

Job. no. 25526
Scale: Vertical: Horizontal: 1"=30'

C-3.0

FILE: J:_WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 2



BENCHMARK

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IRON ROD
ELEV. 660.29'
NORTHING: 447,715.3
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Tennessee811
Know what's **below**
Call before you dig.

LEGEND

	EXISTING	PROPOSED
WATER MAIN	W	W
SANITARY SEWER	S	S
STORM SEWER	18"ST	18"ST
OVERHEAD	OHE	OHE
FENCE	x x x	
GAS	G	G
DRAINAGE DITCH		
TREE PROTECTION FENCE		TPF
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)
P.U.D.E.

SOIL EROSION PROTECTION AND CONTROL MEASURES

SILTFENCE
CONSTRUCTION EXIT (CE)
INLET PROTECTION (IP)
SILT FENCE (SF)
STORM OUTLET PROTECTION (OP)
CHECK DAMS (CD)
REINFORCEMENT MAT (MA)
PERMANENT SEEDING & MULCHING (PS)
TEMPORARY SEEDING (TS)

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3. DISTURBED AREAS ARE TO BE GRADED TO DRAIN AS INDICATED ON PLAN TO SEDIMENT BARRIERS DURING AND UPON COMPLETION OF CONSTRUCTION.
4. NO OTHER WORK WILL BE INITIATED ON THE PROJECT UNTIL THE EROSION/SILTATION MEASURES SHOWN ON THE PLANS AND DETAILS ARE PROPERLY IN PLACE.
5. IF, AT ANY TIME DURING THE CONSTRUCTION PHASE OF THIS PROJECT, THE EROSION/SILTATION MEASURES INSTALLED FAIL TO FUNCTION PROPERLY, NEED MAINTENANCE OR REPAIR, OR NEED NEW REPLACEMENT IN KIND, THE CONTRACTOR WILL EFFECT SUCH ACTIONS AS ARE NEEDED TO CORRECT THE SITUATION AT NO ADDITIONAL COST TO THE OWNER.
6. EROSION/SILTATION FENCING SHOWN IS TO BE USED AS A TEMPORARY SEDIMENT BARRIER. FENCING IS TO BE FIRM AND SECURELY TIED AS SHOWN ON THE INCLUDED DETAIL.
7. USE TEMPORARY VEGETATION AND/OR MULCH TO PROTECT BARE AREAS FROM SEDIMENT LOSS DURING AND UPON COMPLETION OF CONSTRUCTION.
8. UPON STABILIZATION OF THE PROJECT SITE WITH A GOOD & ACCEPTABLE STAND OF GRASS AND/OR GROUND COVER, THE EROSION/SILTATION 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.
9. A STONE ACCESS RAMP IS TO BE CONSTRUCTED WITH A MINIMUM WIDTH OF 20 FEET AND MINIMUM LENGTH OF 100 FEET. RAMP IS TO BE BASED WITH 6 INCHES INCHES OF ASTM D 448, SIZE NO. 1 STONE, AND MAINTAINED THROUGHOUT CONSTRUCTION.
10. EROSION AND SEDIMENT CONTROL MUST BE IMPLEMENTED AND MAINTAINED. PERFORM ALL WORK IN ACCORDANCE WITH THE "TDEC EROSION AND SEDIMENT CONTROL HANDBOOK", AUGUST 2012. FAILURE TO COMPLY TO THESE BMP PRACTICES MAY RESULT IN A STOP WORK ORDER AND FINES.
11. IN AREAS OF 2:1 OR GREATER SLOPE THAT EXCEED 5-FEET IN UNINTERRUPTED VERTICAL ELEVATION CHANGE WILL RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MAT SEEDED FOR STABILIZATION (TEMPORARY OR PERMANENT). FOLLOW STABILIZATION PLAN INCLUDED IN APPROVED SWPPP FOR TEMPORARY & PERMANENT STABILIZATION OF SITE.
12. ALL PROPOSED INLETS WILL BE INSTALLED WITH SILT FENCE EROSION PROTECTION OR APPROVED MAT TYPE INLET FILTER UNTIL STABILIZATION IS ESTABLISHED.
13. PHASE I EP&SC SHOWN. ADJUSTMENTS TO BE MADE WHEN SLOPE CONSTRUCTION BEGINS TO KEEP SILT FENCE @ TOE OF SLOPE.
14. ALL OPEN FLOW CHANNELS AND OUTLET STRUCTURES ARE TO RECEIVE NORTH AMERICAN GREEN SC150 EROSION CONTROL MATTING FOR STABILIZATION.

BEST MANAGEMENT PRACTICES (BMP) NOTES:

1. LAND CLEARING SHALL TAKE PLACE ONLY IN AREAS WHERE ACTIVE CONSTRUCTION WILL BEGIN WITHIN A REASONABLE AMOUNT OF TIME. LAND CLEARING DURING THE RAINY SEASON SHALL BE AVOIDED IN SENSITIVE AREAS SUCH AS STEEP SLOPES AND BUFFERS, IF POSSIBLE.
2. DENUDED AREAS, SOIL STOCKPILES, DIKES, DAMS, CHANNELS, ETC., ARE TO BE SEEDED AND MULCHED. AREAS AND TIME OF EXPOSURE OF UNPROTECTED SOILS SHALL BE KEPT TO A MAXIMUM OF 14 DAYS. SUCH AREAS ARE TO IMMEDIATELY RECEIVE SEED AND MULCH STABILIZATION FOLLOWING THIS TIME PERIOD. ON STEEP SLOPES AND CHANNELS, MATTING SHALL BE FASTENED TO THE GROUND WITH WIRE STAPLES OR WOOD PEGS. WHERE SURFACE WATER CANNOT BE DIVERTED FROM FLOWING OVER THE FACE OF SLOPES, INSTALL A STRIP OF EROSION CONTROL MATTING AND FASTEN TIGHT ALONG THE CROWN OR TOP OF THE SLOPE FOR EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOIL.
3. STEEP AND UNSTABLE SLOPES SHALL NOT BE DISTURBED IF THEY ARE OUTSIDE OF THE APPROVED GRADING PLAN AREA. RUNOFF SHALL BE CONVEYED FROM THE TOP OF THE SLOPE IN A SAFE MANNER ENSURING THAT THE SLOPE IS STABILIZED AS SOON AS POSSIBLE. ALL RUNOFF EXITING THE CONSTRUCTION SITE SHALL BE FREE OF EXCESSIVE SEDIMENT, AND OTHER POLLUTANTS.
4. STREET AND/OR CURB INLET PROTECTION DEVICES SHALL BE PLACED AROUND ALL INLETS UPON THE CONSTRUCTION OF THE STORM WATER SEWER SYSTEM.
5. ALL MATTED AREAS TO RECEIVE PERMANENT SEEDING.
6. PLEASE CALL THE LOCAL JURISDICTION FOR INSPECTION OF EROSION CONTROL MEASURES BEFORE GRADING COMMENCES.

SUPPLEMENTAL NOTES

1. THE CONTRACTOR MUST OBTAIN AND REVIEW A COPY OF THE APPROVED STORM WATER POLLUTION PLAN SUBMITTED TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION. CONTRACTOR IS EXPECTED TO READ AND FOLLOW THIS PLAN DURING THE CONSTRUCTION OF THIS PROJECT. THE APPROVED SWPPP IS CONSIDERED TO BE A PART OF THE FINAL CONSTRUCTION DOCUMENTS.
2. THE EROSION PREVENTION & SEDIMENT CONTROL MEASURES INCLUDED ON THIS SHEET REPRESENT PHASE 2 ONLY AND ARE REQUIRED TO BE INSTALLED PRIOR TO THE START OF EARTH DISTURBANCE IN THE AFFECTED AREA.
3. ADJUSTMENTS TO THE EPSC MEASURES WILL BE REQUIRED DURING NORMAL PROGRESSION OF THE PROJECT. REVIEW ALL PHASES OF THE EPSC PLANS INCLUDED IN THE SWPPP FOR ADDITIONAL INFORMATION. COST ASSOCIATED WITH THESE ADJUSTMENTS ARE TO BE INCLUDED IN OTHER ITEMS OF CONSTRUCTION.
4. UNDERCUT / REPLACEMENT OF SOFT SOILS SHALL BE PERFORMED AT THE DIRECTION OF THE OWNER AND FOLLOWING THE REQUIREMENTS ESTABLISHED BY THE GEOTECHNICAL ENGINEER. THE REPLACEMENT OF MATERIAL MAY INCLUDE EXISTING SOILS MEETING THE GEOTECHNICAL REQUIREMENTS.
5. CONTRACTOR IS TO MARK THE LIMIT OF DISTURBANCE PRIOR TO START OF CONSTRUCTION AND OBSERVE THESE LIMITS FOR THE DURATION OF THE PROJECT.
6. MAINTAIN EROSION CONTROL MEASURES AS INDICATED IN THE SWPPP BETWEEN PHASES AND REPLACE BMP MATERIALS BEFORE FAILURE RESULTS DUE TO DEGREDATION.

GEOTECHNICAL NOTE:

CONTRACTOR TO COMPLETE A GEOTECHNICAL STUDY CONDUCTED ON THIS SITE PRIOR TO COMINCEMENT OF CONSTRUCTION. THE DESIGN FOR THE SITE IMPROVEMENTS SHOWN ON THIS PLAN HAVE RELIED ON GENERAL INFORMATION FROM FIELD REVIEW OF EXISTING TERRAIN. IF, IN THE PURSUIT OF THIS WORK BY THE CONTRACTOR, CONDITIONS OR CIRCUMSTANCES ARE ENCOUNTERED THAT ARE DIFFERENT THAN REFLECTED IN THESE PLANS OR THAT APPEAR TO IMPACT THE SCOPE OF THE WORK, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CIVIL ENGINEER, THE GEOTECHNICAL ENGINEER AND THE OWNER/DEVELOPER. BEFORE ANY REMEDIAL COURSE OF ACTION OR DESIGN CHANGE IS INITIATED, ALL PARTIES TO THE PROCESS (OWNER, CIVIL ENGINEER, GEOTECHNICAL ENGINEER, AND CONTRACTOR) MUST BE IN AGREEMENT AND THE MAGNITUDE OF THE COST/TIME REQUIRED FOR THE MEASURES ESTABLISHED.

SITE BENCHMARK NOTE:

CONTRACTOR SHALL ESTABLISH A BENCHMARK PRIOR TO CONSTRUCTION. EXISTING BENCHMARK MUST BE RE-VERIFIED AND APPROVED BY THE ENGINEER/SURVEYOR PRIOR TO USE.

BOUNDARY & TOPOGRAPHIC SURVEY PROVIDED BY:

W.E.S. ENGINEERS AND SURVEYORS
2486 NASHVILLE HWY
COLUMBIA, TENNESSEE 38401
(931) 388-2329

FLOOD STUDY NOTE:

THE PROPERTY IS NOT LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRMs) MAP NUMBER 47117C0270E DATED APRIL 16, 2007.

EPSC PHASE 2:

PHASE 2:

- MAINTAIN TEMPORARY STABILIZATION MEASURES THROUGH CONSTRUCTION.
- TEMPORARY SEED AND STABILIZE OF EACH DISTURBED AREA BEFORE PROCEEDING TO NEXT AREA.
- ONCE FINAL STABILIZATION IS COMPLETE, REMOVE TEMPORARY EPSC MEASURES INCLUDING ALL SILT FENCE AND CHECK DAMS AND PERMANENTLY STABILIZE DISTURBED AREAS.

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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LAB LAND HOLDINGS, LLC
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(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)

6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
EROSION PREVENTION AND SEDIMENT CONTROL PLAN PHASE 2

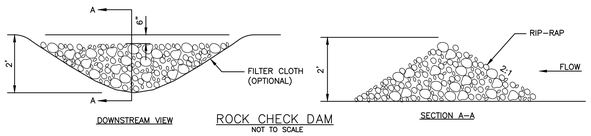
Drawn: bo
Checked: gv
Approved: GV
Date: 8/11/2025

Job no. 25526
Scale: Vertical: Horizontal: 1"=30'

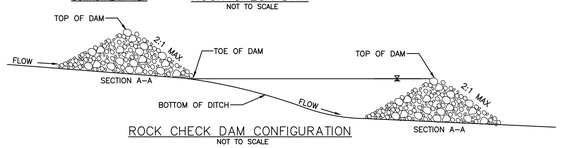
C-3.1

FILE: J:\ WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

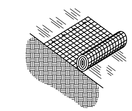
EROSION PREVENTION AND SEDIMENT CONTROL DETAILS



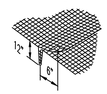
ROCK CHECK DAM
NOT TO SCALE



ROCK CHECK DAM CONFIGURATION
NOT TO SCALE

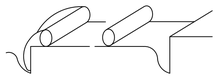


ANCHOR SLOT: BURY UP-CHANNEL END OF THE NET IN 12" DEEP TRENCH. TAMP THE SOIL FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET.

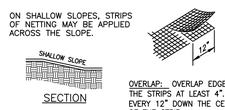


JOINING STRIPS: INSERT THE NEW ROLL OF NET IN A TRENCH, AS WITH THE ANCHOR SLOT. OVERLAP THE UP-CHANNEL END OF THE PREVIOUS ROLL 18" AND TURN THE END OF THE PERVIOUS ROLL, JUST BELOW THE ANCHOR SLOT, LEAVING 6" OVERLAP.

CHECK SLOTS: ON ERODIBLE SOILS OR STEEP SLOPES, CHECK SLOTS SHOULD BE MADE EVERY 15 FEET. INSERT A FOLD OF THE NET INTO A 6" TRENCH AND TAMP FIRMLY. STAPLE AT 12" INTERVALS ACROSS THE NET. LAY THE NET SMOOTHLY ON THE SURFACE OF THE SOIL-DO NOT STRETCH THE NET, AND DO NOT ALLOW WRINKLES.



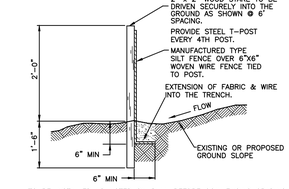
ANCHORING ENDS AT STRUCTURES: PLACE THE END OF THE NET IN A 12" SLOT ON THE UP-CHANNEL SIDE OF THE STRUCTURE. FILL THE TRENCH AND TAMP FIRMLY. ROLL THE NET UP THE CHANNEL. PLACE STAPLES AT 12" INTERVALS ALONG THE ANCHOR END OF THE NET.



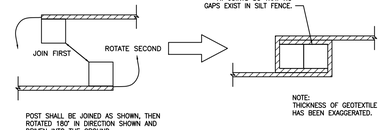
NOTE:

1. FOLLOW N.A.G. INSTALLATION INSTRUCTIONS FOR STAPLE PATTERN GUIDE.
2. INSTALL USING 3.75 STAPLES PER SQUARE YARD UNLESS OTHERWISE INDICATED ON THE PLANS.
3. ALL SLOPES 3:1 AND/OR GREATER TO RECEIVE EROSION CONTROL MATTING.

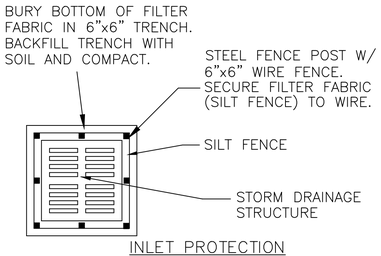
TEMPORARY EROSION CONTROL MATTING
NOT TO SCALE



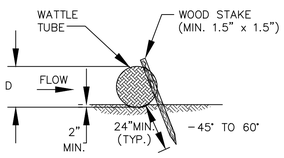
REINFORCED
EROSION/SILTATION FENCE
NOT TO SCALE



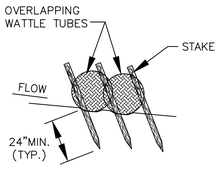
SILT FENCE JOINTS



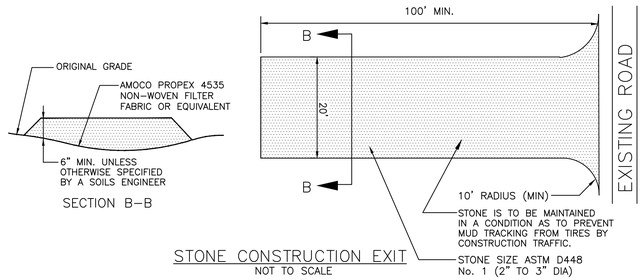
INLET PROTECTION
NOT TO SCALE



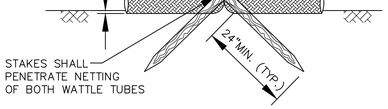
STAKING DETAIL



SECTION C-C



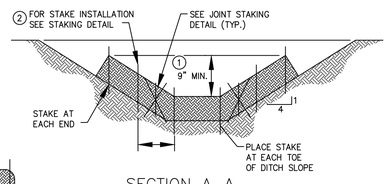
STONE CONSTRUCTION EXIT
NOT TO SCALE



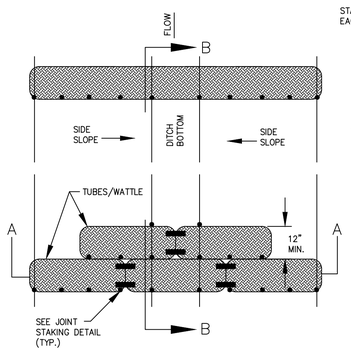
JOINT STAKING DETAIL

NOTES:

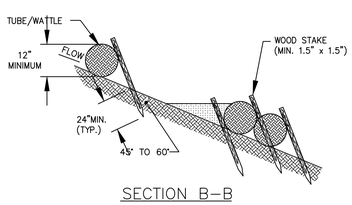
1. THE DEPTH AND WIDTH OF THE WEIR SECTION OF THE WATTLE SHALL BE DESIGNED TO PASS THE 2yr/24hr OR 5yr/24hr STORM EVENT WITHOUT OVERTOPPING THE CHANNEL.
2. STAKE PER MANUFACTURERS RECOMMENDATIONS



SECTION A-A

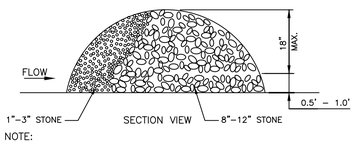


PLAN VIEW FOR DITCH APPLICATION



SECTION B-B

TUBES & WATTLES
NOT TO SCALE



NOTE:
MAINTAIN FILTER DURING CONSTRUCTION & REMOVE ONCE SLOPES ARE STABILIZED.

ROCK FILTER CONSTRUCTION
NOT TO SCALE

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REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)
6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
EROSION PREVENTION AND SEDIMENT CONTROL DETAILS

Drawn: bo | Checked: gv | Approved: GV | Date: 8/11/2025

Job. no. 25526 | Scale: | Vertical: | Horizontal:

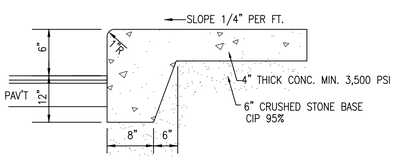
C-3.2

gerald@wesengineers.com

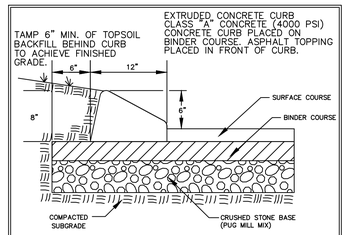
RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

FILE..i:\WES_Engineers_Surveyors 2025\25526 - Hoover Mason - Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

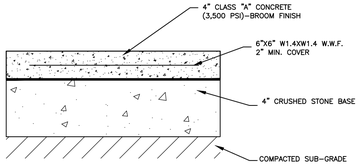
CONSTRUCTION DETAILS



CONC. WALK/CURB DETAIL
NOT TO SCALE

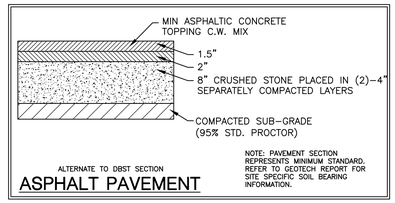


EXTRUDED CONCRETE CURB



CONCRETE SIDEWALK

NOTE:
CONTROL JOINT EVERY 5'
EXPANSION JOINT EVERY 25'
UNLESS OTHERWISE NOTED.



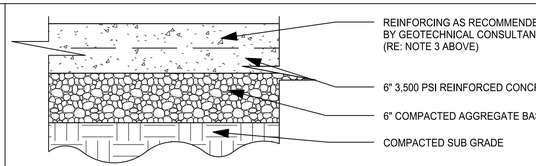
ALTERNATE TO DBST SECTION

ASPHALT PAVEMENT

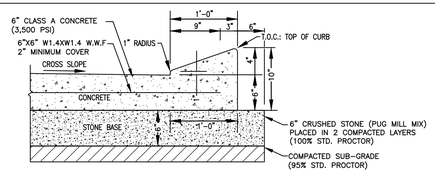
NOTE: PAVEMENT SECTION REPRESENTS MINIMUM STANDARD. REFER TO GEOTECH REPORT FOR SITE SPECIFIC SOIL BEARING INFORMATION.

1. THE SUBGRADE MATERIALS SHALL BE PROOF ROLLED AND/OR SCARIFIED AND COMPACTED PRIOR TO PLACEMENT OF BASE MATERIAL. WHERE EXISTING SUBGRADE MATERIALS ARE UNSUITABLE, THEY SHALL BE REMOVED AND REPLACED WITH COMPACTED SELECT MATERIAL IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS.
2. CONCRETE PAVEMENT JOINTING PLAN SHALL BE PROVIDED TO ENGINEER FOR PRIOR APPROVAL. ALL JOINTS MUST BE SEALED WITH AN APPROVED SEALANT. STEEL REINFORCING SHALL BE USED AT JOINTS. REFER TO ACI 330R (GUIDE FOR DESIGN AND CONSTRUCTION OF CONCRETE PARKING LOTS) FOR JOINT DESIGN AND LAYOUT. REFER TO ADDITIONAL CONCRETE PAVEMENT DETAILS INCLUDED IN THE CONSTRUCTION DOCUMENTS.
3. CONCRETE PAVEMENT AND ROLLOVER CURB TO BE MONOLITHIC CLASS "A" CONCRETE (4,000 PSI) PLACED ON PUG MILL MIX.
4. ALL TRANSVERSE JOINTS ARE TO BE SAW JOINTS AT A DEPTH OF T/4 AT THE SPACING INDICATED IN THE DETAILS.
5. ALL SAW JOINTS TO BE SEALED WITH LOW MODULUS HOT-POURED POLYMERIC SEALANT TYPE COMPOUND.
6. ALL TRANSVERSE JOINTS ARE UNDOWELLED AND EDGE SUPPORT IS REQUIRED (TIED CURB AND GUTTER)
7. ALL ISOLATION JOINTS ARE TO BE DOWELLED AND THICKENED AS SHOWN IN THE DETAILS. ISOLATION JOINT FILLER AND SEALER IS REQUIRED AT ALL ISOLATION JOINTS.
8. ISOLATE ALL STRUCTURES THAT ARE LOCATED IN OR PROTRUDE INTO THE CONCRETE PAVEMENT.
9. PROVIDE ISOLATION JOINTS BEFORE RADII OF ALL INTERSECTIONS WITHIN THE PROJECT. SPACE ISOLATION JOINTS TO COORDINATE WITH THE TRANSVERSE JOINTS.
10. FIBER REINFORCEMENT REQUIRED AS INDICATED IN DETAILS.
11. INSTALLATION TO FOLLOW TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 2006

CONCRETE PAVEMENT



CONCRETE PAVEMENT DETAIL
SCALE: NOT TO SCALE



MONOLITHIC CURB DETAIL
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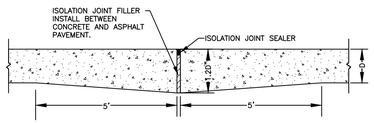
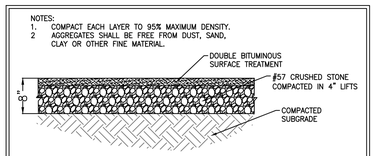


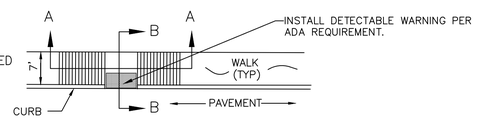
THICKENED EDGE ISOLATION JOINT DETAIL
SCALE: NOT TO SCALE

NOTES:
1. COMPACT EACH LAYER TO 95% MAXIMUM DENSITY.
2. AGGREGATES SHALL BE FREE FROM DUST, SAND, CLAY OR OTHER FINE MATERIAL.

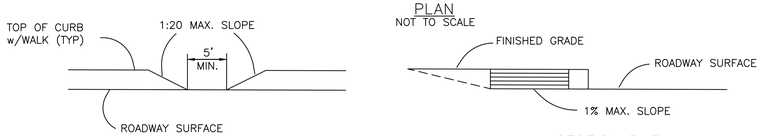


DBST PAVEMENT

NOTES:
1. FOLLOW ADA REQUIREMENTS FOR REQUIRED LOCATIONS AND PLACEMENT OF DETECTABLE WARNINGS.



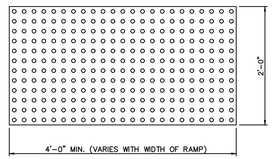
PLAN
NOT TO SCALE



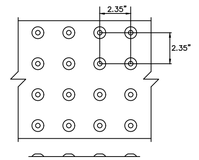
SECTION A–A
NOT TO SCALE

ACCESSABLE RAMP DETAIL
NOT TO SCALE

SECTION B–B
NOT TO SCALE



TRUNCATED DOME PLAN VIEW

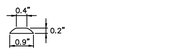


TRUNCATED DOME SPACING

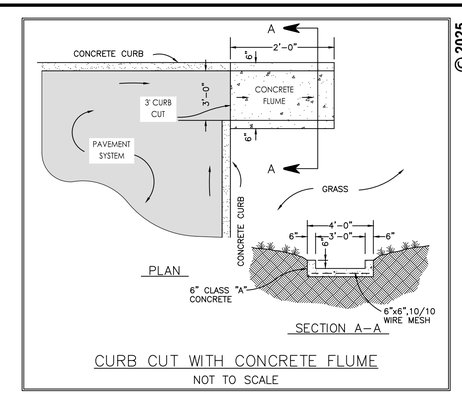
NOTES:
1. DETECTABLE WARNINGS SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
2. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
3. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
4. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
5. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SERVICE.
6. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
7. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70% CONTRAST IN PERCENT IS DETERMINED BY:

CONTRAST = [(B1-B2)/B1] X 100

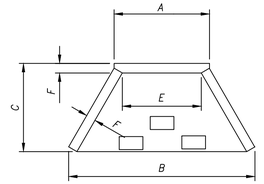
WHERE B1= LIGHT REFECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA.
(NOTE THAT IN ANY APPLICATION BOTH WHITE AND BLACK ARE NEVER ABSOLUTE; THUS, B1 NEVER EQUALS 100 AND B2 IS ALWAYS GREATER THAN 0.



TRUNCATED DOME SECTION



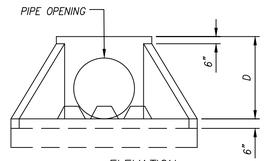
CURB CUT WITH CONCRETE FLUME
NOT TO SCALE



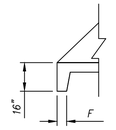
PLAN

SIZE	AW	BW	CW	DW
A	32"	48"	80"	99"
B	48"	72"	102"	120"
C	30"	44"	54"	56"
D	26"	36"	60"	66"
E	24"	36"	64"	83"
F	6"	8"	8"	8"
MAX. OPENING	22"	32"	55"	75"
WT/*	1,380	3,100	8,100	11,400

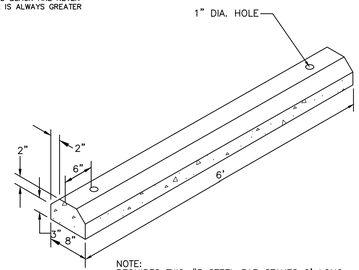
NOTES:
1. MINIMUM 2" CONCRETE COVER ON REBAR.
2. CONCRETE: CLASS A – 3500 PSI @ 28 DAYS W/ AIR ENTRAINMENT.
3. ALL PICK UP POINTS AND PIPE OPENINGS TO BE GROUTED BY CONTRACTOR WITH NON-SHRINK GROUT.
4. 3/4" CHAMFER ON ALL EXPOSED EDGES.



ELEVATION



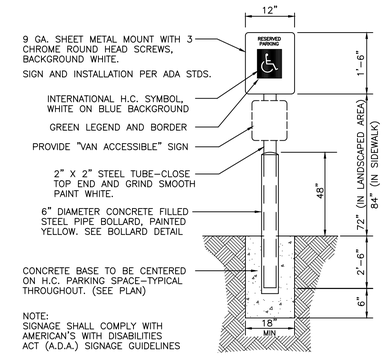
TOE DETAIL



NOTE:
REQUIRES TWO #3 STEEL BAR STAKES 2' LONG FOR EACH CURB SECTION. DRIVE #3 BARS FLUSH WITH TOP. LOCATE WHEEL STOP 2' FROM FACE OF SIDEWALK HEADER OR EDGE OF PAVEMENT

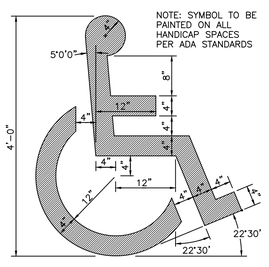
CONCRETE WHEEL STOP
NOT TO SCALE

CONCRETE HEADWALL W/ENERGY DISSIPATORS
NOT TO SCALE

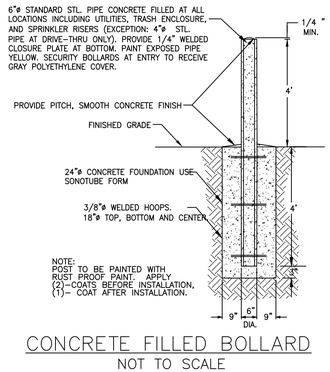


NOTE:
SIGNAGE SHALL COMPLY WITH AMERICAN'S WITH DISABILITIES ACT (A.D.A.) SIGNAGE GUIDELINES

ACCESSIBLE SIGN
NOT TO SCALE



PAINTED HANDICAP SYMBOL
NOT TO SCALE



CONCRETE FILLED BOLLARD
NOT TO SCALE

gerald@wesengineers.com

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)
6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
CONSTRUCTION DETAILS

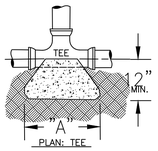
Drawn: bo
Checked: gv
Approved: GV
Date: 8/11/2025

Job. no. 25526
Scale: NOT TO SCALE
Vertical:
Horizontal:

C-4.0

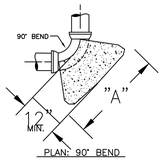
FILE: J:\ WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

CONSTRUCTION DETAILS

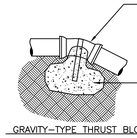


PLAN: TEE

NOTES :-
1. CONCRETE TO BE CLASS "B" (2000PSI) OR STRONGER.
2. DIMENSIONS AS SHOWN ARE APPROXIMATE, SUBJECT TO CHANGE AT DIRECTION OF OR APPROVAL OF ENGINEER.
3. KEEP CONCRETE CLEAR OF ANY PIPE JOINT, GLAND BOLTS, ETC.
4> CONCRETE TO BEAR AGAINST UNDISTURBED EARTH WITH BEARING AREA EQUIVALENT TO AT LEAST AxB.



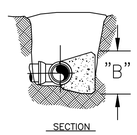
PLAN: 90° BEND



FOR UPPER THRUST BLOCK ON A VERTICAL BEND, CONCRETE VOLUME SHALL BE DETERMINED BY ENGINEER. UPPER BLOCK TO HAVE DIMENSIONS ACCORDING TO SCHEDULE BELOW. FASTEN TO 45° FIXED FULL UPPER BLOCK USING 1/4 x1/2" STEEL STRAP PROTECTED WITH 2 COATS BITUMASTIC PAINT (OR AS OTHERWISE APPROVED BYB ENGINEER)

WEIGHT IS CRITICAL–MUST BE DETERMINED OR APPROVED BY ENGINEER

GRAVITY–TYPE THRUST BLOCK



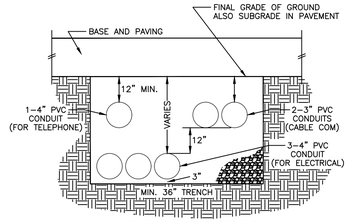
SECTION

SCHEDULE OF MINUMIM BEARING AREA REQUIRED BASED ON 2000 PSI INTERNAL PRESSURE AND 4000 PSI SOIL BEARING CAPACITY *

PIPE SIZE	TEE OR DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/2° BEND
4"	1.0	1.5	1.0	1.0	1.0
6"	2.5	3.0	2.0	1.0	1.0
8"	4.0	5.5	3.0	1.5	1.0
10"	6.0	8.5	4.5	2.5	1.5
12"	8.5	12.0	6.5	3.0	2.0
16"	15.0	21.5	11.0	6.0	3.0
VALUES ARE TABULATED IN SQUARE FEET					

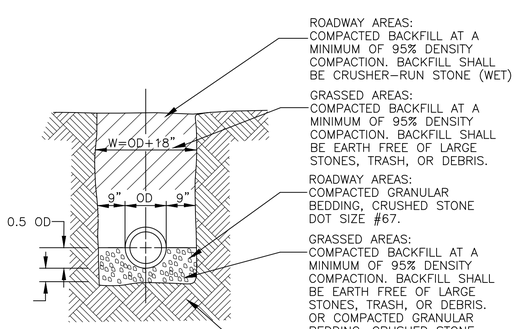
* ENGINEER TO CONFIRM ACTUAL REQUIREMENTS BEFORE CONSTRUCTION OF THE THRUST BLOCK. BEARING AREA (SQUARE FEET) = A(FEET)xB(FEET) .

CONCRETE THRUST BLOCK
NOT TO SCALE

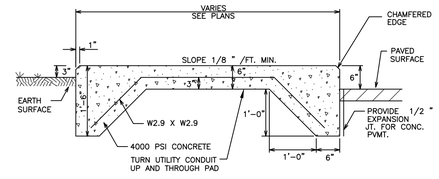


NOTE: ALL UTILITY CROSSINGS IN PAVEMENT MUST BE BACKFILLED WITH CRUSHED STONE!

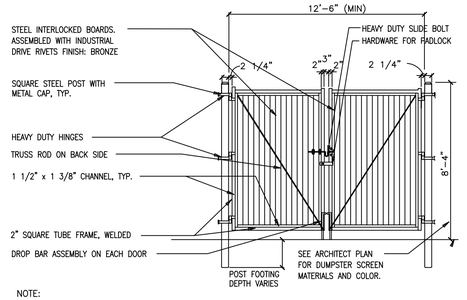
CONDUIT BANK DETAIL
NOT TO SCALE



PIPE INSTALLATION
NOT TO SCALE

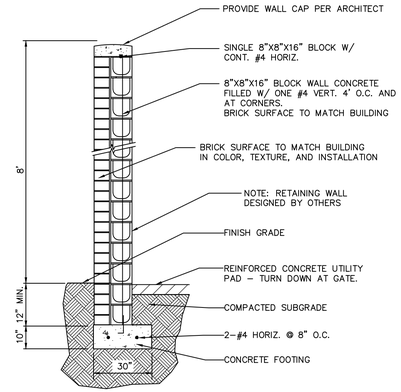


CONCRETE UTILITY PAD
NOT TO SCALE

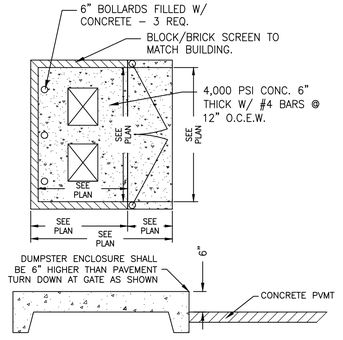


NOTE:
ALL DUMPSTER ENCLOSURES TO BE CONSTRUCTED OF BLOCK TO MATCH BUILDING UNLESS OTHERWISE NOTED ON PLANS.

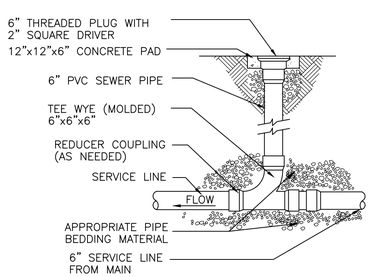
DUMPSTER SCREEN GATE ELEVATION
NOT TO SCALE



ENCLOSURE WALL SCREEN SECTION
NOT TO SCALE

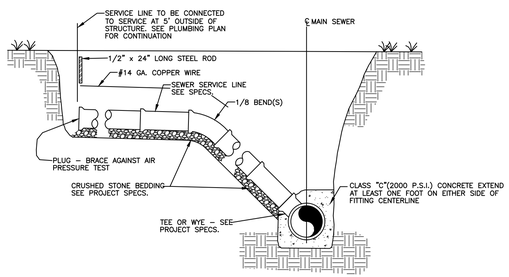


DUMPSTER PAD/ENCLOSURE
NOT TO SCALE



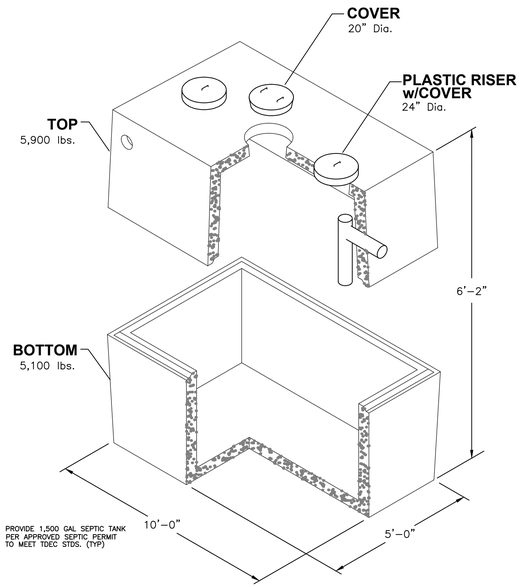
NOTES:
1. ALL FITTINGS AND LINES TO BE PVC. SOLVENT WELD (SDR–33).
2. WHEN SERVICE LINE FROM MAIN LINE IS 4", ALL FITTINGS AND LINES TO BE 4".

CLEANOUT
NOT TO SCALE



DEEP SEWER SERVICE
USE WHERE DIRECTED BY ENGINEER

SEWER SERVICE
NOT TO SCALE



SEPTIC TANK
NOT TO SCALE

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COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)

6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
CONSTRUCTION DETAILS

Drawn: bo
Checked: gv
Approved: GV
Date: 8/11/2025

Job. no. 25526
Scale:
Vertical: NOT TO SCALE
Horizontal:

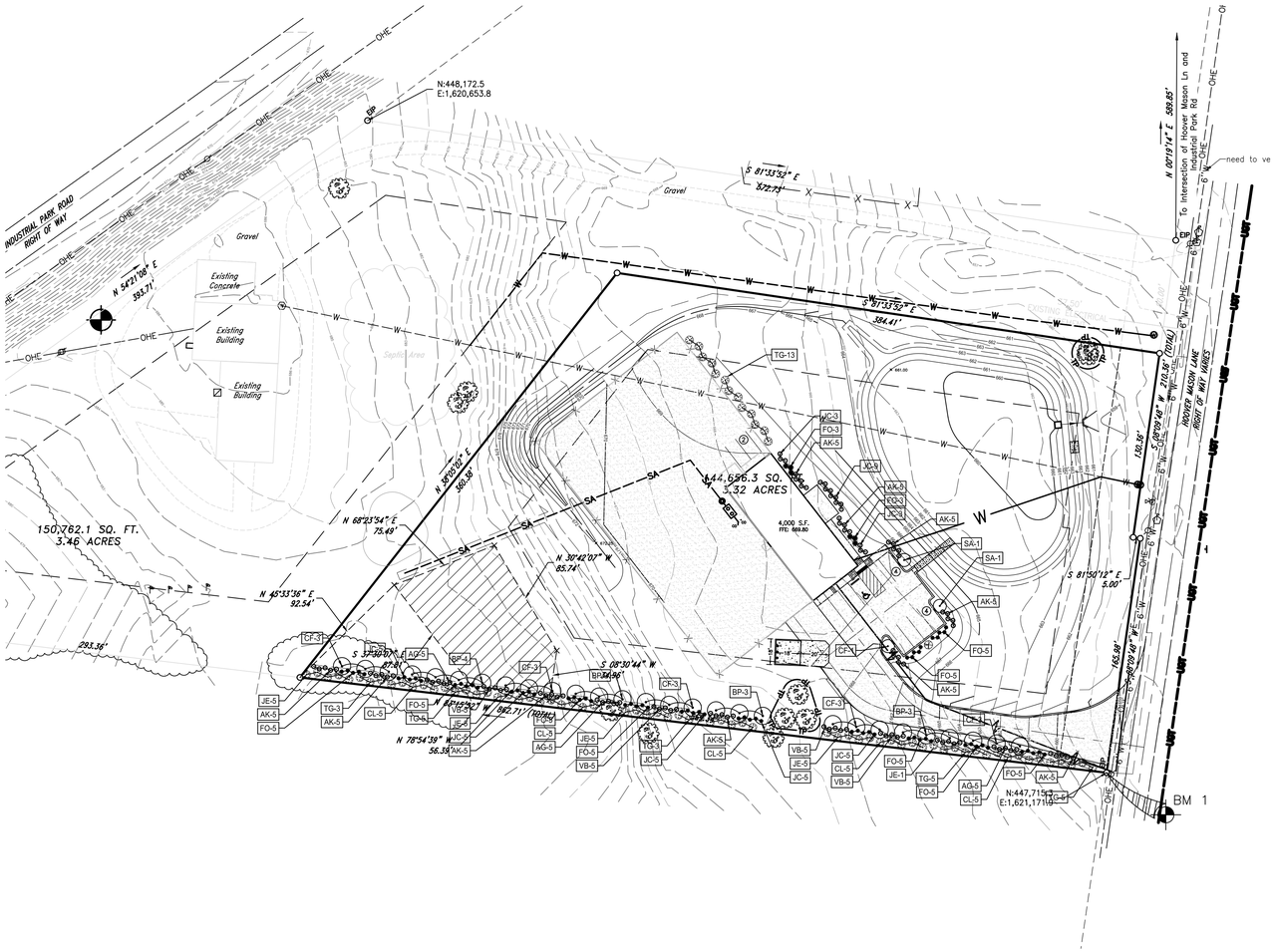
C-4.1

GERALD W. VICK III
REGISTERED ENGINEER
No. 107415
STATE OF TENNESSEE
geraldv@wesengineers.com

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

FILE: J:_WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

LANDSCAPE PLAN



BENCHMARK

BENCHMARK #1
IRON ROD
ELEV. 660.29'
NORTHING: 447,715.3
EASTING: 1,621,171.9
TENNESSEE COORDINATE SYSTEM OF 1983
NAVD 88

WARNING! UTILITY LINES!

THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND UNDERGROUND UTILITY WIRES AND SERVICES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF OVERHEAD OR UNDERGROUND SERVICES, THE UTILITY COMPANY SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. A THOROUGH EXAMINATION OF THE OVERHEAD WIRES IN THE PROJECT AREA SHOULD BE MADE BY THE CONTRACTOR PRIOR TO THE INITIATION OF CONSTRUCTION. THE UNDERGROUND UTILITY LINES HAVE BEEN SHOWN AS BEST AS CAN BE DETERMINED AT THIS TIME FROM THE INFORMATION OBTAINED FROM THE SURVEY. THE CONTRACTOR SHALL CONTACT EACH OF THESE COMPANIES PRIOR TO BEGINNING CONSTRUCTION AND HAVE THEM DETERMINE THE EXACT LOCATION AND TYPE OF THEIR SERVICES.

Tennessee811
Know what's below
Call before you dig.

LEGEND

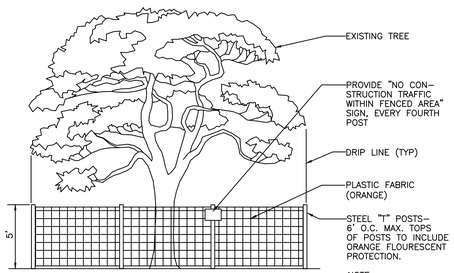
	EXISTING	PROPOSED
WATER MAIN		W
SANITARY SEWER		
STORM SEWER		
OVERHEAD		
FENCE		
GAS		
DRAINAGE DITCH		
TREE PROTECTION FENCE		
SIGN		
UTILITY POLE		
IRON PIN SET		
EXISTING IRON PIN	EIP	
CONCRETE MONUMENT		
DECIDUOUS TREE		
GATE VALVE IN BOX		
LIGHT POLE		
BENCHMARK	BM 1	

TREE LINE
STORM STRUCTURE LABEL (ST)
ASPHALT
CONCRETE
PARKING SPACES (14)
P.U.D.E.

LANDSCAPE LEGEND:

Proposed Plantings

Plant Identification	AG-9
Removed Trees	⊗
Proposed Canopy Trees	●
Proposed Understory Trees	●
Proposed Screening	●
Proposed Shrubs	●



Tree Protection Fencing Detail

NOTE:
ALL TREE PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING DEMOLITION AND SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETED. ANY REQUIRED EROSION CONTROL MEASURES SHALL BE PLACED OUTSIDE OF ANY TREE PROTECTION FENCING.

Landscape Notes:

1. The landscape contractor shall verify the exact location of all utilities and take necessary precautions to prevent damage to these utilities.
2. The landscape contractor shall coordinate all construction with the appropriate utility company and shall be responsible for and damage to utilities.
3. Plant materials and stumps indicated for removal shall be removed and disposed off-site by the contractor. Backfill holes with topsoil free of roots and rocks.
4. All planting and mulch beds shall be hand weeded or sprayed with round-up (contractor's option) prior to the installation of mulch.
5. The landscape contractor shall be responsible for the fine grading of all planting areas.
6. The landscape contractor shall verify all material quantities. In the event of a discrepancy, the quantities shown on the plan will take precedence.
7. The landscape contractor shall be responsible for completely maintaining the work (including but not limited to: watering, mulching, spraying, fertilizing, etc.) of all planting areas and lawns until total acceptance of the work by the owner.
8. The standards set forth in "American Standard for Nursery Stock" represent general guideline specifications only and will constitute minimum quality requirements for plant material. All plants must meet minimum size noted at the materials schedule. Trees shall be No. 1 grade specimen and shrubs shall be heavy well shaped specimens as well.
9. The landscape contractor shall completely guarantee all work for a period of one year beginning at the date of acceptance. The landscape contractor shall make all replacements promptly (as per direction of owner).
10. The landscape contractor shall provide the owner with written instructions on the proper care of all specified plant materials prior to final payment.
11. Existing trees to remain shall be protected from construction damage. Selectively prune dead wood.
12. All disturbed areas shall be planted with seed and mulched or turf as indicated on the materials schedule.
13. All deciduous trees, existing and proposed shall be pruned to provide 4' minimum clear trunk unless otherwise noted.
14. All Landscape materials to be selected by owner and must be in accordance to the Required Plant Speciesrequirements of the Zoning Ordinance. Remaining areas to be surfaced with shrubs, ground cover, grass, or other landscape material (excluding rock). (Zoning Ordinance 11.4.J.4A)
15. Canopy trees shall be a minimum of ten feet in height with a four to five-foot spread and a 2-inch caliper trunk at time of planting. Accent trees shall be a minimum of eight feet in height with a three to four-foot spread and a 1½ -inch caliper trunk at time of planting.
16. Deciduous trees shall have one dominant trunk with the tip of the leader on the main trunk left intact and the terminal bud on the central leader is at the highest point on the tree.
17. Trees with forked trunks are acceptable if all the following conditions are met:
A. The fork occurs in the upper ⅓ of the tree.
B. One fork is less than ⅔ the diameter of the dominant fork.
C. The top ⅓ of the smaller fork is removed at the time of planting.
19. No branch shall be greater than ⅔ the diameter of the trunk directly above the branch.
20. Several branches shall be larger in diameter and obviously more dominant.
21. Branching habit is to be more horizontal than vertical, and no branches are to be oriented nearly vertical to the trunk.
22. Branches are to be evenly distributed around the trunk with no more than one major branch located directly above another and the crown is to be full of foliage evenly distributed around the tree.
23. Stake all trees as shown in Planting on Slopes details.

ATTENTION OWNER/ INSTALLER
This landscape plan has been designed to meet the minimum requirements of the MT Pleasant, Tennessee zoning ordinance, the approval of the planning commission, and department policy. Relocating, substituting, resizing, reducing or deleting material may cause the site to no longer conform to the requirements. **Deviation from the approved landscape plan shall not be made without first obtaining approval from either the planning commission or the planning department.**

LANDSCAPE REQUIREMENTS

STREET BUFFER: (Xxxxx Drive) (3 CANOPY PER 100 L.F.)
- FRONTAGE = 119LF - 4 Canopy

PROJECT BOUNDARY BUFFER: (West Boundary Line): (RM-1/RM-1 - 0.2/0.4) (146.00')
(UNDEVELOPED) 1 CANOPY, 1 ACCENT, 7 SHRUBS / 100 FT (146.00')
- 1 Canopy, 2 Accent, 12 Shrubs

PROJECT BOUNDARY BUFFER: (South Boundary Line): (R-20/RM-1 - 0.4/0.6) (164.00')
(UNDEVELOPED) 1 CANOPY, 1 ACCENT, 7 SHRUBS / 100 FT (146.00')
- 1 Canopy, 2 Accent, 12 Shrubs

PROJECT BOUNDARY BUFFER: (East Boundary Line): (3 CANOPY PER 100 L.F.)
(UNDEVELOPED) 1 CANOPY, 1 ACCENT, 7 SHRUBS / 100 FT (146.00')
- 1 Canopy, 2 Accent, 12 Shrubs

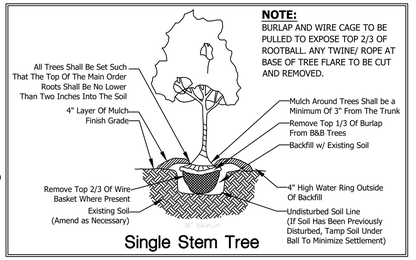
VEHICLE USE AREA: (1 TREE PER 50 LF OF LANDSCAPED AREA)
- 144 LF - 3 trees

LANDSCAPE WITHIN PARKING AREA CALCULATIONS:

OVERALL AREA OF PARKING:	3.71 ACRES
TOTAL LANDSCAPE AREA:	1.63 ACRES
ASPHALT AREA PERCENTAGE:	70.98%
GREENSPACE PERCENTAGE :	29.02%

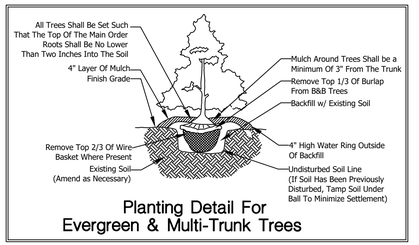
EXISTING TREES TO REMAIN

TN GRID NORTH

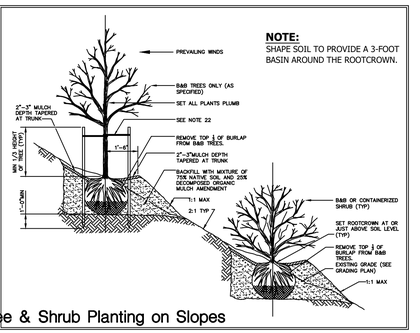


NOTE:
BURLAP AND WIRE CAGE TO BE PULLED TO EXPOSE TOP 2/3 OF ROOTBALL. ANY TWINE/ ROPE AT BASE OF TREE FLARE TO BE CUT AND REMOVED.

Single Stem Tree

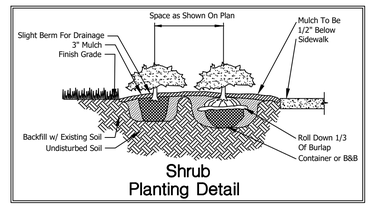


Planting Detail For Evergreen & Multi-Trunk Trees



NOTE:
SHAPE SOIL TO PROVIDE A 3-FOOT BASIN AROUND THE ROOTCROWN.

Tree & Shrub Planting on Slopes



Shrub Planting Detail

MATERIALS SCHEDULE

KEY	QUANTITY	SCIENTIFIC NAME	COMMON NAME	HEIGHT	SPREAD	TRUNK	REMARKS
CANOPY TREES							
AR	0	Acer Rubrum	Red Maple	6'-8'	3'-4'	2 1/2"	4' CLEAR TRUNK
QP	0	Quercus Phellos	Willow Oak	6'-8'	3'-4'	2 1/2"	4' CLEAR TRUNK
SA	2	Sassafras albidum	Sassafras	6'-8'	3'-4'	2 1/2"	4' CLEAR TRUNK
CL	0	Cupressocyparis leylandii	Leyland Cypress	6'-8'	3'-4'	2 1/2"	F.T.B.
JE	0	Juniperus Virginiana	Eastern Redcedar	6'-8'	3'-4'	2 1/2"	F.T.B.
UNDERSTORY TREES							
CF	16	Cornus Florida	White Flowering Dogwood	6'-8'	3'-4'	2"	4' CLEAR TRUNK
BP	13	Betula nigra 'Heritage'	Heritage River Birch	6'-8'	3'-4'	2"	MULTI-TRUNK
LI	0	Lagerstroemia indica	Creepemyrtle	6'-8'	3'-4'	2"	MULTI-TRUNK
PY	0	Prunus x yedoensis	Yoshino Cherry	6'-8'	3'-4'	2"	4' CLEAR TRUNK
IF	0	Ilex Attenuata 'Fosteri'	Foster Holly	6'-8'	3'-4'	2"	4' CLEAR TRUNK
TG	34	Thuja 'Green Giant'	Green Giant Arborvitae	6'-8'	3'-4'	2"	F.T.B.
SHRUBS							
AG	15	Abelia hybrid 'Edward Goucher'	Pink Abelia	24"-30"	18"-24"	F.T.B.	
AK	50	Abelia x grandiflora 'Kaleidoscope'	Abelia Kaleidoscope	24"-30"	18"-24"	F.T.B.	
FO	51	Forsythia Intermedia	Forsythia	24"-30"	18"-24"	F.T.B.	
JC	40	Juniperus Chinesis 'Sea Green'	Sea Green Juniper	24"-30"	18"-24"	F.T.B.	
VB	20	Viburnum burkwoodii 'Mowhawk'	Burkwood Viburnum	24"-30"	18"-24"	F.T.B.	
VP	0	Viburnum Pragense	Prague Viburnum	24"-30"	18"-24"	F.T.B.	
VS	0	Viburnum davidii	Dwarf Viburnum	24"-30"	18"-24"	F.T.B.	
TURF							
SEED		Turf Mixture	Rebel III Turftype Fescue. Temporary seed all disturbed areas @ 8#1,000sf.				
SOD		Fine Bladed Fescue Sod	Rebel III Install 4' strip behind ALL curb grass areas & between building & curb.				
MISCELLANEOUS							
		Seasonal Color		Flower Beds for Seasonal Plantings.			
		Shredded Hardwood Bark Mulch		Minimum 3" depth throughout plant beds.			

NOTES
F.T.B. = Full To Base
EXISTING AREAS OUTSIDE OF THE PROPOSED LIMIT OF CONSTRUCTION TO REMAIN UNDISTURBED. SEE LIMIT OF CONSTRUCTION AS OUTLINED ON THIS PLAN.

FLOOD STUDY NOTE:

THE PROPERTY IS NOT LOCATED WITHIN A FLOOD HAZARD AREA AS PER FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAPS (FIRM's) MAP NUMBER 47117C0270E DATED APRIL 16, 2007.

GRAPHIC SCALE
50 0 25 50 100 150
(IN FEET)
1 inch = 50 ft.

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

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WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
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ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

Drawn: bo
Checked: gw
Approved: GW
Date: 8/11/2025

Job. no. 25526
Scale:
Vertical: 1"=50'
Horizontal:

C-6.0

LAB LAND HOLDINGS, LLC (HELIOS)

6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
LANDSCAPE PLAN

FILE: J:\WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

LOT 2 - Soils Evaluation Letter

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
COLUMBIA ENVIRONMENTAL FIELD OFFICE
DIVISION OF WATER RESOURCES
1421 HAMPSHIRE PIKE
COLUMBIA, TENNESSEE 38401
PHONE (931) 380-3371 STATEWIDE 1-888-891-8332 FAX (931) 380-3397

General approval is hereby granted for Lot 2 as defined in the 6920 Hoover Mason Lane Division. The following shall be defined as general restrictions and shall apply to all lots with specific restrictions on each lot following general restrictions.

General Restrictions: Prior to any construction of a structure, permanent or mobile, the plans for the exact house/structure location and the subsurface sewage system must be approved by the Environmental Specialist with the Division of Ground Water Protection in Maury County. Any cutting or filling after August 30, 2024, may render the site unsuitable. Drainageways, gullied areas, cut and fill material and disturbed soil areas are unsuitable for sewage disposal areas. Structures must be properly located to obtain gravity flow to drain field, or a pump will be required. Water taps, waterlines and driveways should be located at side property lines unless otherwise noted. The High Intensity Soils Map designating suitable soil areas for this subdivision is on file at the Environmentalist's office.

S.S.D.S. denotes Subsurface Sewage Disposal System.

Lot 1: This lot has not been evaluated pursuant to this plat review for a subsurface sewage system disposal system and plat approval does not constitute approval of this lot or the existing system.

Lot 2: Suitable soil for subsurface sewage disposal system is located in the south eastern portion of the lot. With proper structure, driveway and utility locations outside of useable soils area this lot can accommodate a structure not to exceed two bedrooms and a pump will be required.

12/17/24
Date

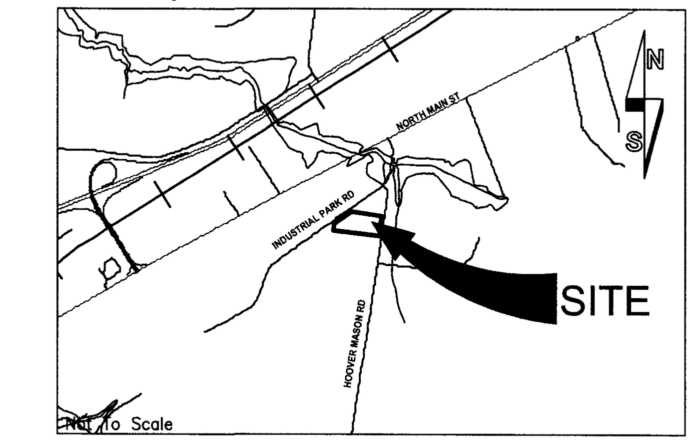
Alan Floyd
Environmental Specialist III

AF/an

Surveyor's Notes

1. All distances were measured with E.D.M. equipment and have been adjusted for temperature and pressure.
2. The property (Boundary) Line Survey exceeds the minimum requirements of an Urban Land Survey Category 1 as per Standards of Practice adopted by the State Board of Examiners for Land Surveyors for the State of Tennessee, and the precision of the unadjusted survey is greater than 1 foot in 10,000 feet.
3. Information concerning site utility services and appurtenances shown hereon is based on visible evidence noted during the survey, information provided by utility representatives or information shown on original construction plans by other. Information and location of service lines on site should be considered approximate and there may be underground utility lines that are not shown on the survey. Owner(s) and contractor(s) should assume responsibility of locating all underground utility service lines prior to any construction, excavation or any disturbance of the existing ground elevation to avoid hazard of unnecessary expense.
4. Information concerning major utilities or appurtenances shown hereon are based on visible evidence noted during the survey or information provided by utility representatives. Verification of existence, size, location, depth and availability of service should be confirmed by local utility agencies.
5. The property shown hereon is located within the Maury County, TN. All matters pertaining to construction, use location of improvements, signage, parking, noise, vibration, emissions, fire hazards, radiation, illumination, setback provisions, etc., are subject to the Maury County's Zoning Regulation as interpreted and regulated by the Building & Zoning Office.
6. The area of the parcels as shown hereon is ±6.78 Acres.
7. This property currently identified as Tax Map No. 126 Parcel No. 045.13, Maury County. For designation shown thus ( ) indicates Parcel Numbers for said map.
8. Plat reference: P12, Pages 65–66
9. Deed reference: Book R2557, Page 1328
10. Bearings based on: Tennessee State Plane, NAD(83).
11. This drawing was prepared in accordance with our field survey notes. It shows improvements as they exist to the best of our knowledge, but is not guaranteed to be correct in each and every detail.
12. This survey was prepared from current deeds of record and does not represent a title search or a guarantee of title, and is subject to any state of facts a current and accurate search may reveal.
13. This survey was prepared for the exclusive use of the person, persons, or entity, if any, named on the certification hereon. Said certificate does not extend to any unnamed person without an express re-certification by the surveyor naming said person.
14. The certification as provided on this survey, is purely a statement of professional opinion based on knowledge, information and belief, based on existing field evidence and documentary evidence provided by others.
15. The certification is not an expressed or implied warranty or guarantee.
16. This property is not located in a Special Flood Hazard Area as shown on F.E.M.A. Flood Insurance Rate Map, Community Panel No. 47119C0270E, dated April 16, 2007 (Zone 'X') (Panel Not Printed).
17. All public utility and drainage easements located on proposed lots are to be maintained by the individual property owner for said lot.

Location Map



©2024

SITE DATA:

OWNER:
MICHAEL SHANE AND TAMMY LYNN ANDERSON
3885 BUCK MATTHEWS ROAD
COLUMBIA, TN 38401

PARCEL NUMBER:
TAX MAP 126, PARCEL 045.13

PLAT BOOK:
P12, PAGES 65–66, LOT 9

DEED BOOK:
R2557, PG 1328

ADDRESS:
6920 HOOVER MASON LANE

SUBJECT PARCEL ZONING:
IL – LIGHT INDUSTRIAL

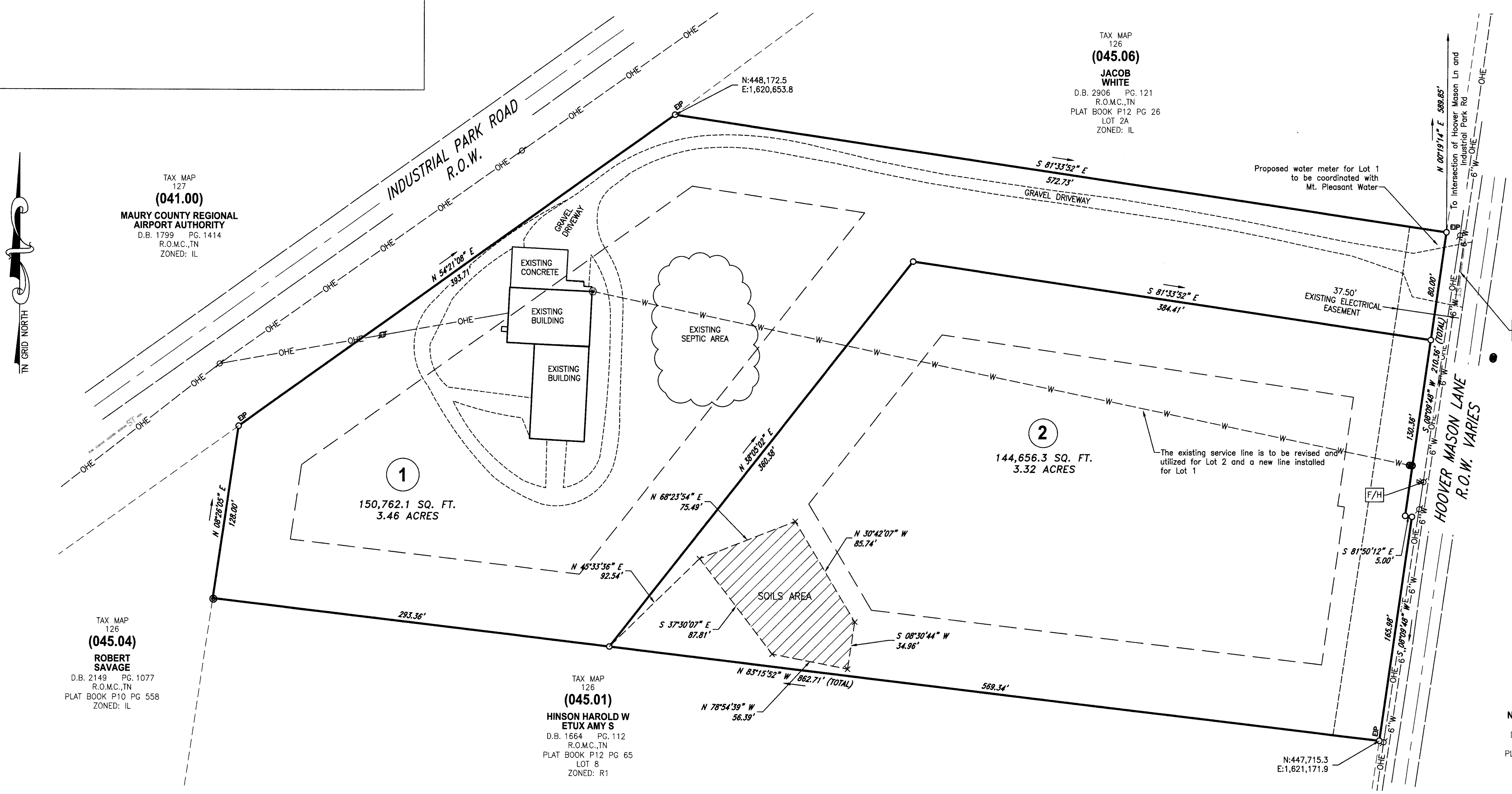
ACREAGE OF SITE:
TOTAL – 295,418.4 S.F. OR 6.78 ACRES
PARCEL 1 – 150,762.1 S.F. OR 3.46 ACRES
PARCEL 2 – 144,656.3 S.F. OR 3.32 ACRES

MINIMUM REQUIRED BUILDING SETBACKS:
50' FRONT
50' REAR
50' SIDE

MINIMUM LOT WIDTH:
100'

PURPOSE NOTE:
The purpose of this plat is to subdivide the existing property into 2 lots.

Septic Area Note:
The graphic area shown [hatched] are provided for informational purposes to Owners & Builders. If the soils areas are disturbed or encroached upon, the owners and/or Builders shall coordinate with the Tennessee Department of Environment & Conservation to obtain additional approvals prior to being issued a Building Permit or a Certificate of Occupancy.



CERTIFICATE OF OWNERSHIP AND DEDICATION

I (we) hereby certify that I am (we are) the owner(s) of the property shown and described hereon as evidenced in Book Number R2557, Page 1328, Maury County Register's Office, and that I (we) hereby adopt this plan of subdivision with my (our) free consent, establish the minimum building restriction lines, and that offers of irrevocable dedication for all public ways, utilities, and other facilities have been filed.

Tax Map 126, Parcel 045.13

12-17-2024 — Date — Shane Anderson

12-17-2024 — Date — Tammy Anderson

Printed Name and Title (If Action for Partnership or Corporation)

CERTIFICATE OF APPROVAL OF WATER SYSTEM

I hereby certify that the water system(s) outlined or indicated on the final subdivision plat entitled 6920 Hoover Mason Lane has/have been installed in accordance with current local and state government requirements, or a sufficient bond or other surety has been filed to guarantee said installation.

12-17-24 — Date — Mt. Pleasant Water Systems Authorized Appoving Agent

CERTIFICATE OF APPROVAL FOR RECORDING

I hereby certify that the subdivision plat shown hereon has been found to comply with the Mount Pleasant Regional Subdivision Regulations, with the exception of such variances, if any, as are noted in the Minutes of the Planning Commission, and that it has been approved for recording in the Office of the County Register.

12-17, 2024 — Date — Secretary, Mt. Pleasant Planning Commission

SURVEYOR'S CERTIFICATION (TENNESSEE)

I hereby certify that to the best of my knowledge and belief the hereon shown subdivision plat represents a Category "IV" Survey having an unadjusted ratio of precision of 1: 10,000 and is true and correct. Approved monuments have been placed as indicated. All side lot lines are at right angles or radial to a street unless otherwise noted.

12/16/24 — Date — Allen B. O'Leary — TN RLS #1987 Number

ALLEN B. O'LEARY REGISTERED LAND SURVEYOR TENNESSEE NO. 1987

12/17/2024 - 02:37 PM
24016899
1 PGS:AL-PLAT
NANCY BATCH: 341856
PLAT BOOK: P23
PAGE: 544

REC FEE	15.00
DP FEE	2.00
TOTAL	17.00

STATE OF TENNESSEE, MAURY COUNTY
JOHN FLEMING
REGISTER OF DEEDS

Register of Deed Recording Stamp

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50 ft.

Legend

Symbol	Meaning	Line	Meaning	Line	Meaning
EIP	Iron Rod Found		Adjoining Property Line	W	Water Line
IPS	Iron Rod Set		Subject Property Line	ST	Storm Sewer Line
	Water Meter		Easement Line	OH	Overhead Utility Line
	Water Valve		Building Setback Line	OHC	Overhead Cable Line
	Electric Meter		Centerline	OHE	Overhead Electric Line
	Power Pole		Edge of Pavement	OHT	Overhead Telephone Line
	Guy Wire		Edge of Gravel		
	Mailbox	X	Fence Line		
	Sign				

FILE: J:\WES_Engineers_Surveyors 2019\19564 – Hoover Mason – Anderson\Dwg\Survey\19564–Hoover Survey 2 Lot – FINAL PLAT rev1.dwg

WES ENGINEERS & SURVEYORS
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
COLUMBIA, TN 38401
PHONE: (931) 388-2329
www.wesengineers.com

WES ENGINEERS & SURVEYORS

Client
SHANE & TAMMY ANDERSON
3885 BUCK MATTHEWS RD
COLUMBIA, TN 38401

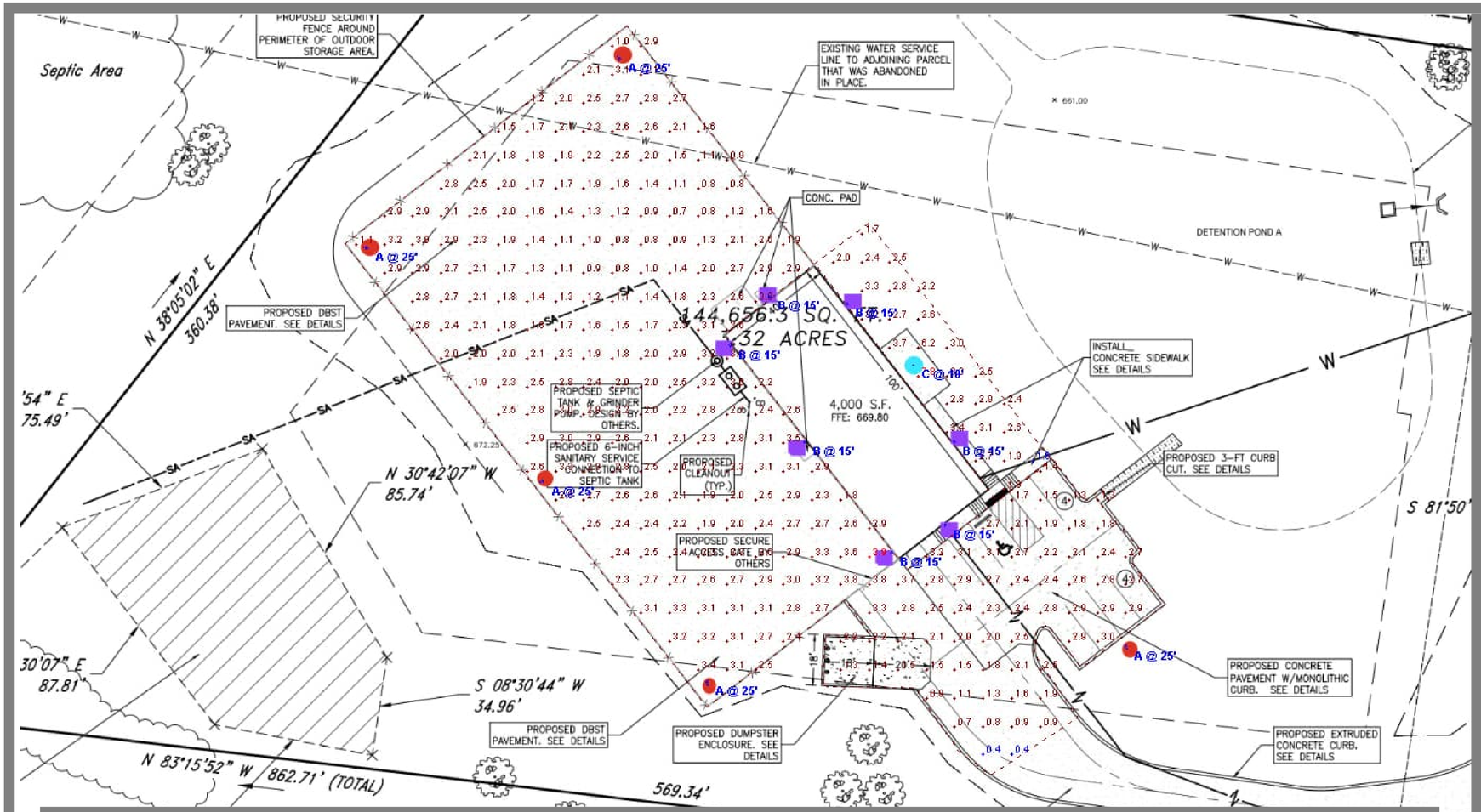
REVISIONS	DATE
Mt. Pleasant Staff Comments	11–26–24

FINAL PLAT
6920 HOOVER MASON LANE
MAURY COUNTY, TN

Drawn: CG
Checked: EB
Approved: AO
Date: 10–18–24

Job. no. 19564
Scale: Vertical: Horizontal: 1"=50'

1 of 1



Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power
	A	5	Industrial Lighting Products Inc	SAS-15L-U-40-T3	Skyline Small, 15,000 Lumens, 4000K, Type 3 Optic	1	16982	0.9	110.5
	B	7	Industrial Lighting Products LLC	SWM-6L-U-40-T4	Skyline Wall Pack Medium, 6000L, 4000K, T4 Lens	1	6096	0.9	42.6
	C	1	ILP		CP-3L-U-40	1	3476	0.9	28.4

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Paved Area	+	2.2 fc	3.9 fc	0.4 fc	9.8:1	5.5:1
Building Front	+	3.0 fc	7.8 fc	1.6 fc	4.9:1	1.9:1

Note

1. Dimensions:
2. Mounting Height: 10, 15, 25
3. Calc Zone: 0
4. Reflectances:

Calculations provided are estimates only.

ILP

Layout

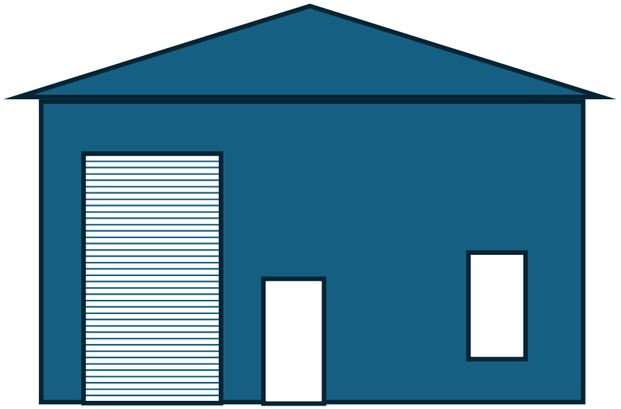
Designer
Bryan Schneider
Date
08/22/2025
Scale
Not to Scale
Drawing No.

Summary

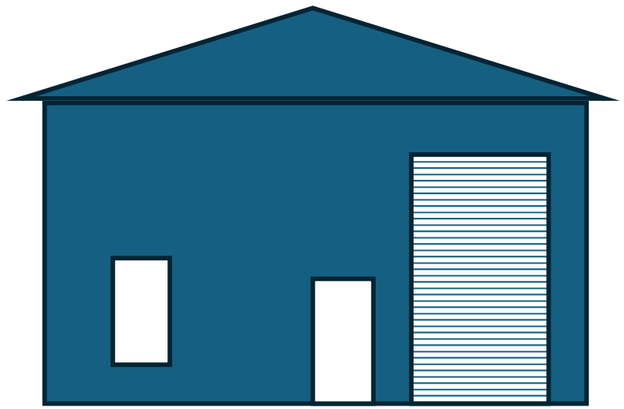
1 of 1

Lab Land Holdings, LLC
Helios
Hoover Mason Lane

Left Side



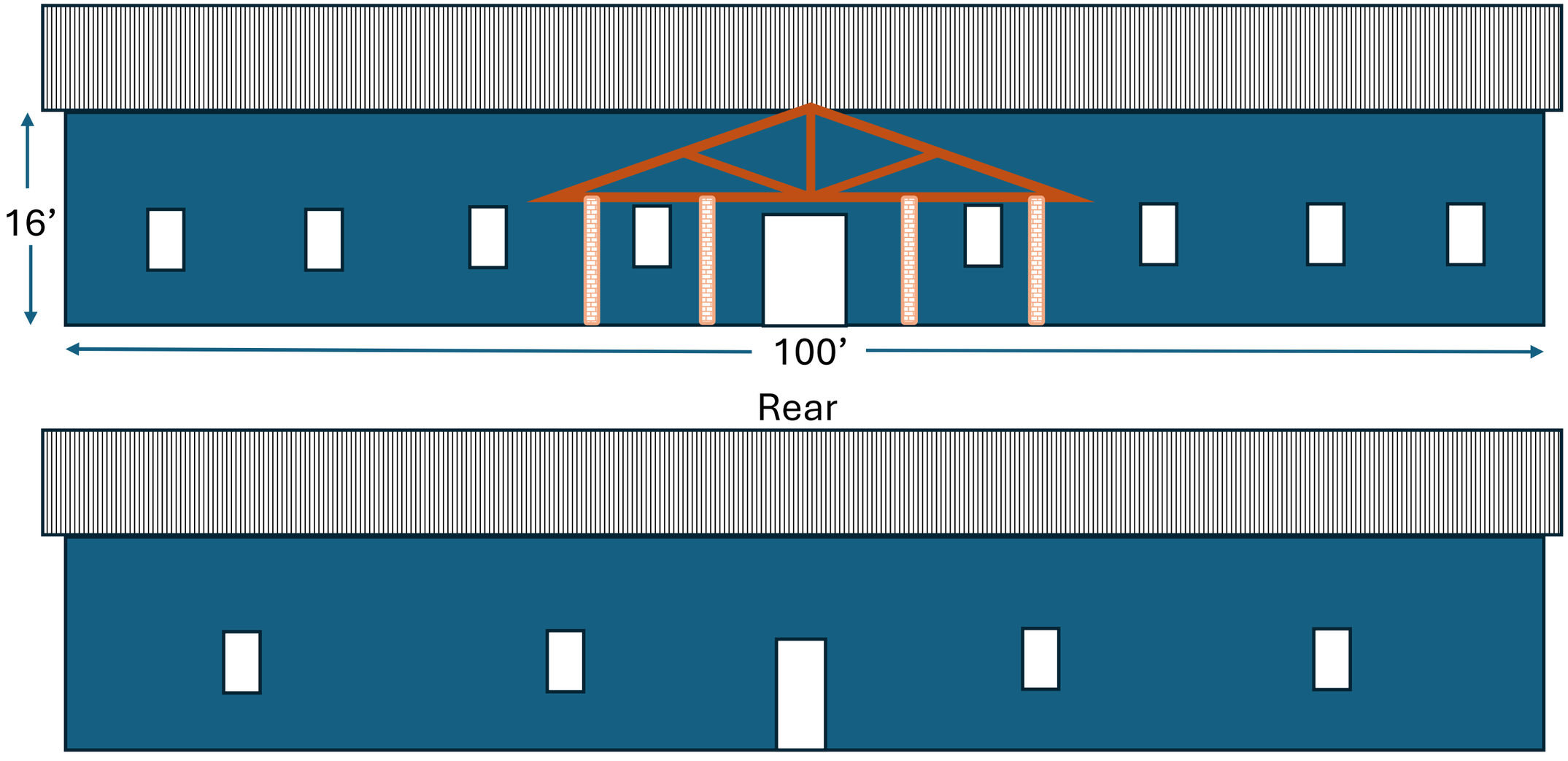
Right Side



40’

.24, standing seem roof, rated for addition of solar panels

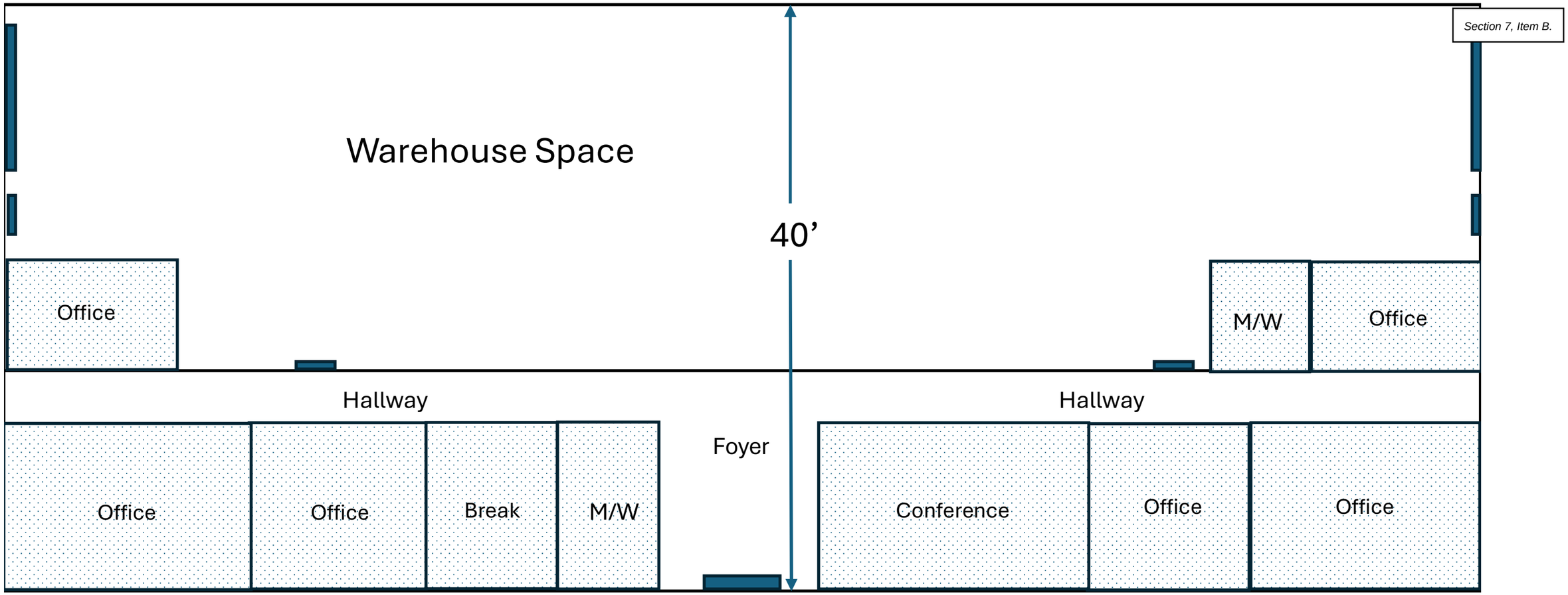
Front



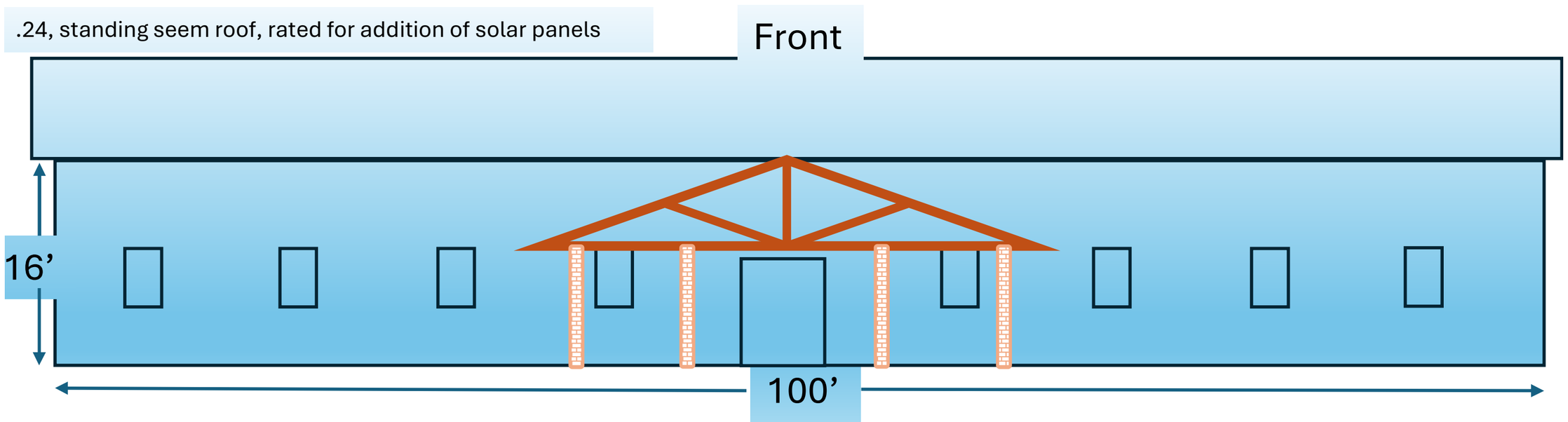
16’

100’

Rear



.24, standing seem roof, rated for addition of solar panels



Drainage and Water Quality System Calculations

For

Lab Land Holdings, LLC

Located on

Hoover Mason Lane

Mt. Pleasant, Tennessee

August 11, 2025
(Revised August 27, 2025)

Prepared For:
Lab Land Holdings
2411 Darks Mill Road
Columbia, TN 38401

Prepared By:

WES
ENGINEERS & SURVEYORS
2486 Nashville Highway
Columbia, TN 38401
(931) 388-2329

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Introduction	3
Methods and Assumptions	4
Sub-Basin Identification	4
Hydraulic Characteristics	5
Summary of Discharge	5
Outlet Condition	5
Conclusions	5

Appendix 1:	Hydroflow Model Output
Appendix 2:	Drainage Calculations Summary & Storm Sewer Design Table Existing TC Proposed TC
Appendix 3:	MP-1 - Drainage Area Map (See 24”x36” insert).

List of Figures

Figure No.	Title
1	Location Map
2	Mt Pleasant IDF Curve
3	Detention Basin: Stage-Discharge-Storage Tables
4	Pond Report

Lab Land Holdings – Hoover Mason Lane – Mt. Pleasant, TN
Detention Summary

The subject property consists of ±3.32 acres of gently rolling terrain located on Hoover Mason Lane in Mt. Pleasant, TN. The project includes 2.50 acres disturbed for an industrial distribution facility with related appurtenances.

The existing drainage pattern of the site is directed primarily to the east across the site through a series of sheet flow and shallow drainage swales eventually entering Quality Creek off-site. In its existing condition, the natural drainage patterns of the site are primarily directed towards the east by means of overland flow, and natural draws. The general soil information indicates the native soil is primarily mined, pit, and dumped (Hydrologic Soil Group D). For existing flow characteristics see Appendix 3, *Drainage Area Map.*

The SCS Method was used to calculate runoff hydrographs for pre- and post-development conditions for the 2, 5, 10, 25, 50 and 100-year rainfall events. Rainfall information for the basin was obtained from the Intensity-Duration-Frequency Curves and Depth-Duration Data Table (Figure 2-1 of the NOAA Atlas 14 point precipitation frequency events from Mount Pleasant 2 SW 40-6340 included in this report, see Figure 3). Times of concentration for the pre-development site for is 8.9 minutes. Post development is 10.1 minutes and was used for the design of the proposed detention facility. Calculations can be found in Appendix 2.

The pre-development curve number was calculated at 80. The post development curve number has been calculated to be 85 for the proposed site. The proposed development curve number has been established based on the anticipation of the roadways, drives, and rooftop areas being 98% impervious and the transition of pervious surfaces to manicured lawns.

Stormwater management of this site will include one detention basins located as shown in the construction document. The proposed detention system for Basin A includes 43,120 c.f. in the detention basin as shown on the plans. The outlet control structures for the basin provides a controlled release of storm events while retaining smaller storms for water quality infiltration in the basins and reduction of the peak runoff of a given storm event as indicated in the summary charts below. Sediment is designed to drop and accumulate in the drainage basins and access for removal of sediment is allowed from the basin and the outlet structure. The drainage basins provide storage of the 100-year storm event at elevations indicated in the chart below (contains the 100-year storm event). Stormwater runoff flows overland across the proposed site, entering a surface drainage network that transfers the water to the detention basin. The detention basin discharge **below** the calculated pre-development rate through the design outlet structures, rectangular weirs, and outfalls into the existing ditch line as shown on the plan. The layout and configuration of the detention basin have been included in the submitted construction documents and the detail of the proposed outlet structures for the Basins are included in this document (Appendix 2). The report that follows defines the characteristics of the proposed drainage network. Note that offsite drainage that comes onto the property is captured and directed through the existing drainage

network as shown in the construction documents. A summary of each of the rai events, the routed flows from post-development into the water quality facilities and their respective elevations numerically for 2, 5, 10, 25, 50, and 100 year storms are represented in the following tables:

Detention Basin:

Basin A:

Storm Event	*Rainfall*	*Rainfall*	*Post-Developed*	*Pre-Developed*	*Total Proposed Runoff*	*Basin Elevation*
(YR)	IN (24-HR)	IN (6-HR)	Flow (CFS)	Flow (CFS)	CFS	FT
2	3.90	2.60	11.31	10.32	3.84	661.46
5	4.75	3.17	14.87	14.06	5.08	661.70
10	5.42	3.66	17.70	17.08	6.06	661.92
25	6.35	4.34	21.62	21.30	8.53	662.19
50	7.08	4.92	24.70	24.64	11.00	662.39
100	7.84	5.54	27.89	28.12	13.80	662.58

Introduction

A hydrologic and hydraulic analysis was performed for the proposed property located on Hoover Mason Lane, Mt. Pleasant, Tennessee (See Fig. 1, Location Map).

This analysis outlines the calculations used to size the on-site drainage network and the system's detention basin.

The proposed drainage areas contributing storm water runoff to the proposed system is shown in appendix 3, *Drainage Area Map*. The system is designed to restrict the flow rate for the post-development site to improve the quality of the runoff as it exits the site (See Appendix 3, Drainage Area Map). The detention basin and outlet structure was analyzed to satisfy these criteria. The 2-year, 5-year, 10-year, 25-year, 50-yr, and 100-yr design storm events were also modeled with the results included in this report.

The Hydroflow Hydrographs computer program was used in this analysis in order to appropriately size the outlet structure and route the design storm events through the proposed detention system.

Methods and Assumptions

The Hydroflow Hydrographs computer program, was used for the hydrologic analysis in this report.

Within the Hydroflow Hydrographs program, the drainage area was characterized by sub-basin(s) for the fully built-out post-development conditions for the tributary area to the detention system. SCS method was used within Hydroflow Hydrographs program to characterize the sub-basin using appropriate curve numbers and times of concentration (Tc). A design rainfall values were taken from the Intensity – Duration - Frequency curves established at the NOAA Atlas 14 point precipitation frequency events from Mount Pleasant 2 SW 40-6340, and shown in Figure 2, Mt. Pleasant IDF Curve.

The detention basin was modeled by entering a stage-storage-discharge relationship into Hydroflow Hydrographs. The stage-discharge-volume relationship was established based upon trial & error methods comparing the pre & post development flow values.

Sub-Basin Identification

Sub-basins were established based on hydrologic characteristics and by hydraulic junction locations. The drainage area on site was represented by two sub-basins: *pre-development & post-development.*

The *pre-development* sub-basin is the total area tributary to the system in the undeveloped condition.

The *post-development* sub-basin is the total area tributary to the system in the developed condition.

Hydraulic Characteristics

The stage – storage - discharge relationship for the detention system can be found in Figure 3. These hydraulic characteristics were used in the Hydroflow Hydrographs model to produce the results identified in this report.

Summary of Discharge

The Detention Calculation summary, located in Appendix 2*,* identifies the peak flow for the design storm events for the areas draining through the site at pre development and post development rates. The Sub-basin locations and various hydrograph modeling by SCS method model components can be identified in Appendix 1, Hydroflow Hydrographs Summary.

Outlet Condition

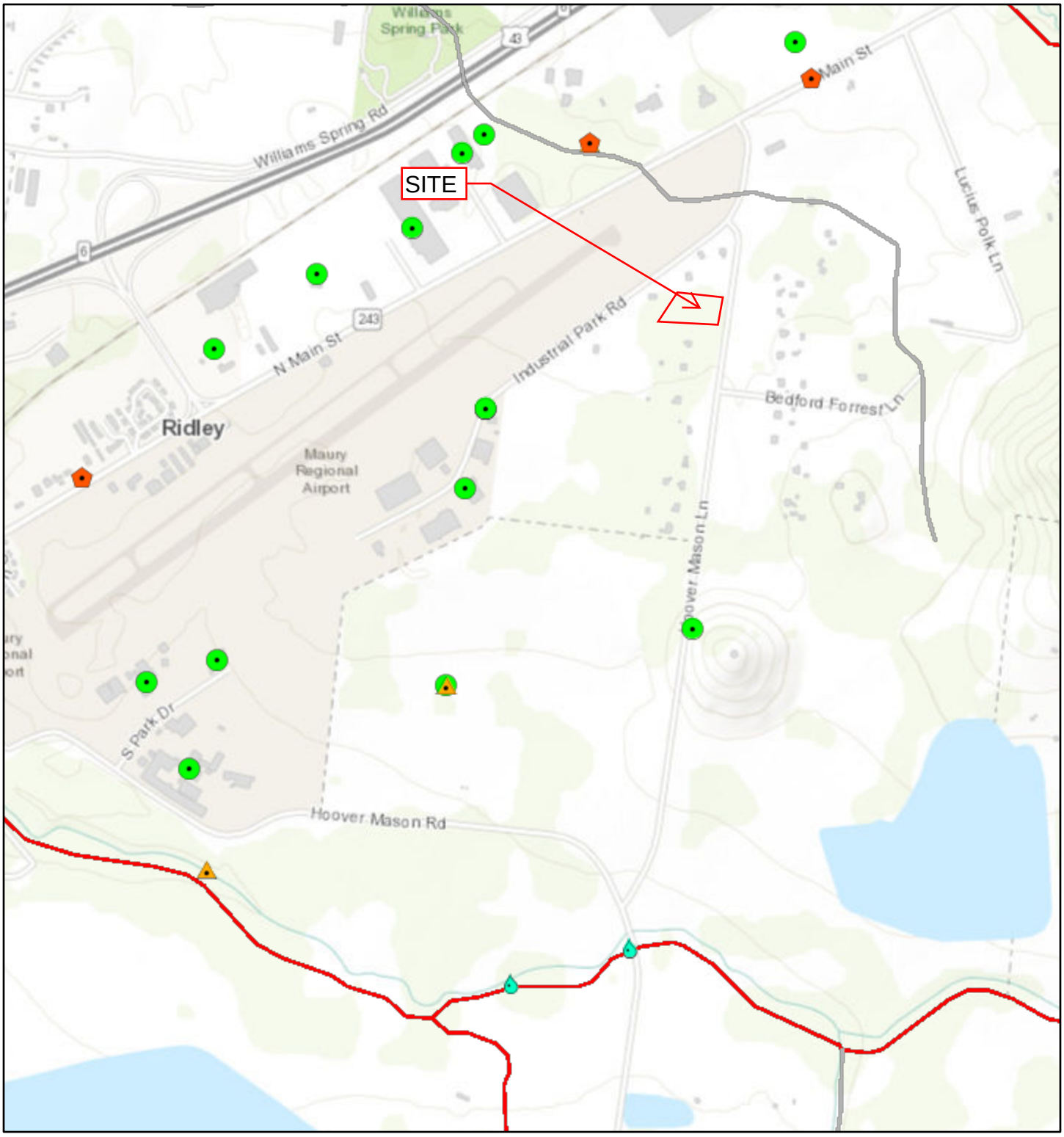
The Outlet Structure for the Detention Basin is designed to release the drainage at a rate below the pre-development rate. The structure restricts the storm water flow using a rectangular weir design with a drawdown orifice, restricting the flow until reaching the invert of the weir, then releasing the storm water runoff to an outlet pipe. The outlet structure will impede stormwater flow causing water to rise in the basins allowing suspended sediment to settle into the basins improving the quality of the runoff. Sediment is designed to drop and accumulate in the basins with access for removal of sediment from the surface. The system is designed to overflow across the emergency overflow for events in excess of the 100-year storm event and includes 1-foot of freeboard within the design. The top of the weir elevation of the outlet structure is greater than the design 100-year water surface elevation.

Conclusions

As can be seen in the summary, calculations and within Appendix 1, the drainage system provides the desired detention of the storm water runoff, using the design parameters in this report. Therefore, from the analysis presented in this report, the proposed system will improve the water quality of the runoff from the proposed development.

The post developed runoff from this site (100-year) has been ***reduced*** by **14.32** cfs by design.

ArcGIS Web Map



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1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Counties

Water Quality Assessment Waterbodies

Fully Supporting

Not Assessed

Not Supporting

Water Quality Assessment

Fully Supporting

Fully Supporting (Evaluated)

Not Assessed

Not Supporting

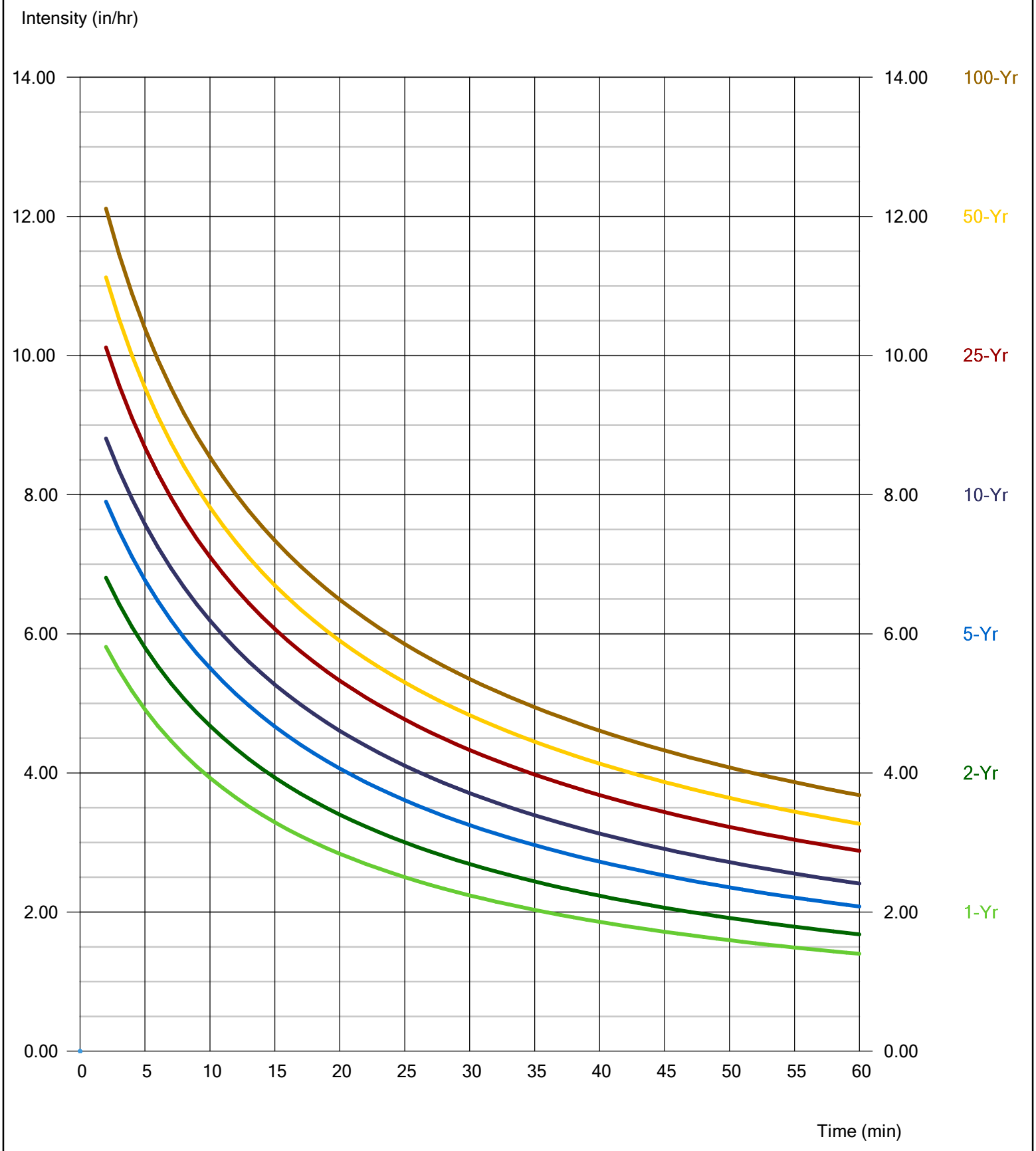
Not Supporting (Evaluated)

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Rich Cochran

ArcGIS Web AppBuilder
Rich Cochran | Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA |

Hydraflow IDF Curves

IDF file: Mt Pleasant.IDF



Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	7.623	10.32	-------	14.06	17.08	21.30	24.64	28.12	Existing Conditions
2	SCS Runoff	------	8.670	11.31	-------	14.87	17.70	21.62	24.70	27.89	Proposed Conditions
4	SCS Runoff	------	6.084	7.939	-------	10.44	12.42	15.17	17.33	19.58	Onsite to Detention A
5	SCS Runoff	------	1.658	2.231	-------	3.016	3.645	4.526	5.221	5.944	Offsite To Detention Basin A
6	Combine	4, 5	7.741	10.15	-------	13.41	16.00	19.60	22.43	25.37	Total to Detention Basin A
8	Reservoir	6	0.261	0.772	-------	2.170	3.811	6.226	8.230	10.84	Outfall Det. Basin A
10	SCS Runoff	------	2.821	3.724	-------	4.947	5.921	7.278	8.342	9.449	On-site Bypass
12	Combine	1, 5,	9.280	12.55	-------	17.08	20.72	25.83	29.86	34.07	Total Existing Conditions
13	Combine	8, 10,	2.921	3.836	-------	5.075	6.057	8.528	11.00	13.80	Total Proposed Conditions
15	SCS Runoff	------	3.289	4.376	-------	5.857	7.039	8.689	9.986	11.34	Max Drainage to Ditch

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Pond No. 1 - Detention Pond A

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 659.41 ft. Voids = 80.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	659.41	10	0	0
0.59	660.00	5,340	878	878
1.59	661.00	14,533	7,648	8,526
2.59	662.00	16,588	12,438	20,964
3.59	663.00	18,990	14,219	35,183
4.09	663.50	20,710	7,937	43,120

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	2.00	0.00	0.00
Span (in)	= 18.00	2.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 659.31	659.41	0.00	0.00
Length (ft)	= 16.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	No	No

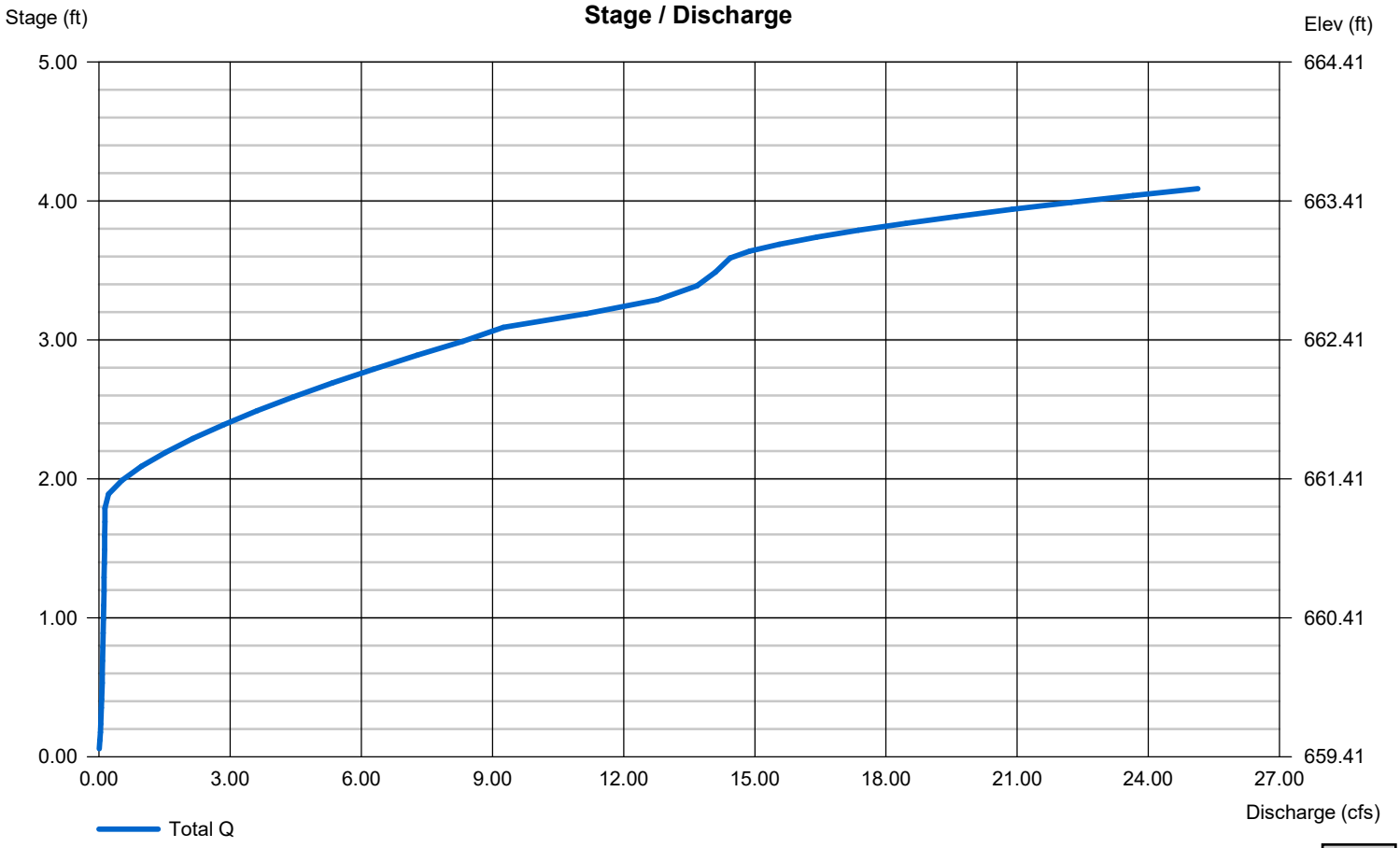
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.00	2.00	8.00	0.00
Crest El. (ft)	= 662.50	661.25	663.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	Rect	Ciplti	---
Multi-Stage	= Yes	Yes	No	No

Exfil.(in/hr) = 0.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Appendix 1

Hydroflow Hydrographs
Model Output
Summary

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	7.623	2	720	17,453	------	------	------	Existing Conditions
2	SCS Runoff	8.670	2	720	22,482	------	------	------	Proposed Conditions
4	SCS Runoff	6.084	2	720	15,778	------	------	------	Onsite to Detention A
5	SCS Runoff	1.658	2	718	3,798	------	------	------	Offsite To Detention Basin A
6	Combine	7.741	2	720	19,576	4, 5	------	------	Total to Detention Basin A
8	Reservoir	0.261	2	892	19,561	6	661.31	12,440	Outfall Det. Basin A
10	SCS Runoff	2.821	2	716	5,701	------	------	------	On-site Bypass
12	Combine	9.280	2	720	21,251	1, 5,	------	------	Total Existing Conditions
13	Combine	2.921	2	716	25,262	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	3.289	2	716	6,641	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	10.32	2	718	23,613	------	------	------	Existing Conditions
2	SCS Runoff	11.31	2	720	29,438	------	------	------	Proposed Conditions
4	SCS Runoff	7.939	2	720	20,660	------	------	------	Onsite to Detention A
5	SCS Runoff	2.231	2	718	5,104	------	------	------	Offsite To Detention Basin A
6	Combine	10.15	2	720	25,764	4, 5	------	------	Total to Detention Basin A
8	Reservoir	0.772	2	770	25,749	6	661.46	14,187	Outfall Det. Basin A
10	SCS Runoff	3.724	2	716	7,560	------	------	------	On-site Bypass
12	Combine	12.55	2	718	28,717	1, 5,	------	------	Total Existing Conditions
13	Combine	3.836	2	716	33,309	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	4.376	2	716	8,865	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	14.06	2	718	32,249	------	------	------	Existing Conditions
2	SCS Runoff	14.87	2	720	38,997	------	------	------	Proposed Conditions
4	SCS Runoff	10.44	2	720	27,368	------	------	------	Onsite to Detention A
5	SCS Runoff	3.016	2	718	6,927	------	------	------	Offsite To Detention Basin A
6	Combine	13.41	2	720	34,295	4, 5	------	------	Total to Detention Basin A
8	Reservoir	2.170	2	738	34,280	6	661.70	17,279	Outfall Det. Basin A
10	SCS Runoff	4.947	2	716	10,136	------	------	------	On-site Bypass
12	Combine	17.08	2	718	39,176	1, 5,	------	------	Total Existing Conditions
13	Combine	5.075	2	716	44,416	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	5.857	2	716	11,957	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	17.08	2	718	39,316	------	------	------	Existing Conditions
2	SCS Runoff	17.70	2	720	46,708	------	------	------	Proposed Conditions
4	SCS Runoff	12.42	2	720	32,780	------	------	------	Onsite to Detention A
5	SCS Runoff	3.645	2	718	8,414	------	------	------	Offsite To Detention Basin A
6	Combine	16.00	2	720	41,194	4, 5	------	------	Total to Detention Basin A
8	Reservoir	3.811	2	734	41,179	6	661.92	20,017	Outfall Det. Basin A
10	SCS Runoff	5.921	2	716	12,224	------	------	------	On-site Bypass
12	Combine	20.72	2	718	47,730	1, 5,	------	------	Total Existing Conditions
13	Combine	6.057	2	716	53,403	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	7.039	2	716	14,472	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	21.30	2	718	49,394	------	------	------	Existing Conditions
2	SCS Runoff	21.62	2	720	57,587	------	------	------	Proposed Conditions
4	SCS Runoff	15.17	2	720	40,415	------	------	------	Onsite to Detention A
5	SCS Runoff	4.526	2	718	10,530	------	------	------	Offsite To Detention Basin A
6	Combine	19.60	2	720	50,945	4, 5	------	------	Total to Detention Basin A
8	Reservoir	6.226	2	732	50,930	6	662.19	23,724	Outfall Det. Basin A
10	SCS Runoff	7.278	2	716	15,183	------	------	------	On-site Bypass
12	Combine	25.83	2	718	59,923	1, 5,	------	------	Total Existing Conditions
13	Combine	8.528	2	718	66,113	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	8.689	2	716	18,042	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	24.64	2	718	57,466	------	------	------	Existing Conditions
2	SCS Runoff	24.70	2	720	66,231	------	------	------	Proposed Conditions
4	SCS Runoff	17.33	2	720	46,481	------	------	------	Onsite to Detention A
5	SCS Runoff	5.221	2	718	12,222	------	------	------	Offsite To Detention Basin A
6	Combine	22.43	2	720	58,703	4, 5	------	------	Total to Detention Basin A
8	Reservoir	8.230	2	730	58,688	6	662.39	26,530	Outfall Det. Basin A
10	SCS Runoff	8.342	2	716	17,541	------	------	------	On-site Bypass
12	Combine	29.86	2	718	69,688	1, 5,	------	------	Total Existing Conditions
13	Combine	11.00	2	718	76,229	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	9.986	2	716	20,892	------	------	------	Max Drainage to Ditch

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	28.12	2	718	65,984	------	------	------	Existing Conditions
2	SCS Runoff	27.89	2	720	75,302	------	------	------	Proposed Conditions
4	SCS Runoff	19.58	2	720	52,847	------	------	------	Onsite to Detention A
5	SCS Runoff	5.944	2	718	14,005	------	------	------	Offsite To Detention Basin A
6	Combine	25.37	2	720	66,852	4, 5	------	------	Total to Detention Basin A
8	Reservoir	10.84	2	730	66,837	6	662.58	29,266	Outfall Det. Basin A
10	SCS Runoff	9.449	2	716	20,021	------	------	------	On-site Bypass
12	Combine	34.07	2	718	79,989	1, 5,	------	------	Total Existing Conditions
13	Combine	13.80	2	718	86,858	8, 10,	------	------	Total Proposed Conditions
15	SCS Runoff	11.34	2	716	23,893	------	------	------	Max Drainage to Ditch

Hydrograph Report

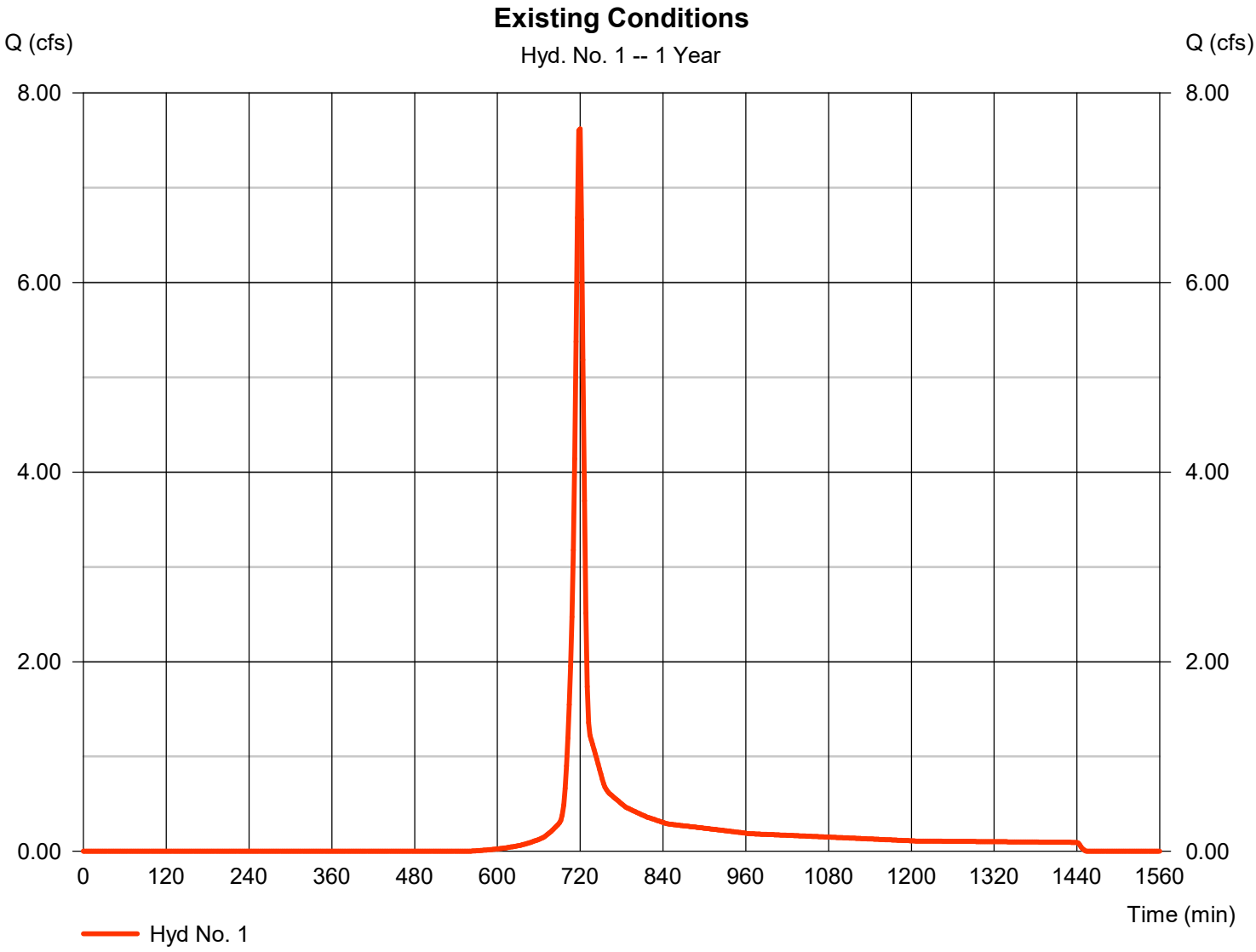
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 7.623 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 17,453 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



Hydrograph Report

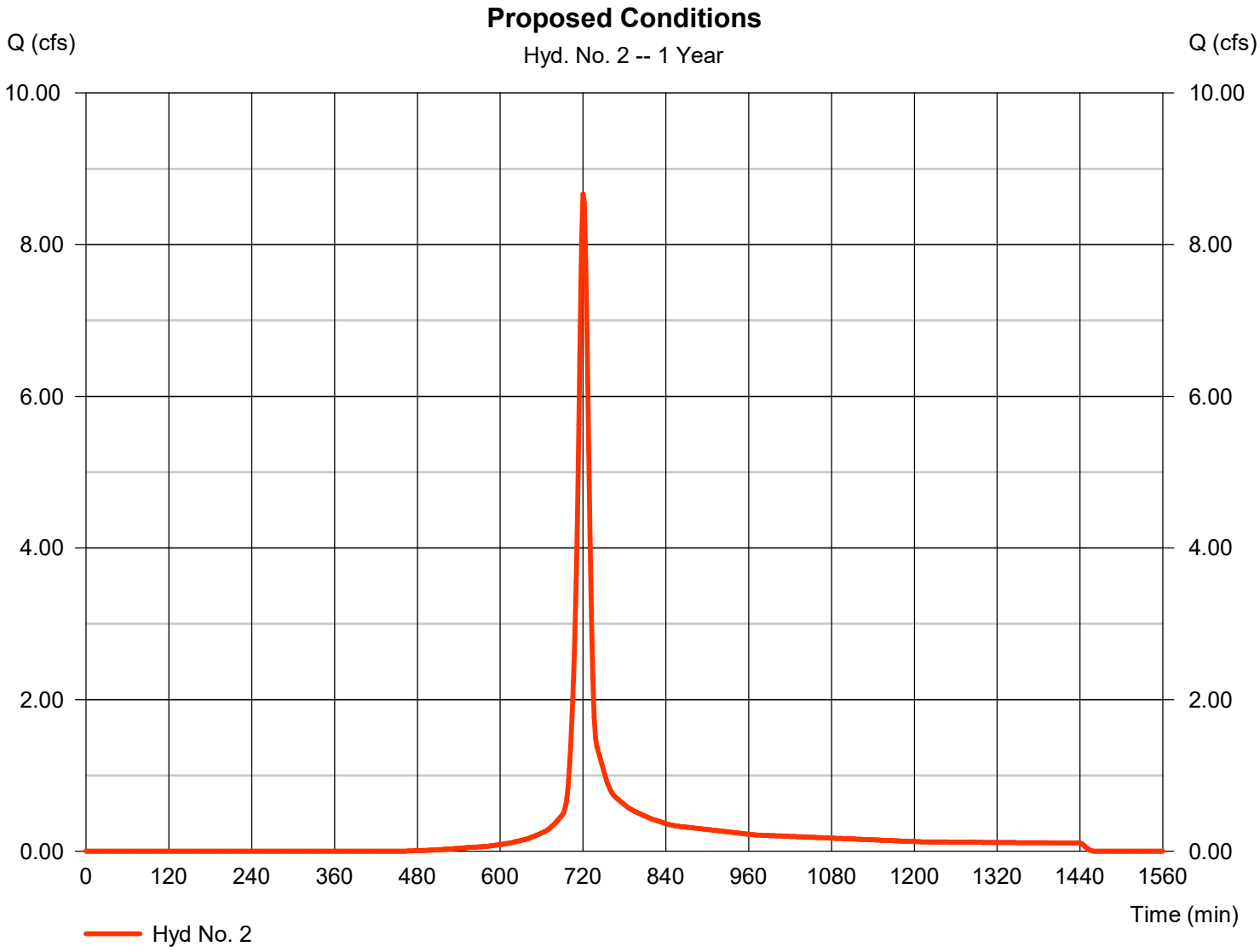
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 2

Proposed Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 8.670 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 22,482 cuft
Drainage area	= 3.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.05 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



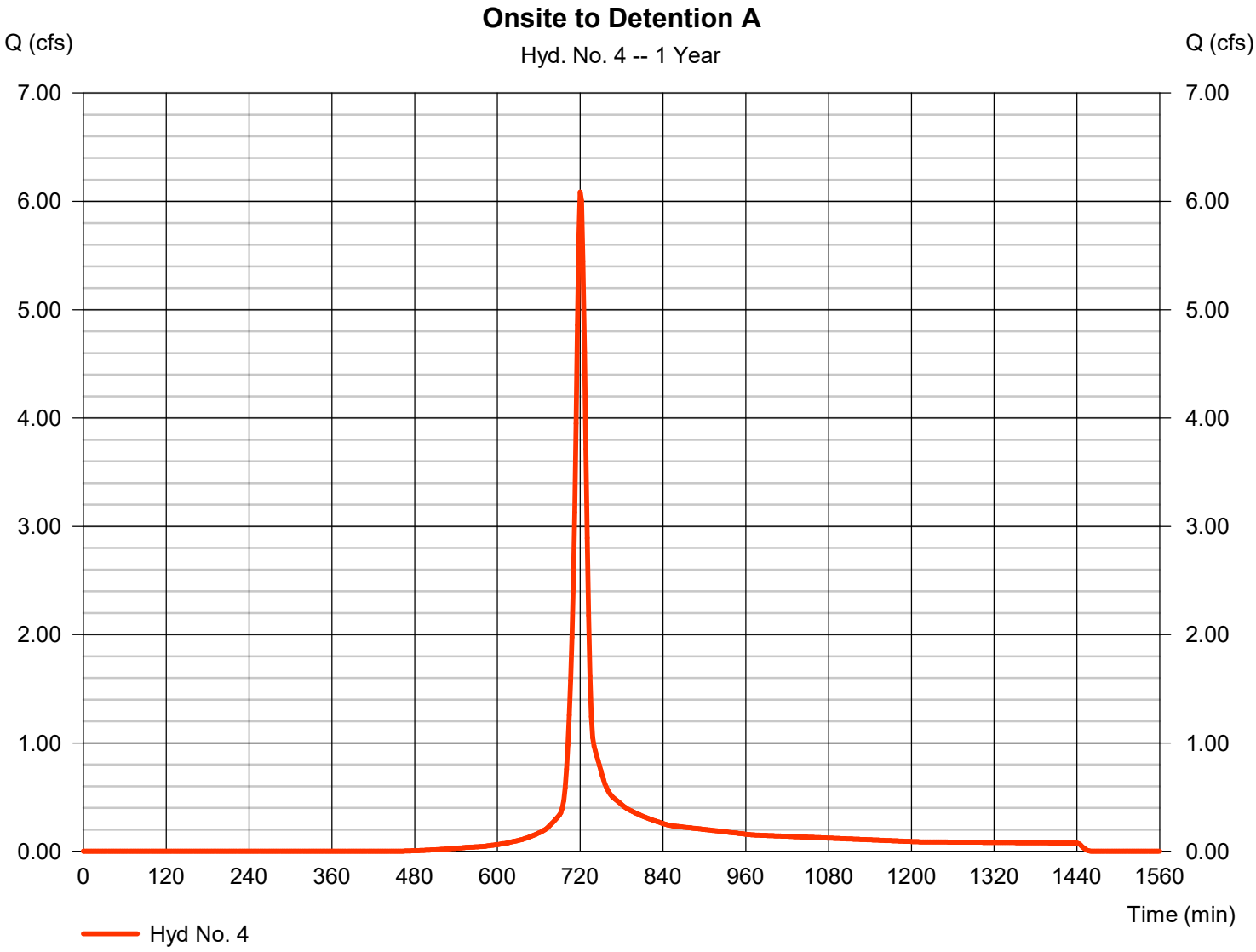
Hydrograph Report

Hyd. No. 4

Onsite to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 6.084 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 15,778 cuft
Drainage area	= 2.330 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



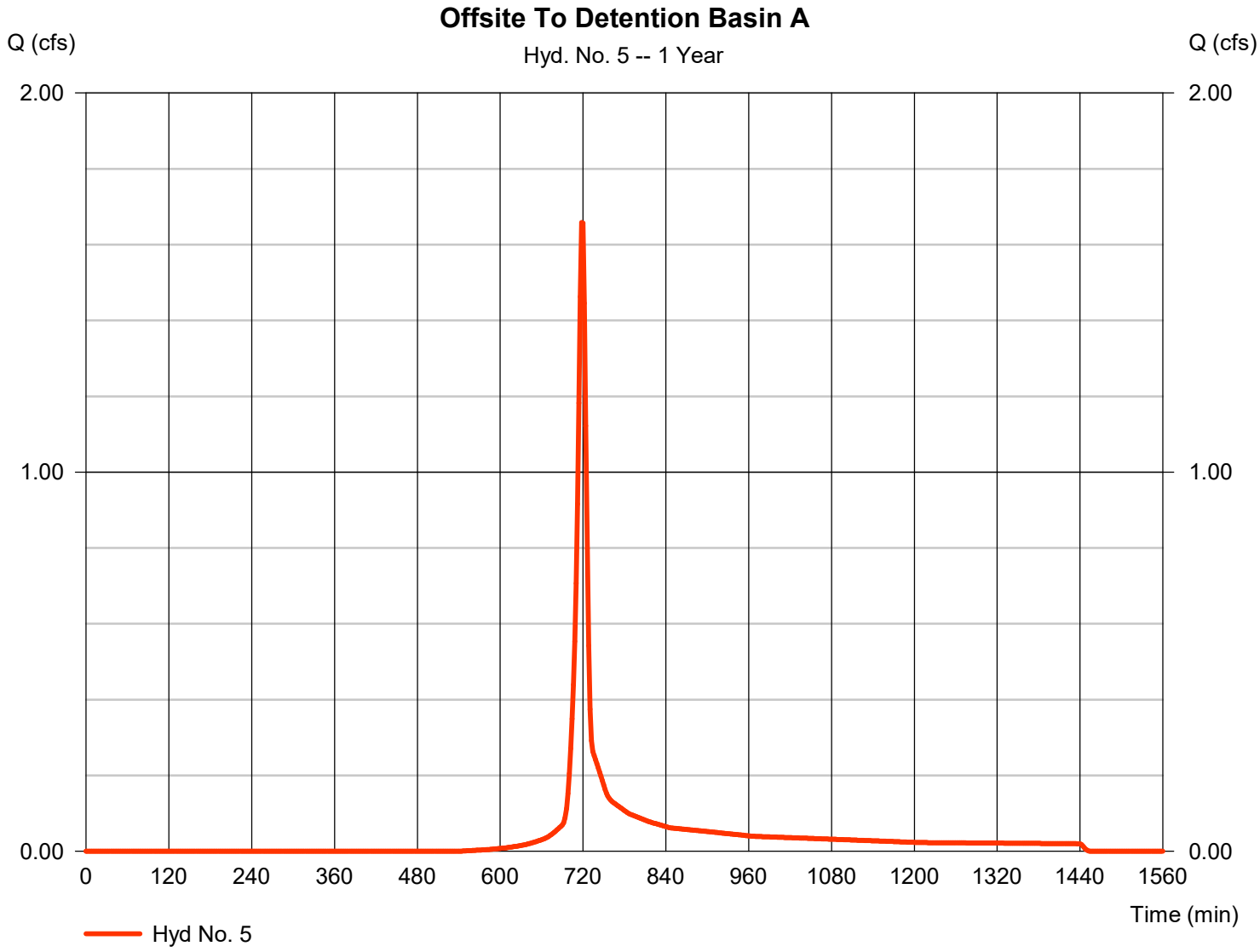
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 1.658 cfs
Storm frequency	= 1 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 3,798 cuft
Drainage area	= 0.690 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.50 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

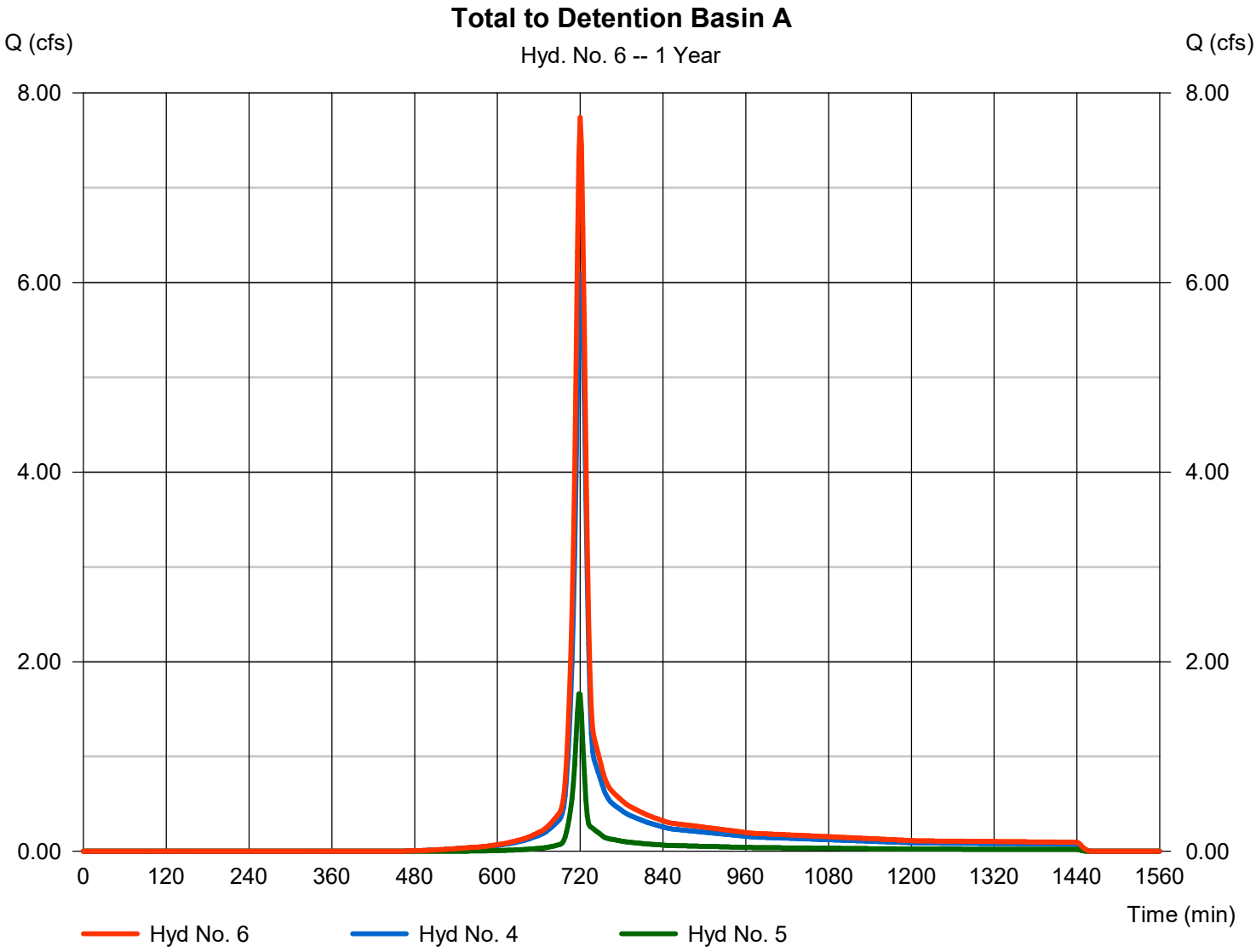


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 7.741 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 19,576 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



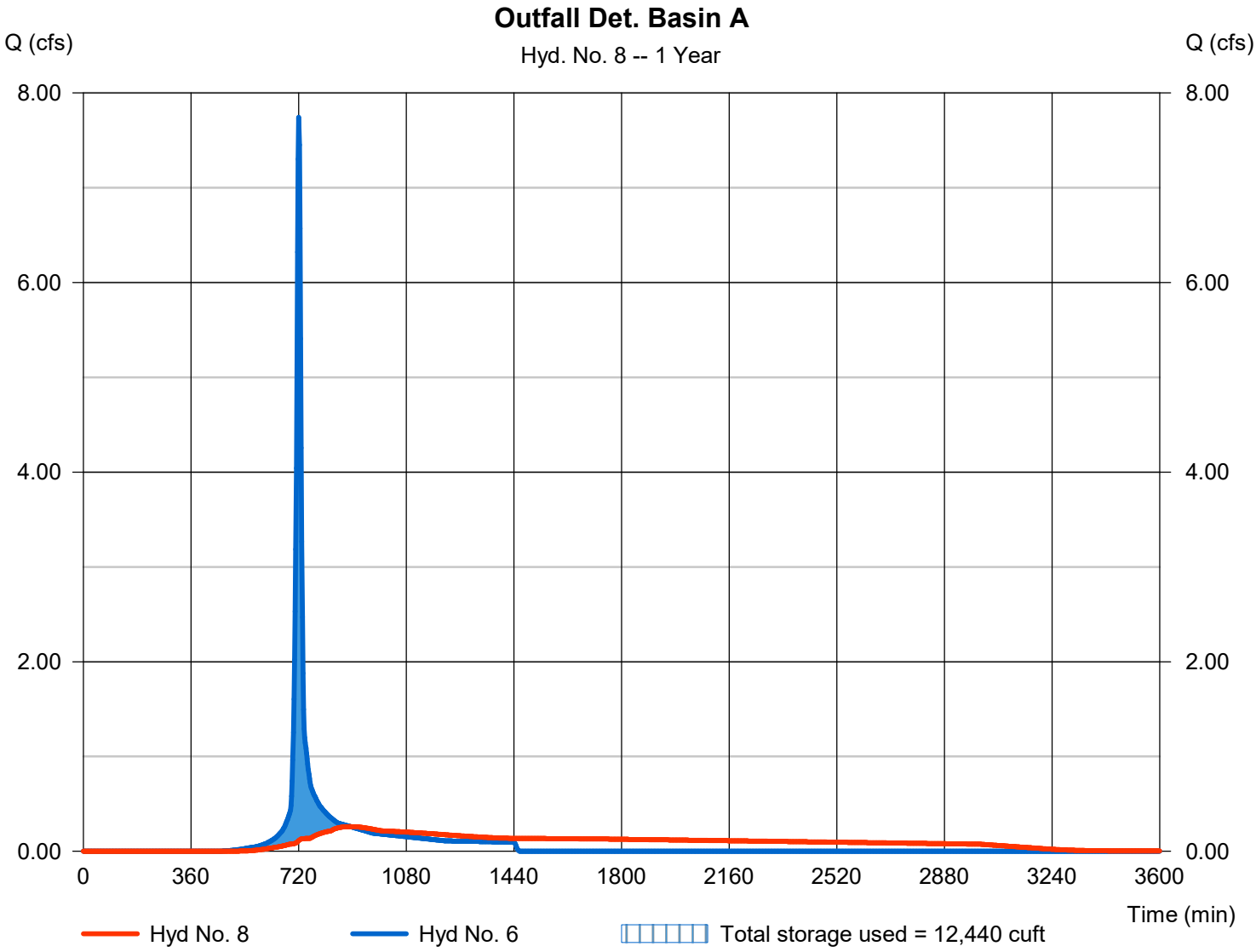
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	0.261 cfs
Storm frequency	=	1 yrs	Time to peak	=	892 min
Time interval	=	2 min	Hyd. volume	=	19,561 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	661.31 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	12,440 cuft

Storage Indication method used.



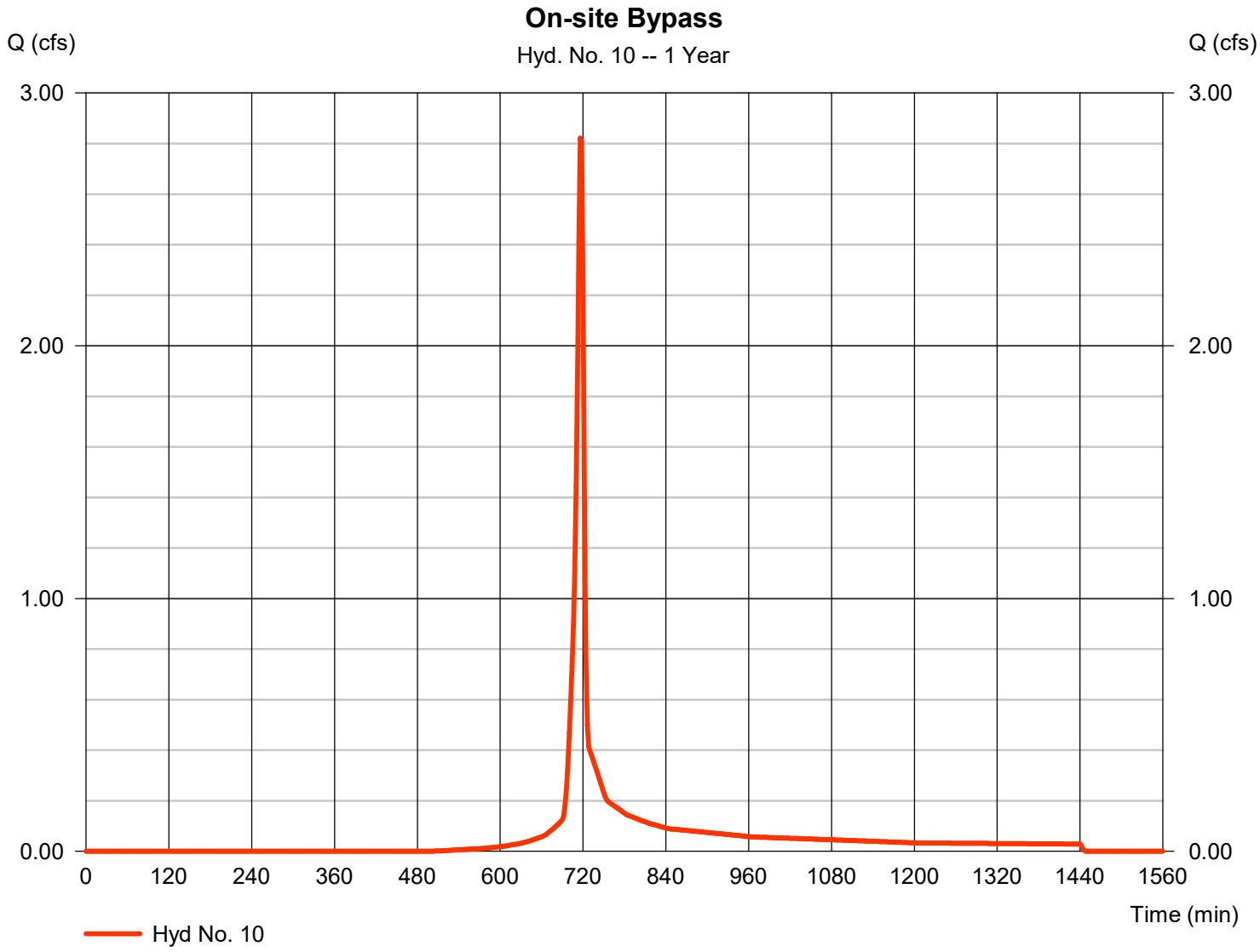
Hydrograph Report

Hyd. No. 10

On-site Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 2.821 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 5,701 cuft
Drainage area	= 1.010 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

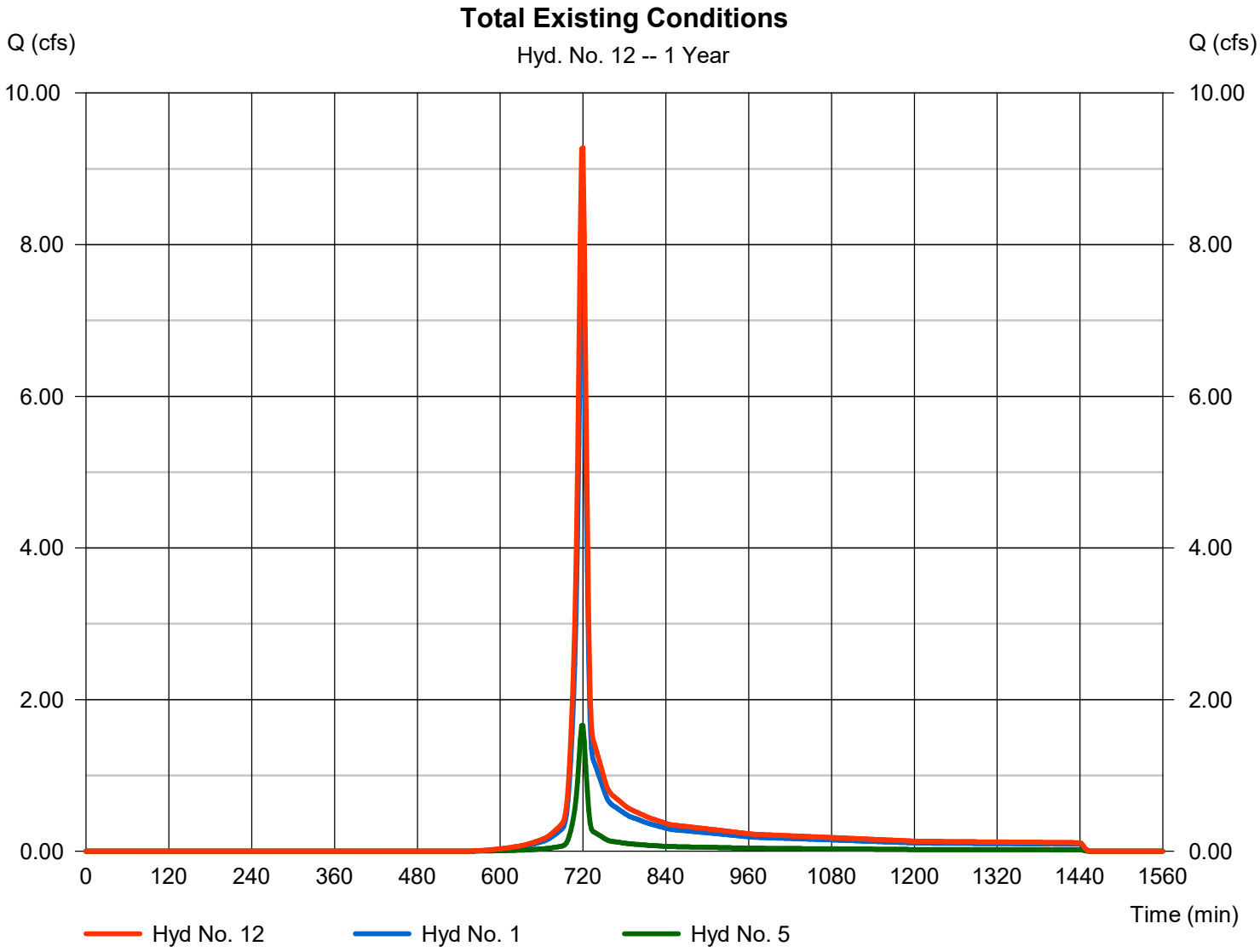


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 9.280 cfs
Storm frequency	= 1 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 21,251 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

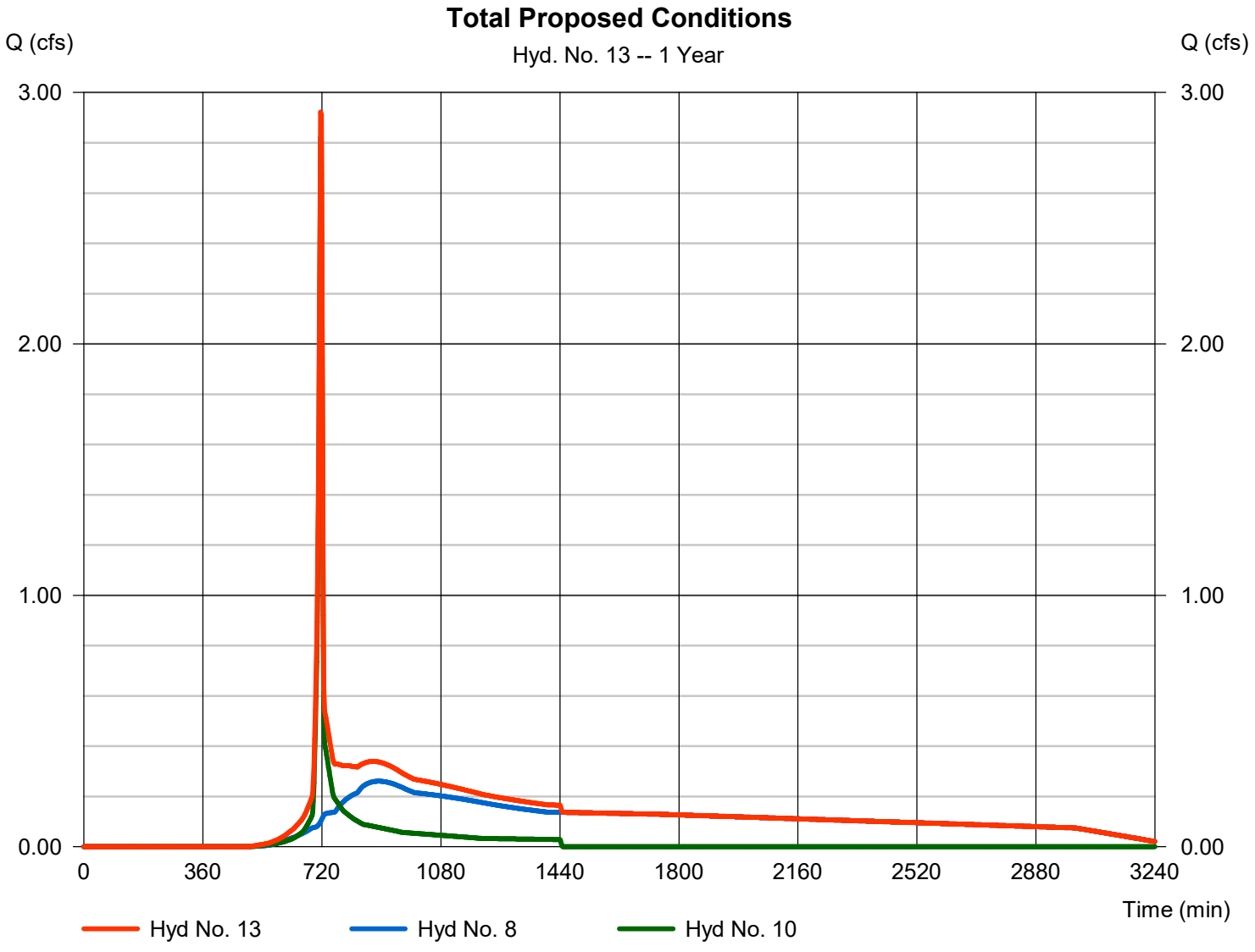


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 2.921 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 25,262 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

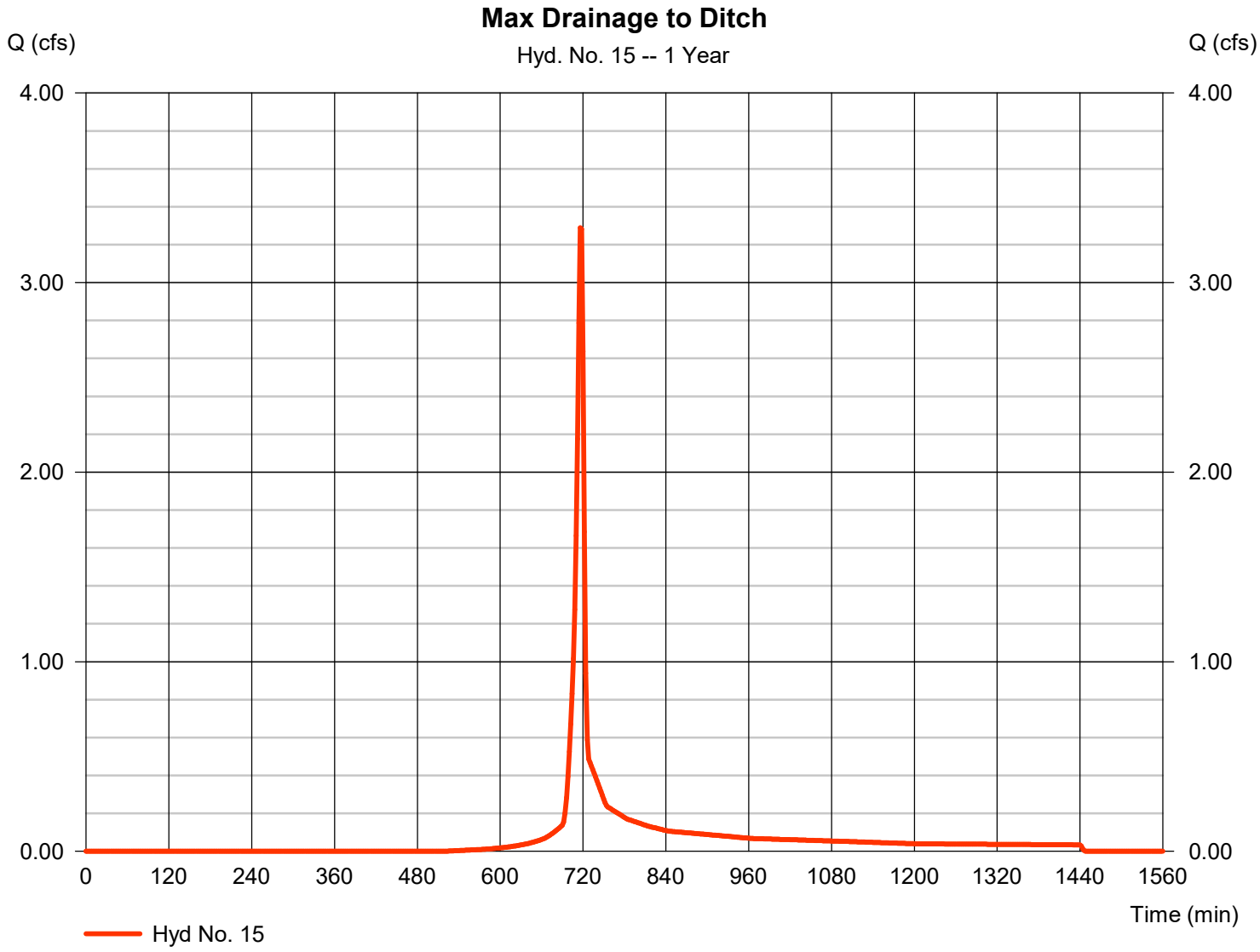
Thursday, 08 / 28 / 2025

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	= SCS Runoff	Peak discharge	= 3.289 cfs
Storm frequency	= 1 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 6,641 cuft
Drainage area	= 1.230 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 3.26 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



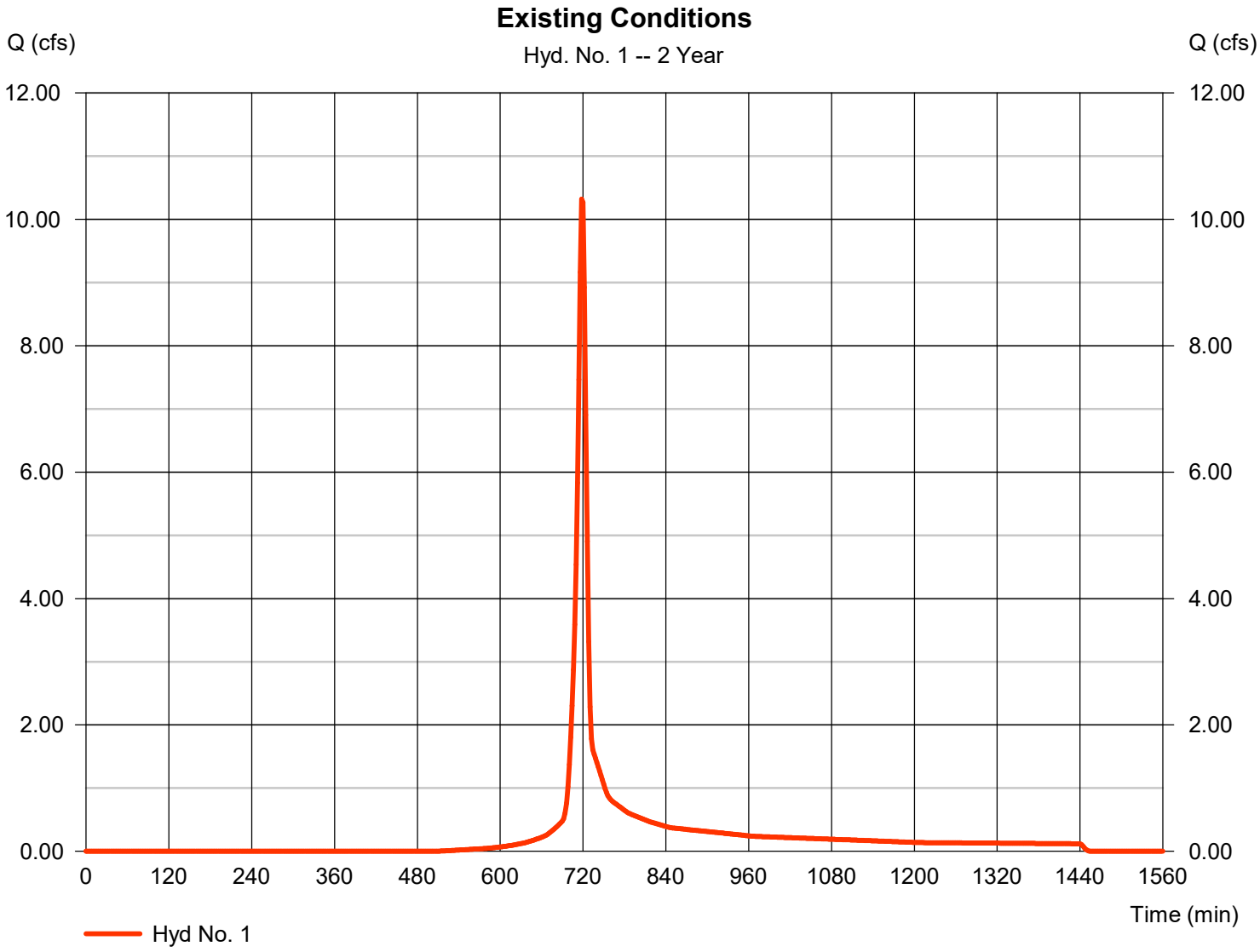
Hydrograph Report

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 10.32 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 23,613 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



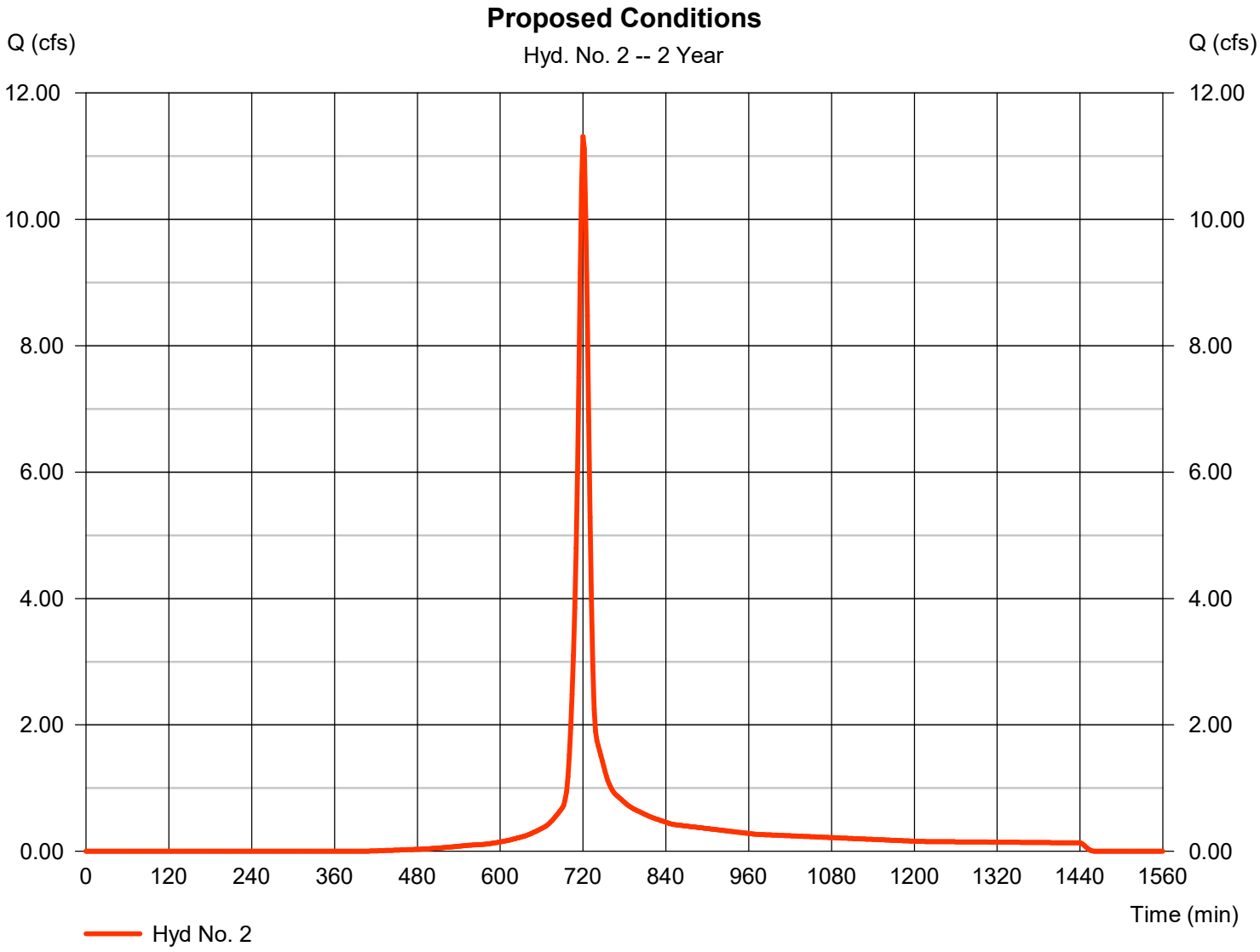
Hydrograph Report

Hyd. No. 2

Proposed Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 11.31 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 29,438 cuft
Drainage area	= 3.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.05 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

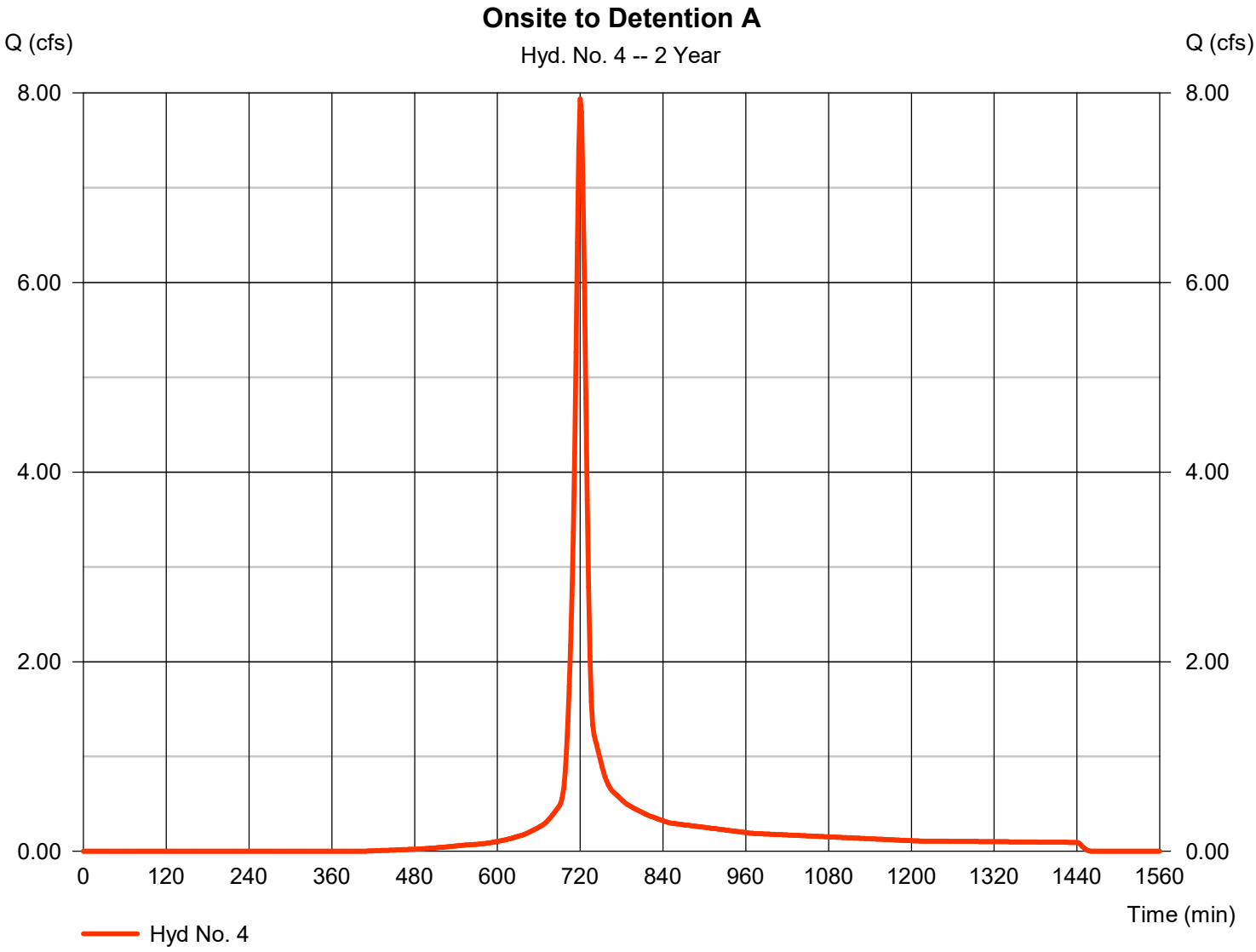
Thursday, 08 / 28 / 2025

Hyd. No. 4

Onsite to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 7.939 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 20,660 cuft
Drainage area	= 2.330 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 3.90 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



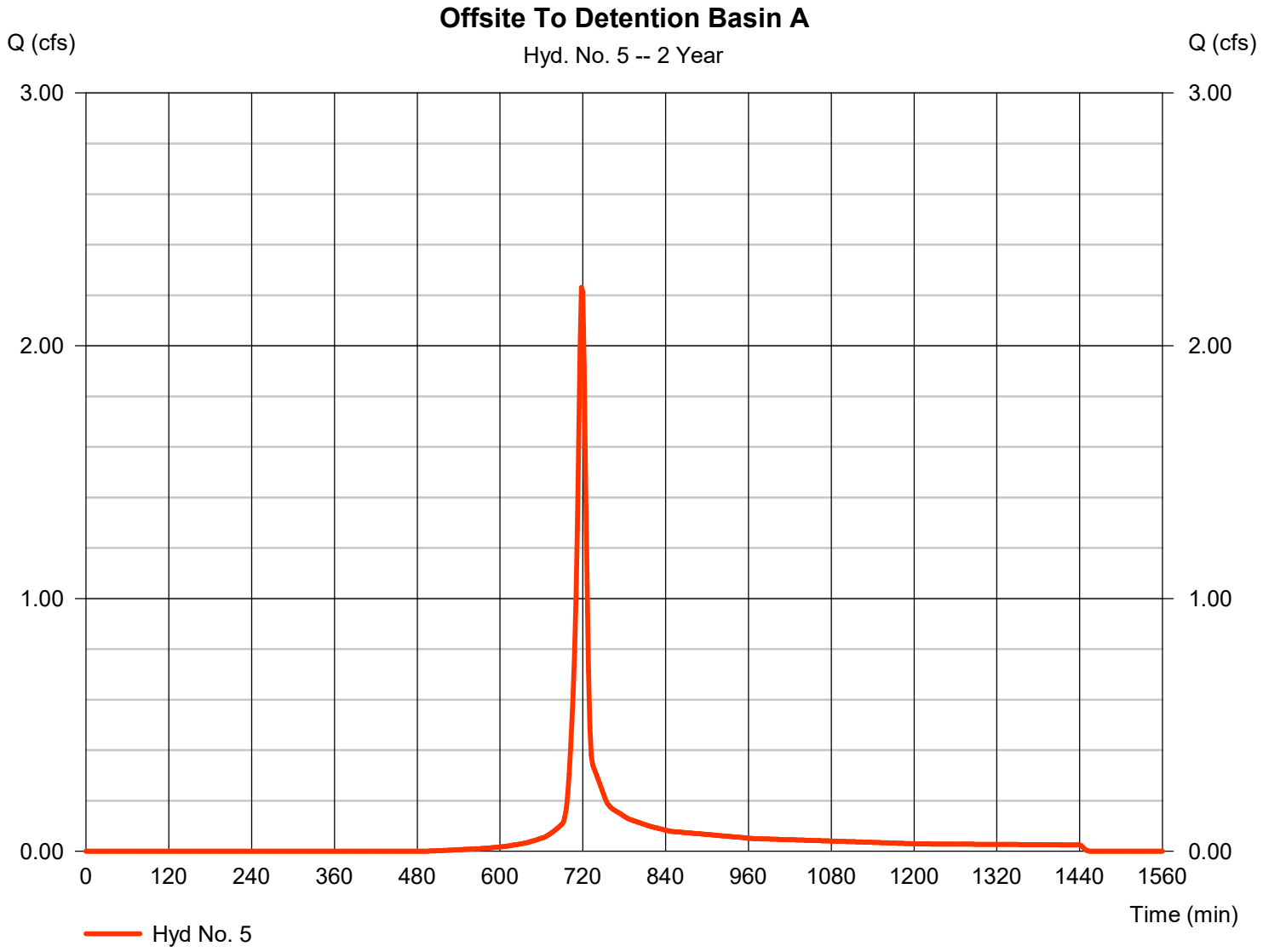
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	2.231 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	5,104 cuft
Drainage area	=	0.690 ac	Curve number	=	81*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

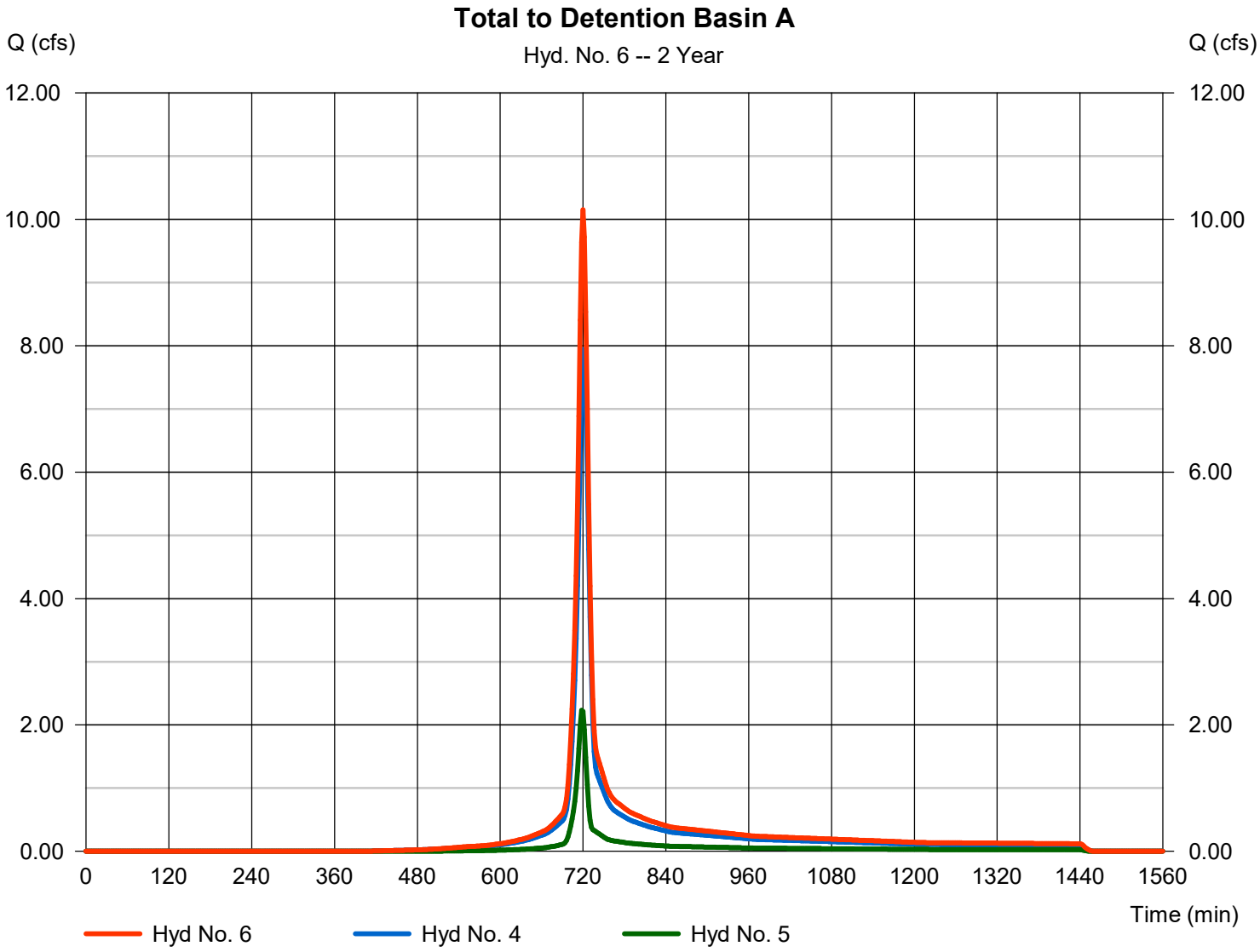


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 10.15 cfs
Storm frequency	= 2 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 25,764 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



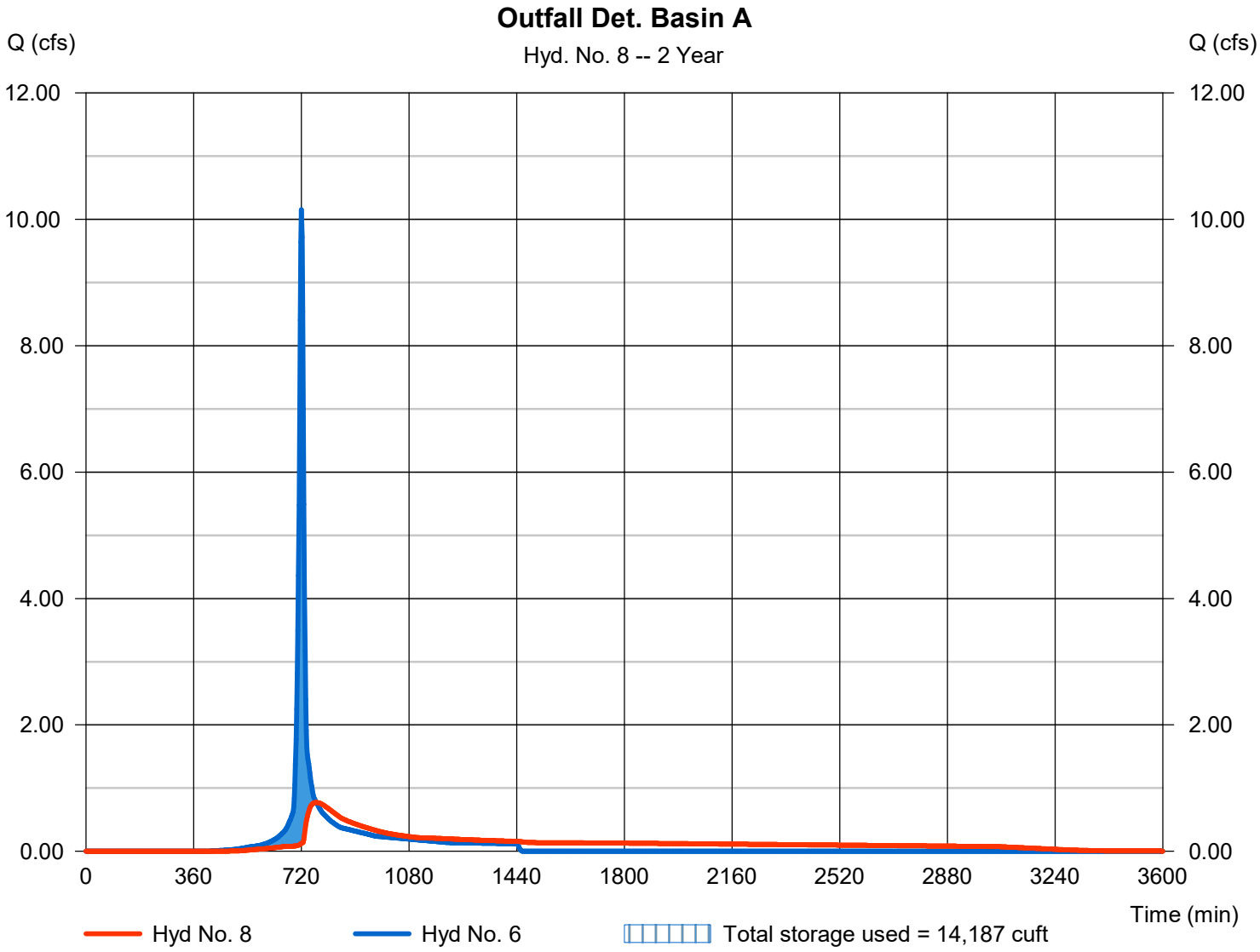
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	0.772 cfs
Storm frequency	=	2 yrs	Time to peak	=	770 min
Time interval	=	2 min	Hyd. volume	=	25,749 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	661.46 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	14,187 cuft

Storage Indication method used.



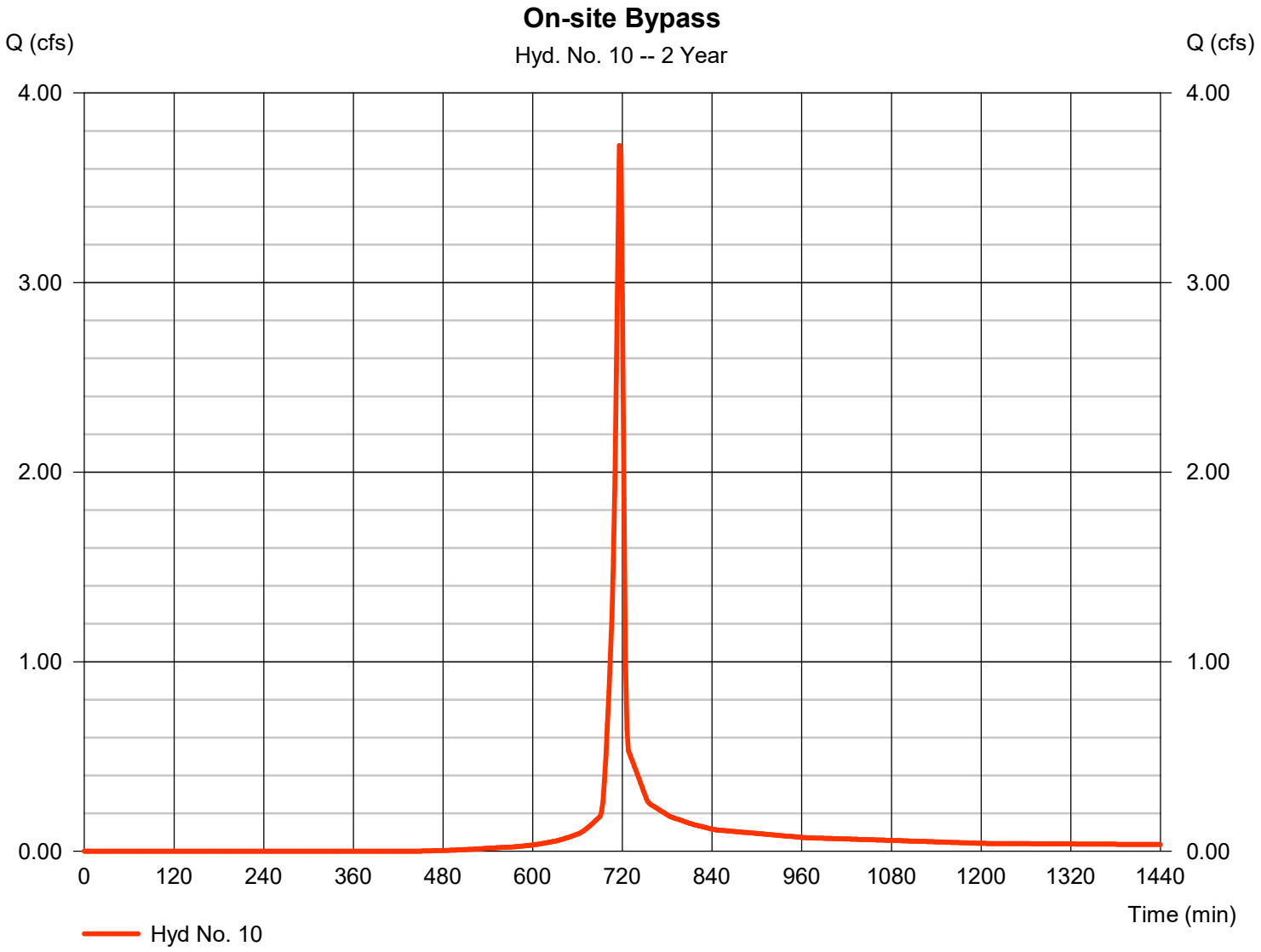
Hydrograph Report

Hyd. No. 10

On-site Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	3.724 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	7,560 cuft
Drainage area	=	1.010 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

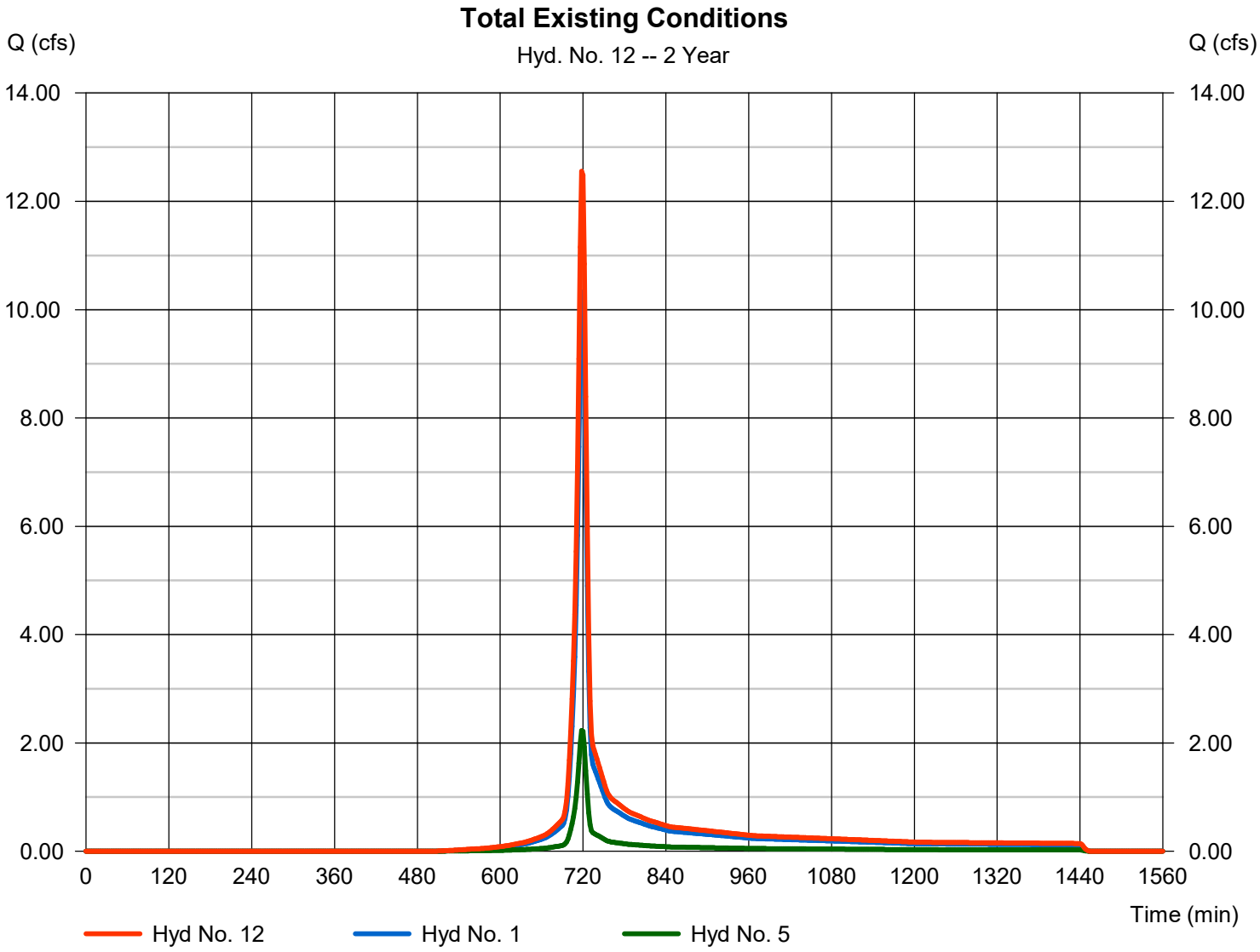


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 12.55 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 28,717 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

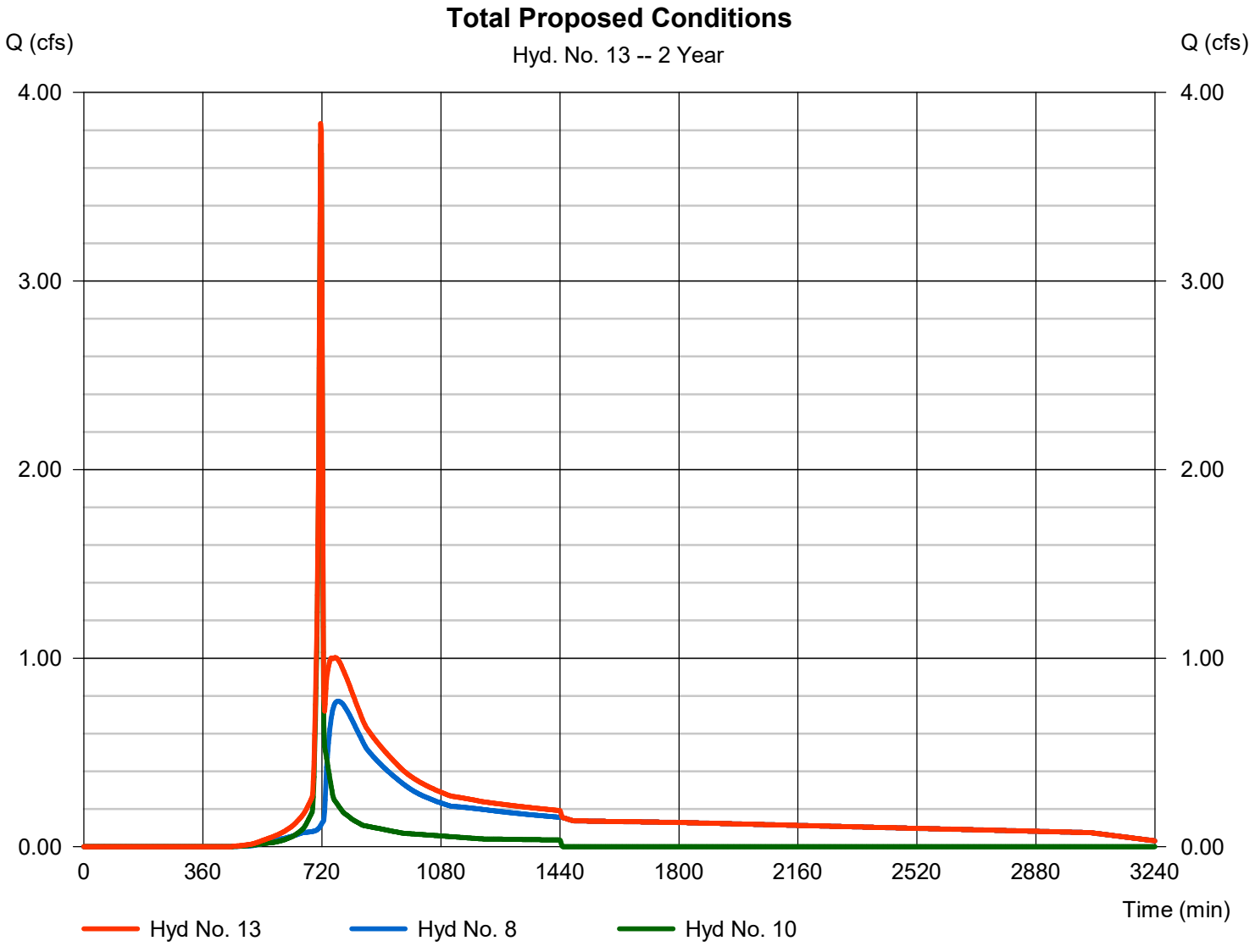


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 3.836 cfs
Storm frequency	= 2 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 33,309 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



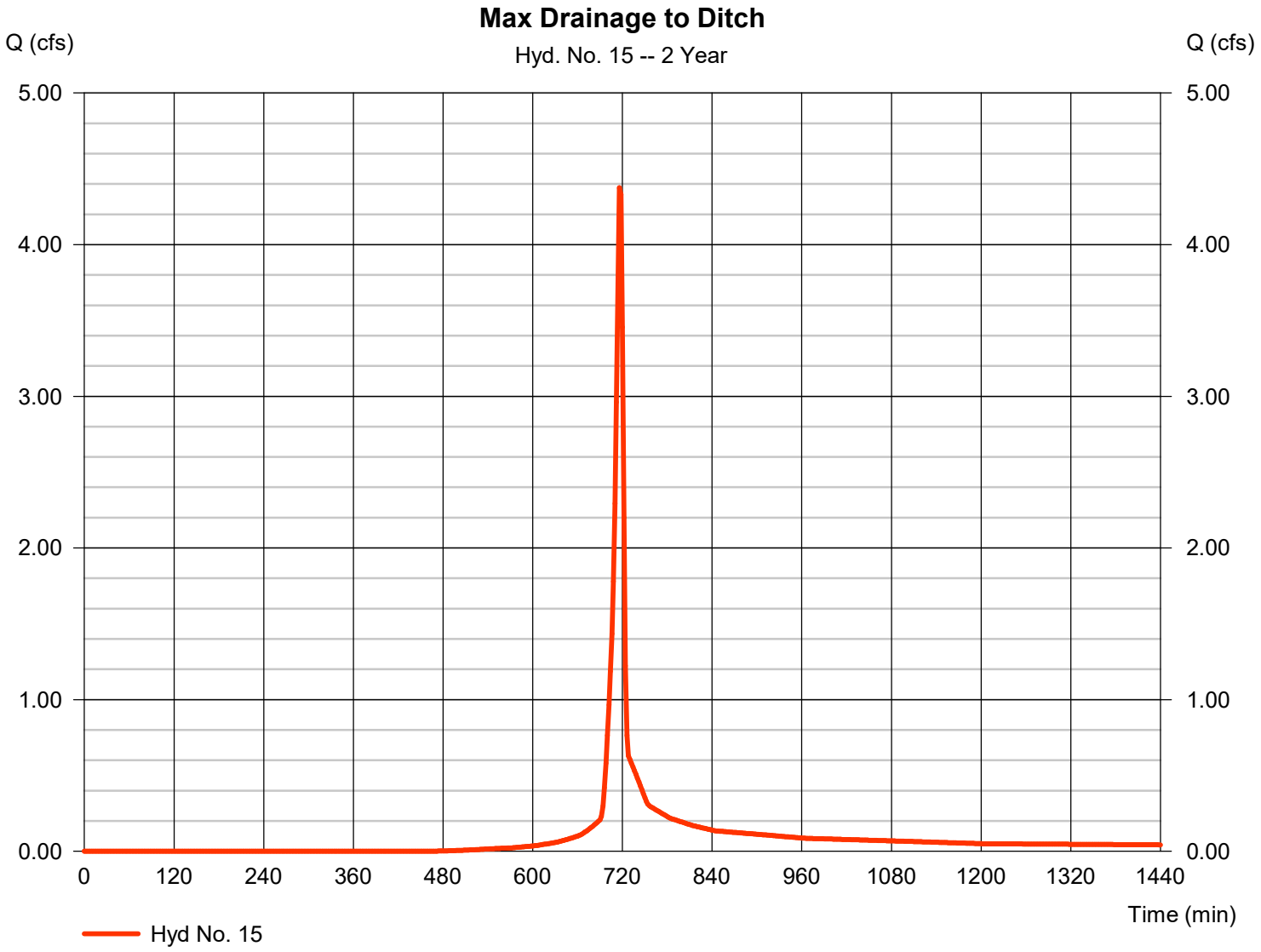
Hydrograph Report

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.376 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	8,865 cuft
Drainage area	=	1.230 ac	Curve number	=	82*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.90 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

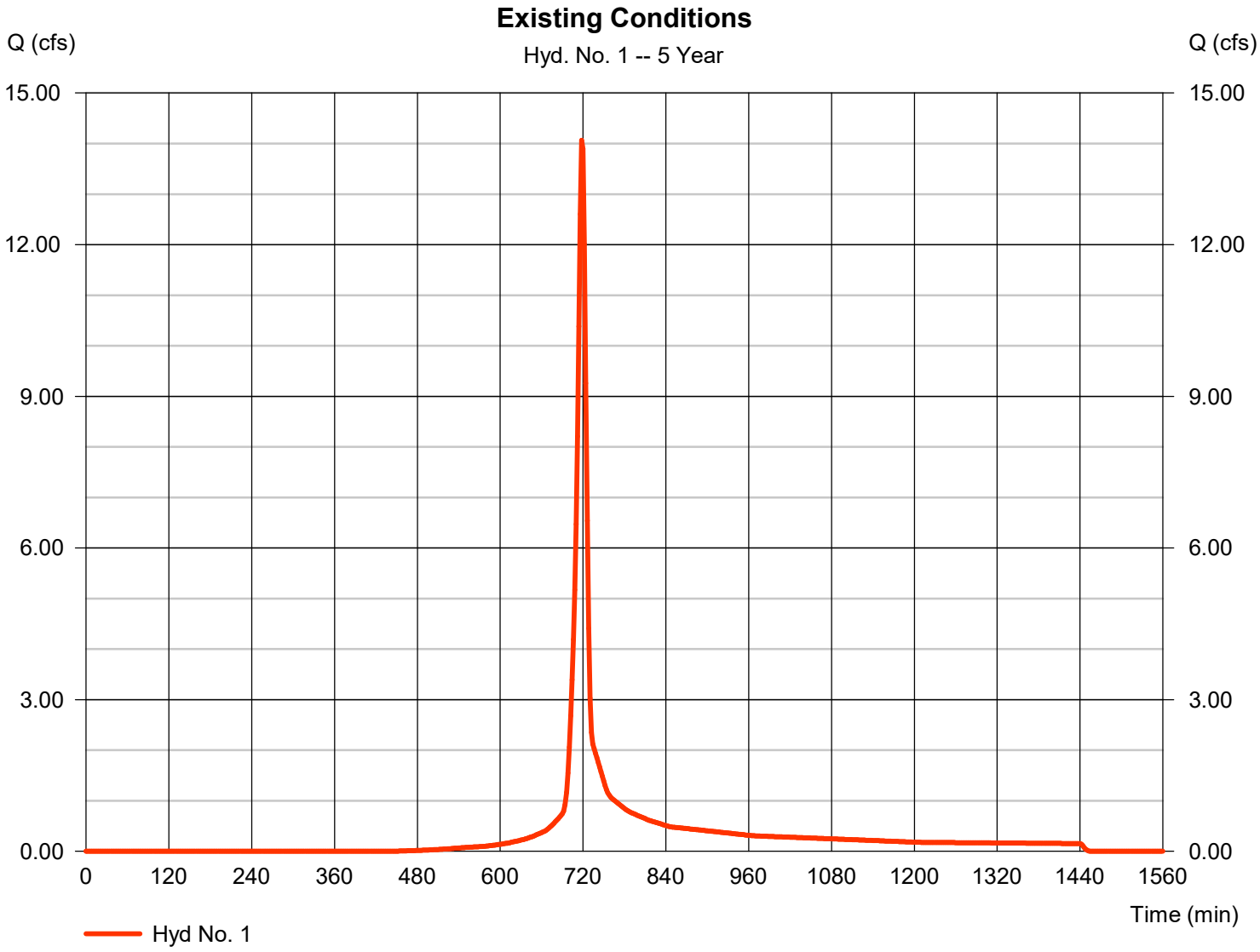
Thursday, 08 / 28 / 2025

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 14.06 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 32,249 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



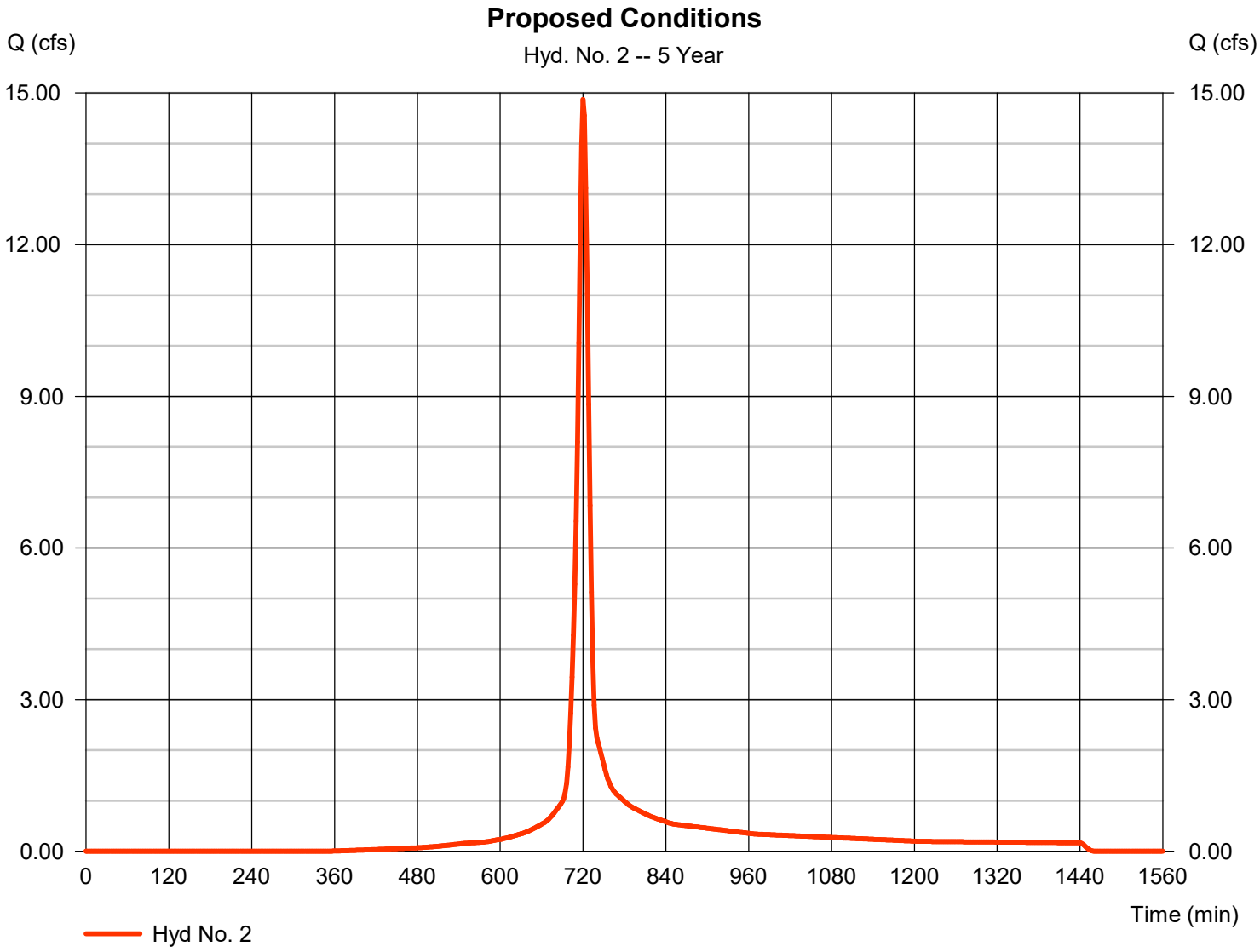
Hydrograph Report

Hyd. No. 2

Proposed Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 14.87 cfs
Storm frequency	= 5 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 38,997 cuft
Drainage area	= 3.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.05 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



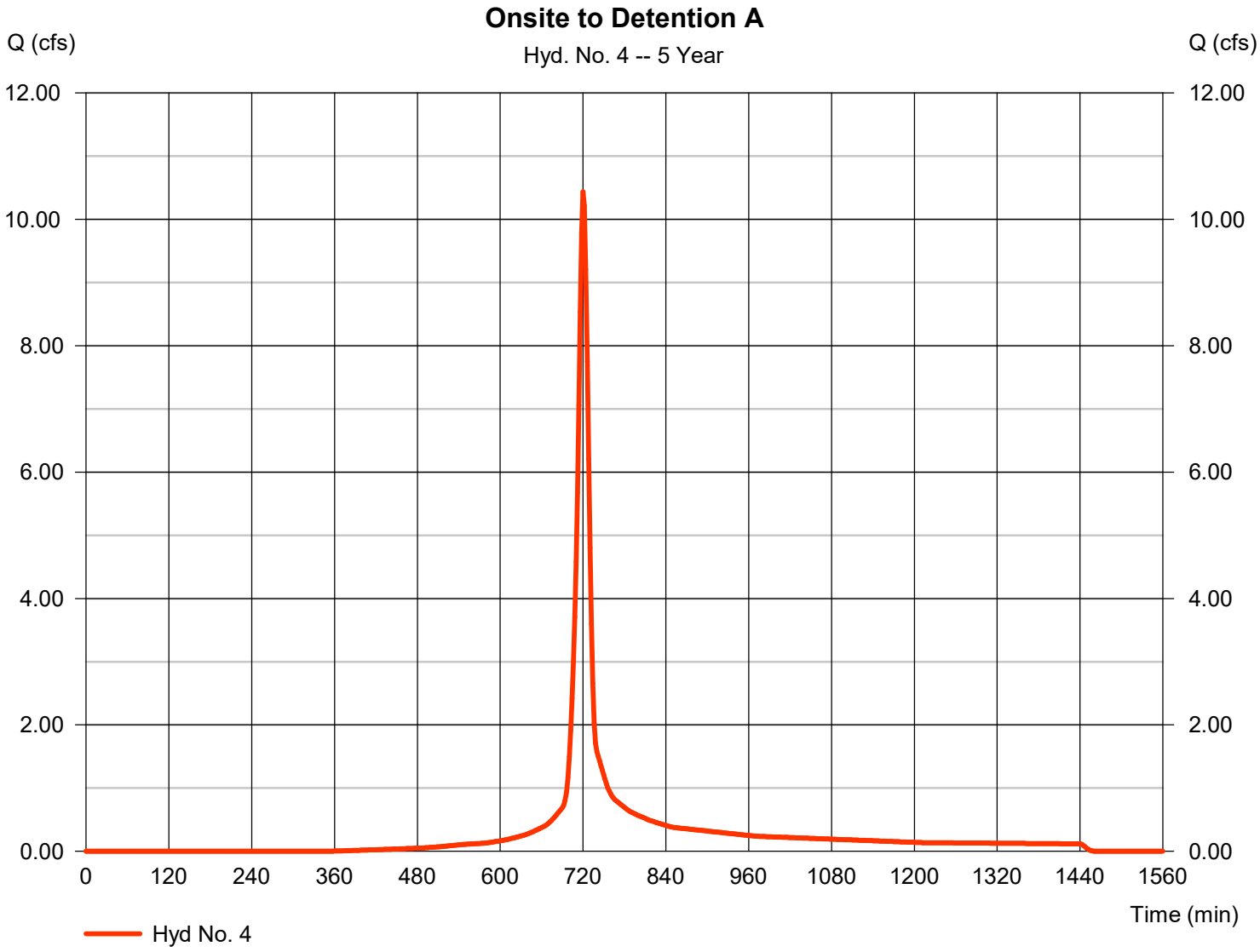
Hydrograph Report

Hyd. No. 4

Onsite to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	10.44 cfs
Storm frequency	=	5 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	27,368 cuft
Drainage area	=	2.330 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.10 min
Total precip.	=	4.75 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



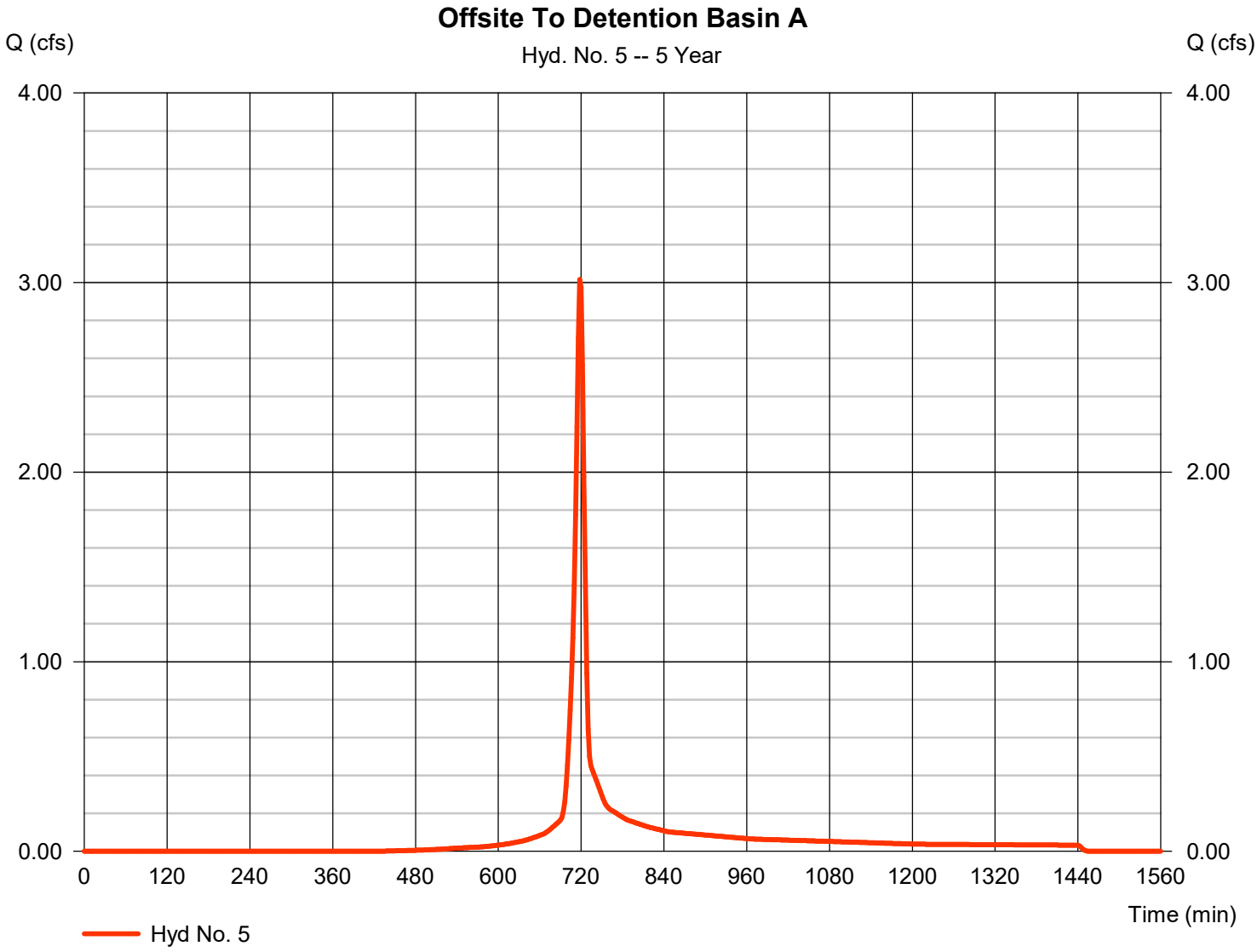
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 3.016 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 6,927 cuft
Drainage area	= 0.690 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.50 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

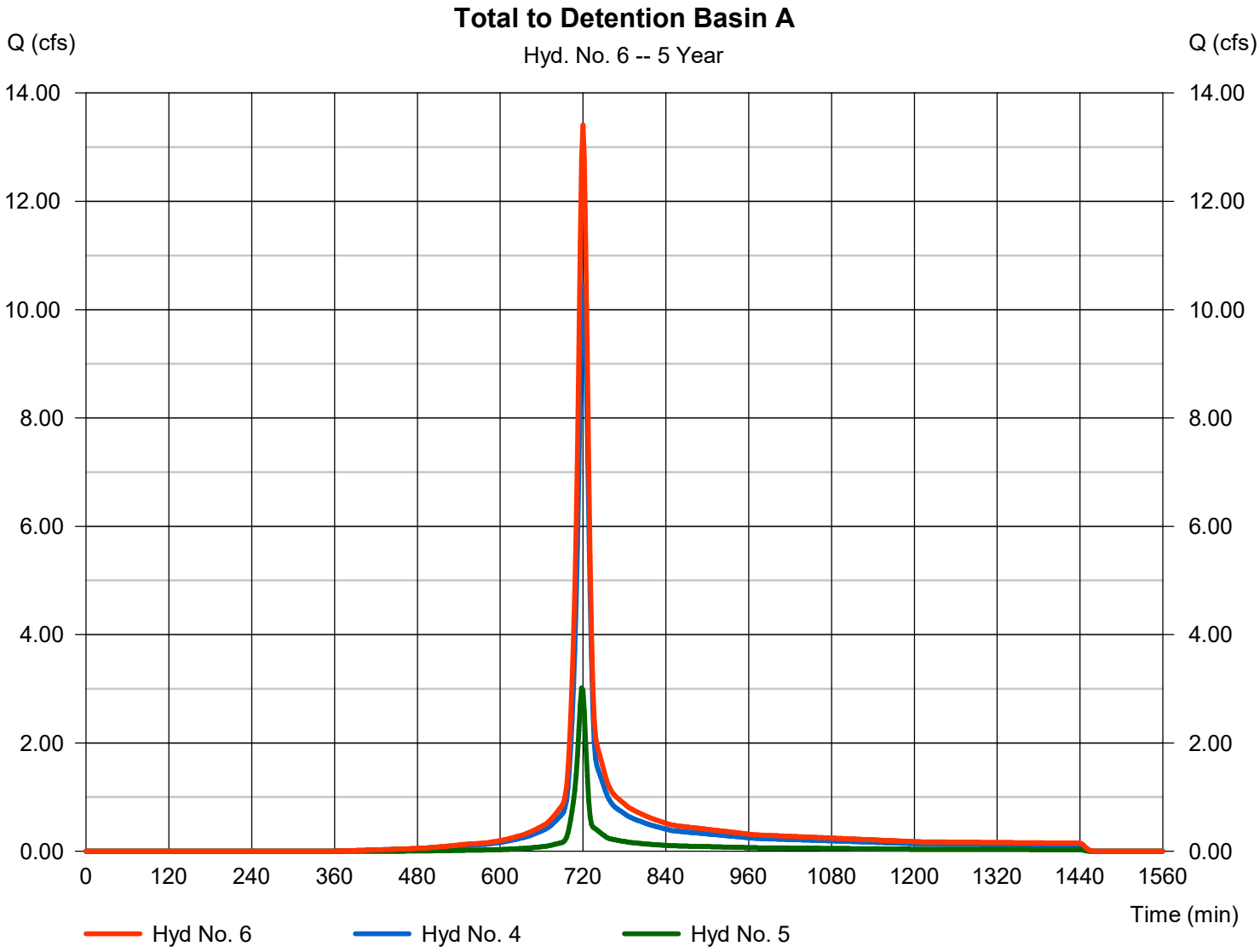


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 13.41 cfs
Storm frequency	= 5 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 34,295 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



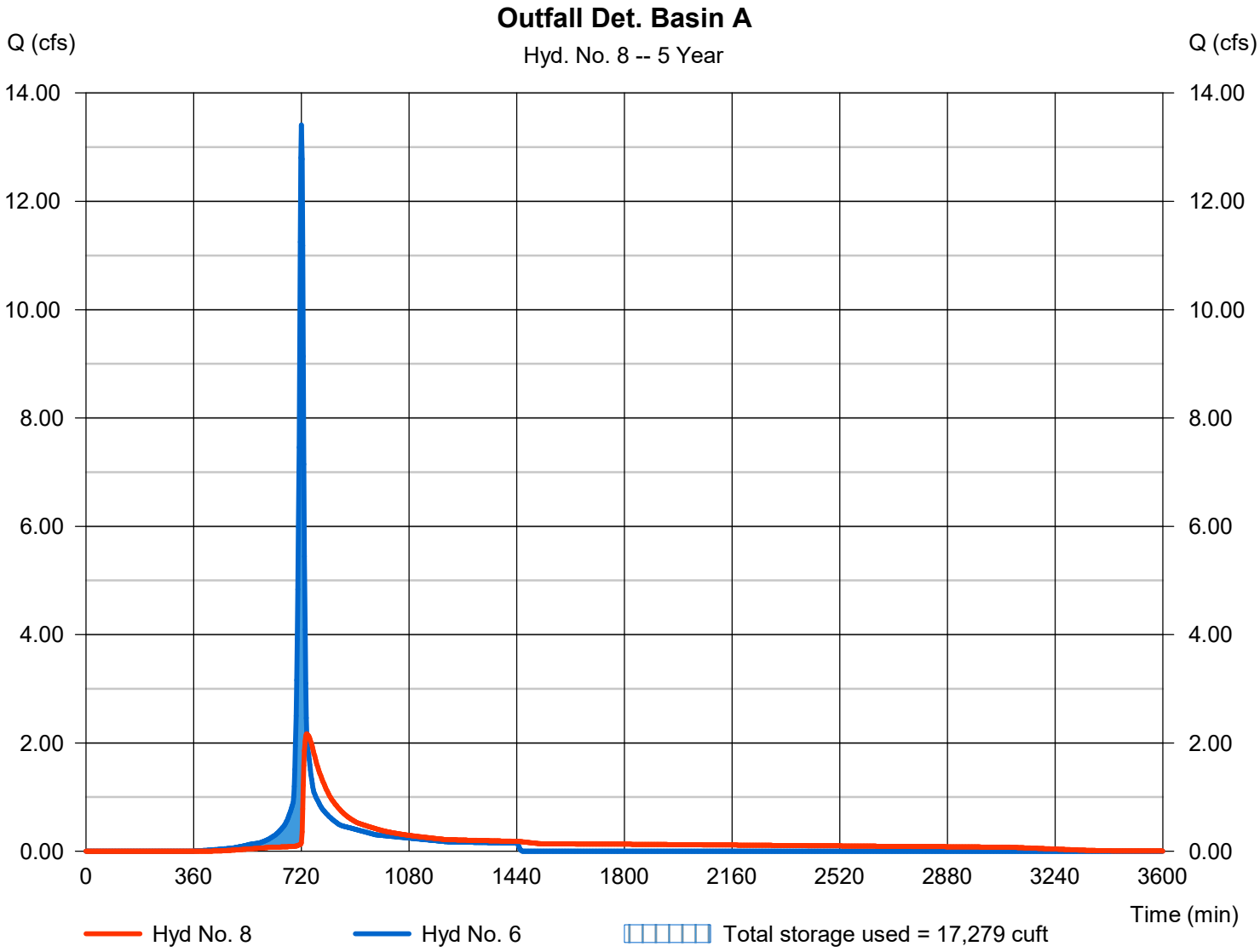
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	2.170 cfs
Storm frequency	=	5 yrs	Time to peak	=	738 min
Time interval	=	2 min	Hyd. volume	=	34,280 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	661.70 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	17,279 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

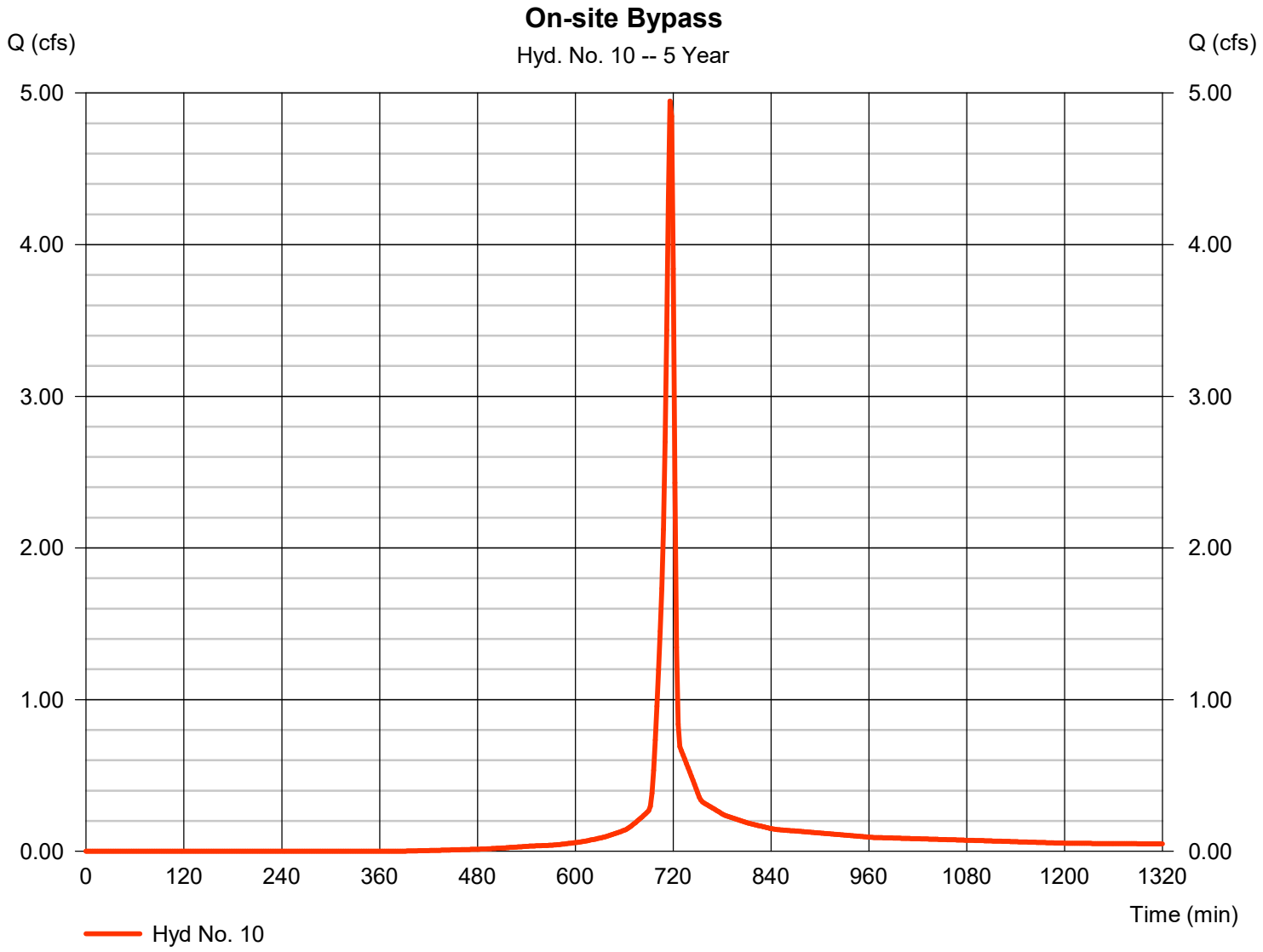
Thursday, 08 / 28 / 2025

Hyd. No. 10

On-site Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 4.947 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 10,136 cuft
Drainage area	= 1.010 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.75 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

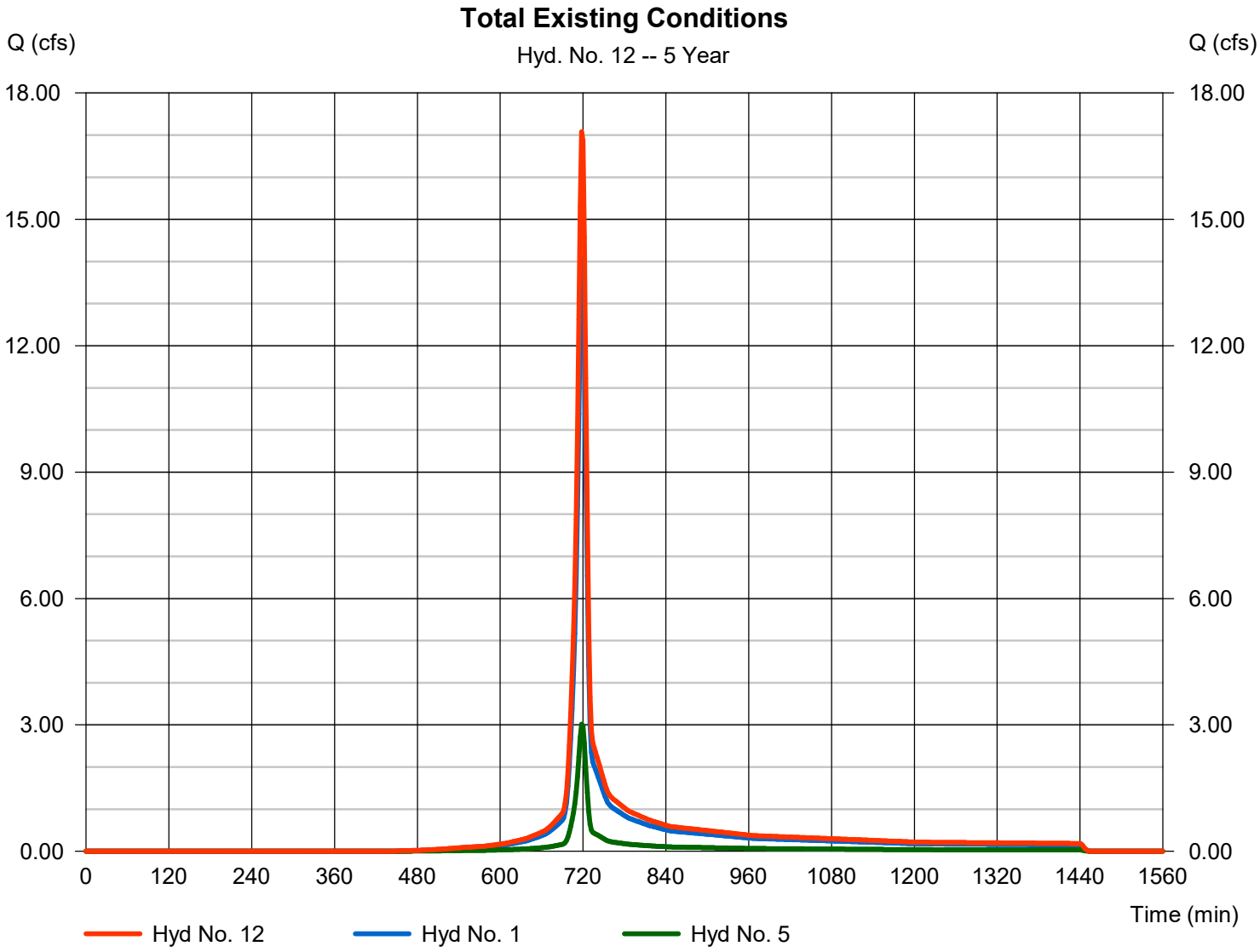


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 17.08 cfs
Storm frequency	= 5 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 39,176 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

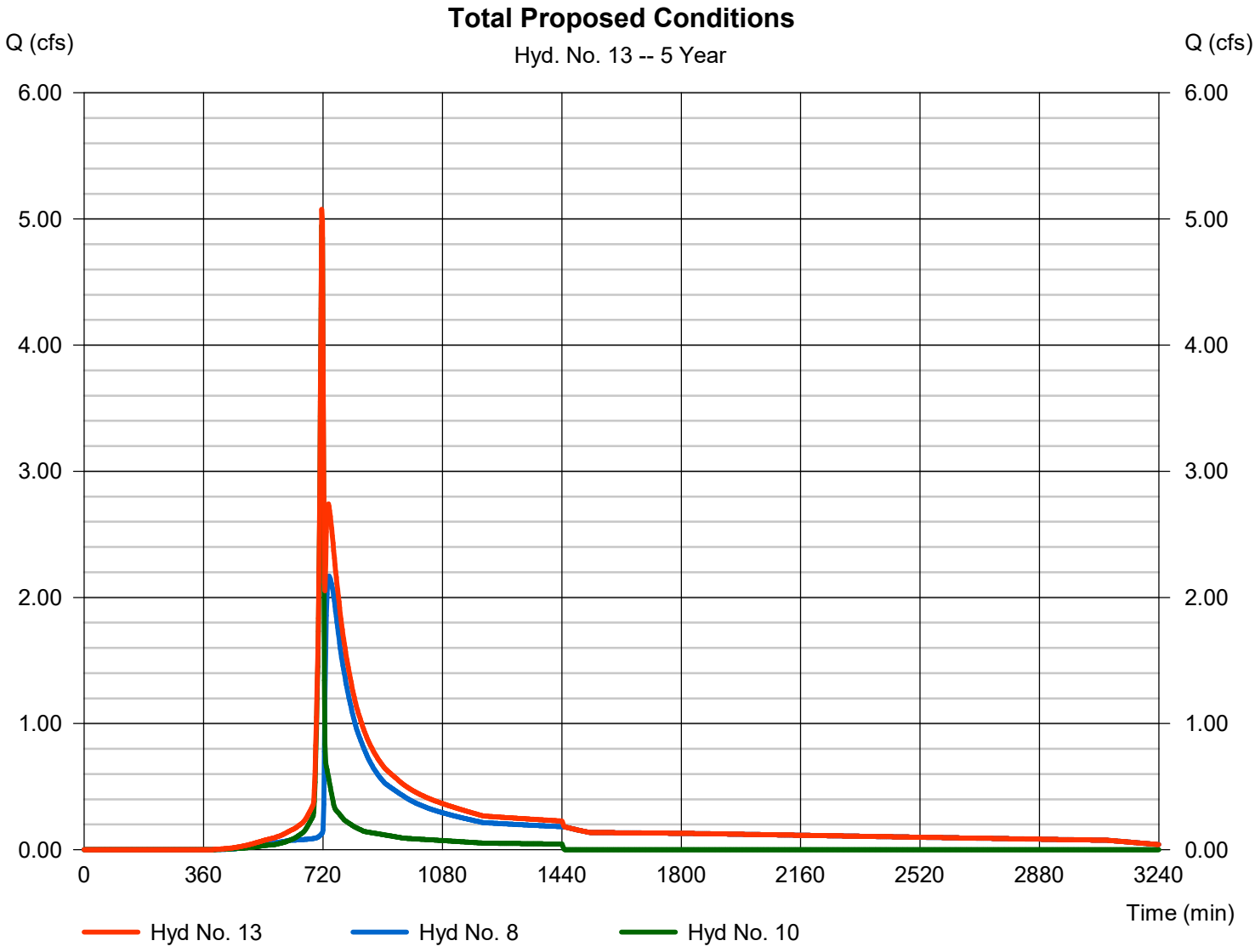


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 5.075 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 44,416 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

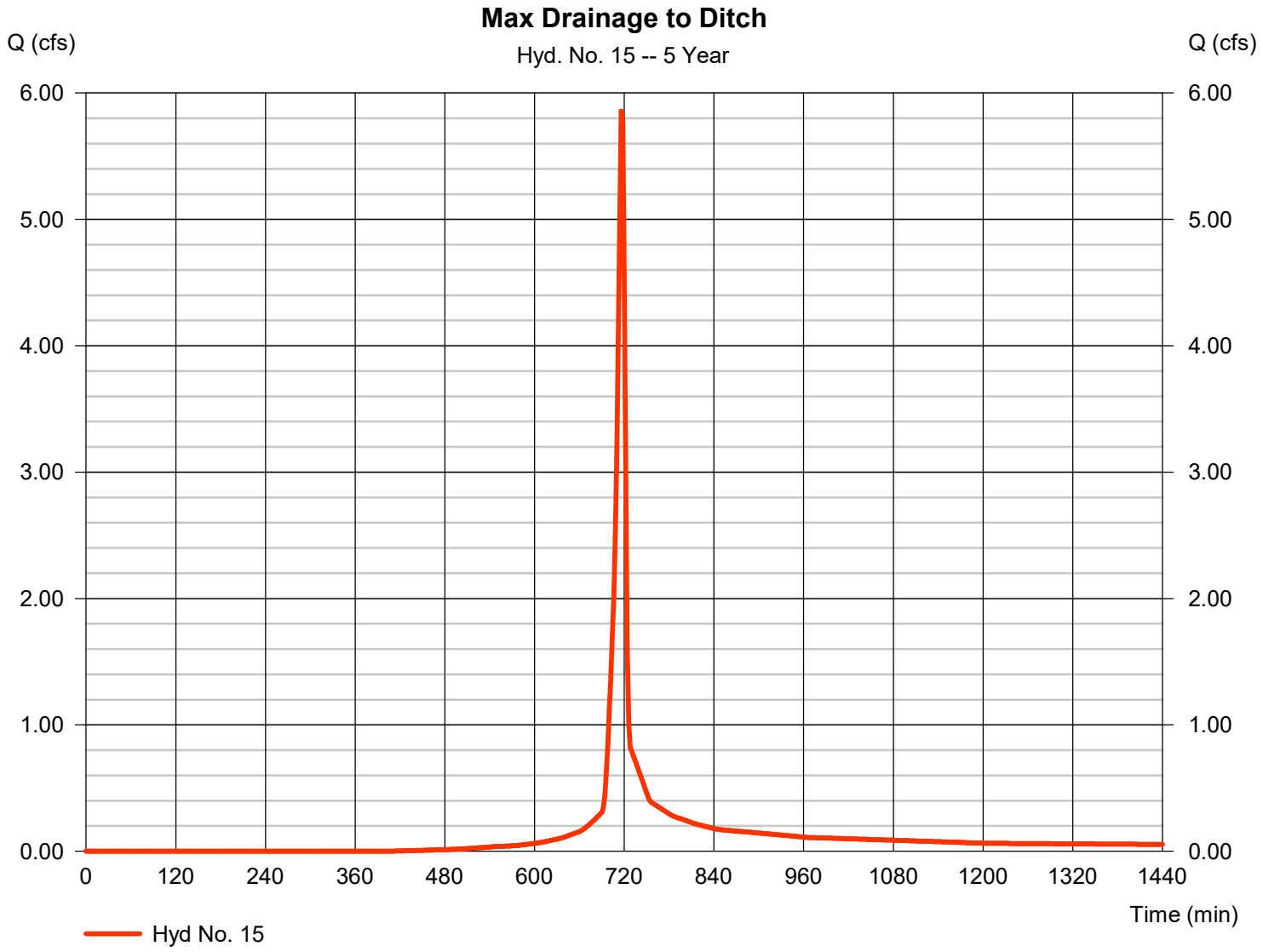
Thursday, 08 / 28 / 2025

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.857 cfs
Storm frequency	=	5 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	11,957 cuft
Drainage area	=	1.230 ac	Curve number	=	82*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	4.75 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



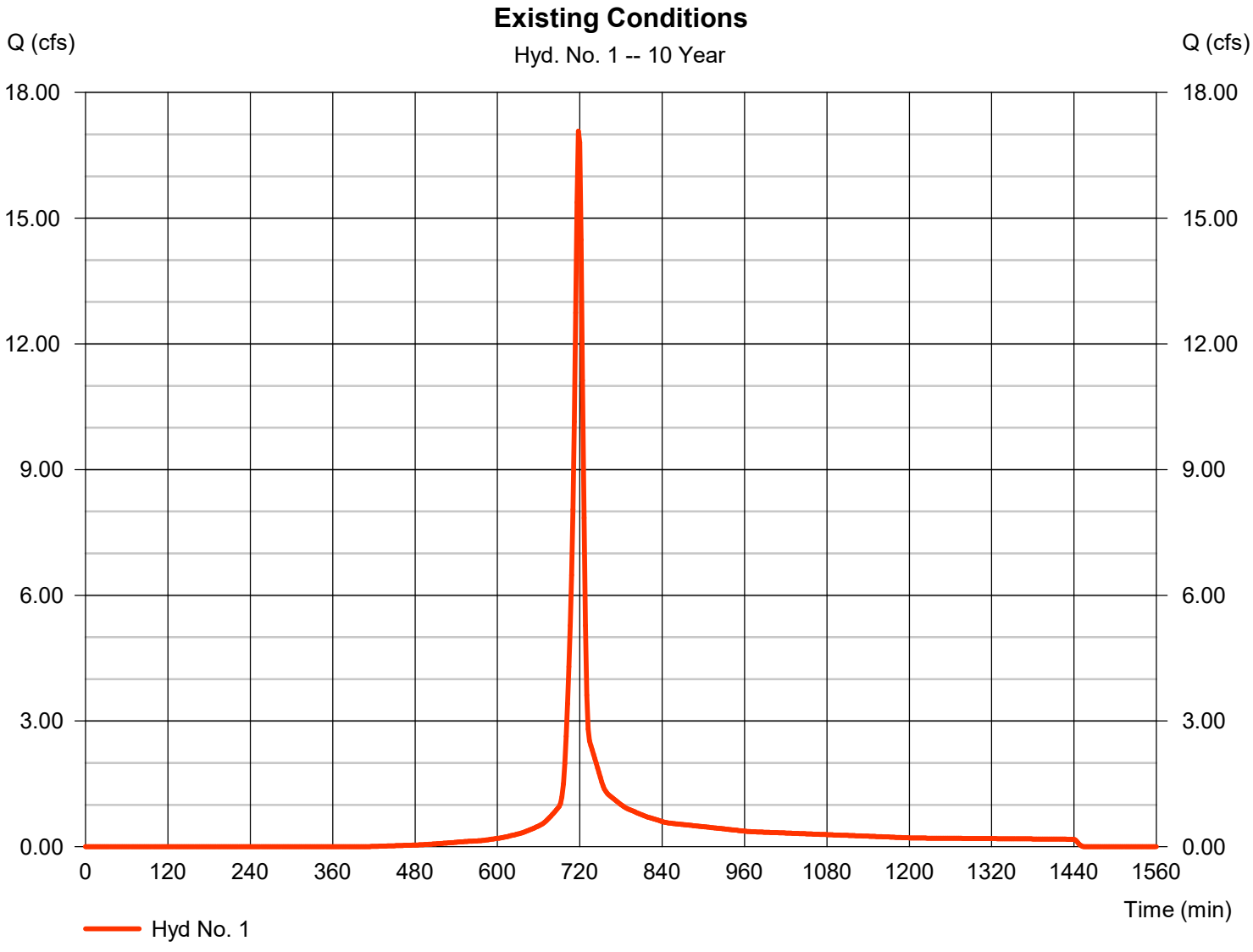
Hydrograph Report

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 17.08 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 39,316 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



Hydrograph Report

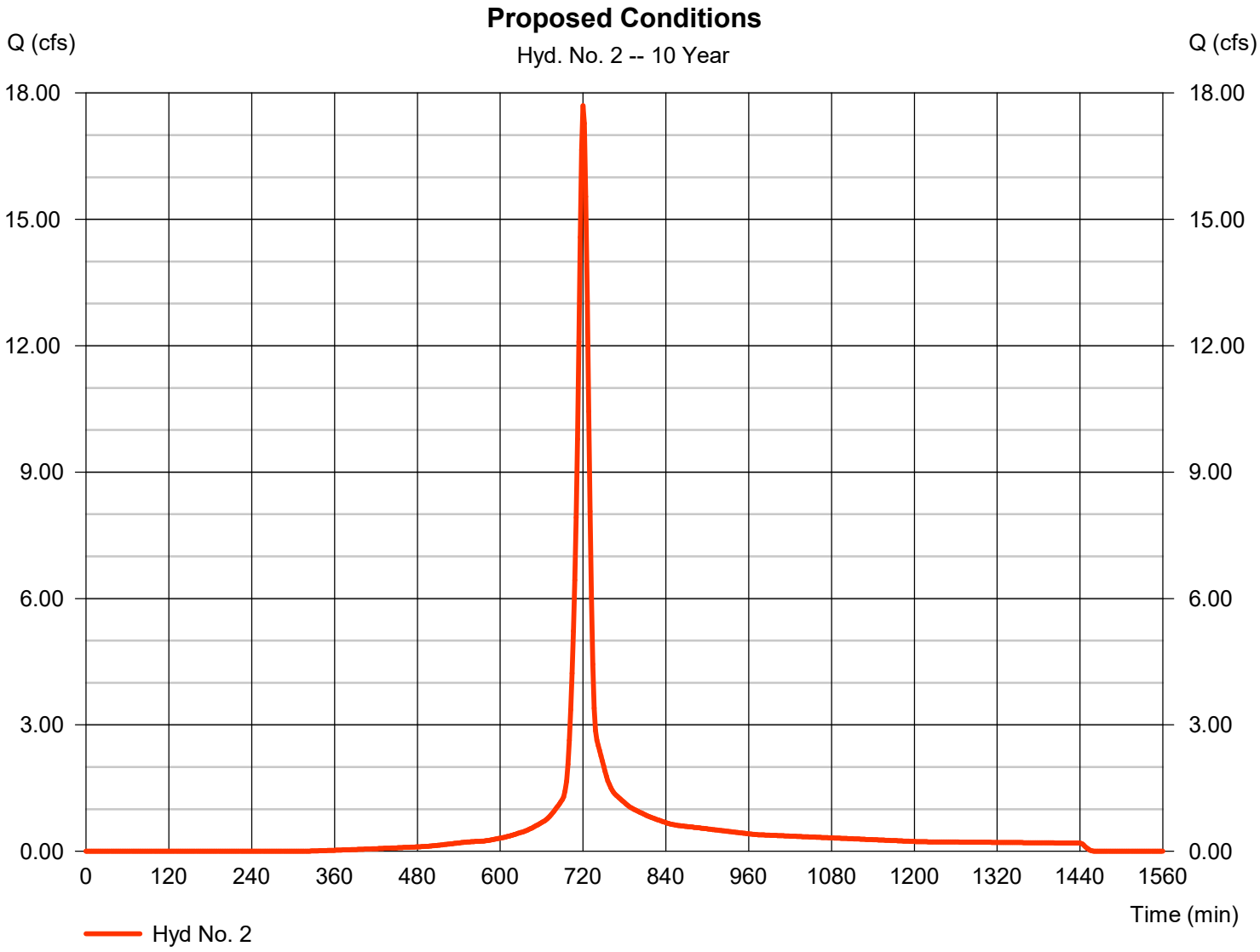
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 2

Proposed Conditions

Hydrograph type	=	SCS Runoff	Peak discharge	=	17.70 cfs
Storm frequency	=	10 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	46,708 cuft
Drainage area	=	3.320 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.05 min
Total precip.	=	5.42 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

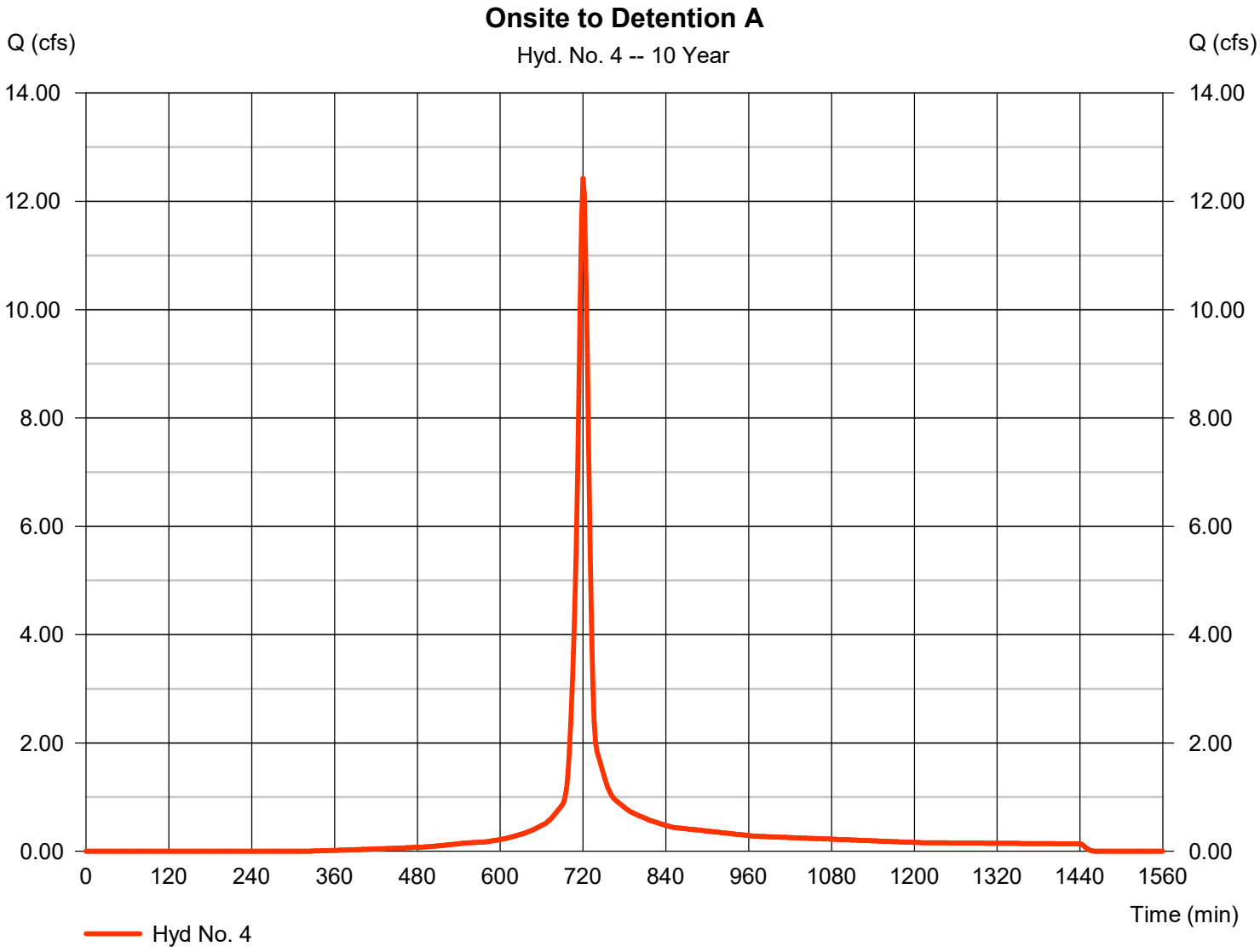
Thursday, 08 / 28 / 2025

Hyd. No. 4

Onsite to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 12.42 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 32,780 cuft
Drainage area	= 2.330 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



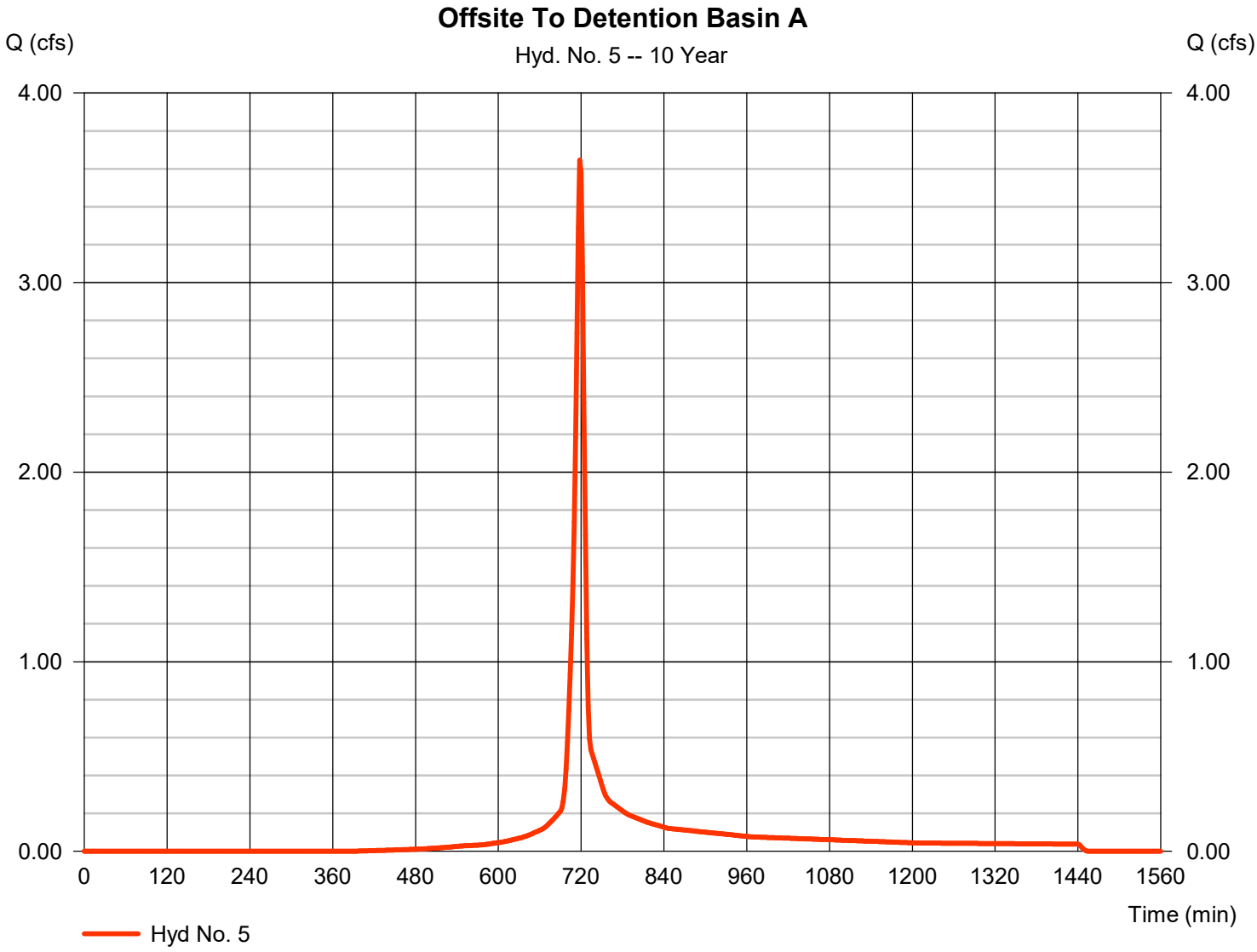
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 3.645 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 8,414 cuft
Drainage area	= 0.690 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.50 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

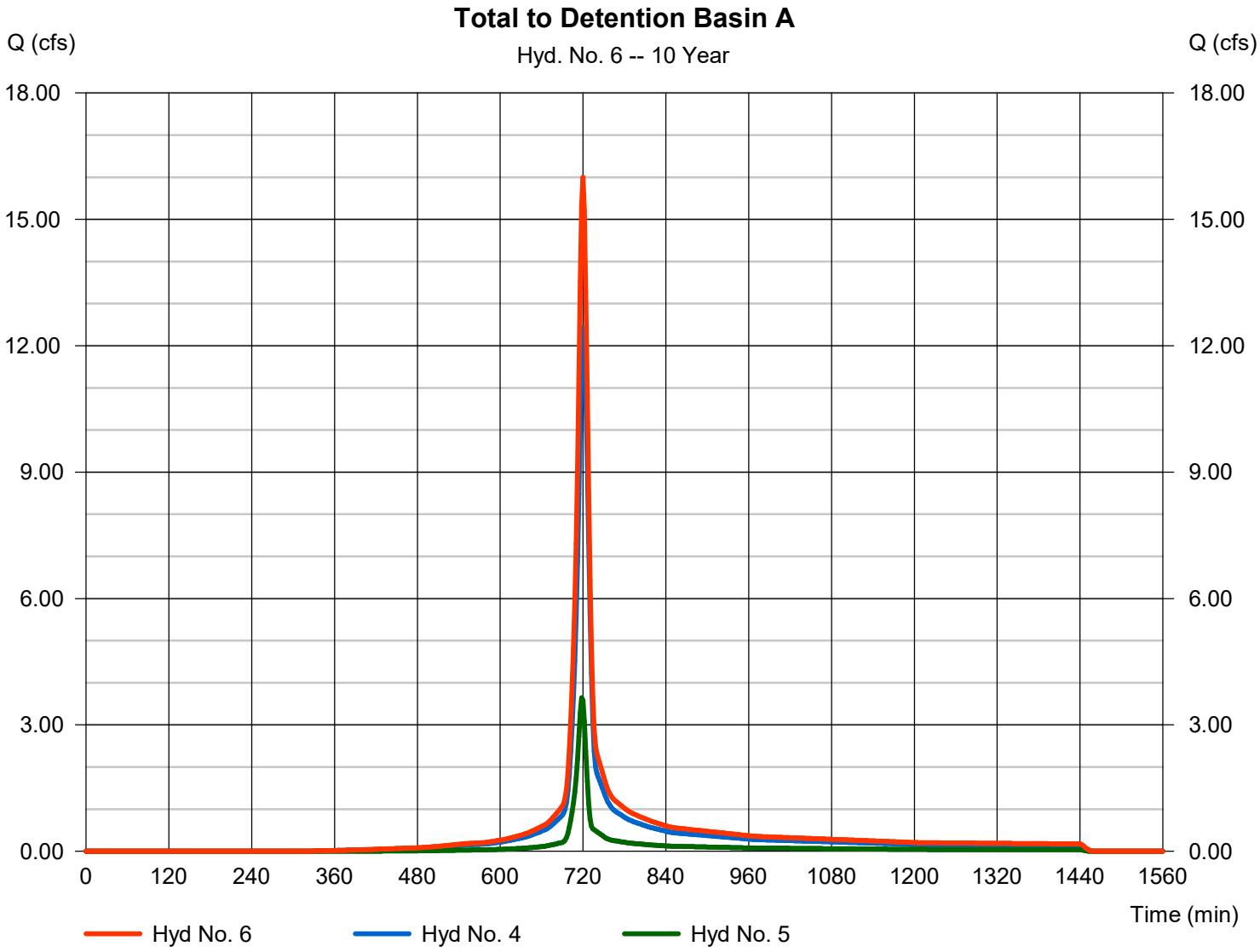


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 16.00 cfs
Storm frequency	= 10 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 41,194 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



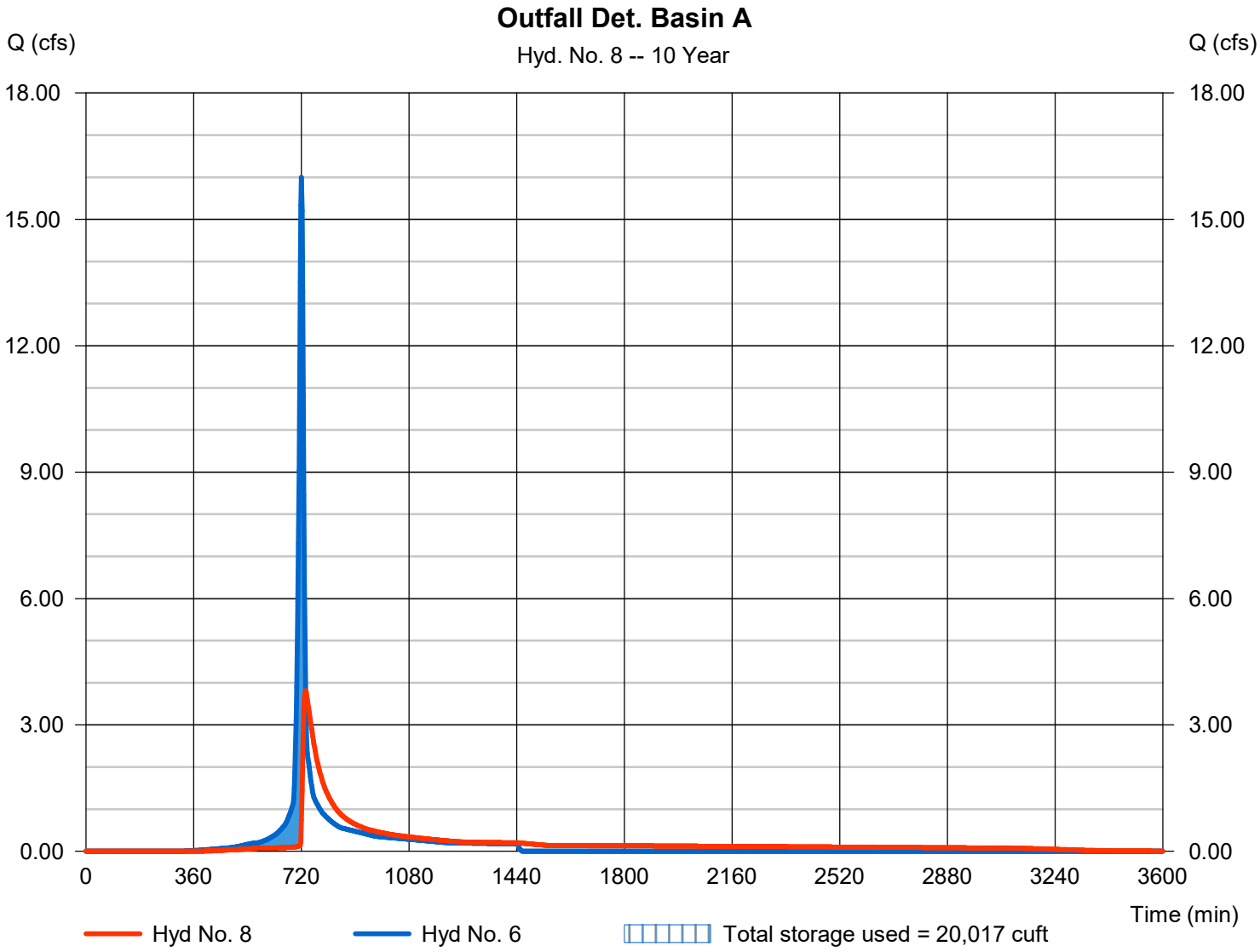
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	3.811 cfs
Storm frequency	=	10 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	41,179 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	661.92 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	20,017 cuft

Storage Indication method used.



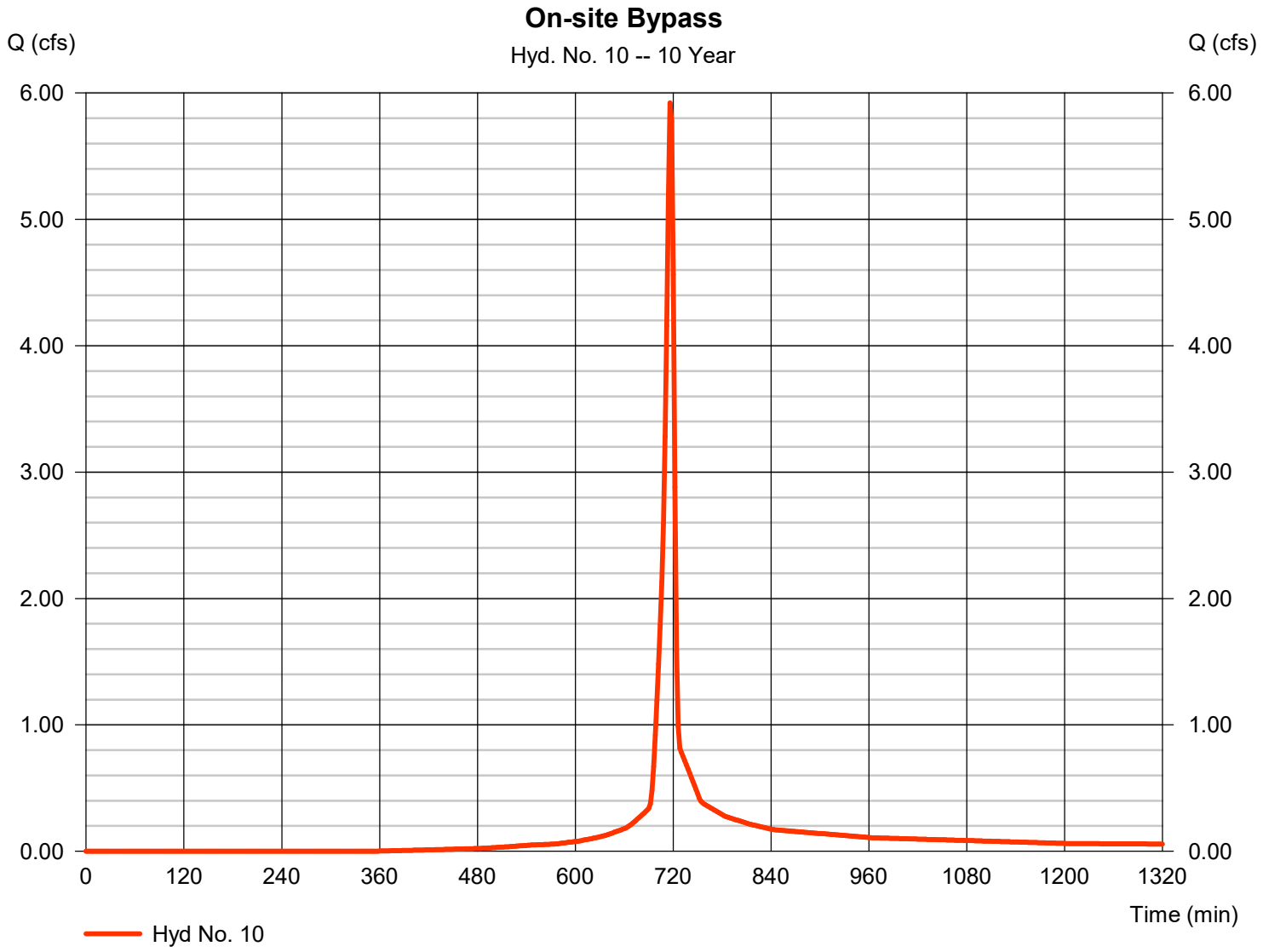
Hydrograph Report

Hyd. No. 10

On-site Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 5.921 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 12,224 cuft
Drainage area	= 1.010 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

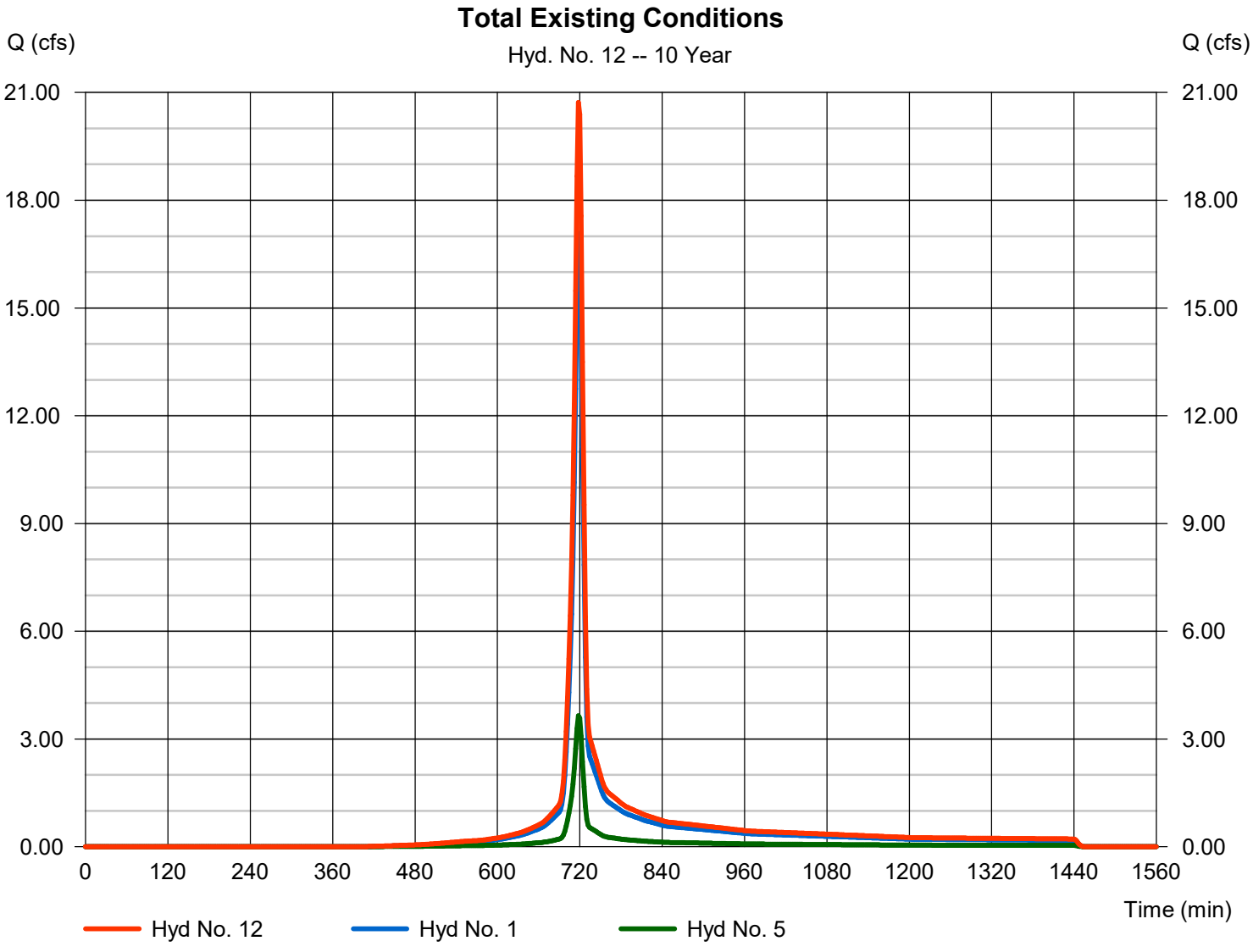


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 20.72 cfs
Storm frequency	= 10 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 47,730 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

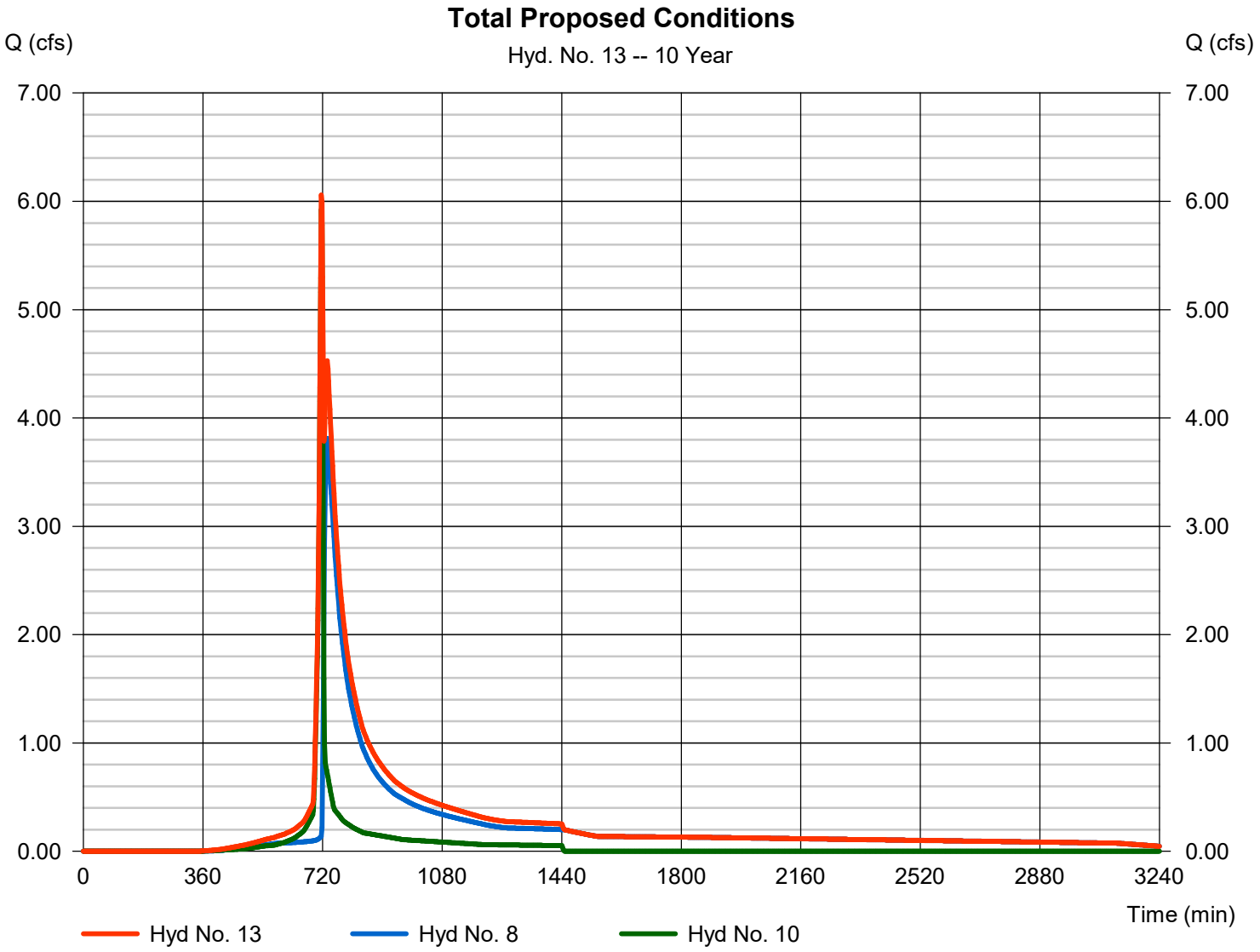


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 6.057 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 53,403 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



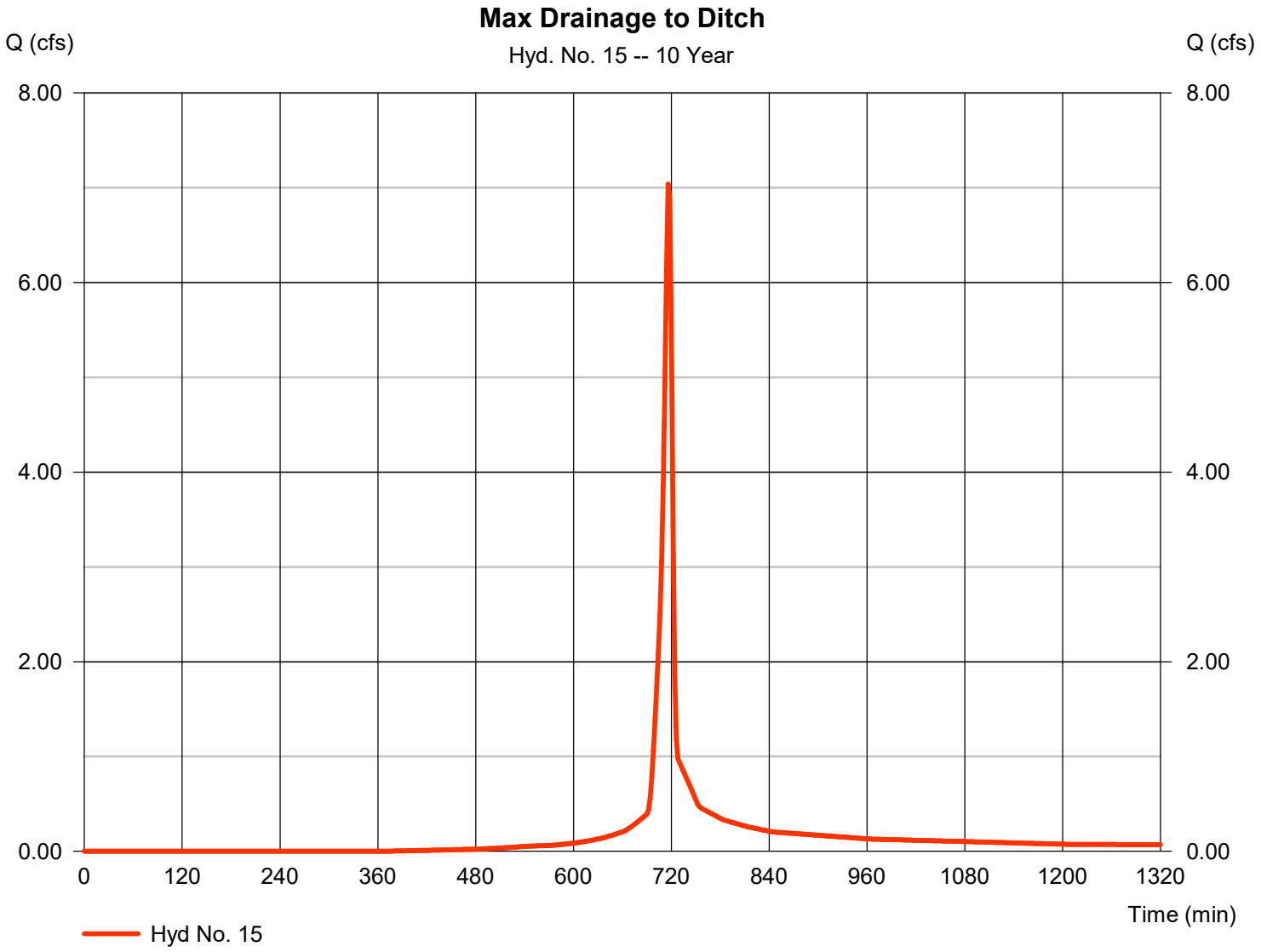
Hydrograph Report

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	= SCS Runoff	Peak discharge	= 7.039 cfs
Storm frequency	= 10 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 14,472 cuft
Drainage area	= 1.230 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 5.42 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

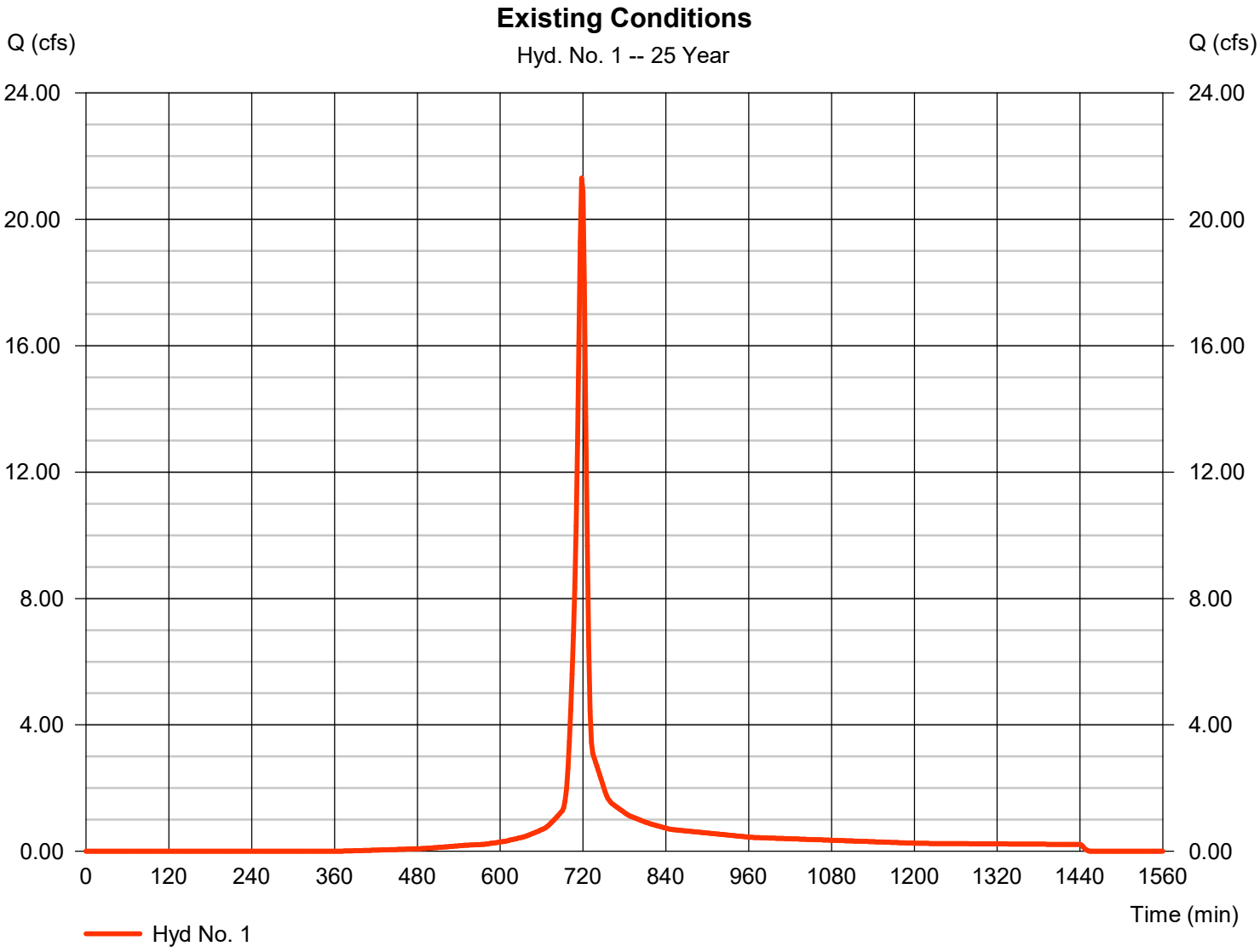
Thursday, 08 / 28 / 2025

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 21.30 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 49,394 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



Hydrograph Report

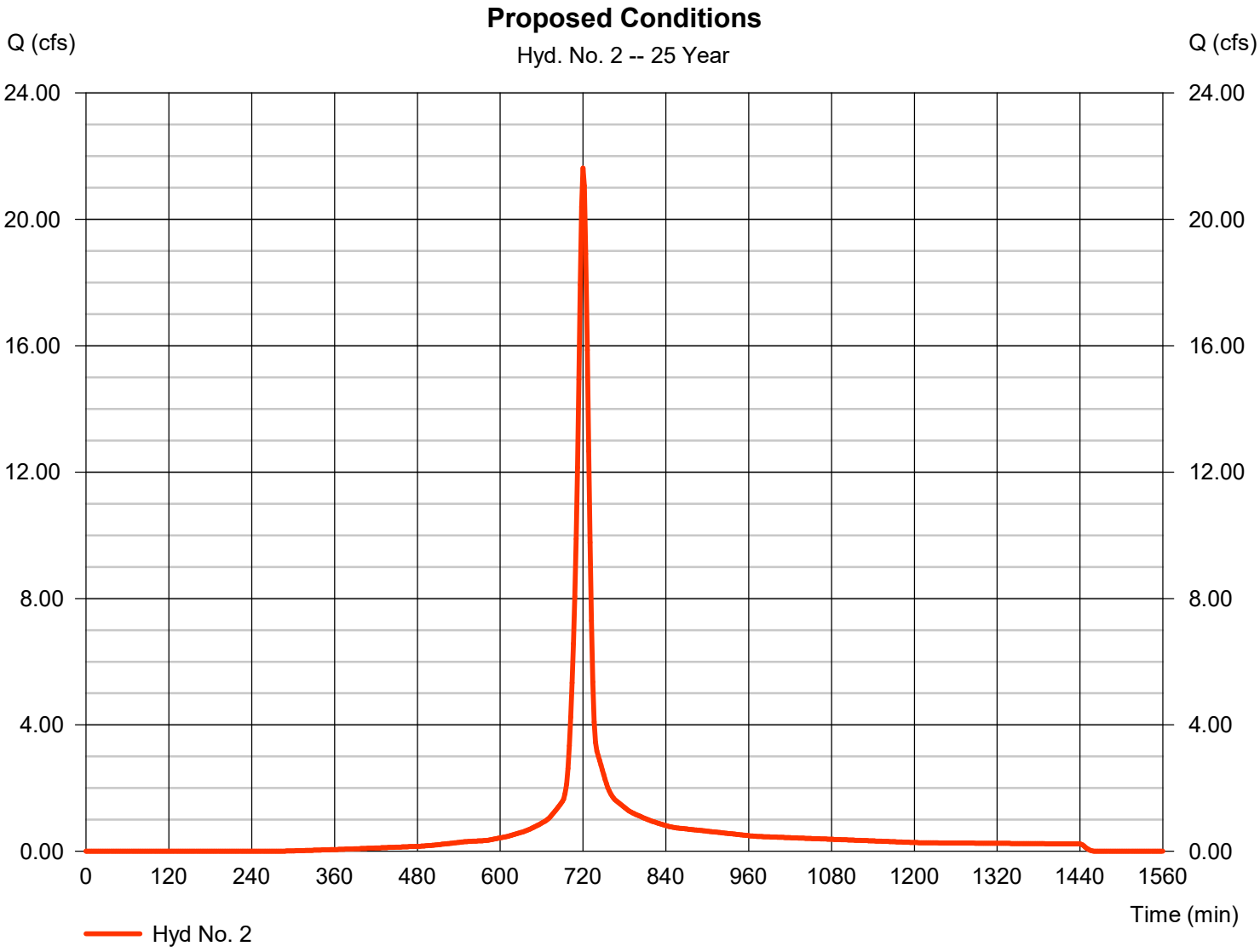
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 2

Proposed Conditions

Hydrograph type	=	SCS Runoff	Peak discharge	=	21.62 cfs
Storm frequency	=	25 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	57,587 cuft
Drainage area	=	3.320 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	10.05 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



Hydrograph Report

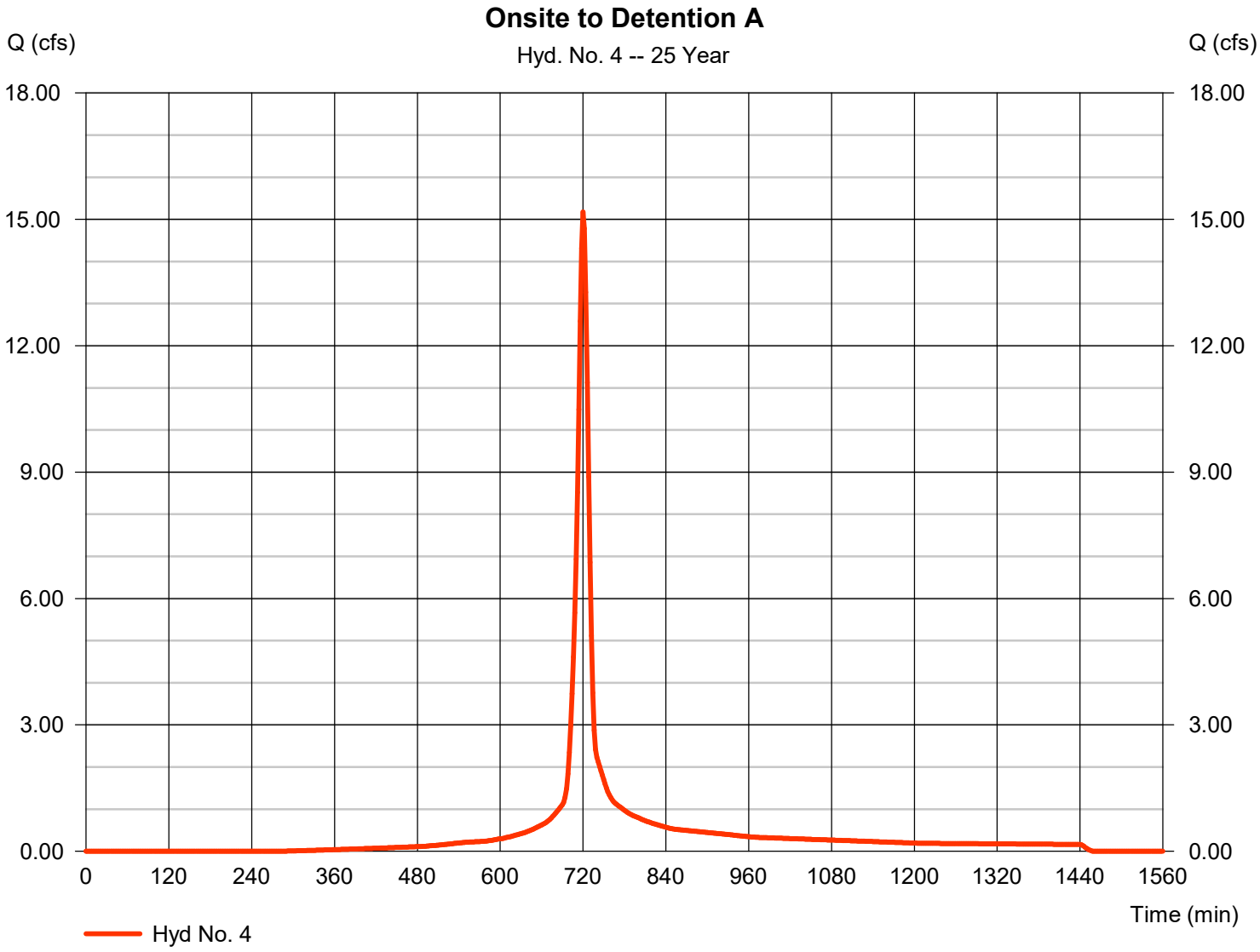
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 4

Onsite to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 15.17 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 40,415 cuft
Drainage area	= 2.330 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



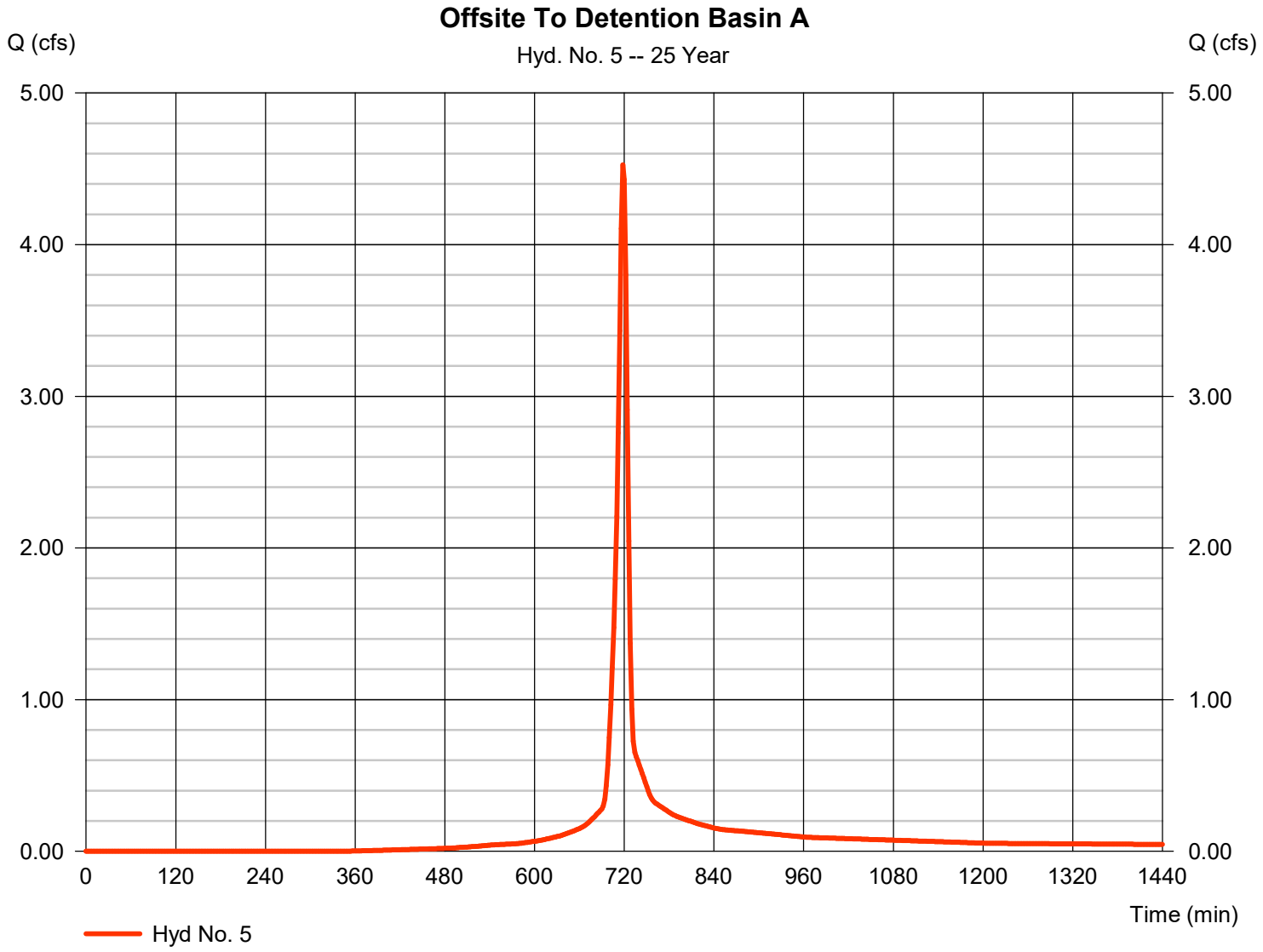
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	= SCS Runoff	Peak discharge	= 4.526 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 10,530 cuft
Drainage area	= 0.690 ac	Curve number	= 81*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.50 min
Total precip.	= 6.35 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

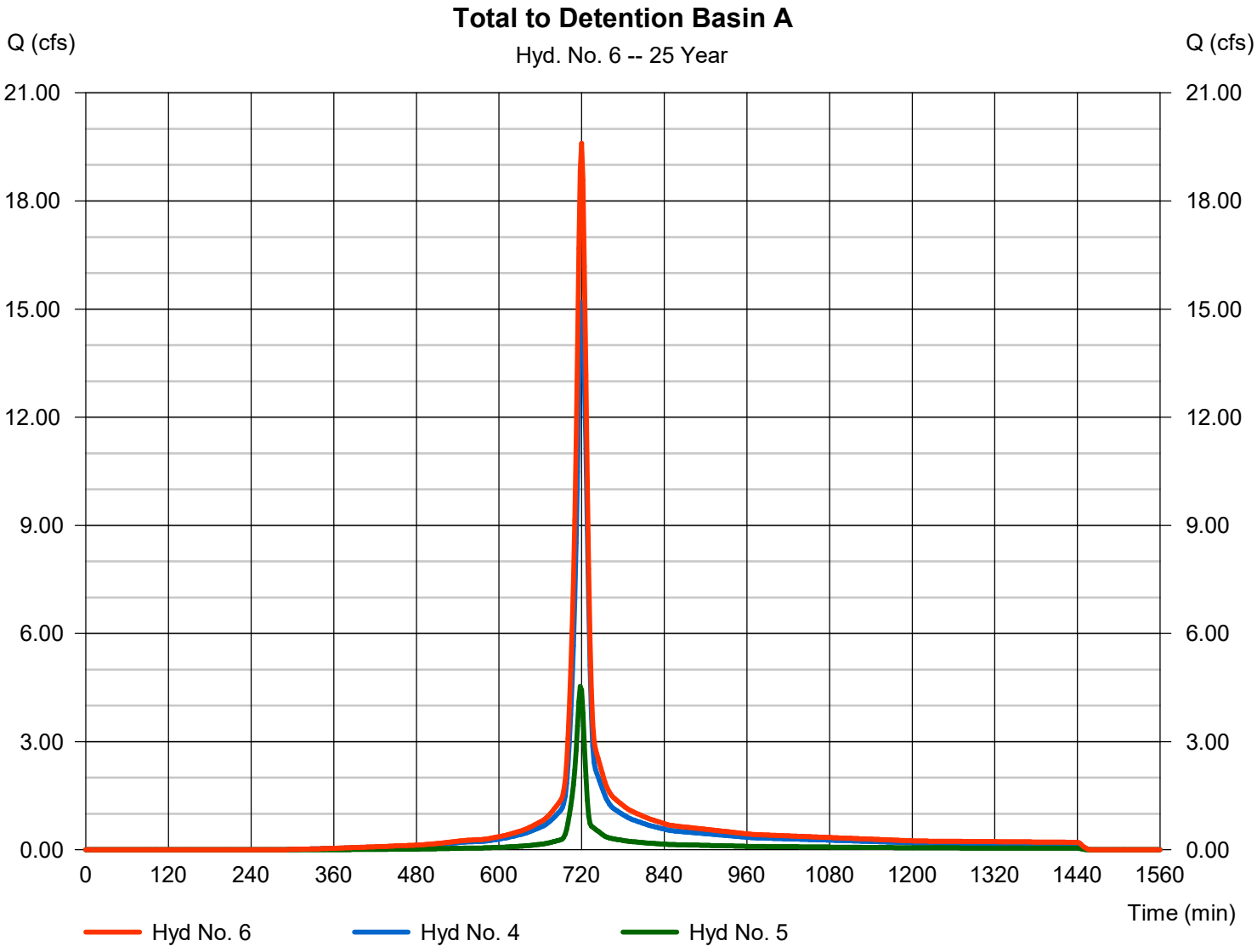


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 19.60 cfs
Storm frequency	= 25 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 50,945 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



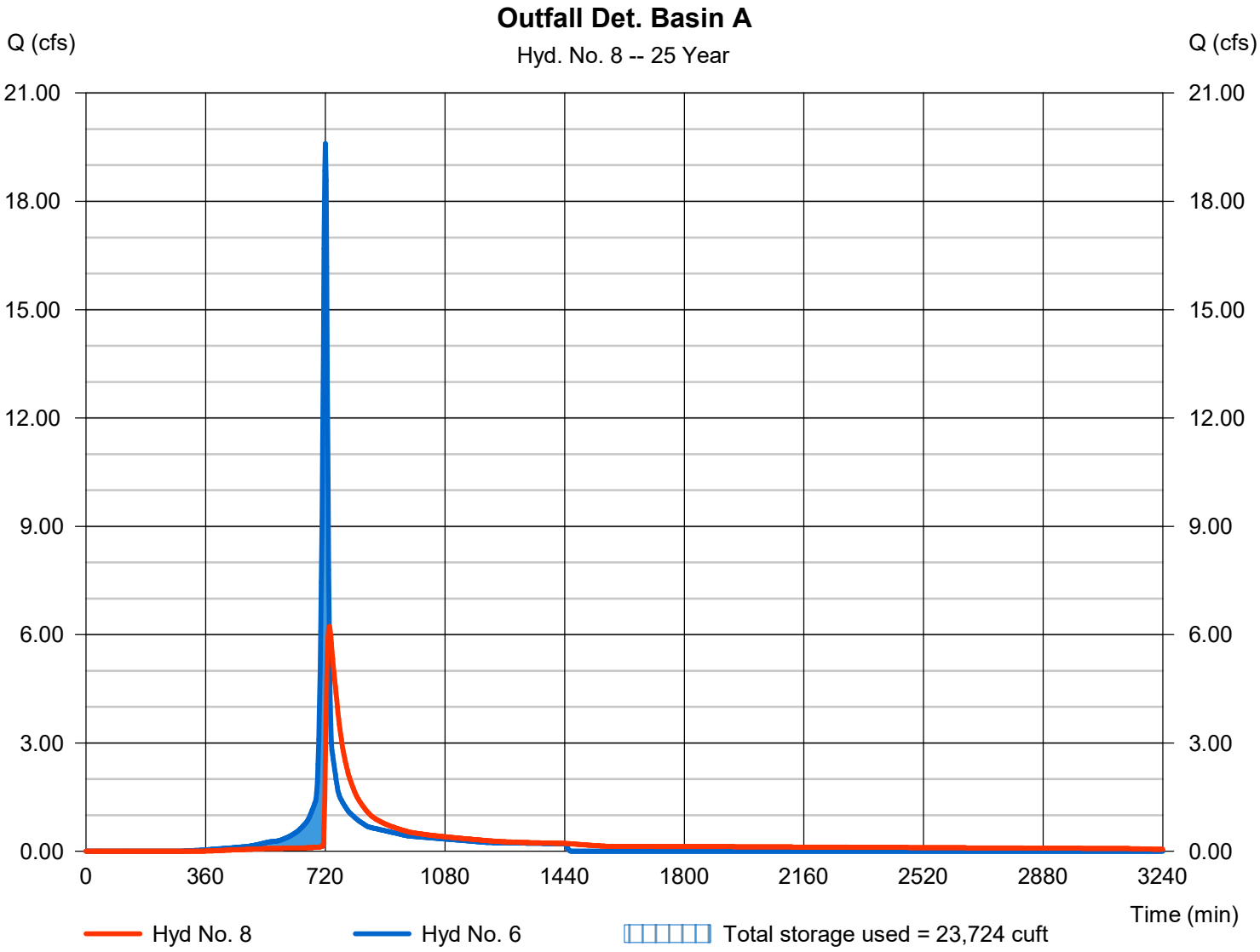
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	6.226 cfs
Storm frequency	=	25 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	50,930 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	662.19 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	23,724 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

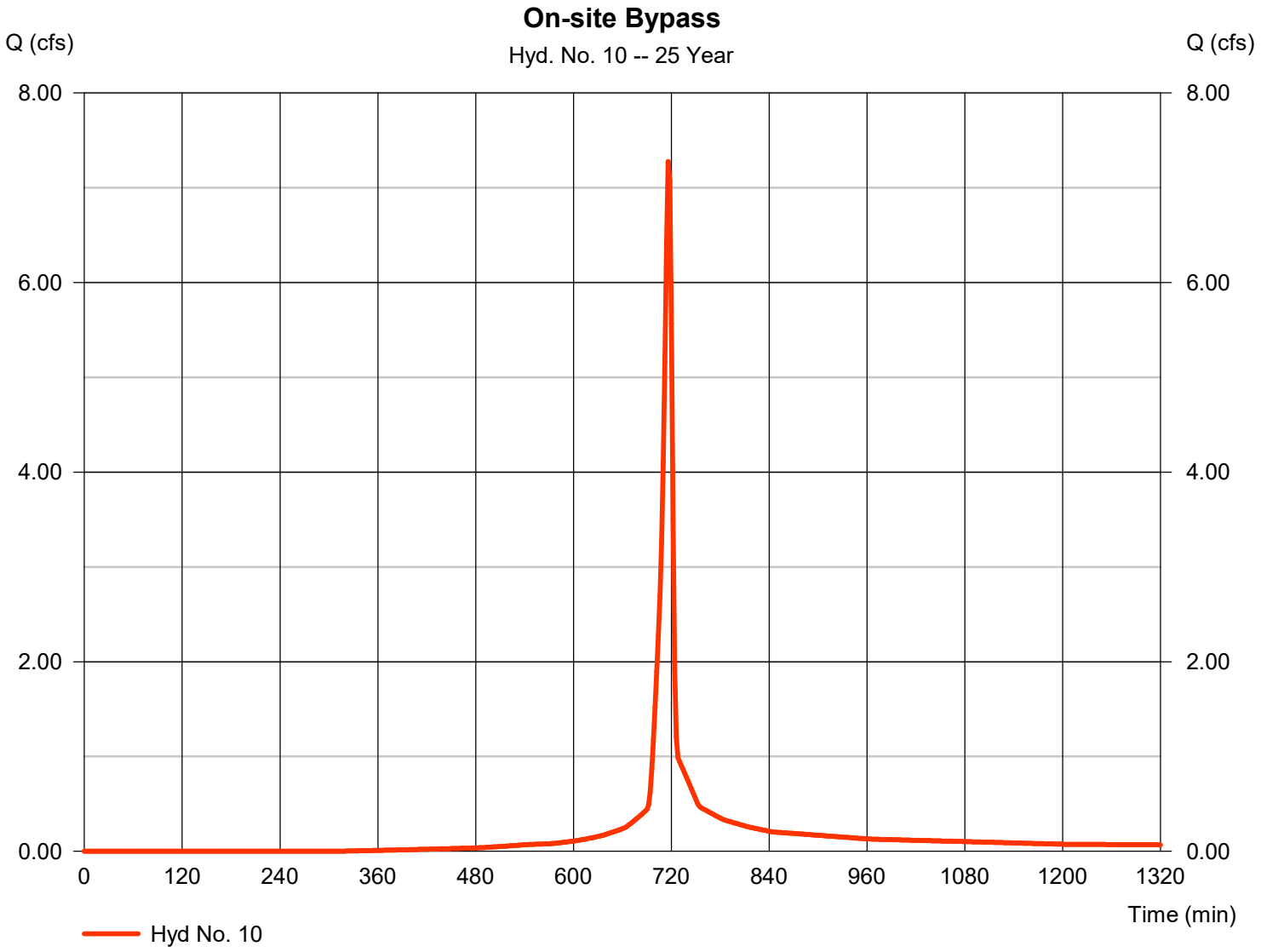
Thursday, 08 / 28 / 2025

Hyd. No. 10

On-site Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.278 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	15,183 cuft
Drainage area	=	1.010 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

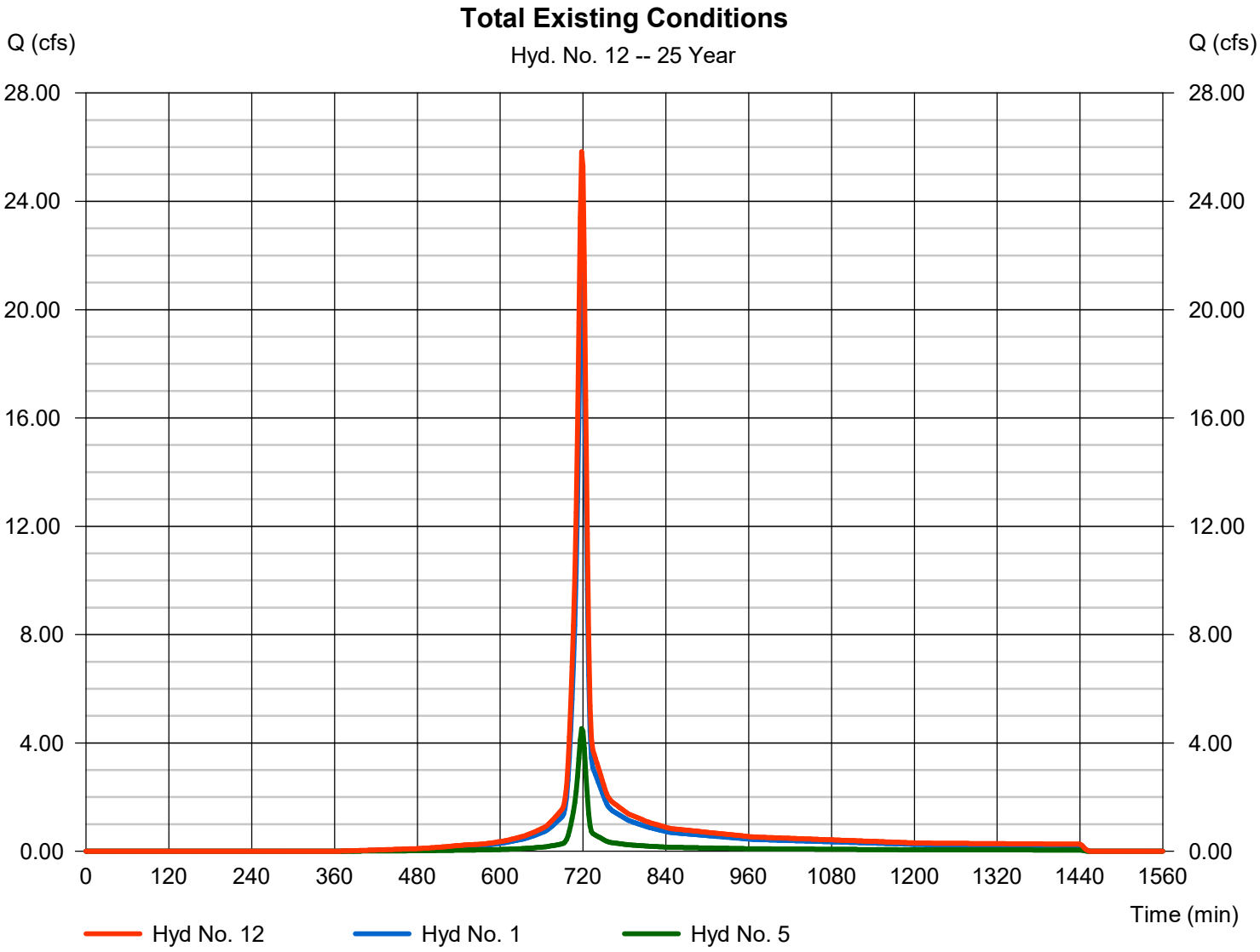


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 25.83 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 59,923 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

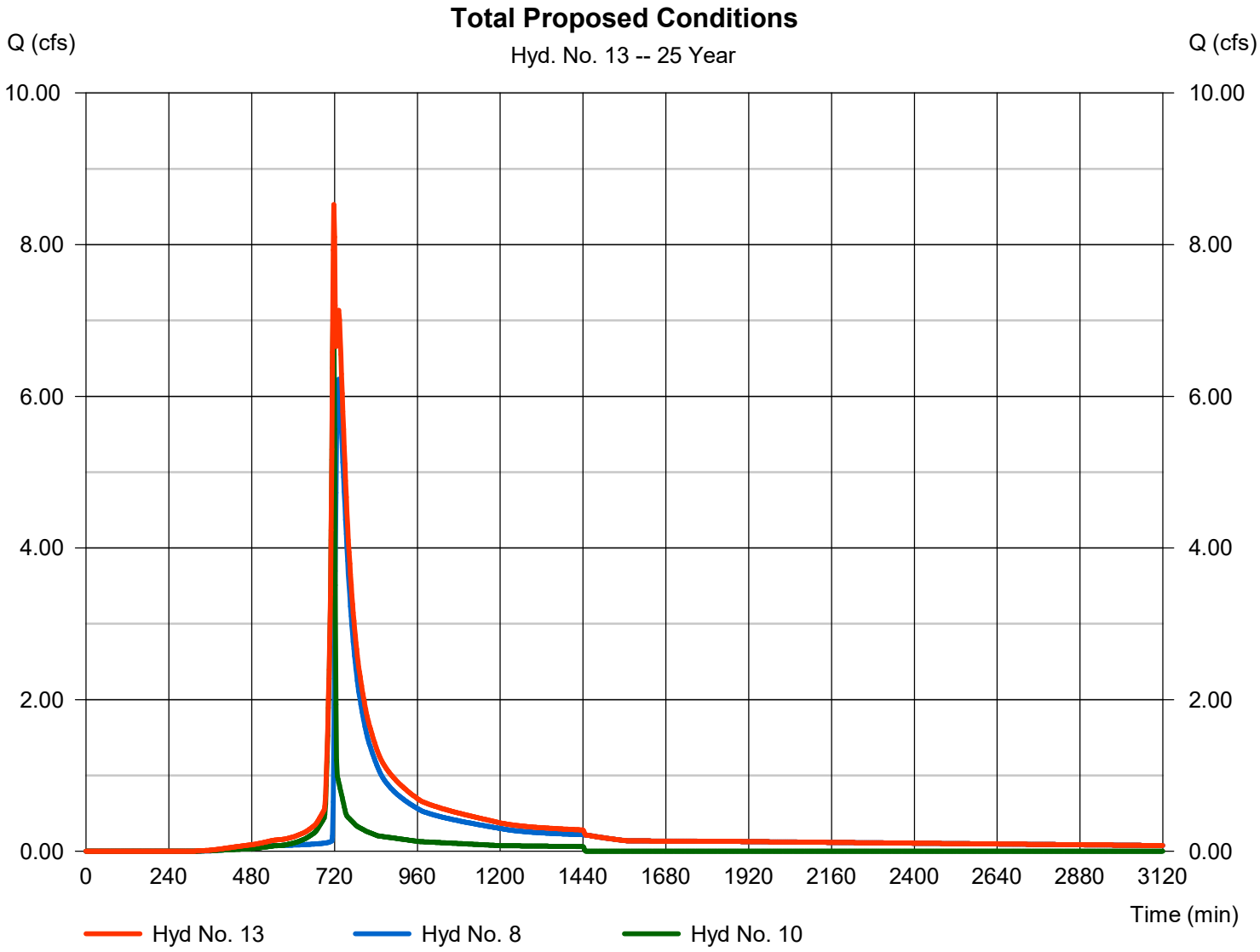


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 8.528 cfs
Storm frequency	= 25 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 66,113 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

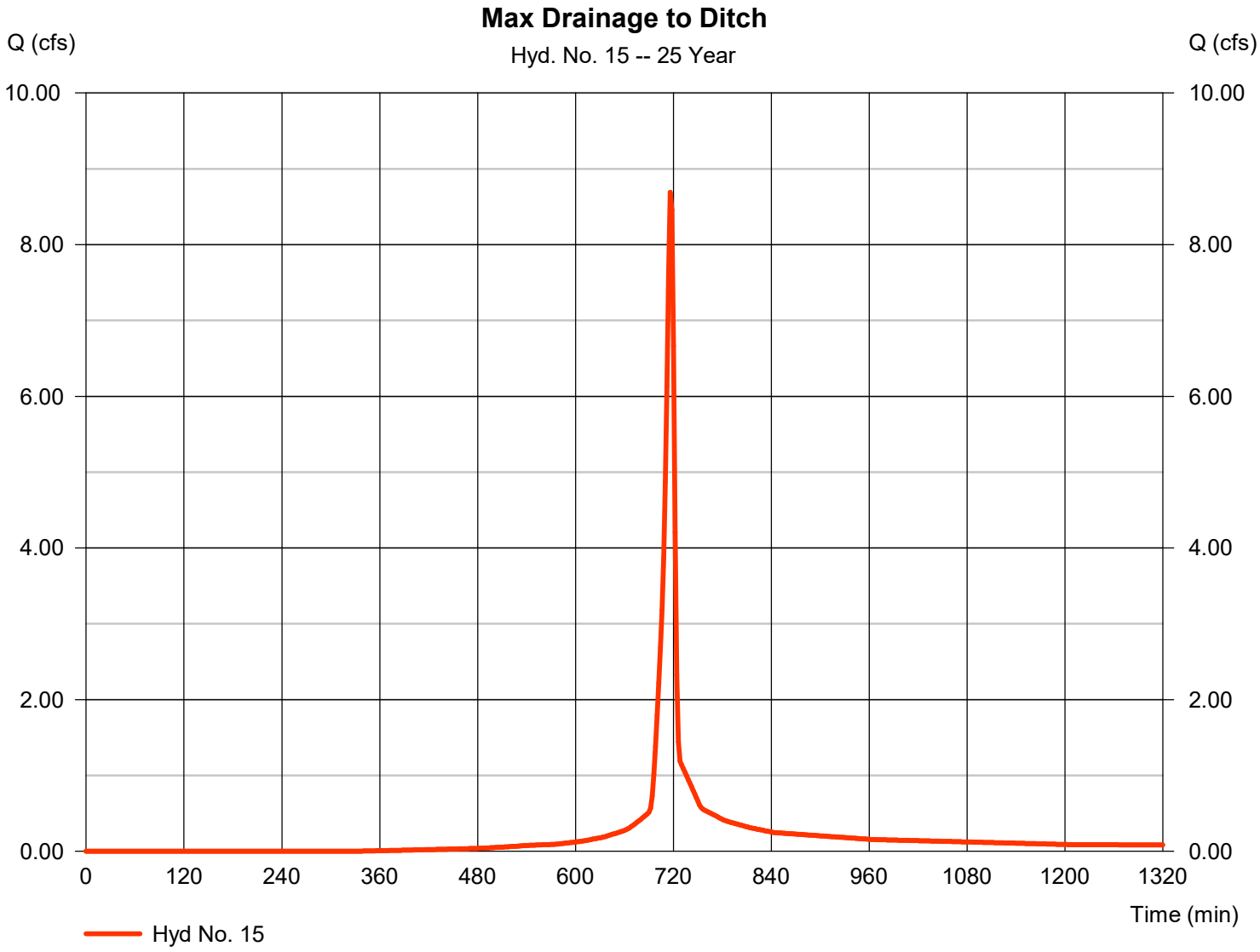
Thursday, 08 / 28 / 2025

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.689 cfs
Storm frequency	=	25 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	18,042 cuft
Drainage area	=	1.230 ac	Curve number	=	82*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	6.35 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



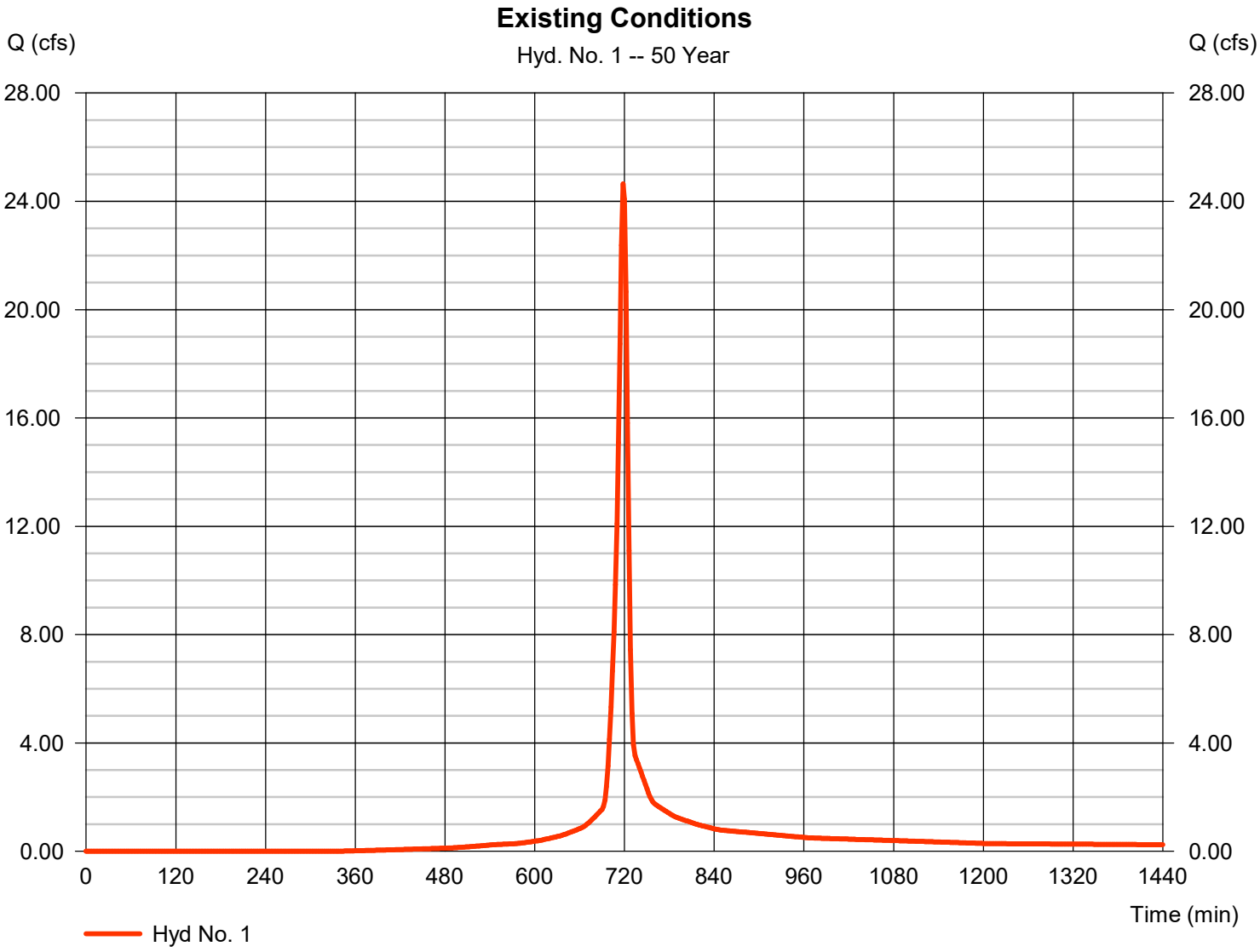
Hydrograph Report

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 24.64 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 57,466 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



Hydrograph Report

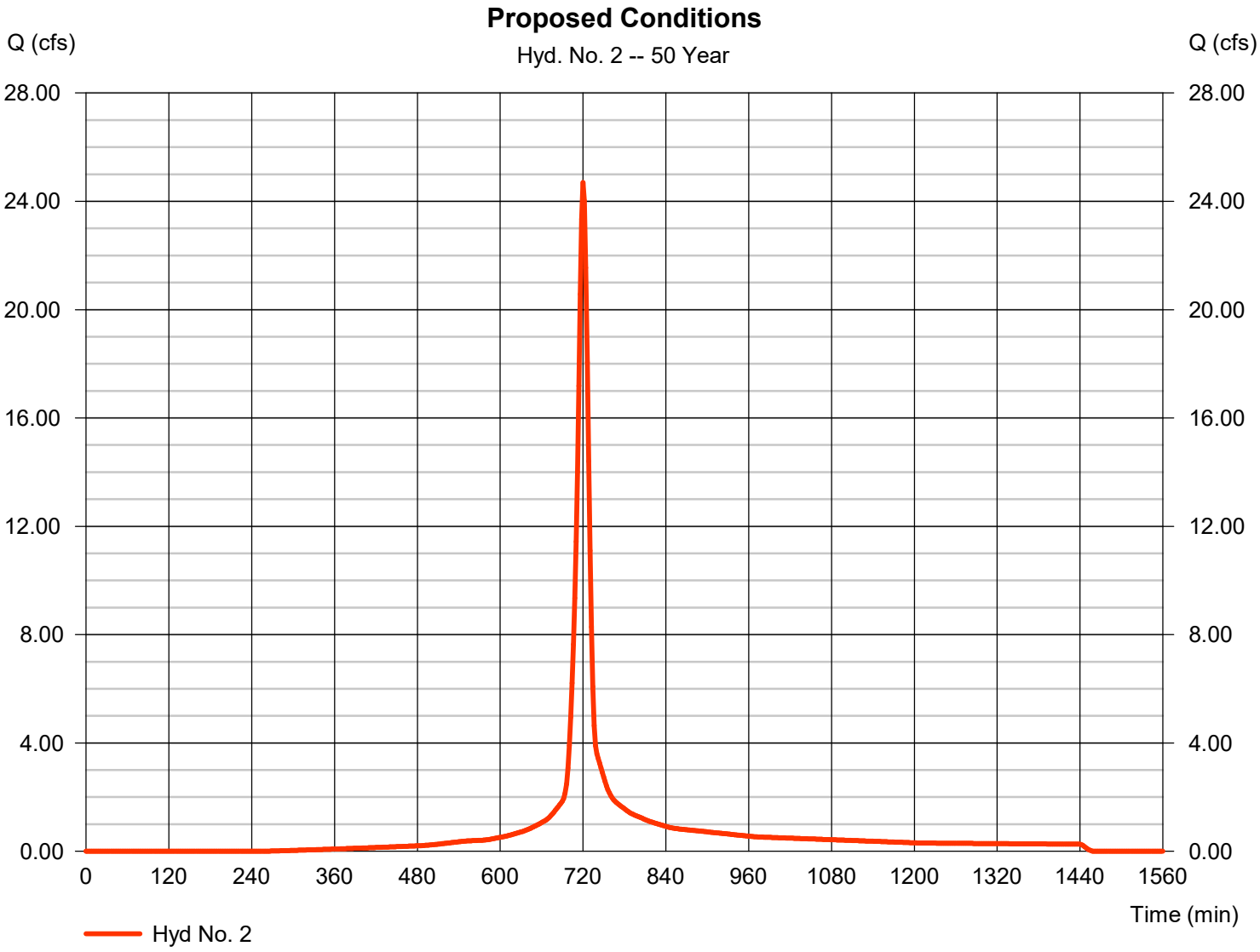
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 2

Proposed Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 24.70 cfs
Storm frequency	= 50 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 66,231 cuft
Drainage area	= 3.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.05 min
Total precip.	= 7.08 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

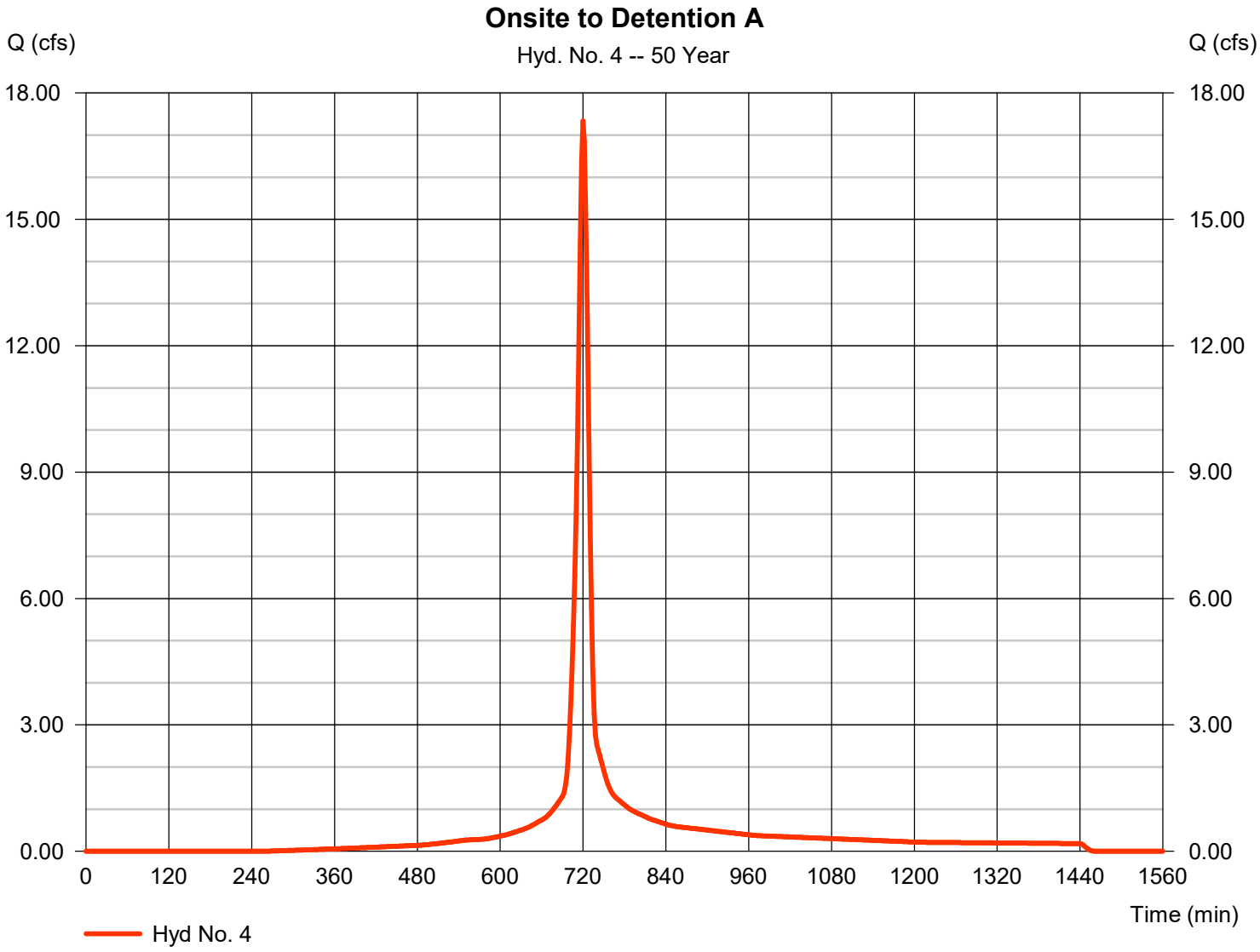
Thursday, 08 / 28 / 2025

Hyd. No. 4

Onsite to Detention A

Hydrograph type	=	SCS Runoff	Peak discharge	=	17.33 cfs
Storm frequency	=	50 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	46,481 cuft
Drainage area	=	2.330 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	10.10 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



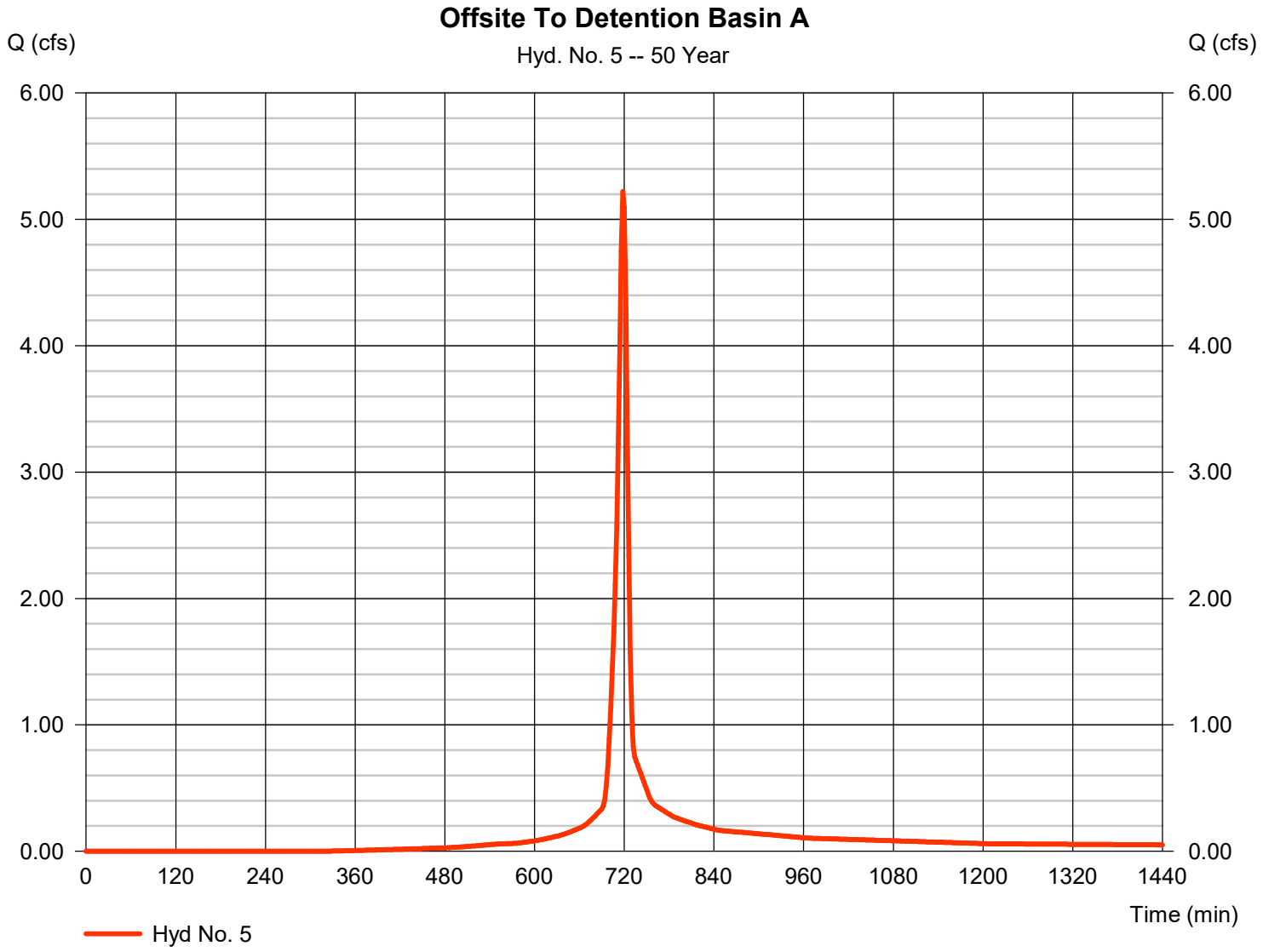
Hydrograph Report

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.221 cfs
Storm frequency	=	50 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	12,222 cuft
Drainage area	=	0.690 ac	Curve number	=	81*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

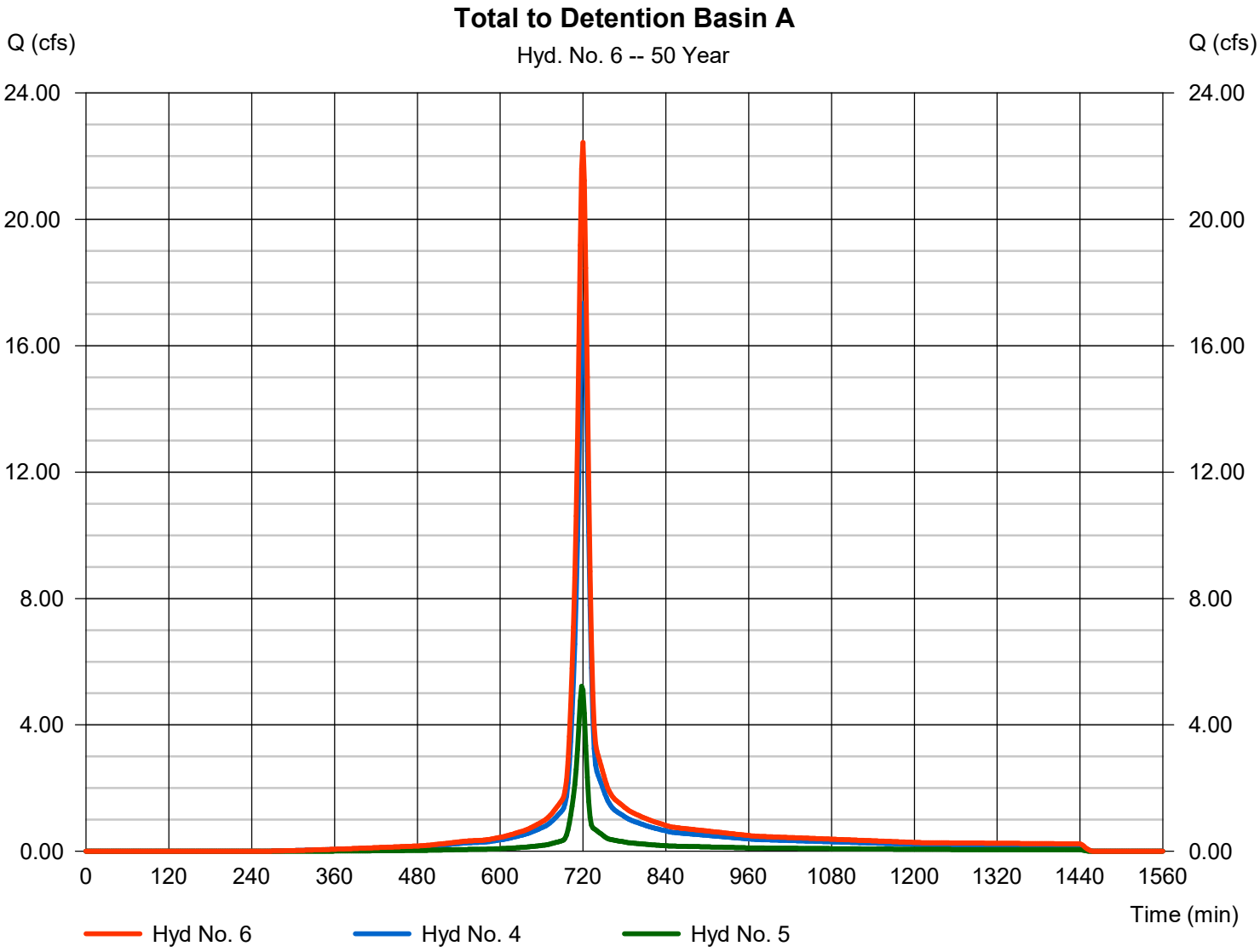


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 22.43 cfs
Storm frequency	= 50 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 58,703 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



Hydrograph Report

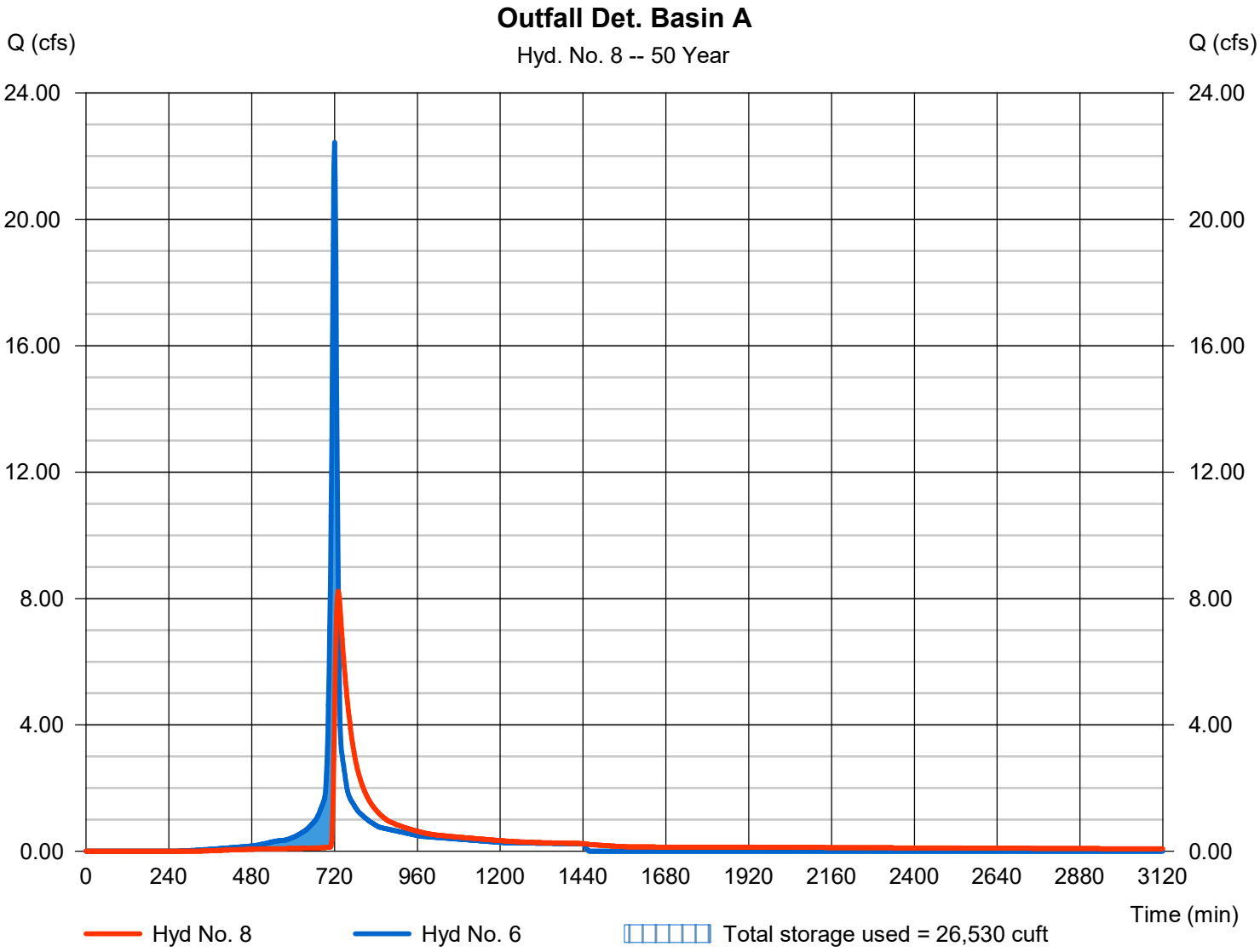
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	8.230 cfs
Storm frequency	=	50 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	58,688 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	662.39 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	26,530 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

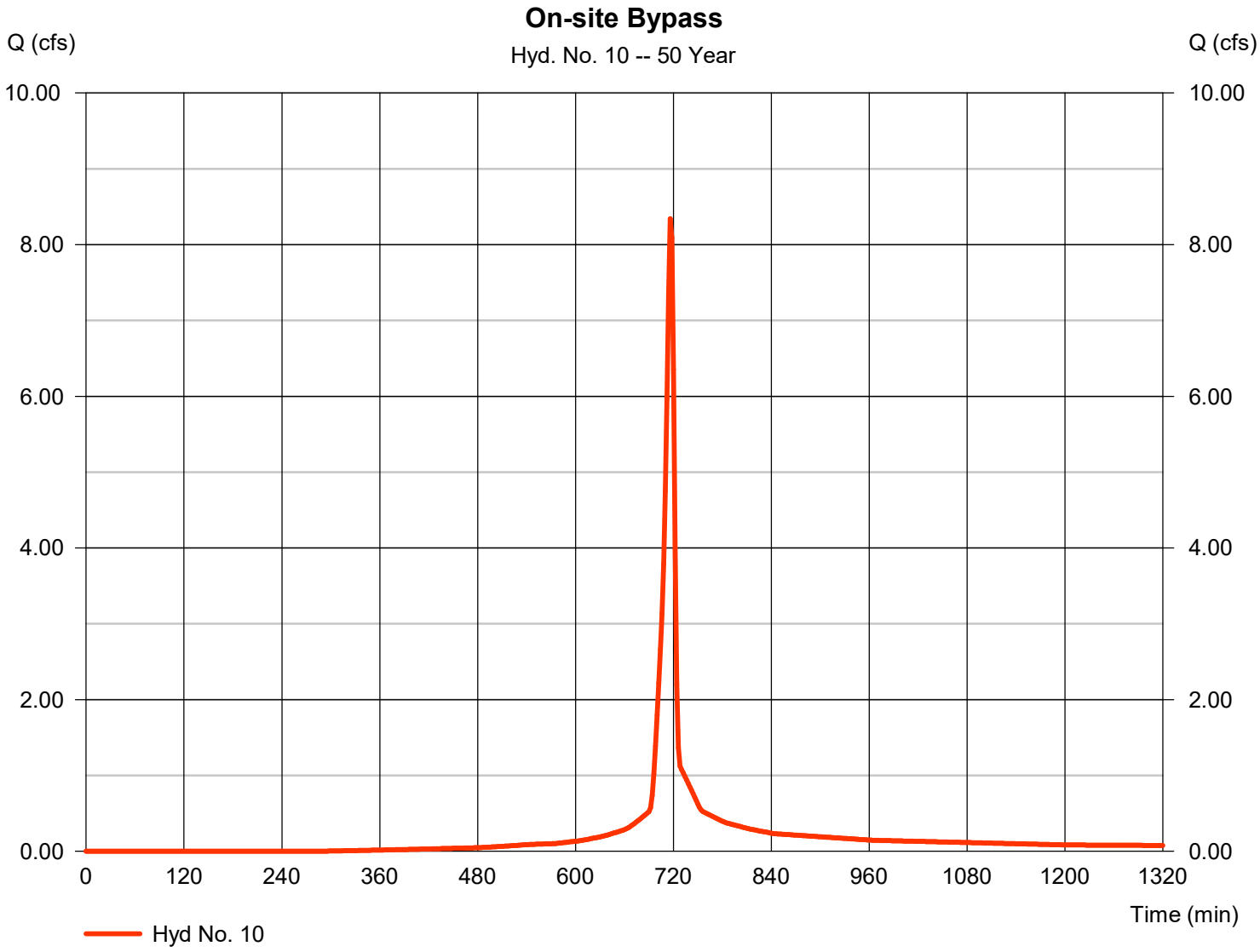
Thursday, 08 / 28 / 2025

Hyd. No. 10

On-site Bypass

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.342 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	17,541 cuft
Drainage area	=	1.010 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

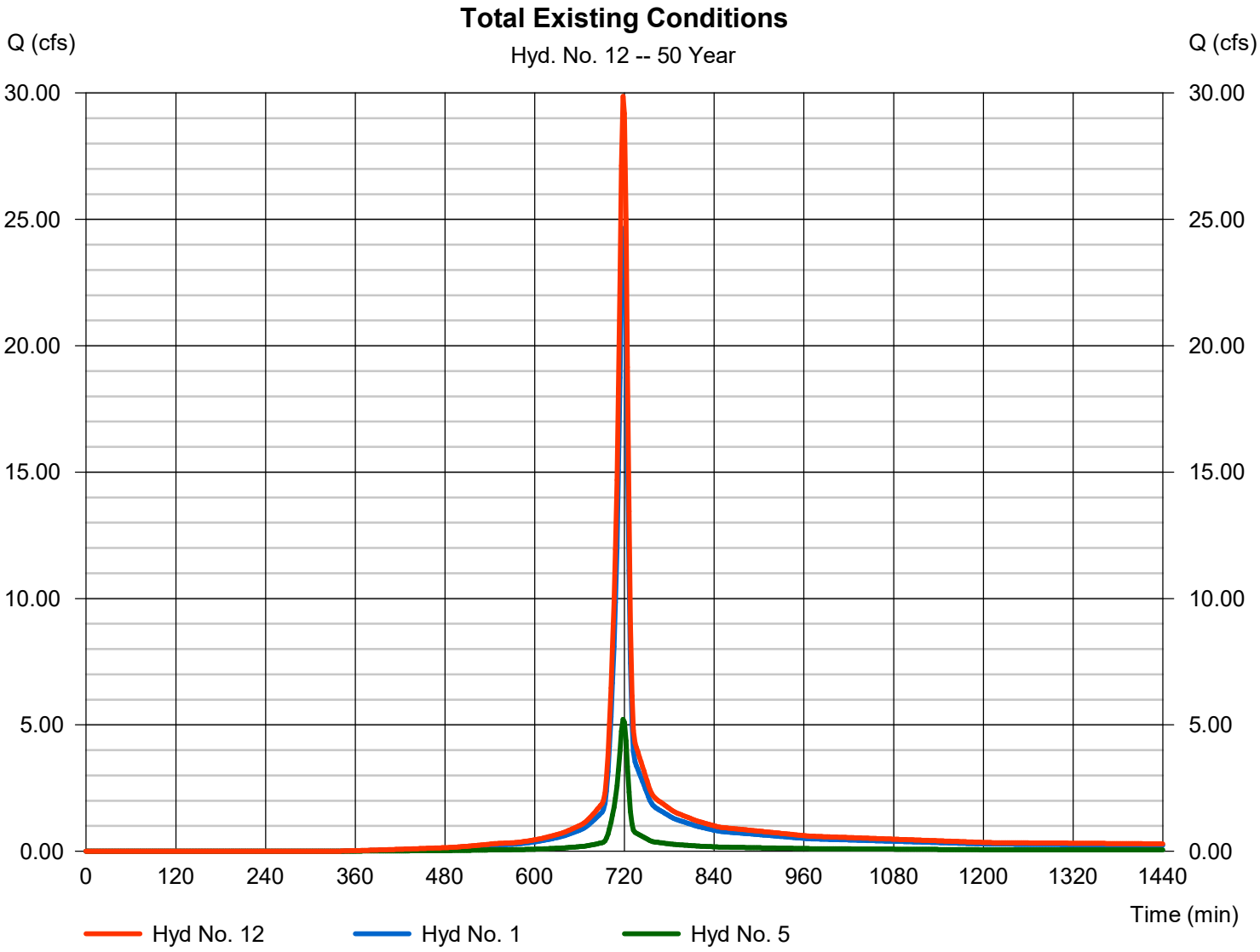


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 29.86 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 69,688 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

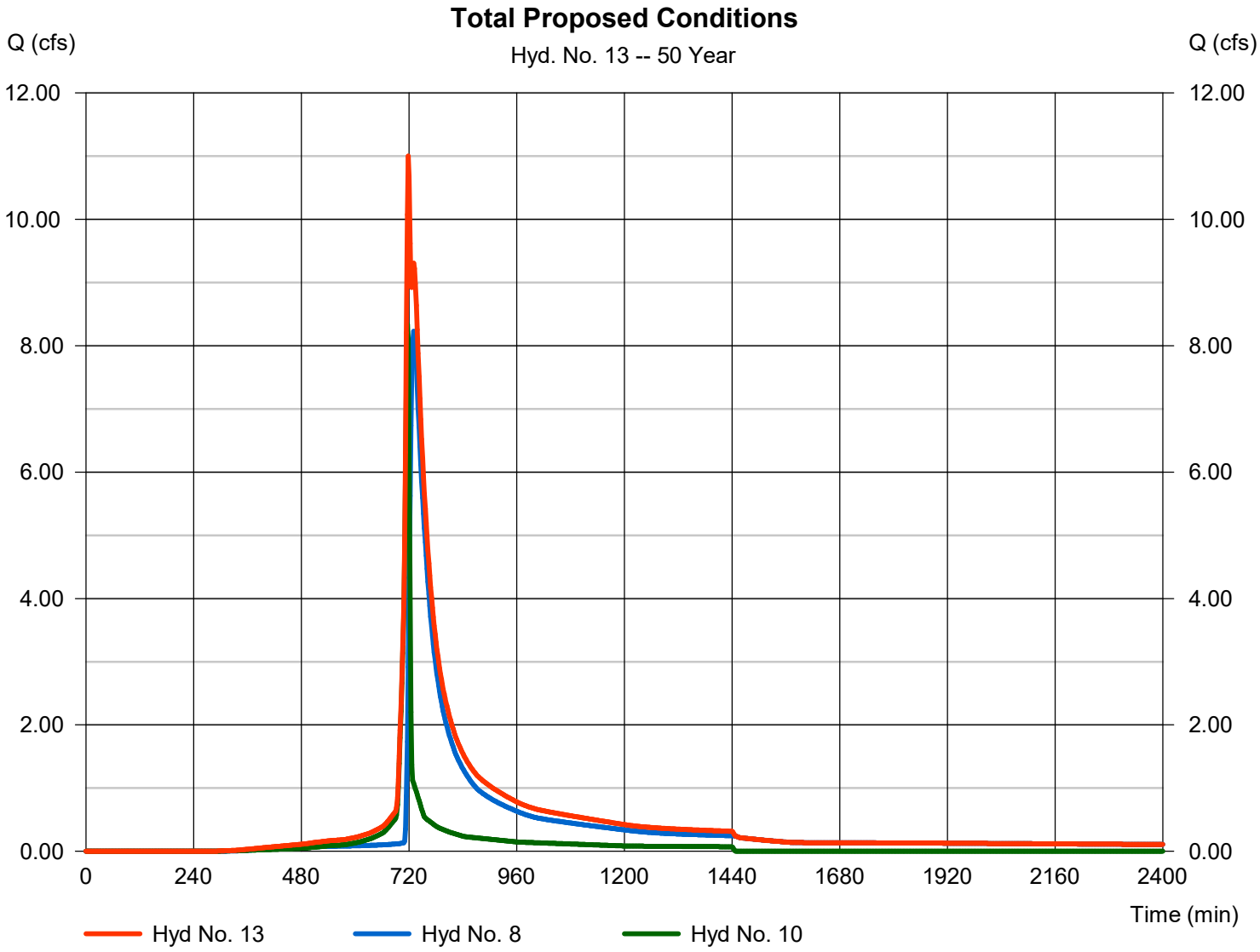


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 11.00 cfs
Storm frequency	= 50 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 76,229 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

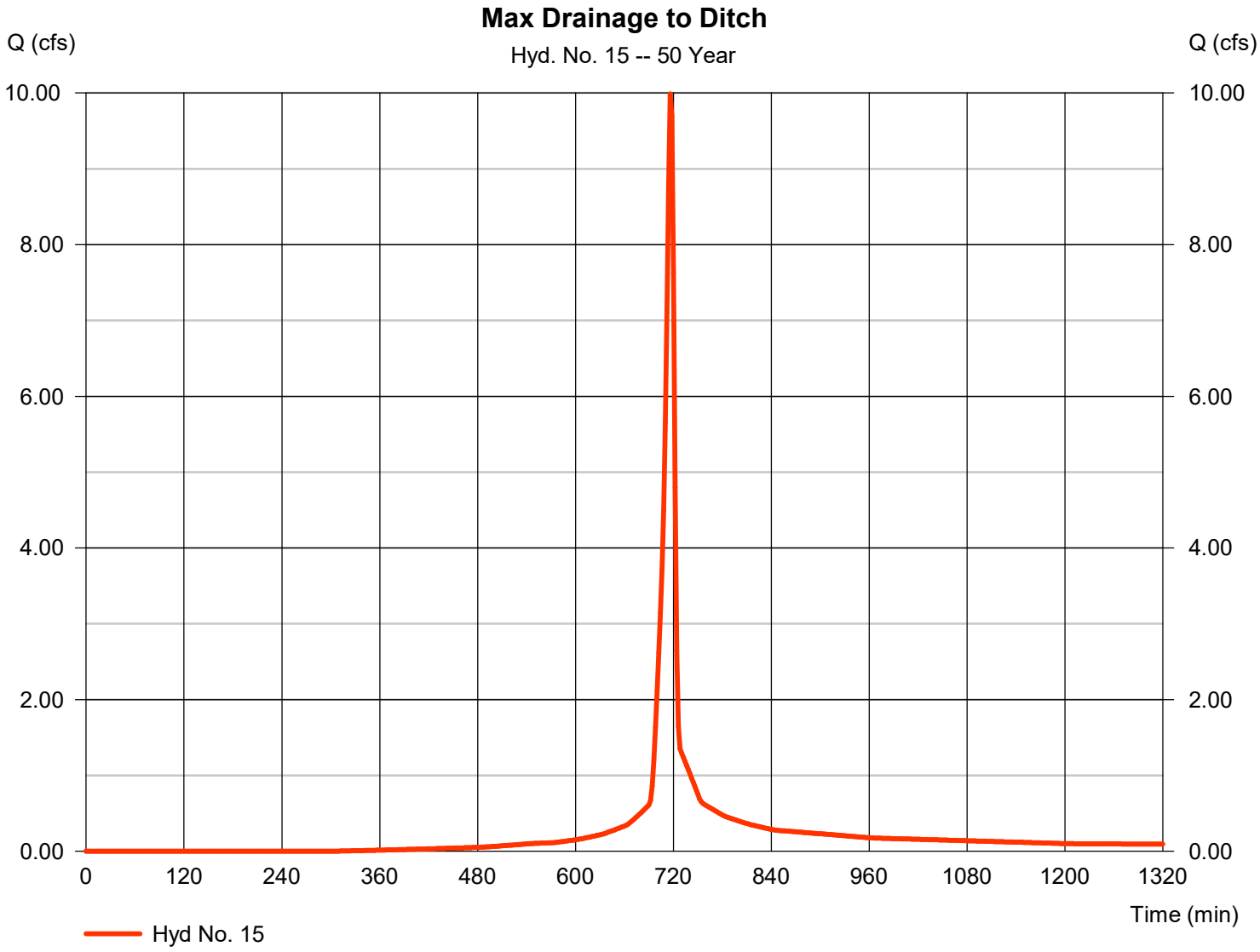
Thursday, 08 / 28 / 2025

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.986 cfs
Storm frequency	=	50 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	20,892 cuft
Drainage area	=	1.230 ac	Curve number	=	82*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.08 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

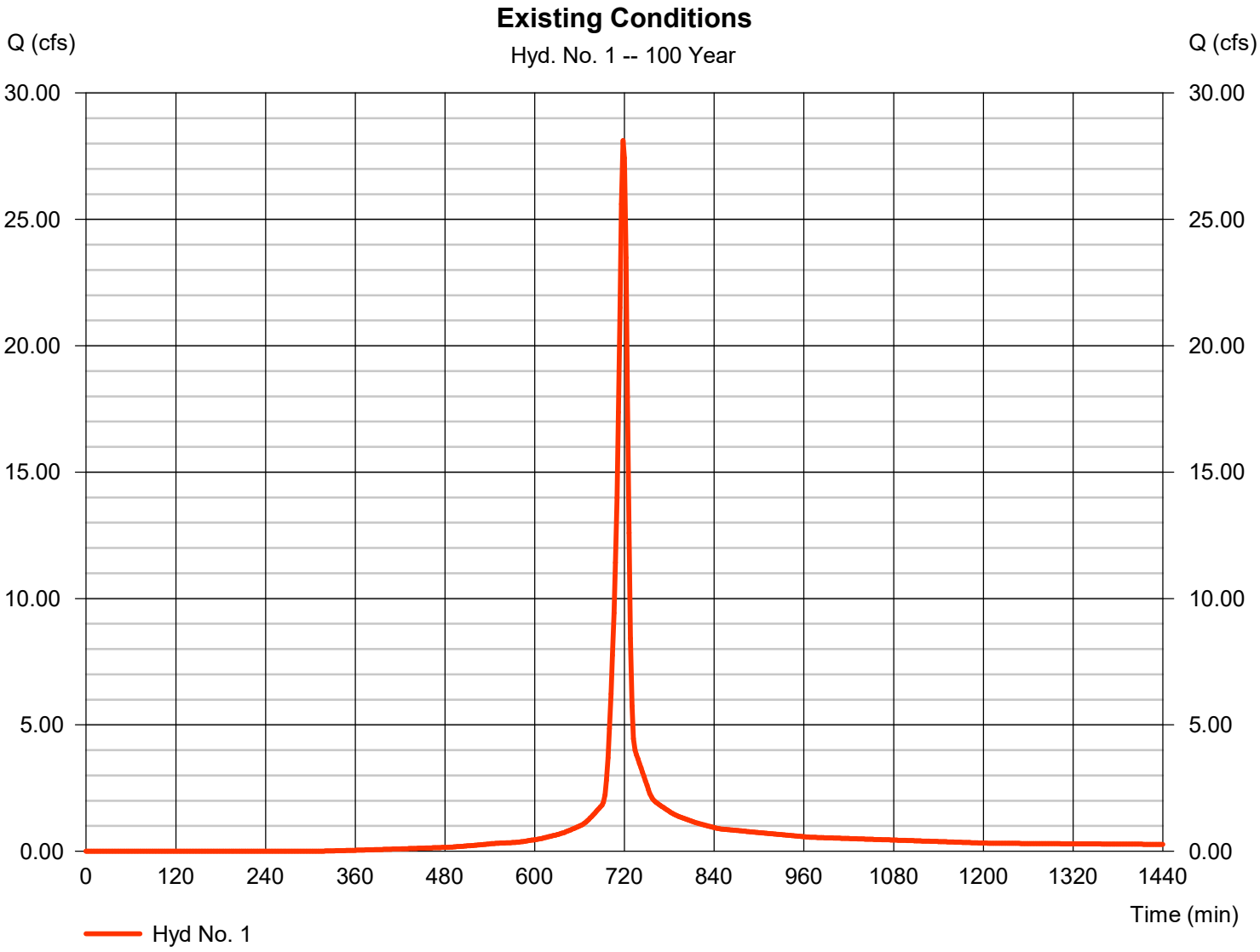
Thursday, 08 / 28 / 2025

Hyd. No. 1

Existing Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 28.12 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 65,984 cuft
Drainage area	= 3.320 ac	Curve number	= 80*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.91 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = + (3.320 x 80)] / 3.320



Hydrograph Report

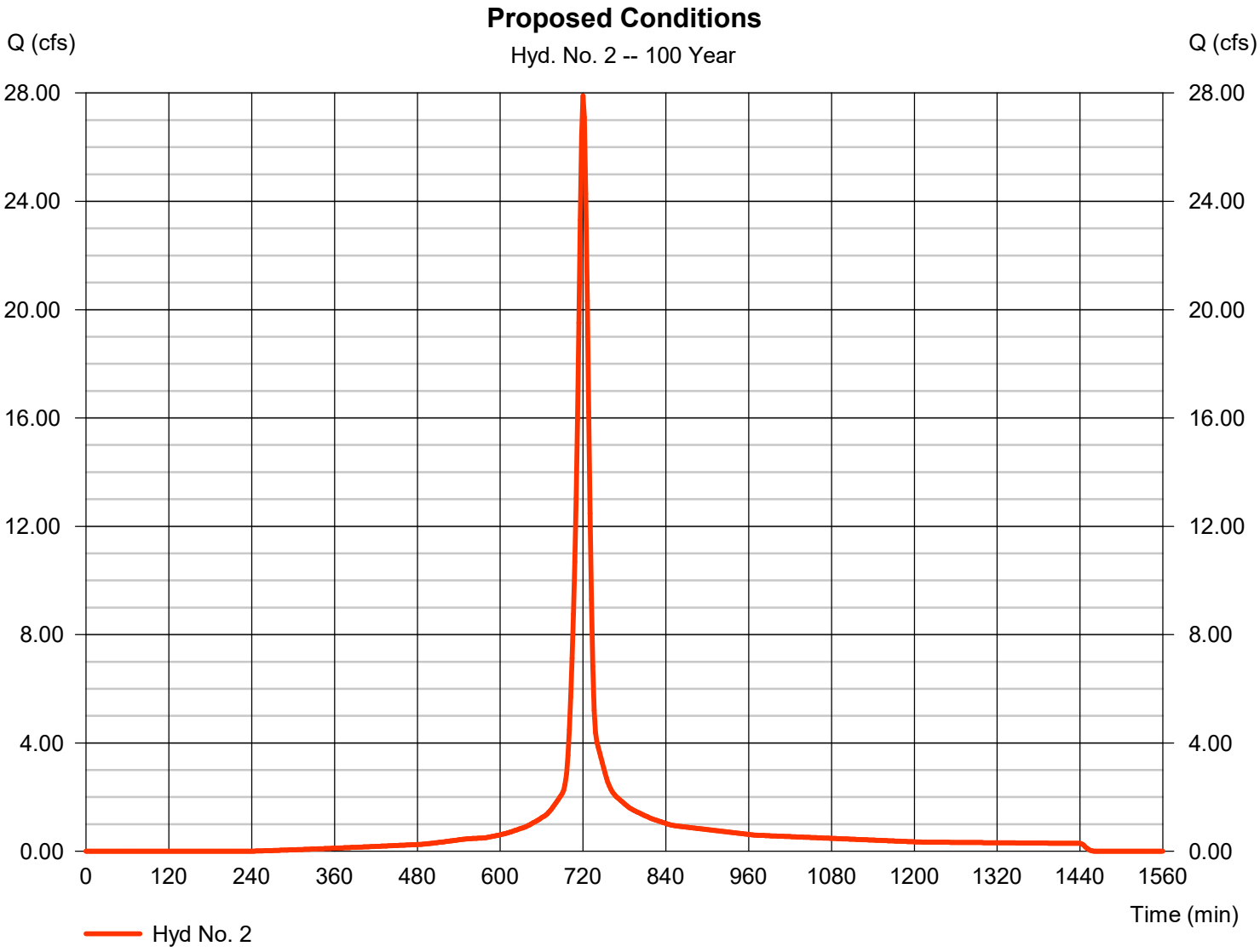
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021 Thursday, 08 / 28 / 2025

Hyd. No. 2

Proposed Conditions

Hydrograph type	= SCS Runoff	Peak discharge	= 27.89 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 75,302 cuft
Drainage area	= 3.320 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 10.05 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.890 x 98) + (2.430 x 80)] / 3.320



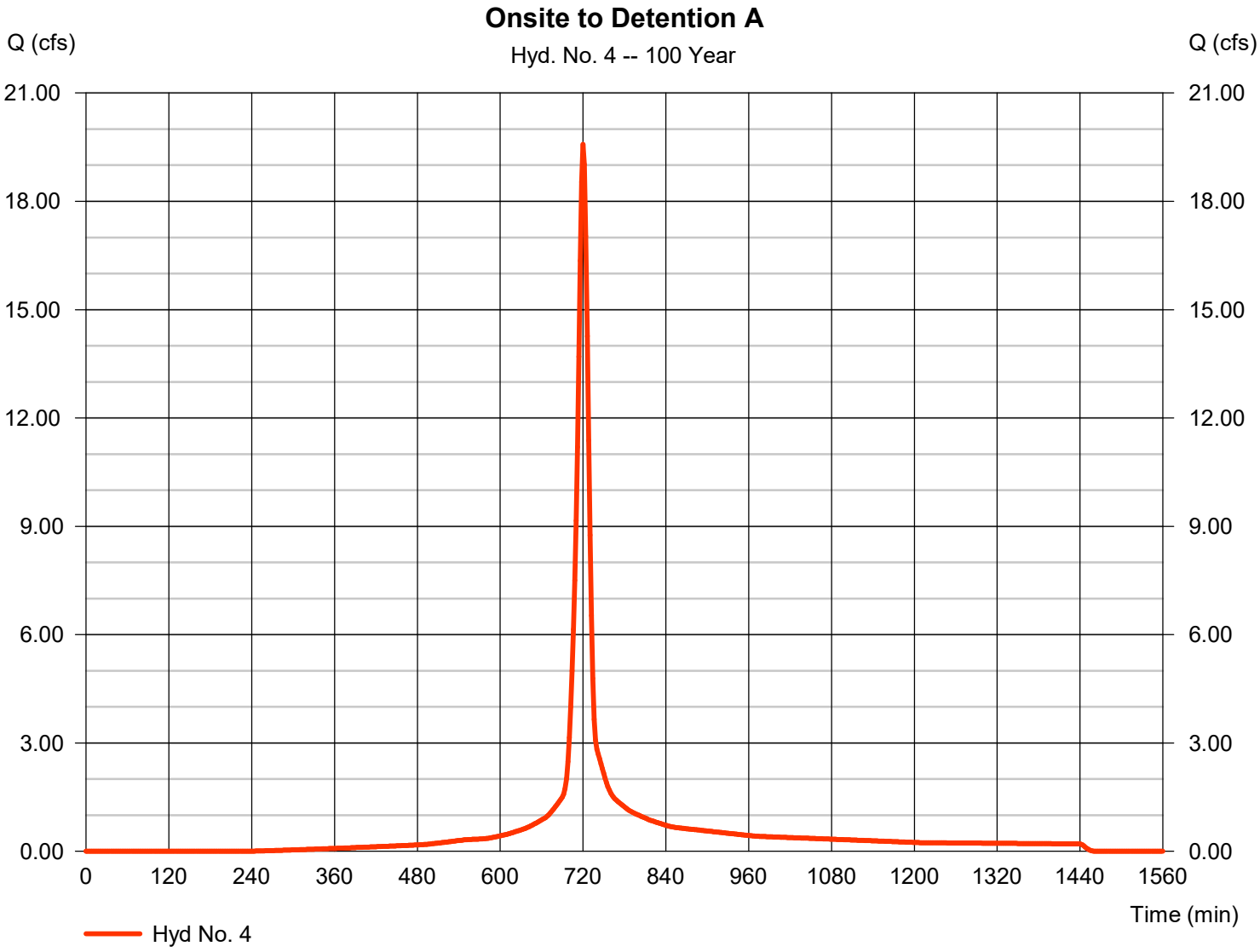
Hydrograph Report

Hyd. No. 4

Onsite to Detention A

Hydrograph type	= SCS Runoff	Peak discharge	= 19.58 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 52,847 cuft
Drainage area	= 2.330 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 10.10 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.700 x 98) + (1.630 x 80)] / 2.330



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

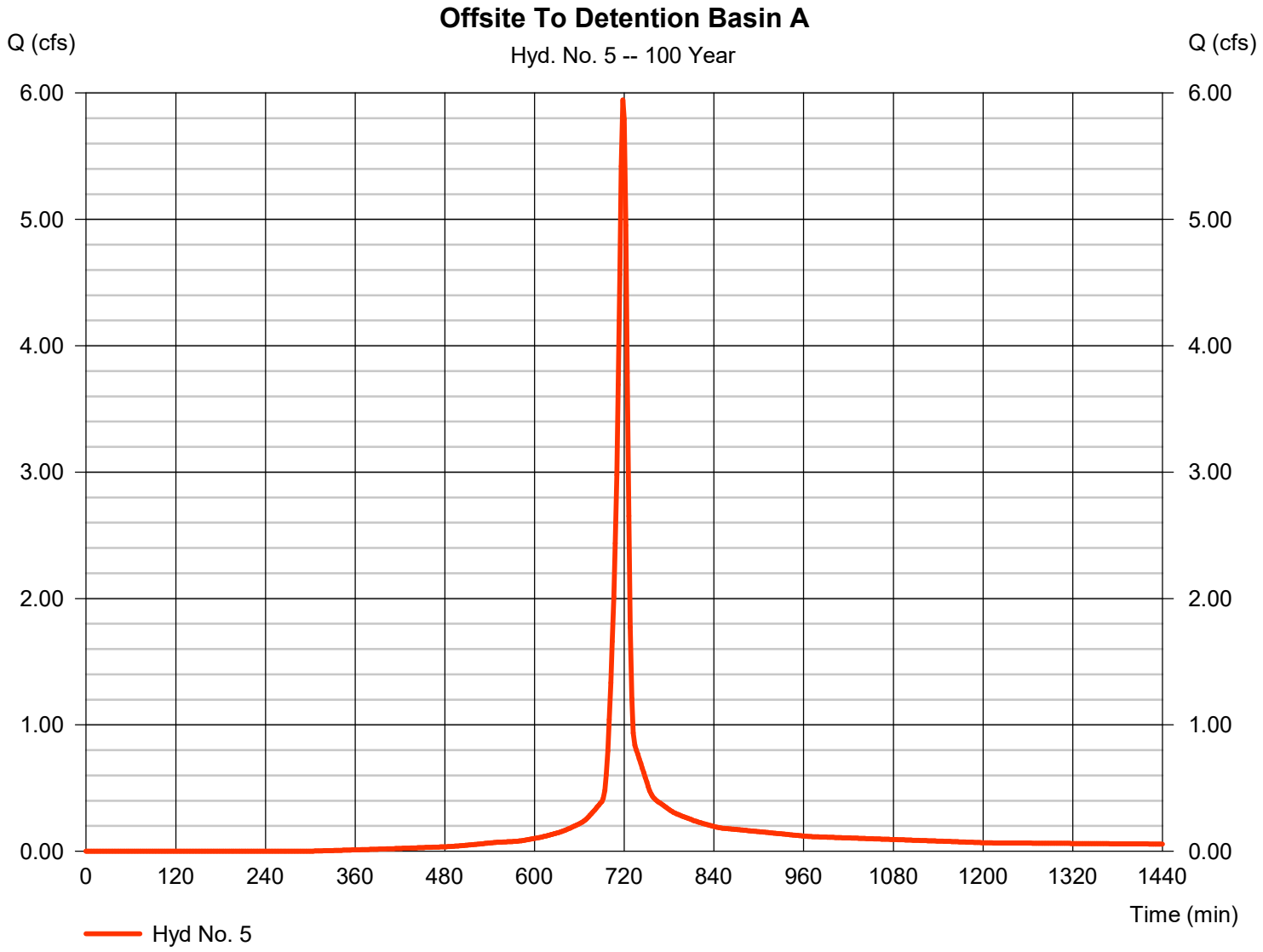
Thursday, 08 / 28 / 2025

Hyd. No. 5

Offsite To Detention Basin A

Hydrograph type	=	SCS Runoff	Peak discharge	=	5.944 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	14,005 cuft
Drainage area	=	0.690 ac	Curve number	=	81*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.50 min
Total precip.	=	7.84 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.030 x 98) + (0.660 x 80)] / 0.690

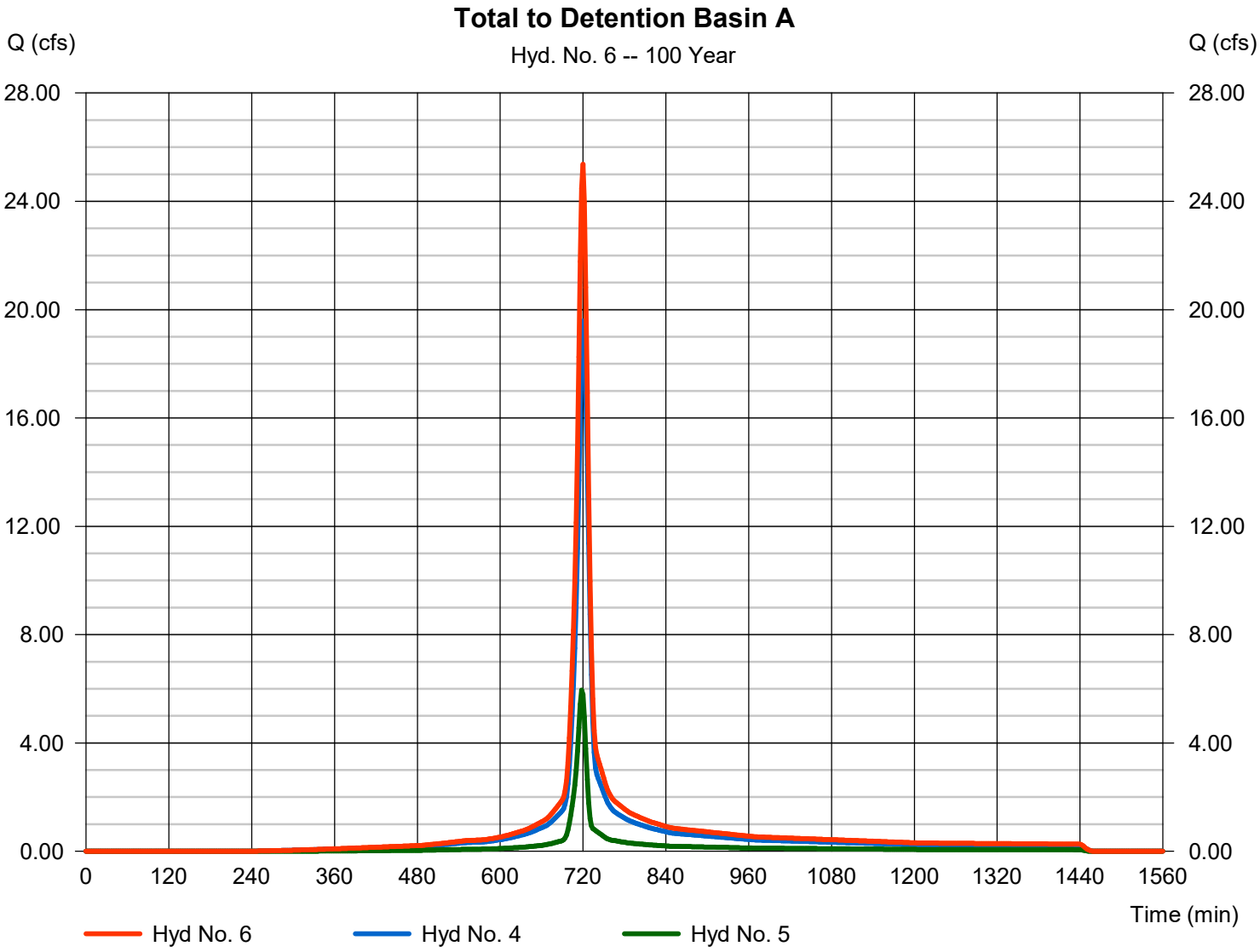


Hydrograph Report

Hyd. No. 6

Total to Detention Basin A

Hydrograph type	= Combine	Peak discharge	= 25.37 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 66,852 cuft
Inflow hyds.	= 4, 5	Contrib. drain. area	= 3.020 ac



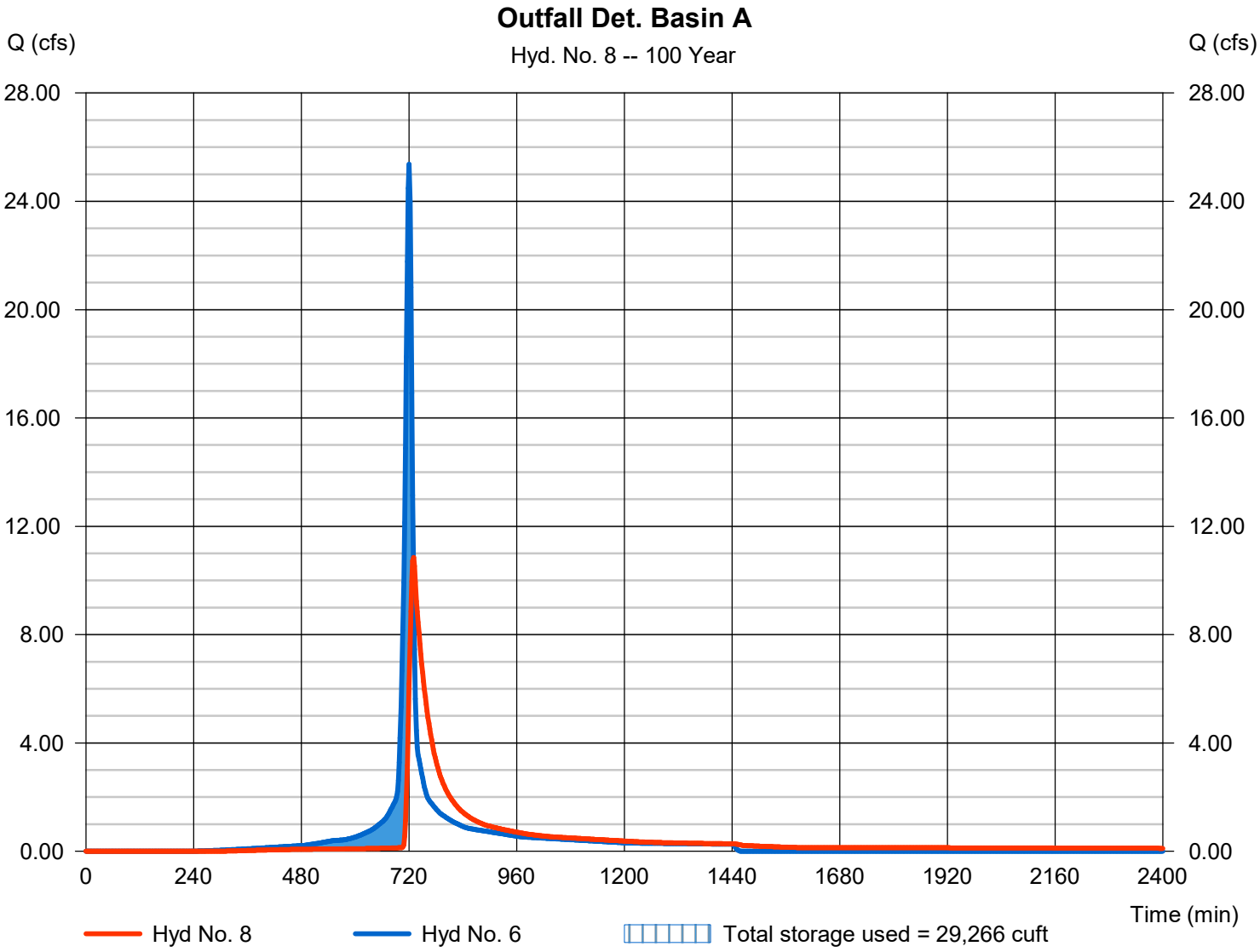
Hydrograph Report

Hyd. No. 8

Outfall Det. Basin A

Hydrograph type	=	Reservoir	Peak discharge	=	10.84 cfs
Storm frequency	=	100 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	66,837 cuft
Inflow hyd. No.	=	6 - Total to Detention Basin A	Max. Elevation	=	662.58 ft
Reservoir name	=	Detention Pond A	Max. Storage	=	29,266 cuft

Storage Indication method used.



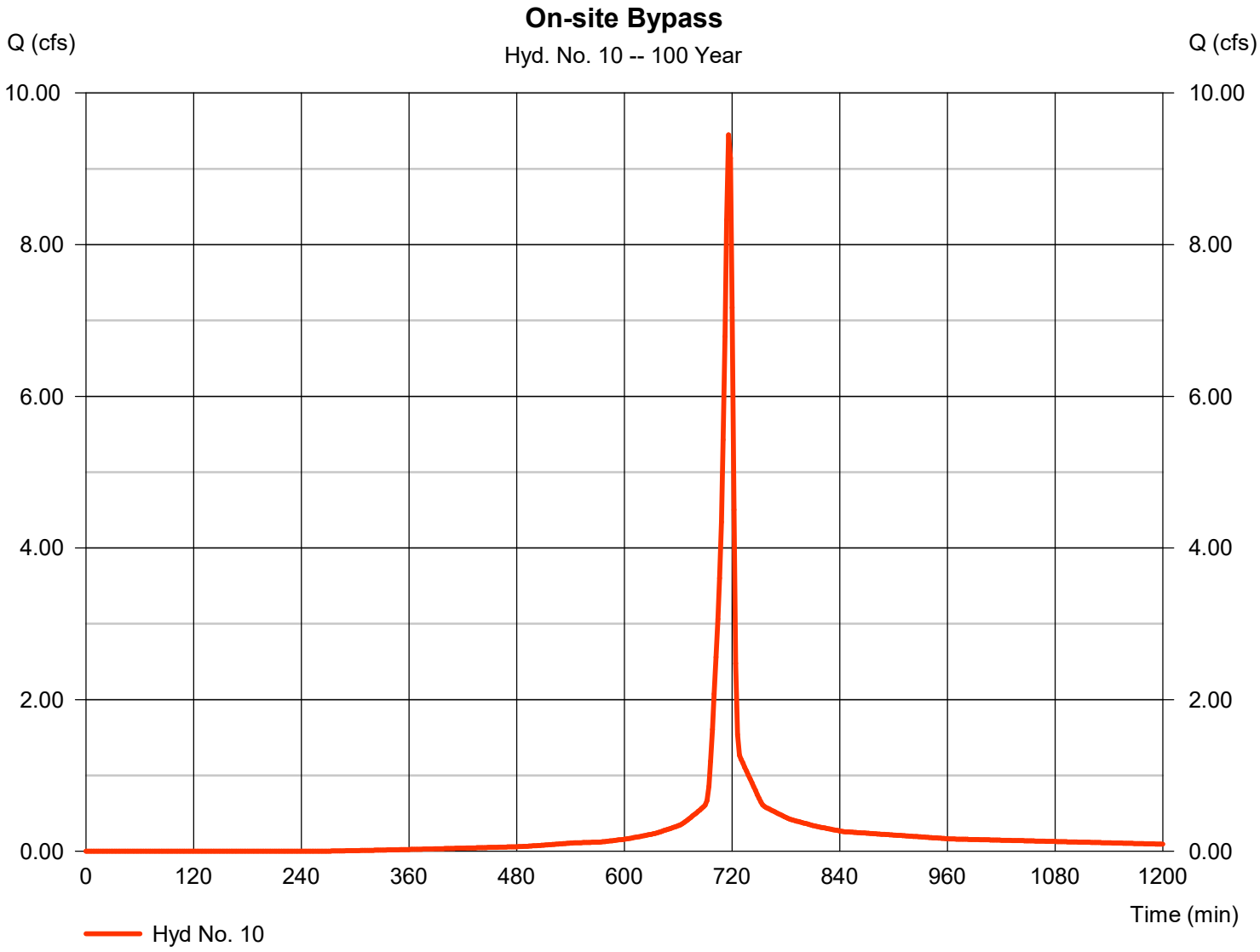
Hydrograph Report

Hyd. No. 10

On-site Bypass

Hydrograph type	= SCS Runoff	Peak discharge	= 9.449 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 20,021 cuft
Drainage area	= 1.010 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.180 x 98) + (0.830 x 80)] / 1.010

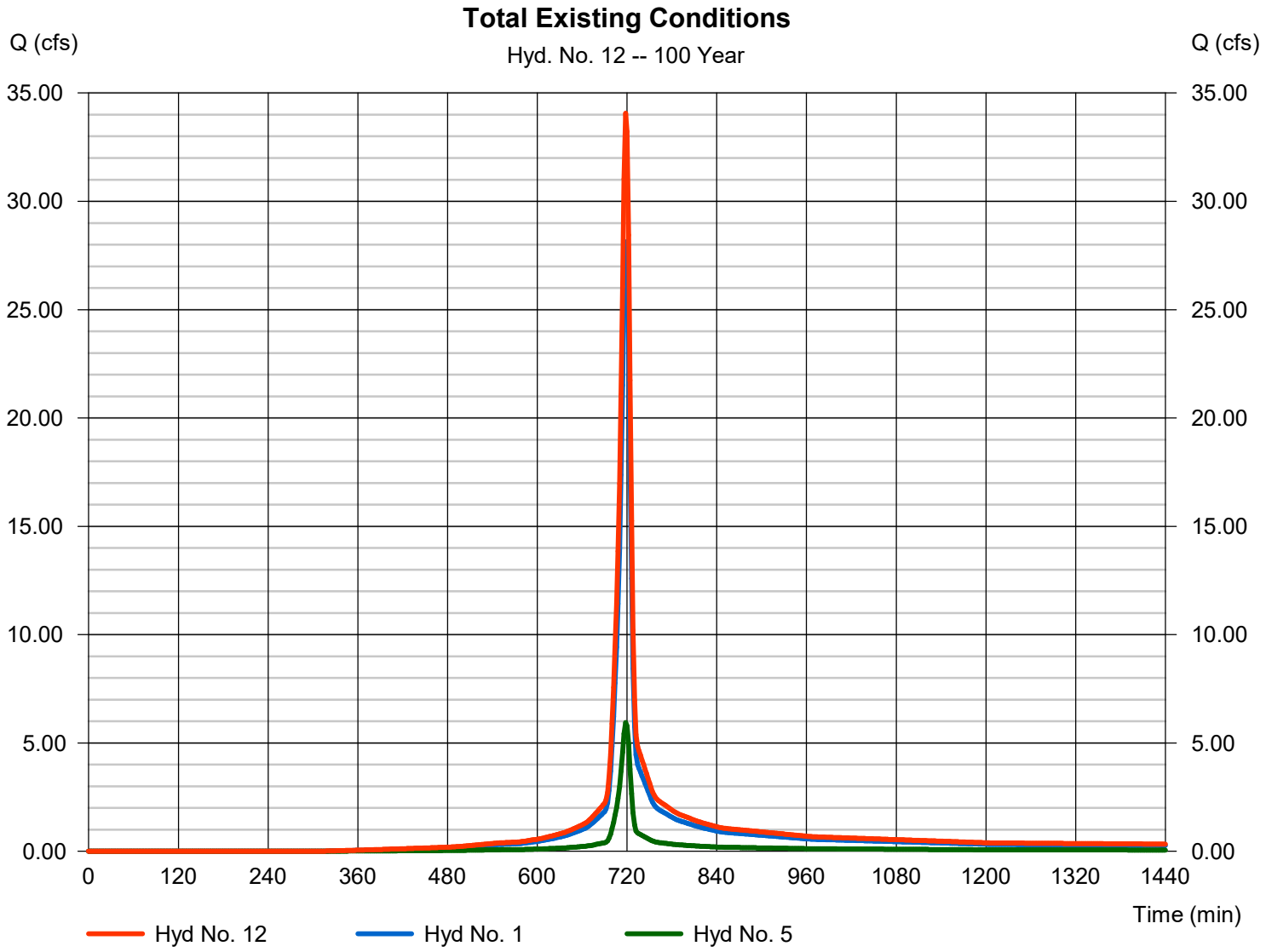


Hydrograph Report

Hyd. No. 12

Total Existing Conditions

Hydrograph type	= Combine	Peak discharge	= 34.07 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 79,989 cuft
Inflow hyds.	= 1, 5	Contrib. drain. area	= 4.010 ac

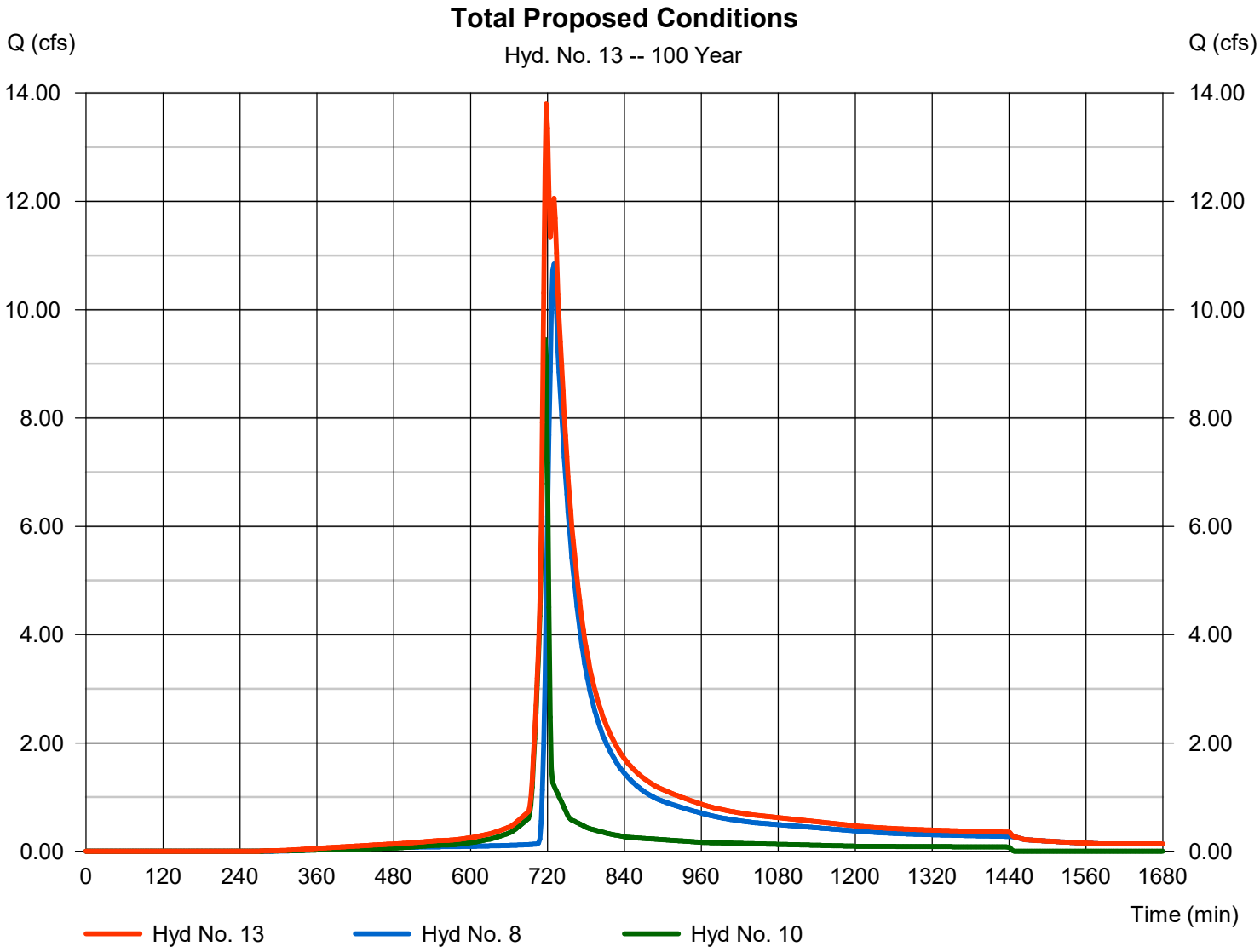


Hydrograph Report

Hyd. No. 13

Total Proposed Conditions

Hydrograph type	= Combine	Peak discharge	= 13.80 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 86,858 cuft
Inflow hyds.	= 8, 10	Contrib. drain. area	= 1.010 ac



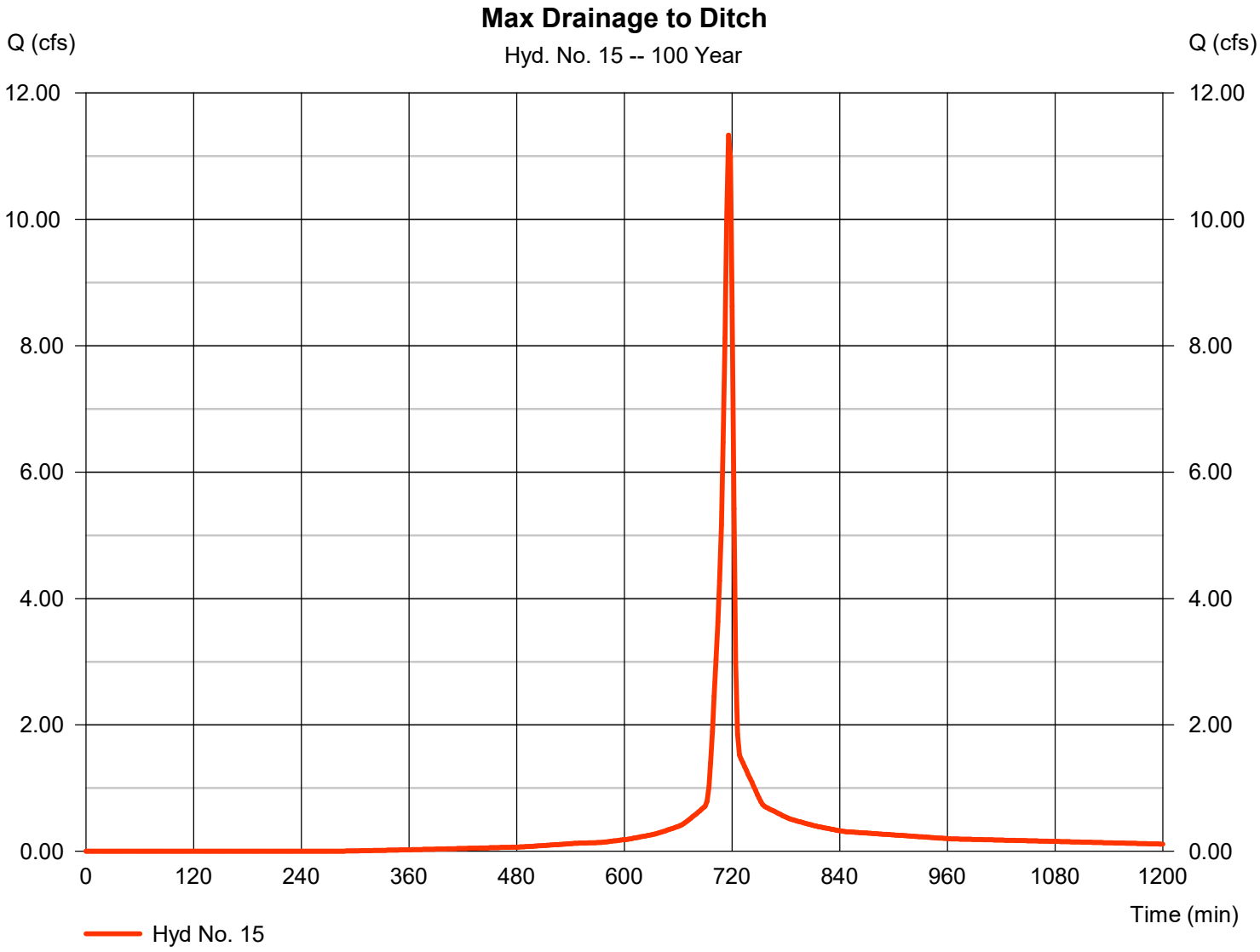
Hydrograph Report

Hyd. No. 15

Max Drainage to Ditch

Hydrograph type	= SCS Runoff	Peak discharge	= 11.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 23,893 cuft
Drainage area	= 1.230 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 7.84 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

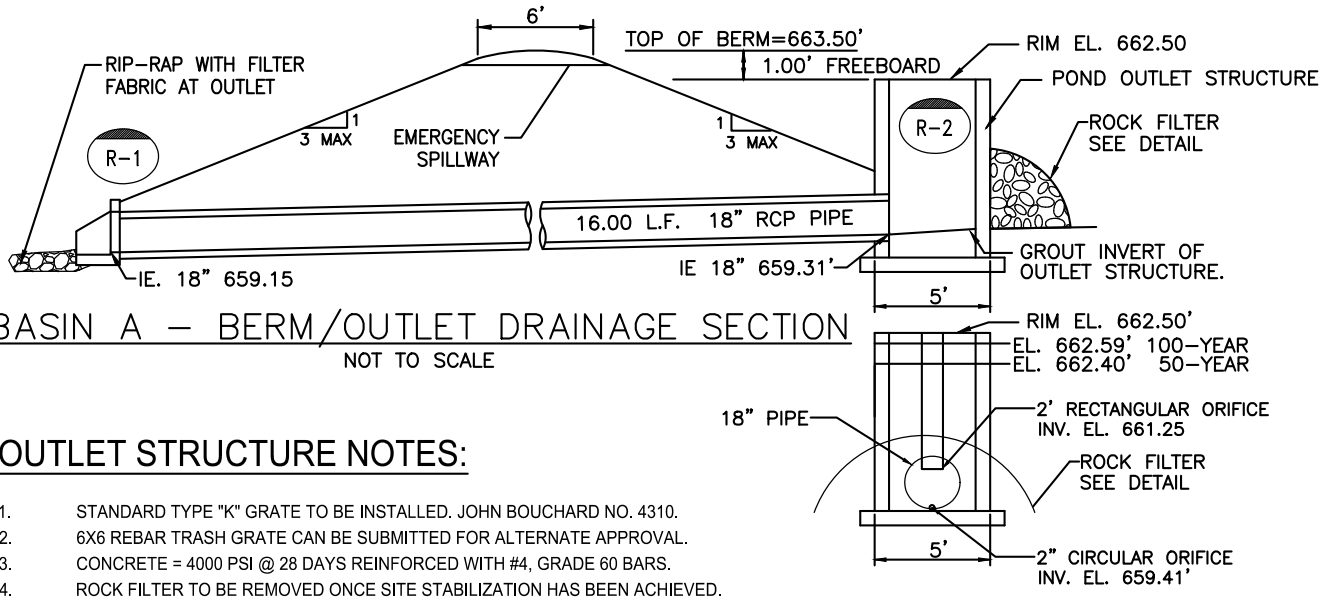
* Composite (Area/CN) = [(0.130 x 98) + (1.100 x 80)] / 1.230



Appendix 2

Stormwater Calculations
Summary and Outlet Detail

DETENTION BASIN A DETAILS

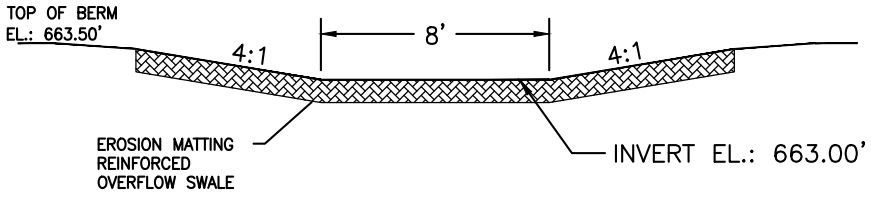


BASIN A – BERM/OUTLET DRAINAGE SECTION

NOT TO SCALE

OUTLET STRUCTURE NOTES:

1. STANDARD TYPE "K" GRATE TO BE INSTALLED. JOHN BOUCHARD NO. 4310.
2. 6X6 REBAR TRASH GRATE CAN BE SUBMITTED FOR ALTERNATE APPROVAL.
3. CONCRETE = 4000 PSI @ 28 DAYS REINFORCED WITH #4, GRADE 60 BARS.
4. ROCK FILTER TO BE REMOVED ONCE SITE STABILIZATION HAS BEEN ACHIEVED.
5. EMERGENCY SPILLWAY TO BE REINFORCED WITH N.A.G. SC150 & SECURED WITH STAPLES.



EMERGENCY SPILLWAY

NOT TO SCALE

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 1

Existing Conditions

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 4.66		0.00		0.00		
Travel Time (min)	**= 6.33**	**+**	**0.00**	**+**	**0.00**	**=**	**6.33**
Shallow Concentrated Flow							
Flow length (ft)	= 57.56		226.94		192.00		
Watercourse slope (%)	= 12.58		3.57		2.84		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=5.72		3.05		2.72		
Travel Time (min)	**= 0.17**	**+**	**1.24**	**+**	**1.18**	**=**	**2.59**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 8.91 min

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 2

Proposed Conditions

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 4.66		0.00		0.00		
Travel Time (min)	**= 6.33**	**+**	**0.00**	**+**	**0.00**	**=**	**6.33**
Shallow Concentrated Flow							
Flow length (ft)	= 52.53		0.00		120.72		
Watercourse slope (%)	= 13.78		0.00		0.50		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	=5.99		0.00		1.14		
Travel Time (min)	**= 0.15**	**+**	**0.00**	**+**	**1.76**	**=**	**1.91**
Channel Flow							
X sectional flow area (sqft)	= 1.24		0.00		0.00		
Wetted perimeter (ft)	= 4.47		0.00		0.00		
Channel slope (%)	= 2.89		0.00		0.00		
Manning's n-value	= 0.030		0.015		0.015		
Velocity (ft/s)	=3.57						
			0.00				
					0.00		
Flow length (ft)	({0})388.9		0.0		0.0		
Travel Time (min)	**= 1.82**	**+**	**0.00**	**+**	**0.00**	**=**	**1.82**
Total Travel Time, Tc							**10.05 min**

TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No. 5

Offsite To Detention Basin A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.150		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.90		0.00		0.00		
Land slope (%)	= 3.22		0.00		0.00		
Travel Time (min)	**= 7.34**	**+**	**0.00**	**+**	**0.00**	**=**	**7.34**
Shallow Concentrated Flow							
Flow length (ft)	= 57.50		0.00		0.00		
Watercourse slope (%)	= 10.50		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=5.23		0.00		0.00		
Travel Time (min)	**= 0.18**	**+**	**0.00**	**+**	**0.00**	**=**	**0.18**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Total Travel Time, Tc							**7.52 min**

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Aug 27 2025

Max Capacity of Ditch

Trapezoidal

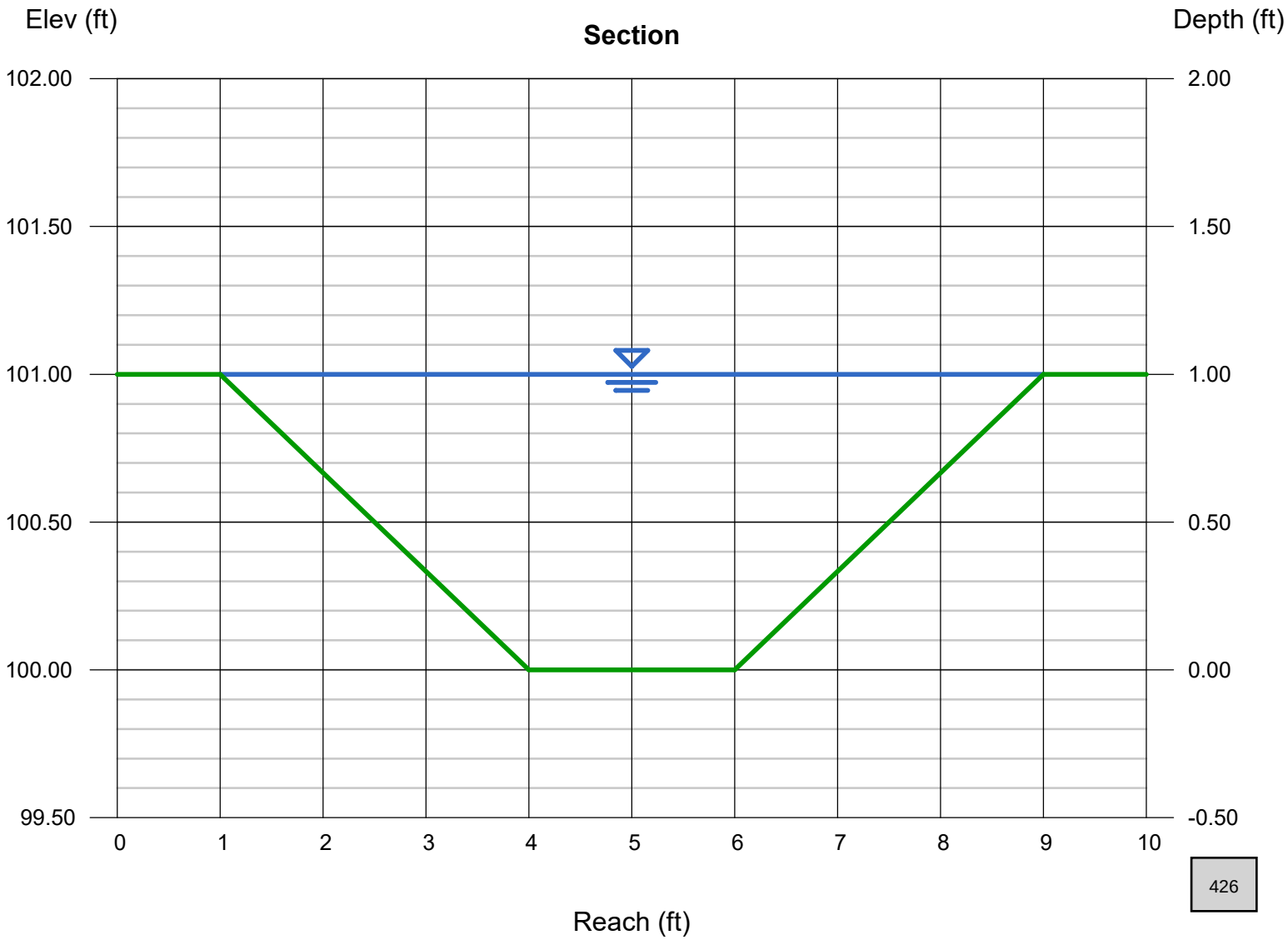
Bottom Width (ft)	= 2.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 100.00
Slope (%)	= 1.00
N-Value	= 0.030

Calculations

Compute by:	Q vs Depth
No. Increments	= 10

Highlighted

Depth (ft)	= 1.00
Q (cfs)	= 17.63
Area (sqft)	= 5.00
Velocity (ft/s)	= 3.53
Wetted Perim (ft)	= 8.32
Crit Depth, Yc (ft)	= 0.89
Top Width (ft)	= 8.00
EGL (ft)	= 1.19



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

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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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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

Map Scale: 1:1,010 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 45 90 180 270

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 19, Sep 12, 2024

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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Bm	Burgin silt loam, phosphatic phase (Eagleville)	0.0	0.4%
Ga	Godwin silt loam	0.4	11.7%
Mb	Maury silt loam, eroded gently sloping phase	0.3	8.0%
Mp	Mines, Pits, and Dumps	2.7	79.9%
Totals for Area of Interest		**3.3**	**100.0%**

Map Unit Descriptions

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

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

Ga—Godwin silt loam

Map Unit Setting

National map unit symbol: kq66

Elevation: 600 to 1,000 feet
Mean annual precipitation: 46 to 54 inches
Mean annual air temperature: 57 to 61 degrees F
Frost-free period: 190 to 220 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Godwin and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Godwin

Setting

Landform: Hillslopes
Landform position (three-dimensional): Base slope
Parent material: Clayey alluvium derived from limestone

Typical profile

H1 - 0 to 18 inches: silt loam
H2 - 18 to 30 inches: silty clay loam
H3 - 30 to 60 inches: clay

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F123XY005TN - Floodplains
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.

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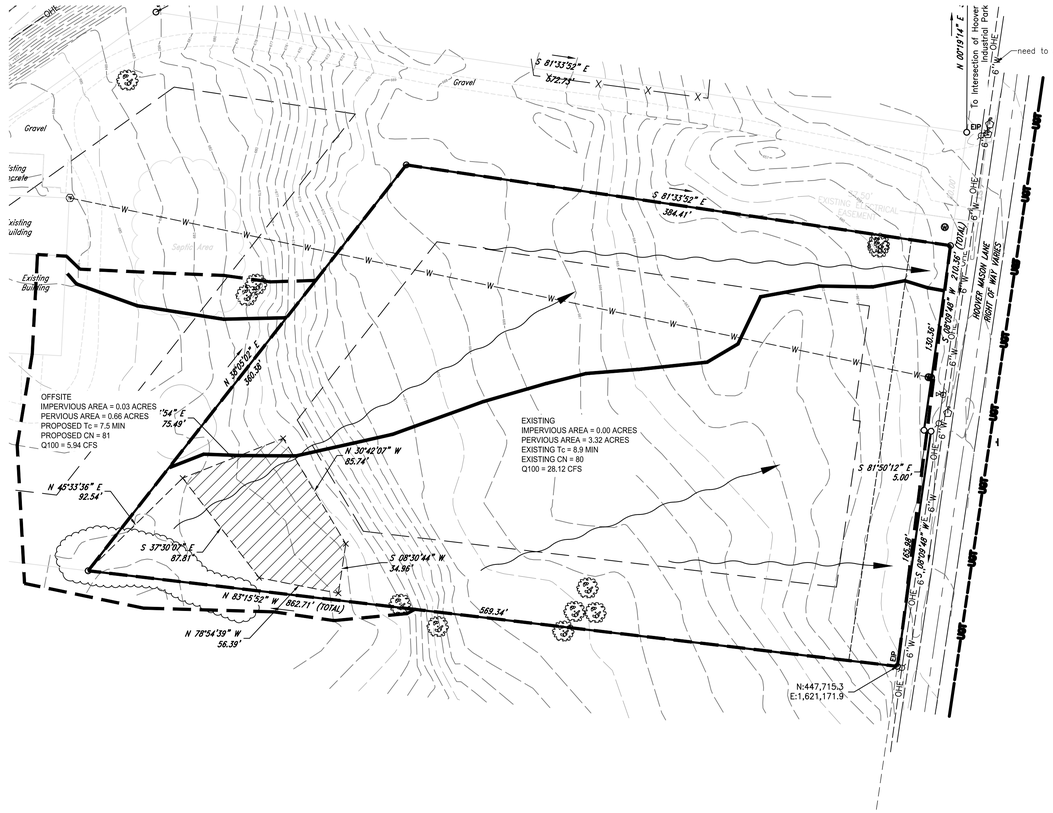
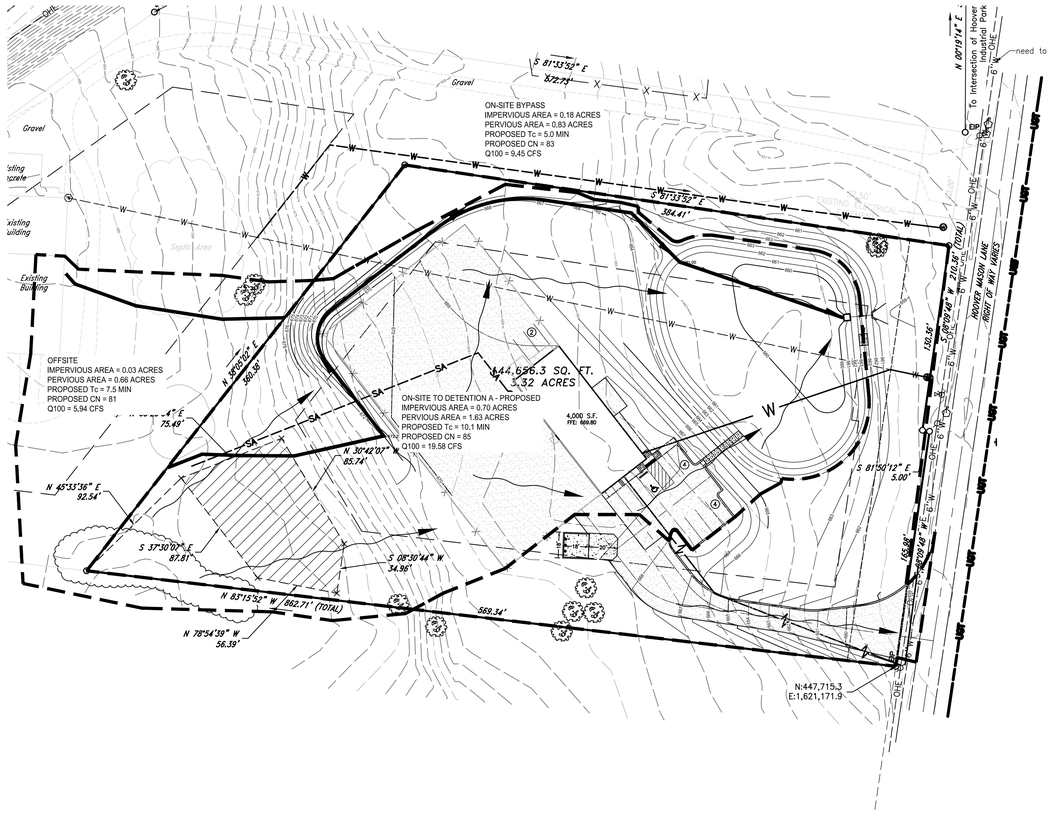
Appendix 3

Drainage Map

DRAINAGE MAP



EXISTING CONDITIONS



PROPOSED CONDITIONS

TN GRID NORTH

© 2025

GRAPHIC SCALE

50 0 25 50 100 150

(IN FEET)
1 inch = 50 ft.

gerald@wesengineers.com

RELEASED FOR CONSTRUCTION WHEN APPROVED BY MUNICIPALITY

WES Engineers & Surveyors
CIVIL ENGINEERS & LAND SURVEYORS
2486 NASHVILLE HIGHWAY
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ENGINEERS & SURVEYORS

Client
LAB LAND HOLDINGS, LLC
2411 DARKS MILL ROAD
COLUMBIA, TN 38401
(763) 229-9407

REVISIONS	DATE
Addressed Staff Comments	8/27/25

LAB LAND HOLDINGS, LLC (HELIOS)

6920 HOOVER MASON LANE
MOUNT PLEASANT, MAURY COUNTY, TENNESSEE 38474
DRAINAGE MAP

Drawn: bo
Checked: gw
Approved: GW
Date: 8/11/2025

Job. no. 25526
Scale:
Vertical: N/A
Horizontal:

MP-1

FILE: I:\WES_Engineers_Surveyors 2025\25526 – Hoover Mason – Helios\Dwg\Engineering\25526_Hoover Mason base.dwg

SITE DEVELOPMENT PLANS FOR

PROJECT MUSTANG

JOE FRANK PORTER ROAD
MAURY COUNTY
MT. PLEASANT, TN

GRESHAM SMITH PROJECT NO. 50114.00

OWNER / DEVELOPER

Design Constructors, Inc.
2971 Kraft Drive
Nashville, TN 37204
Owner Contact: Craig Polancich
Phone: (615) 367-9878

CIVIL ENGINEER

Gresham Smith
222 Second Avenue South
Suite 1400
Nashville, TN 37201

Civil Contact: Valerie Rockhill
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LANDSCAPE ARCHITECT

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Suite 1400
Nashville, TN 37201

Civil Contact: April Andersen
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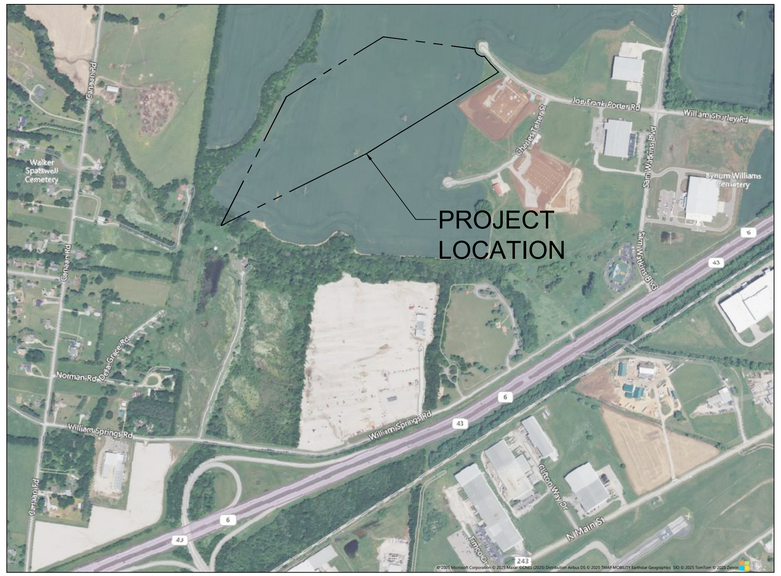

VICINITY MAP
NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C000	COVER SHEET
C001	GENERAL NOTES
C100	EXISTING CONDITIONS SURVEY
C200	OVERALL SITE LAYOUT PLAN
C201	DETAILED SITE LAYOUT PLAN
C202	DETAILED SITE LAYOUT PLAN
C203	DETAILED SITE LAYOUT PLAN
C300	OVERALL GRADING AND DRAINAGE PLAN
C301	DETAILED GRADING AND DRAINAGE PLAN
C302	DETAILED GRADING AND DRAINAGE PLAN
C303	DETAILED GRADING AND DRAINAGE PLAN
C304	STORM PIPE AND STRUCTURE TABLES
C350	STORM PLAN & PROFILE
C351	STORM PLAN & PROFILE
C401	OVERALL INITIAL EPSC PLAN
C402	OVERALL INTERMEDIATE EPSC PLAN
C403	OVERALL FINAL EPSC PLAN
C500	OVERALL UTILITY PLAN
C501	DETAILED UTILITY PLAN
C502	DETAILED UTILITY PLAN
C503	DETAILED UTILITY PLAN
C550	SANITARY SEWER PLAN & PROFILE
C551	SANITARY SEWER PLAN & PROFILE
C901	SITE DETAILS
C902	SITE DETAILS
C903	SITE DETAILS
C904	SITE DETAILS
C905	SITE DETAILS
L100	OVERALL TREE INVENTORY PLAN
L200	OVERALL LANDSCAPE PLAN
L201	LANDSCAPE PLAN
L202	LANDSCAPE PLAN
L203	LANDSCAPE PLAN
L300	OVERALL IRRIGATION COVERAGE PLAN
L901	LANDSCAPE NOTES, DETAILS AND SCHEDULE

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DCi

PROJECT MUSTANG
7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01
Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121286
STATE OF TENNESSEE
2025.08.28
15:13:32-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

COVER SHEET

C000

50114.00
08/28/2025

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GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE, AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK.
2. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL PERMITS, AND PAY ALL FEES REQUIRED FOR THE EXECUTION OF THE WORK.
3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, AND REPAIR CONTRACTOR CAUSED DAMAGE ACCORDING TO CURRENT LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. RELOCATE IRRIGATION LINES AS NECESSARY FOR CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE PROTECTION TO ALL PAVEMENT, FENCES, TREES, AND STRUCTURES THAT ARE TO REMAIN. CONTRACTOR-CAUSED DAMAGE SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
5. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE FOR VARIOUS SITEWORK ELEMENTS SO THAT PERIODIC SITE VISITS MAY BE COORDINATED TO ALLOW FOR TIMELY INSPECTION CERTIFICATION OF CONSTRUCTION AND REPORTS TO AGENCIES, AND TO AVOID DELAYS IN ISSUANCE OF CERTIFICATE OF OCCUPANCY.

DEMOLITION AND PROTECTION NOTES:

1. DEMOLITION AND REMOVAL OPERATIONS SHALL COMMENCE ONLY AFTER ALL INITIAL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL.
2. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A WASTE MANAGEMENT PLAN PRIOR TO THE COMMENCEMENT OF WORK. AT A MINIMUM THE PLAN SHALL INCLUDE:
    - 2.1. THE PROPER PROCEDURES FOR DISPOSAL OR RECLAIMING FOR REUSE / RECYCLING.
    - 2.2. DESIGNATED AREAS FOR WASTE MANAGEMENT CONTAINERS. CONTAINERS SHALL BE PROPERLY MARKED FOR ALLOWABLE AND PROHIBITED ITEMS AND MATERIALS.
    - 2.3. DESIGNATED CHEMICAL STORAGE AREAS, APPROPRIATE CHEMICAL STORAGE CONTAINERS, AND PROCEDURES FOR SPILL CONTROL. CHEMICALS SHALL NOT BE PERMITTED TO INFILTRATE TO GROUNDWATER OR BE PUMPED UNTREATED FROM PIT DEWATERING FACILITIES.
    - 2.4. A CONCRETE WASHOUT AREAS LOCATED AWAY FROM DESIGNATED CONSTRUCTION EXIT.
3. PROVIDE NEAT AND STRAIGHT SAWCUTS OF EXISTING PAVEMENT ALONG ALL LIMITS OF PAVEMENT DEMOLITION.
4. ALL DEMOLISHED MATERIALS BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED. DISPOSE OF OFF THE OWNER'S PROPERTY IN A LEGAL MANNER. PROLONGED STORAGE OR THE SALE OF DEMOLISHED ITEMS OR MATERIALS ON-SITE IS NOT PERMITTED WITHOUT PRIOR NOTIFICATION AND CONSENT OF OWNER.
5. ALL PAVEMENT, BASE COURSE, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., IN THE AREA TO BE REMOVED SHALL BE REMOVED FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE OF AREAS TO RECEIVE PLANTING.
6. THE CONTRACTOR SHALL USE WATER SPRINKLING AND OTHER SUITABLE METHODS AS NECESSARY TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION WORK.
7. ALL EXISTING FEATURES REMAINING AND NOT SPECIFICALLY MENTIONED THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. BEFORE PROCEEDING WITH DEMOLITION WORK, NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE DRAWINGS.
8. HAZARDOUS MATERIALS ARE NOT ANTICIPATED TO BE ENCOUNTERED. IF SUSPECTED HAZARDOUS MATERIALS ARE DISCOVERED, IMMEDIATELY NOTIFY THE OWNER.
9. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D698 - STANDARD PROCTOR.
10. PAVEMENT MARKINGS TO BE REMOVED SHALL BE PAINTED OVER TO MATCH PAVEMENT OR REMOVED WITH WIRE BRUSHING.
11. EXCEPT AS SHOWN, NO TREES SHALL BE REMOVED AND/OR VEGETATION DISTURBED WITHOUT APPROVAL OF THE ENGINEER.

LAYOUT AND PAVING NOTES:

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING WORK.
2. PROVIDE A SMOOTH AND FLUSH TRANSITION BETWEEN EXISTING TO REMAIN AND NEW PAVEMENT, SIDEWALKS, AND CURBS . FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
3. CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH CONSTRUCTED PERPENDICULAR TO THE TRAVEL PATH. ALL CONCRETE SHALL BE 4,000 P.S.I. UNLESS OTHERWISE NOTED. CURB RAMPS, SIDEWALK SLOPES, AND DRIVEWAY RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL CURRENT LOCAL REQUIREMENTS. IF APPLICABLE, THE CONTRACTOR SHALL REQUEST INSPECTION OF SIDEWALK AND RAMP FORMS FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO PLACEMENT OF CONCRETE.
4. DIMENSIONS ARE TO THE FACE OF CURB, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING, UNLESS OTHERWISE NOTED.
5. PARKING STRIPES SHALL BE 4-INCH WHITE PAVEMENT PAINT, UNLESS OTHERWISE NOTED. LANE STRIPES SHALL BE 4 INCH PAVEMENT PAINT, COLOR AS INDICATED ON PLAN. STOP BARS AND CROSSWALK MARKINGS SHALL BE 24-INCH WHITE PAVEMENT PAINT.
6. CONCRETE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO A DEPTH OF AT LEAST 1/4 THE CONCRETE THICKNESS AND SHALL DIVIDE CONCRETE ROUGHLY INTO SQUARES WITH MAXIMUM 10-FOOT DIMENSIONS. CONCRETE EXPANSION JOINTS SHALL BE INSTALLED AT MAXIMUM 60-FOOT SPACING AND AT ALL ABUTTING RIGID OBJECTS.
7. MAINTAIN ONE SET OF RECORD DRAWINGS MARKUPS ON THE JOB SITE FOR DISTRIBUTION TO THE ENGINEER UPON COMPLETION.
8. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY CONSISTING OF THE FOLLOWING:
    - 8.1. THE SURVEY SHALL BE PREPARED, SIGNED AND SEALED BY A SURVEYOR REGISTERED IN THE STATE IN WHICH THIS PROJECT RESIDES AND SUBMITTED TO THE ENGINEER IN ELECTRONIC FORMAT PRIOR TO COMPLETION OF THE PROJECT. THE SURVEY SHALL BE PREPARED USING THE SAME HORIZONTAL AND VERTICAL DATUM AS THE ORIGINAL SURVEY.
    - 8.2. SHOWING ALL BUILDINGS, CURB LINES, EDGES OF PAVEMENT, SIDEWALKS, AND PARKING STRIPING.
    - 8.3. LOCATING ALL UNDERGROUND UTILITIES WITHIN THE LIMITS OF THE PROJECT INCLUDING: GREASE TRAP, OIL/WATER SEPARATOR, DRAINAGE AND SANITARY STRUCTURES, WATER VALVES, METERS, PIV'S, AND HYDRANTS.
    - 8.4. INCLUDING ALL ACCESSIBLE PATHS, PEDESTRIAN RAMPS AND LANDINGS, AND ACCESSIBLE PARKING AREAS INCLUDING AISLES AND DROP-OFF/PICK-UP AREAS. DIMENSION FULL LENGTH AND WIDTH OF ALL PEDESTRIAN RAMPS AND LANDINGS. SHOW ELEVATIONS AND SLOPES, INCLUDING LONGITUDINAL AND CROSS SLOPES FOR ALL ACCESSIBLE AREAS.

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

GRADING AND DRAINAGE NOTES:

1. NOTIFY LOCAL UTILITY LOCATOR SERVICE (CALL 811 OR SUBMIT ON-LINE) OF INTENDED DEMOLITION / GRADING / EXCAVATION / UTILITY TRENCHING CONSTRUCTION.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, PROTECT UTILITIES TO REMAIN, AND REPAIR CONTRACTOR-CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AT CONTRACTOR'S EXPENSE.
3. CONSTRUCT INITIAL TEMPORARY EROSION CONTROL PRIOR TO BEGINNING GRADING OPERATIONS.
4. NO TREES SHALL BE REMOVED NOR VEGETATION DISTURBED EXCEPT AS NECESSARY FOR GRADING PURPOSES. ALL TREES, INCLUDING YOUNG SAPLINGS, PINES, AND UNDERSTORY SPECIES SHALL BE PROTECTED IF THEY FALL OUTSIDE THE PROPOSED LIMITS OF GRADING, EVEN IF THEY ARE NOT LOCATED OR IDENTIFIED ON THE PLANS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT, NOR HANDLE/STORE MATERIALS WITHIN THE DRIPLINES OF TREES TO BE PROTECTED.
5. TREE PROTECTION SHALL CONSIST OF THE FOLLOWING STEPS:
    - 5.1. CONTRACTOR SHALL HIRE A LICENSED LANDSCAPE CONTRACTOR TO OVERSEE TREE PROTECTION.
    - 5.2. PRIOR TO ANY GRADING OPERATIONS, LOCATE TREES TO BE PROTECTED AND NEATLY CUT ROOTS TO A DEPTH OF 30-INCHES AT THE DRIP LINE OR THE DIMENSIONED LIMITS SHOWN USING A UTILITY TRENCHING MACHINE.
    - 5.3. TREAT EXPOSED ROOTS WITH A HORTICULTURAL TREE PRUNING PROTECTION PRODUCT.
    - 5.4. PRUNE TREE LIMBS BY THE SAME PROPORTIONAL PERCENTAGE AS TREE ROOTS REMOVED (I.E., 25% OF ROOTS REMOVED SHALL RESULT IN 25% OF TREE LIMBS REMOVED).
    - 5.5. INSTALL A MINIMUM 4-FOOT HIGH CONSTRUCTION FENCE TO THE LIMITS SHOWN.
    - 5.6. BEGIN CLEARING AND GRADING OPERATIONS.
6. EXISTING CONDITIONS ARE FROM A PRE-CONSTRUCTION TOPOGRAPHIC SURVEY PROVIDED BY GRESHAM SMITH, DATED 06.11.2025.
7. THE CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK. INSTALL STORM SEWERS BEGINNING AT THE DISCHARGE TIE POINT ELEVATION AND THEN PROCEEDING UPSTREAM.
8. TOPSOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS TO A MINIMUM DEPTH OF 6-INCHES. CONSTRUCT TEMPORARY STOCKPILES FREE DRAINING AND PROVIDE EROSION AND SEDIMENT CONTROLS AROUND AREA.
9. SATISFACTORY TOPSOIL IS DEFINED AS MATERIAL FREE OF SUBSOIL, CLAY LUMPS, STONES, OBJECTS OVER 1-INCH IN DIAMETER, OR CONTAMINANTS.
10. TOP OF GRATE ELEVATIONS FOR CURB INLETS ARE GIVEN TO THE CENTER OF THE INLETS AT THE FACE OF CURB. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADE. ADJUST THE CASTING HOOD TO FALL ALONG THE CURB LINE.
11. IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
12. SPOT ELEVATIONS AND CONTOURS REPRESENT PROPOSED FINISHED GRADE AND TOP OF FINISHED PAVEMENT.
13. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE. THE CONTRACTOR IS RESPONSIBLE FOR GRADING ALL AREAS TO POSITIVELY DRAIN. SHOULD THE CONTRACTOR HAVE ANY QUESTION OF THIS INTENT OR ANY PROBLEMS WITH CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED PRIOR TO BEGINNING WORK.
14. ALL PERMANENT CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 3 HORIZONTAL:1 VERTICAL. TEMPORARY CUT SLOPES SHALL BE NO STEEPER THAN 2 HORIZONTAL:1 VERTICAL UNLESS TEMPORARY SHORING IS PROVIDED, OR UNLESS AUTHORIZED BY A LICENSED GEOTECHNICAL ENGINEER.
15. CONTRACTOR SHALL DISPOSE OF EXCESS MATERIAL OFF THE OWNER'S PROPERTY IN A LEGAL MANNER AT NO ADDITIONAL COST.
16. EXISTING MANHOLE, VALVE AND CATCH BASIN CASTINGS TO REMAIN SHALL BE RESET TO MATCH NEW GRADE. BUILDING ADDITION FINISH FLOOR ELEVATIONS SHALL MATCH EXISTING.
17. ALL CURBS, PAVEMENT AND SIDEWALKS SHALL BE BACKFILLED FLUSH WITH TOPSOIL, SEEDED AND MULCHED.
18. ALL PIPES UNDER PAVED AREAS SHALL BE BACKFILLED WITH CRUSHED STONE. ALL PIPES UNDER LAWN AREAS SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL COMPACTED TO 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.
19. ALL HEADWALLS SHALL HAVE A MINIMUM 10' x 20' x 1.5' RIP-RAP APRON INSTALLED USING 8" MINIMUM DIAMETER STONE, UNLESS OTHERWISE SPECIFIED.
20. FINAL FINISH GRADE TOLERANCES SHALL BE MAXIMUM 0.10 FOOT ABOVE OR BELOW DESIGN ELEVATIONS WITHIN PAVED AREAS, AND MAXIMUM 0.25 FOOT ABOVE OR BELOW DESIGN FINISH ELEVATIONS IN OTHER AREAS. NO TOLERANCE IS ALLOWED WHEN MAXIMUM OR MINIMUM SLOPES ARE SPECIFIED.
21. ADA PARKING AND LOADING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. ADA ACCESS ROUTES SHALL NOT EXCEED 2.0% CROSS SLOPE AND 5.0% LONGITUDINAL SLOPE, EXCEPT WHERE ADA RAMPS ARE SPECIFIED. ADA RAMPS SHALL NOT EXCEED 2.0% CROSS SLOPE AND 8.33% LONGITUDINAL SLOPE.
22. EARTHWORK FILL SHALL INCLUDE STRIPPING TOPSOIL AND PLACING ENGINEERED FILL IN MAXIMUM 8" COMPACTED LIFTS WITH DENSITY OF 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.
23. EXCAVATION FOR THIS PROJECT IS UNCLASSIFIED. A GEOTECHNICAL EXPLORATIONS REPORT COMPLETED BY UES PROFESSIONAL SOLUTIONS 19, LLC, DATED JULY 23, 2025 HAS BEEN PREPARED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE REPORT FOR ANTICIPATED EXCAVATION REQUIREMENTS. ADDITIONAL PAYMENT WILL NOT BE MADE FOR UNANTICIPATED ROCK EXCAVATION, UNLESS OTHERWISE AGREED UPON WITH OWNER PRIOR TO COMMENCEMENT OF ROCK EXCAVATION.
24. PROVIDE AN AS-BUILT SURVEY BY A LICENSED SURVEYOR TO INCLUDE ALL STORMWATER MANAGEMENT FEATURES, UNDERGROUND BASINS, PONDS, BIOSWALES, RAIN GARDENS, WATER QUALITY UNITS, AND OUTLET STRUCTURES.
25. ALL STORM DRAINAGE PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED. PIPE LENGTHS SHOWN ARE APPROXIMATE TWO-DIMENSIONAL LENGTHS FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
26. IF BLASTING IS REQUIRED, CONTRACTOR SHALL COMPLY WITH APPLICABLE REQUIREMENTS IN NFPA 495, "EXPLOSIVE MATERIALS CODE," AND PREPARE A BLASTING PLAN CONTAINING THE FOLLOWING:
    - 26.1. TYPES OF EXPLOSIVES AND SIZES OF CHARGE TO BE USED IN EACH AREA OF ROCK REMOVAL, TYPES OF BLASTING MATS, SEQUENCE OF BLASTING OPERATIONS, AND PROCEDURES THAT WILL PREVENT DAMAGE TO SITE IMPROVEMENTS AND STRUCTURES ON THE PROJECT SITE AND ADJACENT PROPERTIES.
    - 26.2. SEISMOGRAPHIC MONITORING DURING BLASTING OPERATIONS.
    - 26.3. A BLASTING PLAN KEPT AT THE CONSTRUCTION SITE, ALONG WITH OTHER BLASTING RECORDS REQUIRED. RECORDS SHALL BE AVAILABLE FOR REVIEW BY THE OWNER UPON REQUEST. OBTAIN PERMITS FROM AUTHORITIES HAVING JURISDICTION BEFORE BRINGING EXPLOSIVES TO THE PROJECT SITE. PERFORM BLASTING WITHOUT WEAKENING THE BEARING CAPACITY OF ROCK SUBGRADE AND WITH THE LEAST-PRACTICAL DISTURBANCE OF ROCK TO REMAIN.
    - 26.4. ENGAGEMENT OF A QUALIFIED, INDEPENDENT AGENCY TO PERFORM A PRE-BLAST AND POST-BLAST SURVEY OF ALL STRUCTURES SUBJECT TO BLAST VIBRATIONS. CONTRACTOR SHALL COORDINATE ALL BLASTING ACTIVITIES WITH THIS AGENT, INCLUDING BLASTING PLANS, SCHEDULES, ETC. CONTRACTOR MAY, AT HIS EXPENSE, HIRE A VIBRATION CONSULTANT TO REVIEW THE BLASTING PLAN AND MAKE RECOMMENDATIONS. REVIEW OF THE BLASTING DESIGN, SURVEY, MONITORING, AND TECHNIQUES BY THE ENGINEER OR VIBRATION CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR ACCURACY, ADEQUACY, AND SAFETY OF THE BLASTING. NOTHING CONTAINED HEREIN SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR CLAIMS ARISING FROM HIS CONSTRUCTION OPERATIONS. IN THE EVENT THAT A PROPERTY OWNER DENIES ACCESS FOR THE PRE-CONSTRUCTION SURVEY OF STRUCTURES AND FACILITIES; THE CONTRACTOR SHALL NOTIFY SUCH PROPERTY OWNER BY CERTIFIED MAIL STATING THAT THIS IS FINAL NOTIFICATION. A COPY OF THE BLASTING RECORDS SHALL BE SUBMITTED TO THE ENGINEER.
    - 26.5. AT LEAST 24 HOURS IN ADVANCE, THE CONTRACTOR SHALL NOTIFY ADJACENT RESIDENCES AND BUSINESSES SUBJECT TO BLASTING VIBRATIONS OF THE INTENT TO BLAST. CONTRACTOR SHALL DISCLOSE THE ANTICIPATED TIME OF DAY AND SCHEDULE FOR BLASTING. SUBMIT NOTICE OF BLASTING COMPLAINTS TO OWNER WITHIN 24 HOURS OF RECEIPT THEREOF. THE NOTICE SHALL IDENTIFY THE ORIGIN OF COMPLAINT AND SHALL CONTAIN A BRIEF DESCRIPTION OF ALLEGED DAMAGES OR OTHER CIRCUMSTANCES UPON WHICH THE COMPLAINT IS PREDICATED. CONTRACTOR SHALL ASSIGN EACH COMPLAINT A SEPARATE NUMBER, IN ASCENDING ORDER, AND SHOW IN EACH NOTICE ALL PREVIOUS COMPLAINT NUMBERS REGISTERED BY THE SAME COMPLAINANT.
27. RIPRAP CHANNEL LINING TO RECEIVE TYPE A 6 IN ANGULAR STONE WITH FILTER FABRIC UNDERLAY.

SITE UTILITIES NOTES:

1. WATER AND SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL CODES AND SPECIFICATIONS.
2. THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN IS BASED ON LIMITED TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY ON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS.
3. MAINTAIN 10-FOOT HORIZONTAL AND 18-INCH VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINES.
4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO FINAL PAVEMENT SURFACE CONSTRUCTION.
5. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL COMPACTED TO AT LEAST 98% OF MAXIMUM PER ASTM D698 - STANDARD PROCTOR.
6. ADJUST ALL NEW AND EXISTING-TO-REMAIN UTILITY SURFACE FEATURES, INCLUDING BUT NOT LIMITED TO CASTINGS, FIRE HYDRANTS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISH GRADE.
7. THRUST BLOCK ALL WATERLINE FITTINGS WITH CONCRETE (2,500 P.S.I. MIN.) POURED AGAINST UNDISTURBED EARTH TO SUSTAIN 120 PERCENT TEST PRESSURE SPECIFIED. FORM THRUST BLOCKING SO AS TO NOT EMBED JOINTS, BOLTS, VALVE BOXES OR OPERATING NUTS.
8. PROVIDE COMBINATION AIR/VACUUM VALVE AT HIGH POINTS IN WATERLINE AS NECESSARY FOR EXPELLING AIR DURING FILLING OF WATERLINE. PROVIDE BRONZE CORPORATION STOP FOR CLOSING VALVE DURING TESTING AND SERVICE. LEAVE COMBINATION AIR/VACUUM VALVE COMPONENTS PLUGGED AND ATTACHED TO PIPE AFTER SUCCESSFUL TEST.
9. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK. INSTALL GRAVITY SEWER BEGINNING AT THE TIE POINT ELEVATION AND THEN PROCEEDING UPSTREAM.
10. ALL MANHOLES SHALL HAVE MINIMUM CLEAR OPENING OF 24". ADJUST CASTINGS TO SLOPE LONGITUDINALLY WITH ROAD GRADES AS REQUIRED.
11. CONTRACTOR SHALL MAINTAIN A MARKED-UP SET OF AS-BUILT PLANS SHOWING ALL NEW UTILITIES AND EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION. DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL INFORMATION EITHER BY FIELD SURVEY ON THE APPROPRIATE STATE PLANE COORDINATE SYSTEM, OR BY FIELD MEASUREMENTS INCLUDING AT LEAST TWO DIMENSIONS FROM KNOWN SITE FEATURES/MONUMENTS TO EACH MANHOLE, CATCH BASIN, AND PIPING APPURTENANCES.
12. ALL SANITARY SEWER PIPE SHALL BE SDR 35 PVC UNLESS NOTED OTHERWISE.
13. ALL WATER MAINS SHALL BE AWWA C900, DR14 PVC UNLESS NOTED OTHERWISE.
14. ALL FIRE HYDRANT ASSEMBLIES SHALL BE INSTALLED BETWEEN 3' AND 7' FROM PAVED SURFACE.
15. ALL FIRE HYDRANTS SHALL MEET CURRENT AWWA STANDARD C502.
16. NON-METALLIC PIPE SHALL BE INSTALLED WITH DETECTION TAPE OR OTHER ACCEPTABLE MEANS OF DETECTION.

EROSION PREVENTION AND SEDIMENT CONTROL (EPSC) NOTES:

1. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BOUND NARRATIVE FOR ADDITIONAL REQUIREMENTS.
2. CONSTRUCT TEMPORARY EPSC MEASURES AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING GRADING OPERATIONS.
3. ALL DRAINAGE STRUCTURES, PIPES WITHIN THE LIMITS OF CONSTRUCTION AND IMMEDIATELY DOWNSTREAM OF THE SITE, AND STORMWATER FACILITIES SHALL HAVE SEDIMENT REMOVED PRIOR TO FINAL ACCEPTANCE.
4. SILT BARRIERS AND SEDIMENT BASINS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 50% FILLED.
5. ALL GRADED AREAS NOT RECEIVING STONE OR PAVEMENT STABILIZATION SHALL RECEIVE TEMPORARY SEEDING WITHIN 10 DAYS OF REACHING FINAL SUBGRADE ELEVATION.
6. ALL LOCATIONS OF TEMPORARY EPSC DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER.
7. WHEN THE EPSC DEVICES ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE (IN THE OPINION OF THE ENGINEER), THEY SHALL BE REMOVED.
8. REPLACE DAMAGED AND WORN OUT SILT BARRIERS AS DIRECTED BY THE ENGINEER.
9. PROVIDE EROSION CONTROL MATTING (NORTH AMERICAN GREEN SC 150 OR EQUAL) TO SLOPES 3:1 OR STEEPER. EROSION CONTROL MATTING SHALL BE PHOTODEGRADABLE OR BIODEGRADABLE.
10. DEWATERING OF EXCAVATION AREA SHALL BE COMPLETED ONLY WITH PRE-APPROVED PUMPING AND FILTERING EQUIPMENT. PUMPING RATE SHALL NOT EXCEED 80% OF THE RECOMMENDED MAXIMUM RATE BY SEDIMENT TANK / FILTER BAG MANUFACTURER.
11. THE ENGINEER, WHOSE SEAL IS AFFIXED TO THIS DOCUMENT, CERTIFIES THAT THESE PLANS HAVE BEEN PREPARED BY UNDER HIS/HER DIRECT SUPERVISION. THIS PROJECT IS PLANNED TO DISTURB MORE THAN ONE ACRE, IT THEREFORE FALLS UNDER THE STATE'S GENERAL NPDES PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY. THE ENGINEER WILL ASSIST THE CONTRACTOR IN SUBMITTING THE 'NOTICE OF INTENT (NOI) TO CONSTRUCT' TO THE STATE AT LEAST 30 DAYS PRIOR TO BEGINNING LAND DISTURBANCE.

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 121286
STATE OF TENNESSEE

2025.08.28
15:13:45-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

GENERAL NOTES

C001

50114.00
08/28/2025

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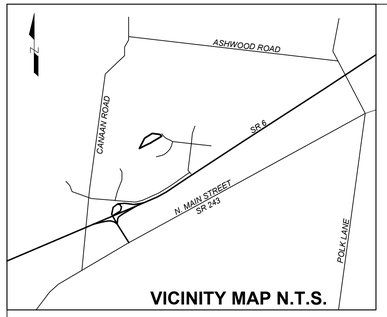

VICINITY MAP N.T.S.

PROPERTY DESCRIPTION FROM SURVEY

LAND SITUATED IN THE 7TH DISTRICT OF MAURY COUNTY, MOUNT PLEASANT, TENNESSEE, BEING A PORTION OF THE LAND PREVIOUSLY CONVEYED TO MAURY COUNTY, TENNESSEE, OF RECORD IN BOOK 1335, PAGE 55, IN THE REGISTER'S OFFICE FOR MAURY COUNTY, TENNESSEE (R.O.M.C.,TN), SAID LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE APPROXIMATE CENTERLINE INTERSECTION OF JOE FRANK PORTER ROAD AND CHARLES TISHER WAY, THENCE NORTH 61 DEGREES 33 MINUTES 44 SECONDS WEST, A DISTANCE OF 496 FEET TO A ½" REBAR FOUND ALONG THE SOUTHWESTERLY MARGIN OF JOE FRANK PORTER ROAD, SAID REBAR BEING THE NORTHERNMOST CORNER OF LOT NO. 1 ON THE PLAT OF PROPOSED 8.06 ACRE OUTPARCEL, OF RECORD IN PLAT BOOK P21, PAGE 576 (R.O.M.C.,TN) AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED LAND;

THENCE LEAVING SAID MARGIN AND ALONG SAID PLAT, SOUTH 58 DEGREES 21 MINUTES 53 SECONDS WEST, A DISTANCE OF 515.00 FEET TO A ½" REBAR FOUND;

THENCE ALONG THE LINE OF LAND CONVEYED TO MHB PROPERTY HOLDINGS, LLC, OF RECORD IN BOOK R2862, PAGE 611 (R.O.M.C.,TN), SOUTH 58 DEGREES 20 MINUTES 27 SECONDS WEST, A DISTANCE OF 485.14 FEET TO A ½" REBAR FOUND;

THENCE ALONG A NEW PARTITION FOR THE FOLLOWING 6 CALLS-SOUTH 58 DEGREES 23 MINUTES 51 SECONDS WEST, A DISTANCE OF 352.55 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 58 DEGREES 04 MINUTES 49 SECONDS WEST, A DISTANCE OF 34.84 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 63 DEGREES 35 MINUTES 04 SECONDS WEST, A DISTANCE OF 548.98 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 63 DEGREES 47 MINUTES 43 SECONDS WEST, A DISTANCE OF 836.67 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 59 DEGREES 13 MINUTES 57 SECONDS WEST, A DISTANCE OF 32.72 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 64 DEGREES 05 MINUTES 02 SECONDS WEST, A DISTANCE OF 26.01 FEET TO A POINT ALONG THE LINE OF FRED GILLIAM, JR., OF RECORD IN BOOK R2599, PAGE 645 (R.O.M.C.,TN);

THENCE ALONG SAID LINE, NORTH 70 DEGREES 50 MINUTES 15 SECONDS WEST, A DISTANCE OF 6.69 FEET TO A POINT;

THENCE LEAVING SAID LINE AND ALONG A NEW PARTITION FOR THE REMAINING CALLS-NORTH 26 DEGREES 57 MINUTES 50 SECONDS EAST, PASSING A ½" WITNESS REBAR SET WITH A GRESHAM CAP AT 50 FEET, FOR A TOTAL DISTANCE OF 1288.70 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE NORTH 58 DEGREES 19 MINUTES 24 SECONDS EAST, A DISTANCE OF 1019.02 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE SOUTH 82 DEGREES 21 MINUTES 50 SECONDS EAST, A DISTANCE OF 825.21 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE ALONG A NON-TANGENTIAL CURVE TURNING TO THE LEFT, WITH A RADIUS OF 70.12 FEET, A CHORD BEARING OF SOUTH 52 DEGREES 17 MINUTES 09 SECONDS EAST, A CHORD DISTANCE OF 104.91 FEET, FOR AN ARC DISTANCE OF 118.52 FEET TO A ½" REBAR SET WITH A GRESHAM CAP;

THENCE ALONG A NON-TANGENTIAL CURVE TURNING TO THE LEFT, WITH A RADIUS OF 1193.87 FEET, A CHORD BEARING OF SOUTH 42 DEGREES 10 MINUTES 53 SECONDS EAST, A CHORD DISTANCE OF 192.12 FEET, FOR AN ARC DISTANCE OF 192.33 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED LAND, CONTAINING 1,608,698.17 SQUARE FEET OR 36.93 ACRES OF LAND.

THIS DESCRIPTION WAS PREPARED BY CHRISTOPHER LYLE GOETZ, TENNESSEE REGISTERED LAND SURVEYOR NUMBER 2660 ON JUNE 11, 2025 UNDER GRESHAM SMITH PROJECT NUMBER 50114.00.

GPS NOTE

1. BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN ON THIS WORK WERE DERIVED FROM NETWORK ADJUSTED REAL TIME KINEMATIC GPS MEASUREMENTS
2. TRIMBLE R12 / R12i DUAL FREQUENCY RECEIVERS WERE USED ON THIS PROJECT.
3. RELATIVE POSITIONAL PRECISION= <0.07 FEET BETWEEN TESTED PAIRS
4. DATES OF SURVEY-04/28/25 THRU 05/21/25
4. HORIZONTAL DATUM-NAD-83 (2011), EPOCH-2010
   VERTICAL DATUM-NAVD 88 (GEOID COMPUTED)
5. FIXED CONTROL STATIONS- DM3531 TN30 TDOT DISTRICT 30 CORS ARP
   DJ9562 TN37 TDOT COLUMBIA CORS ARP
   DM4145 TN39 TDOT DISTRICT 39 CORS ARP
6. GEOID MODEL-GEOID 18
7. COMBINED GRID FACTOR- 0.99993271 (PER OPUS). ALL MEASUREMENTS SCALED BY THE INVERSE FACTOR TO ACHIEVE GROUND DISTANCES.

LEGEND			
Benchmark		Sewer Manhole	
(Set) 1/2" Diameter Rebar with GS Cap		Double Catch Basin	
(Found) Property Corner		Triple Catch Basin	
Tree Line		Power Pole	
Property Line		Fence	
Adjacent Property Line		Electric Pull Box / Telephone Pedestal	
Easement Line		Electric Meter	
Floodplain		Water Meter	
OHE Overhead Electric Line		Water Valve	
W Water Line		Fire Hydrant	
SAN Sewer Line		Gas Line Marker	
ST Storm Drainage Pipe		Single Light Pole	
G Gas Line	R.O.M.C.,TN	Register Office of Maury County Tennessee	
Double Post Sign		Single Post Sign	

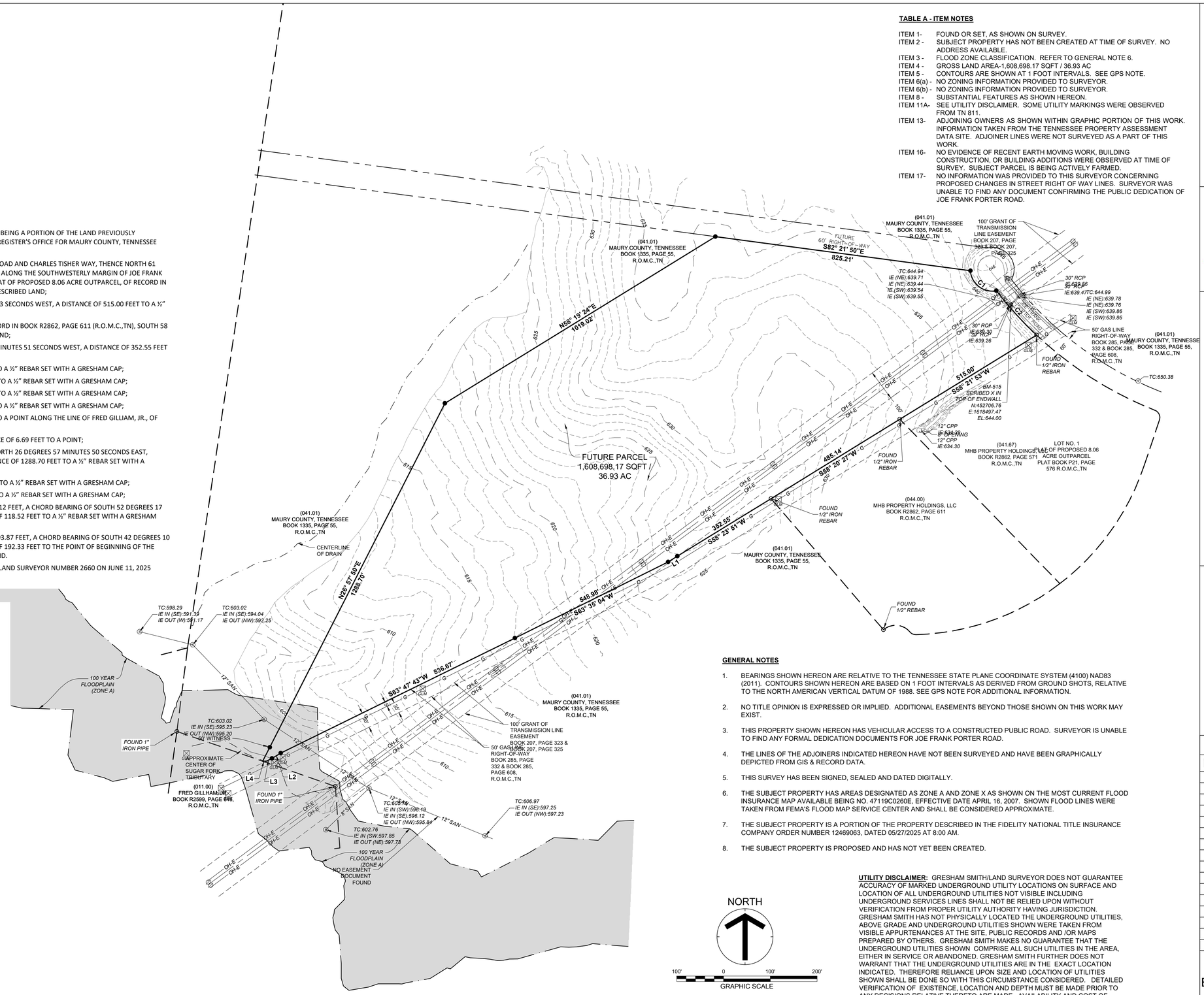

TABLE A - ITEM NOTES

ITEM 1-	FOUND OR SET, AS SHOWN ON SURVEY.
ITEM 2 -	SUBJECT PROPERTY HAS NOT BEEN CREATED AT TIME OF SURVEY. NO ADDRESS AVAILABLE.
ITEM 3 -	FLOOD ZONE CLASSIFICATION. REFER TO GENERAL NOTE 6.
ITEM 4 -	GROSS LAND AREA-1,608,698.17 SQFT / 36.93 AC
ITEM 5 -	CONTOURS ARE SHOWN AT 1 FOOT INTERVALS. SEE GPS NOTE.
ITEM 6(a) -	NO ZONING INFORMATION PROVIDED TO SURVEYOR.
ITEM 6(b) -	NO ZONING INFORMATION PROVIDED TO SURVEYOR.
ITEM 8 -	SUBSTANTIAL FEATURES AS SHOWN HEREON.
ITEM 11A-	SEE UTILITY DISCLAIMER. SOME UTILITY MARKINGS WERE OBSERVED FROM TN 811.
ITEM 13-	ADJOINING OWNERS AS SHOWN WITHIN GRAPHIC PORTION OF THIS WORK. INFORMATION TAKEN FROM THE TENNESSEE PROPERTY ASSESSMENT DATA SITE. ADJOINER LINES WERE NOT SURVEYED AS A PART OF THIS WORK.
ITEM 16-	NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION, OR BUILDING ADDITIONS WERE OBSERVED AT TIME OF SURVEY. SUBJECT PARCEL IS BEING ACTIVELY FARMED.
ITEM 17-	NO INFORMATION WAS PROVIDED TO THIS SURVEYOR CONCERNING PROPOSED CHANGES IN STREET RIGHT OF WAY LINES. SURVEYOR WAS UNABLE TO FIND ANY DOCUMENT CONFIRMING THE PUBLIC DEDICATION OF JOE FRANK PORTER ROAD.

GENERAL NOTES

1. BEARINGS SHOWN HEREON ARE RELATIVE TO THE TENNESSEE STATE PLANE COORDINATE SYSTEM (4100) NAD83 (2011). CONTOURS SHOWN HEREON ARE BASED ON 1 FOOT INTERVALS AS DERIVED FROM GROUND SHOTS, RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988. SEE GPS NOTE FOR ADDITIONAL INFORMATION.
2. NO TITLE OPINION IS EXPRESSED OR IMPLIED. ADDITIONAL EASEMENTS BEYOND THOSE SHOWN ON THIS WORK MAY EXIST.
3. THIS PROPERTY SHOWN HEREON HAS VEHICULAR ACCESS TO A CONSTRUCTED PUBLIC ROAD. SURVEYOR IS UNABLE TO FIND ANY FORMAL DEDICATION DOCUMENTS FOR JOE FRANK PORTER ROAD.
4. THE LINES OF THE ADJOINERS INDICATED HEREON HAVE NOT BEEN SURVEYED AND HAVE BEEN GRAPHICALLY DEPICTED FROM GIS & RECORD DATA.
5. THIS SURVEY HAS BEEN SIGNED, SEALED AND DATED DIGITALLY.
6. THE SUBJECT PROPERTY HAS AREAS DESIGNATED AS ZONE A AND ZONE X AS SHOWN ON THE MOST CURRENT FLOOD INSURANCE MAP AVAILABLE BEING NO. 47119C0260E, EFFECTIVE DATE APRIL 16, 2007. SHOWN FLOOD LINES WERE TAKEN FROM FEMA'S FLOOD MAP SERVICE CENTER AND SHALL BE CONSIDERED APPROXIMATE.
7. THE SUBJECT PROPERTY IS A PORTION OF THE PROPERTY DESCRIBED IN THE FIDELITY NATIONAL TITLE INSURANCE COMPANY ORDER NUMBER 12469063, DATED 05/27/2025 AT 8:00 AM.
8. THE SUBJECT PROPERTY IS PROPOSED AND HAS NOT YET BEEN CREATED.

Source of North
TNSPCS ZONE 4100
NAD83 (2011)
NAVD 88 (GEOID 18)

UTILITY DISCLAIMER: GRESHAM SMITH/LAND SURVEYOR DOES NOT GUARANTEE ACCURACY OF MARKED UNDERGROUND UTILITY LOCATIONS ON SURFACE AND LOCATION OF ALL UNDERGROUND UTILITIES NOT VISIBLE INCLUDING UNDERGROUND SERVICES LINES SHALL NOT BE RELIED UPON WITHOUT VERIFICATION FROM PROPER UTILITY AUTHORITY HAVING JURISDICTION. GRESHAM SMITH HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES, ABOVE GRADE AND UNDERGROUND UTILITIES SHOWN WERE TAKEN FROM VISIBLE APPURTENANCES AT THE SITE, PUBLIC RECORDS AND /OR MAPS PREPARED BY OTHERS. GRESHAM SMITH MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. GRESHAM SMITH FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED. THEREFORE RELIANCE UPON SIZE AND LOCATION OF UTILITIES SHOWN SHALL BE DONE SO WITH THIS CIRCUMSTANCE CONSIDERED. DETAILED VERIFICATION OF EXISTENCE, LOCATION AND DEPTH MUST BE MADE PRIOR TO ANY DECISIONS RELATIVE THERETO ARE MADE. AVAILABILITY AND COST OF SERVICE SHOULD BE CONFIRMED WITH THE APPROPRIATE UTILITY AUTHORITY. IN TENNESSEE, IT IS A REQUIREMENT, PER "THE UNDERGROUND UTILITY DAMAGE PREVENTION ACT", THAT ANYONE WHO ENGAGES IN EXCAVATION MUST NOTIFY ALL KNOWN UNDERGROUND UTILITY OWNER(S), NO LESS THAN THREE (3) NO MORE THAN (10) WORKING DAYS PRIOR TO THE DATE OF THEIR INTENT TO EXCAVATE AND ALSO TO AVOID ANY POSSIBLE HAZARD OR CONFLICT. TENNESSEE ONE CALL 811.

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DCi

PROJECT MUSTANG
7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01
Developer: DCi

2025.08.28
15:13:50-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

EXISTING CONDITIONS SURVEY

C100

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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NOTES:

OUTSIDE STORAGE:
ALL RAW MATERIALS AND EQUIPMENT SHALL BE STORED IN COMPLETELY ENCLOSED BUILDINGS OR SHALL OTHERWISE BE SCREENED BY SUCH WALLS, FENCES AND LANDSCAPING TO ATTRACTIVELY CONCEAL AREAS VISIBILE FROM OUTSIDE OF THE LOT BOUNDARIES.

LANDSCAPING:
- ALL AREAS BETWEEN THE BUILDING WALLS AND PROPERTY LINES, EXCEPT PARKING AREAS AND STORAGE AREAS, SHALL BE LANDSCAPED IN AN ATTRACTIVE MANNER WITH LAWN, TREES AND SHRUBS.
- ALL PARKING AREAS SHALL BE BUFFERED FROM ANY STREET OR NEIGHBORING STRUCTURES WITH PLANTINGS AND/OR LANDSCAPED BERMS.
- IF PAVING OCCURS ADJACENT TO ANY PROPERTY LINE, A MINIMUM OF 10 FT. OF LANDSCAPING SHALL BE PROVIDED BETWEEN SAID PROPERTY LINE AND CURB OF PAVEMENT, UNLESS WRITTEN APPROVAL TO THE CONTRARY IS GRANTED.
- LANDSCAPED PARKING AND STORAGE AREAS SHALL BE PROPERLY MAINTAINED IN A SIGHTLY AND WELL-KEPT CONDITION.
- ALL LANDSCAPING REQUIRED SHALL BE COMPLETED WITHIN 90 DAYS AFTER THE SUBSTANTIAL COMPLETION OF CONSTRUCTION OF ANY BUILDING.
- ALL UNUSED AND NON-LANDSCAPED AREA THAT IS PLANNED FOR FUTURE DEVELOPMENT SHALL BE SEEDED, IF NECESSARY, AND KEPT FREE OF WEEDS, OTHER UNSIGHTLY PLANT GROWTH, STORED MATERIAL, RUBBISH AND DEBRIS.
- ALL DUMPSTER AREAS SHALL BE APPROPRIATELY SCREENED AND LANDSCAPED.

LIGHTING:
LIGHTING SHALL BE DESIGNED FOR CONSIDERATION OF ADJACENT STREETS AND RESIDENTIAL AREAS.

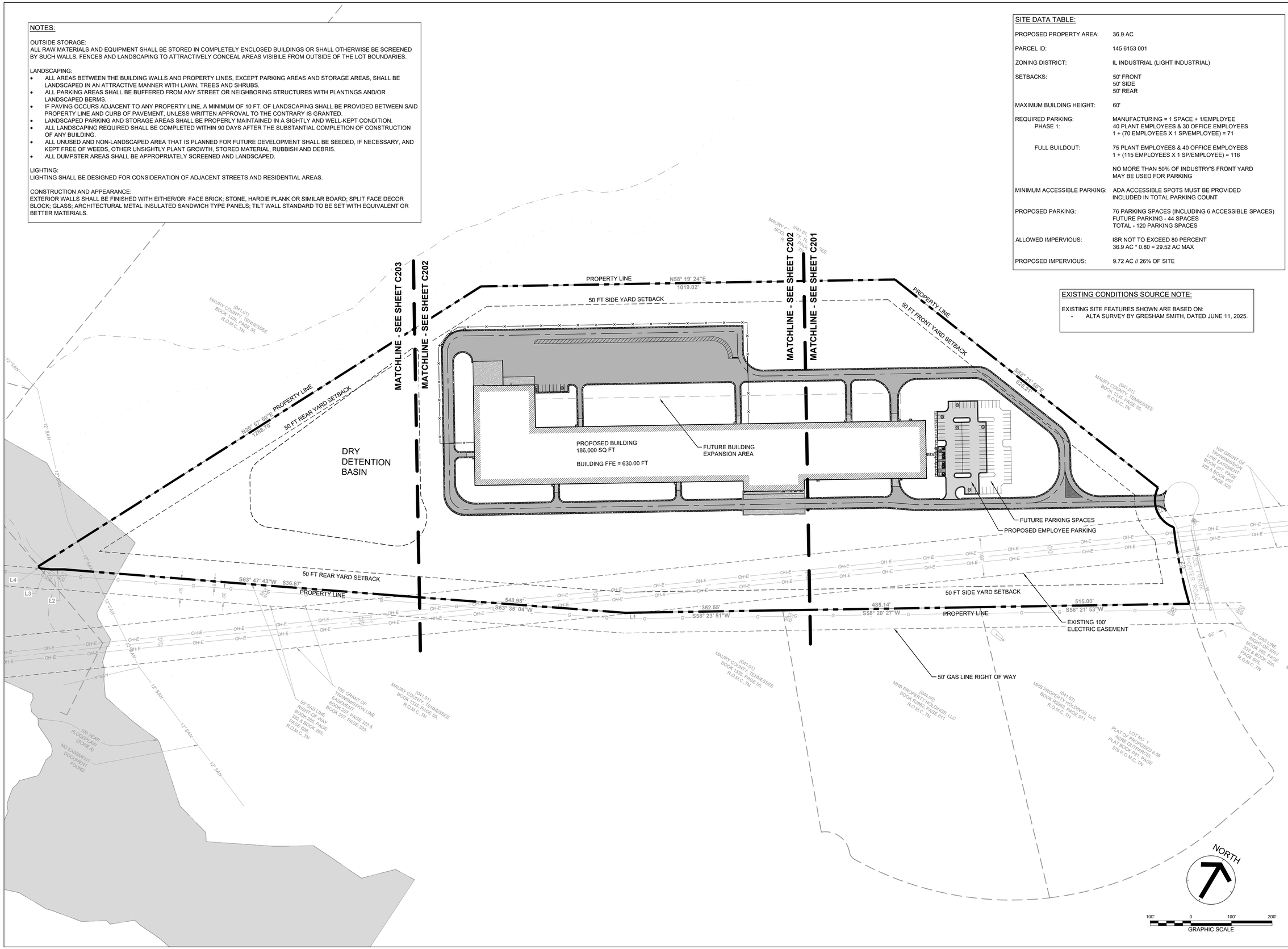
CONSTRUCTION AND APPEARANCE:
EXTERIOR WALLS SHALL BE FINISHED WITH EITHER/OR: FACE BRICK; STONE, HARDIE PLANK OR SIMILAR BOARD; SPLIT FACE DECOR BLOCK; GLASS; ARCHITECTURAL METAL INSULATED SANDWICH TYPE PANELS; TILT WALL STANDARD TO BE SET WITH EQUIVALENT OR BETTER MATERIALS.

SITE DATA TABLE:

PROPOSED PROPERTY AREA:	36.9 AC
PARCEL ID:	145 6153 001
ZONING DISTRICT:	IL INDUSTRIAL (LIGHT INDUSTRIAL)
SETBACKS:	50' FRONT 50' SIDE 50' REAR
MAXIMUM BUILDING HEIGHT:	60'
REQUIRED PARKING:	MANUFACTURING = 1 SPACE + 1/EMPLOYEE
PHASE 1:	40 PLANT EMPLOYEES & 30 OFFICE EMPLOYEES 1 + (70 EMPLOYEES X 1 SP/EMPLOYEE) = 71
FULL BUILDOUT:	75 PLANT EMPLOYEES & 40 OFFICE EMPLOYEES 1 + (115 EMPLOYEES X 1 SP/EMPLOYEE) = 116
	NO MORE THAN 50% OF INDUSTRY'S FRONT YARD MAY BE USED FOR PARKING
MINIMUM ACCESSIBLE PARKING:	ADA ACCESSIBLE SPOTS MUST BE PROVIDED INCLUDED IN TOTAL PARKING COUNT
PROPOSED PARKING:	76 PARKING SPACES (INCLUDING 6 ACCESSIBLE SPACES) FUTURE PARKING - 44 SPACES TOTAL - 120 PARKING SPACES
ALLOWED IMPERVIOUS:	ISR NOT TO EXCEED 80 PERCENT 36.9 AC * 0.80 = 29.52 AC MAX
PROPOSED IMPERVIOUS:	9.72 AC // 26% OF SITE

EXISTING CONDITIONS SOURCE NOTE:

EXISTING SITE FEATURES SHOWN ARE BASED ON:
- ALTA SURVEY BY GRESHAM SMITH, DATED JUNE 11, 2025.



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Being a portion of Tax Map 126 Parcel 041.01

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MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121286
STATE OF TENNESSEE
2025.08.28
15:13:54-04'00'
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Revision

No.	Date	Description

OVERALL SITE LAYOUT PLAN

C200

50114.00
08/28/2025

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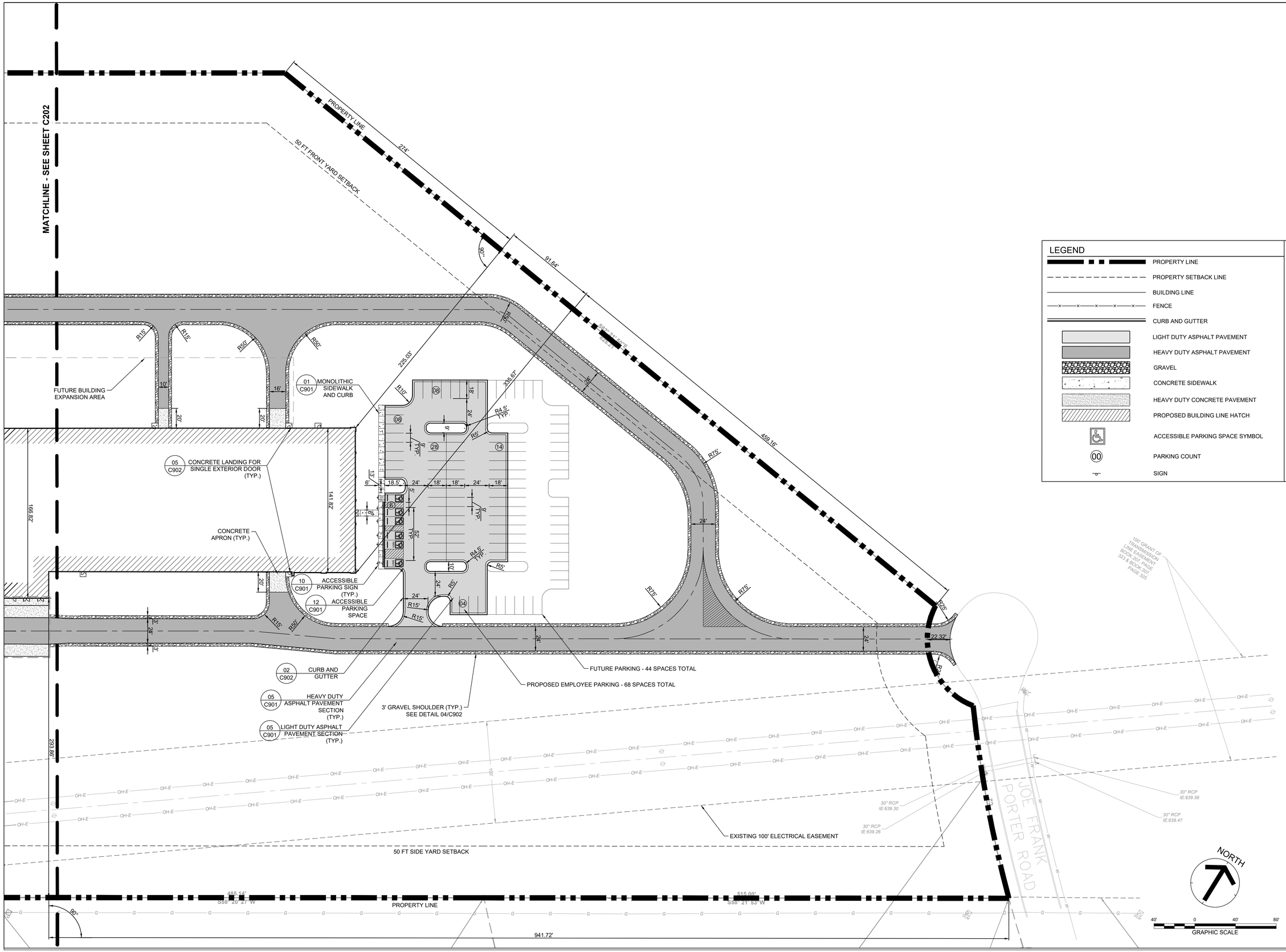

LEGEND

- PROPERTY LINE
- PROPERTY SETBACK LINE
- BUILDING LINE
- FENCE
- CURB AND GUTTER
- LIGHT DUTY ASPHALT PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- GRAVEL
- CONCRETE SIDEWALK
- HEAVY DUTY CONCRETE PAVEMENT
- PROPOSED BUILDING LINE HATCH
- ACCESSIBLE PARKING SPACE SYMBOL
- PARKING COUNT
- SIGN

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No. 121286
STATE OF TENNESSEE

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Revision

No.	Date	Description

DETAILED SITE LAYOUT PLAN

C201

50114.00
08/28/2025

450

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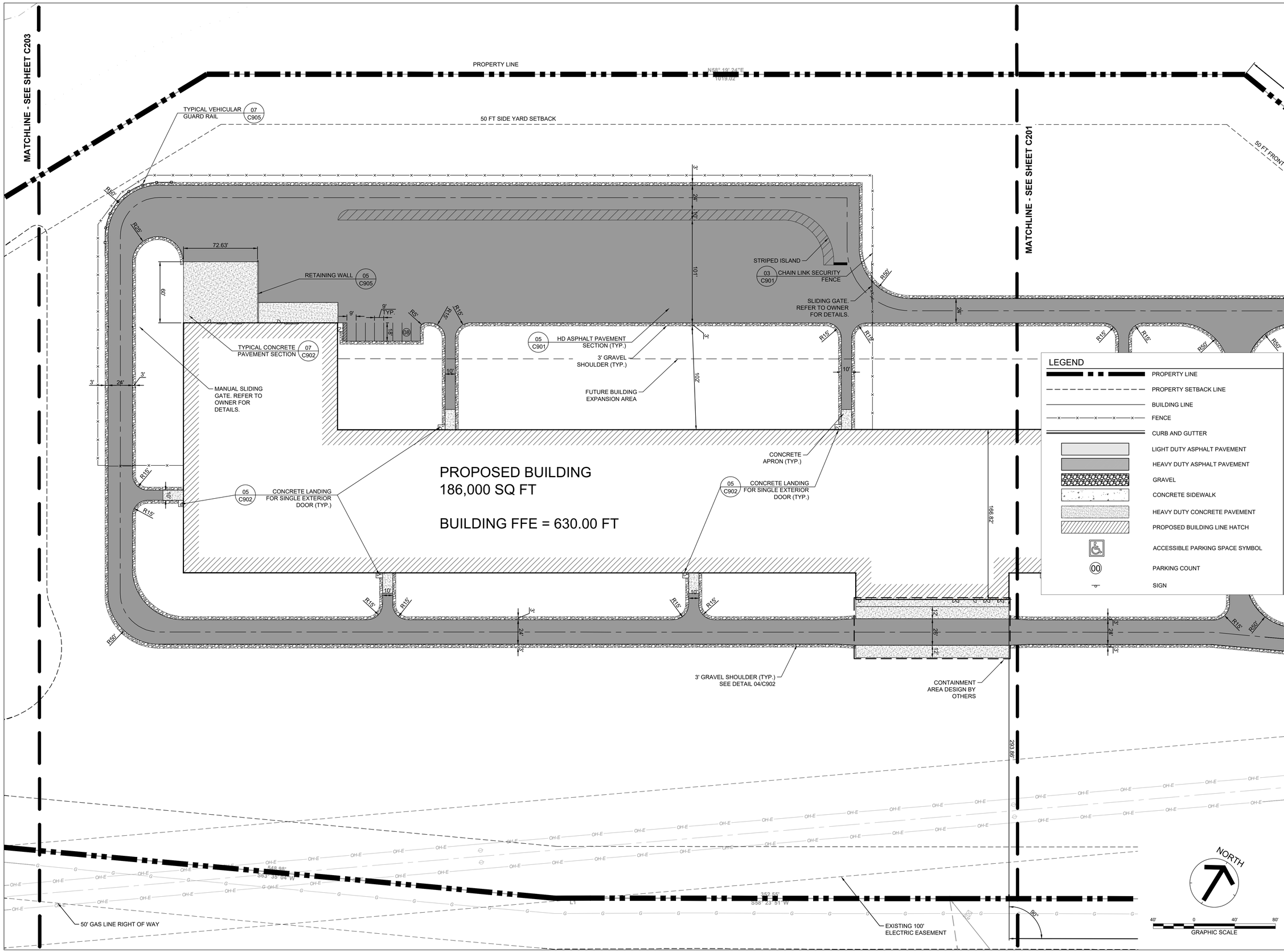

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No.	Date	Description

DETAILED SITE LAYOUT PLAN

C202

50114.00
08/28/2025

451

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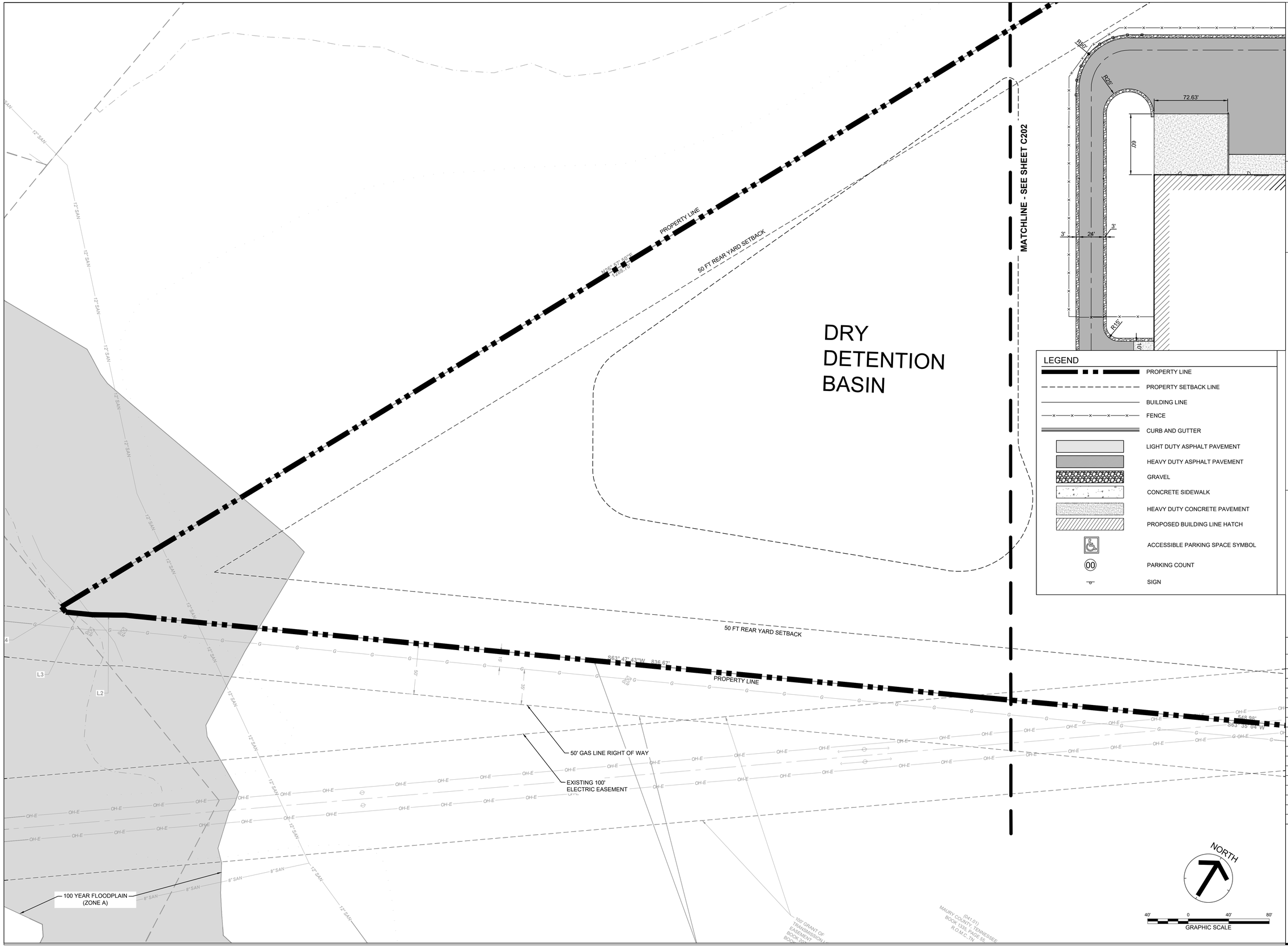

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Revision

No.	Date	Description

DETAILED SITE LAYOUT PLAN

C203

50114.00
08/28/2025

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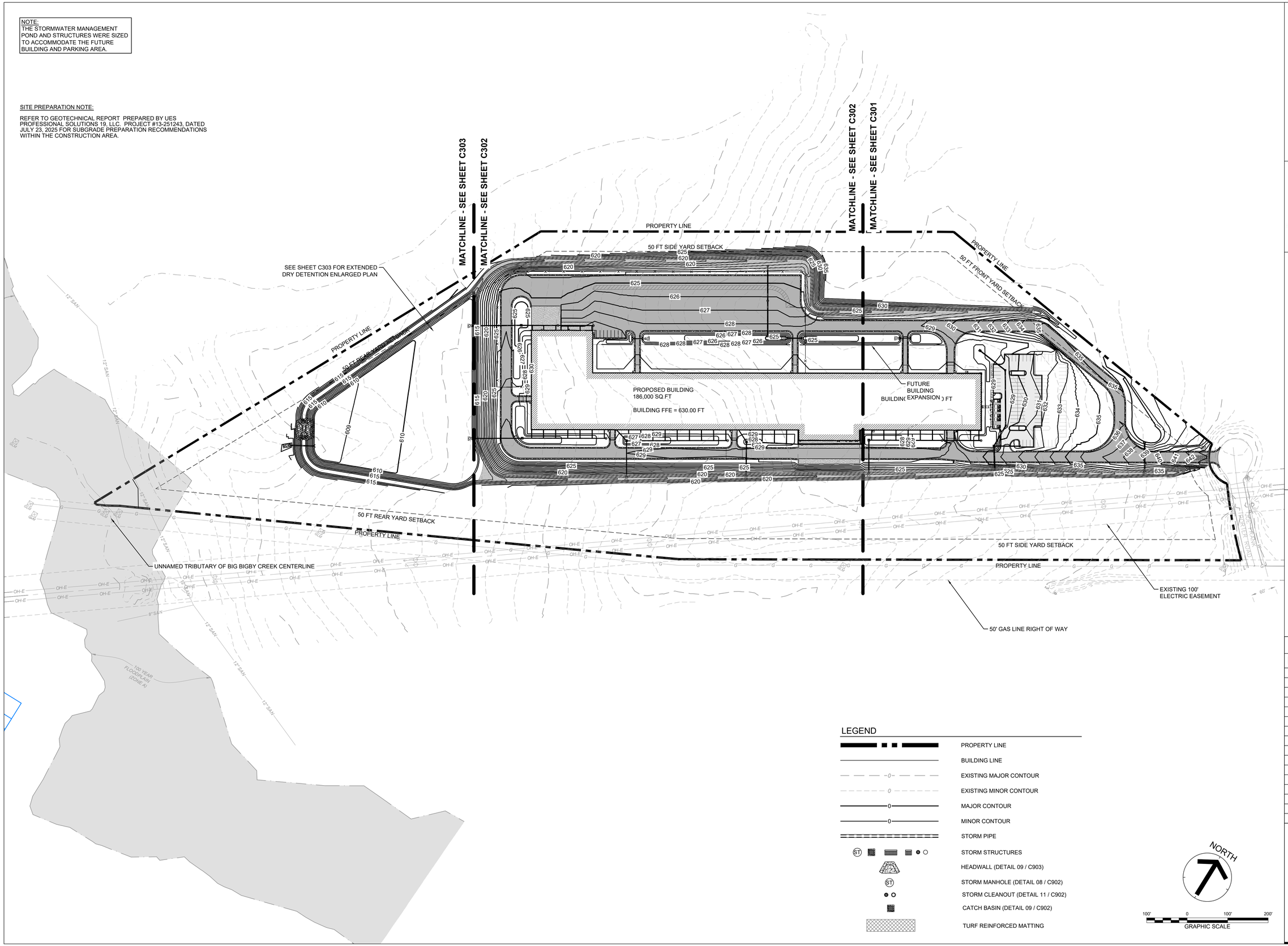
NOTE:
THE STORMWATER MANAGEMENT POND AND STRUCTURES WERE SIZED TO ACCOMMODATE THE FUTURE BUILDING AND PARKING AREA.

SITE PREPARATION NOTE:

REFER TO GEOTECHNICAL REPORT PREPARED BY UES PROFESSIONAL SOLUTIONS 19, LLC. PROJECT #13-251243, DATED JULY 23, 2025 FOR SUBGRADE PREPARATION RECOMMENDATIONS WITHIN THE CONSTRUCTION AREA.



LEGEND

- PROPERTY LINE
- BUILDING LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- MAJOR CONTOUR
- MINOR CONTOUR
- STORM PIPE
- STORM STRUCTURES
- HEADWALL (DETAIL 09 / C903)
- STORM MANHOLE (DETAIL 08 / C902)
- STORM CLEANOUT (DETAIL 11 / C902)
- CATCH BASIN (DETAIL 09 / C902)
- TURF REINFORCED MATTING

NORTH

100' 0 100' 200'
GRAPHIC SCALE

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No.	Date	Description

OVERALL GRADING AND DRAINAGE PLAN

C300

50114.00
08/28/2025

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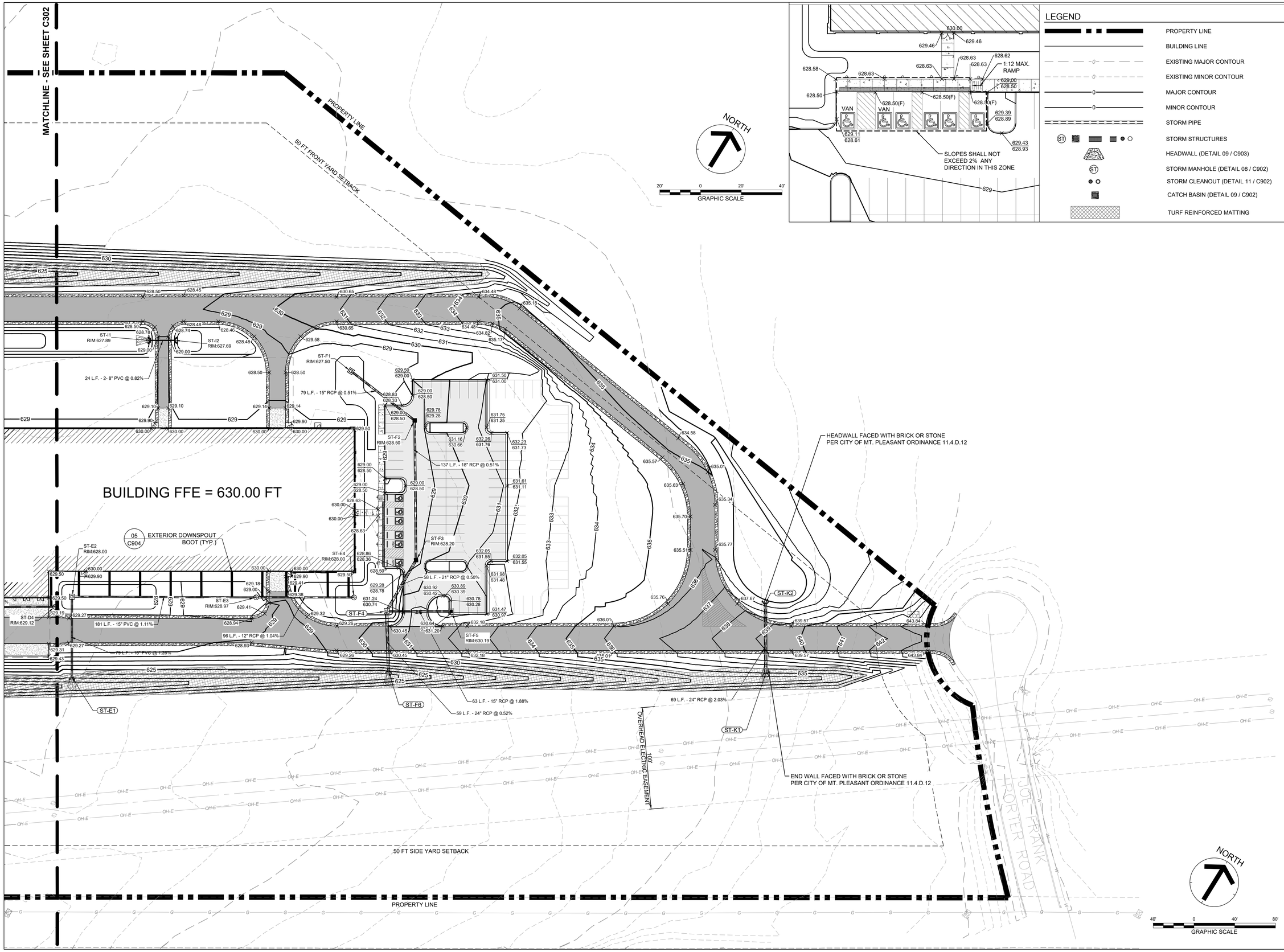

LEGEND

- PROPERTY LINE
- BUILDING LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- MAJOR CONTOUR
- MINOR CONTOUR
- STORM PIPE
- STORM STRUCTURES
- HEADWALL (DETAIL 09 / C903)
- STORM MANHOLE (DETAIL 08 / C902)
- STORM CLEANOUT (DETAIL 11 / C902)
- CATCH BASIN (DETAIL 09 / C902)
- TURF REINFORCED MATTING

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STATE OF TENNESSEE

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Revision

No.	Date	Description

DETAILED GRADING AND DRAINAGE PLAN

C301

50114.00
08/28/2025

454

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MATCHLINE - SEE SHEET C303

MATCHLINE - SEE SHEET C301

PROPERTY LINE

50 FT SIDE YARD SETBACK

PROPOSED BUILDING
186,000 SQ FT

BUILDING FFE = 630.00 FT

BUILDING FFE = 630.00 FT

LEGEND

- PROPERTY LINE
- BUILDING LINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- MAJOR CONTOUR
- MINOR CONTOUR
- STORM PIPE
- STORM STRUCTURES
- HEADWALL (DETAIL 09 / C903)
- STORM MANHOLE (DETAIL 08 / C902)
- STORM CLEANOUT (DETAIL 11 / C902)
- CATCH BASIN (DETAIL 09 / C902)
- TURF REINFORCED MATTING

ST-A1
119 L.F. - 15" RCP @ 8.40%
ST-A2 RIM:625.00
ST-A3 RIM:625.88
87 L.F. - 12" RCP @ 1.34%
90 L.F. - 12" RCP @ 2.02%
ST-A4 RIM:629.33
ST-B1
120 L.F. - 15" PVC @ 8.30%
ST-B2 RIM:627.00
207 L.F. - 12" PVC @ 1.93%
ST-B3 RIM:628.82
ST-C1
ST-C2 RIM:627.00
250 L.F. - 15" PVC @ 1.20%
ST-C3 RIM:628.67
87 L.F. - 15" PVC @ 4.60%
ST-D1
ST-D2 RIM:628.00
81 L.F. - 18" PVC @ 3.68%
ST-D3 RIM:629.34
137 L.F. - 18" PVC @ 0.73%
ST-D4 RIM:629.12
ST-E1
ST-E2 RIM:628.00
149 L.F. - 15" PVC @ 0.67%
ST-E3 RIM:628.97
181 L.F. - 15" PVC @ 1.11%
ST-F1 RIM:627.50
96 L.F. - 12" RCP @ 1.04%
79 L.F. - 15" RC
ST-G1
ST-G2
22 L.F. - 2- 8" PVC @ 1.78%
ST-H1
32 L.F. - 18" RCP @ 0.62%
ST-H2
ST-I1 RIM:627.89
ST-I2 RIM:627.69
24 L.F. - 2- 8" PVC @ 0.82%
ST-J1
ST-J2 RIM:626.30
ST-J3
85 L.F. - 18" RCP @ 1.00%
86 L.F. - 18" RCP @ 1.00%
EXTERIOR DOWNSPOUT BOOT (TYP.) 05 C904

NORTH

40' 0 40' 80'
GRAPHIC SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121285
STATE OF TENNESSEE
2025.08.28
15:14:18-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

DETAILED GRADING AND DRAINAGE PLAN

C302

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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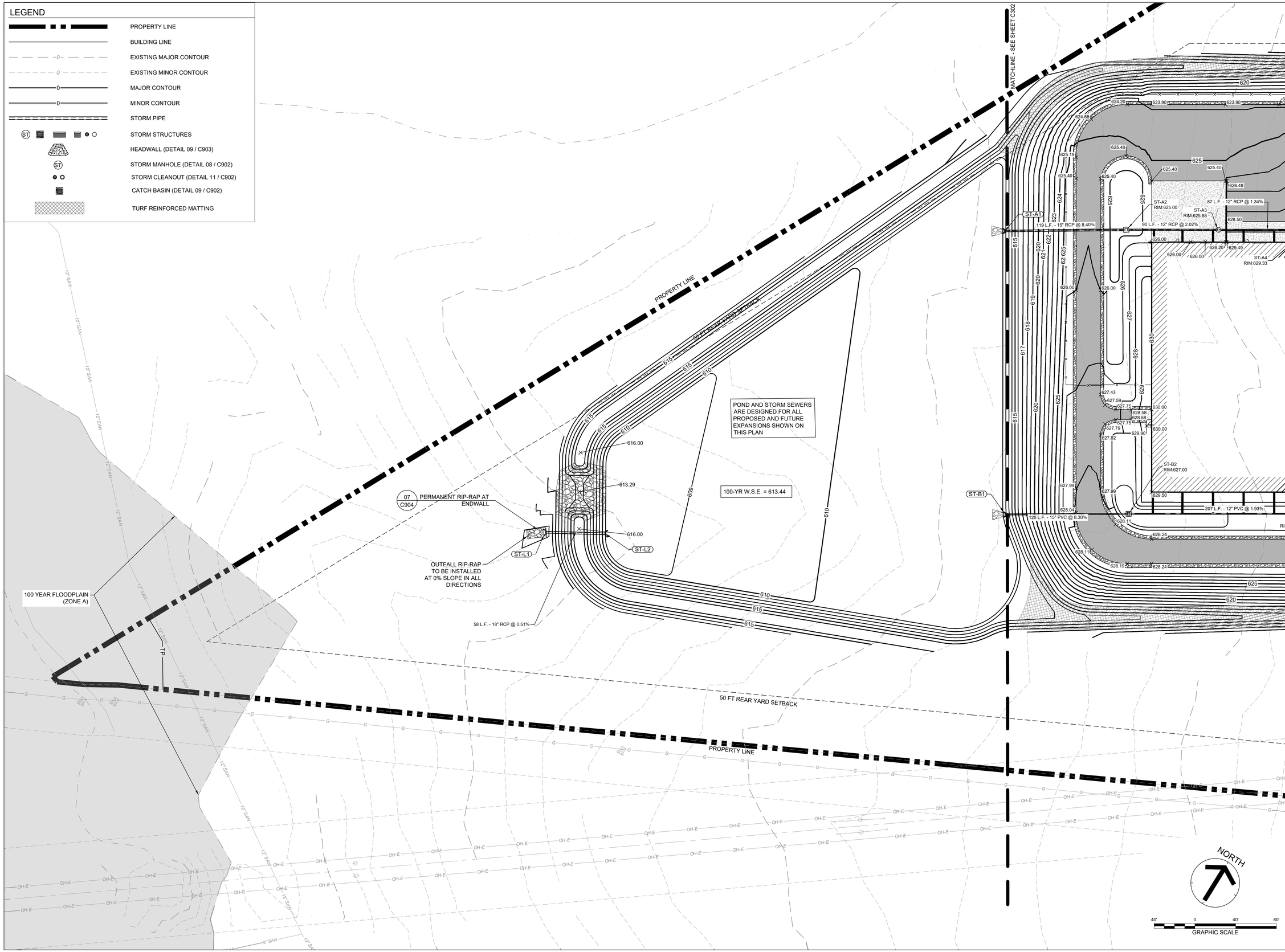

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7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121286
STATE OF TENNESSEE

2025.08.28
15:14:23-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

DETAILED GRADING AND DRAINAGE PLAN

C303

50114.00
08/28/2025

456

This Line Is 3 Inches When Printed Full Size

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STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-A1	HW	613.00	ST-A2 - ST-A1 - 15" RCP (NE) : 611.00	
ST-A2	YI	625.00	ST-A3 - ST-A2 - 12" RCP (NE) : 618.03	ST-A2 - ST-A1 - 15" RCP (SW) : 617.96
ST-A3	MH	626.76	ST-A4 - ST-A3 - 12" HDPE (NE) : 619.54	ST-A3 - ST-A2 - 12" RCP (SW) : 619.54
ST-A4	MH	629.33		ST-A4 - ST-A3 - 12" HDPE (SW) : 621.59

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-A4 - ST-A3	12"	87.42'	2.35%	HDPE
ST-A3 - ST-A2	12"	90.41'	1.67%	RCP
ST-A2 - ST-A1	15"	118.99'	5.85%	RCP

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-B1	HW	612.78	ST-B2 - ST-B1 - 15" PVC (NE) : 611.00	
ST-B2	YI	627.00	ST-B3 - ST-B2 - 12" PVC (NE) : 621.00	ST-B2 - ST-B1 - 15" PVC (SW) : 621.00
ST-B3	MH	628.82		ST-B3 - ST-B2 - 12" PVC (SW) : 625.00

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-B3 - ST-B2	12"	207.18'	1.93%	PVC
ST-B2 - ST-B1	15"	120.43'	8.30%	PVC

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-C1	HW	619.78	ST-C2 - ST-C1 - 15" PVC (NW) : 617.00	
ST-C2	YI	627.00	ST-C3 - ST-C2 - 15" PVC (NE) : 621.00	ST-C2 - ST-C1 - 15" PVC (SE) : 621.00
ST-C3	MH	628.67		ST-C3 - ST-C2 - 15" PVC (SW) : 624.00

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-C3 - ST-C2	15"	249.74'	1.20%	PVC
ST-C2 - ST-C1	15"	87.05'	4.60%	PVC

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-D1	HW	621.03	ST-D2 - ST-D1 - 18" PVC (NW) : 619.00	
ST-D2	YI	628.00	ST-D3 - ST-D2 - 18" PVC (NE) : 622.00	ST-D2 - ST-D1 - 18" PVC (SE) : 622.00
ST-D3	MH	629.34	ST-D4 - ST-D3 - 15" PVC (NE) : 623.00	ST-D3 - ST-D2 - 18" PVC (SW) : 623.00
ST-D4	MH	629.12		ST-D4 - ST-D3 - 15" PVC (SW) : 624.00

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-D4 - ST-D3	15"	148.59'	0.67%	PVC
ST-D3 - ST-D2	18"	137.13'	0.73%	PVC
ST-D2 - ST-D1	18"	81.48'	3.68%	PVC

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-E1	HW	623.60	ST-E2 - ST-E1 - 18" PVC (NW) : 621.00	
ST-E2	YI	628.00	ST-E3 - ST-E2 - 15" PVC (NE) : 622.00	ST-E2 - ST-E1 - 18" PVC (SE) : 622.00
ST-E3	MH	628.97	ST-E4 - ST-E3 - 12" RCP (NE) : 624.00	ST-E3 - ST-E2 - 15" PVC (SW) : 624.00
ST-E4	MH	628.00		ST-E4 - ST-E3 - 12" RCP (SW) : 625.00

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-E3 - ST-E2	15"	180.79'	1.11%	PVC
ST-E2 - ST-E1	18"	79.14'	1.26%	PVC
ST-E4 - ST-E3	12"	96.05'	1.04%	RCP

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-F1	YI	627.50		ST-F2 - ST-F1 - 15" RCP (E) : 625.70
ST-F2	CB	628.50	ST-F2 - ST-F1 - 15" RCP (W) : 625.30	ST-F3 - ST-F2 - 18" RCP (SE) : 625.30
ST-F3	CB	628.20	ST-F3 - ST-F2 - 18" RCP (NW) : 624.60	ST-F5 - ST-F3 - 21" RCP (S) : 624.60
ST-F4	YI	628.00	ST-F5 - ST-F3 - 21" RCP (N) : 624.31 ST-F5 - ST-F4 - 15" RCP (NE) : 624.31	ST-F6 - ST-F4 - 24" RCP (SE) : 624.31
ST-F5	CB	630.19		ST-F5 - ST-F4 - 15" RCP (SW) : 625.50
ST-F6	HW	626.81	ST-F6 - ST-F4 - 24" RCP (NW) : 624.00	

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-F3 - ST-F2	18"	137.24'	0.51%	RCP
ST-F5 - ST-F3	21"	57.80'	0.50%	RCP
ST-F6 - ST-F4	24"	59.18'	0.52%	RCP
ST-F5 - ST-F4	15"	63.37'	1.88%	RCP
ST-F2 - ST-F1	15"	79.08'	0.51%	RCP

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-G1	HW	630.33		ST-G2 - ST-G1 - 8" PVC (NE) : 626.90
ST-G2	HW	630.00	ST-G2 - ST-G1 - 8" PVC (SW) : 626.50	

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-G2 - ST-G1	8"	22.45'	1.78%	PVC

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-H1	HW	627.27		ST-H1 - ST-H2 - 18" RCP (SW) : 625.00
ST-H2	HW	627.07	ST-H1 - ST-H2 - 18" RCP (NE) : 624.80	

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-H1 - ST-H2	18"	32.07'	0.62%	RCP

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-I1	HW	629.47	ST-I2 - ST-I1 - 8" PVC (NE) : 626.90	
ST-I2	HW	629.61		ST-I2 - ST-I1 - 8" PVC (SW) : 627.00

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-I2 - ST-I1	8"	24.38'	0.41%	PVC

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-J1	HW	626.31		ST-J2 - ST-J1 - 18" RCP (NW) : 622.78
ST-J2	MH	626.30	ST-J2 - ST-J1 - 18" RCP (SE) : 621.92	ST-J3 - ST-J2 - 18" RCP (NW) : 621.92
ST-J3	HW	624.63	ST-J3 - ST-J2 - 18" RCP (SE) : 621.00	

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-J2 - ST-J1	18"	85.59'	1.00%	RCP
ST-J3 - ST-J2	18"	85.22'	1.08%	RCP

STRUCTURE TABLE				
STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
ST-K1	HW	635.66	ST-K2 - ST-K1 - 24" RCP (NW) : 632.85	
ST-K2	HW	637.83		ST-K2 - ST-K1 - 24" RCP (SE) : 634.25

Pipe Table				
NAME	SIZE	LENGTH	SLOPE	MATERIAL
ST-K2 - ST-K1	24"	68.93'	2.03%	RCP

STORM PIPE AND STRUCTURE LEGEND:

CB	=	CATCH BASIN	DETAIL 09, SHEET C902
HW	=	HEADWALL	DETAIL 07, SHEET C903
MH	=	STORM MANHOLE	DETAIL 08, SHEET C902
YI	=	YARD INLET	DETAIL 03, SHEET C902

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Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121286
STATE OF TENNESSEE
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Revision

No.	Date	Description

STORM PIPE AND STRUCTURE TABLES

C304

50114.00
08/28/2025

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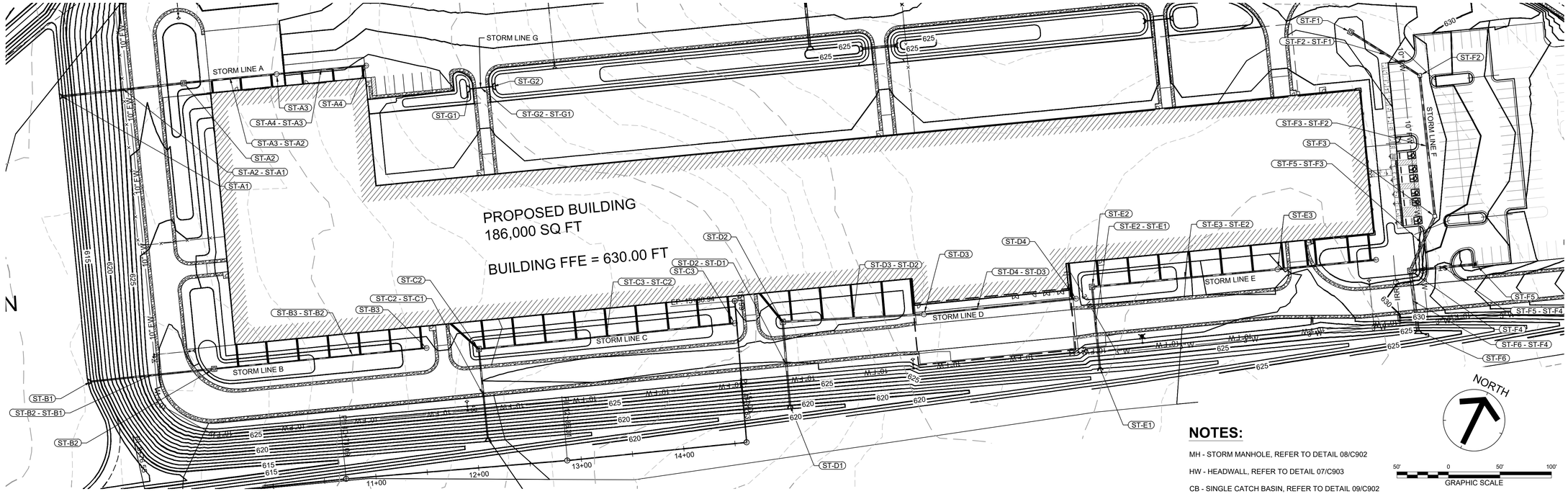


NOTES:

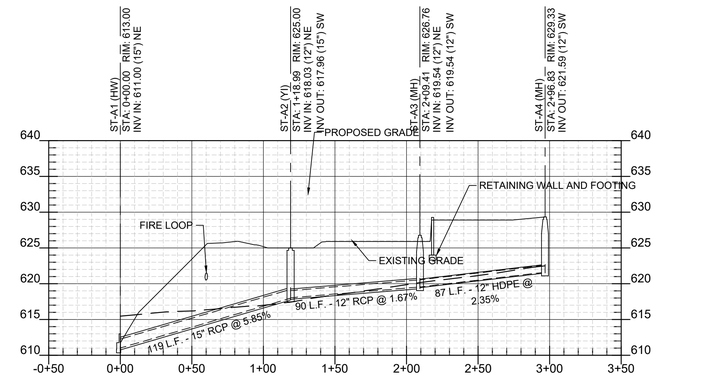
MH - STORM MANHOLE, REFER TO DETAIL 08/C902

HW - HEADWALL, REFER TO DETAIL 07/C903

CB - SINGLE CATCH BASIN, REFER TO DETAIL 09/C902

YI - YARD INLET - REFER TO DETAIL 03/C902

REFER TO PLUMBING PLANS FOR CONTINUATION OF ROOF DOWNSPOUT LEADERS INTO BUILDINGS.



STORM LINE A PROFILE

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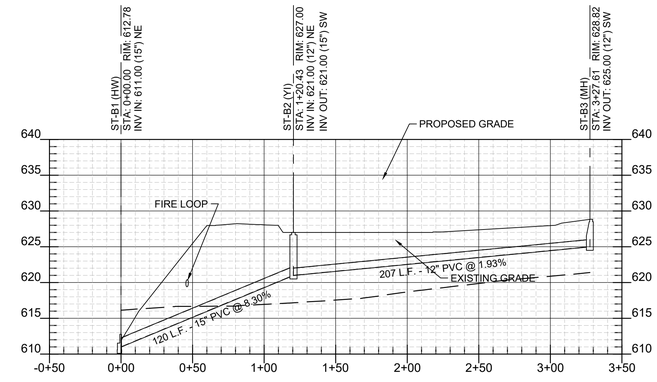

STORM LINE B PROFILE

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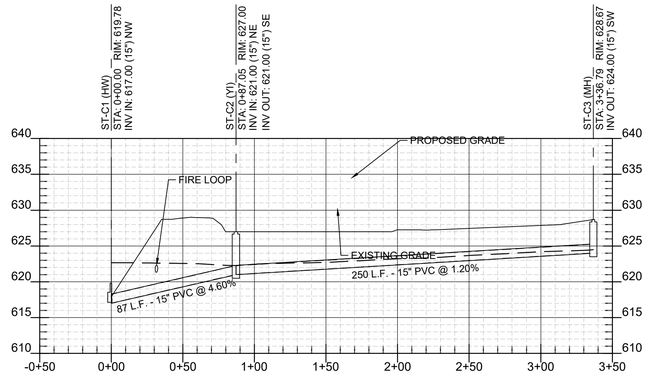

STORM LINE C PROFILE

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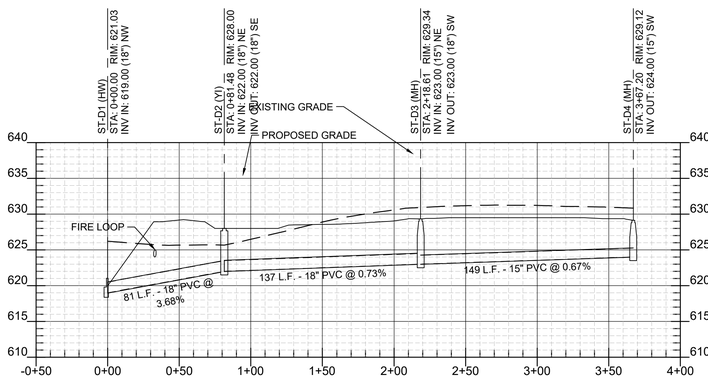

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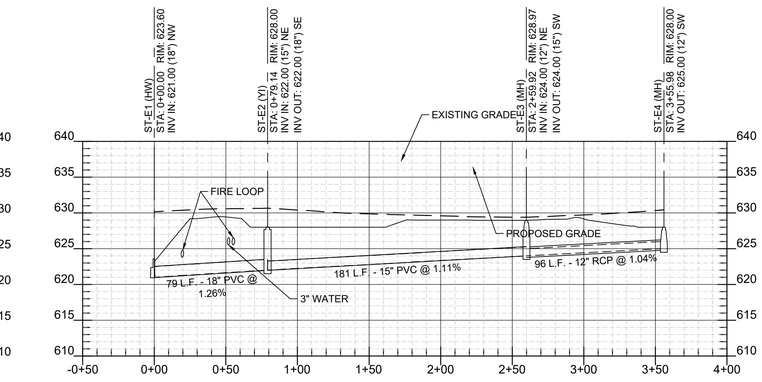

STORM LINE E PROFILE

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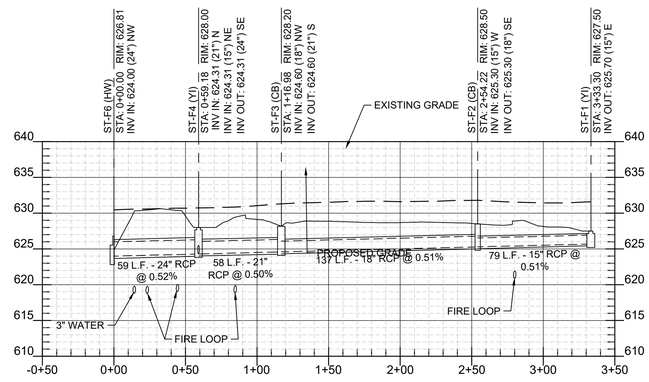

STORM LINE F PROFILE

SCALE H:1"=50'; V:1"=10'

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Developer: DCi

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No. 121286
STATE OF TENNESSEE
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Revision

No.	Date	Description

STORM PLAN & PROFILE

C350

50114.00
08/28/2025

458

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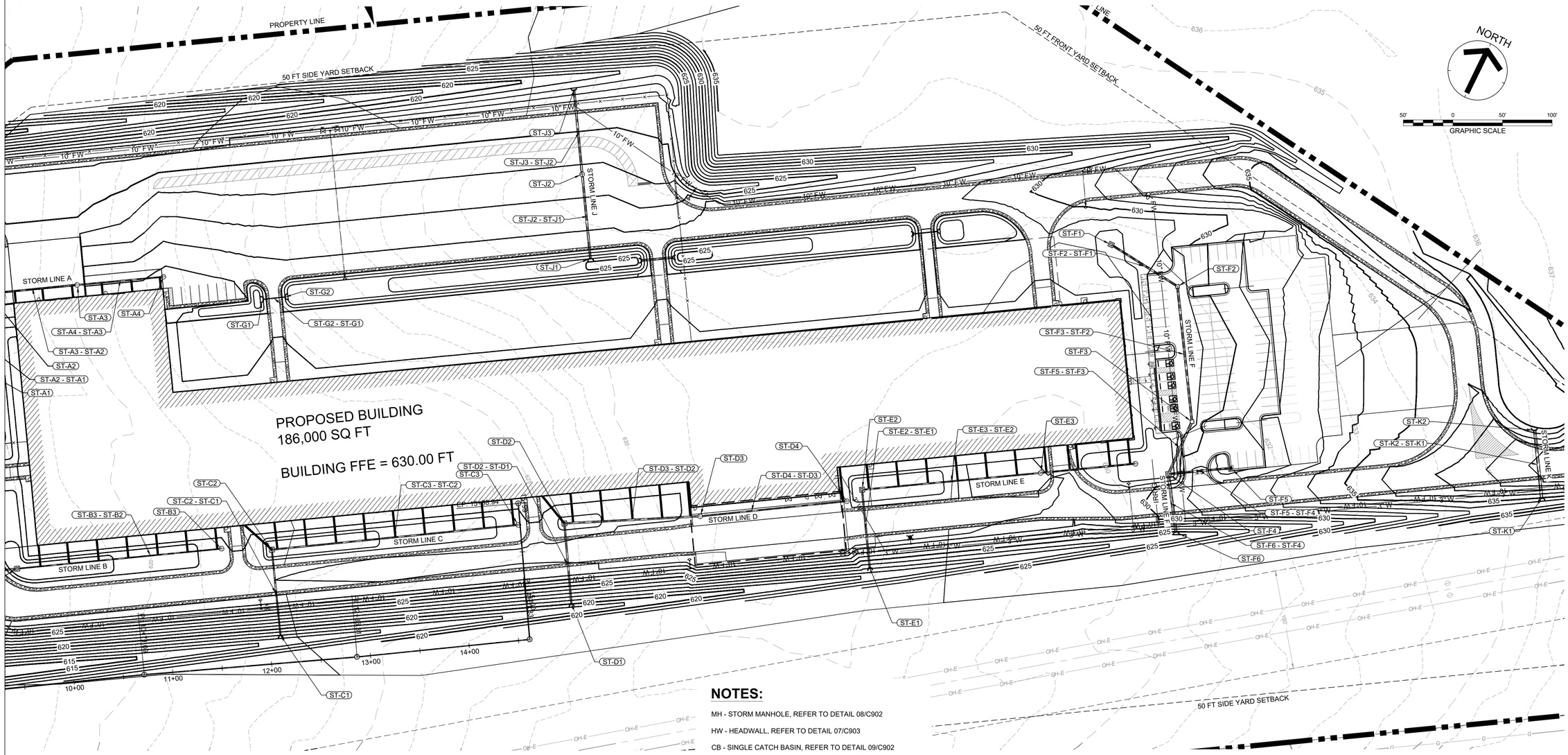


NOTES:

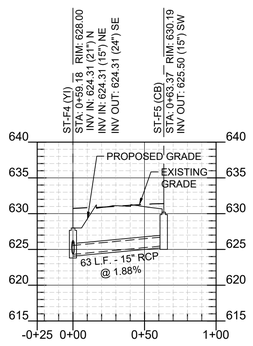
MH - STORM MANHOLE, REFER TO DETAIL 08/C902

HW - HEADWALL, REFER TO DETAIL 07/C903

CB - SINGLE CATCH BASIN, REFER TO DETAIL 09/C902

YI - YARD INLET - REFER TO DETAIL 03/C902

REFER TO PLUMBING PLANS FOR CONTINUATION OF ROOF DOWNSPOUT LEADERS INTO BUILDINGS.



STORM LINE F1 PROFILE

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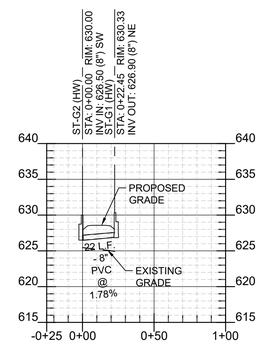

STORM LINE G - DOUBLE 8 IN PIPES PROFILE

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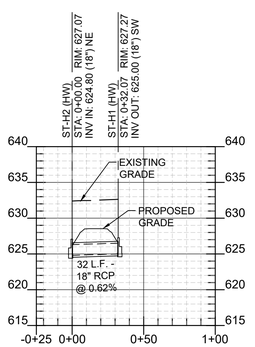

STORM LINE H PROFILE

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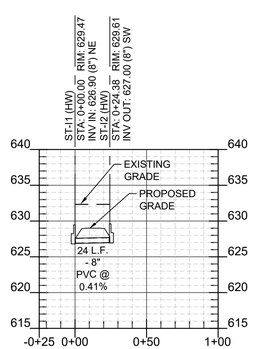

STORM LINE I - DOUBLE 8 IN PIPES PROFILE

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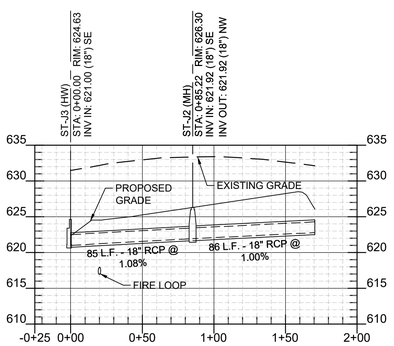

STORM LINE J PROFILE

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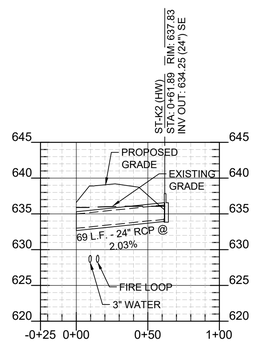

STORM LINE K PROFILE

SCALE H:1"=50'; V:1"=10'

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MATTHEW A. MCLAREN
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STATE OF TENNESSEE
No. 12286

2025.08.28
15:14:39-04'00'
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Revision

No.	Date	Description

STORM PLAN & PROFILE

C351

50114.00
08/28/2025

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08 C904 TEMPORARY POROUS BAFFLE

FOREBAY A

TEMPORARY SEDIMENT BASIN, UTILIZE PERMANENT STORMWATER DETENTION POND WITH TEMPORARY MODIFICATIONS, SEE SEDIMENT STORAGE CALCULATIONS ON THIS SHEET
BOTTOM ELEV = 609.00
SPILLWAY ELEVATION = 613.29
TOP OF BERM = 616.00

SITE OUTFALL "POI AB"
DRAINAGE AREA = 27.93 AC

TEMPORARY POROUS BERM (GABION) - SEE SEDIMENT BASIN DETAIL 10 C903

DITCHES TO BE LINED WITH NAG SC250 IN PERMANENT CONDITION

PROVIDE ADEQUATE SIGNAGE INDICATING THIS AS THE DESIGNATED CONCRETE WASHOUT AREA.

05 L901 TREE PROTECTION

REFER TO C303 FOR SEDIMENT BASIN OUTLET INFORMATION

FOREBAY B

03 C904 TEMPORARY CONCRETE WASHOUT AREA

02 C904 TEMPORARY ROCK CHECK DAM

04 C903 TEMPORARY CONSTRUCTION EXIT

01 C904 TEMPORARY SILT FENCE

FAIRCLOTH SKIMMER DETAIL 09 C903

SEDIMENT BASIN TO REMAIN IN USE UNTIL ENTIRE UPSTREAM DRAINAGE AREA IS STABILIZED. ONCE STABILIZED, CONTRACTOR TO REMOVE TEMPORARY RISER PIPE AND REPLACE WITH CONCRETE HEADWALL PER STORMWATER MANAGEMENT PLANS. FAIRCLOTH SKIMMER SIZING SPECIFICATIONS SHOWN ON DETAIL 09/C903.

TEMPORARY RISER - SEE SEDIMENT BASIN DETAIL 08 C903

LIMITS OF DISTURBANCE (TYP.) 25.7 ACRES

EXISTING 100' ELECTRIC EASEMENT

50' GAS LINE RIGHT OF WAY

100 YEAR FLOODPLAIN (ZONE A)

IF YOU DIG TENNESSEE...
CALL US FIRST!
1-800-351-1111
TENNESSEE ONE CALL

SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.
SEE THIS SHEET AND C402 FOR SEDIMENT BASIN DESIGN CALCULATIONS.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREAS AS NEEDED
2. INSTALL SEDIMENT BARRIERS (SILT FENCE, SILT FENCE INLET PROTECTION, ROCK CHECK DAMS, TEMPORARY POROUS BAFFLE, RIP-RAP, STONE FILTER RINGS)
3. CONSTRUCT TEMPORARY SEDIMENT BASIN WITH SKIMMER AND INSTALL OUTLET PIPES AND STRUCTURES
4. INSTALL DIVERSION DITCHES WITH ROCK CHECK DAMS PRIOR TO UPSTREAM EARTH DISTURBANCE
5. PROCEED WITH SITE CONSTRUCTION AND UPON COMPLETION, FINAL STABILIZATION OF THE SITE SHOULD BE ACHIEVED

LEGEND

662	EXISTING MINOR CONTOUR
660	EXISTING MAJOR CONTOUR
662	PROPOSED MINOR CONTOUR
660	PROPOSED MAJOR CONTOUR
SF	TEMPORARY SILT FENCE
	LIMITS OF DISTURBANCE
	TEMPORARY POROUS BAFFLE
	TEMPORARY CONSTRUCTION EXIT (GRAVEL)
	CONCRETE WASHOUT AREA
	TEMPORARY ROCK CHECK DAM
FS	TEMPORARY RISER / FAIRCLOTH SKIMMER
	TURF REINFORCED MATTING

TEMPORARY SEDIMENT BASIN CALCULATIONS:

DRAINAGE AREA =	36.62 AC
REQUIRED WET VOLUME (67 CY/ AC) =	2,454 CY
REQUIRED DRY VOLUME (67 CY/ AC) =	2,454 CY
PROVIDED WET VOL. (BELOW STONE SPILLWAY) =	3804 CY
PROVIDED DRY VOL. (1' BELOW BERM) =	9007 CY
TOTAL PROVIDED VOL. (DRY + WET) =	12,811 CY

NOTE: TEMPORARILY INSTALL POROUS BERM/BAFFLE SEDIMENT CONTROL AND MODIFY PERMANENT DETENTION POND OUTLET STRUCTURE AND BERM SPILLWAY FOR TEMPORARY SEDIMENT BASIN.

ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

PORT-A-POTTIES TO BE LOCATED NEAR LAYDOWN AREA ON PAVED, NORTHERN SIDE OF SITE

NORTH

100' 0 100' 200'
GRAPHIC SCALE

Gresham Smith
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Nashville, TN 37201
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7th District of Maury County, Mount Pleasant, Tennessee
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AGRICULTURE
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STATE OF TENNESSEE
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Revision

No.	Date	Description

OVERALL INITIAL EPSC PLAN

C401

50114.00
08/28/2025

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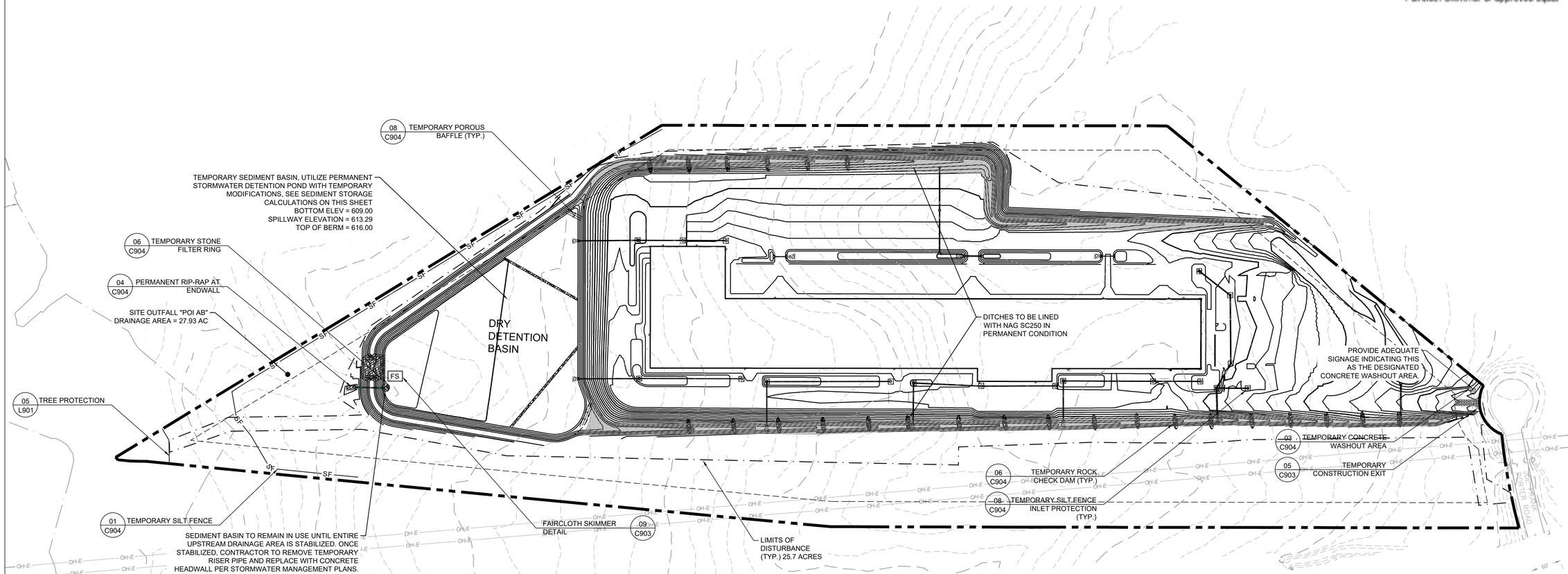
EPSC Intermediate Plan - Sediment Basin Design Data

Sediment Basin #	Design Storm Event	Drainage Area		Volume Required (Cubic Feet)				Volume Provided (Cubic Feet)				Design Elevations							Outlet Structure Design							
		Sq. Ft.	Acres	Wet Storage (1809 cf/ac.)	Dry Storage (1809 cf/ac.)	Forebay Volume (cf)	Total Volume (cf)	Wet Storage	Dry Storage	Forebay Volume (cf)	Total Volume (cf)	Top of Berm Elev.	Pond Bottom Elev.	Wet Storage Elev.	Top of Riser/ Dry Storage	Emergency Spillway Elev.	5 Year WSE	25 Year WSE	Riser Diameter (in)	[1]Outlet Structure Name	[2]Outlet Pipe Dia. (in)	Outlet Invert Elevation	[3]Riser Height (ft)	Skimmer Invert	[4]Skimmer Arm Dia. (in.)	Skimmer Orifice Dia. (in.)	Drawdown Time (days)
SED-B1	5-Year	1,595,167	36.62	66,246	66,246	16,561	132,491	102,720	243,183	58,509	345,903	616.00	609.00	611.00	612.00	613.29	611.79	612.66	36	ST-SED 1A	18	609.00	3.00	610.50	8.00	7.20	3.00

[1]Refer to the applicable permanent outlet structure detail within plan sheets
[2]Install temporary outlet pipe per EPSC plan and tie to temporary riser
[3]solid height includes 6" for embedment in concrete footing
[4]Faircloth Skimmer or approved equal



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SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.
SEE THIS SHEET FOR SEDIMENT BASIN DESIGN CALCULATIONS.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREAS AS NEEDED
2. INSTALL SEDIMENT BARRIERS (SILT FENCE, SILT FENCE INLET PROTECTION, ROCK CHECK DAMS, TEMPORARY POROUS BAFFLE, RIP-RAP, STONE FILTER RINGS)
3. CONSTRUCT TEMPORARY SEDIMENT BASIN WITH SKIMMER AND INSTALL OUTLET PIPES AND STRUCTURES
4. INSTALL DIVERSION DITCHES WITH ROCK CHECK DAMS PRIOR TO UPSTREAM EARTH DISTURBANCE
5. PROCEED WITH SITE CONSTRUCTION AND UPON COMPLETION, FINAL STABILIZATION OF THE SITE SHOULD BE ACHIEVED

ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

PORT-A-POTTIES TO BE LOCATED NEAR LAYDOWN AREA ON PAVED, NORTHERN SIDE OF SITE

LEGEND

- 662 — EXISTING MINOR CONTOUR
- 660 — EXISTING MAJOR CONTOUR
- 662 — PROPOSED MINOR CONTOUR
- 660 — PROPOSED MAJOR CONTOUR
- TEMPORARY ROCK CHECK DAM
- SF — TEMPORARY SILT FENCE
- LIMITS OF DISTURBANCE
- TEMPORARY CONSTRUCTION EXIT (GRAVEL)
- CONCRETE WASHOUT AREA
- TURF REINFORCED MATTING

TEMPORARY SEDIMENT BASIN CALCULATIONS:

DRAINAGE AREA =	36.62 AC
REQUIRED WET VOLUME (67 CY/ AC) =	2454 CY
REQUIRED DRY VOLUME (67 CY/ AC) =	2454 CY
PROVIDED WET VOL. (BELOW STONE SPILLWAY) =	3804 CY
PROVIDED DRY VOL. (1' BELOW BERM) =	9007 CY
TOTAL PROVIDED VOL. (DRY + WET) =	12,811 CY

NOTE: TEMPORARILY MODIFY PERMANENT BIORETENTION POND OUTLET STRUCTURE, DETENTION POND OUTLET STRUCTURE, AND BERM SPILLWAY FOR TEMPORARY SEDIMENT BASIN.

NORTH

100' 0 100' 200'
GRAPHIC SCALE

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OVERALL INTERMEDIATE EPSC PLAN

C402

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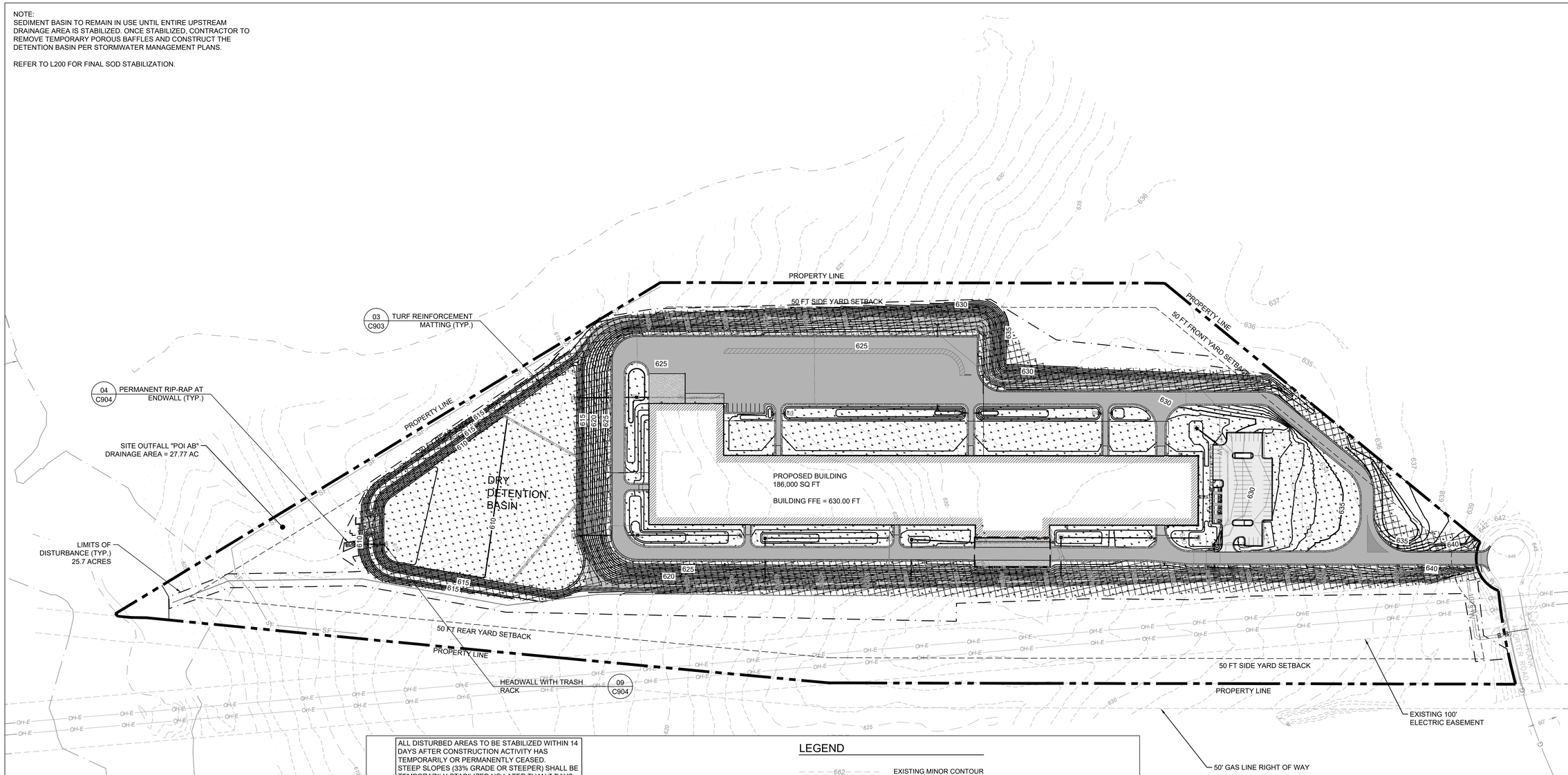
NOTE:
SEDIMENT BASIN TO REMAIN IN USE UNTIL ENTIRE UPSTREAM DRAINAGE AREA IS STABILIZED. ONCE STABILIZED, CONTRACTOR TO REMOVE TEMPORARY POROUS BAFFLES AND CONSTRUCT THE DETENTION BASIN PER STORMWATER MANAGEMENT PLANS.

REFER TO L200 FOR FINAL SOD STABILIZATION.



ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING NAG SC250 SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

EPSC NOTES:

1. RECEIVING WATERS: UNNAMED TRIBUTARY TO BIG BIGBY CREEK.
2. CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT AREA AND EQUIPMENT FUELING IN ACCORDANCE WITH TDEC. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRE-CONSTRUCTION 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.
3. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITHIN 7 DAYS WITH MULCH OR TEMPORARY SEEDING.
4. PERIMETER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING ACTIVITIES.
5. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED ACCORDINGLY WITH THE TDEC EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 7. THE MAXIMUM EXCAVATION DEPTH OF THE TEMPORARY SEDIMENT BASINS MUST BE AT LEAST 1 FOOT ABOVE THE POST-CONSTRUCTION INSTALLATION OF DETENTION PONDS TO REMAIN FUNCTIONING AS SEDIMENT BASINS UNTIL FINAL STABILIZATION.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREAS AS NEEDED
2. INSTALL SEDIMENT BARRIERS (SILT FENCE, SILT FENCE INLET PROTECTION, ROCK CHECK DAMS, TEMPORARY POROUS BAFFLE, RIP-RAP, STONE FILTER RINGS)
3. CONSTRUCT TEMPORARY SEDIMENT BASIN WITH SKIMMER AND INSTALL OUTLET PIPES AND STRUCTURES
4. INSTALL DIVERSION DITCHES WITH ROCK CHECK DAMS PRIOR TO UPSTREAM EARTH DISTURBANCE
5. PROCEED WITH SITE CONSTRUCTION AND UPON COMPLETION, FINAL STABILIZATION OF THE SITE SHOULD BE ACHIEVED

LEGEND

- EXISTING MINOR CONTOUR (662)
- EXISTING MAJOR CONTOUR (660)
- PROPOSED MINOR CONTOUR (662)
- PROPOSED MAJOR CONTOUR (660)
- AREA OF PERMANENT STABILIZATION. REFER T0 LANDSCAPE PLANS FOR DETAILS.
- AREA TO RECEIVE TURF REINFORCEMENT MATTING
- AREA TO BE STABILIZED WITH LANDSCAPE PLANTINGS AND MULCH
- RIP-RAP AND CHANNEL LINING AREAS. REFER TO DETAIL 04, SHEET C904.
- TURF REINFORCEMENT MATTING LINING CHANNEL AREAS (NAG SC250)

WHEN ALL DISTURBED AREAS REACH FINAL GRADE PROVIDE PERMANENT STABILIZATION AS FOLLOWS: SEEDING, STRAW MULCH AND ALL PLANTINGS AND IRRIGATION PER LANDSCAPE PLANS

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

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SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.

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NORTH

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AGRITECTURE
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STATE OF TENNESSEE

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No.	Date	Description

OVERALL FINAL EPSC PLAN

C403

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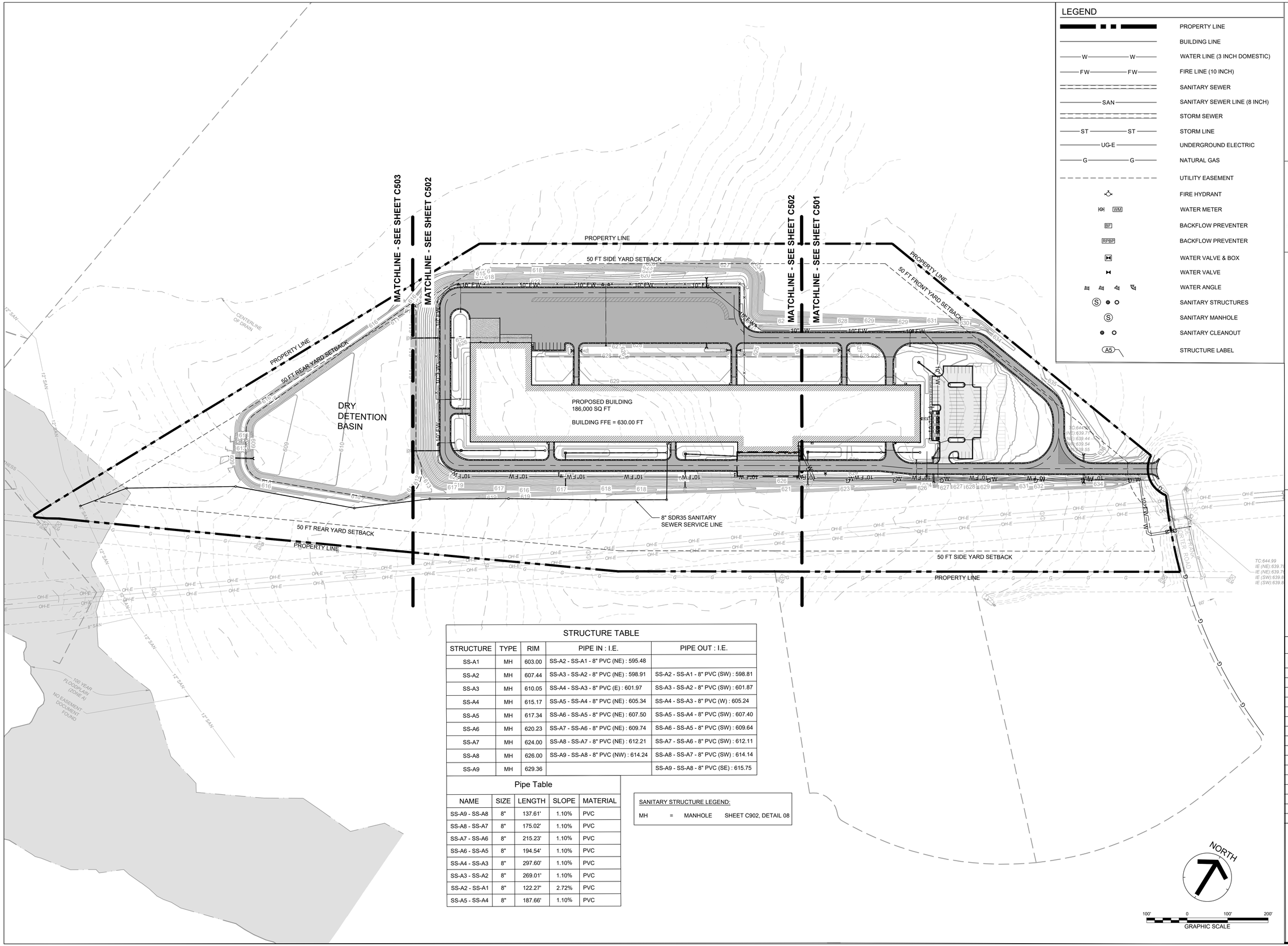

LEGEND

- PROPERTY LINE
- BUILDING LINE
- WATER LINE (3 INCH DOMESTIC)
- FIRE LINE (10 INCH)
- SANITARY SEWER
- SANITARY SEWER LINE (8 INCH)
- STORM SEWER
- STORM LINE
- UNDERGROUND ELECTRIC
- NATURAL GAS
- UTILITY EASEMENT
- FIRE HYDRANT
- WATER METER
- BACKFLOW PREVENTER
- BACKFLOW PREVENTER
- WATER VALVE & BOX
- WATER VALVE
- WATER ANGLE
- SANITARY STRUCTURES
- SANITARY MANHOLE
- SANITARY CLEANOUT
- STRUCTURE LABEL

STRUCTURE TABLE

STRUCTURE	TYPE	RIM	PIPE IN : I.E.	PIPE OUT : I.E.
SS-A1	MH	603.00	SS-A2 - SS-A1 - 8" PVC (NE) : 595.48	
SS-A2	MH	607.44	SS-A3 - SS-A2 - 8" PVC (NE) : 598.91	SS-A2 - SS-A1 - 8" PVC (SW) : 598.81
SS-A3	MH	610.05	SS-A4 - SS-A3 - 8" PVC (E) : 601.97	SS-A3 - SS-A2 - 8" PVC (SW) : 601.87
SS-A4	MH	615.17	SS-A5 - SS-A4 - 8" PVC (NE) : 605.34	SS-A4 - SS-A3 - 8" PVC (W) : 605.24
SS-A5	MH	617.34	SS-A6 - SS-A5 - 8" PVC (NE) : 607.50	SS-A5 - SS-A4 - 8" PVC (SW) : 607.40
SS-A6	MH	620.23	SS-A7 - SS-A6 - 8" PVC (NE) : 609.74	SS-A6 - SS-A5 - 8" PVC (SW) : 609.64
SS-A7	MH	624.00	SS-A8 - SS-A7 - 8" PVC (NE) : 612.21	SS-A7 - SS-A6 - 8" PVC (SW) : 612.11
SS-A8	MH	626.00	SS-A9 - SS-A8 - 8" PVC (NW) : 614.24	SS-A8 - SS-A7 - 8" PVC (SW) : 614.14
SS-A9	MH	629.36		SS-A9 - SS-A8 - 8" PVC (SE) : 615.75

Pipe Table

NAME	SIZE	LENGTH	SLOPE	MATERIAL
SS-A9 - SS-A8	8"	137.61'	1.10%	PVC
SS-A8 - SS-A7	8"	175.02'	1.10%	PVC
SS-A7 - SS-A6	8"	215.23'	1.10%	PVC
SS-A6 - SS-A5	8"	194.54'	1.10%	PVC
SS-A4 - SS-A3	8"	297.60'	1.10%	PVC
SS-A3 - SS-A2	8"	269.01'	1.10%	PVC
SS-A2 - SS-A1	8"	122.27'	2.72%	PVC
SS-A5 - SS-A4	8"	187.66'	1.10%	PVC

SANITARY STRUCTURE LEGEND:

MH = MANHOLE SHEET C902, DETAIL 08

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OVERALL UTILITY PLAN

C500

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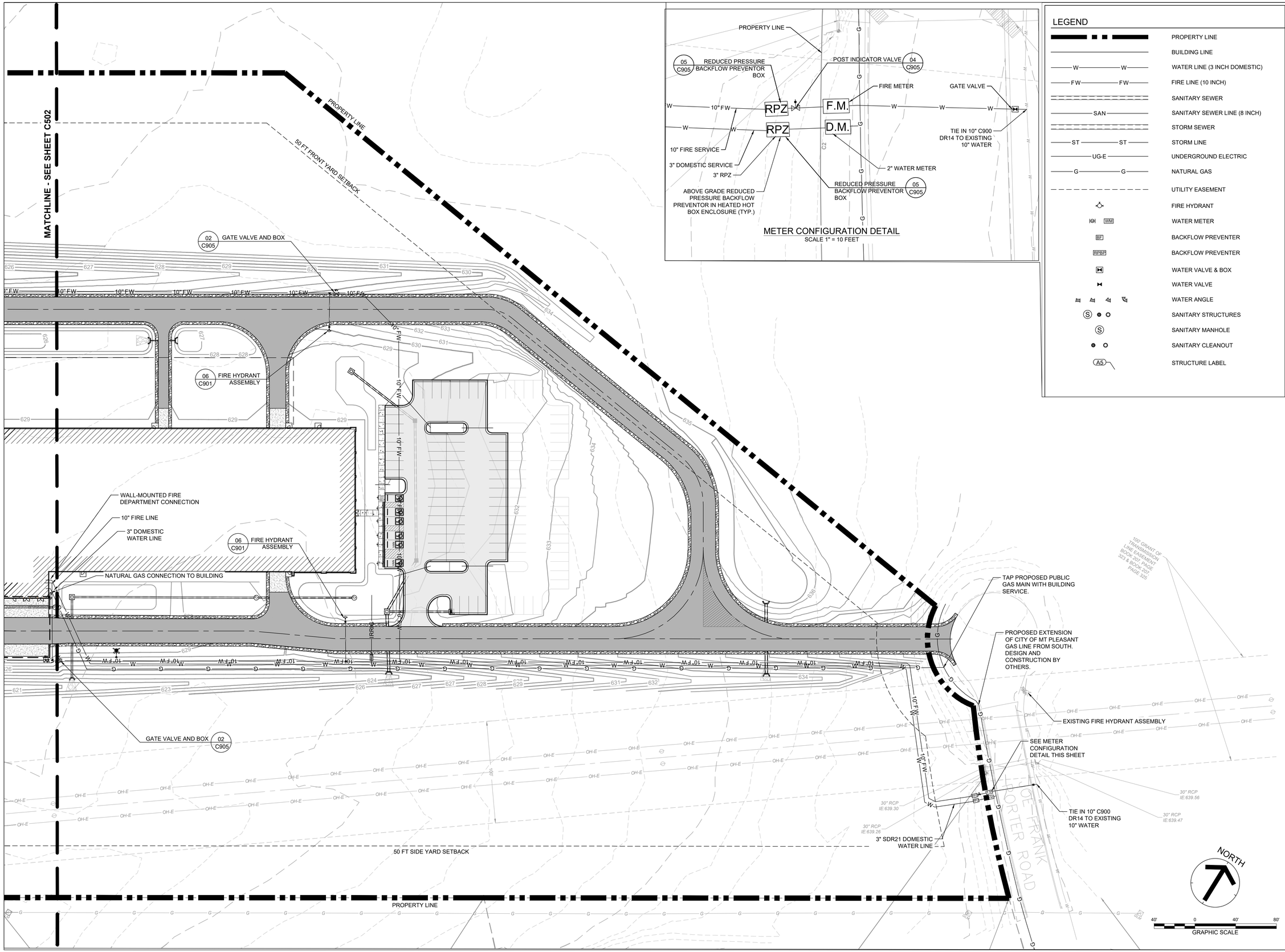

METER CONFIGURATION DETAIL
SCALE 1" = 10 FEET

LEGEND

	PROPERTY LINE
	BUILDING LINE
W	WATER LINE (3 INCH DOMESTIC)
FW	FIRE LINE (10 INCH)
	SANITARY SEWER
SAN	SANITARY SEWER LINE (8 INCH)
	STORM SEWER
ST	STORM LINE
UG-E	UNDERGROUND ELECTRIC
G	NATURAL GAS
	UTILITY EASEMENT
	FIRE HYDRANT
WM	WATER METER
BF	BACKFLOW PREVENTER
RPBP	BACKFLOW PREVENTER
	WATER VALVE & BOX
	WATER VALVE
	WATER ANGLE
S	SANITARY STRUCTURES
S	SANITARY MANHOLE
	SANITARY CLEANOUT
A5	STRUCTURE LABEL

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DETAILED UTILITY PLAN

C501

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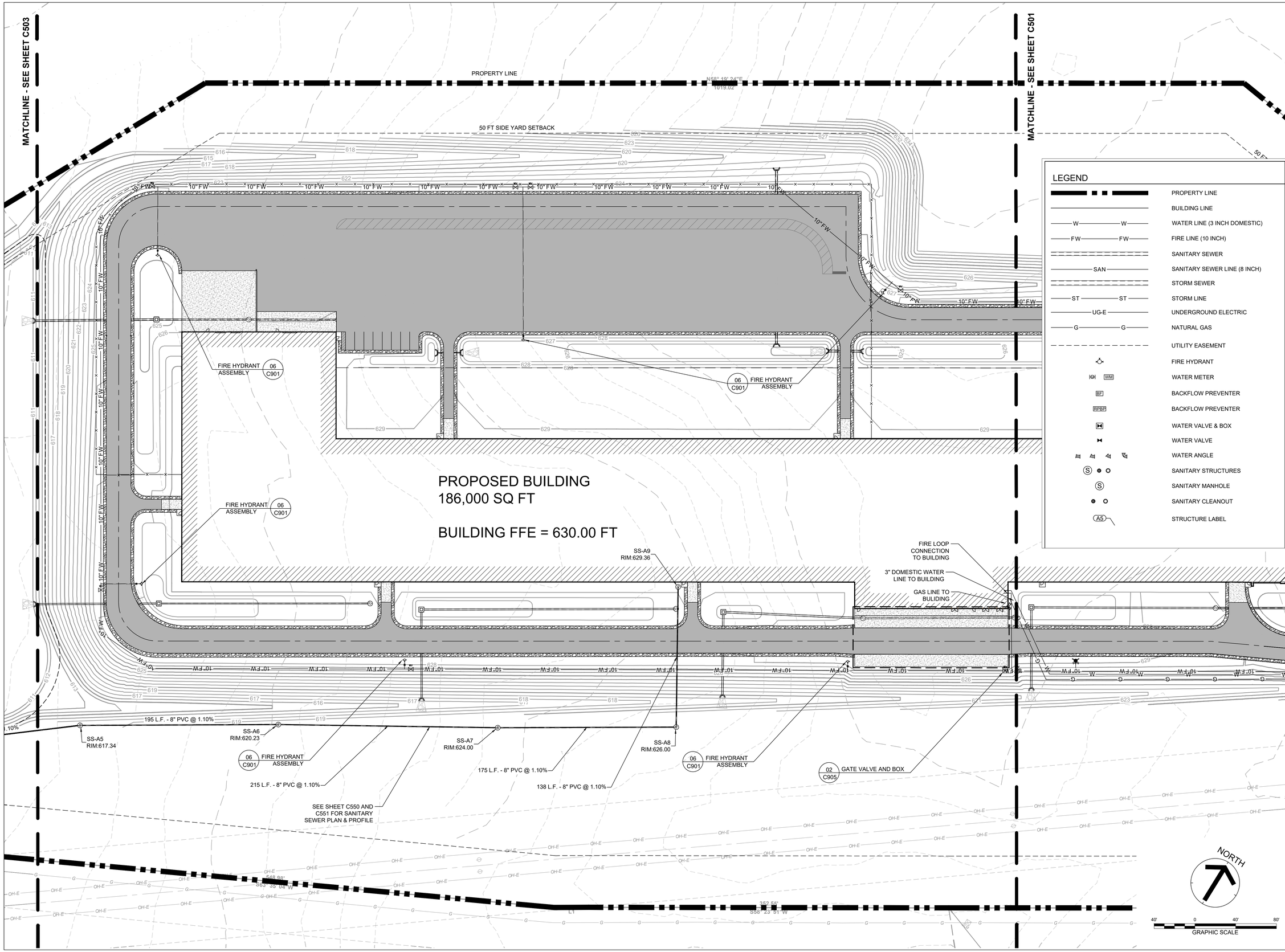

LEGEND

	PROPERTY LINE
	BUILDING LINE
W W	WATER LINE (3 INCH DOMESTIC)
FW FW	FIRE LINE (10 INCH)
	SANITARY SEWER
SAN	SANITARY SEWER LINE (8 INCH)
	STORM SEWER
ST ST	STORM LINE
UG-E	UNDERGROUND ELECTRIC
G G	NATURAL GAS
	UTILITY EASEMENT
	FIRE HYDRANT
WM	WATER METER
BF	BACKFLOW PREVENTER
RPBP	BACKFLOW PREVENTER
	WATER VALVE & BOX
	WATER VALVE
	WATER ANGLE
S	SANITARY STRUCTURES
S	SANITARY MANHOLE
	SANITARY CLEANOUT
A5	STRUCTURE LABEL

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DETAILED UTILITY PLAN

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No.	Date	Description

LEGEND

- PROPERTY LINE
- BUILDING LINE
- W — W — WATER LINE (3 INCH DOMESTIC)
- FW — FW — FIRE LINE (10 INCH)
- SANITARY SEWER
- SAN — SANITARY SEWER LINE (8 INCH)
- STORM SEWER
- ST — ST — STORM LINE
- UG-E — UNDERGROUND ELECTRIC
- G — G — NATURAL GAS
- UTILITY EASEMENT
- FIRE HYDRANT
- WM — WATER METER
- BF — BACKFLOW PREVENTER
- RPBP — BACKFLOW PREVENTER
- WATER VALVE & BOX
- WATER VALVE
- WATER ANGLE
- SANITARY STRUCTURES
- SANITARY MANHOLE
- SANITARY CLEANOUT
- A5 — STRUCTURE LABEL

DRY DETENTION BASIN

MATCHLINE - SEE SHEET C502

PROPERTY LINE

50 FT REAR YARD SETBACK

CENTERLINE OF DRAIN

TC:598.29
IE IN (SE):591.39
IE OUT (W):591.17

TC:603.02
IE IN (SE):594.04
IE OUT (NW):592.25

TC:603.02
IE (SE):595.23
(NW):595.20

SS-A1
RIM:603.00

SS-A2
RIM:607.44

SS-A3
RIM:610.05

SS-A4
RIM:615.17

SS-A5
RIM:617.34

SS-A6
RIM:620.23

122 L.F. - 8" PVC @ 2.72%

269 L.F. - 8" PVC @ 1.10%

298 L.F. - 8" PVC @ 1.10%

188 L.F. - 8" PVC @ 1.10%

195 L.F. - 8" PVC @ 1.10%

215 L.F. - 8" PVC @ 1.10%

SEE SHEET C550 AND C551 FOR SANITARY SEWER PLAN & PROFILE

100 YEAR FLOOD PLAIN

100' GRANT OF EASEMENT TRANSMISSION BOOK 67 PAGE 1

NORTH

40' 0 40' 80'
GRAPHIC SCALE

DETAILED UTILITY PLAN

C503

50114.00
08/28/2025

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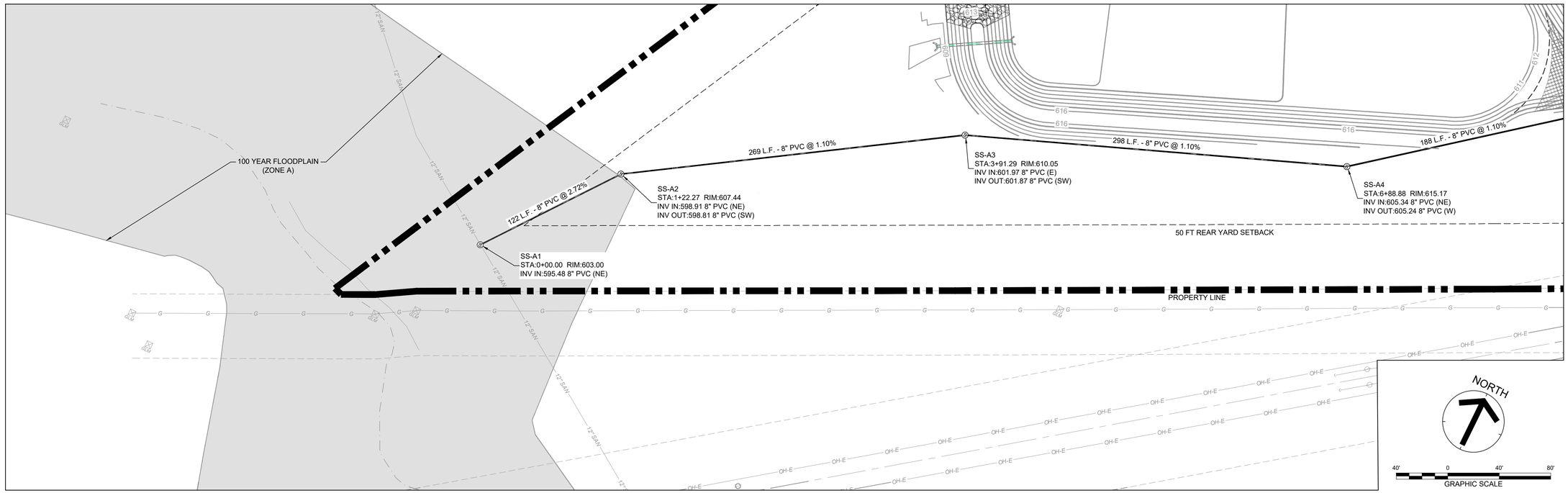

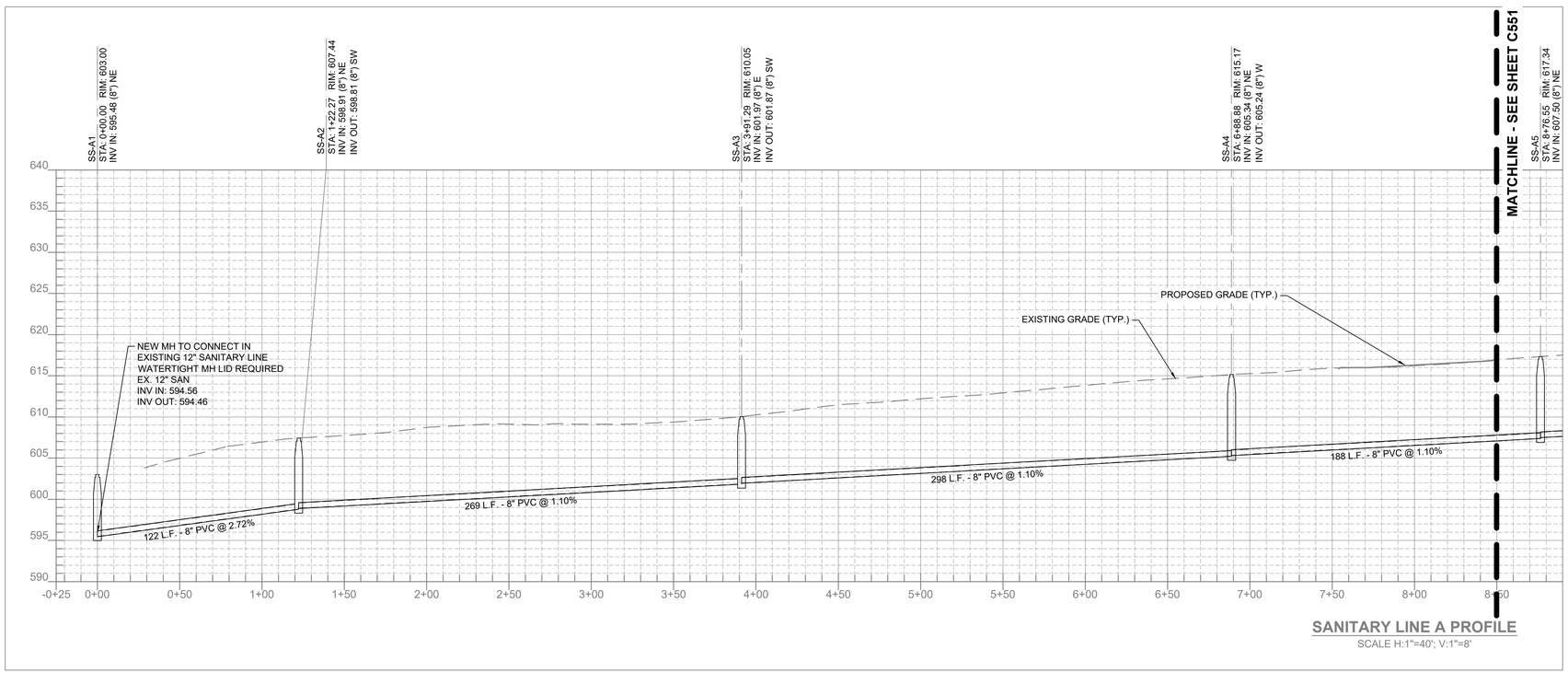

SANITARY LINE A PROFILE

SCALE H:1"=40'; V:1"=8'

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 132186
STATE OF TENNESSEE

2025.08.28
15:15:17-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

SANITARY SEWER PLAN & PROFILE

C550

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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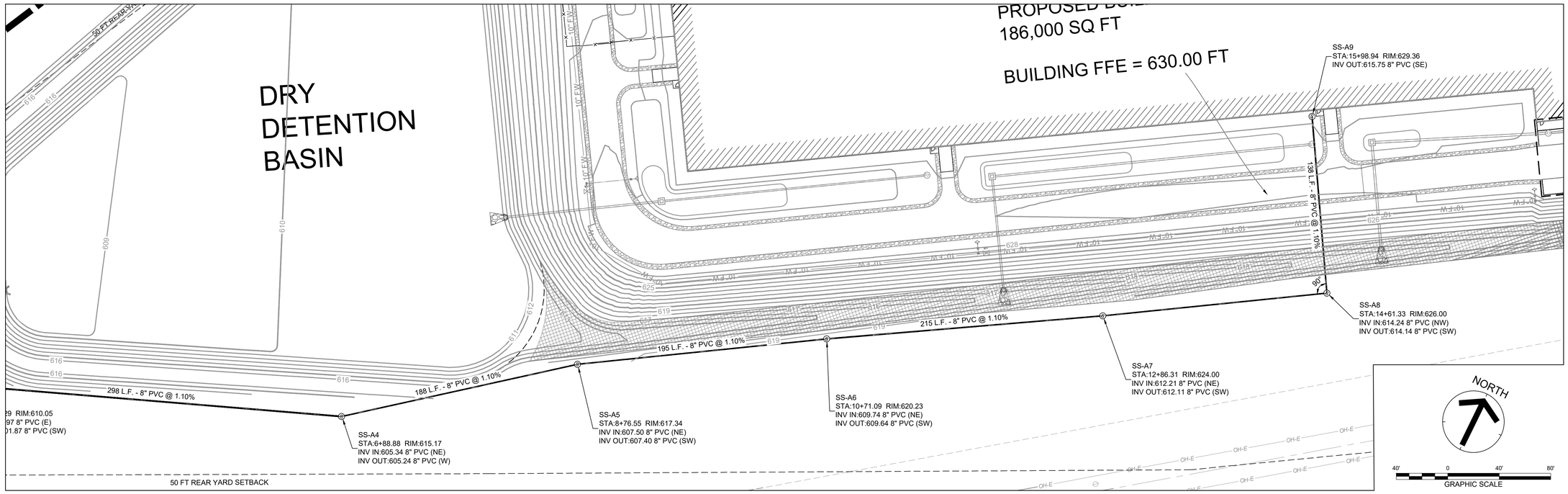

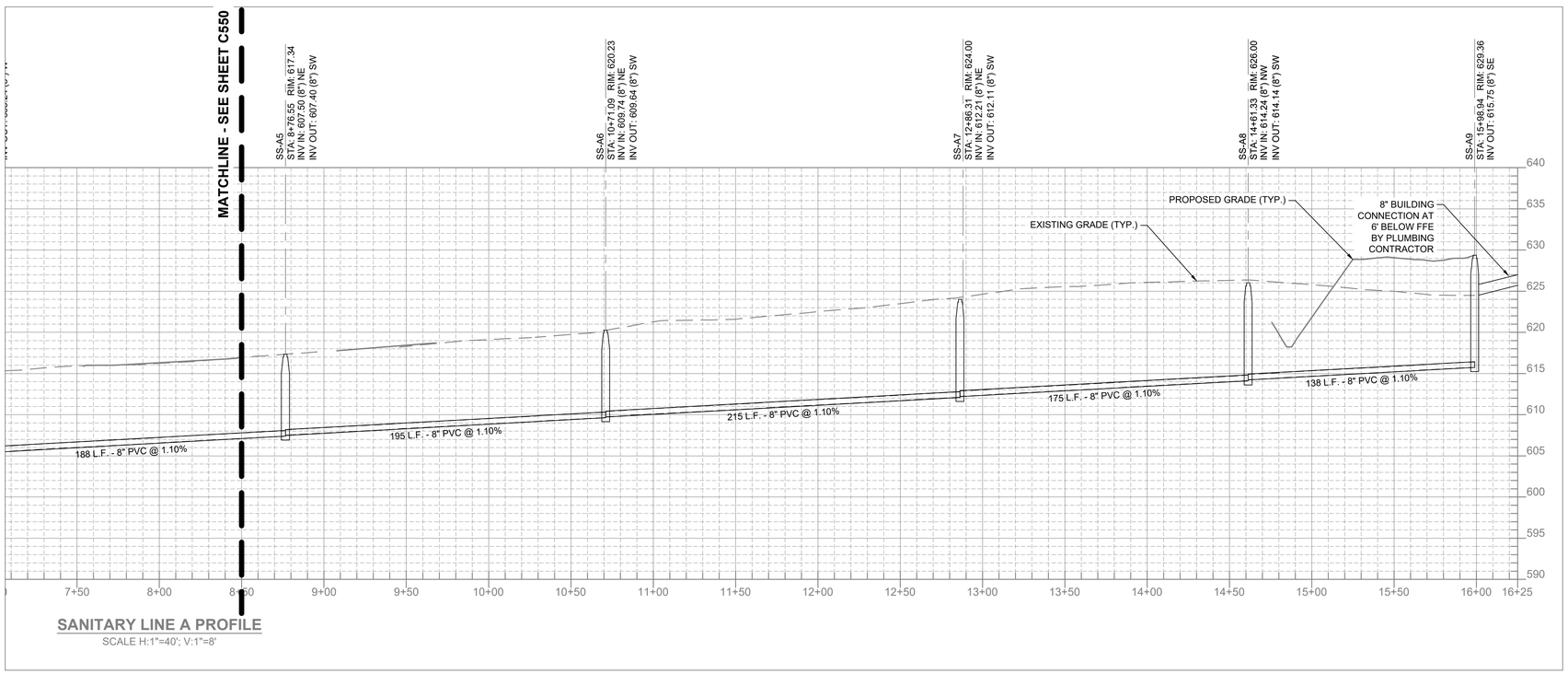

SANITARY LINE A PROFILE

SCALE H:1"=40'; V:1"=8'

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
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STATE OF TENNESSEE
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15:15:20-04'00'
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Revision

No.	Date	Description

SANITARY SEWER PLAN & PROFILE

C551

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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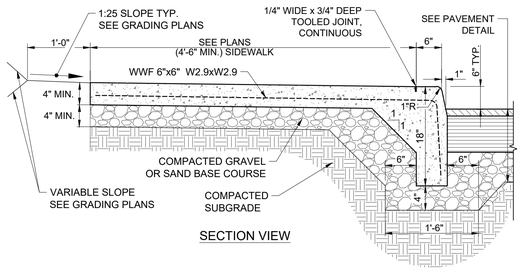
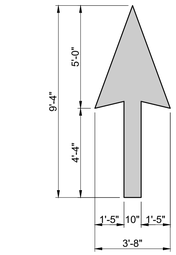


SECTION VIEW

NOTES:
1. PROVIDE WEAKENED PLANE (SAW CUT OR TOOLED) TRANSVERSE CONTROL JOINTS AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 30'-0" (MAX.) ON CENTER AND CONTINUOUSLY BETWEEN SIDEWALK AND WALLS OR OTHER STRUCTURES.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 5.00% (1:20)
4. CROSS SLOPES SHALL NOT EXCEED 2.00% (1:50)
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI (TYP.)

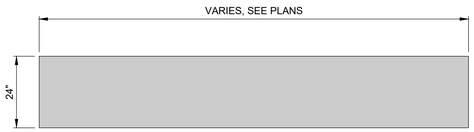
01 C901

MONOLITHIC SIDEWALK AND CURB
NOT TO SCALE



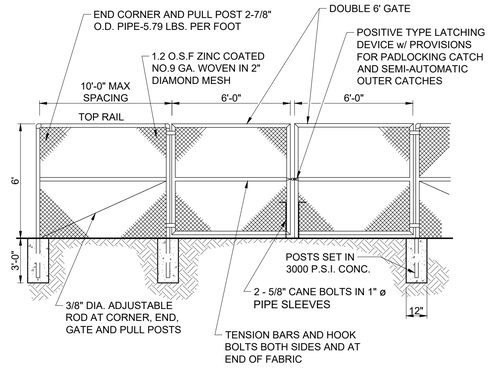
NOTE:

STOP BAR SHALL BE PAINTED WITH A MINIMUM 2 COATS OF WHITE SHERWIN-WILLIAMS PRO-MAR TRAFFIC MARKING PAINT.



02 C901

PAVEMENT MARKINGS
NOT TO SCALE

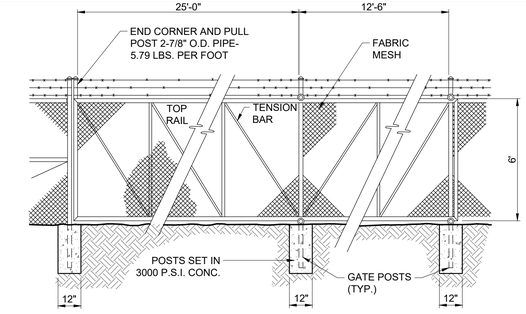


FABRIC CONNECTION: TERMINAL POSTS 3/16" x 3/4"; STRETCHER BAR w/ 1/8" x 7/8" STEEL BANDS 15" O.C.; LINE POSTS-9 GA. WIRE CLIPS 12" O.C.; TOP RAIL-9 GA. TIE WIRE-24" O.C.

NOTE:
ALL POSTS AND OTHER APPURTENANCES SHALL BE HOT DIP GALVANIZED w/MIN. 1.2 O.S.F. ZINC. ALL FITTINGS SHALL BE MALLEABLE OR DUCTILE IRON OR STEEL.

03 C901

CHAIN LINK SECURITY FENCE (DOUBLE 12' GATES)
NOT TO SCALE

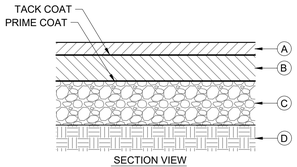


FABRIC CONNECTION: TERMINAL POSTS 3/16" x 3/4", STRETCHER BAR w/ 1/8" x 7/8" STEEL BANDS 15" O.C., LINE POSTS-9 GA. WIRE CLIPS 15" O.C., TOP RAIL-9 GA. TIE WIRE - 24" O.C.

NOTE:
ALL POSTS AND OTHER APPURTENANCES SHALL BE HOT DIP GALVANIZED w/MIN. 1.2 O.S.F. ZINC. ALL FITTINGS SHALL BE MALLEABLE OR DUCTILE IRON OR STEEL.

04 C901

CHAIN LINK SECURITY GATE
NOT TO SCALE



SECTION VIEW

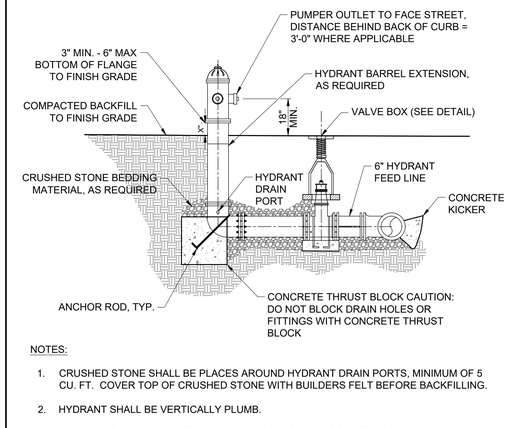
PAVING DESIGN PER UES PROFESSIONAL SOLUTIONS 19, LLC. REPORT OF GEOTECHNICAL EXPLORATION PROJECT A25112.00446.000, DATED JULY 23, 2025

HEAVY DUTY
- (A) 1.5" BITUMINOUS ASPHALT SURFACE MIX "GRADING E"
- (B) 2.5" BITUMINOUS ASPHALT BASE MIX "GRADING B" BINDER
- (C) 8.0" COMPACTED CRUSHED AGGREGATE BASE COURSE COMPACTED TO 100% OF THE STANDARD PROCTOR DRY DENSITY (ASTM D698)
- (D) COMPACTED SUBGRADE, 98% STANDARD PROCTOR DRY DENSITY (ASTM D698)

LIGHT DUTY
- (A) 1.5" BITUMINOUS ASPHALT SURFACE MIX "GRADING E"
- (B) 2.0 BITUMINOUS ASPHALT BASE MIX "GRADING B" BINDER
- (C) 6.0" COMPACTED CRUSHED AGGREGATE BASE 100% OF THE STANDARD PROCTOR DRY DENSITY (ASTM D698)
- (D) COMPACTED SUBGRADE, 98% STANDARD PROCTOR DRY DENSITY (ASTM D698)

05 C901

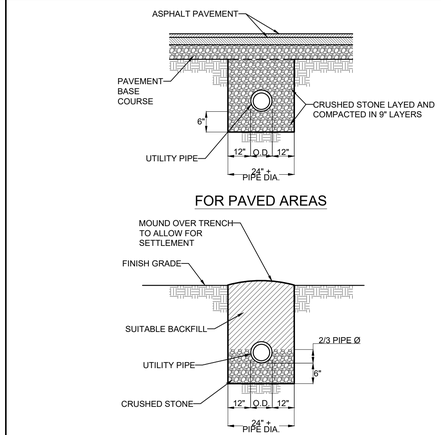
TYPICAL ASPHALT PAVEMENT SECTION
NOT TO SCALE



NOTES:
1. CRUSHED STONE SHALL BE PLACES AROUND HYDRANT DRAIN PORTS, MINIMUM OF 5 CU. FT. COVER TOP OF CRUSHED STONE WITH BUILDERS FELT BEFORE BACKFILLING.
2. HYDRANT SHALL BE VERTICALLY PLUMB.
3. HYDRANT SHALL BE PAINTED WITH TWO COATS (MIN.) OF EXTERIOR ENAMEL.
4. HYDRANT SHALL CONFORM TO LOCAL REQUIREMENTS

06 C901

FIRE HYDRANT ASSEMBLY
NOT TO SCALE

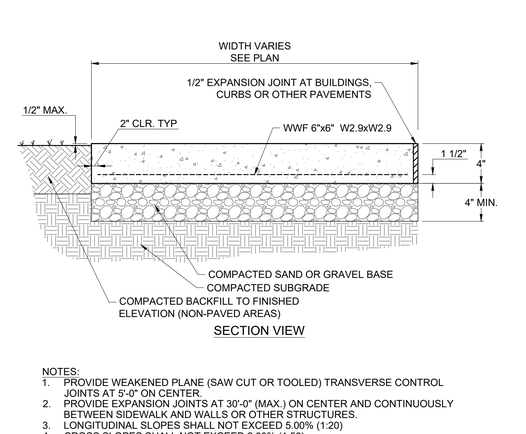


FOR PAVED AREAS

FOR GRASSED AREAS

07 C901

TYPICAL UTILITY BACKFILL
NOT TO SCALE

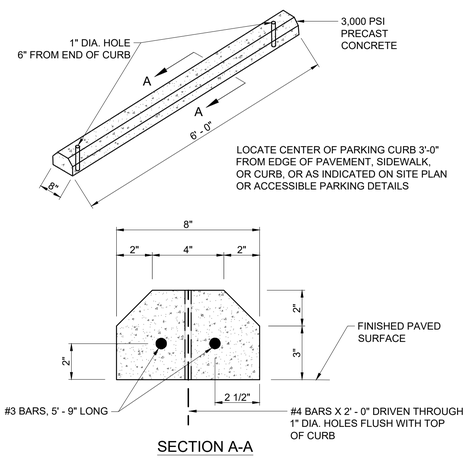


SECTION VIEW

NOTES:
1. PROVIDE WEAKENED PLANE (SAW CUT OR TOOLED) TRANSVERSE CONTROL JOINTS AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 30'-0" (MAX.) ON CENTER AND CONTINUOUSLY BETWEEN SIDEWALK AND WALLS OR OTHER STRUCTURES.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 5.00% (1:20)
4. CROSS SLOPES SHALL NOT EXCEED 2.00% (1:50)
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)

08 C901

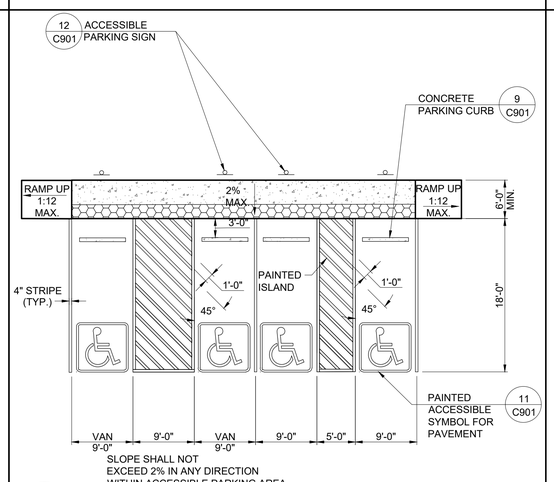
TYPICAL CONCRETE SIDEWALK SECTION
NOT TO SCALE



SECTION A-A

09 C901

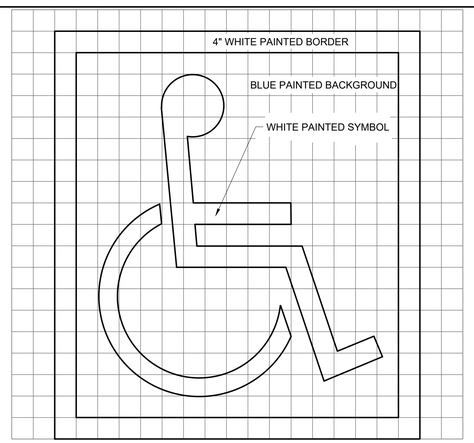
PRECAST CONCRETE PARKING CURB
NOT TO SCALE



SLOPE SHALL NOT EXCEED 2% IN ANY DIRECTION WITHIN ACCESSIBLE PARKING AREA

10 C901

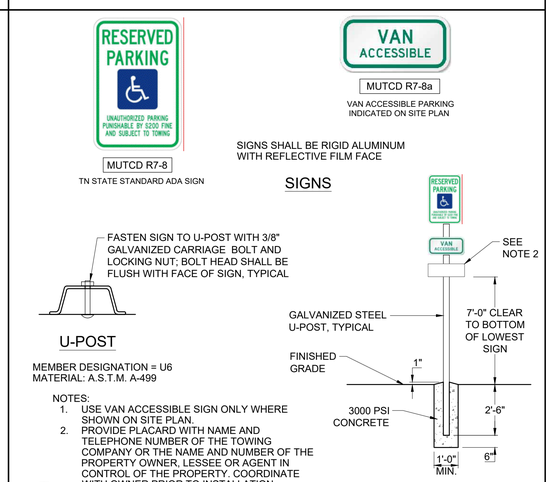
REGULAR AND VAN ACCESSIBLE PARKING SPACES
NOT TO SCALE



4" X 4" GRID PROVIDED FOR LAYOUT OF SYMBOL. PROVIDE PAINT COLORS IN ACCORDANCE WITH LOCAL REQUIREMENTS (TYPICALLY WHITE SYMBOL ON BLUE BACKGROUND INSIDE WHITE BORDER).

11 C901

TYPICAL PAINTED ACCESSIBLE SYMBOL FOR PAVEMENT
NOT TO SCALE



TN STATE STANDARD ADA SIGN

SIGNS

U-POST

MEMBER DESIGNATION = U6
MATERIAL: A.S.T.M. A-499

NOTES:
1. USE VAN ACCESSIBLE SIGN ONLY WHERE SHOWN ON SITE PLAN.
2. PROVIDE PLACARD WITH NAME AND TELEPHONE NUMBER OF THE TOWING COMPANY OR THE NAME AND NUMBER OF THE PROPERTY OWNER, LESSEE OR AGENT IN CONTROL OF THE PROPERTY. COORDINATE WITH OWNER PRIOR TO INSTALLATION.

12 C901

TN ACCESSIBLE PARKING SIGN
NOT TO SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

2025.08.28
15:15:24-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

SITE DETAILS

C901

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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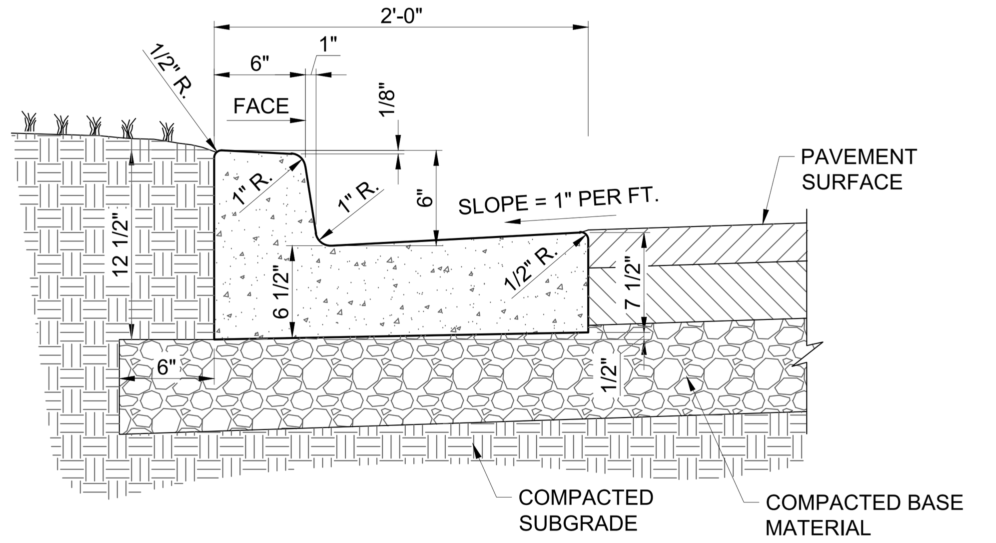
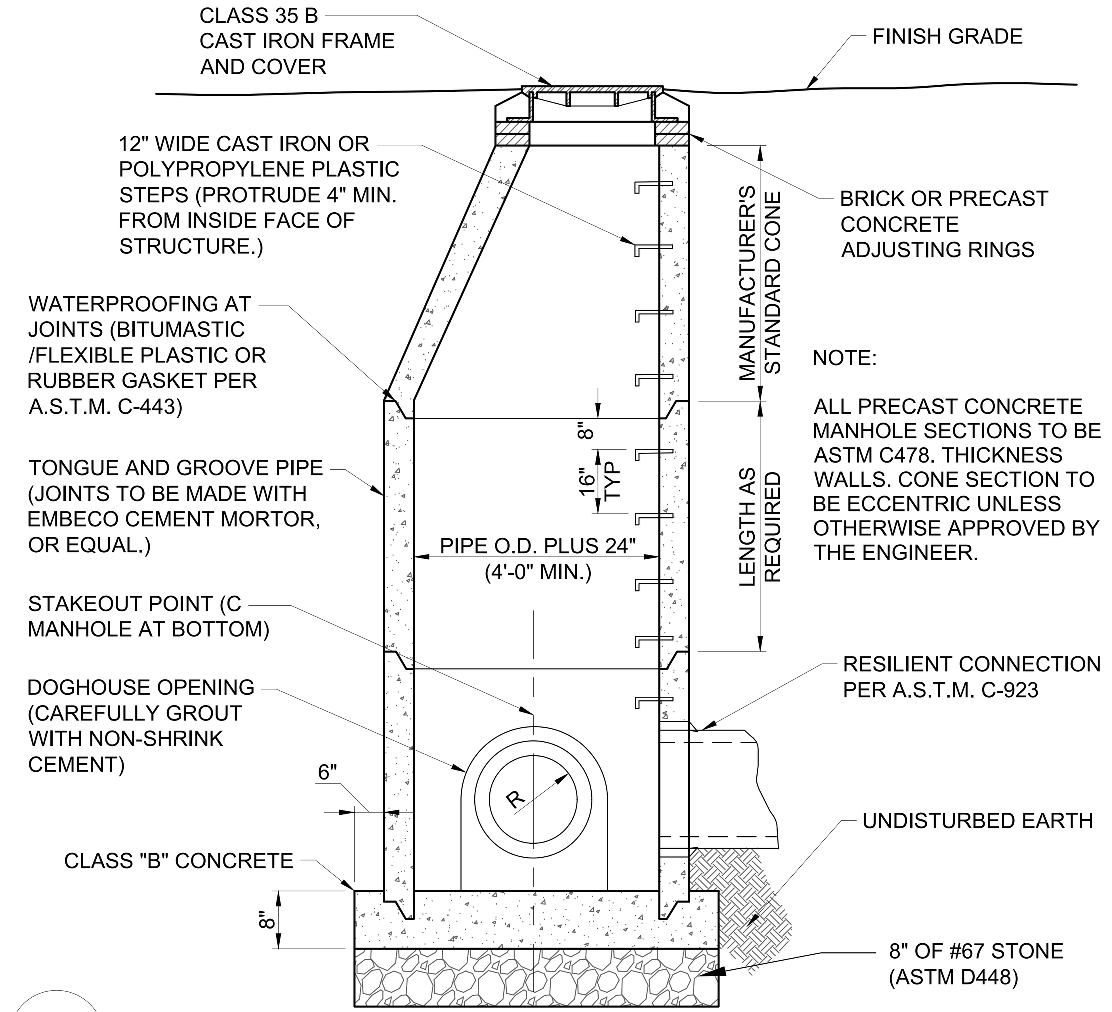


TYPICAL CROSS-SECTION

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS, OR EXTRUDED AND THEN SAWCUT AT 10 FOOT INTERVALS TO A DEPTH OF 1.75".
2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 100 FEET, AT THE ENDS OF CIRCULAR RETURNS, LINING UP WITH PAVEMENT JOINTS WHERE ADJACENT PAVEMENT IS CONCRETE, AND AT ALL POINTS WHERE THE NEW CURB AND GUTTER ABUTS OTHER CONCRETE STRUCTURES OR INLET CASTINGS.
3. 10' LONG TRANSITIONS SHALL BE PROVIDED BETWEEN NORMAL GUTTER AND REVERSE-PITCHED GUTTER, UNLESS OTHERWISE NOTED ON THE PAVING PLANS.
4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI (TYP.)
5. PROVIDE REVERSE-PITCHED GUTTER WHERE GRADING PLAN INDICATES SLOPE AWAY FROM CURB.

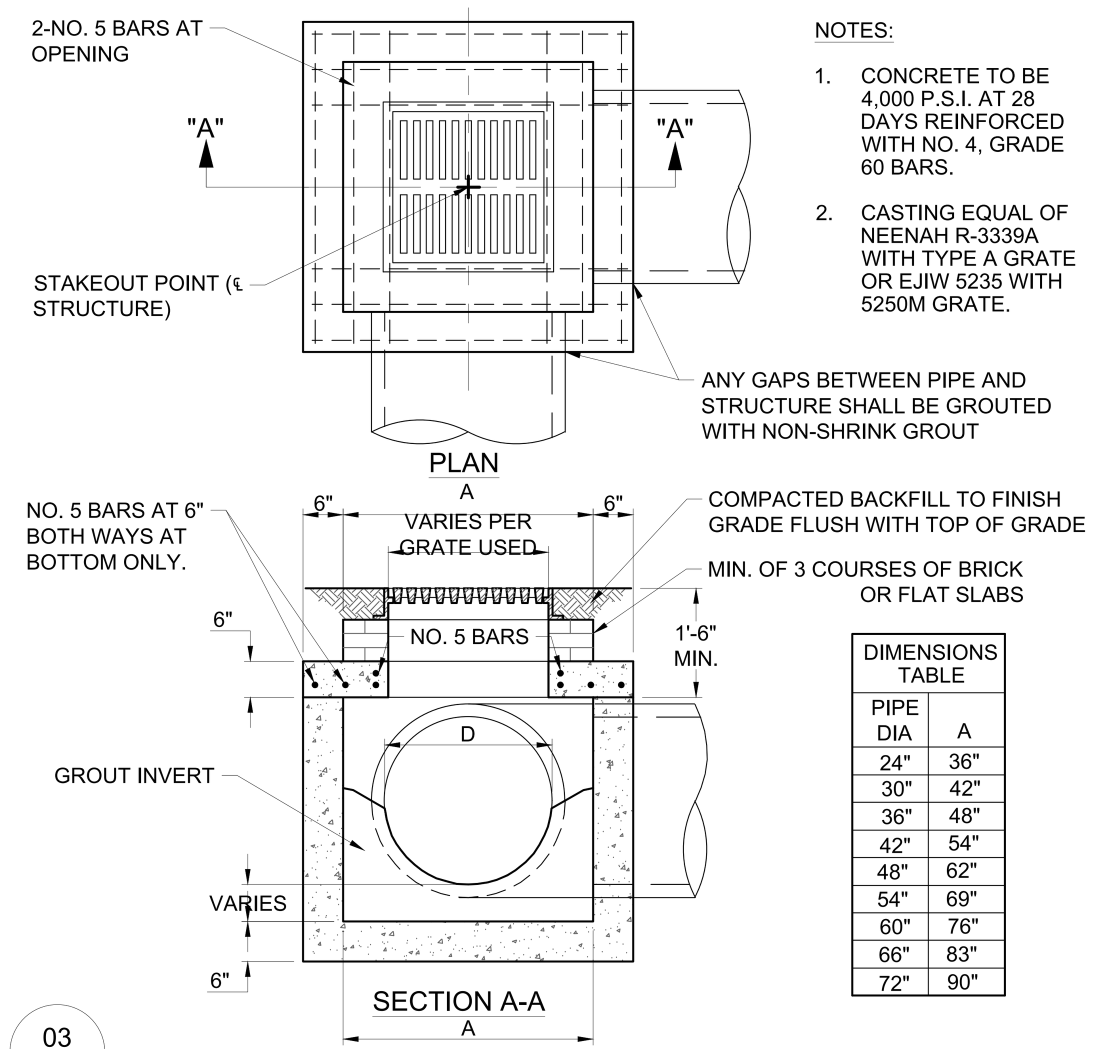
01 / C902

CURB AND GUTTER
NOT TO SCALE



02 / C902

DOGHOUSE SANITARY SEWER MANHOLE
NOT TO SCALE

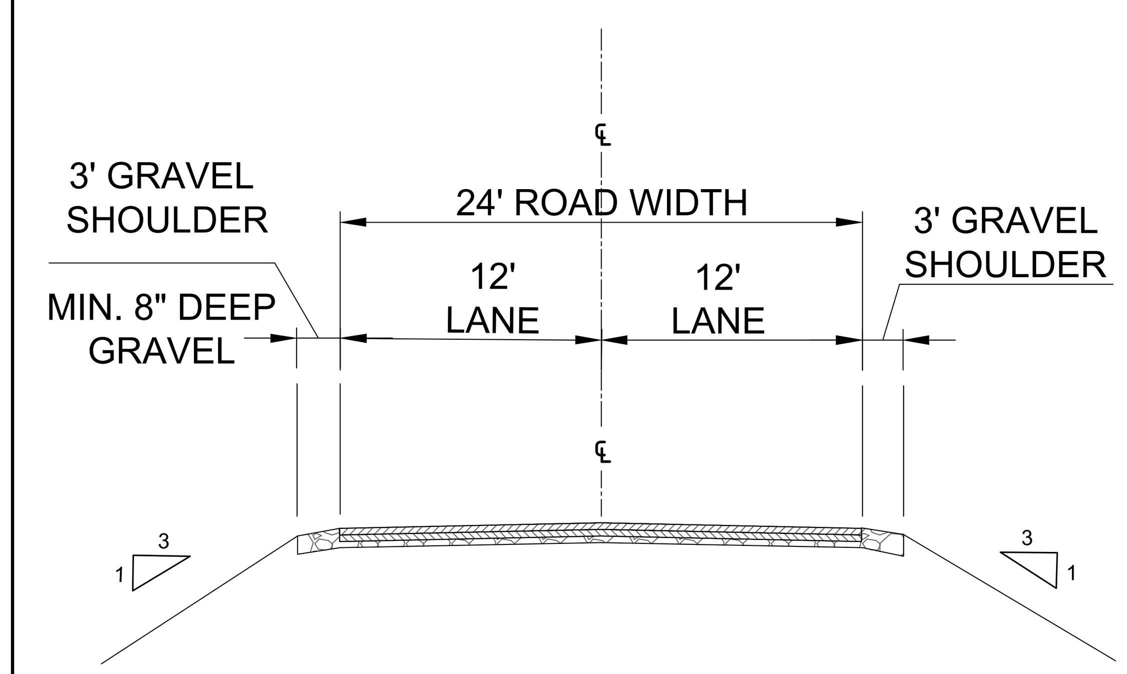


NOTES:
1. CONCRETE TO BE 4,000 P.S.I. AT 28 DAYS REINFORCED WITH NO. 4, GRADE 60 BARS.
2. CASTING EQUAL OF NEENAH R-3339A WITH TYPE A GRATE OR EJIW 5235 WITH 5250M GRATE.

DIMENSIONS TABLE	
PIPE DIA	A
24"	36"
30"	42"
36"	48"
42"	54"
48"	62"
54"	69"
60"	76"
66"	83"
72"	90"

03 / C902

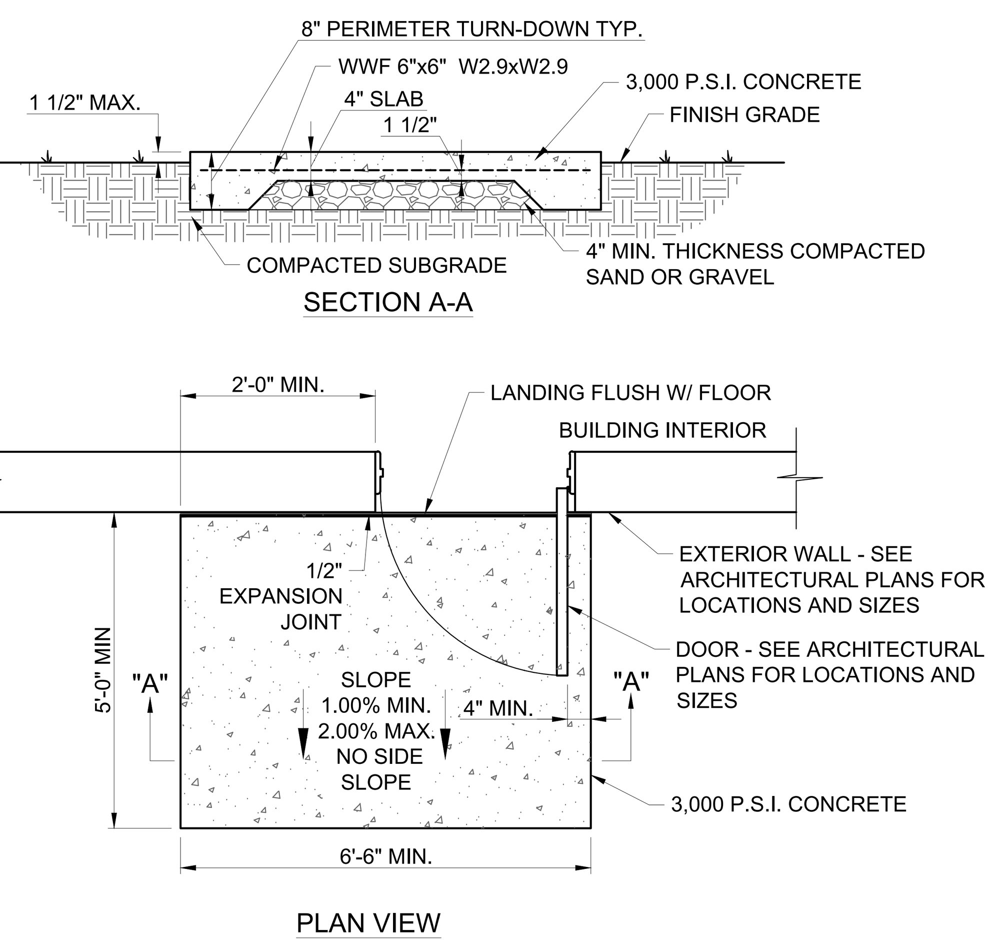
PRECAST YARD INLET
NOT TO SCALE



NOTE:
EXTEND ASPHALT SUBBASE AND USE FOR GRAVEL SHOULDER.

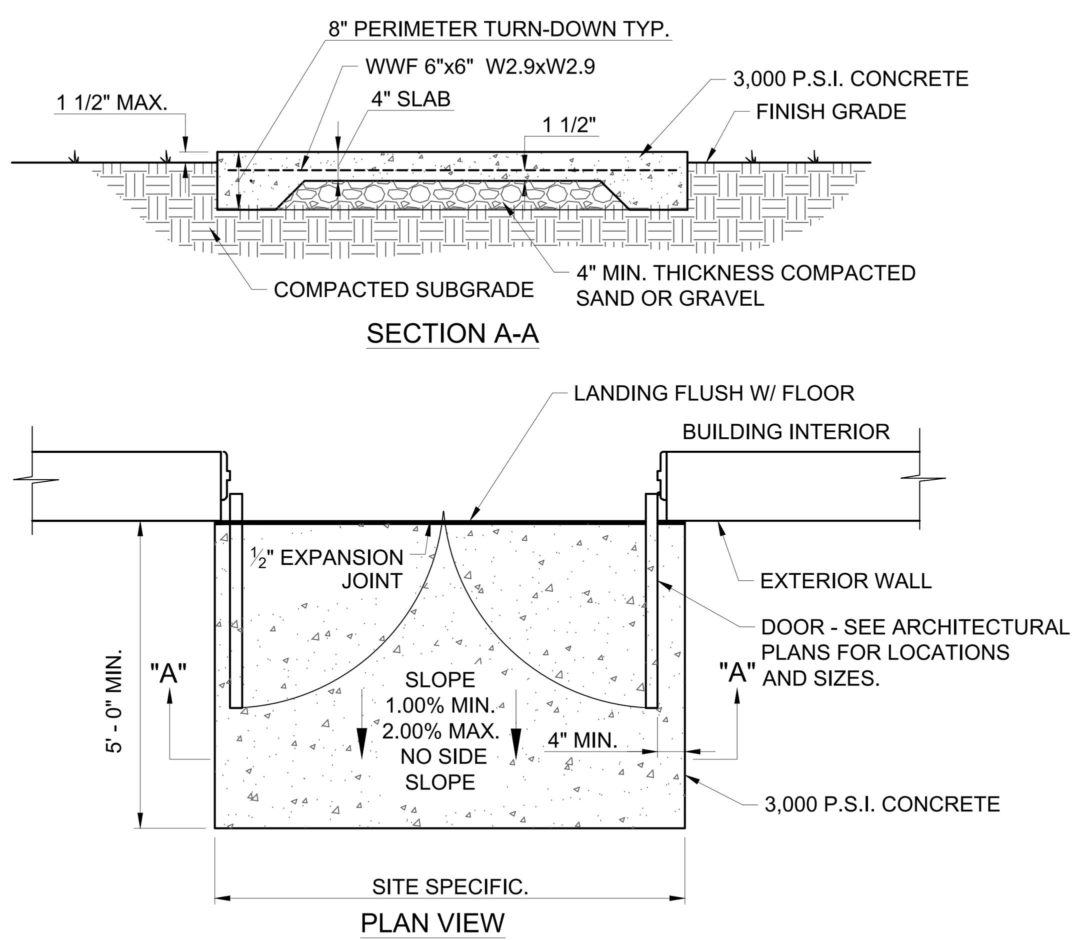
04 / C902

TYPICAL ROADWAY SECTION PAVEMENT DETAIL
NOT TO SCALE



05 / C902

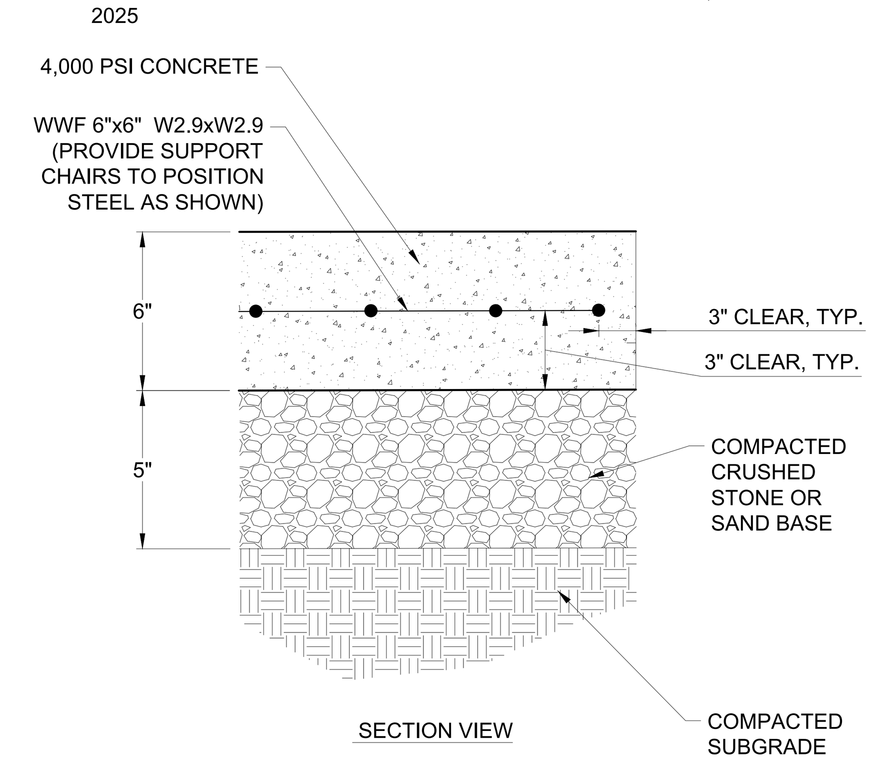
CONCRETE LANDING FOR SINGLE EXTERIOR DOOR
NOT TO SCALE



06 / C902

CONCRETE LANDING FOR DOUBLE EXTERIOR DOOR
NOT TO SCALE

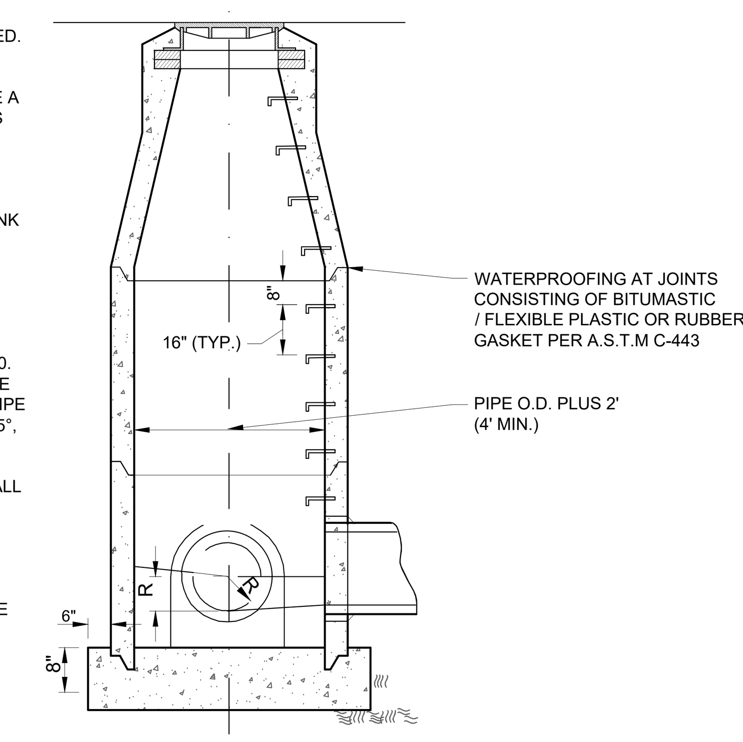
PAVING DESIGN PER UES PROFESSIONAL SOLUTIONS 19, LLC. REPORT OF GEOTECHNICAL EXPLORATION PROJECT A25112.00446.000, DATED JULY 23, 2025



07 / C902

TYPICAL CONCRETE PAVEMENT SECTION
NOT TO SCALE

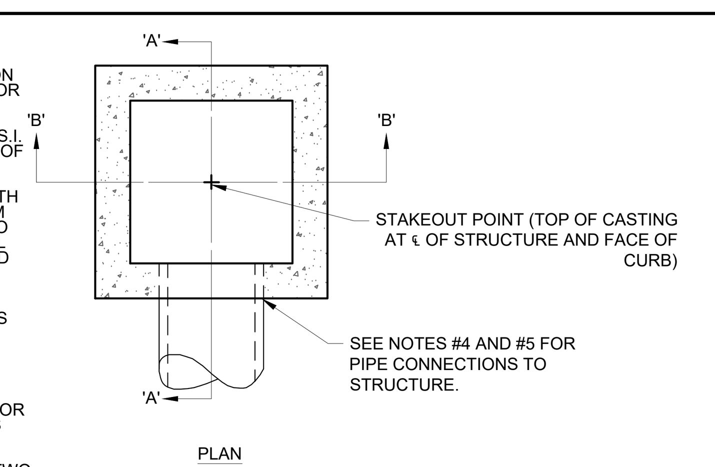
NOTES:
1. CONCRETE TO BE 4,000 P.S.I. AT 28 DAYS AND REINFORCED WITH NO. 4, GRAD 60 BARS.
2. PROVIDE ½" THICK LEDGER PLATES WHERE MORE THAN TWO CASTINGS ARE REQUIRED.
3. CASTING EQUAL OF NEENAH 1788 OR EJIW 1040 WITH TYPE A SOLID COVER. ALL CASTINGS ARE DESIGNED TO MEET AASHTO M306 LOADING.
4. FOR RCP CONNECTIONS TO STRUCTURES USE NON-SHRINK GROUT OR RUBBER GASKET PER ASTM C923 OR C1478.
5. JOINTS BETWEEN PLASTIC FLEXIBLE PIPE AND STRUCTURES SHALL HAVE A GASKET MEETING ASTM F2510. FOR CMP PIPE TO STRUCTURE CONNECTIONS OR PLASTIC PIPE AT A SKEW GREATER THAN 15°, WHERE A GASKET WILL NOT WORK. NON-SHRINK GROUT APPLIED IN TWO STAGES SHALL BE USED.
6. ALL PRECAST CONCRETE MANHOLE SECTIONS TO BE ASTM C478, MIN. THICKNESS WALLS. CONE SECTION TO BE CONCENTRIC UNLESS OTHERWISE APPROVED BY ENGINEER.

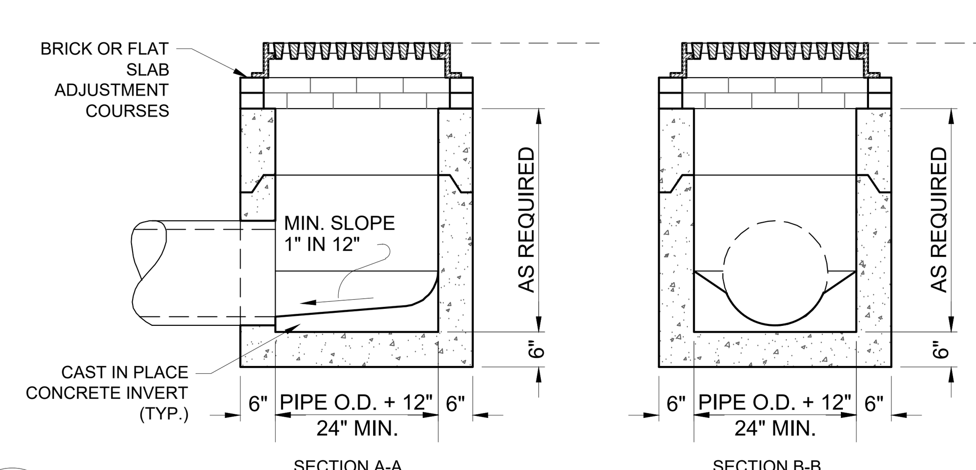


08 / C902

STORM MANHOLE
NOT TO SCALE

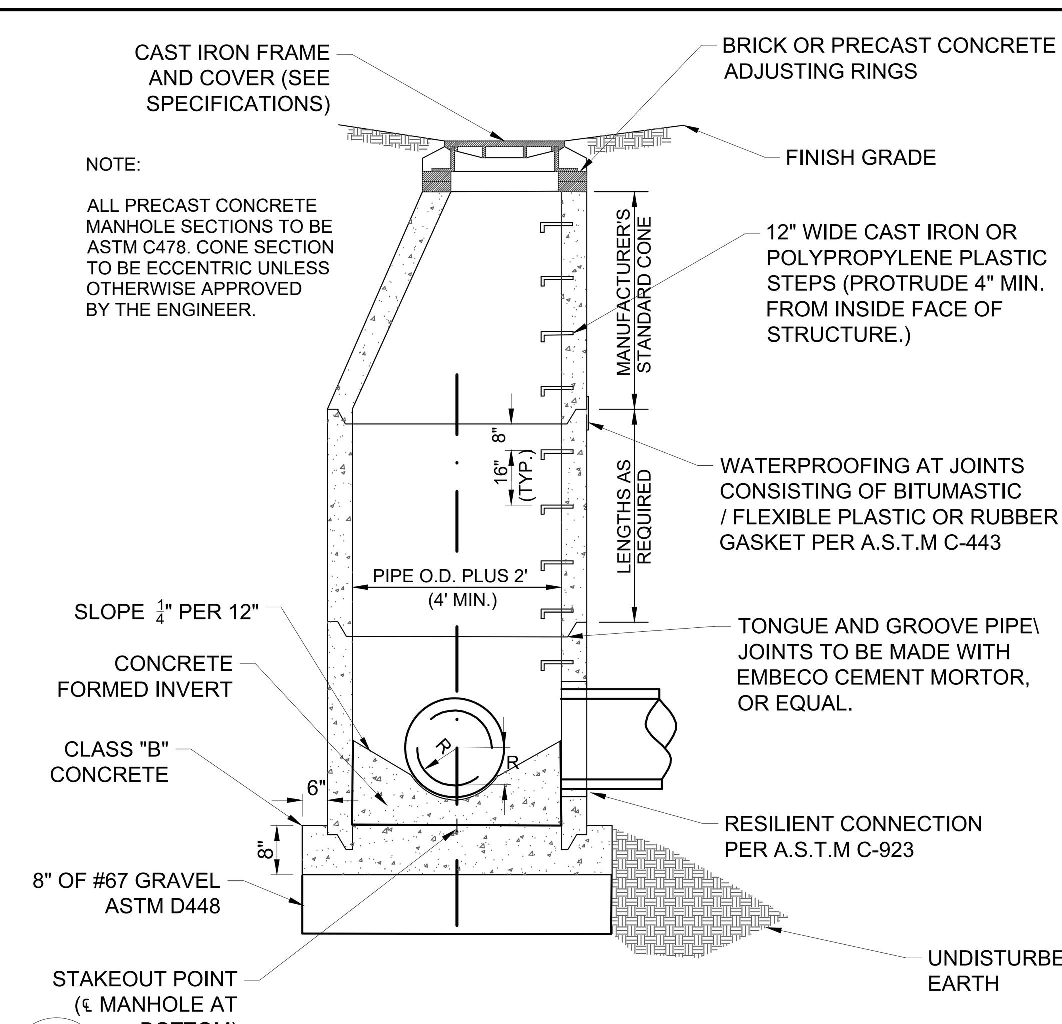
NOTES:
1. PRECAST 4' DIAMETER CIRCULAR SECTION MAY BE USED IN LIEU OF THAT SHOWN FOR PIPE SIZES UP TO 24".
2. CONCRETE TO BE A MINIMUM OF 4,000 P.S.I. AT 28 DAYS AND REINFORCED WITH MIN. OF NO. 4, GRADE 60 STEEL.
3. CASTING EQUAL OF NEENAH R-3339A, WITH TYPE C GRATE OR EJIW 5235, WITH 5250M GRATE. ALL CASTINGS ARE DESIGNED TO MEET AASHTO M306 LOADING, AND SHALL HAVE THE WORDS "DUMP NO WASTE" AND "DRAINS TO WATERWAY" ALONG WITH A FISH LOGO CAST INTO THE GRATE.
4. FOR RCP CONNECTIONS TO STRUCTURES USE NON-SHRINK GROUT OR RUBBER GASKET PER ASTM C923 OR C1478.
5. JOINT CONNECTIONS BETWEEN PLASTIC FLEXIBLE PIPE AND STRUCTURES SHALL HAVE A GASKET MEETING ASTM F2510 . FOR CMP PIPE TO STRUCTURE CONNECTIONS OR PLASTIC PIPE AT A SKEW GREATER THAN 15°, WHERE A GASKET WILL NOT WORK. NON-SHRINK GROUT APPLIED IN TWO STAGES SHALL BE USED.





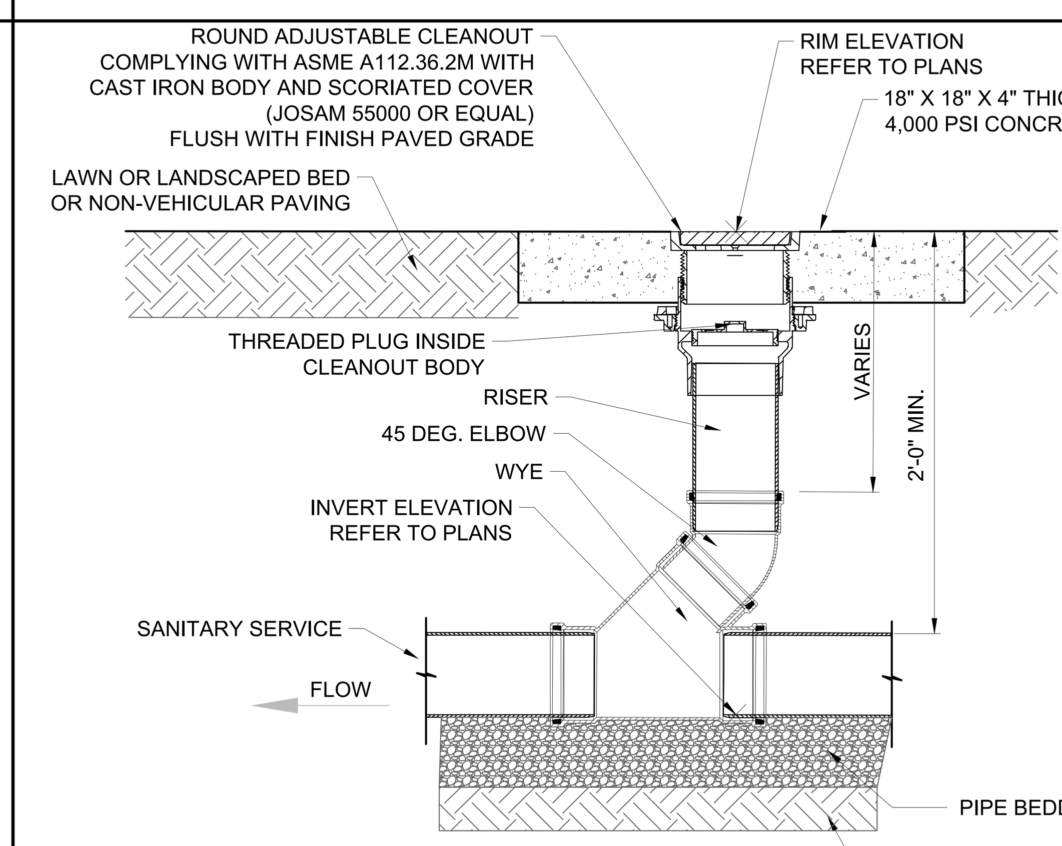
09 / C902

SINGLE PRECAST CATCH BASIN
NOT TO SCALE



10 / C902

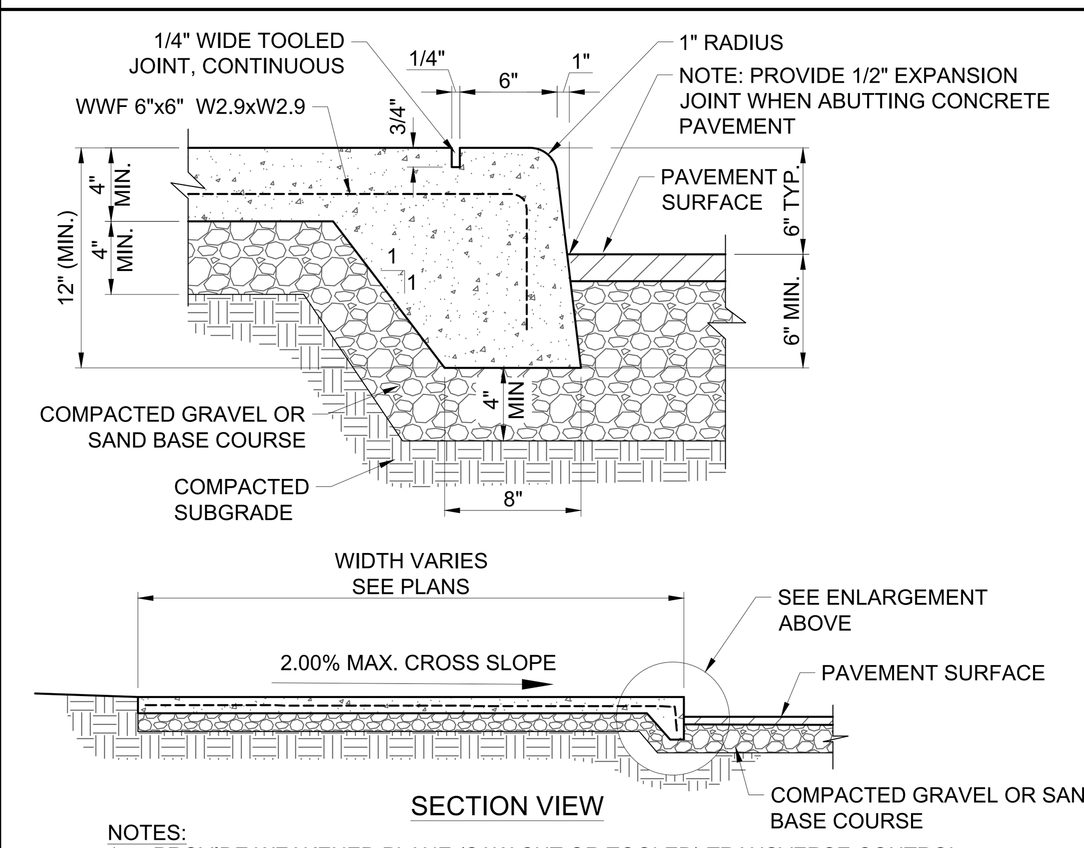
SANITARY SEWER MANHOLE (ECCENTRIC)
NOT TO SCALE



NOTES:
1. FITTINGS AND RISER TO MATCH SERVICE PIPE SIZE AND MATERIAL .
2. ARRANGEMENT SHOWN IS FOR IN-LINE CLEANOUT. REPLACE WYE AND 45 WITH LONG SWEEP 90 IF END OF LINE CLEANOUT.

11 / C902

EXTERIOR CLEANOUT
NOT TO SCALE



NOTES:
1. PROVIDE WEAKENED PLANE (SAW CUT OR TOOLED) TRANSVERSE CONTROL JOINTS AT 5'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 30'-0" (MAX.) ON CENTER AND CONTINUOUSLY BETWEEN SIDEWALK AND WALLS OR OTHER STRUCTURES.
3. LONGITUDINAL SLOPES SHALL NOT EXCEED 5.00% (1:20)
4. CROSS SLOPES SHALL NOT EXCEED 2.00% (1:50)
5. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI (TYP.)

12 / C902

SIDEWALK HEADER
NOT TO SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN REGISTERED ENGINEER AGRICULTURE COMMERCE No. 121286 STATE OF TENNESSEE

2025.08.28
15:15:28-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision		
No.	Date	Description

SITE DETAILS

C902

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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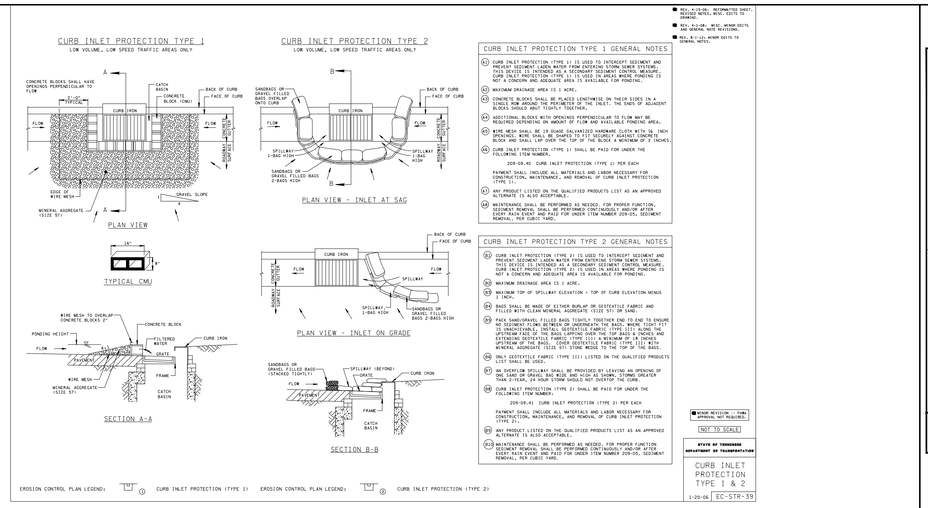


CURB INLET PROTECTION TYPE 1 GENERAL NOTES

(G1) CURB INLET PROTECTION (TYPE 1) IS USED TO INTERCEPT SEDIMENT AND PREVENT SEDIMENT LADEN WATER FROM ENTERING STORM SEWER SYSTEMS. THIS DEVICE IS INTENDED AS A SECONDARY SEDIMENT CONTROL MEASURE. CURB INLET PROTECTION (TYPE 1) IS USED IN AREAS WHERE PONDING IS NOT A CONCERN AND ADEQUATE AREA IS AVAILABLE FOR PONDING.

(G2) MAXIMUM DRAINAGE AREA IS 1 ACRE.

(G3) CONCRETE BLOCKS SHALL BE PLACED LENGTHWISE ON THEIR SIDES IN A SINGLE ROW AROUND THE PERIMETER OF THE INLET. THE ENDS OF ADJACENT BLOCKS SHOULD ABUT TIGHTLY TOGETHER.

(G4) ADDITIONAL BLOCKS WITH OPENINGS PERPENDICULAR TO FLOW MAY BE REQUIRED DEPENDING ON AMOUNT OF FLOW AND AVAILABLE PONDING AREA.

(G5) WIRE MESH SHALL BE 1/2 GUAGE GALVANIZED HARDWARE CLOTH WITH 1/2 INCH OPENINGS. WIRE SHALL BE SHAPED TO FIT SECURELY AGAINST CONCRETE BLOCKS AND SHALL LAP OVER THE TOP OF THE BLOCK A MINIMUM OF 2 INCHES.

(G6) CURB INLET PROTECTION (TYPE 1) SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-09.40 CURB INLET PROTECTION (TYPE 1) PER EACH

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF CURB INLET PROTECTION (TYPE 1).

(G7) ANY PRODUCT LISTED ON THE QUALIFIED PRODUCTS LIST AS AN APPROVED ALTERNATE IS ALSO ACCEPTABLE.

(G8) MAINTENANCE SHALL BE PERFORMED AS NEEDED, FOR PROPER FUNCTION. SEDIMENT REMOVAL SHALL BE PERFORMED CONTINUOUSLY AND/OR AFTER EVERY RAIN EVENT AND PAID FOR UNDER ITEM NUMBER 209-09, SEDIMENT REMOVAL, PER CUBIC YARD.

CURB INLET PROTECTION TYPE 2 GENERAL NOTES

(G1) CURB INLET PROTECTION (TYPE 2) IS USED TO INTERCEPT SEDIMENT AND PREVENT SEDIMENT LADEN WATER FROM ENTERING STORM SEWER SYSTEMS. THIS DEVICE IS INTENDED AS A SECONDARY SEDIMENT CONTROL MEASURE. CURB INLET PROTECTION (TYPE 2) IS USED IN AREAS WHERE PONDING IS NOT A CONCERN AND ADEQUATE AREA IS AVAILABLE FOR PONDING.

(G2) MAXIMUM DRAINAGE AREA IS 1 ACRE.

(G3) MAXIMUM TOP OF SPILLWAY ELEVATION = TOP OF CURB ELEVATION MINUS 2 INCH.

(G4) BAGS SHALL BE MADE OF EITHER BURLAP OR GEOTEXTILE FABRIC AND FILLED WITH CLEAN MINERAL AGGREGATE (SIZE 57) OR SAND.

(G5) PACK SANDBAGS/GRAVEL FILLED BAGS TIGHTLY TOGETHER END TO END ENSURE THAT THERE ARE NO GAPS BETWEEN SANDBAGS/GRAVEL FILLED BAGS. IT IS UNACCEPTABLE TO INSTALL GEOTEXTILE FABRIC (TYPE III) ALONG THE UPSTREAM FACE OF THE BAGS LAPPING OVER THE TOP BAGS 6 INCHES AND ANCHORING IT WITH GRAVEL BAGS. PLACE ONE ROW OF BAGS ON THE UPSTREAM OF THE BAGS. COVER GEOTEXTILE FABRIC (TYPE III) WITH MINERAL AGGREGATE (SIZE 57) STONE WEDGE TO THE TOP OF THE BAGS.

(G6) ONLY GEOTEXTILE FABRIC (TYPE III) LISTED IN THE QUALIFIED PRODUCTS LIST SHALL BE USED.

(G7) AN OVERFLOW SPILLWAY SHALL BE PROVIDED BY LEAVING AN OPENING OF ONE SAND OR GRAVEL BAG WIDE AND HIGH AS SHOWN. STORMS GREATER THAN 2-YEAR, 24 HOUR STORM SHOULD NOT OVERTOP THE CURB.

(G8) CURB INLET PROTECTION (TYPE 2) SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBER:

209-09.41 CURB INLET PROTECTION (TYPE 2) PER EACH

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF CURB INLET PROTECTION (TYPE 2).

(G9) ANY PRODUCT LISTED ON THE QUALIFIED PRODUCTS LIST AS AN APPROVED ALTERNATE IS ALSO ACCEPTABLE.

(G10) MAINTENANCE SHALL BE PERFORMED AS NEEDED, FOR PROPER FUNCTION SEDIMENT REMOVAL SHALL BE PERFORMED CONTINUOUSLY AND/OR AFTER EVERY RAIN EVENT AND PAID FOR UNDER ITEM NUMBER 209-09, SEDIMENT REMOVAL, PER CUBIC YARD.

- REV. 4-15-05, INCORPORATED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.
- REV. 4-2-08, MISC. MINOR EDITS AND GENERAL NOTE REVISIONS.
- REV. 8-1-12, MINOR EDITS TO GENERAL NOTES.

■ MINOR REVISION - ITEM APPROVAL NOT REQUIRED

NOT TO SCALE

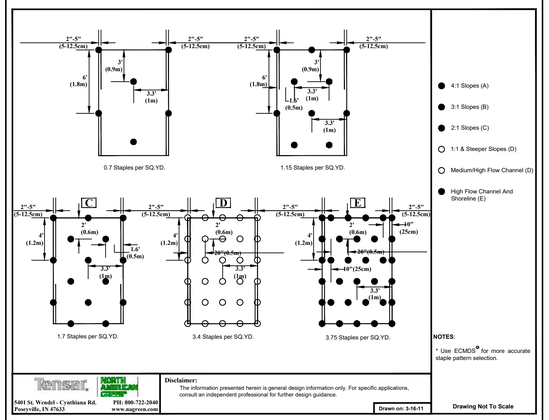
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CURB INLET PROTECTION TYPE 1 & 2

1-20-06 EC-STR-59

01 C903

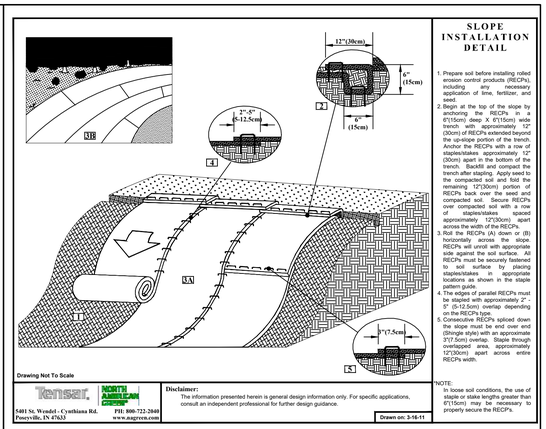
CURB INLET PROTECTION
NOT TO SCALE



METRO TCP-10

02 C903

TRM STAPLE PATTERN
NOT TO SCALE



SLOPE INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the slope by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12" (30cm) of RECPs extended beyond the up-slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12" (30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs.
3. Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. The edges of parallel RECPs must be stapled with approximately 2"-5" (5-12.5cm) overlap depending on the RECPs type.
5. Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width.

NOTE:
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECPs.

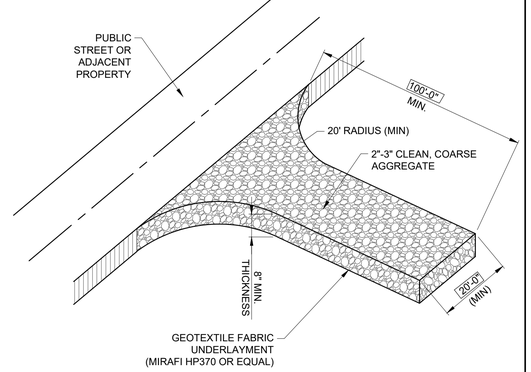
NOTES:
PROVIDE STAPLE PATTERNS PER MANUFACTURER'S SPECIFICATIONS

FOR ALL APPLICATIONS, CONTRACTOR TO INSTALL TENSAR NORTH AMERICAN GREEN SC150 OR APPROVED EQUAL

METRO TCP-10

03 C903

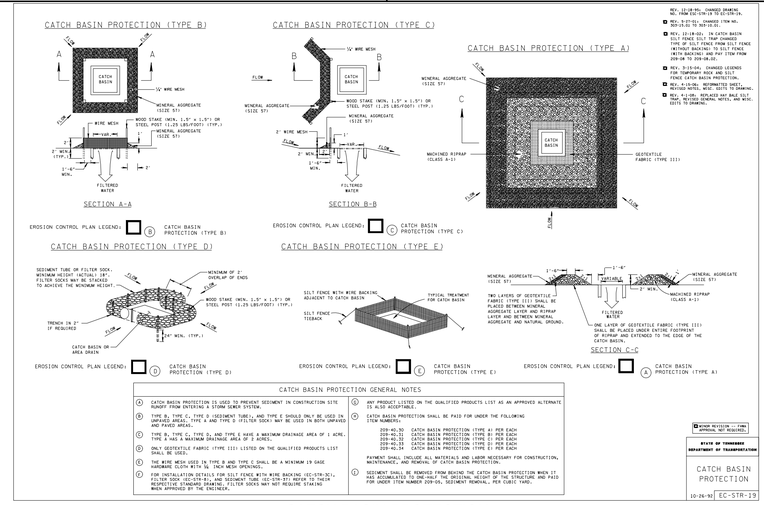
TRM SLOPE INSTALLATION
NOT TO SCALE



ISOMETRIC VIEW

04 C903

TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE



- REV. 10-28-05, CHANGED DRAWING NO. FROM SHEET 04 TO SHEET 06.
- REV. 9-27-07, CHANGED ITEM NO. 209-09.05 TO 209-09.01.
- REV. 12-18-08, IN CATCH BASIN SILT FENCE SILT TRAP CHANGED TYPE OF SILT FENCE FROM SILT FENCE WITH WIRE BACKING TO SILT FENCE WITH BACKING AND PAY ITEM FROM 209-08 TO 209-08.02.
- REV. 3-10-04, CHANGED LEGENDS FOR TEMPORARY MULCH AND SILT FENCE, MISC. EDITS TO DRAWING.
- REV. 4-15-05, INCORPORATED SHEET, REVISED NOTES, MISC. EDITS TO DRAWING.
- REV. 4-2-08, REPLACED HAY BALE SILT TRAP WITH SECOND GENERAL NOTES, AND MISC. EDITS TO DRAWING.

CATCH BASIN PROTECTION GENERAL NOTES

(A) CATCH BASIN PROTECTION IS USED TO PREVENT SEDIMENT IN CONSTRUCTION SITE RUNOFF FROM ENTERING A STORM SEWER SYSTEM.

(B) TYPE B, TYPE C, TYPE D (SEDIMENT TUBE), AND TYPE E SHOULD ONLY BE USED IN UNPAVED AREAS. TYPE A AND TYPE D (FILTER SOCK) MAY BE USED IN BOTH UNPAVED AND PAVED AREAS.

(C) TYPE B, TYPE C, TYPE D, AND TYPE E HAVE A MAXIMUM DRAINAGE AREA OF 1 ACRE. TYPE A HAS A MAXIMUM DRAINAGE AREA OF 2 ACRES.

(D) ONLY GEOTEXTILE FABRIC (TYPE III) LISTED ON THE QUALIFIED PRODUCTS LIST SHALL BE USED.

(E) THE WIRE MESH USED IN TYPE B AND TYPE C SHALL BE A MINIMUM 19 GAGE HARDWARE CLOTH WITH 1/4 INCH MESH OPENINGS.

(F) FOR INSTALLATION DETAILS FOR SILT FENCE WITH WIRE BACKING, USE-STR-3C(), FOR INSTALLATION DETAILS FOR SILT FENCE WITH BACKING, USE-STR-3D() OR RESPECTIVE STANDARD DRAWING. FILTER SOCKS MAY NOT REQUIRE STAKING WHEN APPROVED BY THE ENGINEER.

(G) ANY PRODUCT LISTED ON THE QUALIFIED PRODUCTS LIST AS AN APPROVED ALTERNATE IS ALSO ACCEPTABLE.

(H) CATCH BASIN PROTECTION SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:

209-40.30 CATCH BASIN PROTECTION (TYPE A) PER EACH
209-40.31 CATCH BASIN PROTECTION (TYPE B) PER EACH
209-40.32 CATCH BASIN PROTECTION (TYPE C) PER EACH
209-40.33 CATCH BASIN PROTECTION (TYPE D) PER EACH
209-40.34 CATCH BASIN PROTECTION (TYPE E) PER EACH

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION, MAINTENANCE, AND REMOVAL OF CATCH BASIN PROTECTION.

(I) SEDIMENT SHALL BE REMOVED FROM BEHIND THE CATCH BASIN PROTECTION WHEN IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE STRUCTURE AND PAID FOR UNDER ITEM NUMBER 209-09, SEDIMENT REMOVAL, PER CUBIC YARD.

■ MINOR REVISION - ITEM APPROVAL NOT REQUIRED

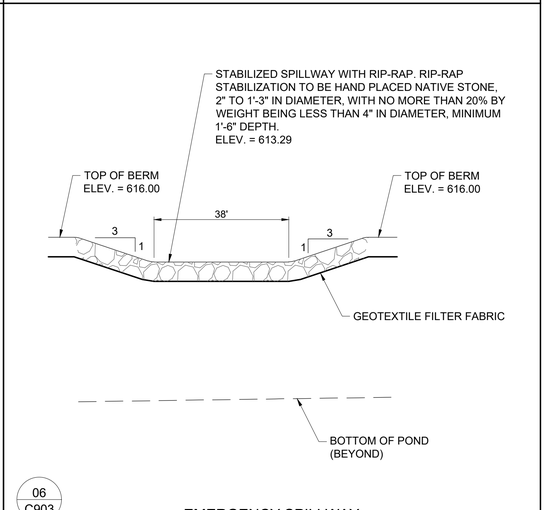
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

CATCH BASIN PROTECTION

10-26-92 EC-STR-19

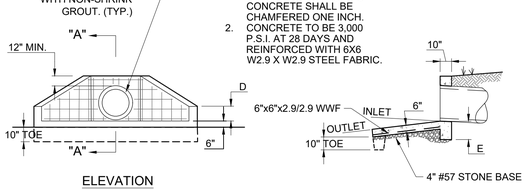
05 C903

CATCH BASIN PROTECTION
NOT TO SCALE



06 C903

EMERGENCY SPILLWAY
NOT TO SCALE



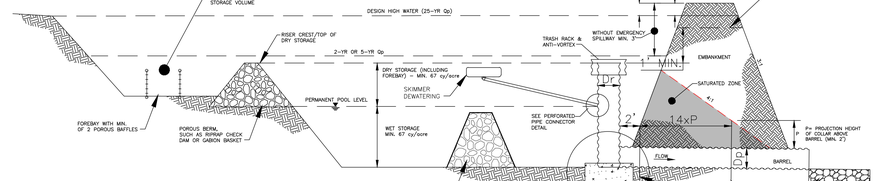
NOTES:
1. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED ONE INCH.
2. CONCRETE TO BE 3,000 P.S.I. AT 28 DAYS AND REINFORCED WITH 6X6 W2.9 X W2.9 STEEL FABRIC.

SECTION "A-A"

DIMENSIONS TABLE						
PIPE DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

07 C903

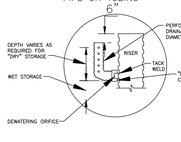
PRECAST CONCRETE WINGED HEADWALL
NOT TO SCALE



BASIN SCHEDULE

FACILITY	RISER PIPE DIA. (FT.)	BARREL PIPE DIA. (FT.)	PERMANENT POOL ELEVATION	PRINCIPAL SPILLWAY ELEVATION FEET, AMSL	EMERGENCY SPILLWAY ELEVATION FEET, AMSL	EMERGENCY SPILLWAY WIDTH	EMERGENCY SPILLWAY SIDESLOPE	TOP OF EMBANKMENT ELEVATION FEET, AMSL	BOTTOM OF BASIN ELEVATION FEET, AMSL
BASIN 1	3	1.5	611.00	612.00	613.29	38'	3H:1V	616.00	609.00

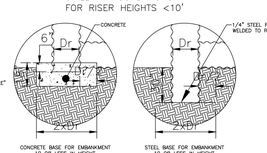
ALTERNATIVE DEWATERING DEVICE
PERFORATED VERTICAL PIPE OR TUBING



SKIMMER DEWATERING DEVICE SPECIFICATIONS

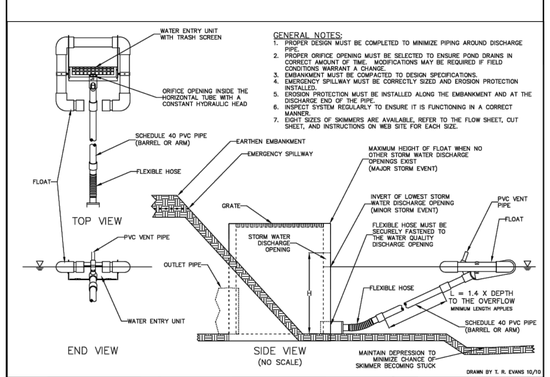
FACILITY	SKIMMER NO.	ARM DIAMETER	ORIFICE DIAMETER
BASIN 1	1	8.0"	7.2"

SPILLWAY FOUNDATIONS FOR RISER HEIGHTS <10'



08 C903

SEDIMENT BASIN
NOT TO SCALE



GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE STRUCTURE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE

J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
TELEPHONE: (910) 763-1344
FAX: (910) 762-0369
EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

DRAWN BY T. R. EVANS 10/10

09 C903

FAIRCLOTH SKIMMER DETAIL
NOT TO SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121286
STATE OF TENNESSEE

2025.08.28
15:15:32-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

SITE DETAILS

C903

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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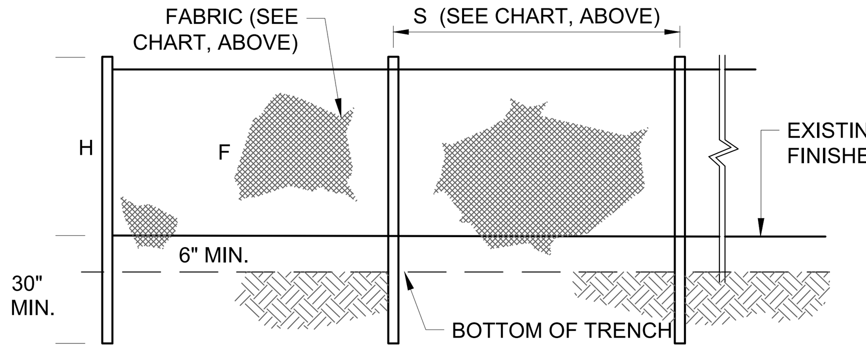
POST SIZE, MATERIAL AND SPACING CHART

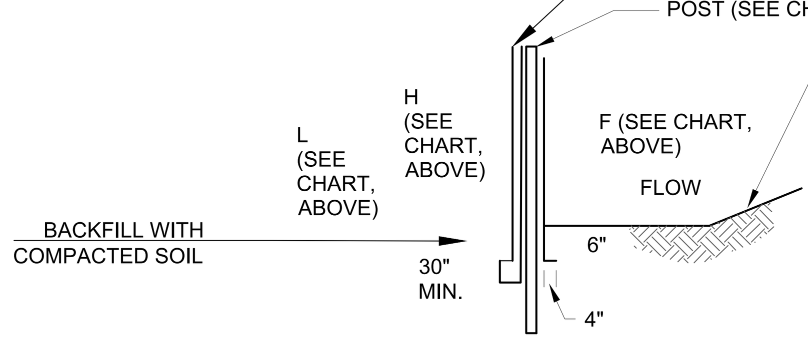
	WITHOUT BACKING	WITH BACKING
MIN. LENGTH = L	58"	58"
MIN. HEIGHT = H	18"	30"
MAX. SPACING = S	6'-0"	6'-0"
MATERIAL	2.25"x2.25" PINE OR 1.25 LB./FT. STEEL	1.25 LB./FT. STEEL

	WITHOUT BACKING	WITH BACKING
TENSILE STRENGTH (LBS. MIN.) (1) (ASTM D-4632)	WARP - 120 FILL - 100	WARP - 310 FILL - 200
ELONGATION (% MAX.) (ASTM D-4632)	20	---
AOS (APPARENT OPENING SIZE) (MAX. SIEVE SIZE) (ASTM D-4751)	#30	#70
FLOW RATE (GAL./MIN./SQ. FT.) (GDT-87) (MAX.)	4	18
ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 300 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4355)	70	90
BURSTING STRENGTH (PSI MIN.) (ASTM D-3786 DIAPHRAGM BURSTING STRENGTH TESTER)	250	400
MINIMUM FABRIC WIDTH (INCHES) = F+6"	26"	38"

(1) MINIMUM ROLL AVERAGE OF FIVE SPECIMENS.
(2) PERCENT OF REQUIRED INITIAL MINIMUM STRENGTH.
(3) PROVIDE WIRE FABRIC BACKING FOR TYPE C.



ELEVATION



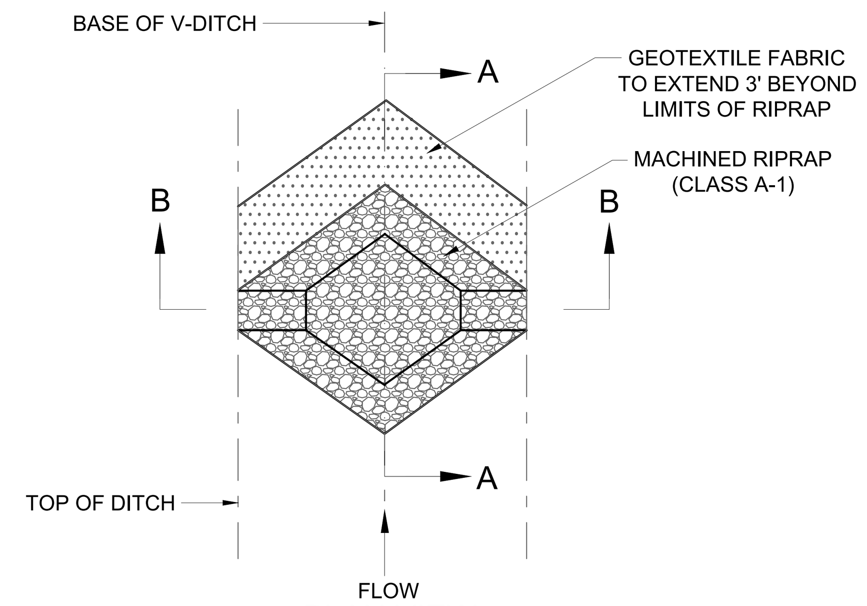
SECTION

NOTES:
1. USE SILT FENCE WITHOUT BACKING UNLESS OTHERWISE NOTED.
2. SILT FENCE SHALL BE INSTALLED USING A MECHANICAL TRENCHING MACHINE.
3. FABRIC, IN AREAS WHERE ROCK PROHIBITS PROPER EMBEDMENT, SHALL BE SECURED BY PLACING CLEAN CRUSHED STONE OR SAND ALONG THE BASE OF THE FENCE, 20 POUNDS OF STONE OR SAND, PER FOOT, MIN.
4. FILTER FABRIC SHALL BE FASTENED TO WOODEN POSTS WITH A MINIMUM OF FIVE, 17 GAUGE (3/4" WIDE X 1 1/2" LONG) WIRE STAPLES.
5. FILTER FABRIC SHALL BE FASTENED TO STEEL POSTS WITH A MINIMUM OF FIVE WIRES OR PLASTIC ZIP TIES WITH A MINIMUM OF 50 LBS TENSILE STRENGTH.
6. CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT WHEN SEDIMENT DEPTH REACHES 12".

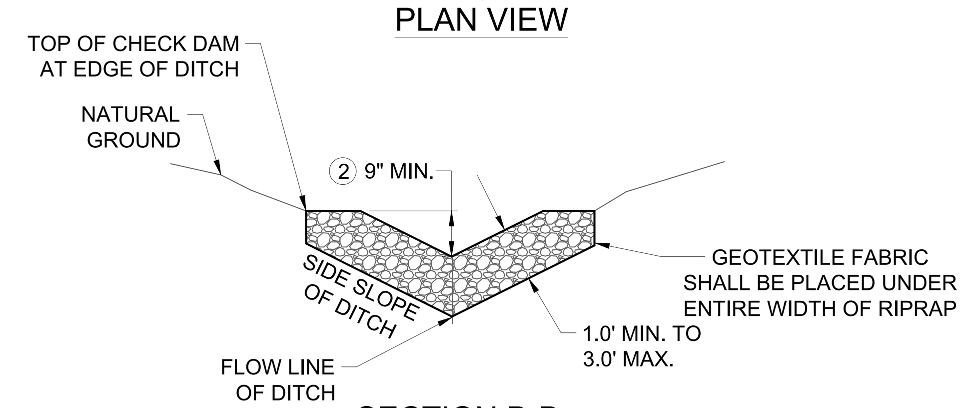
METRO TCP-13

05 / C904

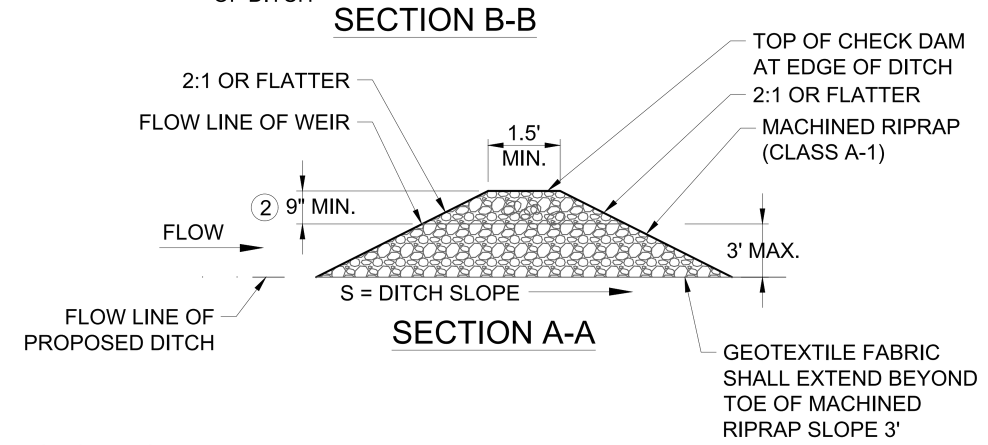
TEMPORARY SILT FENCE
NOT TO SCALE



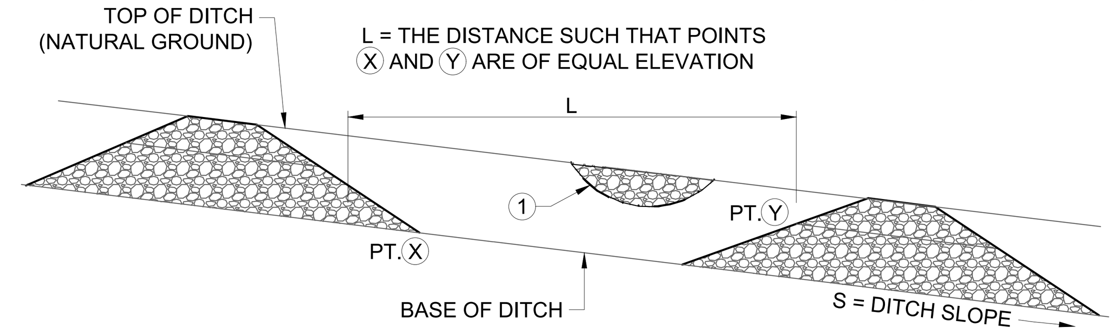
PLAN VIEW



SECTION B-B



SECTION A-A

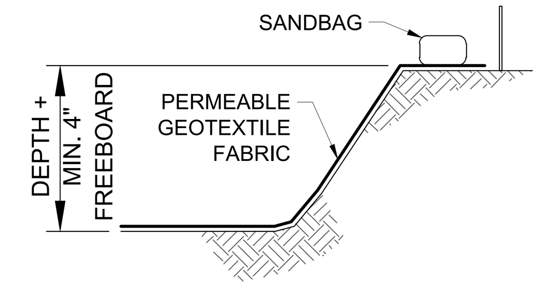


DETAIL FOR SPACING BETWEEN CHECK DAMS

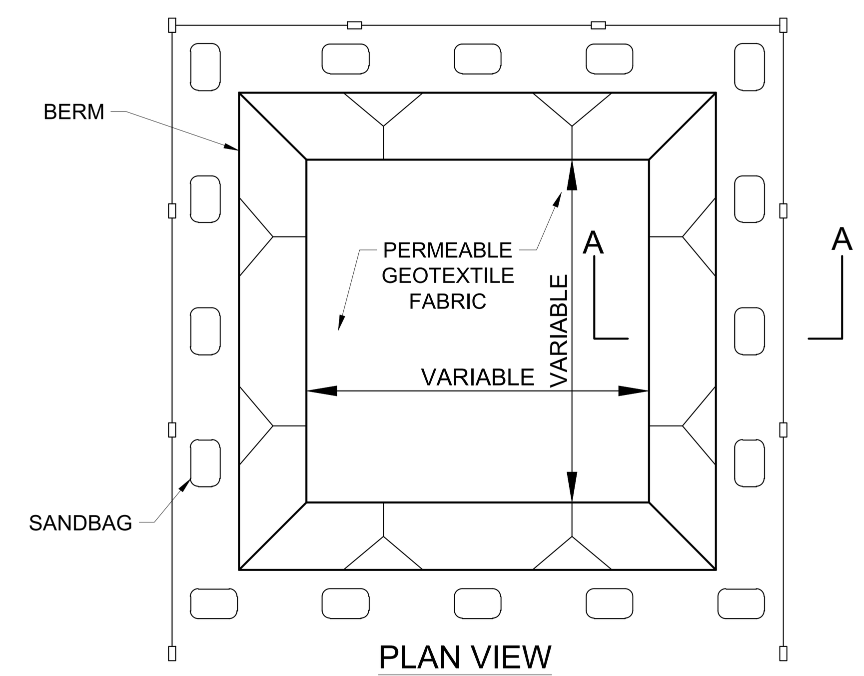
NOTES:
1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH.
2. WEIR FLOW DEPTH BASED UPON 2YR/24HR STORM EVENT OR 5YR/24HR STORM EVENT.

06 / C904

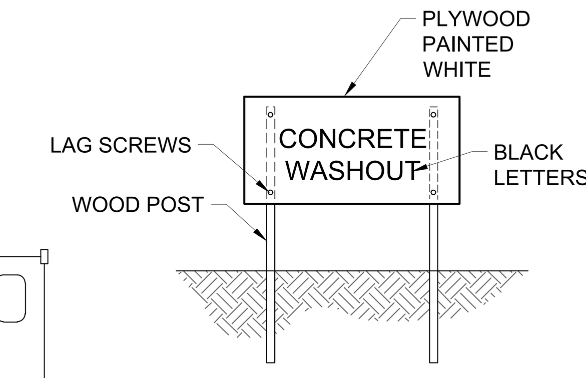
TEMPORARY ROCK CHECK DAM
NOT TO SCALE



SECTION A-A

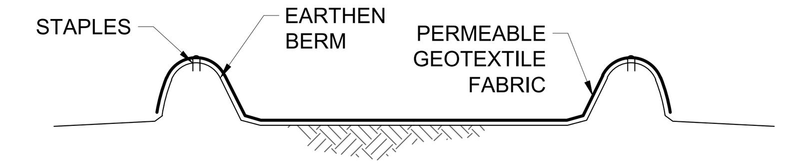


PLAN VIEW
TYPE "BELOW GRADE"

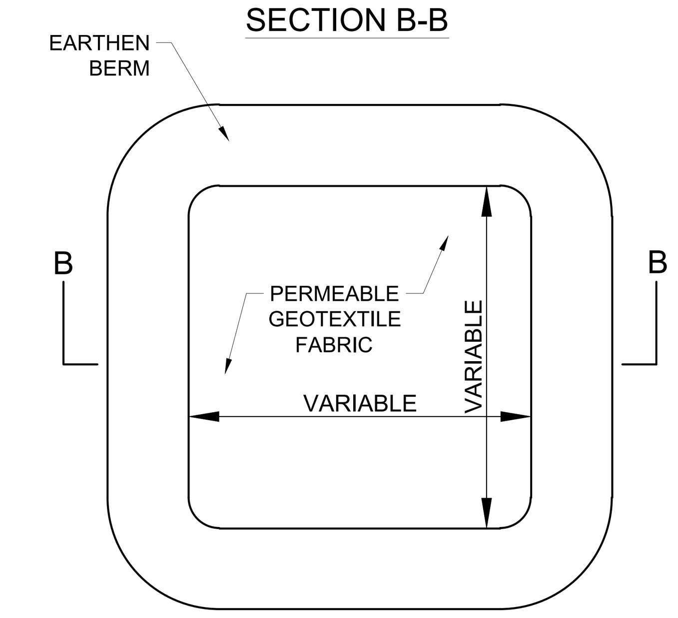


CONCRETE WASHOUT SIGN (OR EQUIVALENT)

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



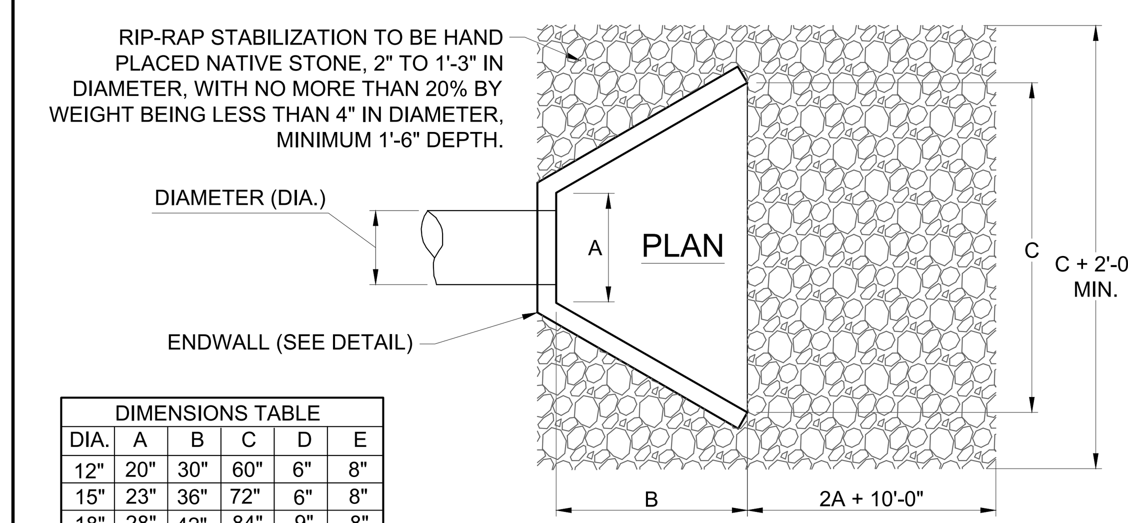
SECTION B-B



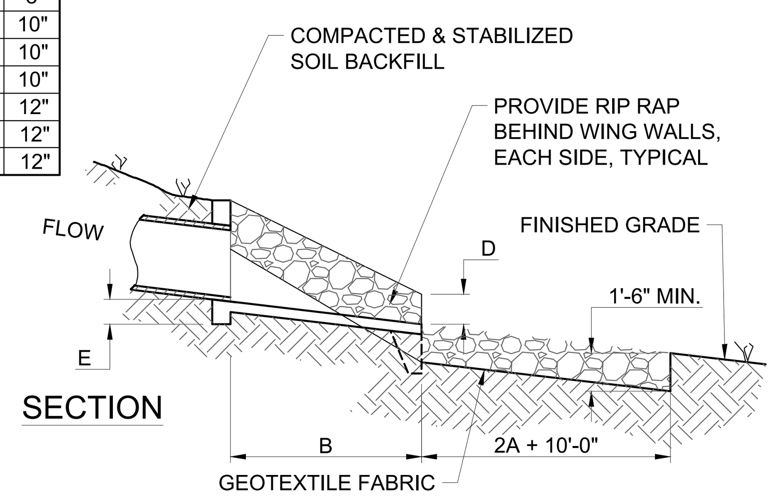
PLAN VIEW
TYPE "ABOVE GRADE" WITH EARTHEN BERMS

03 / C904

TEMPORARY CONCRETE WASHOUT AREA
NOT TO SCALE



DIMENSIONS TABLE					
DIA.	A	B	C	D	E
12"	20"	30"	60"	6"	8"
15"	23"	36"	72"	6"	8"
18"	28"	42"	84"	9"	8"
24"	34"	48"	96"	9"	8"
30"	40"	54"	108"	12"	10"
36"	48"	60"	120"	15"	10"
42"	54"	66"	132"	18"	10"
48"	60"	72"	144"	21"	12"
54"	66"	78"	156"	24"	12"
60"	72"	84"	168"	24"	12"

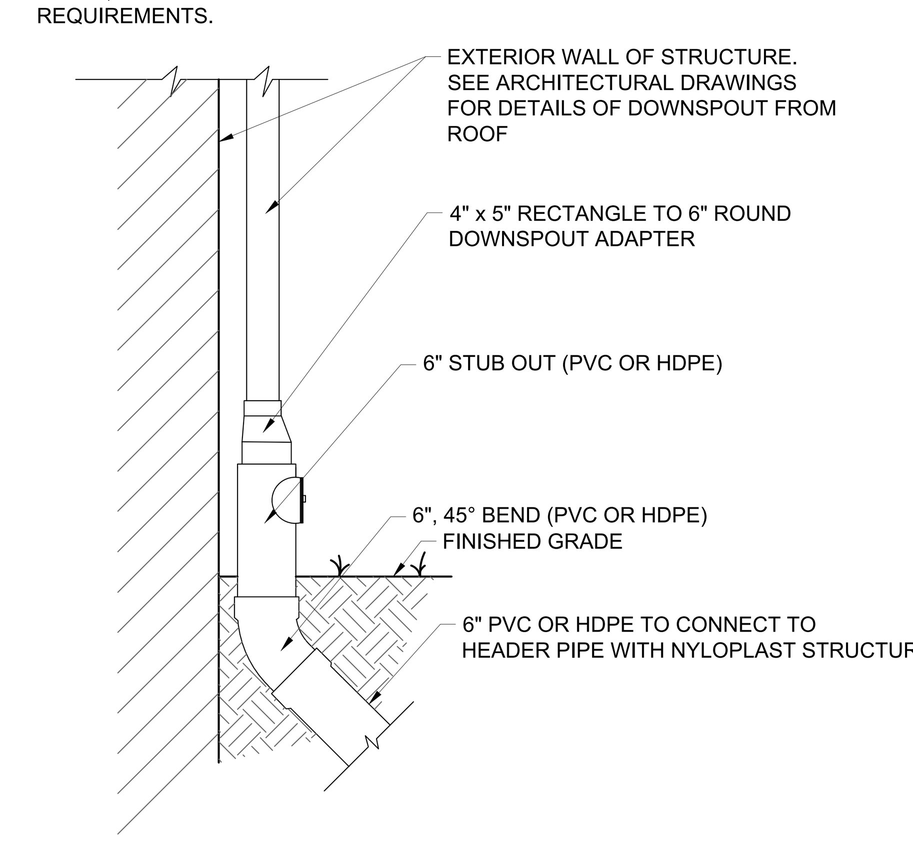


SECTION

04 / C904

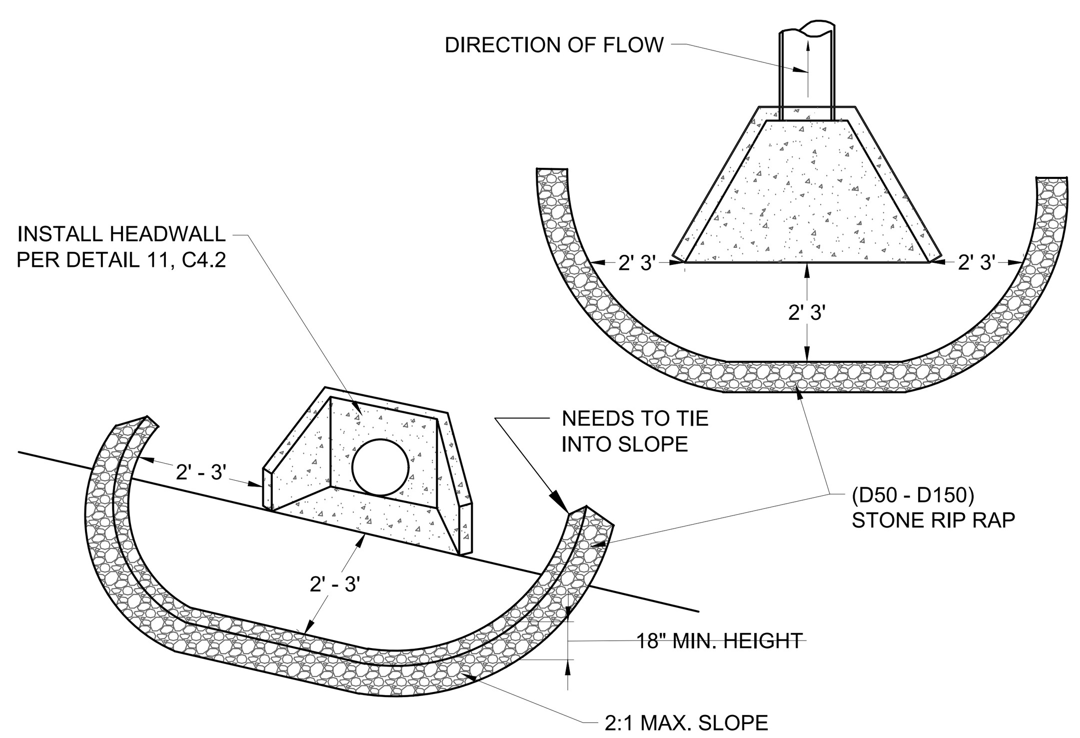
PERMANENT RIP-RAP AT ENDWALL
NOT TO SCALE

NOTE:
INSTALLATION AND MATERIALS SHALL COMPLY WITH STATE, AND LOCAL CODE REQUIREMENTS.



05 / C904

EXTERIOR DOWNSPOUT BOOT
NOT TO SCALE

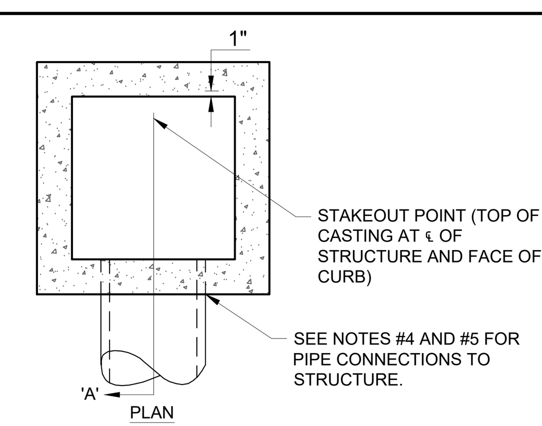


NOTES:
1. INSPECT STONE FILTER RING ONCE FINAL STABILIZATION HAS OCCURRED AND REPAIR AS NECESSARY.

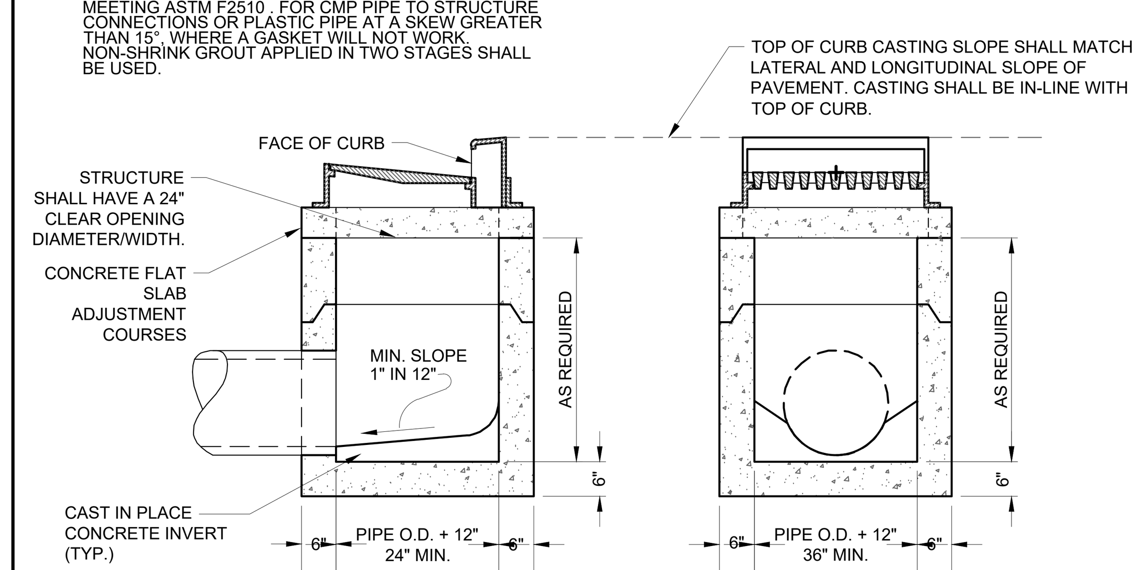
06 / C904

TEMPORARY STONE FILTER RING
NOT TO SCALE

NOTES:
1. PRECAST 4' DIAMETER CIRCULAR SECTION MAY BE USED IN LIEU OF THAT SHOWN FOR PIPE SIZES UP TO 24".
2. CONCRETE TO BE A MINIMUM OF 4,000 P.S.I. AT 28 DAYS AND REINFORCED WITH MIN. OF NO. 4, GRADE 60 STEEL.
3. CASTING EQUAL OF NEENAH R-3246, WITH TYPE C GRATE OR EJIW 7030, WITH TYPE M2 GRATE AND T1 BACKING COMBINATION. IN ON-GRADE CONDITIONS, A VANE GRATE SHALL BE USED EQUAL OF NEENAH R-3246, WITH TYPE L GRATE OR EJIW 7030, WITH TYPE M6 VANE GRATE. ALL CASTINGS ARE DESIGNED TO MEET AASHTO M306 LOADING, AND SHALL HAVE THE WORDS "DUMP NO WASTE" AND "DRAINS TO WATERWAY" ALONG WITH A FISH LOGO CAST INTO THE GRATE OR HOOD.
4. FOR RCP CONNECTIONS TO STRUCTURES USE NON-SHRINK GROUT OR RUBBER GASKET PER ASTM C923 OR C1478.
5. JOINT CONNECTIONS BETWEEN PLASTIC FLEXIBLE PIPE AND STRUCTURES SHALL HAVE A GASKET MEETING ASTM F2510 . FOR CMP PIPE TO STRUCTURE CONNECTIONS OR PLASTIC PIPE AT A SKEW GREATER THAN 15°, WHERE A GASKET WILL NOT WORK, NON-SHRINK GROUT APPLIED IN TWO STAGES SHALL BE USED.



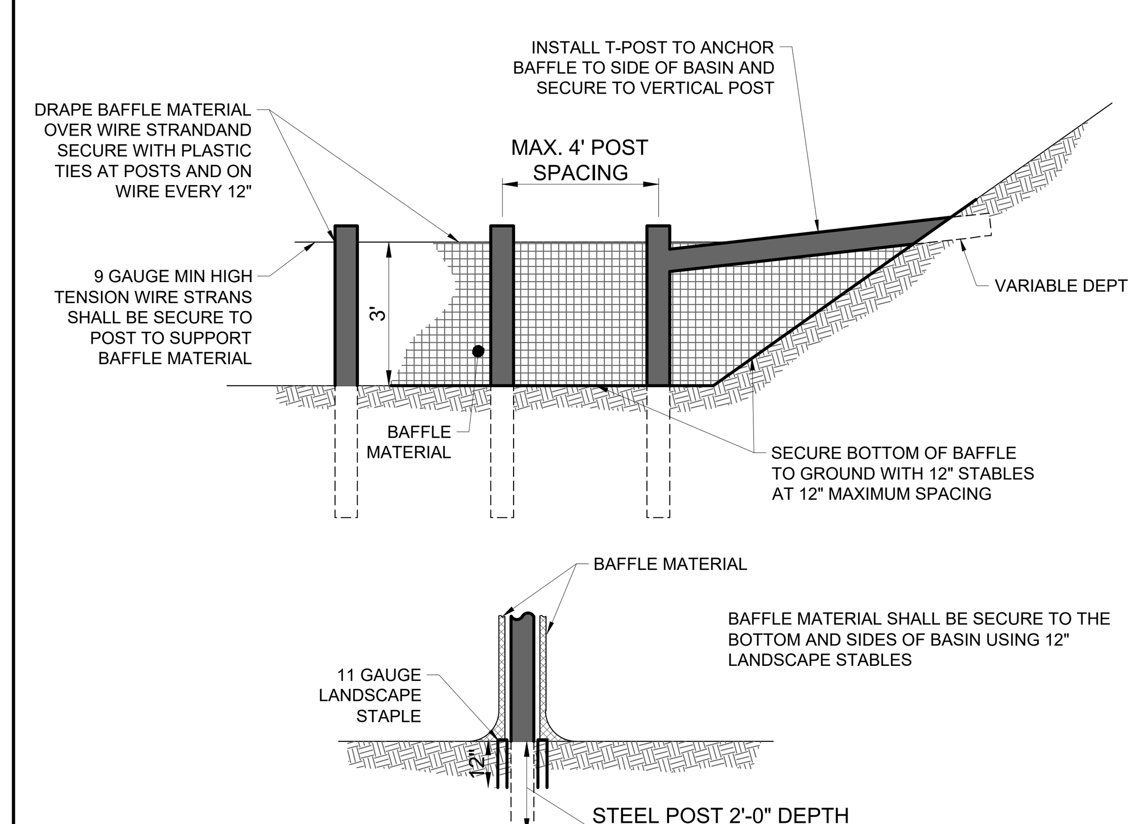
PLAN



SECTION A-A SECTION B-B

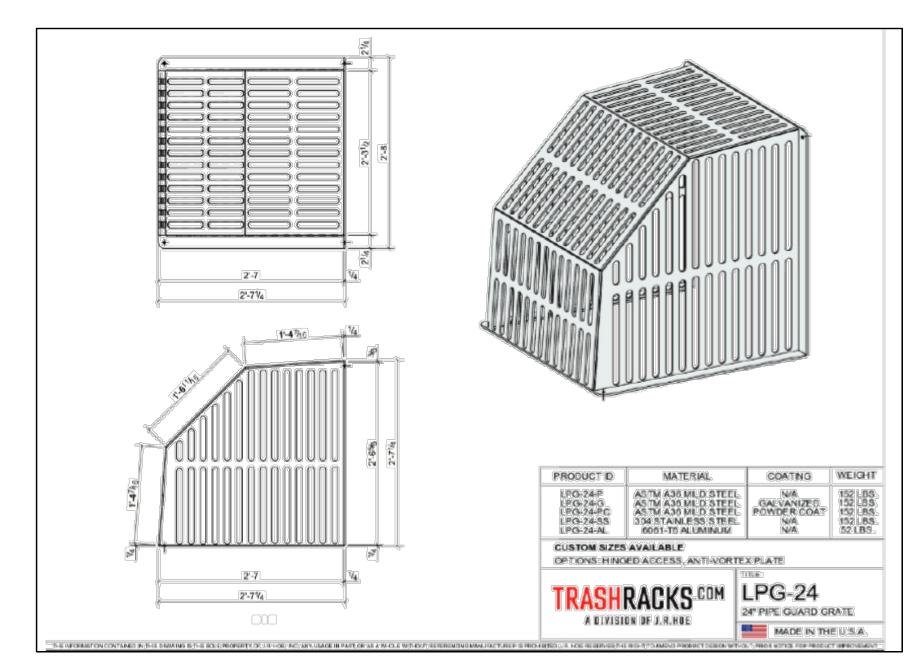
07 / C904

CURB INLET
NOT TO SCALE



08 / C904

TEMPORARY POROUS BAFFLE
NOT TO SCALE



09 / C904

TRASH RACK
NOT TO SCALE

Gresham Smith
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222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

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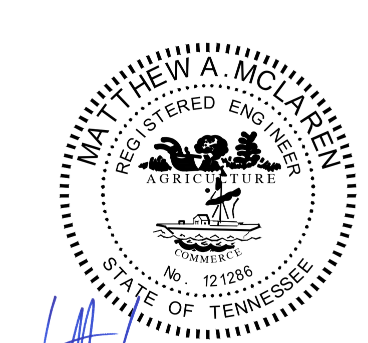
7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01
Developer: DCi



2025.08.28
15:15:37-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision		
No.	Date	Description

SITE DETAILS

C904

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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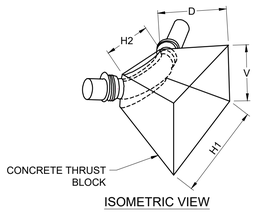
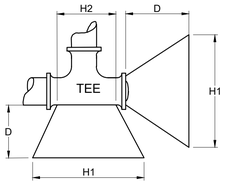


ISOMETRIC VIEW



PLAN VIEW

TABLE OF DIMENSIONS					
PIPE SIZE	TAPPING SLEEVES, TEES & PLUGS				
	H1	H2	V	D	C.F.
2"	18"	10"	12"	18"	1.9
3,4"	24"	12"	12"	18"	2.25
6"	24"	16"	18"	18"	3.5
8"	36"	18"	18"	18"	5.05
10"	48"	24"	18"	24"	7.15

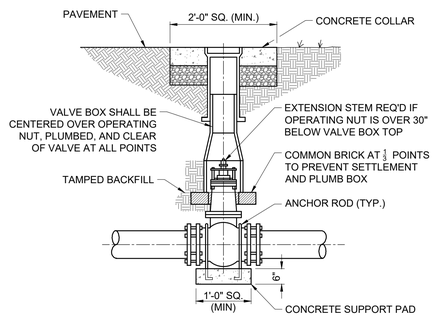
PIPE SIZE	90° BENDS				
	H1	H2	V	D	C.F.
2"	18"	10"	12"	18"	1.9
3,4"	24"	12"	12"	18"	2.25
6"	30"	16"	18"	18"	4.05
8"	39"	18"	24"	18"	7.3
10"	54"	32"	24"	18"	10.25

PIPE SIZE	45° BENDS				
	H1	H2	V	D	C.F.
2"	18"	6"	12"	18"	1.5
3,4"	18"	8"	12"	18"	1.6
6"	24"	10"	16"	18"	3.2
8"	30"	11"	18"	18"	3.95
10"	36"	18"	21"	18"	4.6

PIPE SIZE	22-1/2°&11-1/4° BENDS				
	H1	H2	V	D	C.F.
2"	18"	6"	12"	18"	1.5
3,4"	18"	8"	12"	18"	1.6
6"	24"	10"	16"	18"	3.2
8"	24"	11"	18"	18"	3.4
10"	24"	18"	21"	18"	4.6

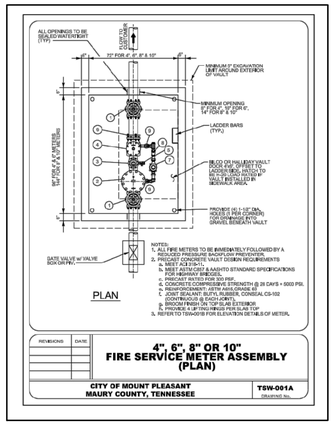
01 C905

TYPICAL CONCRETE THRUST BLOCKING
NOT TO SCALE



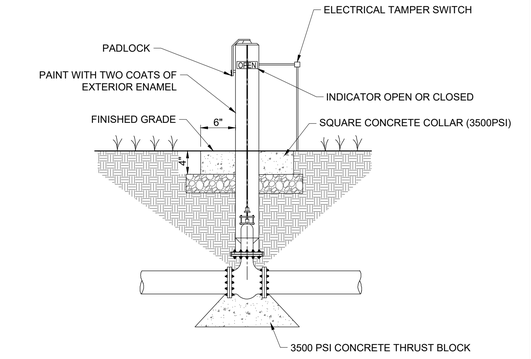
02 C905

GATE VALVE AND BOX
NOT TO SCALE



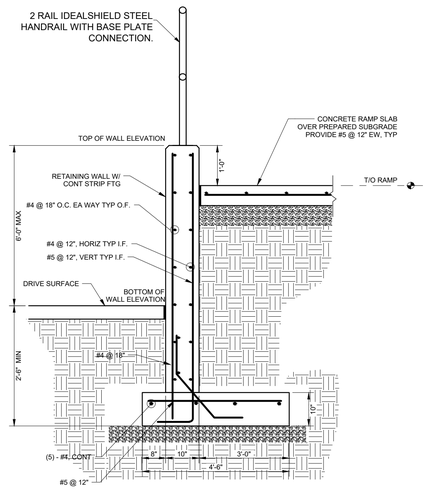
03 C905

FIRE SERVICE METER ASSEMBLY
NOT TO SCALE



04 C905

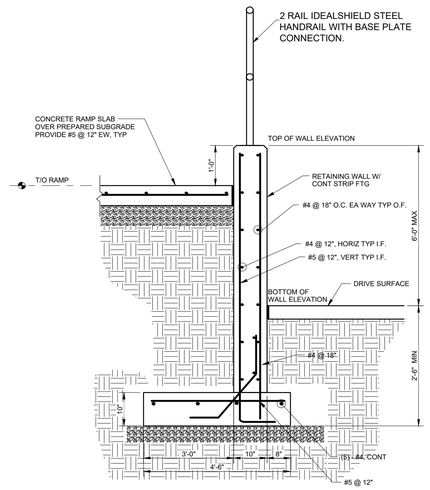
POST INDICATOR VALVE
NOT TO SCALE



05 C905

NOTE: ALL HOOKS STD 90 DEG PER ACI

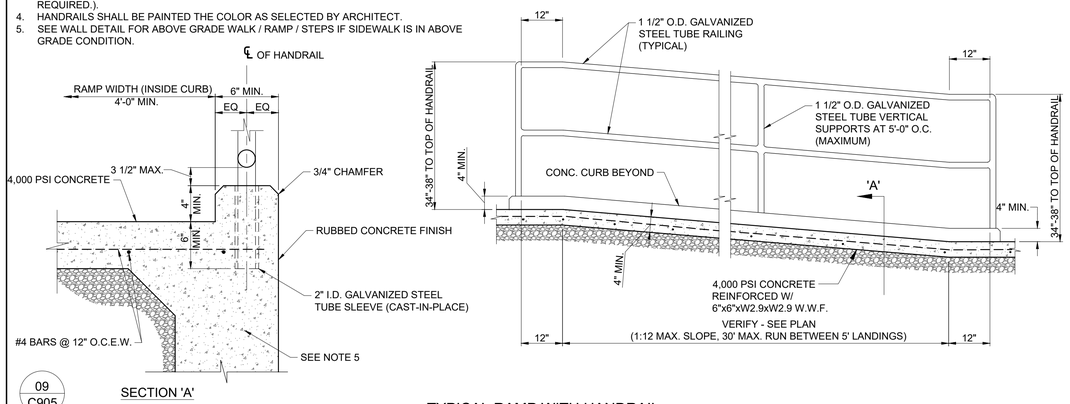
RETAINING WALL
NOT TO SCALE



NOTE: ALL HOOKS STD 90 DEG PER ACI

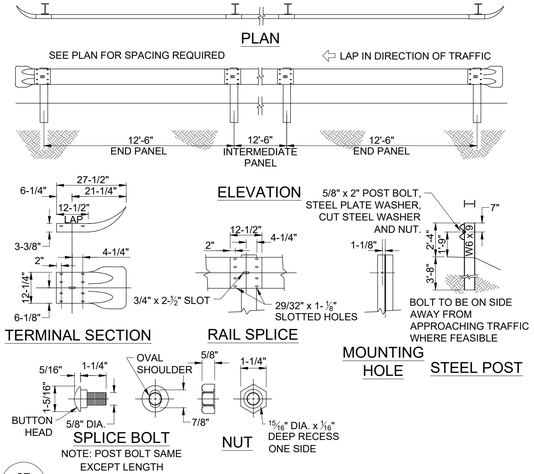
NOTES:

1. TOP OF HANDRAILS SHALL BE MOUNTED AT 3'-0" AFF. HOWEVER, ALL HANDRAILS FOR THIS PROJECT SHALL BE MOUNTED AT THE SAME HEIGHT. NO VARIATION IN HANDRAIL HEIGHT SHALL BE ALLOWED FROM TOP-MOST LANDING TO BOTTOM-MOST LANDING.
2. PROVIDE 1 1/2" O.D. GALVANIZED STEEL TUBE HANDRAIL ON BOTH SIDES OF ALL RAMPS.
3. RAMPS SHALL BE A MINIMUM OF 4'-0" WIDE INSIDE FACE OF CURBS. (SEE SITE PLANS AND FLOOR PLANS TO VERIFY LOCATIONS WHERE GREATER RAMP WIDTHS ARE REQUIRED.).
4. HANDRAILS SHALL BE PAINTED THE COLOR AS SELECTED BY ARCHITECT.
5. SEE WALL DETAIL FOR ABOVE GRADE WALK / RAMP / STEPS IF SIDEWALK IS IN ABOVE GRADE CONDITION.



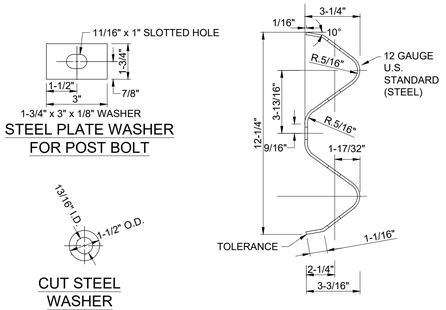
09 C905

TYPICAL RAMP WITH HANDRAIL
NOT TO SCALE

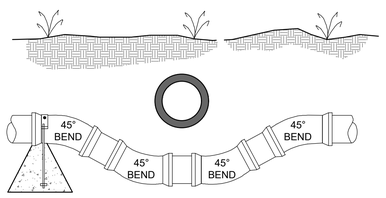


07 C905

TYPICAL VEHICULAR GUARDRAIL
NOT TO SCALE



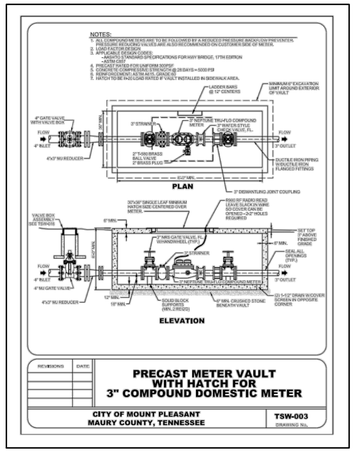
NOTE: ALL GUARD RAIL ELEMENTS, FASTENERS, AND TERMINAL SECTIONS SHALL MEET THE REQUIREMENTS OF AASHTO M 180.



NOTE:
MATERIALS AND INSTALLATION SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS. REFER TO SPECIFICATIONS.

11 C905

WATER LINE CROSSING UNDER OBSTRUCTIONS
NOT TO SCALE



12 C905

PRECAST METER VAULT FOR 3" DOMESTIC WATER
NOT TO SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
No. 121098
STATE OF TENNESSEE
2025.08.28
15:15:41-04'00'
THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

SITE DETAILS

C905

50114.00
08/28/2025

This Line Is 3 Inches When Printed Full Size

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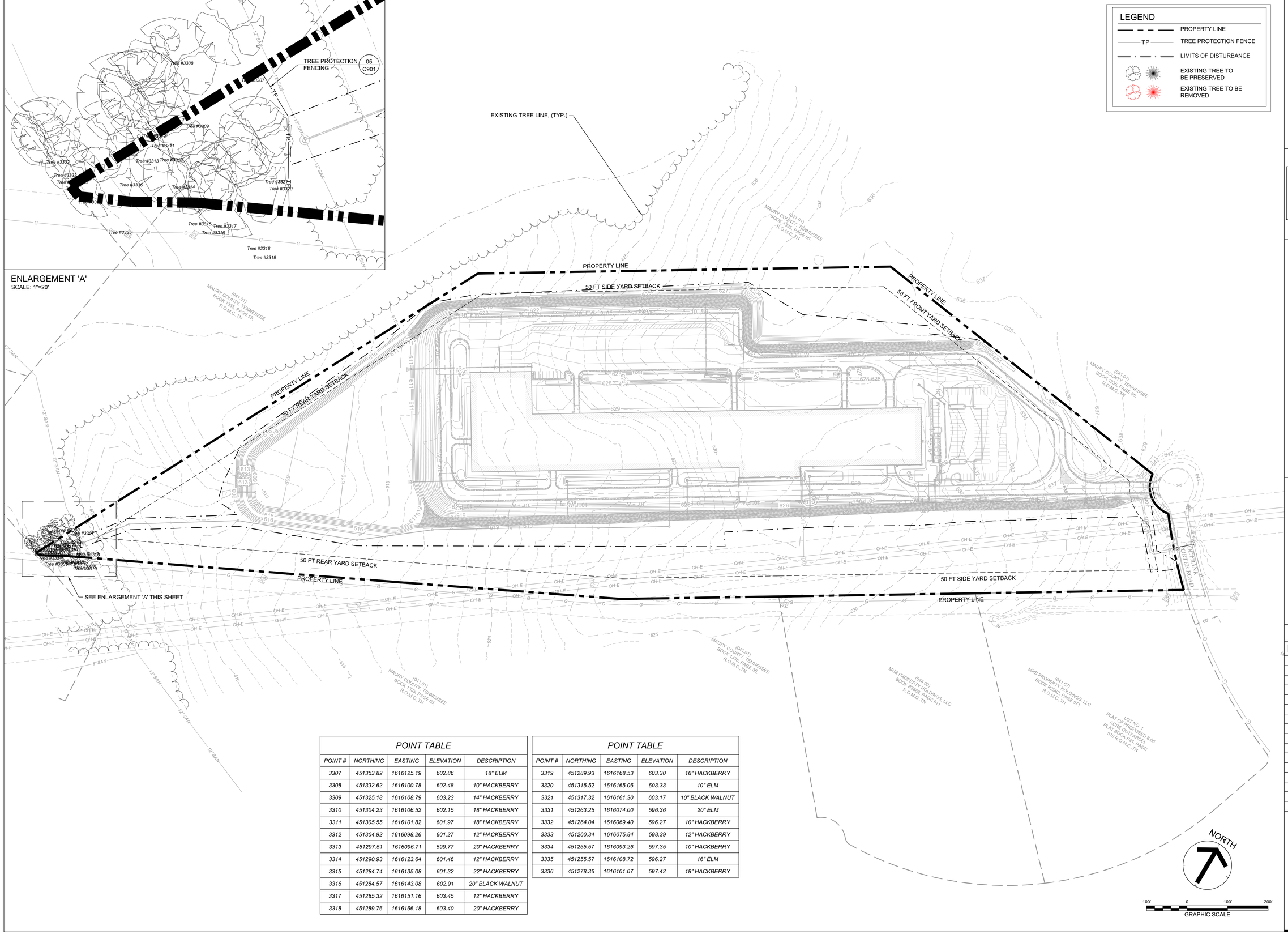
ENLARGEMENT 'A'
SCALE: 1"=20'



POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
3307	451353.82	1616125.19	602.86	18" ELM
3308	451332.62	1616100.78	602.48	10" HACKBERRY
3309	451325.18	1616108.79	603.23	14" HACKBERRY
3310	451304.23	1616106.52	602.15	18" HACKBERRY
3311	451305.55	1616101.82	601.97	18" HACKBERRY
3312	451304.92	1616098.26	601.27	12" HACKBERRY
3313	451297.51	1616096.71	599.77	20" HACKBERRY
3314	451290.93	1616123.64	601.46	12" HACKBERRY
3315	451284.74	1616135.08	601.32	22" HACKBERRY
3316	451284.57	1616143.08	602.91	20" BLACK WALNUT
3317	451285.32	1616151.16	603.45	12" HACKBERRY
3318	451289.76	1616166.18	603.40	20" HACKBERRY

POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
3319	451289.93	1616168.53	603.30	16" HACKBERRY
3320	451315.52	1616165.06	603.33	10" ELM
3321	451317.32	1616161.30	603.17	10" BLACK WALNUT
3331	451263.25	1616074.00	596.36	20" ELM
3332	451264.04	1616069.40	596.27	10" HACKBERRY
3333	451260.34	1616075.84	598.39	12" HACKBERRY
3334	451255.57	1616093.26	597.35	10" HACKBERRY
3335	451255.57	1616108.72	596.27	16" ELM
3336	451278.36	1616101.07	597.42	18" HACKBERRY

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Suite 1400
Nashville, TN 37201
615.770.8100

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PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

OVERALL TREE INVENTORY PLAN

L100

50114.00
08/27/2025

This Line Is 3 Inches When Printed Full Size

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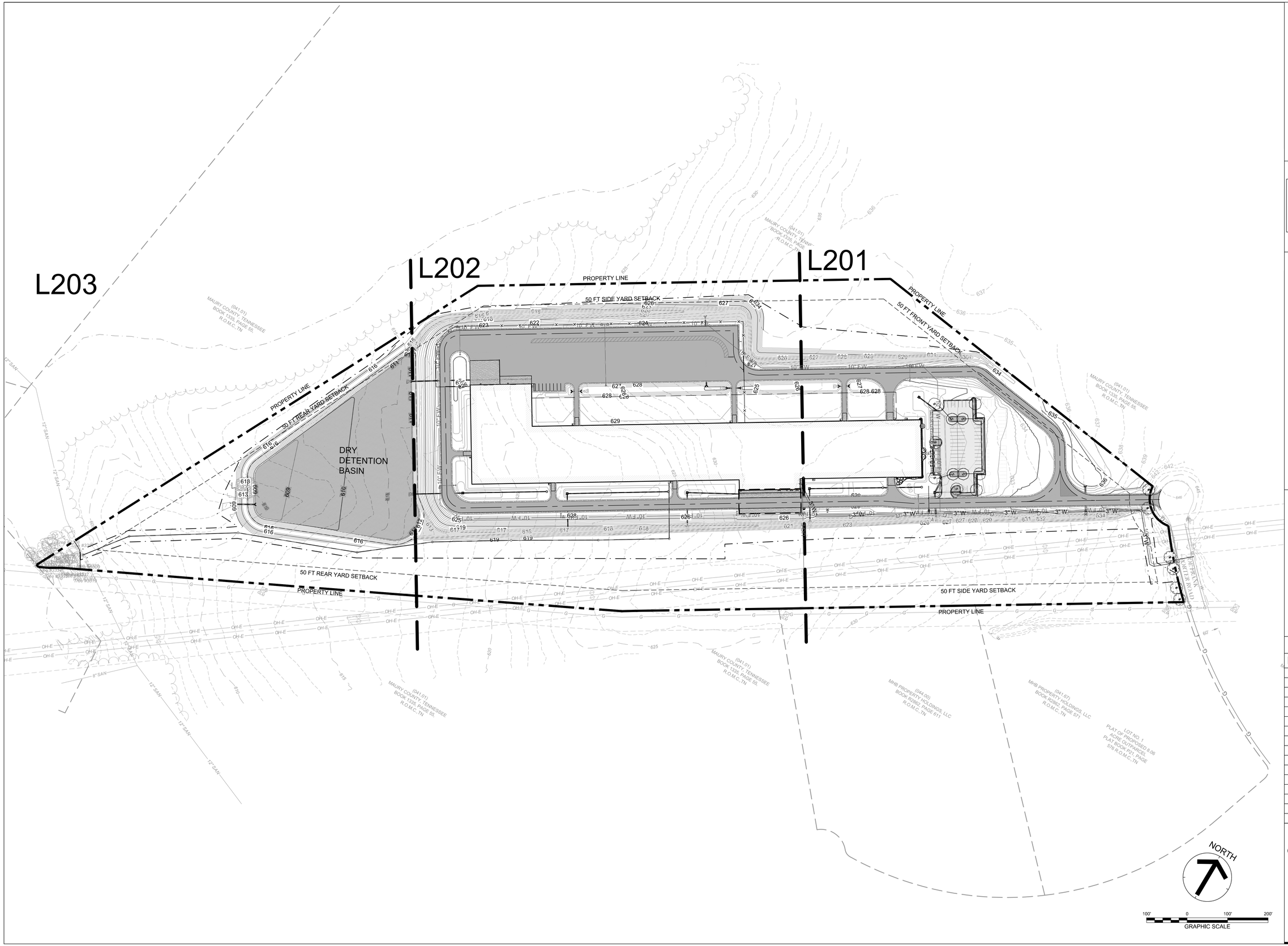

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PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

APRIL MICHELLE ANDERSEN REGISTERED 341 LANDSCAPE ARCHITECT TENNESSEE
08/28/2025

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Revision

No.	Date	Description

OVERALL LANDSCAPE PLAN

L200

50114.00
08/27/2025

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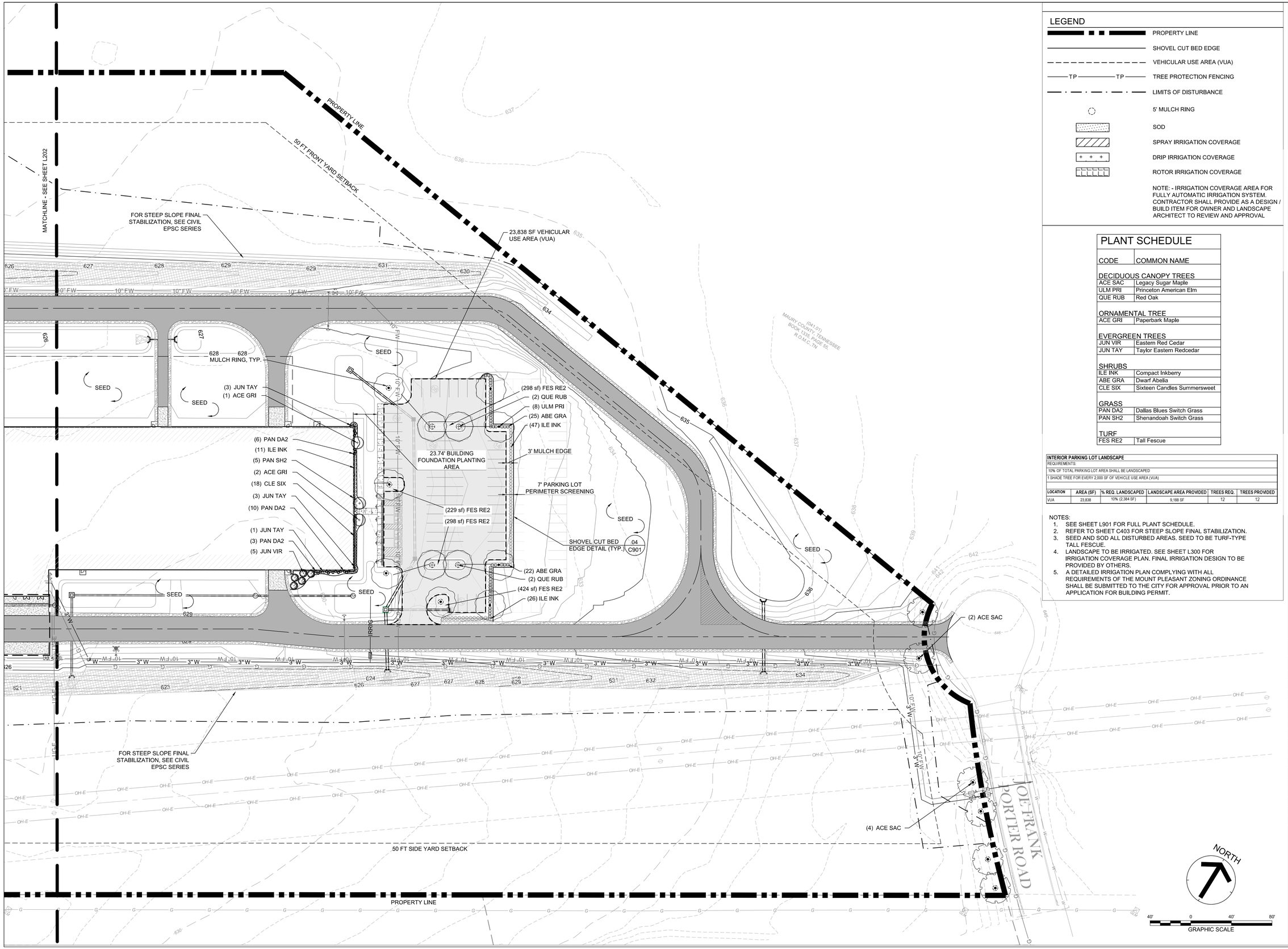

LEGEND

- PROPERTY LINE
- SHOVEL CUT BED EDGE
- VEHICULAR USE AREA (VUA)
- TP — TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- 5' MULCH RING
- SOD
- SPRAY IRRIGATION COVERAGE
- DRIP IRRIGATION COVERAGE
- ROTOR IRRIGATION COVERAGE

NOTE: - IRRIGATION COVERAGE AREA FOR FULLY AUTOMATIC IRRIGATION SYSTEM. CONTRACTOR SHALL PROVIDE AS A DESIGN / BUILD ITEM FOR OWNER AND LANDSCAPE ARCHITECT TO REVIEW AND APPROVAL

PLANT SCHEDULE

CODE	COMMON NAME
DECIDUOUS CANOPY TREES	
ACE SAC	Legacy Sugar Maple
ULM PRI	Princeton American Elm
QUE RUB	Red Oak
ORNAMENTAL TREE	
ACE GRI	Paperbark Maple
EVERGREEN TREES	
JUN VIR	Eastern Red Cedar
JUN TAY	Taylor Eastern Redcedar
SHRUBS	
ILE INK	Compact Inkberry
ABE GRA	Dwarf Abelia
CLE SIX	Sixteen Candles Summersweet
GRASS	
PAN DA2	Dallas Blues Switch Grass
PAN SH2	Shenandoah Switch Grass
TURF	
FES RE2	Tall Fescue

INTERIOR PARKING LOT LANDSCAPE

REQUIREMENTS:

10% OF TOTAL PARKING LOT AREA SHALL BE LANDSCAPED

1 SHADE TREE FOR EVERY 2,000 SF OF VEHICLE USE AREA (VUA)

LOCATION	AREA (SF)	% REQ. LANDSCAPED	LANDSCAPE AREA PROVIDED	TREES REQ.	TREES PROVIDED
VUA	23,838	10% (2,384 SF)	9,188 SF	12	12

NOTES:

1. SEE SHEET L901 FOR FULL PLANT SCHEDULE.
2. REFER TO SHEET C403 FOR STEEP SLOPE FINAL STABILIZATION.
3. SEED AND SOD ALL DISTURBED AREAS. SEED TO BE TURF-TYPE TALL FESCUE.
4. LANDSCAPE TO BE IRRIGATED. SEE SHEET L300 FOR IRRIGATION COVERAGE PLAN. FINAL IRRIGATION DESIGN TO BE PROVIDED BY OTHERS.
5. A DETAILED IRRIGATION PLAN COMPLYING WITH ALL REQUIREMENTS OF THE MOUNT PLEASANT ZONING ORDINANCE SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO AN APPLICATION FOR BUILDING PERMIT.

Gresham Smith
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222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

APRIL MICHELLE ANDERSEN
REGISTERED
LANDSCAPE ARCHITECT
TENNESSEE NO. 956
08/28/2025

THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

LANDSCAPE PLAN

L201

50114.00
08/27/2025

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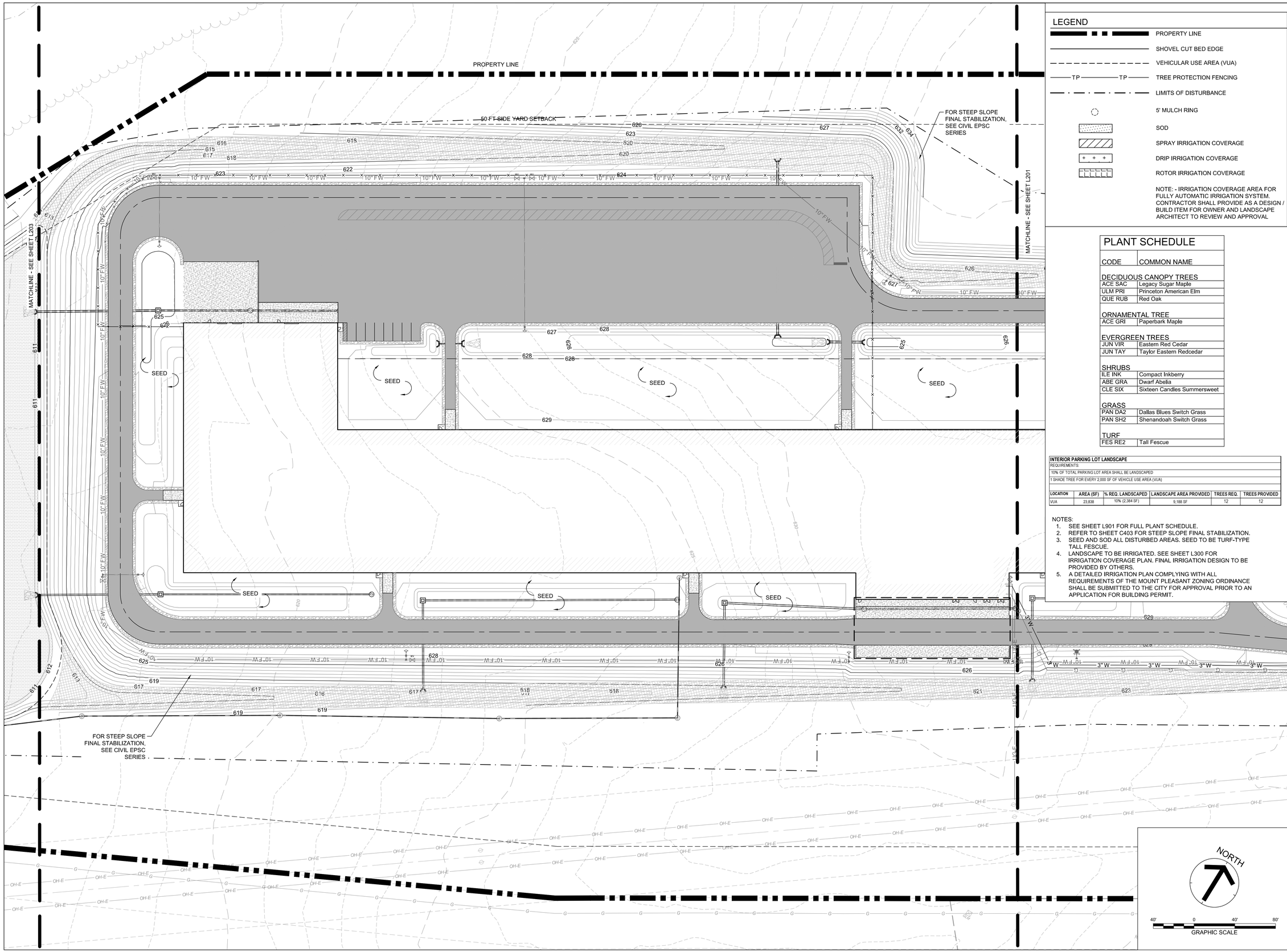

LEGEND

- PROPERTY LINE
- SHOVEL CUT BED EDGE
- VEHICULAR USE AREA (VUA)
- TP — TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- 5' MULCH RING
- SOD
- SPRAY IRRIGATION COVERAGE
- DRIP IRRIGATION COVERAGE
- ROTOR IRRIGATION COVERAGE

NOTE: - IRRIGATION COVERAGE AREA FOR FULLY AUTOMATIC IRRIGATION SYSTEM. CONTRACTOR SHALL PROVIDE AS A DESIGN / BUILD ITEM FOR OWNER AND LANDSCAPE ARCHITECT TO REVIEW AND APPROVAL

PLANT SCHEDULE

CODE	COMMON NAME
DECIDUOUS CANOPY TREES	
ACE SAC	Legacy Sugar Maple
ULM PRI	Princeton American Elm
QUE RUB	Red Oak
ORNAMENTAL TREE	
ACE GRI	Paperbark Maple
EVERGREEN TREES	
JUN VIR	Eastern Red Cedar
JUN TAY	Taylor Eastern Redcedar
SHRUBS	
ILE INK	Compact Inkberry
ABE GRA	Dwarf Abelia
CLE SIX	Sixteen Candles Summersweet
GRASS	
PAN DA2	Dallas Blues Switch Grass
PAN SH2	Shenandoah Switch Grass
TURF	
FES RE2	Tall Fescue

INTERIOR PARKING LOT LANDSCAPE

REQUIREMENTS:

10% OF TOTAL PARKING LOT AREA SHALL BE LANDSCAPED

1 SHADE TREE FOR EVERY 2,000 SF OF VEHICLE USE AREA (VUA)

LOCATION	AREA (SF)	% REQ. LANDSCAPED	LANDSCAPE AREA PROVIDED	TREES REQ.	TREES PROVIDED
VUA	23,838	10% (2,384 SF)	9,188 SF	12	12

NOTES:

1. SEE SHEET L901 FOR FULL PLANT SCHEDULE.
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LANDSCAPE ARCHITECT
TENNESSEE NO. 956
08/28/2025

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Revision

No.	Date	Description

LANDSCAPE PLAN

L202

50114.00
08/27/2025

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LEGEND

- PROPERTY LINE
- SHOVEL CUT BED EDGE
- VEHICULAR USE AREA (VUA)
- TP — TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- 5' MULCH RING
- SOD
- SPRAY IRRIGATION COVERAGE
- DRIP IRRIGATION COVERAGE
- ROTOR IRRIGATION COVERAGE

NOTE: - IRRIGATION COVERAGE AREA FOR FULLY AUTOMATIC IRRIGATION SYSTEM. CONTRACTOR SHALL PROVIDE AS A DESIGN / BUILD ITEM FOR OWNER AND LANDSCAPE ARCHITECT TO REVIEW AND APPROVAL

PLANT SCHEDULE

CODE	COMMON NAME
DECIDUOUS CANOPY TREES	
ACE SAC	Legacy Sugar Maple
ULM PRI	Princeton American Elm
QUE RUB	Red Oak
ORNAMENTAL TREE	
ACE GRI	Paperbark Maple
EVERGREEN TREES	
JUN VIR	Eastern Red Cedar
JUN TAY	Taylor Eastern Redcedar
SHRUBS	
ILE INK	Compact Inkberry
ABE GRA	Dwarf Abelia
CLE SIX	Sixteen Candles Summersweet
GRASS	
PAN DA2	Dallas Blues Switch Grass
PAN SH2	Shenandoah Switch Grass
TURF	
FES RE2	Tall Fescue

INTERIOR PARKING LOT LANDSCAPE

REQUIREMENTS:

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1 SHADE TREE FOR EVERY 2,000 SF OF VEHICLE USE AREA (VUA)

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LANDSCAPE ARCHITECT
TENNESSEE NO. 856
08/28/2025

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Revision

No.	Date	Description

LANDSCAPE PLAN

L203

50114.00
08/27/2025

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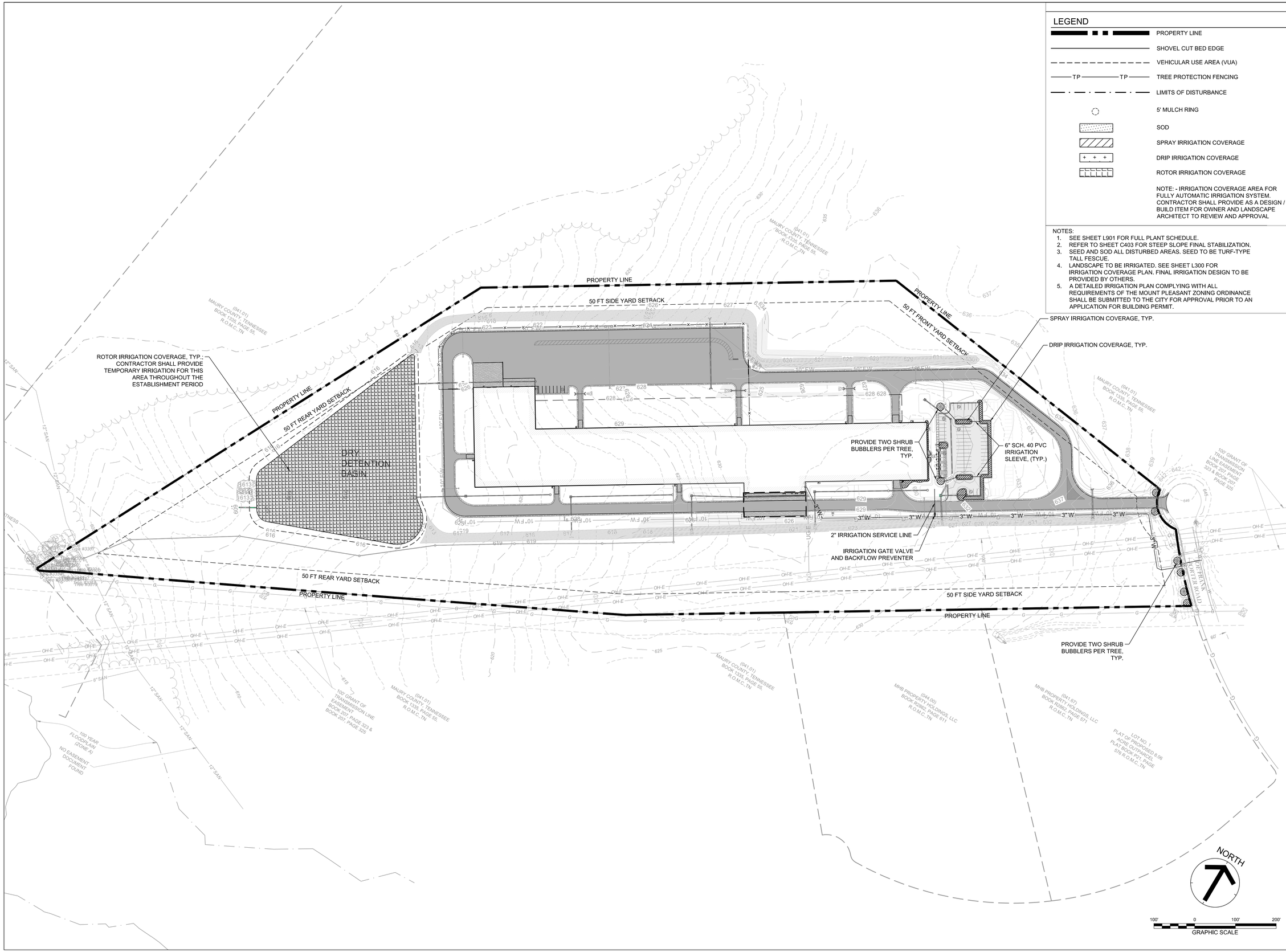

LEGEND

- PROPERTY LINE
- SHOVEL CUT BED EDGE
- VEHICULAR USE AREA (VUA)
- TP — TREE PROTECTION FENCING
- LIMITS OF DISTURBANCE
- 5' MULCH RING
- SOD
- SPRAY IRRIGATION COVERAGE
- DRIP IRRIGATION COVERAGE
- ROTOR IRRIGATION COVERAGE

NOTE: - IRRIGATION COVERAGE AREA FOR FULLY AUTOMATIC IRRIGATION SYSTEM. CONTRACTOR SHALL PROVIDE AS A DESIGN / BUILD ITEM FOR OWNER AND LANDSCAPE ARCHITECT TO REVIEW AND APPROVAL

NOTES:
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No.	Date	Description

OVERALL IRRIGATION COVERAGE PLAN

L300

50114.00
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LANDSCAPE NOTES

1. WHEN APPLICABLE, IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING TREES TO REMAIN. NO HEAVY EQUIPMENT SHOULD BE PERMITTED TO OPERATE OR BE STORED, NOR ANY MATERIALS TO BE HANDLED OR STORED, WITHIN THE DRIPLINES OF TREES OUTSIDE THE LIMIT OF GRADING.
2. THE QUANTITIES INDICATED ON THE PLANT LIST AND PLAN ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN QUANTITY CALCULATIONS AND THE LIABILITY WHICH PERTAINS TO THOSE QUANTITIES AND TO ANY RELATED CONTRACT DOCUMENTS AND/OR PRICE QUOTATIONS. QUESTIONS SHOULD BE DIRECTED TO THE LANDSCAPE ARCHITECT VIA NEWFORMA AS AN RFI.
3. ALL PLANT MATERIALS SHALL BE NURSERY GROWN, UNLESS OTHERWISE NOTED AND SHALL COMPLY WITH AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, CURRENT EDITION).
4. NO SUBSTITUTIONS AS TO TYPE, SIZE, OR SPACING OF PLANT MATERIALS SPECIFIED ON THIS PLAN MAY BE MADE WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT.
5. THE CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AND TO PROTECT UTILITIES THAT ARE TO REMAIN. THE CONTRACTOR SHALL REPAIR ANY DAMAGE ACCORDING TO LOCAL STANDARDS AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY.
6. ALL AREAS DISTURBED BY UTILITY TRENCHING, SITE AND BUILDING CONSTRUCTION SHALL BE STABILIZED AS SHOWN BY THE SITE RESTORATION PLAN.
7. SOIL USED FOR PLANTING SHALL CONSIST OF 5 PARTS TOPSOIL, 1 PART SAND AND 2 PARTS ORGANIC MATTER, MIXED WITH 1 POUND OF FERTILIZER PER CUBIC YARD.
   A. SAND SHALL BE CLEAN MASONRY SAND.
   B. ORGANIC MATTER SHALL BE PEAT MOSS, OR WELL COMPOSED PINE BARK, OR APPROVED EQUAL AND SHALL BE FINELY GROUND AND FREE OF WEEDS.
   C. ALL FERTILIZER SHALL BE 10-10-10 WITH MINOR ELEMENTS. FERTILIZER SHALL HAVE 40-50% OF ITS TOTAL NITROGEN IN A WATER INSOLUBLE FORM.
8. PRE-EMERGENT HERBICIDE SHALL BE APPLIED TO ALL PLANT BEDS PRIOR TO INSTALLATION. TREFLAN OR AN APPROVED EQUAL SHALL BE USED.
9. ALL PLANT BEDS SHALL HAVE A MINIMUM OF 3" DEEP MULCH. MULCH SHALL BE SHREDDED HARDWOOD.
10. IT IS THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO CONFIRM MATERIAL QUANTITIES. IN THE EVENT OF A DISCREPANCY, THE QUANTITIES SHOWN ON THE PLAN SHALL TAKE PRECEDENCE OVER QUANTITIES SHOWN ON THE PLANT LIST.
11. PRIOR TO FINAL PAYMENT, THE LANDSCAPE CONTRACTOR SHALL PROVIDE THE OWNER WITH COMPLETE WRITTEN INSTRUCTIONS ON PROPER CARE OF ALL SPECIFIED PLANT MATERIALS.
12. THE LANDSCAPE INSTALLATION SHALL BE COORDINATED WITH THE IRRIGATION INSTALLATION WHEN APPLICABLE.
13. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES AND TAKE SPECIAL CARE TO INSURE THAT BED PREPARATION DOES NOT INHIBIT DRAINAGE.
14. THE LANDSCAPE CONTRACTOR SHALL RAKE SMOOTH ALL SEED AREAS PRIOR TO INSTALLATION.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFILLING BEHIND THE CURB AND SIDEWALK SO GRADE IS LEVEL WITH TOP OF CURB.
16. CUT AWAY ROPES OR WIRES FROM B&B PLANTS. PULL BACK BURLAP TOP FROM OF ROOT BALL. DO NOT ALLOW BURLAP TO BE EXPOSED AT SURFACE. TOTALLY REMOVE BURLAP IF IT IS SYNTHETIC.
17. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
18. ALL REPLACEMENTS SHALL BE OF THE SAME TYPE, SIZE, AND QUALITY AS SPECIFIED ON THE PLANT LIST, UNLESS APPROVED OTHERWISE IN WRITING BY THE LANDSCAPE ARCHITECT.
19. ANY MATERIAL THAT IS DEEMED TO BE 25% DEAD OR MORE SHALL BE CONSIDERED DEAD, AND MUST BE REPLACED AT NO CHARGE. A TREE IS CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK, OR MORE THAN 25% OF THE CROWN IS DEAD.
20. REPLACEMENTS SHALL BE MADE DURING THE NEXT PLANTING SEASON UNLESS THE LANDSCAPE CONTRACTOR AGREES TO AN EARLIER DATE.

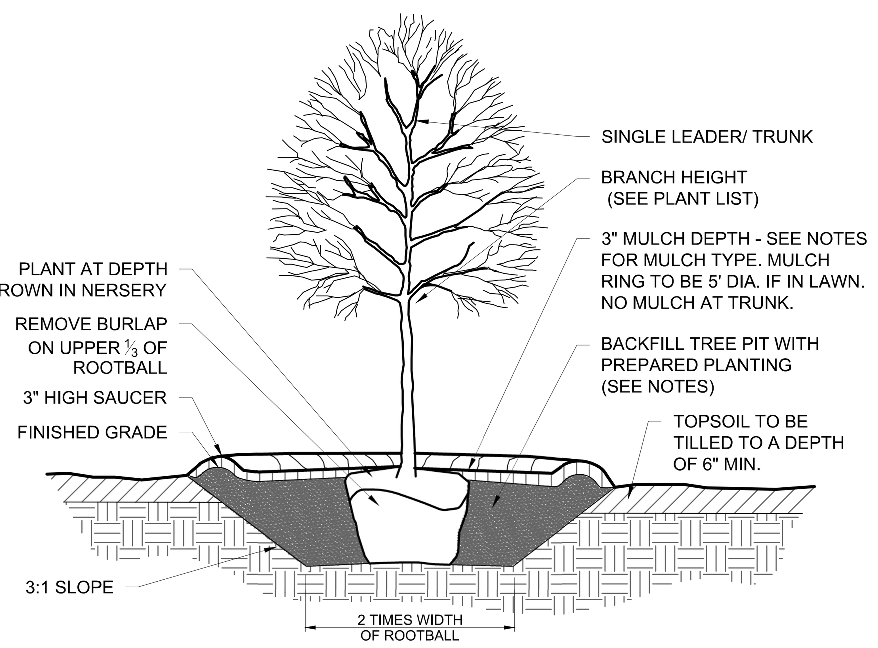
    PLANTING DATES

    SPRING: MARCH 1 - MAY 1
    FALL: OCTOBER 1 - NOVEMBER 30

21. THE LANDSCAPE CONTRACTOR WILL NOT BE RESPONSIBLE FOR PLANT MATERIAL THAT HAS BEEN DAMAGED BY VANDALISM, FIRE, RELOCATION, WILDLIFE, THEFT, OR OTHER ACTIVITIES BEYOND THE LANDSCAPE CONTRACTOR'S CONTROL.

NOTES:

1. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1; LATEST EDITION) FOR SIZE FORM AND QUALITY.
2. MYCORRHIZAL INOCULATES AND SUPER - ABSORBENT MATERIAL ADDED TO TOPSOIL BACKFILL AT THE MANUFACTURER'S RECOMMENDED RATE AS PER SPECIFICATIONS.
3. REMOVE ALL SYNTHETIC MATERIAL FROM AROUND ROOTBALL. REMOVE BURLAP AND ROPE FROM TOP ⅓ OF ROOTBALL.

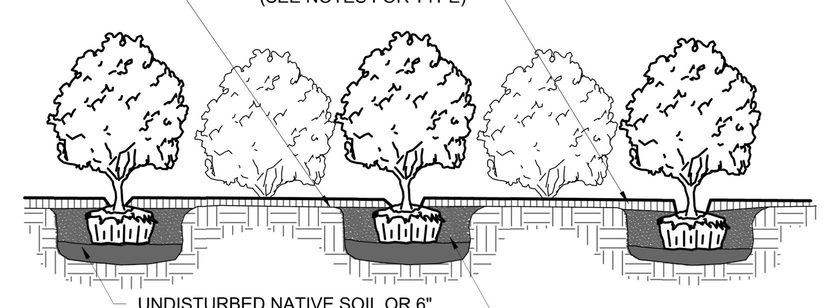


01 / L901

TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

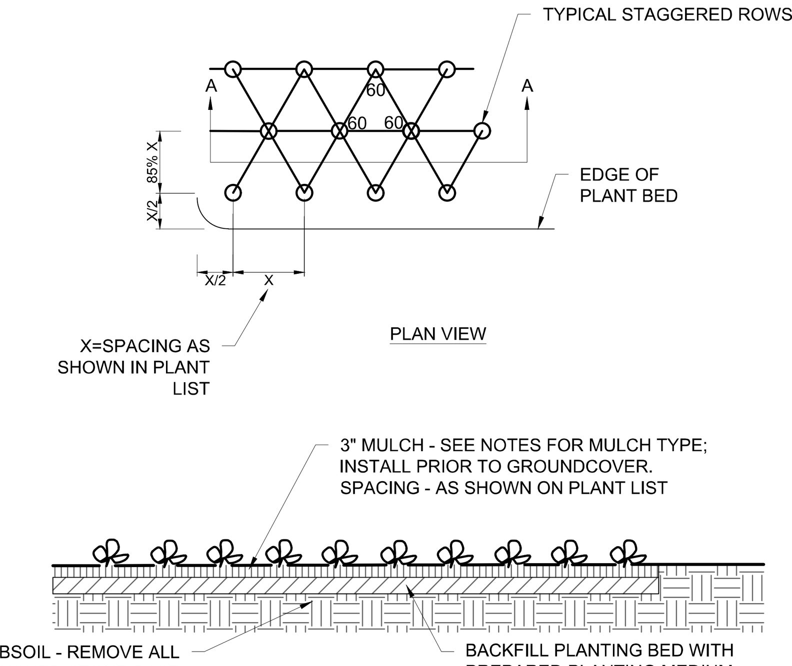
1. PLANT MATERIAL SHALL CONFORM TO "THE AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1; LATEST EDITION) FOR SIZE FORM AND QUALITY.
2. MYCORRHIZAL INOCULATES AND SUPER - ABSORBENT MATERIAL ADDED TO TOPSOIL BACKFILL AT THE MANUFACTURER'S RECOMMENDED RATE AS PER SPECIFICATIONS.



REMOVE ALL SYNTHETIC MATERIAL FROM AROUND ROOTBALL. REMOVE BURLAP AND ROPE FROM TOP ⅓ OF ROOTBALL

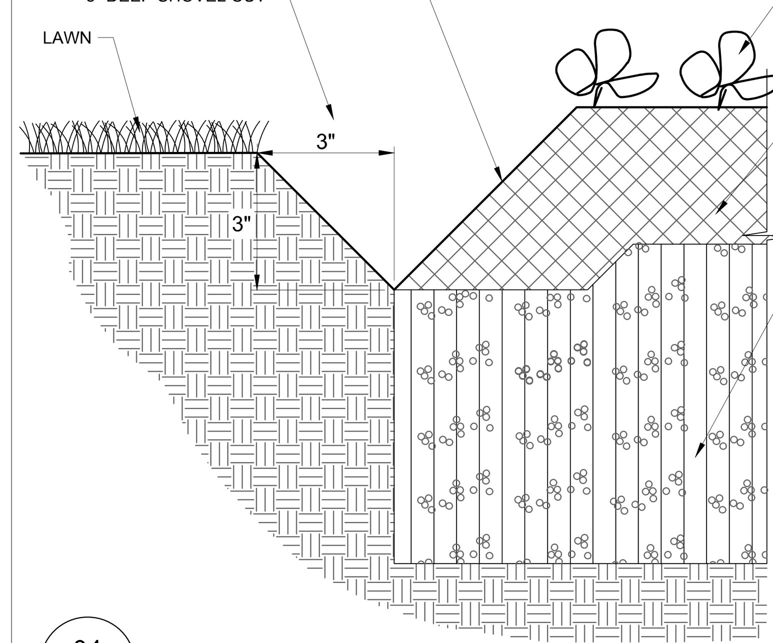
02 / L901

SHRUB PLANTING DETAIL
NOT TO SCALE



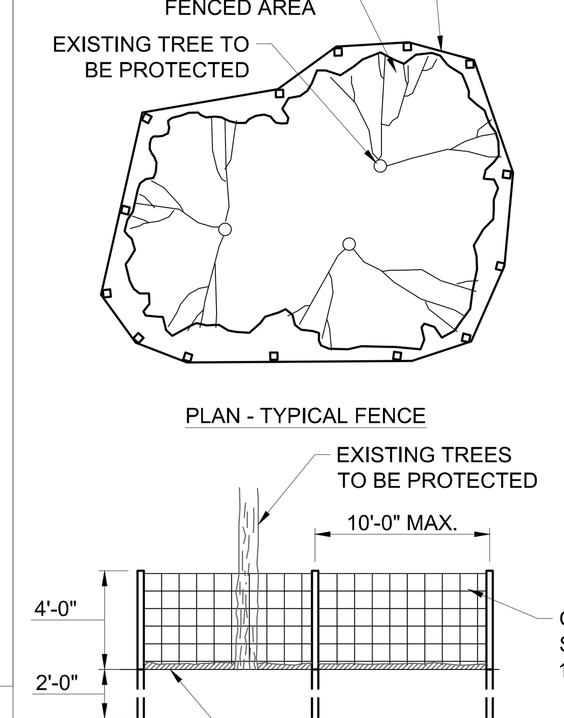
03 / L901

GROUND COVER DETAIL
NOT TO SCALE



04 / L901

SHOVEL CUT BED EDGE DETAIL
NOT TO SCALE



NOTES:

INSTALL TREE PROTECTION PRIOR TO CLEARING AND GRUBBING.

ALL TREES DESIGNED TO BE SAVED SHALL BE PROTECTED.

REMOVE ALL EXISTING CONCRETE OR ASPHALT PAVEMENT WITHIN THE LIMITS OF THE FENCED AREA. IF REMOVAL CREATES A POTENTIAL FOR STANDING WATER, AREA SHALL BE FILLED TO PROVIDE POSITIVE DRAINAGE, OR AREA OUTSIDE FENCE SHALL BE GRADED TO PROVIDE FOR POSITIVE DRAINAGE.

REMOVE ALL VINES FROM PROTECTED TREES.

DEAD OR DAMAGED LIMBS SHALL BE REMOVED BY AN ARBORIST.

NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF PROTECTED TREES.

CONTRACTOR SHALL MAINTAIN TREE PROTECTION THROUGHOUT CONSTRUCTION

05 / L901

TREE PROTECTION FENCING
NOT TO SCALE

PLANT SCHEDULE

CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
DECIDUOUS CANOPY TREES							
ACE SAC	6	Acer saccharum 'Legacy'	Legacy Sugar Maple	B & B	2.5" Cal		6' CLEAR TRUNK, STRONG CENTRAL LEADER, FULL CANOPY
QUE RUB	4	Quercus rubra	Red Oak	B & B	2.5" Cal		6' CLEAR TRUNK, STRONG CENTRAL LEADER, FULL CANOPY
ULM PRI	8	Ulmus americana `Princeton`	Princeton American Elm	B & B	2.5" Cal		6' CLEAR TRUNK, FULL CANOPY
ORNAMENTAL TREE							
ACE GRI	3	Acer griseum	Paperbark Maple	B & B	2.5" Cal		MIN 5' CLEAR TRUNK, FULL CANOPY
EVERGREEN TREES							
JUN VIR	5	Juniperus virginiana	Eastern Red Cedar	B & B	6` ht.		FULL TO BASE
JUN TAY	7	Juniperus virginiana 'Taylor'	Taylor Eastern Redcedar	B & B	6` ht.		FULL TO BASE
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	MIN. SIZE	SPACING	REMARKS
SHRUBS							
ABE GRA	47	Abelia x grandiflora `Rose Creek`	Dwarf Abelia	CONT.	18" MIN. HT.		FULL CONTAINER
CLE SIX	18	Clethra alnifolia 'Sixteen Candles'	Sixteen Candles Summersweet	CONT.	18" MIN. HT.		FULL CONTAINER
ILE INK	84	Ilex glabra 'Compacta'	Compact Inkberry	CONT.	18" MIN. HT.		FULL CONTAINER
GRASS							
PAN DA2	19	Panicum virgatum 'Dallas Blues'	Dallas Blues Switch Grass	1 gal		36" O.C.	TRIANGULATE SPACING
PAN SH2	5	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	1 gal		36" O.C.	TRIANGULATE SPACING
CODE	QTY	BOTANICAL NAME	COMMON NAME	CONTAINER	MIN.SIZE	SPACING	REMARKS
TURF							
FES RE2	118,130 sf	Festuca arundinacea 'Rebel II'	Tall Fescue	SOD			LAY WITHIN 36 HRS OF CUTTING

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DCi

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LANDSCAPE NOTES, DETAILS AND SCHEDULE

L901

50114.00
08/27/2025

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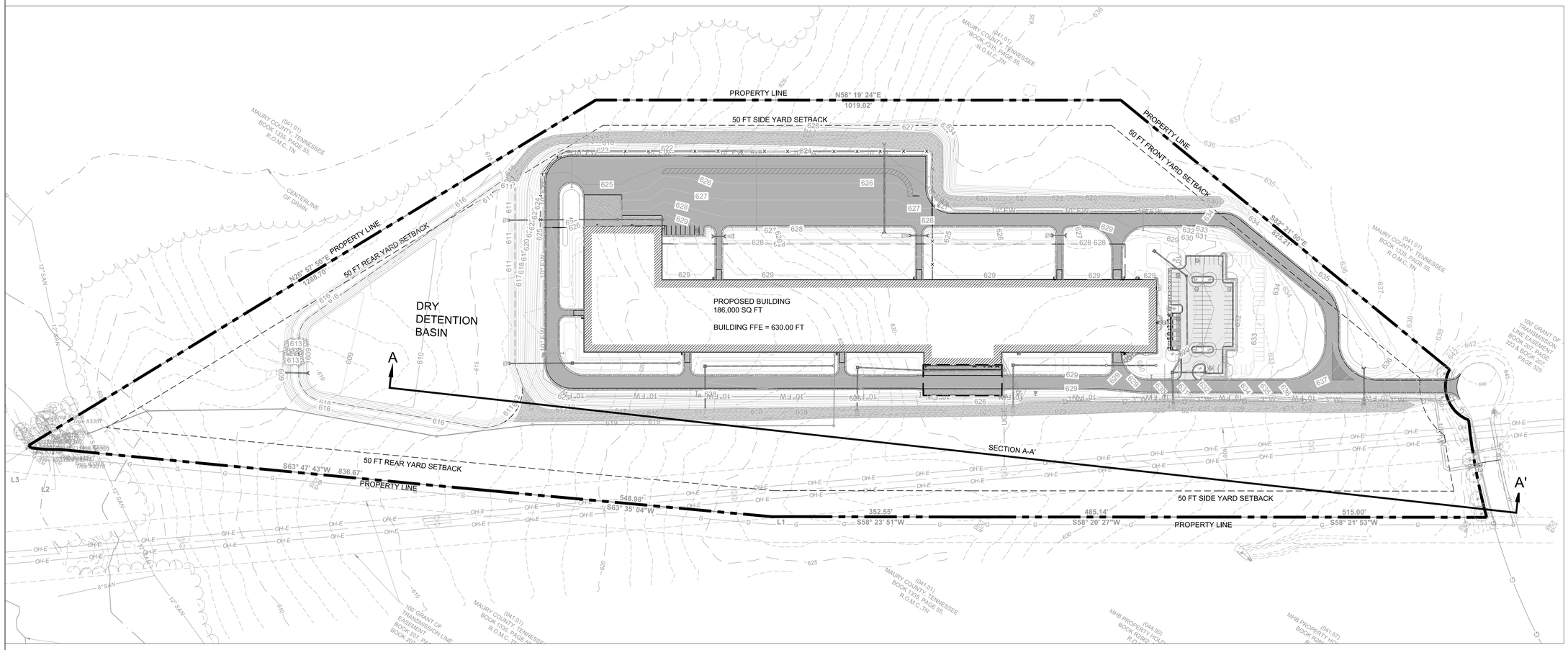
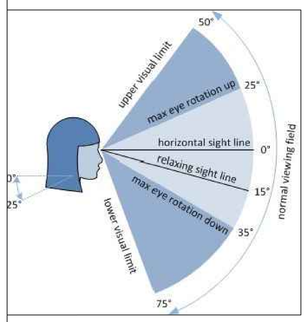


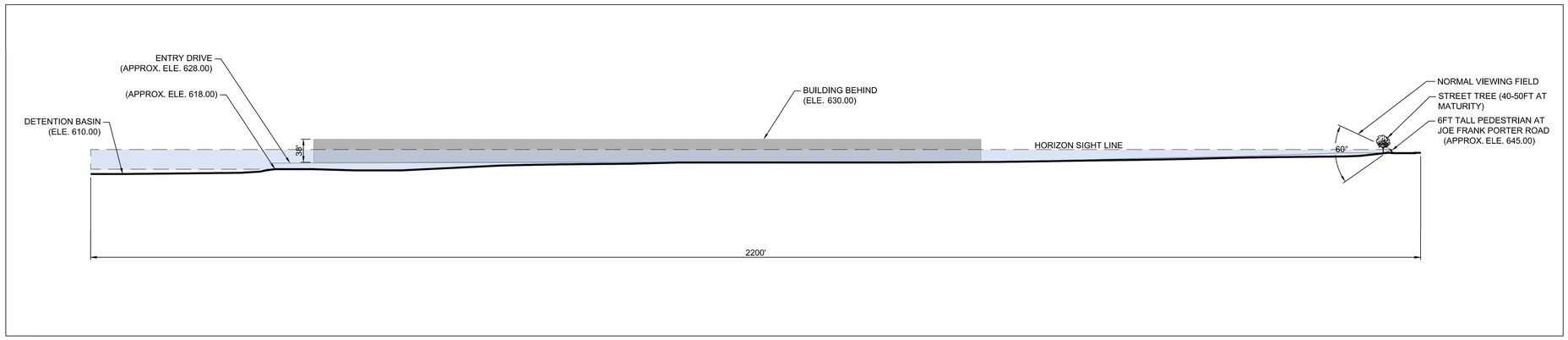
SITE PLAN

SCALE: 1"=100'



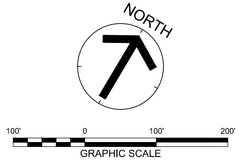
LINE OF SIGHT

NTS



SECTION A-A'

SCALE: 1"=100'



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TENNESSEE NO. 866
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LINE OF SIGHT EXHIBIT

EXH. A

50114.00
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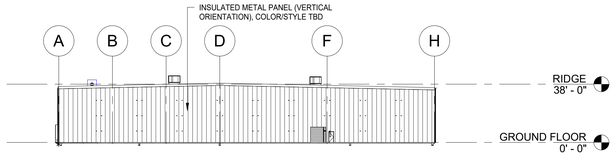
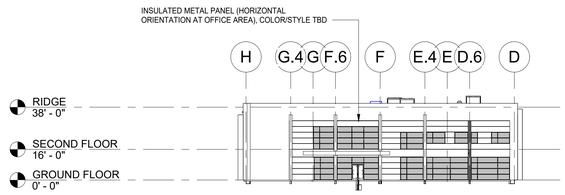
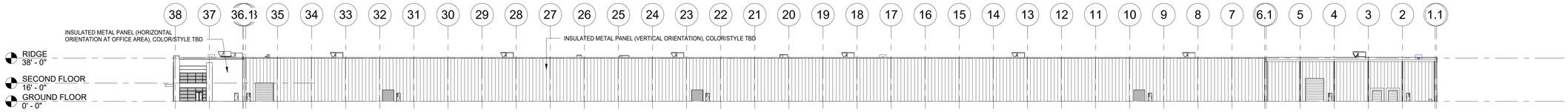


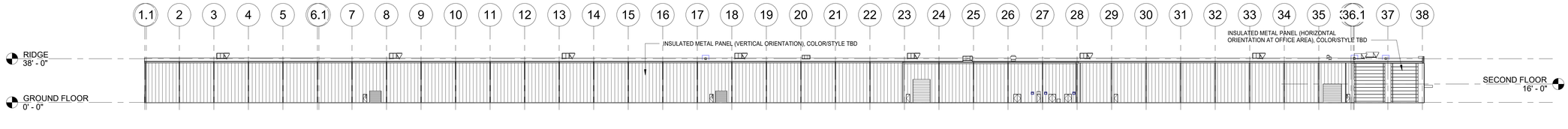
1 WEST ELEVATION
SCALE: 1" = 40'-0"



2 EAST ELEVATION
SCALE: 1/32" = 1'-0"



3 NORTH ELEVATION
SCALE: 1" = 40'-0"



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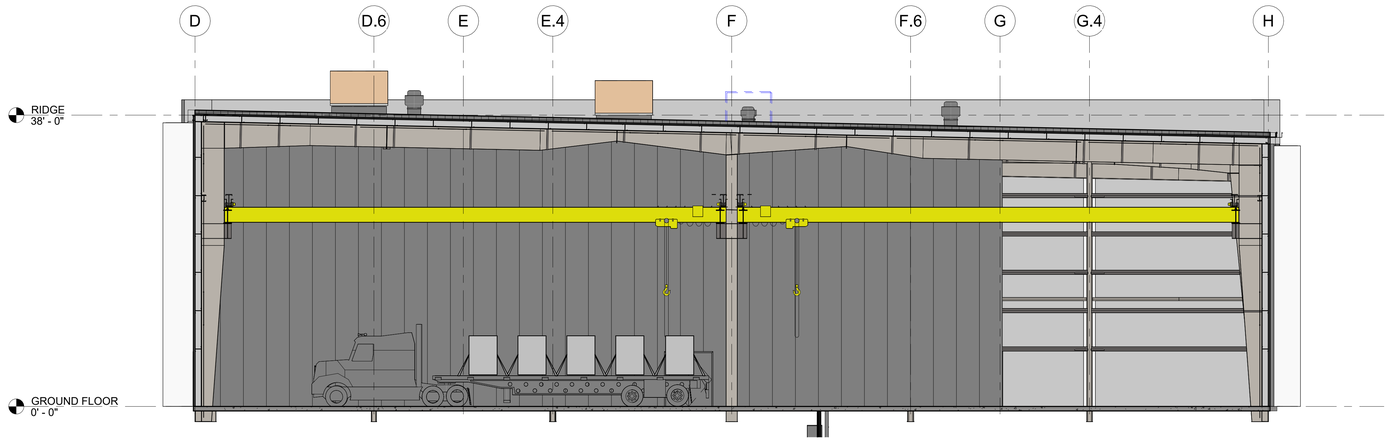

5 BUILDING SECTION - DRIVE-THRU
SCALE: 1/8" = 1'-0"

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Project No. T25020

T.W. FRIERSON CONTRACTOR, INC.

ELEVATIONS & BUILDING SECTIONS

PROJECT MUSTANG
NEW MANUFACTURING FACILITY
CHERRY GLEN INDUSTRIAL PARK
MAURY CO, TENNESSEE

REV.	DESCRIPTION	DATE	CHK	DWG
	PC MEETING	9/3/2025		

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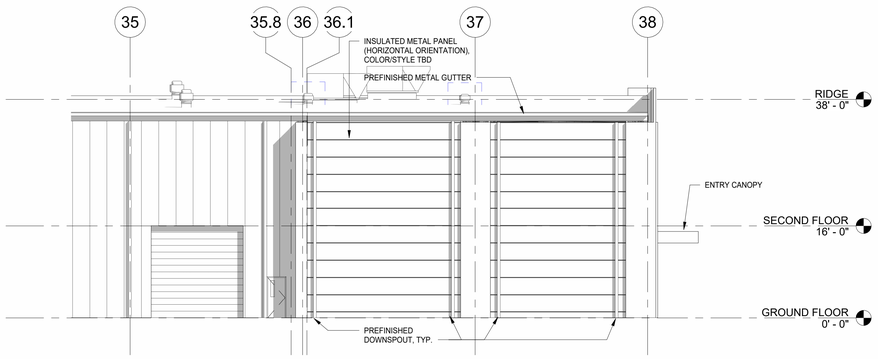

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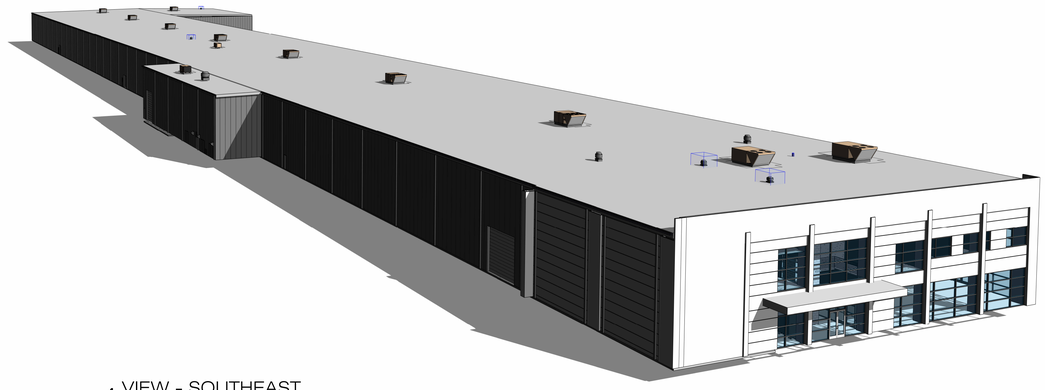

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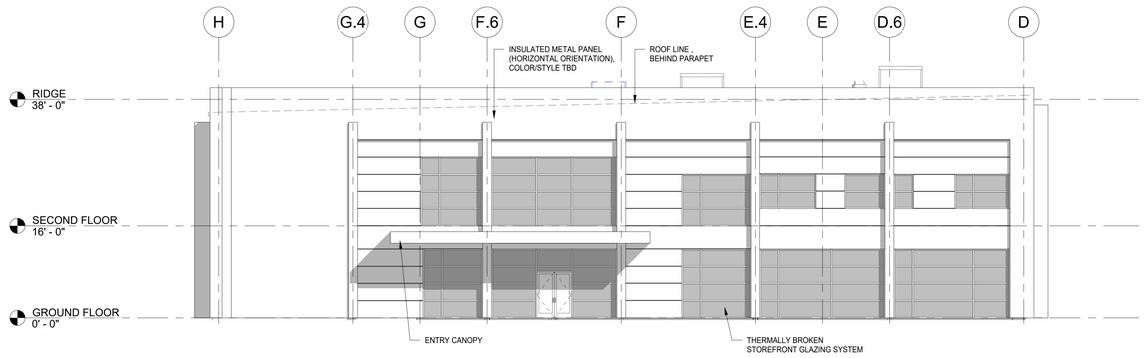

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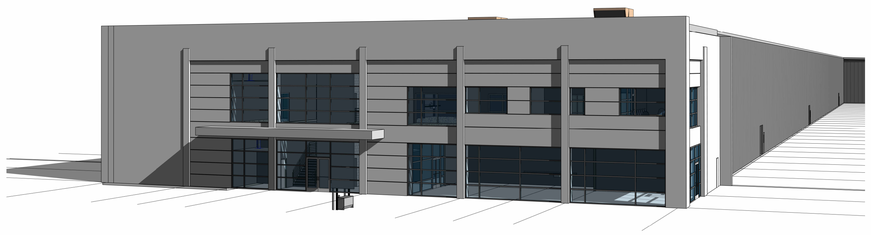

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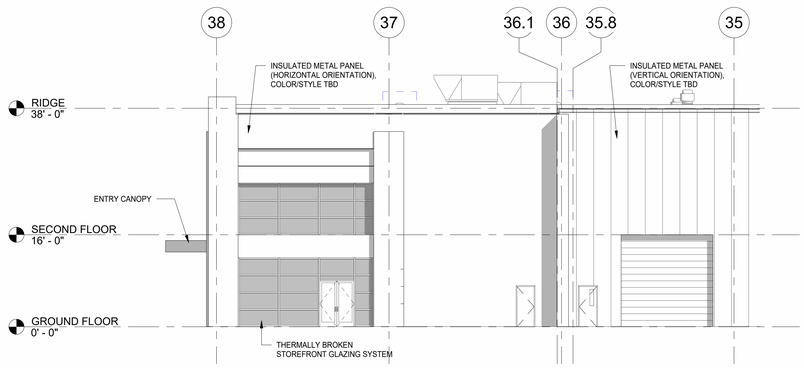

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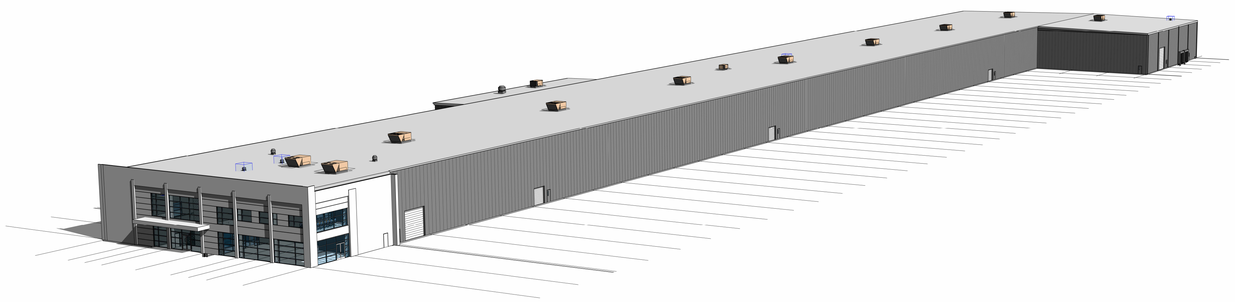

6 VIEW - NORTHEAST
SCALE:

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ENLARGED ELELVATIONS - OFFICE

PROJECT MUSTANG
NEW MANUFACTURING FACILITY
CHERRY GLEN INDUSTRIAL PARK
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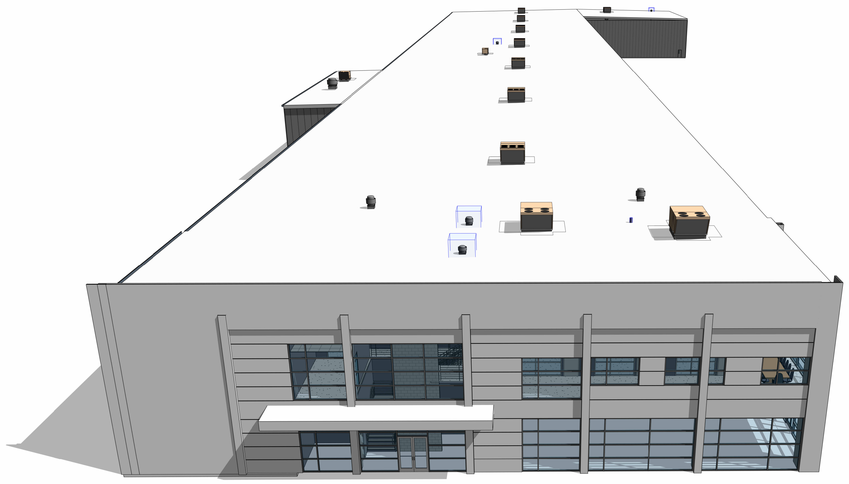

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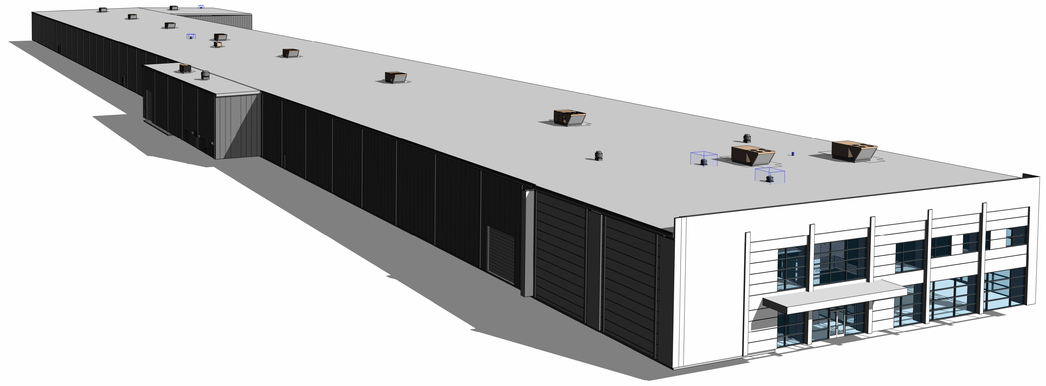
SCALE:



3 VIEW - SOUTHWEST
SCALE:

2 VIEW - NORTH
SCALE:

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ELEVATIONS & VIEWS

PROJECT MUSTANG
NEW MANUFACTURING FACILITY

CHERRY GLEN INDUSTRIAL PARK
MAURY CO, TENNESSEE

REV.	DESCRIPTION	DATE	CHK	DWG
	PC MEETING	9/3/2025		

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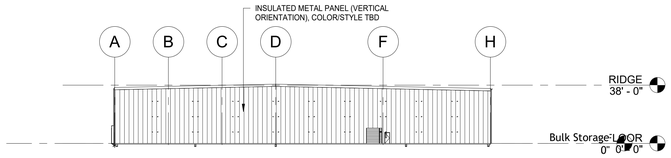

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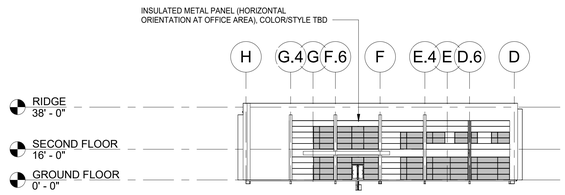

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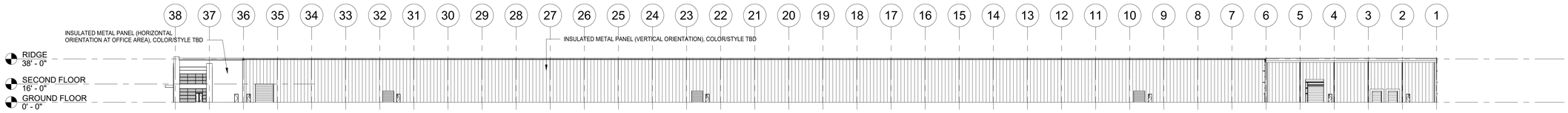

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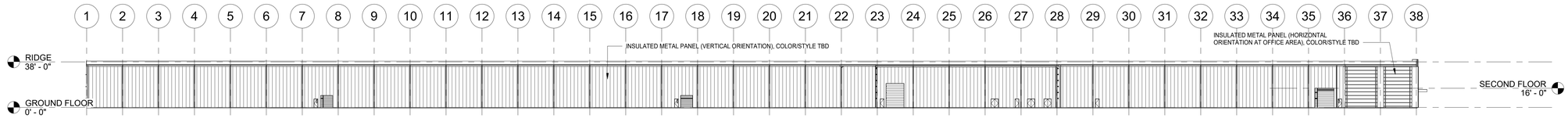

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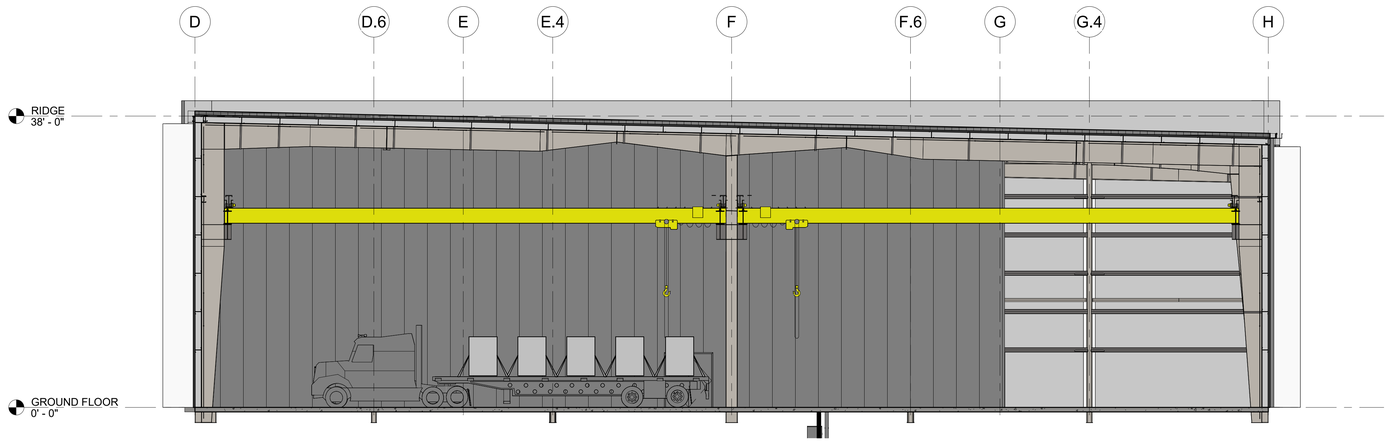

5 BUILDING SECTION - DRIVE-THRU
SCALE: 1/8" = 1'-0"

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PROJECT MUSTANG
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MAURY CO, TENNESSEE

REV.	DESCRIPTION	DATE	CHK	DWG
	60% REVIEW SET	8/13/25		

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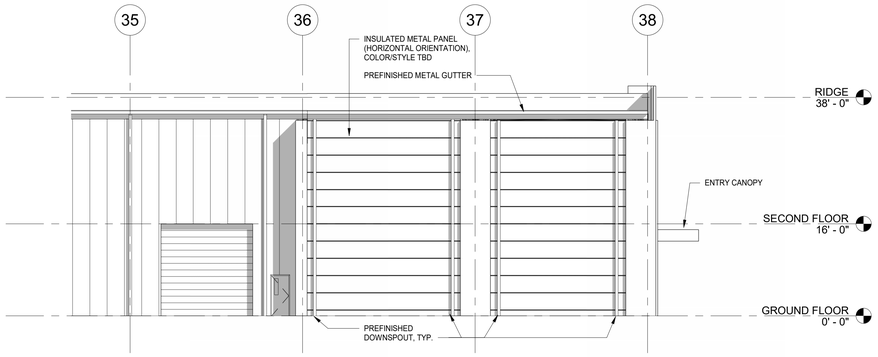

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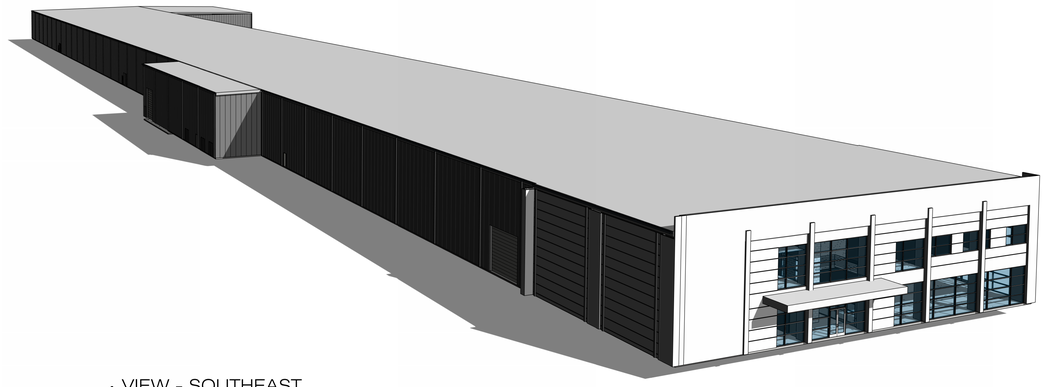
SCALE: 3/32" = 1'-0"



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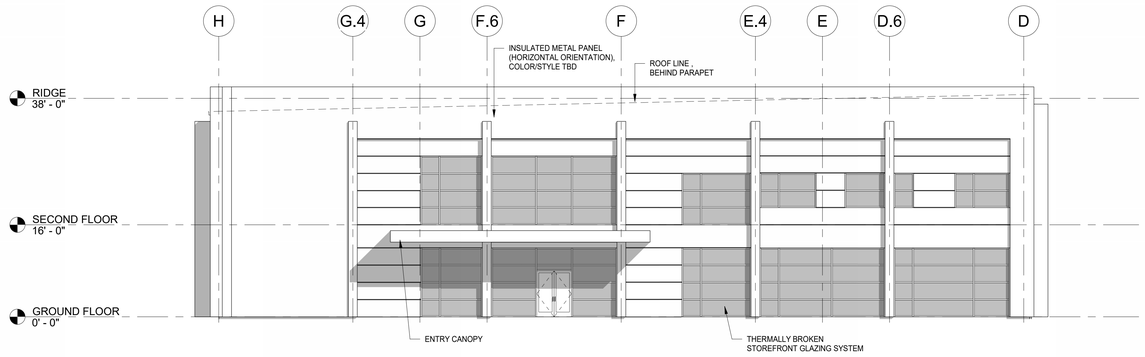

2 EAST ELEVATION - OFFICE
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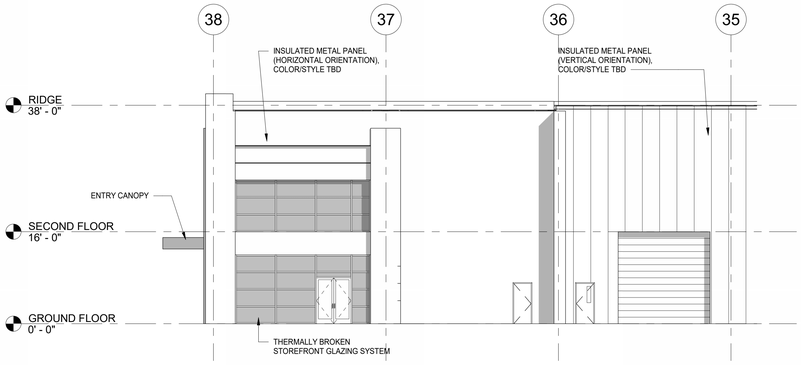
5 VIEW - EAST
SCALE:



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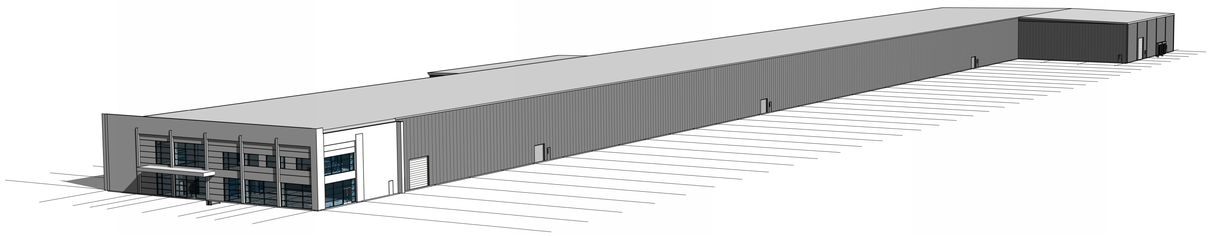

6 VIEW - NORTHEAST
SCALE:

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PROJECT MUSTANG
NEW MANUFACTURING FACILITY

CHERRY GLEN INDUSTRIAL PARK
MAURY CO, TENNESSEE

REV.	DESCRIPTION	DATE	CHK	DWG
	60% REVIEW SET	8/13/25		

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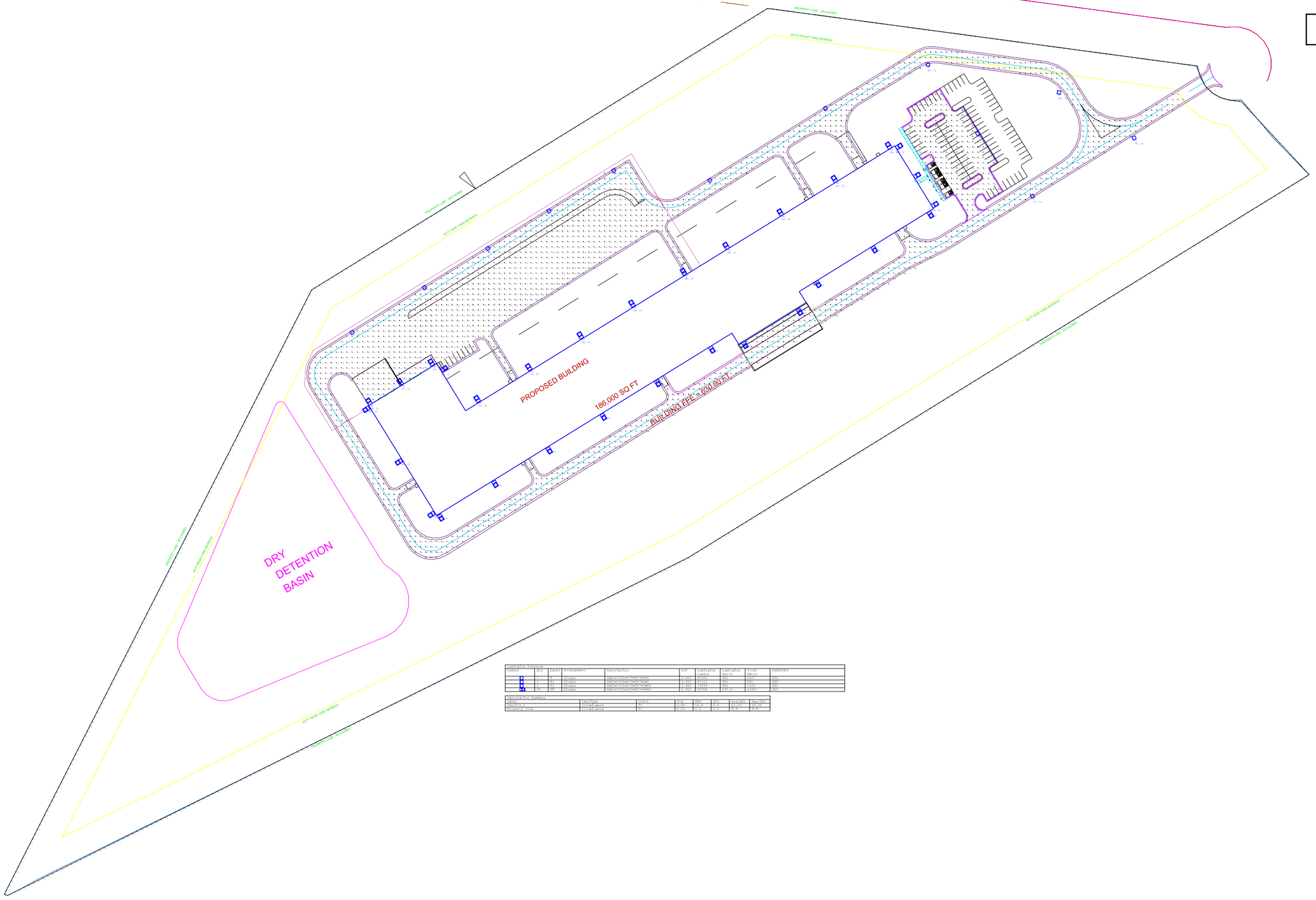
Date 8/25/25

Section 7, Item C.



Luminaire Schedule

Symbol	Qty	Label	Arrangement	Description	LLF	Luminaire Lumens	Luminaire Watts	Total Lumens	Total Watts
	1	F	Single	RAD-F-720L-HT-SQT-40	0.900	80358	551	72323	500
	1	F2	Single	RAD-F-720L-HT-SQT-40	0.900	72210	551	721	500
	15	F2	Single	RAD-F-720L-HT-SQT-40	0.900	72210	551	72210	500
	30	EF	Single	RAD-F-720L-HT-SQT-40	0.900	69708	497.6	11937	500

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Calc Pts	Illuminance	FC	0.61	56.3	0.1	12.83	84.39
Property line	Illuminance	FC	0.01	0.3	0.0	N.A.	N.A.

PROJECT MUSTANG

Drawing No. 6446

487

Sheet 1 of 1

NOT FOR CONSTRUCTION

fsa LIGHTING
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STORMWATER POLLUTION PREVENTION PLAN

FOR

Project Mustang

Joe Frank Porter Road
Mt. Pleasant, Maury County, TN
Gresham Smith Project #50114.00

Tax Map 126, Parcel 041.01

August 11, 2025

Gresham Smith

222 SECOND AVENUE SOUTH
SUITE 1400
NASHVILLE, TN 37201
PHONE: 615-770-8100

PREPARED BY

Rylee Horne
Phone: 615-770-8548
Email: rylee.horne@greshamsmith.com

2025.08.11 15:49:44-04'00'

OWNER

Design Constructors, Inc.
Contact: Craig Polancich
Phone: 615.367.9878

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APPENDICES

Appendix A – Vicinity / USGS Quadrangle Map
Appendix B – Certification Forms
Appendix C – Inspection Reports (Sample TDEC Forms)
Appendix D – Erosion Prevention and Sediment Control Plans
Appendix E –Tennessee General NPDES Permit
Appendix F – Soil Map
Appendix G – NOI (Notice of Intent)
Appendix H – NOT (Notice of Termination)

I. EXECUTIVE SUMMARY

The general contractor and all subcontractor(s) involved with a construction activity that disturbs site soil or who implement a pollutant control measure identified in the Stormwater Pollution Prevention Plan (SWPPP) must comply with the following requirements of the National Pollution Discharge Elimination Systems (NPDES) General Permit for discharges of stormwater associated with Construction Activities and any local governing agency having jurisdiction concerning NPDES, stormwater, erosion and sedimentation control:

A. NPDES Permit Information

This SWPPP will be covered by the state of Tennessee General NPDES Permit No. TNR100000, effective October 1, 2021.

The applicable Tennessee NPDES expires September 30, 2026. A link to the Permit is in Appendix E.

A project vicinity map is in Appendix A.

For purposes of this SWPPP and associated stormwater permit, 'permitted project area' is defined as all areas within the project limits of disturbance, as shown on the SWPPP plans. The General Contractor shall sign off on the Owner's existing Notice of Intent (NOI) before any construction activities begin. ALL ground-disturbing and construction-related activities (material storage, dumpsters, parking areas, project office trailer, etc.) and offsite construction must be included within the permitted project area (limits of disturbance).

B. Public Posting

The following information shall be posted near the main entrance of the construction site accessible to the public:

1. A copy of the Notice of Coverage (NOC) with the NPDES permit tracking number or the construction project;

2. Name, company name, E-mail address (if available), telephone number and address of the project site owner or a local contact person;

3. A brief description of the project; and

4. The location of the SWPPP if the site is inactive or does not have an on-site location to store the plan.

The notice must be maintained in a legible condition. If posting this information near a main entrance is infeasible due to safety concerns, or not accessible to the public, the notice shall be posted in a local public building. If the construction project is a linear construction project (e.g., pipeline, highway, etc.), the notice must be placed in a publicly accessible location near where construction is actively underway and moved as necessary. This permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site. This permit does not require that permittees allow members of the public access to a construction site.

The permittee shall also retain the following items/information in an appropriate location on-site:

a) A copy of twice weekly inspection reports;

b) A copy of the site inspector's Fundamentals of Erosion Prevention and Sediment Control Level 1 certification.

C. Retention of Records

Complete copy of the SWPPP, including copies of all inspection reports, plan revisions, etc., must be always retained at the project site during the duration of the project until a Notice of Termination (NOT) is filed and kept in the permanent project records of the General Contractor for at least three years following submission of the NOT. If the Operator/Inspector is requested to provide inspection reports by TDEC or other governing agency, the Operator/Inspector has ten (10) days to gather and produce inspection reports for requesting agency.

D. Contractor/Subcontractor List

The General Contractor must provide names and addresses of all subcontractors working on this project who will be involved with the major construction activities that disturb site soil or otherwise affect BMP implementation. That information must be kept with this SWPPP.

E. Contractor/Subcontractor Certification Form

The General Contractor and all contractors and/or subcontractors that will implement, maintain and/or impact the pollution control measures in the SWPPP and/or are involved in ground-disturbing activities on the site must sign the certification statement on the SWPPP because they meet the definition of an operator but are not primarily responsible for preparing the SWPPP copy of the Contractor certification included in Appendix B. An authorized representative from each company on the construction project must sign this form certifying that company representatives understand the General Permit authorizing stormwater discharges during construction.

F. Inspections and Site Assessment

a. Quality Assurance Site Assessment

Site assessment shall be performed in accordance with Section 3.1.2 of the TN General Permit. The site assessment shall be conducted at each outfall draining 10 or more acres or 5 or more acres if draining to waters with unavailable parameters or Exceptional Tennessee Waters. Assessments shall cover the entire disturbed area and occur within 30 days of construction commencing. Assessments shall be performed by persons with the following qualifications:

a) A licensed professional engineer or landscape architect.
b) A Certified Professional in Erosion and Sediment Control (CPESC).
c) A person who has successfully completed the "Level II Design Principles for Erosion Prevention and Sediment Control for Construction Sites" course.

Assessments shall verify the installation, functionality, and performance of the EPSC measures herein described. Assessment shall be conducted with the inspector and shall result in a review and update (if applicable) to the approved SWPPP. Modifications of plans and/or specifications shall be prepared by a licensed engineer or landscape architect and stamped and certified in accordance with the Tennessee Code Annotated. The site assessment findings shall be documented and kept onsite with the approved SWPPP. This documentation shall include the information and certification included in the inspection form provided in Appendix C. The site assessment may take the place of one of the twice weekly inspections required below if the entire site is inspected during the assessment.

b. Regular Inspections

Regular inspections must be made to ensure the effectiveness of the SWPPP. The inspections will be conducted twice a week at least seventy-two hours apart. Inspectors are qualified personnel, as defined in the NPDES permit. The SWPPP, including the best management practices implemented on the jobsite, shall be modified as needed to reduce or prevent pollutants from discharging from the site. Modifications to BMPs that change a hydrologic design component (diversions, basins, etc.) must first be approved by the engineer.

The inspector must be a person who has an active certification obtained by completing the “Fundamentals of Erosion Prevention and Sediment Control Level 1” course. A blank inspection form is included as Appendix C.

G. SWPPP Updates and Amendments

The General Contractor must update the SWPPP and plans every 2 weeks to reflect the progress of construction activities and general changes to the project site. SWPPP contact and contractor information and the record of site stabilization activities log must be maintained by the General Contractor throughout the project.

The General Contractor must submit a Request for Information (RFI) to the engineer and obtain written engineer approval before modifying or adding erosion or sediment control BMPs. BMPs that may impact hydraulic design are of particular concern and typically include stormwater basins, sediment traps, diversions, check dams, inlet protection or any product, process or system that changes the stormwater flow path or stormwater storage capacity of the site or is in an area of concentrated flow.

Substitution of any erosion or sediment control BMPs beyond those specified in the SWPPP must first be approved in writing by the engineer. Substitutions are typically only approved if specified materials are not available or there is a valid reason the specified BMP will not work. NOTE: waiting for an RFI response will not comply with language in the permit to correct all deficiencies within 7 days.

Amending the SWPPP does not mean that it must be reprinted. It is acceptable to add addenda, sketches, new sections, details, and/or revised drawings that are initialed and dated.

H. Discharge of Petroleum Products or Hazardous Substances

The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plans for the facility. The NPDES Permit does not fulfil the permittee of reporting requirements of 40 CFR 117 and 40 CFR 302.

I. Stabilization

Stabilization measures shall be initiated as soon as possible in portions of where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed no later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. All slopes greater than 35% shall be stabilized within 7 days after construction activity in that portion of the site has temporarily or permanently ceased. All slopes greater than 3:1 will be stabilized using sod or straw matting.

J. Notice of Termination

Once the site reaches final stabilization with all permanent erosion and sedimentation controls installed, all temporary erosion and sedimentation controls removed, and construction complete, the General Contractor must complete and submit a Notice of Termination (NOT). A blank form is included as Appendix H.

K. General Contractor's Responsibility

This SWPPP intends to control water-borne, air-borne and liquid pollutant discharges by some combination of interception, sedimentation, filtration, and containment. The General Contractor and subcontractors implementing this SWPPP must remain alert to the need to periodically refine and update the SWPPP to accomplish the intended goals. The General Contractor is ultimately responsible for all site conditions and permit compliance.

L. Log of Construction Activity

A record of dates must be maintained when:

- major ground-disturbing activities including earthwork or grubbing occur;
- construction activities temporarily or permanently cease on a portion of the site;
- stabilization measures are initiated or completed; and
- BMPs are installed or permanently removed.

This log must be maintained until the NOT is filed.

Controls must be in place down gradient of any ground-disturbing activities prior to the commencement of upgradient construction activities and noted on the plans and the log. Plan and log comments and entries must complement one another with greater detail provided in the log as needed.

II. INTRODUCTION

This SWPPP, including the General Permit, includes the elements necessary to comply with the NPDES Permit for construction activities administered by the U.S. Environmental Protection Agency (EPA) under the National Pollutant Discharge Elimination System (NPDES) program and all local governing agency requirements. The construction will be covered by the State of Tennessee General NPDES Permit No. TNR100000. This SWPPP must be implemented at the start of construction.

Construction phase pollutant sources anticipated at the site are disturbed (bare) soil, vehicle fuels and lubricants, chemicals and coatings associated with site or building construction and pavement installation, construction-generated litter and debris, and building materials. Without adequate control there is the potential for each type of pollutant to be transported by stormwater.

The project will include clear, grubbing, grading, underground utility line construction, and roadway construction necessary for the development of a residential subdivision.

A. Purpose

A major goal of pollution prevention efforts during project construction is to control soil and pollutants that originate on the site and prevent them from flowing to surface waters. The purpose of this SWPPP is to provide guidelines for achieving that goal. A successful pollution prevention program also relies upon careful inspection and adjustments during the construction process in order to enhance its effectiveness.

B. Scope

This SWPPP must be implemented before construction begins on the site. It primarily addresses the impact of storm rainfall and runoff on areas of the ground surface disturbed during the construction process. In addition, there are recommendations for controlling other sources of pollution that could accompany the major construction activities. Applicability of this SWPPP will terminate when disturbed areas are stabilized up to 95%, permanent erosion and sedimentation controls are installed, temporary erosion and sedimentation controls are removed, construction activities covered herein have ceased.

Forms which are necessary for implementing the SWPPP are included herein.

The General Permit for Stormwater Discharges Associated with Construction Activities prohibits most non-stormwater discharges during the construction phase. Allowable non-stormwater discharges that may occur during construction on this project include:

a) Dewatering of work areas of collected stormwater and ground water (filtering or chemical treatment may be necessary prior to discharge);

b) Water used to wash vehicles (of dust and soil, not process materials such as oils, asphalt or concrete) where detergents are not used and detention and/or filtering is provided before the water leaves the site;

c) Water used to control dust in accordance with section 3.5.5.;

d) Potable water sources including waterline flushing from which chlorine has been removed to the maximum extent practicable;

e) Routine external building washdown that does not use detergents or other chemicals;

f) Uncontaminated groundwater or spring water; and

g) Foundation or footing drains where flows are not contaminated with pollutants (process materials such as solvents, heavy metals, etc.).

Best Management Practices (BMPs) must be implemented for the above allowable discharges for the duration of the permit. Each non-stormwater discharge should be noted in the SWPPP and have proper erosion and sedimentation controls in place.

The techniques described in this SWPPP focus on providing control of pollutant discharges with practical approaches that utilize readily available expertise, materials, and equipment.

The Owner and primary permit holder referred to in this SWPPP is Craig Polancich. The General Contractors shall construct the site development improvements while working under contract with the Owner.

III. PROJECT DESCRIPTION

Described below are the major construction activities that are the subject of this SWPPP. Also included in the sequence are BMP installation activities that must take place prior to construction activities. **NOTE: Down slope protective measures must always be in place before the soil is disturbed.** Activities are presented in order (sequence) they are expected to be completed, but each activity will not necessarily be completed before the next begins. Also, these activities could occur in a different order, if necessary, to maintain adequate erosion and sedimentation controls. The sequence of construction is as follows:

NOTE: Upon implementation and installation of the following areas: trailer, parking, lay down, temporary sanitary facilities, wheel wash, concrete washout, mason's area, fuel and material storage containers, solid waste containers, etc., immediately denote them on the plans and note any changes in location as they occur throughout the construction process. In addition, note all areas where fill is imported from or soil is exported to on the plans.

Construction Sequence

Initial Phase

- Notify Tennessee One-Call at least 3 days prior to any construction activity
- Install silt fence and other downslope erosion control measures

- Install temporary construction exit and concrete washout area. Provide adequate signage indicating the designated concrete washout area.
- Clear and grub only the areas noted. Do not disturb Stream Buffers or Wetlands as shown in the construction drawings.

Intermediate Phase

- Strip and stockpile any available topsoil in designated areas – Stabilize
- Confirm locations and depths of utilities to be removed or relocated
- Demolish existing structures, pavement, and utilities as indicated on plans. Coordinate with Owner.
- Cut and fill to initial rough grading elevations
- Stabilize soil within a week of reaching finished surface grades or if earth-disturbing activities have ceased and will not resume within 15 days
- Maintain control structures by removing sediment when it reaches 50% capacity
- Stabilize soil within a week of reaching finished phase 2 surface grades or if earth-disturbing activities have ceased and will not resume within 15 days
- Construct building
- Maintain control structures by removing sediment when it reaches 50% capacity
- Redistribute topsoil in landscaped areas
- Install landscaping

Final Phase

- Stabilize all denuded disturbed areas and embankments with permanent seed and mulch
- Install erosion control fabric in specified locations
- Remove all temporary BMPs and immediately stabilize any areas disturbed by their removal

NOTE: The General Contractor may complete construction-related activities concurrently only if all preceding BMPs have been completely installed. BMP-related steps in the above sequence are italicized for clarity.

The actual schedule for implementing pollutant control measures will be determined by project construction progress. Down slope protective measures must always be in place before soil is disturbed.

IV. SITE DESCRIPTION

The site property has 36.9 acres, with roughly 25.3 acres being directly disturbed through on-site grading, utility installation, road paving, and building construction. Prior to any land disturbance, the existing site is pervious area consisting of grass and wooded area with some human interference through existing utilities and existing pavement. The proposed site will include a parking lot, building area, utilities, an on-site detention pond, with proposed grading that preserves existing drainage patterns and limits any off-site runoff. The three-phase EPSC drawings are included as part of this SWPPP narrative for reference only. Refer to the Approved Construction Drawings for detailed site construction information.

A. Site Location

- Address: Joe Frank Porter Road
- Latitude: 35.5707
- Longitude: -87.1782
- Adjacent surrounding properties:
- A vicinity map is included in Appendix A.

B. Site Topography

- Elevations on site range from approximately 605 – 655 feet.
- Percent slope variation: Existing slopes in the project area vary from approximately 0% to 12%.
- Topography changes: To preserve existing drainage patterns, an on-site detention pond, area inlets, and drainage swales will be utilized to prevent excess runoff. The cut and fill of the site will be balanced, with slightly more cut than fill. See Appendix D for the proposed drainage area map.
- Vegetation: The existing site is pervious area consisting of grass and partially wooded area. The proposed site will include pervious and impervious area with an on-site detention pond and grassy areas beside the roadway, parking lot, and building area.

C. Rainfall Information

- The average annual precipitation for the project area is approximately 57 inches.
- The design rain event for all temporary erosion control BMPs draining to Outfall 01 shall be the 5-year storm event over a 24-hour period due to the unknown conditions of the unnamed tributary to Big Bigby Creek TN06040003019_2000. All other BMPs have been designed for the 2-year, 24-hour storm event. See Sediment Control Drainage Area Map in Appendix D.

D. Site Soils

- Soil type and texture: The USDA soils report indicates that the soils onsite are primarily comprised of Group A, B, C, C/D, and D materials. Maury silt loam is considered a hydric soil which makes up 43.8% of the site. Godwin silt loam is also hydric and makes up 44% of the site. The presence of silt loam makes this an ideal site for construction since water is absorbed and dried quickly. For more information, refer to Appendix F.

- Average depth to groundwater: A geotechnical exploration has been performed. Subsurface water was encountered in boring at approximately 8.5 feet below the ground surface at the time of drilling. Groundwater levels can fluctuate with weather conditions, construction activity and site-specific hydrologic features. Refer to geotechnical explorations report for additional information.

This information is an estimate and shall not be used for construction costs or estimating.

E. Total Site Area, Area to be Disturbed, and Runoff Coefficient

- The total project site contains: Approximately 36.9 acres. See USGS Quad map provided in Appendix A. Note: Per the TNCGP, projects greater than 50 acres are to be phased.

- The approximate area to be disturbed on the project site is: 36.9 acres

- Pre-construction: 75% open space, 25% forested area

- Post-construction: 75% constructed area, 25% open space

- Area(s) to be disturbed as part of this project that are located beyond the permitted project area: Areas outside of this project will be permitted by General Contractor.

- Pre-Construction Curve Number: CN = 74.0

- Post-Construction Curve Number: CN = 92.0

F. Receiving Surface Waters

- Receiving waters: unnamed tributary to Big Bigby Creek

  (State Waterbody ID: TN06040003019_0200)

- Distance to named receiving waters: 0.35 miles.

- Off-site runoff: There is no significant runoff to consider for this project.

- 100-year floodplain: A small portion of the western boundary of the site is located within the 100-year floodplain per FEMA Floodmap 47119C0260E. No buildings or vehicular areas will be within the floodplain.

V. STORMWATER POLLUTION PREVENTION MEASURES AND CONTROLS

A variety of stormwater pollutant controls are recommended for this project. Some controls are intended to function temporarily and will be used as needed for pollution control during the construction period. These include temporary sediment barriers and permanent storm retention ponds (which can also function as temporary sediment basins). Permanent stabilization will be accomplished in all disturbed areas by covering the soil with pavement, building foundation, vegetation, or other forms of soil stabilization.

A. Erosion and Sediment Controls

- **Minimization of Disturbed Areas**
  Contractor to minimize disturbed areas.

- **Soil Stabilization**
  The purpose of soil stabilization is to prevent soil from eroding and leaving the site. In the natural condition, soil is stabilized by native vegetation. The primary technique to be used at this project for stabilizing site soils will be to provide a protective cover of grass.

  a. **Temporary Seeding or Stabilization -** All denuded areas that will be inactive for 14 days or more, must be stabilized temporarily with the use of fast-germinating annual grass/grain varieties appropriate for site soil and climate conditions, straw/hay mulch, wood cellulose fibers, tacktifiers, netting and/or blankets. Stockpiles and diversion ditches/berms must be stabilized to prevent erosion and dust issues.

     Note to General Contractor: Temporary stabilization is not achieved simply through seeding. For an area or stockpile to be sufficiently stabilized via temporary vegetation, seed must germinate, grow and provide adequate vegetative density.

  b. **Permanent Seeding, Sod, or Mulching** - All areas at final grade must be seeded or covered with sod within 14 days after completion of work in that area. Seed immediately after final grade is achieved and soils are prepared to take advantage of soil moisture and seed germination. At the completion of ground-disturbing activities the entire site must have permanent vegetative cover, meeting vegetative density requirements, or mulch per landscape plan, in all areas not covered by hardscape (pavement, buildings, etc.).

     Seeded areas shall be protected with straw mulch, hydraulic mulch or a rolled erosion control product. Straw mulch must be tactified or crimped by disc or other machinery and rolled erosion control products must be installed per manufacturer's recommendations.

     Consideration is given to climate conditions, soil type and native vegetation when designing the final landscaping plan. Note: Crushed/decomposed granite or other non-vegetative cover may be an acceptable final cover in arid climates.

To minimize the potential for erosion and maximize seed germination & growth, the General Contractor must evaluate the short and long-term local forecast prior to applying permanent seed or sod.

Final site stabilization is achieved when all soil disturbing activities at the site have been completed, and one of the three following criteria is met:

a) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a uniform density of at least 70 percent of the (preferable native) vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, and all slopes and channels have been permanently stabilized against erosion, or

b) Equivalent permanent stabilization measures (such as the use of riprap; permanent geotextiles, hardened surface materials including concrete, asphalt, gabion baskets, or Reno mattresses) have been employed, or

c) For construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural or silvicultural use.

- **Structure Controls**

a) Construction Exit

Access into the construction site shall include a construction exit composed of course stone to the dimensions shown on the Construction Drawings detail sheet. The rough texture of the stone helps to remove clumps of soil adhering to the construction vehicle tires through the action of vibration and jarring over the rough surface and the friction of the stone matrix against soils attached to vehicle tires.

In addition to the stone at the construction exit, it may be necessary to install devices such as pipes (cattle guard) to increase the vibration and jarring. It may also be necessary to install a wheel wash system. If this is done, a sediment trap control must be installed to treat the wash water before it discharges from the site. All coarse stone will be underlain with non-woven filter fabric.

All site access must be confined to the construction exit(s). Barricade to prevent the use of any locations other than the construction exit(s) where vehicles or equipment may access the site. Use jersey barriers, construction fencing/drums, etc. near construction exit(s) to prevent traffic bypasses or short circuiting.

b) Diversions

Graded ditches will be utilized to direct onsite sediment-laden stormwater runoff into the appropriate catch basin for conveyance to the onsite detention ponds. Diversion ditches (swales) and berms (dikes) are constructed as shown on the plans at locations within the construction site to intercept overland flow and direct or divert flow to

inlets (protected from sediment during construction) where discharge can be controlled. Ditches are excavated in the surface soils with the spoils from the excavation typically placed along the downstream edge of the ditch to provide additional capacity. Berms are built up on the surface soils and compacted to create a stable diversion. Clean water diversions will also be employed to direct flow from undisturbed upstream areas around the construction site.

c) Check Dams

Temporary check dams will be used within the diversion ditches to minimize erosion by reducing the velocity of stormwater traveling to the sediment traps and to capture larger soil particles.

d) Silt Fence

Silt fence is a temporary sediment barrier made of woven, synthetic filtration fabric supported by steel or wooden posts. Silt fence prevents sediment carried by sheet flow from leaving the construction site and entering natural drainage ways or storm systems. The fence slows runoff and catches the sediment at the structure. Silt fencing reduces the potential for the development of rills and gullies by promoting sheet flow.

Silt fence should be installed along contours, where sheet flow runoff can be stored behind the barrier without damaging the barrier or the submerged area behind the fence.

B. Other Pollutant Controls

This section includes the controls of pollutants other than sediment and additional requirements of the NPDES Permit.

1. Dust Control

Construction traffic must enter and exit the site at the stabilized construction entrance/exit. The purpose is to trap dust and mud that would otherwise be carried beyond the permitted project area by construction traffic. Large areas of soil that are denuded from vegetation and have no protection from particles being picked up and carried by wind should be protected with a temporary cover or kept under control with water or other soil adhering products to limit wind transported particles exiting the site perimeter.

Water trucks or other dust control agents will be used as needed during construction to minimize dust generated on the site. Tackifiers may be used to hold soil in place and prevent dust. Manufacturer recommendations for application locations and rates must be used for dust control applications. Dust control must be provided by the General Contractor to a degree that is acceptable to the engineer, and in compliance with applicable local and state dust control regulations.

2. Dewatering

Verify discharges from dewatering activities are allowed non-stormwater

discharges under the General Permit. Discharges from dewatering operations must be directed through an appropriate pollution prevention/treatment measure, such as a pump discharge filter bag, sediment trap or sediment basin prior to being discharged from the site or into a water body of the State. Under no circumstances are discharges from dewatering operations to be discharged directly into streams, rivers, lakes or other areas beyond the permitted project area. Likewise, discharges into storm sewer systems that do not drain to a suitable on-site treatment facility, such as a basin, are also prohibited. Discharges from dewatering operations must also be conducted in a manner sufficient to prevent erosion from the discharge runoff.

Use best management practices when dewatering. Place intake hose on a flotation or similar device and do not pump directly from the bottom of the basin, trench, etc. Always pump through a sediment control BMP and dewater within the permitted limits of disturbance to ensure discharge criteria are achieved. Do not discharge on a slope greater than three percent or within 30' of a surface water body. Dewatering should not occur during or immediately after precipitation events, but exceptions will be evaluated on a case-by-case basis.

3. **Solid Waste Disposal**
   No solid materials, including building materials, are allowed to be discharged from the site with stormwater. All solid waste, including disposable materials incidental to the major construction activities, must be collected and placed in containers. The containers will be emptied when 95% full, or as necessary, by a certified trash disposal service and hauled away from the site.

   Substances that have the potential for polluting the surface and/or groundwater must be controlled by whatever means necessary in order to ensure that they do not discharge from the site. As an example, special care must be exercised during equipment fueling and servicing operations. If a spill occurs, it must be contained and disposed of so that it will not flow from the site or enter groundwater, even if this requires removal, treatment, and disposal of soil. In this regard, potentially polluting substances should be handled in a manner consistent with the impact they represent.

4. **Sanitary Facilities**
   All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities shall be provided at the site throughout the construction phase. They must be utilized by all construction personnel and should be serviced by a commercial operator. Portable toilets must be securely anchored and are not allowed within 30' of inlets or permitted limit of disturbance or within 50' of the water of the State.

5. **Non-Stormwater Discharges**
   Non-stormwater components of site discharges must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the State Health Department. Water used for construction that does not originate from an approved public supply must not be discharged from the site. It can be retained in the ponds until it infiltrates and evaporates. Other non-stormwater discharges would

include ground water. Only uncontaminated ground water can be discharged from the site, as allowed by and in accordance with applicable local ground water dewatering permits/regulations. When non-stormwater is discharged from the site, it must be done in a manner that it does not cause erosion of the soil during discharge.

Process water such as power washing and concrete cutting must be collected for treatment and disposal. It is not to be flushed into the site storm drain system.

6. **Concrete Waste from Concrete Ready-Mix Trucks**
   Discharge of excess or waste concrete and/or wash water from concrete trucks will be allowed on the construction site, but only in approved above ground portable concrete washout containers (preferred) or in specifically designated lined and diked areas prepared to prevent contact between the concrete and/or wash water and stormwater that will be discharged from the site. The General Contractor shall eliminate or minimize the number of seams in the liner.

   Alternatively, waste concrete can be placed into forms to make rip rap or other useful concrete products. The cured residue from the concrete washout diked areas shall be disposed in accordance with applicable state and federal regulations. This job-site superintendent is responsible for assuring that these procedures are followed. The location of concrete washout areas shall be shown on the plans. Follow all applicable environmental regulations for concrete washout pits.

7. **Masons' Area**
   The contractor shall identify the masons' area on the site and indicate location on the plan. To the extent practical, all masonry tools, material, including sand and sacked cement or mortar materials, and equipment shall be located within the area identified. Runoff control, such as berms or diversion ditches, silt fence, straw wattles, or other means of containment shall be provided to prevent the migration of stormwater pollutants in runoff from the masons' area. Receptacles for debris and trash disposal shall also be provided.

8. **Fuel Tanks**
   Temporary on-site fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with the capacity required by the applicable regulations. From NFPA 30: All tanks shall be provided with secondary containment (i.e. containment external to and separate from primary containment). Secondary containment shall be constructed of materials of sufficient thickness, density, and composition so as not to be structurally weakened because of contact with the fuel stored and capable of containing discharged fuel for a period equal to or longer than the maximum anticipated time sufficient to allow recovery of discharged fuel. It shall be capable of containing 110% of the volume of the primary tank if a single tank is used, or in the case of multiple tanks, 150% of the largest tank or 10% of the aggregate, whichever is larger.

   The tanks shall be in sound condition free of rust or other damage which might compromise containment. Fuel storage areas will meet all EPA, OSHA and

other regulatory requirements for signage, fire extinguisher, etc. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be always maintained in proper working conditions. The location of fuel tanks shall be shown on the plans and shall be located to minimize exposure to weather and surface water drainage features.

A Spill Prevention, Control and Countermeasure (SPCC) Plan must be developed if aboveground oil storage *capacity* at the construction site exceeds 1,320-gallons or as specified by state. Containers with a storage capacity of 55-gallons or less are not included when calculating site storage capacity. The General Contractor shall work with the engineer to develop and implement a SPCC Plan in accordance with the Oil Pollution Prevention regulation at Title 40 of the Code of Federal Regulations, Part 112, (40 CFR 112).

9. Hazardous Material Management and Spill Reporting Plan

Any hazardous or potentially hazardous material that is brought onto the construction site will be handled properly to reduce the potential for stormwater pollution. All materials used on this construction site will be properly stored, handled, dispensed and disposed of following all applicable label directions. Flammable and combustible liquids will be stored and handled according to 29 CFR 1926.152. Only approved containers and portable tanks shall be used for storage and handling flammable and combustible liquids.

All chemicals and soluble materials stored onsite must either be stored in an enclosed, waterproof storage facility or provided with secondary containment capable of storing the contents of the total amount of chemicals stored. Spill cleanup materials must be located within the immediate proximity of the materials as well.

Material Safety Data Sheets (MSDS) information will be kept on site for all applicable materials.

In the event of an accidental spill, immediate action will be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials, including contaminated soil and liquid concrete waste, will be disposed of by the Contractor in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill will be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States will be properly reported. The General Contractor will prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials more than 1 gallon or reportable quantities, whichever is less. The General Contractor will provide notice to the Owner immediately upon identification of a reportable spill.

Any spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the state or local agency regulations, shall be immediately reported to the EPA National Response Center (NRC) (1-800-424-8802) and in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117 and 40 CFR Part 302 as soon as Site staff have knowledge of the discharge.

The reportable quantity for hazardous materials can be found in 40 CFR 302.

To minimize the potential for a spill of petroleum or hazardous materials to encounter stormwater, the following steps will be implemented:

a) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, additives for soil stabilization, concrete, curing compounds and additives, etc.) will be stored in a secure location, under cover and in appropriate, tightly sealed containers when not in use.

b) The minimum practical quantity of all such materials will be kept on the job site and scheduled for delivery as close to time of use as practical.

c) A spill control and containment kit (containing for example, absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided on the construction site and location(s) shown on plans.

d) All the products in a container will be used before the container is disposed of. All such containers will be triple rinsed, with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with stormwater discharges.

e) All products will be stored in and used from the original container with the original product label.

f) All products will be used in strict compliance with instructions on the product label.

g) The disposal of excess or used products will be in strict compliance with instructions on the products label.

10. Long-Term Pollutant Controls

Stormwater pollutant control measures installed during construction, that will also provide stormwater management benefits after construction, include ponds, grass-lined channels, rip-rapped outfalls, and vegetation and are subject to the long-term maintenance plan associated with this project.

C. "Best Management Practices" (BMPs)

The owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct the General Contractor to provide immediate permanent or temporary pollution control measures.

During the construction phase, the General Contractor shall implement the following measures:

1. Materials resulting from clearing and grubbing or excavation operations shall be stockpiled up slope from adequate sedimentation controls. Materials removed to sites beyond the permitted project area shall be protected with appropriate controls and properly permitted and otherwise comply with applicable laws, all in accordance with this SWPPP.

2. The General Contractor shall designate areas on the plans for equipment cleaning, maintenance, and repair. The General Contractor and subcontractors shall utilize such designated areas. Cleaning, maintenance, and repair areas shall be protected by a temporary perimeter berm, shall not occur within 150 feet of any waterway, water body or wetland, and in areas located as far as practical from storm sewer inlets.

3. Use of detergents for large scale washing is prohibited (i.e., vehicles, buildings, pavement surfaces, etc.)

4. Chemicals, paints, solvents, fertilizers, and other toxic materials must be stored in waterproof containers. Except during application, the containers and the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the site, treated, and disposed of at an approved solid waste or chemical disposal facility.

VI. LOCAL PLANS

In addition to this SWPPP, construction activities associated with this project must comply with any guidelines set forth by local regulatory agencies having authority.

VII. INSPECTIONS AND SYSTEM MAINTENANCE

Between the time this SWPPP is implemented, and final Notice of Termination has been submitted, all disturbed areas and pollutant controls must be inspected twice weekly, at least 72 hours apart. The purpose of site inspections is to assess the performance of pollutant controls. The inspections will be conducted by qualified personnel that are provided by the permittee or cooperatively by the owner/operator and the General Contractor, whom have an active certification obtained by completing the “Fundamentals of Erosion Prevention and Sediment Control Level 1” course. The inspector shall be properly authorized in accordance with the General NPDES Permit to conduct the certified site stormwater inspections. Based on these inspections, the General Contractor will decide whether it is necessary to modify this SWPPP, add or relocate controls, or revise or implement additional Best Management Practices to prevent pollutants from leaving the site via stormwater runoff. The General Contractor has the responsibility to maintain pollutant control measures as they need to be repaired, modified, supplemented, or take additional steps as necessary to achieve effective pollutant control.

Examples of specific items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection, the inspector must evaluate overall pollutant control system performance as well as details of individual system components. Additional factors should be considered as appropriate to the circumstances.

A. Construction Exit and Track Out

Locations where vehicles enter and exit the site must be inspected for evidence

of sediment tracking beyond the permitted project area. A stabilized construction exit shall be constructed where vehicles enter and exit. Exits shall be maintained or supplemented with additional rock as necessary to prevent the release of sediment from vehicles leaving the site. Any sediment deposited on the roadway shall be swept as necessary throughout the day or at the end of every day and disposed of in an appropriate manner. Sediment shall **NOT** be washed into storm sewer systems.

B. Erosion Control Devices

Rolled erosion control products (nets, blankets, turf reinforcement mats) and marginally vegetated areas (areas not meeting required vegetative densities for final stabilization) must be inspected daily. Rilling, rutting and other signs of erosion indicate the erosion control device is not functioning properly and additional erosion control devices are warranted.

C. Sediment Control Devices

Sediment barriers, traps and basins must be inspected, and they must be cleaned out at such times as their original capacity has been reduced by 50 percent. All material excavated from behind sediment barriers or in traps and basins shall be incorporated into on-site soils or spread out on an upland portion of the site and stabilized. To minimize the potential for sediment releases from the project site perimeter control devices shall be inspected with consideration given to changing up-gradient conditions.

D. Material Storage Areas

Material storage areas should be located to minimize exposure to weather. Inspections shall evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system or discharging from the site. If necessary, the materials must be covered, or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, to contain runoff from material storage areas. All state and local regulations pertaining to material storage areas will be adhered to.

E. Vegetation

Consideration must be given to anticipated climate and seasonal conditions when specifying and planting seed. Seed shall be free of weedy species and appropriate for site soils and regional climate. Seed and mulch per the construction drawings immediately after topsoil is applied and final grade is reached. Grassed areas shall be inspected to confirm that a healthy stand of grass is maintained. The site has achieved final stabilization once all areas are covered with building foundation or pavement or have a stand of grass of natural background cover over the entire vegetated area in accordance with the NPDES Permit requirements. Vegetated areas must be watered, fertilized, and reseeded as needed to achieve this requirement. Areas protected by erosion control blankets are not permanently stabilized until the applicable NPDES Permit requirement for final vegetation is achieved.

Rip-rap, mulch, gravel, decomposed granite or other equivalent permanent stabilization measures may be employed in lieu of vegetation based on site-specific conditions and governing authority approval.

F. Outfalls

All outfalls must be inspected to determine whether erosion and sediment control measures are effective in preventing discharge of sediment from the site or impacts to receiving waters.

Based on inspection results, any modification necessary to increase effectiveness of this SWPPP to an acceptable level must be made before the next rainfall event, if possible, but in no case more than seven calendar days after the inspection. The inspection reports must be complete, and additional information should be included if needed to fully describe a situation. An important aspect of the inspection report is the description of additional measures that need to be taken to enhance plan effectiveness. The inspection report must identify whether the site was in compliance with the SWPPP at the time of inspection and specifically identify all incidents of non-compliance.

Inspection reports must be retained by the General Contractor as an integral part of this SWPPP for at least three years from the date of submission of the Notice of Termination of permit coverage. Upon request, inspection reports shall be submitted to the local Environmental Field Office within 10 days of request.

Ultimately, it is the responsibility of the General Contractor to ensure the adequacy of site pollutant discharge controls. Actual physical site conditions or contractor practices could make it necessary to install more structural controls than are shown on the plans. For example, localized concentrations of runoff could make it necessary to install additional sediment barriers. Assessing the need for additional controls and implementing them or adjusting existing controls will be a continuing aspect of this SWPPP until the site achieves final stabilization. Any modifications, additions or deletions of sediment control devices that may alter the hydraulic design of the site or are located in areas of potential high flow (basins, traps, check dams, diversions, etc.) must be approved by the engineer

VIII. Post Construction Stormwater Management

Post construction stormwater will be managed in accordance with the City of Mt. Pleasant regulations to ensure there are no adverse impacts downstream.

APPENDICES

Appendix A – Vicinity / USGS Quadrangle Map

Appendix B – Certification Forms

Appendix C – Inspection Reports (Sample and TDEC Forms)

Appendix D – Erosion Prevention and Sediment Control Plans

Appendix E –Tennessee General NPDES Permit

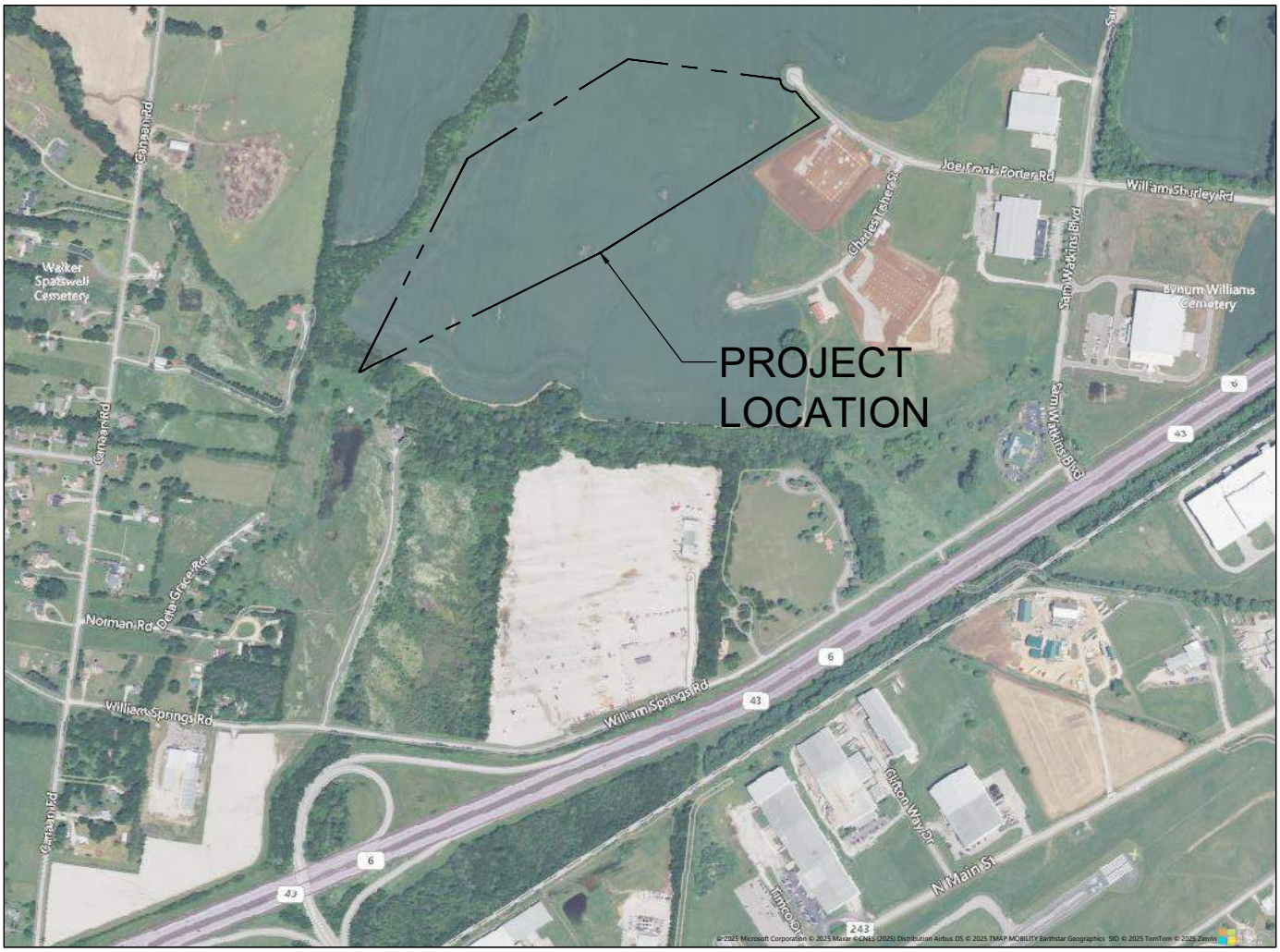
Appendix F – Soil Map

Appendix G – NOI (Notice of Intent)

Appendix H – NOT (Notice of Termination)

APPENDIX A

VICINITY / U.S.G.S. QUADRANGLE MAP



VICINITY MAP

NOT TO SCALE

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

MOUNT PLEASANT QUADRANGLE
TENNESSEE - MAURY COUNTY
7.5-MINUTE SERIES

PROJECT LOCATION
POI AB
Mount Pleasant
Ridley
Canaan
Ashwood
Columbia
Poplar Top
Campbell Lake
Needmore
Red Row
Pierson Town
Arrow
Tisbell
Parrers
Scotts Mill
Siloam
Thompson Hill
English Hill
Pisgah Ridge
Big Rocky Creek
Big Rocky Branch
Rocky Fork
Rocky Fork Creek
Big Rocky Creek
Big Rocky Fork
Big Rocky Fork
Big Rocky Creek
Big Rocky Creek
Big Rocky Creek

APPENDIX B

CERTIFICATION FORMS

PRIMARY PERMITTEE
CERTIFICATION OF THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

SITE OWNER/DEVELOPER

"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."

T.W. Frierson Contractor, Inc.	615-367-1333
Company Name	Phone Number
2971 Kraft Drive	Nashville, TN 37204
Street Address	City, State Zip
Steve Mignoli/Matt Taylor	Project Manager/VP of Operations
Printed Name	Title
Steve Mignoli / Matt Taylor	8-4-25
Signature	Date

Primary permittees - This 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, and as follows:

1) Corporation – Responsible Corporate Officer
   a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or
   b) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated site including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manger in accordance with corporate procedures.
2) General Partnership – Each general partner in the general partnership
3) Sole Proprietorship – Sole Proprietor
4) Local, State, Federal Municipality or other Public Agency – Principal Executive officer or Ranking Elected Official. Principal Executive officer of a Federal agency includes:
   a) Chief executive office of the agency, or
   b) a senior executive officer having responsibility for the overall operations of a principle geographic unit of the agency (e.g., Regional Administrators of EPA).

CONTRACTOR/SUBCONTRACTOR CERTIFICATION

The General Contractor and all contractors and/or subcontractors that will implement and maintain the pollution control measures in the SWPPP and/or are involved in ground-disturbing activities on the site must be identified below. An authorized representative from each company on the construction project must sign this form certifying that company representatives understand the Tennessee General NPDES Permit No. TN100000 authorizing stormwater discharges during construction. These certifications must be maintained in the SWPPP file.

Contractor/Subcontractor Employee Name _____ Trade _____

Company Name _____ Business Phone Number _____

Business Address _____ City, State Zip _____

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 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 TN100000, and that certain of my activities onsite 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."

Signature _____ Date _____

Printed Name _____

Title (Must be an Officer of company) _____

✓ (check all that apply)

✓	**Best Management Practice**	✓	**Best Management Practice**	✓	**Best Management Practice**
✓	Construction Exit	✓	Diversions	✓	Solid Waste
✓	Silt Fence	✓	Sediment Traps	✓	Sanitary Waste
✓	Check Dams	✓	Sediment Basins		Hazardous Waste Management
✓	Inlet Protection	✓	Dust Control	✓	Record Keeping
✓	Erosion Control	✓	Concrete Wash-out	✓	SWPPP modifications
✓	Vegetation	✓	Fuel Storage/Containment		

APPENDIX C

INSPECTION REPORTS

SWPPP Package Revision Log

REV. #	PAGE OR SHEET #	DESCRIPTION OF REVISION	REASON FOR REVISION	DATE	SIGNATURE

SWPPP Package Revision Log

SWPPP Package Revision Log

MONTHLY RAINFALL DATA LOG

MONTH _____ YEAR _____

DATE	DAY OF WEEK[1]	PREDICTED PRECIPITATION (%)[2]	RAINFALL GAUGE 1 (IN)	RAINFALL GAUGE 2 (IN)	RAINFALL GAUGE 3 (IN)	RAINFALL GAUGE 4 (IN)	RAINFALL GAUGE 5 (IN)	DURATION (HR)
1								
2								
3								
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30								
31								

[1] DAY OF WEEK= SU,M,TU,W,TH,F,SA

[2] PREDICTED PRECIPITATION SOURCE: _____

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
DIVISION OF WATER RESOURCES
William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th 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:		**NPDES Tracking Number: TNR**
Primary Permittee Name:		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:	**NPDES Tracking Number: TNR**
Primary Permittee Name:	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:
Primary Permittee Name and Title:	Signature:	Date:

APPENDIX C

NOI FORM

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: Project Mustang		**NPDES Tracking Number: TNR**
Street Address including city or zip code or Location: Joe Frank Porter Road Mt. Pleasant, TN 38401		Construction Start Date: 09.01.2025 Estimated End Date: 12.01.2026
Site Description:		Latitude (dd.dddd): 35.5707 Longitude (-dd.dddd): 87.1782
County(ies): Murray County	MS4 Jurisdiction (if applicable):	Acres Disturbed: 25.3 Total Acres: 36.9

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:

Receiving waters: Unnamed Tributary to Big Bigby Creek (TN06040003019_0200)

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)

For corporate entities only, provide the Tennessee Secretary of State (SOS) Control Number:

Site Owner or Developer Contact Name: (individual responsible for site) Steve Mignoli	Title or Position: (the party who signs the certification below): Project Manager		
Mailing Address: 2971 Kraft Drive	City: Nashville	State: TN	Zip: 37204
Phone: (615) 367-1333	E-mail: smignoli@twfrierson.com		

Optional Contact Name: Matt Taylor	Title or Position: VP of Operations		
Mailing Address: 2971 Kraft Drive	City: Nashville	State: TN	Zip: 37204
Phone: (615) 367-1333	E-mail: mtaylor@twfrierson.com		

Owner or Developer Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)		
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): T.W. Frierson Contractor, Inc.	Signature: Matt Zyl	Date: 8-4-25

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) SOS: 001251860 T.W. Frierson Contractor, 2971 Kraft Drive, Nashville, TN 37204	Signature: Matt Zyl	Date: 8-4-25
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

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)

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If an Aquatic Resource Alteration Permit has been obtained for this site, what is the permit number? ARAP Number:

Receiving waters: Unnamed Tributary to Big Bigby Creek (TN06040003019_0200)

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)

For corporate entities only, provide the Tennessee Secretary of State (SOS) Control Number:

Site Owner or Developer Contact Name: (individual responsible for site) Steve Mignoli	Title or Position: (the party who signs the certification below): Project Manager		
Mailing Address: 2971 Kraft Drive	City: Nashville	State: TN	Zip: 37204
Phone: (615) 367-1333	E-mail: smignoli@twfrierson.com		

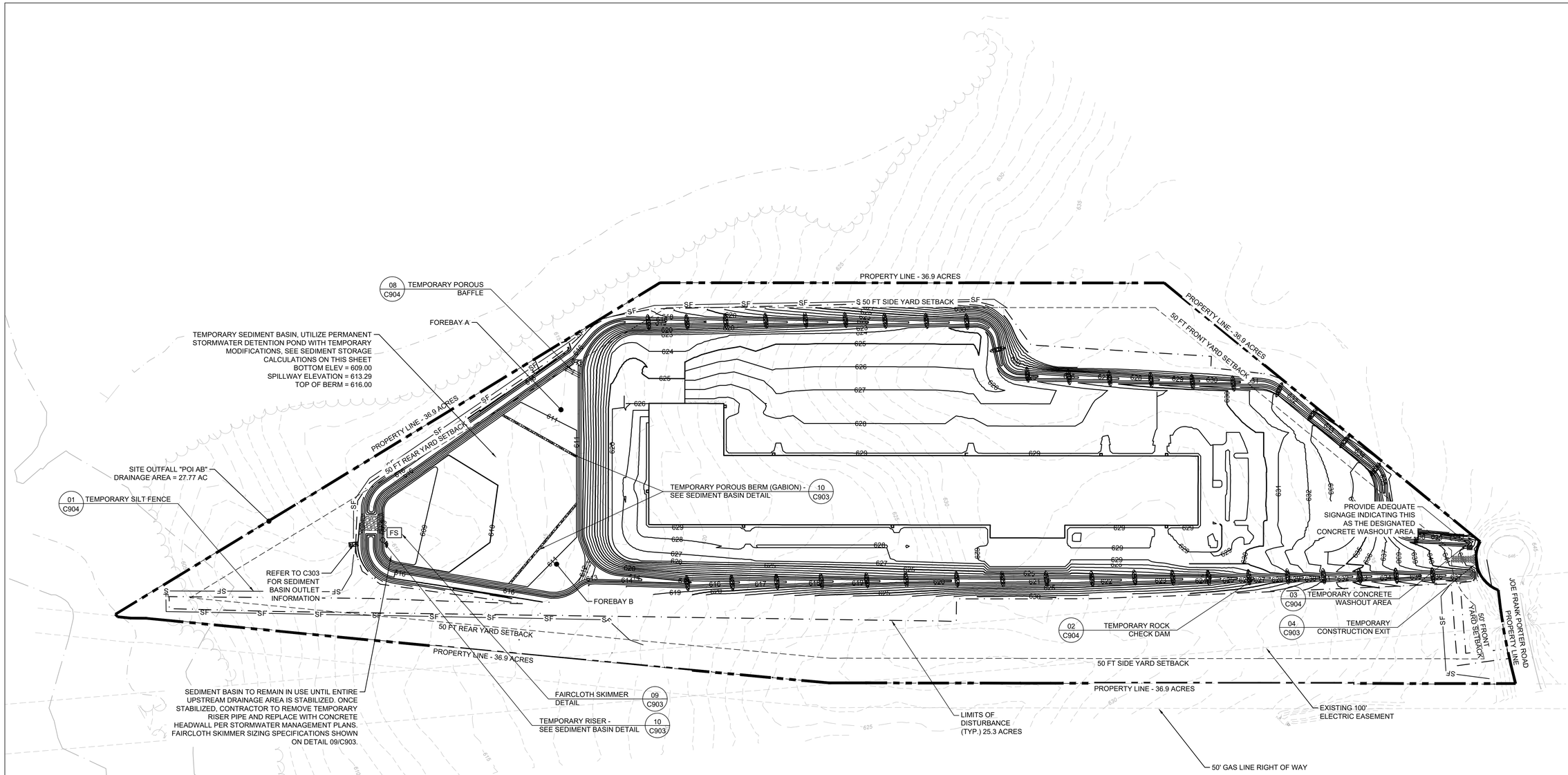
Optional Contact Name: Matt Taylor	Title or Position: VP of Operations		
Mailing Address: 2971 Kraft Drive	City: Nashville	State: TN	Zip: 37204
Phone: (615) 367-1333	E-mail: mtaylor@twfrierson.com		

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass Tennessee Tower,
312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

Tennessee Municipal Construction Stormwater Project Review Checklist			
QLP/Municipality:		Reviewer:	Review Date:
Site Name:		Date Received:	TNQ/TNR:
Site Location:		Disturbed acreage:	
Owner/Developer Name:		Secretary of State Control Number:	
Stream and/or Wetland determination report included: YES■ NO☐ NA☐		Exceptional Tennessee Waters: YES☐ NO☐ NA☐	
TDEC DWR HD/Wetland concurrence letter provided: YES☐ NO■ NA☐		Siltation impaired drainage or water body (https://tdeconline.tn.gov/dwrcgp/): YES☐ NO☐ NA☐	
ARAP required: YES☐ NO■ NA☐		T&E species present: YES☐ NO☐ NA☐	
COMPONENTS OF THE SWPPP			
Permit Section		Comments	Acceptable
5.5.2.	SWPPP and EPSC plans		☐
5.5.3.	Erosion Prevention and Sediment Controls		☐
5.5.3.1.	General criteria and requirements		☐
5.5.3.2.	Construction phasing		☐
5.5.3.3.	Projects Exceeding 50 acres of Disturbance		☐
5.5.3.4.	Stabilization practices (14 or 7 days)		☐
5.5.3.5.	Structural practices (2yr 24hr design storm, basin for 10 ac drainage area)		☐
5.5.3.6.	Stormwater management		☐
5.5.3.7.	Other items needing control		☐
5.5.3.8.	Site Assessments		☐
5.5.3.9.	Inspections (2/week)		☐
5.5.3.10.	Inspector qualifications		☐
5.5.3.11.	Schedule of inspections		☐
5.5.3.12.	Pollution prevention measures for non-stormwater discharges		☐
4.1.2.	Water Quality Riparian Buffers 30ft		☐
4.1.3.	Dewatering		☐
Discharges into Waters with Unavailable Parameters or Exceptional Tennessee Waters			
6.4.1.	SWPPP/BMP Requirements (5yr-24hr design storm, basins for 5 ac drainage area)		☐
6.4.2.	Water Quality Riparian Buffers 60ft		☐

APPENDIX D

EROSION PREVENTION AND SEDIMENT CONTROL PLANS



IF YOU DIG TENNESSEE...
CALL US FIRST!
1-800-351-1111
TENNESSEE ONE CALL

SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.
SEE THIS SHEET AND C402 FOR SEDIMENT BASIN DESIGN CALCULATIONS.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREAS AS NEEDED
2. INSTALL SEDIMENT BARRIERS (SILT FENCE, ROCK CHECK DAMS, POROUS BAFFLE, RIP-RAP)
3. CONSTRUCT TEMPORARY SEDIMENT BASIN WITH SKIMMER AND INSTALL OUTLET PIPES AND STRUCTURES
4. INSTALL DIVERSION DITCHES WITH ROCK CHECK DAMS PRIOR TO UPSTREAM EARTH DISTURBANCE

LEGEND

662	EXISTING MINOR CONTOUR
660	EXISTING MAJOR CONTOUR
662	PROPOSED MINOR CONTOUR
660	PROPOSED MAJOR CONTOUR
SF	TEMPORARY SILT FENCE
	LIMITS OF DISTURBANCE
	TEMPORARY POROUS BAFFLE
	TEMPORARY CONSTRUCTION EXIT (GRAVEL)
	CONCRETE WASHOUT AREA
	TEMPORARY ROCK CHECK DAM
	TEMPORARY RISER
FS	FAIRCLOTH SKIMMER

ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

PORT-A-POTTIES TO BE LOCATED NEAR LAYDOWN AREA ON PAVED, NORTHERN SIDE OF SITE

TEMPORARY SEDIMENT BASIN CALCULATIONS:

DRAINAGE AREA =	36.62 AC
REQUIRED WET VOLUME (67 CY/ AC) =	2,454 CY
REQUIRED DRY VOLUME (67 CY/ AC) =	2,454 CY
PROVIDED WET VOL. (BELOW STONE SPILLWAY) =	3804 CY
PROVIDED DRY VOL. (1' BELOW BERM) =	9007 CY
TOTAL PROVIDED VOL. (DRY + WET) =	12,811 CY

NOTE: TEMPORARILY INSTALL POROUS BERM/BAFFLE SEDIMENT CONTROL AND MODIFY PERMANENT DETENTION POND OUTLET STRUCTURE AND BERM SPILLWAY FOR TEMPORARY SEDIMENT BASIN.

EPSC NOTE:
ALL OUTFALL RIPRAP TO BE INSTALLED AT 0% SLOPE IN ALL DIRECTIONS.

NORTH

100' 0 100' 200'
GRAPHIC SCALE

Know what's below. Call before you dig.

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG
7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01
Developer: DCi

MATTHEW A. MCLAREN
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 121286
STATE OF TENNESSEE

THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

OVERALL INITIAL EPSC PLAN

C401

50114.00
07/23/2025

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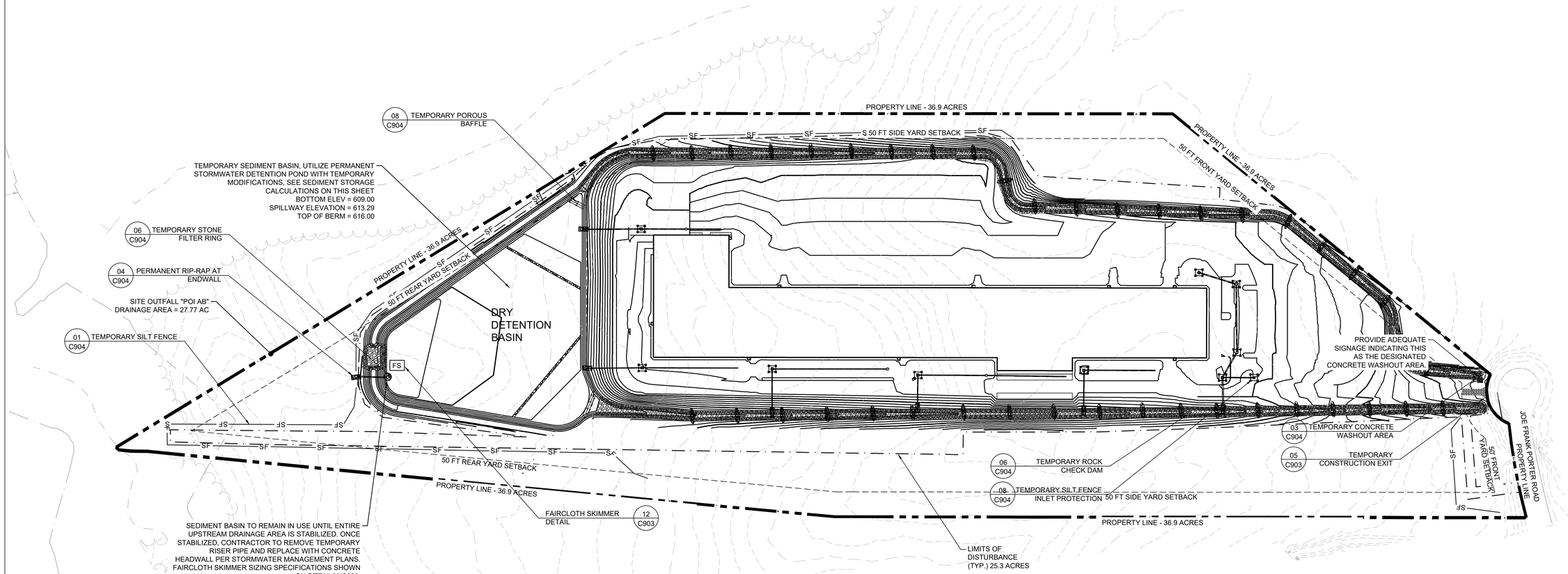
EPSC Intermediate Plan - Sediment Basin Design Data

Sediment Basin #	Design Storm Event	Drainage Area		Volume Required (Cubic Feet)				Volume Provided (Cubic Feet)				Design Elevations							Outlet Structure Design							
		Sq. Ft.	Acres	Wet Storage (1809 cf/ac.)	Dry Storage (1809 cf/ac.)	Forebay Volume (cf)	Total Volume (cf)	Wet Storage	Dry Storage	Forebay Volume (cf)	Total Volume (cf)	Top of Berm Elev.	Pond Bottom Elev.	Wet Storage Elev.	Top of Riser/ Dry Storage	Emergency Spillway Elev.	5 Year WSE	25 Year WSE	Riser Diameter (in)	[1]Outlet Structure Name	[2]Outlet Pipe Dia. (in)	Outlet Invert Elevation	[3]Riser Height (ft)	Skimmer Invert	[4]Skimmer Arm Dia. (in.)	Skimmer Orifice Dia. (in.)	Drawdown Time (days)
SED-B1	5-Year	1,595,167	36.62	66,246	66,246	16,561	132,491	102,720	243,183	58,509	345,903	616.00	609.00	611.00	612.00	613.29	611.79	612.66	36	ST-SED 1A	18	609.00	3.00	610.50	8.00	7.20	3.00

[1]Refer to the applicable permanent outlet structure detail within plan sheets
[2]Install temporary outlet pipe per EPSC plan and tie to temporary riser
[3]solid height includes 6" for embedment in concrete footing
[4]Faircloth Skimmer or approved equal



IF YOU DIG TENNESSEE...
CALL US FIRST!
1-800-351-1111
TENNESSEE ONE CALL

SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.
SEE THIS SHEET FOR SEDIMENT BASIN DESIGN CALCULATIONS.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREAS AS NEEDED
2. INSTALL SEDIMENT BARRIERS (SILT FENCE, SILT FENCE INLET PROTECTION, STONE FILTER RING, RIP-RAP, POROUS BAFFLE)
3. CONSTRUCT TEMPORARY SEDIMENT BASIN WITH SKIMMER AND INSTALL OUTLET PIPES AND STRUCTURES
4. INSTALL DIVERSION DITCHES PRIOR TO UPSTREAM EARTH DISTURBANCE
5. INSTALL CHECK DAMS IN DIVERSION DITCHES WHERE SHOWN IMMEDIATELY AFTER GRADING

ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

PORT-A-POTTIES TO BE LOCATED NEAR LAYDOWN AREA ON PAVED, NORTHERN SIDE OF SITE

LEGEND

- 662 — EXISTING MINOR CONTOUR
- 660 — EXISTING MAJOR CONTOUR
- 662 — PROPOSED MINOR CONTOUR
- 660 — PROPOSED MAJOR CONTOUR
- TEMPORARY ROCK CHECK DAM
- SF — TEMPORARY SILT FENCE
- LIMITS OF DISTURBANCE
- TEMPORARY CONSTRUCTION EXIT (GRAVEL)
- CONCRETE WASHOUT AREA

TEMPORARY SEDIMENT BASIN CALCULATIONS:

DRAINAGE AREA =	36.62 AC
REQUIRED WET VOLUME (67 CY/ AC) =	2454 CY
REQUIRED DRY VOLUME (67 CY/ AC) =	2454 CY
PROVIDED WET VOL. (BELOW STONE SPILLWAY) =	3804 CY
PROVIDED DRY VOL. (1' BELOW BERM) =	9007 CY
TOTAL PROVIDED VOL. (DRY + WET) =	12,811 CY

NOTE: TEMPORARILY MODIFY PERMANENT BIORETENTION POND OUTLET STRUCTURE, DETENTION POND OUTLET STRUCTURE, AND BERM SPILLWAY FOR TEMPORARY SEDIMENT BASIN.

EPSC NOTE:
ALL OUTFALL RIPRAP TO BE INSTALLED AT 0% SLOPE IN ALL DIRECTIONS.

NORTH

100' 0 100' 200'
GRAPHIC SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

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No.	Date	Description

OVERALL INTERMEDIATE EPSC PLAN

C402

50114.00
07/23/2025

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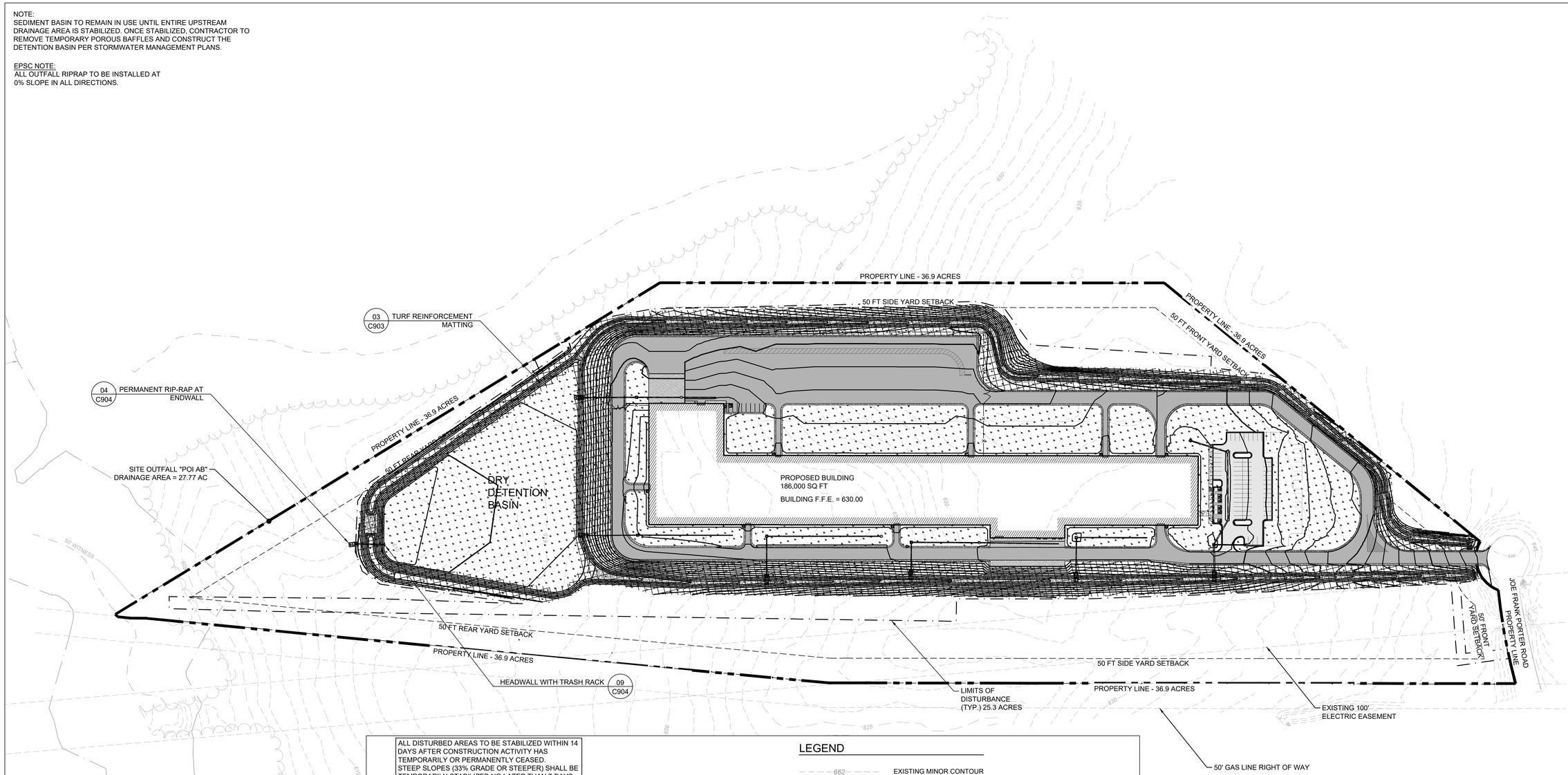
NOTE:
SEDIMENT BASIN TO REMAIN IN USE UNTIL ENTIRE UPSTREAM DRAINAGE AREA IS STABILIZED. ONCE STABILIZED, CONTRACTOR TO REMOVE TEMPORARY POROUS BAFFLES AND CONSTRUCT THE DETENTION BASIN PER STORMWATER MANAGEMENT PLANS.

EPSC NOTE:
ALL OUTFALL RIPRAP TO BE INSTALLED AT 0% SLOPE IN ALL DIRECTIONS.



ALL DISTURBED AREAS TO BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
STEEP SLOPES (33% GRADE OR STEEPER) SHALL BE TEMPORARILY STABILIZED NO LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.

EROSION CONTROL MATTING SHALL BE USED ON ALL SLOPES 3:1 OR STEEPER.

EPSC NOTES:

1. RECEIVING WATERS: UNNAMED TRIBUTARY TO BIG BIGBY CREEK.
2. CONTRACTOR SHALL PROVIDE A CONCRETE WASHOUT AREA AND EQUIPMENT FUELING IN ACCORDANCE WITH TDEC. CONTRACTOR TO COORDINATE EXACT LOCATION WITH NPDES DEPARTMENT DURING PRE-CONSTRUCTION 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.
3. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITHIN 7 DAYS WITH MULCH OR TEMPORARY SEEDING.
4. PERIMETER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO ANY GRADING ACTIVITIES.
5. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED ACCORDINGLY WITH THE TDEC EROSION AND SEDIMENT CONTROL HANDBOOK, CHAPTER 7. THE MAXIMUM EXCAVATION DEPTH OF THE TEMPORARY SEDIMENT BASINS MUST BE AT LEAST 1 FOOT ABOVE THE POST-CONSTRUCTION INSTALLATION OF DETENTION PONDS TO REMAIN FUNCTIONING AS SEDIMENT BASINS UNTIL FINAL STABILIZATION.

SEQUENCE OF EPSC BMP INSTALLATION

1. INSTALL GRAVEL CONSTRUCTION ENTRANCES AND CONCRETE WASHOUT AREA AS NEEDED
2. INSTALL SEDIMENT BARRIERS (EROSION CONTROL MATTING, SEEDING, RIP-RAP)
3. CONSTRUCT DETENTION POND AND STABILIZE PERMANENT OUTLET PIPES AND STRUCTURES
4. INSTALL INLET PROTECTION

LEGEND

- 662 — EXISTING MINOR CONTOUR
- 660 — EXISTING MAJOR CONTOUR
- 662 — PROPOSED MINOR CONTOUR
- 660 — PROPOSED MAJOR CONTOUR
- AREA OF PERMANENT STABILIZATION. SEED WITH KY-31 FESCUE AT 5 LBS PER 1,000 SF STRAW MULCH AT 1.5 BALES PER 1,000 SF.
- AREA TO RECEIVE TURF REINFORCEMENT MATTING
- AREA TO BE STABILIZED WITH LANDSCAPE PLANTINGS AND MULCH
- AREA TO RECEIVE PERMANENT RIP-RAP STABILIZATION. HAND PLACED NATIVE STONE, 2" TO 1'-3" IN DIAMETER, WITH NO MORE THAN 20% BY WEIGHT BEING LESS THAN 4" IN DIAMETER, MINIMUM 1'-6" DEPTH.

  CHANNEL LINING: AREA TO RECEIVE TYPE A 6" STONE WITH SYNTHETIC FILTER FABRIC UNDERLAY.

WHEN ALL DISTURBED AREAS REACH FINAL GRADE PROVIDE PERMANENT STABILIZATION AS FOLLOWS:
-SEED WITH KY-31 FESCUE AT 5 LBS PER 1,000 SF
-STRAW MULCH AT 1.5 BALES PER 1,000 SF
ALL PLANTINGS AND IRRIGATION PER L201 AND L202

ALL CHEMICALS AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.

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SEE SHEET C001 FOR EROSION PREVENTION AND SEDIMENT CONTROL NOTES.

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OVERALL FINAL EPSC PLAN

C403

50114.00
07/23/2025

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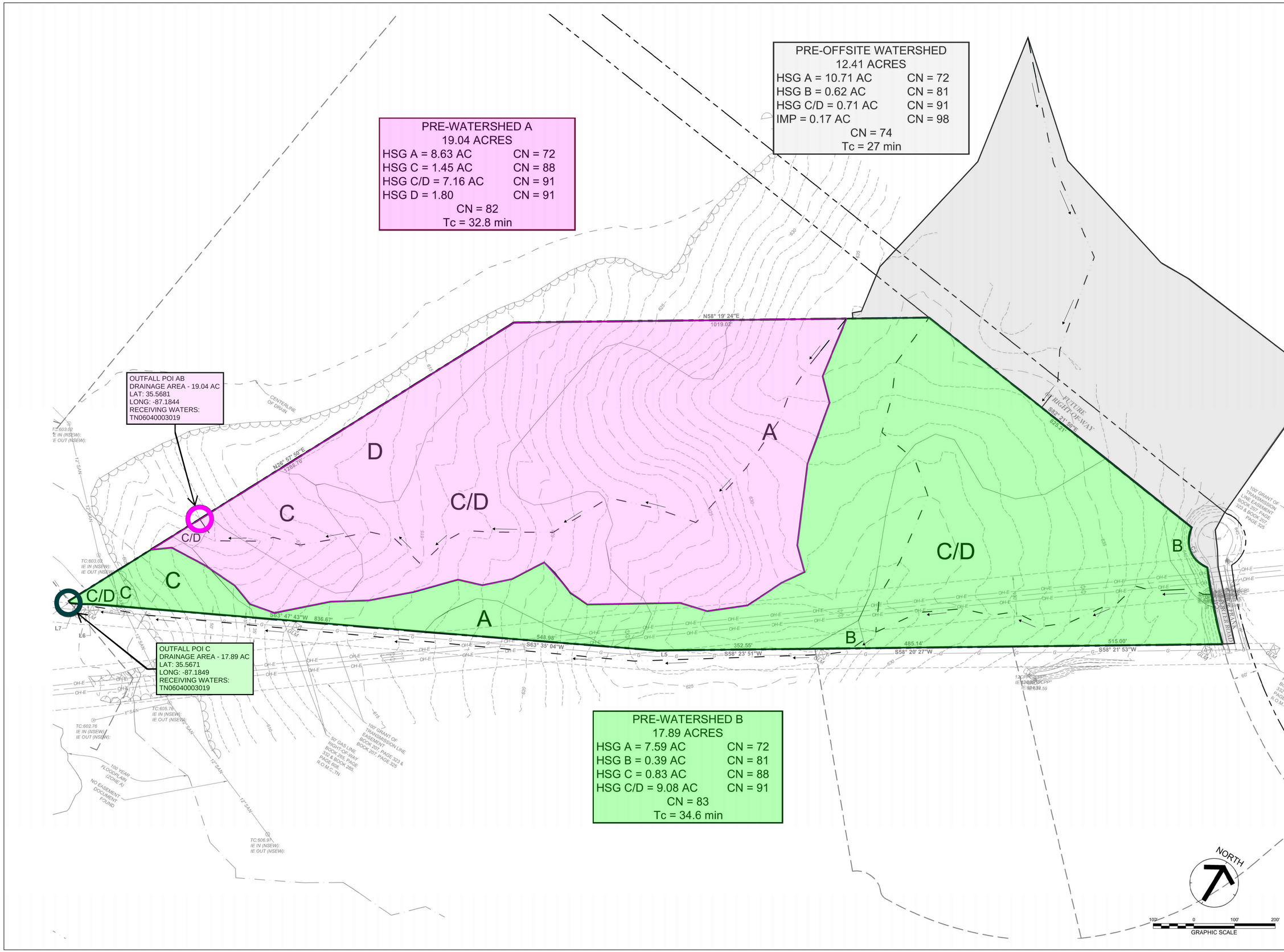

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Revision

No.	Date	Description

EXISTING HYDROLOGIC PLAN

50114.00
06/10/2025

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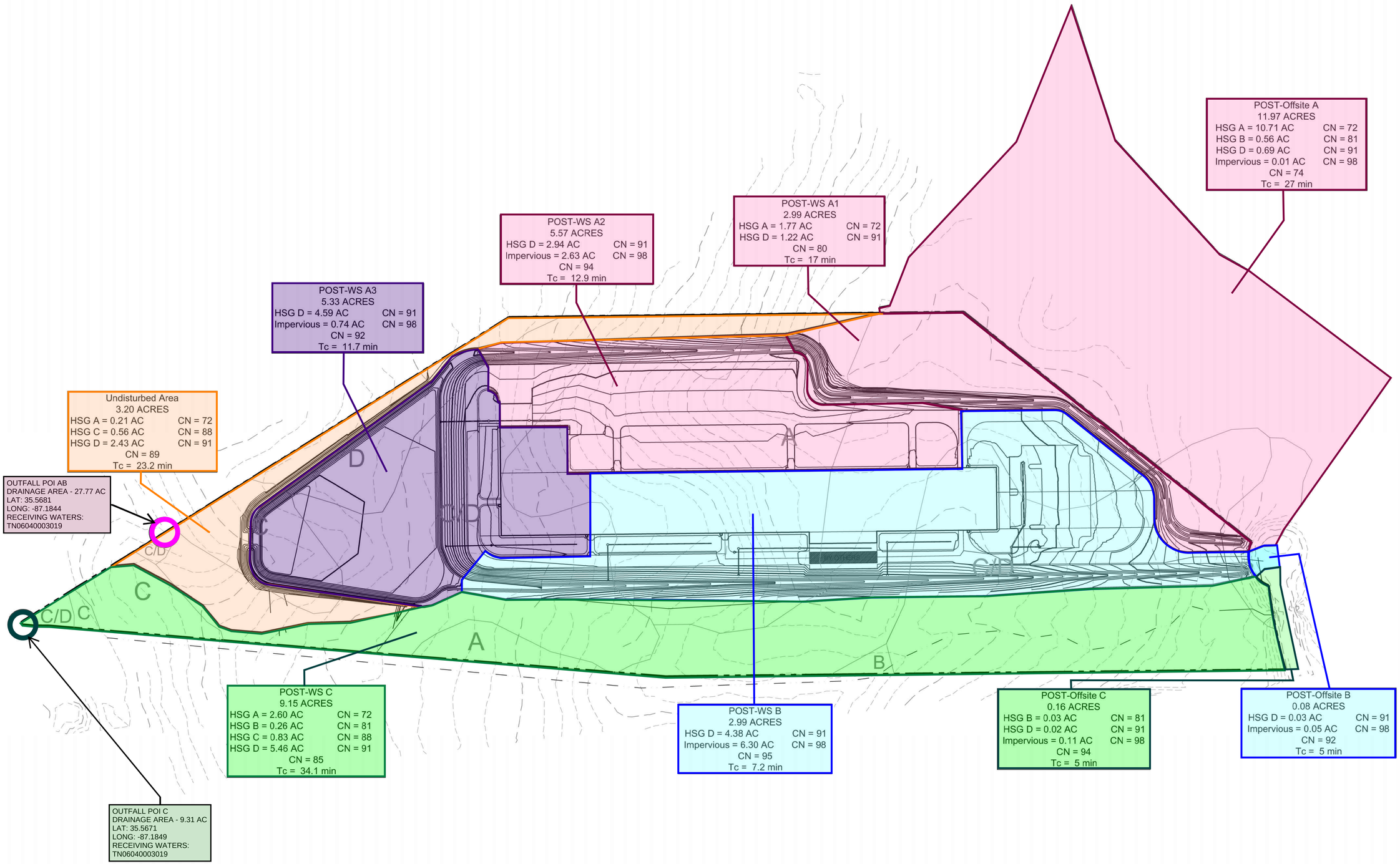

NORTH

100' 0 100' 200'
GRAPHIC SCALE

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No.	Date	Description

PROPOSED HYDROLOGIC PLAN

50114.00
06/10/2025

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APPENDIX E

TENNESSEE GENERAL NPDES PERMIT

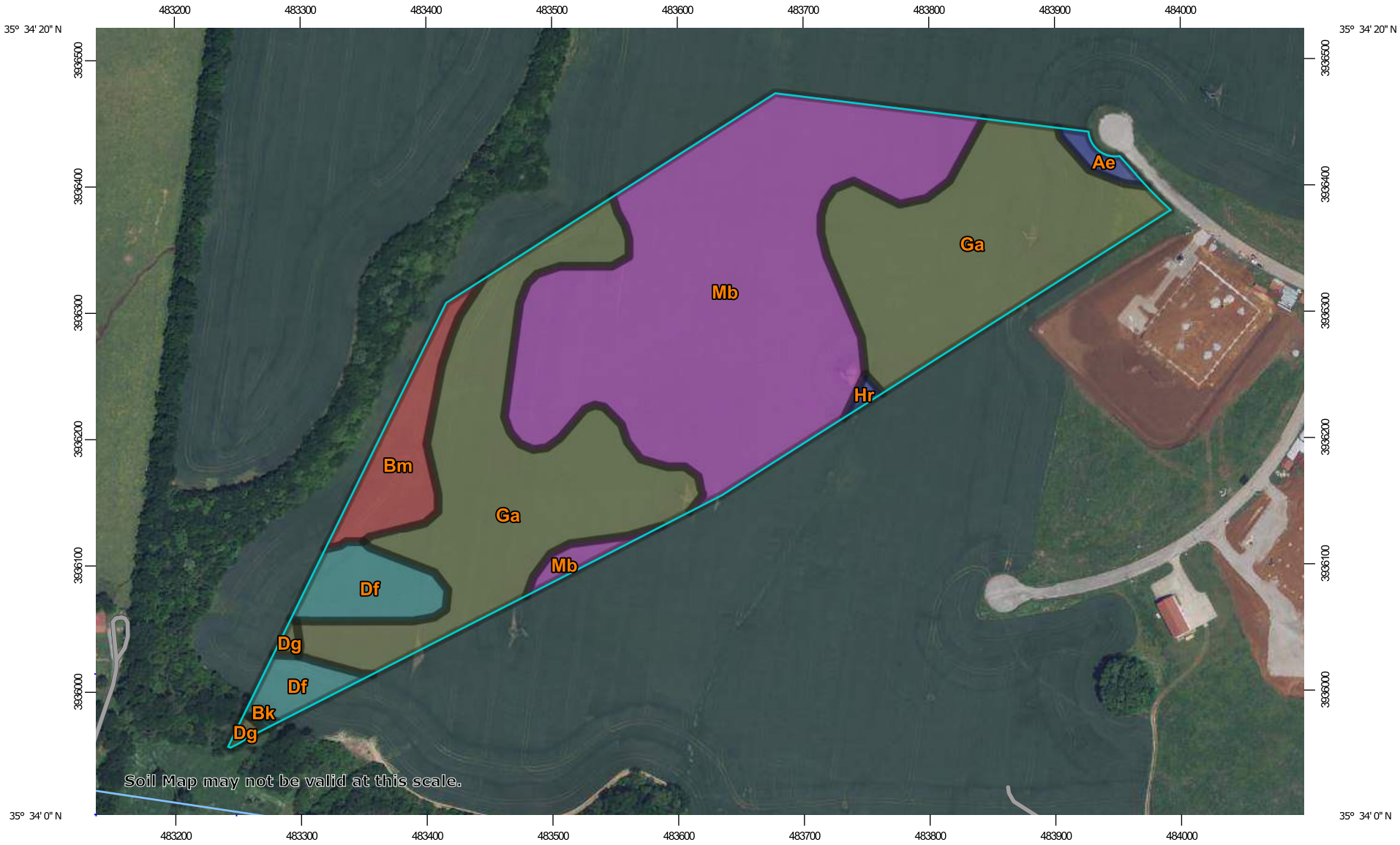
The Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activities can be found online at:
https://dataviewers.tdec.tn.gov/dataviewers/apex_util.count_click?p_url=BGWPC.GET_WPC_DOCUMENTS?p_file=540656813282722325&p_cat=DOCS&p_id=540656813282722325&p_user=GUEST&p_workspace=19833722515258996

The National Pollutant Discharge Elimination System General Permit for Discharges from Construction Activities can be found online at:
https://www.epa.gov/system/files/documents/2022-01/2022-cgp-final-permit.pdf

APPENDIX F

SOIL MAP

Hydrologic Soil Group—Maury County, Tennessee
(BOUNDARY)



Map Scale: 1:4,390 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

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- 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 19, Sep 12, 2024

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	B	0.3	0.7%
Bk	Braxton silty clay loam, eroded sloping phase	C	0.0	0.1%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	D	1.8	5.0%
Df	Donerail silt loam, gently sloping phase	C	2.1	5.7%
Dg	Dunning silty clay loam, phosphatic phase	C/D	0.2	0.5%
Ga	Godwin silt loam	C/D	16.3	44.0%
Hr	Huntington silt loam, local alluvium phosphatic phase	B	0.1	0.2%
Mb	Maury silt loam, eroded gently sloping phase	A	16.2	43.8%
Totals for Area of Interest			**36.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

APPENDIX G

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:		**NPDES Tracking Number: TNR**
Street Address including city or zip code or Location:		Construction Start Date:
		Estimated End Date:
Site Description:		Latitude (dd.dddd):
		Longitude (-dd.dddd):
County(ies):	MS4 Jurisdiction (if applicable):	Acres Disturbed:
		Total Acres:
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:
Receiving waters:		
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)			
For corporate entities only, provide the Tennessee Secretary of State (SOS) Control Number:			
Site Owner or Developer Contact Name: (individual responsible for site)	Title or Position: (the party who signs the certification below):		
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

Optional Contact Name:	Title or Position:		
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

Owner or Developer Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)		
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):	Signature:	Date:

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 H

NOTICE OF TERMINATION (NOT)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC)
DIVISION OF WATER RESOURCES (DWR)
William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th 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:	**NPDES Tracking Number: TNR**
Street Address or Location:	County(ies):

Name of Permittee Requesting Termination of Coverage:			
Permittee Contact Name:	Title or Position:		
Mailing Address:	City:	State:	Zip:
Phone:	E-mail:		

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:

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. 02-22) RDA 2366

STORMWATER CALCULATIONS FOR

Project Mustang

Joe Frank Porter Road
Mt. Pleasant, Maury County, TN
Gresham Smith Project #50114.00

Tax Map 126, Parcel 041.01

August 28, 2025

Matthew McLaren

Digitally signed by Matthew McLaren
DN: E=matt.mclaren@greshamsmith.com, CN=Matthew McLaren, O=Gresham Smith, L=Nashville, S=Tennessee, C=US
Date: 2025.08.28 15:05:54-04'00'

Gresham Smith

SUITE 1400

222 SECOND AVE. SOUTH NASHVILLE, TN 37201

PHONE: 615-770-8100

CONTACT:
Valerie Rockhill
PHONE: 859-422-1963
EMAIL: Valerie.Rockhill@greshamsmith.com

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APPENDIX C: STORM SEWERS

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PROJECT NARRATIVE

Project Description

The 36.9 acre proposed site is located west of Joe Frank Porter Road, just north of State Route 43 Lawrenceburg Highway in northeast Mt. Pleasant, Tennessee.

Property improvements include parking, stormwater infrastructure, and one driveway connecting to the existing Joe Frank Porter Road cul-de-sac.

Soil Conditions

The USDA Web Soil Survey data for this property shows:

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	B	0.3	0.7%
Bk	Braxton silty clay loam, eroded sloping phase	C	0.0	0.1%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	D	1.8	5.0%
Df	Donerail silt loam, gently sloping phase	C	2.1	5.7%
Dg	Dunning silty clay loam, phosphatic phase	C/D	0.2	0.5%
Ga	Godwin silt loam	C/D	16.3	44.0%
Hr	Huntington silt loam, local alluvium phosphatic phase	B	0.1	0.2%
Mb	Maury silt loam, eroded gently sloping phase	A	16.2	43.8%
Totals for Area of Interest			**36.9**	**100.0%**

Refer to Appendix B for existing soils information

Existing Stormwater Conditions

The site is currently undeveloped and consists of open land used for agriculture. Runoff drains across the parcel from northeast to southwest, across the site into an unnamed tributary of Big Bigby Creek, TN06040003019, which is designated as impaired by nutrients. Two natural outfalls occur on the site and these will be analyzed in both the pre- and post- conditions.

Proposed Stormwater Conditions

All stormwater runoff will drain in a similar pattern as the existing site, from northeast to southwest. The two natural locations of stormwater discharge in the existing condition will be analyzed in the proposed condition. These discharge locations will be the Point of Interests (POI) AB and C.

POI AB:
On the developed portion of the site, POI AB, the stormwater will be collected via a combination of overland flow and underground pipe networks to either one of two riprap-lined ditches and/or a dry detention pond. A small portion of impervious area (0.74 acres) will directly flow into the detention pond without first entering a riprap-lined ditch. Stormwater that does not enter the storm network will bypass the detention pond and flow overland to the POI AB site outfall.

POI C:
For the undeveloped area at the south of the site, no changes will be made to the existing overland flow path to the POI C outfall. The area of drainage to this point of interest has been reduced from the pre- to the post- condition.

Refer to Appendix B for Existing and Proposed Hydrologic Plan Exhibits.

Stormwater Quantity

Storm Sewer System
The majority of all onsite water will be conveyed via a combination of surface runoff and the proposed storm network throughout the site. All disturbed areas of increased impervious runoff will be diverted to a dry detention pond before slow-release to the POI AB outfall.

The drainage area for each inlet and storm sewer calculations are provided in Appendix D.

Stormwater Detention
Stormwater detention for the proposed development has been provided through the use of the TR-55 method to meet the pre vs. post water quantity requirements, per the City of Mt. Pleasant. The calculations provided herein take into account all future parking and building expansion impervious areas shown on Site Plan. Stormwater over the disturbed portion of the site will be retained for a minimum of 24 hours in a dry detention basin before slow-releasing to the site outfall. The dry detention basin will also improve water quality by the provision for sediment and other pollutants to settle out over time, see Water Quality design.

The Detention Calculations are provided in Appendix D.

POI AB *Pre vs. Post Discharge Flow Rates (cfs)*						
	2-YR	**5-YR**	**10-YR**	**25-YR**	**50-YR**	**100-YR**
PRE	34.07	46.13	55.81	69.25	79.96	91.13
POST	18.76	22.60	25.47	29.36	32.38	35.46

POI C *Pre vs. Post Discharge Flow Rates (cfs)*						
	2-YR	**5-YR**	**10-YR**	**25-YR**	**50-YR**	**100-YR**
PRE	46.91	64.61	78.98	99.24	115.50	132.53
POST	16.89	22.34	26.67	32.63	37.37	42.29

Stormwater Quality

The City of Mt. Pleasant does not currently have water quality requirements for permitting but an effort was made to ensure that sediment transport to receiving waters would be minimal.

POI AB

The majority of surface drainage will be diverted through one of two riprap-lined ditches before being collected and detained in a dry detention basin. Stormwater routed through the pond will travel slowly over an elongated basin route before it discharges to POI AB. A trash rack will be located at the headwall of the basin outlet pipe to further deter negative impacts to receiving streams. There is a small area of impervious paving (0.74 acres) that will go directly to the dry detention basin without first entering a ditch.

POI C

The pre-construction drainage pattern for Watershed C (WS C) will continue undisturbed to POI C.

Erosion and Sediment Control

Ditches A & B:

Both ditches will be lined with Turf Reinforcement Mat (TRM) SC250 to diminish shear stress along the channel bottom and discourage sediment transport. The North American Green Erosion Control Materials Design Software (ECMDS) was used for the analysis of the channel lining and the Known Q was entered via watershed analysis using the Hydraflow Hydrograph Extension for Autodesk Civil 3D.

Ditch A

In order to analyze the channel lining for Ditch A, the Hydraflow Hydrograph Extension for Autodesk Civil 3D was utilized for Watershed 4 – POST WS A and the 10-year storm event. Ditch A conveys three (3) watersheds that enter at different points along the ditch, however, a conservative approach was taken to analyze the ditch as though all flows entered at the same point and were conveyed simultaneously. This ensures that Ditch A will not overflow and that flows entering the ditch will not produce any deleterious erosive effects along the length of the conveyance. The soil composition on site is primarily Silt Loam and Silty Clay Loam; for the analysis of the TRM lining, Silt Loam (SM), Loam (MH) and Clay Loam (CL) were all analyzed to ensure that the channel was stable.

Soils Report is provided in Appendix B. Channel Lining Analysis for Ditch A is provided in Appendix D.

Ditch B

In order to analyze the channel lining for Ditch B, the Hydraflow Hydrograph Extension for Autodesk Civil 3D was utilized for watershed 10 – POST WS B and the 10-year storm event. Ditch B conveys two (2) watersheds that enter at different points along the ditch, however, a conservative approach was taken to analyze the ditch as though all flows entered at the same point and were conveyed simultaneously. This ensures that Ditch B will not overflow and that flows entering the ditch will not produce any deleterious erosive effects along the length of the conveyance. The soil composition on site is primarily Silt Loam and Silty Clay Loam; for the analysis of the TRM lining, Silt Loam (SM), Loam (MH) and Clay Loam (CL) were all analyzed to ensure that the channel was stable.

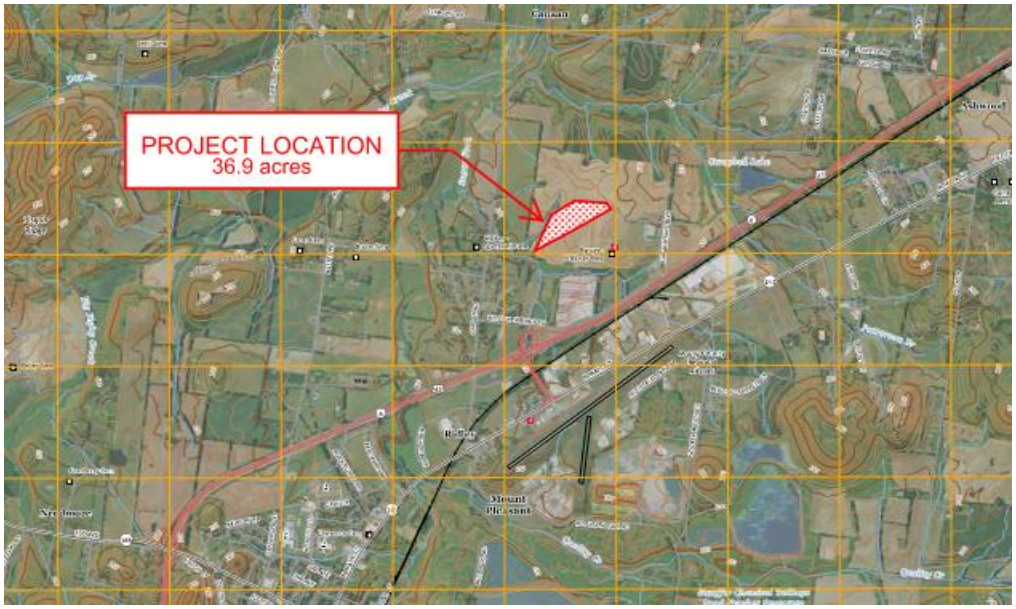
Soils Report is provided in Appendix B. Channel Lining Analysis for Ditch B is provided in Appendix D.

For temporary and permanent construction measures, as well as sediment basin calculations, refer to the Stormwater Prevention Plan (SWPPP) for erosion control plan and details in Appendix D.

Offsite Drainage

The proposed site is downhill of agricultural land to the north that will contribute 12.21 acres of stormwater run-on. Due to the shape of the site, as well as the layout requirements of the building and vehicular circulation, it was difficult to bypass the entirety of the offsite drainage to the natural outfall of the site. Instead, approximately 12.05 acres of undeveloped offsite drainage will be accepted into the Stormwater Control Measures (SCMs) and treated within the detention pond before ultimately reaching the site outfall(s).

APPENDIX A: VICINITY MAP



VICINITY MAP
NOT TO SCALE

Mt. Pleasant, Tennessee

APPENDIX B: DRAINAGE MAP EXHIBITS

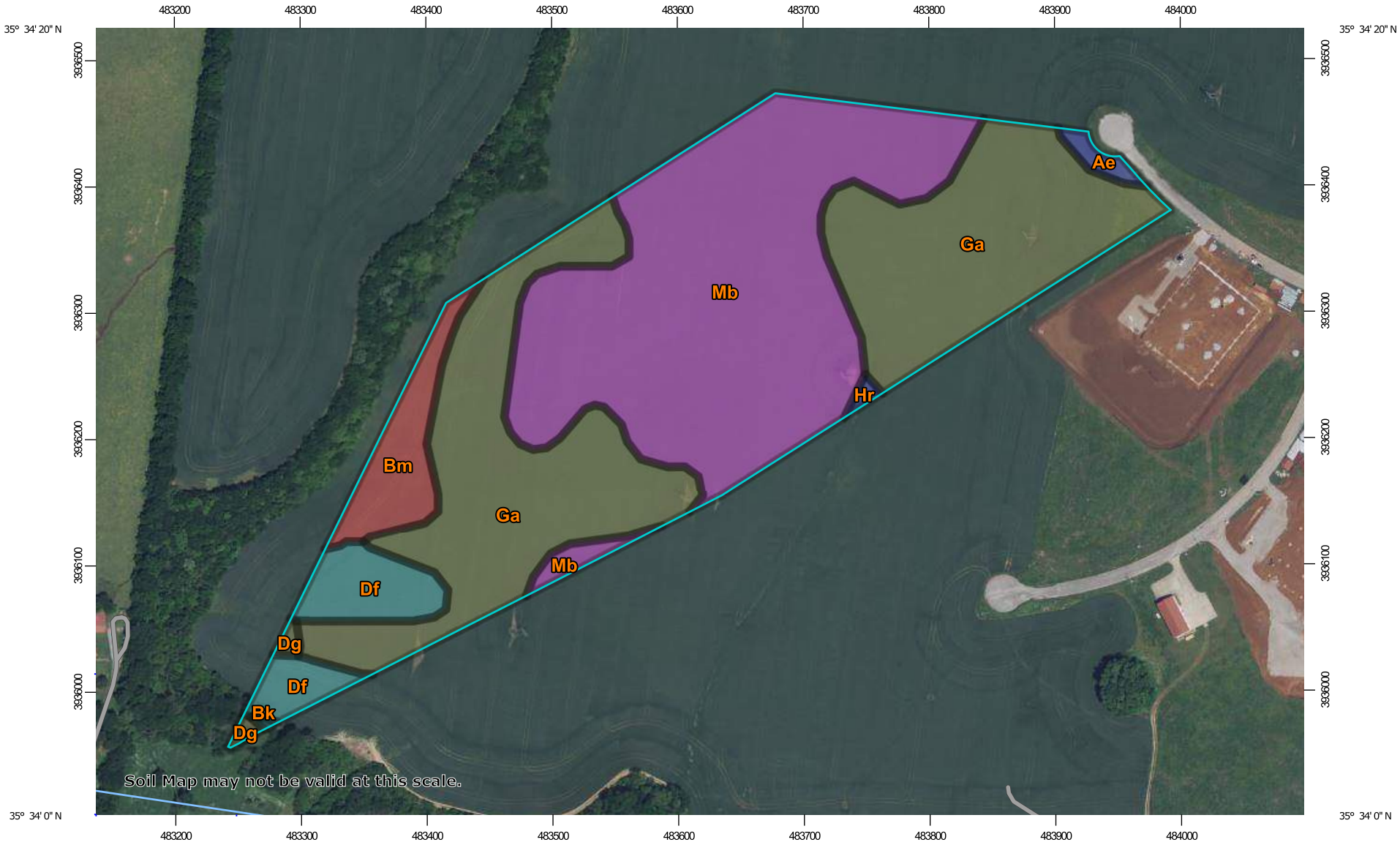
Soils Report

Existing Conditions Drainage Exhibit

Proposed Development Drainage Exhibit

NOAA Rainfall Data

Hydrologic Soil Group—Maury County, Tennessee
(BOUNDARY)



Map Scale: 1:4,390 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

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- 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 19, Sep 12, 2024

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ae	Armour silt loam, eroded gently sloping phase	B	0.3	0.7%
Bk	Braxton silty clay loam, eroded sloping phase	C	0.0	0.1%
Bm	Burgin silt loam, phosphatic phase (Eagleville)	D	1.8	5.0%
Df	Donerail silt loam, gently sloping phase	C	2.1	5.7%
Dg	Dunning silty clay loam, phosphatic phase	C/D	0.2	0.5%
Ga	Godwin silt loam	C/D	16.3	44.0%
Hr	Huntington silt loam, local alluvium phosphatic phase	B	0.1	0.2%
Mb	Maury silt loam, eroded gently sloping phase	A	16.2	43.8%
Totals for Area of Interest			**36.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

PRE-WATERSHED A
19.04 ACRES
HSG A = 8.63 AC CN = 72
HSG C = 1.45 AC CN = 88
HSG C/D = 7.16 AC CN = 91
HSG D = 1.80 CN = 91
CN = 82
Tc = 32.8 min

PRE-OFFSITE WATERSHED
12.41 ACRES
HSG A = 10.71 AC CN = 72
HSG B = 0.62 AC CN = 81
HSG C/D = 0.71 AC CN = 91
IMP = 0.17 AC CN = 98
CN = 74
Tc = 27 min

PRE-WATERSHED B
17.89 ACRES
HSG A = 7.59 AC CN = 72
HSG B = 0.39 AC CN = 81
HSG C = 0.83 AC CN = 88
HSG C/D = 9.08 AC CN = 91
CN = 83
Tc = 34.6 min

OUTFALL POI AB
DRAINAGE AREA - 19.04 AC
LAT: 35.5681
LONG: -87.1844
RECEIVING WATERS:
TN06040003019

OUTFALL POI C
DRAINAGE AREA - 17.89 AC
LAT: 35.5671
LONG: -87.1849
RECEIVING WATERS:
TN06040003019

N58° 19' 24"E
1019.02'
N26° 57' 50"E
1288.70'
S63° 47' 43"W 836.67'
S63° 35' 04"W 548.98'
S58° 23' 51"W 352.55'
S58° 20' 27"W 485.14'
S58° 21' 53"W 515.00'
S82° 21' 50"E 825.21'
FUTURE RIGHT-OF-WAY
CENTERLINE OF DRAIN
50' GAS LINE RIGHT-OF-WAY BOOK 9 PAGE 285, BOOK & PAGE 285 R.O.M.C., TN
100' GRANT OF TRANSMISSION LINE EASEMENT BOOK 207, PAGE 323 & BOOK 207, PAGE 325
100' GRANT OF TRANSMISSION LINE EASEMENT BOOK 207, PAGE 323 & BOOK 207, PAGE 325
100 YEAR FLOODPLAIN (ZONE A)
NO EASEMENT DOCUMENT FOUND
12"CPP IE: 624.99
TC:603.02 IE IN (NSEW): IE OUT (NSEW):
TC:602.76 IE IN (NSEW): IE OUT (NSEW):
TC:605.76 IE IN (NSEW): IE OUT (NSEW):
TC:606.97 IE IN (NSEW): IE OUT (NSEW):

NORTH
100' 0 100' 200'
GRAPHIC SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

Revision

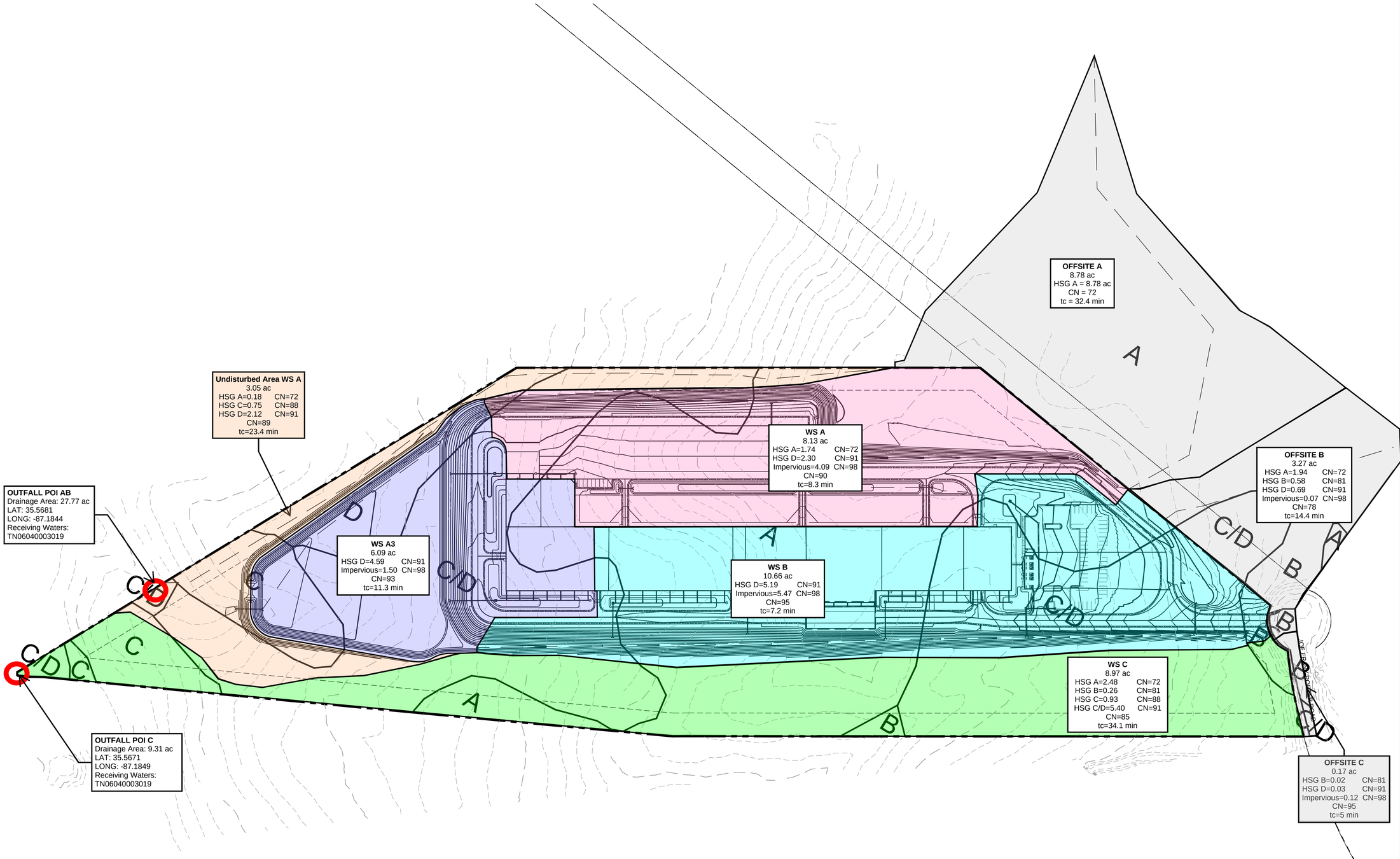
No.	Date	Description

EXISTING HYDROLOGIC PLAN

50114.00
06/10/2025

This Line Is 3 Inches When Printed Full Size

C:\Users\rockhiv\DCIACCDocs\Gresham Smith\50114.00 Project Mustang R25\Project Files\C3DSheets\Archive\50114400_EXISTING DRAINAGE.dwg - Valerie Rockhill - 6/24/2025 12:58:20 PM



WS A	8.13
WS B	10.66
WS C	8.97
WS A3	6.09
UNDSTD WS A	3.05
	36.90 ac

NORTH

X' 0 X' X'
GRAPHIC SCALE

Gresham Smith
GreshamSmith.com
222 Second Avenue South
Suite 1400
Nashville, TN 37201
615.770.8100

DCi

PROJECT MUSTANG

7th District of Maury County, Mount Pleasant, Tennessee
Being a portion of Tax Map 126 Parcel 041.01

Developer: DCi

THIS PLAN HAS BEEN SIGNED, SEALED, AND DATED DIGITALLY

Revision

No.	Date	Description

PROPOSED DRAINAGE MAP

50114.00
07/08/2025

This Line Is 3 Inches When Printed Full Size

C:\Users\vrockhiv\DCIACCDocs\Gresham Smith\50114.00 Project Mustang R25\Project Files\C3D\Xrefs\50114.00_C-Drainage.dwg - Valerie Rockhill - 8/6/2025 7:35:01 PM

NOAA Atlas 14, Volume 2, Version 3
Location name: Mount Pleasant, Tennessee, USA*
Latitude: 35.5717°, Longitude: -87.1786°
Elevation: 635 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.409** (0.377-0.448)	**0.483** (0.445-0.528)	**0.564** (0.519-0.618)	**0.632** (0.580-0.690)	**0.724** (0.659-0.790)	**0.795** (0.719-0.866)	**0.869** (0.781-0.948)	**0.946** (0.843-1.03)	**1.05** (0.923-1.15)	**1.14** (0.986-1.24)
10-min	**0.653** (0.602-0.715)	**0.772** (0.711-0.845)	**0.904** (0.831-0.990)	**1.01** (0.927-1.10)	**1.15** (1.05-1.26)	**1.27** (1.15-1.38)	**1.38** (1.24-1.51)	**1.50** (1.34-1.64)	**1.66** (1.46-1.82)	**1.79** (1.55-1.96)
15-min	**0.817** (0.752-0.894)	**0.971** (0.894-1.06)	**1.14** (1.05-1.25)	**1.28** (1.17-1.40)	**1.46** (1.33-1.60)	**1.60** (1.45-1.75)	**1.75** (1.57-1.90)	**1.89** (1.68-2.06)	**2.09** (1.84-2.29)	**2.25** (1.95-2.46)
30-min	**1.12** (1.03-1.22)	**1.34** (1.24-1.47)	**1.62** (1.49-1.78)	**1.85** (1.70-2.02)	**2.16** (1.97-2.36)	**2.42** (2.18-2.63)	**2.68** (2.40-2.92)	**2.95** (2.62-3.21)	**3.33** (2.92-3.64)	**3.64** (3.16-3.98)
60-min	**1.40** (1.29-1.53)	**1.68** (1.55-1.84)	**2.08** (1.92-2.28)	**2.41** (2.21-2.64)	**2.88** (2.62-3.15)	**3.27** (2.96-3.56)	**3.68** (3.31-4.02)	**4.13** (3.68-4.50)	**4.78** (4.19-5.22)	**5.31** (4.61-5.81)
2-hr	**1.61** (1.48-1.78)	**1.94** (1.77-2.13)	**2.40** (2.19-2.63)	**2.78** (2.53-3.05)	**3.33** (3.00-3.64)	**3.79** (3.40-4.15)	**4.28** (3.81-4.69)	**4.82** (4.25-5.28)	**5.60** (4.86-6.14)	**6.25** (5.37-6.87)
3-hr	**1.75** (1.61-1.92)	**2.10** (1.93-2.31)	**2.58** (2.37-2.83)	**2.99** (2.73-3.28)	**3.57** (3.24-3.91)	**4.06** (3.66-4.45)	**4.59** (4.10-5.02)	**5.15** (4.56-5.64)	**5.97** (5.22-6.54)	**6.65** (5.74-7.29)
6-hr	**2.18** (2.00-2.39)	**2.59** (2.38-2.85)	**3.16** (2.91-3.47)	**3.65** (3.34-4.00)	**4.34** (3.94-4.74)	**4.92** (4.44-5.37)	**5.53** (4.95-6.03)	**6.19** (5.50-6.76)	**7.14** (6.27-7.81)	**7.92** (6.88-8.68)
12-hr	**2.64** (2.43-2.90)	**3.15** (2.90-3.46)	**3.84** (3.53-4.21)	**4.42** (4.04-4.83)	**5.22** (4.75-5.71)	**5.90** (5.34-6.44)	**6.61** (5.93-7.21)	**7.36** (6.57-8.05)	**8.43** (7.44-9.23)	**9.31** (8.13-10.2)
24-hr	**3.26** (3.02-3.52)	**3.89** (3.61-4.21)	**4.74** (4.40-5.14)	**5.41** (5.01-5.85)	**6.33** (5.84-6.84)	**7.06** (6.50-7.62)	**7.82** (7.17-8.42)	**8.58** (7.85-9.25)	**9.63** (8.75-10.4)	**10.5** (9.46-11.3)
2-day	**3.85** (3.56-4.18)	**4.61** (4.26-5.01)	**5.62** (5.19-6.10)	**6.42** (5.92-6.96)	**7.50** (6.91-8.14)	**8.37** (7.68-9.06)	**9.26** (8.46-10.0)	**10.2** (9.26-11.0)	**11.4** (10.3-12.3)	**12.4** (11.1-13.4)
3-day	**4.12** (3.82-4.44)	**4.92** (4.57-5.32)	**5.98** (5.55-6.46)	**6.80** (6.30-7.34)	**7.90** (7.31-8.52)	**8.77** (8.09-9.45)	**9.64** (8.87-10.4)	**10.5** (9.65-11.3)	**11.7** (10.7-12.6)	**12.6** (11.5-13.6)
4-day	**4.38** (4.08-4.70)	**5.23** (4.88-5.62)	**6.34** (5.90-6.81)	**7.18** (6.69-7.72)	**8.30** (7.71-8.90)	**9.17** (8.50-9.84)	**10.0** (9.27-10.8)	**10.9** (10.0-11.7)	**12.0** (11.0-12.9)	**12.9** (11.8-13.9)
7-day	**5.16** (4.84-5.49)	**6.15** (5.78-6.55)	**7.38** (6.93-7.86)	**8.32** (7.81-8.86)	**9.56** (8.96-10.2)	**10.5** (9.82-11.2)	**11.4** (10.7-12.2)	**12.3** (11.5-13.1)	**13.5** (12.5-14.4)	**14.4** (13.3-15.4)
10-day	**5.87** (5.52-6.23)	**6.97** (6.56-7.40)	**8.30** (7.80-8.80)	**9.32** (8.76-9.88)	**10.6** (10.0-11.3)	**11.7** (10.9-12.4)	**12.7** (11.9-13.4)	**13.7** (12.8-14.5)	**15.0** (13.9-15.9)	**16.0** (14.8-16.9)
20-day	**8.06** (7.62-8.51)	**9.51** (9.00-10.0)	**11.1** (10.5-11.7)	**12.2** (11.5-12.9)	**13.6** (12.9-14.4)	**14.7** (13.8-15.5)	**15.7** (14.8-16.5)	**16.6** (15.6-17.5)	**17.7** (16.6-18.7)	**18.5** (17.3-19.6)
30-day	**9.92** (9.41-10.4)	**11.7** (11.1-12.3)	**13.4** (12.7-14.1)	**14.6** (13.9-15.4)	**16.2** (15.3-17.0)	**17.3** (16.3-18.1)	**18.3** (17.3-19.2)	**19.2** (18.1-20.2)	**20.3** (19.2-21.4)	**21.1** (19.9-22.3)
45-day	**12.5** (11.9-13.1)	**14.6** (13.9-15.3)	**16.6** (15.8-17.4)	**18.0** (17.1-18.9)	**19.8** (18.8-20.8)	**21.1** (20.0-22.1)	**22.2** (21.1-23.3)	**23.3** (22.0-24.4)	**24.5** (23.2-25.8)	**25.4** (24.0-26.7)
60-day	**14.9** (14.2-15.7)	**17.5** (16.6-18.4)	**19.8** (18.8-20.8)	**21.4** (20.4-22.6)	**23.4** (22.2-24.7)	**24.8** (23.6-26.1)	**26.1** (24.7-27.5)	**27.3** (25.8-28.7)	**28.6** (27.0-30.1)	**29.5** (27.8-31.1)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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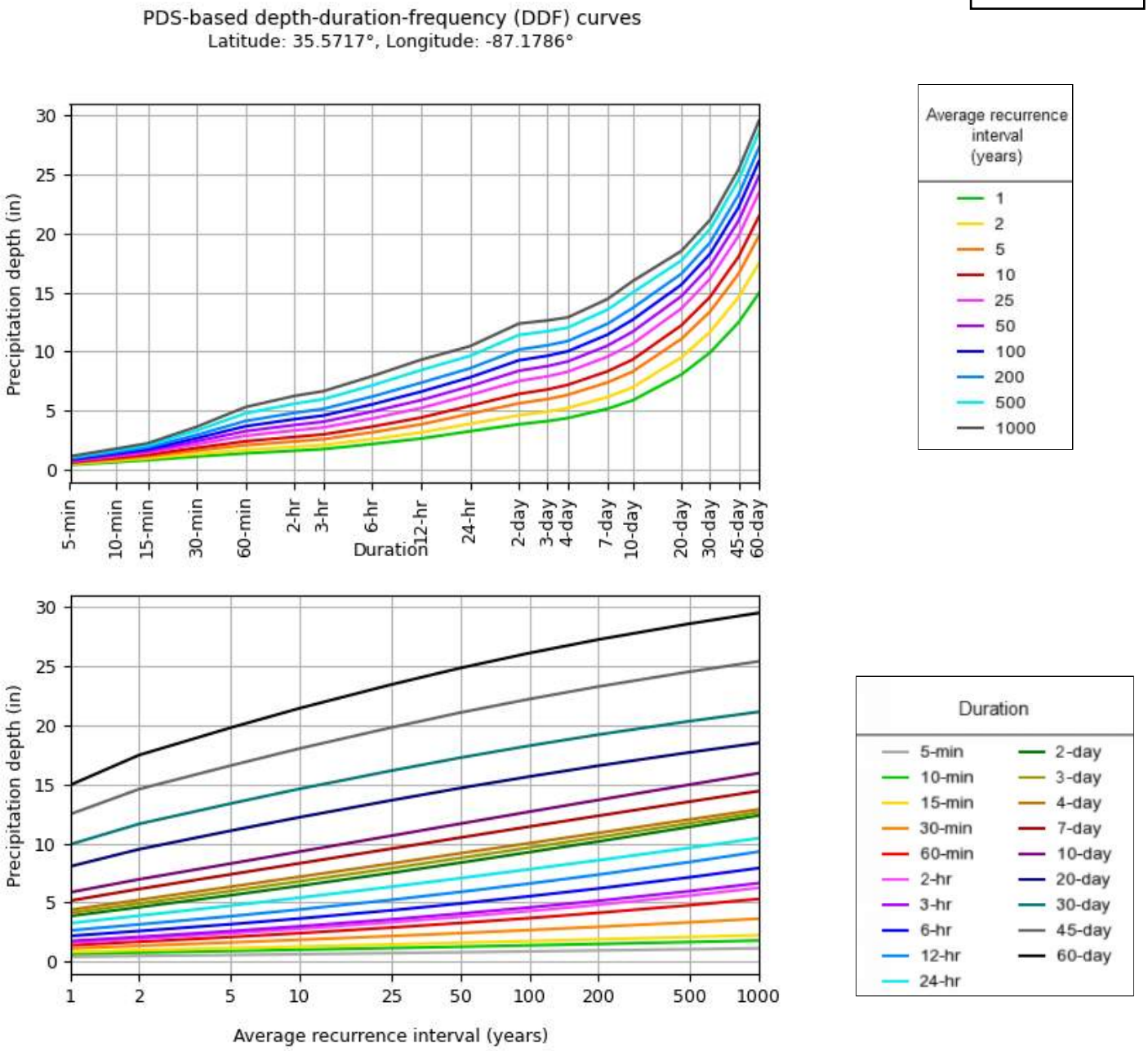
PF graphical



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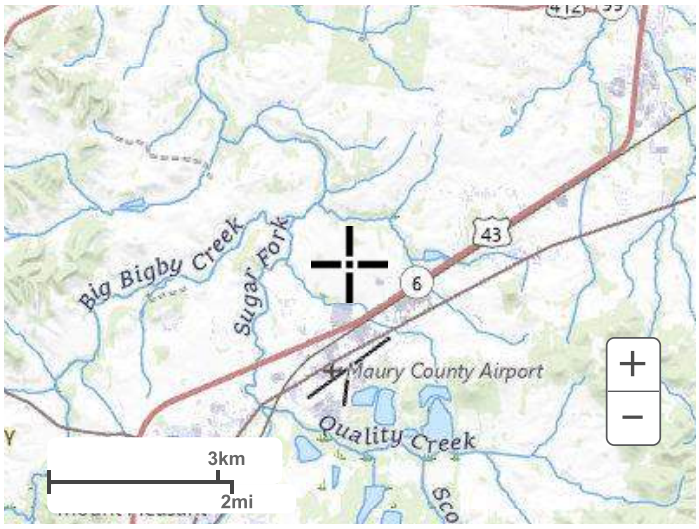
Maps & aerials

Small scale terrain



Large scale terrain

Large scale map

Large scale aerial

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National Oceanic and Atmospheric Administration
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National Water Center
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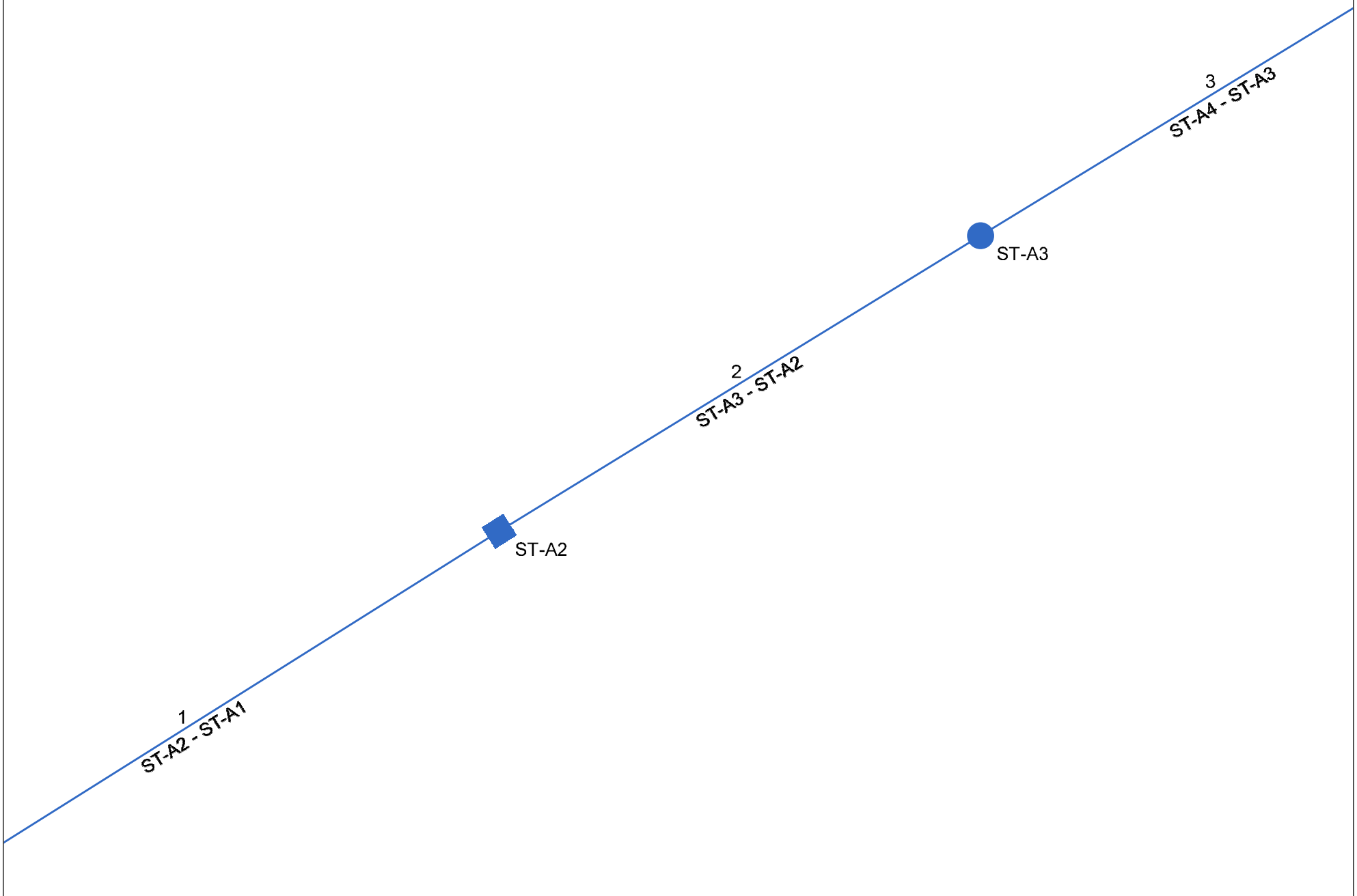
Questions?: HDSC.Questions@noaa.gov

Disclaimer

APPENDIX C: STORM SEWERS

STORM SEWER ANALYSIS REPORT – 10 YEAR

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 3	Date: 8/28/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	119.003	-32.267	DrGrt	0.00	0.36	0.65	0.0	611.00	5.85	617.96	15	Cir	0.012	0.50	625.00	ST-A2 - ST-A1
2	1	90.456	0.614	MH	0.00	0.18	0.95	5.0	618.03	1.67	619.54	12	Cir	0.012	0.15	626.76	ST-A3 - ST-A2
3	2	87.394	0.134	MH	0.00	0.18	0.95	5.0	619.54	2.36	621.60	12	Cir	0.012	1.00	629.34	ST-A4 - ST-A3

Project File: New.stm

Number of lines: 3

Date: 8/28/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-A2 - ST-A1	4.11	15	Cir	119.003	611.00	617.96	5.849	611.82	618.78	0.18	618.78	End	DropGrate
2	ST-A3 - ST-A2	2.49	12	Cir	90.456	618.03	619.54	1.669	618.78	620.22	n/a	620.22 j	1	Manhole
3	ST-A4 - ST-A3	1.30	12	Cir	87.394	619.54	621.60	2.357	620.22	622.08	n/a	622.08 j	2	Manhole

Project File: New.stm

Number of lines: 3

Run Date: 8/28/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	0.85	0.85	Sag	0.35	0.50	0.95	16.92	0.82	0.020	0.020	....	-32.267	0.82	0.82**	Outfall	0.36	1616767.90	612.18	619.14	0.000
2	0.56	0.56	1	0.35	0.50	0.95	4.98	0.68	....	....	....	0.614	0.75	0.68**	1	0.18	1616844.90	619.08	620.52	0.000
3	0.37	0.37	2	0.35	0.50	0.95	5.92	0.48	....	....	....	0.134	0.68	0.48**	2	0.18	1616919.40	620.40	622.27	0.000

Project File: New.stm | Number of lines: 3 | Date: 8/28/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
4.11	0.000	0.000	5.06	2.53	2.00	613.00	625.00	0.21	Sag	22.86	2.00	611.82	618.78	618.78	....	....	0.23	0.00	0.21	100
2.49	0.000	0.000	....	....	....	625.00	626.76	....	....	....	....	618.78	620.22 j	620.22	618.86	618.79	0.17	1.30	....	....
1.30	0.000	0.000	....	....	....	626.76	629.34	....	....	....	....	620.22	622.08 j	622.08	620.23	620.15	0.17	1.30	....	....

Project File: New.stm | Number of lines: 3 | Date: 8/28/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC
ST-A2	Sag		0.0	7.13	0.00	611.00	617.96	....	....	0.00	0.00	0.50 z	Dp-Grate	0.00	4,185	3,767	3,557
ST-A3	Sag		5.0	7.28	7.57	618.03	619.54	9.05	3.38	0.30	0.49	0.15 z	MH	0.00	3,280	2,952	2,788
ST-A4	Sag		5.0	7.57	7.57	619.54	621.60	8.74	2.40	0.19	0.43	1.00 z	MH	0.00	3,175	2,858	2,699

Project File: New.stm | Number of lines: 3 | Date: 8/28/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-A2 - ST-A1	119.003	15	5.85	Cir	....	....	0.012	0.18	452173.60	0.58	0.00	2.59	2.59	15	0.65	15	0.18	0.00	0.18
ST-A3 - ST-A2	90.456	12	1.67	Cir	....	....	0.012	n/a	452221.07	0.47	....	....	....	12	0.95	12	0.00	0.00	0.18
ST-A4 - ST-A3	87.394	12	2.36	Cir	....	....	0.012	n/a	452266.76	0.88	....	....	....	12	0.95	12	0.00	0.00	0.18

Project File: New.stm | Number of lines: 3 | Date: 8/28/2025

NOTES: ** Critical depth

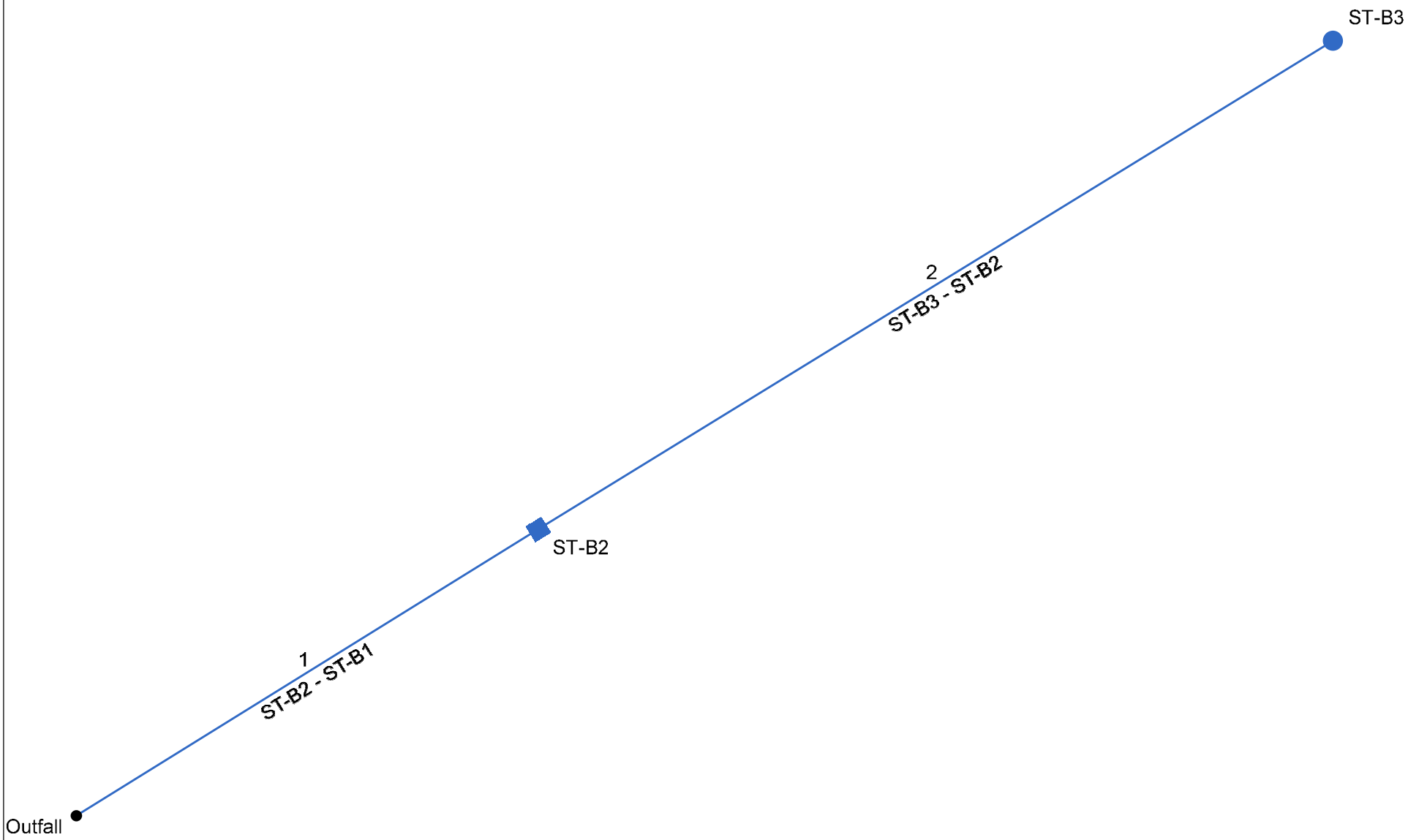
MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
6.4	....	0.72	0.58	4.11	4.82	4.82	0.36	0.36	4.82	0.75	5.79	101.50
5.9	....	0.36	0.34	2.49	4.18	3.94	0.30	0.30	4.41	5.97	6.22	54.12
5.0	....	0.18	0.17	1.30	2.88	2.30	0.19	0.19	3.47	6.22	6.74	41.05

Project File: New.stm | Number of lines: 3 | Date: 8/28/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 2	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	120.512	-31.955	DrGrt	0.00	0.45	0.55	5.0	611.00	8.30	621.00	15	Cir	0.012	0.50	627.00	ST-B2 - ST-B1
2	1	207.150	0.257	MH	0.00	0.63	0.95	5.0	621.00	1.93	625.00	12	Cir	0.012	1.00	628.83	ST-B3 - ST-B2

Project File: New.stm

Number of lines: 2

Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-B2 - ST-B1	6.24	15	Cir	120.512	611.00	621.00	8.298	612.01	622.01	n/a	622.01	End	DropGrate
2	ST-B3 - ST-B2	4.53	12	Cir	207.150	621.00	625.00	1.931	622.01	625.89	n/a	625.89 j	1	Manhole

Project File: New.stm | Number of lines: 2 | Run Date: 8/7/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	1.06	1.06	Sag	0.35	0.50	0.95	20.15	1.01	0.050	0.020	....	-31.955	1.01	1.01**	Outfall	0.45	1616916.40	612.55	622.55	0.000
2	0.74	0.74	1	0.35	0.50	0.95	5.36	0.89	....	....	....	0.257	1.00	0.89**	1	0.63	1617092.65	622.53	626.48	2.705

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
6.24	0.000	0.000	5.06	2.53	2.00	612.78	627.00	0.38	Sag	40.16	2.00	612.01	622.01	622.01	....	....	0.25	1.87	0.38	100
4.53	1.306	1.381	....	....	....	627.00	628.83	....	....	....	....	622.01	625.89 j	625.89	622.29	622.22	0.60	4.53	....	....

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	Line ID
ST-B2	Sag		5.0	7.37	7.57	611.00	621.00	....	....	0.00	0.00	0.50 z	Dp-Grate	0.00	4,023	3,620	3,419	ST-B2 - ST-B1
ST-B3	Sag		5.0	7.57	7.57	621.00	625.00	20.72	4.44	0.59	0.83	1.00 z	MH	0.00	6,277	5,649	5,335	ST-B3 - ST-B2

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA
120.512	15	8.30	Cir	....	....	0.012	n/a	451937.67	0.41	0.00	6.41	4.53	15	0.55	15	0.30	0.00	0.15	5.6	....	1.08	0.85
207.150	12	1.93	Cir	....	....	0.012	n/a	452046.51	0.60	....	....	....	12	0.95	12	0.00	0.00	0.63	5.0	....	0.63	0.60

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

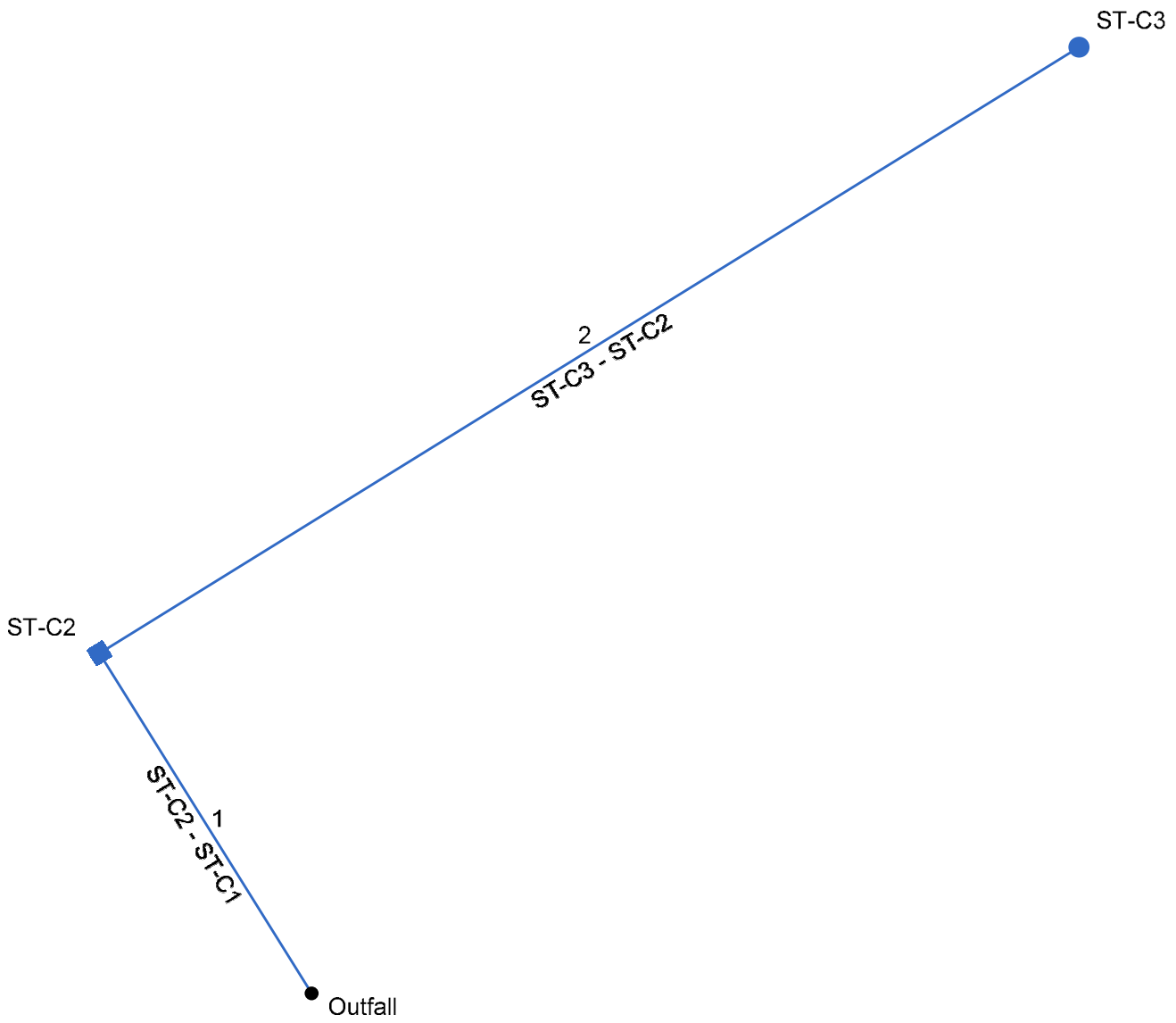
MyReport

Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
6.24	5.88	5.88	0.54	0.54	5.88	0.53	4.75	127.70
4.53	5.96	5.77	0.52	0.59	6.15	5.00	2.83	158.86

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 2	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	87.053	-121.899	DrGrt	0.00	0.50	0.61	5.0	617.00	4.59	621.00	15	Cir	0.012	1.50	627.00	ST-C2 - ST-C1
2	1	249.817	90.069	MH	0.00	0.88	0.95	5.0	621.00	1.20	624.00	15	Cir	0.012	1.00	628.67	ST-C3 - ST-C2

Project File: New.stm

Number of lines: 2

Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-C2 - ST-C1	8.33	15	Cir	87.053	617.00	621.00	4.595	618.13	622.13	n/a	622.13	End	DropGrate
2	ST-C3 - ST-C2	6.33	15	Cir	249.817	621.00	624.00	1.201	622.13	625.01	n/a	625.01 j	1	Manhole

Project File: New.stm

Number of lines: 2

Run Date: 8/7/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	1.17	1.17	Sag	0.35	0.50	0.95	15.00	1.13	0.050	0.020	....	-121.899	1.13	1.13**	Outfall	0.50	1617138.53	618.92	622.92	0.000
2	1.07	1.07	1	0.35	0.50	0.95	7.67	1.01	....	....	....	90.069	1.13	1.01**	1	0.88	1617350.78	622.68	625.56	0.000

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
8.33	0.000	0.000	5.06	2.53	2.00	619.78	627.00	0.47	Sag	48.58	2.00	618.13	622.13	622.13	....	....	0.31	2.31	0.47	100
6.33	0.000	0.000	....	....	....	627.00	628.67	....	....	....	....	622.13	625.01 j	625.01	622.31	622.24	0.84	6.33	....	....

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	Line ID
ST-C2	Sag		5.0	7.30	7.57	617.00	621.00	....	....	0.00	0.00	1.50 z	Dp-Grate	0.00	3,003	2,702	2,552	ST-C2 - ST-C1
ST-C3	Sag		5.0	7.57	7.57	621.00	624.00	24.98	5.07	0.55	0.74	1.00 z	MH	0.00	8,853	7,967	7,525	ST-C3 - ST-C2

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA
87.053	15	4.59	Cir	....	....	0.012	n/a	452067.88	0.22	0.00	8.64	6.33	15	0.61	15	0.28	0.00	0.22	5.8	....	1.38	1.14
249.817	15	1.20	Cir	....	....	0.012	n/a	452199.64	0.81	....	....	....	15	0.95	15	0.00	0.00	0.88	5.0	....	0.88	0.84

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

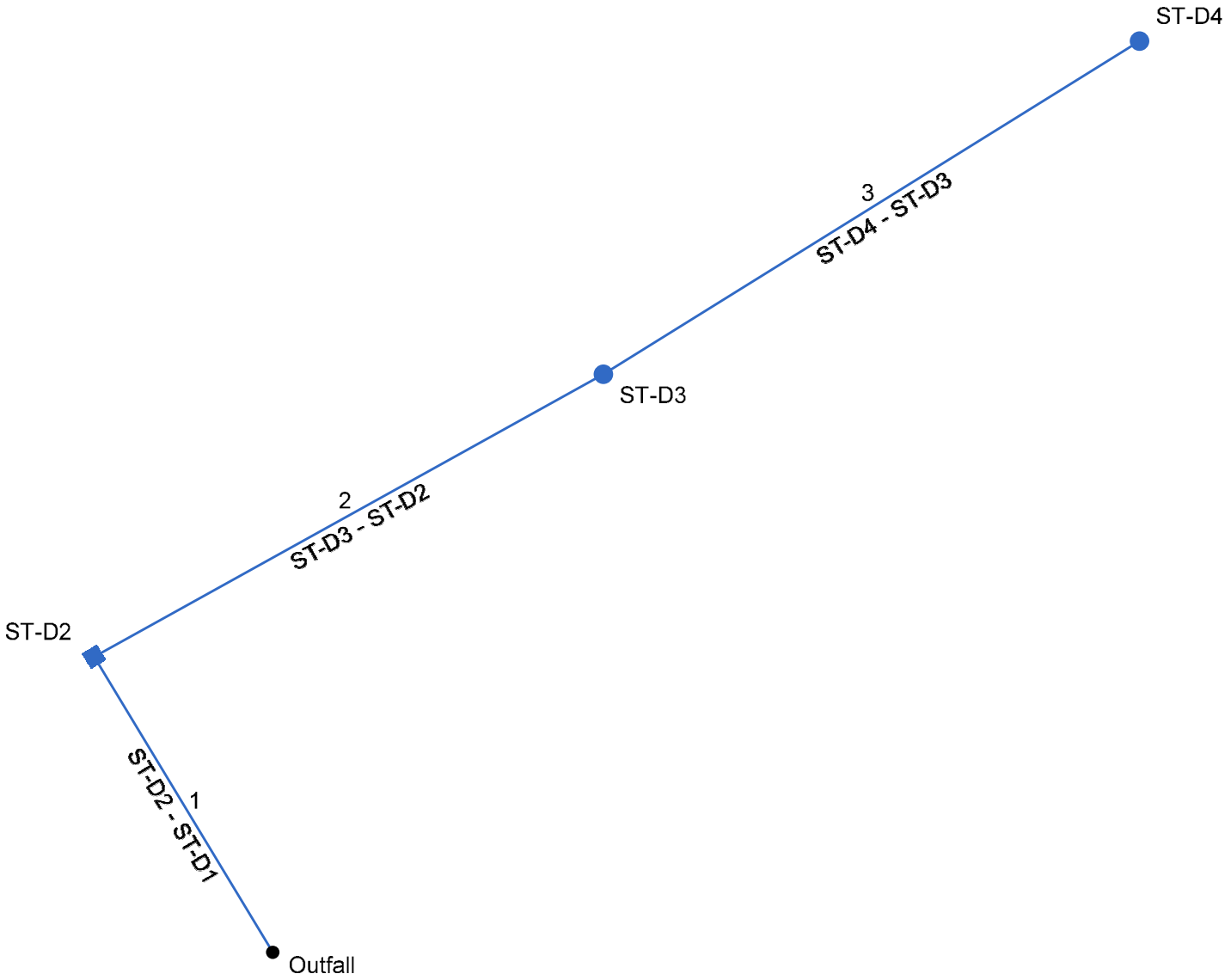
MyReport

Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
8.33	7.14	7.14	0.79	0.79	7.14	1.53	4.75	101.54
6.33	5.68	5.43	0.55	0.55	5.94	4.75	3.42	279.49

Project File: New.stm | Number of lines: 2 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 3	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	81.446	-121.043	DrGrt	0.00	0.30	0.65	5.0	619.00	3.68	622.00	18	Cir	0.012	1.50	628.00	ST-D2 - ST-D1
2	1	137.097	91.907	MH	0.00	0.43	0.95	5.0	622.00	0.73	623.00	18	Cir	0.012	0.15	629.35	ST-D3 - ST-D2
3	2	148.658	-2.824	MH	0.00	0.62	0.95	5.0	623.00	0.67	624.00	15	Cir	0.012	1.00	629.15	ST-D4 - ST-D3

Project File: New.stm

Number of lines: 3

Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-D2 - ST-D1	8.55	18	Cir	81.446	619.00	622.00	3.683	620.13	623.13	n/a	623.13	End	DropGrate
2	ST-D3 - ST-D2	7.33	18	Cir	137.097	622.00	623.00	0.729	623.13	624.05	n/a	624.05 j	1	Manhole
3	ST-D4 - ST-D3	4.46	15	Cir	148.658	623.00	624.00	0.673	624.05	624.86	n/a	624.86 j	2	Manhole

Project File: New.stm

Number of lines: 3

Run Date: 8/7/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	1.43	1.43	Sag	0.35	0.50	0.95	21.83	1.13	0.050	0.020	....	-121.043	1.13	1.13**	Outfall	0.30	1617391.90	620.69	623.69	0.000
2	1.32	1.32	1	0.35	0.50	0.95	9.72	1.05	....	....	....	91.907	1.13	1.05**	1	0.43	1617511.65	623.61	624.53	0.000
3	0.89	0.89	2	0.35	0.50	0.95	5.74	0.86	....	....	....	-2.824	1.05	0.86**	2	0.62	1617637.78	624.43	625.24	0.000

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
8.55	0.000	0.000	5.06	2.53	2.00	621.03	628.00	0.48	Sag	49.98	2.00	620.13	623.13	623.13	....	....	0.20	1.48	0.48	100
7.33	0.000	0.000	....	....	....	628.00	629.35	....	....	....	....	623.13	624.05 j	624.05	623.15	623.12	0.41	3.09	....	....
4.46	0.000	0.000	....	....	....	629.35	629.15	....	....	....	....	624.05	624.86 j	624.86	624.66	624.66	0.59	4.46	....	....

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	Line ID
ST-D2	Sag		5.0	7.17	7.57	619.00	622.00	....	....	0.00	0.00	1.50 z	Dp-Grate	0.00	3,040	2,736	2,584	ST-D2 - ST-D1
ST-D3	Sag		5.0	7.34	7.57	622.00	623.00	13.71	5.25	0.48	0.56	0.15 z	MH	0.00	6,295	5,666	5,351	ST-D3 - ST-D2
ST-D4	Sag		5.0	7.57	7.57	623.00	624.00	118.93	4.29	0.38	0.41	1.00 z	MH	0.00	5,533	4,979	4,703	ST-D4 - ST-D3

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA
81.446	18	3.68	Cir	....	....	0.012	n/a	452221.39	0.28	0.00	9.03	7.56	18	0.65	18	0.15	0.00	0.15	6.2	....	1.35	1.19
137.097	18	0.73	Cir	....	....	0.012	n/a	452288.14	0.55	....	....	....	18	0.95	18	0.00	0.00	0.43	5.7	....	1.05	1.00
148.658	15	0.67	Cir	....	....	0.012	n/a	452366.82	0.68	....	....	....	15	0.95	15	0.00	0.00	0.62	5.0	....	0.62	0.59

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

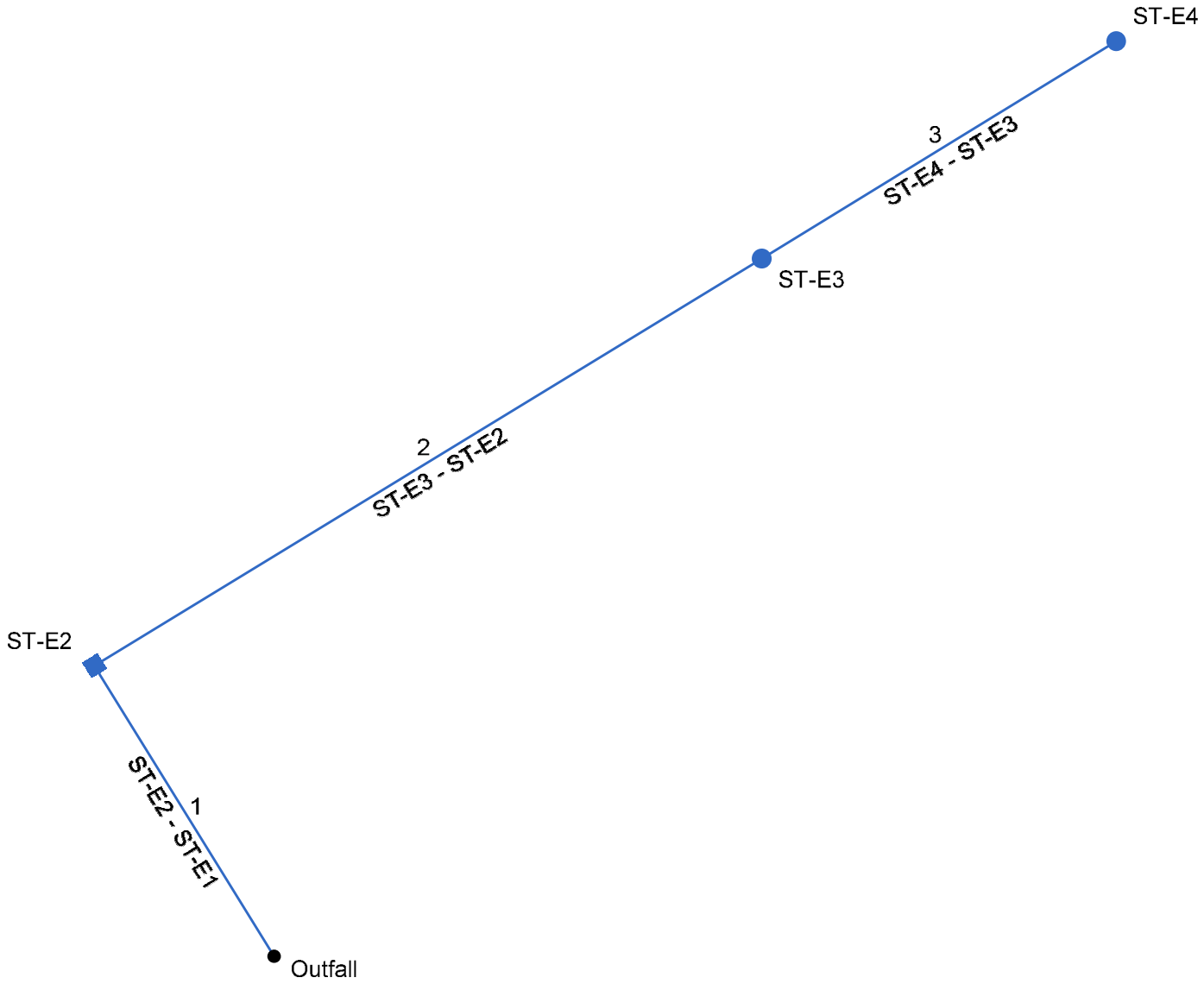
MyReport

Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
8.55	5.98	5.98	0.56	0.56	5.98	0.53	4.50	116.43
7.33	5.34	5.12	0.48	0.48	5.56	4.50	4.85	188.39
4.46	4.53	4.06	0.39	0.39	4.99	5.10	3.90	148.68

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 3	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	79.131	-121.631	DrGrt	0.00	0.30	0.53	5.0	621.00	1.26	622.00	18	Cir	0.012	1.50	628.00	ST-E2 - ST-E1
2	1	180.741	90.142	MH	0.00	0.58	0.95	5.0	622.00	1.11	624.00	15	Cir	0.012	0.15	628.97	ST-E3 - ST-E2
3	2	96.148	-0.130	MH	0.00	0.34	0.95	5.0	624.00	1.04	625.00	12	Cir	0.012	1.00	628.00	ST-E4 - ST-E3

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-E2 - ST-E1	7.45	18	Cir	79.131	621.00	622.00	1.264	622.06	623.06	n/a	623.06	End	DropGrate
2	ST-E3 - ST-E2	6.47	15	Cir	180.741	622.00	624.00	1.107	623.06	625.02	n/a	625.02 j	1	Manhole
3	ST-E4 - ST-E3	2.45	12	Cir	96.148	624.00	625.00	1.040	625.02	625.67	n/a	625.67 j	2	Manhole

Project File: New.stm

Number of lines: 3

Run Date: 8/7/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	1.33	1.33	Sag	0.35	0.50	0.95	12.79	1.06	0.050	0.020	....	-121.631	1.06	1.06**	Outfall	0.30	1617646.53	622.54	623.54	0.000
2	1.08	1.08	1	0.35	0.50	0.95	7.36	1.02	....	....	....	90.142	1.06	1.02**	1	0.58	1617800.65	623.62	625.59	0.000
3	0.56	0.56	2	0.35	0.50	0.95	3.93	0.67	....	....	....	-0.130	1.00	0.67**	2	0.34	1617882.53	625.17	625.97	0.505

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
7.45	0.000	0.000	5.06	2.53	2.00	623.60	628.00	0.44	Sag	45.59	2.00	622.06	623.06	623.06	....	....	0.16	1.20	0.44	100
6.47	0.000	0.000	....	....	....	628.00	628.97	....	....	....	....	623.06	625.02 j	625.02	623.23	623.18	0.55	4.17	....	....
2.45	0.525	0.402	....	....	....	628.97	628.00	....	....	....	....	625.02	625.67 j	625.67	625.07	624.82	0.32	2.45	....	....

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	Line ID
ST-E2	Sag		5.0	7.21	7.57	621.00	622.00	....	....	0.00	0.00	1.50 z	Dp-Grate	0.00	3,020	2,718	2,567	ST-E2 - ST-E1
ST-E3	Sag		5.0	7.40	7.57	622.00	624.00	18.07	5.13	0.56	0.69	0.15 z	MH	0.00	6,438	5,794	5,472	ST-E3 - ST-E2
ST-E4	Sag		5.0	7.57	7.57	624.00	625.00	19.23	4.34	0.18	0.43	1.00 z	MH	0.00	2,882	2,594	2,450	ST-E4 - ST-E3

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA
79.131	18	1.26	Cir	....	....	0.012	n/a	452383.95	0.32	0.00	7.82	6.62	18	0.53	18	0.21	0.00	0.09	6.1	....	1.22	1.03
180.741	15	1.11	Cir	....	....	0.012	n/a	452478.35	0.57	....	....	....	15	0.95	15	0.00	0.00	0.58	5.5	....	0.92	0.87
96.148	12	1.04	Cir	....	....	0.012	n/a	452528.76	0.51	....	....	....	12	0.95	12	0.00	0.00	0.34	5.0	....	0.34	0.32

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

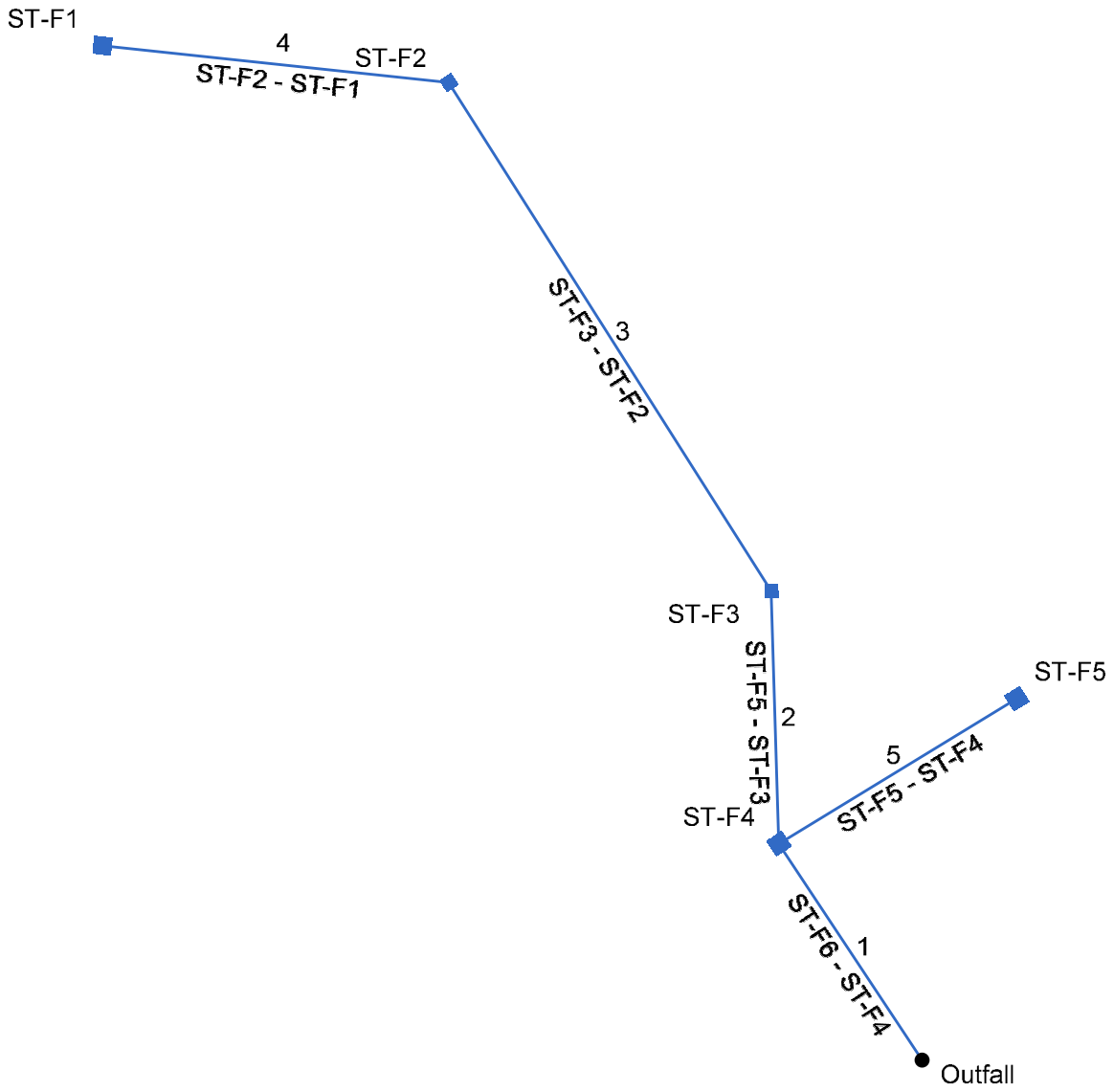
MyReport

Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
7.45	5.60	5.60	0.49	0.49	5.60	1.10	4.50	105.26
6.47	5.93	5.84	0.56	0.56	6.01	4.75	3.72	197.24
2.45	3.75	3.12	0.15	0.30	4.38	3.97	2.00	66.98

Project File: New.stm | Number of lines: 3 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 5	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	59.180	-123.455	DrGrt	0.00	0.23	0.56	5.0	624.00	0.52	624.31	24	Cir	0.012	1.50	628.00	ST-F6 - ST-F4
2	1	57.777	31.719	DrGrt	0.00	0.63	0.70	5.0	624.31	0.50	624.60	21	Cir	0.012	0.84	628.20	ST-F5 - ST-F3
3	2	137.271	-30.514	DrGrt	0.00	0.61	0.74	5.0	624.60	0.51	625.30	18	Cir	0.012	1.23	628.50	ST-F3 - ST-F2
4	3	79.073	-51.647	DrGrt	0.00	0.60	0.49	5.0	625.30	0.51	625.70	15	Cir	0.012	1.00	628.00	ST-F2 - ST-F1
5	1	63.350	91.929	Curb	0.00	0.45	0.72	5.0	624.31	1.88	625.50	15	Cir	0.012	1.00	630.19	ST-F5 - ST-F4

Project File: New.stm

Number of lines: 5

Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-F6 - ST-F4	11.50	24	Cir	59.180	624.00	624.31	0.524	625.22	625.53	n/a	625.53	End	DropGrate
2	ST-F5 - ST-F3	8.42	21	Cir	57.777	624.31	624.60	0.502	625.53	625.68	n/a	625.68	1	DropGrate
3	ST-F3 - ST-F2	5.46	18	Cir	137.271	624.60	625.30	0.510	625.68	626.20	n/a	626.20 j	2	DropGrate
4	ST-F2 - ST-F1	2.23	15	Cir	79.073	625.30	625.70	0.506	626.20	626.30	n/a	626.30 j	3	DropGrate
5	ST-F5 - ST-F4	2.45	15	Cir	63.350	624.31	625.50	1.878	625.53	626.13	n/a	626.13 j	1	Curb-Horiz

Project File: New.stm

Number of lines: 5

Run Date: 8/7/2025

NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	2.00	2.00	Sag	0.35	0.50	0.95	17.73	1.22	0.050	0.020	....	-123.455	1.22	1.22**	Outfall	0.23	1617916.90	625.73	626.04	0.000
2	1.55	1.55	1	0.35	0.50	0.95	12.16	1.08	0.050	0.020	....	31.719	1.22	1.08**	1	0.63	1617915.15	625.98	626.13	0.000
3	1.11	1.11	2	0.35	0.50	0.95	8.12	0.90	0.050	0.020	....	-30.514	1.08	0.90**	2	0.61	1617841.90	625.93	626.58	0.562
4	0.58	0.58	3	0.35	0.50	0.95	4.98	0.60	0.020	0.020	....	-51.647	0.90	0.60**	3	0.60	1617763.28	626.43	626.53	0.000
5	0.62	0.62	1	0.35	0.50	0.95	9.59	0.63	0.050	0.020	4.25	91.929	1.22	0.63**	1	0.45	1617970.90	625.77	626.37	0.000

Project File: New.stm | Number of lines: 5 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
11.50	0.000	0.000	5.06	2.53	2.00	626.81	628.00	0.11	Sag	12.87	2.00	625.22	625.53	625.53	....	....	0.13	0.98	0.11	100
8.42	0.000	0.000	5.06	2.53	2.00	628.00	628.20	0.25	Sag	26.71	2.00	625.53	625.68	625.68	....	....	0.44	3.34	0.25	100
5.46	0.409	0.308	5.06	2.53	2.00	628.20	628.50	0.25	Sag	27.10	2.00	625.68	626.20 j	626.20	625.71	625.66	0.45	3.42	0.25	100
2.23	0.000	0.000	5.06	2.53	2.00	628.50	628.00	0.19	Sag	20.85	2.00	626.20	626.30 j	626.30	626.22	626.18	0.29	2.23	0.19	100
2.45	0.000	0.000	....	....	....	628.00	630.19	0.32	Sag	13.21	2.00	625.53	626.13 j	626.13	625.51	625.07	0.32	2.45	0.32	100

Project File: New.stm | Number of lines: 5 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	Line ID
ST-F4	Sag		5.0	7.02	7.57	624.00	624.31	....	....	0.00	0.00	1.50 z	Dp-Grate	0.00	2,224	2,002	1,890	ST-F6 - ST-F4
ST-F3	Sag		5.0	7.10	7.57	624.31	624.60	....	....	0.00	0.00	0.84 z	Dp-Grate	0.00	2,055	1,850	1,747	ST-F5 - ST-F3
ST-F2	Sag		5.0	7.33	7.57	624.60	625.30	27.45	4.83	0.32	0.38	1.23 z	Dp-Grate	0.00	4,484	4,036	3,811	ST-F3 - ST-F2
ST-F1	Sag		5.0	7.57	7.57	625.30	625.70	55.35	3.18	0.20	0.24	1.00 z	Dp-Grate	0.00	2,470	2,223	2,100	ST-F2 - ST-F1
ST-F5	Sag		5.0	7.57	7.57	624.31	625.50	12.67	4.83	0.09	0.65	1.00 z	Curb	0.00	2,228	2,005	1,893	ST-F5 - ST-F4

Project File: New.stm | Number of lines: 5 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)	Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA
59.180	24	0.52	Cir	....	....	0.012	n/a	452534.07	0.27	0.00	0.98	0.00	24	0.56	24	0.15	0.00	0.08	6.7	....	2.52	1.64
57.777	21	0.50	Cir	....	....	0.012	n/a	452591.82	0.27	0.00	3.34	0.00	21	0.70	21	0.26	0.00	0.37	6.5	....	1.84	1.19
137.271	18	0.51	Cir	....	....	0.012	n/a	452707.92	0.73	0.00	3.42	0.00	18	0.74	18	0.21	0.00	0.40	5.7	....	1.21	0.75
79.073	15	0.51	Cir	....	....	0.012	n/a	452716.32	0.73	0.00	2.23	0.00	15	0.49	15	0.46	0.00	0.14	5.0	....	0.60	0.29
63.350	15	1.88	Cir	0.0	....	0.012	n/a	452567.20	0.53	0.00	2.45	0.00	15	0.72	15	0.17	0.00	0.28	5.0	4.0	0.45	0.32

Project File: New.stm | Number of lines: 5 | Date: 8/7/2025

NOTES: ** Critical depth

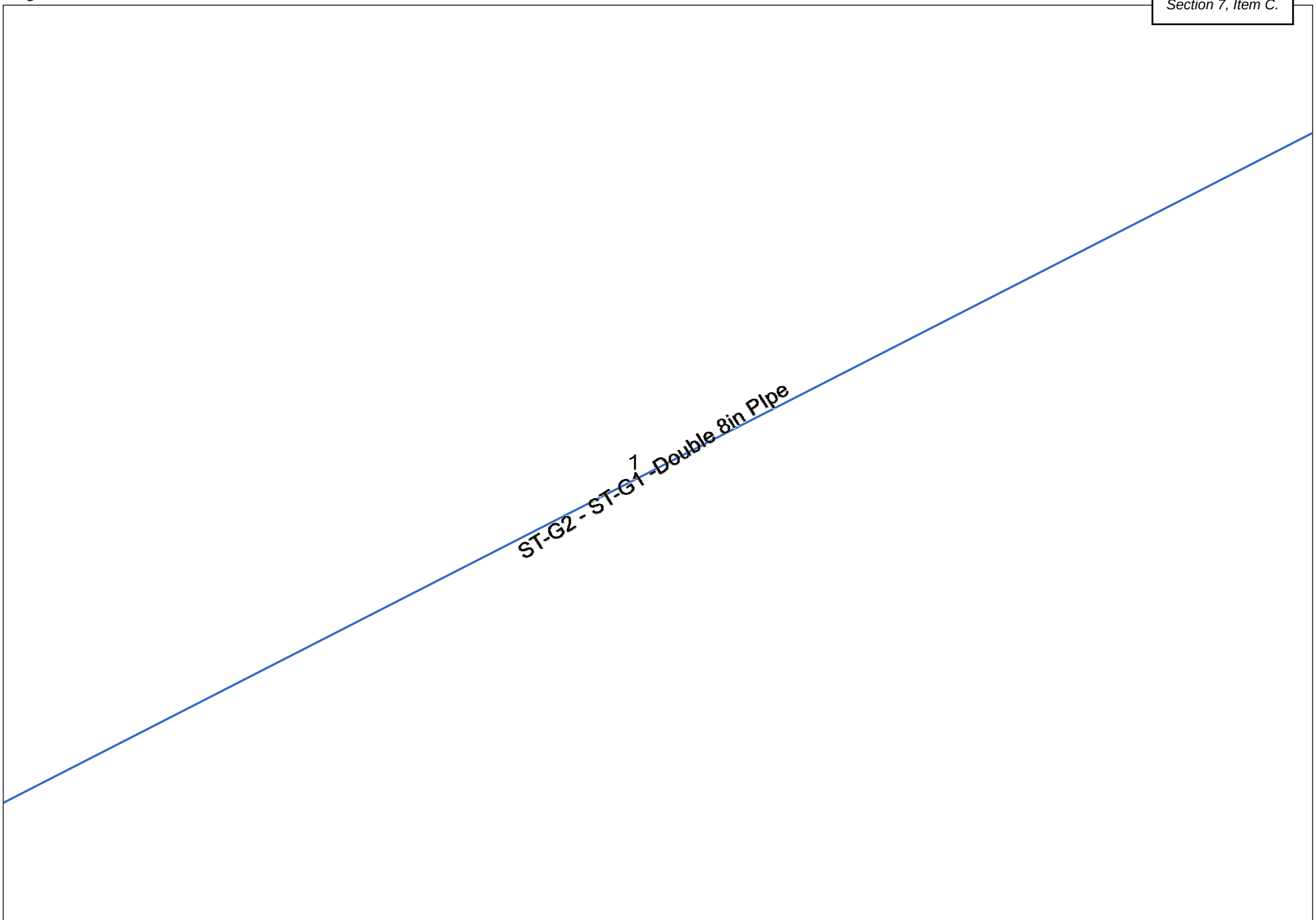
MyReport

Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
11.50	5.75	5.75	0.51	0.51	5.75	0.81	1.69	118.37
8.42	5.07	4.72	0.46	0.46	5.42	1.94	1.85	96.46
5.46	4.48	4.02	0.25	0.38	4.93	2.10	1.70	169.43
2.23	3.11	2.35	0.23	0.23	3.86	1.95	1.05	60.45
2.45	3.00	2.01	0.25	0.25	3.99	2.44	3.44	60.32

Project File: New.stm | Number of lines: 5 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: G-Double.stm	Number of lines: 1	Date: 8/11/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	22.456	147.792	Hdwl	0.00	0.27	0.86	5.0	626.50	1.78	626.90	8	Cir(2b)	0.012	1.00	628.09	ST-G2 - ST-G1 -Dou

Project File: G-Double.stm

Number of lines: 1

Date: 8/11/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-G2 - ST-G1 -Double 8in PIpe	1.76	8	Cir(2b)	22.456	626.50	626.90	1.781	626.87	627.27	n/a	627.27	End	OpenHeadwall

Project File: G-Double.stm

Number of lines: 1

Run Date: 8/11/2025

NOTES: Return period = 10 Yrs.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	0.40	0.40	n/a	0.35	0.50	0.95	3.49	0.37	....	....	....	147.792	0.37	0.37**	Outfall	0.27	1617019.78	627.17	627.57	0.000

Project File: G-Double.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
1.76	0.000	0.000	....	....	....	627.69	628.09	....	....	....	....	626.87	627.27	627.27	....	....	0.23	1.76	....	100

Project File: G-Double.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	
ST-G1	Sag		5.0	7.57	7.57	626.50	626.90	....	....	0.00	0.00	1.00 z	Hdwall	0.00	0	0	0	

Project File: G-Double.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-G2 - ST-G1 -Double 8in PIpe	22.456	8(2b)	1.78	Cir	....	....	0.012	n/a	452290.64	0.15	0.00	1.76	0.00	8	0.86	8	0.04	0.00	0.23

Project File: G-Double.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

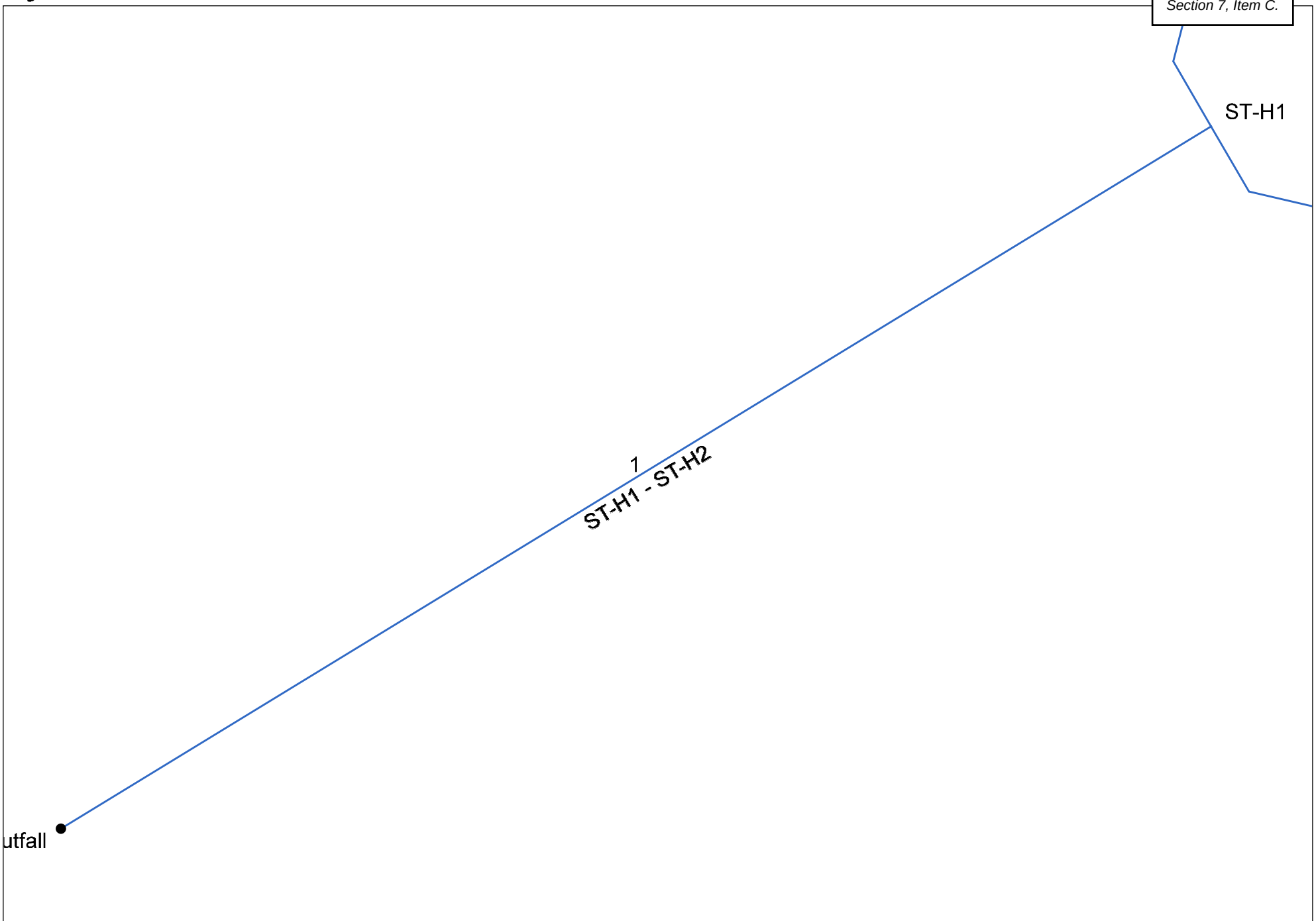
MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
5.0	....	0.27	0.23	1.76	4.41	4.41	0.30	0.30	4.41	0.52	0.52	8.96

Project File: G-Double.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: H.stm	Number of lines: 1	Date: 8/11/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	35.598	-31.430	Hdwl	1.89	0.66	0.78	5.0	623.97	0.55	624.17	18	Cir	0.012	1.00	626.73	ST-H1 - ST-H2

Project File: H.stm

Number of lines: 1

Date: 8/11/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-H1 - ST-H2	5.79	18	Cir	35.598	623.97	624.17	0.553	625.77*	625.86*	0.17	626.03	End	OpenHeadwall

Project File: H.stm | Number of lines: 1 | Run Date: 8/11/2025

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown).

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	1.77	1.77	n/a	0.35	0.50	0.95	8.46	0.93	....	....	....	-31.430	1.50	1.50	Outfall	0.66	1617373.40	625.94	626.03	0.092

Project File: H.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
5.79	0.259	0.259	....	....	....	626.53	626.73	....	....	....	....	625.77	625.86	626.03	....	....	0.51	5.79	....	100

Project File: H.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	
ST-H1	Sag		5.0	7.57	7.57	623.97	624.17	....	....	0.00	0.00	1.00	Hdwall	1.89	1,136	1,022	966	

Project File: H.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-H1 - ST-H2	35.598	18	0.55	Cir	....	....	0.012	0.17	452510.89	0.18	0.00	5.79	0.00	18	0.78	18	0.19	0.00	0.47

Project File: H.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

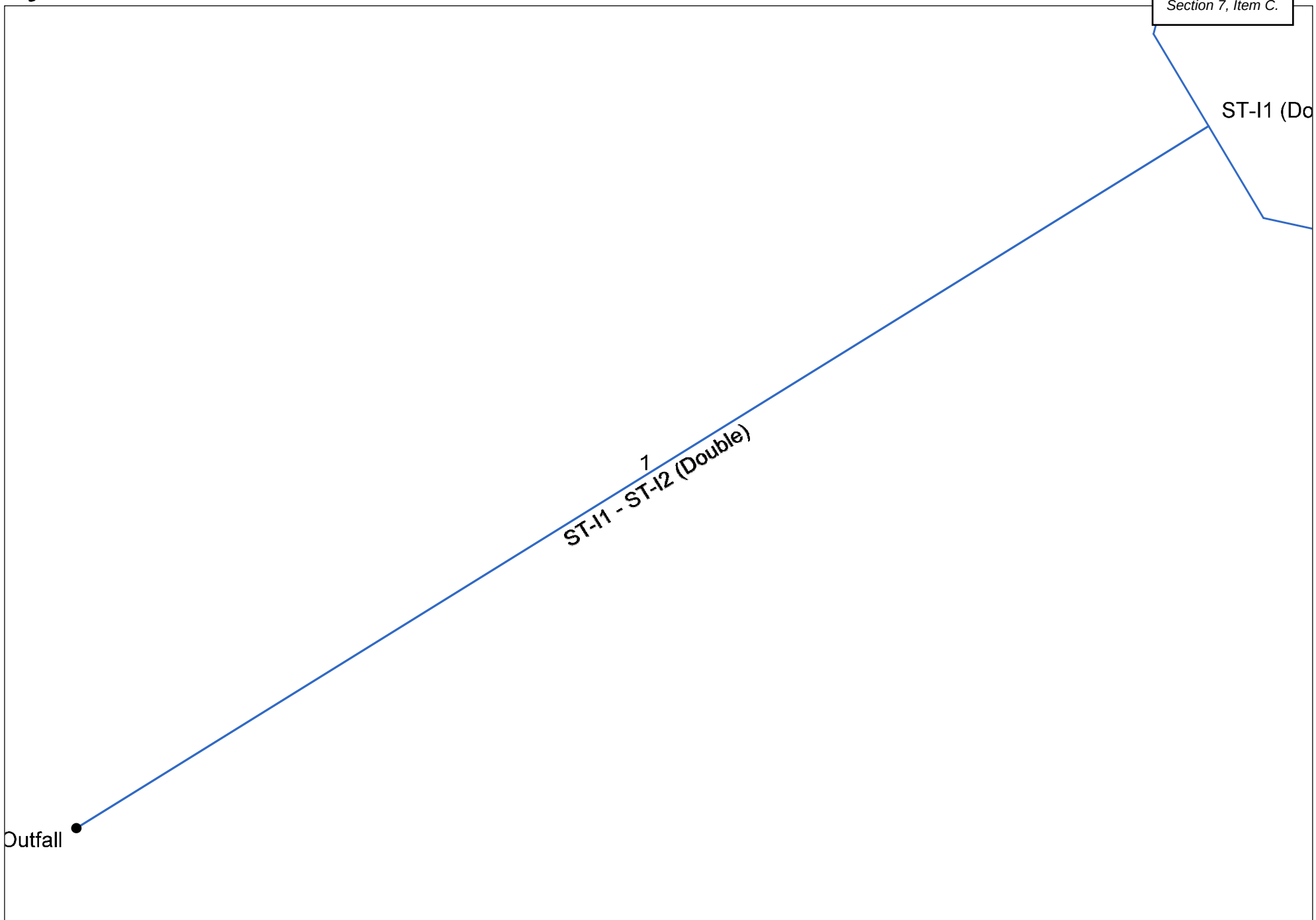
MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
5.0	....	0.66	0.51	3.90	3.28	3.28	0.17	0.17	3.28	1.06	1.06	62.89

Project File: H.stm | Number of lines: 1 | Date: 8/11/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 1	Date: 8/7/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	24.314	-31.974	Hdwl	0.00	0.30	0.83	5.0	626.90	0.41	627.00	8	Cir(2b)	0.012	1.00	628.24	ST-I1 - ST-I2 (Dou

Project File: New.stm

Number of lines: 1

Date: 8/7/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-I1 - ST-I2 (Double)	1.89	8	Cir(2b)	24.314	626.90	627.00	0.411	627.28	627.67	0.11	627.78	End	OpenHeadwall

Project File: New.stm

Number of lines: 1

Run Date: 8/7/2025

NOTES: Return period = 10 Yrs.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	0.42	0.70	n/a	0.35	0.50	0.95	1.68	0.38	....	....	....	-31.974	0.38	0.67	Outfall	0.30	1617600.40	627.60	627.78	0.219

Project File: New.stm | Number of lines: 1 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
1.89	0.902	1.301	....	....	....	628.09	628.24	....	....	....	....	627.28	627.67	627.78	....	....	0.25	1.89	....	100

Project File: New.stm | Number of lines: 1 | Date: 8/7/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	
ST-I1 (Double)	Sag		5.0	7.57	7.57	626.90	627.00	....	....	0.00	0.00	1.00	Hdwall	0.00	0	0	0	

Project File: New.stm | Number of lines: 1 | Date: 8/7/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-I1 - ST-I2 (Double)	24.314	8(2b)	0.41	Cir	....	....	0.012	0.11	452651.32	0.15	0.00	1.89	0.00	8	0.83	8	0.06	0.00	0.24

Project File: New.stm | Number of lines: 1 | Date: 8/7/2025

NOTES: ** Critical depth

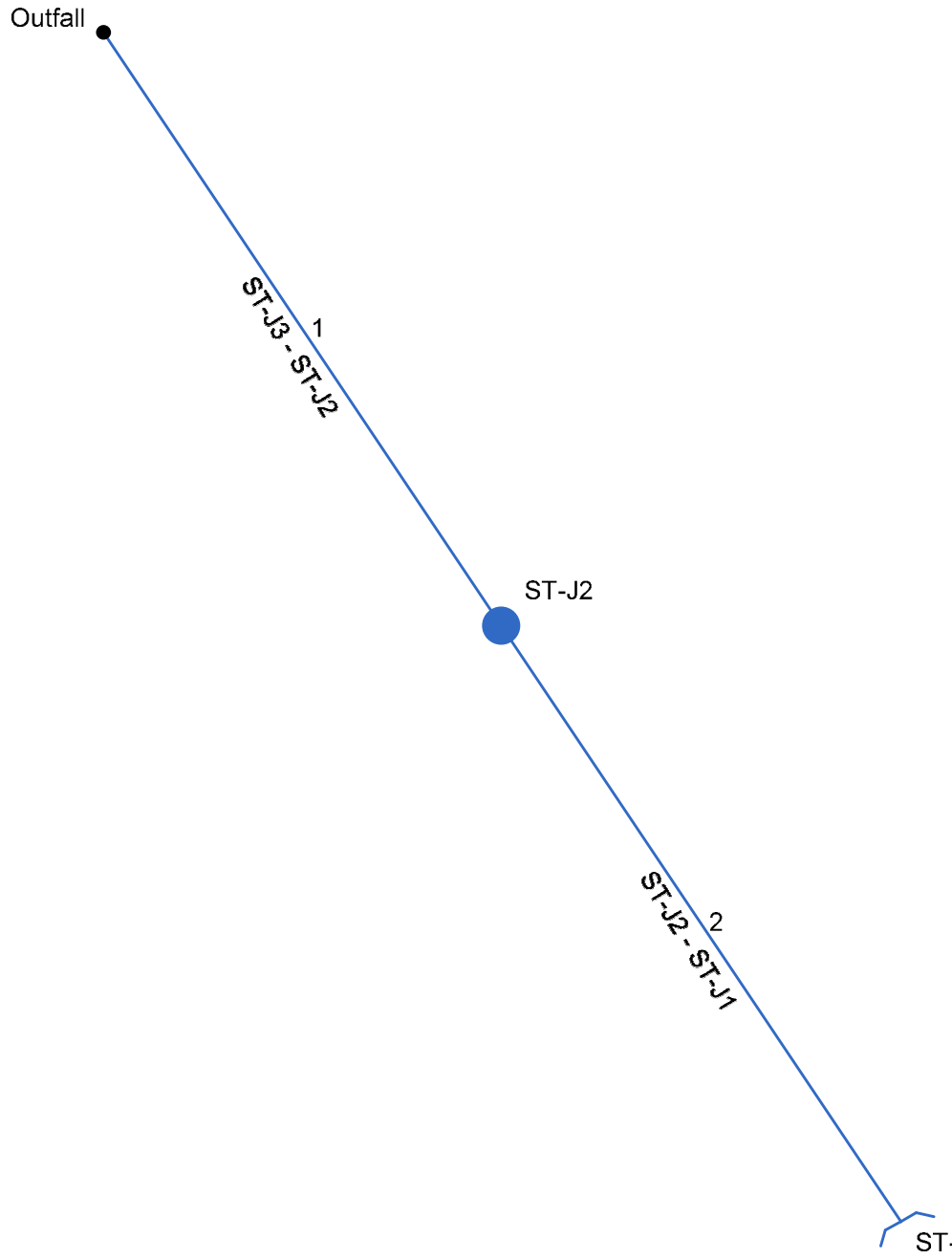
MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
5.0	....	0.30	0.25	1.89	3.61	4.52	0.32	0.11	2.70	0.52	0.57	14.08

Project File: New.stm | Number of lines: 1 | Date: 8/7/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: J.stm	Number of lines: 2	Date: 8/11/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	85.225	58.326	MH	0.00	0.00	0.00	0.0	621.00	1.08	621.92	24	Cir	0.012	0.15	626.30	ST-J3 - ST-J2
2	1	85.623	-0.033	Hdwl	7.55	0.94	0.78	5.0	621.92	1.00	622.78	24	Cir	0.012	1.00	626.31	ST-J2 - ST-J1

Project File: J.stm

Number of lines: 2

Date: 8/11/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-J3 - ST-J2	13.02	24	Cir	85.225	621.00	621.92	1.079	622.30	623.22	0.08	623.22	End	Manhole
2	ST-J2 - ST-J1	13.10	24	Cir	85.623	621.92	622.78	1.004	623.22	624.08	n/a	624.08	1	OpenHeadwall

Project File: J.stm

Number of lines: 2

Run Date: 8/11/2025

NOTES: Return period = 10 Yrs.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	2.16	2.16	n/a	0.35	0.50	0.95	25.46	1.30	....	....	....	58.326	1.30	1.30**	Outfall	0.00	1617253.15	622.86	623.78	0.000
2	2.16	2.16	1	0.35	0.50	0.95	24.56	1.30	....	....	....	-0.033	1.30	1.30**	1	0.94	1617298.15	623.79	624.65	0.000

Project File: J.stm | Number of lines: 2 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
13.02	0.000	0.000	....	....	....	623.81	626.30	....	....	....	....	622.30	623.22	623.22	....	....	0.00	0.00	....	....
13.10	0.000	0.000	....	....	....	626.30	626.31	....	....	....	....	623.22	624.08	624.08	....	....	0.73	13.10	....	100

Project File: J.stm | Number of lines: 2 | Date: 8/11/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC
ST-J2	Sag		0.0	7.46	0.00	621.00	621.92	....	....	0.00	0.00	0.15 z	MH	0.00	3,344	3,010	2,842
ST-J1	Sag		5.0	7.57	7.57	621.92	622.78	....	....	0.00	0.00	1.00 z	Hdwall	7.55	3,382	3,044	2,875

Project File: J.stm | Number of lines: 2 | Date: 8/11/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-J3 - ST-J2	85.225	24	1.08	Cir	....	....	0.012	0.08	452545.32	0.34	....	....	....	24	0.00	24	0.00	0.00	0.00
ST-J2 - ST-J1	85.623	24	1.00	Cir	....	....	0.012	n/a	452472.48	0.34	0.00	13.10	0.00	24	0.78	24	0.27	0.00	0.67

Project File: J.stm | Number of lines: 2 | Date: 8/11/2025

NOTES: ** Critical depth

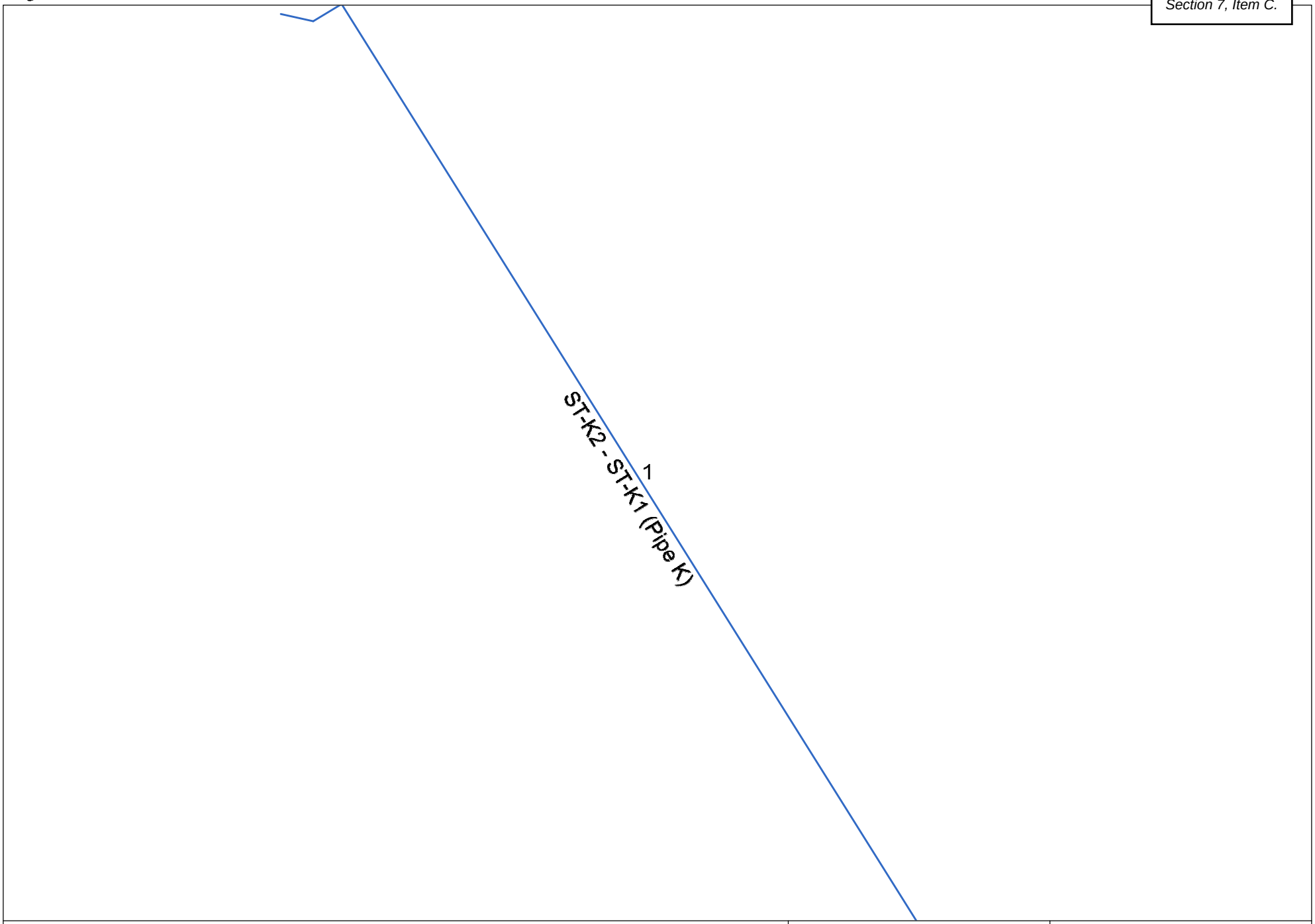
MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
5.3	....	0.94	0.73	5.47	6.04	6.04	0.57	0.57	6.04	0.81	2.38	183.75
5.0	....	0.94	0.73	5.55	6.07	6.08	0.57	0.57	6.05	2.38	1.53	184.97

Project File: J.stm | Number of lines: 2 | Date: 8/11/2025

NOTES: ** Critical depth

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: New.stm	Number of lines: 1	Date: 8/28/2025

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	68.953	-121.961	Hdwl	15.06	0.59	0.35	5.0	632.85	2.03	634.25	24	Cir	0.012	1.00	637.83	ST-K2 - ST-K1 (Pip

Project File: New.stm

Number of lines: 1

Date: 8/28/2025

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Type
1	ST-K2 - ST-K1 (Pipe K)	16.62	24	Cir	68.953	632.85	634.25	2.030	634.32	635.72	0.70	635.72	End	OpenHeadwall

Project File: New.stm

Number of lines: 1

Run Date: 8/28/2025

NOTES: Return period = 10 Yrs.

MyReport

Line No.	Area Dn (sqft)	Area Up (sqft)	Byp Ln No	Coeff C1 (C)	Coeff C2 (C)	Coeff C3 (C)	Capac Full (cfs)	Crit Depth (ft)	Cross Sl, Sw (ft/ft)	Cross Sl, Sx (ft/ft)	Curb Len (ft)	Defl Ang (Deg)	Depth Dn (ft)	Depth Up (ft)	DnStm Ln No	Drng Area (ac)	Easting X (ft)	EGL Dn (ft)	EGL Up (ft)	Energy Loss (ft)
1	2.47	2.47	n/a	0.35	0.50	0.95	34.91	1.47	....	....	....	-121.961	1.47	1.47**	Outfall	0.59	1618229.15	635.02	636.42	0.000

Project File: New.stm | Number of lines: 1 | Date: 8/28/2025

NOTES: ** Critical depth

MyReport

Flow Rate (cfs)	Sf Ave (ft/ft)	Sf Dn (ft/ft)	Grate Area (sqft)	Grate Len (ft)	Grate Width (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	Gutter Depth (ft)	Gutter Slope (ft/ft)	Gutter Spread (ft)	Gutter Width (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	HGL Jmp Dn (ft)	HGL Jmp Up (ft)	Incr CxA	Incr Q (cfs)	Inlet Depth (ft)	Inlet Eff (%)
16.62	0.000	0.000	....	....	....	635.66	637.83	....	....	....	....	634.32	635.72	635.72	....	....	0.21	16.62	....	100

Project File: New.stm | Number of lines: 1 | Date: 8/28/2025

NOTES: ** Critical depth

MyReport

Inlet ID	Inlet Loc	(ft)	Inlet Time (min)	i Sys (in/hr)	i Inlet (in/hr)	Invert Dn (ft)	Invert Up (ft)	Jump Loc (ft)	Jump Len (ft)	Vel Hd Jmp Dn (ft)	Vel Hd Jmp Up (ft)	J-Loss Coeff	Junct Type	Known Q (cfs)	Cost RCP	Cost CMP	Cost PVC	
ST-K2	Sag		5.0	7.57	7.57	632.85	634.25	....	....	0.00	0.00	1.00 z	Hdwall	15.06	2,466	2,219	2,096	

Project File: New.stm | Number of lines: 1 | Date: 8/28/2025

NOTES: Intensity = 73.40 / (Inlet time + 12.20) ^ 0.80 -- Return period = 10 Yrs. ; ** Critical depth

MyReport

Line ID	Line Length (ft)	Line Size (in)	Line Slope (%)	Line Type	Local Depr (in)	n-val Gutter	n-val Pipe	Minor Loss (ft)	Northing Y (ft)	Pipe Travel (min)	Q Byp (cfs)	Q Capt (cfs)	Q Carry (cfs)	Line Rise (in)	Runoff Coeff (C)	Line Span (in)	Area A1 (ac)	Area A2 (ac)	Area A3 (ac)
ST-K2 - ST-K1 (Pipe K)	68.953	24	2.03	Cir	....	....	0.012	0.70	452736.10	0.22	0.00	16.62	0.00	24	0.35	24	0.59	0.00	0.00

Project File: New.stm | Number of lines: 1 | Date: 8/28/2025

NOTES: ** Critical depth

MyReport

Tc (min)	Throat Ht (in)	Total Area (ac)	Total CxA	Total Runoff (cfs)	Vel Ave (ft/s)	Vel Dn (ft/s)	Vel Hd Dn (ft)	Vel Hd Up (ft)	Vel Up (ft/s)	Cover Dn (ft)	Cover Up (ft)	Storage (cft)
5.0	....	0.59	0.21	1.56	6.72	6.72	0.70	0.70	6.72	0.81	1.58	170.47

Project File: New.stm | Number of lines: 1 | Date: 8/28/2025

NOTES: ** Critical depth

APPENDIX D: HYDROLOGIC CALCULATIONS

Hydraflow Watershed Analysis Report

Channel and Channel Lining Reports – 10 Year

Sediment Basin Calculations

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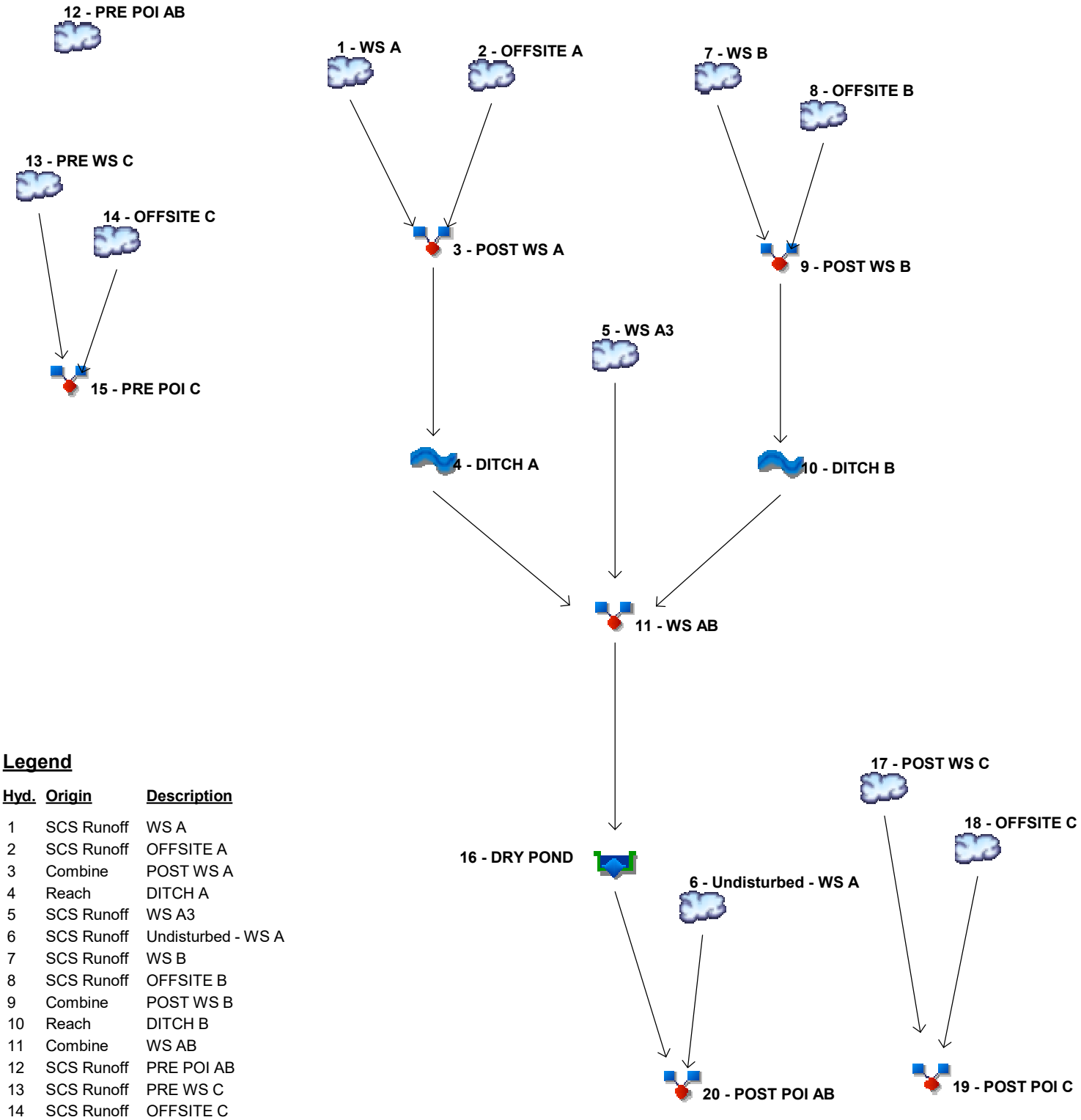
Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	WS A
2	SCS Runoff	OFFSITE A
3	Combine	POST WS A
4	Reach	DITCH A
5	SCS Runoff	WS A3
6	SCS Runoff	Undisturbed - WS A
7	SCS Runoff	WS B
8	SCS Runoff	OFFSITE B
9	Combine	POST WS B
10	Reach	DITCH B
11	Combine	WS AB
12	SCS Runoff	PRE POI AB
13	SCS Runoff	PRE WS C
14	SCS Runoff	OFFSITE C
15	Combine	PRE POI C
16	Reservoir	DRY POND
17	SCS Runoff	POST WS C
18	SCS Runoff	OFFSITE C
19	Combine	POST POI C
20	Combine	POST POI AB

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	35.20	-------	44.72	52.19	62.40	70.46	78.82	WS A
2	SCS Runoff	------	-------	9.833	-------	14.60	18.58	24.26	28.92	33.88	OFFSITE A
3	Combine	1, 2	-------	39.71	-------	51.95	61.75	75.37	86.25	97.64	POST WS A
4	Reach	3	-------	31.81	-------	42.44	51.03	63.05	72.73	82.89	DITCH A
5	SCS Runoff	------	-------	22.25	-------	27.96	32.43	38.54	43.37	48.37	WS A3
6	SCS Runoff	------	-------	9.222	-------	11.84	13.90	16.71	18.94	21.25	Undisturbed - WS A
7	SCS Runoff	------	-------	51.56	-------	63.72	73.25	86.29	96.60	107.31	WS B
8	SCS Runoff	------	-------	7.418	-------	10.32	12.68	15.98	18.62	21.39	OFFSITE B
9	Combine	7, 8	-------	57.76	-------	72.49	84.12	100.10	112.79	126.00	POST WS B
10	Reach	9	-------	49.21	-------	62.31	72.80	87.38	99.01	111.16	DITCH B
11	Combine	4, 5, 10	-------	101.11	-------	130.19	153.41	185.59	211.31	238.22	WS AB
12	SCS Runoff	------	-------	34.07	-------	46.13	55.81	69.25	79.96	91.13	PRE POI AB
13	SCS Runoff	------	-------	31.02	-------	41.67	50.20	61.99	71.39	81.17	PRE WS C
14	SCS Runoff	------	-------	16.28	-------	23.60	29.68	38.36	45.41	52.85	OFFSITE C
15	Combine	13, 14	-------	46.91	-------	64.61	78.98	99.24	115.50	132.53	PRE POI C
16	Reservoir	11	-------	11.28	-------	12.79	13.90	15.31	16.36	24.13	DRY POND
17	SCS Runoff	------	-------	16.79	-------	22.22	26.53	32.47	37.19	42.09	POST WS C
18	SCS Runoff	------	-------	0.862	-------	1.065	1.224	1.441	1.613	1.792	OFFSITE C
19	Combine	17, 18	-------	16.89	-------	22.34	26.67	32.63	37.37	42.29	POST POI C
20	Combine	6, 16,	-------	18.76	-------	22.60	25.47	29.36	32.38	35.46	POST POI AB

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	35.20	2	718	83,178	------	------	------	WS A
2	SCS Runoff	9.833	2	734	44,645	------	------	------	OFFSITE A
3	Combine	39.71	2	720	127,823	1, 2	------	------	POST WS A
4	Reach	31.81	2	724	127,819	3	------	------	DITCH A
5	SCS Runoff	22.25	2	720	60,085	------	------	------	WS A3
6	SCS Runoff	9.222	2	726	32,159	------	------	------	Undisturbed - WS A
7	SCS Runoff	51.56	2	718	128,574	------	------	------	WS B
8	SCS Runoff	7.418	2	722	20,892	------	------	------	OFFSITE B
9	Combine	57.76	2	718	149,466	7, 8	------	------	POST WS B
10	Reach	49.21	2	724	149,463	9	------	------	DITCH B
11	Combine	101.11	2	722	337,368	4, 5, 10	------	------	WS AB
12	SCS Runoff	34.07	2	732	147,606	------	------	------	PRE POI AB
13	SCS Runoff	31.02	2	734	140,667	------	------	------	PRE WS C
14	SCS Runoff	16.28	2	732	67,195	------	------	------	OFFSITE C
15	Combine	46.91	2	734	207,862	13, 14	------	------	PRE POI C
16	Reservoir	11.28	2	772	337,366	11	611.32	153,693	DRY POND
17	SCS Runoff	16.79	2	734	76,047	------	------	------	POST WS C
18	SCS Runoff	0.862	2	716	1,922	------	------	------	OFFSITE C
19	Combine	16.89	2	734	77,970	17, 18	------	------	POST POI C
20	Combine	18.76	2	728	369,525	6, 16,	------	------	POST POI AB

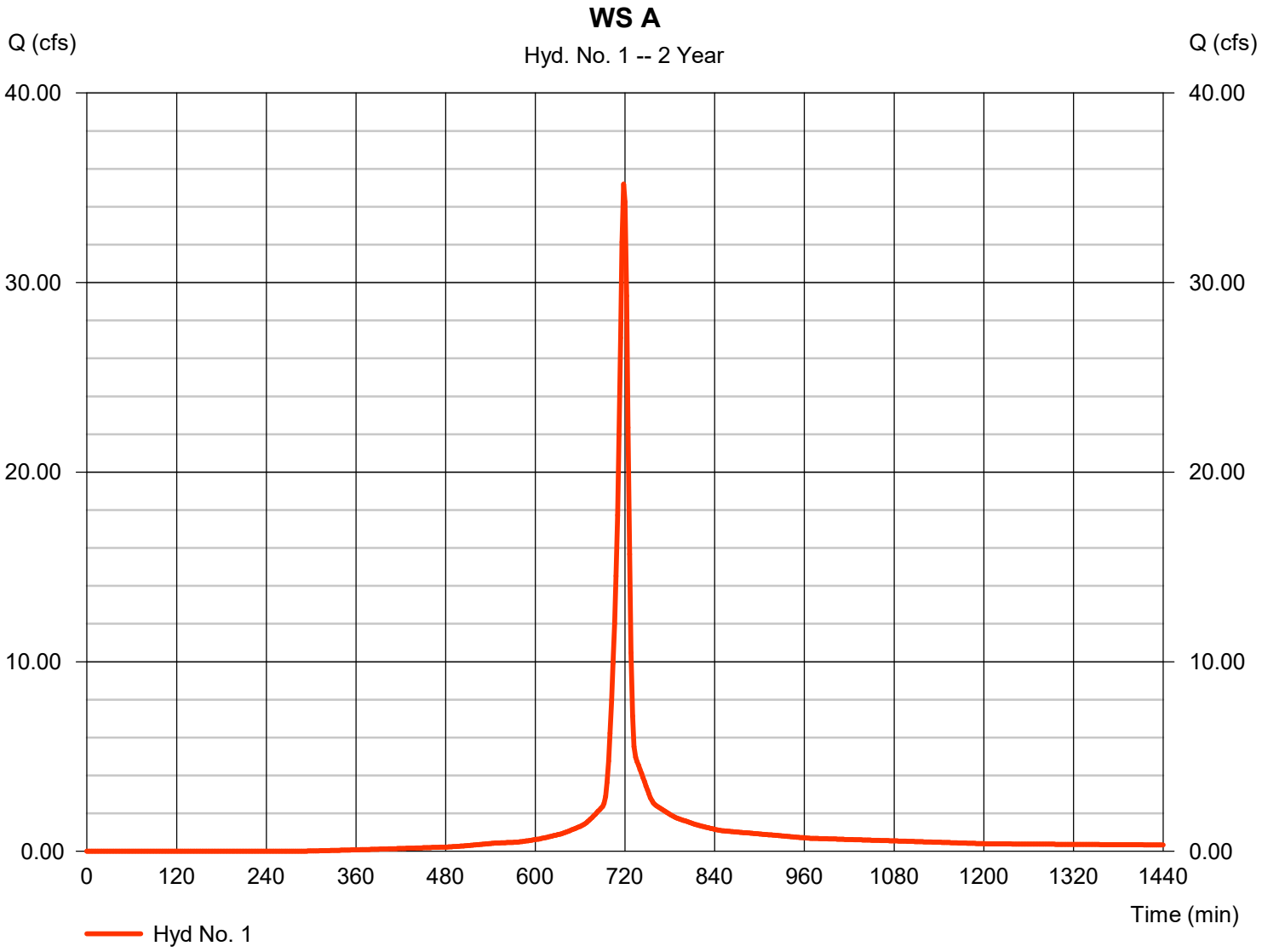
Hydrograph Report

Hyd. No. 1

WS A

Hydrograph type	=	SCS Runoff	Peak discharge	=	35.20 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	83,178 cuft
Drainage area	=	8.140 ac	Curve number	=	90*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	8.30 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.740 x 72) + (2.310 x 91) + (4.090 x 98)] / 8.140



TR55 Tc Worksheet

Hyd. No. 1

WS A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.035		0.011		0.011		
Flow length (ft)	= 71.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 3.67**	**+**	**0.00**	**+**	**0.00**	**=**	**3.67**
Shallow Concentrated Flow							
Flow length (ft)	= 88.00		235.00		46.00		
Watercourse slope (%)	= 2.27		0.85		0.50		
Surface description	= Unpaved		Unpaved		Unpaved		
Average velocity (ft/s)	=2.43		1.49		1.14		
Travel Time (min)	**= 0.60**	**+**	**2.63**	**+**	**0.67**	**=**	**3.91**
Channel Flow							
X sectional flow area (sqft)	= 0.79		3.14		21.97		
Wetted perimeter (ft)	= 3.14		6.28		1.50		
Channel slope (%)	= 1.32		2.25		1.35		
Manning's n-value	= 0.011		0.011		0.035		
Velocity (ft/s)	=6.17						
			12.77				
					29.88		
Flow length (ft)	({0})65.0		178.0		629.0		
Travel Time (min)	**= 0.18**	**+**	**0.23**	**+**	**0.35**	**=**	**0.76**

Total Travel Time, Tc ..... 8.30 min

Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

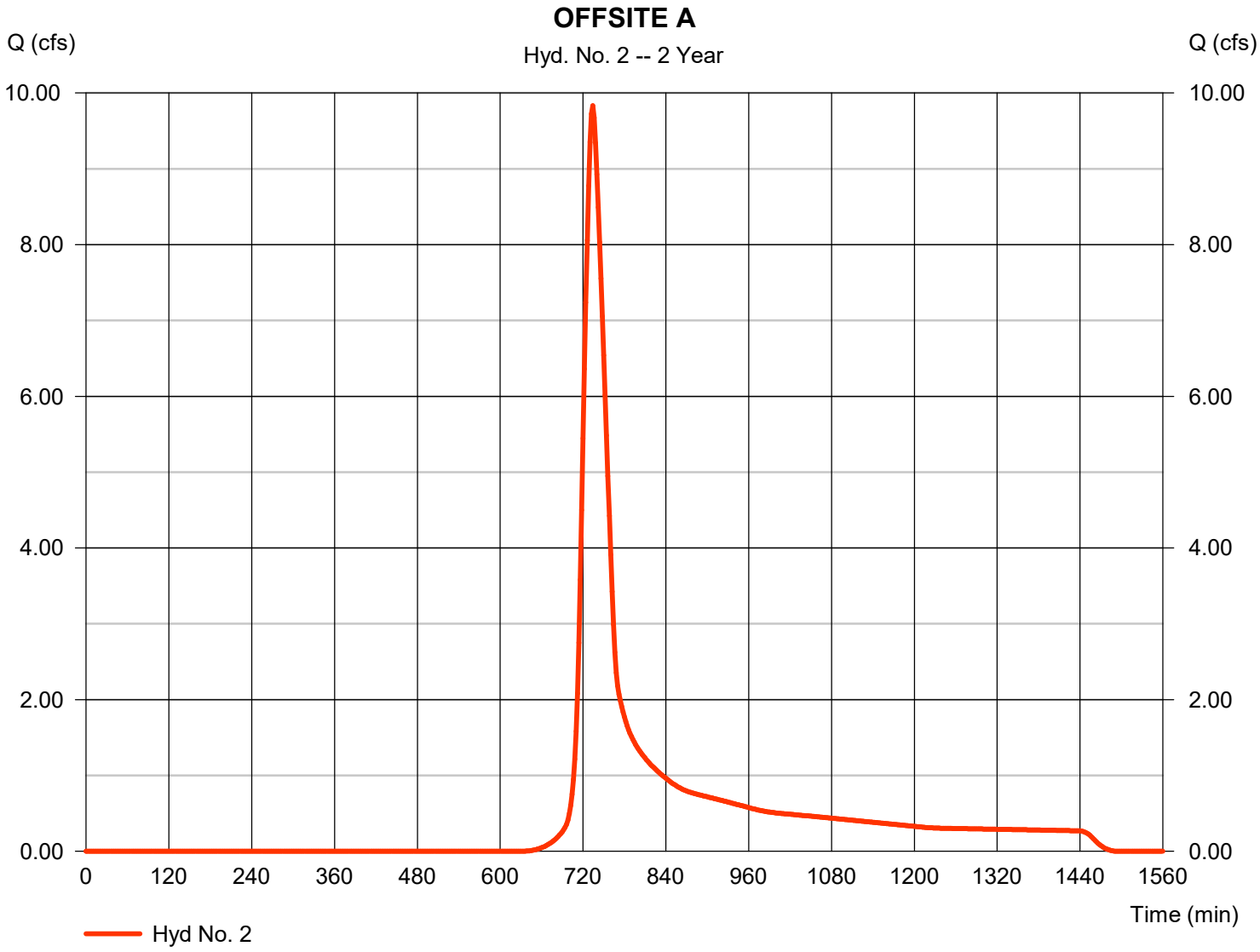
Wednesday, 08 / 6 / 2025

Hyd. No. 2

OFFSITE A

Hydrograph type	=	SCS Runoff	Peak discharge	=	9.833 cfs
Storm frequency	=	2 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	44,645 cuft
Drainage area	=	8.780 ac	Curve number	=	72*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	32.40 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(8.780 x 72)] / 8.780



TR55 Tc Worksheet

Hyd. No. 2

OFFSITE A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.49		0.00		0.00		
Travel Time (min)	**= 17.24**	**+**	**0.00**	**+**	**0.00**	**=**	**17.24**
Shallow Concentrated Flow							
Flow length (ft)	= 1027.00		0.00		0.00		
Watercourse slope (%)	= 0.49		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.13		0.00		0.00		
Travel Time (min)	**= 15.16**	**+**	**0.00**	**+**	**0.00**	**=**	**15.16**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

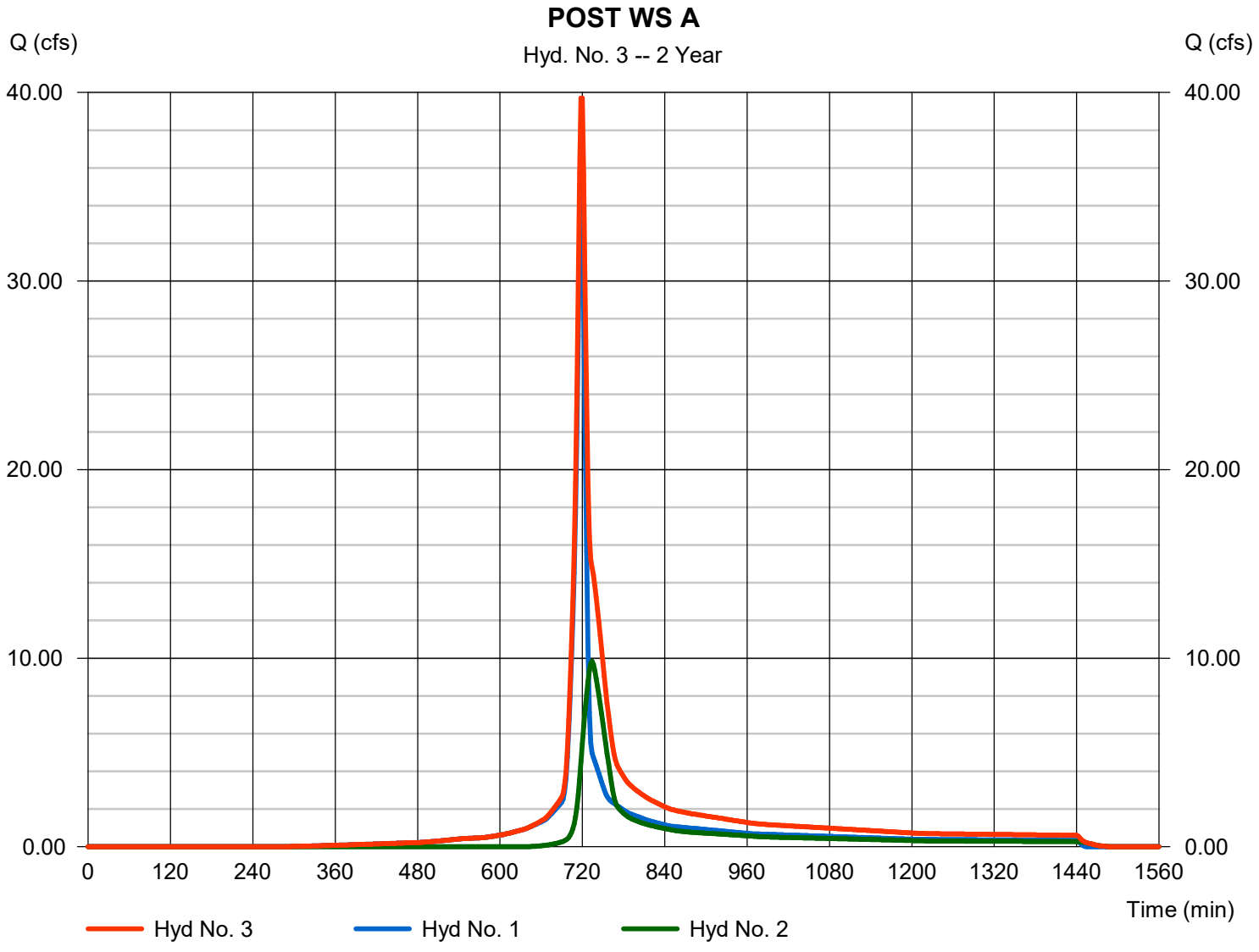
Total Travel Time, Tc ..... 32.40 min

Hydrograph Report

Hyd. No. 3

POST WS A

Hydrograph type	=	Combine	Peak discharge	=	39.71 cfs
Storm frequency	=	2 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	127,823 cuft
Inflow hyds.	=	1, 2	Contrib. drain. area	=	16.920 ac



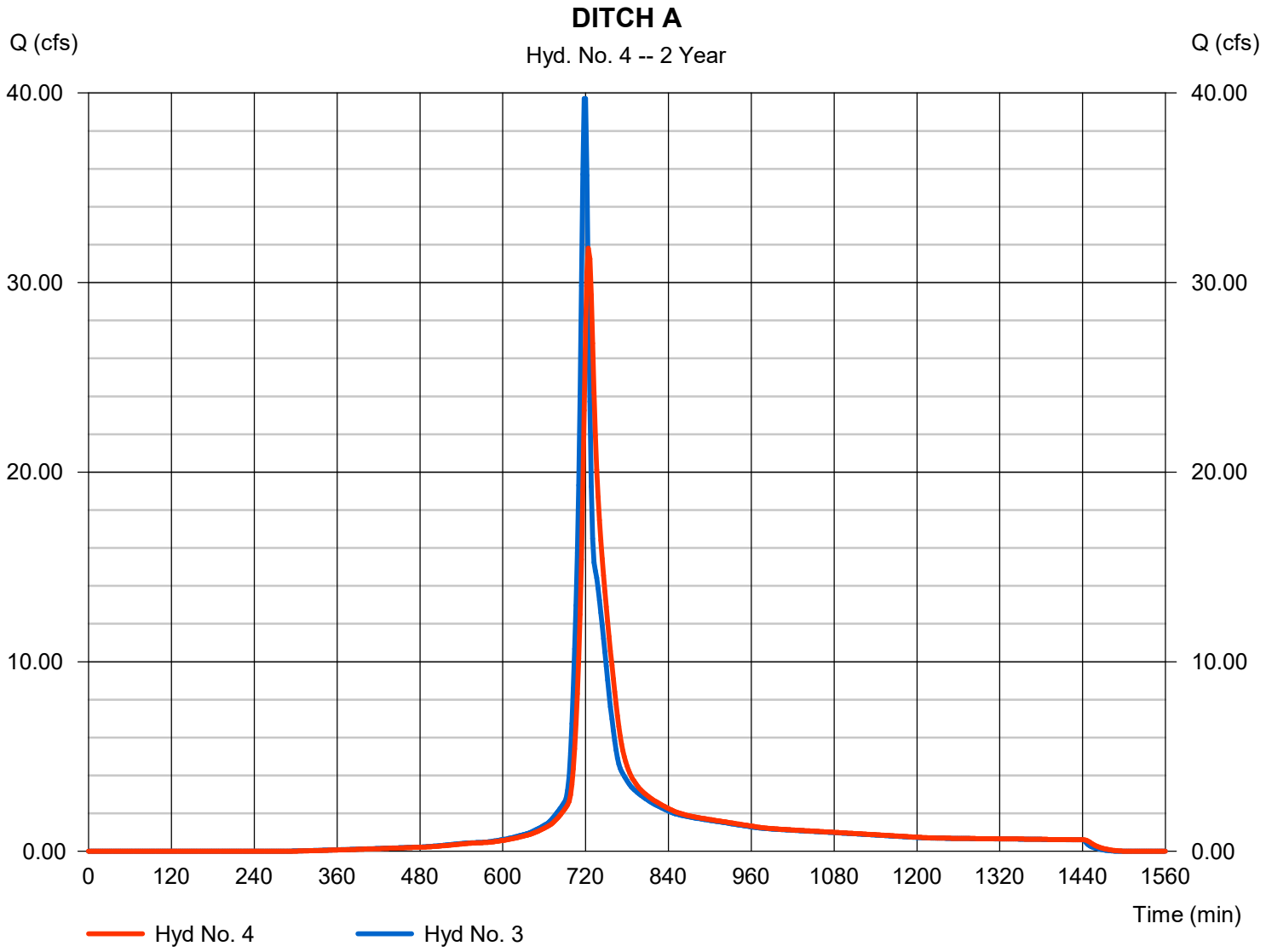
Hydrograph Report

Hyd. No. 4

DITCH A

Hydrograph type	= Reach	Peak discharge	= 31.81 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 127,819 cuft
Inflow hyd. No.	= 3 - POST WS A	Section type	= Trapezoidal
Reach length	= 2104.0 ft	Channel slope	= 1.3 %
Manning's n	= 0.035	Bottom width	= 3.0 ft
Side slope	= 3.0:1	Max. depth	= 3.0 ft
Rating curve x	= 2.306	Rating curve m	= 1.248
Ave. velocity	= 4.06 ft/s	Routing coeff.	= 0.2526

Modified Att-Kin routing method used.



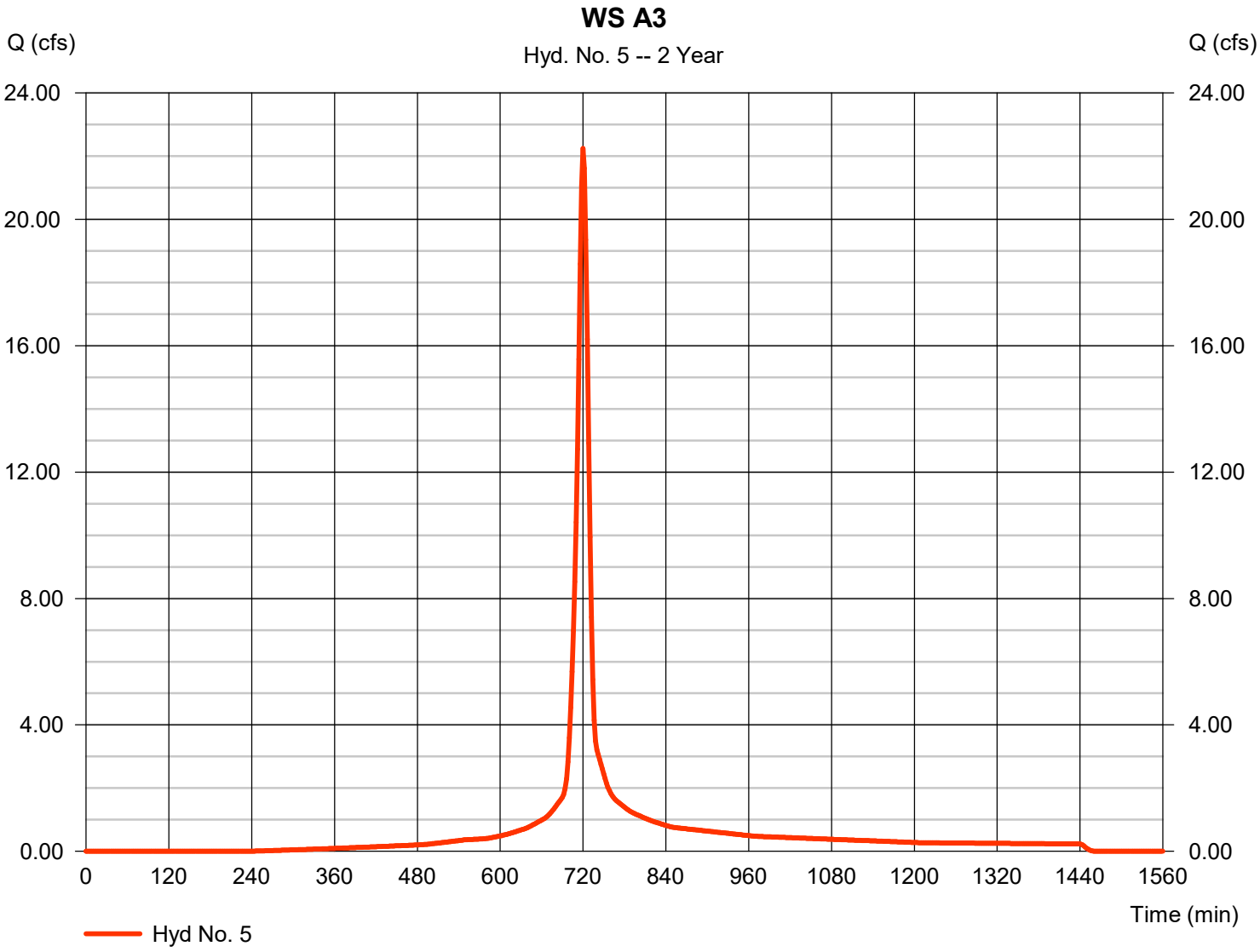
Hydrograph Report

Hyd. No. 5

WS A3

Hydrograph type	=	SCS Runoff	Peak discharge	=	22.25 cfs
Storm frequency	=	2 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	60,085 cuft
Drainage area	=	5.330 ac	Curve number	=	92*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.30 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(4.590 x 91) + (0.740 x 98)] / 5.330



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 5

WS A3

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.035		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 4.83**	**+**	**0.00**	**+**	**0.00**	**=**	**4.83**
Shallow Concentrated Flow							
Flow length (ft)	= 437.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Unpaved		Paved		Unpaved		
Average velocity (ft/s)	=1.14		0.00		0.00		
Travel Time (min)	**= 6.38**	**+**	**0.00**	**+**	**0.00**	**=**	**6.38**
Channel Flow							
X sectional flow area (sqft)	= 21.97		0.00		0.00		
Wetted perimeter (ft)	= 1.50		0.00		0.00		
Channel slope (%)	= 1.35		0.00		0.00		
Manning's n-value	= 0.035		0.013		0.015		
Velocity (ft/s)	=29.88						
			0.00				
					0.00		
Flow length (ft)	({0})143.0		0.0		0.0		
Travel Time (min)	**= 0.08**	**+**	**0.00**	**+**	**0.00**	**=**	**0.08**

Total Travel Time, Tc ..... 11.30 min

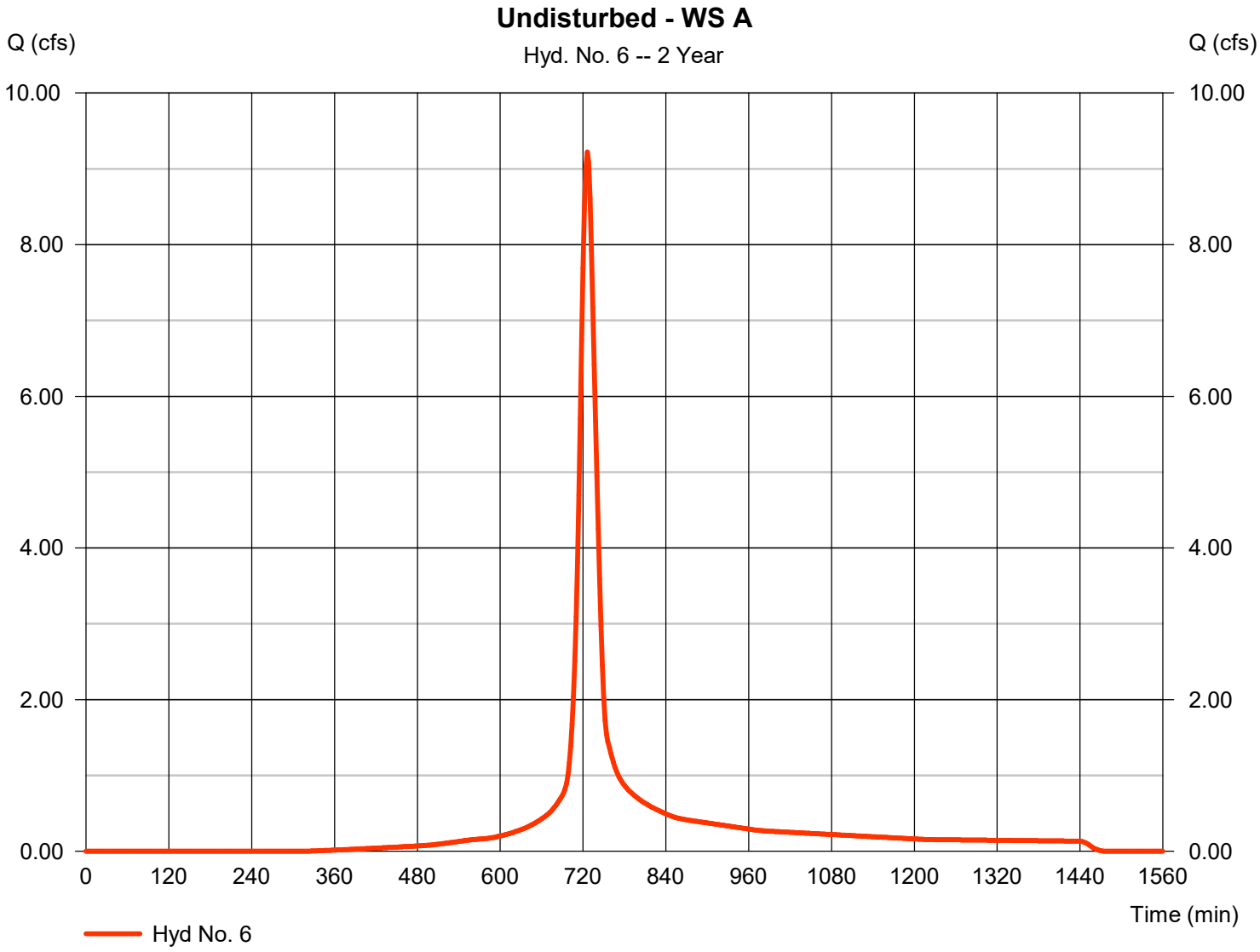
Hydrograph Report

Hyd. No. 6

Undisturbed - WS A

Hydrograph type	= SCS Runoff	Peak discharge	= 9.222 cfs
Storm frequency	= 2 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 32,159 cuft
Drainage area	= 3.200 ac	Curve number	= 89*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 23.39 min
Total precip.	= 3.89 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(0.180 x 72) + (0.750 x 88) + (2.120 x 91)] / 3.200



TR55 Tc Worksheet

Hyd. No. 6

Undisturbed - WS A

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 1.72		0.00		0.00		
Travel Time (min)	**= 10.43**	**+**	**0.00**	**+**	**0.00**	**=**	**10.43**
Shallow Concentrated Flow							
Flow length (ft)	= 1645.00		0.00		0.00		
Watercourse slope (%)	= 1.72		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=2.12		0.00		0.00		
Travel Time (min)	**= 12.96**	**+**	**0.00**	**+**	**0.00**	**=**	**12.96**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 23.39 min

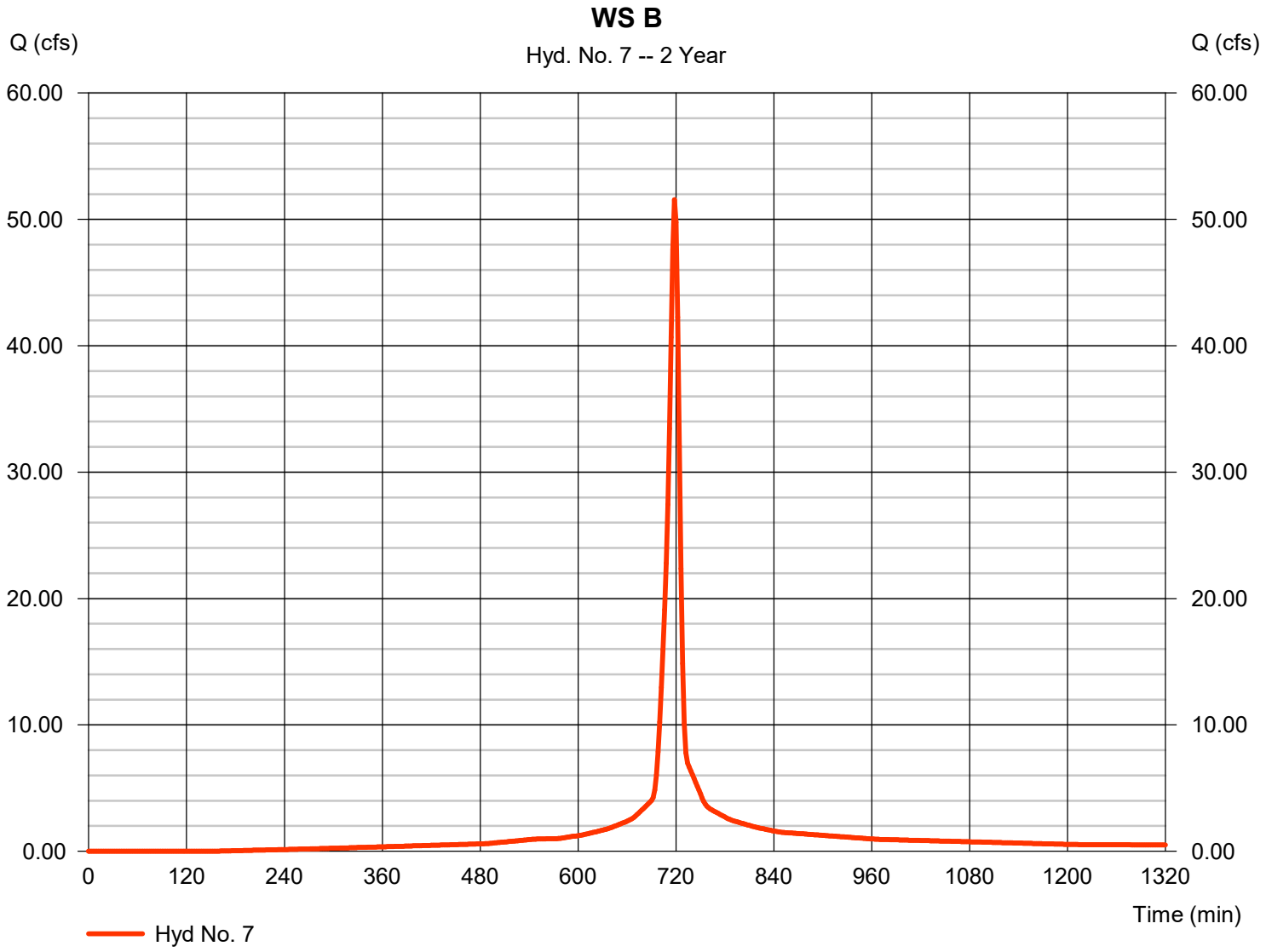
Hydrograph Report

Hyd. No. 7

WS B

Hydrograph type	= SCS Runoff	Peak discharge	= 51.56 cfs
Storm frequency	= 2 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 128,574 cuft
Drainage area	= 10.660 ac	Curve number	= 95*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 7.20 min
Total precip.	= 3.89 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(5.190 x 91) + (5.470 x 98)] / 10.660



TR55 Tc Worksheet

Hyd. No. 7

WS B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.035		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 4.83**	**+**	**0.00**	**+**	**0.00**	**=**	**4.83**
Shallow Concentrated Flow							
Flow length (ft)	= 99.00		0.00		0.00		
Watercourse slope (%)	= 0.50		0.00		0.00		
Surface description	= Unpaved		Unpaved		Paved		
Average velocity (ft/s)	=1.14		0.00		0.00		
Travel Time (min)	**= 1.45**	**+**	**0.00**	**+**	**0.00**	**=**	**1.45**
Channel Flow							
X sectional flow area (sqft)	= 3.14		21.97		0.00		
Wetted perimeter (ft)	= 6.28		1.50		0.00		
Channel slope (%)	= 2.10		1.40		0.00		
Manning's n-value	= 0.013		0.035		0.015		
Velocity (ft/s)	=10.44						
			30.42				
					0.00		
Flow length (ft)	({0})67.0		1577.0		0.0		
Travel Time (min)	**= 0.11**	**+**	**0.86**	**+**	**0.00**	**=**	**0.97**

Total Travel Time, Tc ..... 7.20 min

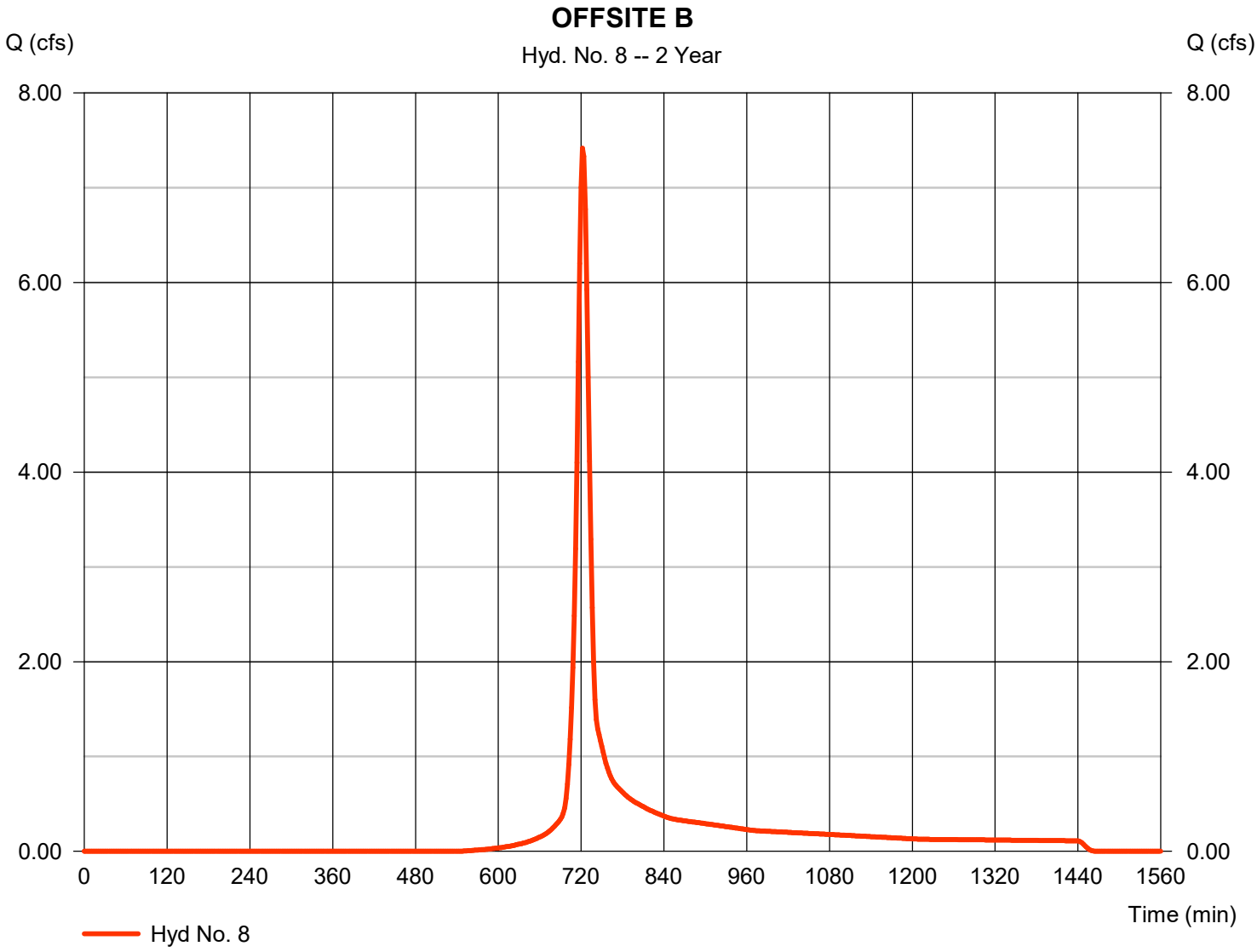
Hydrograph Report

Hyd. No. 8

OFFSITE B

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.418 cfs
Storm frequency	=	2 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	20,892 cuft
Drainage area	=	3.280 ac	Curve number	=	78*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.40 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.940 x 72) + (0.580 x 81) + (0.690 x 91) + (0.070 x 98)] / 3.280



TR55 Tc Worksheet

Hyd. No. 8

OFFSITE B

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 1.65		0.00		0.00		
Travel Time (min)	**= 10.61**	**+**	**0.00**	**+**	**0.00**	**=**	**10.61**
Shallow Concentrated Flow							
Flow length (ft)	= 476.00		0.00		0.00		
Watercourse slope (%)	= 1.65		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=2.07		0.00		0.00		
Travel Time (min)	**= 3.83**	**+**	**0.00**	**+**	**0.00**	**=**	**3.83**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

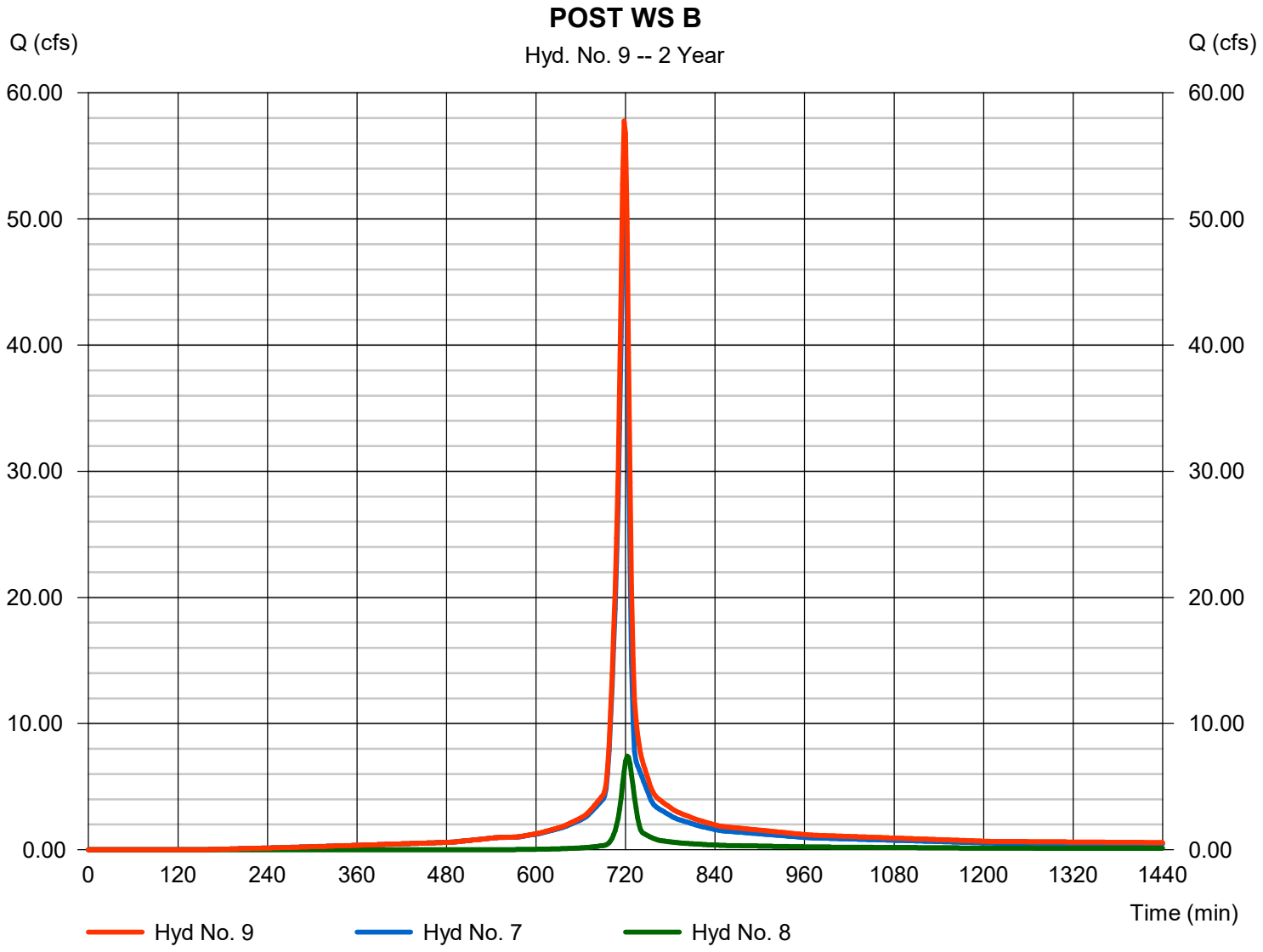
Total Travel Time, Tc ..... 14.40 min

Hydrograph Report

Hyd. No. 9

POST WS B

Hydrograph type	=	Combine	Peak discharge	=	57.76 cfs
Storm frequency	=	2 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	149,466 cuft
Inflow hyds.	=	7, 8	Contrib. drain. area	=	13.940 ac



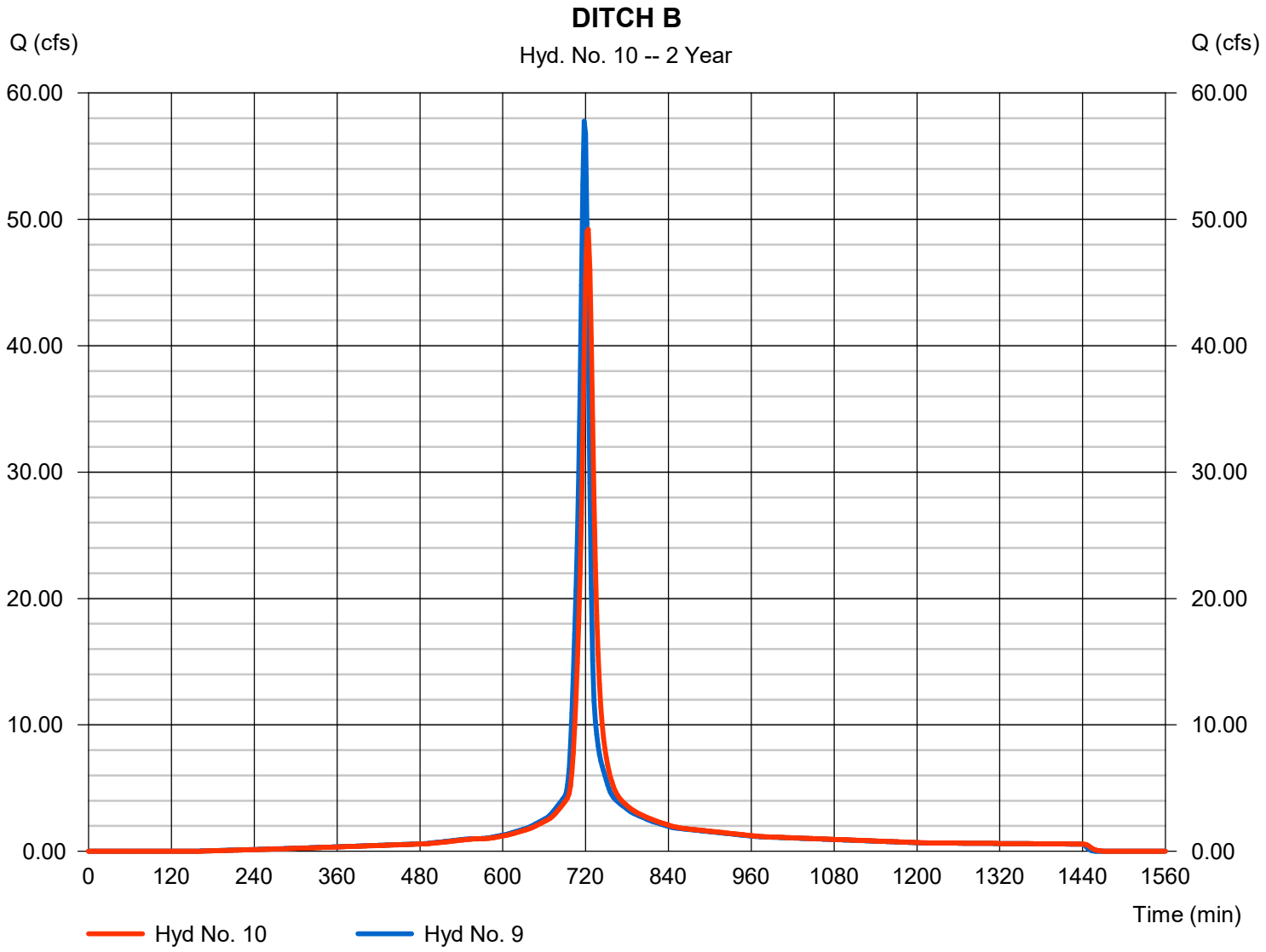
Hydrograph Report

Hyd. No. 10

DITCH B

Hydrograph type	= Reach	Peak discharge	= 49.21 cfs
Storm frequency	= 2 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 149,463 cuft
Inflow hyd. No.	= 9 - POST WS B	Section type	= Trapezoidal
Reach length	= 1752.0 ft	Channel slope	= 1.4 %
Manning's n	= 0.035	Bottom width	= 3.0 ft
Side slope	= 3.0:1	Max. depth	= 3.0 ft
Rating curve x	= 2.421	Rating curve m	= 1.248
Ave. velocity	= 4.55 ft/s	Routing coeff.	= 0.3256

Modified Att-Kin routing method used.

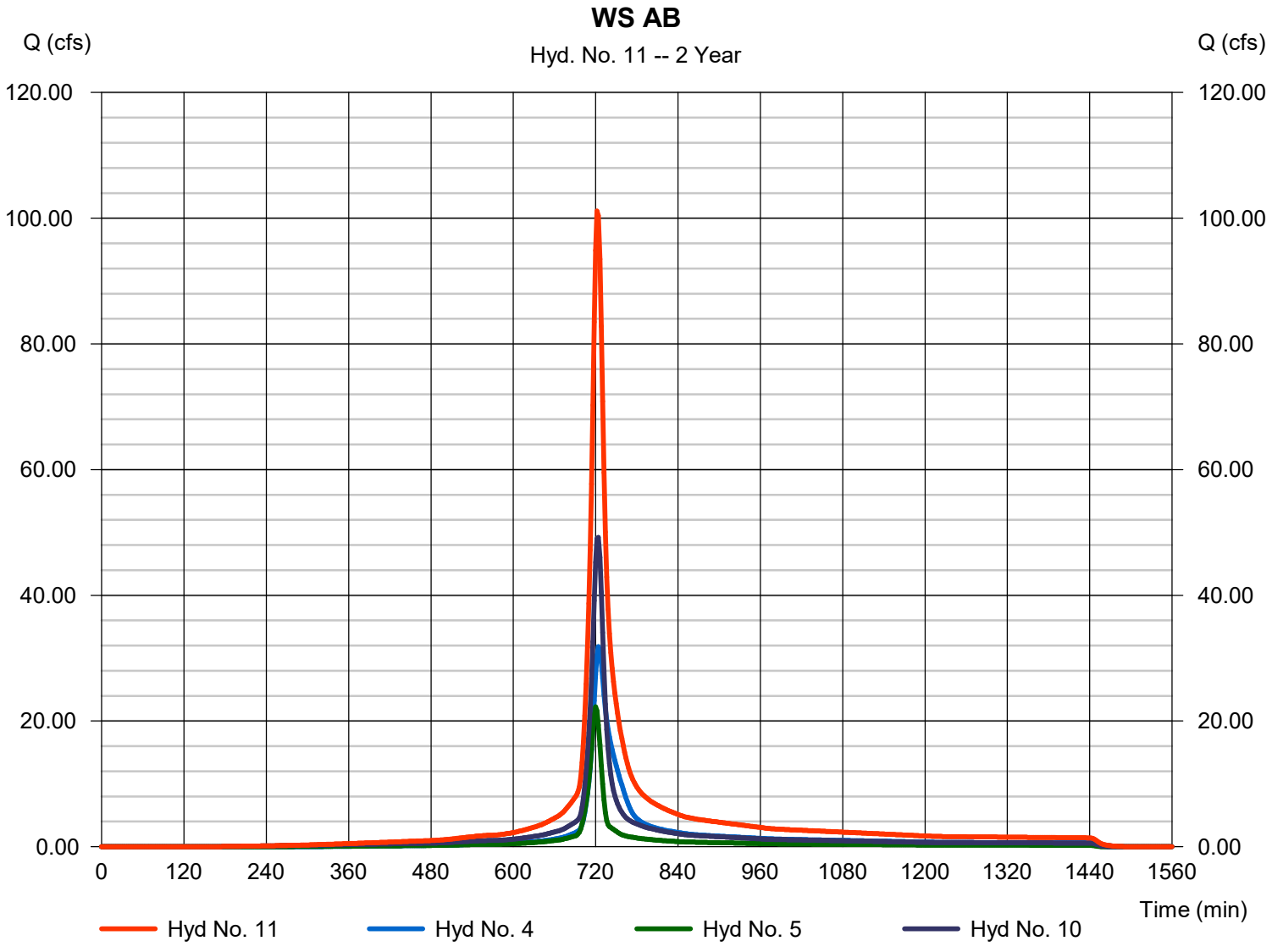


Hydrograph Report

Hyd. No. 11

WS AB

Hydrograph type	= Combine	Peak discharge	= 101.11 cfs
Storm frequency	= 2 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 337,368 cuft
Inflow hyds.	= 4, 5, 10	Contrib. drain. area	= 5.330 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

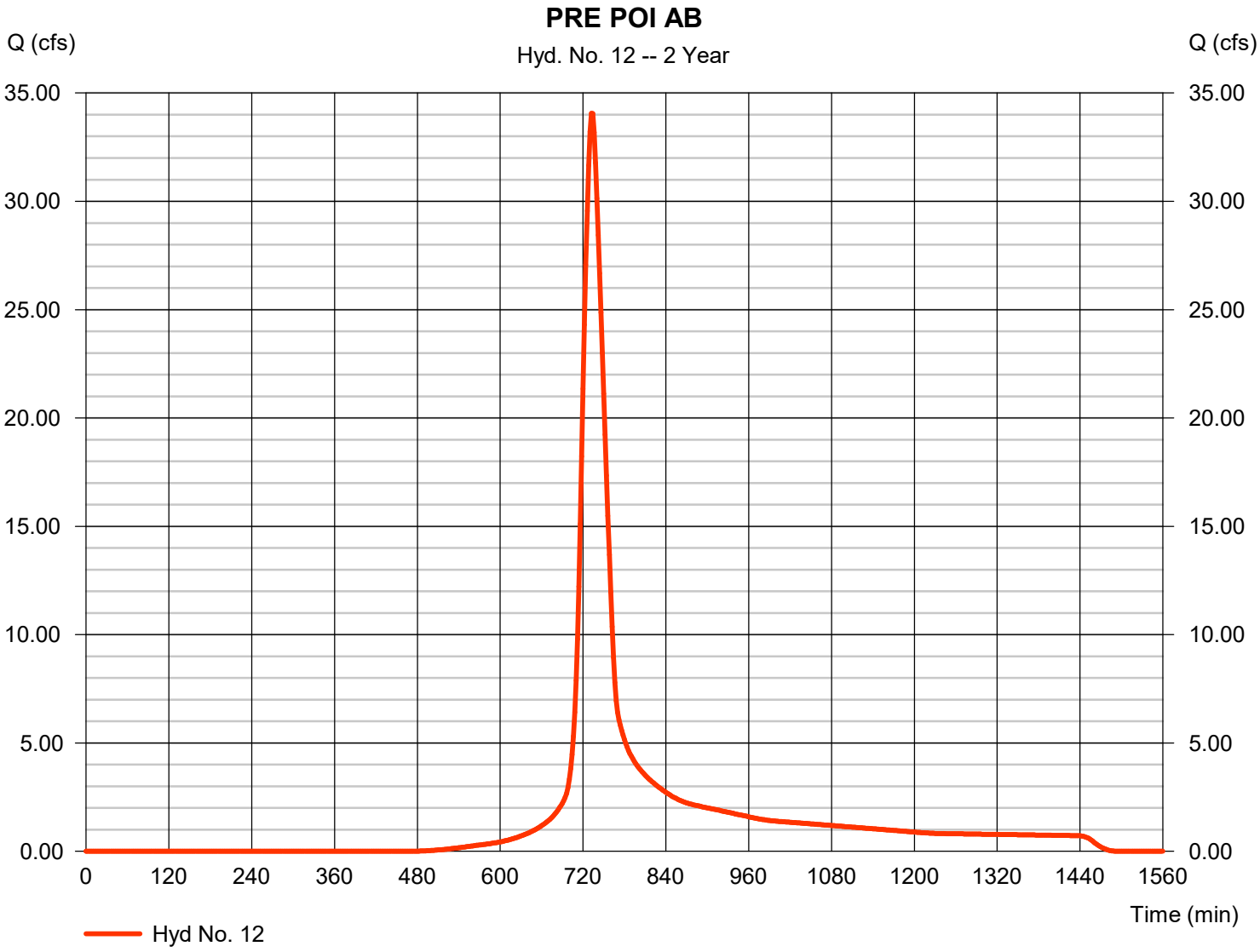
Wednesday, 08 / 6 / 2025

Hyd. No. 12

PRE POI AB

Hydrograph type	=	SCS Runoff	Peak discharge	=	34.07 cfs
Storm frequency	=	2 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	147,606 cuft
Drainage area	=	19.040 ac	Curve number	=	82*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	32.80 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(8.630 x 72) + (1.450 x 88) + (7.160 x 91) + (1.800 x 91)] / 19.040



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 12

PRE POI AB

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.50		0.00		0.00		
Travel Time (min)	**= 17.10**	**+**	**0.00**	**+**	**0.00**	**=**	**17.10**
Shallow Concentrated Flow							
Flow length (ft)	= 1872.00		0.00		0.00		
Watercourse slope (%)	= 1.52		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.99		0.00		0.00		
Travel Time (min)	**= 15.68**	**+**	**0.00**	**+**	**0.00**	**=**	**15.68**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 32.80 min

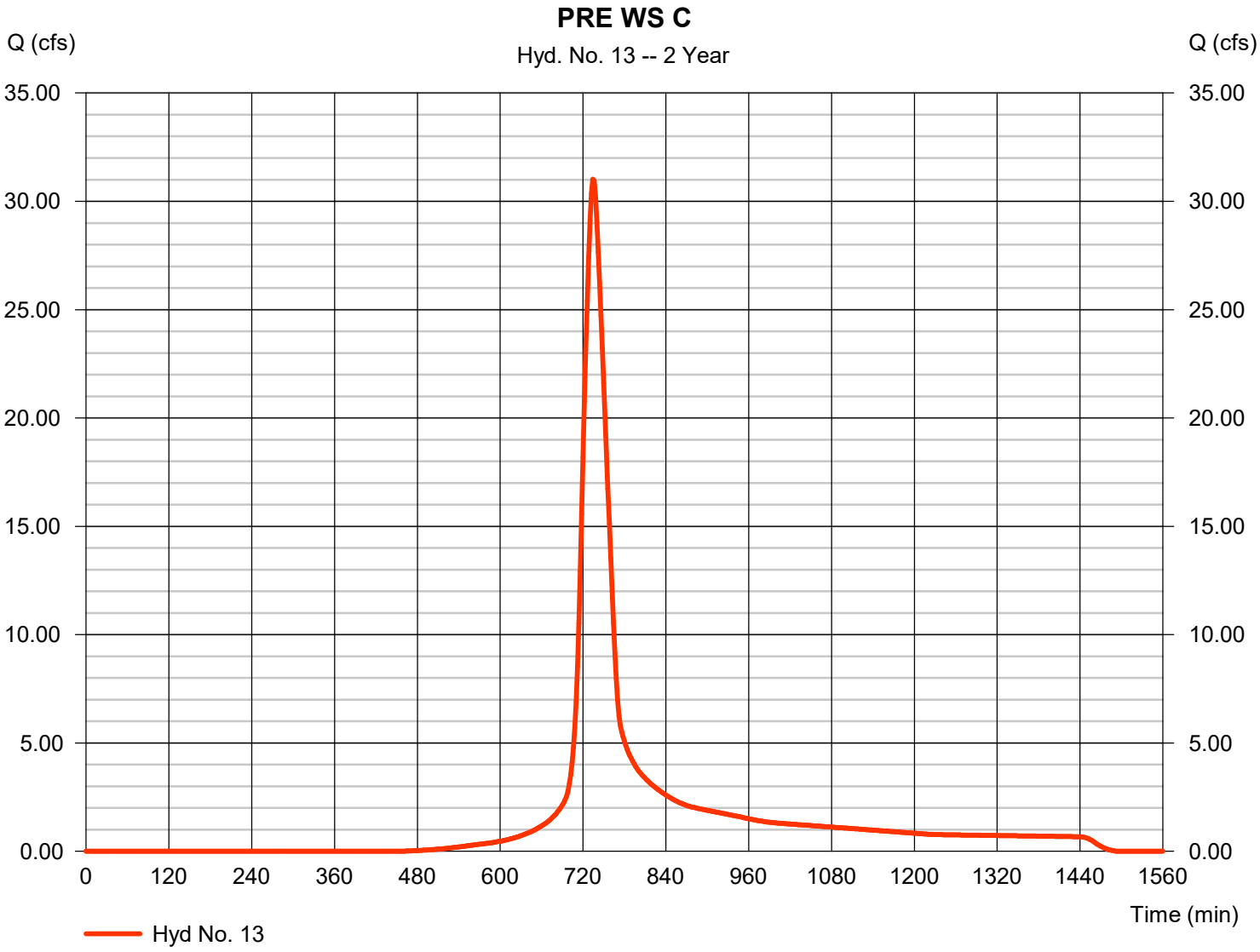
Hydrograph Report

Hyd. No. 13

PRE WS C

Hydrograph type	= SCS Runoff	Peak discharge	= 31.02 cfs
Storm frequency	= 2 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 140,667 cuft
Drainage area	= 17.890 ac	Curve number	= 83*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 34.60 min
Total precip.	= 3.89 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(7.590 x 72) + (0.390 x 81) + (0.830 x 88) + (9.080 x 91)] / 17.890



TR55 Tc Worksheet

Hyd. No. 13

PRE WS C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 1.34		0.00		0.00		
Travel Time (min)	**= 11.53**	**+**	**0.00**	**+**	**0.00**	**=**	**11.53**
Shallow Concentrated Flow							
Flow length (ft)	= 2584.00		0.00		0.00		
Watercourse slope (%)	= 1.34		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.87		0.00		0.00		
Travel Time (min)	**= 23.06**	**+**	**0.00**	**+**	**0.00**	**=**	**23.06**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**
Total Travel Time, Tc							**34.60 min**

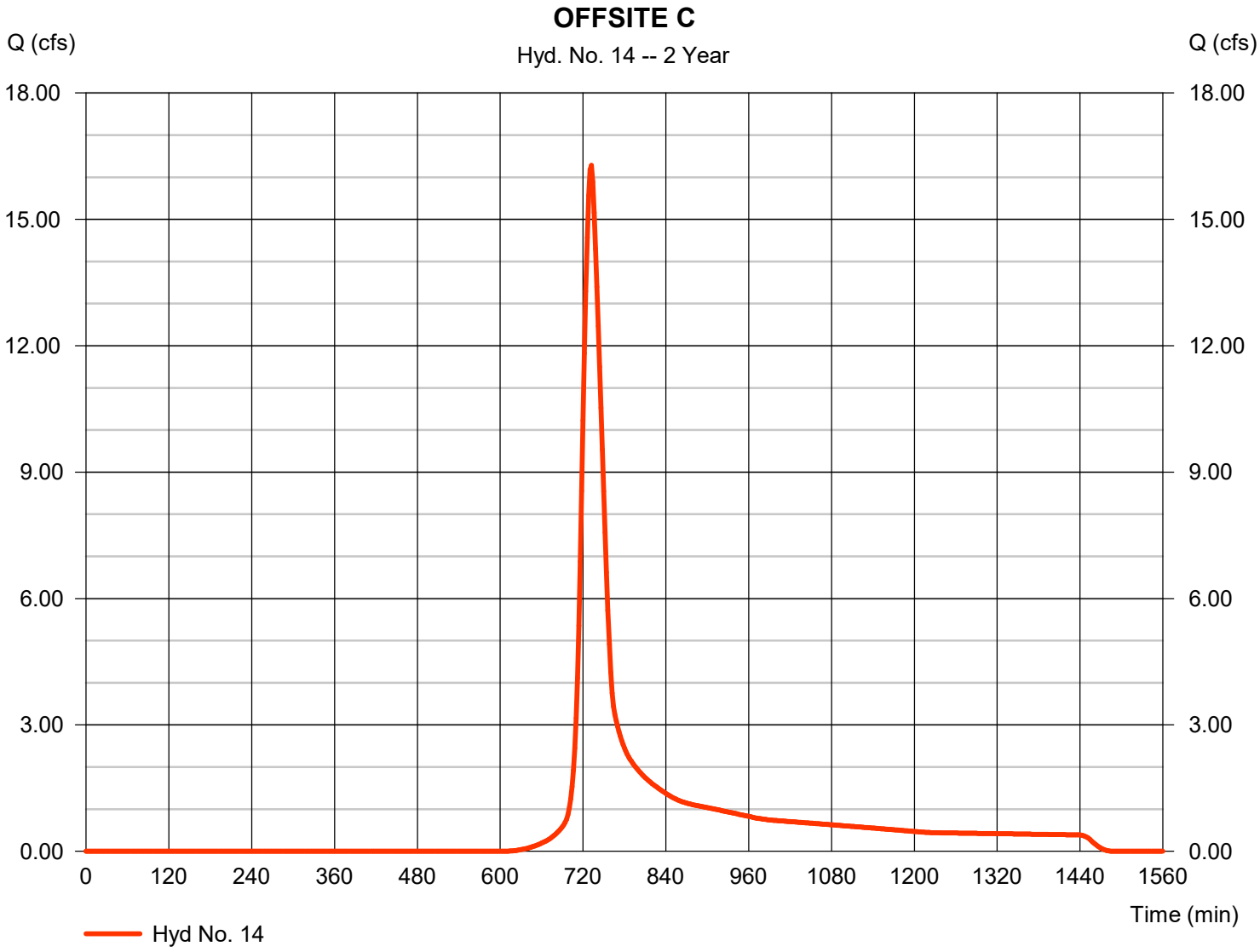
Hydrograph Report

Hyd. No. 14

OFFSITE C

Hydrograph type	=	SCS Runoff	Peak discharge	=	16.28 cfs
Storm frequency	=	2 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	67,195 cuft
Drainage area	=	12.210 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	27.00 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(10.710 x 72) + (0.620 x 81) + (0.710 x 91) + (0.170 x 98)] / 12.210



TR55 Tc Worksheet

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No. 14

OFFSITE C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 0.62		0.00		0.00		
Travel Time (min)	**= 15.69**	**+**	**0.00**	**+**	**0.00**	**=**	**15.69**
Shallow Concentrated Flow							
Flow length (ft)	= 864.00		0.00		0.00		
Watercourse slope (%)	= 0.62		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.27		0.00		0.00		
Travel Time (min)	**= 11.33**	**+**	**0.00**	**+**	**0.00**	**=**	**11.33**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

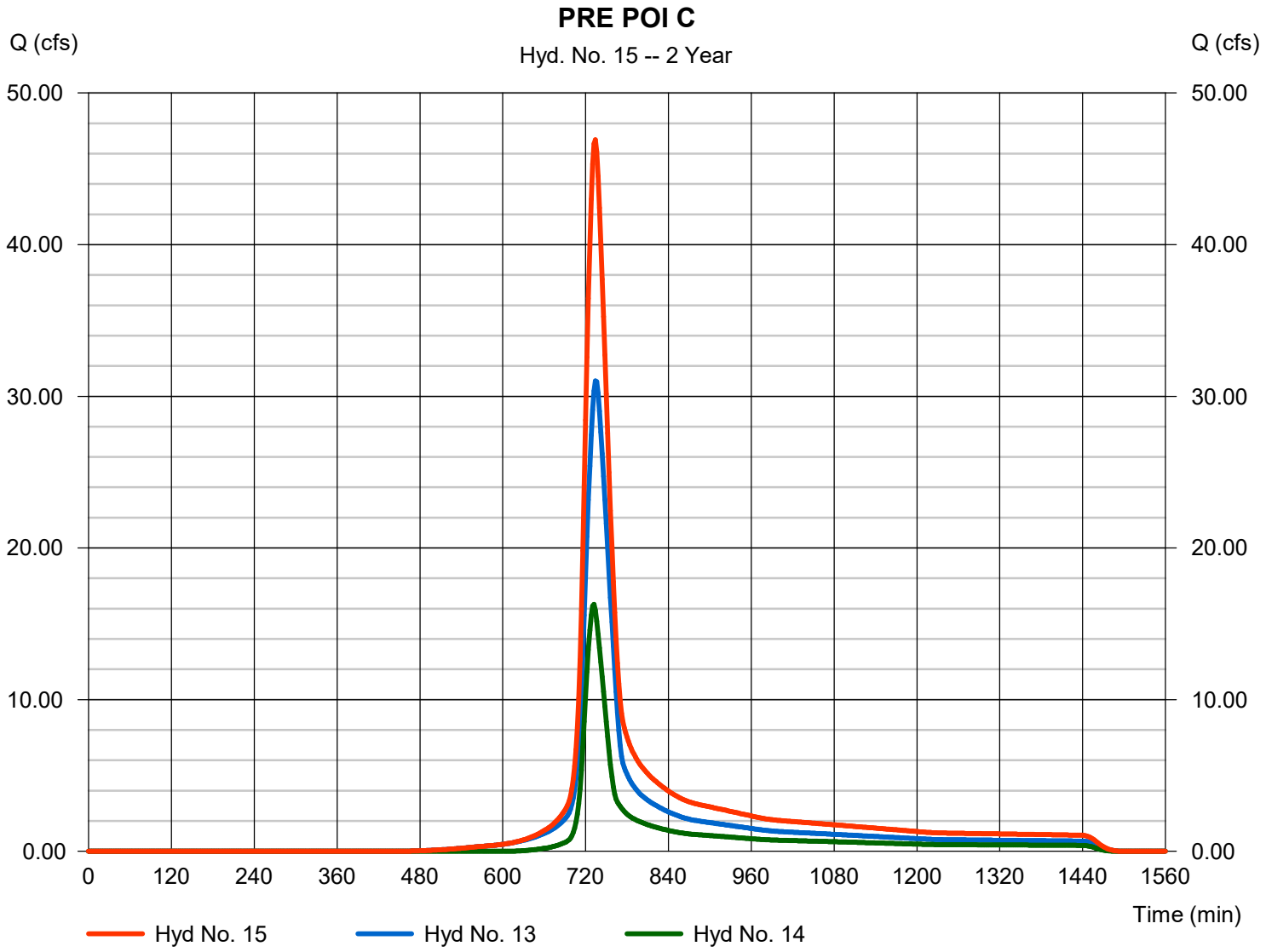
Total Travel Time, Tc ..... 27.00 min

Hydrograph Report

Hyd. No. 15

PRE POI C

Hydrograph type	=	Combine	Peak discharge	=	46.91 cfs
Storm frequency	=	2 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	207,862 cuft
Inflow hyds.	=	13, 14	Contrib. drain. area	=	30.100 ac



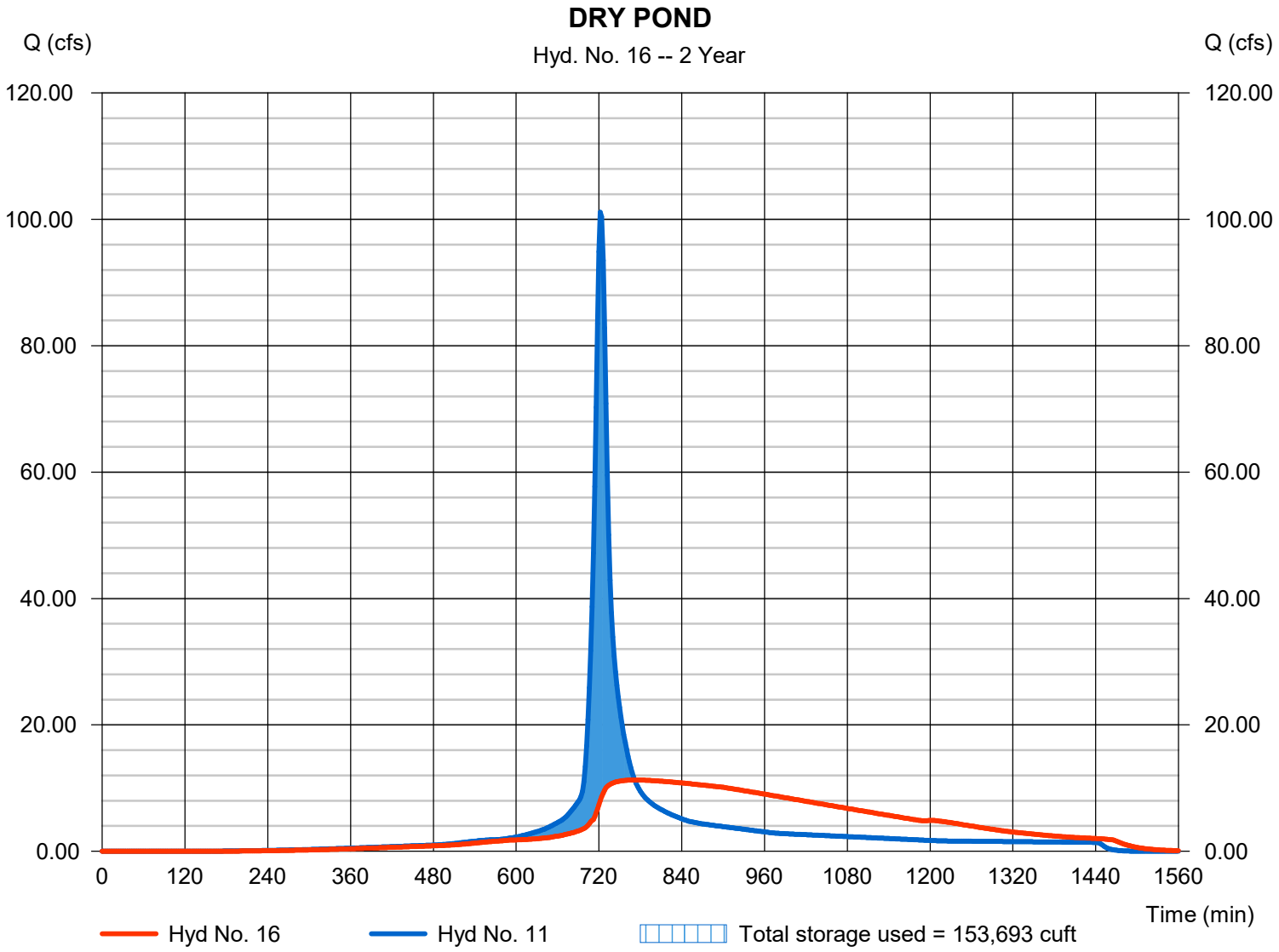
Hydrograph Report

Hyd. No. 16

DRY POND

Hydrograph type	=	Reservoir	Peak discharge	=	11.28 cfs
Storm frequency	=	2 yrs	Time to peak	=	772 min
Time interval	=	2 min	Hyd. volume	=	337,366 cuft
Inflow hyd. No.	=	11 - WS AB	Max. Elevation	=	611.32 ft
Reservoir name	=	DRY POND	Max. Storage	=	153,693 cuft

Storage Indication method used.



Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 Wednesday, 08/ 6/ 2025

Pond No. 1 - DRY POND

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 609.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	609.00	13,063	0	0
1.00	610.00	50,447	31,755	31,755
2.00	611.00	117,425	83,936	115,691
3.00	612.00	121,802	119,614	235,305
4.00	613.00	127,271	124,537	359,841
5.00	614.00	133,397	130,334	490,175
6.00	615.00	140,392	136,895	627,070
7.00	616.00	148,314	144,353	771,423

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 608.50	0.00	0.00	0.00
Length (ft)	= 58.00	0.00	0.00	0.00
Slope (%)	= 0.51	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

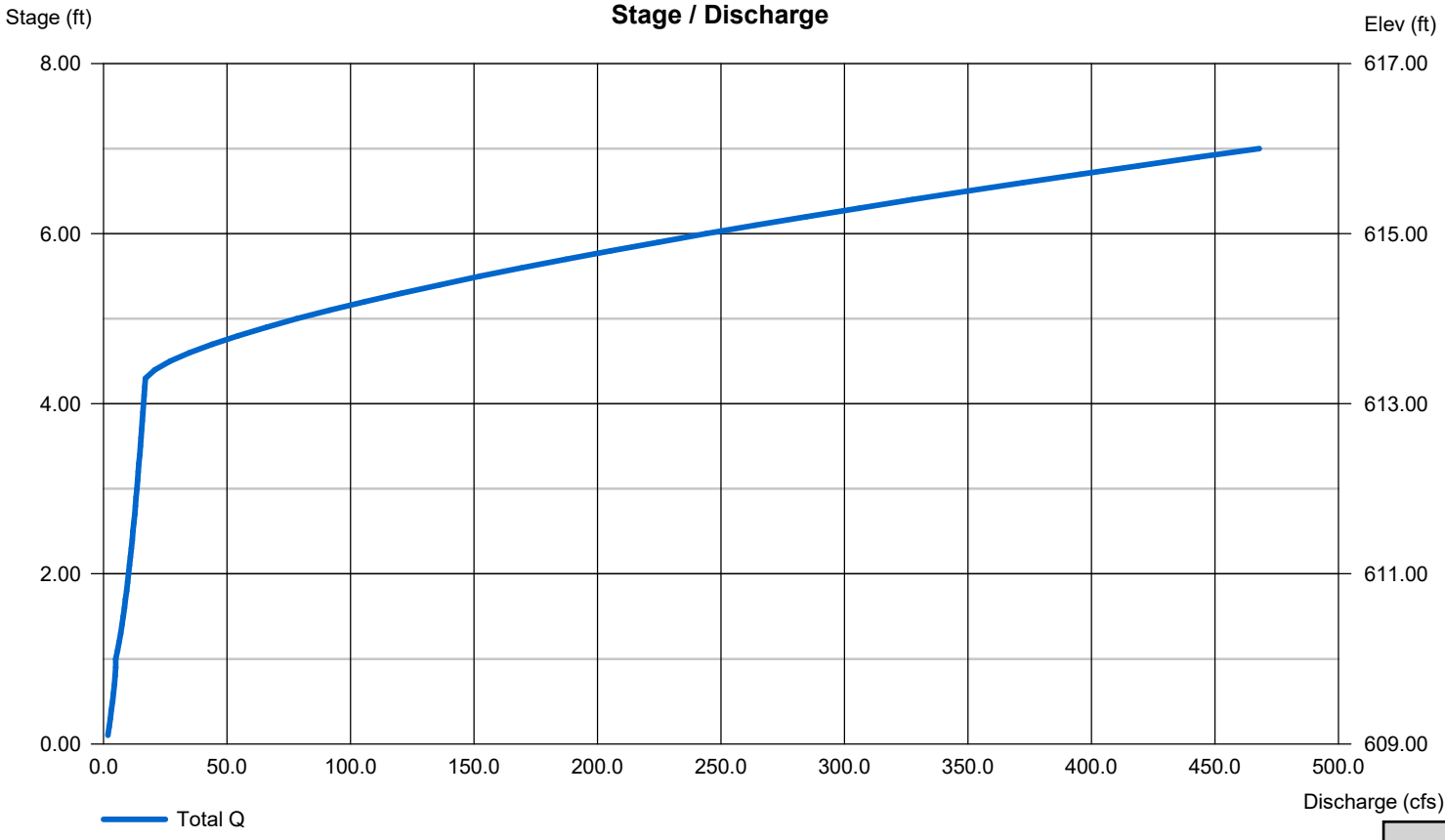
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 38.00	0.00	0.00	0.00
Crest El. (ft)	= 613.29	0.00	0.00	0.00
Weir Coeff.	= 2.63	3.33	3.33	3.33
Weir Type	= Ciplti	---	---	---
Multi-Stage	= No	No	No	Yes

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



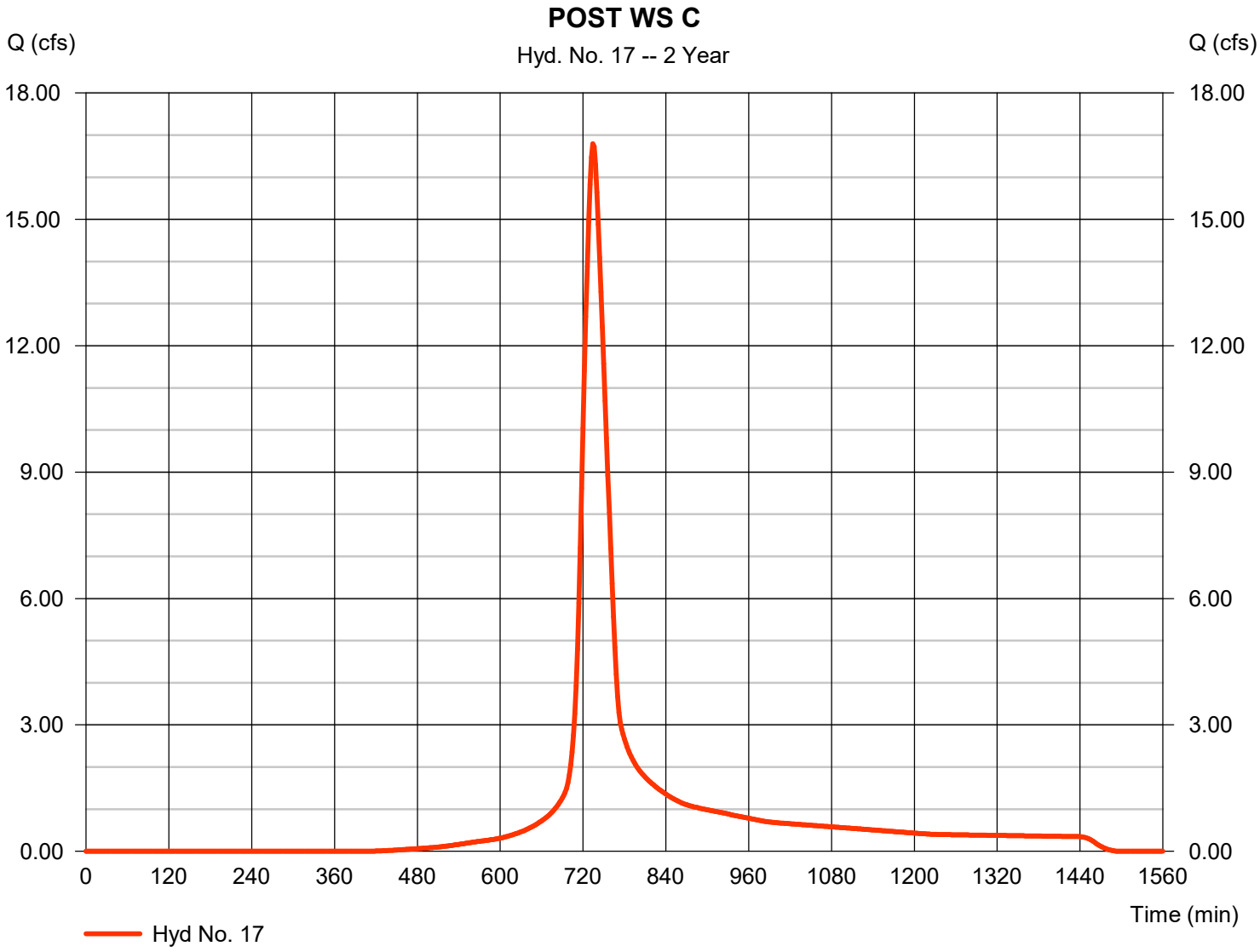
Hydrograph Report

Hyd. No. 17

POST WS C

Hydrograph type	= SCS Runoff	Peak discharge	= 16.79 cfs
Storm frequency	= 2 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 76,047 cuft
Drainage area	= 8.980 ac	Curve number	= 85*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 34.10 min
Total precip.	= 3.89 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(2.480 x 72) + (0.260 x 81) + (0.830 x 88) + (5.410 x 91)] / 8.980



TR55 Tc Worksheet

Hyd. No. 17

POST WS C

Description	A		B		C		Totals
Sheet Flow							
Manning's n-value	= 0.170		0.011		0.011		
Flow length (ft)	= 100.0		0.0		0.0		
Two-year 24-hr precip. (in)	= 3.89		0.00		0.00		
Land slope (%)	= 1.50		0.00		0.00		
Travel Time (min)	**= 11.02**	**+**	**0.00**	**+**	**0.00**	**=**	**11.02**
Shallow Concentrated Flow							
Flow length (ft)	= 2584.00		0.00		0.00		
Watercourse slope (%)	= 1.34		0.00		0.00		
Surface description	= Unpaved		Paved		Paved		
Average velocity (ft/s)	=1.87		0.00		0.00		
Travel Time (min)	**= 23.06**	**+**	**0.00**	**+**	**0.00**	**=**	**23.06**
Channel Flow							
X sectional flow area (sqft)	= 0.00		0.00		0.00		
Wetted perimeter (ft)	= 0.00		0.00		0.00		
Channel slope (%)	= 0.00		0.00		0.00		
Manning's n-value	= 0.015		0.015		0.015		
Velocity (ft/s)	=0.00						
			0.00				
					0.00		
Flow length (ft)	({0})0.0		0.0		0.0		
Travel Time (min)	**= 0.00**	**+**	**0.00**	**+**	**0.00**	**=**	**0.00**

Total Travel Time, Tc ..... 34.10 min

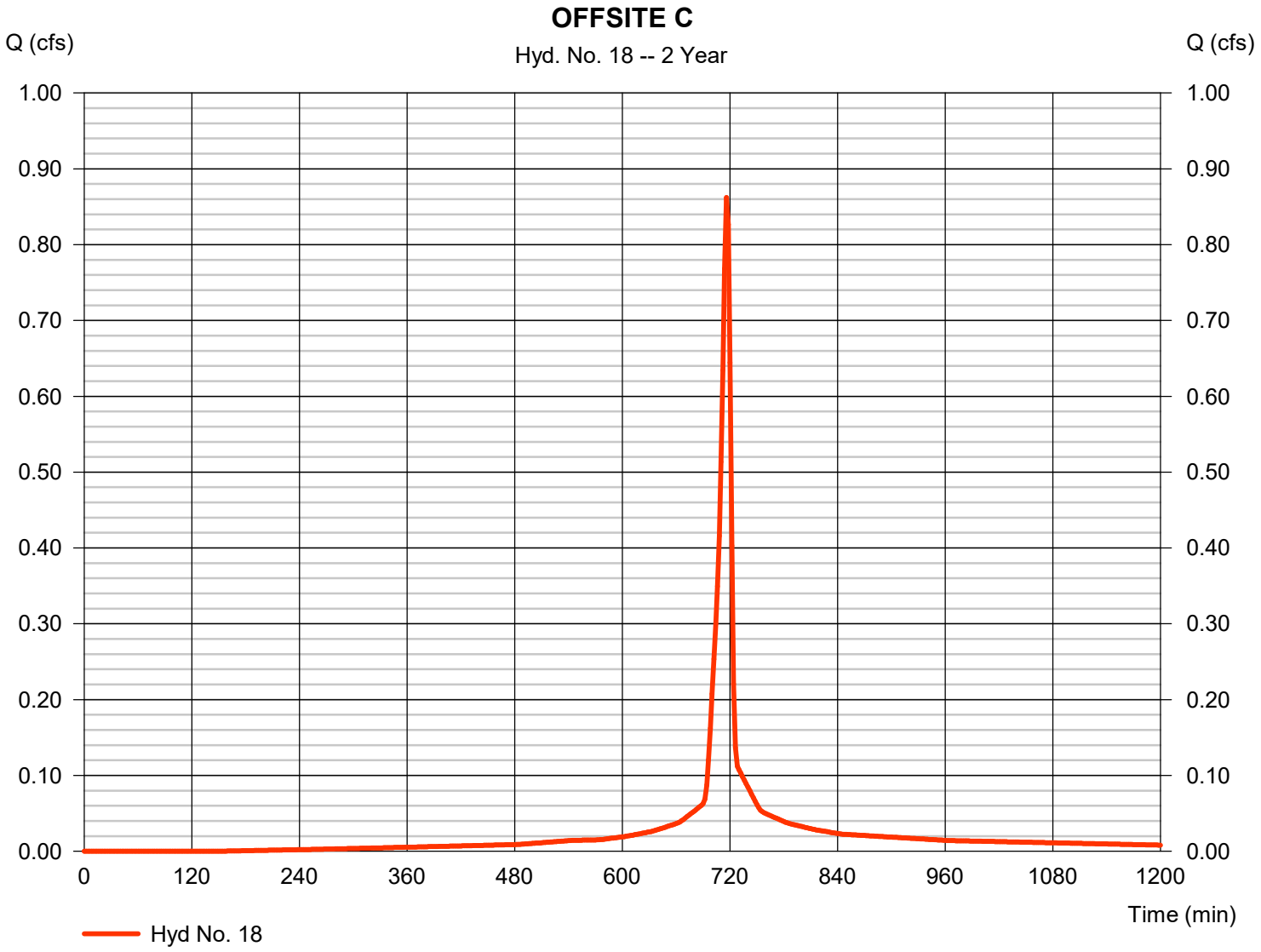
Hydrograph Report

Hyd. No. 18

OFFSITE C

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.862 cfs
Storm frequency	=	2 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	1,922 cuft
Drainage area	=	0.170 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	3.89 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.020 x 81) + (0.030 x 91) + (0.120 x 98)] / 0.170

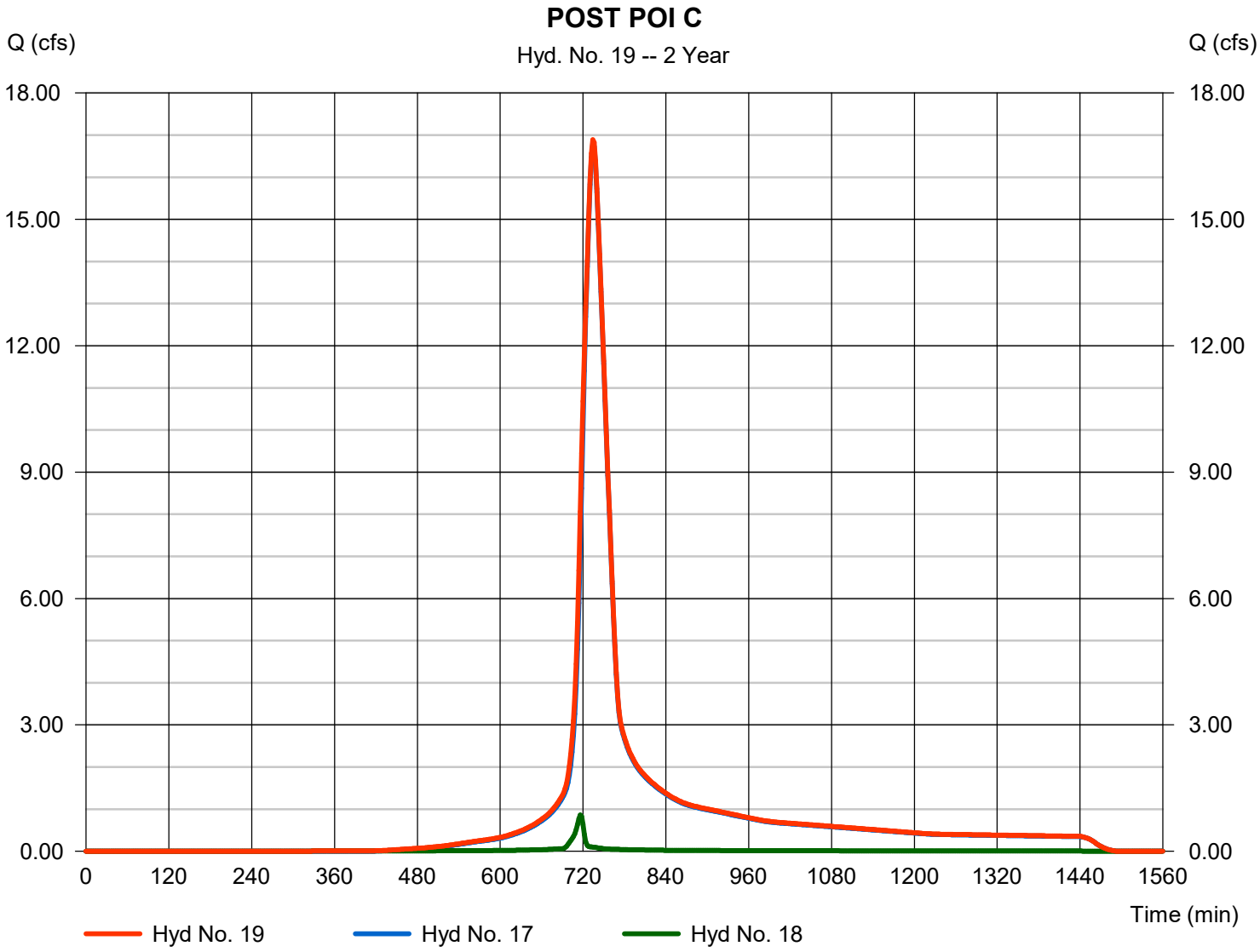


Hydrograph Report

Hyd. No. 19

POST POI C

Hydrograph type	= Combine	Peak discharge	= 16.89 cfs
Storm frequency	= 2 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 77,970 cuft
Inflow hyds.	= 17, 18	Contrib. drain. area	= 9.150 ac

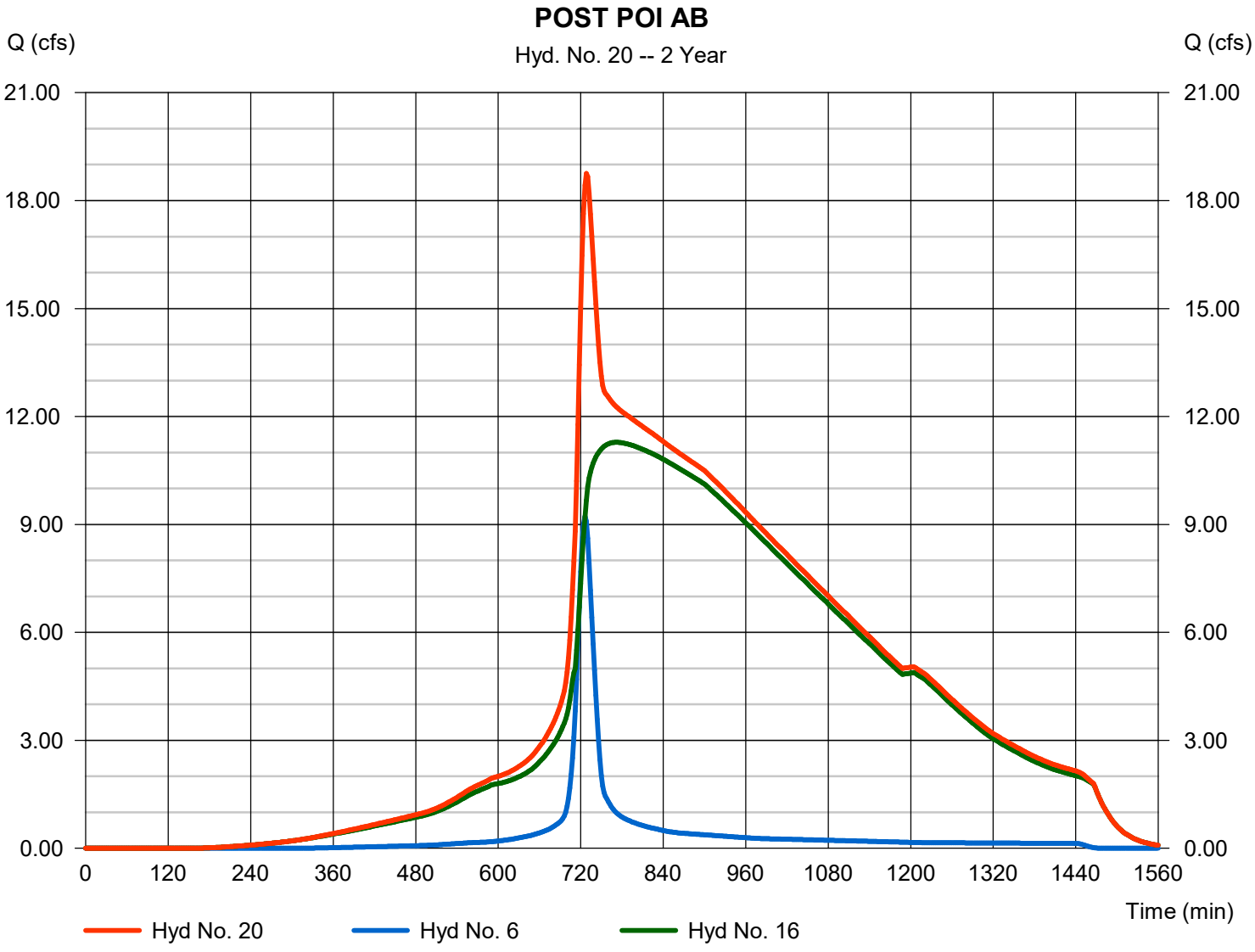


Hydrograph Report

Hyd. No. 20

POST POI AB

Hydrograph type	=	Combine	Peak discharge	=	18.76 cfs
Storm frequency	=	2 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	369,525 cuft
Inflow hyds.	=	6, 16	Contrib. drain. area	=	3.200 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	78.82	2	718	195,858	------	------	------	WS A
2	SCS Runoff	33.88	2	732	146,403	------	------	------	OFFSITE A
3	Combine	97.64	2	720	342,261	1, 2	------	------	POST WS A
4	Reach	82.89	2	724	342,258	3	------	------	DITCH A
5	SCS Runoff	48.37	2	720	136,980	------	------	------	WS A3
6	SCS Runoff	21.25	2	726	76,974	------	------	------	Undisturbed - WS A
7	SCS Runoff	107.31	2	718	279,462	------	------	------	WS B
8	SCS Runoff	21.39	2	722	60,654	------	------	------	OFFSITE B
9	Combine	126.00	2	718	340,117	7, 8	------	------	POST WS B
10	Reach	111.16	2	722	340,113	9	------	------	DITCH B
11	Combine	238.22	2	722	819,353	4, 5, 10	------	------	WS AB
12	SCS Runoff	91.13	2	732	398,114	------	------	------	PRE POI AB
13	SCS Runoff	81.17	2	734	372,741	------	------	------	PRE WS C
14	SCS Runoff	52.85	2	730	211,196	------	------	------	OFFSITE C
15	Combine	132.53	2	732	583,938	13, 14	------	------	PRE POI C
16	Reservoir	24.13	2	774	819,350	11	613.45	419,139	DRY POND
17	SCS Runoff	42.09	2	734	194,641	------	------	------	POST WS C
18	SCS Runoff	1.792	2	716	4,178	------	------	------	OFFSITE C
19	Combine	42.29	2	734	198,819	17, 18	------	------	POST POI C
20	Combine	35.46	2	728	896,324	6, 16,	------	------	POST POI AB

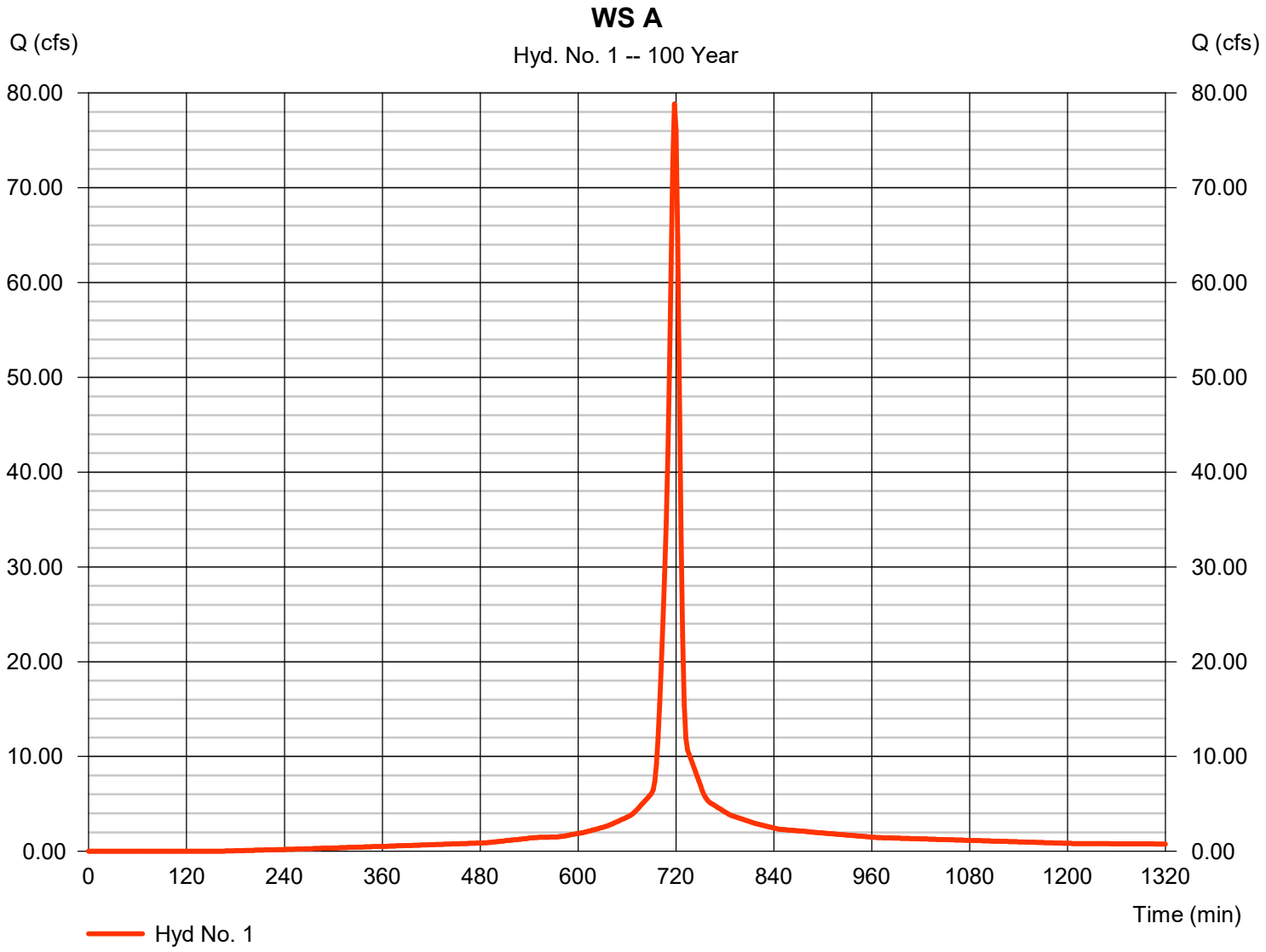
Hydrograph Report

Hyd. No. 1

WS A

Hydrograph type	= SCS Runoff	Peak discharge	= 78.82 cfs
Storm frequency	= 100 yrs	Time to peak	= 718 min
Time interval	= 2 min	Hyd. volume	= 195,858 cuft
Drainage area	= 8.140 ac	Curve number	= 90*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 8.30 min
Total precip.	= 7.82 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(1.740 x 72) + (2.310 x 91) + (4.090 x 98)] / 8.140



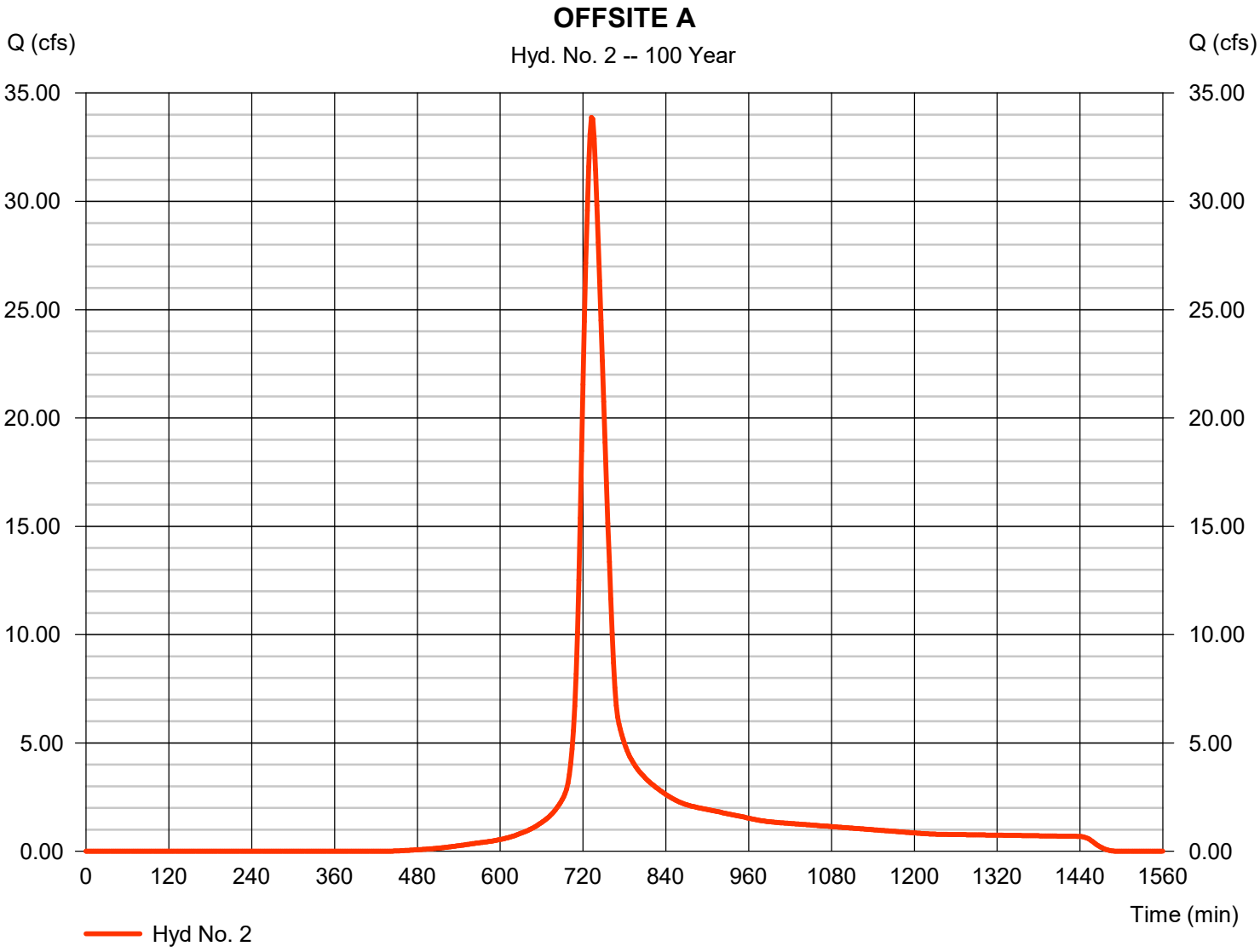
Hydrograph Report

Hyd. No. 2

OFFSITE A

Hydrograph type	=	SCS Runoff	Peak discharge	=	33.88 cfs
Storm frequency	=	100 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	146,403 cuft
Drainage area	=	8.780 ac	Curve number	=	72*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	32.40 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(8.780 x 72)] / 8.780

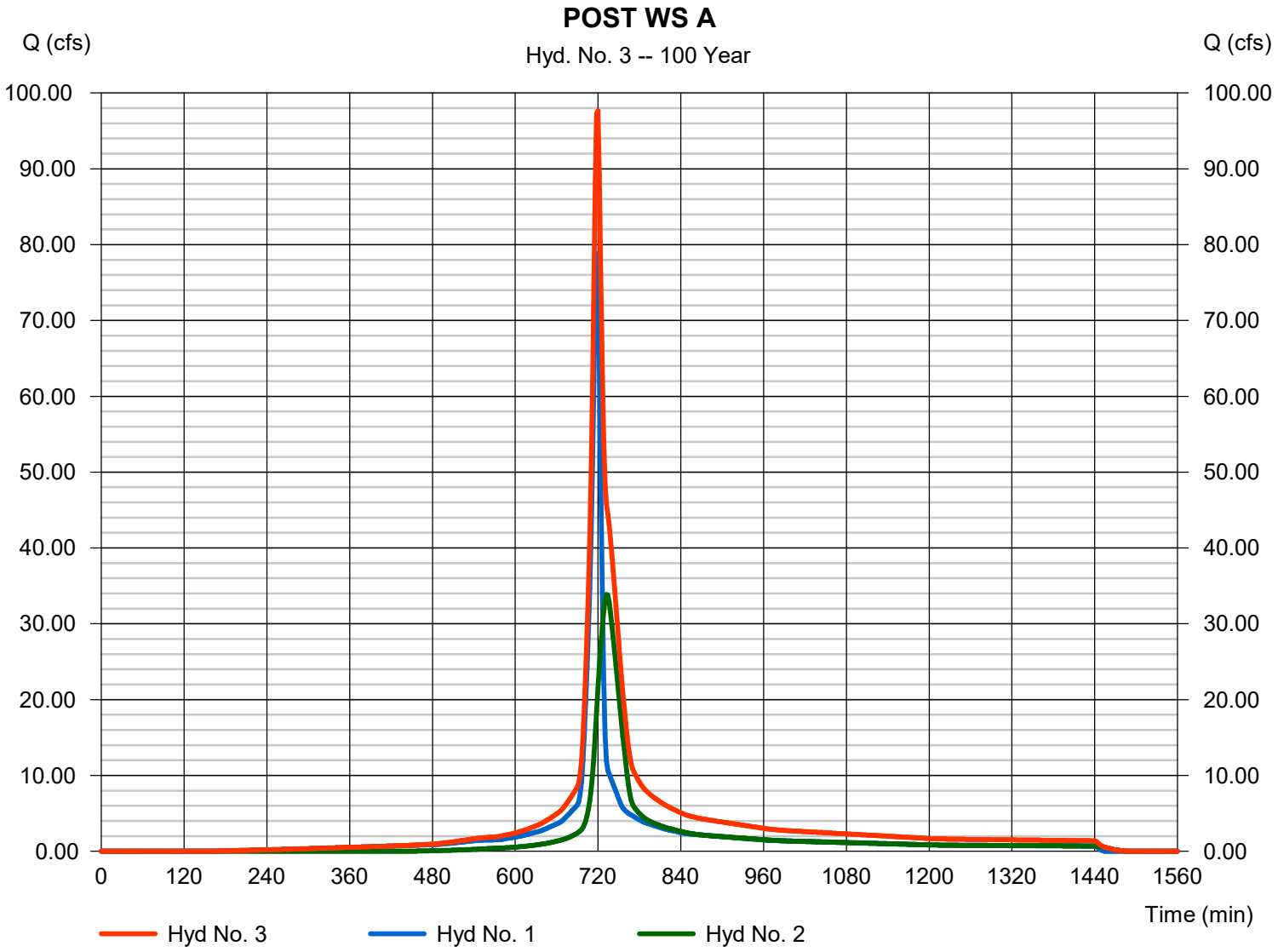


Hydrograph Report

Hyd. No. 3

POST WS A

Hydrograph type	= Combine	Peak discharge	= 97.64 cfs
Storm frequency	= 100 yrs	Time to peak	= 720 min
Time interval	= 2 min	Hyd. volume	= 342,261 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 16.920 ac



Hydrograph Report

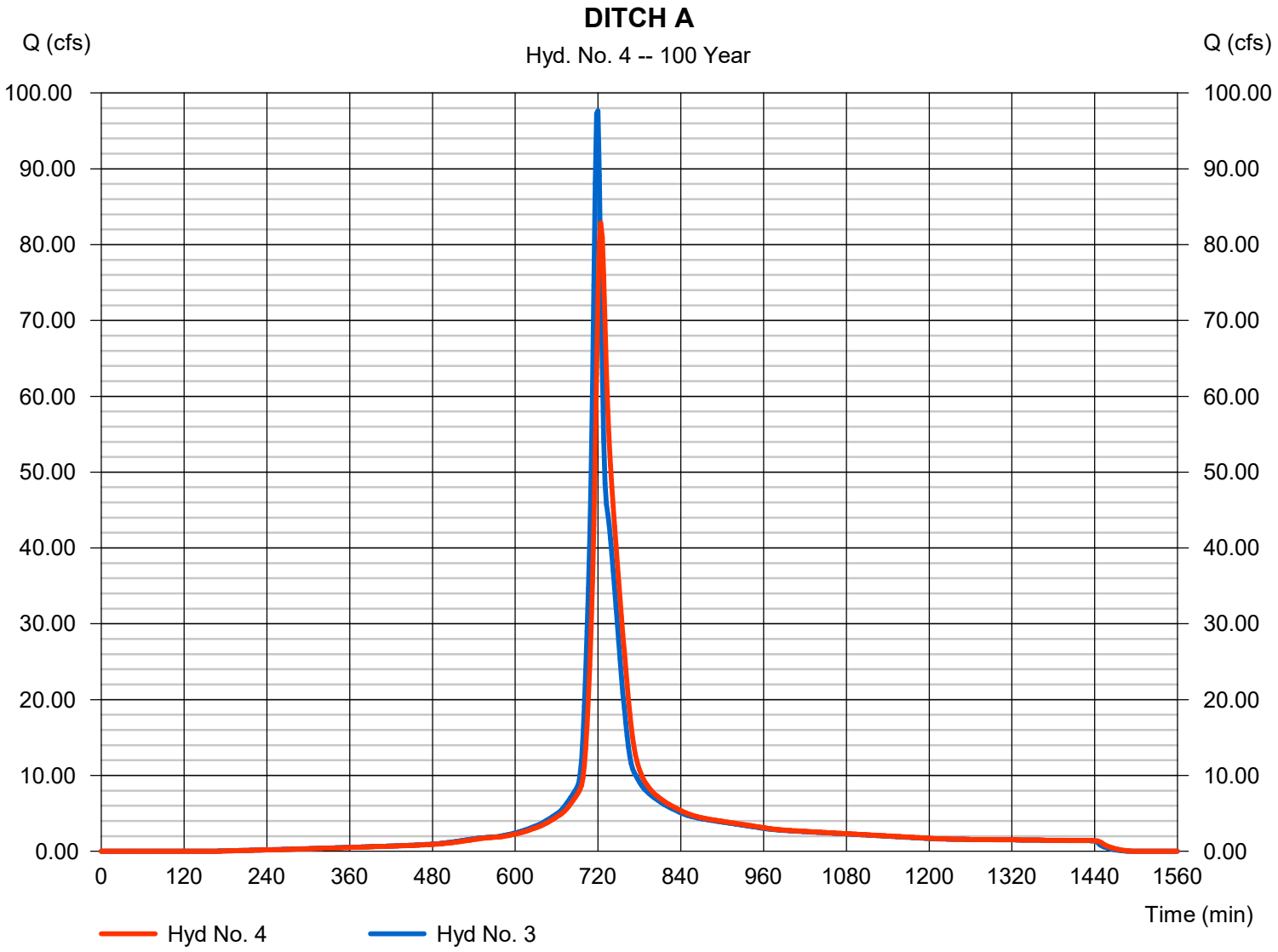
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 Wednesday, 08 / 6 / 2025

Hyd. No. 4

DITCH A

Hydrograph type	= Reach	Peak discharge	= 82.89 cfs
Storm frequency	= 100 yrs	Time to peak	= 724 min
Time interval	= 2 min	Hyd. volume	= 342,258 cuft
Inflow hyd. No.	= 3 - POST WS A	Section type	= Trapezoidal
Reach length	= 2104.0 ft	Channel slope	= 1.3 %
Manning's n	= 0.035	Bottom width	= 3.0 ft
Side slope	= 3.0:1	Max. depth	= 3.0 ft
Rating curve x	= 2.306	Rating curve m	= 1.248
Ave. velocity	= 4.86 ft/s	Routing coeff.	= 0.2948

Modified Att-Kin routing method used.



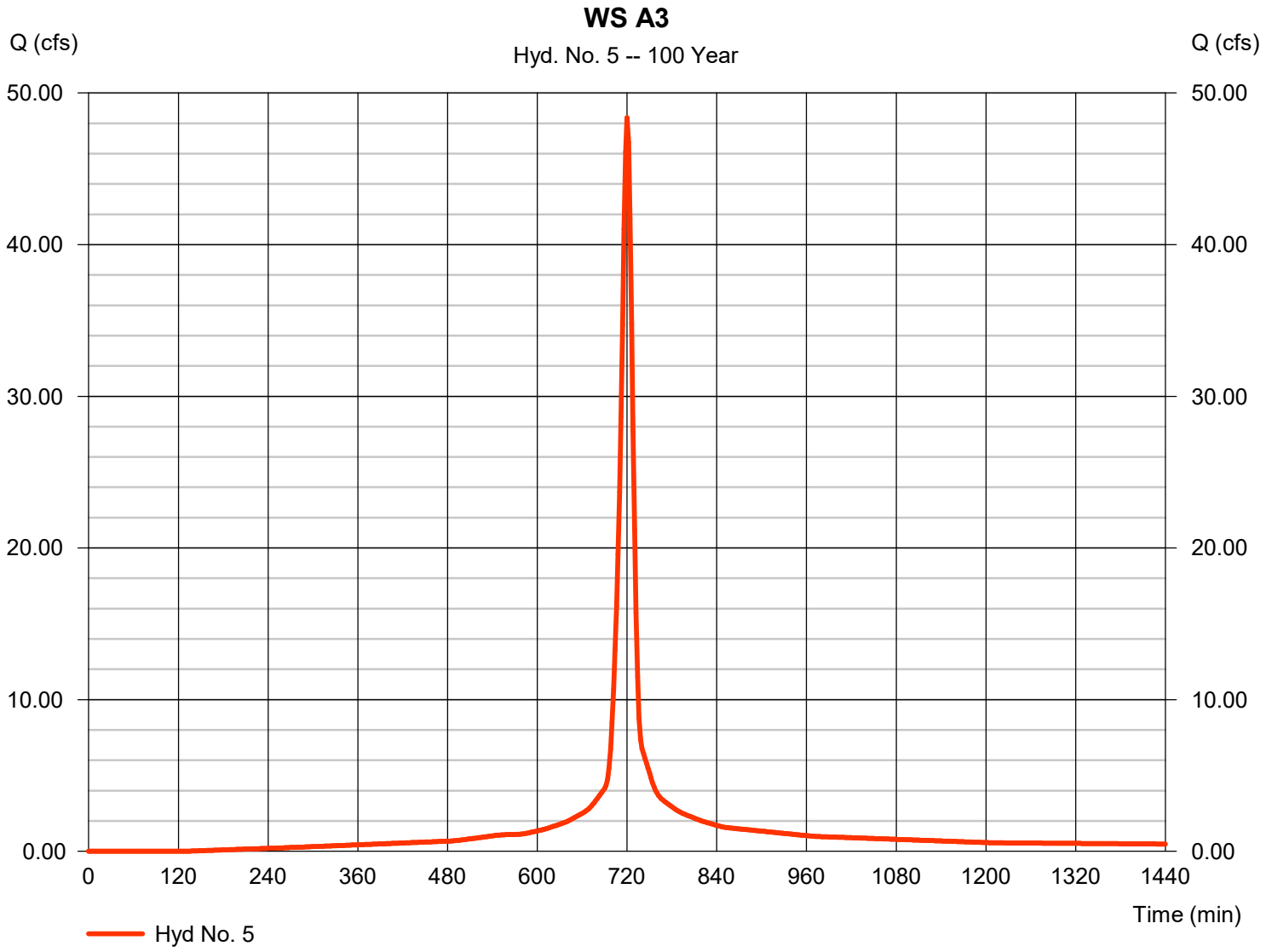
Hydrograph Report

Hyd. No. 5

WS A3

Hydrograph type	=	SCS Runoff	Peak discharge	=	48.37 cfs
Storm frequency	=	100 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	136,980 cuft
Drainage area	=	5.330 ac	Curve number	=	92*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	11.30 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(4.590 x 91) + (0.740 x 98)] / 5.330



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

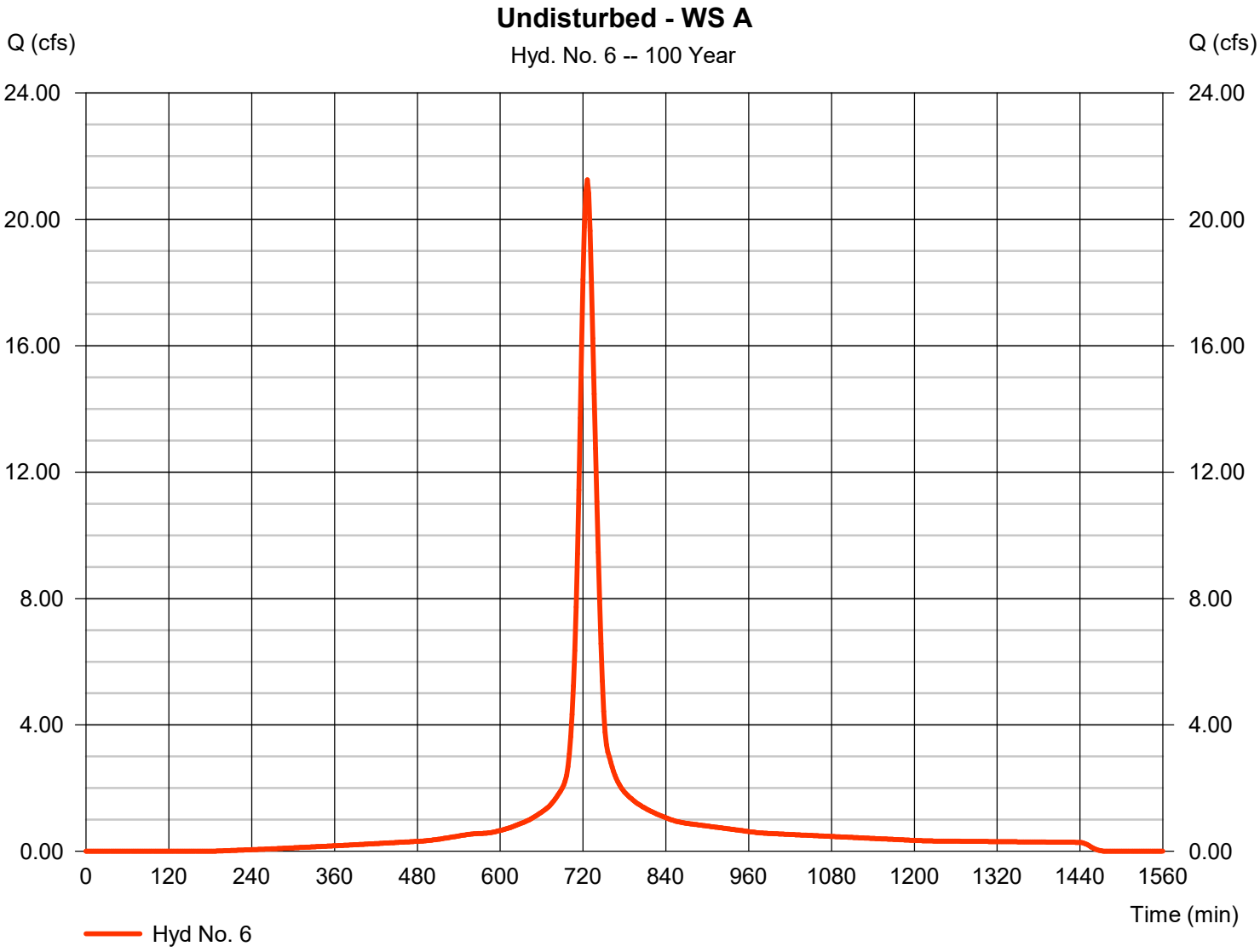
Wednesday, 08 / 6 / 2025

Hyd. No. 6

Undisturbed - WS A

Hydrograph type	=	SCS Runoff	Peak discharge	=	21.25 cfs
Storm frequency	=	100 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	76,974 cuft
Drainage area	=	3.200 ac	Curve number	=	89*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	23.39 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.180 x 72) + (0.750 x 88) + (2.120 x 91)] / 3.200



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

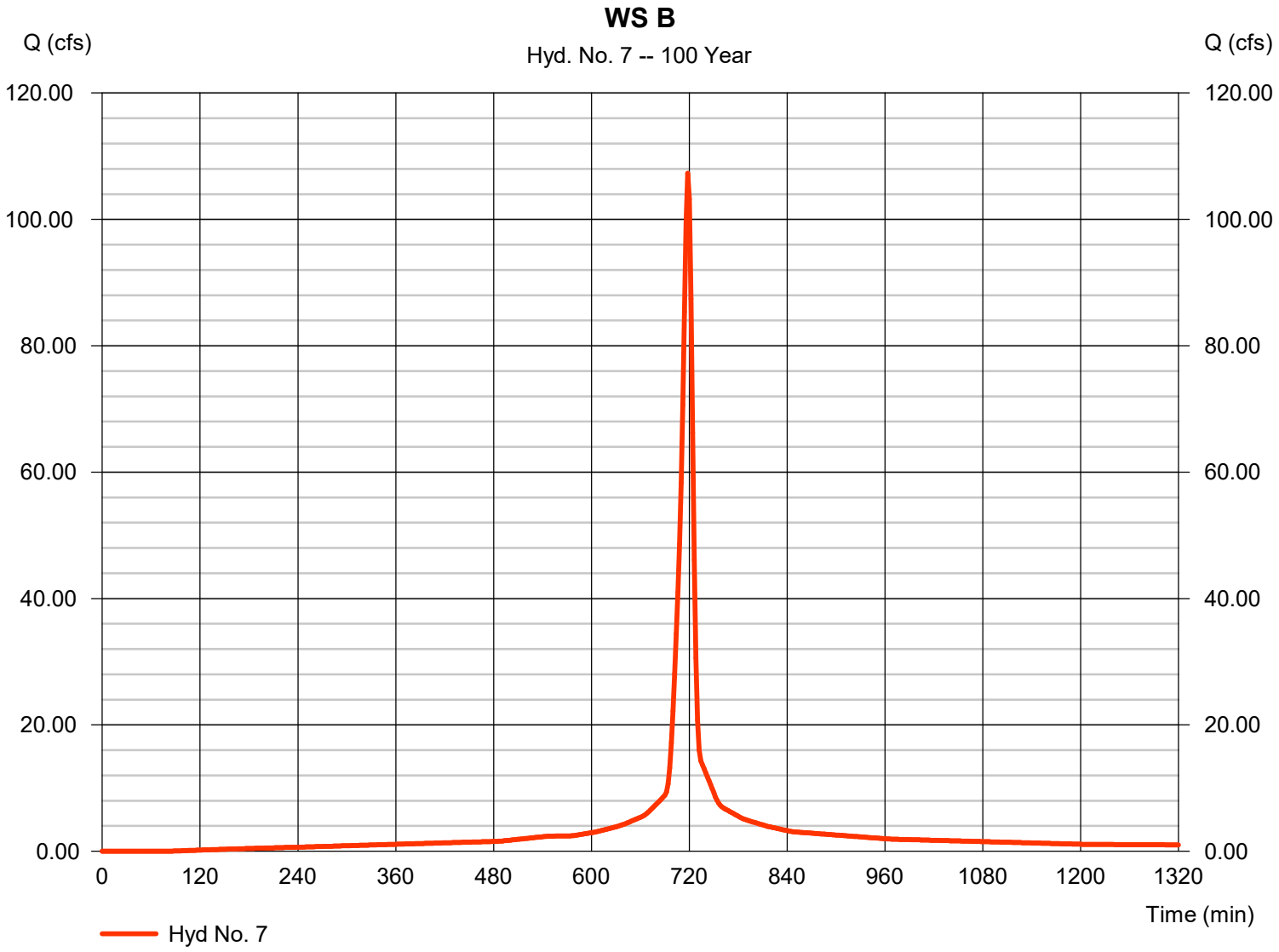
Wednesday, 08 / 6 / 2025

Hyd. No. 7

WS B

Hydrograph type	=	SCS Runoff	Peak discharge	=	107.31 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	279,462 cuft
Drainage area	=	10.660 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	7.20 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(5.190 x 91) + (5.470 x 98)] / 10.660



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

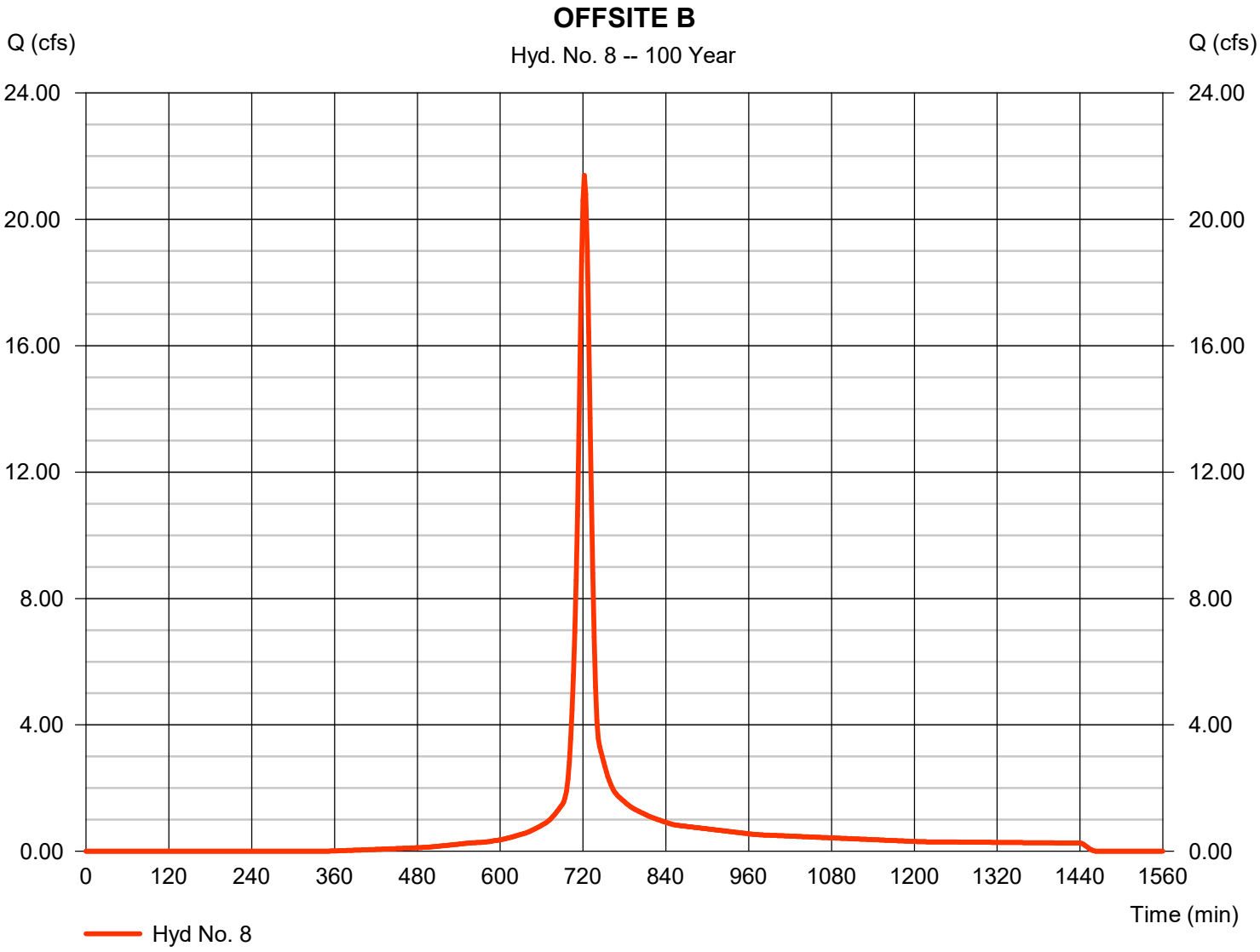
Wednesday, 08 / 6 / 2025

Hyd. No. 8

OFFSITE B

Hydrograph type	=	SCS Runoff	Peak discharge	=	21.39 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	60,654 cuft
Drainage area	=	3.280 ac	Curve number	=	78*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	14.40 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(1.940 x 72) + (0.580 x 81) + (0.690 x 91) + (0.070 x 98)] / 3.280

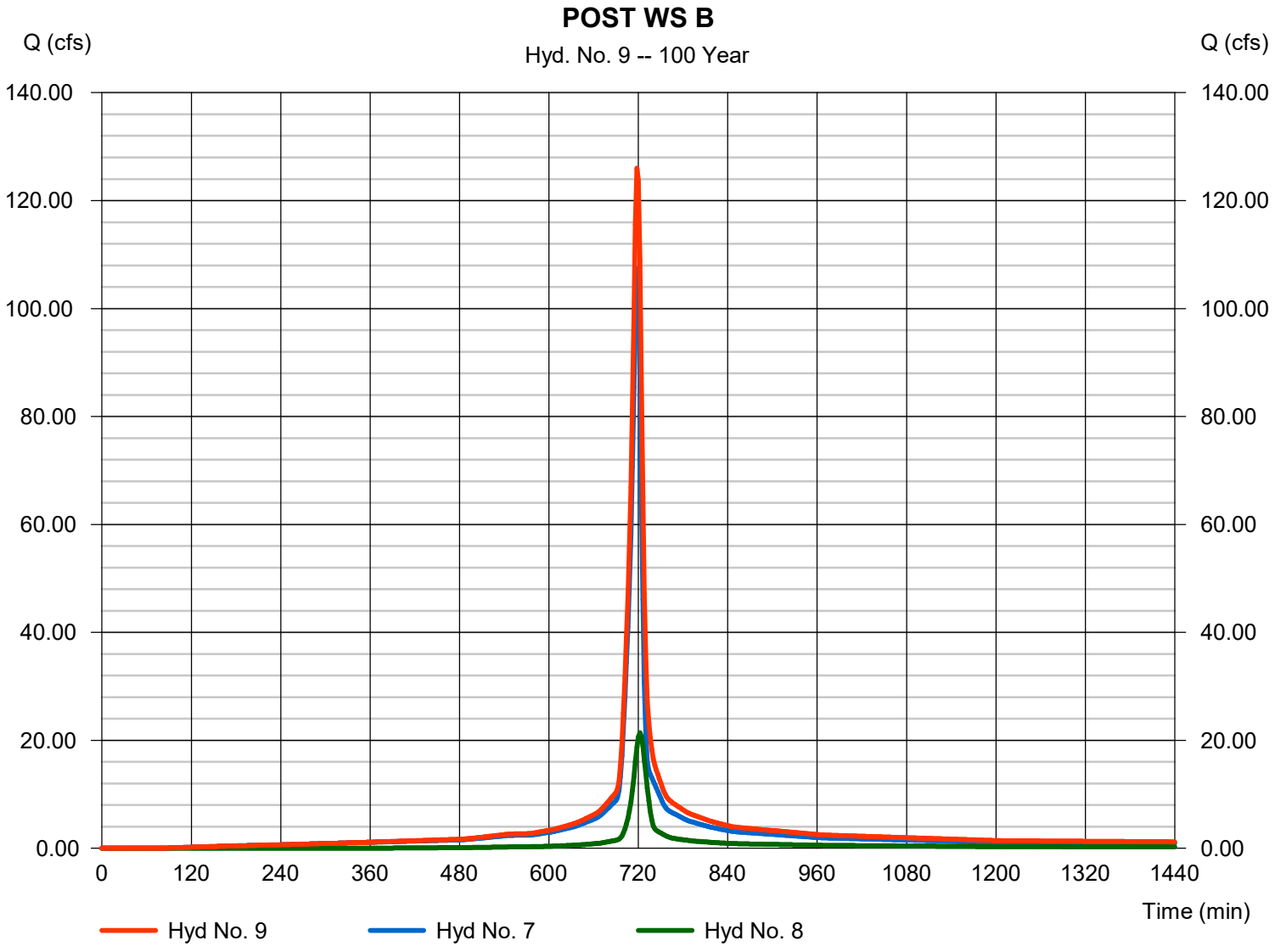


Hydrograph Report

Hyd. No. 9

POST WS B

Hydrograph type	=	Combine	Peak discharge	=	126.00 cfs
Storm frequency	=	100 yrs	Time to peak	=	718 min
Time interval	=	2 min	Hyd. volume	=	340,117 cuft
Inflow hyds.	=	7, 8	Contrib. drain. area	=	13.940 ac



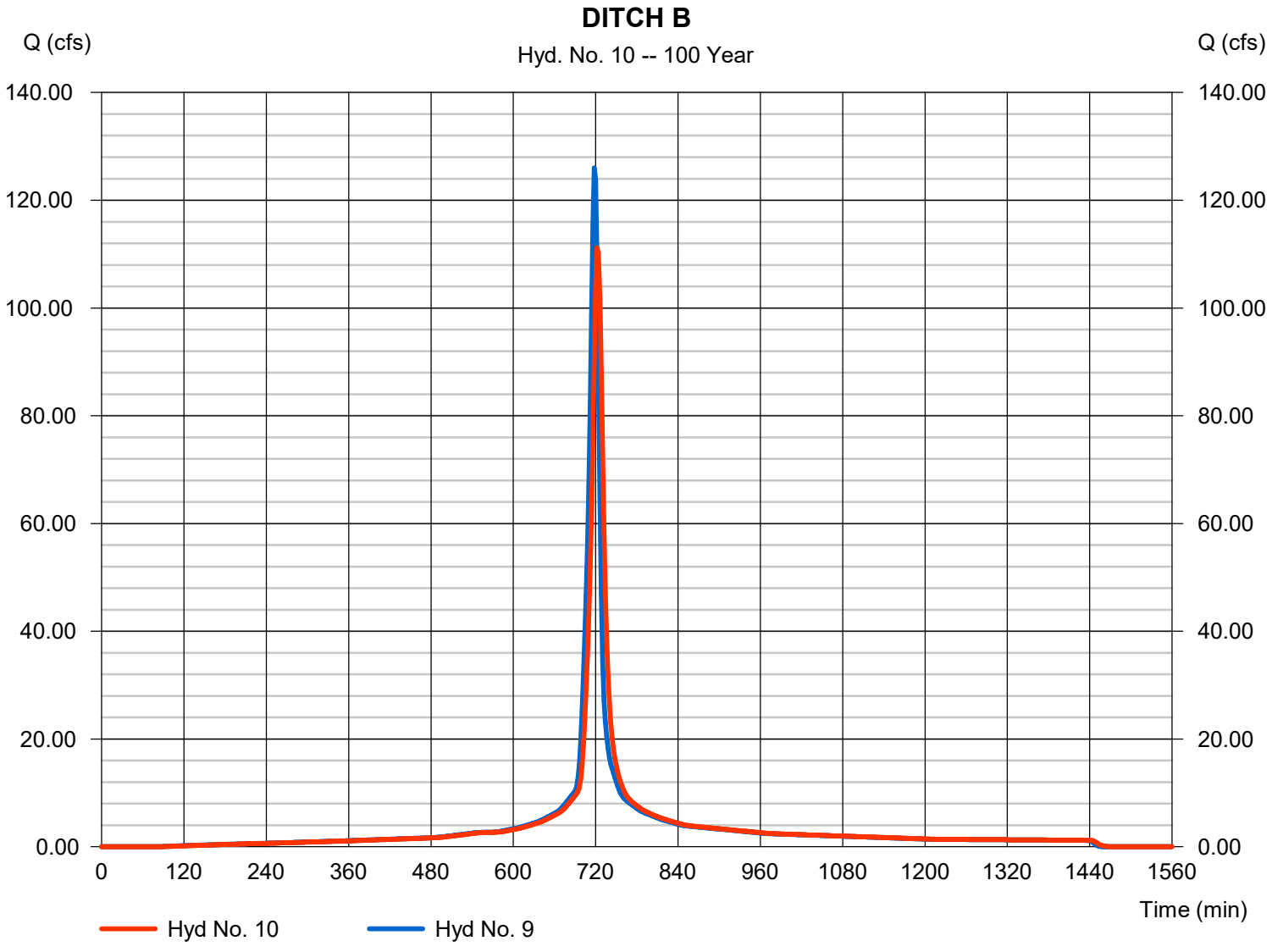
Hydrograph Report

Hyd. No. 10

DITCH B

Hydrograph type	=	Reach	Peak discharge	=	111.16 cfs
Storm frequency	=	100 yrs	Time to peak	=	722 min
Time interval	=	2 min	Hyd. volume	=	340,113 cuft
Inflow hyd. No.	=	9 - POST WS B	Section type	=	Trapezoidal
Reach length	=	1752.0 ft	Channel slope	=	1.4 %
Manning's n	=	0.035	Bottom width	=	3.0 ft
Side slope	=	3.0:1	Max. depth	=	3.0 ft
Rating curve x	=	2.421	Rating curve m	=	1.248
Ave. velocity	=	5.31 ft/s	Routing coeff.	=	0.3701

Modified Att-Kin routing method used.

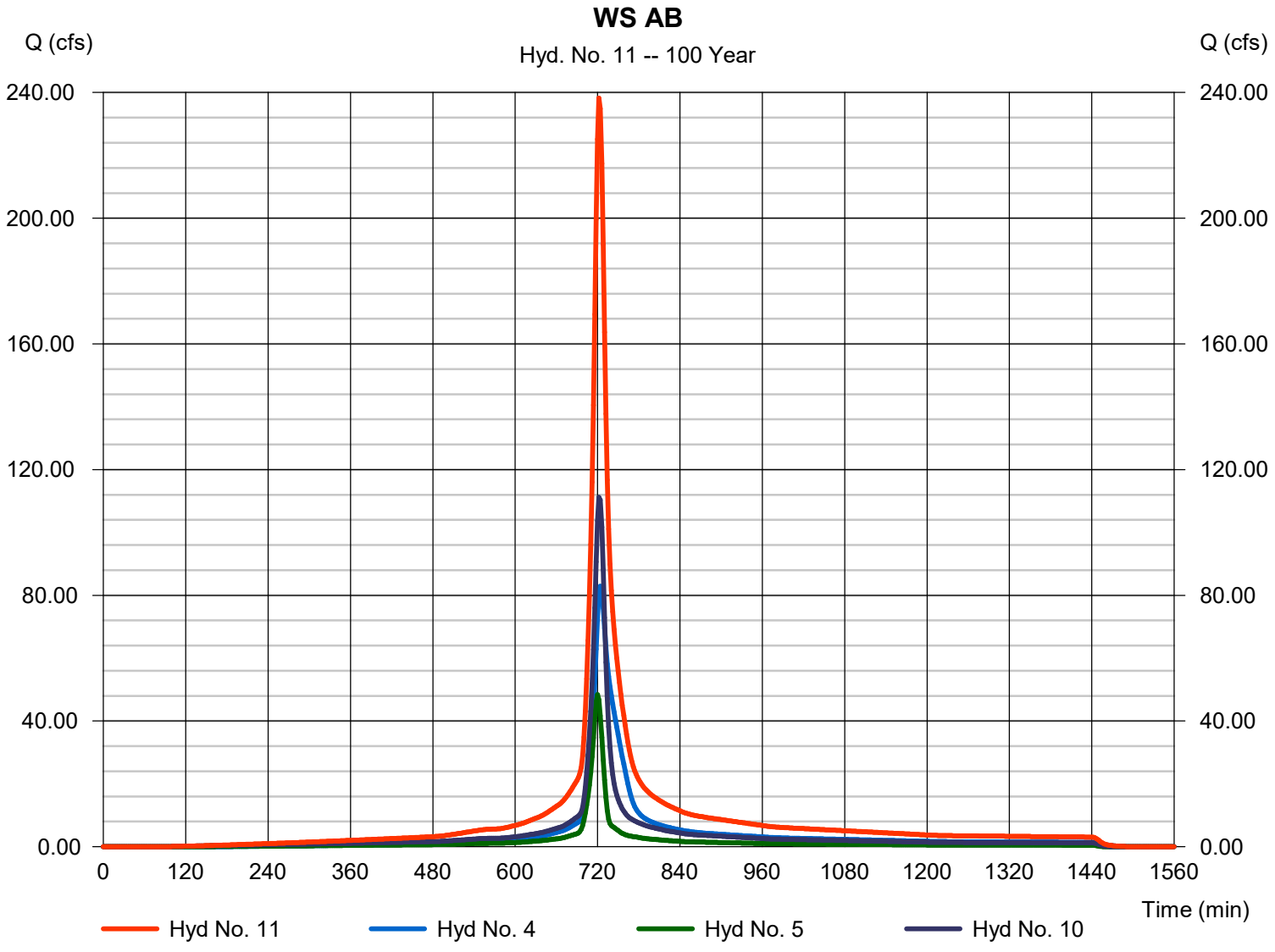


Hydrograph Report

Hyd. No. 11

WS AB

Hydrograph type	= Combine	Peak discharge	= 238.22 cfs
Storm frequency	= 100 yrs	Time to peak	= 722 min
Time interval	= 2 min	Hyd. volume	= 819,353 cuft
Inflow hyds.	= 4, 5, 10	Contrib. drain. area	= 5.330 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

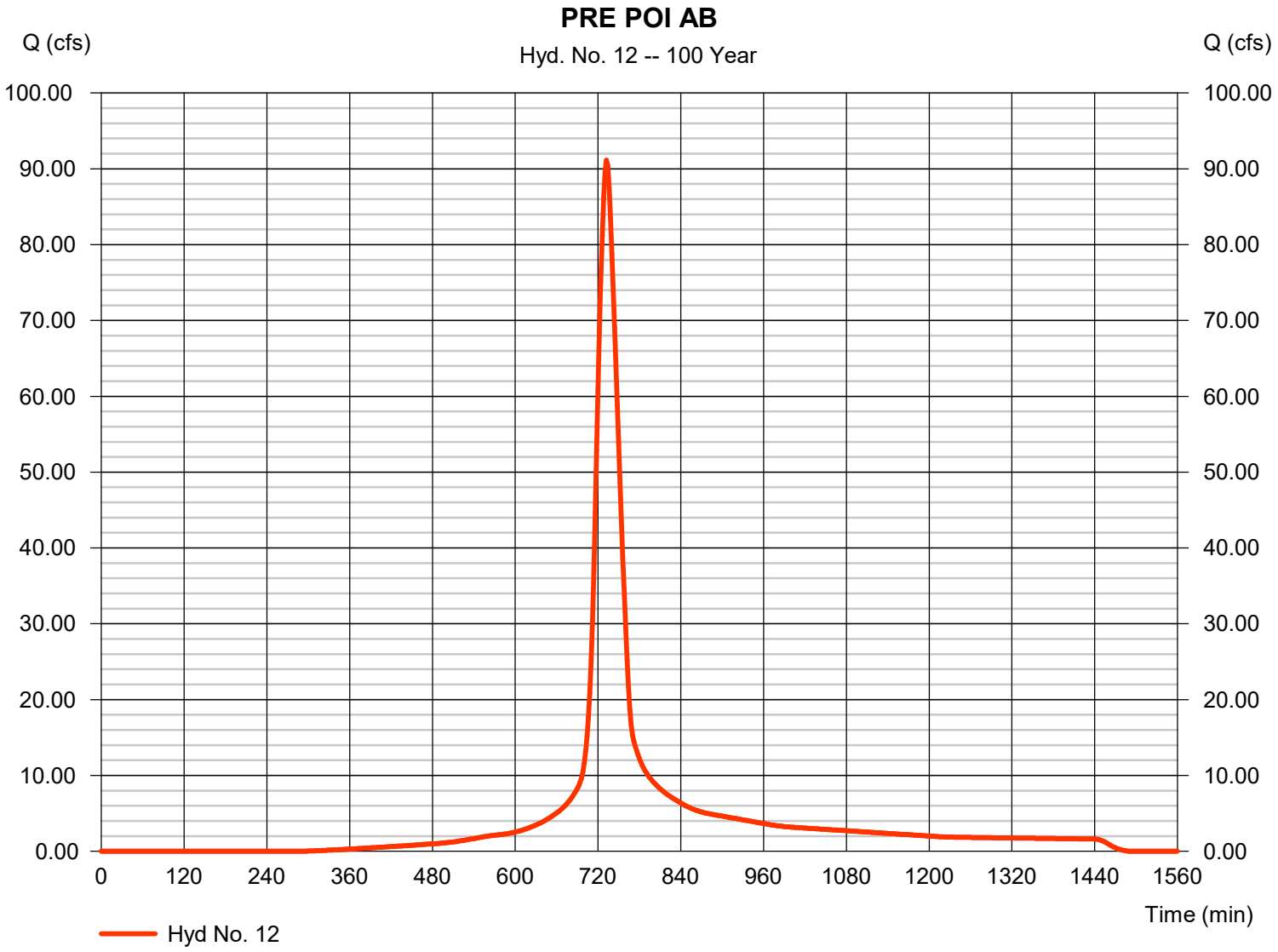
Wednesday, 08 / 6 / 2025

Hyd. No. 12

PRE POI AB

Hydrograph type	= SCS Runoff	Peak discharge	= 91.13 cfs
Storm frequency	= 100 yrs	Time to peak	= 732 min
Time interval	= 2 min	Hyd. volume	= 398,114 cuft
Drainage area	= 19.040 ac	Curve number	= 82*
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= TR55	Time of conc. (Tc)	= 32.80 min
Total precip.	= 7.82 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

* Composite (Area/CN) = [(8.630 x 72) + (1.450 x 88) + (7.160 x 91) + (1.800 x 91)] / 19.040



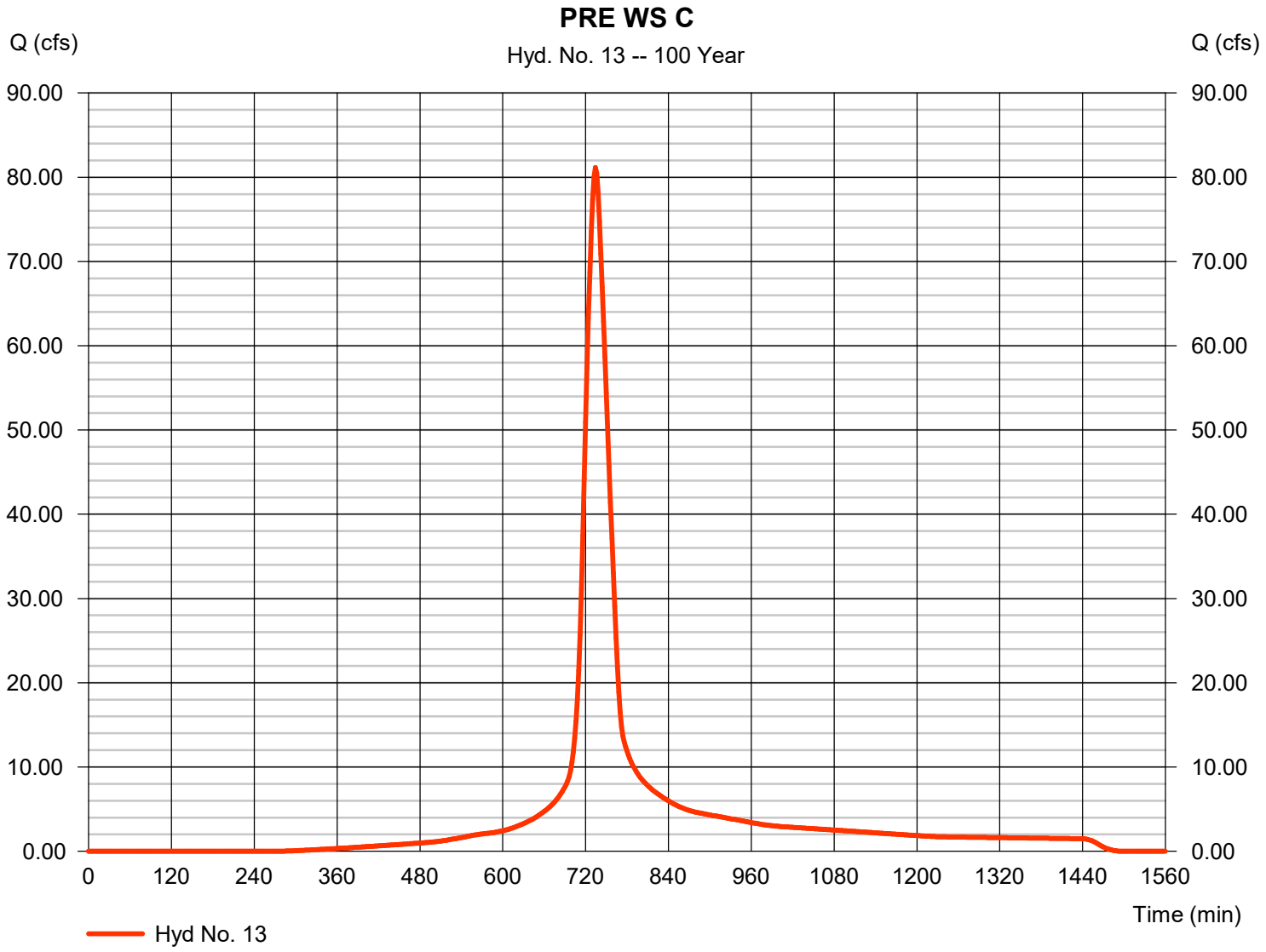
Hydrograph Report

Hyd. No. 13

PRE WS C

Hydrograph type	=	SCS Runoff	Peak discharge	=	81.17 cfs
Storm frequency	=	100 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	372,741 cuft
Drainage area	=	17.890 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	34.60 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(7.590 x 72) + (0.390 x 81) + (0.830 x 88) + (9.080 x 91)] / 17.890



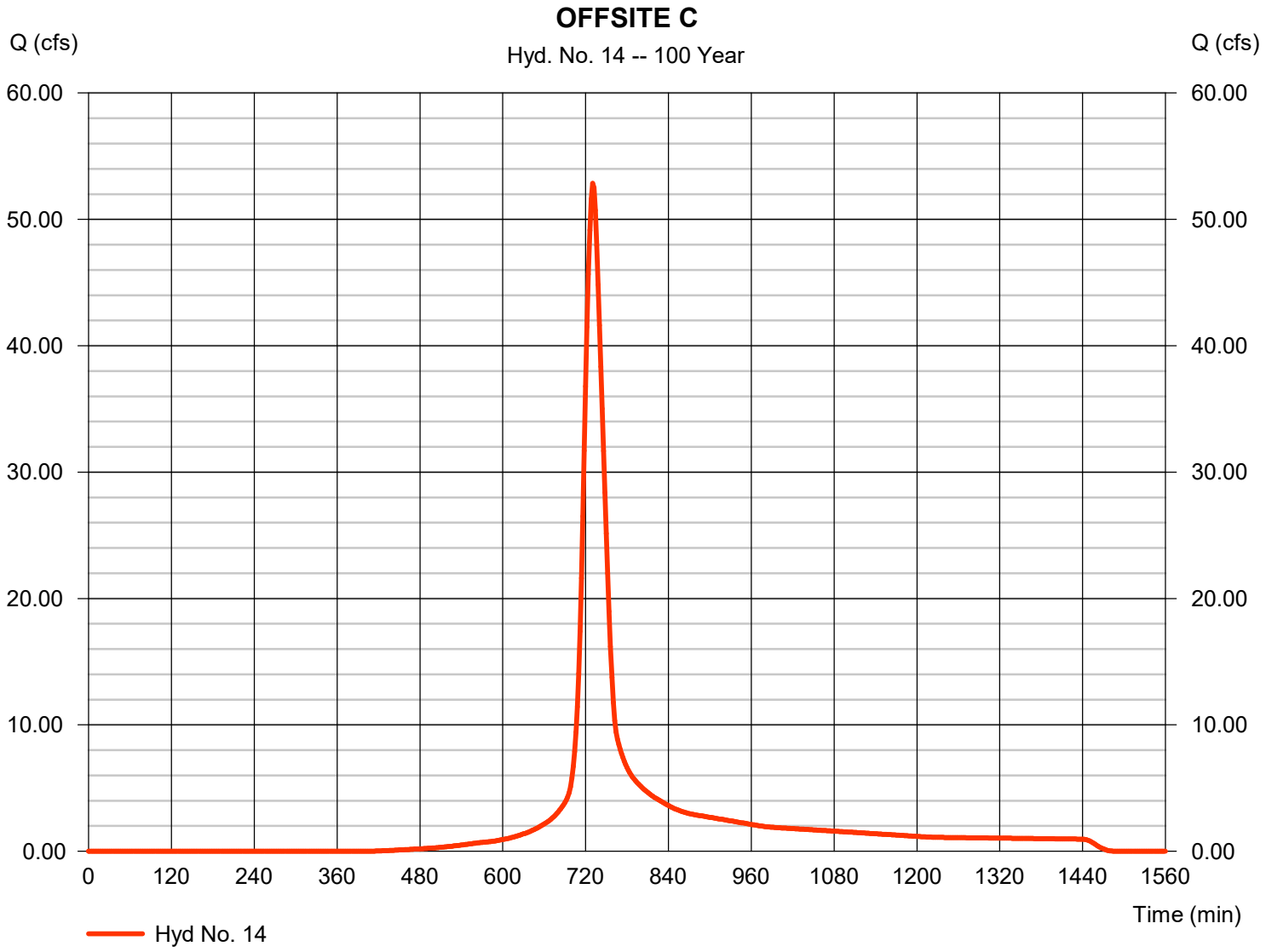
Hydrograph Report

Hyd. No. 14

OFFSITE C

Hydrograph type	=	SCS Runoff	Peak discharge	=	52.85 cfs
Storm frequency	=	100 yrs	Time to peak	=	730 min
Time interval	=	2 min	Hyd. volume	=	211,196 cuft
Drainage area	=	12.210 ac	Curve number	=	74*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	27.00 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(10.710 x 72) + (0.620 x 81) + (0.710 x 91) + (0.170 x 98)] / 12.210

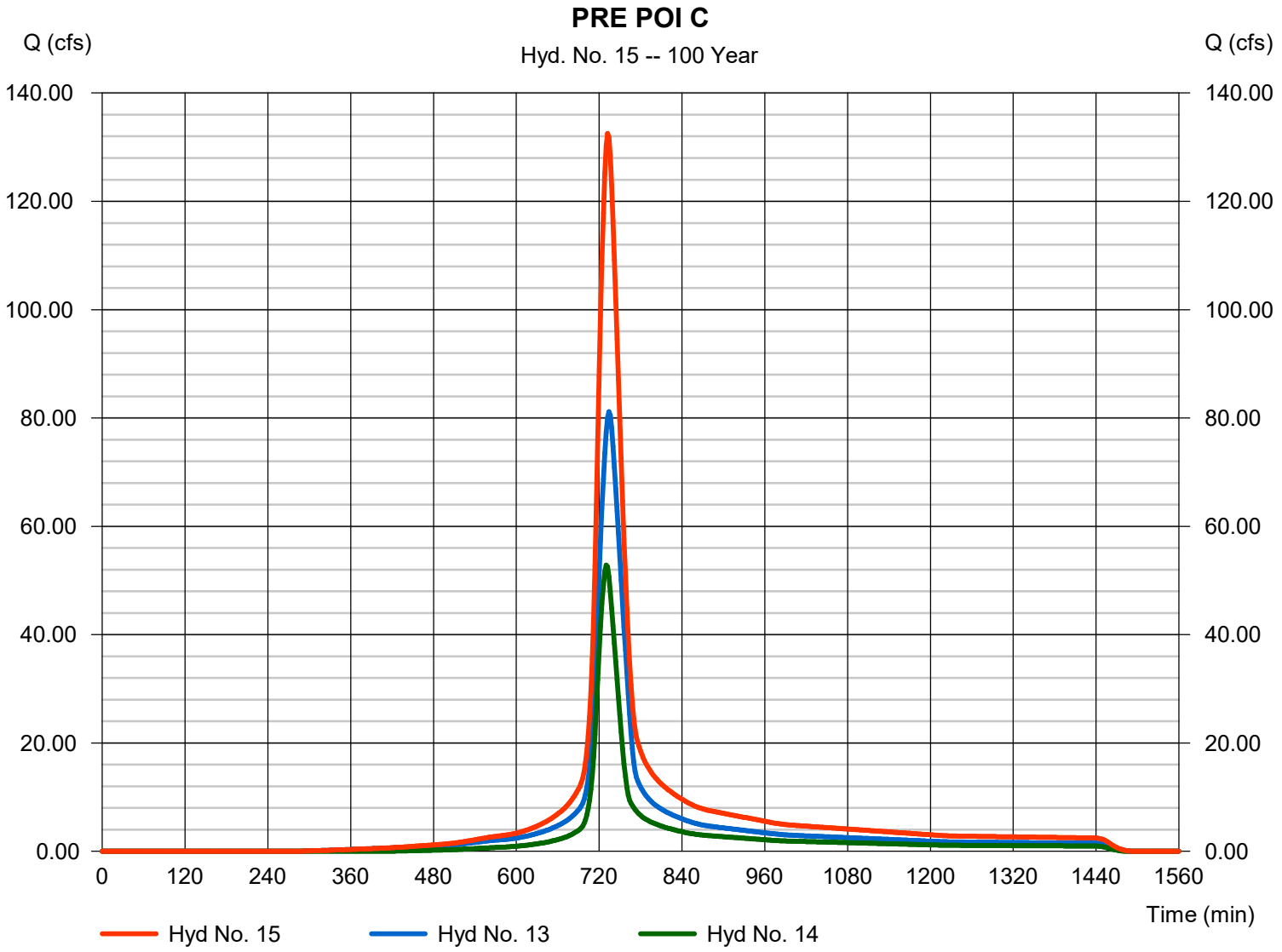


Hydrograph Report

Hyd. No. 15

PRE POI C

Hydrograph type	=	Combine	Peak discharge	=	132.53 cfs
Storm frequency	=	100 yrs	Time to peak	=	732 min
Time interval	=	2 min	Hyd. volume	=	583,938 cuft
Inflow hyds.	=	13, 14	Contrib. drain. area	=	30.100 ac



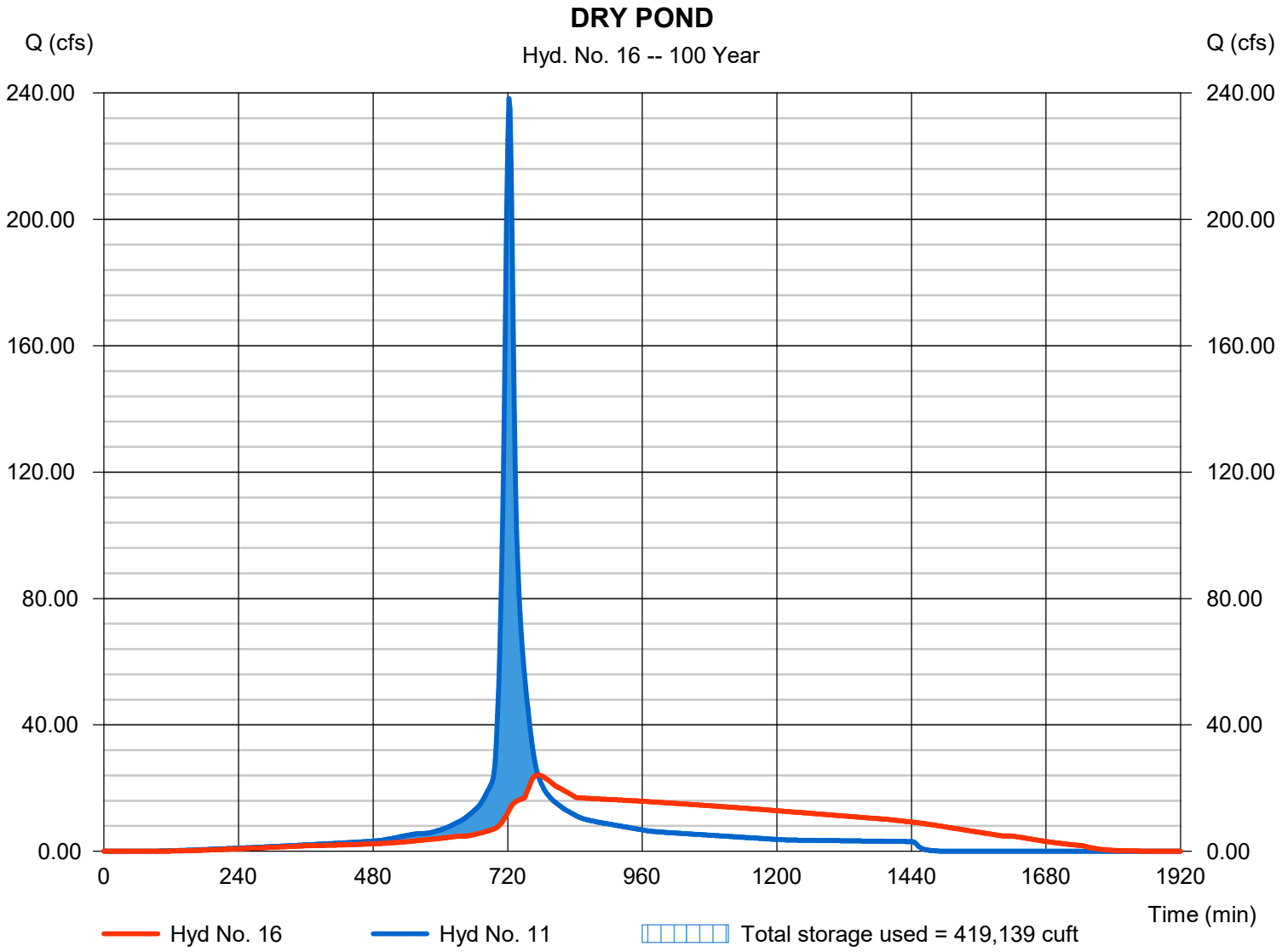
Hydrograph Report

Hyd. No. 16

DRY POND

Hydrograph type	=	Reservoir	Peak discharge	=	24.13 cfs
Storm frequency	=	100 yrs	Time to peak	=	774 min
Time interval	=	2 min	Hyd. volume	=	819,350 cuft
Inflow hyd. No.	=	11 - WS AB	Max. Elevation	=	613.45 ft
Reservoir name	=	DRY POND	Max. Storage	=	419,139 cuft

Storage Indication method used.



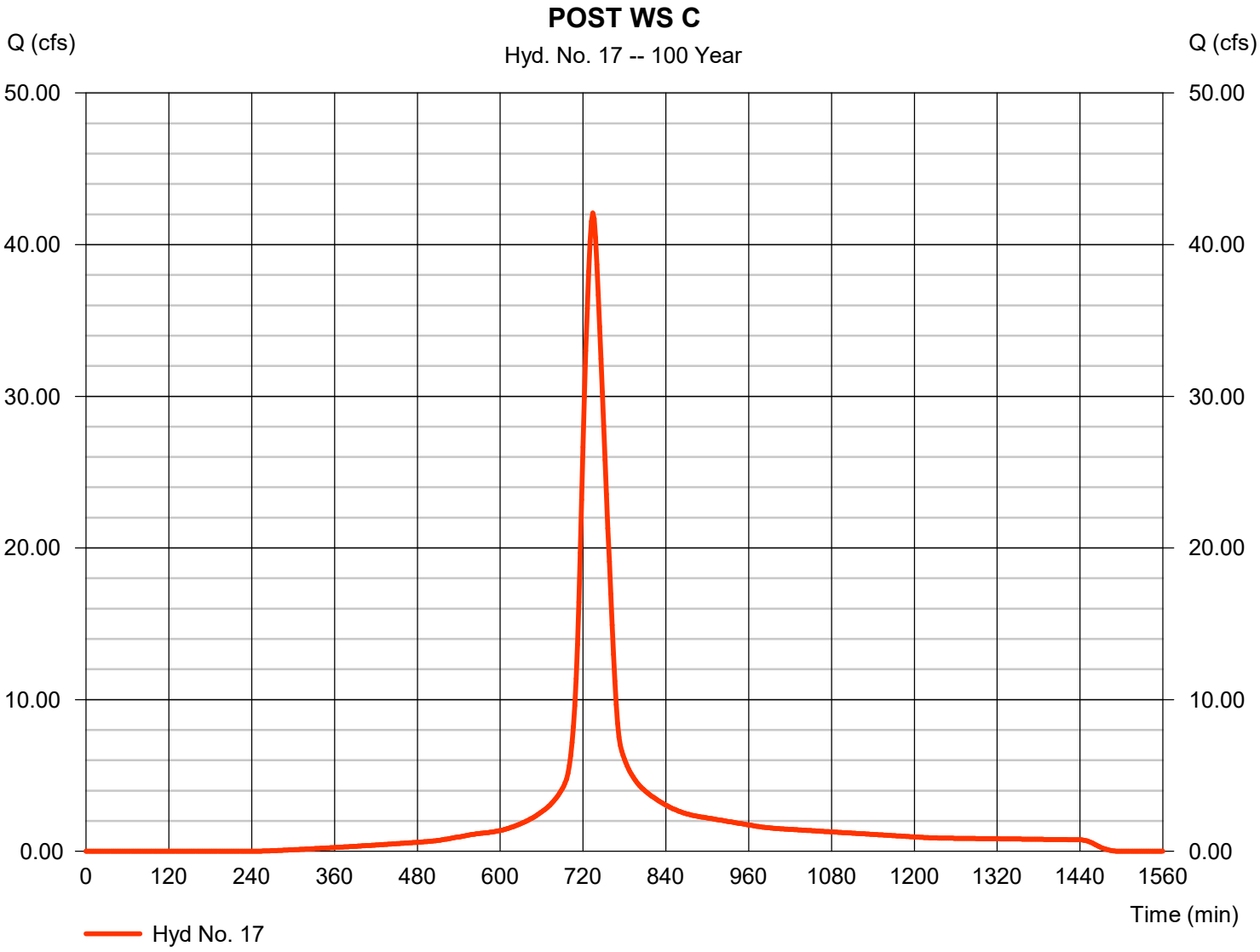
Hydrograph Report

Hyd. No. 17

POST WS C

Hydrograph type	=	SCS Runoff	Peak discharge	=	42.09 cfs
Storm frequency	=	100 yrs	Time to peak	=	734 min
Time interval	=	2 min	Hyd. volume	=	194,641 cuft
Drainage area	=	8.980 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	34.10 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(2.480 x 72) + (0.260 x 81) + (0.830 x 88) + (5.410 x 91)] / 8.980



Hydrograph Report

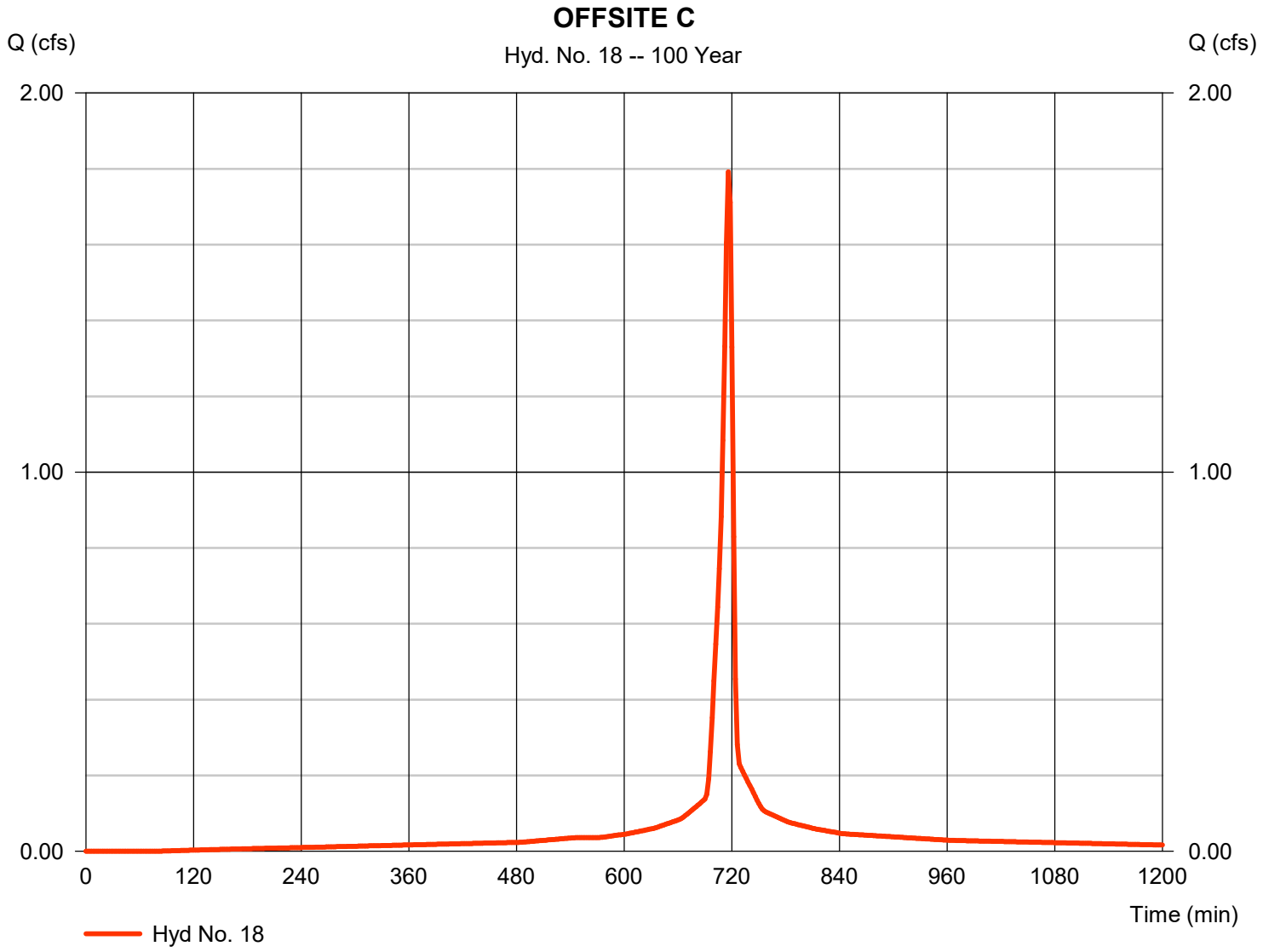
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025 Wednesday, 08 / 6 / 2025

Hyd. No. 18

OFFSITE C

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.792 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	4,178 cuft
Drainage area	=	0.170 ac	Curve number	=	95*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.82 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.020 x 81) + (0.030 x 91) + (0.120 x 98)] / 0.170

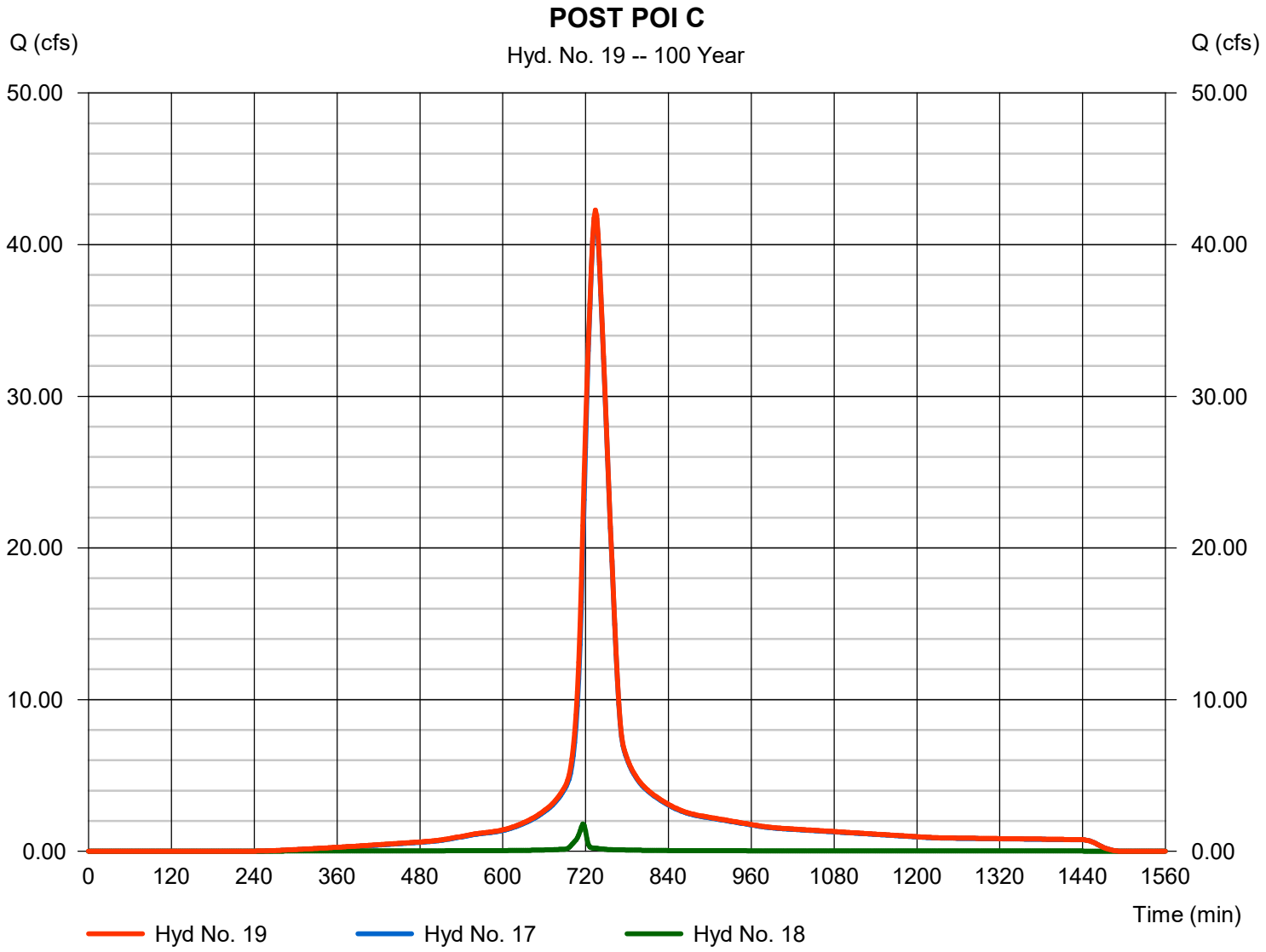


Hydrograph Report

Hyd. No. 19

POST POI C

Hydrograph type	= Combine	Peak discharge	= 42.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 734 min
Time interval	= 2 min	Hyd. volume	= 198,819 cuft
Inflow hyds.	= 17, 18	Contrib. drain. area	= 9.150 ac

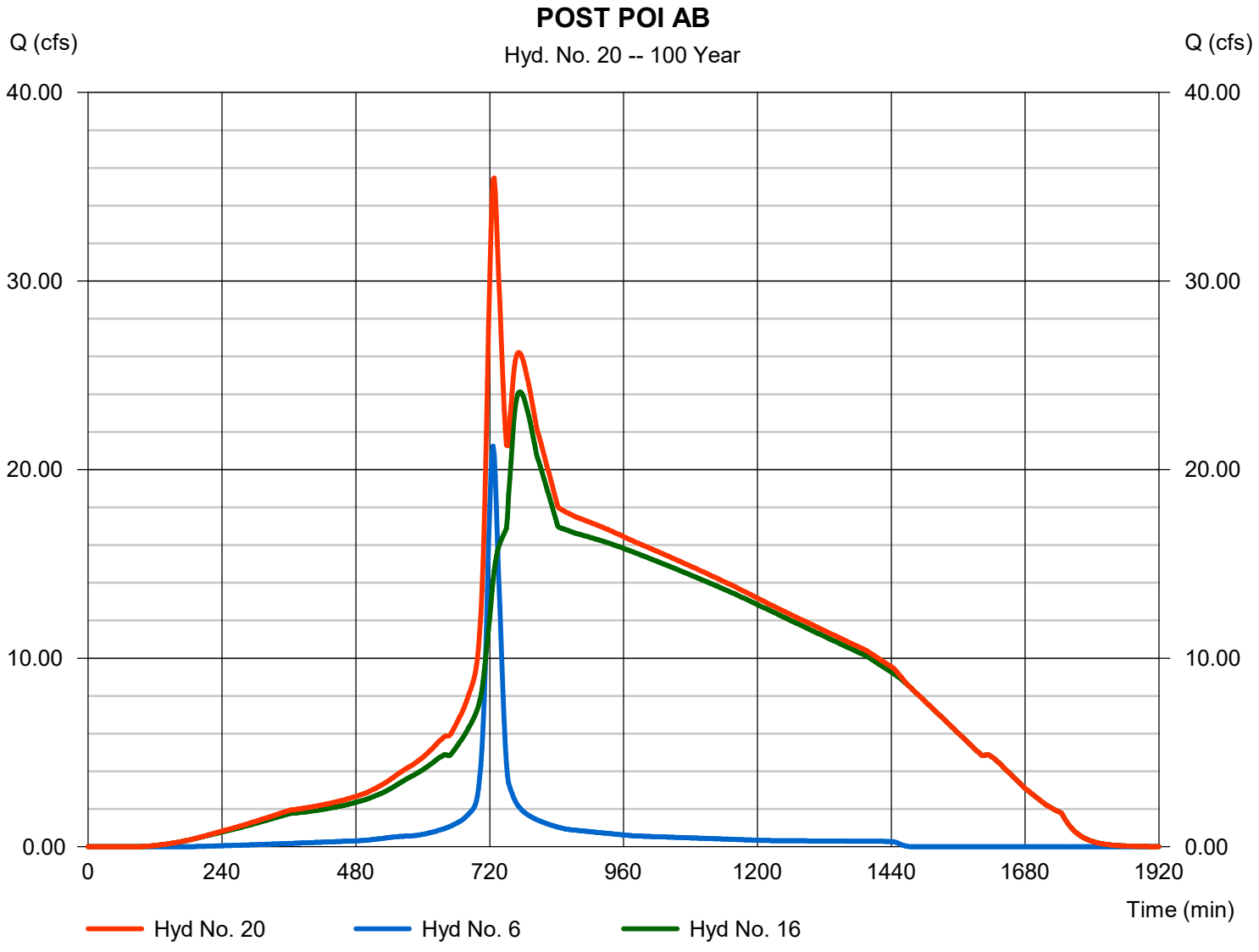


Hydrograph Report

Hyd. No. 20

POST POI AB

Hydrograph type	=	Combine	Peak discharge	=	35.46 cfs
Storm frequency	=	100 yrs	Time to peak	=	728 min
Time interval	=	2 min	Hyd. volume	=	896,324 cuft
Inflow hyds.	=	6, 16	Contrib. drain. area	=	3.200 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	59.7370	12.3000	0.8768	--------
2	72.8679	12.8000	0.8792	--------
3	0.0000	0.0000	0.0000	--------
5	78.0930	13.1000	0.8448	--------
10	73.4003	12.2000	0.7983	--------
25	69.2214	11.2000	0.7454	--------
50	64.0304	10.2000	0.6997	--------
100	61.0502	9.5000	0.6622	--------

File name: Mt. Pleasant.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	4.91	3.93	3.29	2.84	2.50	2.24	2.03	1.86	1.72	1.60	1.49	1.40
2	5.80	4.66	3.92	3.39	2.99	2.68	2.43	2.23	2.06	1.91	1.79	1.68
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.76	5.50	4.66	4.06	3.61	3.25	2.96	2.72	2.53	2.36	2.21	2.08
10	7.57	6.18	5.25	4.59	4.09	3.70	3.38	3.12	2.90	2.71	2.55	2.41
25	8.68	7.11	6.07	5.33	4.77	4.33	3.98	3.68	3.44	3.22	3.04	2.88
50	9.54	7.82	6.70	5.90	5.30	4.83	4.45	4.13	3.87	3.64	3.44	3.27
100	10.39	8.54	7.34	6.49	5.85	5.35	4.94	4.61	4.32	4.08	3.87	3.68

Tc = time in minutes. Values may exceed 60.

Precip. file name: \\global.gsp\data\nf\na_nf07\5011400\03ProjInfo\00DueDilg\NOAA\Mt. Pleasant.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	3.89	0.00	4.74	5.41	6.33	7.06	7.82
SCS 6-Hr	0.00	2.59	0.00	3.16	3.65	4.34	4.92	5.53
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 7 2025

DITCH A

Trapezoidal

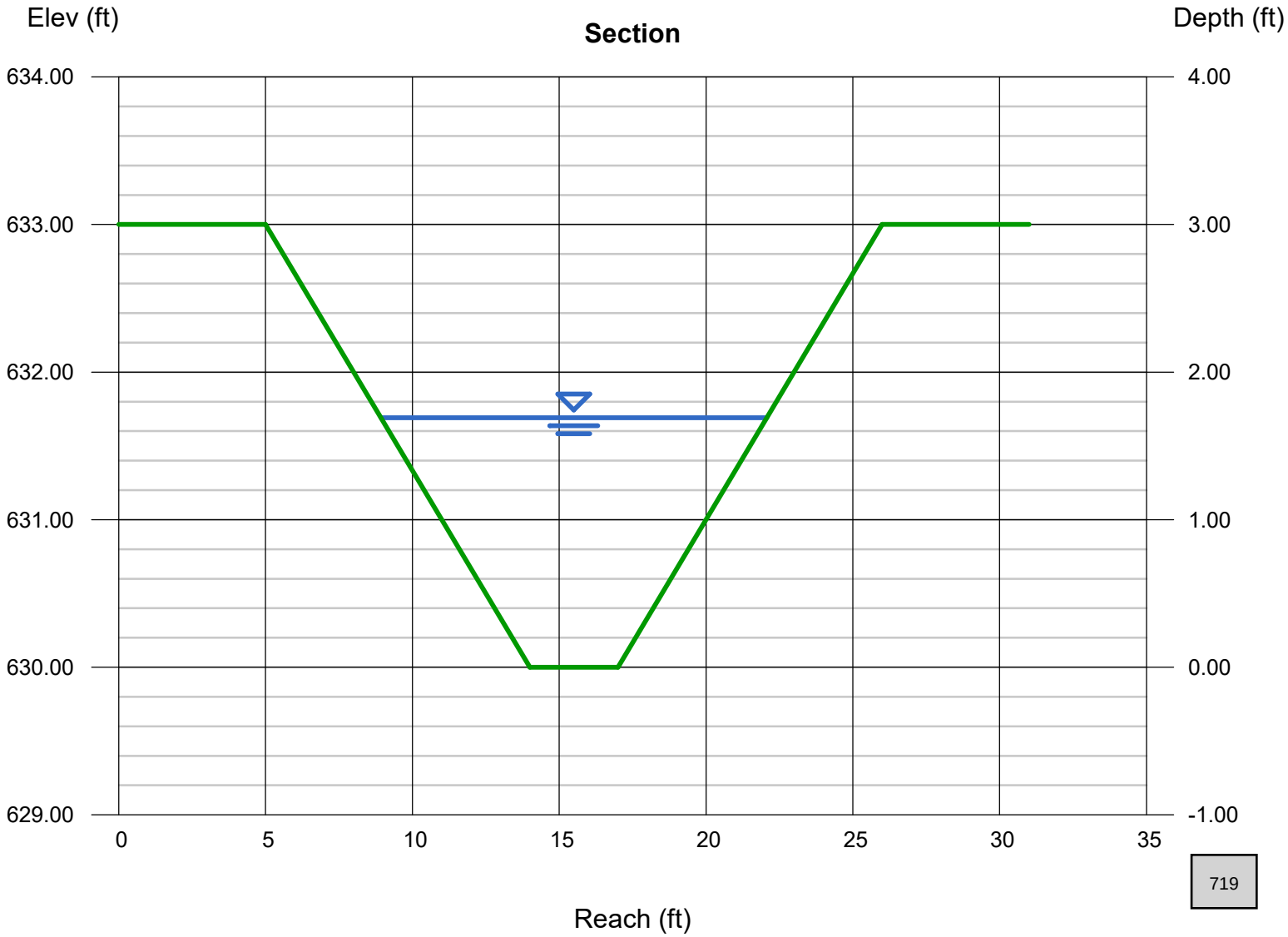
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 630.00
Slope (%)	= 1.15
N-Value	= 0.035

Calculations

Compute by:	Known Q
Known Q (cfs)	= 61.75

Highlighted

Depth (ft)	= 1.69
Q (cfs)	= 61.75
Area (sqft)	= 13.64
Velocity (ft/s)	= 4.53
Wetted Perim (ft)	= 13.69
Crit Depth, Yc (ft)	= 1.50
Top Width (ft)	= 13.14
EGL (ft)	= 2.01



Hydrograph Report

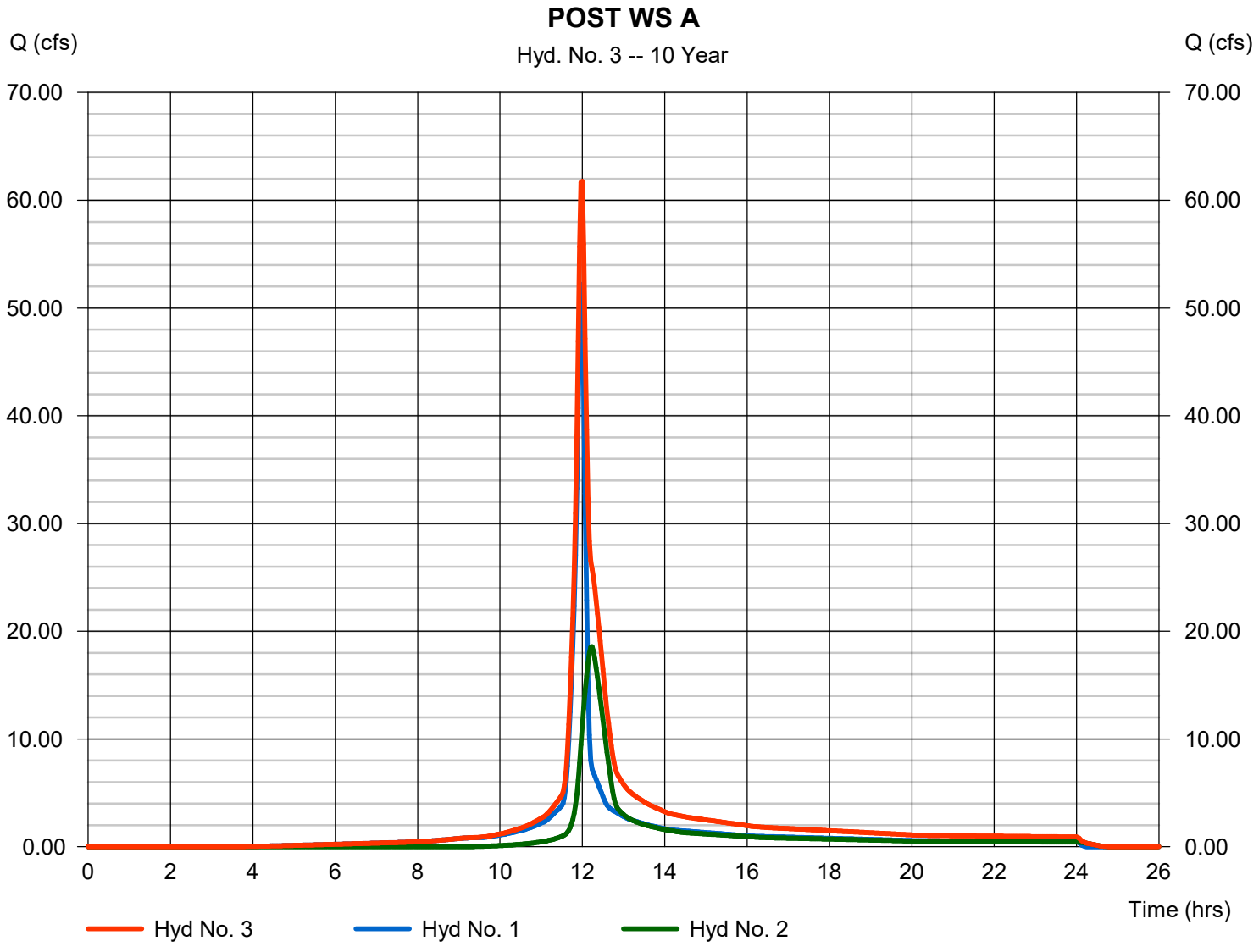
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Thursday, 08 / 7 / 2025

Hyd. No. 3

POST WS A

Hydrograph type	= Combine	Peak discharge	= 61.75 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.00 hrs
Time interval	= 2 min	Hyd. volume	= 207,510 cuft
Inflow hyds.	= 1, 2	Contrib. drain. area	= 16.920 ac



North American
5401 St. Wendel-Cynthiana Rd.
Poseyville, Indiana 47633
Tel. 800.772.2040
>Fax 812.867.0247
www.nagreen.com
ECMDS v7.0

CHANNEL ANALYSIS

> > > A

Name	A
Discharge	61.75
Channel Slope	0.0115
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Existing Bend Radius	25
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Clay Loam (CL)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	1.25 lbs/ft2	2.39	STABLE	E
Underlying Substrate	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3.27 lbs/ft2	0.74 lbs/ft2	4.45	STABLE	E
SC250 Reinforced Vegetation	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	1.43 lbs/ft2	6.99	STABLE	E
Underlying Substrate	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3.61 lbs/ft2	0.82 lbs/ft2	4.38	STABLE	E
SC250 Unvegetated	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	2.51 lbs/ft2	1.2	STABLE	E
Underlying Substrate	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3.27 lbs/ft2	1.47 lbs/ft2	2.22	STABLE	E
SC250 Reinforced Vegetation	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	2.86 lbs/ft2	3.5	STABLE	E
Underlying Substrate	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3.61 lbs/ft2	1.65 lbs/ft2	2.19	STABLE	E

North American Green
5401 St. Wendel-Cynthiana Rd.
Poseyville, Indiana 47633
Tel. 800.772.2040
>Fax 812.867.0247
www.nagreen.com
ECMDS v7.0

ANALYSIS COMPUTATIONS

> > > > View Computation

Inputs	
Channel Discharge (Q):	61.75 cfs
Peak Flow Period (H):	hours
Channel Slope (S0):	0.0115 ft/ft
Bottom Width (B):	3 ft
Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	Yes
Bend Coefficient (Kb):	
Channel Bend Radius:	25 ft
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Clay Loam (CL)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
S0 = Gradient of channel, ft/ft (m/m)
Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

Unvegetated Conditions Computations:
n = Manning's n = a * Tauab
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
n = Manning's n
a = Product specific coefficient from performance testing
b = Product specific coefficient from performance testing

SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.25 lbs/ft2	2.39 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	0.74 lbs/ft2	4.45 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.43 lbs/ft2	6.99 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	0.82 lbs/ft2	4.38 (SFL)
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	2.51 lbs/ft2	1.2 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.47 lbs/ft2	2.22 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	2.86 lbs/ft2	3.5 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.65 lbs/ft2	2.19 (SFL)

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CHANNEL ANALYSIS

> > > A

Name	A
Discharge	61.75
Channel Slope	0.0115
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Existing Bend Radius	25
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Loam (MH)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	1.25 lbs/ft2	2.39	STABLE	E
Underlying Substrate	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	2.41 lbs/ft2	0.74 lbs/ft2	3.28	STABLE	E
SC250 Reinforced Vegetation	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	1.43 lbs/ft2	6.99	STABLE	E
Underlying Substrate	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3 lbs/ft2	0.82 lbs/ft2	3.64	STABLE	E
SC250 Unvegetated	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	2.51 lbs/ft2	1.2	STABLE	E
Underlying Substrate	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	2.41 lbs/ft2	1.47 lbs/ft2	1.64	STABLE	E
SC250 Reinforced Vegetation	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	2.86 lbs/ft2	3.5	STABLE	E
Underlying Substrate	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3 lbs/ft2	1.65 lbs/ft2	1.82	STABLE	E

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ANALYSIS COMPUTATIONS

> > > > View Computation

Inputs	
Channel Discharge (Q):	61.75 cfs
Peak Flow Period (H):	hours
Channel Slope (S0):	0.0115 ft/ft
Bottom Width (B):	3 ft
Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	Yes
Bend Coefficient (Kb):	
Channel Bend Radius:	25 ft
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Loam (MH)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
S0 = Gradient of channel, ft/ft (m/m)
Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

Unvegetated Conditions Computations:
n = Manning's n = a * Tauab
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
n = Manning's n
a = Product specific coefficient from performance testing
b = Product specific coefficient from performance testing

SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.25 lbs/ft2	2.39 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	0.74 lbs/ft2	3.28 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.43 lbs/ft2	6.99 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	0.82 lbs/ft2	3.64 (SFL)
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	2.51 lbs/ft2	1.2 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.47 lbs/ft2	1.64 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	2.86 lbs/ft2	3.5 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.65 lbs/ft2	1.82 (SFL)

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CHANNEL ANALYSIS

> > > A

Name	A
Discharge	61.75
Channel Slope	0.0115
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Existing Bend Radius	25
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Silt Loam (SM)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	1.25 lbs/ft2	2.39	STABLE	E
Underlying Substrate	Straight	61.75 cfs	4.29 ft/s	1.75 ft	0.038	2.2 lbs/ft2	0.74 lbs/ft2	2.99	STABLE	E
SC250 Reinforced Vegetation	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	1.43 lbs/ft2	6.99	STABLE	E
Underlying Substrate	Straight	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3 lbs/ft2	0.82 lbs/ft2	3.64	STABLE	E
SC250 Unvegetated	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	3 lbs/ft2	2.51 lbs/ft2	1.2	STABLE	E
Underlying Substrate	Bend	61.75 cfs	4.29 ft/s	1.75 ft	0.038	2.2 lbs/ft2	1.47 lbs/ft2	1.49	STABLE	E
SC250 Reinforced Vegetation	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	10 lbs/ft2	2.86 lbs/ft2	3.5	STABLE	E
Underlying Substrate	Bend	61.75 cfs	3.45 ft/s	1.99 ft	0.051	3 lbs/ft2	1.65 lbs/ft2	1.82	STABLE	E

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ANALYSIS COMPUTATIONS

> > > > View Computation

Inputs	
Channel Discharge (Q):	61.75 cfs
Peak Flow Period (H):	hours
Channel Slope (S0):	0.0115 ft/ft
Bottom Width (B):	3 ft
Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	Yes
Bend Coefficient (Kb):	
Channel Bend Radius:	25 ft
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Silt Loam (SM)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
S0 = Gradient of channel, ft/ft (m/m)
Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

Unvegetated Conditions Computations:
n = Manning's n = a * Tauab
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
n = Manning's n
a = Product specific coefficient from performance testing
b = Product specific coefficient from performance testing

SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.25 lbs/ft2	2.39 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	0.74 lbs/ft2	2.99 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.43 lbs/ft2	6.99 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	0.82 lbs/ft2	3.64 (SFL)
SC250 Unvegetated	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	2.51 lbs/ft2	1.2 (SFP)
Underlying Substrate	0.038	1.75 ft	14.38 ft2	14.04 ft	1.02 ft	4.29 ft/s	0.75	1.47 lbs/ft2	1.49 (SFL)
SC250 Reinforced Vegetation	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	2.86 lbs/ft2	3.5 (SFP)
Underlying Substrate	0.051	1.99 ft	17.9 ft2	15.61 ft	1.15 ft	3.45 ft/s	0.57	1.65 lbs/ft2	1.82 (SFL)

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Aug 7 2025

DITCH B

Trapezoidal

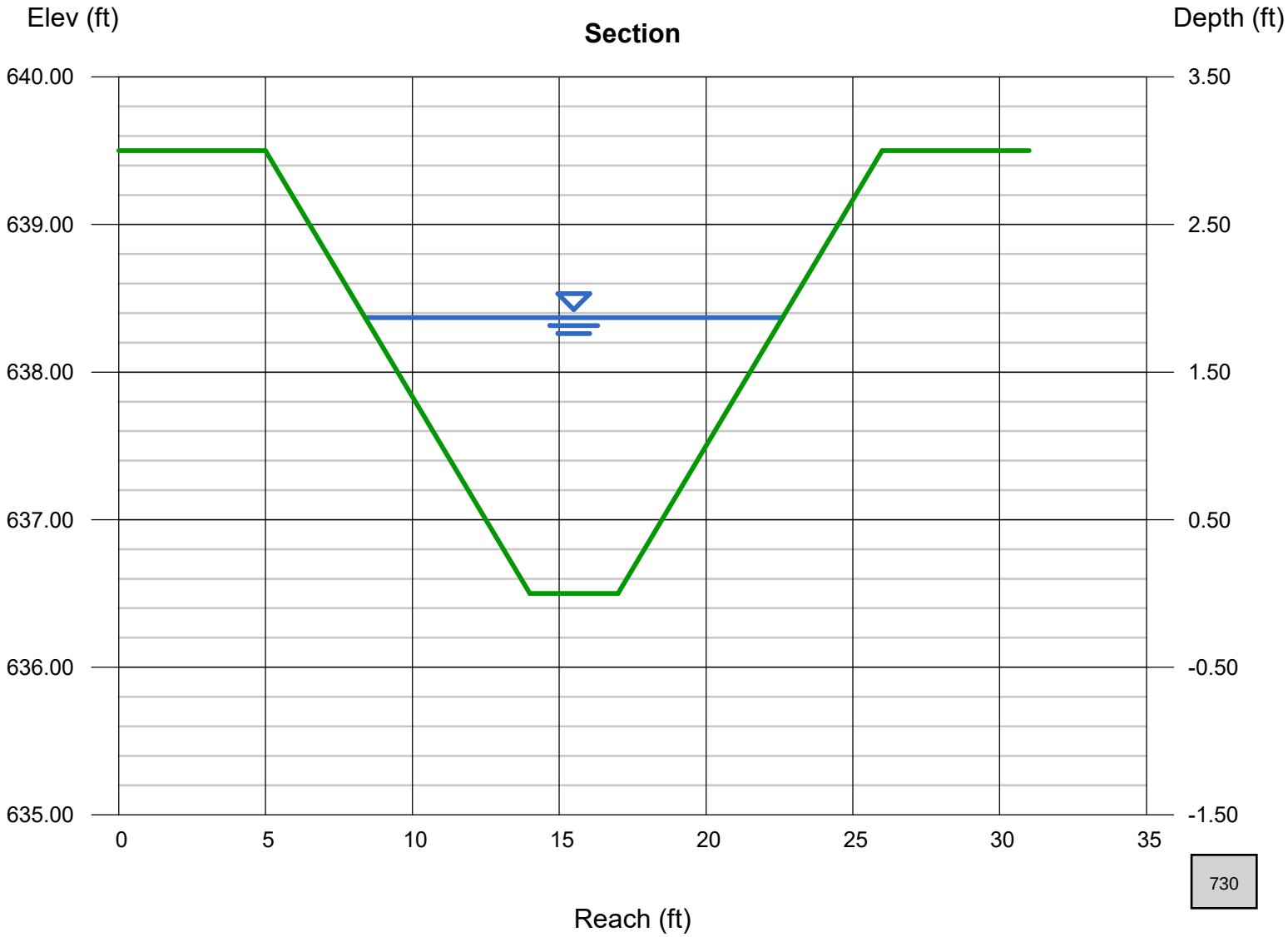
Bottom Width (ft)	= 3.00
Side Slopes (z:1)	= 3.00, 3.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 636.50
Slope (%)	= 1.38
N-Value	= 0.035

Calculations

Compute by:	Known Q
Known Q (cfs)	= 84.12

Highlighted

Depth (ft)	= 1.87
Q (cfs)	= 84.12
Area (sqft)	= 16.10
Velocity (ft/s)	= 5.22
Wetted Perim (ft)	= 14.83
Crit Depth, Yc (ft)	= 1.75
Top Width (ft)	= 14.22
EGL (ft)	= 2.29



Hydrograph Report

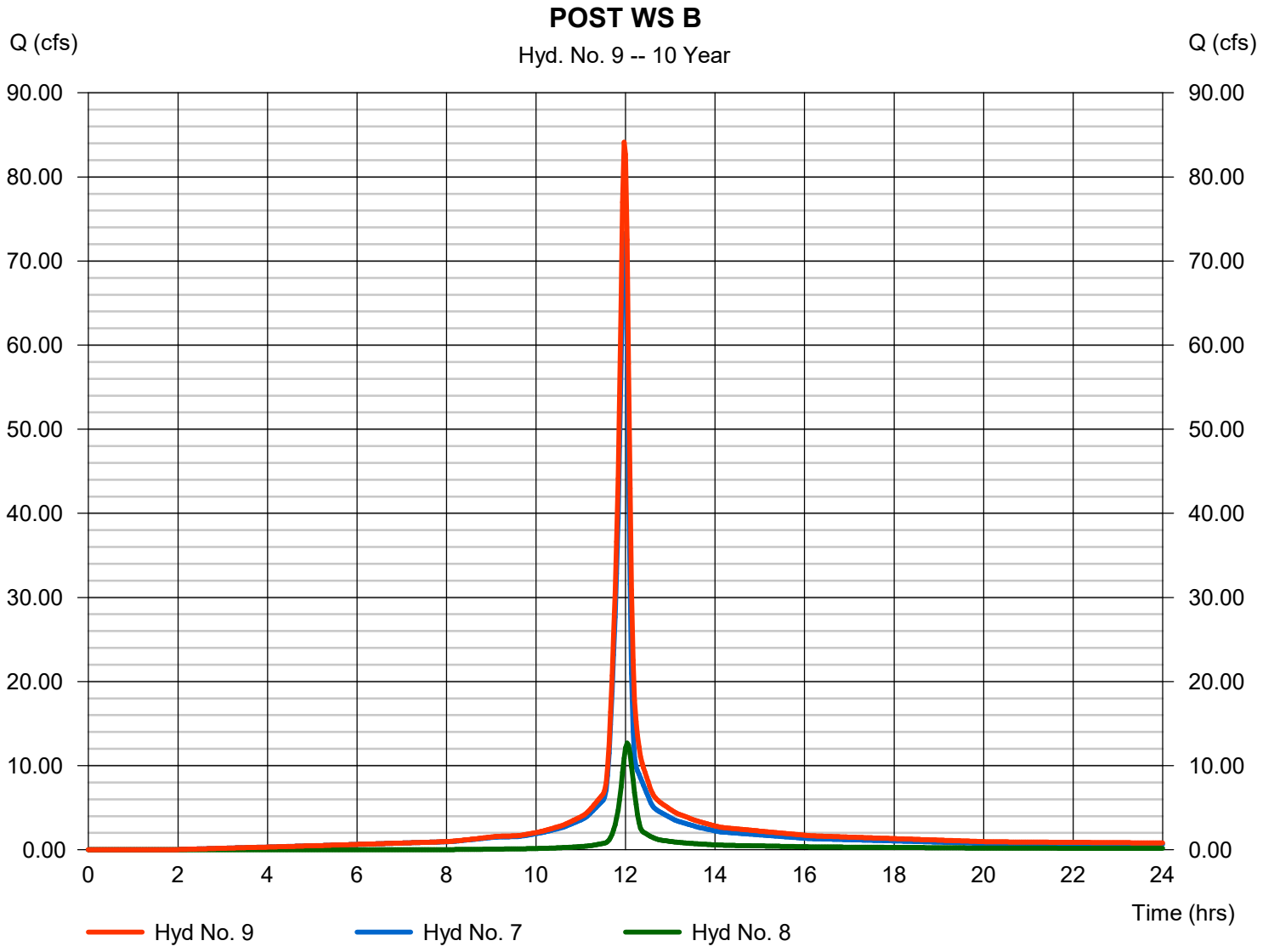
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Thursday, 08 / 7 / 2025

Hyd. No. 9

POST WS B

Hydrograph type	=	Combine	Peak discharge	=	84.12 cfs
Storm frequency	=	10 yrs	Time to peak	=	11.97 hrs
Time interval	=	2 min	Hyd. volume	=	222,302 cuft
Inflow hyds.	=	7, 8	Contrib. drain. area	=	13.940 ac



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CHANNEL ANALYSIS

> > > B

Name	B
Discharge	84.12
Channel Slope	0.0138
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Clay Loam (CL)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	3 lbs/ft2	1.61 lbs/ft2	1.86	STABLE	E
Underlying Substrate	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	3.27 lbs/ft2	0.94 lbs/ft2	3.49	STABLE	E
SC250 Reinforced Vegetation	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	10 lbs/ft2	1.82 lbs/ft2	5.51	STABLE	E
Underlying Substrate	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	3 lbs/ft2	1.04 lbs/ft2	2.89	STABLE	E

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ANALYSIS COMPUTATIONS

> > > > View Computation

Inputs	
Channel Discharge (Q):	84.12 cfs
Peak Flow Period (H):	hours
Channel Slope (S0):	0.0138 ft/ft
Bottom Width (B):	3 ft
Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	No
Bend Coefficient (Kb):	1
Channel Bend Radius:	
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Clay Loam (CL)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
S0 = Gradient of channel, ft/ft (m/m)
Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

Unvegetated Conditions Computations:
n = Manning's n = a * Tauab
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
n = Manning's n
a = Product specific coefficient from performance testing
b = Product specific coefficient from performance testing

SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	1.61 lbs/ft2	1.86 (SFP)
Underlying Substrate	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	0.94 lbs/ft2	3.49 (SFL)
SC250 Reinforced Vegetation	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.82 lbs/ft2	5.51 (SFP)
Underlying Substrate	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.04 lbs/ft2	2.89 (SFL)

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CHANNEL ANALYSIS

> > > B

Name	B
Discharge	84.12
Channel Slope	0.0138
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Loam (MH)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	3 lbs/ft2	1.61 lbs/ft2	1.86	STABLE	E
Underlying Substrate	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	2.41 lbs/ft2	0.94 lbs/ft2	2.57	STABLE	E
SC250 Reinforced Vegetation	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	10 lbs/ft2	1.82 lbs/ft2	5.51	STABLE	E
Underlying Substrate	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	3 lbs/ft2	1.04 lbs/ft2	2.89	STABLE	E

North American Green
5401 St. Wendel-Cynthiana Rd.
Poseyville, Indiana 47633
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ANALYSIS COMPUTATIONS

> > > > View Computation

Inputs	
Channel Discharge (Q):	84.12 cfs
Peak Flow Period (H):	hours
Channel Slope (S0):	0.0138 ft/ft
Bottom Width (B):	3 ft
Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	No
Bend Coefficient (Kb):	1
Channel Bend Radius:	
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Loam (MH)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
S0 = Gradient of channel, ft/ft (m/m)
Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

Unvegetated Conditions Computations:
n = Manning's n = a * Tauab
and (iteratively solved)
n = 1.486 / Q * A * R(2/3)$S_0^{0.5}$
Where:
n = Manning's n
a = Product specific coefficient from performance testing
b = Product specific coefficient from performance testing

SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	1.61 lbs/ft2	1.86 (SFP)
Underlying Substrate	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	0.94 lbs/ft2	2.57 (SFL)
SC250 Reinforced Vegetation	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.82 lbs/ft2	5.51 (SFP)
Underlying Substrate	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.04 lbs/ft2	2.89 (SFL)

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CHANNEL ANALYSIS

> > > B

Name	B
Discharge	84.12
Channel Slope	0.0138
Channel Bottom Width	3
Left Side Slope	3
Right Side Slope	3
Low Flow Liner	
Retardence Class	C 6-12 in
Vegetation Type	Bunch Type
Vegetation Density	Good 65-79%
Soil Type	Silt Loam (SM)

SC250

Phase	Reach	Discharge	Velocity	Normal Depth	Mannings N	Permissible Shear Stress	Calculated Shear Stress	Safety Factor	Remarks	Staple Pattern
SC250 Unvegetated	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	3 lbs/ft2	1.61 lbs/ft2	1.86	STABLE	E
Underlying Substrate	Straight	84.12 cfs	5.19 ft/s	1.88 ft	0.036	2.2 lbs/ft2	0.94 lbs/ft2	2.34	STABLE	E
SC250 Reinforced Vegetation	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	10 lbs/ft2	1.82 lbs/ft2	5.51	STABLE	E
Underlying Substrate	Straight	84.12 cfs	4.28 ft/s	2.11 ft	0.046	3 lbs/ft2	1.04 lbs/ft2	2.89	STABLE	E

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ANALYSIS COMPUTATIONS

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Left Side Slope (ZL):	3 (H : V)
Right Side Slope (ZR):	3 (H : V)
Existing Channel Bend:	No
Bend Coefficient (Kb):	1
Channel Bend Radius:	
Retardance Class of Vegetation:	C 6-12 in
Vegetation Type:	Bunch Type
Vegetation Density:	Good 65-79%
Soil Type:	Silt Loam (SM)
Channel Lining Options	
SC250 Protection Type	Permanent

Basic Relationships
A = Cross sectional area, ft2 (m2) = (B * D) + (Z_L / 2 * D2) + (Z_R / 2 * D2)
Where:
B = Base width of channel, ft (m)
D = Flow depth, ft (m)
Z_L = Left side bank slope (H : 1 V)
Z_R = Right side bank slope (H : 1 V)
P = Wetted perimeter, ft (m) = B + Z_L * D + Z_R * D
R = Hydraulic radius, ft (m) = A / P
V = Flow velocity, ft/s (m/s) = Q / A
Where:
Q = Channel discharge, cfs (cms)
Taua Average bed shear stress, psf (Pa) = 62.4 * R * S0
Where:
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Tau_0 = Maximum bed shear stress, psf (Pa) = 62.4 * D * S_0

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SF_P = Product factor of safety = Tau_T / Tau_0
Where:
TauT = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_T / alpha * (Tau_S + alpha / 4.3)
Where:
alpha = unit conversion constant, 0.14 English, 6.5 Metric
Tau_S = Permissible shear stress of soil
SFL = Factor of safety of installed liner = Taup / Taua

Vegetated Computations:
n = Manning's n = alpha * Cn* Taua-0.4
and (iteratively solved)
$n = 1.486 / Q * A * R(2/3)S_0^{0.5}$
Where:
alpha = Unit conversion constant, 0.213 English, 1.0 Metric
Cn = Vegetation retardance coefficient
SF_P = Product factor of safety = Tau_{TV} / Tau_0
Where:
Tau_{TV} = Permissible shear stress from testing, psf (Pa)
Tau_p = In place permissible shear, psf (Pa) = Tau_S / (1 – C_{FTRM}) * (n / n_S)2
Where:
C_{FTRM} = Coefficient of TRM performance derived from testing Tau_S = Permissible shear stress of soil
n_S = Manning's of soil bed if left unprotected
SF_L = Factor of safety of installed liner = Tau_p / Tau_a

SC250

Phase	Mannings N	Predicted flow depth (D)	Cross sectional area (A)	Wetted perimeter (P)	Hydraulic radius (R)	Flow velocity (V)	Froude number (FR)	Calculated Shear Stress	SFP/SFL
SC250 Unvegetated	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	1.61 lbs/ft2	1.86 (SFP)
Underlying Substrate	0.036	1.88 ft	16.18 ft2	14.86 ft	1.09 ft	5.19 ft/s	0.88	0.94 lbs/ft2	2.34 (SFL)
SC250 Reinforced Vegetation	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.82 lbs/ft2	5.51 (SFP)
Underlying Substrate	0.046	2.11 ft	19.67 ft2	16.34 ft	1.2 ft	4.28 ft/s	0.69	1.04 lbs/ft2	2.89 (SFL)

Sediment Basin Calculations:

Total Drainage Area: 36.62 acres

Required Storage:

Total Storage Volume: 3618 cf/ac * 36.62 ac = 132,491.16 cf

Wet Storage: 1809 cf/ac * 36.62 ac = 66,245.58 cf

Dry Storage: 1809 cf/ac * 36.62 ac = 66,245.58 cf

- Forebay: 453.6 cf/ac * 36.62 = 16,610.83 cf
- Main Basin: 66,245.58 cf – 16,610.83 cf = 49,634.75 cf

Provided Storage:

Wet Storage:

- Bottom Dimensions (609.00 ft): 13,063.44 sf
- Permanent Pool Dimensions (611.00 ft): 89,656.47 sf

$$V = \frac{(13{,}063.44 + 89{,}656.47) * 2}{2} = 102{,}719.91\ cf$$

Total Wet Storage (Bottom of Pond to Permanent Pool): 102,719.91 cf > 66,245.58 cf

Dry Storage:

Forebay A:

- Bottom of Forebay A Dimensions (611.00 ft): 13,854.73 sf
- Top of Forebay A Dimensions (613.00 ft): 16,704.68 sf

$$V = \frac{(13{,}854.73 + 16{,}704.68) * 2}{2} = 30{,}559.41\ cf$$

Forebay B:

- Bottom of Forebay B Dimensions (611.00 ft): 12,378.46 sf
- Top of Forebay B Dimensions (613.00 ft): 15,570.87 sf

$$V = \frac{(12{,}378.46 + 15{,}570.87) * 2}{2} = 27{,}949.33\ cf$$

Total Forebay Storage: 58,508.74 cf > 16,610.83 cf

Main Basin:

- Dimensions at Permanent Pool (611.00 ft): 89,656.47 sf
- Dimensions at Top (613.00 ft): 95,017.49 sf

$$V = \frac{(89{,}656.47 + 95{,}017.49) * 2}{2} = 184{,}673.96\ cf$$

Main Basin Storage: 184,673.96 > 49,634.75 cf

Total Dry Storage, including Forebay:

58,508.74 cf + 184,673.96 = 243,182.70 cf > 66,245.58 cf

Total Provided Storage:

102,720 cf + 243,183 cf = 345,903 cf > 132,491 cf

Principal Spillway:

Elevation: 612.00 ft

$Qp_{5yr,24hr}$= 193.48 cfs

Emergency Spillway:

Elevation: 613.29 ft

$Qp_{25yr,24hr}$= 277.51 cfs*

*TR-55 generated via Hydraflow Hydrographs Extension for Autodesk Civil 3D

Weir Length = 38 ft

Design Flow:

277.51 cfs – 31.37 cfs* = 246.14 cfs

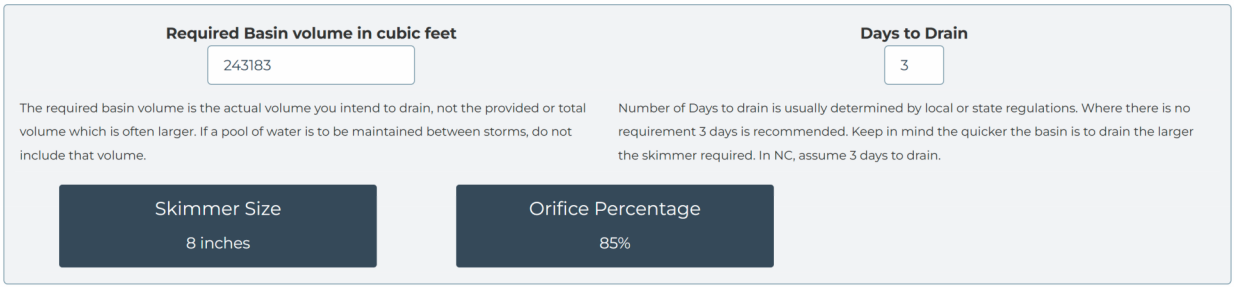
*Interpolated flow credited to 3 ft diameter principal spillway at 1 ft head over crest given by Hydraflow Express Extension for Autodesk Civil 3D

Top of Berm: 616.00 ft

613.29 ft (E-spillway Elev) + 1.71 ft* (depth of 25 yr storm) + 1 ft (min. freeboard) = 616.01 ft

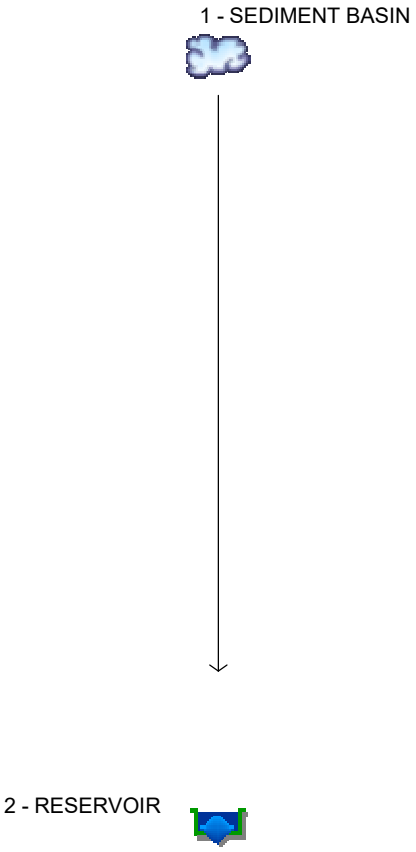
*Flow control depth given by Hydraflow Express Extension for Autodesk Civil 3D at the design flow Q

Skimmer:



Using the Simple Faircloth Skimmer Sizing Calculator at https://fairclothskimmer.com/sediment-skimmer-calculator/

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	SEDIMENT BASIN
2	Reservoir	RESERVOIR

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	-------	-------	193.48	-------	277.51	-------	-------	SEDIMENT BASIN
2	Reservoir	1	-------	-------	-------	11.97	-------	14.30	-------	-------	RESERVOIR

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

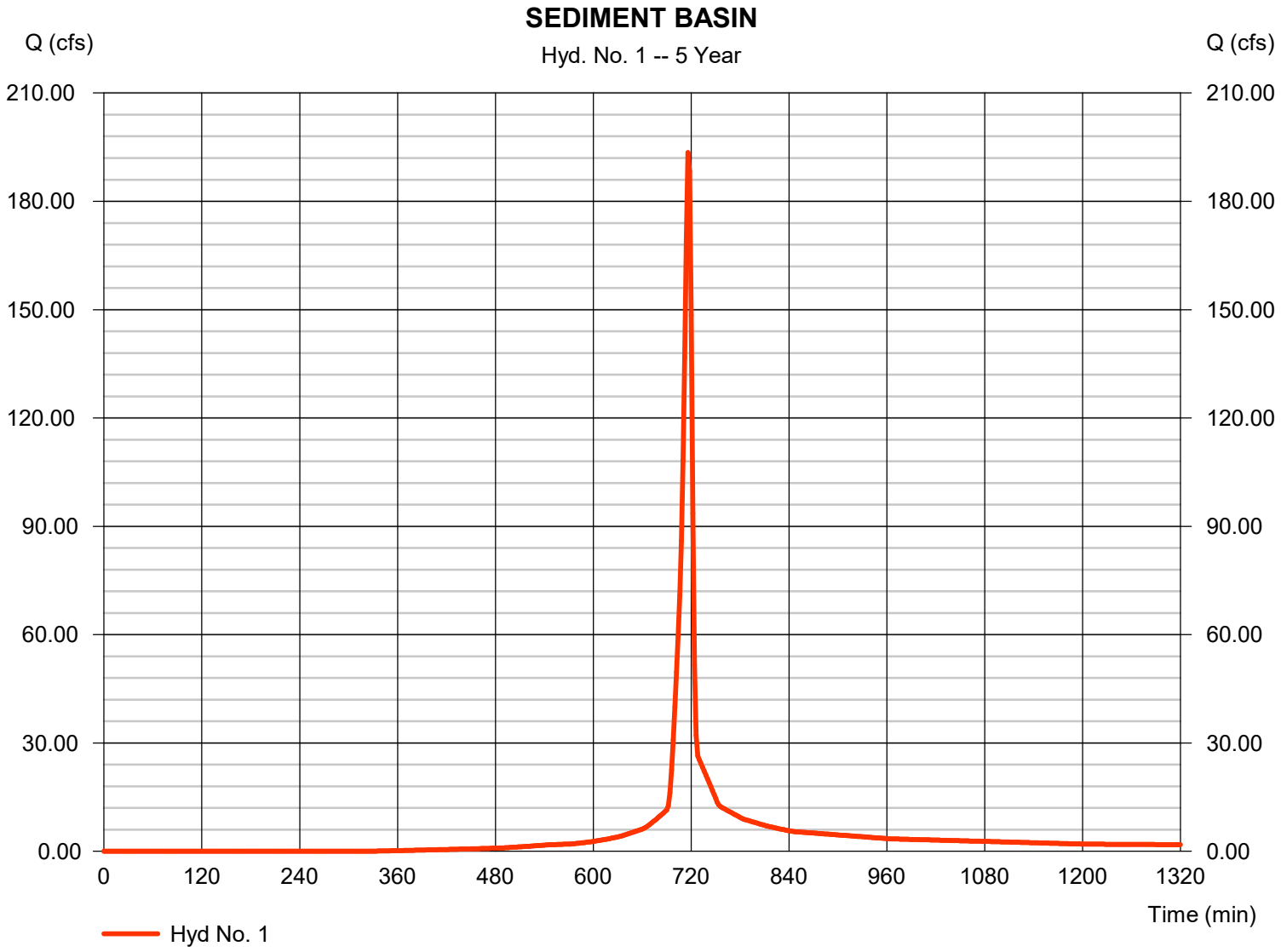
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	193.48	2	716	401,919	------	------	------	SEDIMENT BASIN
2	Reservoir	11.97	2	760	401,853	1	611.79	209,849	RESERVOIR

Hydrograph Report

Hyd. No. 1

SEDIMENT BASIN

Hydrograph type	= SCS Runoff	Peak discharge	= 193.48 cfs
Storm frequency	= 5 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 401,919 cuft
Drainage area	= 36.620 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 4.74 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



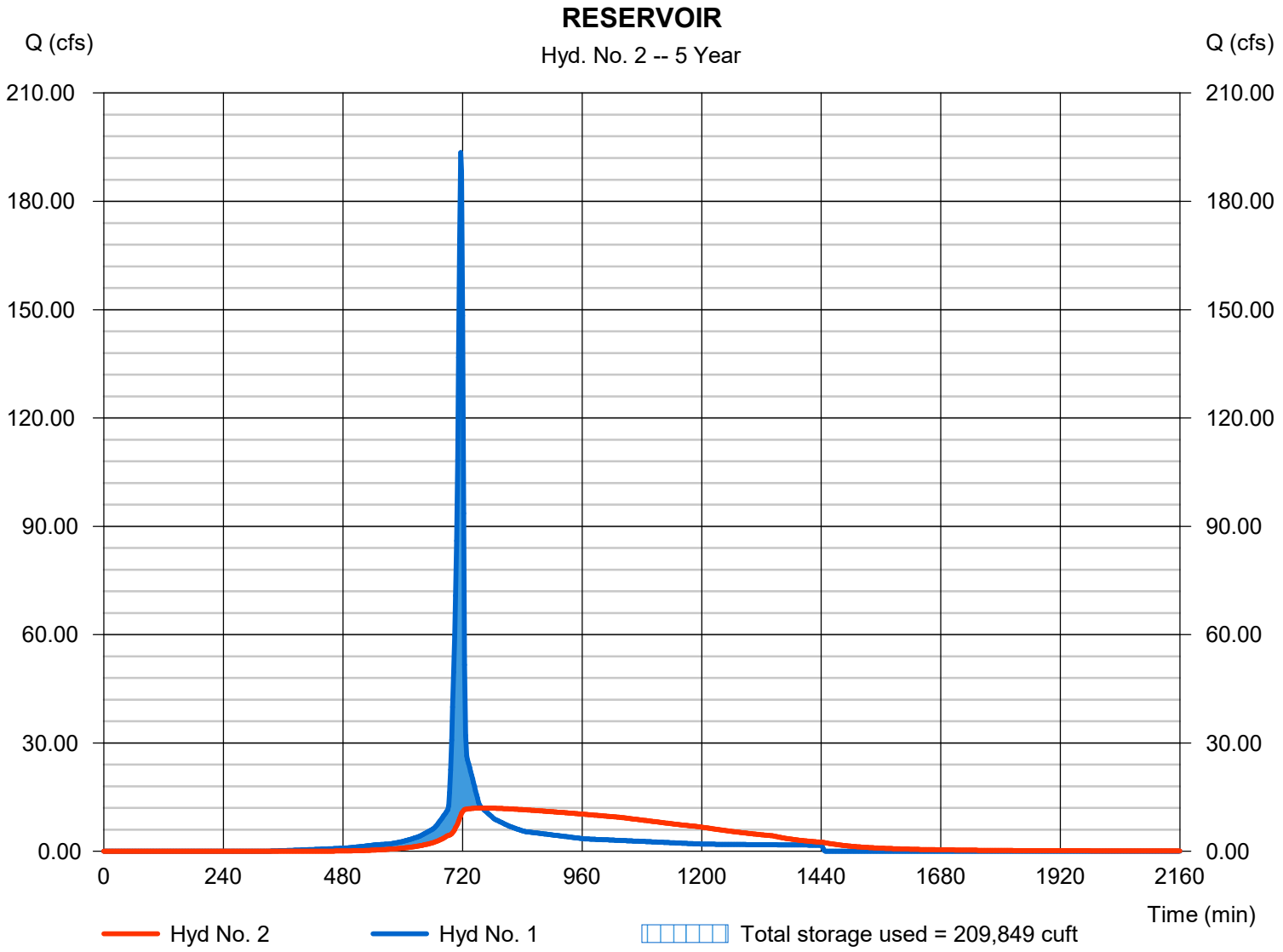
Hydrograph Report

Hyd. No. 2

RESERVOIR

Hydrograph type	=	Reservoir	Peak discharge	=	11.97 cfs
Storm frequency	=	5 yrs	Time to peak	=	760 min
Time interval	=	2 min	Hyd. volume	=	401,853 cuft
Inflow hyd. No.	=	1 - SEDIMENT BASIN	Max. Elevation	=	611.79 ft
Reservoir name	=	SEDIMENT BASIN	Max. Storage	=	209,849 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - SEDIMENT BASIN

Pond Data

Contours -User-defined contour areas. Average end area method used for volume calculation. Begining Elevation = 609.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	609.00	13,063	0	0
1.00	610.00	50,447	31,755	31,755
2.00	611.00	117,425	83,936	115,691
3.00	612.00	121,802	119,614	235,305
4.00	613.00	127,271	124,537	359,841
5.00	614.00	133,397	130,334	490,175
6.00	615.00	140,392	136,895	627,070
7.00	616.00	148,314	144,353	771,423

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	Inactive	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 609.00	0.00	0.00	0.00
Length (ft)	= 76.00	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

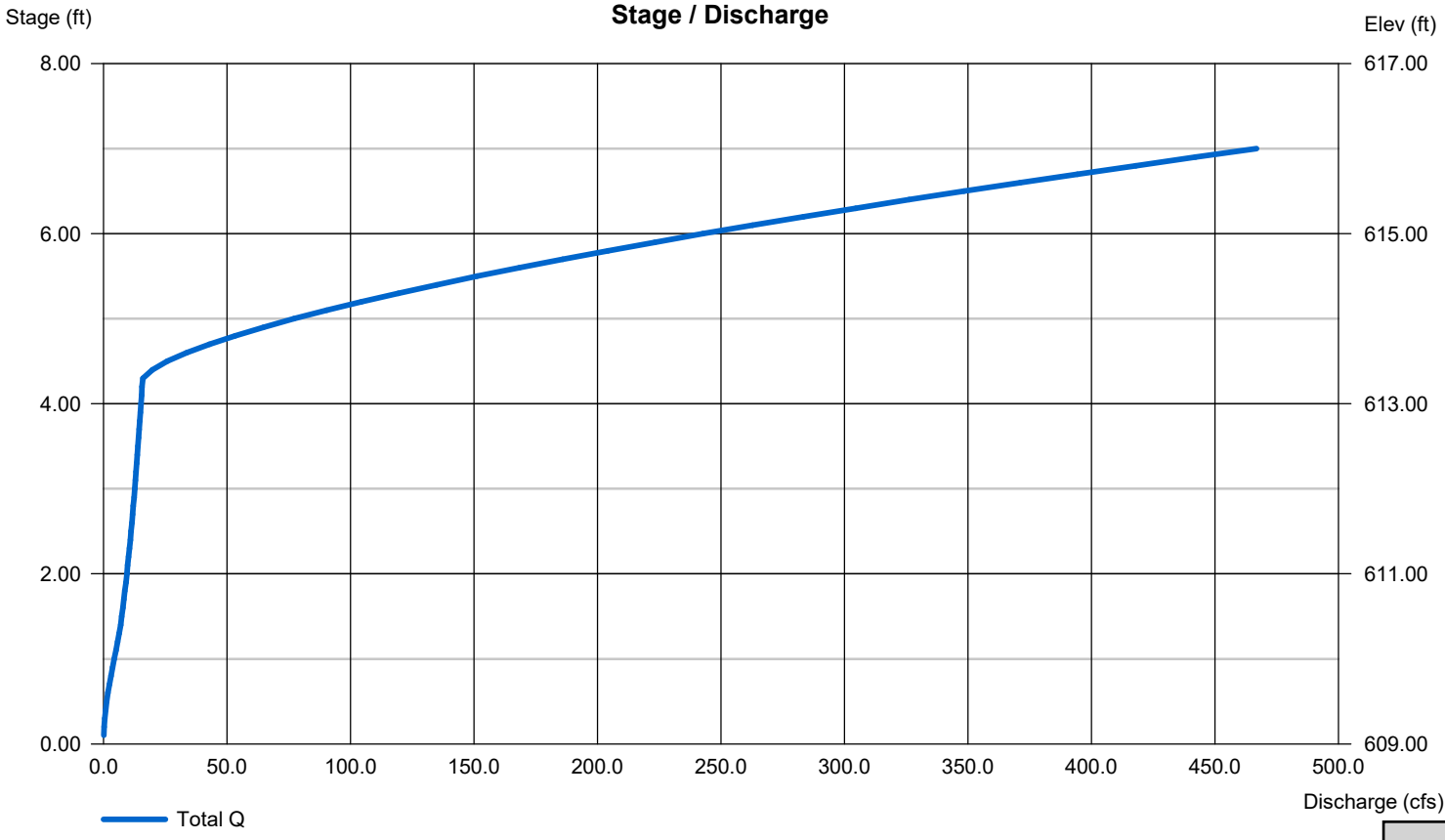
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 9.42	38.00	0.00	0.00
Crest El. (ft)	= 612.00	613.29	0.00	0.00
Weir Coeff.	= 3.33	2.63	3.33	3.33
Weir Type	= 1	Ciplti	---	---
Multi-Stage	= Yes	No	No	Yes

Exfil.(in/hr) = 0.000 (by Wet area)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

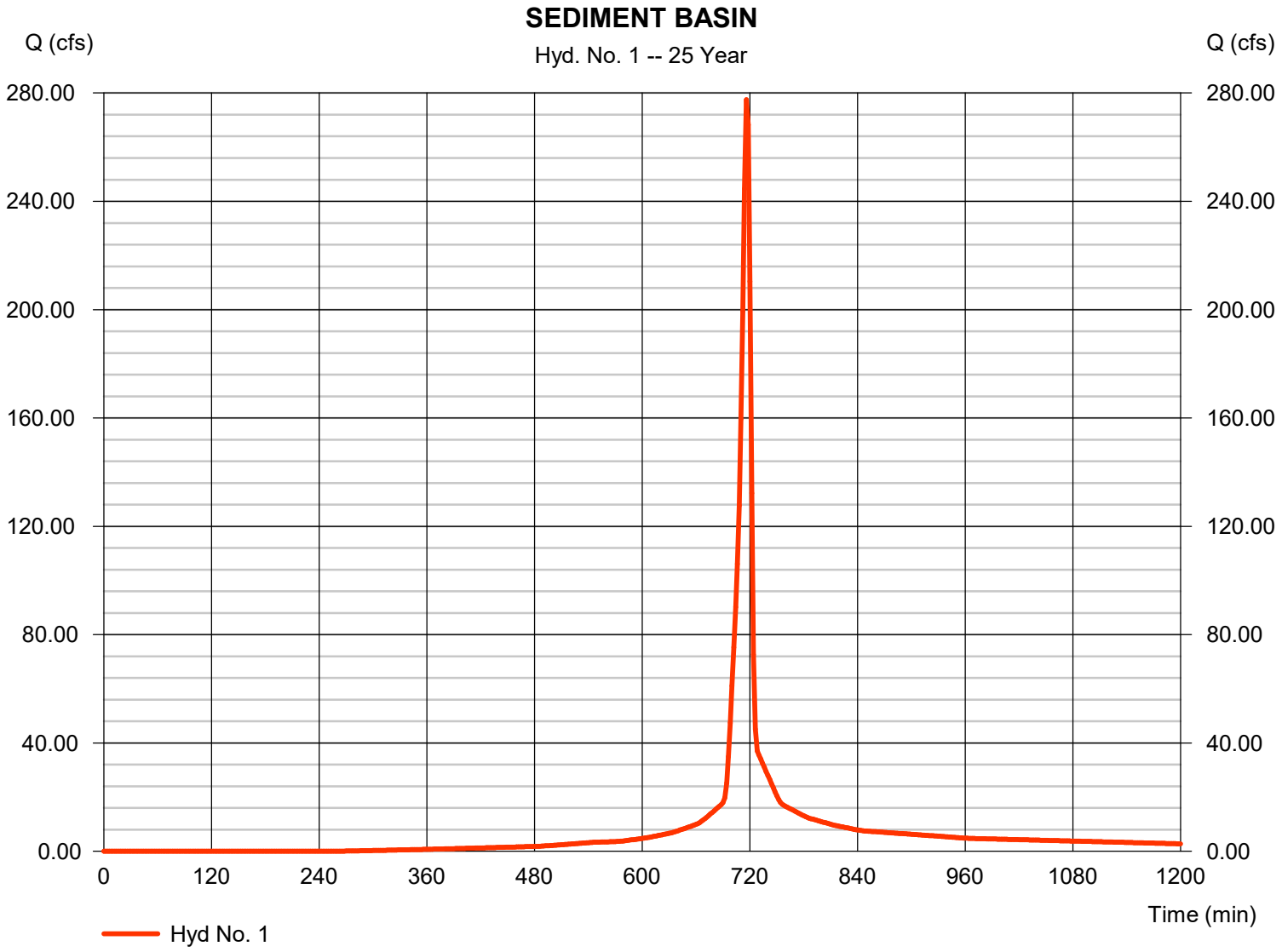
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	277.51	2	716	588,683	------	------	------	SEDIMENT BASIN
2	Reservoir	14.30	2	774	588,606	1	612.66	317,854	RESERVOIR

Hydrograph Report

Hyd. No. 1

SEDIMENT BASIN

Hydrograph type	= SCS Runoff	Peak discharge	= 277.51 cfs
Storm frequency	= 25 yrs	Time to peak	= 716 min
Time interval	= 2 min	Hyd. volume	= 588,683 cuft
Drainage area	= 36.620 ac	Curve number	= 86
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 5.00 min
Total precip.	= 6.33 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484



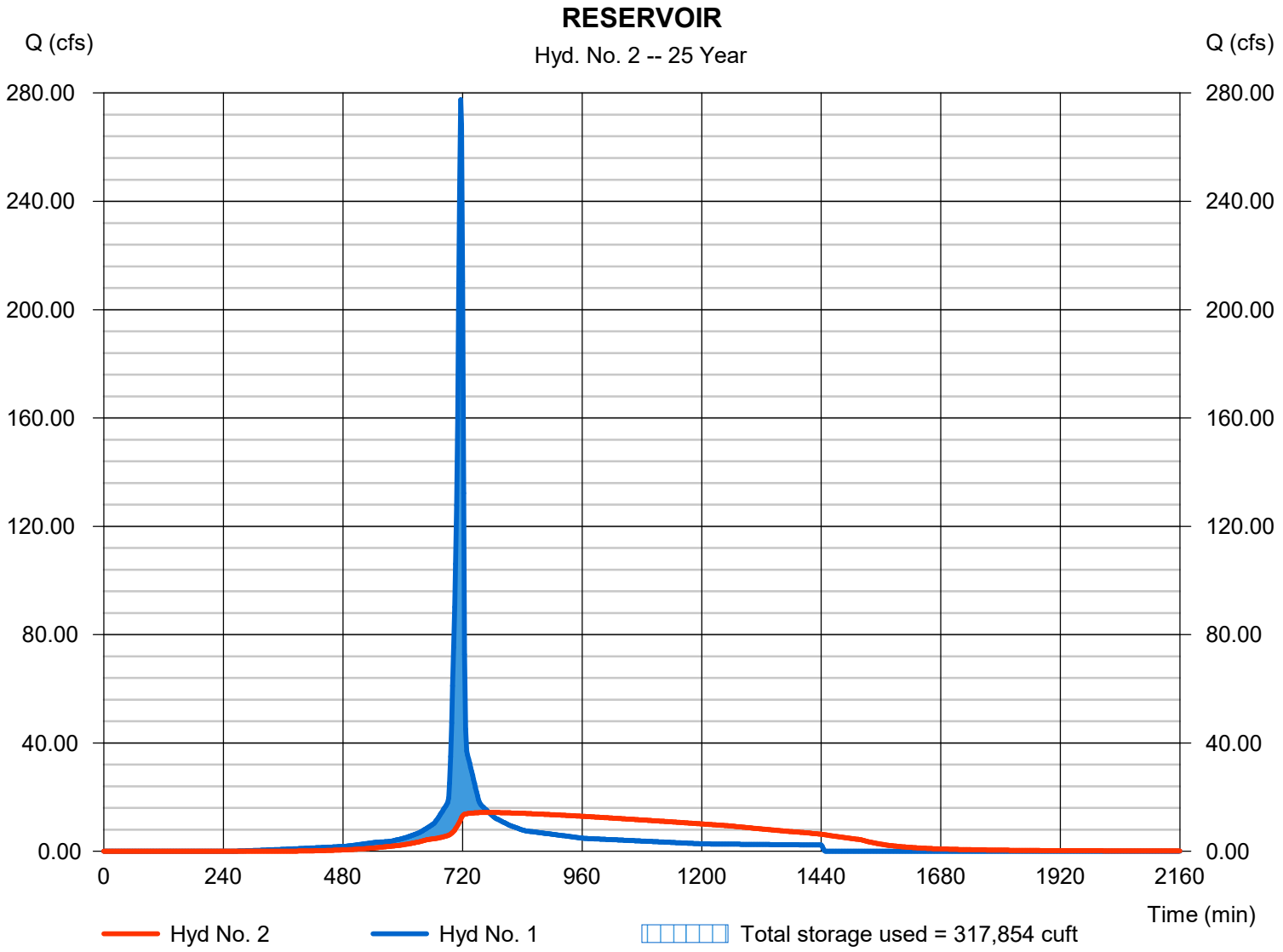
Hydrograph Report

Hyd. No. 2

RESERVOIR

Hydrograph type	=	Reservoir	Peak discharge	=	14.30 cfs
Storm frequency	=	25 yrs	Time to peak	=	774 min
Time interval	=	2 min	Hyd. volume	=	588,606 cuft
Inflow hyd. No.	=	1 - SEDIMENT BASIN	Max. Elevation	=	612.66 ft
Reservoir name	=	SEDIMENT BASIN	Max. Storage	=	317,854 cuft

Storage Indication method used.



Weir Report

Principal Spillway-Known Q

Rectangular Weir

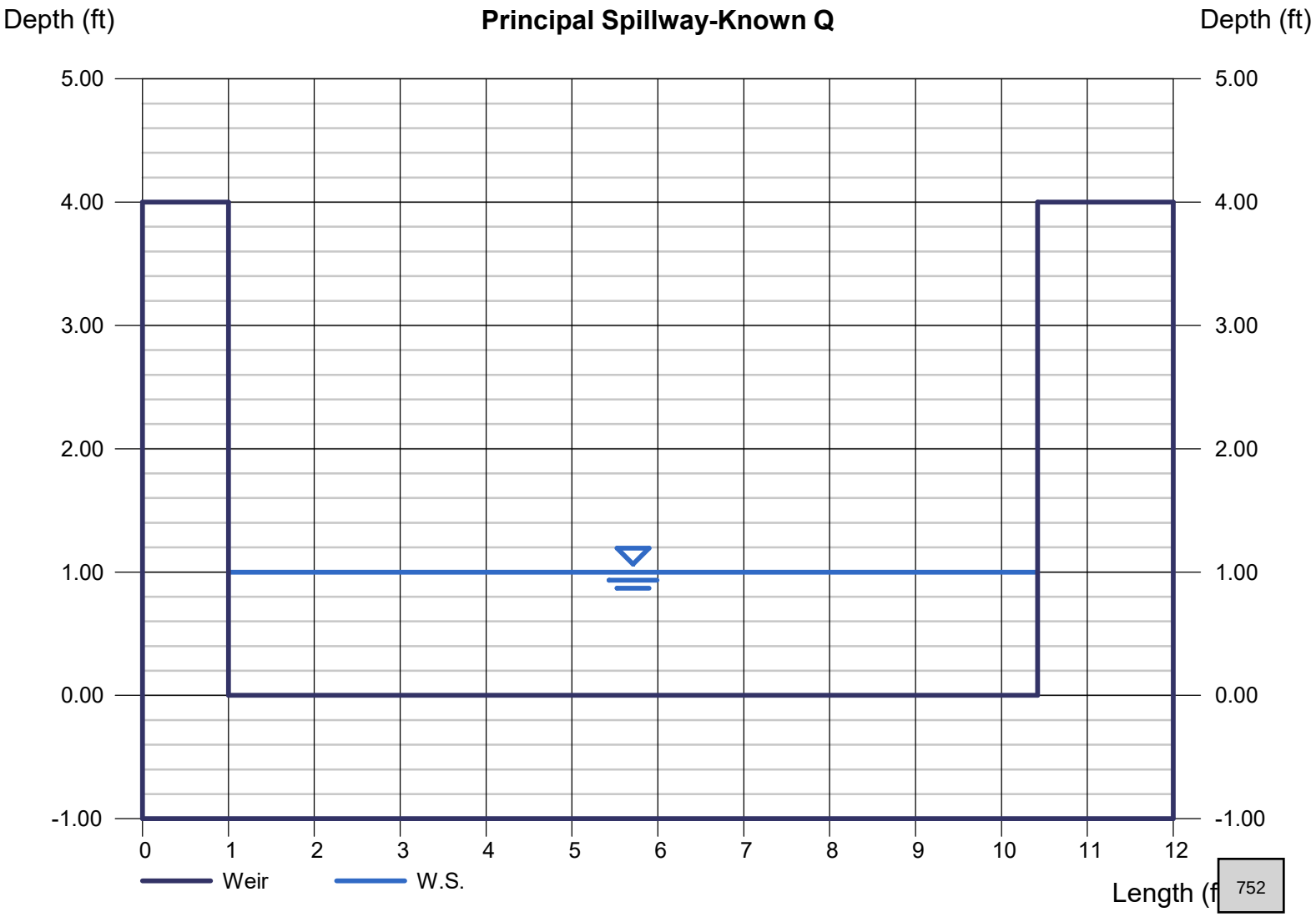
Crest	= Sharp
Bottom Length (ft)	= 9.42
Total Depth (ft)	= 4.00

Calculations

Weir Coeff. Cw	= 3.33
Compute by:	Q vs Depth
No. Increments	= 40

Highlighted

Depth (ft)	= 1.00
Q (cfs)	= 31.37
Area (sqft)	= 9.42
Velocity (ft/s)	= 3.33
Top Width (ft)	= 9.42



Weir Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Aug 5 2025

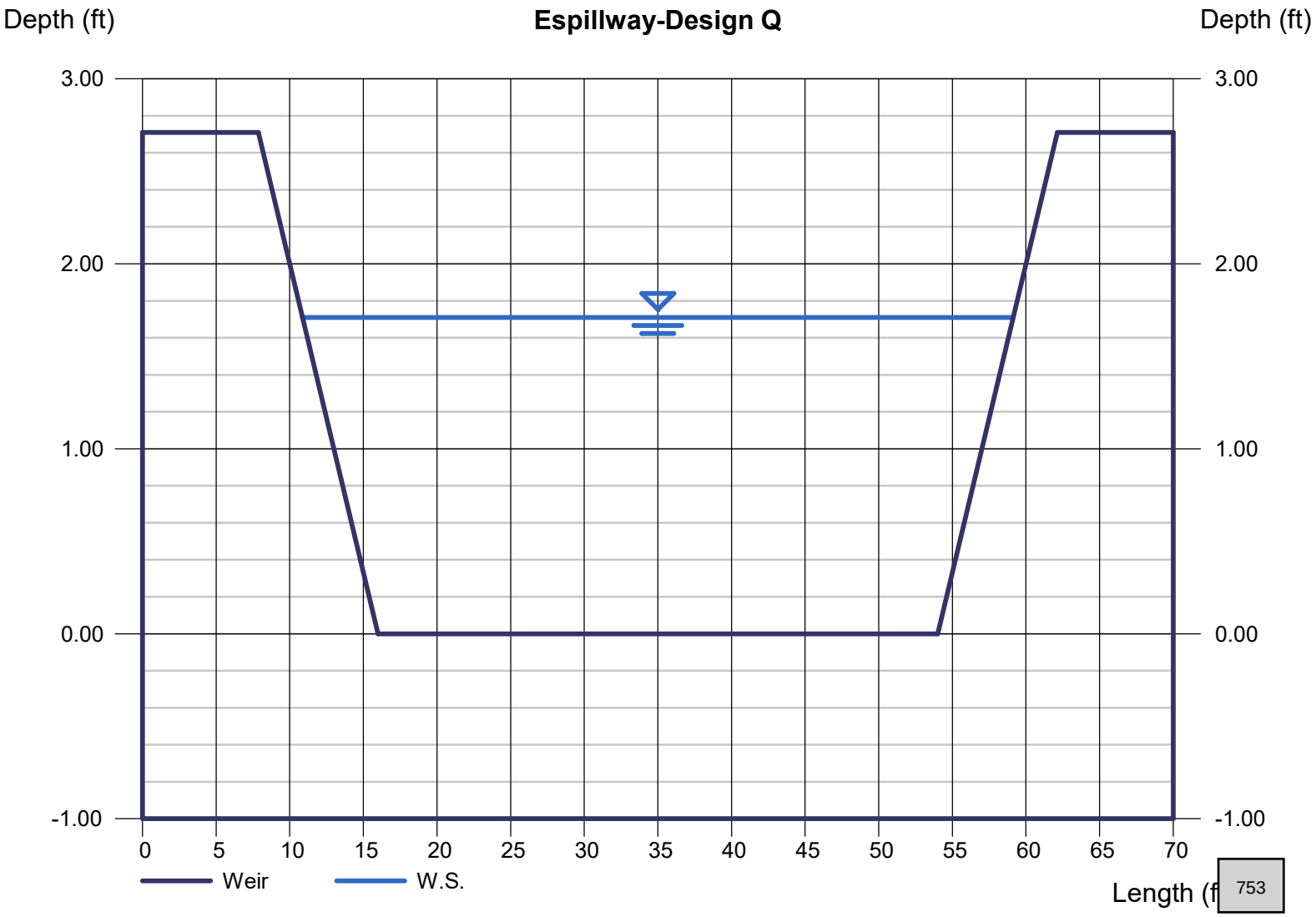
Espillway-Design Q

Trapezoidal Weir

Crest	= Sharp
Bottom Length (ft)	= 38.00
Total Depth (ft)	= 2.71
Side Slope (z:1)	= 3.00

Calculations

Weir Coeff. Cw	= 2.63
Compute by:	Known Q
Known Q (cfs)	= 246.14

Highlighted

Depth (ft)	= 1.71
Q (cfs)	= 246.14
Area (sqft)	= 73.75
Velocity (ft/s)	= 3.34
Top Width (ft)	= 48.26