Bryant Planning Commission Meeting

Boswell Municipal Complex - City Hall Court Room

210 SW 3rd Street

YouTube: https://www.youtube.com/c/bryantarkansas

Date: May 12, 2025 - **Time:** 6:00 PM

Call to Order

Approval of Minutes

1. Planning Commission Meeting Minutes 4/14/2025

- 2025-04-14 Planning Commission Minutes.pdf

Announcements

DRC Report

2. Collective Church - **Marketplace East Subdivision - Lot 4**

Richardson Engineering - Requesting Recommendation for Site Plan Approval - Ward 2 - RECOMMENDED APPROVAL, Contingent upon remaining items being met

3. Central Arkansas Truck Outfitters - 25633 I-30 - **Alternative Signage Plan**

Ace Sign Company - Requesting Recommendation for Approval of Alternative Signage Plan - RECOMMENDED APPROVAL

4. State Farm - 515 N Reynolds Road - **Non-standard Building**

Richardson Engineering - Requesting Approval for Non-standard Building - RECOMMENDED APPROVAL

5. Fleming Electric - 320 McClanahan Dr - **Site Addition**

Charlie Best - Requesting Approval for a New Driveway Connection - Ward 3 - APPROVED

- 0954-PLN-01.pdf
- 0954-PLN-02.pdf

6. Serenity Vapes - 6221 Hwy 5 Ste 2 - **Sign Permit**

Neonics Sign - Requesting Sign Permit Approval - STAFF APPROVED

- 93580-SGNAPP-01.pdf

7. Sparklight - 3519 Market Place Ave - **Sign Permit**

Teamwork Inc - Requesting Sign Permit Approval - STAFF APPROVED

- 93652-SGNAPP-01.pdf

8. Coldwell Banker RPM Group - 2531 Market Place Ste 400 - Sign Permit

L Graphics - Requesting Sign Permit Approval - STAFF APPROVED

- 93694-SGNAPP-01.pdf

Old Business

New Business

9. Collective Church - Marketplace East Subdivision - Lot 4

Richardson Engineering - Requesting Site Plan Approval - Ward 2

- 0949-PLN-04.pdf
- 0949-DRN-02.pdf
- 0949-SWP-01.pdf
- 0949-ELV-01.PNG
- 0949-ELV-02.PNG
- 0949-LTR-01.pdf

10. State Farm - 515 N Reynolds Road - Non-standard Building

Richardson Engineering - Requesting Approval for Non-standard Building

- 0956-WVR-01.pdf
- 0956-PLN-01.pdf

11. Central Arkansas Truck Outfitters - 25633 I-30 - Alternative Signage Plan

Ace Sign Company - Requesting Approval for Alternative Signage Plan

- 0955-PLN-01.pdf

Adjournments

Bryant Planning Commission Meeting Minutes

Monday, April 14, 2025
Boswell Municipal Complex – City Hall Courtroom
6:00 PM

Agenda

CALL TO ORDER

- Chairman Lance Penfield calls the meeting to order.
- Commissioners Present: Statton, Hooten, Penfield, Johnson, Thompson, Edwards, Erwin, Speed
- Commissioners Absent: None

APPROVAL OF MINUTES

1. **Planning Commission Meeting Minutes 3/10/2025**
2. **Special Planning Commission Meeting Minutes 3/24/2025**

Motion to Approve both sets of Minutes made by Commissioner Edwards, Seconded by Commissioner Hooten. Voice Vote, 8 Yays, 0 Nays.

ANNOUNCEMENTS

Item #7 under New Business has been Removed from the Agenda due to items still needing completion.

Vice-Chairman Hooten read the DRC Report.

DRC REPORT

3. **David's Burgers - 23140 I-30- Site Plan Additions**
   Ryan Rooney - Requesting Approval for New Site Plan Additions - APPROVED, Contingent upon life safety plan being approved by permitting.

4. **Grant Plaza - 5401 Hwy 5, Ste 2-4- Site Addition**
   BJ Grant - Requesting Approval for Site Addition for Daycare Playground - APPROVED, Contingent upon showing 20ft access esmt from North to the manhole and exit gate on playground.

5. **5095 Hwy 5 - Site Plan Addition- New Driveway**
   Brian Dale - Requesting Site Plan Approval for New Driveway onto Sunset Meadows Dr - APPROVED, Contingent upon remaining comments being addressed including specifications on driveway.

6. **Midland Estates Phase 1- Final Plat**
   Hope Consulting - Requesting Recommendation for Final Plat Approval - RECOMMENDED APPROVAL, Contingent upon addressing remaining comments, submitting updated plans, and on site items being finished by end of day Friday 4/11.

NEW BUSINESS

7. ~~**Midland Estates Phase 1- Final Plat**~~ **- ITEM REMOVED FROM AGENDA**

   ~~*Hope Consulting - Requesting Final Plat Approval*~~

ADJOURNMENT

Motion to Adjourn made by Commissioner Edwards, Seconded by Vice-Chairman Hooten. Voice Vote, 8 Yays, 0 nays. Meeting was adjourned.

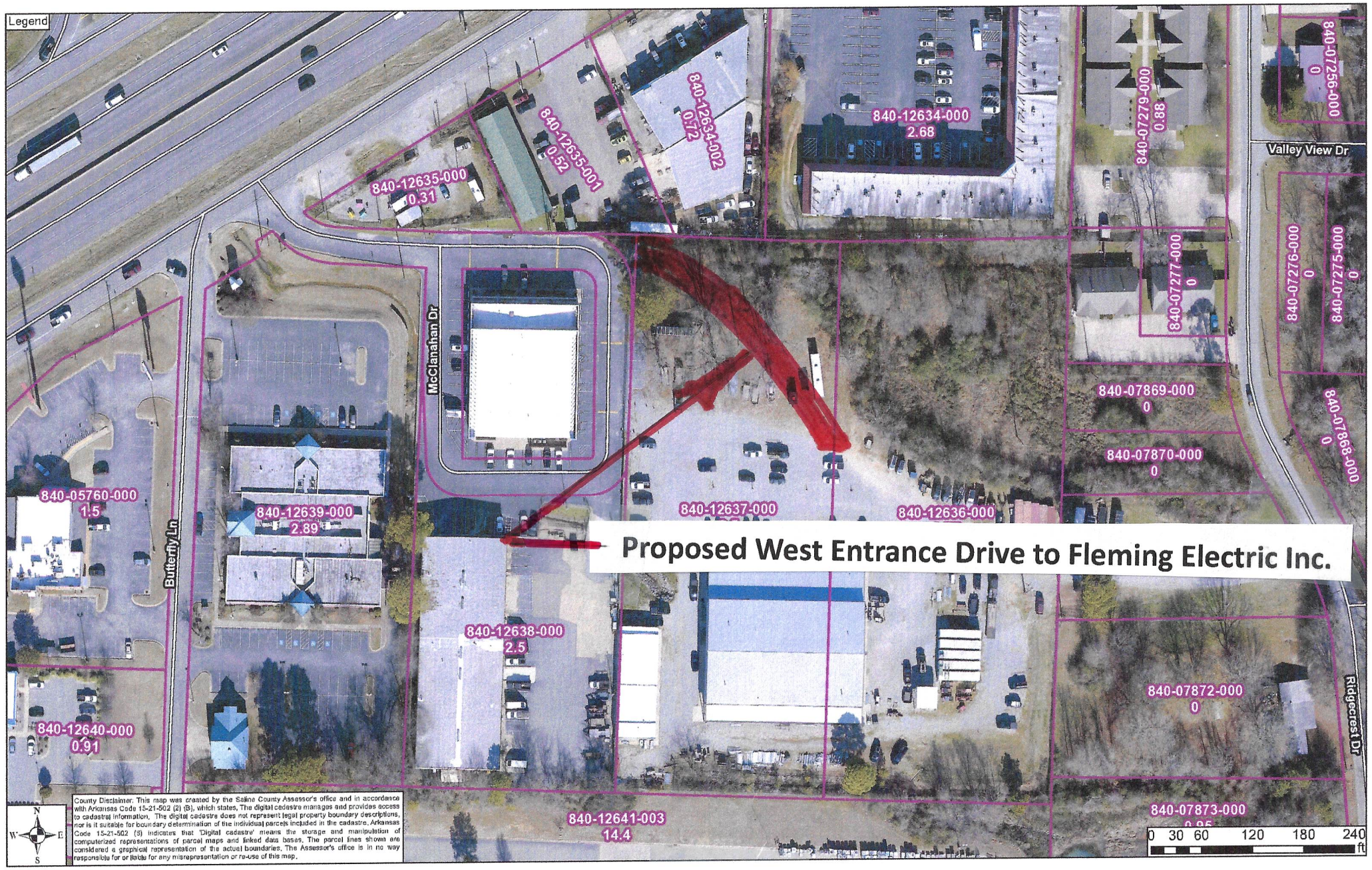
_____ _____

Chairman, Lance Penfield *Date*

_____ _____

Secretary, Colton Leonard *Date*

(Acting Secretary for This Meeting)



Vicinity Map

HURRICANE VALLEY INC.

Professional Engineering Consultants

P.O. Box 118
Bryant, Arkansas 501-231-5136

Fleming Electric Inc.

West Entrance Drive

212 McClanahan
Bryant, Arkansas

HVI Job No. 16141	SCALE: N.T.S.	Date: 4-10-25	1/2

840-12635-001
0.52

840-12634-002
0.72

840-12634-000
2.68

30' Access Easement to I-30 Service Road

Proposed West Entrance Drive to Fleming Electric Inc.

Drainage

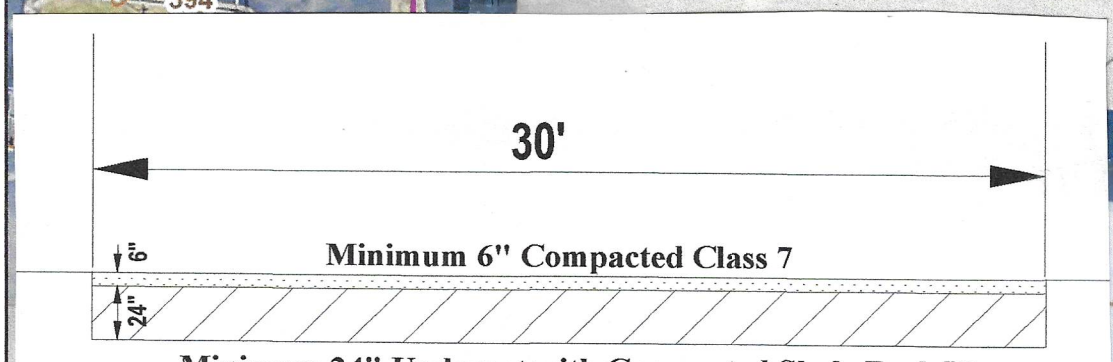
Drainage

Drainage

McClanahan Dr

N

Note: Existing storm water detention is provided by the existing storm water basin located south of office building.



Typical Drive Cross-section

840-12636-000
2.75

840-12638-000
2.5

Fleming Electric Inc. Office

212 McClanahan Drive

Existing Detention Basin

County Disclaimer: This map was created by the Saline County Assessor's office ar with Arkansas Code 15-21-502 (2) (B), which states, The digital cadastre manages and to cadastral information. The digital cadastre does not represent legal property bound nor is it suitable for boundary determination of the individual parcels included in the ca Code 15-21-502 (6) indicates that 'Digital cadastre' means the storage and computerized representations of parcel maps and linked data bases. The parcel considered a graphical representation of the actual boundaries. The Assessor's off responsible for or liable for any misrepresentation or re-use of this map.

HURRICANE VALLEY INC.

Professional Engineering Consultants

P.O. Box 118
Bryant, Arkansas 501-231-5136

Fleming Electric Inc.

West Entrance Drive

212 McClanahan
Bryant, Arkansas

HVI Job No. 16141	SCALE: N.T.S.	Date: 4-10-25	2/2

City of Bryant, Arkansas
Community Development
210 SW 3rd Street Bryant, AR 72022
501-943-0943

SIGN PERMIT APPLICATION

Applicants are advised to read the Sign Ordinance prior to completing and signing this form. The Sign Ordinance is available at www.cityofbryant.com under the Planning and Community Development tab.

Note: Electrical Permits may be Required, Please contact the Community Development Office for more information.

Date: 3-16-25

Sign Co. or Sign Owner

Name Neonics Sign.
Address 2201 Custer Rd
City, State, Zip Hensley Ar 72065
Phone 501-425-9965
Email Address neonicssign@aol.com

Property Owner

Name Long Truong
Address 7914 Worth Avenue East
City, State, Zip Benton Ar 72019
Phone 501-860-8526
Email Address longtruong24@yahoo.com

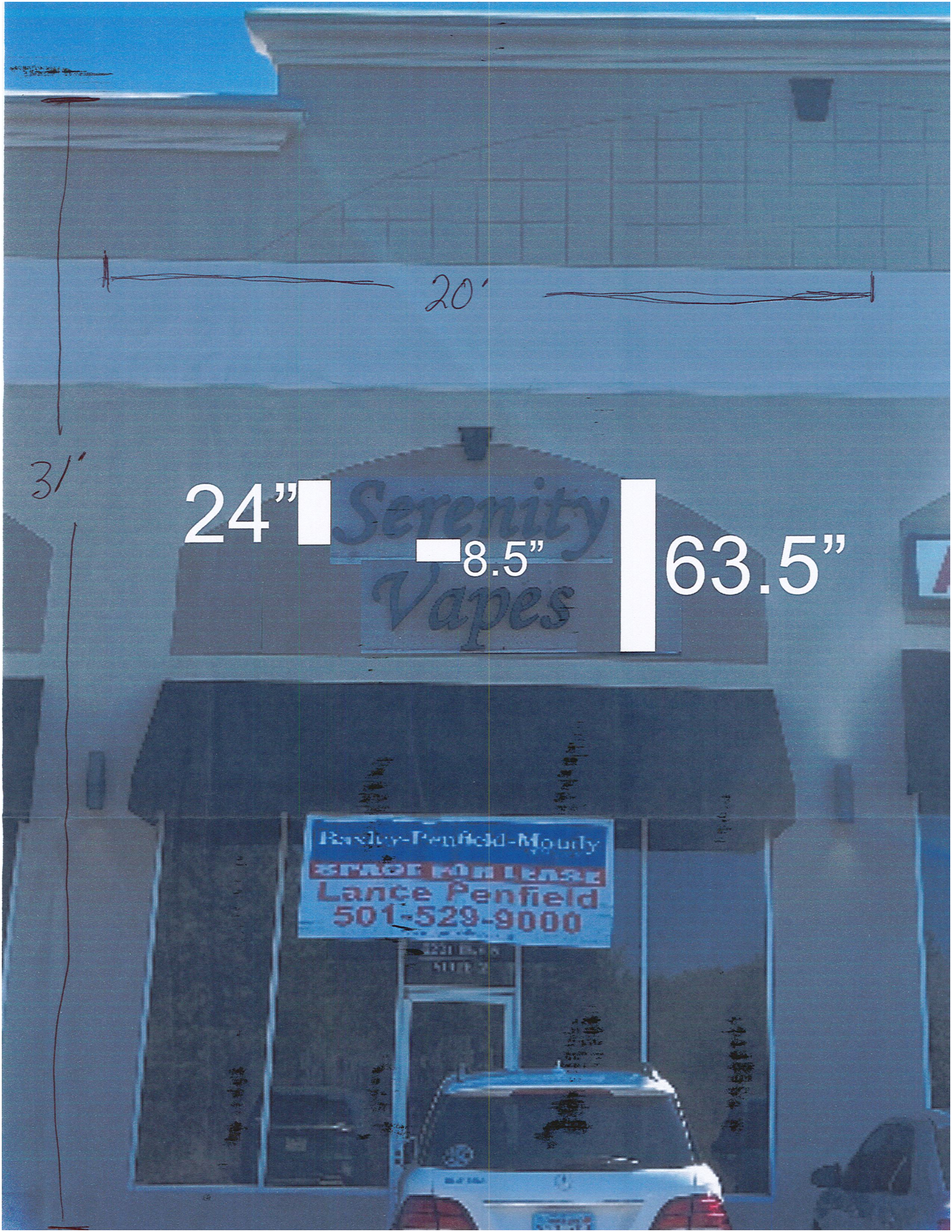
GENERAL INFORMATION

Name of Business Serenity Vapes
Address/Location of sign 6221 Hwy 5 Suite 2, Bryant AR
Zoning Classification _____

Please use following page to provide details on the signs requesting approval. Along with information provided on this application, **a Site Plan showing placement of sign(s) and any existing sign(s) on the property is required** to be submitted**. Renderings of the sign(s) showing the correct dimensions is also required** to be submitted with the application. A thirty-five dollar ($35) per sign payment will be collected at the time of permit issuance. According to the Sign Ordinance a fee for and sign variance or special sign permit request shall be one hundred dollars ($100). Additional documentation may be required by Sign Administrator.

READ CAREFULLY BEFORE SIGNING

I _____, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand


20'
31'
24"
8.5"
63.5"
Serenity
Vapes
Lance Penfield
501-529-9000

Certificate of Persons Conducting Business Under an Assumed Name

FILED
2024 JUL 31 AM 9:11
BRIAN HARRISON
COUNTY & CIRCUIT CLERK
GRANT COUNTY, AR

I (We) do hereby certify that I am (we are) or intend to operate a business under the following assumed or designated name:

Name of Business: Neonics Sign + Neon HC

Business Address: 2201 Guster Rd Hensley Ar

Telephone Number: 501-425-9965

And I (we) certify that the true and full name(s) of the person(s) with an interest in the conduction or transaction of business under this name is (are) as follows:

Name: Nick Huckaby

Mailing Address: 2201 Guster Rd Hensley Ar 72065

Name: _____

Mailing Address: _____

This certificate being executed in compliance with the provisions of **Act 11 of 1943 (A.C.A. 4-70-203 et. Seq.)**

Signature: [signature] Date: 7-31-24

Signature _____ Date: _____

ACKNOWLEDGEMENT

State of Arkansas
County of Grant

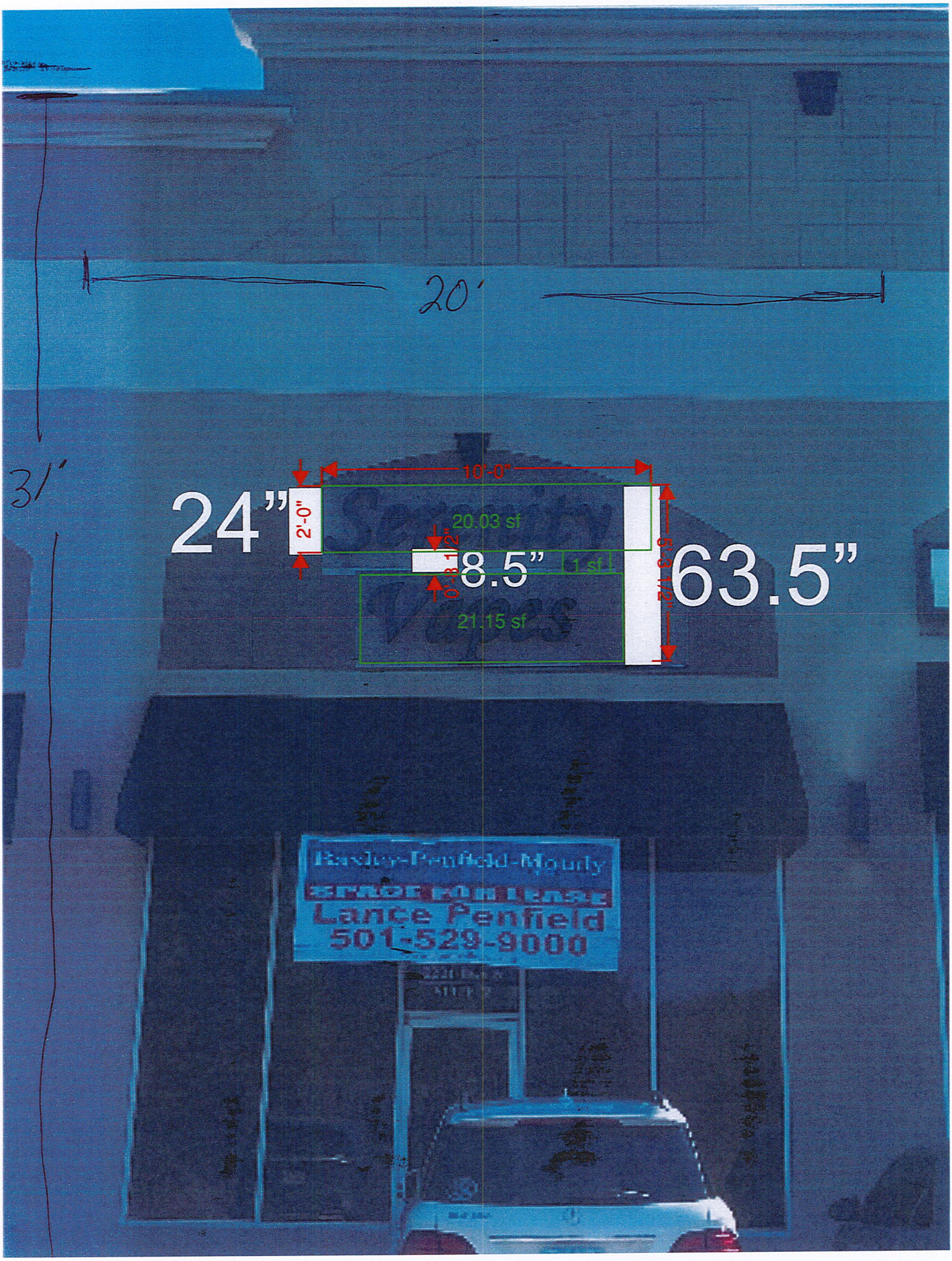
On this 31 *day of* July, 2024, *before me, the undersigned officer, personally appeared,* Nick Huckaba, *known to me (or satisfactorily executed the same in the capacity therein stated and for purposes therein contained. Subscribed and sworn to before me this* 31 *day of* July, 2024.

HEATHER CLARK
NOTARY PUBLIC - STATE OF ARKANSAS
GRANT COUNTY
COMM. #12722237 EXP. FEBRUARY 10, 2033
(Seal)

Heather Clark
NOTARY PUBLIC


Untitled Map
Write a description for your map.
Legend
6221 AR-5
6221 AR-5
Serenity Vapes
Copper & Salt Salon
Central Arkansas Inflatables
Google Earth
Image Landsat / Copernicus
60 ft
N


Untitled Map
Write a description for your map.
Legend
6221 AR-5
Elegant Creations
EVENT VENUE
ANGEL
NAILS
Key'D
LOCKSMITH
All-in Vapors
Google Earth
© 2025 Google
5.91 ft
N


20'
31'
24"
10'-0"
2'-0"
20.03 sf
1'-2"
8.5"
1 sf
0'-8 1/2"
63.5"
5'-3 1/2"
21.15 sf
Penfield-Mundy
Lance Penfield
501-529-9000

City of Bryant, Arkansas
Community Development
210 SW 3rd Street Bryant, AR 72022
501-943-0943

SIGN PERMIT APPLICATION

Applicants are advised to read the Sign Ordinance prior to completing and signing this form. The Sign Ordinance is available at www.cityofbryant.com under the Planning and Community Development tab.

Note: Electrical Permits may be Required, Please contact the Community Development Office for more information.

Date: 4/9/2025

Sign Co. or Sign Owner -Installer

Name Teamwork, Inc
Address 23 Norfolk Ave
City, State, Zip South Easton, MA 02375
Phone 774-568-5438
Alternate Phone Adam- applicant
608-407-9084
adam@permit.com

Property Owner

Name Bryant Realty Company LLC
Address 422 N Main St
City, State, Zip Benton, AR 72015
Phone _____
Alternate Phone _____

GENERAL INFORMATION

Name of Business Sparklight
Address/Location of sign 3519 Market Place Ave space #600 Bryant, AR 72022
Zoning Classification C-2

Please use following page to provide details on the signs requesting approval. Along with information provided on this application, **a Site Plan showing placement of sign(s) and any existing sign(s) on the property is required** to be submitted**. Renderings of the sign(s) showing the correct dimensions is also required** to be submitted with the application. A thirty-five dollar ($35) per sign payment will be collected at the time of permit issuance. According to the Sign Ordinance a fee for and sign variance or special sign permit request shall be one hundred dollars ($100). Additional documentation may be required by Sign Administrator.

READ CAREFULLY BEFORE SIGNING

I Adam Kerian, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand

that no sign may be placed in public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Use table below to enter information regarding each sign for approval. Please use each letter to reference each sign rendering.

SIGN	**Type** (Façade, Pole, Monument, other)	**Dimensions** (Height, Length, Width)	**Sqft** (Measured in whole as rectangle)	**Height of Sign** (Measured from lot surface)		Column for Admin Certifying Approval
				Top of Sign	Bottom of Sign	
A	Facade	37.3"x144"x4"	37.2	16'	12'7"	
B						
C						
E						
F						
G						


3519 Market Pl Ave #600
Jeffrey J

EXISTING



1 Color white Sparklight sign
Sign size of 144" X 37.3" Backlight Pan Channel

PROPOSED



EXISTING



ASB
American
Solutions for Business
PRINT | PROMOTIONAL | FULFILLMENT

3519 Market Place Ave
#600,
Bryant, AR 72022

Mike Kahler
602-579-3454
MKahler@americanbus.com

Existing Window/Door Measurments



ASB
American
Solutions for Business
PRINT | PROMOTIONAL | FULFILLMENT

3519 Market Place Ave
#600,
Bryant, AR 72022

Mike Kahler
602-579-3454
MKahler@americanbus.com

ORDER# **7039102**	PO/REF#: 07822-424	VERSION 1	12/13/2024	2866978

ORDER NEEDS APPROVAL

Please reply with Approval or Changes. Order will not be Produced until Approval is received.

HR14



***Dash insert:** 2447 Trans. White insert with vinyl to match PMS 7675C

***Sparklight insert:** Perforated insert painted PMS Cool Gray 11C backed with 2447 Trans. White insert

RETURN DEPTH & MATERIAL: 4"d FabSTL/FaceLit
FACE FINISH: 5687 White SATIN Painted
RETURN FINISH: Same
BACKS: RECESS Removable Ptnd Stl Bk
INSIDE CANS: Inside Cans NOT Painted
SPACERS: None
MOUNTING: RC2-Remov Can w/Studs
PATTERN: Yes

CUSTOM CUTOUT: Cutout Face Flat (No returns)
OUTLINE: Stnd 1/2"Outline
INSERT: See notes
INSERT GLUED: Yes

Lead Wire Hole - Middle of Ltrs
LED CABLE Leads - 120" long
COLOR: White LEDs
Exterior-WEEP Holes Required
UL LISTED: Outside cans on TOP
POWER SUPPLY: Standard Class 2

Jordan Merrick | Jordan.Merrick@GeminiMade.com | 1-800-538-8377 ext 1920

Sparklight-Face Lit

FRONT VIEW - lights on



Lights off



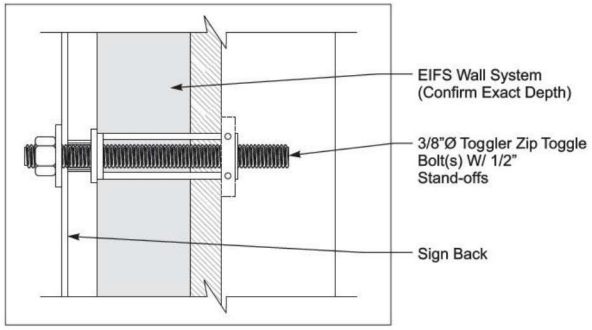
Backside view



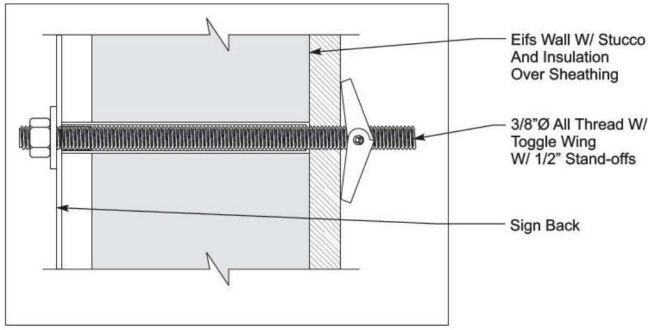
Lights On



VERSION 2 8-14-2024



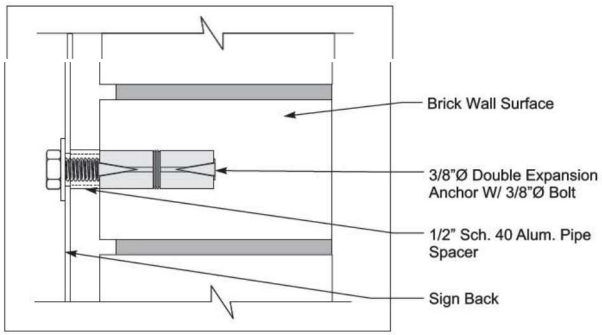
FASTENER DETAIL - STUDDED WALL SYSTEM
SCALE: NTS



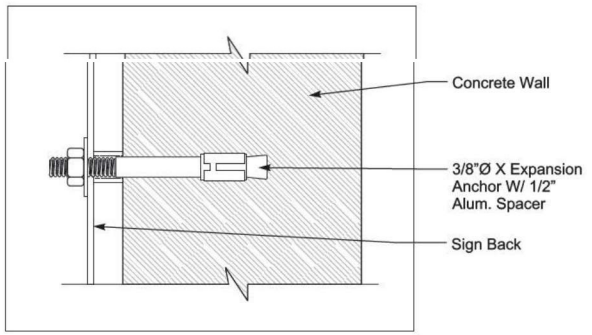
FASTENER DETAIL - STUDDED WALL SYSTEM
SCALE: NTS

INSTALLATION DIAGRAMS
SHOWN ARE CHANNEL
LETTER SPECIFIC ONLY

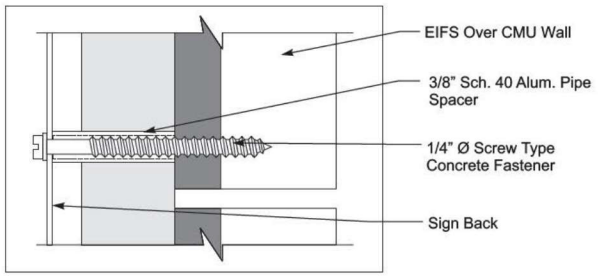
HARDWARE INSTALLATION
TO FOLLOW MANUFACTURERS
SPECIFIC GUIDELINES



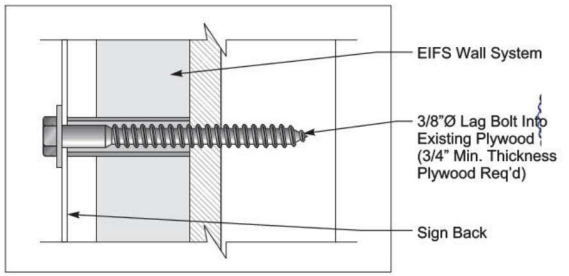
FASTENER DETAIL - CONCRETE/BRICK/CMU
SCALE: NTS



FASTENER DETAIL - CONCRETE
SCALE: NTS



FASTENER DETAIL - CONCRETE/BRICK/CMU
SCALE: NTS



FASTENER DETAIL - WOOD FASCIA/WOOD BLOCKING
SCALE: NTS

Note: This sign is intended to be installed in accordance with the requirements of Article 600 of the NFPA 2017 National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

Engineers Connection Note:
- All fasteners must be installed per/manufacturer's Tech Guide.
- Contact Murdoch Engineering for revision if field conditions vary.

Prepared For:
Sparklight®

Sign Type:
Reverse Pan
Channel

Sales Rep:
Mike Kahler
American Solutions
for Business

GEMINI

WIRING INSTRUCTIONS

Fabricated Metal - Lit with LEDs - **60 WATT**

Warnings in English & French for Canada

F10-ULAB-A2
Rev. 11/21/22
S. Carnesi





Customer Installation/Tips/Troubleshooting Guide

Enclosed is your Fabricated lit letter/logo order.
Each individual letter/logo has been custom designed and manufactured to provide a consistent Lumen output.

Components Used

All letters/logos have been manufactured using only UL Listed and/or Recognized components.
Gemini's UL EFILE #E319118 - UL & CSA approved.

LEDs (letters) to Power Supply Connections

It is recommended that all electrical connections be performed by a licensed electrical contractor.
Each letter/logo is equipped with LEDs and a 2 or 3-conductor cable. If 3 conductor is supplied it is not necessary to connect the 3rd wire to the letter (white wire).
Maximum 5.0 amps, at 12VDC, to LEDs.

Standard wire connections from letter cable wires to power supply:

Power Supply (to LEDS)	Letters	
White (+)	RED coated 18AWG wire (+)	NOTE: this may be WHITE for 2-conductor supplied cable
Black (-)	BLACK coated 18AWG wire (-)	
	WHITE Coated 18 AWG wire - Ground (not required)	

When Class 2 wiring circuits pass through any wall, NEC code requires use of a conduit, or a UL Certified Class 2 cable.
When these circuits run through concealed spaces, such as a drop ceilings, many codes require use of Plenum rated cable.
Grounding of the letter on the Class 2 side is not necessary.

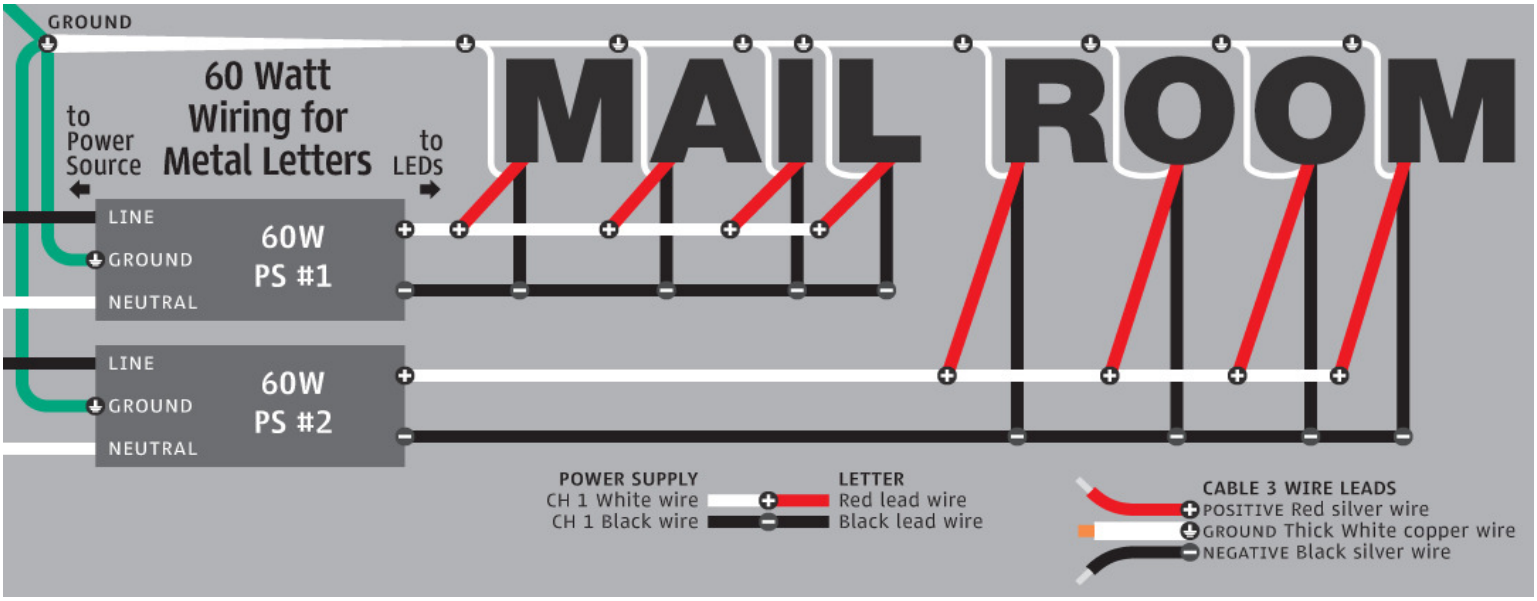
Power Supply (PS) to Power Source Connection

Power Supplies provided are Class 2, 12VDC output, wet location rated, max. 277VAC input.
Do NOT mount power supply directly into letters. Amperage ratings are listed on the power supply labels.
It is recommended that lead cables not exceed 10 feet long, for proper LED performance.
Each 60 watt power supply has 3 wires for input from power source.
Black is the LINE, White is NEUTRAL, and green is the GROUND.
Connect power supply to appropriate sized breaker or power cord, in accordance with National Electric Code (NEC), Article 600, UL 48 and all local electric codes. All field wiring shall be 14 AWG stranded wire.
All orders will be supplied with a wiring diagram that details letter groupings to Power Supply channels.

Power Supply Wiring - Example

"MAIL" are powered by power supply #1.
"ROOM" are powered by power supply #2.

Caution: Plugging LEDs direct into 110VAC will destroy them.
Use ONLY Class 2,12VDC power supplies



Notes:

LED Modules

LED modules have been secured to letter backs with double faced tape. Every other module has been further secured with a plastic support blocks. Should you need to reposition any LED modules, break off the support block with pliers, reposition module and re-tape module. Then secure with silicone on sides and wires.

Grounding on the Class 2 side (Letter side) is not required

Backs

All LED lit components are supplied with required weep (drain) holes in the drops of each letter back, per UL requirements.

Weep holes are supplied to allow moisture or water to escape, as these units are not sealed.

Some install situations may require installers to further seal lit components, or field install additional weep holes - as needed.

Letter Stand-Off

Halo lit letters are designed to stand-off the mounting surface by using studs and spacers.

Adjusting the spacer length or stand-off from the wall will effect the halo lighting effect.

Typical stand-offs for optimal halo lighting is around 1-1/2" from the mounting surface.

Mounting Surface

When Halo (back) lighting, it is best to install on a non-glossy, lighter colored mounting surfaces.

Dark, Glossy backgrounds will absorb the LED light and will not produce a desirable halo effect.

LED Troubleshooting Guide

Caution: Plugging LEDs direct into 110V will destroy them.
Use ONLY Class 2 Power Supplies

Blinking LEDs:

Blinking LEDs: Too many LEDs connected to a given power supply.

Reduce the number of letters or modules attached to your power supply.

LEDs in one or more letters will not light:

LEDs will not light: Too many LED modules are connected to a given power supply.

Reduce the number of letters or modules attached to your power supply.

Check letter connections. Make sure lead cables are properly wired to power supply line.

Make sure all wires are connected per wiring diagram.

Reduce length of lead cables to 10ft. Maximum lengths.

Check AC input connection and/or check circuit breaker.

One LED module is Dark (not lit):

You may have a bad module. Check lighting of letter with face covered to determine impact of one dark LED.

If the face is too dark or visible shadows exist, additional LEDs may have to be added to the letter.

I see light shadows:

Insure that all modules are secured to the Lexan backs.

If a module has come loose, press it back down and secure with additional DF tape and/or silicone.

Some LEDs appear dim:

Ensure that the overall length of the LED system does not exceed the maximum load.

Ensure that the length of supply wire is equal to or below the recommended remote distance.

Ensure that only 50 modules are connected to any one power supply channel.

Electrical Contractor Required

WARNINGS!

It is recommended that all electrical connections be performed by a licensed electrical contractor.

Always follow proper OSHA LOTO (Lockout/Tagout) and NEC practices and procedures.

RISK OF ELECTRIC SHOCK:

Turn power **OFF** before inspection, installation or removal.

• Properly ground any Power Supply enclosures.

• Shut off power at fuse box or circuit breaker before install.

Prepare Electrical Wiring *(Electrical Requirements)*

RISK OF FIRE:

• Use only UL approved supply wires.
Field wiring must be min.14 AWG stranded wire.

• Follow all NEC and Local Electrical Codes.

• Use only UL approved wire for input connection. Minimum size 1.02mm

• The grounding and bonding of the LED Driver shall be done in accordance with NEC Article 600.

Always understand and follow all National Electric Codes (NEC) and local electrical codes.

Entrepreneur en électricité AVERTISSEMENTS obligatoires!

Il est recommandé que toutes les connexions électriques doivent être faites par un maître électricien.

Toujours suivre OSHA LOTO (verrouillage/étiquetage) et NEC pratiques et procédures appropriées.

RISQUE DE CHOC ÉLECTRIQUE : RISQUES D'INCENDIE :

Coupez l'alimentation avant l'inspection, l'installation ou la suppression.

• Utilisez uniquement UL approuvé fils d'alimentation,

• Terre correctement tous les boîtiers alimentation minimum de 18 AWG.

• Coupez l'alimentation de la boîte à fusible ou le disjoncteur avant d'installer.

• Suivez toutes NEC et les codes électriques locaux.

• Utilisez uniquement UL fil pour l'entrée approuvé

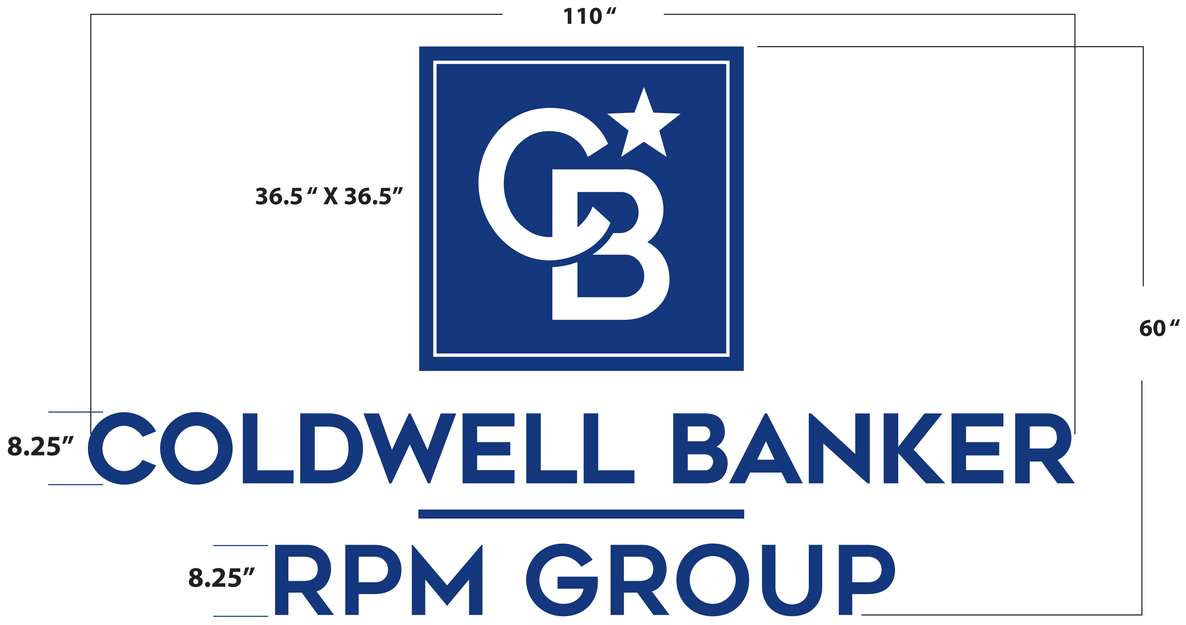
Préparer le câblage électrique (Spécifications électriques) de connexion. Taille minimale 1,02 mm

• La mise à la terre et la liaison du conducteur de LED doivent être effectués en conformité avec l'article NEC 600.

Toujours comprendre et suivre toutes les codes NEC (National Electric) et les codes électriques locaux.

Toutes les alimentations doivent être classé endroit humide, classe 2 avec UL lettres.

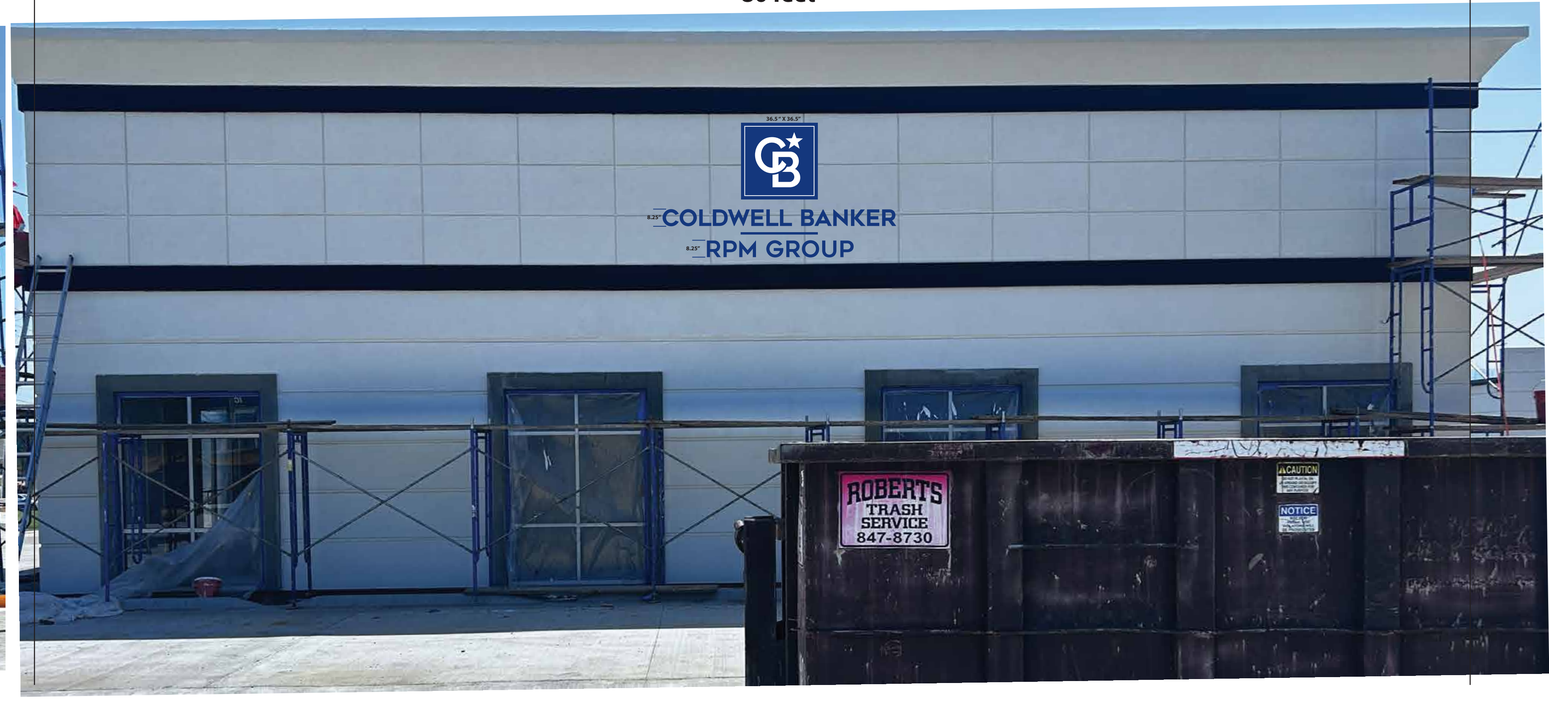
Reversed channel letter (white LED halo)
Coldwell Banker Blue
CMYK : 100/ 85/ 5/ 22
RGB: 1/ 33/ 105
#012169
PMS 280 C



42 feet



80 feet



DETAILED PLANS:

COLLECTIVE CHURCH

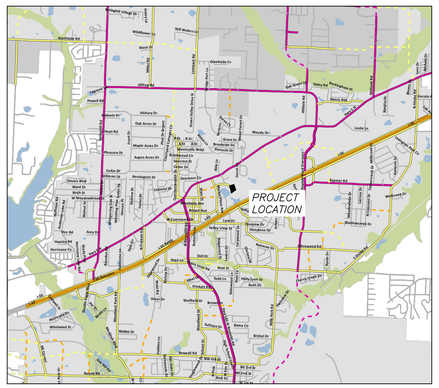
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

LEGAL DESCRIPTION

LOT 4, MARKETPLACE EAST SUBDIVISION
TO THE CITY OF BRYANT, ARKANSAS

4/3/2025 REV: 5/6/2025

VICINITY MAP
1" = 2000'



Prepared By:

RICHARDSON ENGINEERING
Planning ▪ Engineering ▪ Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

PREPARED FOR:

COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 21954
TRISTIN SCOTT PHILLIPS

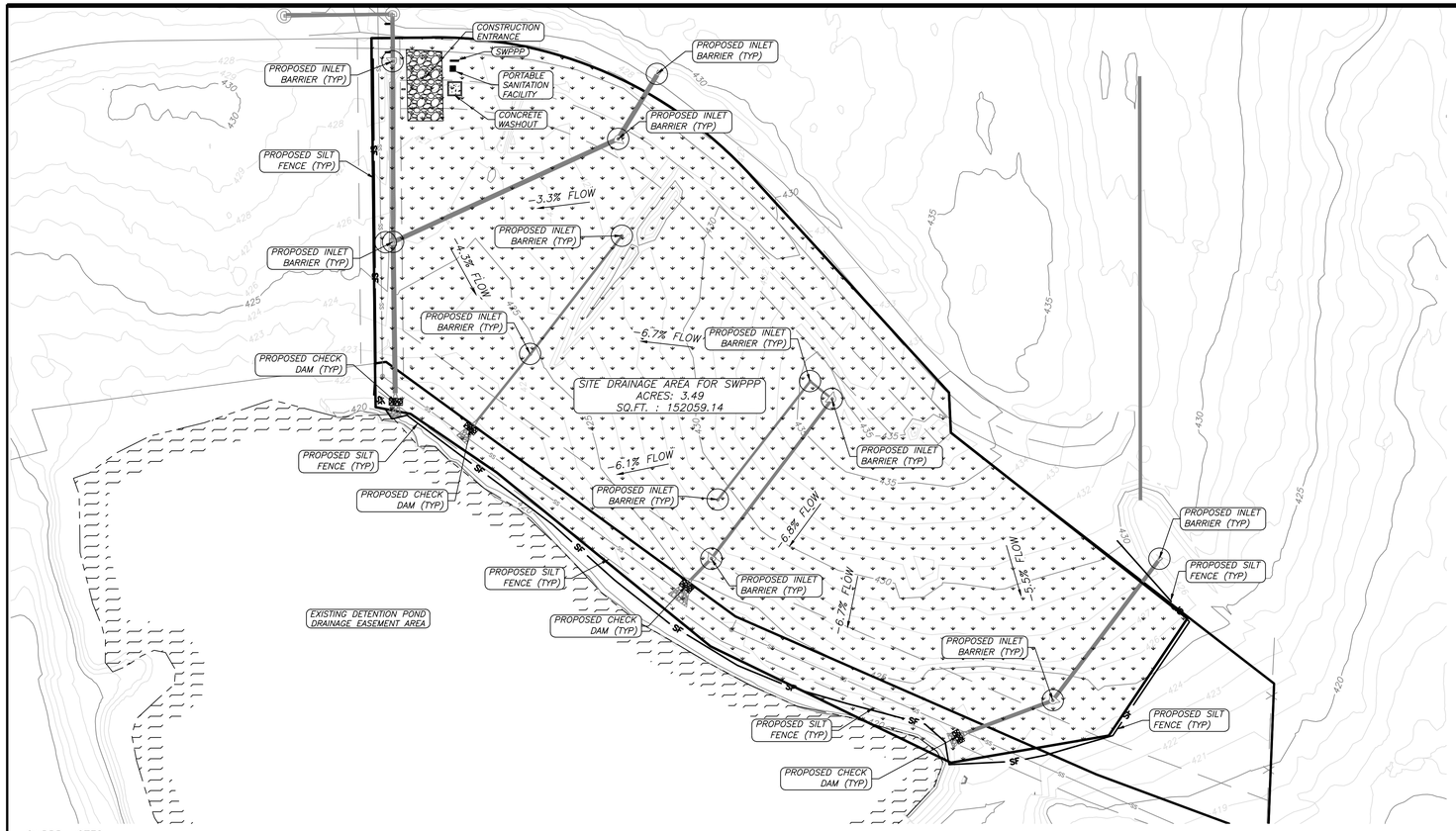
PRE-CONSTRUCTION COPY -

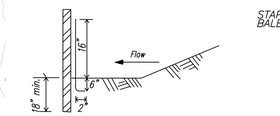
PLANS FOR BIDDING PURPOSES. QUANTITIES TO BE VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR TO VERIFY GRADES WITH ENGINEER PRIOR TO CONSTRUCTION.

	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

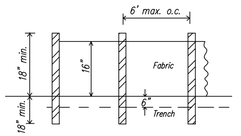
INDEX OF SHEETS

COVER SHEET	1
SWPPP	2
DEMOLITION PLAN	3
SITE PLAN	4
SITE DIMENSION PLANS	5-6
GRADING PLANS	7-8
UTILITY PLAN	9
DETAILS	10-12
LANDSCAPE PLAN	13





SIDE VIEW

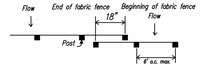


FRONT VIEW

NOTE:
Use wood or steel posts

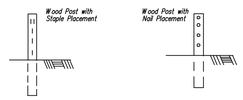
SF-A SILT FENCE (TYPE A)
NTS

* **ALL SILT FENCE SHALL BE WIRE REINFORCED.**



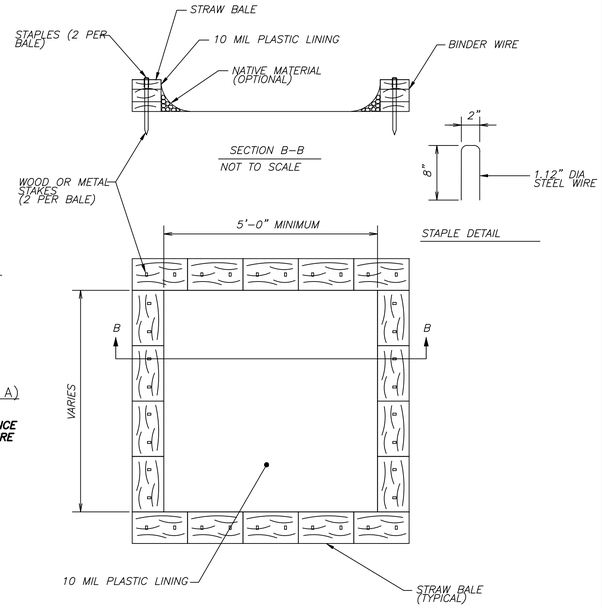
TOP VIEW – (Not to scale)

OVERLAP AT FABRIC ENDS



FRONT VIEWS

FASTENERS FOR SILT FENCES



SECTION B–B
NOT TO SCALE

STAPLE DETAIL

CONCRETE WASHOUT
NOT TO SCALE

<u>SWPPP NOTES:</u>

1.) DEVELOPMENT SHALL ADHERE TO CITY OF BRYANT AND ADEQ STORMWATER REQUIREMENTS.
2.) SEDIMENT BARRIERS SHALL BE CONSTRUCTED AT EACH INLET UNTIL GRADING IS COMPLETE AND TOP SOIL IS STABILIZED.
3.) A SILT FENCE AND STRAW BALE DIKE SHALL BE PLACED AT POTENTIAL LOCATIONS OF HEAVY EROSION.
4.) TEMPORARY STRAW BALE DIKES ARE TO BE CONSTRUCTED NOT TO POND WATER ON ADJACENT PROPERTY.
5.) ROCK DIKE CHECK DAMS TO BE CONSTRUCTED TO MEET ADEQ REQUIREMENTS WHEN USED IN LIEU OF STRAW BALE DIKES.
6.) ALL TEMPORARY EROSION CONTROLS SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION IS COMPLETE AND PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
7.) ONE OF THE FOLLOWING GROUND COVER METHODS SHALL BE USED AT AREAS OF CLEARING OTHER THAN FUTURE PAVEMENT SURFACES.

STRAW OR HAY–LOOSE	2.0 TONS/ACRE
STRAW OR HAY–TIED, ANCHORED, OR TACKED	1.5 TONS/ACRE

8.) SOIL EXPOSED FOR MORE THAN 14 DAYS WITH NO CONSTRUCTION ACTIVITY SHALL BE SEEDED OR REEMITTED.
9.) CONSTRUCTION ENTRANCES/EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF MUD ON TO PUBLIC RIGHT–OF–WAY.
10.) ADDITIONAL EROSION CONTROL MEASURES TO BE EMPLOYED WHERE NECESSARY BY SITE CONDITIONS.
11.) CONTRACTOR SHALL USE "BEST MANAGEMENT PRACTICES" (BMP'S) WHEN IMPLEMENTING AND MAINTAINING SEDIMENT AND RUN–OFF CONTROLS.

<u>GENERAL EROSION CONTROL NOTES</u>

1. THE LOCATION OF KNOWN SURFACE & SUBSURFACE STRUCTURES, PIPE, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INFORMATION AND SATISFYING THEMSELVES AS TO THE LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN. ALL REPAIRS OR RELOCATIONS NECESSARY SHALL BE MADE AS REQUIRED BY THE OWNER OF THE UTILITY OR STRUCTURE. THE COST OF SUCH REPAIRS OR RELOCATIONS NECESSARY SHALL BE BORNE BY THE CONTRACTOR.

2. ALL STREETS, DRIVES, WALKS, DRAINAGE STRUCTURES, FENCES, ETC. THAT ARE DISTURBED SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION USING LIKE MATERIALS. COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR UNLESS PROVISION FOR PAYMENT IS MADE IN THE PROPOSAL.

3. EROSION CONTROL DEVICES SHALL BE INSTALLED AS THE PROJECT PROGRESSES AND AREAS ARE DISTURBED.

4. THE CONTRACTOR IS REQUIRED TO NOTIFY THE ONE CALL CENTER AT 1–800–482–8998 48 HOURS PRIOR TO DIGGING IN ORDER THAT UNDERGROUND UTILITIES IN THE AREA CAN BE LOCATED.

5. ALL INLETS ON AND ADJACENT TO THE SITE SHALL BE PROTECTED FROM SEDIMENT.

6. STORM WATER CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 7 DAYS.

7. ALL EROSION CONTROL DEVICES ARE TO BE MAINTAINED IN GOOD WORKING CONDITION THROUGHOUT THE DURATION OF THIS PROJECT AND UNTIL PERMANENT VEGETATION IS ESTABLISHED. ALL SEDIMENT TRAPS ARE TO BE CLEANED AS REQUIRED.

8. ALL DISTURBED AREAS LEFT IDLE FOR A PERIOD OF 14 DAYS OR LONGER ARE TO RECEIVE TEMPORARY VEGETATION AND MULCHED.

9. REMOVE EROSION CONTROL DEVICES AFTER PERMANENT VEGETATION IS ESTABLISHED.

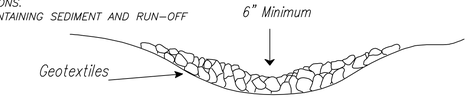
10. DEVELOPMENT SHALL ADHERE TO CITY OF BENTON AND ADEQ STORM WATER REQUIREMENTS.

11. ADDITIONAL EROSION CONTROL MEASURES TO BE EMPLOYED WHERE NECESSARY BY SITE CONDITIONS.

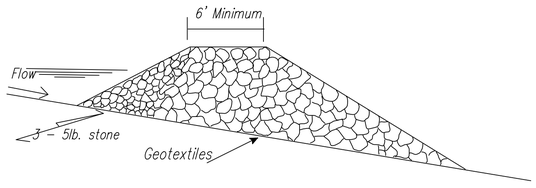
12. CONTRACTOR TO COMPLY WITH ALL OSHA SAFETY REQUIREMENTS.

EXISTING CONTOURS

SF PROPOSED SILT FENCE

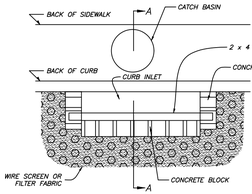


NOTE: Sediment Trap is to be cleaned out when volume becomes half full.

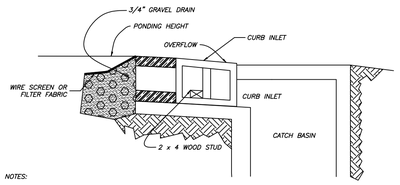


NOTES:
1. FOR USE IN SMALL CHANNELS WITH DRAINAGE AREAS OF 50 ACRES OR LESS.
2. MUST BE USED IN CONJUNCTION WITH OTHER APPROPRIATE SEDIMENT CONTROL MEASURES.
3. USE BELOW CULVERT INSTALLATIONS, DAM CONSTRUCTION, OR ANY PROJECT THAT MAY INVOLVE GRADING ACTIVITY DIRECTLY IN A STREAM.
4. NOT INTENDED TO SUBSTANTIALLY IMPOUND WATER.
5. USE AT THE UPSTREAM END OF PONDS OR LAKES.
6. EDGES SHOULD NOT BE HIGHER THAN THE CHANNEL BANKS.
7. CENTER SHOULD BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES OF THE DAM AT THE CHANNEL BANKS.
8. HEIGHT SHOULD NOT EXCEED ELEVATION OF UPSTREAM PROPERTY LINE.
9. SIDE SLOPES SHOULD BE 2:1 OR FLATTER.
10. TOP WIDTH SHOULD BE GREATER THAN 6 FEET.
11. EXTEND COMPLETELY ACROSS THE CHANNEL AND SECURELY TIE INTO BOTH CHANNEL BANKS
12. REQUIRES PERIODIC INSPECTION AND MAINTENANCE.
13. SEDIMENT REMOVED WHEN IT REACHES ONE–HALF OF THE ORIGINAL DAM HEIGHT

ROCK DAM
NOT TO SCALE



PLAN VIEW



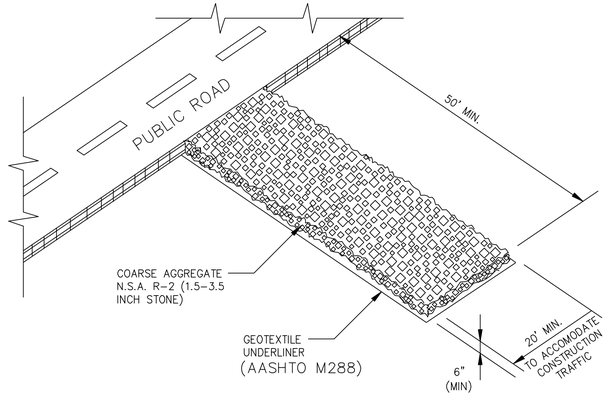
NOTES:
1.) USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2.) BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3.) INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

SECTION A – A

CURB INLET SEDIMENT BARRIER

GRAPHIC SCALE
50 0 50 100 150
(IN FEET)
1 inch = 50 ft.

1. LOCATE STONE STABILIZED PAD AT ANY POINT WHERE VEHICULAR TRAFFIC WILL BE LEAVING THE CONSTRUCTION SITE ONTO A PUBLIC RIGHT–OF–WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA OR ANY OTHER AREA WHERE THERE IS A TRANSITION FROM BARE SOIL TO A PAVED AREA.
2. WIDTH – 20'–0 MINIMUM BUT NOT LESS THAN FULL WIDTH OF ALL POINTS OF VEHICULAR EGRESS. LENGTH – 50'–0 MINUMUM
3. MAINTAIN THE EXIT TO PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS– OF–WAY. PROVIDE PERIODIC TOP DRESSING WITH 1.5 – 3.5" STONE, AS CONDITIONS DEMAND. IMMEDIATELY REMOVE ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO ROADWAY OR INTO STORM DRAINS. CLEAN WHEELS AND TIRES TO REMOVE MUD PRIOR TO ENTRANCE ON TO PUBLIC RIGHTS–OF–WAY.
4. WHEN WASHING IS REQUIRED, DO SO ON AREAS STABILIZED WITH CRUSHED STONE DRAINING INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.



CONSTRUCTION EXIT
NOT TO SCALE

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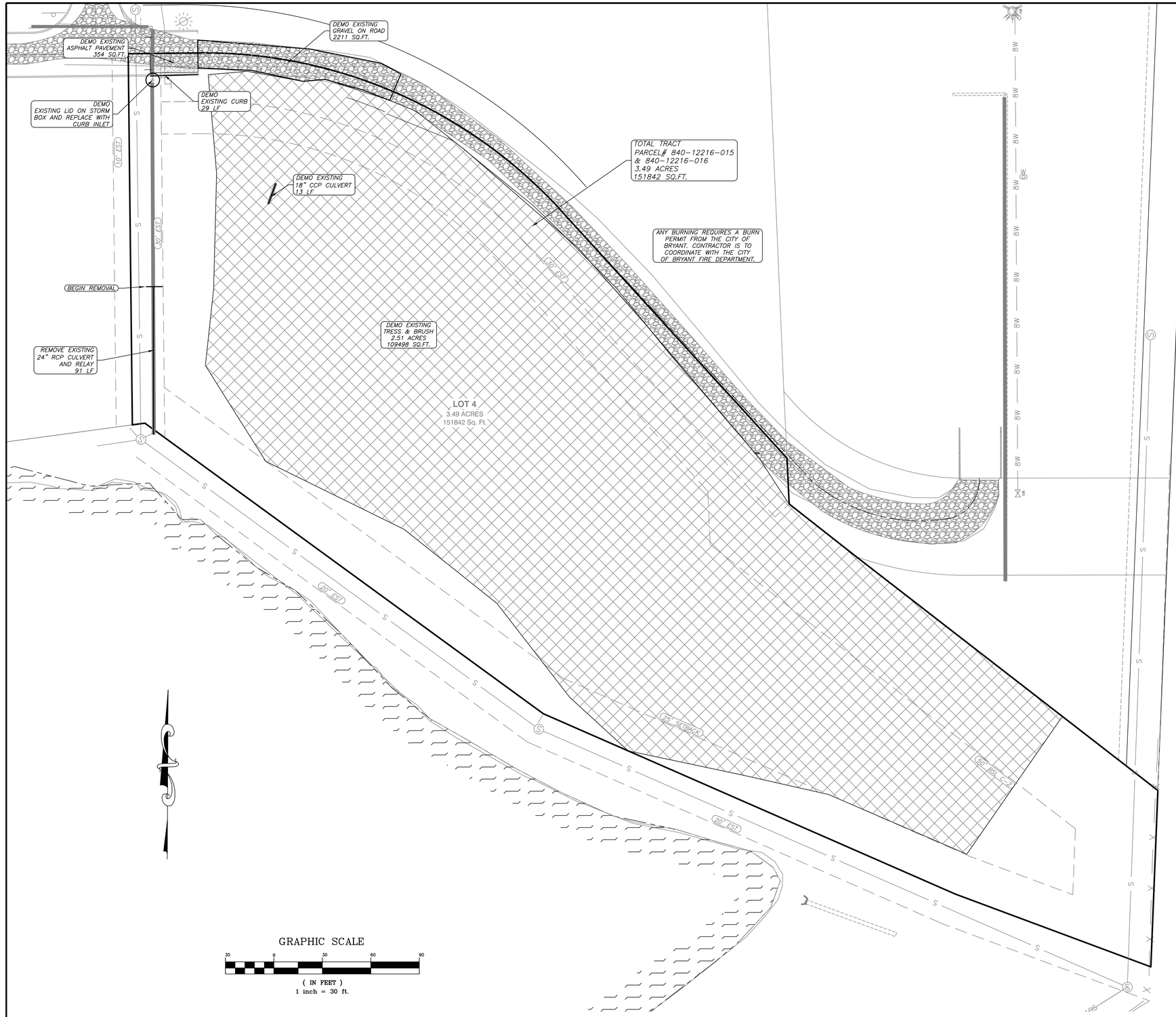
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

SWPPP PLAN
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023–065
Date: 4/15/2025 REVISED 5/6/2025
Scale: 1" = 50'
Sheet: 2 of 13



GRAPHIC SCALE

30 0 30 60 90

(IN FEET)
1 inch = 30 ft.

GENERAL CONSTRUCTION NOTES

A. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR DAMAGES OCCURRING TO ANY PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT. SAID CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT PROPERTY DAMAGE.

B. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.

C. ALL SITE AND UTILITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION TO THE CITY OF BRYANT STANDARD SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. PRIOR TO INSTALLATION OF ANY UTILITIES, THE CONTRACTOR IS TO EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM ANY IMPACTED UTILITY OWNERS OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

F. CONSTRUCTION SHALL NOT START ON ANY WATER UTILITY TIE-INS UNTIL APPROVAL IS GIVEN BY CITY OF BRYANT. CONTRACTOR SHALL NOT OPERATE ANY VALVE, HYDRANT, OR WATER UTILITY APPURTENANCE NOR SHALL HE ATTACH TO OR TAP ANY WATER UTILITY MAIN WITHOUT APPROVAL FROM BRYANT. THE CONTRACTOR SHALL BEAR THE COST AND CONSEQUENCE OF ANY DISRUPTION OF UTILITY OPERATION CAUSED BY CONSTRUCTION.

G. FIBER OPTIC CABLE ON AND/OR ADJACENT TO THIS SITE WERE NOT LOCATED BY THE SURVEY AND ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY FIBER OPTIC CABLES AT TO NEAR THIS SITE AND TAKE ALL NECESSARY AND REQUIRED PRECAUTIONS TO PROTECT ANY EXISTING FIBER OPTIC CABLES. CONTRACTORS SHALL COORDINATE ALL EFFORTS WITH OWNER OF FIBER OPTIC CABLES OR THEIR DESIGNATED REPRESENTATIVE.

H. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING "ONECALL" SERVICE TO MARK ALL UTILITIES PRIOR TO ANY DEMOLITION, EARTHWORK, OR UTILITY WORK ON THIS SITE.

I. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF MATERIALS, UTILITIES OR GROUND EXCAVATION SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN.

J. THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

K. CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS, INCLUDING EXCAVATION & TRENCH SAFETY.

L. CONTRACTOR SHALL CONTACT THE CITY OF BRYANT STREET DEPARTMENT IN REGARD TO MAINTENANCE OF TRAFFIC PRIOR TO COMMENCEMENT OF WORK WITHIN STREET RIGHT OF WAY.

M. CONTRACTOR SHALL CONTACT CITY OF BRYANT PRIOR TO COMMENCEMENT OF UTILITY CONSTRUCTION OR TIE-INS.

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

DEMO NOTES:
1) QUANTITATIVE AREAS ARE APPROXIMATE, TO BE VERIFIED BY THE DEMOLITION CONTRACTOR.

Legend

- Property Boundary
- Center line
- RW — Road Right of Way
- T — Telephone
- FO — FO — FO — Fiber Optic Line
- G — Gas Line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer
- W — Water Line
- OHE — Overhead Electric
- UGE — UGE — Underground Powerline
- (W) Water Meter Box
- (S) Sanitary Sewer Manhole
- (D) Storm Drainage Manhole
- T Telephone Pedistal
- Guy Wire
- Computed Corner
- Found Monument (Labeled)
- Utility Pole
- 422.00 TC — TOP OF CURB ELEVATION
- 422.00 GU — CURB GUTTER ELEVATION
- 422.00 TP — TOP OF PAVEMENT ELEVATION
- 422.00 SW — TOP OF SIDWALK
- PROPOSED CONTOUR
- EXISTING CONTOUR

RICHARDSON ENGINEERING
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325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

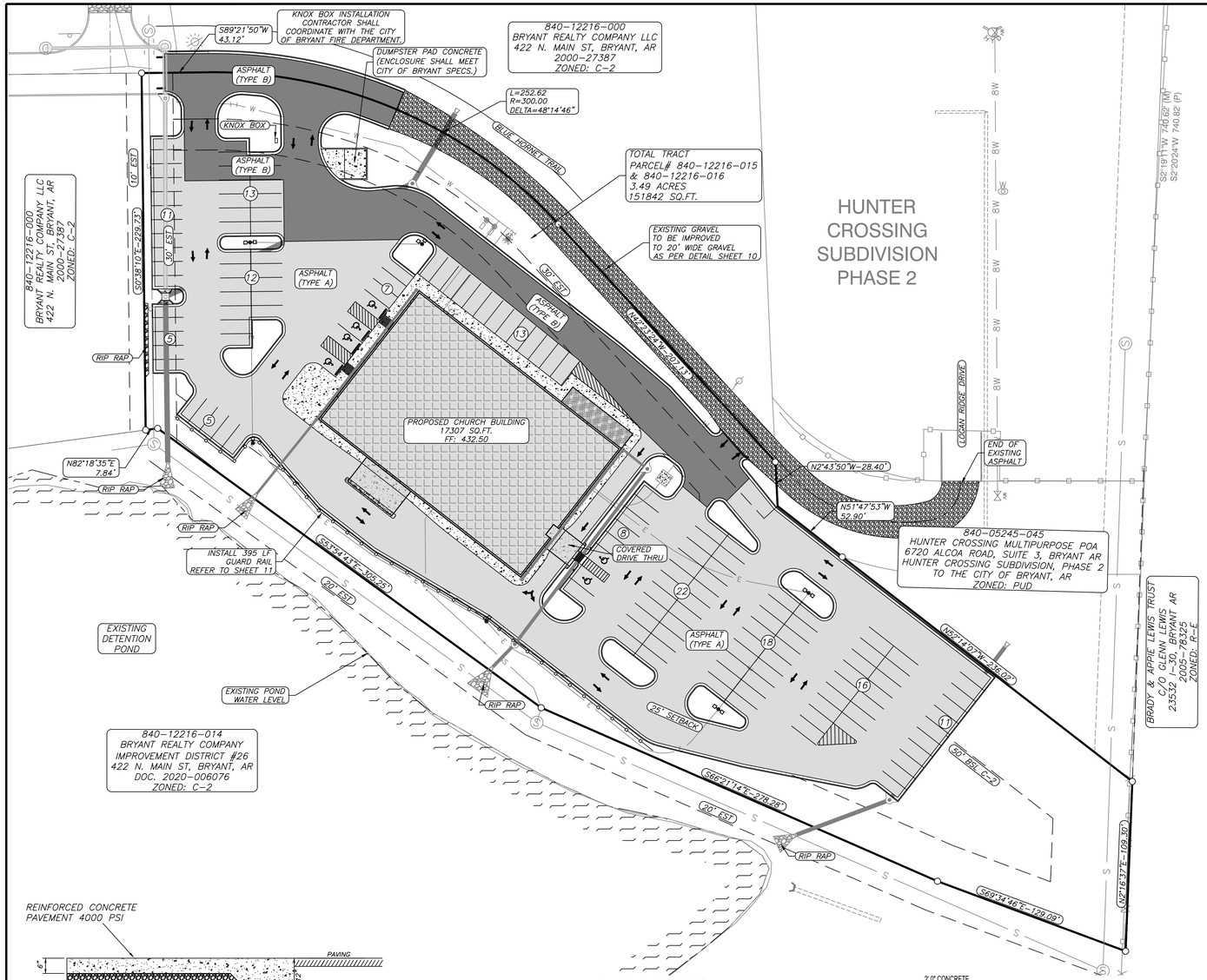
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DEMOLITION PLAN
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
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1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
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PROJECT #: 023-065
Date: 4/15/2025 REV. 5/6/2025
Scale: 1" = 30'
Sheet: 3 of 13



SITE NOTES

1.) PROJECT SITE AREA 3.49 ACRES (151842 SQUARE FEET).
2.) PROJECT PROVIDES 141 PARKING SPACES.
3.) CURRENT ZONING: C-2
4.) PROPOSED USE: CHURCH BUILDING
5.) BUILDING LINES TO BE NOTED ON SITE PLAN.
6.) PROPOSED LOCATIONS OF TRAFFIC CONTROL MARKERS ARE APPROXIMATE. ACTUAL LOCATION AND INSTALLATION MUST MEET MUTCD AND BRYANT ROAD DEPT. SPECS.
7.) CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & BASE. TEST TO BE CONDUCTED AS PER GEOTECHNICAL ENGINEERS SPECS.
8.) CONTRACTOR TO INCLUDE IN BID THE COST OF MATERIAL AND INSTALLATION OF STREET SIGNS & TRAFFIC CONTROL SIGNS.
9.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
10.) THIS PROPERTY (AS SHOWN) IS NOT IN THE 100 YEAR FLOOD HAZARD AREA. REFERENCE FIRM MAP 05125C0240E EFFECTIVE 6/5/2020
11.) REFER TO LANDSCAPING PLAN FOR REQUIREMENTS/LIGHTING PLAN TO BE VERIFIED W/OWNER. REVISIONS TO PLAN TO BE SUBMITTED TO CITY.
12.) IRRIGATION SYSTEMS TO BE DESIGNED BY OTHERS.
13.) THERE ARE NO EROSION PROBLEMS ON THE SITE OR KNOWN EROSION PROBLEMS WITHIN 300' DOWNSTREAM.
14.) THERE IS NO SURFACE EVIDENCE OF EXISTING OR ABANDONED WATER WELLS, SUMPS, CESSPOOLS, SPRING WATER IMPOUNDMENTS, AND UNDERGROUND STRUCTURES WITHIN THE PROJECT.
15.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH AHTD SPECIFICATIONS, AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS. CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & BASE. TEST TO BE CONDUCTED AS PER GEOTECHNICAL SPECS.
16.) ALL SITE LIGHTING IS TO BE LOW LEVEL AND DIRECTIONAL, SHIELDED DOWNWARD AND INTO THE SITE. DESIGNED BY OTHER AS PER CITY OF BRYANT REQUIREMENTS.

PROPERTY DESCRIPTION

LOT 4 OF THE MARKETPLACE EAST SUBDIVISION, PHASE 2 TO THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

GENERAL NOTES:

1.) SURVEYING PROVIDED BY RASBURRY SURVEYING LLC.
2.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS PLAN AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS.
3.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
4.) CONSTRUCTION SITE SHALL ADHERE TO BRYANT STORMWATER REQUIREMENTS, AND SHALL MEET ALL APPLICABLE ADEQ STANDARDS FOR EROSION CONTROL MEASURES.
5.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.)
6.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
7.) THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

NATURAL GAS:
SUMMIT
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

SITE COVERAGE DATA

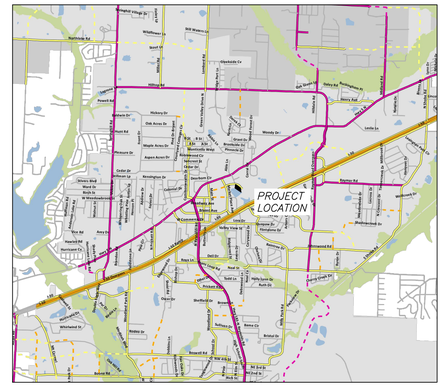
TOTAL AREA	151842 SQ. FT.	100.00%
EXISTING CONDITIONS		
ORGINAL BUILDINGS	0 SQ. FT	0.00%
ORGINAL CONCRETE	0 SQ. FT	0.00%
ORIGINAL GRASS & PERVIOUS	151842 SQ. FT	100.00%
PROPOSED IMPROVEMENTS		
DESIGN ASPHALT	82546 SQ. FT	54.36%
DESIGN BUILDINGS	17307 SQ. FT	11.40%
DESIGN CONCRETE	4682	3.08%
PROJECT DESIGN TOTALS		
TOTAL IMPERVIOUS	104535 SQ. FT	68.84%
TOTAL PERVIOUS	47307 SQ. FT	31.16%

WAIVER REQUEST:

WAIVER FOR MINIMUM 100' DISTANCE OF BUILDING FROM DETENTION POND. REQUESTING APPROVAL AS SHOWN.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 21954
TRISTIN SCOTT PHILLIPS

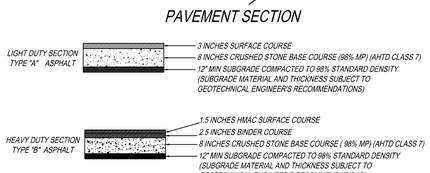
VICINITY MAP
1" = 2000'

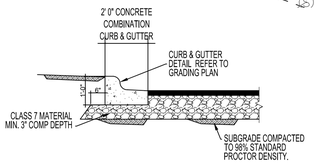


GRAPHIC SCALE
40 0 40 80 120
(IN FEET)
1 inch = 40 ft.

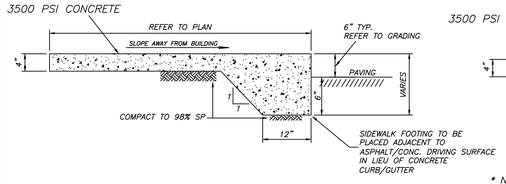
DUMPSTER CONCRETE SECTION
NTS
* PAVEMENT SECTION & REINFORCEMENT AS PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

PAVEMENT SECTION

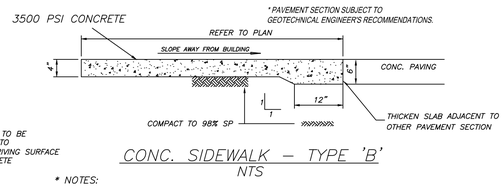




TYPICAL CURB & GUTTER DETAIL
N.T.S.

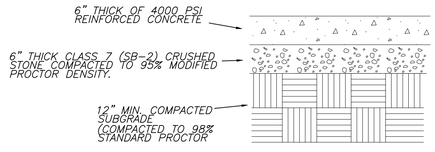


CONC. SIDEWALK - TYPE 'A'
NTS



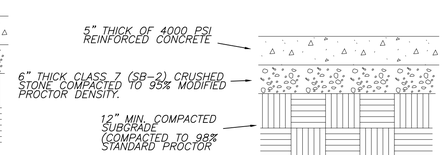
CONC. SIDEWALK - TYPE 'B'
NTS

* NOTES:
1. PORTLAND CEMENT CONCRETE 3500 PSI. MIN. MIX AS PER GEOTECHNICAL ENGINEERS RECOMMENDATIONS.
2. USE W1.4 X W1.4 (6" X 6") WWF SHEET REINFORCEMENT. CUT ⅓ THE WIRES AT CONTROL JOINTS.
3. CONCRETE TO CONTAIN 3-5% AIR ENTRAINMENT.
4. FINISH TO BE LIGHT BROOM FINISH.
5. DETECTABLE WARNING DEVICES TO BE INSTALLED AT RAMPS PER ADA REQUIREMENTS.
6. MAX CROSS SLOPE 2%. MAX LONGITUDINAL SLOPE ON RAMPS 1:12 MAX. LONGITUDINAL SLOPE 5% ON SIDEWALKS.
7. CONTROL JOINTS PER CONC. WALK CONTROL JOINT DETAIL.



* CONCRETE PAVEMENT AND REINFORCEMENT TO BE VERIFIED PER ACI 330R-08-SPB AND SUBJECT TO GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

HEAVY DUTY CONCRETE PAVEMENT SECTION (OPTIONAL)
NTS



* CONCRETE PAVEMENT AND REINFORCEMENT TO BE VERIFIED PER ACI 330R-08-SPB AND SUBJECT TO GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

LIGHT DUTY CONCRETE PAVEMENT SECTION (OPTIONAL)
NTS

CONCRETE PAVEMENT NOTES:
1. CONCRETE TO BE 4000 PSI, SLUMP 4" +/- 1".
2. INSTALL 1" DIA. X 18" L SMOOTH DOWELS ON 18" CENTERS AT CONTROL JOINTS.
3. SAW CUT CONTROL JOINTS 15' MAX. EACH WAY AT A DEPTH OF 25% (¼" PER 1") OF CONCRETE SECTION THICKNESS.
4. AIR ENTRAINMENT 3-5%.
5. FINISH TO BE MEDIUM BROOM FINISH.
6. INSTALL EXPANSION JOINTS WHERE ABUTTING STRUCTURES AND AT A MAX. OF 200 LF OF PAVING. USE ½" EXPANSION JOINT MATERIAL WHERE EXPANSION JOINTS ARE SPECIFIED. USE 1" DIA. X 18" L SMOOTH DOWELS ON 18" CENTERS IN EXPANSION JOINTS BETWEEN PAVEMENT SECTIONS.

Legend

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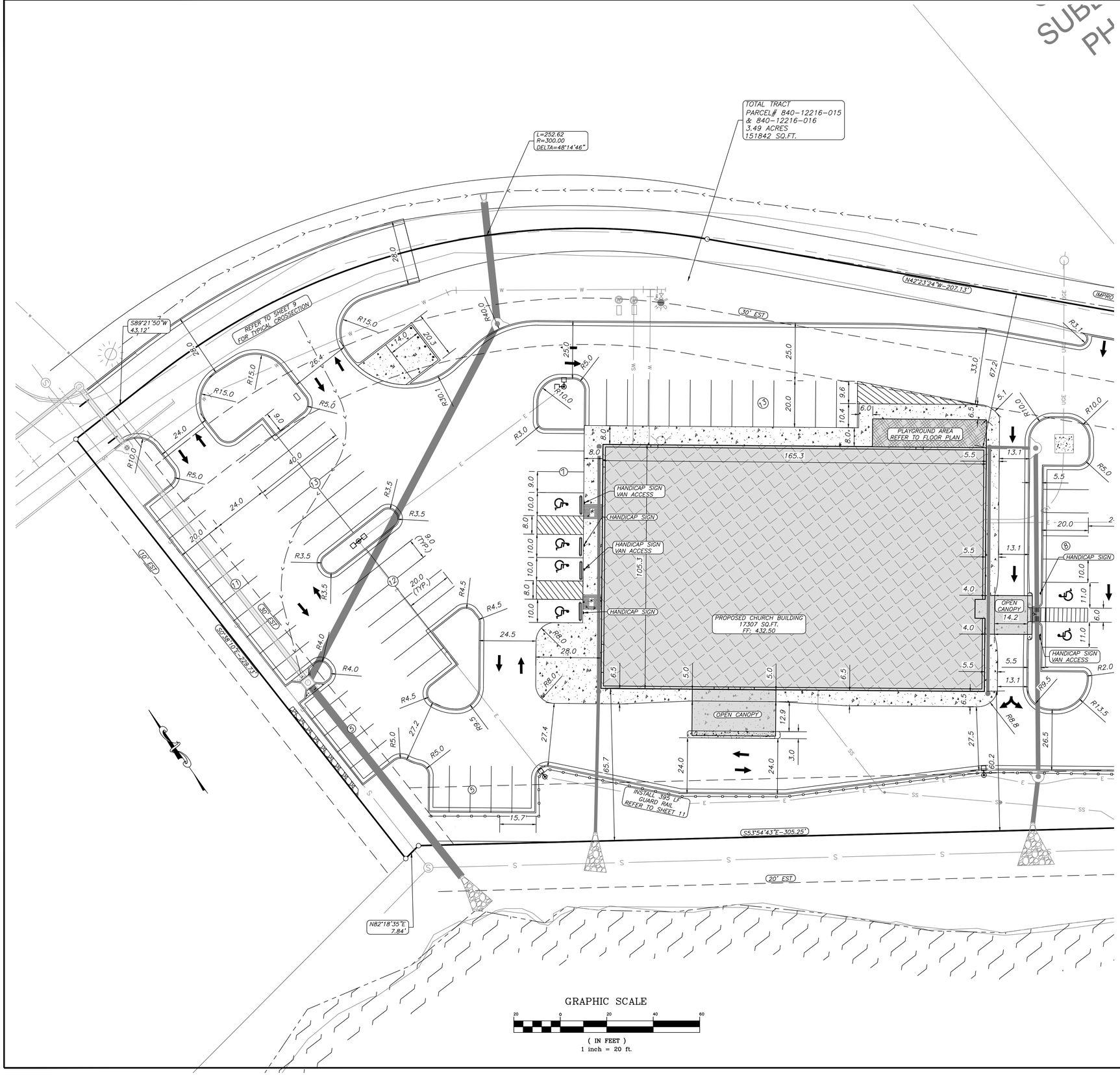
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
STATE OF ARKANSAS

SITE PLAN
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	9/4/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025 REV: 5/6/2025
Scale: 1" = 40'
Sheet: 4 of 13



GENERAL CONSTRUCTION NOTES

A. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR DAMAGES OCCURRING TO ANY PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT. SAID CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT PROPERTY DAMAGE.

B. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.

C. ALL SITE AND UTILITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION TO THE CITY OF BRYANT STANDARD SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. PRIOR TO INSTALLATION OF ANY UTILITIES, THE CONTRACTOR IS TO EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM ANY IMPACTED UTILITY OWNERS OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

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UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

NATURAL GAS:
SUMMIT
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
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BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

OWNER OF RECORD
COLLECTIVE CHURCH
3230 MARKET PLACE AVE. SUITE 2
BRYANT, AR 72022
SOURCE OF TITLE: 2023-008570

Legend

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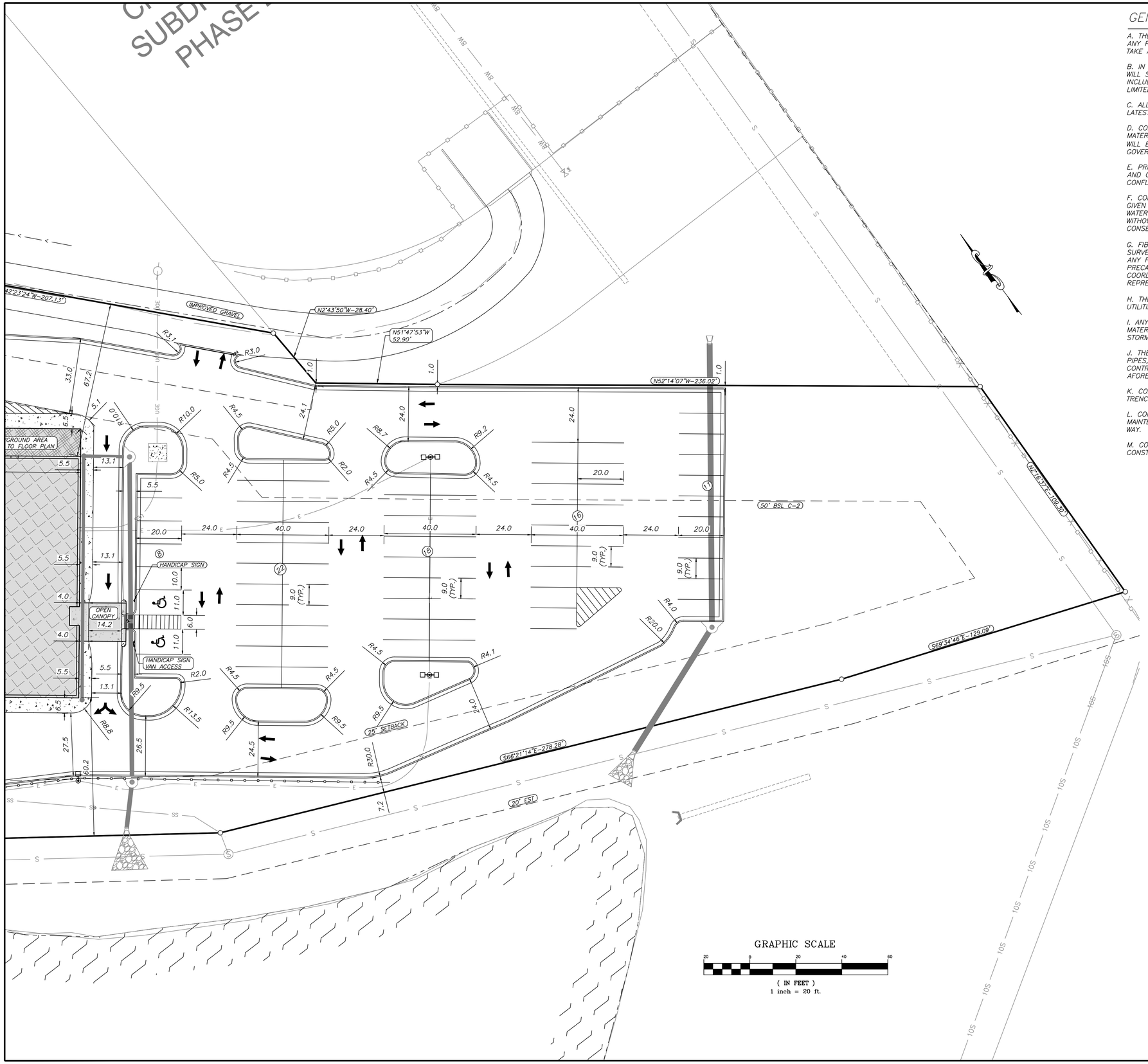
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

DIMENSION PLAN - WEST
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025 REV: 5/6/2025
Scale: 1" = 20'
Sheet: 5 of 13



GRAPHIC SCALE

20 0 20 40 60

(IN FEET)

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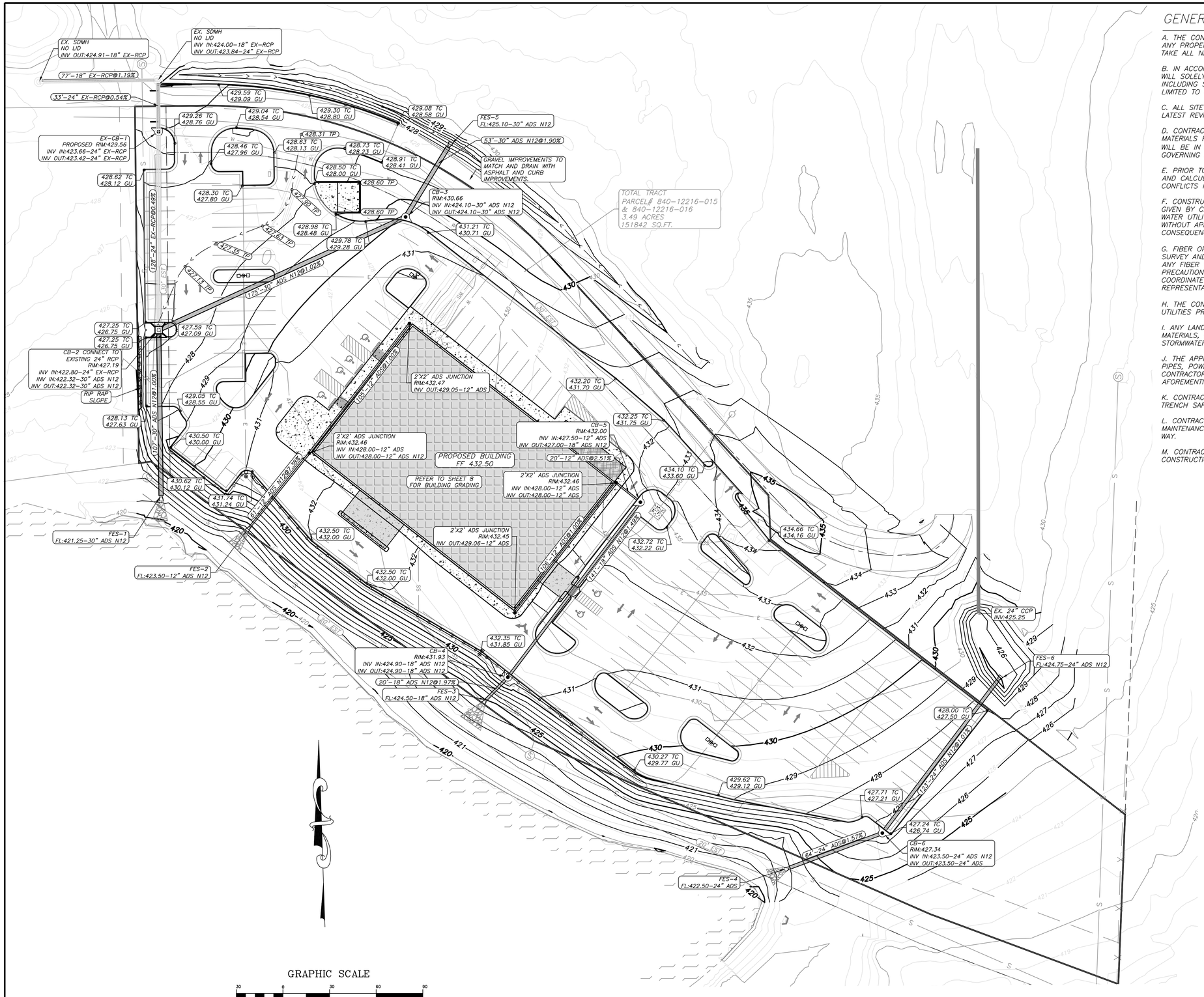
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PROJECT #: 023–065
Date: 4/3/2025 Rev: 5/6/2025
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- 422.00 TC — TOP OF CURB ELEVATION
- 422.00 GU — CURB GUTTER ELEVATION
- 422.00 TP — TOP OF PAVEMENT ELEVATION
- 422.00 SW — TOP OF SIDWALK
- PROPOSED CONTOUR
- EXISTING CONTOUR

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ARKANSAS

GRADING PLAN
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BRYANT, ARKANSAS

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Sheet: 7 of 13

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(IN FEET)
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B. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.

C. ALL SITE AND UTILITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION TO THE CITY OF BRYANT STANDARD SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. PRIOR TO INSTALLATION OF ANY UTILITIES, THE CONTRACTOR IS TO EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM ANY IMPACTED UTILITY OWNERS OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

F. CONSTRUCTION SHALL NOT START ON ANY WATER UTILITY TIE-INS UNTIL APPROVAL IS GIVEN BY CITY OF BRYANT. CONTRACTOR SHALL NOT OPERATE ANY VALVE, HYDRANT, OR WATER UTILITY APPURTENANCE NOR SHALL HE ATTACH TO OR TAP ANY WATER UTILITY MAIN WITHOUT APPROVAL FROM BRYANT. THE CONTRACTOR SHALL BEAR THE COST AND CONSEQUENCE OF ANY DISRUPTION OF UTILITY OPERATION CAUSED BY CONSTRUCTION.

G. FIBER OPTIC CABLE ON AND/OR ADJACENT TO THIS SITE WERE NOT LOCATED BY THE SURVEY AND ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY FIBER OPTIC CABLES AT TO NEAR THIS SITE AND TAKE ALL NECESSARY AND REQUIRED PRECAUTIONS TO PROTECT ANY EXISTING FIBER OPTIC CABLES. CONTRACTORS SHALL COORDINATE ALL EFFORTS WITH OWNER OF FIBER OPTIC CABLES OR THEIR DESIGNATED REPRESENTATIVE.

H. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING "ONECALL" SERVICE TO MARK ALL UTILITIES PRIOR TO ANY DEMOLITION, EARTHWORK, OR UTILITY WORK ON THIS SITE.

I. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF MATERIALS, UTILITIES OR GROUND EXCAVATION SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN.

J. THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

K. CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS, INCLUDING EXCAVATION & TRENCH SAFETY.

L. CONTRACTOR SHALL CONTACT THE CITY OF BRYANT STREET DEPARTMENT IN REGARD TO MAINTENANCE OF TRAFFIC PRIOR TO COMMENCEMENT OF WORK WITHIN STREET RIGHT OF WAY.

M. CONTRACTOR SHALL CONTACT CITY OF BRYANT PRIOR TO COMMENCEMENT OF UTILITY CONSTRUCTION OR TIE-INS.

UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

NATURAL GAS:
SUMMIT
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

OWNER OF RECORD
COLLECTIVE CHURCH
3230 MARKET PLACE AVE. SUITE 2
BRYANT, AR 72022

SOURCE OF TITLE: 2023-008570

Legend

- Property Boundary
- Center line
- RW — Road Right of Way
- T — Telephone
- FO — Fiber Optic Line
- G — Gas Line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer
- W — Water Line
- OHE — Overhead Electric
- UGE — Underground Powerline
- Water Meter Box
- Sanitary Sewer Manhole
- Storm Drainage Manhole
- Telephone Pedistal
- Guy Wire
- Computed Corner
- Found Monument (Labeled)
- Utility Pole
- 422.00 TC — TOP OF CURB ELEVATION
- 422.00 GU — CURB GUTTER ELEVATION
- 422.00 TP — TOP OF PAVEMENT ELEVATION
- 422.00 SW — TOP OF SIDWALK
- PROPOSED CONTOUR
- EXISTING CONTOUR

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

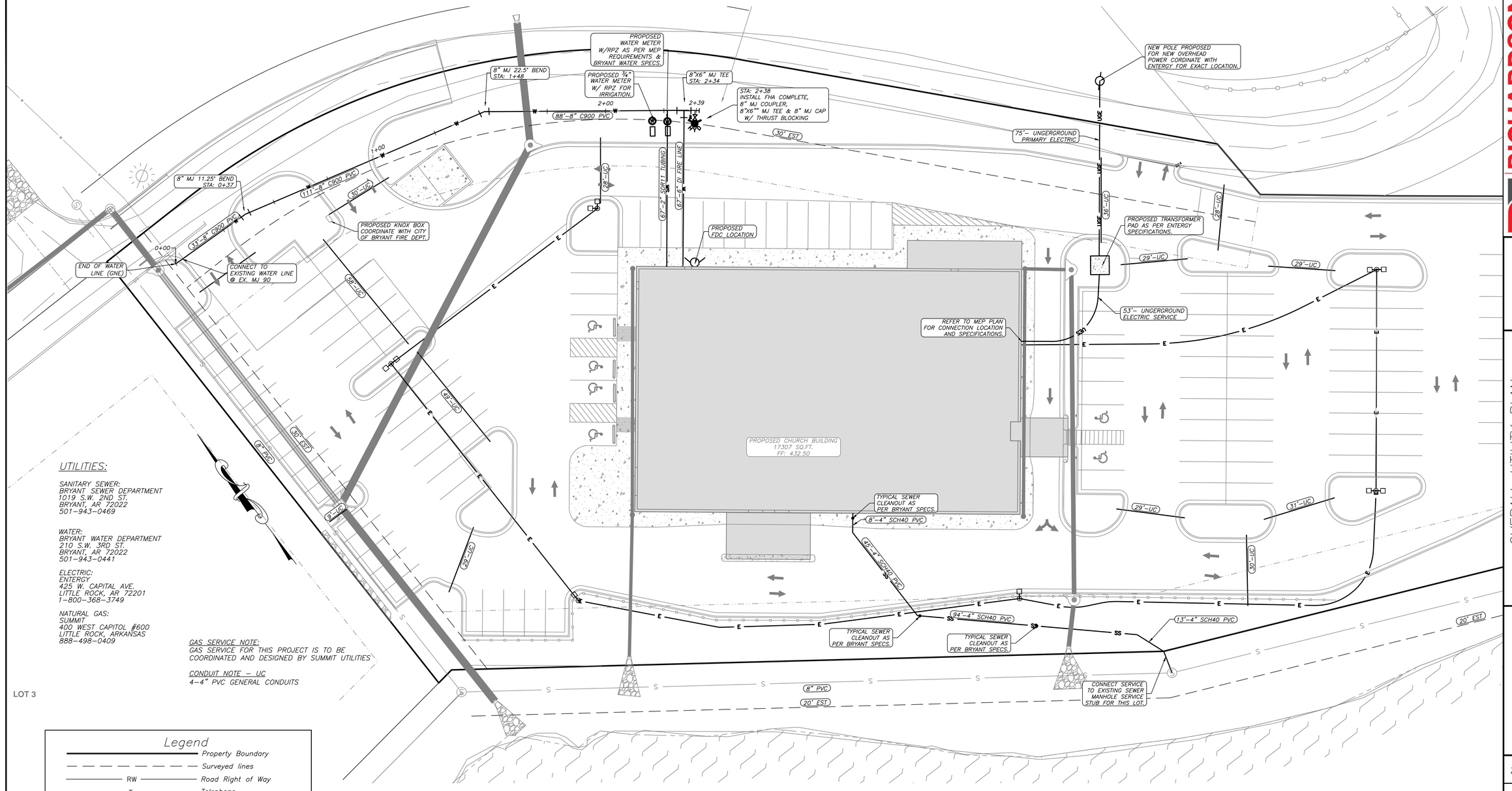
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
STATE OF ARKANSAS

GRADING PLAN BUILDING AREA
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025
5/6/2025
Scale: 1" = 10'
Sheet: 8 of 13



UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

NATURAL GAS:
SUMMIT
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

GAS SERVICE NOTE:
GAS SERVICE FOR THIS PROJECT IS TO BE COORDINATED AND DESIGNED BY SUMMIT UTILITIES

CONDUIT NOTE - UC
4-4" PVC GENERAL CONDUITS

Legend

- Property Boundary
- Surveyed lines
- RW — Road Right of Way
- T — Telephone
- FO — FO — FO — Fiber Optic Line
- Road Center line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer Main
- SS — Sanitary Sewer Service
- WS — Water Service Line
- W — Water Main
- UES — Underground Electric Service
- UGE — Underground Electric Primary
- OHE — Overhead Electric Primary
- G — Gas Main
- GS — Gas Service
- SF — Silt Fence
- Water Meter Box
- Sanitary Sewer Manhole
- Storm Drainage Manhole
- Telephone Pedistal
- Guy Wire
- Utility Pole
- Gas Meter
- Sewer Service Cleanout

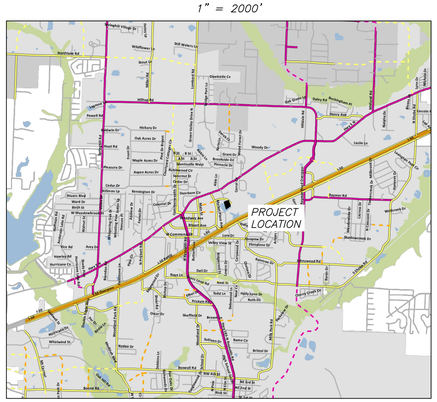
SEWER NOTES:

1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED CITY OF BRYANT' SPECIFICATIONS.
2.) ALL SERVICE LINES SHALL BE 4" SDR-21 OR SCH 40 PVC OR AS SPECIFIED ON THE DESIGN DRAWINGS.
3.) CONTRACTOR TO VERIFY METHOD OF CONNECTION WITH THE UTILITY OWNER PRIOR TO CONSTRUCTION.
4) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
5) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
6) BACKFILL FOR ALL DISTURBED (EXCAVATED) AREAS SHALL BE IN ACCORDANCE WITH CITY OF BRYANT STANDARD SPECS.
7) A 2-WAY CLEANOUT WITH BACKFLOW PREVENTER SHALL BE INSTALLED WITHIN 5 FEET OF THE BUILDING. DIRECTIONALY, THE CLEANOUT MUST SWEEP AWAY FROM THE VALVE TO PREVENT DAMAGE TO THE BACKFLOW PREVENTER.

WATER NOTES:

1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED CITY OF BRYANT SPECIFICATIONS.
2.) ALL SERVICE LINES AND METER SETTINGS SHALL BE AS PER CITY OF BRYANT SPECS.
3.) 12ga BLUE COATED COPPER TRACING WIRE TO BE INSTALLED WITH ALL WATERLINES (MAINS & SERVICES).
4.) ALL FITTINGS SHALL BE DUCTILE IRON M.J. (WHERE AVAILABLE).
5.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
6.) MINIMUM SEPARATION BETWEEN WATERLINES & SEWERLINES SHALL BE 10'.
7.) MINIMUM VERTICAL SEPARATION BETWEEN WATERLINE & SEWERLINE CROSSINGS SHALL BE 18" (WATER ON TOP).
8.) CONTRACTOR SHALL ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
9.) STREET CROSSINGS TO MEET BRYANT STREET DEPT SPECIFICATIONS.
10.) CONTRACTOR TO ADHERE TO AWWA SPECS FOR BLOCKING AND ANCHORING.
11.) ON-SITE FIRE HYDRANTS SHALL BE PER CITY OF BRYANT SPECIFICATIONS.

VICINITY MAP
1" = 2000'



ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

OWNER OF RECORD
COLLECTIVE CHURCH
3230 MARKET PLACE AVE. SUITE 2
BRYANT, AR 72022
SOURCE OF TITLE: 2023-008570

GENERAL NOTES:

1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED CITY OF BRYANT SPECIFICATIONS.
2.) ALL SEWER GRAVITY MAINS SHALL BE C900 PVC, UNLESS OTHERWISE SHOWN ON PLAN.
3.) ALL WATER MAINS SHALL BE SDR21 PVC PIPE UNLESS OTHERWISE SHOWN ON PLAN.
4.) ATTENTION IS CALLED TO WATER, SEWER, AND STREET LAYOUT FOR ADDITIONAL INFORMATION.
5.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
6.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, UTILITY OWNER, ETC.)
7.) MINIMUM HORIZONTAL SEPARATION BETWEEN WATERLINES AND SEWERLINES SHALL BE 10'.
8.) MINIMUM VERTICAL SEPARATION BETWEEN WATERLINES AND SEWERLINES SHALL BE 18" (WATER ON TOP).
9.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
10.) BACKFILL MATERIAL FOR STREET CROSSINGS SHALL BE ACCORDING TO BRYANT STREET DEPT SPECS AND COMPACTED TO 98% M.P. UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER AND UTILITY OWNER.
11.) THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.
12) CITY OF BRYANT MASTER SPECIFICATIONS APPLY.
13) CONTRACTOR SHALL CONTACT THE CITY OF BRYANT STREET DEPARTMENT IN REGARD TO MAINTENANCE OF TRAFFIC PRIOR TO COMMENCEMENT OF WORK WITHIN STREET RIGHT OF WAY.
14) CONTRACTOR SHALL CONTACT CITY OF BRYANT PRIOR TO COMMENCEMENT OF UTILITY CONSTRUCTION OR TIE-INS.

GRAPHIC SCALE
20 0 20 40 60
(IN FEET)
1 inch = 20 ft.

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

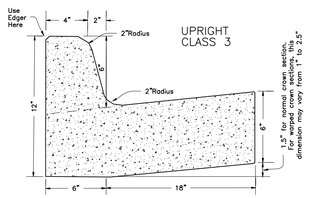
OVERALL UTILITY PLAN
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

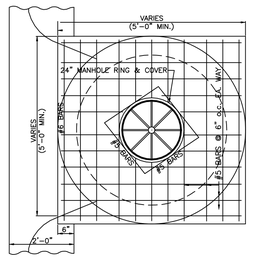
Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

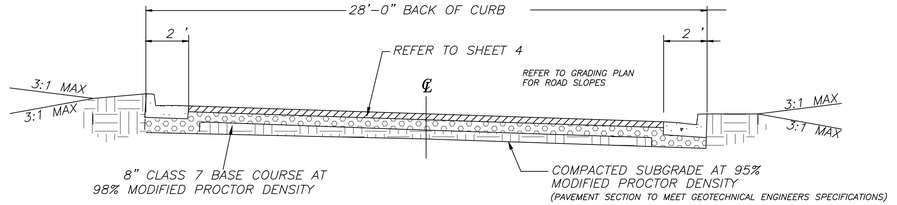
PROJECT #: 023-065
Date: 4/3/2025 REV. 5/6/2025
Scale: 1" = 20'
Sheet: 9 of 13

TYPICAL STREET/PARKING CURB SECTION

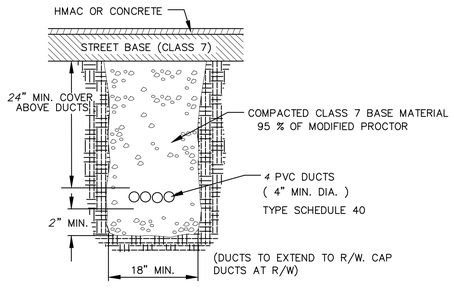


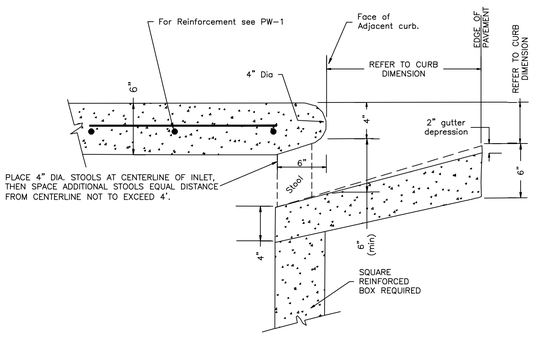


TYPICAL DROP INLET PLAN



TYPICAL ASPHALT ROAD CROSS SECTION
N.T.S.

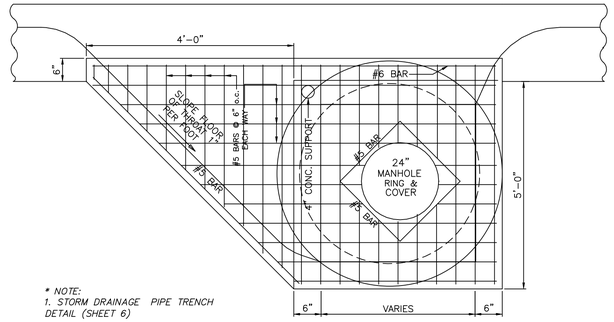




INLET THROAT BETWEEN STOOLS

NOTE: This detail is not to be used for inlets in curb radius.
See PW-10 for detail of inlet top in curb radius.

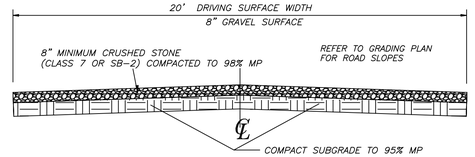
THROAT OPENING (NOT IN RADIUS)
NOT TO SCALE



* NOTE:
1. STORM DRAINAGE PIPE TRENCH DETAIL (SHEET 6)

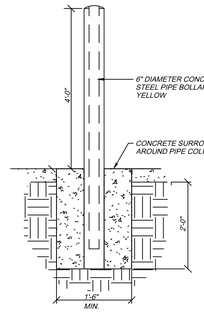
DETAIL – DROP INLET WITH EXTENDED THROAT

TYPICAL DROP INLET – POURED IN PLACE
ELEVATION



TYPICAL GRAVEL ROAD CROSS SECTION
NTS

BOLLARD DETAIL

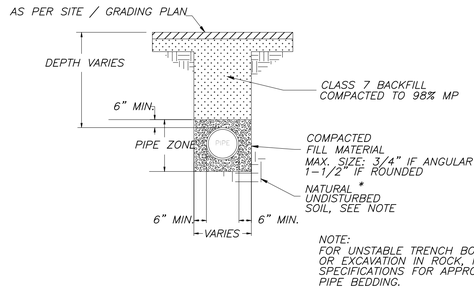


TYPICAL SECTION
4–4" UTILITY DUCTS
NOT TO SCALE

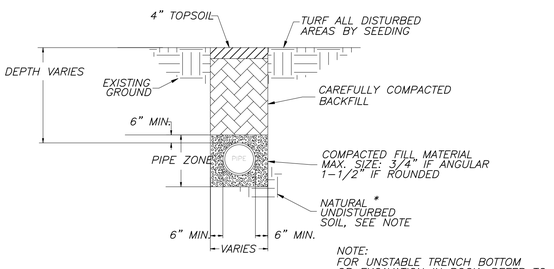
GENERAL NOTES

1.) ALL STOP SIGNS SHALL BE 30" X 30"
2.) PROPOSED LOCATIONS OF TRAFFIC CONTROL MARKERS ARE APPROXIMATE. ACTUAL LOCATION AND INSTALLATION MUST MEET MUTCD AND CITY OF BRYANT SPECS.
3.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH ENGINEER'S SPECIFICATIONS, AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS.
4.) CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & BASE. TEST TO BE CONDUCTED AS PER CITY OF BRYANT STREET DEPARTMENT SPECIFICATIONS.
5.) CURB INLETS CONSTRUCTED SO THAT POOLING OF WATER DOES NOT OCCUR AT INTERSECTIONS.
6.) ALL STORM BOX LIDS SHALL BE PER CITY OF BRYANT SPECIFICATIONS.
7.) ALL SIDEWALKS AND CURB/GUTTER TO BE CONSTRUCTED PER CITY OF BRYANT SPECIFICATIONS.
8.) ALL SIDEWALKS TO MEET ADA REQUIREMENTS.
9.) * – INDICATES ADA APPROVED HANDICAP RAMP.
10.) DEVELOPMENT SHALL ADHERE TO CITY OF BRYANT STORMWATER REQUIREMENTS.
11.) THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN. ALL REPAIRS OR RELOCATIONS NECESSARY SHALL BE MADE AS REQUIRED BY THE UTILITY OR OWNER OF THE STRUCTURE. THE COST OF SAID REPAIRS OR RELOCATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

REFER TO CITY OF BRYANT, ARKANSAS PUBLIC WORKS STREET AND DRAINAGE STANDARD DETAILS FOR ADDITIONAL DETAILS AND INFORMATION.

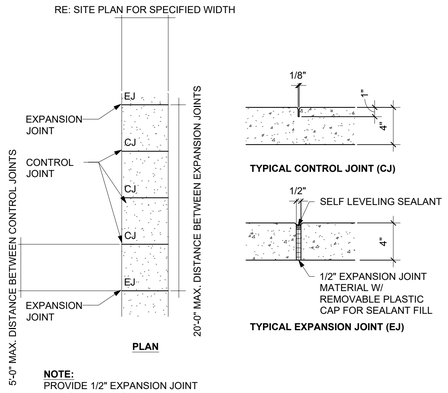


STORM DRAINAGE PIPE TRENCH (UNDER ASPHALT)
NTS

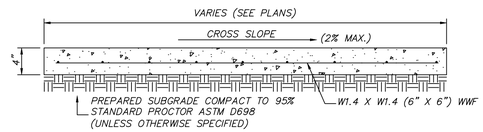


STORM DRAINAGE PIPE TRENCH (UNPAVED AREA)
NTS

CONC. WALK/CONCRETE SWALE CONTROL JOINT DETAILS
NTS

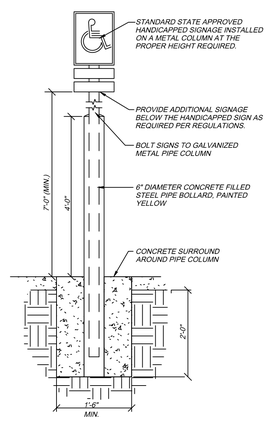


NOTE:
PROVIDE 1/2" EXPANSION JOINT AND SEALANT AS NOTED AND WHERE SIDEWALK ABUTS STRUCTURES OR OTHER SIDEWALKS.



CONCRETE SIDEWALK SPECIFICATIONS
NTS

* NOTES:
1. PORTLAND CEMENT CONCRETE 3000 PSI. MIN.
2. USE W1.4 X W1.4 (6" X 6") WWF SHEET REINFORCEMENT. CUT ½ THE WIRES AT CONTROL JOINTS.
3. CONCRETE TO CONTAIN 3–5% AIR ENTRAINMENT.
4. FINISH TO BE LIGHT BROOM FINISH.
5. DETECTABLE WARNING DEVICES TO BE INSTALLED AT RAMPS PER ADA REQUIREMENTS.
6. MAX CROSS SLOPE 2% MAX LONGITUDINAL SLOPE 1:12.
7. CONTROL JOINTS PER CONC. WALK CONTROL JOINT DETAIL.



HANDICAP SIGN DETAIL

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
210 W. SEVIER STREET, BENTON, AR 72015 (501)315-7225

CERTIFICATE OF AUTHORIZATION – STATE OF ARKANSAS – Richardson Engineering, PLLC – No. 2519

MISC. DETAILS
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

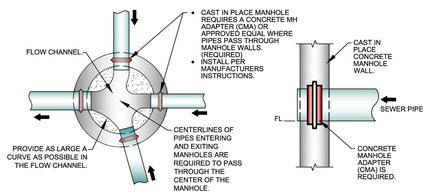
Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

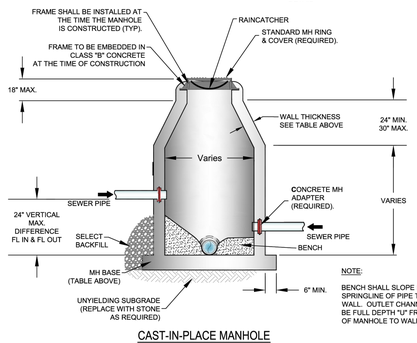
No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
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PROJECT #: 023-065
Date: 4/3/2025 REV. 4/21/2025 5/6/2025
Scale:
Sheet: 10 of 13

Inside Diameter of Manhole	Minimum Wall Thickness	Base Thickness	Minimum Ring & Cover Size
4' DIA	6"	6"	24" (< or Equal to 24" Pipes)
5' DIA	8"	8"	
6' DIA	8"	12"	36" (> 24" Pipes)

MANHOLE INFORMATION TABLE

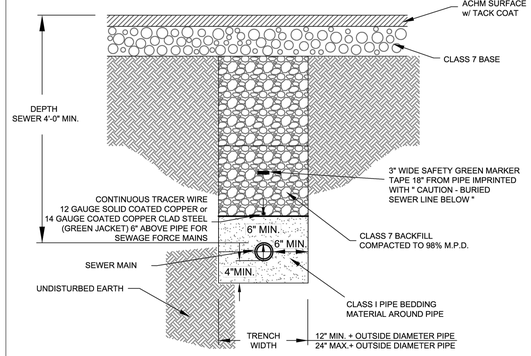




CAST-IN-PLACE MANHOLE

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S4**
DESCRIPTION: **CAST-IN-PLACE MANHOLE**
DRAWN BY: | CHECKED BY: | FILE: S4-Cast In Place Manhole.dwg



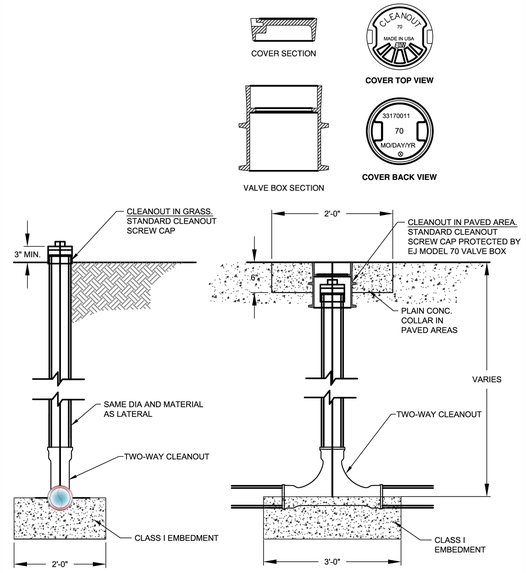
SEWER MAIN INSTALLATION
PRIOR TO ROADWAY CONSTRUCTION

NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL ITEMS NECESSARY TO CONNECT WITH ANY PART OF THE EXISTING SEWER SYSTEM THAT WILL REMAIN IN ORDER TO ESTABLISH A SATISFACTORY AND ACCEPTABLE SEWER SYSTEM.
2. CONTRACTOR TO CONSTRUCT ALL TRENCH EXCAVATION IN ACCORDANCE WITH ALL OSHA REGULATIONS (29 CFR CH.XVII, SUBPART B)
3. TRENCH SHALL BE EXCAVATED BELOW GRADE REQUIRED TO PROVIDE A MINIMUM 36" OF PIPE COVER.

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S3**
DESCRIPTION: **SEWER MAIN INSTALLATION PRIOR TO ROADWAY CONSTRUCTION**
DRAWN BY: | CHECKED BY: | FILE: S3-Sewer Main Installation Prior to Roadway Const.dwg

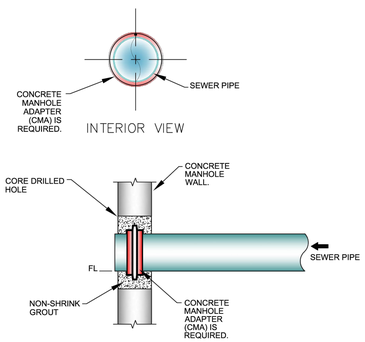


TYPICAL CLEANOUT

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S16**
DESCRIPTION: **SEWER SERVICE CLEANOUT**
DRAWN BY: | CHECKED BY: | FILE: S16-Sewer Service Cleanout.dwg

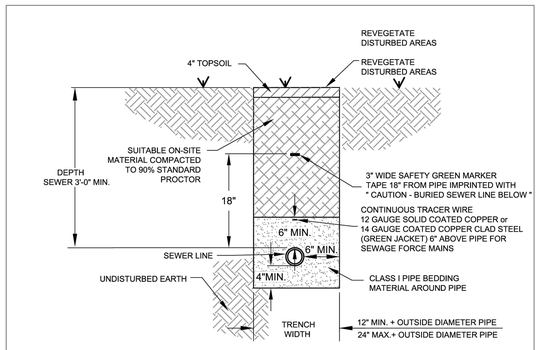
THE INSTALLATION SHALL BE DYE TESTED FOR ACCEPTANCE.



MANHOLE CORING DETAILS

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S11**
DESCRIPTION: **MANHOLE CORING**
DRAWN BY: | CHECKED BY: | FILE: S11-Manhole Coring.dwg



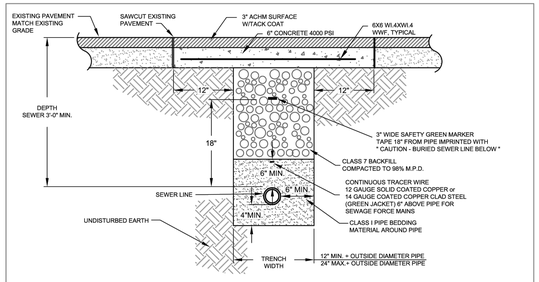
NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL ITEMS NECESSARY TO CONNECT WITH ANY PART OF THE EXISTING SEWER SYSTEM THAT WILL REMAIN IN ORDER TO ESTABLISH A SATISFACTORY AND ACCEPTABLE SEWER SYSTEM.
2. CONTRACTOR TO CONSTRUCT ALL TRENCH EXCAVATION IN ACCORDANCE WITH ALL OSHA REGULATIONS (29 CFR CH.XVII, SUBPART B)
3. TRENCH SHALL BE EXCAVATED BELOW GRADE REQUIRED TO PROVIDE A MINIMUM 36" OF PIPE COVER.

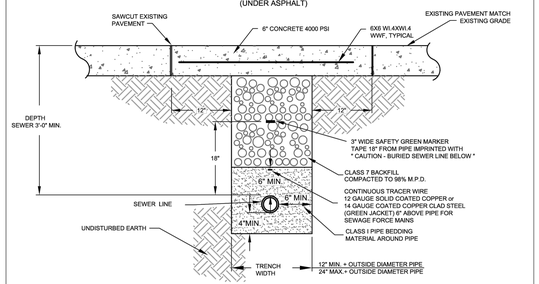
SEWER TRENCH
(NON-PAVED AREA)

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S1**
DESCRIPTION: **SEWER TRENCH (NON-PAVED AREA)**
DRAWN BY: | CHECKED BY: | FILE: S1-Sewer Trench (Non-Paved Area).dwg



SEWER TRENCH
(UNDER ASPHALT)



SEWER TRENCH
(UNDER CONCRETE)

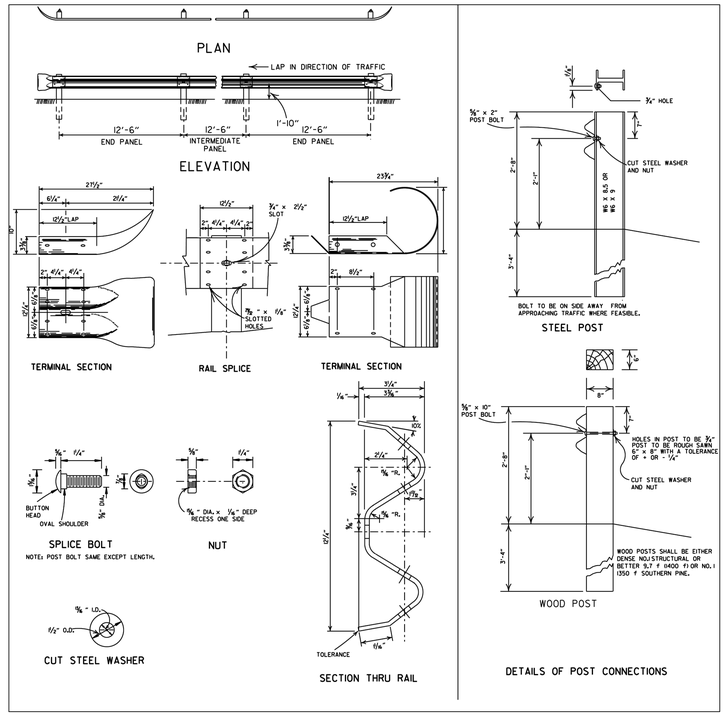
NOTES:

1. THE CONTRACTOR SHALL PROVIDE ALL ITEMS NECESSARY TO CONNECT WITH ANY PART OF THE EXISTING SEWER SYSTEM THAT WILL REMAIN IN ORDER TO ESTABLISH A SATISFACTORY AND ACCEPTABLE SEWER SYSTEM.
2. CONTRACTOR TO CONSTRUCT ALL TRENCH EXCAVATION IN ACCORDANCE WITH ALL OSHA REGULATIONS (29 CFR CH.XVII, SUBPART B)
3. TRENCH SHALL BE EXCAVATED BELOW GRADE REQUIRED TO PROVIDE A MINIMUM 36" OF PIPE COVER.

CITY OF BRYANT, AR
WATER UTILITIES
210 S.W. 3rd. STREET
BRYANT, AR
PHONE: (501) 943-0488

TITLE: **SEWER DETAILS** | DATE: APRIL 2015 | REVISED | SHEET: **S2**
DESCRIPTION: **SEWER TRENCH (UNDER PAVEMENT)**
DRAWN BY: | CHECKED BY: | FILE: S2-Sewer Trench (Under Pavement).dwg

GUARDRAIL DETAIL



SEWER NOTES:

1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED CITY OF BRYANT' SPECIFICATIONS.
2.) ALL SERVICE LINES SHALL BE 4" SDR-21 OR SCH 40 PVC OR AS SPECIFIED ON THE DESIGN DRAWINGS.
3.) CONTRACTOR TO VERIFY METHOD OF CONNECTION WITH THE UTILITY OWNER PRIOR TO CONSTRUCTION.
4) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
5) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
6) BACKFILL FOR ALL DISTURBED (EXCAVATED) AREAS SHALL BE IN ACCORDANCE WITH CITY OF BRYANT STANDARD SPECS.
7) A 2-WAY CLEANOUT WITH BACKFLOW PREVENTER SHALL BE INSTALLED WITHIN 5 FEET OF THE BUILDING. DIRECTIONALY, THE CLEANOUT MUST SWEEP AWAY FROM THE VALVE TO PREVENT DAMAGE TO THE BACKFLOW PREVENTER.

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

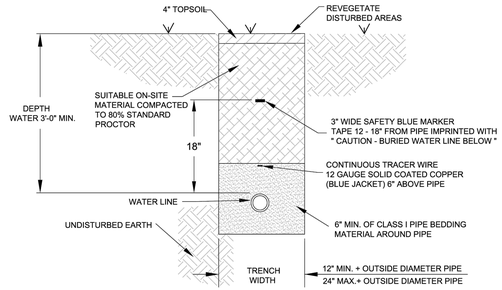
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
STATE OF ARKANSAS

MISC. DETAILS
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025 REV. 5/6/2025
Scale: N.T.S.
Sheet: 11 of 13



NOTES:

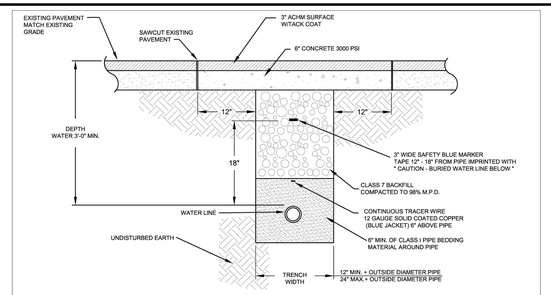
1. ALL VALVES, BENDS, ETC. SHALL BE RESTRAINED.
2. THE CONTRACTOR SHALL PROVIDE ALL ITEMS NECESSARY TO CONNECT WITH ANY PART OF THE EXISTING WATER SYSTEM THAT WILL REMAIN IN ORDER TO ESTABLISH A SATISFACTORY AND ACCEPTABLE WATER SYSTEM.
3. CONTRACTOR TO CONSTRUCT ALL TRENCH EXCAVATION IN ACCORDANCE WITH ALL OSHA REGULATIONS (29 CFR CH.XVII, SUBPART B)
4. TRENCH SHALL BE EXCAVATED BELOW GRADE REQUIRED TO PROVIDE A MINIMUM 36" OF PIPE COVER.
5. MAXIMUM PIPE COVER SHALL BE 60" UNDER NORMAL CONDITIONS. COVER GREATER THAN 60" MAY BE ALLOWED FOR SHORT DISTANCES WHERE REQUIRED BY FIELD CONDITIONS. NO HYDRANT SHALL BE ALLOWED WHERE LINES ARE GREATER THAN 60" DEEP.

WATER MAIN TRENCH

(NON-PAVED AREA)

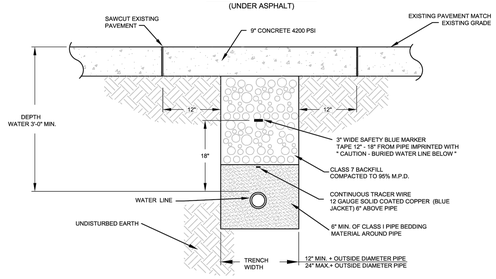
CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	WATER MAIN TRENCH (NON-PAVED AREA)	REVISED ----- ----- ----- -----	W1
DRAWN BY:	CHECKED BY:	FILE: W1-Water Trench (Non-Paved Area).dwg	



WATER MAIN TRENCH

(UNDER ASPHALT)



WATER MAIN TRENCH

(UNDER CONCRETE)

NOTES:

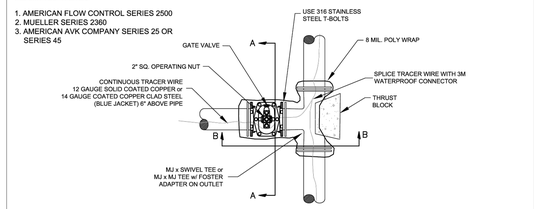
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3. CONTRACTOR TO CONSTRUCT ALL TRENCH EXCAVATION IN ACCORDANCE WITH ALL OSHA REGULATIONS (29 CFR CH.XVII, SUBPART B)
4. TRENCH SHALL BE EXCAVATED BELOW GRADE REQUIRED TO PROVIDE A MINIMUM 36" OF PIPE COVER.
5. MAXIMUM PIPE COVER SHALL BE 60" UNDER NORMAL CONDITIONS. COVER GREATER THAN 60" MAY BE ALLOWED FOR SHORT DISTANCES WHERE REQUIRED BY FIELD CONDITIONS. NO HYDRANT SHALL BE ALLOWED WHERE LINES ARE GREATER THAN 60" DEEP.

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

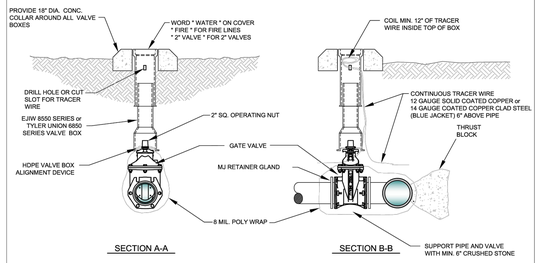
TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	WATER MAIN TRENCH (UNDER PAVEMENT)	REVISED ----- ----- ----- -----	W2
DRAWN BY:	CHECKED BY:	FILE: W2-Water Trench (Under Pavement).dwg	

PERMITTED VALVES

1. AMERICAN FLOW CONTROL SERIES 2500
2. MUELLER SERIES 2360
3. AMERICAN AVK COMPANY SERIES 25 OR SERIES 45



PLAN



NOTES:

1. ALL VALVES SHALL BE SECURELY ANCHORED TO THE TEE.
2. ALL HARDWARE SHALL BE 316 STAINLESS STEEL.
3. IF DEPTH OF BURY EXCEEDS 4 FT., A VALVE STEM EXTENSION SHALL BE REQUIRED. THE VALVE STEM EXTENSION NUT SHALL BE WITHIN 24-INCHES TO 12-INCHES OF THE FINISHED SURFACE.

GATE VALVE DETAIL

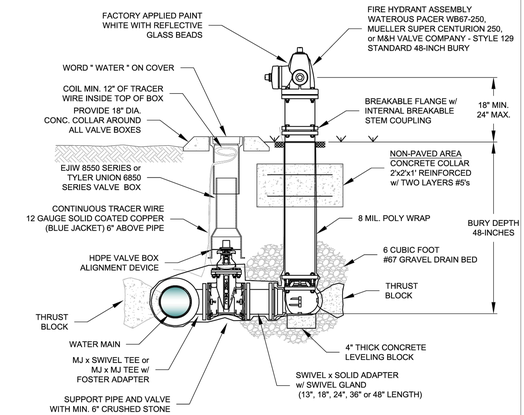
2" - 12"

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	GATE VALVE	REVISED ----- ----- ----- -----	W4
DRAWN BY:	CHECKED BY:	FILE: W4-Gate Valve.dwg	

NOTES:

1. THE 6" GATE VALVE SHALL BE POSITIVELY RESTRAINED TO THE MAIN BY THE USE OF EITHER A SWIVEL TEE OR FOSTER ADAPTER.
2. FIRE HYDRANTS SHALL BE DESIGNED FOR A MINIMUM 48" BURY.
3. BURY LINE OF HYDRANT SHALL BE NO LESS THAN THE PROPOSED FINISHED ELEVATION OF BACK OF CURB, OR SIDEWALK, WHICHEVER IS GREATER.
4. EXTENSIONS SHALL BE WATEROUS K562 OR MUELLER A-320 WITH NO MORE THAN ONE EXTENSION PER HYDRANT.
5. IF SIDEWALK IS PRESENT, HYDRANT SHALL BE INSTALLED 2' MINIMUM BEHIND THE BACK OF THE SIDEWALK OR CURB. VALVES SHALL BE INSTALLED 1' MINIMUM BEHIND THE BACK OF THE SIDEWALK OR CURB.
6. DO NOT COVER UP WEEP HOLE WITH CONCRETE.
7. MJ RETAINER GLANDS ARE REQUIRED FOR ALL FITTINGS.
7. 6" DUCTILE IRON PIPE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 48-INCHES FROM THE MAIN VALVE.
8. AN ADDITIONAL GUARDIAN VALVE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 30 FEET IN LENGTH.



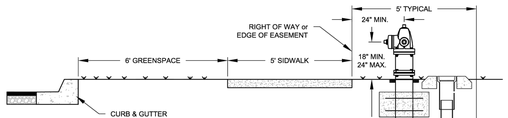
FIRE HYDRANT & VALVE CONNECTION

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	FIRE HYDRANT AND VALVE CONNECTION	REVISED ----- ----- ----- -----	W8
DRAWN BY:	CHECKED BY:	FILE: W8-Fire Hydrant and Valve.dwg	

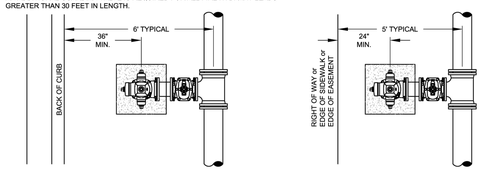
WATER NOTES:

1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED CITY OF BRYANT SPECIFICATIONS.
2.) ALL SERVICE LINES AND METER SETTINGS SHALL BE AS PER CITY OF BRYANT SPECS.
3.) 12ga BLUE COATED COPPER TRACING WIRE TO BE INSTALLED WITH ALL WATERLINES (MAINS & SERVICES).
4.) ALL FITTINGS SHALL BE DUCTILE IRON M.J. (WHERE AVAILABLE).
5.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
6.) MINIMUM SEPARATION BETWEEN WATERLINES & SEWERLINES SHALL BE 10'.
7.) MINIMUM VERTICAL SEPARATION BETWEEN WATERLINE & SEWERLINE CROSSINGS SHALL BE 18" (WATER ON TOP).
8.) CONTRACTOR SHALL ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
9.) STREET CROSSINGS TO MEET BRYANT STREET DEPT SPECIFICATIONS.
10.) CONTRACTOR TO ADHERE TO AWWA SPECS FOR BLOCKING AND ANCHORING.
11.) ON-SITE FIRE HYDRANTS SHALL BE PER CITY OF BRYANT SPECIFICATIONS.



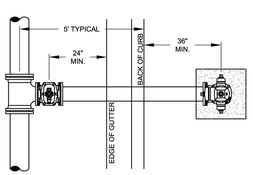
NOTES:

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2. FIRE HYDRANTS SHALL BE DESIGNED FOR A MINIMUM 48" BURY.
3. EXTENSIONS SHALL BE WATEROUS K562 OR MUELLER A-320 WITH NO MORE THAN ONE EXTENSION PER HYDRANT.
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7. MJ RETAINER GLANDS ARE REQUIRED FOR ALL FITTINGS.
7. 6" DUCTILE IRON PIPE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 48-INCHES FROM THE MAIN VALVE.
8. AN ADDITIONAL GUARDIAN VALVE IS REQUIRED FOR ALL FIRE HYDRANT LEADS GREATER THAN 30 FEET IN LENGTH.

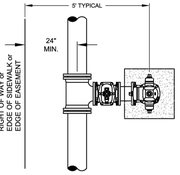


WATER LINE BEHIND CURB
INSIDE ROW

WATER LINE IN EASEMENT
OUTSIDE ROW



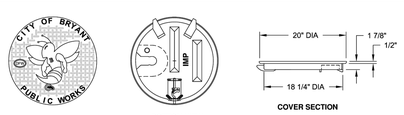
WATER LINE IN STREET
INSIDE ROW



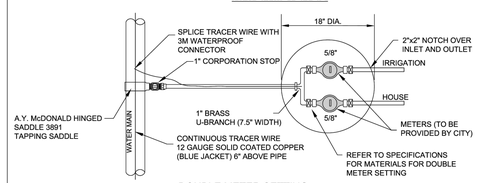
WATER LINE IN EASEMENT
OUTSIDE ROW

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	FIRE HYDRANT PLACEMENT	REVISED ----- ----- ----- -----	W9
DRAWN BY:	CHECKED BY:	FILE: W9-Fire Hydrant Placement.dwg	

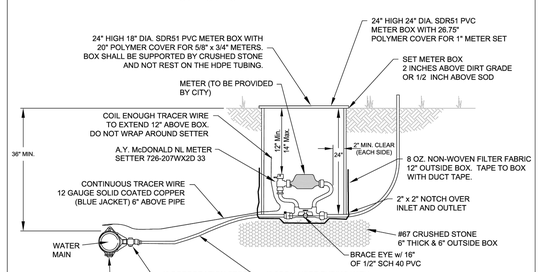


WATER METER LID



DOUBLE METER SETTING

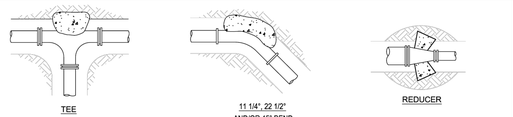
ONLY FOR 1 LOT

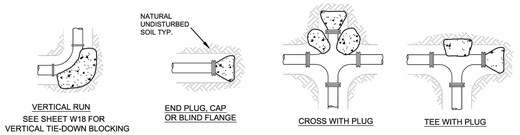


SINGLE METER SETTING

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	METER SETTINGS	REVISED ----- ----- ----- -----	W10
DRAWN BY:	CHECKED BY:	FILE: W10-Meter Settings.dwg	





THRUST BLOCK SCHEDULE

(2000 PSF SOIL, 200 PSI WATER PRESSURE, 100 PSI WATER HAMMER)

FITTING SIZE	PLUG TEE OR CAP	BEARING AREA OF THRUST BLOCKS IN SQ. FT. (HORIZONTAL BENDS) BEND ANGLE 90° *	45°	22 1/2°	11 1/4°	FITTING SIZE	VOLUME OF THRUST BLOCK IN CU. FEET (VERTICAL BENDS) BEND ANGLE 90° *	45°	22 1/2°	11 1/4°	ROD DIAM.	EMBED-MENT
2, 3, & 4	1.9	2.7	1.4	0.7	0.4	2, 3, & 4	35.5	19.2	9.8	4.9	.50"	30"
6	5.6	7.9	4.3	2.2	1.1	6	105.8	57.2	29.2	14.7	.75"	30"
8	9.6	13.6	7.4	3.8	1.9	8	181.9	98.5	50.2	25.2	.75"	30"
12	20.5	29.0	15.7	8.0	4.0	12	387.1	209.5	106.8	53.7	1.0"	30"
16	35.7	50.4	27.3	13.9	7.0	16	672.8	364.0	185.6	93.2	1.0"	36"
18	44.8	63.4	34.3	17.5	18.8	18	844.7	457.2	233.1	117.1	1.0"	36"
24	78.4	110.9	60.0	30.6	15.4	24	1478.7	800.3	408.0	205.0	1.5"	36"

* 90 DEGREE BENDS SHALL ONLY BE USED ON A BY-EXCEPTION BASIS, AND MUST EACH BE SPECIFICALLY APPROVED BY CITY.

THRUST BLOCK NOTES:

1. CONCRETE FOR THRUST BLOCKS - CLASS A CONCRETE SHALL DEVELOP NOT LESS THAN 3000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS AND BE PLACED AGAINST UNDISTURBED SOIL.
2. ALL BENDS, BOTH HORIZONTAL AND VERTICAL, SHALL BE BACKED WITH CONCRETE. VERTICAL BENDS SHALL BE PLACED ON CONCRETE PADS WHERE BENDS TURN UP, OR LOADED WHERE BENDS TURN DOWN.
3. WRAP PIPE JOINTS IN 8 MIL "POLYETHLENE" BEFORE PLACING CONCRETE.
4. BEARING AREA SHOWN IN TABLE, IS BASED UPON A 2000 LB/SF. SOIL BEARING, AND UPON A PIPELINE PRESSURE OF 200 psi. PLUS 100 psi. WATER HAMMER. AREAS SHOWN SHALL BE ADJUSTED, SHOULD FIELD CONDITIONS VARY.
5. MJ RESTRAINTS ARE REQUIRED FOR ALL FITTINGS.
6. USE LONG-RADIUS FITTINGS WHEREVER POSSIBLE.
7. ALL BOLTS FOR FITTINGS SHALL BE 316 STAINLESS STEEL.
8. ALL DUCTILE IRON FITTINGS SHALL BE FUSION-BONDED EPOXY COATED INSIDE AND OUTSIDE IN ACCORDANCE WITH ANSI/AWWA C116/A21.16.
9. UNIT WEIGHT OF CONCRETE FOR VERTICAL THRUST BLOCKS IS 150 LBS/CU. FT.

THRUST BLOCKING

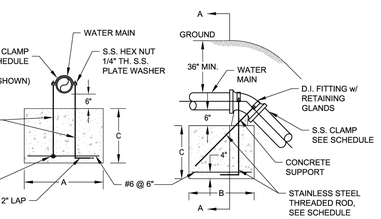
CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	THRUST BLOCKING	REVISED ----- ----- ----- -----	W16
DRAWN BY:	CHECKED BY:	FILE: W16-Thrust Blocking.dwg	

BLOCKING SCHEDULE					
PIPE SIZE	BENDS	45°	22 1/2°	11 1/4°	ROD DIA.
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.
	A (FT.)	5.00'	4.00'	3.00'	
	B (FT.)	4.00'	3.20'	2.80'	
	C (FT.)	5.00'	4.00'	3.00'	
	MIN. CLAMP (2 EA.)	3/8 IN. x 2 IN.			
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.
	A (FT.)	6.00'	5.00'	4.00'	
	B (FT.)	6.00'	4.25'	3.50'	
	C (FT.)	6.00'	5.00'	4.00'	
	MIN. CLAMP (2 EA.)	1/2 IN. x 2 IN.			
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.
	A (FT.)	8.00'	6.50'	5.00'	
	B (FT.)	7.25'	5.50'	4.75'	
	C (FT.)	8.00'	6.50'	5.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.
	A (FT.)	9.50'	7.50'	6.00'	
	B (FT.)	9.00'	7.25'	5.75'	
	C (FT.)	9.50'	7.50'	6.00'	
	MIN. CLAMP (2 EA.)	5/8 IN. x 3 IN.			

VOLUME CALCULATED ON THE BASIS OF CONCRETE REACTING THRUST ON THE RESPECTIVE BENDS UNDER AN INTERNAL PRESSURE OF 250 PSI, 50 PSI SURGE AND THE WEIGHT OF CONCRETE IS 150 POUNDS PER CU. FT.

ALL FITTINGS SHALL BE MECHANICAL JOINTS WITH RETAINING GLANDS. BEDDING NOT SHOWN



VERTICAL TIE-DOWN BLOCKING

CITY OF BRYANT, AR — WATER UTILITIES, 210 S.W. 3rd. STREET, BRYANT, AR, PHONE: (501) 943-0468

TITLE:	WATER DETAILS	DATE: APRIL 2015	SHEET:
DESCRIPTION:	VERTICAL TIE-DOWN BLOCKING	REVISED ----- ----- ----- -----	W17
DRAWN BY:	CHECKED BY:	FILE: W17-Vertical Tie-Down Blocking.dwg	

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Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

CERTIFICATE OF AUTHORIZATION — Richardson Engineering, PLLC — No. 2519 — STATE OF ARKANSAS

MISC. DETAILS
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

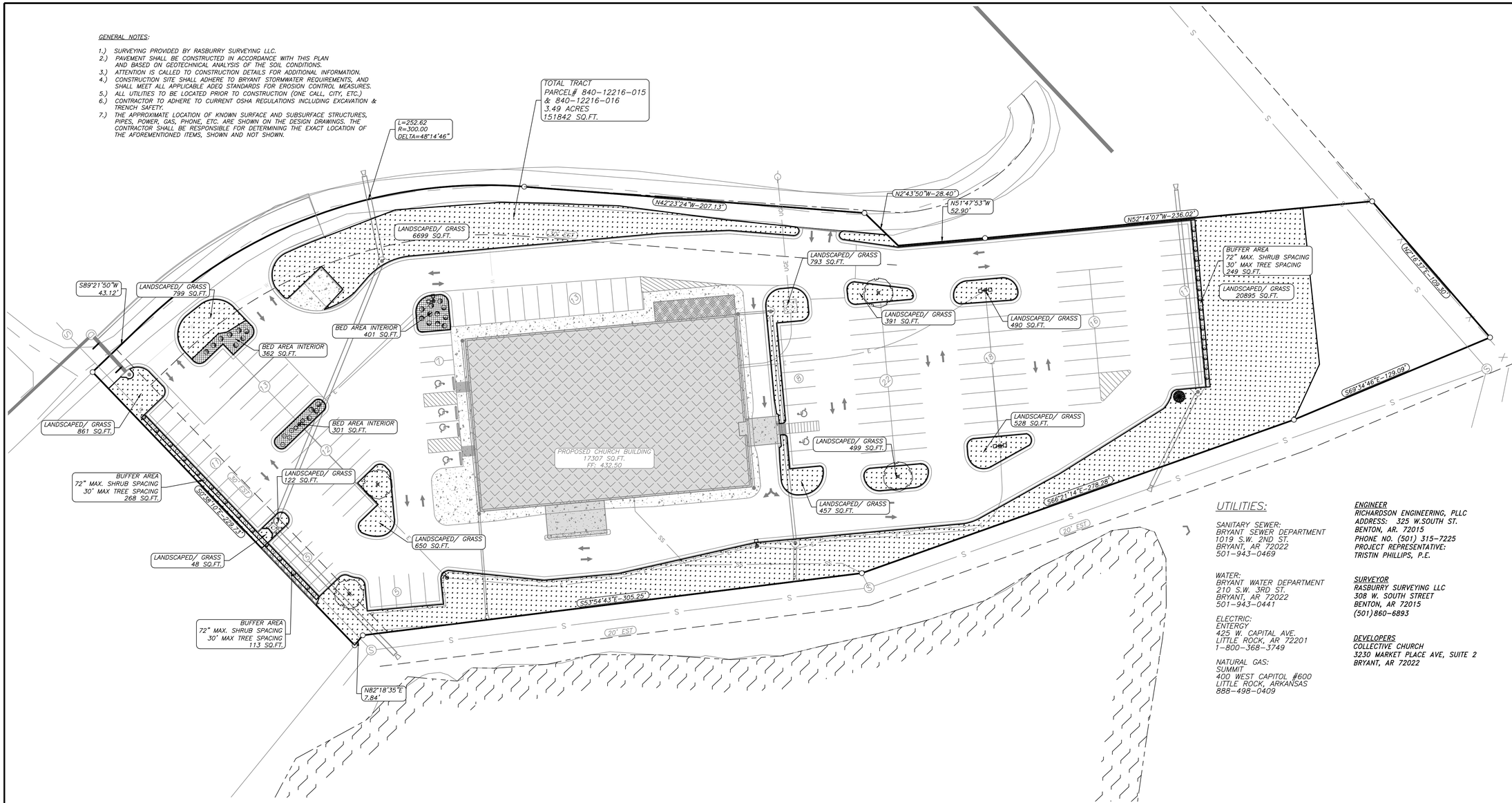
Prepared For: COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025 REV. 5/6/2025
Scale: N.T.S.
Sheet: 12 of 13

GENERAL NOTES:

1.) SURVEYING PROVIDED BY RASBURRY SURVEYING LLC.
2.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS PLAN AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS.
3.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
4.) CONSTRUCTION SITE SHALL ADHERE TO BRYANT STORMWATER REQUIREMENTS, AND SHALL MEET ALL APPLICABLE ADEQ STANDARDS FOR EROSION CONTROL MEASURES.
5.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.)
6.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
7.) THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.



UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

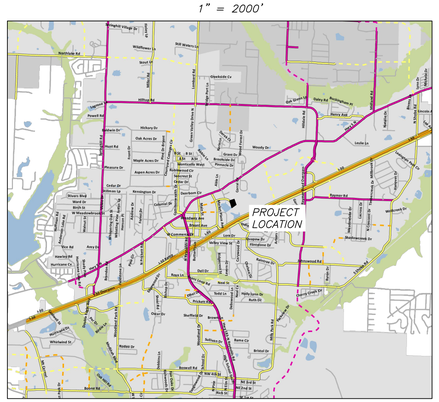
NATURAL GAS:
SUMMIT
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

VICINITY MAP
1" = 2000'



LANDSCAPE NOTES:

1) LANDSCAPING SHALL MEET CITY OF BRYANT LANDSCAPING REQUIREMENTS.
2) SPACING FOR SHRUBS IN BEDS 72" OR AS NOTED.
3) ALL SHRUB MATERIAL MUST BE EIGHTEEN (18) INCHES IN HEIGHT AT INSTALLATION
4) ALL TREES MUST BE 3" CALIPER AT THE TIME OF INSTALLATION
5) AN AUTOMATIC IRRIGATION SYSTEM SHALL BE PROVIDED FOR ALL NEW LANDSCAPE AREAS. THIS SYSTEM WILL PROVIDE 100% COVERAGE FOR LANDSCAPED AREAS.
6) SHRUBS USED FOR SCREENING SHALL BE EVERGREEN IN NATURE AND BE AT LEAST 30" INCHES TALL AT THE TIME OF PLANTING. SPACING SHALL BE MIN 72".

GRAPHIC SCALE

30 0 30 60 90
(IN FEET)
1 inch = 30 ft.

WILLOW OAK - QUERCUS PEAR (OR APPROVED EQUIVALENT)

LOBLOLLY PINE - PINUS TAEDA (OR APPROVED EQUIVALENT)

ILEX CORNUTA "ROTUNDA" DWARF ROTUNDA HOLLY (OR APPROVED EQUIVALENT)

NANDINA - NANDINA DOMESTICA

PROPOSED BERMUDA GRASS IN SOD AREA

PROPOSED MULCH/BED AREA / INTERIOR LANDSCAPING

PROPOSED BUFFER AREAS

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ARKANSAS

LANDSCAPE PLAN
COLLECTIVE CHURCH
PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE, SUITE 2
BRYANT, AR 72022

No.	Revisions	Date
1	PER CITY OF BRYANT DRC COMMENTS	4/21/2025
2	WAIVER REQUEST FOR BUILDING LOCATION	5/6/2025

PROJECT #: 023-065
Date: 4/3/2025 REV. 5/6/2025
Scale: 1" = 30'
Sheet: 1.3 of 1.3

Drainage Report

For

Collective Church

Bryant, Saline County, Arkansas



May 2, 2025

Prepared by:

RICHARDSON ENGINEERING, PLLC

325 W. South St.
Benton, AR 72015
501-315-7225

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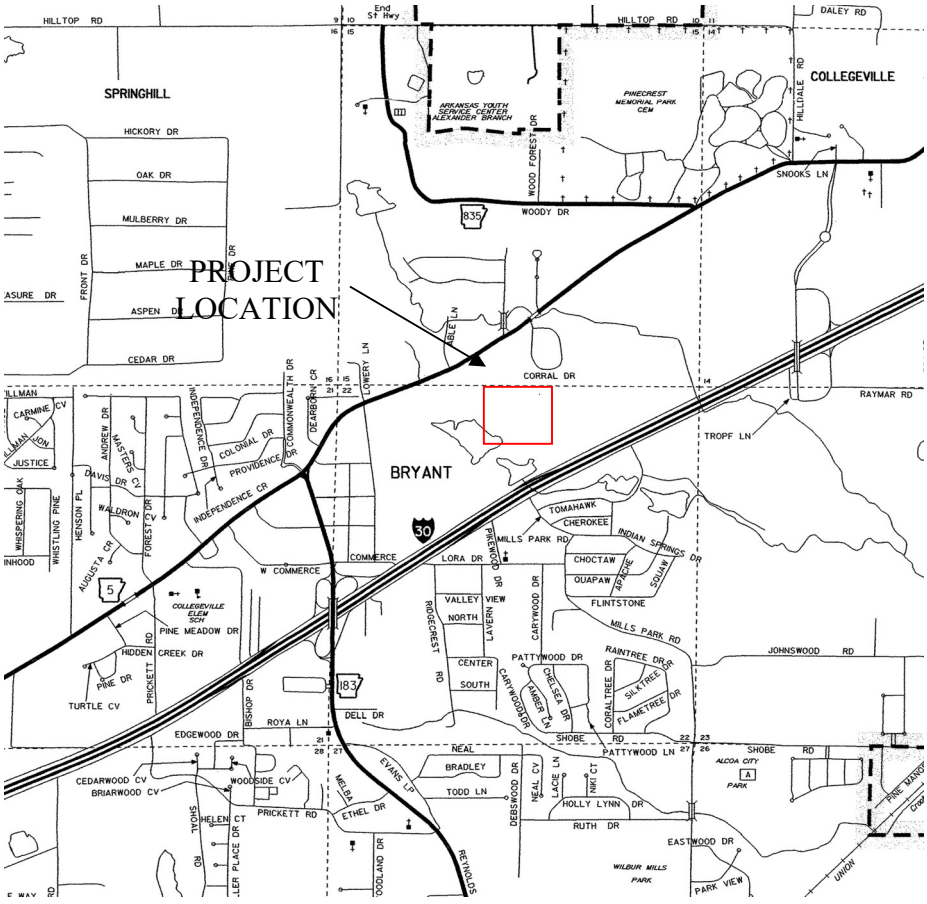
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Drainage Ditch Design Calculations	8
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Project Owner Information

Collective Church
3230 Markey Place Ave
Bryant, AR 72022

Project Location and Description

The project is located on Progress Way, part of the East Half of the Northwest Quarter, Section 22, Township 1-S, Range 14-W, Saline County, Arkansas.



Vicinity Map – N.T.S

This project is a Commercial Development for a Church, located in the City of Bryant, Saline County.

Site Drainage

Pre-Development

The pre-developed runoff for the site flows to the South to a regional detention basin for the overall commercial development. The pre-development runoff condition is undeveloped/woods.

Post-Development

The site drainage starts on the North side of the project and flows to the East and West. The drainage is intercepted into a storm sewer system and is discharged into the existing regional detention basin to the South of the proposed project. The post-development runoff conditions changed from undeveloped/woods to commercial development.

Runoff Summary

Drainage Basin "A"
(West Side of Project/30" ADS Discharge Point)
Pre-Development Drainage Area = 0.81 Ac
Post-Development Drainage Area = 6.28 Ac
Existing Condition runoff Coefficient: C = 0.47
Proposed runoff Coefficient: C = 0.95
Tc Undeveloped = 16 Minutes (TR55 Method)
Tc Developed = 6 Minutes

Design Storm	Pre-Development Flow Rate (cfs)	Post-Development Flow Rate (cfs)
2-yr	1.38	33.73
10-yr	1.85	45.13
25-yr	2.13	51.84
50-yr	2.33	56.64
100-yr	2.53	61.57

Drainage Basin "B"
(West side of Project/12" ADS Discharge Point)
Pre-Development Drainage Area = 5.62 Ac
Post-Development Drainage Area = 0.20 Ac
Existing Condition runoff Coefficient: C = 0.47
Proposed runoff Coefficient: C = 0.95
Tc Undeveloped = 13 Minutes (TR55 Method)
Tc Developed = 5 Minutes

Design Storm	Pre-Development Flow Rate (cfs)	Post-Development Flow Rate (cfs)
2-yr	10.53	1.17
10-yr	14.12	1.56
25-yr	16.22	1.79
50-yr	17.74	1.96
100-yr	19.26	2.13

Drainage Basin "C"
(East Side of Project/18" ADS Discharge Point)
Pre-Development Drainage Area = 0.64 Ac
Post-Development Drainage Area = 0.45 Ac
Existing Condition runoff Coefficient: C = 0.47
Proposed runoff Coefficient: C = 0.95
Tc Undeveloped = 9 Minutes (TR55 Method)
Tc Developed = 6 Minutes

Design Storm	Pre-Development Flow Rate (cfs)	Post-Development Flow Rate (cfs)
2-yr	1.41	2.42
10-yr	1.89	3.23
25-yr	2.18	3.72
50-yr	2.38	4.06
100-yr	2.59	4.41

Drainage Basin "D"
(East Side of Project/24" ADS Discharge Point)
Pre-Development Drainage Area = 0.47 Ac
Post-Development Drainage Area = 3.90 Ac
Existing Condition runoff Coefficient: C = 0.47
Proposed runoff Coefficient: C = 0.95
Tc Undeveloped = 19 Minutes (TR55 Method)
Tc Developed = 10 Minutes

Design Storm	Pre-Development Flow Rate (cfs)	Post-Development Flow Rate (cfs)
2-yr	0.99	9.95
10-yr	1.33	13.36
25-yr	1.53	15.35
50-yr	1.67	16.80
100-yr	1.81	18.23

Recommendations/Summary

The proposed drainage improvements include a storm sewer system for the commercial development that will be discharged into the existing regional detention basin. The proposed storm system also catches water from the commercial lot to the North and Hunters Crossing subdivision and routes it to the existing regional detention basin.

Appendices

Site Drainage Map
Storm System Design (SSA)
Pond and Post Development Hydrographs (Hydrology Studio)

Drainage Ditch Design Calculations

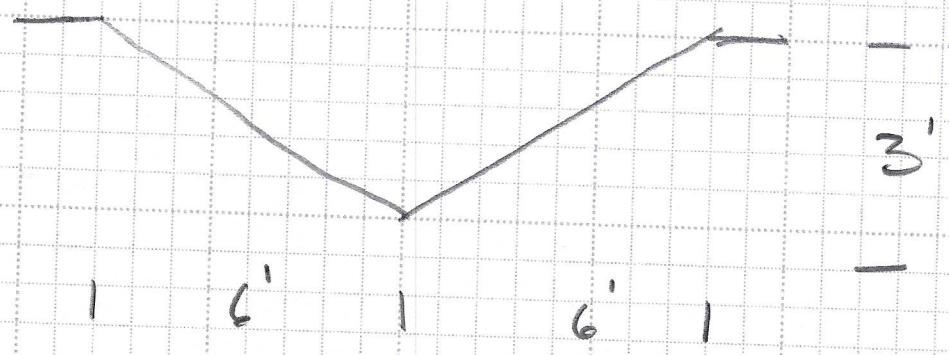
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PROJECT 023-065 COLLECTIVE CHURCH DATE 05/02/2025

DRAINAGE BASIN
3.7784 AC
$Q_{100} = 40.2$ CFS



$$Q = \frac{(1.49)}{N} * A * R_H^{(2/3)} \propto S^{1/2}$$

$N = 0.03$ (GRASS WATERWAY)

$A = 18\ FT^2$

$W_p = 13.41\ FT$

$S = 2.0\% = 0.02\ FT/FT$

$$Q = \frac{(1.49)}{0.03} * (18) * \left(\frac{18}{13.41}\right)^{(2/3)} * (0.02)^{1/2}$$

$= 153.8$ CFS ✓

Post-Development Tc Calculations

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POST-DEV BASIN "A" T_c

SUB FES-S : T_c = 5 MIN

PIPE 25 $T_{TRAV} = \frac{L}{V} = \frac{53}{(13.66)(60)} = 0.06$ MIN

PIPE 24 $\Rightarrow \frac{177}{(10.49)(60)} = 0.28$ MIN

PIPE 15 $\Rightarrow \frac{106}{(10.84)(60)} = 0.16$ MIN

T_c = 5.5 MIN

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PROJECT 023-065 COLLECTIVE CHURCH DATE 05/02/2025

POST-DEV BASIN "B"

SUB AD-24 T_c = 5 MIN

PIPE -16 $T_{FLOW} = \frac{L}{V} = \frac{105}{(6.4)(60)} = 0.27$ MIN

PIPE 17 $\Rightarrow \frac{61}{(10.37)(60)} = 0.10$ MIN

T_c = 5.37 MIN

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PROJECT 023-065 COLLECTIVE CHURCH DATE 05/02/2025

POST-DEV BASIN "C"

SUB AD-29 T_c = 5 MIN

PIPE 19 $T_{FLOW} = \frac{L}{V} = \frac{106}{(6.41)(60)} = 0.27$ MIN

PIPE 20 => $\frac{20}{(7.03)(60)} = 0.05$ MIN

PIPE 18 => $\frac{141}{(6.47)(60)} = 0.36$ MIN

PIPE 18(1) => $\frac{20}{(7.8)(60)} = 0.04$ MIN

T_c = 5.72 MIN

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PROJECT 023-065 COLLECTIVE CHURCH DATE 05/02/2025

POST-DEV BASIN "D"

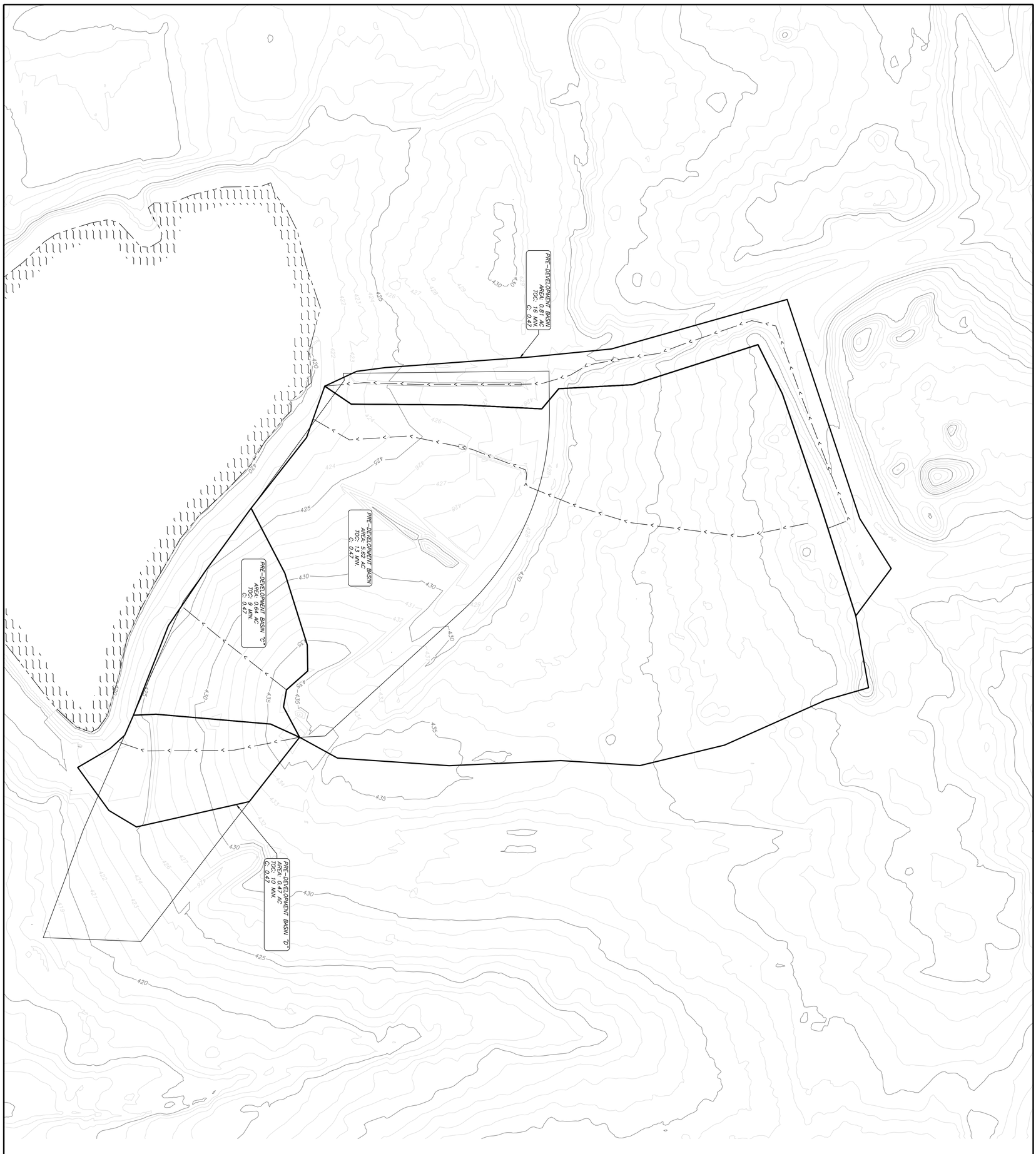
SUB FES-6 T_c = 18.23 min

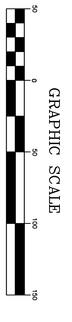
PIPE 26 $T_{FLOW} = \frac{L}{V} = \frac{123}{(8.28)(60)}$ = 0.25 min

PIPE 21 => $\frac{63}{(9.38)(60)}$ = 0.11 min

T_c = 18.59 min

Site Drainage Basin Maps

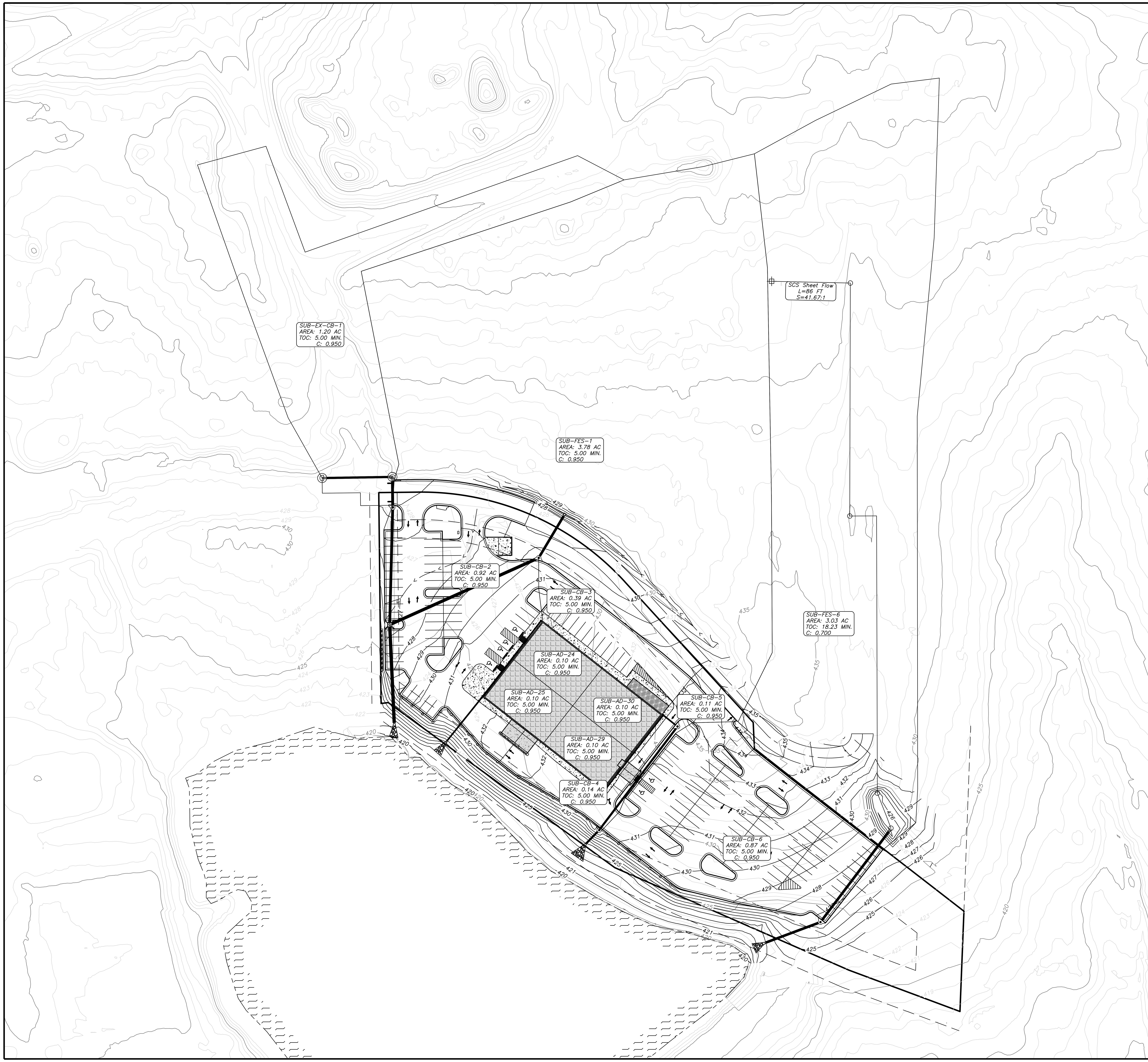




PROJECT #: 023-065		No.	Revisions	Date	Prepared For:	PRE-DEVELOPMENT DRAINAGE BASINS COLLECTIVE CHURCH
Scale: 1" = 50'	Date: 05/02/2025				COLLECTIVE CHURCH 3230 MARKET PLACE AVE, SUITE 2 BRYANT, AR 72022	PROPOSED BUILDING & PARKING BRYANT, ARKANSAS
Sheet: 1 of 2						

CERTIFICATE OF AUTHORIZATION
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ARKANSAS

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GRAPHIC SCALE

50 0 50 100 150

(IN FEET)
1 inch = 50 ft.

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POST-DEVELOPMENT DRAINAGE BASINS
COLLECTIVE CHURCH

PROPOSED BUILDING & PARKING
BRYANT, ARKANSAS

Prepared For:
COLLECTIVE CHURCH
3230 MARKET PLACE AVE,
SUITE 2
BRYANT, AR 72022

No.	Revisions	Date

PROJECT #: 023-065
Scale: 1" = 50'
Date: 05/02/2025
Sheet: 2 of 2

Storm System Design (SSA)

2 Year Design Storm

Project Description

File Name	Collective Church Drainage 5-2-25.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 02, 2025	00:00:00
End Analysis On	May 03, 2025	00:00:00
Start Reporting On	May 02, 2025	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	12
Nodes	16
Junctions	6
Outfalls	4
Flow Diversions	0
Inlets	6
Storage Nodes	0
Links	15
Channels	1
Pipes	14
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	2 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-AD- (24)	0.10	0.9500	0.51	0.49	0.05	0.58	0 00:05:00
2	Sub-AD- (25)	0.10	0.9500	0.51	0.49	0.05	0.58	0 00:05:00
3	Sub-AD- (29)	0.10	0.9500	0.51	0.49	0.05	0.58	0 00:05:00
4	Sub-AD- (30)	0.10	0.9500	0.51	0.49	0.05	0.58	0 00:05:00
5	Sub-CB-1	1.20	0.9500	0.51	0.49	0.58	6.99	0 00:05:00
6	Sub-CB-2	0.92	0.9500	0.51	0.49	0.45	5.35	0 00:05:00
7	Sub-CB-3	0.39	0.9500	0.51	0.49	0.19	2.26	0 00:05:00
8	Sub-CB-4	0.14	0.9500	0.51	0.49	0.07	0.82	0 00:05:00
9	Sub-CB-5	0.11	0.9500	0.51	0.49	0.06	0.67	0 00:05:00
10	Sub-CB-6	0.87	0.9500	0.51	0.49	0.42	5.10	0 00:05:00
11	Sub-FES-5	3.78	0.9500	0.51	0.49	1.84	22.04	0 00:05:00
12	Sub-FES-6	3.03	0.7000	1.02	0.71	2.16	7.14	0 00:18:13

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Ma Surcharg Dept Attaine (f
1	AD- (24)	Junction	429.05	432.47	429.05	432.47	10.00	0.58	429.32	0.0
2	AD- (25)	Junction	428.00	432.46	428.00	432.46	10.00	1.13	428.26	0.0
3	AD- (29)	Junction	429.06	432.45	429.06	432.45	10.00	0.58	429.32	0.0
4	AD- (30)	Junction	428.00	432.46	428.00	432.46	10.00	1.12	428.29	0.0
5	FES-5	Junction	425.10	427.00	425.10	427.50	0.00	22.04	426.14	0.0
6	FES-6	Junction	424.75	426.99	424.75	426.99	0.00	7.14	425.49	0.0
7	Out-1SL - (15)	Outfall	421.25					35.49	422.94	
8	Out-1SL - (17)	Outfall	423.50					1.12	423.72	
9	Out-1SL - (18) (1)	Outfall	424.50					2.52	424.90	
10	Out-1SL - (21)	Outfall	422.50					7.11	423.15	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	F
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	
1	L-SL - (24)	Pipe	CB-3	CB-2	199.68	430.66	426.94	1.8600	0.000	0.0320	0.36	0.00	0.00	0.00	
2	L-SL-14	Pipe	CB-1	CB-2	135.67	423.42	422.50	0.6800	0.000	0.0150	2.77	0.00	0.00	0.00	
3	SL - (14)	Pipe	CB-1	CB-2	127.66	423.42	422.80	0.4900	24.000	0.0130	4.16	15.77	0.26	7.45	
4	SL - (15)	Pipe	CB-2	Out-1SL - (15)	106.61	422.32	421.25	1.0000	30.000	0.0120	35.49	44.52	0.80	10.14	
5	SL - (16)	Pipe	AD- (24)	AD- (25)	105.49	429.05	428.00	1.0000	12.000	0.0120	0.57	3.86	0.15	5.59	
6	SL - (17)	Pipe	AD- (25)	Out-1SL - (17)	60.96	428.00	423.50	7.3800	12.000	0.0120	1.12	10.49	0.11	8.73	
7	SL - (18)	Pipe	CB-5	CB-4	141.40	427.00	424.90	1.4900	18.000	0.0120	1.76	13.88	0.13	5.45	
8	SL - (18) (1)	Pipe	CB-4	Out-1SL - (18) (1)	20.22	424.90	424.50	1.9700	18.000	0.0120	2.52	15.96	0.16	6.59	
9	SL - (19)	Pipe	AD- (29)	AD- (30)	106.07	429.06	428.00	1.0000	12.000	0.0120	0.57	3.86	0.15	5.60	
10	SL - (20)	Pipe	AD- (30)	CB-5	19.89	428.00	427.50	2.5100	12.000	0.0120	1.12	6.12	0.18	5.94	
11	SL - (21)	Pipe	CB-6	Out-1SL - (21)	63.64	423.50	422.50	1.5700	24.000	0.0120	7.11	30.72	0.23	7.96	
12	SL - (24)	Pipe	CB-3	CB-2	174.72	424.10	422.32	1.0200	30.000	0.0120	23.43	44.85	0.52	9.34	
13	SL - (25)	Pipe	FES-5	CB-3	52.99	425.10	424.10	1.8900	30.000	0.0120	21.93	61.04	0.36	11.83	
14	SL - (26)	Pipe	FES-6	CB-6	123.36	424.75	423.50	1.0100	24.000	0.0120	7.11	24.67	0.29	7.20	
15	L-SL - (18) (1)	Channel	CB-4	CB-6	272.73	431.93	427.30	1.7000	6.000	0.0150	0.00	7.95	0.00	0.00	

Inlet Summary

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	CB-1	On Grade	1	423.42	429.56	423.42	N/A	6.99	4.21	2.77	60.33	10.00	14.61	429.85
2	CB-2	On Sag	1	422.32	426.95	422.32	10.00	8.48	N/A	N/A	N/A	10.00	9.70	427.49
3	CB-3	On Grade	1	424.10	430.66	424.10	N/A	2.26	1.90	0.36	84.14	10.00	5.89	430.82
4	CB-4	On Grade	1	424.90	431.93	424.90	N/A	0.82	0.82	0.00	100.00	10.00	5.89	432.05
5	CB-5	On Sag	1	427.00	432.00	427.00	10.00	0.67	N/A	N/A	N/A	10.00	2.33	432.32
6	CB-6	On Sag	1	423.50	427.34	423.50	10.00	5.10	N/A	N/A	N/A	10.00	7.76	427.86

Subbasin Hydrology

Subbasin : Sub-AD- (24)

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (25)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (29)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (30)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-1

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-2

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-3

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-4

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-6

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-6

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0.00	0.00
Flow Length (ft) :	85.71195638	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.36	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	12.01	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	253.76684919	31.23398630	0.93388558
Slope (%) :	1.8	0.4	1.25
Surface Type :	Paved	Paved	Unpaved
Velocity (ft/sec) :	2.73	1.29	1.80
Computed Flow Time (min) :	1.55	4.29	0.38

Total TOC (min) 18.23

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	AD- (24)	429.05	432.47	3.41	429.05	0.00	432.47	0.00	10.00	0.00
2	AD- (25)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
3	AD- (29)	429.06	432.45	3.39	429.06	0.00	432.45	0.00	10.00	0.00
4	AD- (30)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
5	FES-5	425.10	427.00	1.90	425.10	0.00	427.50	0.50	0.00	0.00
6	FES-6	424.75	426.99	2.24	424.75	0.00	426.99	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time Max H Occurren (days hh:m
1	AD- (24)	0.58	0.58	429.32	0.27	0.00	3.15	429.06	0.01	0 00:
2	AD- (25)	1.13	0.58	428.26	0.26	0.00	4.21	428.00	0.00	0 00:
3	AD- (29)	0.58	0.58	429.32	0.26	0.00	3.13	429.06	0.00	0 00:
4	AD- (30)	1.12	0.58	428.29	0.29	0.00	4.17	428.00	0.00	0 00:
5	FES-5	22.04	22.04	426.14	1.04	0.00	1.46	425.10	0.00	0 00:
6	FES-6	7.14	7.14	425.49	0.74	0.00	1.50	424.76	0.01	0 00:

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manı Rougł
1	L-SL - (18) (1)	272.73	431.93	7.03	427.30	3.80	4.63	1.7000	User-Defined	0.500	17.000	0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	T Si
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (18) (1)	0.00	0 00:00	7.95	0.00	0.00		0.00	0.00	

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Ma Rou
1	L-SL - (24)	199.68	430.66	6.56	426.94	4.62	3.72	1.8600	Dummy	0.000	0.000	
2	L-SL-14	135.67	423.42	0.00	422.50	0.18	0.92	0.6800	Dummy	0.000	0.000	
3	SL - (14)	127.66	423.42	0.00	422.80	0.48	0.62	0.4900	CIRCULAR	24.000	24.000	
4	SL - (15)	106.61	422.32	0.00	421.25	0.00	1.07	1.0000	CIRCULAR	30.000	30.000	
5	SL - (16)	105.49	429.05	0.00	428.00	0.00	1.05	1.0000	CIRCULAR	12.000	12.000	
6	SL - (17)	60.96	428.00	0.00	423.50	0.00	4.50	7.3800	CIRCULAR	12.000	12.000	
7	SL - (18)	141.40	427.00	0.00	424.90	0.00	2.10	1.4900	CIRCULAR	18.000	18.000	
8	SL - (18) (1)	20.22	424.90	0.00	424.50	0.00	0.40	1.9700	CIRCULAR	18.000	18.000	
9	SL - (19)	106.07	429.06	0.00	428.00	0.00	1.06	1.0000	CIRCULAR	12.000	12.000	
10	SL - (20)	19.89	428.00	0.00	427.50	0.50	0.50	2.5100	CIRCULAR	12.000	12.000	
11	SL - (21)	63.64	423.50	0.00	422.50	0.00	1.00	1.5700	CIRCULAR	24.000	24.000	
12	SL - (24)	174.72	424.10	0.00	422.32	0.00	1.78	1.0200	CIRCULAR	30.000	30.000	
13	SL - (25)	52.99	425.10	0.00	424.10	0.00	1.00	1.8900	CIRCULAR	30.000	30.000	
14	SL - (26)	123.36	424.75	0.00	423.50	0.00	1.25	1.0100	CIRCULAR	24.000	24.000	

No. of Barrels
1
1
1
1
1
1
1
1
1
1
1
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	To Sur
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (24)	0.36	0 00:05	0.00	0.00	0.00		0.00	0.00	
2	L-SL-14	2.77	0 00:05	0.00	0.00	0.00		0.00	0.00	
3	SL - (14)	4.16	0 00:05	15.77	0.26	7.45	0.29	0.70	0.35	
4	SL - (15)	35.49	0 00:05	44.52	0.80	10.14	0.18	1.68	0.67	
5	SL - (16)	0.57	0 00:05	3.86	0.15	5.59	0.31	0.26	0.26	
6	SL - (17)	1.12	0 00:05	10.49	0.11	8.73	0.12	0.22	0.22	
7	SL - (18)	1.76	0 00:05	13.88	0.13	5.45	0.43	0.36	0.24	
8	SL - (18) (1)	2.52	0 00:05	15.96	0.16	6.59	0.05	0.40	0.27	
9	SL - (19)	0.57	0 00:05	3.86	0.15	5.60	0.32	0.26	0.26	
10	SL - (20)	1.12	0 00:05	6.12	0.18	5.94	0.06	0.29	0.29	
11	SL - (21)	7.11	0 00:18	30.72	0.23	7.96	0.13	0.65	0.33	
12	SL - (24)	23.43	0 00:05	44.85	0.52	9.34	0.31	1.28	0.51	
13	SL - (25)	21.93	0 00:05	61.04	0.36	11.83	0.07	1.04	0.41	
14	SL - (26)	7.11	0 00:18	24.67	0.29	7.20	0.29	0.73	0.37	

Inlet Input

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	CB-1	On Grade	1	423.42	429.56	6.14	423.42	0.00	N/A	0.00
2	CB-2	On Sag	1	422.32	426.95	4.63	422.32	0.00	10.00	0.00
3	CB-3	On Grade	1	424.10	430.66	6.56	424.10	0.00	N/A	0.00
4	CB-4	On Grade	1	424.90	431.93	7.03	424.90	0.00	N/A	0.00
5	CB-5	On Sag	1	427.00	432.00	5.00	427.00	0.00	10.00	0.00
6	CB-6	On Sag	1	423.50	427.34	3.84	423.50	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	CB-1	0.0100	0.0200	0.0150	0.0200	1.50	0.1312	10.00
2	CB-2	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
3	CB-3	0.0380	0.0300	0.0150	0.0200	1.50	0.1312	10.00
4	CB-4	0.0175	0.0200	0.0150	0.0200	1.50	0.1312	10.00
5	CB-5	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
6	CB-6	N/A	0.0350	0.0150	0.0200	1.50	0.1312	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	T Max Occu (days h
1	CB-1	6.99	6.99	4.21	2.77	60.33	14.61	429.85	0.29	(
2	CB-2	8.48	5.35	N/A	N/A	N/A	9.70	427.49	0.54	(
3	CB-3	2.26	2.26	1.90	0.36	84.14	5.89	430.82	0.16	(
4	CB-4	0.82	0.82	0.82	0.00	100.00	5.89	432.05	0.12	(
5	CB-5	0.67	0.67	N/A	N/A	N/A	2.33	432.32	0.32	(
6	CB-6	5.10	5.10	N/A	N/A	N/A	7.76	427.86	0.52	(

10 Year Design Storm

Project Description

File Name	Collective Church Drainage 5-2-25.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 02, 2025	00:00:00
End Analysis On	May 03, 2025	00:00:00
Start Reporting On	May 02, 2025	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	12
Nodes	16
Junctions	6
Outfalls	4
Flow Diversions	0
Inlets	6
Storage Nodes	0
Links	15
Channels	1
Pipes	14
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	10 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-AD- (24)	0.10	0.9500	0.68	0.65	0.06	0.78	0 00:05:00
2	Sub-AD- (25)	0.10	0.9500	0.68	0.65	0.06	0.78	0 00:05:00
3	Sub-AD- (29)	0.10	0.9500	0.68	0.65	0.06	0.78	0 00:05:00
4	Sub-AD- (30)	0.10	0.9500	0.68	0.65	0.06	0.78	0 00:05:00
5	Sub-CB-1	1.20	0.9500	0.68	0.65	0.78	9.34	0 00:05:00
6	Sub-CB-2	0.92	0.9500	0.68	0.65	0.60	7.15	0 00:05:00
7	Sub-CB-3	0.39	0.9500	0.68	0.65	0.25	3.03	0 00:05:00
8	Sub-CB-4	0.14	0.9500	0.68	0.65	0.09	1.09	0 00:05:00
9	Sub-CB-5	0.11	0.9500	0.68	0.65	0.07	0.89	0 00:05:00
10	Sub-CB-6	0.87	0.9500	0.68	0.65	0.57	6.82	0 00:05:00
11	Sub-FES-5	3.78	0.9500	0.68	0.65	2.46	29.47	0 00:05:00
12	Sub-FES-6	3.03	0.7000	1.36	0.96	2.89	9.55	0 00:18:13

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Ma Surcharg Dept Attaine (f
1	AD- (24)	Junction	429.05	432.47	429.05	432.47	10.00	0.78	429.36	0.0
2	AD- (25)	Junction	428.00	432.46	428.00	432.46	10.00	1.50	428.30	0.0
3	AD- (29)	Junction	429.06	432.45	429.06	432.45	10.00	0.78	429.36	0.0
4	AD- (30)	Junction	428.00	432.46	428.00	432.46	10.00	1.51	428.34	0.0
5	FES-5	Junction	425.10	427.00	425.10	427.50	0.00	29.47	426.32	0.0
6	FES-6	Junction	424.75	426.99	424.75	426.99	0.00	9.55	425.61	0.0
7	Out-1SL - (15)	Outfall	421.25					48.16	423.54	
8	Out-1SL - (17)	Outfall	423.50					1.50	423.76	
9	Out-1SL - (18) (1)	Outfall	424.50					3.38	424.97	
10	Out-1SL - (21)	Outfall	422.50					9.51	423.26	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	F
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	
1	L-SL - (24)	Pipe	CB-3	CB-2	199.68	430.66	426.94	1.8600	0.000	0.0320	0.73	0.00	0.00	0.00	
2	L-SL-14	Pipe	CB-1	CB-2	135.67	423.42	422.50	0.6800	0.000	0.0150	4.42	0.00	0.00	0.00	
3	SL - (14)	Pipe	CB-1	CB-2	127.66	423.42	422.80	0.4900	24.000	0.0130	4.86	15.77	0.31	7.88	
4	SL - (15)	Pipe	CB-2	Out-1SL - (15)	106.61	422.32	421.25	1.0000	30.000	0.0120	48.16	44.52	1.08	10.66	
5	SL - (16)	Pipe	AD- (24)	AD- (25)	105.49	429.05	428.00	1.0000	12.000	0.0120	0.75	3.86	0.20	5.92	
6	SL - (17)	Pipe	AD- (25)	Out-1SL - (17)	60.96	428.00	423.50	7.3800	12.000	0.0120	1.50	10.49	0.14	9.47	
7	SL - (18)	Pipe	CB-5	CB-4	141.40	427.00	424.90	1.4900	18.000	0.0120	2.36	13.88	0.17	5.92	
8	SL - (18) (1)	Pipe	CB-4	Out-1SL - (18) (1)	20.22	424.90	424.50	1.9700	18.000	0.0120	3.38	15.96	0.21	7.17	
9	SL - (19)	Pipe	AD- (29)	AD- (30)	106.07	429.06	428.00	1.0000	12.000	0.0120	0.76	3.86	0.20	5.93	
10	SL - (20)	Pipe	AD- (30)	CB-5	19.89	428.00	427.50	2.5100	12.000	0.0120	1.50	6.12	0.25	6.45	
11	SL - (21)	Pipe	CB-6	Out-1SL - (21)	63.64	423.50	422.50	1.5700	24.000	0.0120	9.51	30.72	0.31	8.62	
12	SL - (24)	Pipe	CB-3	CB-2	174.72	424.10	422.32	1.0200	30.000	0.0120	31.14	44.85	0.69	9.98	
13	SL - (25)	Pipe	FES-5	CB-3	52.99	425.10	424.10	1.8900	30.000	0.0120	29.34	61.04	0.48	12.41	
14	SL - (26)	Pipe	FES-6	CB-6	123.36	424.75	423.50	1.0100	24.000	0.0120	9.51	24.67	0.39	7.69	
15	L-SL - (18) (1)	Channel	CB-4	CB-6	272.73	431.93	427.30	1.7000	6.000	0.0150	0.01	7.95	0.00	0.90	

Inlet Summary

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft^2)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	CB-1	On Grade	1	423.42	429.56	423.42	N/A	9.34	4.92	4.42	52.73	10.00	16.29	429.88
2	CB-2	On Sag	1	422.32	426.95	422.32	10.00	12.30	N/A	N/A	N/A	10.00	12.42	427.57
3	CB-3	On Grade	1	424.10	430.66	424.10	N/A	3.03	2.29	0.73	75.84	10.00	6.55	430.84
4	CB-4	On Grade	1	424.90	431.93	424.90	N/A	1.09	1.09	0.00	100.00	10.00	6.57	432.06
5	CB-5	On Sag	1	427.00	432.00	427.00	10.00	0.89	N/A	N/A	N/A	10.00	2.83	432.34
6	CB-6	On Sag	1	423.50	427.34	423.50	10.00	6.81	N/A	N/A	N/A	10.00	9.41	427.92

Subbasin Hydrology

Subbasin : Sub-AD- (24)

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (25)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (29)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (30)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-1

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-2

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-3

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-4

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-6

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-6

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0.00	0.00
Flow Length (ft) :	85.71195638	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.36	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	12.01	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	253.76684919	31.23398630	0.93388558
Slope (%) :	1.8	0.4	1.25
Surface Type :	Paved	Paved	Unpaved
Velocity (ft/sec) :	2.73	1.29	1.80
Computed Flow Time (min) :	1.55	4.29	0.38

Total TOC (min) 18.23

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	AD- (24)	429.05	432.47	3.41	429.05	0.00	432.47	0.00	10.00	0.00
2	AD- (25)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
3	AD- (29)	429.06	432.45	3.39	429.06	0.00	432.45	0.00	10.00	0.00
4	AD- (30)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
5	FES-5	425.10	427.00	1.90	425.10	0.00	427.50	0.50	0.00	0.00
6	FES-6	424.75	426.99	2.24	424.75	0.00	426.99	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time Max H Occurren (days hh:m
1	AD- (24)	0.78	0.78	429.36	0.31	0.00	3.11	429.06	0.01	0 00:
2	AD- (25)	1.50	0.78	428.30	0.30	0.00	4.16	428.00	0.00	0 00:
3	AD- (29)	0.78	0.78	429.36	0.30	0.00	3.09	429.06	0.00	0 00:
4	AD- (30)	1.51	0.78	428.34	0.34	0.00	4.12	428.00	0.00	0 00:
5	FES-5	29.47	29.47	426.32	1.22	0.00	1.28	425.11	0.01	0 00:
6	FES-6	9.55	9.55	425.61	0.86	0.00	1.37	424.76	0.01	0 00:

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manı Rougł
1	L-SL - (18) (1)	272.73	431.93	7.03	427.30	3.80	4.63	1.7000	User-Defined	0.500	17.000	0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	T Si
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (18) (1)	0.01	0 00:05	7.95	0.00	0.90	5.05	0.02	0.05	

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Ma Rou
1	L-SL - (24)	199.68	430.66	6.56	426.94	4.62	3.72	1.8600	Dummy	0.000	0.000	
2	L-SL-14	135.67	423.42	0.00	422.50	0.18	0.92	0.6800	Dummy	0.000	0.000	
3	SL - (14)	127.66	423.42	0.00	422.80	0.48	0.62	0.4900	CIRCULAR	24.000	24.000	
4	SL - (15)	106.61	422.32	0.00	421.25	0.00	1.07	1.0000	CIRCULAR	30.000	30.000	
5	SL - (16)	105.49	429.05	0.00	428.00	0.00	1.05	1.0000	CIRCULAR	12.000	12.000	
6	SL - (17)	60.96	428.00	0.00	423.50	0.00	4.50	7.3800	CIRCULAR	12.000	12.000	
7	SL - (18)	141.40	427.00	0.00	424.90	0.00	2.10	1.4900	CIRCULAR	18.000	18.000	
8	SL - (18) (1)	20.22	424.90	0.00	424.50	0.00	0.40	1.9700	CIRCULAR	18.000	18.000	
9	SL - (19)	106.07	429.06	0.00	428.00	0.00	1.06	1.0000	CIRCULAR	12.000	12.000	
10	SL - (20)	19.89	428.00	0.00	427.50	0.50	0.50	2.5100	CIRCULAR	12.000	12.000	
11	SL - (21)	63.64	423.50	0.00	422.50	0.00	1.00	1.5700	CIRCULAR	24.000	24.000	
12	SL - (24)	174.72	424.10	0.00	422.32	0.00	1.78	1.0200	CIRCULAR	30.000	30.000	
13	SL - (25)	52.99	425.10	0.00	424.10	0.00	1.00	1.8900	CIRCULAR	30.000	30.000	
14	SL - (26)	123.36	424.75	0.00	423.50	0.00	1.25	1.0100	CIRCULAR	24.000	24.000	

No. of Barrels
1
1
1
1
1
1
1
1
1
1
1
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	To Sur
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (24)	0.73	0 00:05	0.00	0.00	0.00		0.02	0.05	
2	L-SL-14	4.42	0 00:05	0.00	0.00	0.00		0.02	0.05	
3	SL - (14)	4.86	0 00:05	15.77	0.31	7.88	0.27	0.76	0.38	
4	SL - (15)	48.16	0 00:05	44.52	1.08	10.66	0.17	2.32	0.93	
5	SL - (16)	0.75	0 00:05	3.86	0.20	5.92	0.30	0.30	0.30	
6	SL - (17)	1.50	0 00:05	10.49	0.14	9.47	0.11	0.26	0.26	
7	SL - (18)	2.36	0 00:05	13.88	0.17	5.92	0.40	0.42	0.28	
8	SL - (18) (1)	3.38	0 00:05	15.96	0.21	7.17	0.05	0.47	0.31	
9	SL - (19)	0.76	0 00:05	3.86	0.20	5.93	0.30	0.30	0.30	
10	SL - (20)	1.50	0 00:05	6.12	0.25	6.45	0.05	0.34	0.34	
11	SL - (21)	9.51	0 00:18	30.72	0.31	8.62	0.12	0.76	0.38	
12	SL - (24)	31.14	0 00:05	44.85	0.69	9.98	0.29	1.53	0.61	
13	SL - (25)	29.34	0 00:05	61.04	0.48	12.41	0.07	1.22	0.49	
14	SL - (26)	9.51	0 00:18	24.67	0.39	7.69	0.27	0.86	0.43	

Inlet Input

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	CB-1	On Grade	1	423.42	429.56	6.14	423.42	0.00	N/A	0.00
2	CB-2	On Sag	1	422.32	426.95	4.63	422.32	0.00	10.00	0.00
3	CB-3	On Grade	1	424.10	430.66	6.56	424.10	0.00	N/A	0.00
4	CB-4	On Grade	1	424.90	431.93	7.03	424.90	0.00	N/A	0.00
5	CB-5	On Sag	1	427.00	432.00	5.00	427.00	0.00	10.00	0.00
6	CB-6	On Sag	1	423.50	427.34	3.84	423.50	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	CB-1	0.0100	0.0200	0.0150	0.0200	1.50	0.1312	10.00
2	CB-2	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
3	CB-3	0.0380	0.0300	0.0150	0.0200	1.50	0.1312	10.00
4	CB-4	0.0175	0.0200	0.0150	0.0200	1.50	0.1312	10.00
5	CB-5	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
6	CB-6	N/A	0.0350	0.0150	0.0200	1.50	0.1312	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Max Occu (days
1	CB-1	9.34	9.34	4.92	4.42	52.73	16.29	429.88	0.33	
2	CB-2	12.30	7.15	N/A	N/A	N/A	12.42	427.57	0.62	
3	CB-3	3.03	3.03	2.29	0.73	75.84	6.55	430.84	0.18	
4	CB-4	1.09	1.09	1.09	0.00	100.00	6.57	432.06	0.13	
5	CB-5	0.89	0.89	N/A	N/A	N/A	2.83	432.34	0.33	
6	CB-6	6.81	6.81	N/A	N/A	N/A	9.41	427.92	0.58	

25 Year Design Storm

Project Description

File Name	Collective Church Drainage 5-2-25.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 02, 2025	00:00:00
End Analysis On	May 03, 2025	00:00:00
Start Reporting On	May 02, 2025	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	12
Nodes	16
Junctions	6
Outfalls	4
Flow Diversions	0
Inlets	6
Storage Nodes	0
Links	15
Channels	1
Pipes	14
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	25 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-AD- (24)	0.10	0.9500	0.79	0.75	0.07	0.89	0 00:05:00
2	Sub-AD- (25)	0.10	0.9500	0.79	0.75	0.07	0.89	0 00:05:00
3	Sub-AD- (29)	0.10	0.9500	0.79	0.75	0.07	0.89	0 00:05:00
4	Sub-AD- (30)	0.10	0.9500	0.79	0.75	0.07	0.89	0 00:05:00
5	Sub-CB-1	1.20	0.9500	0.79	0.75	0.89	10.73	0 00:05:00
6	Sub-CB-2	0.92	0.9500	0.79	0.75	0.68	8.21	0 00:05:00
7	Sub-CB-3	0.39	0.9500	0.79	0.75	0.29	3.48	0 00:05:00
8	Sub-CB-4	0.14	0.9500	0.79	0.75	0.10	1.26	0 00:05:00
9	Sub-CB-5	0.11	0.9500	0.79	0.75	0.09	1.03	0 00:05:00
10	Sub-CB-6	0.87	0.9500	0.79	0.75	0.65	7.83	0 00:05:00
11	Sub-FES-5	3.78	0.9500	0.79	0.75	2.82	33.85	0 00:05:00
12	Sub-FES-6	3.03	0.7000	1.57	1.10	3.32	10.98	0 00:18:13

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Ma Surcharg Dept Attaine (f
1	AD- (24)	Junction	429.05	432.47	429.05	432.47	10.00	0.89	429.38	0.0
2	AD- (25)	Junction	428.00	432.46	428.00	432.46	10.00	1.73	428.32	0.0
3	AD- (29)	Junction	429.06	432.45	429.06	432.45	10.00	0.89	429.39	0.0
4	AD- (30)	Junction	428.00	432.46	428.00	432.46	10.00	1.73	428.36	0.0
5	FES-5	Junction	425.10	427.00	425.10	427.50	0.00	33.85	426.43	0.0
6	FES-6	Junction	424.75	426.99	424.75	426.99	0.00	10.98	425.68	0.0
7	Out-1SL - (15)	Outfall	421.25					48.16	423.75	
8	Out-1SL - (17)	Outfall	423.50					1.73	423.77	
9	Out-1SL - (18) (1)	Outfall	424.50					3.86	425.00	
10	Out-1SL - (21)	Outfall	422.50					10.93	423.32	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	F
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	
1	L-SL - (24)	Pipe	CB-3	CB-2	199.68	430.66	426.94	1.8600	0.000	0.0320	0.98	0.00	0.00	0.00	
2	L-SL-14	Pipe	CB-1	CB-2	135.67	423.42	422.50	0.6800	0.000	0.0150	5.43	0.00	0.00	0.00	
3	SL - (14)	Pipe	CB-1	CB-2	127.66	423.42	422.80	0.4900	24.000	0.0130	5.23	15.77	0.33	8.17	
4	SL - (15)	Pipe	CB-2	Out-1SL - (15)	106.61	422.32	421.25	1.0000	30.000	0.0120	48.16	44.52	1.08	10.82	
5	SL - (16)	Pipe	AD- (24)	AD- (25)	105.49	429.05	428.00	1.0000	12.000	0.0120	0.87	3.86	0.23	6.22	
6	SL - (17)	Pipe	AD- (25)	Out-1SL - (17)	60.96	428.00	423.50	7.3800	12.000	0.0120	1.73	10.49	0.16	9.88	
7	SL - (18)	Pipe	CB-5	CB-4	141.40	427.00	424.90	1.4900	18.000	0.0120	2.71	13.88	0.19	6.15	
8	SL - (18) (1)	Pipe	CB-4	Out-1SL - (18) (1)	20.22	424.90	424.50	1.9700	18.000	0.0120	3.86	15.96	0.24	7.44	
9	SL - (19)	Pipe	AD- (29)	AD- (30)	106.07	429.06	428.00	1.0000	12.000	0.0120	0.87	3.86	0.23	6.23	
10	SL - (20)	Pipe	AD- (30)	CB-5	19.89	428.00	427.50	2.5100	12.000	0.0120	1.73	6.12	0.28	6.70	
11	SL - (21)	Pipe	CB-6	Out-1SL - (21)	63.64	423.50	422.50	1.5700	24.000	0.0120	10.93	30.72	0.36	8.95	
12	SL - (24)	Pipe	CB-3	CB-2	174.72	424.10	422.32	1.0200	30.000	0.0120	35.74	44.85	0.80	10.29	
13	SL - (25)	Pipe	FES-5	CB-3	52.99	425.10	424.10	1.8900	30.000	0.0120	33.72	61.04	0.55	12.97	
14	SL - (26)	Pipe	FES-6	CB-6	123.36	424.75	423.50	1.0100	24.000	0.0120	10.94	24.67	0.44	7.91	
15	L-SL - (18) (1)	Channel	CB-4	CB-6	272.73	431.93	427.30	1.7000	6.000	0.0150	0.01	7.95	0.00	1.43	

Inlet Summary

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft²)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	CB-1	On Grade	1	423.42	429.56	423.42	N/A	10.73	5.29	5.43	49.35	10.00	17.15	429.90
2	CB-2	On Sag	1	422.32	426.95	422.32	10.00	14.63	N/A	N/A	N/A	10.00	13.95	427.61
3	CB-3	On Grade	1	424.10	430.66	424.10	N/A	3.48	2.50	0.98	71.85	10.00	6.88	430.85
4	CB-4	On Grade	1	424.90	431.93	424.90	N/A	1.25	1.25	0.01	99.54	10.00	6.92	432.07
5	CB-5	On Sag	1	427.00	432.00	427.00	10.00	1.03	N/A	N/A	N/A	10.00	3.11	432.35
6	CB-6	On Sag	1	423.50	427.34	423.50	10.00	7.83	N/A	N/A	N/A	10.00	10.33	427.95

Subbasin Hydrology

Subbasin : Sub-AD- (24)

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (25)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (29)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (30)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-1

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-2

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-3

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-4

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-6

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-6

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0.00	0.00
Flow Length (ft) :	85.71195638	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.36	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	12.01	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	253.76684919	31.23398630	0.93388558
Slope (%) :	1.8	0.4	1.25
Surface Type :	Paved	Paved	Unpaved
Velocity (ft/sec) :	2.73	1.29	1.80
Computed Flow Time (min) :	1.55	4.29	0.38

Total TOC (min) 18.23

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	AD- (24)	429.05	432.47	3.41	429.05	0.00	432.47	0.00	10.00	0.00
2	AD- (25)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
3	AD- (29)	429.06	432.45	3.39	429.06	0.00	432.45	0.00	10.00	0.00
4	AD- (30)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
5	FES-5	425.10	427.00	1.90	425.10	0.00	427.50	0.50	0.00	0.00
6	FES-6	424.75	426.99	2.24	424.75	0.00	426.99	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time Max H Occurren (days hh:m
1	AD- (24)	0.89	0.89	429.38	0.33	0.00	3.08	429.06	0.01	0 00:
2	AD- (25)	1.73	0.89	428.32	0.32	0.00	4.14	428.00	0.00	0 00:
3	AD- (29)	0.89	0.89	429.39	0.33	0.00	3.07	429.06	0.00	0 00:
4	AD- (30)	1.73	0.89	428.36	0.36	0.00	4.10	428.00	0.00	0 00:
5	FES-5	33.85	33.85	426.43	1.33	0.00	1.17	425.11	0.01	0 00:
6	FES-6	10.98	10.98	425.68	0.93	0.00	1.30	424.77	0.02	0 00:

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manı Rougł
1	L-SL - (18) (1)	272.73	431.93	7.03	427.30	3.80	4.63	1.7000	User-Defined	0.500	17.000	0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	T Si
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (18) (1)	0.01	0 00:06	7.95	0.00	1.43	3.18	0.03	0.07	

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Ma Rou
1	L-SL - (24)	199.68	430.66	6.56	426.94	4.62	3.72	1.8600	Dummy	0.000	0.000	
2	L-SL-14	135.67	423.42	0.00	422.50	0.18	0.92	0.6800	Dummy	0.000	0.000	
3	SL - (14)	127.66	423.42	0.00	422.80	0.48	0.62	0.4900	CIRCULAR	24.000	24.000	
4	SL - (15)	106.61	422.32	0.00	421.25	0.00	1.07	1.0000	CIRCULAR	30.000	30.000	
5	SL - (16)	105.49	429.05	0.00	428.00	0.00	1.05	1.0000	CIRCULAR	12.000	12.000	
6	SL - (17)	60.96	428.00	0.00	423.50	0.00	4.50	7.3800	CIRCULAR	12.000	12.000	
7	SL - (18)	141.40	427.00	0.00	424.90	0.00	2.10	1.4900	CIRCULAR	18.000	18.000	
8	SL - (18) (1)	20.22	424.90	0.00	424.50	0.00	0.40	1.9700	CIRCULAR	18.000	18.000	
9	SL - (19)	106.07	429.06	0.00	428.00	0.00	1.06	1.0000	CIRCULAR	12.000	12.000	
10	SL - (20)	19.89	428.00	0.00	427.50	0.50	0.50	2.5100	CIRCULAR	12.000	12.000	
11	SL - (21)	63.64	423.50	0.00	422.50	0.00	1.00	1.5700	CIRCULAR	24.000	24.000	
12	SL - (24)	174.72	424.10	0.00	422.32	0.00	1.78	1.0200	CIRCULAR	30.000	30.000	
13	SL - (25)	52.99	425.10	0.00	424.10	0.00	1.00	1.8900	CIRCULAR	30.000	30.000	
14	SL - (26)	123.36	424.75	0.00	423.50	0.00	1.25	1.0100	CIRCULAR	24.000	24.000	

No. of Barrels
1
1
1
1
1
1
1
1
1
1
1
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	To Sur
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (24)	0.98	0 00:05	0.00	0.00	0.00		0.03	0.07	
2	L-SL-14	5.43	0 00:05	0.00	0.00	0.00		0.03	0.07	
3	SL - (14)	5.23	0 00:05	15.77	0.33	8.17	0.26	0.79	0.40	
4	SL - (15)	48.16	0 00:05	44.52	1.08	10.82	0.16	2.50	1.00	
5	SL - (16)	0.87	0 00:05	3.86	0.23	6.22	0.28	0.32	0.32	
6	SL - (17)	1.73	0 00:05	10.49	0.16	9.88	0.10	0.27	0.27	
7	SL - (18)	2.71	0 00:05	13.88	0.19	6.15	0.38	0.45	0.30	
8	SL - (18) (1)	3.86	0 00:05	15.96	0.24	7.44	0.05	0.50	0.34	
9	SL - (19)	0.87	0 00:05	3.86	0.23	6.23	0.28	0.32	0.32	
10	SL - (20)	1.73	0 00:05	6.12	0.28	6.70	0.05	0.36	0.36	
11	SL - (21)	10.93	0 00:18	30.72	0.36	8.95	0.12	0.82	0.41	
12	SL - (24)	35.74	0 00:05	44.85	0.80	10.29	0.28	1.68	0.67	
13	SL - (25)	33.72	0 00:05	61.04	0.55	12.97	0.07	1.33	0.53	
14	SL - (26)	10.94	0 00:18	24.67	0.44	7.91	0.26	0.93	0.47	

Inlet Input

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	CB-1	On Grade	1	423.42	429.56	6.14	423.42	0.00	N/A	0.00
2	CB-2	On Sag	1	422.32	426.95	4.63	422.32	0.00	10.00	0.00
3	CB-3	On Grade	1	424.10	430.66	6.56	424.10	0.00	N/A	0.00
4	CB-4	On Grade	1	424.90	431.93	7.03	424.90	0.00	N/A	0.00
5	CB-5	On Sag	1	427.00	432.00	5.00	427.00	0.00	10.00	0.00
6	CB-6	On Sag	1	423.50	427.34	3.84	423.50	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	CB-1	0.0100	0.0200	0.0150	0.0200	1.50	0.1312	10.00
2	CB-2	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
3	CB-3	0.0380	0.0300	0.0150	0.0200	1.50	0.1312	10.00
4	CB-4	0.0175	0.0200	0.0150	0.0200	1.50	0.1312	10.00
5	CB-5	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
6	CB-6	N/A	0.0350	0.0150	0.0200	1.50	0.1312	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Max Occu (days
1	CB-1	10.73	10.73	5.29	5.43	49.35	17.15	429.90	0.34	
2	CB-2	14.63	8.21	N/A	N/A	N/A	13.95	427.61	0.67	
3	CB-3	3.48	3.48	2.50	0.98	71.85	6.88	430.85	0.19	
4	CB-4	1.25	1.25	1.25	0.01	99.54	6.92	432.07	0.14	
5	CB-5	1.03	1.03	N/A	N/A	N/A	3.11	432.35	0.34	
6	CB-6	7.83	7.83	N/A	N/A	N/A	10.33	427.95	0.61	

50 Year Design Storm

Project Description

File Name	Collective Church Drainage 5-2-25.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 02, 2025	00:00:00
End Analysis On	May 03, 2025	00:00:00
Start Reporting On	May 02, 2025	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	12
Nodes	16
Junctions	6
Outfalls	4
Flow Diversions	0
Inlets	6
Storage Nodes	0
Links	15
Channels	1
Pipes	14
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	50 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-AD- (24)	0.10	0.9500	0.86	0.82	0.08	0.97	0 00:05:00
2	Sub-AD- (25)	0.10	0.9500	0.86	0.82	0.08	0.97	0 00:05:00
3	Sub-AD- (29)	0.10	0.9500	0.86	0.82	0.08	0.97	0 00:05:00
4	Sub-AD- (30)	0.10	0.9500	0.86	0.82	0.08	0.97	0 00:05:00
5	Sub-CB-1	1.20	0.9500	0.86	0.82	0.98	11.72	0 00:05:00
6	Sub-CB-2	0.92	0.9500	0.86	0.82	0.75	8.97	0 00:05:00
7	Sub-CB-3	0.39	0.9500	0.86	0.82	0.32	3.80	0 00:05:00
8	Sub-CB-4	0.14	0.9500	0.86	0.82	0.11	1.37	0 00:05:00
9	Sub-CB-5	0.11	0.9500	0.86	0.82	0.09	1.12	0 00:05:00
10	Sub-CB-6	0.87	0.9500	0.86	0.82	0.71	8.55	0 00:05:00
11	Sub-FES-5	3.78	0.9500	0.86	0.82	3.08	36.97	0 00:05:00
12	Sub-FES-6	3.03	0.7000	1.72	1.20	3.64	12.03	0 00:18:13

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Ma Surcharg Dept Attaine (f
1	AD- (24)	Junction	429.05	432.47	429.05	432.47	10.00	0.97	429.40	0.0
2	AD- (25)	Junction	428.00	432.46	428.00	432.46	10.00	1.89	428.34	0.0
3	AD- (29)	Junction	429.06	432.45	429.06	432.45	10.00	0.97	429.40	0.0
4	AD- (30)	Junction	428.00	432.46	428.00	432.46	10.00	1.89	428.38	0.0
5	FES-5	Junction	425.10	427.00	425.10	427.50	0.00	36.97	426.50	0.0
6	FES-6	Junction	424.75	426.99	424.75	426.99	0.00	12.03	425.74	0.0
7	Out-1SL - (15)	Outfall	421.25					48.16	423.75	
8	Out-1SL - (17)	Outfall	423.50					1.89	423.79	
9	Out-1SL - (18) (1)	Outfall	424.50					4.23	425.03	
10	Out-1SL - (21)	Outfall	422.50					11.98	423.37	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	F
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	
1	L-SL - (24)	Pipe	CB-3	CB-2	199.68	430.66	426.94	1.8600	0.000	0.0320	1.17	0.00	0.00	0.00	
2	L-SL-14	Pipe	CB-1	CB-2	135.67	423.42	422.50	0.6800	0.000	0.0150	6.18	0.00	0.00	0.00	
3	SL - (14)	Pipe	CB-1	CB-2	127.66	423.42	422.80	0.4900	24.000	0.0130	5.48	15.77	0.35	8.34	
4	SL - (15)	Pipe	CB-2	Out-1SL - (15)	106.61	422.32	421.25	1.0000	30.000	0.0120	48.16	44.52	1.08	10.82	
5	SL - (16)	Pipe	AD- (24)	AD- (25)	105.49	429.05	428.00	1.0000	12.000	0.0120	0.95	3.86	0.25	6.31	
6	SL - (17)	Pipe	AD- (25)	Out-1SL - (17)	60.96	428.00	423.50	7.3800	12.000	0.0120	1.89	10.49	0.18	10.12	
7	SL - (18)	Pipe	CB-5	CB-4	141.40	427.00	424.90	1.4900	18.000	0.0120	2.96	13.88	0.21	6.31	
8	SL - (18) (1)	Pipe	CB-4	Out-1SL - (18) (1)	20.22	424.90	424.50	1.9700	18.000	0.0120	4.23	15.96	0.26	7.63	
9	SL - (19)	Pipe	AD- (29)	AD- (30)	106.07	429.06	428.00	1.0000	12.000	0.0120	0.95	3.86	0.25	6.31	
10	SL - (20)	Pipe	AD- (30)	CB-5	19.89	428.00	427.50	2.5100	12.000	0.0120	1.89	6.12	0.31	6.86	
11	SL - (21)	Pipe	CB-6	Out-1SL - (21)	63.64	423.50	422.50	1.5700	24.000	0.0120	11.98	30.72	0.39	9.17	
12	SL - (24)	Pipe	CB-3	CB-2	174.72	424.10	422.32	1.0200	30.000	0.0120	38.93	44.85	0.87	10.44	
13	SL - (25)	Pipe	FES-5	CB-3	52.99	425.10	424.10	1.8900	30.000	0.0120	36.76	61.04	0.60	13.23	
14	SL - (26)	Pipe	FES-6	CB-6	123.36	424.75	423.50	1.0100	24.000	0.0120	11.98	24.67	0.49	8.11	
15	L-SL - (18) (1)	Channel	CB-4	CB-6	272.73	431.93	427.30	1.7000	6.000	0.0150	0.02	7.95	0.00	1.51	

Inlet Summary

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft^2)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	CB-1	On Grade	1	423.42	429.56	423.42	N/A	11.72	5.54	6.18	47.29	10.00	17.73	429.91
2	CB-2	On Sag	1	422.32	426.95	422.32	10.00	16.31	N/A	N/A	N/A	10.00	15.00	427.65
3	CB-3	On Grade	1	424.10	430.66	424.10	N/A	3.80	2.63	1.16	69.34	10.00	7.11	430.86
4	CB-4	On Grade	1	424.90	431.93	424.90	N/A	1.37	1.35	0.02	98.50	10.00	7.15	432.07
5	CB-5	On Sag	1	427.00	432.00	427.00	10.00	1.12	N/A	N/A	N/A	10.00	3.29	432.35
6	CB-6	On Sag	1	423.50	427.34	423.50	10.00	8.55	N/A	N/A	N/A	10.00	10.95	427.97

Subbasin Hydrology

Subbasin : Sub-AD- (24)

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (25)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (29)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (30)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-1

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-2

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-3

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-4

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-6

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-6

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0.00	0.00
Flow Length (ft) :	85.71195638	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.36	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	12.01	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	253.76684919	31.23398630	0.93388558
Slope (%) :	1.8	0.4	1.25
Surface Type :	Paved	Paved	Unpaved
Velocity (ft/sec) :	2.73	1.29	1.80
Computed Flow Time (min) :	1.55	4.29	0.38

Total TOC (min) 18.23

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	AD- (24)	429.05	432.47	3.41	429.05	0.00	432.47	0.00	10.00	0.00
2	AD- (25)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
3	AD- (29)	429.06	432.45	3.39	429.06	0.00	432.45	0.00	10.00	0.00
4	AD- (30)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
5	FES-5	425.10	427.00	1.90	425.10	0.00	427.50	0.50	0.00	0.00
6	FES-6	424.75	426.99	2.24	424.75	0.00	426.99	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time Max H Occurren (days hh:m
1	AD- (24)	0.97	0.97	429.40	0.35	0.00	3.07	429.06	0.01	0 00:
2	AD- (25)	1.89	0.97	428.34	0.34	0.00	4.13	428.00	0.00	0 00:
3	AD- (29)	0.97	0.97	429.40	0.34	0.00	3.05	429.06	0.00	0 00:
4	AD- (30)	1.89	0.97	428.38	0.38	0.00	4.08	428.00	0.00	0 00:
5	FES-5	36.97	36.97	426.50	1.40	0.00	1.10	425.11	0.01	0 00:
6	FES-6	12.03	12.03	425.74	0.99	0.00	1.25	424.77	0.02	0 00:

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manı Rougł
1	L-SL - (18) (1)	272.73	431.93	7.03	427.30	3.80	4.63	1.7000	User-Defined	0.500	17.000	0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	T Si
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (18) (1)	0.02	0 00:06	7.95	0.00	1.51	3.01	0.04	0.08	

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Ma Rou
1	L-SL - (24)	199.68	430.66	6.56	426.94	4.62	3.72	1.8600	Dummy	0.000	0.000	
2	L-SL-14	135.67	423.42	0.00	422.50	0.18	0.92	0.6800	Dummy	0.000	0.000	
3	SL - (14)	127.66	423.42	0.00	422.80	0.48	0.62	0.4900	CIRCULAR	24.000	24.000	
4	SL - (15)	106.61	422.32	0.00	421.25	0.00	1.07	1.0000	CIRCULAR	30.000	30.000	
5	SL - (16)	105.49	429.05	0.00	428.00	0.00	1.05	1.0000	CIRCULAR	12.000	12.000	
6	SL - (17)	60.96	428.00	0.00	423.50	0.00	4.50	7.3800	CIRCULAR	12.000	12.000	
7	SL - (18)	141.40	427.00	0.00	424.90	0.00	2.10	1.4900	CIRCULAR	18.000	18.000	
8	SL - (18) (1)	20.22	424.90	0.00	424.50	0.00	0.40	1.9700	CIRCULAR	18.000	18.000	
9	SL - (19)	106.07	429.06	0.00	428.00	0.00	1.06	1.0000	CIRCULAR	12.000	12.000	
10	SL - (20)	19.89	428.00	0.00	427.50	0.50	0.50	2.5100	CIRCULAR	12.000	12.000	
11	SL - (21)	63.64	423.50	0.00	422.50	0.00	1.00	1.5700	CIRCULAR	24.000	24.000	
12	SL - (24)	174.72	424.10	0.00	422.32	0.00	1.78	1.0200	CIRCULAR	30.000	30.000	
13	SL - (25)	52.99	425.10	0.00	424.10	0.00	1.00	1.8900	CIRCULAR	30.000	30.000	
14	SL - (26)	123.36	424.75	0.00	423.50	0.00	1.25	1.0100	CIRCULAR	24.000	24.000	

No. of Barrels
1
1
1
1
1
1
1
1
1
1
1
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	To Sur
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (24)	1.17	0 00:05	0.00	0.00	0.00		0.04	0.08	
2	L-SL-14	6.18	0 00:05	0.00	0.00	0.00		0.04	0.08	
3	SL - (14)	5.48	0 00:05	15.77	0.35	8.34	0.26	0.81	0.41	
4	SL - (15)	48.16	0 00:04	44.52	1.08	10.82	0.16	2.50	1.00	
5	SL - (16)	0.95	0 00:05	3.86	0.25	6.31	0.28	0.34	0.34	
6	SL - (17)	1.89	0 00:05	10.49	0.18	10.12	0.10	0.29	0.29	
7	SL - (18)	2.96	0 00:05	13.88	0.21	6.31	0.37	0.47	0.31	
8	SL - (18) (1)	4.23	0 00:05	15.96	0.26	7.63	0.04	0.53	0.35	
9	SL - (19)	0.95	0 00:05	3.86	0.25	6.31	0.28	0.34	0.34	
10	SL - (20)	1.89	0 00:05	6.12	0.31	6.86	0.05	0.38	0.38	
11	SL - (21)	11.98	0 00:18	30.72	0.39	9.17	0.12	0.87	0.43	
12	SL - (24)	38.93	0 00:05	44.85	0.87	10.44	0.28	1.79	0.72	
13	SL - (25)	36.76	0 00:05	61.04	0.60	13.23	0.07	1.40	0.56	
14	SL - (26)	11.98	0 00:18	24.67	0.49	8.11	0.25	0.98	0.49	

Inlet Input

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	CB-1	On Grade	1	423.42	429.56	6.14	423.42	0.00	N/A	0.00
2	CB-2	On Sag	1	422.32	426.95	4.63	422.32	0.00	10.00	0.00
3	CB-3	On Grade	1	424.10	430.66	6.56	424.10	0.00	N/A	0.00
4	CB-4	On Grade	1	424.90	431.93	7.03	424.90	0.00	N/A	0.00
5	CB-5	On Sag	1	427.00	432.00	5.00	427.00	0.00	10.00	0.00
6	CB-6	On Sag	1	423.50	427.34	3.84	423.50	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	CB-1	0.0100	0.0200	0.0150	0.0200	1.50	0.1312	10.00
2	CB-2	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
3	CB-3	0.0380	0.0300	0.0150	0.0200	1.50	0.1312	10.00
4	CB-4	0.0175	0.0200	0.0150	0.0200	1.50	0.1312	10.00
5	CB-5	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
6	CB-6	N/A	0.0350	0.0150	0.0200	1.50	0.1312	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Max Occu (days
1	CB-1	11.72	11.72	5.54	6.18	47.29	17.73	429.91	0.35	
2	CB-2	16.31	8.97	N/A	N/A	N/A	15.00	427.65	0.70	
3	CB-3	3.80	3.80	2.63	1.16	69.34	7.11	430.86	0.20	
4	CB-4	1.37	1.37	1.35	0.02	98.50	7.15	432.07	0.14	
5	CB-5	1.12	1.12	N/A	N/A	N/A	3.29	432.35	0.35	
6	CB-6	8.55	8.55	N/A	N/A	N/A	10.95	427.97	0.63	

100 Year Design Storm

Project Description

File Name	Collective Church Drainage 5-2-25.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	Rational
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	May 02, 2025	00:00:00
End Analysis On	May 03, 2025	00:00:00
Start Reporting On	May 02, 2025	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins	12
Nodes	16
Junctions	6
Outfalls	4
Flow Diversions	0
Inlets	6
Storage Nodes	0
Links	15
Channels	1
Pipes	14
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period	100 year(s)

Subbasin Summary

SN	Subbasin ID	Area (ac)	Weighted Runoff Coefficient	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	Sub-AD- (24)	0.10	0.9500	0.93	0.89	0.09	1.06	0 00:05:00
2	Sub-AD- (25)	0.10	0.9500	0.93	0.89	0.09	1.06	0 00:05:00
3	Sub-AD- (29)	0.10	0.9500	0.93	0.89	0.09	1.06	0 00:05:00
4	Sub-AD- (30)	0.10	0.9500	0.93	0.89	0.09	1.06	0 00:05:00
5	Sub-CB-1	1.20	0.9500	0.93	0.89	1.06	12.74	0 00:05:00
6	Sub-CB-2	0.92	0.9500	0.93	0.89	0.81	9.75	0 00:05:00
7	Sub-CB-3	0.39	0.9500	0.93	0.89	0.34	4.13	0 00:05:00
8	Sub-CB-4	0.14	0.9500	0.93	0.89	0.12	1.49	0 00:05:00
9	Sub-CB-5	0.11	0.9500	0.93	0.89	0.10	1.22	0 00:05:00
10	Sub-CB-6	0.87	0.9500	0.93	0.89	0.77	9.30	0 00:05:00
11	Sub-FES-5	3.78	0.9500	0.93	0.89	3.35	40.20	0 00:05:00
12	Sub-FES-6	3.03	0.7000	1.86	1.30	3.95	13.04	0 00:18:13

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Ma Surcharg Dept Attaine (f
1	AD- (24)	Junction	429.05	432.47	429.05	432.47	10.00	1.06	429.41	0.0
2	AD- (25)	Junction	428.00	432.46	428.00	432.46	10.00	2.05	428.35	0.0
3	AD- (29)	Junction	429.06	432.45	429.06	432.45	10.00	1.06	429.42	0.0
4	AD- (30)	Junction	428.00	432.46	428.00	432.46	10.00	2.06	428.40	0.0
5	FES-5	Junction	425.10	427.00	425.10	427.50	0.00	40.20	426.58	0.0
6	FES-6	Junction	424.75	426.99	424.75	426.99	0.00	13.04	425.78	0.0
7	Out-1SL - (15)	Outfall	421.25					48.15	423.75	
8	Out-1SL - (17)	Outfall	423.50					2.05	423.80	
9	Out-1SL - (18) (1)	Outfall	424.50					4.59	425.05	
10	Out-1SL - (21)	Outfall	422.50					12.99	423.41	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	F
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	
1	L-SL - (24)	Pipe	CB-3	CB-2	199.68	430.66	426.94	1.8600	0.000	0.0320	1.36	0.00	0.00	0.00	
2	L-SL-14	Pipe	CB-1	CB-2	135.67	423.42	422.50	0.6800	0.000	0.0150	6.96	0.00	0.00	0.00	
3	SL - (14)	Pipe	CB-1	CB-2	127.66	423.42	422.80	0.4900	24.000	0.0130	5.71	15.77	0.36	8.46	
4	SL - (15)	Pipe	CB-2	Out-1SL - (15)	106.61	422.32	421.25	1.0000	30.000	0.0120	48.15	44.52	1.08	10.82	
5	SL - (16)	Pipe	AD- (24)	AD- (25)	105.49	429.05	428.00	1.0000	12.000	0.0120	1.03	3.86	0.27	6.40	
6	SL - (17)	Pipe	AD- (25)	Out-1SL - (17)	60.96	428.00	423.50	7.3800	12.000	0.0120	2.05	10.49	0.20	10.37	
7	SL - (18)	Pipe	CB-5	CB-4	141.40	427.00	424.90	1.4900	18.000	0.0120	3.22	13.88	0.23	6.47	
8	SL - (18) (1)	Pipe	CB-4	Out-1SL - (18) (1)	20.22	424.90	424.50	1.9700	18.000	0.0120	4.59	15.96	0.29	7.80	
9	SL - (19)	Pipe	AD- (29)	AD- (30)	106.07	429.06	428.00	1.0000	12.000	0.0120	1.03	3.86	0.27	6.41	
10	SL - (20)	Pipe	AD- (30)	CB-5	19.89	428.00	427.50	2.5100	12.000	0.0120	2.06	6.12	0.34	7.03	
11	SL - (21)	Pipe	CB-6	Out-1SL - (21)	63.64	423.50	422.50	1.5700	24.000	0.0120	12.99	30.72	0.42	9.38	
12	SL - (24)	Pipe	CB-3	CB-2	174.72	424.10	422.32	1.0200	30.000	0.0120	42.23	44.85	0.94	10.56	
13	SL - (25)	Pipe	FES-5	CB-3	52.99	425.10	424.10	1.8900	30.000	0.0120	40.05	61.04	0.66	13.66	
14	SL - (26)	Pipe	FES-6	CB-6	123.36	424.75	423.50	1.0100	24.000	0.0120	13.00	24.67	0.53	8.28	
15	L-SL - (18) (1)	Channel	CB-4	CB-6	272.73	431.93	427.30	1.7000	6.000	0.0150	0.03	7.95	0.00	1.61	

Inlet Summary

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Initial Water Elevation (ft)	Ponded Area (ft^2)	Peak Flow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Allowable Spread (ft)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)
1	CB-1	On Grade	1	423.42	429.56	423.42	N/A	12.74	5.79	6.96	45.40	10.00	18.29	429.92
2	CB-2	On Sag	1	422.32	426.95	422.32	10.00	18.08	N/A	N/A	N/A	10.00	16.06	427.68
3	CB-3	On Grade	1	424.10	430.66	424.10	N/A	4.13	2.76	1.36	66.97	10.00	7.33	430.87
4	CB-4	On Grade	1	424.90	431.93	424.90	N/A	1.49	1.45	0.04	97.12	10.00	7.38	432.08
5	CB-5	On Sag	1	427.00	432.00	427.00	10.00	1.22	N/A	N/A	N/A	10.00	3.48	432.36
6	CB-6	On Sag	1	423.50	427.34	423.50	10.00	9.30	N/A	N/A	N/A	10.00	11.58	427.99

Subbasin Hydrology

Subbasin : Sub-AD- (24)

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft²)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (25)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (29)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-AD- (30)

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-1

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-2

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-3

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-4

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-CB-6

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-5

Time of Concentration

User-Defined TOC override (minutes): 5.00

Subbasin : Sub-FES-6

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0.00	0.00
Flow Length (ft) :	85.71195638	0.00	0.00
Slope (%) :	2.4	0.00	0.00
2 yr, 24 hr Rainfall (in) :	4.36	0.00	0.00
Velocity (ft/sec) :	0.12	0.00	0.00
Computed Flow Time (min) :	12.01	0.00	0.00

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	253.76684919	31.23398630	0.93388558
Slope (%) :	1.8	0.4	1.25
Surface Type :	Paved	Paved	Unpaved
Velocity (ft/sec) :	2.73	1.29	1.80
Computed Flow Time (min) :	1.55	4.29	0.38

Total TOC (min) 18.23

Junction Input

SN	Element ID	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft^2)	Minimum Pipe Cover (in)
1	AD- (24)	429.05	432.47	3.41	429.05	0.00	432.47	0.00	10.00	0.00
2	AD- (25)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
3	AD- (29)	429.06	432.45	3.39	429.06	0.00	432.45	0.00	10.00	0.00
4	AD- (30)	428.00	432.46	4.46	428.00	0.00	432.46	0.00	10.00	0.00
5	FES-5	425.10	427.00	1.90	425.10	0.00	427.50	0.50	0.00	0.00
6	FES-6	424.75	426.99	2.24	424.75	0.00	426.99	0.00	0.00	0.00

Junction Results

SN	Element ID	Peak Inflow (cfs)	Peak Lateral Inflow (cfs)	Max HGL Elevation Attained (ft)	Max HGL Depth Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Average HGL Elevation Attained (ft)	Average HGL Depth Attained (ft)	Time Max H Occurren (days hh:m
1	AD- (24)	1.06	1.06	429.41	0.36	0.00	3.05	429.06	0.01	0 00:
2	AD- (25)	2.05	1.06	428.35	0.35	0.00	4.11	428.00	0.00	0 00:
3	AD- (29)	1.06	1.06	429.42	0.36	0.00	3.04	429.06	0.00	0 00:
4	AD- (30)	2.06	1.06	428.40	0.40	0.00	4.06	428.00	0.00	0 00:
5	FES-5	40.20	40.20	426.58	1.48	0.00	1.02	425.11	0.01	0 00:
6	FES-6	13.04	13.04	425.78	1.03	0.00	1.20	424.77	0.02	0 00:

Channel Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Shape	Height (ft)	Width (ft)	Manı Rougł
1	L-SL - (18) (1)	272.73	431.93	7.03	427.30	3.80	4.63	1.7000	User-Defined	0.500	17.000	0

Channel Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	T Si
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (18) (1)	0.03	0 00:06	7.95	0.00	1.61	2.82	0.04	0.09	

Pipe Input

SN	Element ID	Length (ft)	Inlet Invert Elevation (ft)	Inlet Invert Offset (ft)	Outlet Invert Elevation (ft)	Outlet Invert Offset (ft)	Total Drop (ft)	Average Slope (%)	Pipe Shape	Pipe Diameter or Height (in)	Pipe Width (in)	Ma Rou
1	L-SL - (24)	199.68	430.66	6.56	426.94	4.62	3.72	1.8600	Dummy	0.000	0.000	
2	L-SL-14	135.67	423.42	0.00	422.50	0.18	0.92	0.6800	Dummy	0.000	0.000	
3	SL - (14)	127.66	423.42	0.00	422.80	0.48	0.62	0.4900	CIRCULAR	24.000	24.000	
4	SL - (15)	106.61	422.32	0.00	421.25	0.00	1.07	1.0000	CIRCULAR	30.000	30.000	
5	SL - (16)	105.49	429.05	0.00	428.00	0.00	1.05	1.0000	CIRCULAR	12.000	12.000	
6	SL - (17)	60.96	428.00	0.00	423.50	0.00	4.50	7.3800	CIRCULAR	12.000	12.000	
7	SL - (18)	141.40	427.00	0.00	424.90	0.00	2.10	1.4900	CIRCULAR	18.000	18.000	
8	SL - (18) (1)	20.22	424.90	0.00	424.50	0.00	0.40	1.9700	CIRCULAR	18.000	18.000	
9	SL - (19)	106.07	429.06	0.00	428.00	0.00	1.06	1.0000	CIRCULAR	12.000	12.000	
10	SL - (20)	19.89	428.00	0.00	427.50	0.50	0.50	2.5100	CIRCULAR	12.000	12.000	
11	SL - (21)	63.64	423.50	0.00	422.50	0.00	1.00	1.5700	CIRCULAR	24.000	24.000	
12	SL - (24)	174.72	424.10	0.00	422.32	0.00	1.78	1.0200	CIRCULAR	30.000	30.000	
13	SL - (25)	52.99	425.10	0.00	424.10	0.00	1.00	1.8900	CIRCULAR	30.000	30.000	
14	SL - (26)	123.36	424.75	0.00	423.50	0.00	1.25	1.0100	CIRCULAR	24.000	24.000	

No. of Barrels
1
1
1
1
1
1
1
1
1
1
1
1
1
1

Pipe Results

SN	Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	To Sur
		(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		
1	L-SL - (24)	1.36	0 00:05	0.00	0.00	0.00		0.04	0.09	
2	L-SL-14	6.96	0 00:05	0.00	0.00	0.00		0.04	0.09	
3	SL - (14)	5.71	0 00:05	15.77	0.36	8.46	0.25	0.83	0.42	
4	SL - (15)	48.15	0 00:04	44.52	1.08	10.82	0.16	2.50	1.00	
5	SL - (16)	1.03	0 00:05	3.86	0.27	6.40	0.27	0.35	0.35	
6	SL - (17)	2.05	0 00:05	10.49	0.20	10.37	0.10	0.30	0.30	
7	SL - (18)	3.22	0 00:05	13.88	0.23	6.47	0.36	0.49	0.33	
8	SL - (18) (1)	4.59	0 00:05	15.96	0.29	7.80	0.04	0.55	0.37	
9	SL - (19)	1.03	0 00:05	3.86	0.27	6.41	0.28	0.35	0.35	
10	SL - (20)	2.06	0 00:05	6.12	0.34	7.03	0.05	0.40	0.40	
11	SL - (21)	12.99	0 00:18	30.72	0.42	9.38	0.11	0.91	0.45	
12	SL - (24)	42.23	0 00:05	44.85	0.94	10.56	0.28	1.92	0.77	
13	SL - (25)	40.05	0 00:05	61.04	0.66	13.66	0.06	1.48	0.59	
14	SL - (26)	13.00	0 00:18	24.67	0.53	8.28	0.25	1.03	0.52	

Inlet Input

SN	Element ID	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft^2)	Grate Clogging Factor (%)
1	CB-1	On Grade	1	423.42	429.56	6.14	423.42	0.00	N/A	0.00
2	CB-2	On Sag	1	422.32	426.95	4.63	422.32	0.00	10.00	0.00
3	CB-3	On Grade	1	424.10	430.66	6.56	424.10	0.00	N/A	0.00
4	CB-4	On Grade	1	424.90	431.93	7.03	424.90	0.00	N/A	0.00
5	CB-5	On Sag	1	427.00	432.00	5.00	427.00	0.00	10.00	0.00
6	CB-6	On Sag	1	423.50	427.34	3.84	423.50	0.00	10.00	0.00

Roadway & Gutter Input

SN	Element ID	Roadway Longitudinal Slope (ft/ft)	Roadway Cross Slope (ft/ft)	Roadway Manning's Roughness	Gutter Cross Slope (ft/ft)	Gutter Width (ft)	Gutter Depression (in)	Allowable Spread (ft)
1	CB-1	0.0100	0.0200	0.0150	0.0200	1.50	0.1312	10.00
2	CB-2	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
3	CB-3	0.0380	0.0300	0.0150	0.0200	1.50	0.1312	10.00
4	CB-4	0.0175	0.0200	0.0150	0.0200	1.50	0.1312	10.00
5	CB-5	N/A	0.0300	0.0150	0.0200	1.50	0.1312	10.00
6	CB-6	N/A	0.0350	0.0150	0.0200	1.50	0.1312	10.00

Inlet Results

SN	Element ID	Peak Flow (cfs)	Peak Lateral Inflow (cfs)	Peak Flow Intercepted by Inlet (cfs)	Peak Flow Bypassing Inlet (cfs)	Inlet Efficiency during Peak Flow (%)	Max Gutter Spread during Peak Flow (ft)	Max Gutter Water Elev. during Peak Flow (ft)	Max Gutter Water Depth during Peak Flow (ft)	Max Occu (days
1	CB-1	12.74	12.74	5.79	6.96	45.40	18.29	429.92	0.37	
2	CB-2	18.08	9.75	N/A	N/A	N/A	16.06	427.68	0.73	
3	CB-3	4.13	4.13	2.76	1.36	66.97	7.33	430.87	0.20	
4	CB-4	1.49	1.49	1.45	0.04	97.12	7.38	432.08	0.15	
5	CB-5	1.22	1.22	N/A	N/A	N/A	3.48	432.36	0.35	
6	CB-6	9.30	9.30	N/A	N/A	N/A	11.58	427.99	0.66	

Pre and Post Development Hydrographs (Hydrology Studio)

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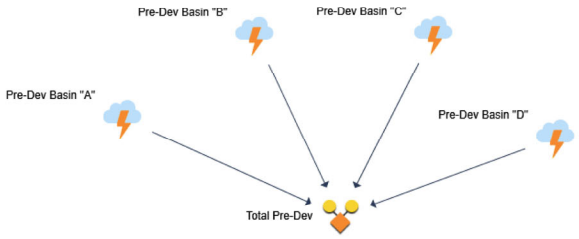
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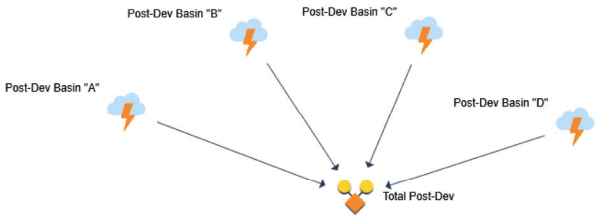
Basin Model

Hydrology Studio v 3.0.0.27

Project Name: Collective Church

05-02-2025





Hydrograph by Return Period

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Outflow (cfs)							
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
1	Rational	Pre-Dev Basin "A"		1.381			1.853	2.130	2.330	2.529
2	Rational	Pre-Dev Basin "B"		10.53			14.12	16.22	17.74	19.26
3	Rational	Pre-Dev Basin "C"		1.416			1.896	2.179	2.382	2.588
4	Rational	Pre-Dev Basin "D"		0.991			1.328	1.526	1.669	1.812
5	Junction	Total Pre-Dev		13.49			18.09	20.79	22.74	24.69
6	Rational	Post-Dev Basin "A"		33.73			45.13	51.84	56.64	61.57
7	Rational	Post-Dev Basin "B"		1.167			1.560	1.792	1.957	2.128
8	Rational	Post-Dev Basin "C"		2.417			3.234	3.715	4.058	4.412
9	Rational	Post-Dev Basin "D"		9.949			13.36	15.35	16.80	18.23
10	Junction	Total Post-Dev		40.31			53.94	61.97	67.71	73.60

Hydrograph 2-yr Summary

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre-Dev Basin "A"	1.381	0.27	1,770	----		
2	Rational	Pre-Dev Basin "B"	10.53	0.22	10,961	----		
3	Rational	Pre-Dev Basin "C"	1.416	0.15	1,021	----		
4	Rational	Pre-Dev Basin "D"	0.991	0.17	794	----		
5	Junction	Total Pre-Dev	13.49	0.22	14,270	1, 2, 3, 4		
6	Rational	Post-Dev Basin "A"	33.73	0.10	16,211	----		
7	Rational	Post-Dev Basin "B"	1.167	0.08	467	----		
8	Rational	Post-Dev Basin "C"	2.417	0.10	1,162	----		
9	Rational	Post-Dev Basin "D"	9.949	0.32	15,141	----		
10	Junction	Total Post-Dev	40.31	0.10	32,730	6, 7, 8, 9		

Hydrograph Report

Project Name: Collective Church

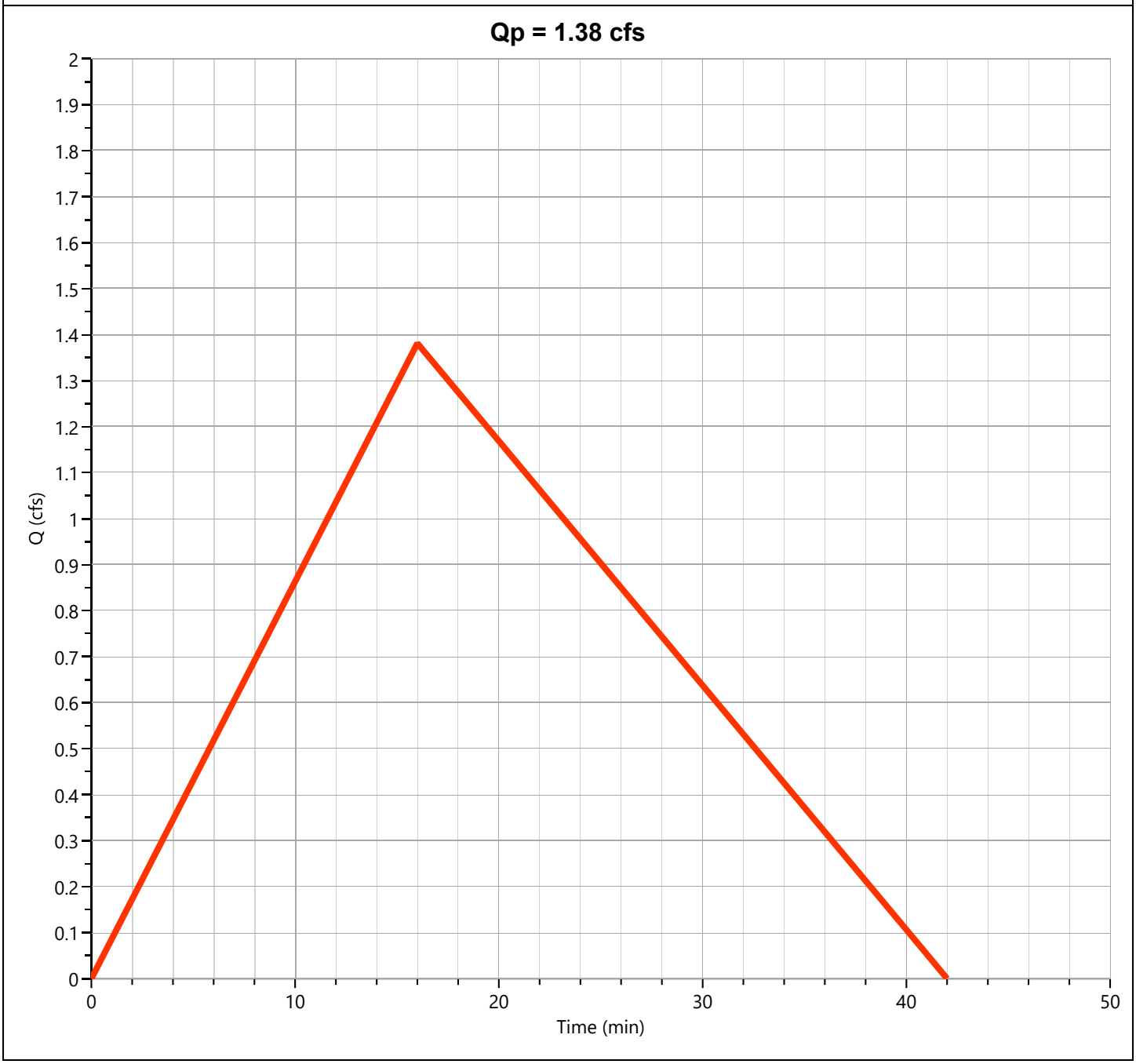
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 1.381 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.27 hrs
Time Interval	= 1 min	Runoff Volume	= 1,770 cuft
Drainage Area	= 0.81 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 3.63 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Tc by TR55 Worksheet

Project Name: Collective Church

Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"
Rational

Hyd. No. 1

Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description				
Manning's n	0.300	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	4.36	2.28	2.28	
Land Slope (%)	3.7			
Travel Time (min)	**11.43**	**0.00**	**0.00**	**11.43**
Shallow Concentrated Flow				
Flow Length (ft)	673			
Watercourse Slope (%)	2.70	0.00	0.00	
Surface Description	Unpaved	Paved	Paved	
Average Velocity (ft/s)	2.65			
Travel Time (min)	**4.23**	**0.00**	**0.00**	**4.23**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**16 min**

Hydrograph Report

Project Name: Collective Church

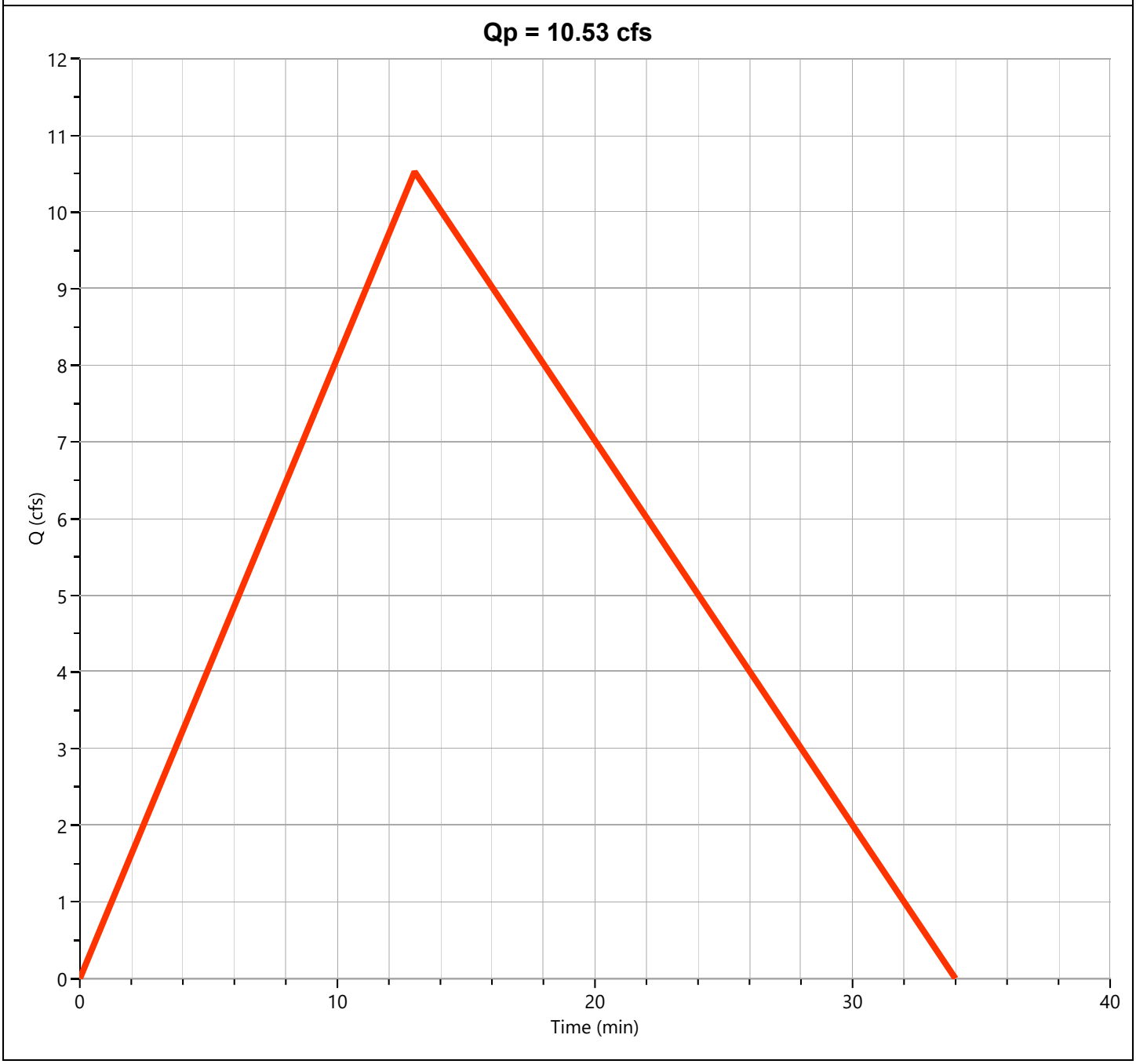
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "B"

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 10.53 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Runoff Volume	= 10,961 cuft
Drainage Area	= 5.62 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 13.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 3.99 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Tc by TR55 Worksheet

Project Name: Collective Church

Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "B"
Rational

Hyd. No. 2

Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description				
Manning's n	0.300	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	4.36	2.28	2.28	
Land Slope (%)	5			
Travel Time (min)	**10.13**	**0.00**	**0.00**	**10.13**
Shallow Concentrated Flow				
Flow Length (ft)	492			
Watercourse Slope (%)	2.85	0.00	0.00	
Surface Description	Unpaved	Paved	Paved	
Average Velocity (ft/s)	2.72			
Travel Time (min)	**3.01**	**0.00**	**0.00**	**3.01**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**13 min**

Hydrograph Report

Project Name: Collective Church

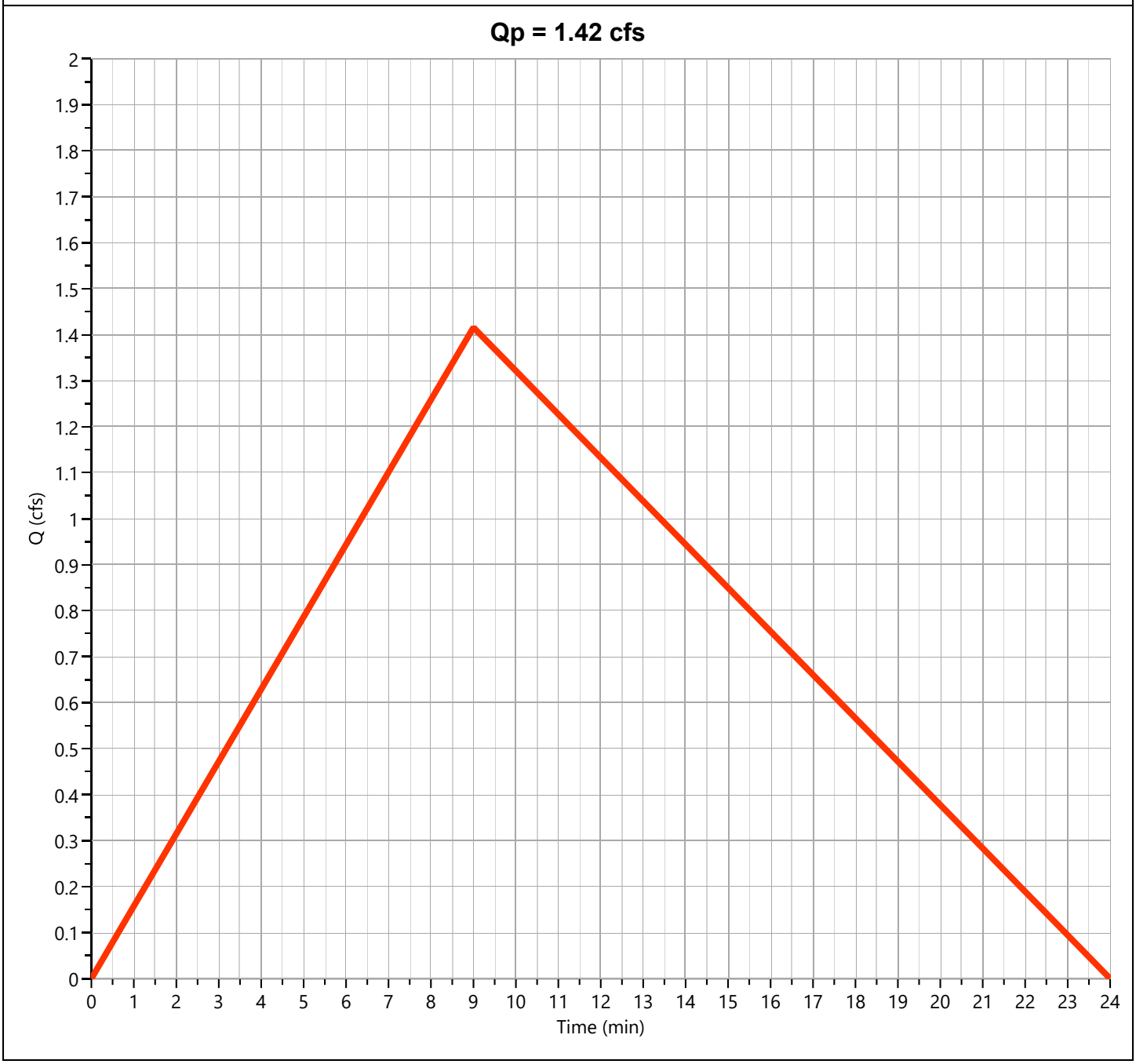
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "C"

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 1.416 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,021 cuft
Drainage Area	= 0.64 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.71 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Tc by TR55 Worksheet

Project Name: Collective Church

Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "C"
Rational

Hyd. No. 3

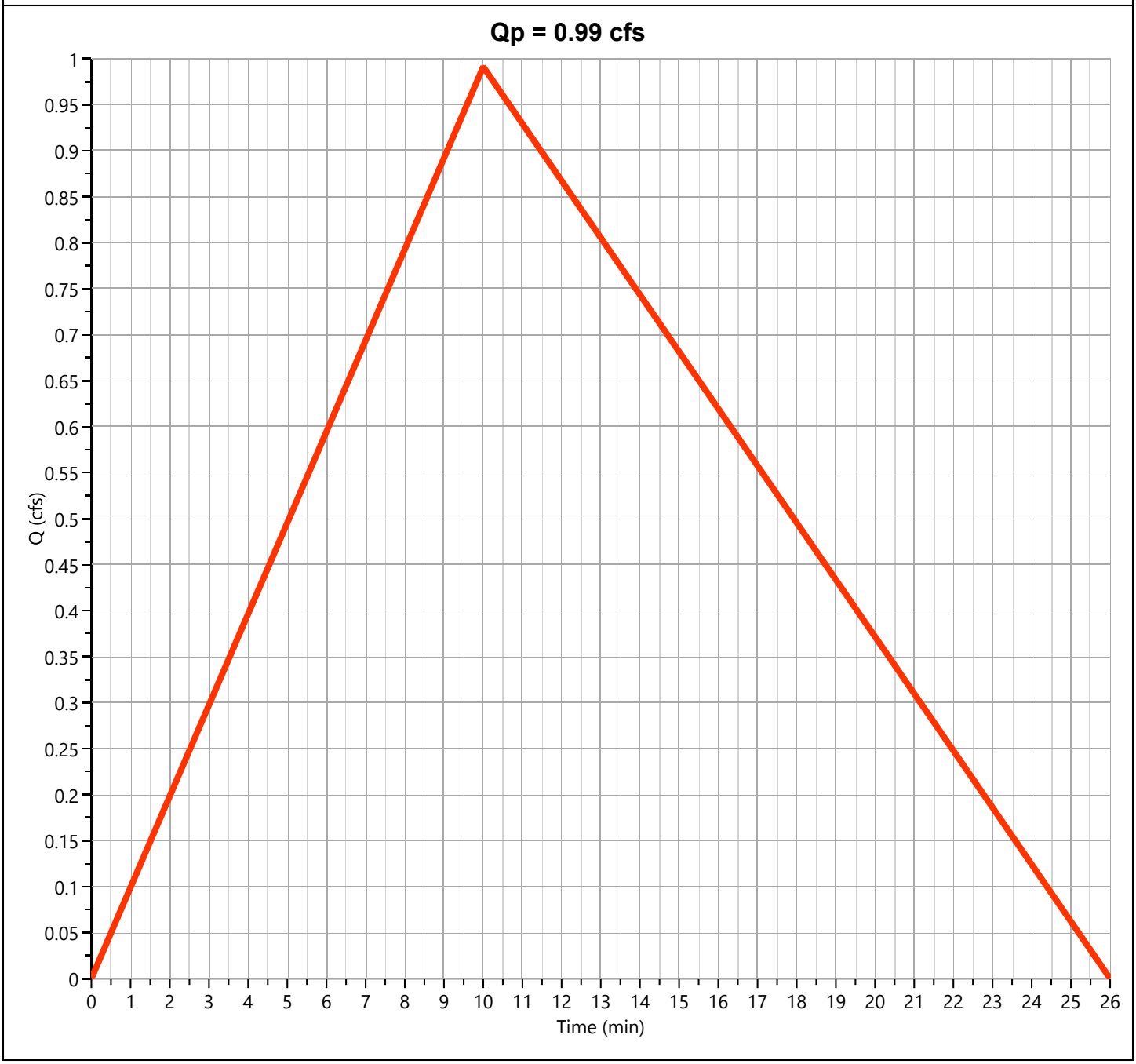
Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description				
Manning's n	0.300	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	4.36	2.28	2.28	
Land Slope (%)	6.88			
Travel Time (min)	**8.92**	**0.00**	**0.00**	**8.92**
Shallow Concentrated Flow				
Flow Length (ft)	47			
Watercourse Slope (%)	10.00	0.00	0.00	
Surface Description	Unpaved	Paved	Paved	
Average Velocity (ft/s)	5.1			
Travel Time (min)	**0.15**	**0.00**	**0.00**	**0.15**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**9 min**

Hydrograph Report

Pre-Dev Basin "D"

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 0.991 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 794 cuft
Drainage Area	= 0.47 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.49 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Tc by TR55 Worksheet

Project Name: Collective Church

Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "D"
Rational

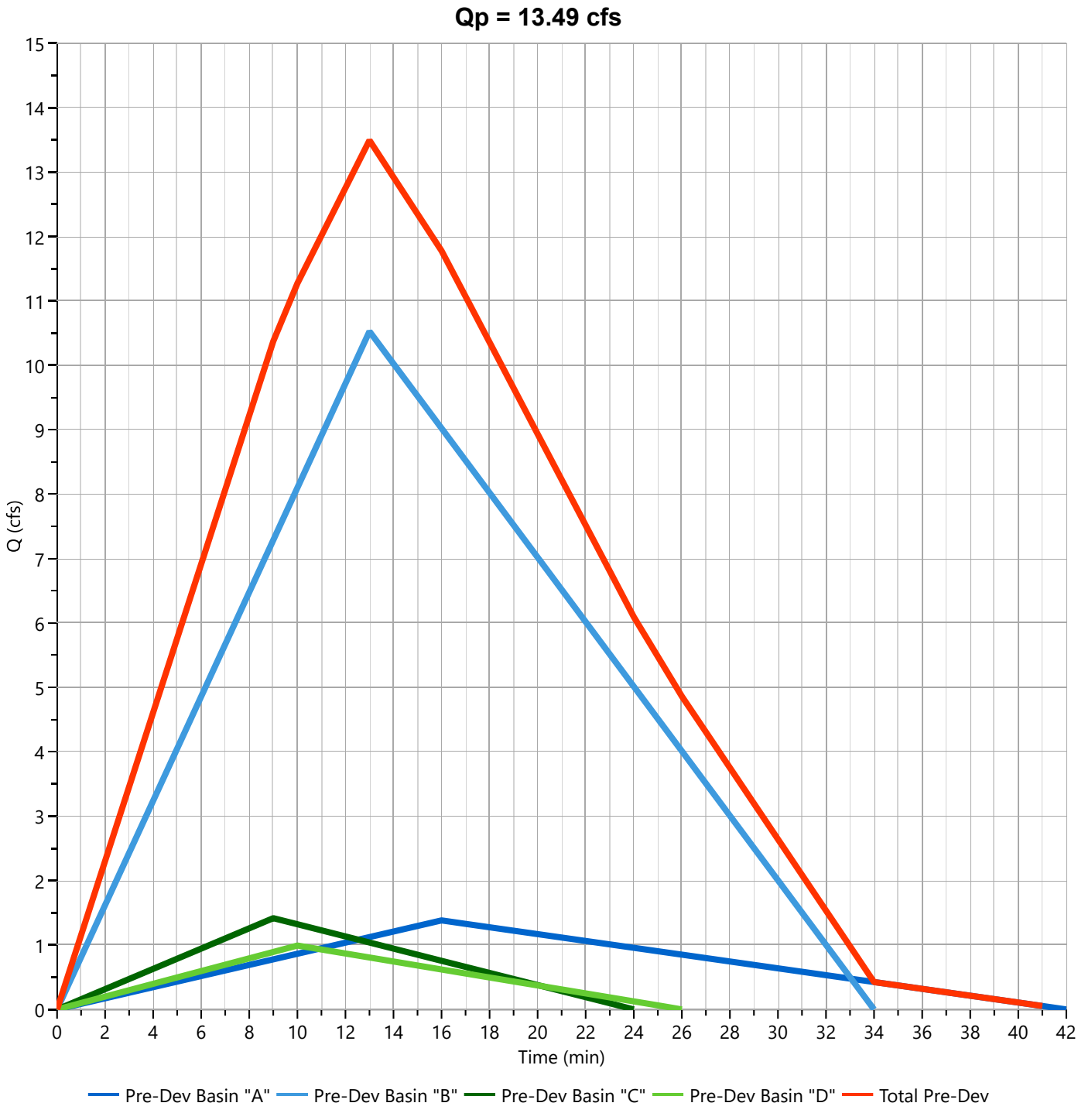
Hyd. No. 4

Description	Segments			
	A	B	C	Tc (min)
Sheet Flow				
Description				
Manning's n	0.300	0.013	0.013	
Flow Length (ft)	100			
2-yr, 24-hr Precip. (in)	4.36	2.28	2.28	
Land Slope (%)	6.3			
Travel Time (min)	**9.24**	**0.00**	**0.00**	**9.24**
Shallow Concentrated Flow				
Flow Length (ft)	104			
Watercourse Slope (%)	7.60	0.00	0.00	
Surface Description	Unpaved	Paved	Paved	
Average Velocity (ft/s)	4.45			
Travel Time (min)	**0.39**	**0.00**	**0.00**	**0.39**
Channel Flow				
X-sectional Flow Area (sqft)				
Wetted Perimeter (ft)				
Channel Slope (%)				
Manning's n	0.013	0.013	0.013	
Velocity (ft/s)				
Flow Length (ft)				
Travel Time (min)	**0.00**	**0.00**	**0.00**	**0.00**
Total Travel Time				**10 min**

Total Pre-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 13.49 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 14,270 cuft
Inflow Hydrographs	= 1, 2, 3, 4	Total Contrib. Area	= 7.54 ac



Hydrograph Report

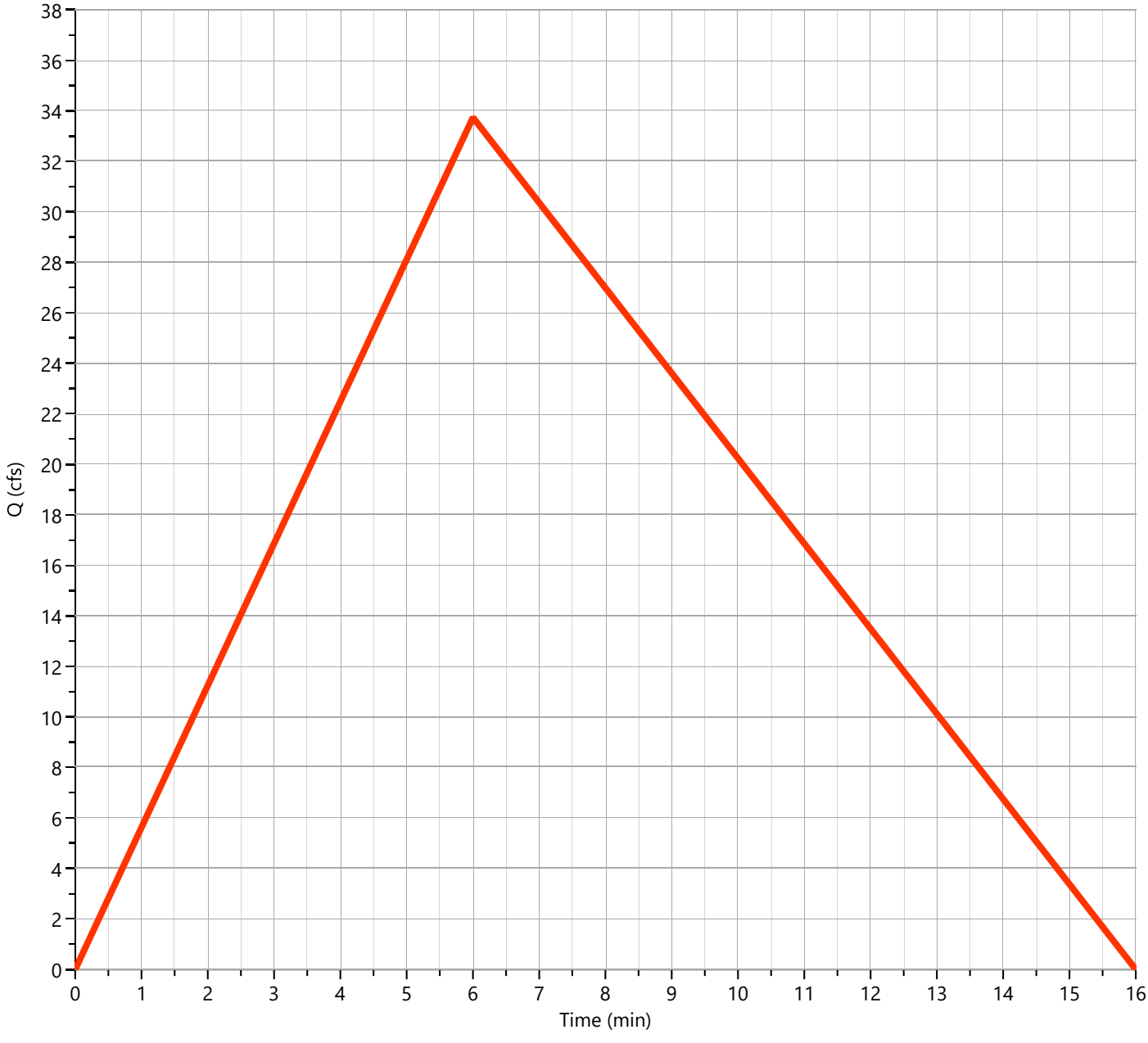
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "A"

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 33.73 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 16,211 cuft
Drainage Area	= 6.28 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.65 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

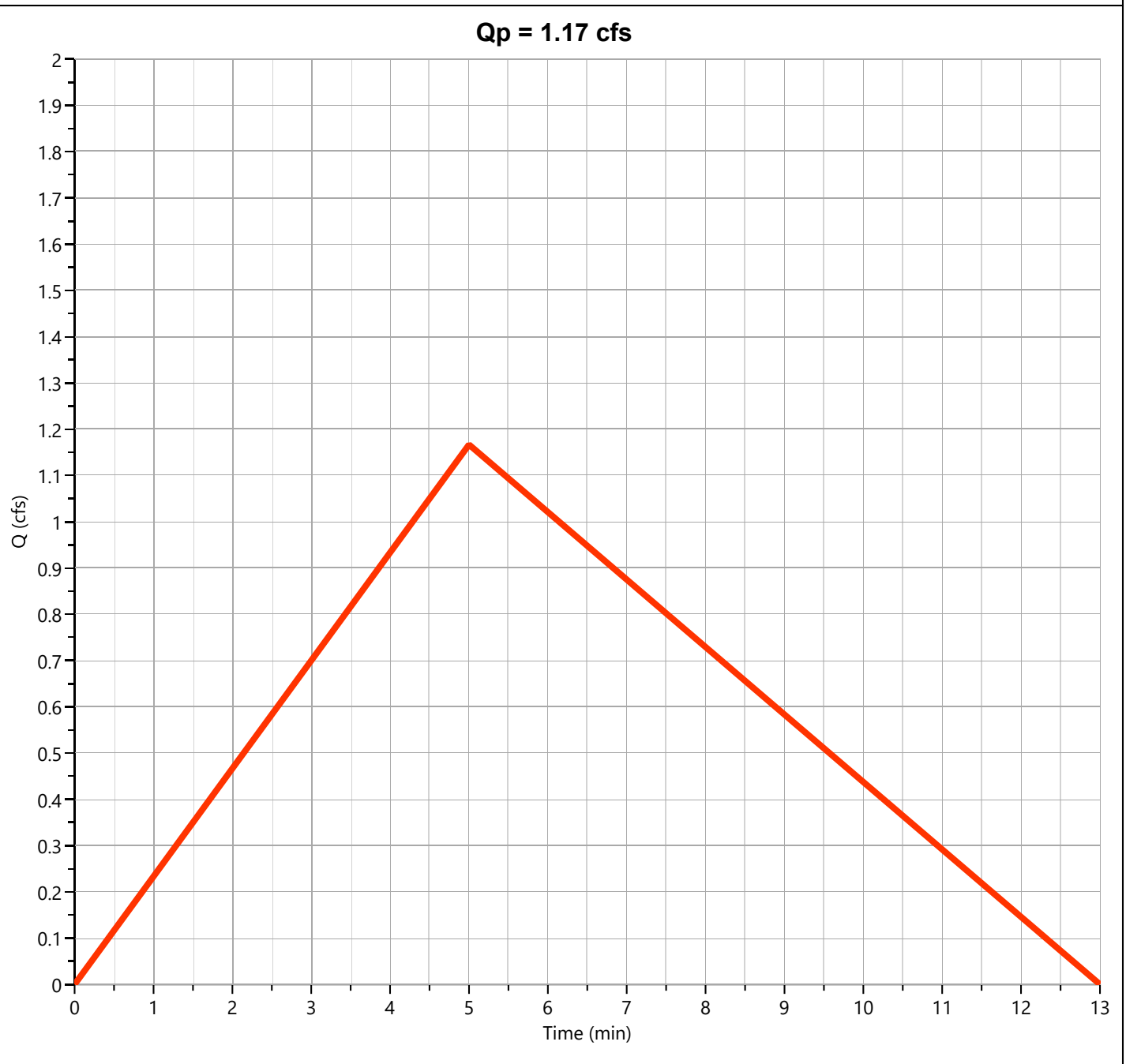
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "B"

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 1.167 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 467 cuft
Drainage Area	= 0.2 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.14 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

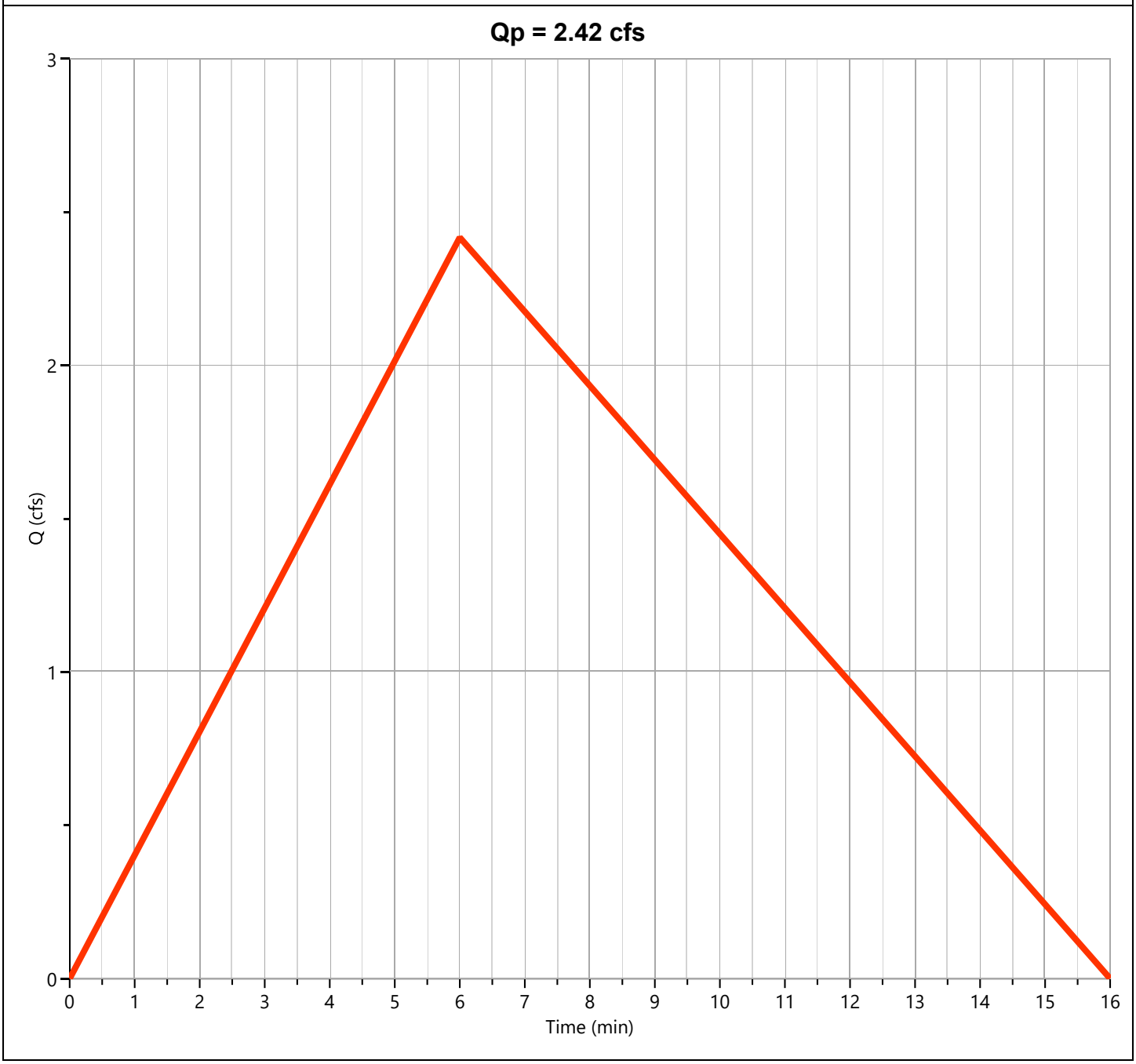
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "C"

Hyd. No. 8

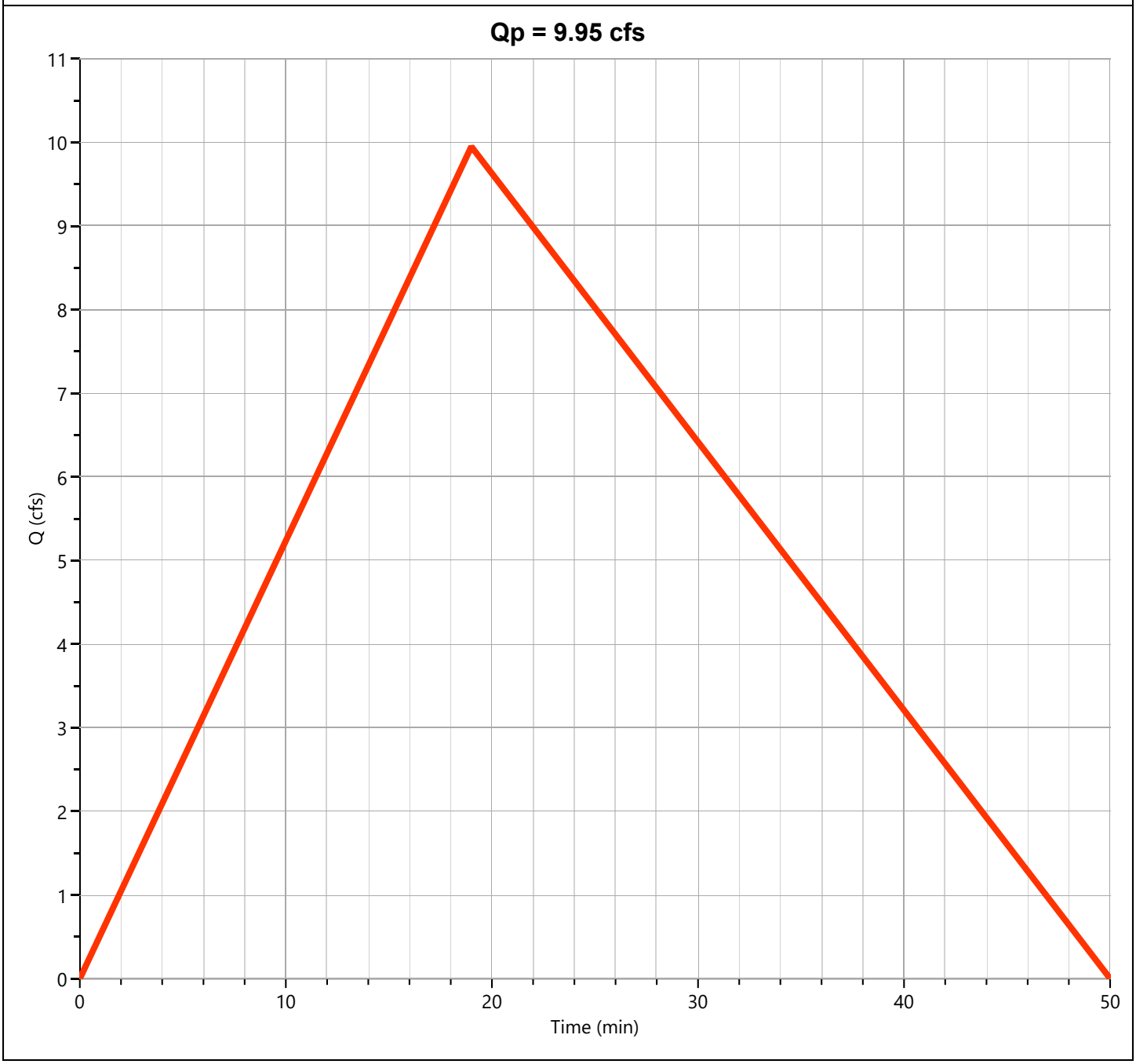
Hydrograph Type	= Rational	Peak Flow	= 2.417 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,162 cuft
Drainage Area	= 0.45 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.65 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Post-Dev Basin "D"

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 9.949 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.32 hrs
Time Interval	= 1 min	Runoff Volume	= 15,141 cuft
Drainage Area	= 3.9 ac	Runoff Coeff.	= 0.76
Tc Method	= User	Time of Conc. (Tc)	= 19.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 3.36 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

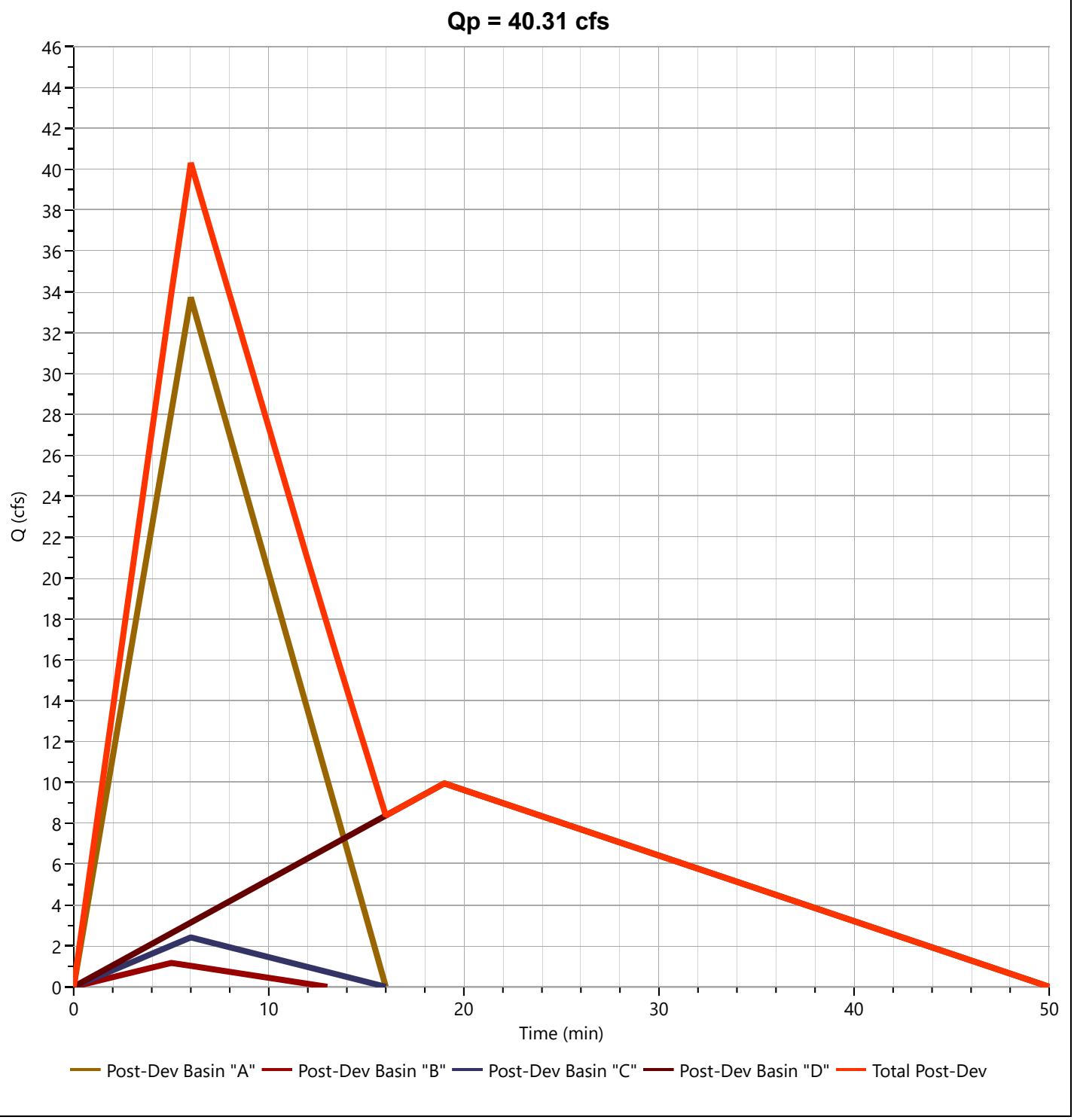
Hydrology Studio v 3.0.0.27

05-02-2025

Total Post-Dev

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 40.31 cfs
Storm Frequency	= 2-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 32,730 cuft
Inflow Hydrographs	= 6, 7, 8, 9	Total Contrib. Area	= 10.83 ac



Hydrograph 10-yr Summary

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre-Dev Basin "A"	1.853	0.27	2,375	----		
2	Rational	Pre-Dev Basin "B"	14.12	0.22	14,699	----		
3	Rational	Pre-Dev Basin "C"	1.896	0.15	1,367	----		
4	Rational	Pre-Dev Basin "D"	1.328	0.17	1,064	----		
5	Junction	Total Pre-Dev	18.09	0.22	19,134	1, 2, 3, 4		
6	Rational	Post-Dev Basin "A"	45.13	0.10	21,688	----		
7	Rational	Post-Dev Basin "B"	1.560	0.08	625	----		
8	Rational	Post-Dev Basin "C"	3.234	0.10	1,554	----		
9	Rational	Post-Dev Basin "D"	13.36	0.32	20,327	----		
10	Junction	Total Post-Dev	53.94	0.10	43,856	6, 7, 8, 9		

Hydrograph Report

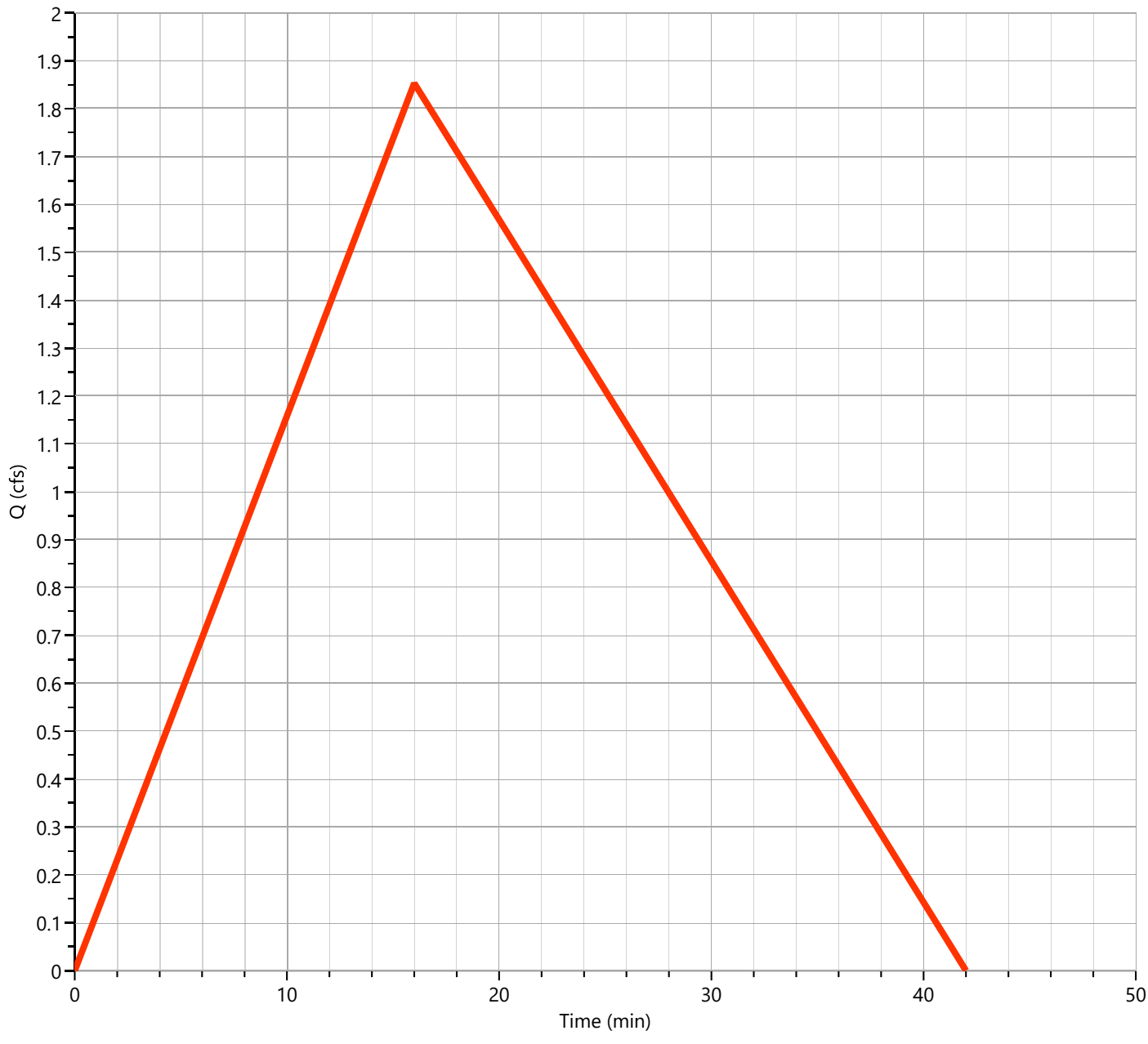
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 1.853 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.27 hrs
Time Interval	= 1 min	Runoff Volume	= 2,375 cuft
Drainage Area	= 0.81 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.87 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

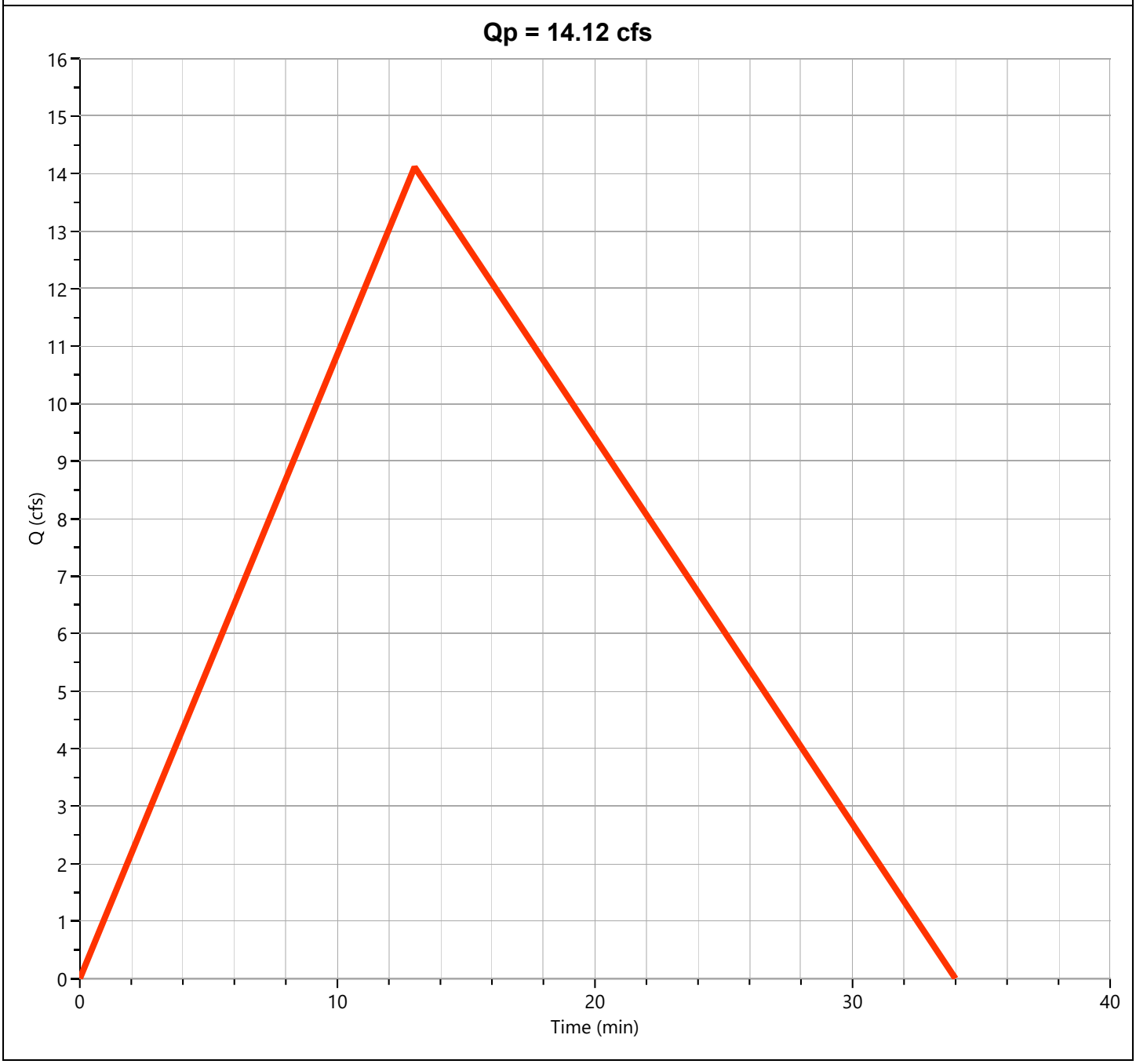
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "B"

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 14.12 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Runoff Volume	= 14,699 cuft
Drainage Area	= 5.62 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 13.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.34 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67

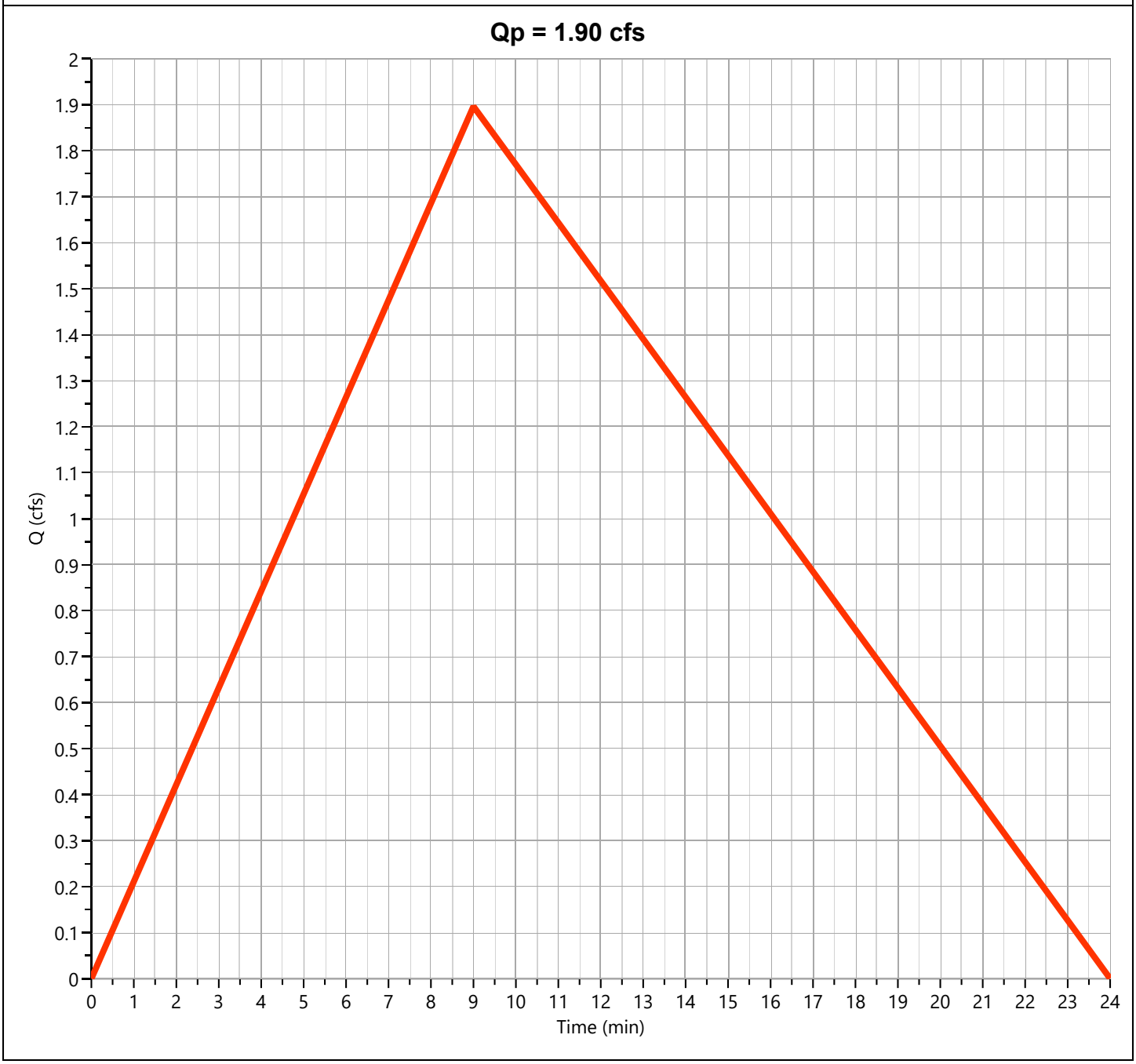


Hydrograph Report

Pre-Dev Basin "C"

Hyd. No. 3

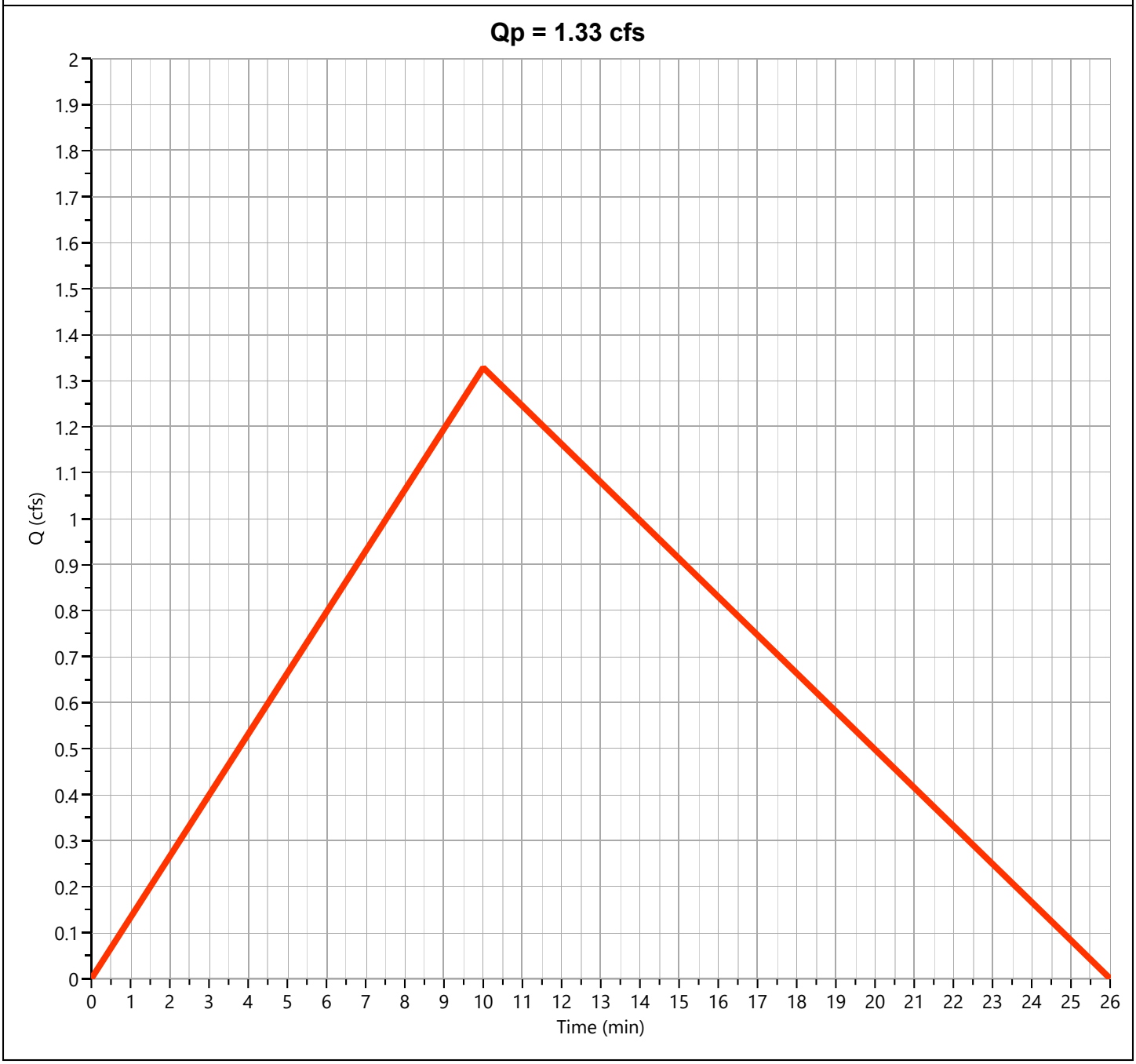
Hydrograph Type	= Rational	Peak Flow	= 1.896 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,367 cuft
Drainage Area	= 0.64 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Pre-Dev Basin "D"

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 1.328 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,064 cuft
Drainage Area	= 0.47 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.01 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

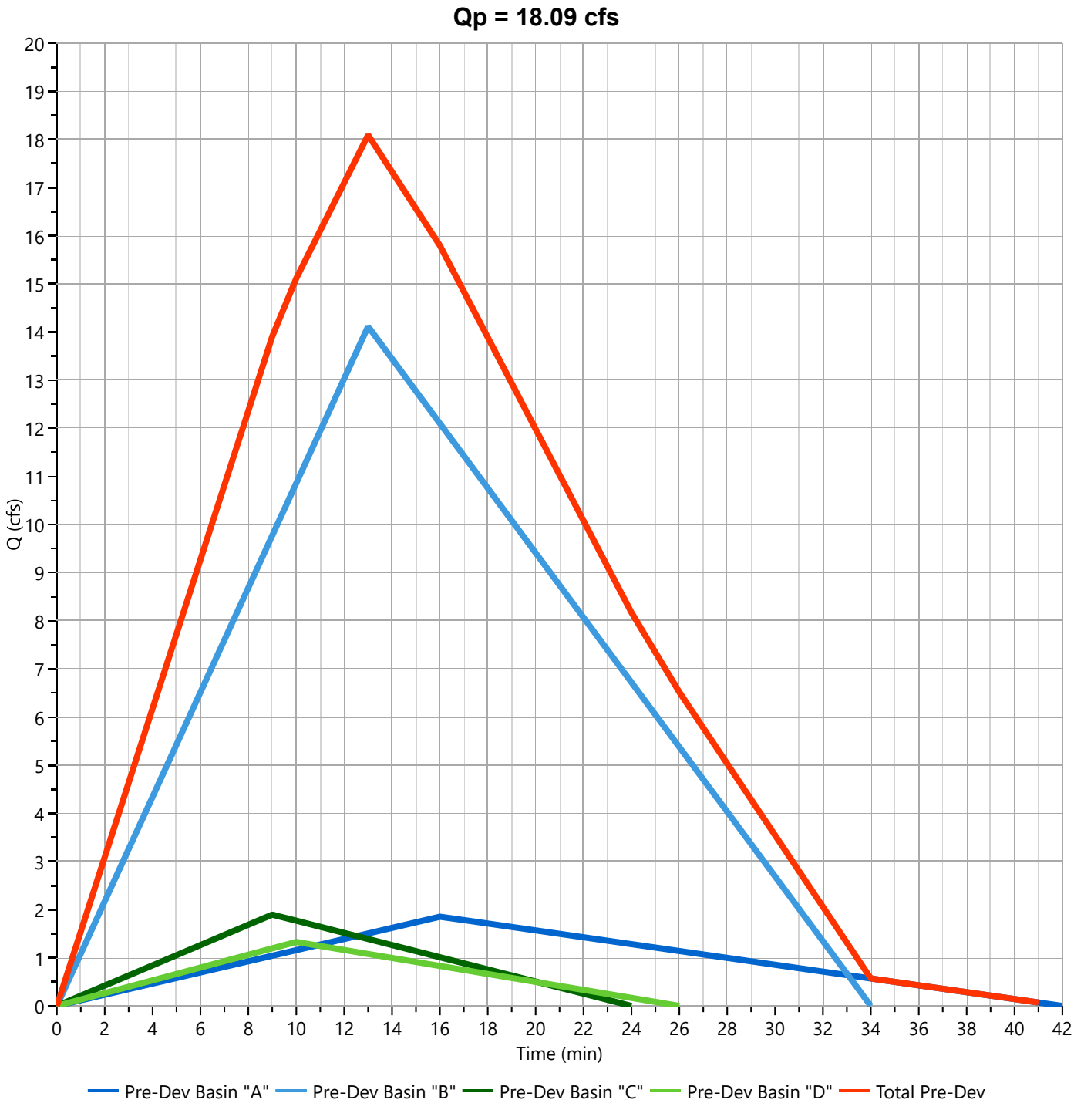
Hydrology Studio v 3.0.0.27

05-02-2025

Total Pre-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 18.09 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 19,134 cuft
Inflow Hydrographs	= 1, 2, 3, 4	Total Contrib. Area	= 7.54 ac



Hydrograph Report

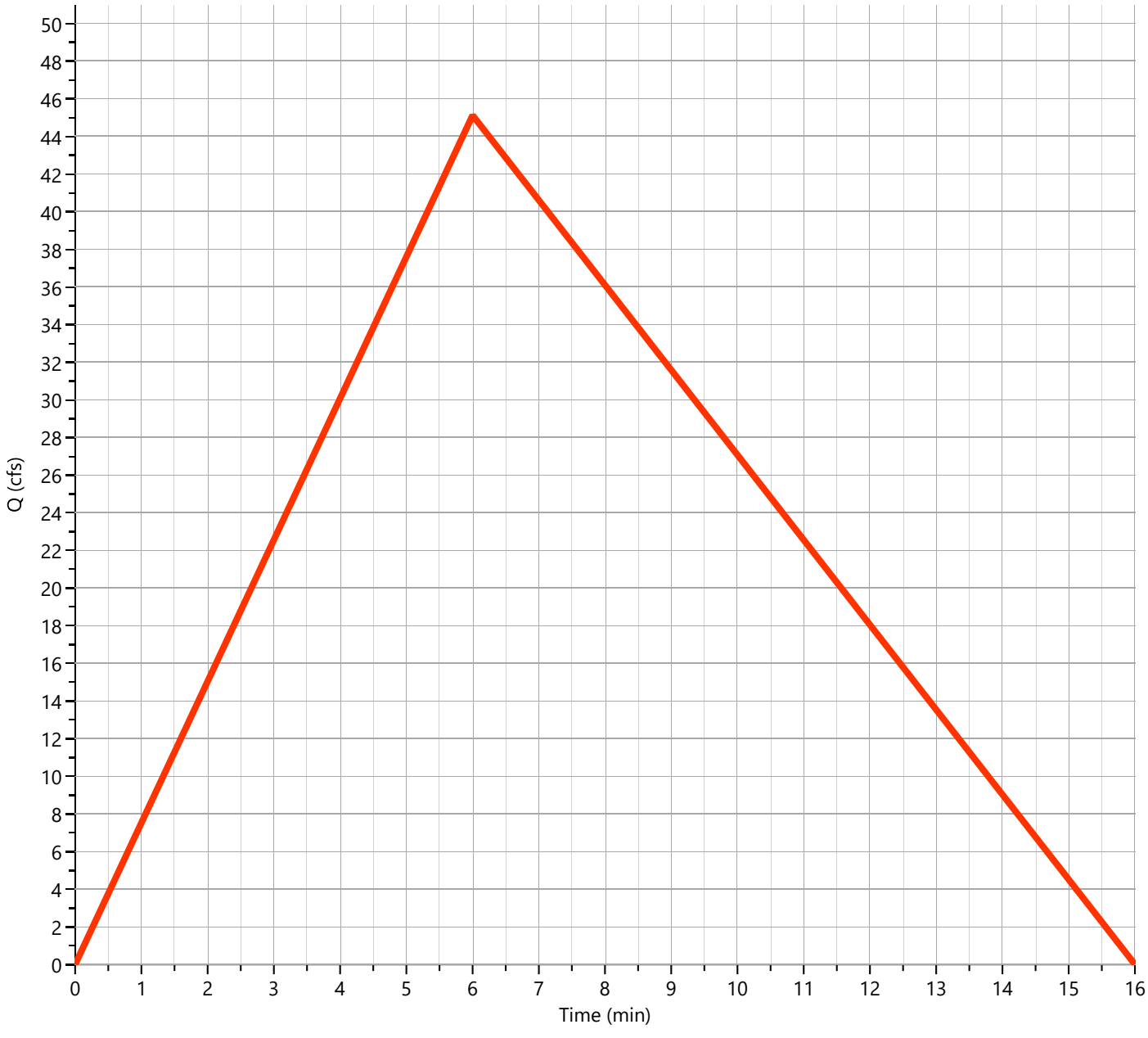
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "A"

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 45.13 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 21,688 cuft
Drainage Area	= 6.28 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.56 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67

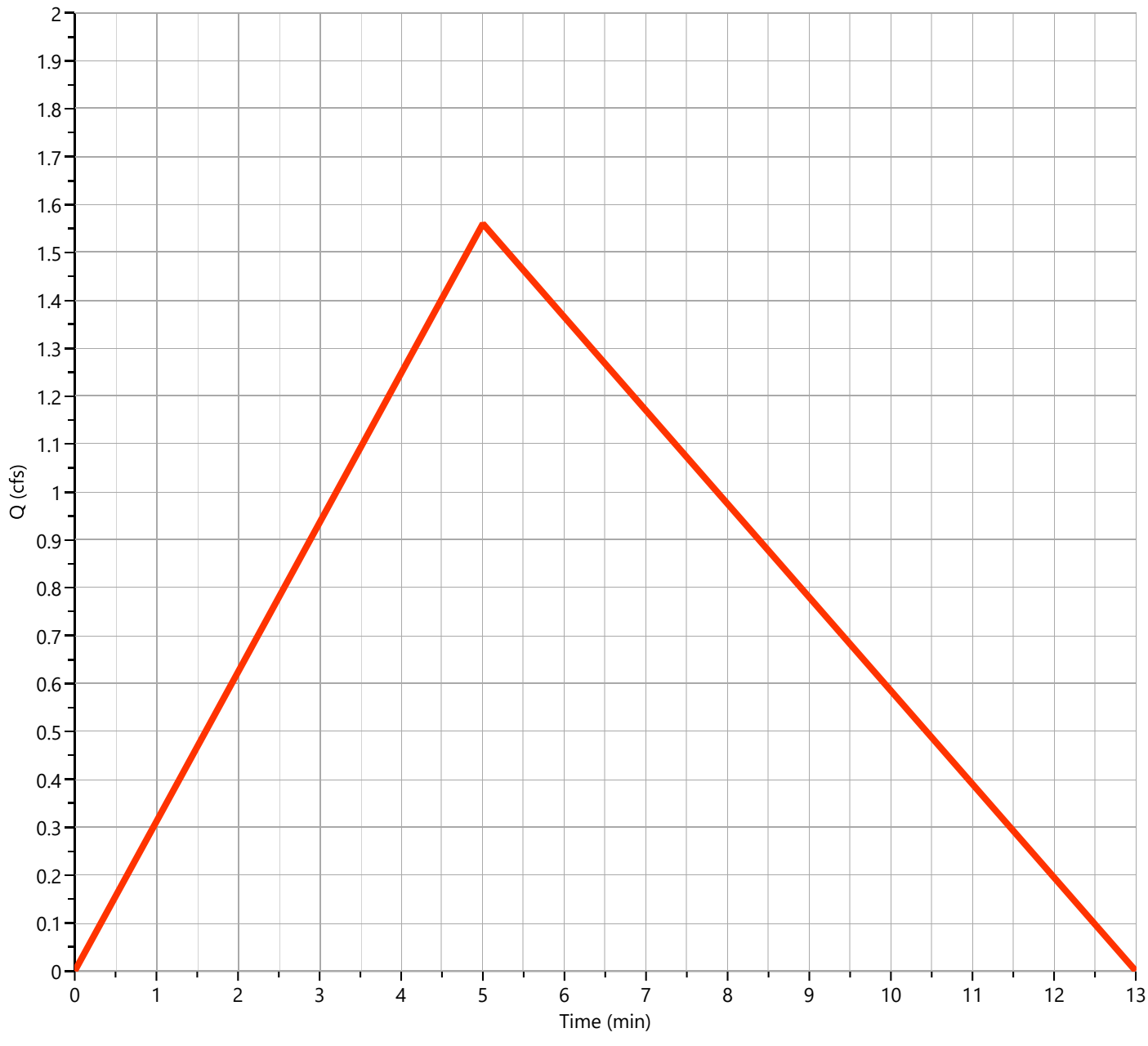


Hydrograph Report

Post-Dev Basin "B"

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 1.560 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 625 cuft
Drainage Area	= 0.2 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.21 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

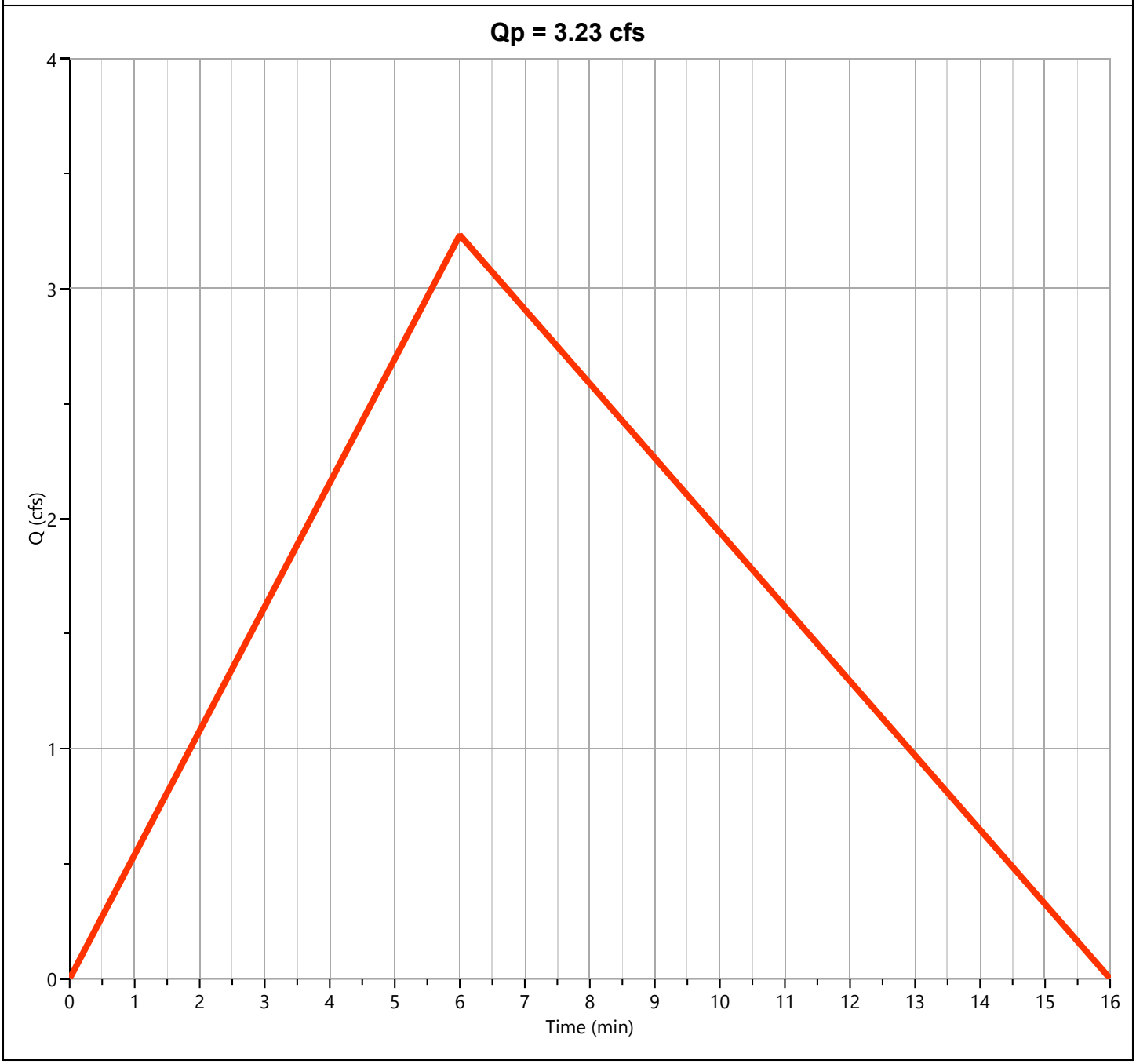
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "C"

Hyd. No. 8

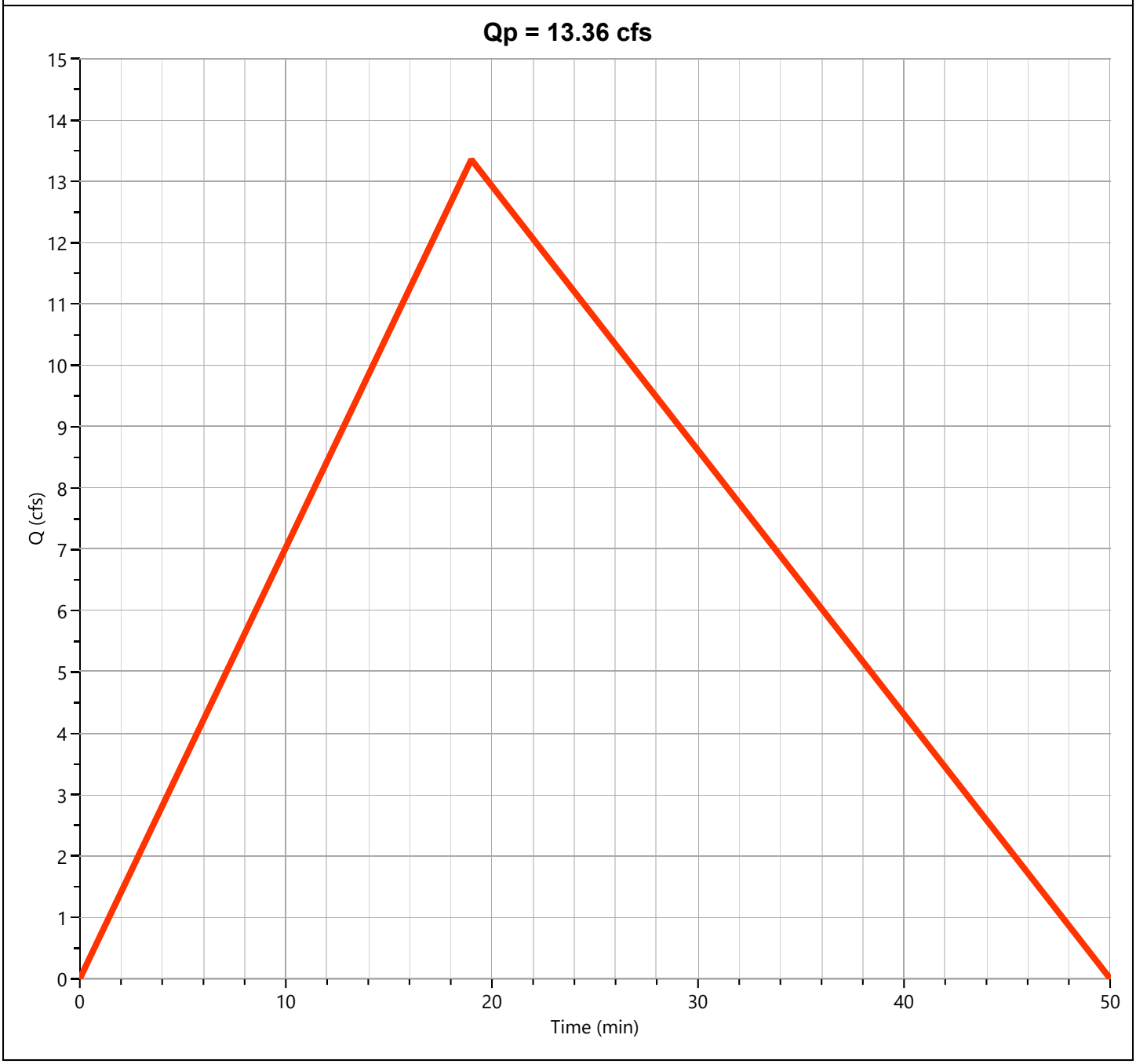
Hydrograph Type	= Rational	Peak Flow	= 3.234 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,554 cuft
Drainage Area	= 0.45 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.56 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Post-Dev Basin "D"

Hyd. No. 9

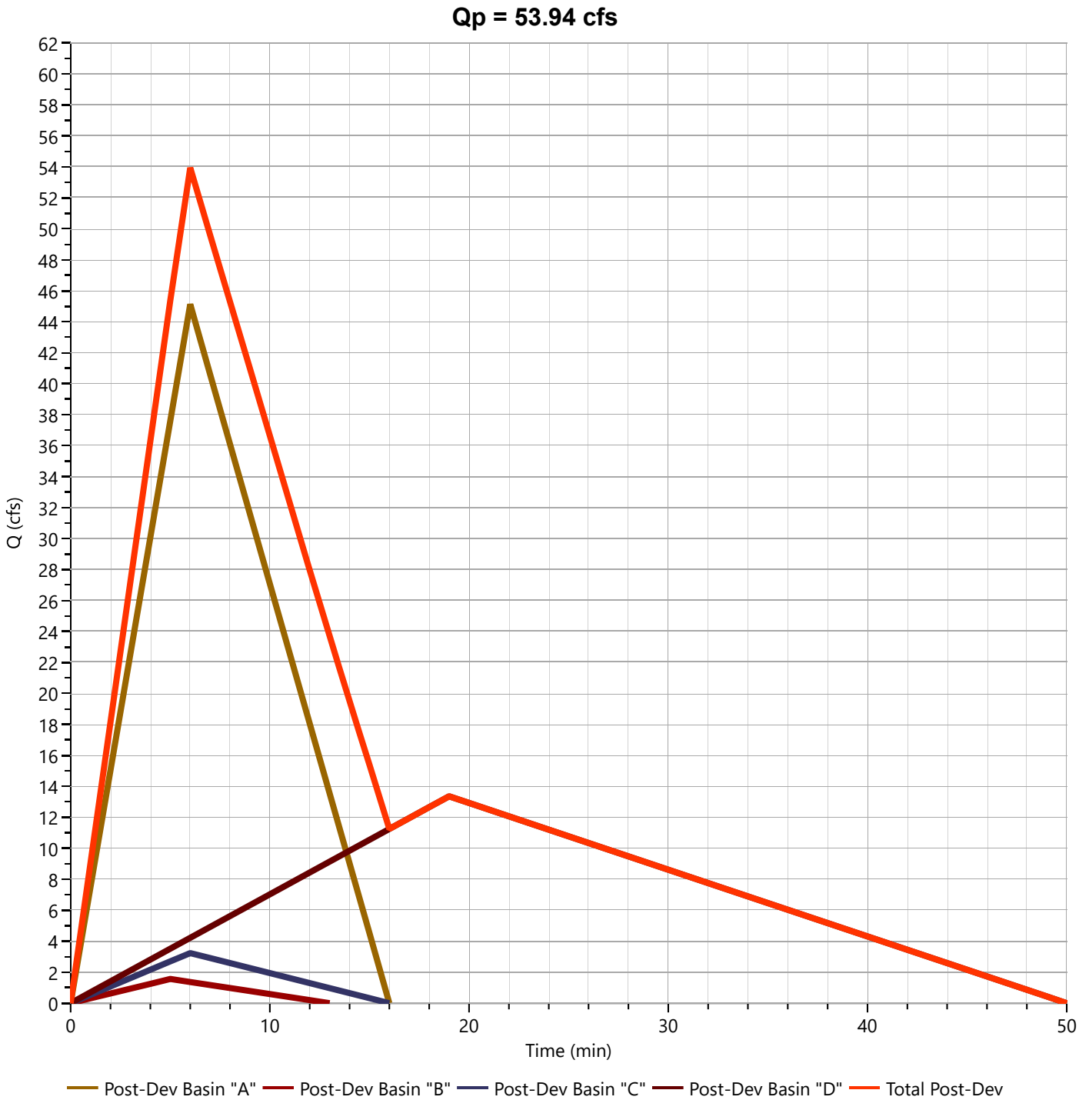
Hydrograph Type	= Rational	Peak Flow	= 13.36 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.32 hrs
Time Interval	= 1 min	Runoff Volume	= 20,327 cuft
Drainage Area	= 3.9 ac	Runoff Coeff.	= 0.76
Tc Method	= User	Time of Conc. (Tc)	= 19.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 4.51 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 53.94 cfs
Storm Frequency	= 10-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 43,856 cuft
Inflow Hydrographs	= 6, 7, 8, 9	Total Contrib. Area	= 10.83 ac



Hydrograph 25-yr Summary

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre-Dev Basin "A"	2.130	0.27	2,730	----		
2	Rational	Pre-Dev Basin "B"	16.22	0.22	16,893	----		
3	Rational	Pre-Dev Basin "C"	2.179	0.15	1,571	----		
4	Rational	Pre-Dev Basin "D"	1.526	0.17	1,223	----		
5	Junction	Total Pre-Dev	20.79	0.22	21,990	1, 2, 3, 4		
6	Rational	Post-Dev Basin "A"	51.84	0.10	24,914	----		
7	Rational	Post-Dev Basin "B"	1.792	0.08	718	----		
8	Rational	Post-Dev Basin "C"	3.715	0.10	1,785	----		
9	Rational	Post-Dev Basin "D"	15.35	0.32	23,367	----		
10	Junction	Total Post-Dev	61.97	0.10	50,395	6, 7, 8, 9		

Hydrograph Report

Project Name: Collective Church

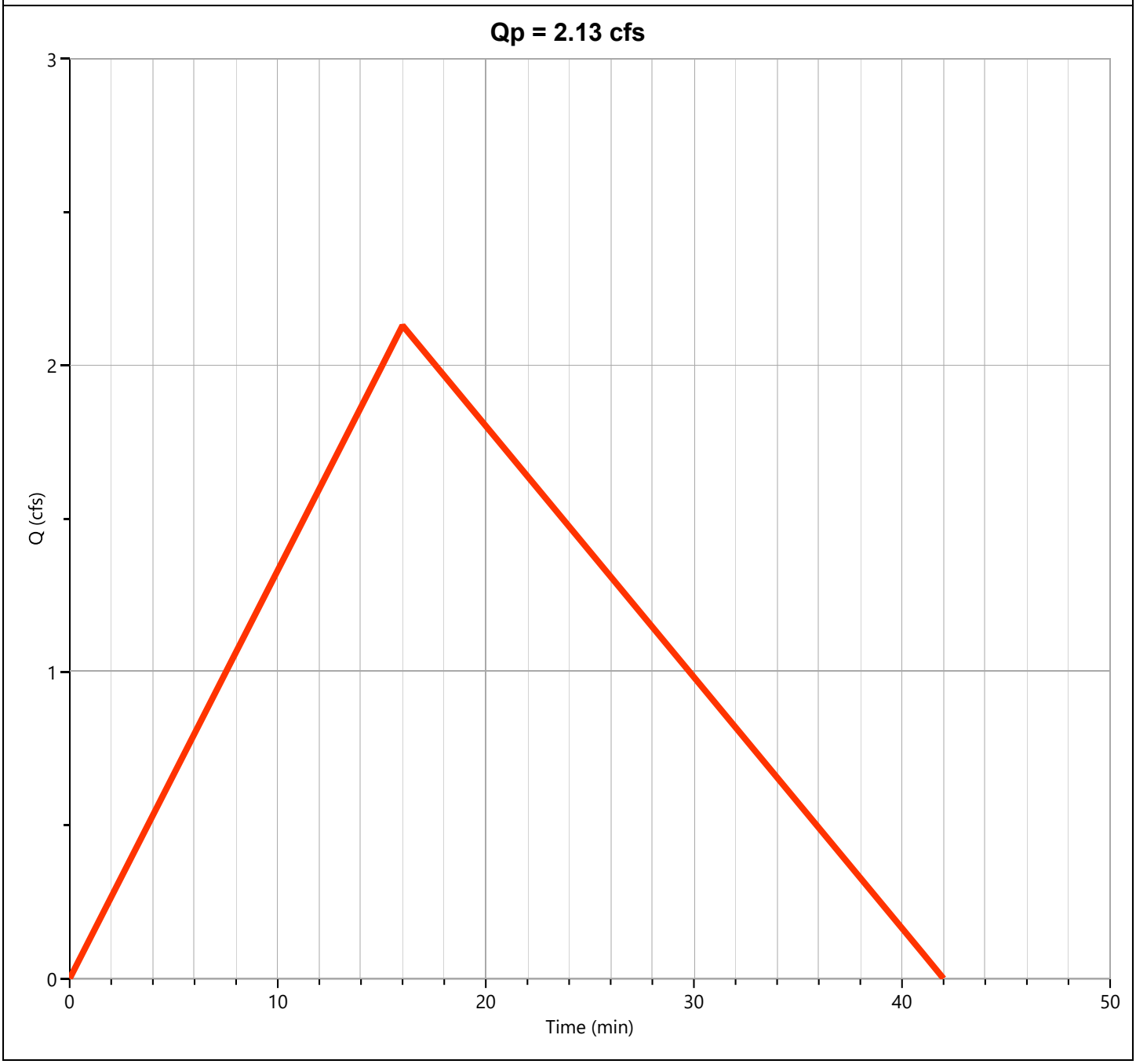
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.130 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.27 hrs
Time Interval	= 1 min	Runoff Volume	= 2,730 cuft
Drainage Area	= 0.81 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.60 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67

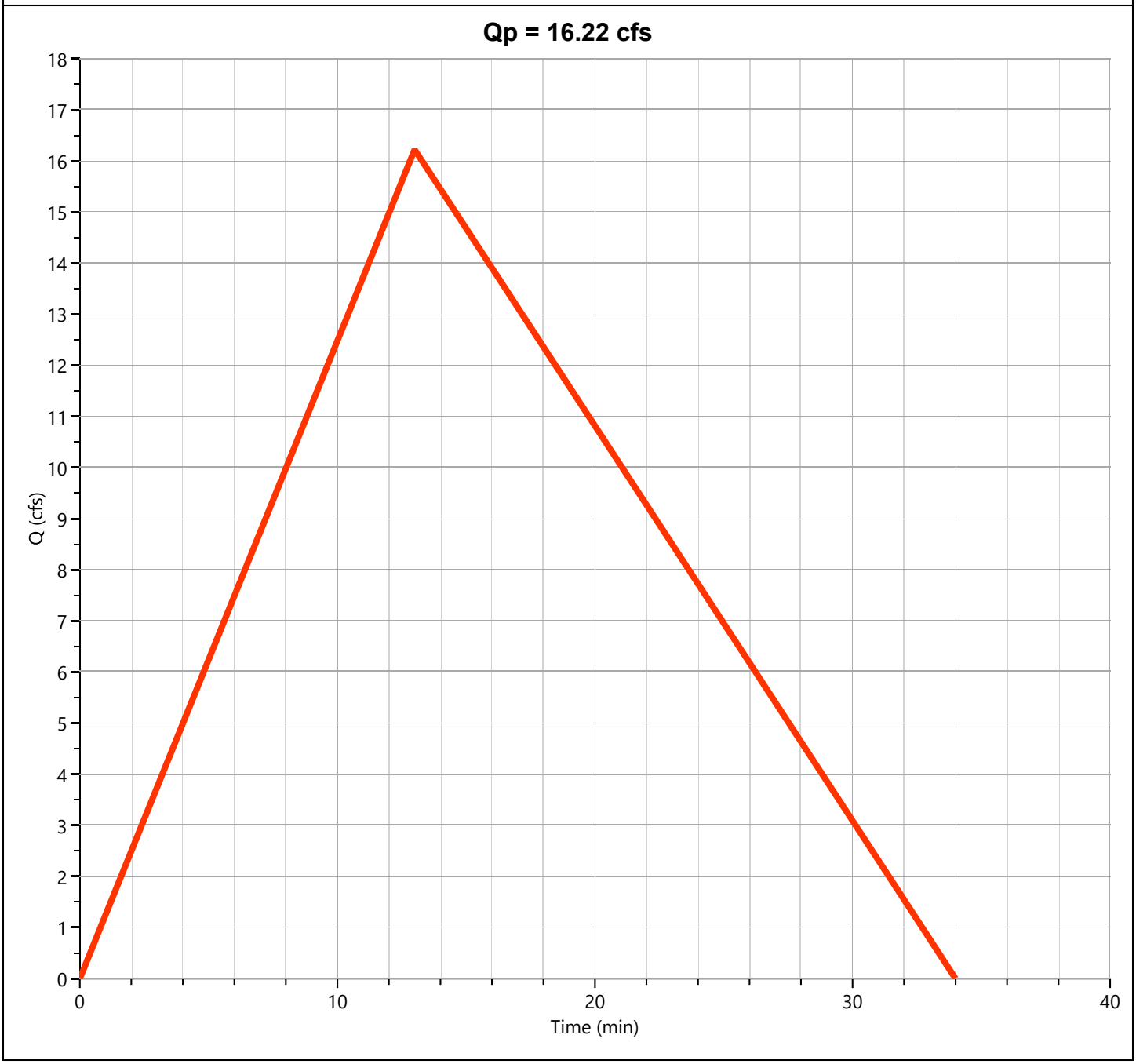


Hydrograph Report

Pre-Dev Basin "B"

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 16.22 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Runoff Volume	= 16,893 cuft
Drainage Area	= 5.62 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 13.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.14 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

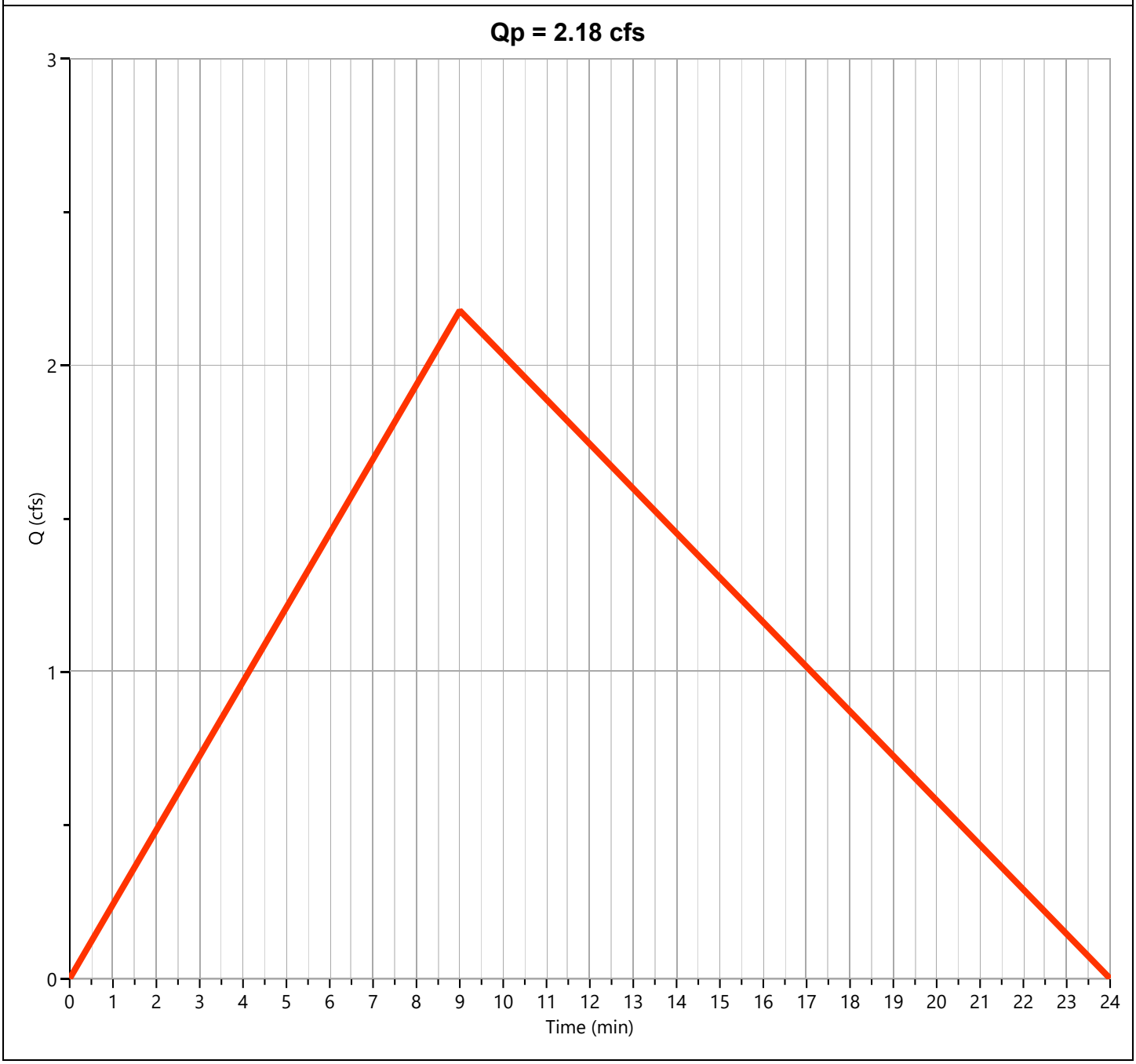
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "C"

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 2.179 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,571 cuft
Drainage Area	= 0.64 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.24 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

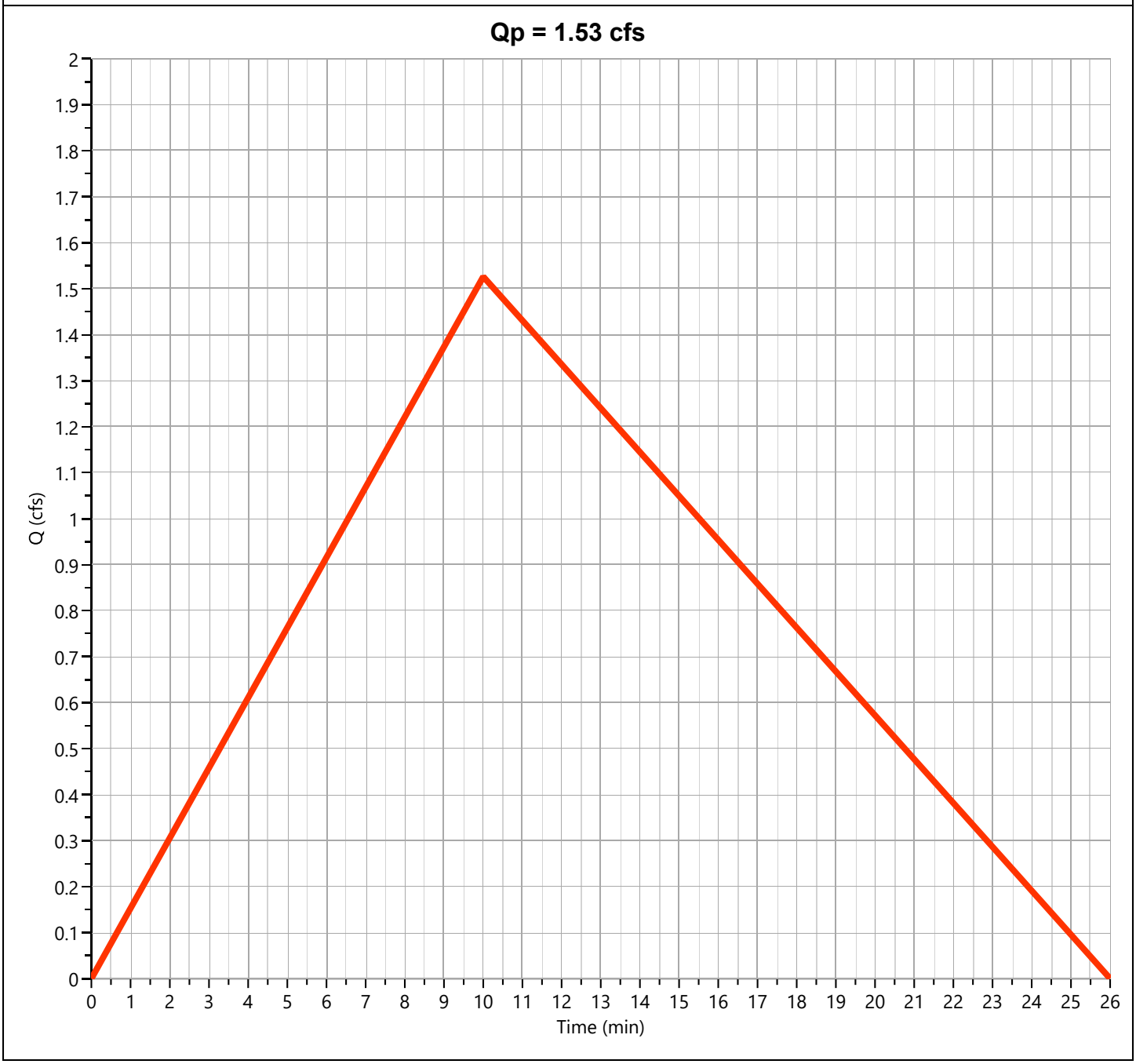
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "D"

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 1.526 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,223 cuft
Drainage Area	= 0.47 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.91 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

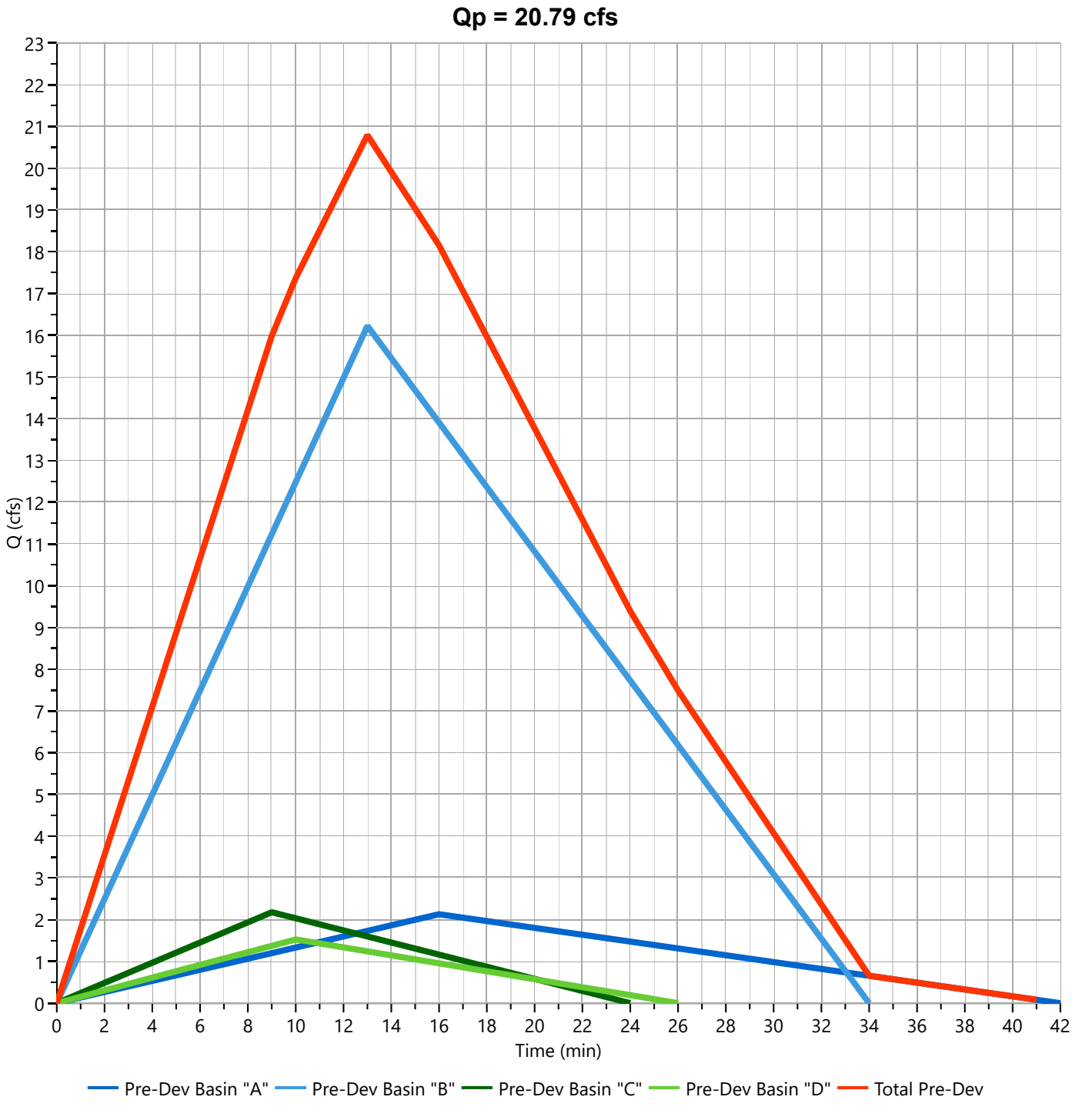
Hydrology Studio v 3.0.0.27

05-02-2025

Total Pre-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 20.79 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 21,990 cuft
Inflow Hydrographs	= 1, 2, 3, 4	Total Contrib. Area	= 7.54 ac



Hydrograph Report

Project Name: Collective Church

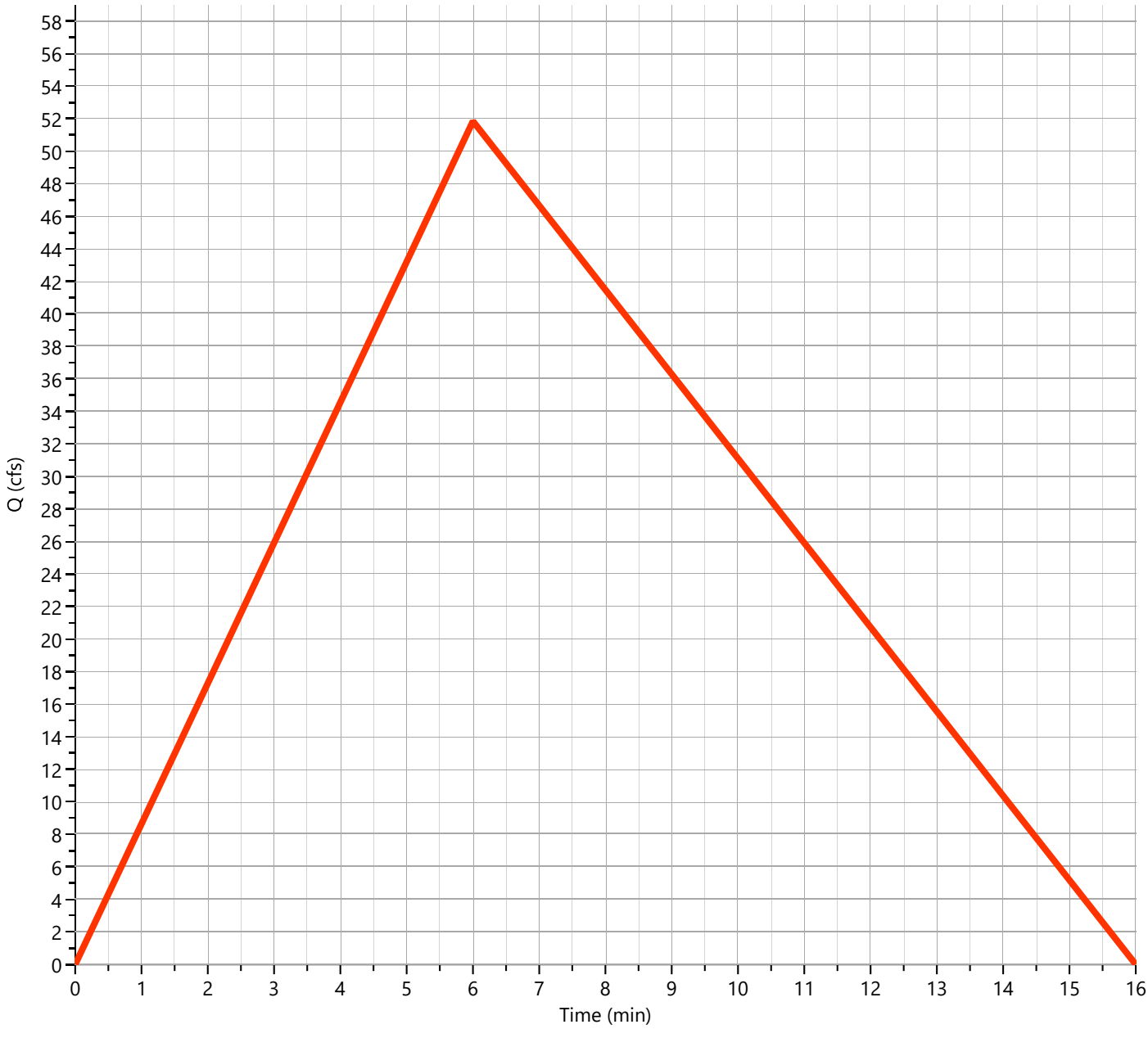
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "A"

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 51.84 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 24,914 cuft
Drainage Area	= 6.28 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.69 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

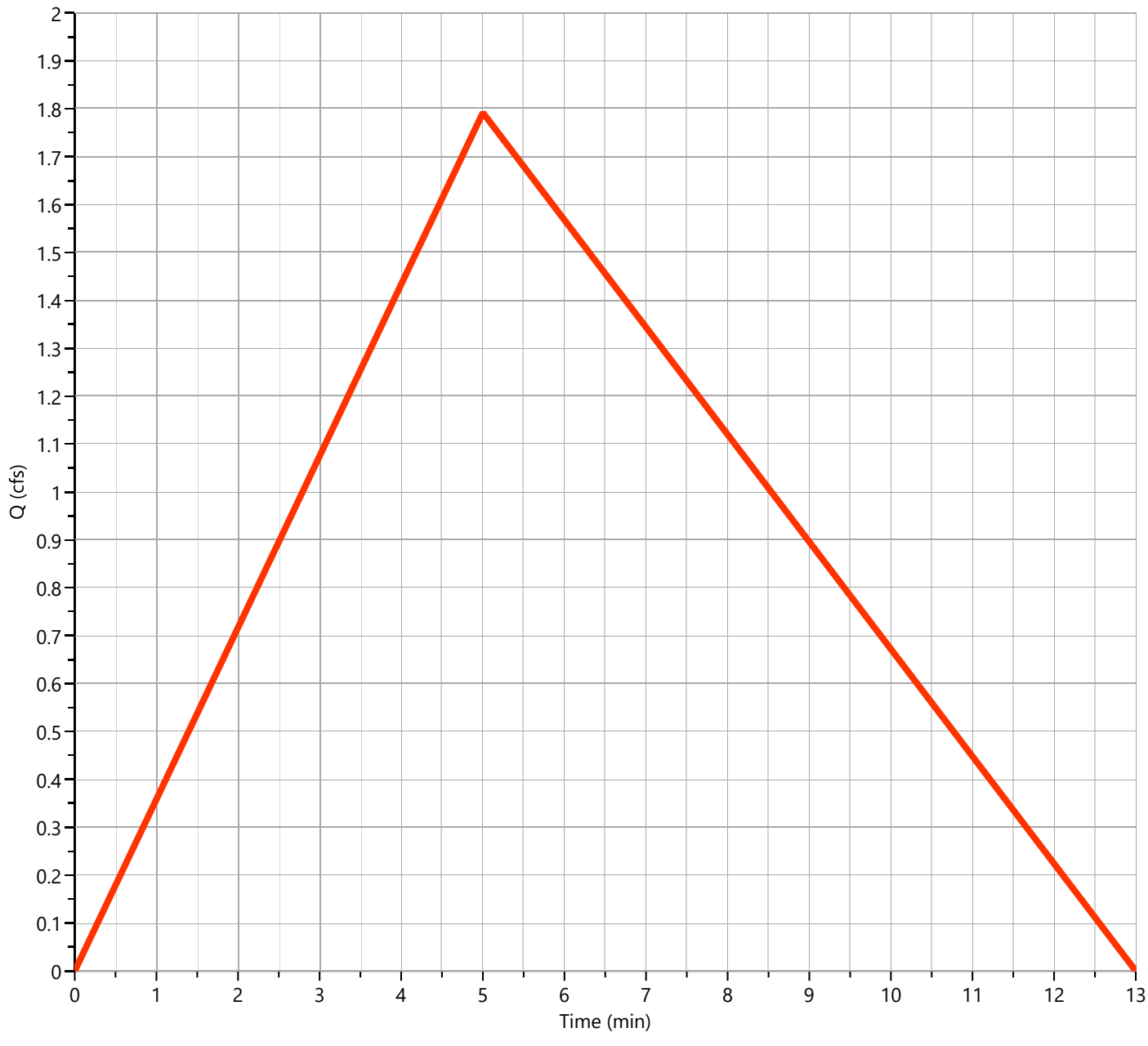
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "B"

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 1.792 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 718 cuft
Drainage Area	= 0.2 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 9.43 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

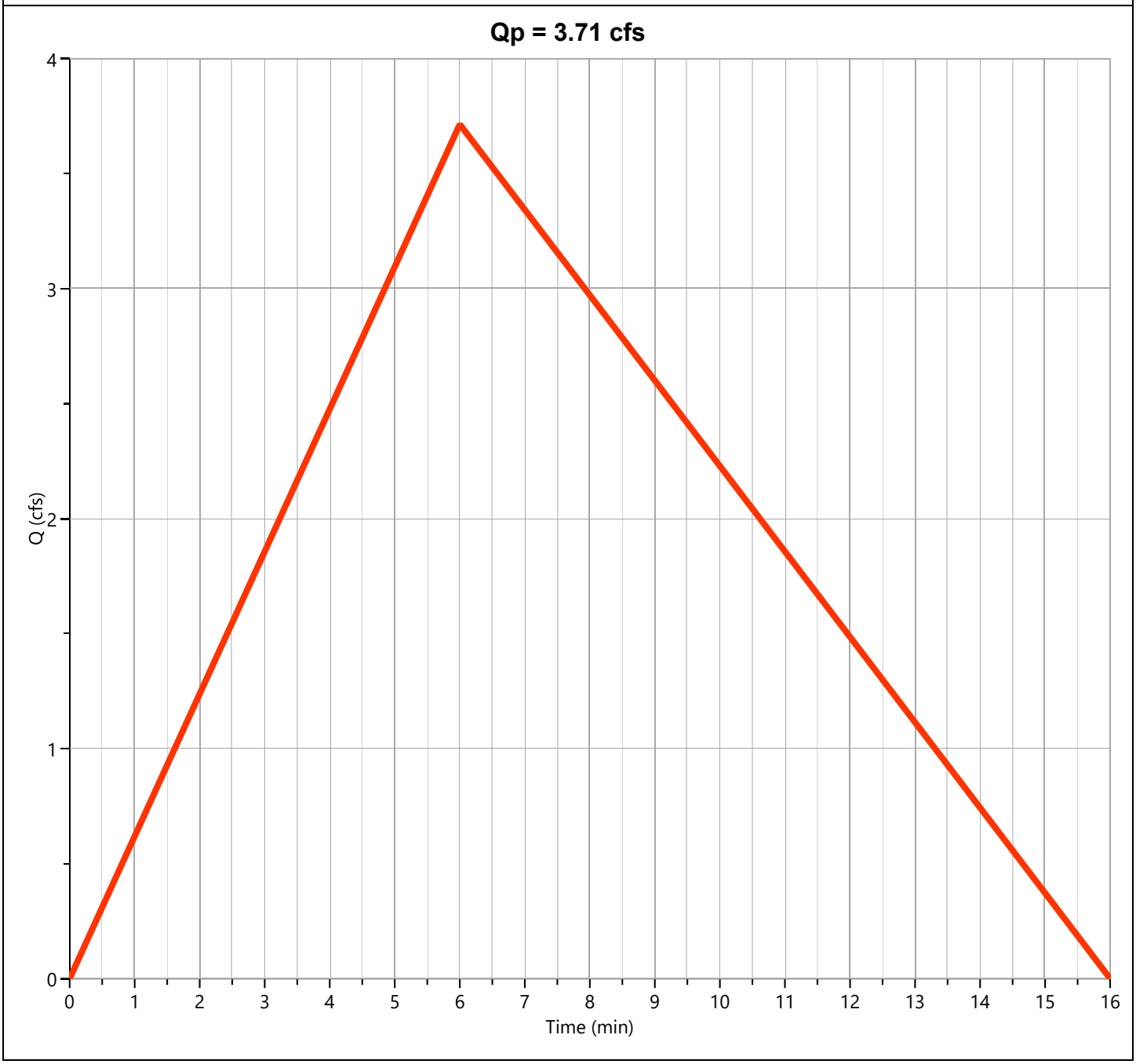
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "C"

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 3.715 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,785 cuft
Drainage Area	= 0.45 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.69 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

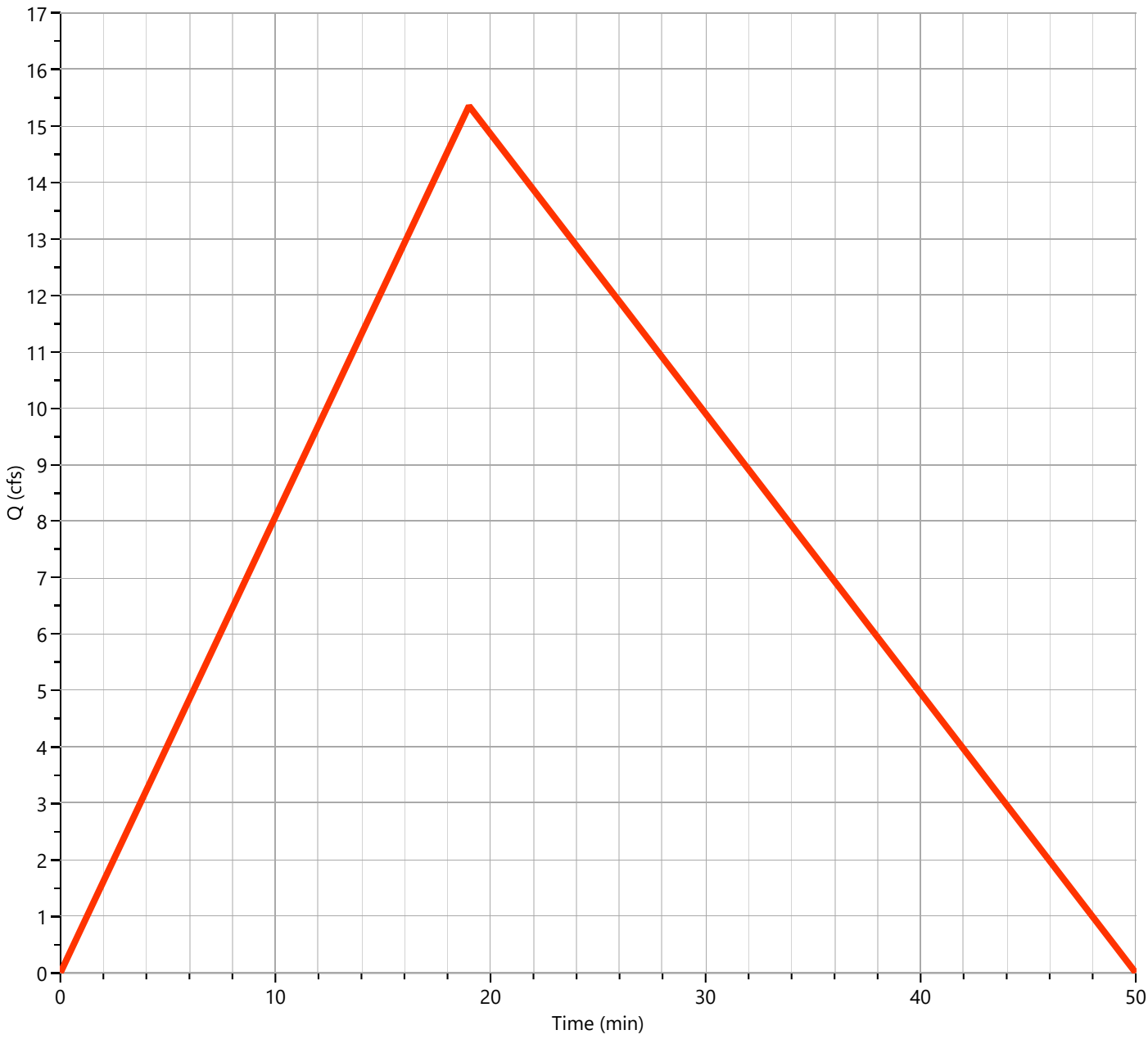
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "D"

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 15.35 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.32 hrs
Time Interval	= 1 min	Runoff Volume	= 23,367 cuft
Drainage Area	= 3.9 ac	Runoff Coeff.	= 0.76
Tc Method	= User	Time of Conc. (Tc)	= 19.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.18 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

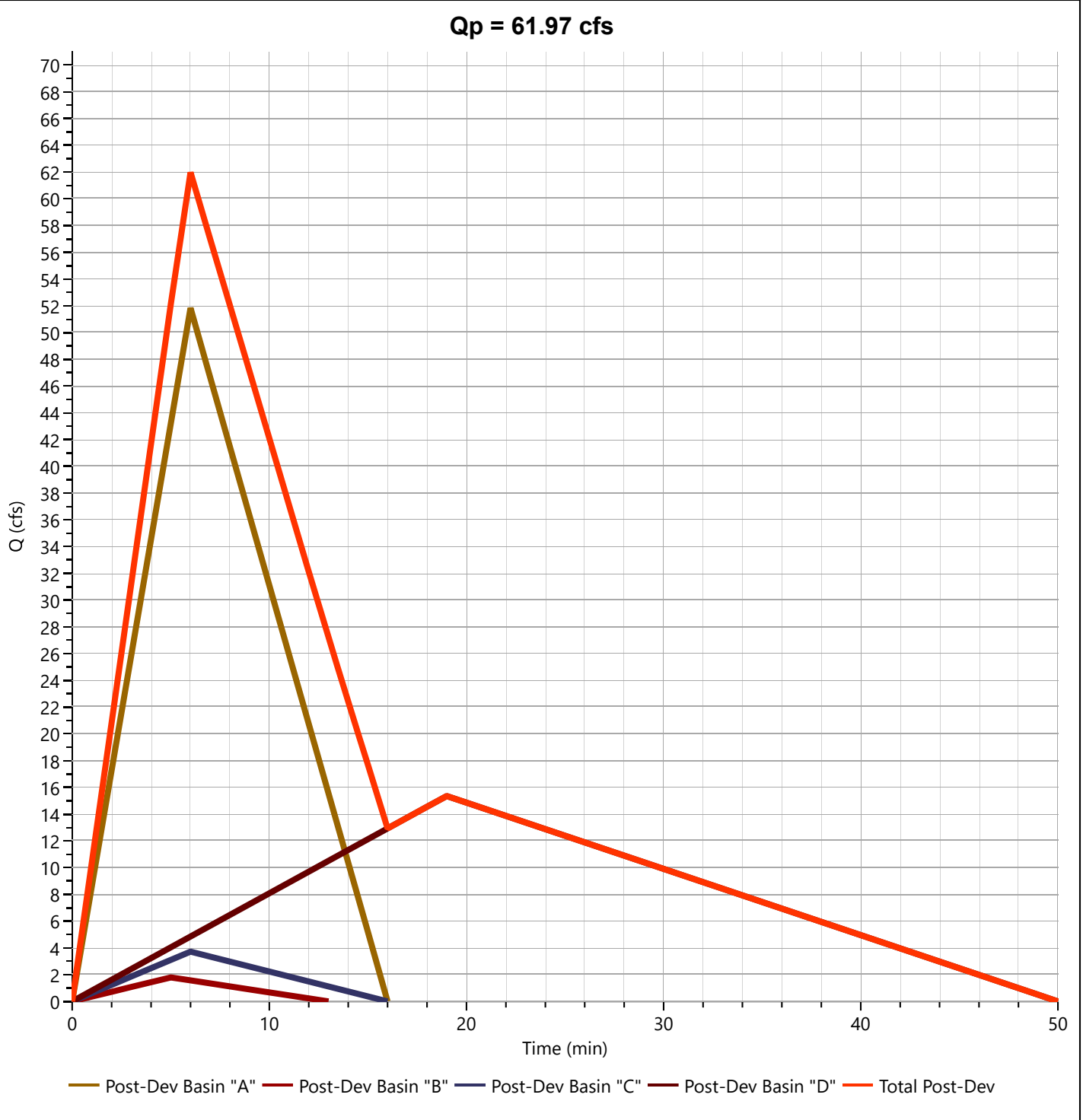
Hydrology Studio v 3.0.0.27

05-02-2025

Total Post-Dev

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 61.97 cfs
Storm Frequency	= 25-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 50,395 cuft
Inflow Hydrographs	= 6, 7, 8, 9	Total Contrib. Area	= 10.83 ac



Hydrograph 50-yr Summary

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre-Dev Basin "A"	2.330	0.27	2,986	----		
2	Rational	Pre-Dev Basin "B"	17.74	0.22	18,474	----		
3	Rational	Pre-Dev Basin "C"	2.382	0.15	1,717	----		
4	Rational	Pre-Dev Basin "D"	1.669	0.17	1,336	----		
5	Junction	Total Pre-Dev	22.74	0.22	24,048	1, 2, 3, 4		
6	Rational	Post-Dev Basin "A"	56.64	0.10	27,219	----		
7	Rational	Post-Dev Basin "B"	1.957	0.08	784	----		
8	Rational	Post-Dev Basin "C"	4.058	0.10	1,950	----		
9	Rational	Post-Dev Basin "D"	16.80	0.32	25,566	----		
10	Junction	Total Post-Dev	67.71	0.10	55,095	6, 7, 8, 9		

Hydrograph Report

Project Name: Collective Church

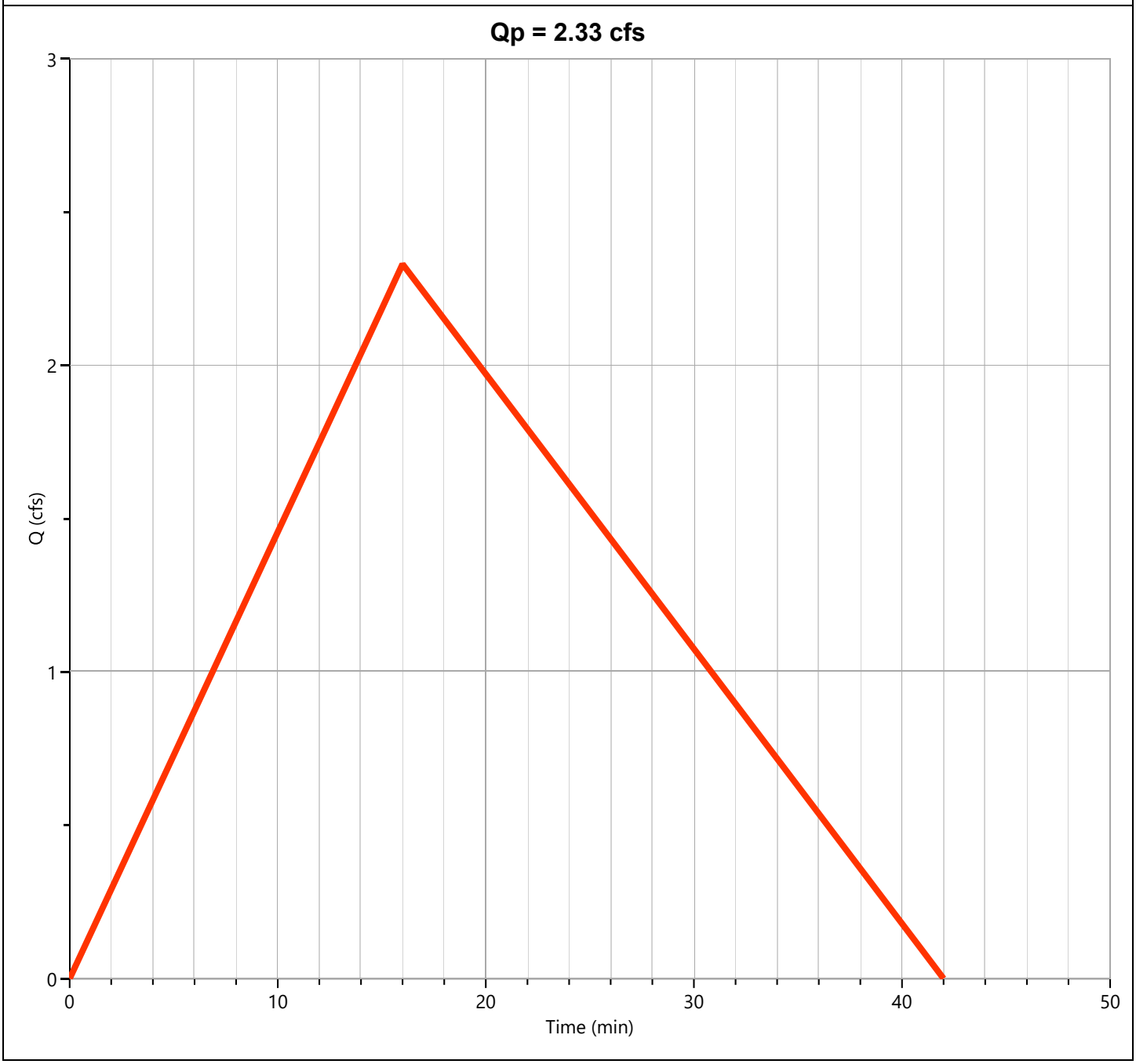
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.330 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.27 hrs
Time Interval	= 1 min	Runoff Volume	= 2,986 cuft
Drainage Area	= 0.81 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.12 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

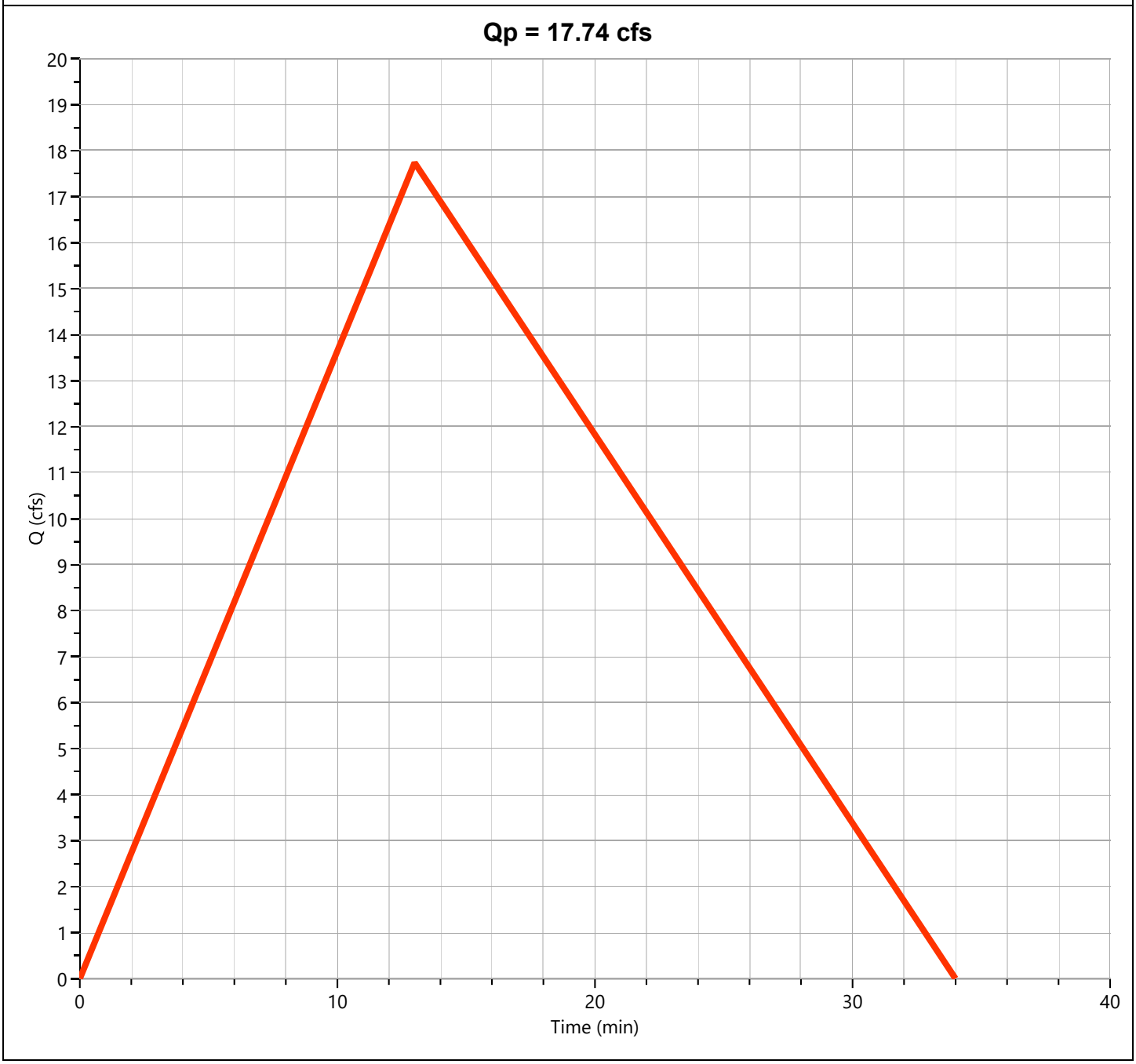
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "B"

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 17.74 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Runoff Volume	= 18,474 cuft
Drainage Area	= 5.62 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 13.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.72 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

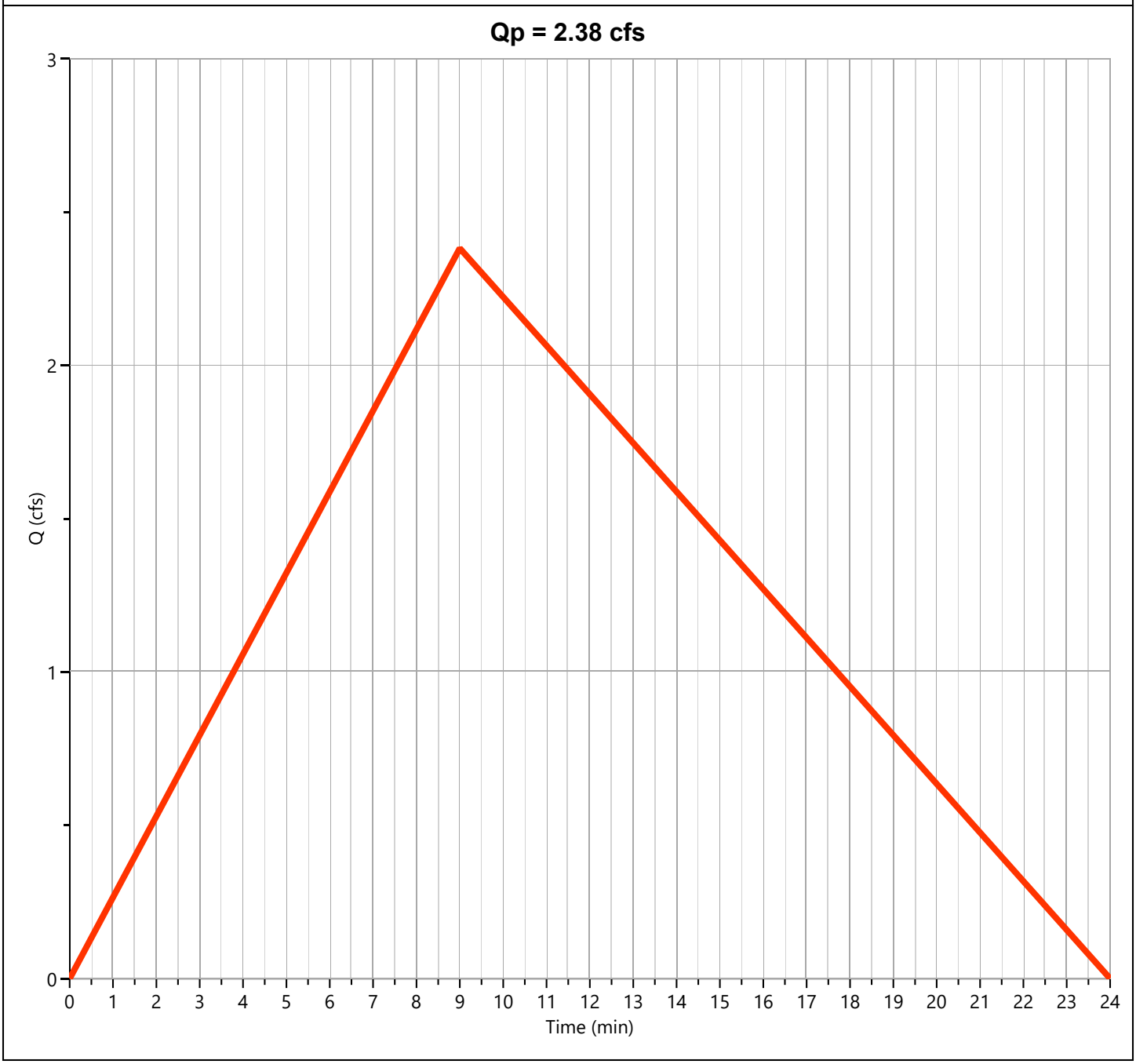
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "C"

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 2.382 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,717 cuft
Drainage Area	= 0.64 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.92 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

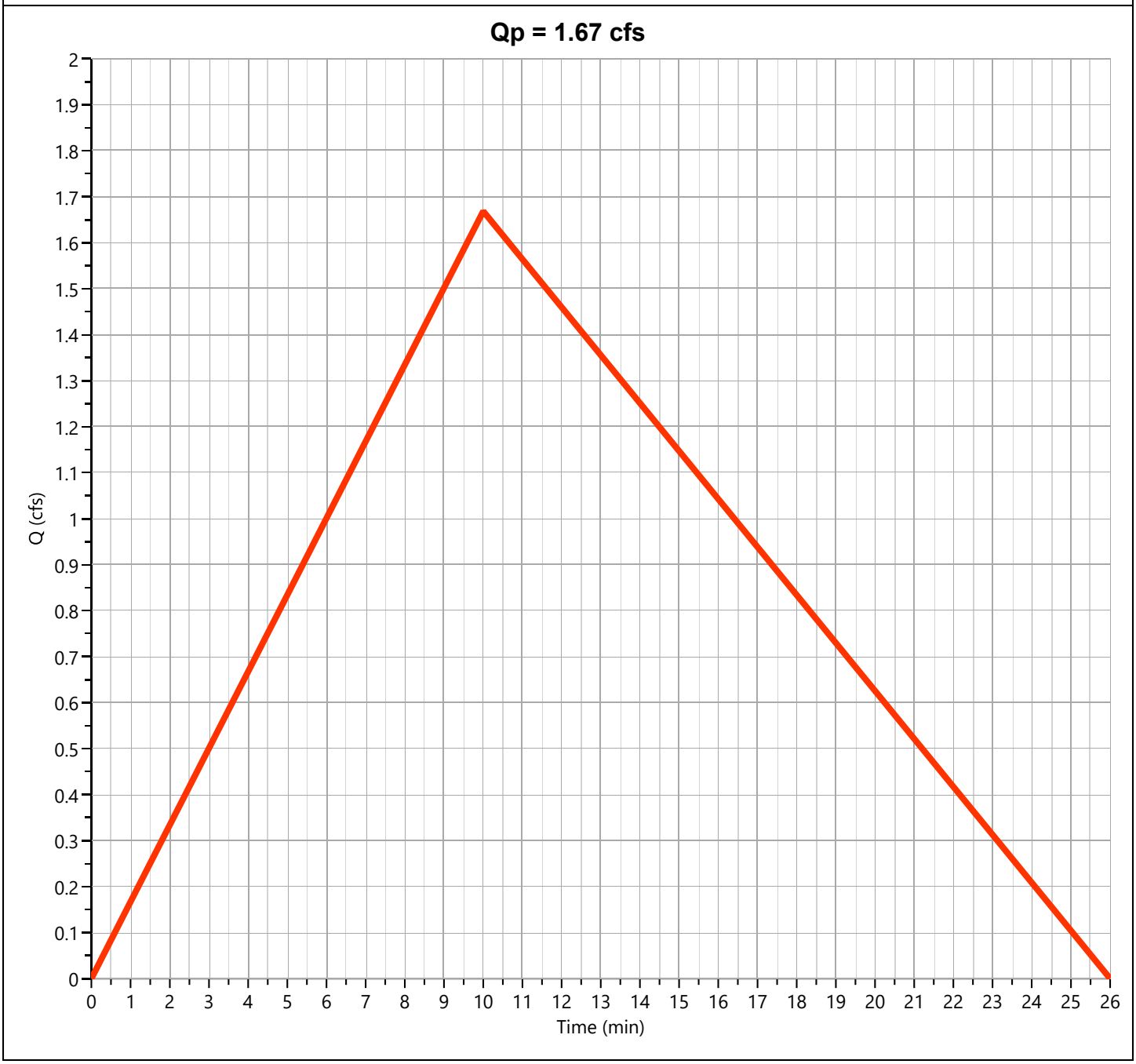
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "D"

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 1.669 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,336 cuft
Drainage Area	= 0.47 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.55 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

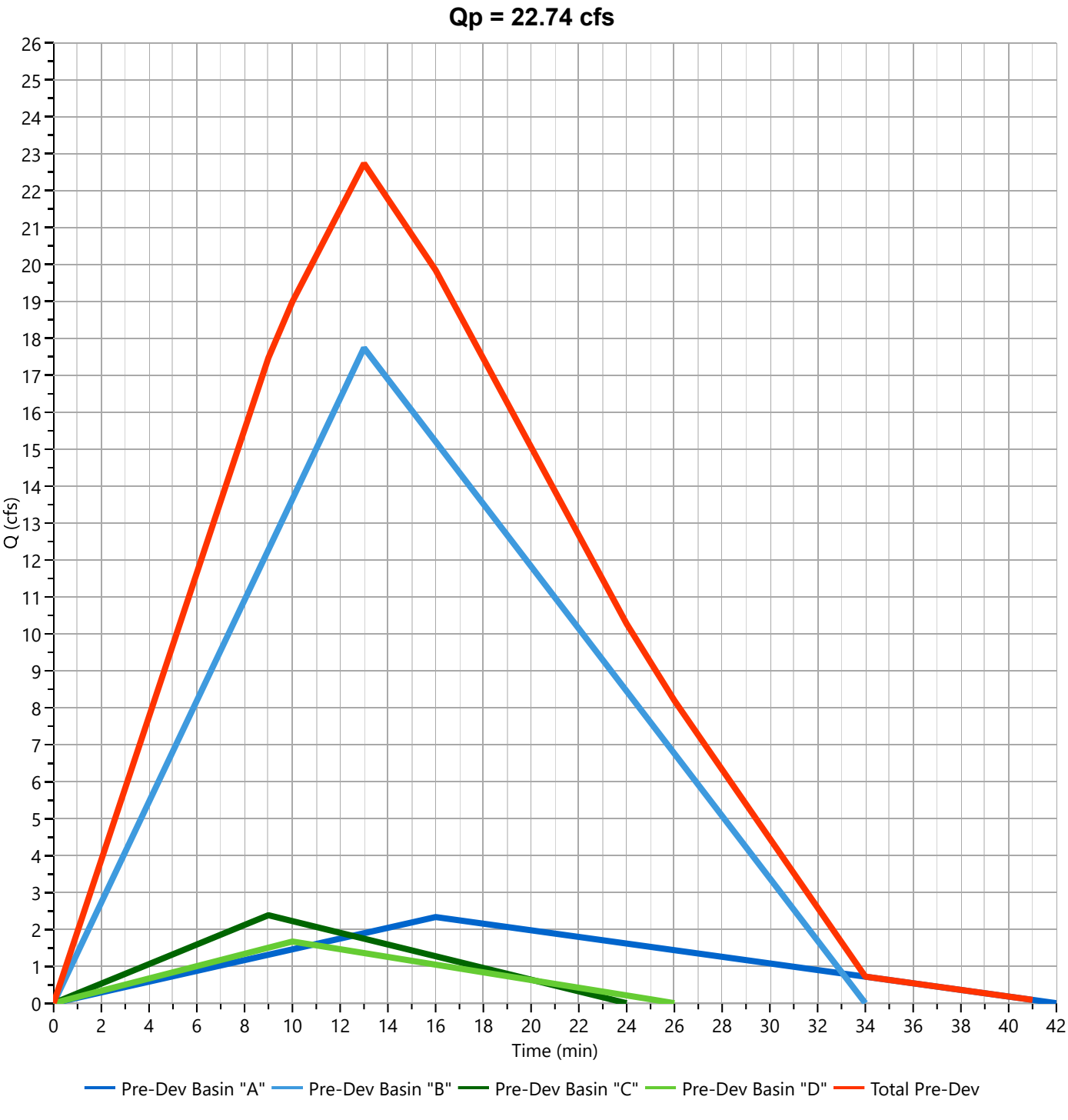
Hydrology Studio v 3.0.0.27

05-02-2025

Total Pre-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 22.74 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 24,048 cuft
Inflow Hydrographs	= 1, 2, 3, 4	Total Contrib. Area	= 7.54 ac



Hydrograph Report

Project Name: Collective Church

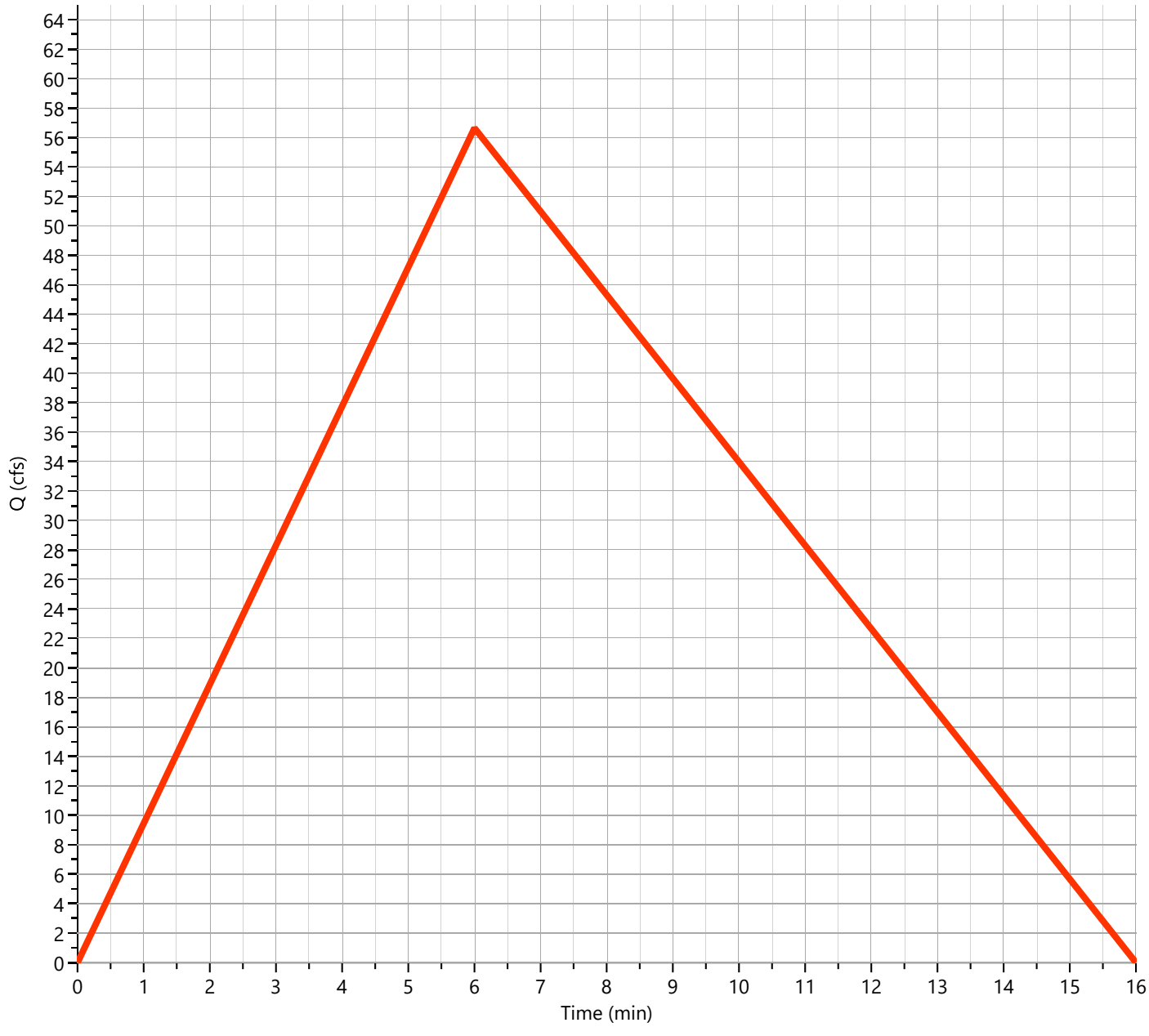
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "A"

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 56.64 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 27,219 cuft
Drainage Area	= 6.28 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 9.49 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

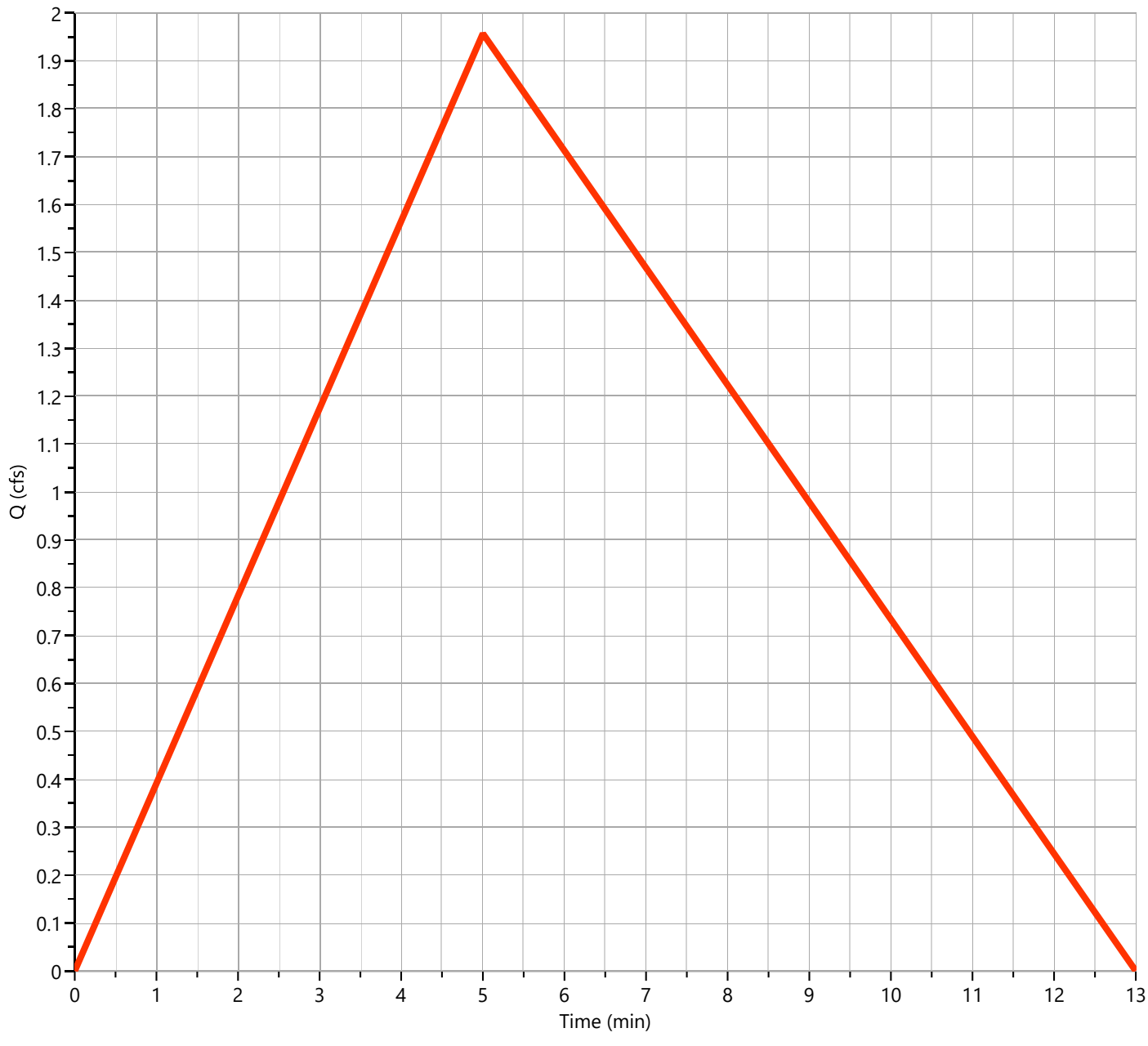
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "B"

Hyd. No. 7

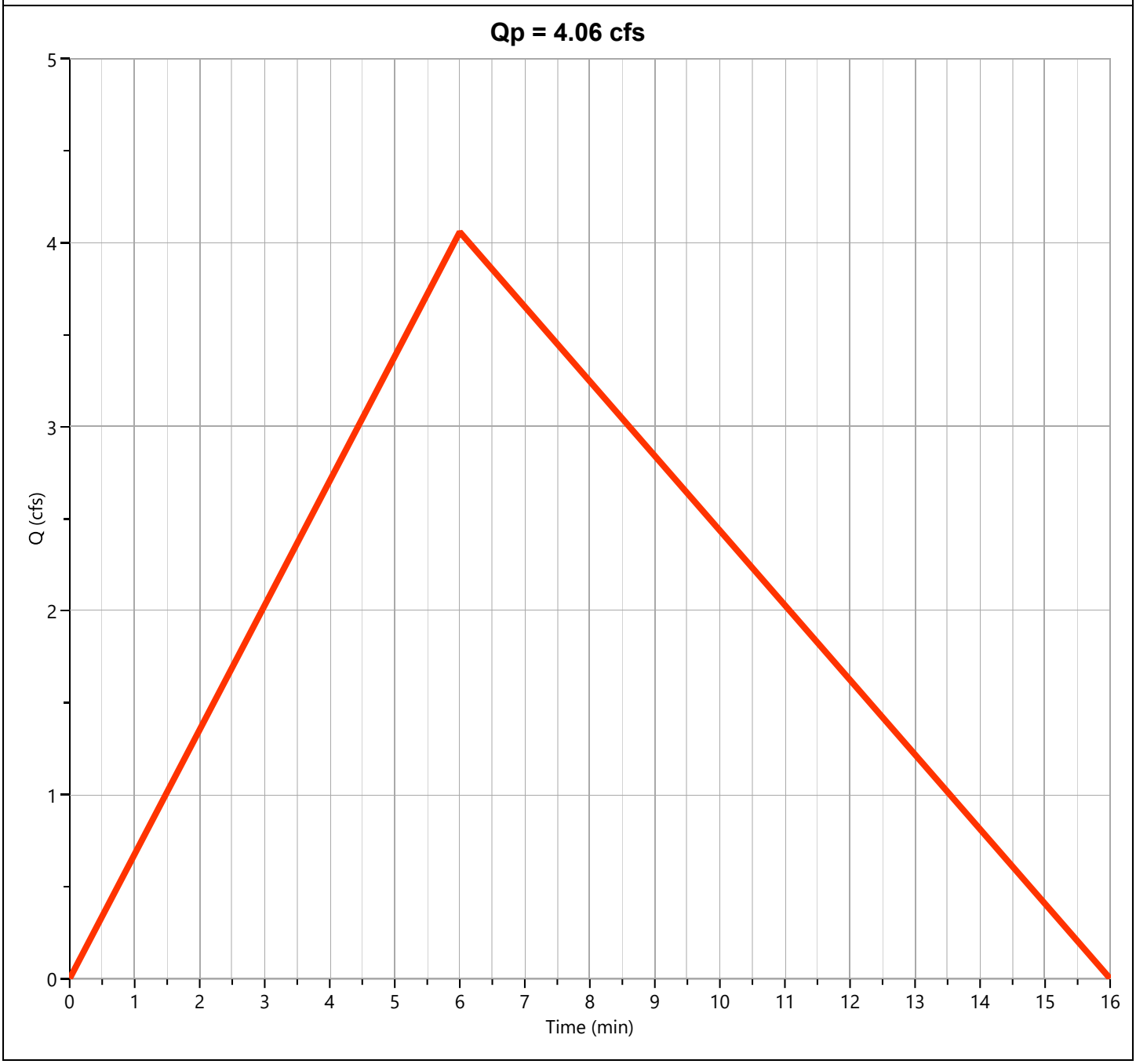
Hydrograph Type	= Rational	Peak Flow	= 1.957 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 784 cuft
Drainage Area	= 0.2 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 10.30 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Post-Dev Basin "C"

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 4.058 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 1,950 cuft
Drainage Area	= 0.45 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 9.49 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

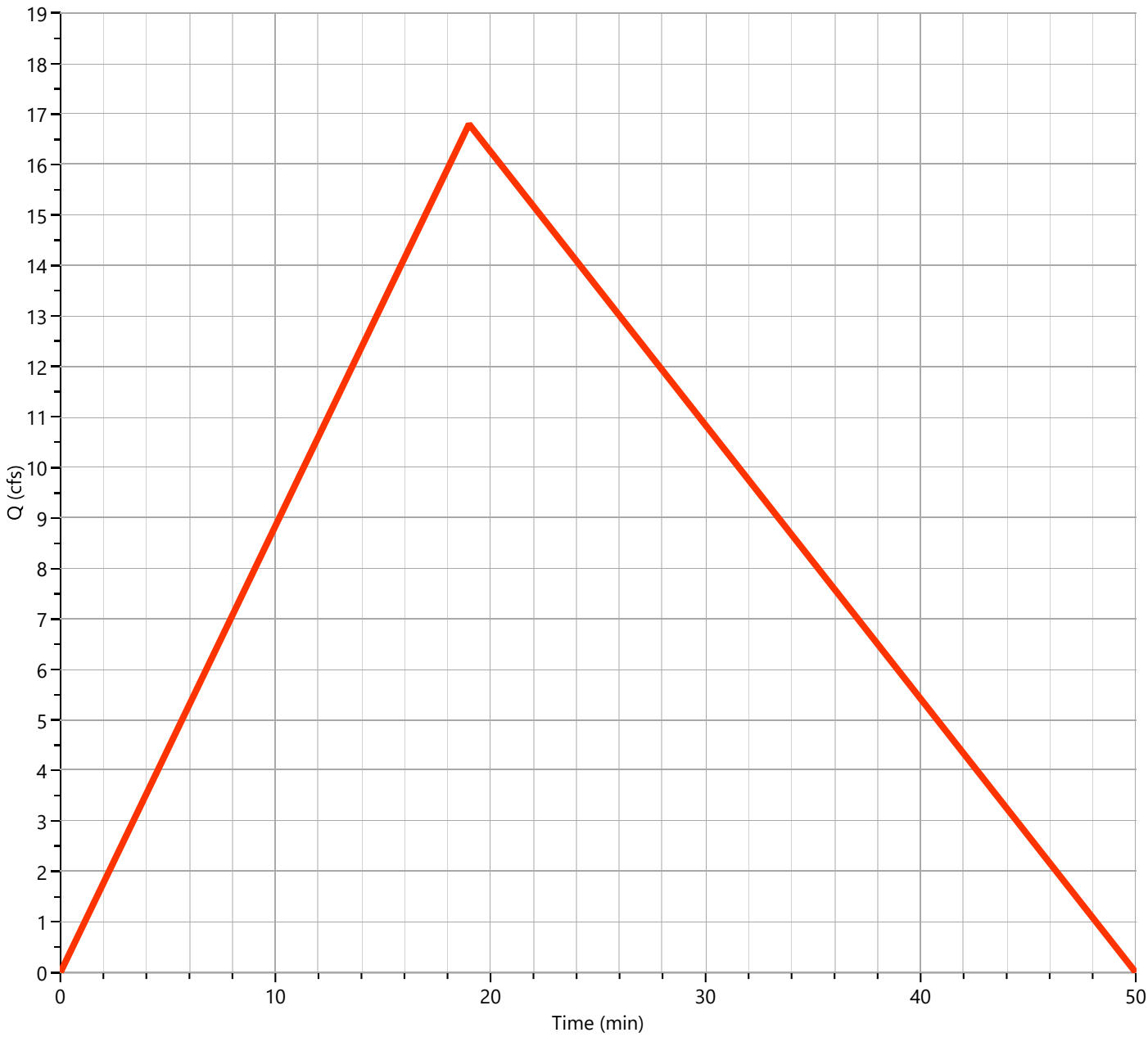
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "D"

Hyd. No. 9

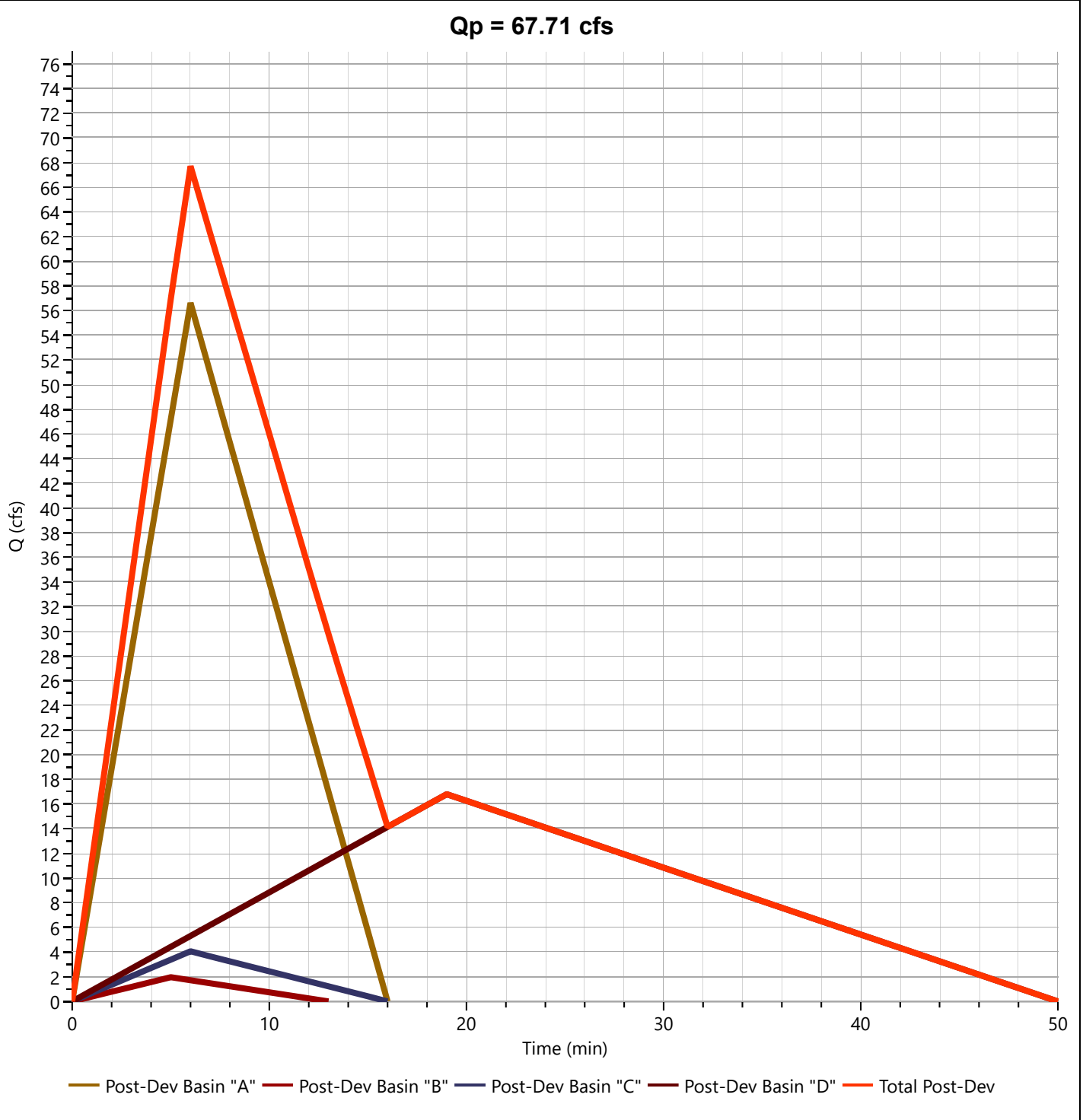
Hydrograph Type	= Rational	Peak Flow	= 16.80 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.32 hrs
Time Interval	= 1 min	Runoff Volume	= 25,566 cuft
Drainage Area	= 3.9 ac	Runoff Coeff.	= 0.76
Tc Method	= User	Time of Conc. (Tc)	= 19.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 5.67 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Total Post-Dev

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 67.71 cfs
Storm Frequency	= 50-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 55,095 cuft
Inflow Hydrographs	= 6, 7, 8, 9	Total Contrib. Area	= 10.83 ac



Hydrograph 100-yr Summary

Project Name: Collective Church

05-02-2025

Hydrology Studio v 3.0.0.27

Hyd. No.	Hydrograph Type	Hydrograph Name	Peak Flow (cfs)	Time to Peak (hrs)	Hydrograph Volume (cuft)	Inflow Hyd(s)	Maximum Elevation (ft)	Maximum Storage (cuft)
1	Rational	Pre-Dev Basin "A"	2.529	0.27	3,242	----		
2	Rational	Pre-Dev Basin "B"	19.26	0.22	20,059	----		
3	Rational	Pre-Dev Basin "C"	2.588	0.15	1,865	----		
4	Rational	Pre-Dev Basin "D"	1.812	0.17	1,452	----		
5	Junction	Total Pre-Dev	24.69	0.22	26,112	1, 2, 3, 4		
6	Rational	Post-Dev Basin "A"	61.57	0.10	29,589	----		
7	Rational	Post-Dev Basin "B"	2.128	0.08	852	----		
8	Rational	Post-Dev Basin "C"	4.412	0.10	2,120	----		
9	Rational	Post-Dev Basin "D"	18.23	0.32	27,744	----		
10	Junction	Total Post-Dev	73.60	0.10	59,844	6, 7, 8, 9		

Hydrograph Report

Project Name: Collective Church

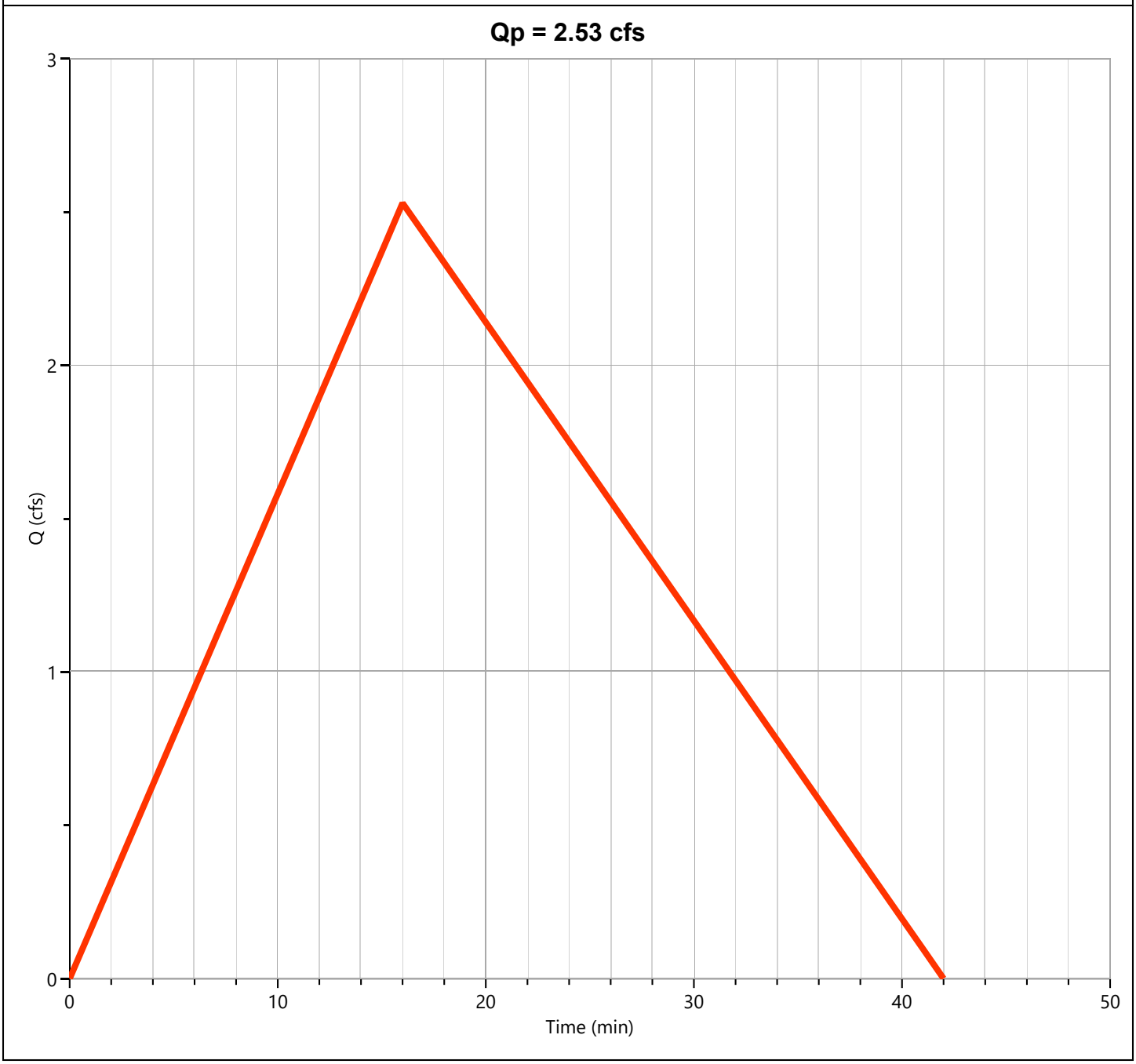
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "A"

Hyd. No. 1

Hydrograph Type	= Rational	Peak Flow	= 2.529 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.27 hrs
Time Interval	= 1 min	Runoff Volume	= 3,242 cuft
Drainage Area	= 0.81 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 16.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.64 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

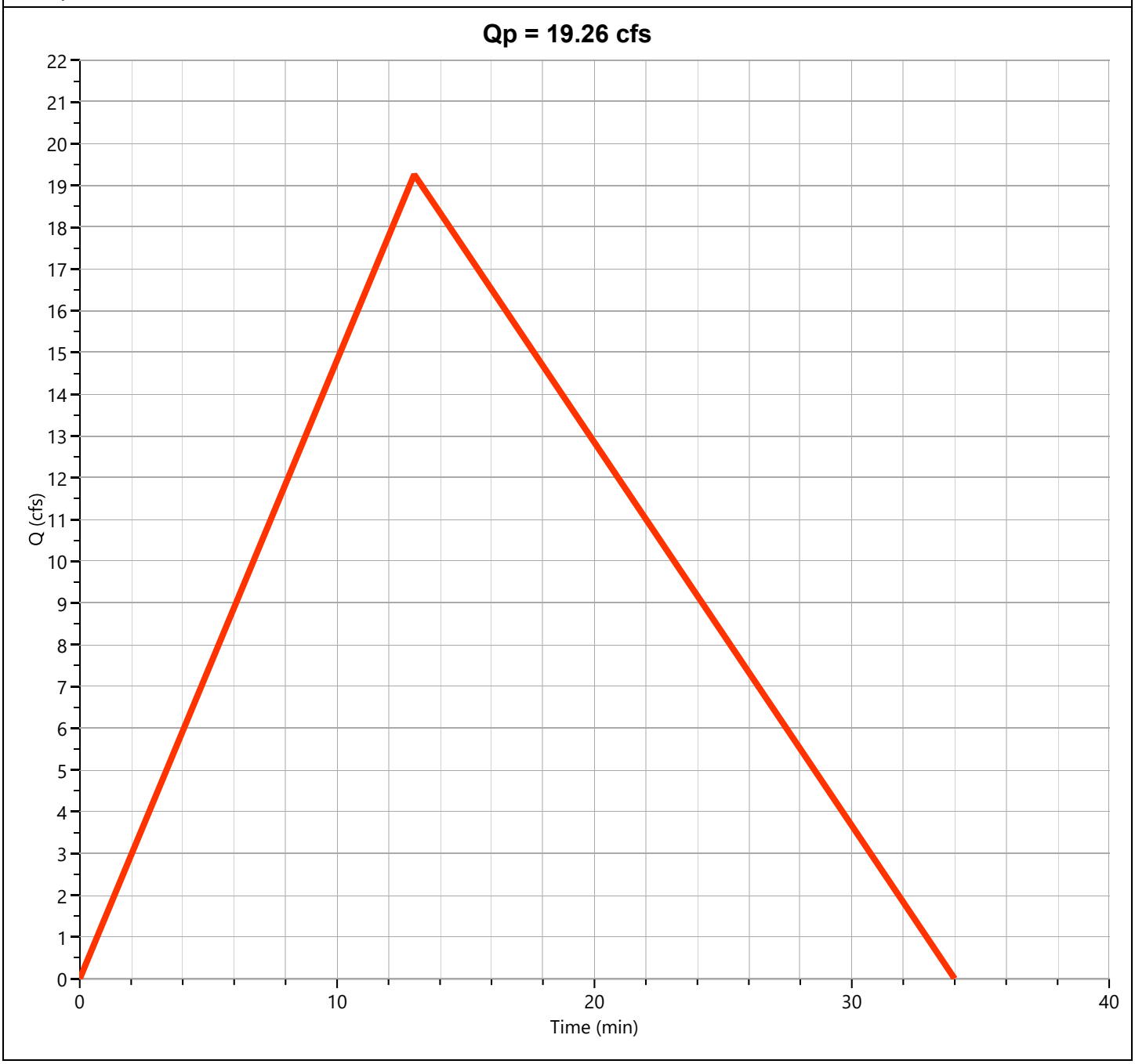
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "B"

Hyd. No. 2

Hydrograph Type	= Rational	Peak Flow	= 19.26 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Runoff Volume	= 20,059 cuft
Drainage Area	= 5.62 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 13.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 7.29 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

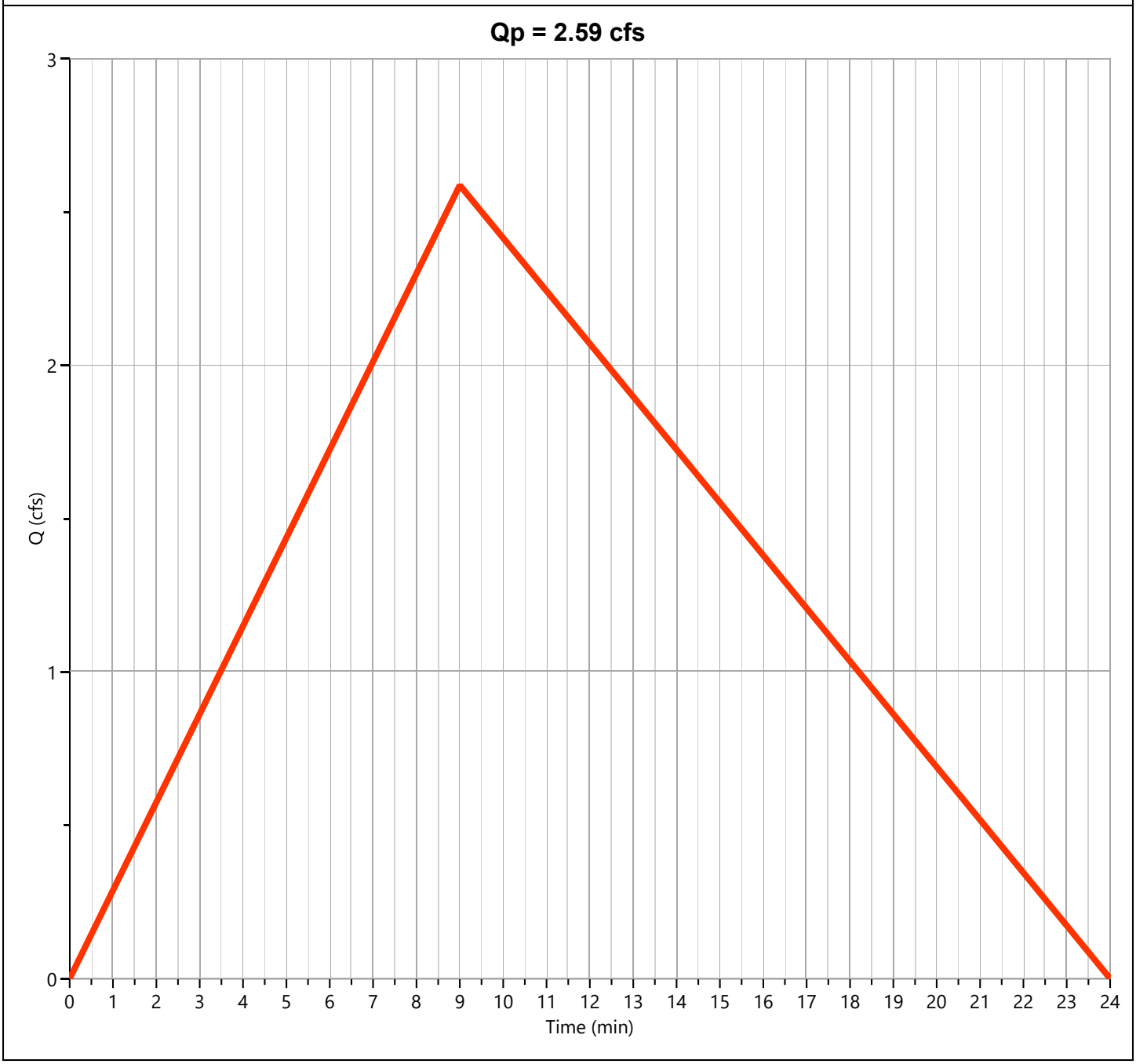
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "C"

Hyd. No. 3

Hydrograph Type	= Rational	Peak Flow	= 2.588 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.15 hrs
Time Interval	= 1 min	Runoff Volume	= 1,865 cuft
Drainage Area	= 0.64 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 9.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.60 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

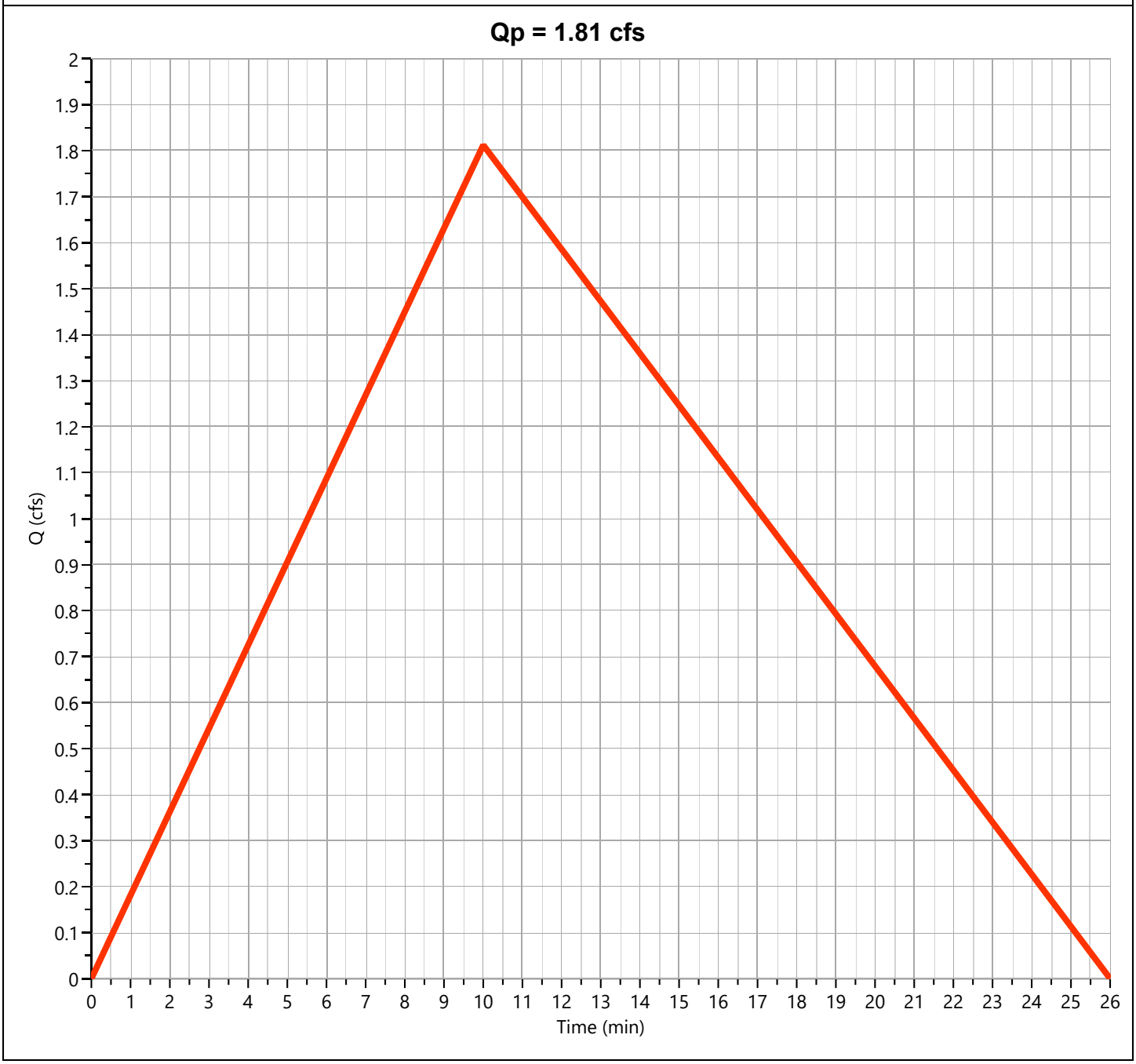
Hydrology Studio v 3.0.0.27

05-02-2025

Pre-Dev Basin "D"

Hyd. No. 4

Hydrograph Type	= Rational	Peak Flow	= 1.812 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.17 hrs
Time Interval	= 1 min	Runoff Volume	= 1,452 cuft
Drainage Area	= 0.47 ac	Runoff Coeff.	= 0.47
Tc Method	= TR55 (See Worksheet)	Time of Conc. (Tc)	= 10.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 8.20 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

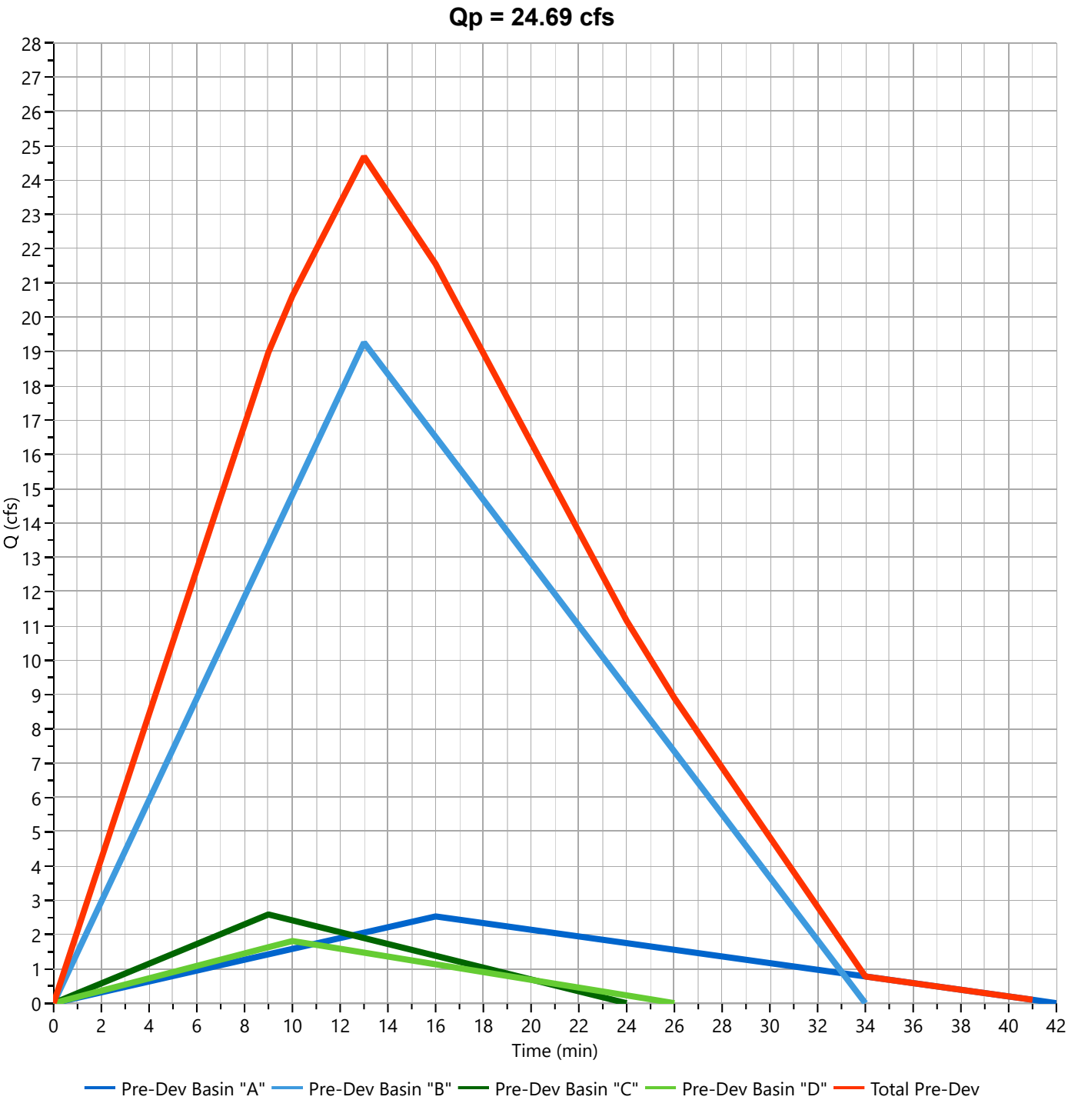
Hydrology Studio v 3.0.0.27

05-02-2025

Total Pre-Dev

Hyd. No. 5

Hydrograph Type	= Junction	Peak Flow	= 24.69 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.22 hrs
Time Interval	= 1 min	Hydrograph Volume	= 26,112 cuft
Inflow Hydrographs	= 1, 2, 3, 4	Total Contrib. Area	= 7.54 ac



Hydrograph Report

Project Name: Collective Church

Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "A"

Hyd. No. 6

Hydrograph Type	= Rational	Peak Flow	= 61.57 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 29,589 cuft
Drainage Area	= 6.28 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 10.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

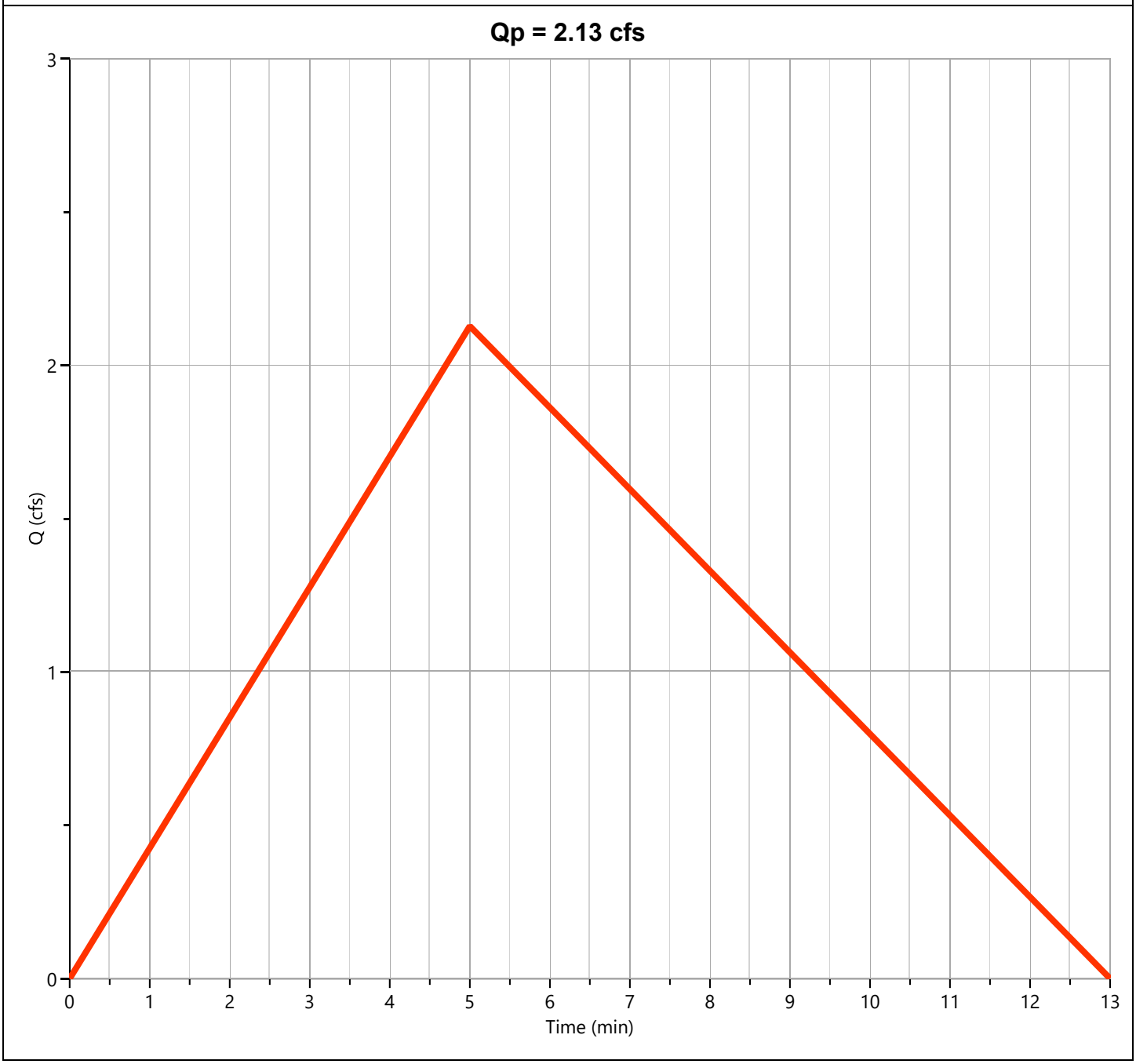
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "B"

Hyd. No. 7

Hydrograph Type	= Rational	Peak Flow	= 2.128 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.08 hrs
Time Interval	= 1 min	Runoff Volume	= 852 cuft
Drainage Area	= 0.2 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 5.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 11.20 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

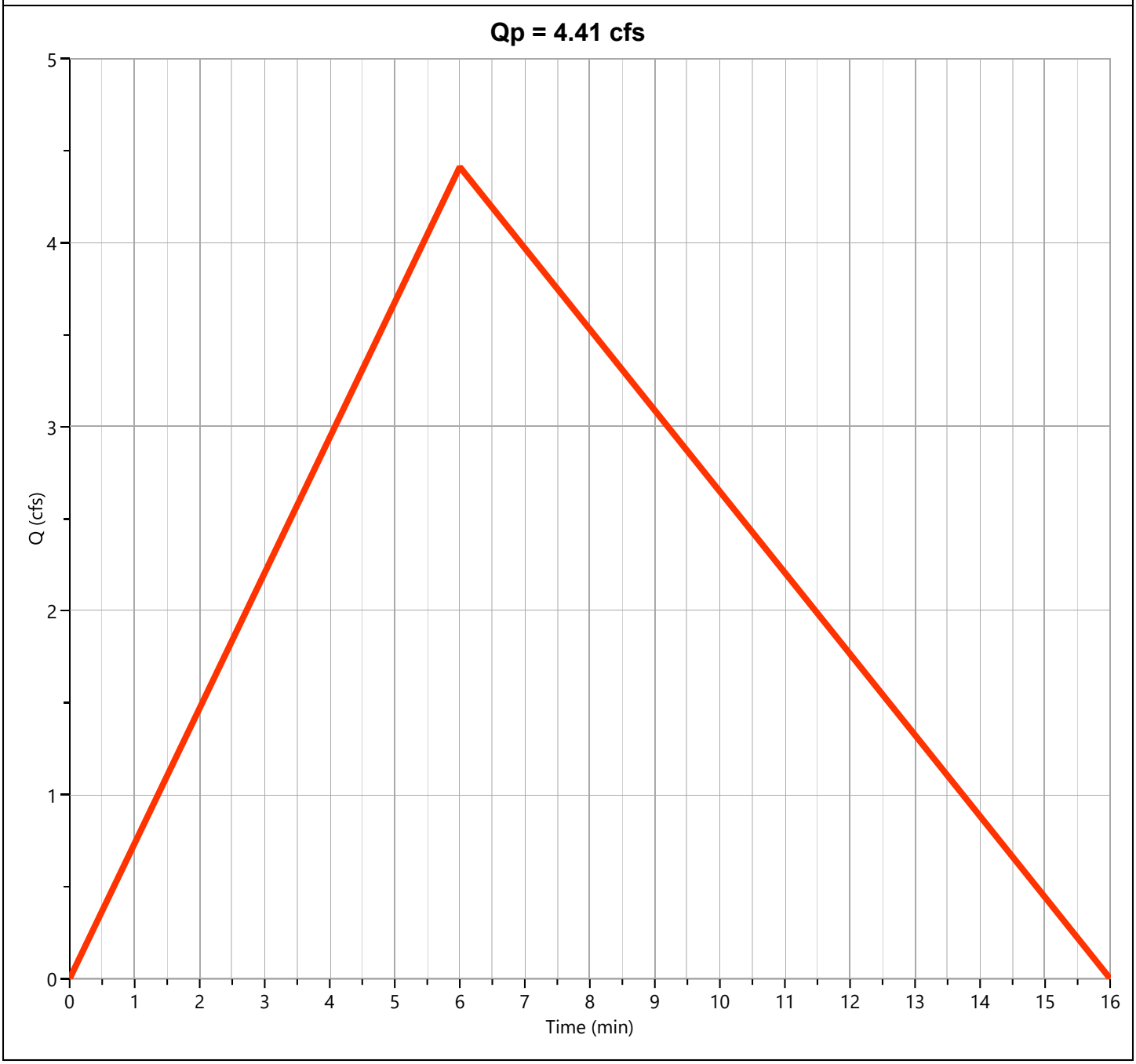
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "C"

Hyd. No. 8

Hydrograph Type	= Rational	Peak Flow	= 4.412 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Runoff Volume	= 2,120 cuft
Drainage Area	= 0.45 ac	Runoff Coeff.	= 0.95
Tc Method	= User	Time of Conc. (Tc)	= 6.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 10.32 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

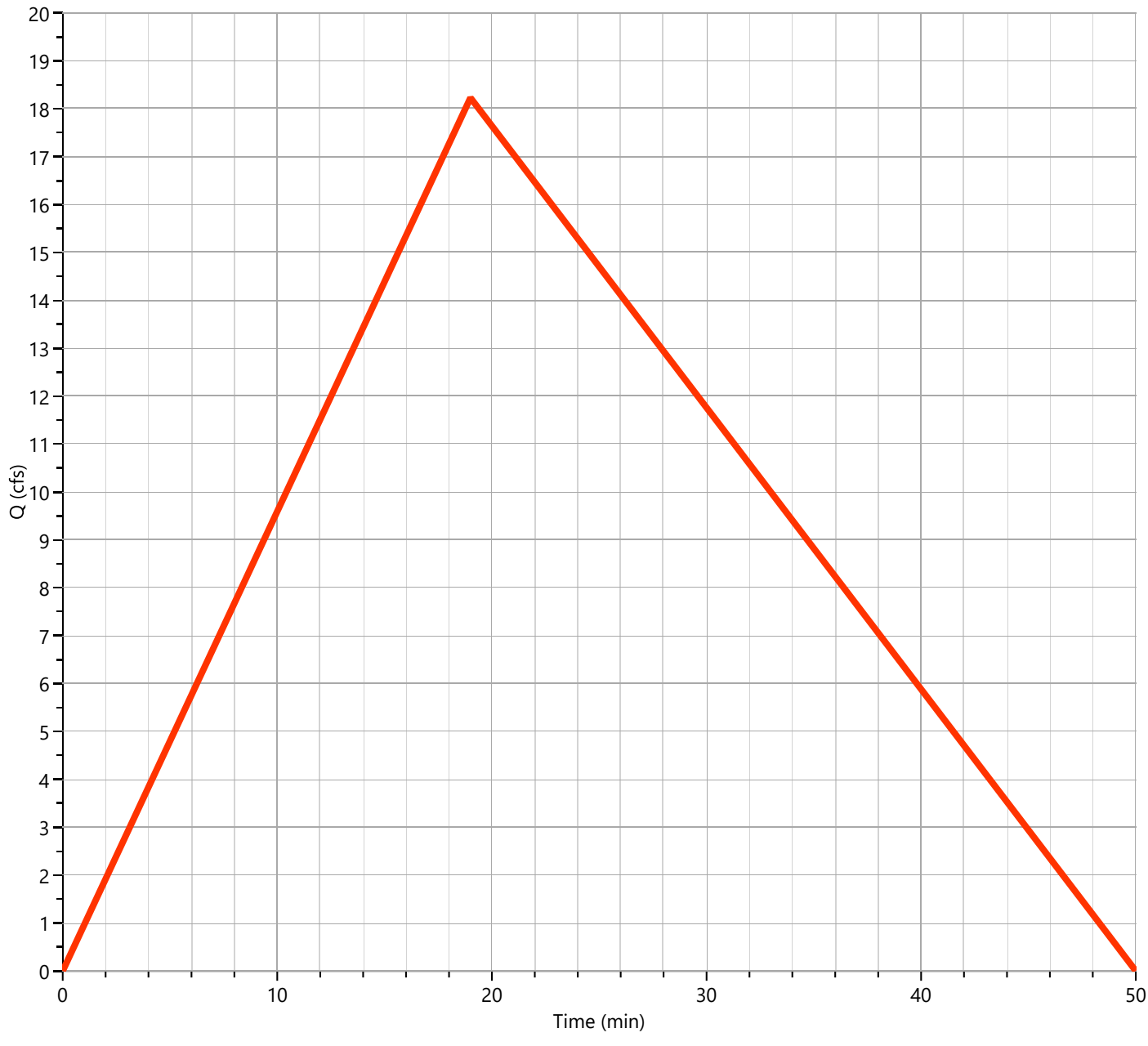
Hydrology Studio v 3.0.0.27

05-02-2025

Post-Dev Basin "D"

Hyd. No. 9

Hydrograph Type	= Rational	Peak Flow	= 18.23 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.32 hrs
Time Interval	= 1 min	Runoff Volume	= 27,744 cuft
Drainage Area	= 3.9 ac	Runoff Coeff.	= 0.76
Tc Method	= User	Time of Conc. (Tc)	= 19.0 min
IDF Curve	= City of Bryant IDF Curve.idf	Intensity	= 6.15 in/hr
Freq. Corr. Factor	= 1.00	Asc/Rec Limb Factors	= 1/1.67



Hydrograph Report

Project Name: Collective Church

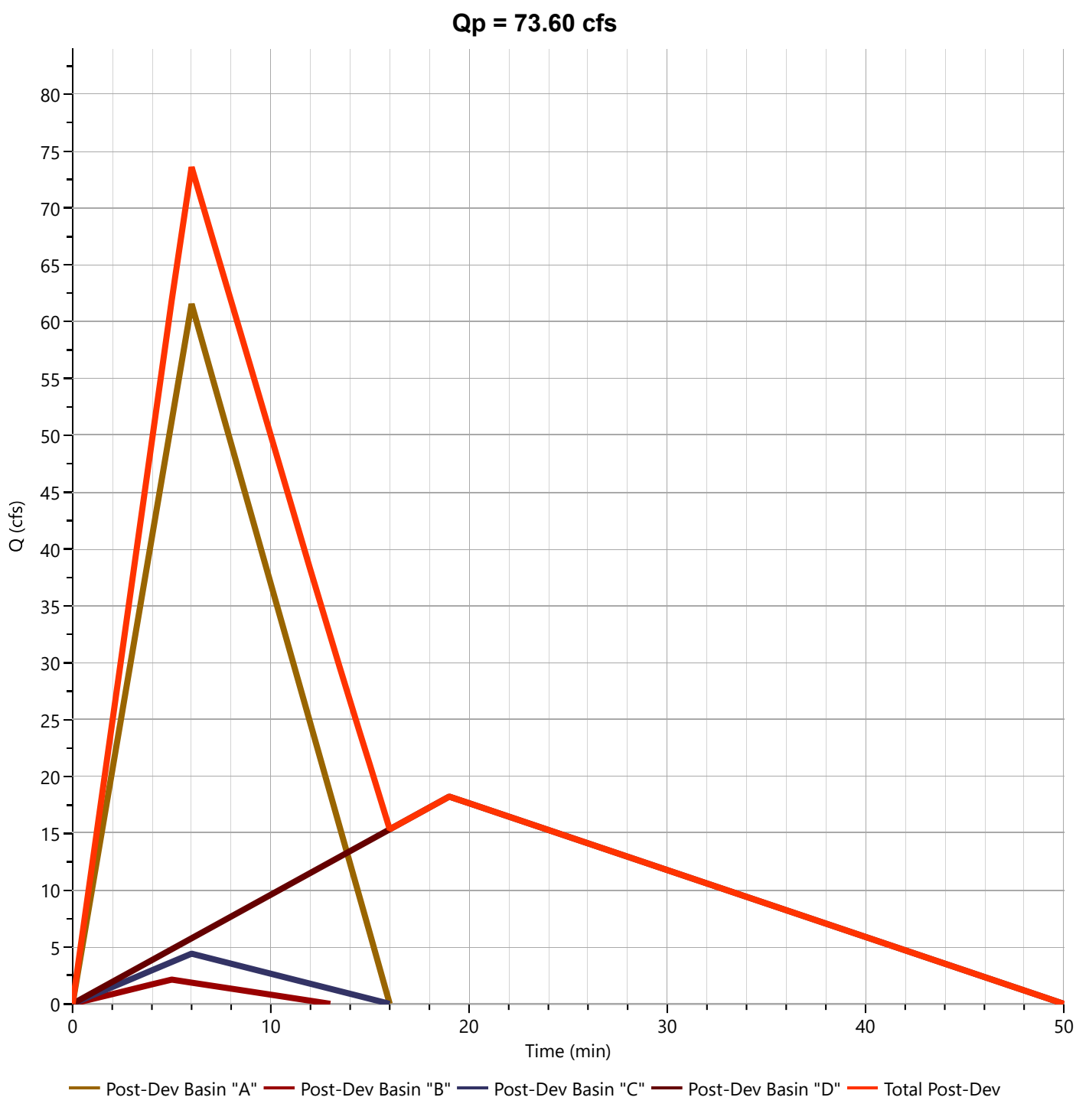
Hydrology Studio v 3.0.0.27

05-02-2025

Total Post-Dev

Hyd. No. 10

Hydrograph Type	= Junction	Peak Flow	= 73.60 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.10 hrs
Time Interval	= 1 min	Hydrograph Volume	= 59,844 cuft
Inflow Hydrographs	= 6, 7, 8, 9	Total Contrib. Area	= 10.83 ac



Stormwater Pollution Prevention Plan (SWPPP) for Construction Activity for Small Construction Sites

National Pollutant Discharge Elimination System (NPDES)
General Permit # ARR150000

Prepared for:

Collective Church
3230 Market Place Ave, Suite 2
Bryant, AR 72022

Date:

April 2025

Prepared by:

Richardson Engineering, PLLC
325 W South Street
Benton, AR 72015

Revised date: 10/20/2016

Project Name and Location: Collective Church Lot 4 Marketplace East Subdivision Phase 1, along Progress Way rd in Bryant, AR 72022.

Property Parcel Number (*Optional*):840-12216-016

Operator Name and Address: Collective Church 3230 Market Place Ave Bryant, AR 72022

A. Site Description
   a. Project description, intended use after NOI is filed: Proposed church building.
   b. Sequence of major activities which disturb soils: Install silt fencing, establish subgrade elevations, stie drainage structures and piping, parking facilities, curb/gutter, utilities, and landscaping. Monitor disturbed areas while vegetation and stabilization is taking place.
   c. Total Area: 3.49 acres Disturbed Area: 3.49 acres

B. Responsible Parties

Be sure to assign all SWPPP related activities to an individual or position; even if the specific individual is not yet known (i.e. contractor has not been chosen).

Individual/Company	Phone Number	Service Provided for SWPPP (i.e., Inspector, SWPPP revisions, Stabilization Activities, BMP Maintenance, etc.)
Richardson Engineering - Tristin Phillips	501-315-7225	Engineer/Responsible Official
Richardson Engineering	501-315-7225	Engineer/SWPPP
TBD	N/A	Contractor/Install Maintain Erosion Control Measures
TBD	N/A	Inspector/SWPPP

C. Receiving Waters
   a. The following waterbody (or waterbodies) receives stormwater from this construction site: Drains southwest to unnamed tributary of Crooked Creek, thence to Crooked Creek, thence into Fourche Creek, thence into Arkansas River
   b. Is the project located within the jurisdiction of an MS4? ■ Yes ☐ No
      i. If yes, Name of MS4: City of Bryant
   c. Ultimate Receiving Water:

☐ Red River	☐ White River
☐ Ouachita River	☐ St. Francis River
■ Arkansas River	☐ Mississippi River

D. Site Map Requirements (Attach Site Map):
   a. Pre-construction topographic view;

b. Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
c. Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
d. Location of major structural and nonstructural controls identified in the plan;
e. Location of main construction entrance and exit;
f. Location where stabilization practices are expected to occur;
g. Locations of off-site materials, waste, borrow area, or equipment storage area;
h. Location of areas used for concrete wash-out;
i. Location of all surface water bodies (including wetlands) with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
j. Locations where stormwater is discharged to a surface water and/or municipal separate storm sewer system if applicable,
k. Locations where stormwater is discharged off-site (should be continuously updated);
l. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
m. A legend that identifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
n. Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

E. Stormwater Controls
   a. Initial Site Stabilization, Erosion and Sediment Controls, and Best Management Practices:
      i. Initial Site Stabilization: Subgrade to be established. Silt fence to be installed to prevent sedimentation and runoff. Drainage to be installed. Utilities to be trenched and covered immediately. Vegetation to be established and soil stabilization closely monitored. After vegetation is established and site is stabilized, NOT to be submitted for approval.
      ii. Erosion and Sediment Controls: Construction Entrance/Exit, Silt Fence, curb inlet sediment barriers, seeding, additional efforts to stabilize disturbed areas where needed, i.e. filter socks, straw wattles, erosion control matting.
      iii. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the operator will replace or modify the control for site situations: ■ Yes ☐ No
           If No, explain: _____
      iv. Off-site accumulations of sediment will be removed at a frequency sufficient to minimize off-site impacts: ■ Yes ☐ No

If No, explain: _____

v. Sediment will be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%: ■ Yes ☐ No

If No, explain: _____

_____

vi. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges: ■ Yes ☐ No

If No, explain: _____

vii. Off-site material storage areas used solely by the permitted project are being covered by this SWPPP: ☐ Yes ■ No

If Yes, explain additional BMPs implemented at off-site material storage area: _____

_____

b. Stabilization Practices

i. Description and Schedule: _____

ii. Are buffer areas required? ☐ Yes ■ No

If Yes, are buffer areas being used? ☐ Yes ☐ No

If No, explain why not: Due to the small size of the site and limited soil disturbance, no buffer areas will be needed.

If Yes, describe natural buffer areas: _____

iii. A record of the dates when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included with the plan. ■ Yes ☐ No

If No, explain: _____

_____

iv. Deadlines for stabilization:

1. Stabilization procedures will be initiated 14 days after construction activity temporarily ceases on a portion of the site.
2. Stabilization procedures will be initiated immediately in portions of the site where construction activities have permanently ceased.

c. Structural Practices

i. Describe any structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site: N/A

ii. Describe Velocity Dissipation Devices: Silt fence and curb inlet sediment barriers.

iii. Sediment Basins:

Are 10 or more acres draining to a common point? ☐Yes ■No

Is a sediment basin included in the project? ☐Yes ■No

If Yes, what is the designed capacity for the storage?

☐3600 cubic feet per acre = : _____

or

☐10 year, 24 hour storm = :_____

☐ Other criteria were used to design basin: _____

_____

If No, explain why no sedimentation basin was included and describe required natural buffer areas and other controls implemented instead: Due to the size of the project and topographical constraints, a sediment basin has not been incorporated. Other measures will be deployed as needed.

F. Other Controls

a. Solid materials, including building materials, shall be prevented from being discharged to Waters of the State: ■Yes ☐No

b. Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of:

■A stabilized construction entrance and exit

☐Vehicle tire washing

☐Other controls, describe: _____

c. Temporary Sanitary Facilities: On-site, portable facility.

d. Concrete Waste Area Provided:

■Yes

☐No. Concrete is used on the site, but no concrete washout is provided.

Explain why: _____

☐N/A, no concrete will be used with this project

e. Fuel Storage Areas, Hazardous Waste Storage, and Truck Wash Areas: N/A

G. Non-Stormwater Discharges

a. The following allowable non-stormwater discharges comingled with stormwater are present or anticipated at the site:

☐Fire-fighting activities;

☐Fire hydrant flushings;

☐Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2;

☐Potable water sources including uncontaminated waterline flushings;

☐Landscape Irrigation;

☐Routine external building wash down which does not use detergents or other chemicals;

☐ Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;
☐ Uncontaminated air conditioning, compressor condensate (See Part I.B.12.C of the permit);,
☐ Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.13.C of the permit);
☐ Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.13.C of the permit);

b. Describe any controls associated with non-stormwater discharges present at the site: N/A

H. Applicable State or Local Programs: The SWPPP will be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site. ■ Yes ☐ No

I. Inspections

a. Inspection frequency:

■ Every 7 calendar days

or

☐ At least once every 14 calendar days and within 24 hours of the end of a storm even 0.25 inches or greater (a rain gauge must be maintained on-site)

b. Inspections:

Completed inspection forms will be kept with the SWPPP.

■ ADEQ's inspection form will be used (See Appendix B)

or

☐ A form other than ADEQ's inspection form will be used and is attached (See inspection form requirements Part II.A.4.L.2)

c. Inspection records will be retained as part of the SWPPP for at least 3 years from the date of termination.

d. It is understood that the following sections describe waivers of site inspection requirements. All applicable documentation requirements will be followed in accordance with the referenced sections.

i. Winter Conditions (Part II.A.4.L.4)
ii. Adverse Weather Conditions (Part II.A.4.L.5)

J. Maintenance:

The following procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition will be followed: The SWPPP to be followed, control measures inspected and repaired as required.

Any necessary repairs will be completed, when practicable, before the next storm event, but not to exceed a period of 3 business days of discovery, or as otherwise

directed by state or local officials.

K. Employee Training:

The following is a description of the training plan for personnel (including contractors and subcontractors) on this project: Contractors and Subcontractors for this project to be informed of the SWPPP, as well as procedures for the installation and inspection of erosion control measures and performing inspections thereof.
**Note, Formal training classes given by Universities or other third-party organizations are not required, but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

Certification

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted 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 for knowing violations."

Signature of Responsible or Cognizant Official: _____

Title: _____ Date: _____

ARR150000 Inspection Form

Appendix A

Inspector Name: _____ Date of Inspection: _____

Inspector Title: _____

Date of Rainfall:_____ Duration of Rainfall: _____

Days Since Last Rain Event: _____days Rainfall Since Last Rain Event: _____inches

Description of any Discharges During Inspection: _____

Location of Discharges of Sediment/Other Pollutant (specify pollutant & location): _____

_____

Locations in Need of Additional BMPs: _____

Information on Location of Construction Activities

Location	Activity Begin Date	Activity Occuring Now (y/n)?	Activity Ceased Date	Stabilization Initiated Date	Stabilization Complete Date

Information on BMPs in Need of Maintenance

Location	In Working Order?	Maintenance Scheduled Date	Maintenance Completed Date	Maintenance to be Performed By

Changes required to the SWPPP: _____ Reasons for changes: _____

_____ _____

_____ _____

SWPPP changes completed (date): _____

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accura te, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature of Responsible or Cognizant Official: _____ Date:_____

Title: _____

BMP Consideration Checklist

Appendix B

The BMPs listed here should be considered for every project. Those BMPs that are not included in the SWPPP should be checked as "Not Used" with a brief statement describing why it is not being used.

Note: Appendix B and C do not have to be submitted with the SWPPP. These attachments are for use during the development of the SWPPP.

EROSION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
EC-1 Scheduling	☐	☐	☐	
EC-2 Preservation of Existing Vegetation	☐	☐	☐	
EC-3 Hydraulic Mulch	☐	☐	☐	
EC-4 Hydroseeding	☐	☐	☐	
EC-5 Soil Binders	☐	☐	☐	
EC-6 Straw Mulch	☐	☐	☐	
EC-7 Geotextiles & Mats	☐	☐	☐	
EC-8 Wood Mulching	☐	☐	☐	
EC-9 Earth Dikes & Drainage Swales	☐	☐	☐	
EC-10 Velocity Dissipation Devices	☐	☐	☐	
EC-11 Slope Drains	☐	☐	☐	
EC-12 Stream bank Stabilization	☐	☐	☐	
SEDIMENT CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
SE-1 Silt Fence	☐	☐	☐	
SE-2 Sediment Basin	☐	☐	☐	
SE-3 Sediment Trap	☐	☐	☐	
SE-4 Check Dam	☐	☐	☐	
SE-5 Fiber Rolls	☐	☐	☐	
SE-6 Gravel Bag Berm	☐	☐	☐	
SE-7 Street Sweeping and Vacuuming	☐	☐	☐	
SE-8 Sand Bag Barrier	☐	☐	☐	
SE-9 Straw Bale Barrier	☐	☐	☐	
SE-10 Storm Drain Inlet Protection	☐	☐	☐	
SE-11 Chemical Treatment	☐	☐	☐	
WIND EROSION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
WE-1 Wind Erosion Control	☐	☐	☐	

BMP Consideration Checklist

Appendix B

TRACKING CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
TR-1 Stabilized Construction Entrance/Exit	☐	☐	☐	
TR-2 Stabilized Construction Roadway	☐	☐	☐	
TR-3 Entrance/Outlet Tire Wash	☐	☐	☐	
NON-STORM WATER MANAGEMENT BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
NS-1 Water Conservation Practices	☐	☐	☐	
NS-2 Dewatering Operations	☐	☐	☐	
NS-3 Paving and Grinding Operations	☐	☐	☐	
NS-4 Temporary Stream Crossing	☐	☐	☐	
NS-5 Clear Water Diversion	☐	☐	☐	
NS-6 Illicit Connection/ Discharge	☐	☐	☐	
NS-7 Potable Water/Irrigation	☐	☐	☐	
NS-8 Vehicle and Equipment Cleaning	☐	☐	☐	
NS-9 Vehicle and Equipment Fueling	☐	☐	☐	
NS-10 Vehicle and Equipment Maintenance	☐	☐	☐	
NS-11 Pile Driving Operations	☐	☐	☐	
NS-12 Concrete Curing	☐	☐	☐	
NS-13 Concrete Finishing	☐	☐	☐	
NS-14 Material and Equipment Use Over Water	☐	☐	☐	
NS-15 Demolition Adjacent to Water	☐	☐	☐	
NS-16 Temporary Batch Plants	☐	☐	☐	
WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs				
BMP	**BMP Considered for project**	**BMP Used**	**BMP Not Used**	**If not used, state reason**
WM-1 Material Delivery and Storage	☐	☐	☐	
WM-2 Material Use	☐	☐	☐	
WM-3 Stockpile Management	☐	☐	☐	
WM-4 Spill Prevention and Control	☐	☐	☐	
WM-5 Solid Waste Management	☐	☐	☐	
WM-6 Hazardous Waste Management	☐	☐	☐	
WM-7 Contaminated Soil Management	☐	☐	☐	
WM-8 Concrete Waste Management	☐	☐	☐	
WM-9 Sanitary/Septic Waste Management	☐	☐	☐	
WM-10 Liquid Waste Management	☐	☐	☐	

SWPPP Completion Checklist

Appendix C

Yes = Complete
No = Incomplete/Deficient
N/A = Not applicable to project

Yes	No	N/A	A. A site description, including:	Permit Section
			1. Project description, intended use after NOT	Part II.A.4.A.1
			2. Sequence of major activities	Part II.A.4.A.2
			3. Total & disturbed acreage	Part II.A.4.A.3
			B. Responsible Parties: All parties dealing with the SWPPP and the areas they are responsible for on-site.	Part II.A.4.B
			C. Receiving Water.	Part II.A.4.C
			-MS4 Name	Part II.A.4.C
			-Ultimate Receiving Water	Part II.A.4.C
			D.Site Map --- See End of Evaluation Form	Part II.A.4.F
			E. Description of Controls:	
			1. Erosion and sediment controls, including:	
			a. Initial site stabilization	Part II.A.4.G.1.a
			b. Erosion and sediment controls	Part II.A.4.G.1.b
			c. Replacement of inadequate controls	Part II.A.4.G.1.c
			d. Removal of off-site accumulations	Part II.A.4.G.1.d
			e. Maintenance of sediment traps/basins @ 50% capacity	Part II.A.4.G.1.e
			f. Litter, construction debris and chemicals properly handled	Part II.A.4.G.1.f
			g. Off-site storage areas and controls	Part II.A.4.G.1.g
			2. Stabilization practices:	
			a. Description and schedule for stabilization	Part II.A.4.G.2.a
			b. Description of buffer areas	Part II.A.4.G.2.b
			c. Records of stabilization	Part II.A.4.G.2.c
			d. Deadlines for stabilization	Part II.A.4.G.2.d
			3. Structural Practices:	
			-Describe structural practices to divert flows, store flows, or otherwise limit runoff	Part II.A.4.G.3
			a. Sediment basins	Part II.A.4.G.3.a.1
			-Are more than 10 acres draining to a common point? If so, are sediment basins included?	Part II.A.4.G.3.a.1
			-Sediment basin dimensions and capacity description and calculations	Part II.A.4.G.3.a.1
			-If a basin wasn't practicable, are other controls sufficient?	Part II.A.4.G.3.a.1
			b. Velocity dissipation devices concentrated flow from 2 or more acres	Part II.A.4.G.3.b
			F. Other controls including:	
			1. Solid waste control measures	Part II.A.4.H.1
			2. Vehicle off-site tracking controls	Part II.A.4.H.2
			3. Compliance with sanitary waste disposal	Part II.A.4.H.4
			4. Does the site have a concrete washout area controls?	Part II.A.4.H.5
			5. Does the site have fuel storage areas, hazardous waste storage and/or truck wash areas controls?	Part II.A.4.H.6
			G. Identification of allowable non-storm water discharges	Part II.A.4.I
			-Appropriate controls for dewatering, if present	Part I.B.12.C
			H. State or local requirements incorporated into the plan.	Part II.A.4.K

SWPPP Completion Checklist

Appendix C

Yes = Complete
No = Incomplete/Deficient
N/A = Not applicable to project

Yes	No	N/A	I. Inspections	Permit Section
			1. Inspection frequency listed?	Part II.A.4.L.1
			2. Inspection form	Part II.A.4.L.2
			Ours.	
			If not ours, does it contain the following items:	
			a. Inspector name and title	Part II.A.4.L.2.a
			b. Date of inspection.	Part II.A.4.L.2.b
			c. Amount of rainfall and days since last rain event (14 day only)	Part II.A.4.L.2.c
			d. Approx beginning and duration of storm event	Part II.A.4.L.2.d
			e. Description of any discharges during inspection	Part II.A.4.L.2.e
			f. Locations of discharges of sediment/other pollutants	Part II.A.4.L.2.f
			g. BMPs in need of maintenance	Part II.A.4.L.2.g
			h. BMPs in working order, if maintenance needed (scheduled and completed)	Part II.A.4.L.2.h
			i. Locations that are in need of additional controls	Part II.A.4.L.2.i
			j. Location and dates when major construction activities begin, occur or cease	Part II.A.4.L.2.j
			k. Signature of responsible/cognizant official	Part II.A.4.L.2.k
			3. Inspection Records	Part II.A.4.L.3
			4. Winter Conditions	Part II.A.4.L.4
			5. Adverse Weather Conditions	Part II.A.4.L.5
			J. Maintenance Procedures	Part II.A.4.M
			K. Employee Training	Part II.A.4.N
			Signed Plan Certification	Part II.A.7. and Part II.B.10
			D. Site Map showing:	
			1. Pre-construction topographic view	Part II.A.4.F.1
			2. Drainage flow	Part II.A.4.F.2
			3. Approximate slopes after grading activities	Part II.A.4.F.2
			4. Areas of soil disturbance and areas not disturbed	Part II.A.4.F.3
			5. Location of major structural and non-structural controls.	Part II.A.4.F.4
			6. Location of main construction entrance and exit.	Part II.A.4.F.5
			7. Areas where stabilization practices are expected to occur.	Part II.A.4.F.6
			8. Locations of off-site materials, waste, borrow area or storage area.	Part II.A.4.F.7
			9. Locations of areas used for concrete wash-out.	Part II.A.4.F.8
			10. Locations of surface waters on site.	Part II.A.4.F.9
			11. Locations where water is discharged to a surface water or MS4.	Part II.A.4.F.10
			12. Storm water discharge locations.	Part II.A.4.F.11
			13. Areas where final stabilization has been accomplished.	Part II.A.4.F.12

RICHARDSON ENGINEERING
Planning ▪ Engineering ▪ Development Consulting

April 8, 2025

City of Bryant
Development & Review Committee
Attn: Mr. Truett Smith
Director of Community Development

RE: Letter of Request for approval of Site Plan for Collective Church, Saline County, Arkansas

Dear Mr. Smith:

Please accept this letter as a request to approve the Site Plan for Collective Church at the May 12, 2025, Planning Commission Meeting.

We would like DRC to be made aware in regard to Sheet 7 Grading Plan. We are planning on creating a back slope from our project's south line that goes beyond our property line into drainage easement of detention pond. This slope we are creating does not impact the volume of the detention pond.

Developer's Information:
Collective Church
Bryant, AR
Skylyr Stott
contact@gchomesllc.com
(501) 658-2095

Engineer's Information:
Tristin Phillips, PE
Richardson Engineering, PLLC
P.O. Box 192
Benton, AR 72018
Tristin@Richardson-Engrs.com
(501) 315-7225

Sincerely,

Tristin Phillips, PE

RICHARDSON ENGINEERING
Planning ▪ Engineering ▪ Development Consulting

May 5, 2025

City of Bryant
Development & Review Committee
Attn: Mr. Colton Leonard
Assistant Director of Planning and Development

RE: Waiver Request for Jamey South Storage Building, Saline County, Arkansas

Dear Mr. Leonard:

Please accept this letter as a waiver request from the Commercial Design Standards for a nonstandard commercial building.

Developer's Information:
Jamey South
515 N. Reynold Road
Bryant, AR 72022
jamey.south.dd9b@statefarm.com
(501) 317-7595

Engineer's Information:
Tristin Phillips, P.E.
Richardson Engineering, PLLC
325 West South Street
Benton, AR 72015
Tristin@Richardson-Engrs.com
(501) 315-7225

Sincerely,

Tristin Phillips, P.E.

DETAILED PLANS:

STATE FARM – JAMEY SOUTH

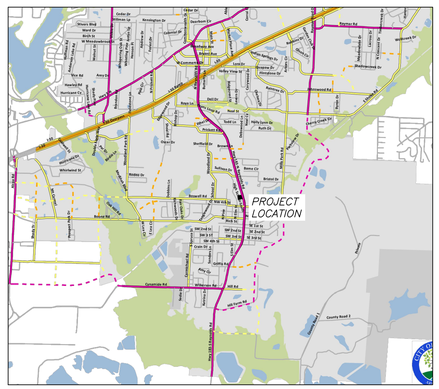
PROPOSED STORAGE BUILDING

515 N. REYNOLDS ROAD
BRYANT, ARKANSAS

PRE–CONSTRUCTION COPY –

PLANS FOR BIDDING PURPOSES. QUANTITIES TO BE VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR TO VERIFY GRADES WITH ENGINEER PRIOR TO CONSTRUCTION.

VICINITY MAP
1" = 2000'



4/22/2025

PREPARED FOR:

JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 21954
TRISTIN SCOTT PHILLIPS

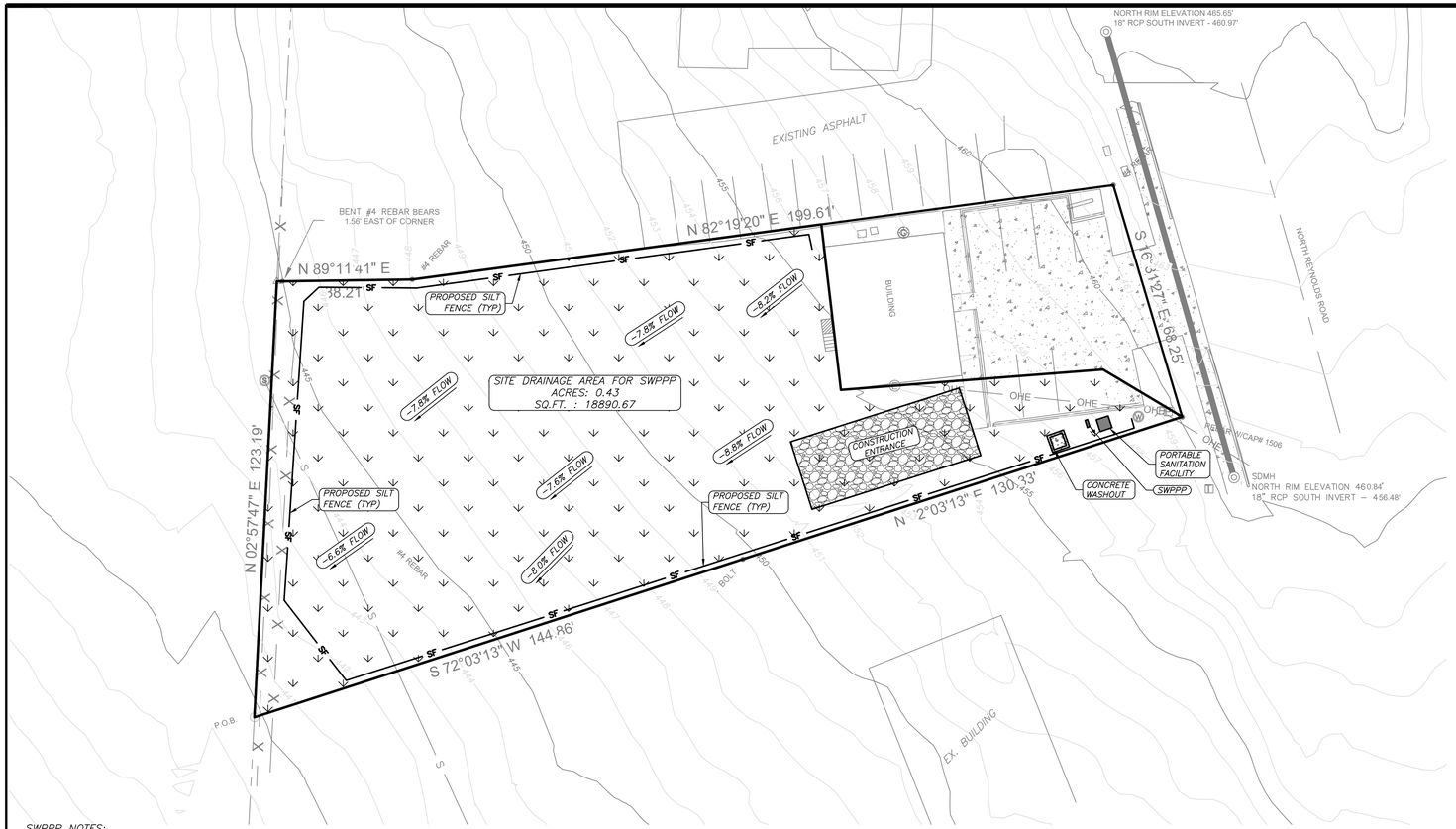
INDEX OF SHEETS

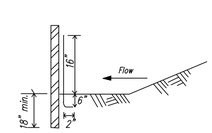
COVER SHEET	*1*
SWPPP	*2*
DEMOLITION PLAN	*3*
SITE/LANDSCAPE PLAN	*4*
GRADING PLAN	*5*

	Revisions	Date

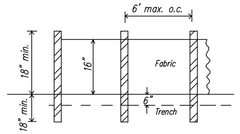
Prepared By:

RICHARDSON ENGINEERING
Planning ▪ Engineering ▪ Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225





SIDE VIEW

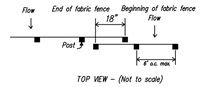


FRONT VIEW

NOTE:
Use wood or steel posts

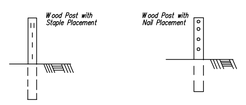
SF-A SILT FENCE (TYPE A)
NTS

* **ALL SILT FENCE SHALL BE WIRE REINFORCED.**



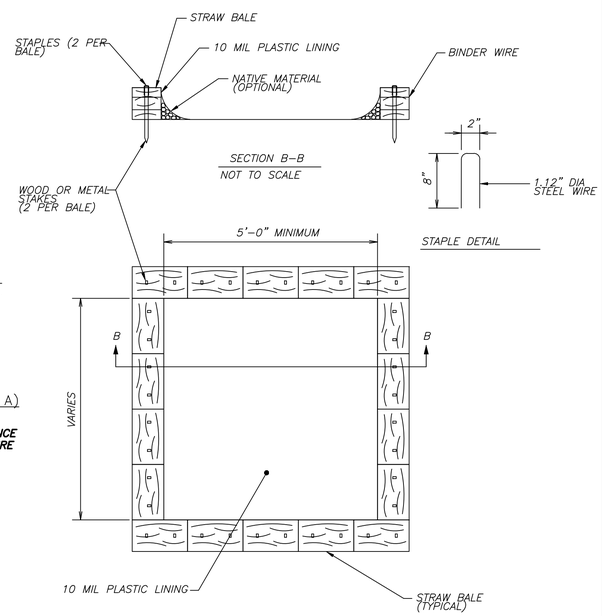
TOP VIEW - (Not to scale)

OVERLAP AT FABRIC ENDS



FRONT VIEWS

FASTENERS FOR SILT FENCES

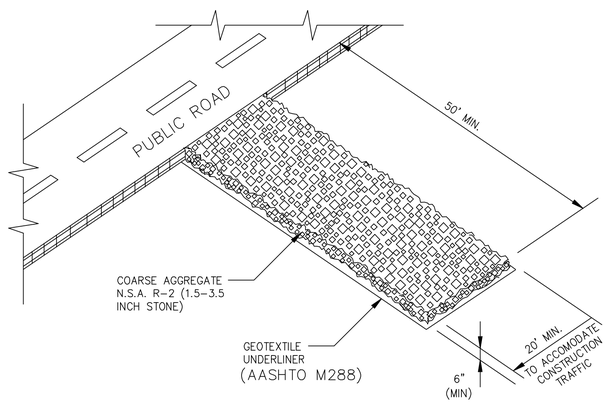


SECTION B-B
NOT TO SCALE

STAPLE DETAIL

CONCRETE WASHOUT
NOT TO SCALE

1. LOCATE STONE STABILIZED PAD AT ANY POINT WHERE VEHICULAR TRAFFIC WILL BE LEAVING THE CONSTRUCTION SITE ONTO A PUBLIC RIGHT-OF-WAY, STREET, ALLEY, SIDEWALK, OR PARKING AREA OR ANY OTHER AREA WHERE THERE IS A TRANSITION FROM BARE SOIL TO A PAVED AREA.
2. WIDTH - 20'-0 MINIMUM BUT NOT LESS THAN FULL WIDTH OF ALL POINTS OF VEHICULAR EGRESS. LENGTH - 50'-0 MINUMUM
3. MAINTAIN THE EXIT TO PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS- OF-WAY. PROVIDE PERIODIC TOP DRESSING WITH 1.5 - 3.5" STONE, AS CONDITIONS DEMAND. IMMEDIATELY REMOVE ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO ROADWAY OR INTO STORM DRAINS. CLEAN WHEELS AND TIRES TO REMOVE MUD PRIOR TO ENTRANCE ON TO PUBLIC RIGHTS-OF-WAY.
4. WHEN WASHING IS REQUIRED, DO SO ON AREAS STABILIZED WITH CRUSHED STONE DRAINING INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.



CONSTRUCTION EXIT
NOT TO SCALE

<u>SWPPP NOTES:</u>

1.) DEVELOPMENT SHALL ADHERE TO BRYANT AND ADEQ STORMWATER REQUIREMENTS.
2.) SEDIMENT BARRIERS SHALL BE CONSTRUCTED AT EACH INLET UNTIL GRADING IS COMPLETE AND TOP SOIL IS STABILIZED.
3.) A SILT FENCE AND STRAW BALE DIKE SHALL BE PLACED AT POTENTIAL LOCATIONS OF HEAVY EROSION.
4.) TEMPORARY STRAW BALE DIKES ARE TO BE CONSTRUCTED NOT TO POND WATER ON ADJACENT PROPERTY.
5.) ROCK DIKE CHECK DAMS TO BE CONSTRUCTED TO MEET ADEQ REQUIREMENTS WHEN USED IN LIEU OF STRAW BALE DIKES.
6.) ALL TEMPORARY EROSION CONTROLS SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION IS COMPLETE AND PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
7.) ONE OF THE FOLLOWING GROUND COVER METHODS SHALL BE USED AT AREAS OF CLEARING OTHER THAN FUTURE PAVEMENT SURFACES.
STRAW OR HAY-LOOSE 2.0 TONS/ACRE
STRAW OR HAY-TIED, ANCHORED, OR TACKED 1.5 TONS/ACRE
8.) SOIL EXPOSED FOR MORE THAN 14 DAYS WITH NO CONSTRUCTION ACTIVITY SHALL BE SEEDED OR REEMITTED.
9.) CONSTRUCTION ENTRANCES/EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF MUD ON TO PUBLIC RIGHT-OF-WAY.
10.) ADDITIONAL EROSION CONTROL MEASURES TO BE EMPLOYED WHERE NECESSARY BY SITE CONDITIONS.
11.) CONTRACTOR SHALL USE "BEST MANAGEMENT PRACTICES" (BMP'S) WHEN IMPLEMENTING AND MAINTAINING SEDIMENT AND RUN-OFF CONTROLS.

GENERAL EROSION CONTROL NOTES

1. THE LOCATION OF KNOWN SURFACE & SUBSURFACE STRUCTURES, PIPE, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INFORMATION AND SATISFYING THEMSELVES AS TO THE LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN. ALL REPAIRS OR RELOCATIONS NECESSARY SHALL BE MADE AS REQUIRED BY THE OWNER OF THE UTILITY OR STRUCTURE. THE COST OF SUCH REPAIRS OR RELOCATIONS NECESSARY SHALL BE BORNE BY THE CONTRACTOR.

2. ALL STREETS, DRIVES, WALKS, DRAINAGE STRUCTURES, FENCES, ETC. THAT ARE DISTURBED SHALL BE RESTORED TO THEIR ORIGINAL OR BETTER CONDITION USING LIKE MATERIALS. COST OF SUCH REPAIRS SHALL BE BORNE BY THE CONTRACTOR UNLESS PROVISION FOR PAYMENT IS MADE IN THE PROPOSAL.

3. EROSION CONTROL DEVICES SHALL BE INSTALLED AS THE PROJECT PROGRESSES AND AREAS ARE DISTURBED.

4. THE CONTRACTOR IS REQUIRED TO NOTIFY THE ONE CALL CENTER AT 1-800-482-8998 48 HOURS PRIOR TO DIGGING IN ORDER THAT UNDERGROUND UTILITIES IN THE AREA CAN BE LOCATED.

5. ALL INLETS ON AND ADJACENT TO THE SITE SHALL BE PROTECTED FROM SEDIMENT.

6. STORM WATER CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 7 DAYS.

7. ALL EROSION CONTROL DEVICES ARE TO BE MAINTAINED IN GOOD WORKING CONDITION THROUGHOUT THE DURATION OF THIS PROJECT AND UNTIL PERMANENT VEGETATION IS ESTABLISHED. ALL SEDIMENT TRAPS ARE TO BE CLEANED AS REQUIRED.

8. ALL DISTURBED AREAS LEFT IDLE FOR A PERIOD OF 14 DAYS OR LONGER ARE TO RECEIVE TEMPORARY VEGETATION AND MULCHED.

9. REMOVE EROSION CONTROL DEVICES AFTER PERMANENT VEGETATION IS ESTABLISHED.

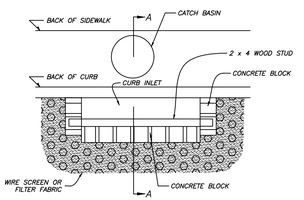
10. DEVELOPMENT SHALL ADHERE TO CITY OF BRYANT AND ADEQ STORM WATER REQUIREMENTS.

11. ADDITIONAL EROSION CONTROL MEASURES TO BE EMPLOYED WHERE NECESSARY BY SITE CONDITIONS.

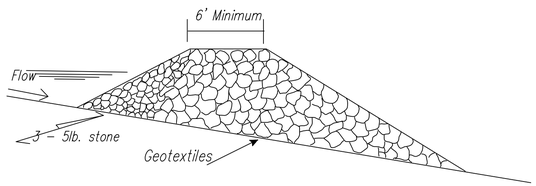
12. CONTRACTOR TO COMPLY WITH ALL OSHA SAFETY REQUIREMENTS.

EXISTING CONTOURS

SF PROPOSED SILT FENCE



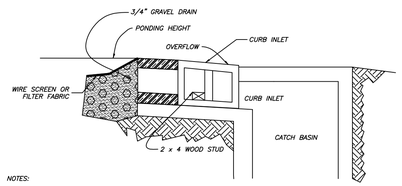
NOTE: Sediment Trap is to be cleaned out when volume becomes half full.



NOTES:
1. FOR USE IN SMALL CHANNELS WITH DRAINAGE AREAS OF 50 ACRES OR LESS.
2. MUST BE USED IN CONJUNCTION WITH OTHER APPROPRIATE SEDIMENT CONTROL MEASURES.
3. USE BELOW CULVERT INSTALLATIONS, DAM CONSTRUCTION, OR ANY PROJECT THAT MAY INVOLVE GRADING ACTIVITY DIRECTLY IN A STREAM.
4. NOT INTENDED TO SUBSTANTIALLY IMPOUND WATER.
5. USE AT THE UPSTREAM END OF PONDS OR LAKES.
6. EDGES SHOULD NOT BE HIGHER THAN THE CHANNEL BANKS.
7. CENTER SHOULD BE AT LEAST 6 INCHES LOWER THAN THE OUTER EDGES OF THE DAM AT THE CHANNEL BANKS.
8. HEIGHT SHOULD NOT EXCEED ELEVATION OF UPSTREAM PROPERTY LINE.
9. SIDE SLOPES SHOULD BE 2:1 OR FLATTER.
10. TOP WIDTH SHOULD BE GREATER THAN 6 FEET.
11. EXTEND COMPLETELY ACROSS THE CHANNEL AND SECURELY TIE INTO BOTH CHANNEL BANKS
12. REQUIRES PERIODIC INSPECTION AND MAINTENANCE.
13. SEDIMENT REMOVED WHEN IT REACHES ONE-HALF OF THE ORIGINAL DAM HEIGHT

ROCK DAM
NOT TO SCALE

PLAN VIEW



SECTION A - A

NOTES:
1.) USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2.) BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3.) INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER

GRAPHIC SCALE

20 0 20 40 60
(IN FEET)
1 inch = 20 ft.

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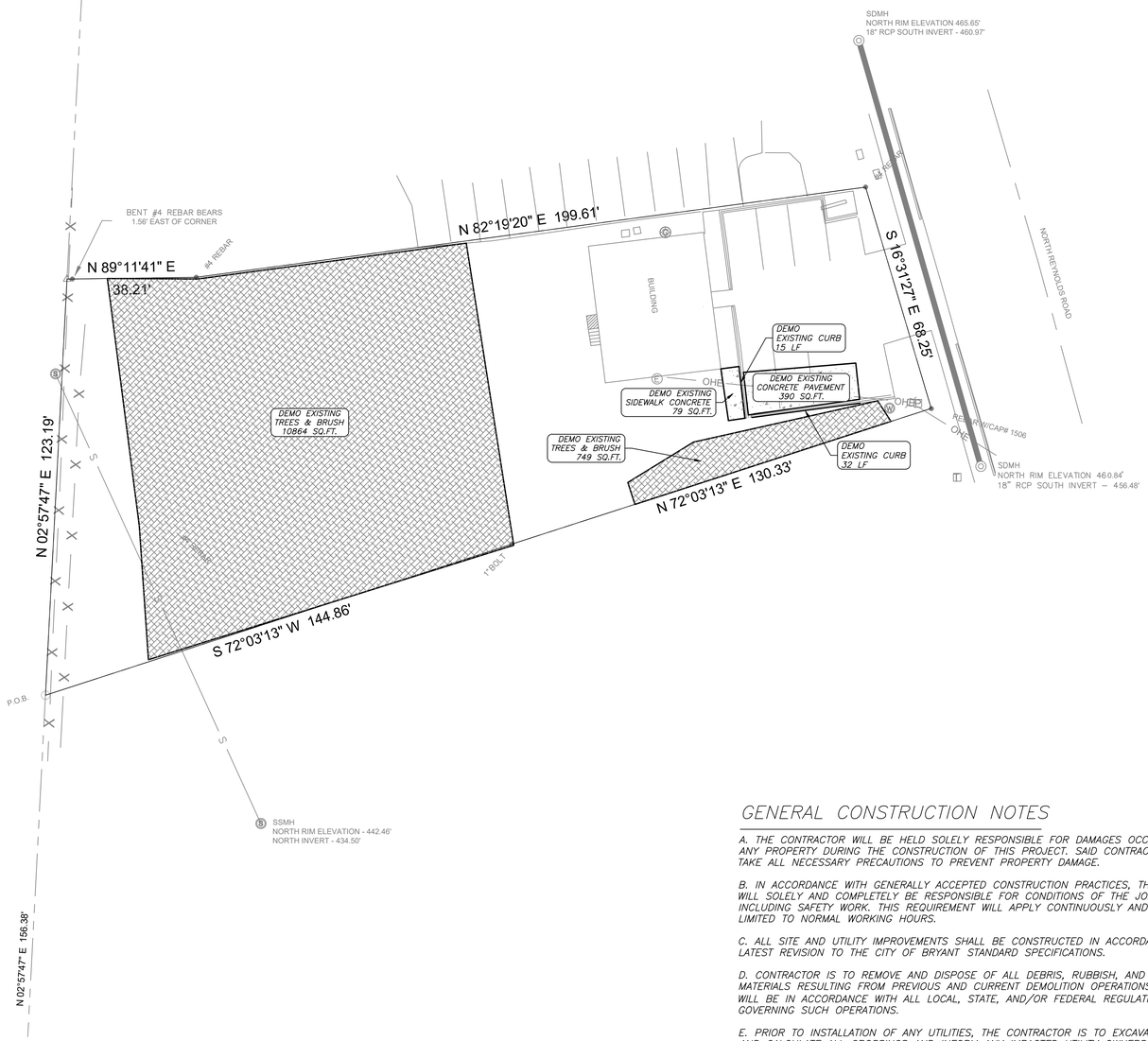
CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

SWPPP PLAN
STATE FARM - JAMEY SOUTH
PROPOSED STORAGE BUILDING
515 N. REYNOLDS ROAD
BRYANT, ARKANSAS

Prepared For:
JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

No.	Revisions	Date

PROJECT #: 025-007
Date: 4/22/2025
Scale: 1" = 20'
Sheet: 2 of 5



DEMO NOTES:
1) QUANTITIES ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES.

GENERAL CONSTRUCTION NOTES

A. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR DAMAGES OCCURRING TO ANY PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT. SAID CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT PROPERTY DAMAGE.

B. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.

C. ALL SITE AND UTILITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION TO THE CITY OF BRYANT STANDARD SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. PRIOR TO INSTALLATION OF ANY UTILITIES, THE CONTRACTOR IS TO EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM ANY IMPACTED UTILITY OWNERS OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

F. CONSTRUCTION SHALL NOT START ON ANY WATER UTILITY TIE–INS UNTIL APPROVAL IS GIVEN BY CITY OF BRYANT. CONTRACTOR SHALL NOT OPERATE ANY VALVE, HYDRANT, OR WATER UTILITY APPURTENANCE NOR SHALL HE ATTACH TO OR TAP ANY WATER UTILITY MAIN WITHOUT APPROVAL FROM BRYANT. THE CONTRACTOR SHALL BEAR THE COST AND CONSEQUENCE OF ANY DISRUPTION OF UTILITY OPERATION CAUSED BY CONSTRUCTION.

G. FIBER OPTIC CABLE ON AND/OR ADJACENT TO THIS SITE WERE NOT LOCATED BY THE SURVEY AND ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY FIBER OPTIC CABLES AT TO NEAR THIS SITE AND TAKE ALL NECESSARY AND REQUIRED PRECAUTIONS TO PROTECT ANY EXISTING FIBER OPTIC CABLES. CONTRACTORS SHALL COORDINATE ALL EFFORTS WITH OWNER OF FIBER OPTIC CABLES OR THEIR DESIGNATED REPRESENTATIVE.

H. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING "ONECALL" SERVICE TO MARK ALL UTILITIES PRIOR TO ANY DEMOLITION, EARTHWORK, OR UTILITY WORK ON THIS SITE.

I. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF MATERIALS, UTILITIES OR GROUND EXCAVATION SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN.

J. THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

K. CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS, INCLUDING EXCAVATION & TRENCH SAFETY.

L. CONTRACTOR SHALL CONTACT THE CITY OF BRYANT STREET DEPARTMENT IN REGARD TO MAINTENANCE OF TRAFFIC PRIOR TO COMMENCEMENT OF WORK WITHIN STREET RIGHT OF WAY.

M. CONTRACTOR SHALL CONTACT CITY OF BRYANT PRIOR TO COMMENCEMENT OF UTILITY CONSTRUCTION OR TIE–INS.

UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501–943–0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501–943–0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1–800–368–3749

NATURAL GAS:
SUMMIT UTILITIES
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888–498–0409

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

GRAPHIC SCALE

20 0 20 40 60

(IN FEET)
1 inch = 20 ft.

Legend

- Property Boundary
- Surveyed lines
- RW — Road Right of Way
- T — Telephone
- FO — FO — FO — Fiber Optic Line
- Road Center line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer Main
- SS — Sanitary Sewer Service
- WS — Water Service Line
- W — Water Main
- UGE — UGE — Underground Electric
- OHE — Overhead Powerline
- G — Gas Main
- GS — Gas Service
- SF — Silt Fence
- Existing Water Meter Box
- Existing Sewer Mnahole
- Existing Storm Box
- Existing Fire Hydrant
- Guy Wire
- Computed Corner
- Found Monument (Labeled)
- Utility Pole
- Gas Meter
- Sewer Stubup

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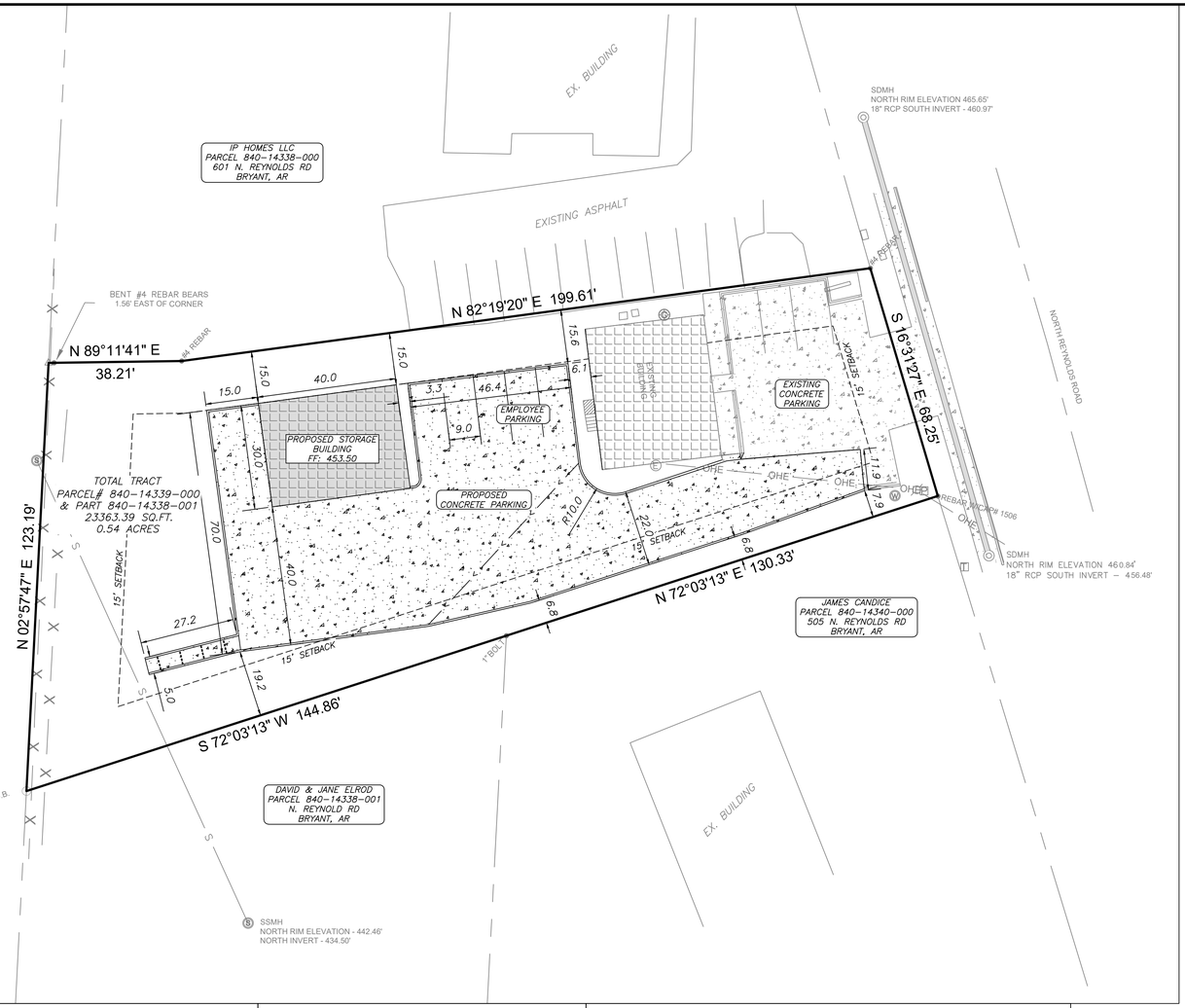
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Prepared For: JAMEY SOUTH
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BRYANT, AR 72022

Date
Revisions
No.

PROJECT #: 025–007
Date: 4/22/2025
Scale: 1" = 20'
Sheet: 3 of 5



GENERAL NOTES:

1.) SURVEYING PROVIDED BY RASBURRY SURVEYING LLC.
2.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS PLAN AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS.
3.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
4.) CONSTRUCTION SITE SHALL ADHERE TO BRYANT STORMWATER REQUIREMENTS, AND SHALL MEET ALL APPLICABLE ADEQ STANDARDS FOR EROSION CONTROL MEASURES.
5.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.)
6.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
7.) THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

SITE NOTES

1.) PROJECT SITE AREA 0.54 ACRES (23363.39 SQUARE FEET).
2.) PROJECT PROVIDES 5 PARKING SPACES.
3.) CURRENT ZONING: C-2
4.) PROPOSED USE: PROPOSED STORAGE BUILDING
5.) BUILDING LINES TO BE NOTED ON SITE PLAN.
6.) PROPOSED LOCATIONS OF TRAFFIC CONTROL MARKERS ARE APPROXIMATE. ACTUAL LOCATION AND INSTALLATION MUST MEET MUTCD AND BENTON ROAD DEPT. SPECS.
7.) CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & BASE. TEST TO BE CONDUCTED AS PER GEOTECHNICAL ENGINEERS SPECS.
8.) CONTRACTOR TO INCLUDE IN BID THE COST OF MATERIAL AND INSTALLATION OF STREET SIGNS & TRAFFIC CONTROL SIGNS.
9.) CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS INCLUDING EXCAVATION & TRENCH SAFETY.
10.) PORTION OF THIS PROPERTY (AS SHOWN) IS IN THE 100 YEAR FLOOD HAZARD AREA. REFERENCE FIRM MAP 05125C0380C EFFECTIVE 6/5/2020
11.) REFER TO LANDSCAPING PLAN FOR REQUIREMENTS/LIGHTING PLAN TO BE VERIFIED W/OWNER. REVISIONS TO PLAN TO BE SUBMITTED TO CITY.
12.) IRRIGATION SYSTEMS TO BE DESIGNED BY OTHERS.
13.) THERE ARE NO EROSION PROBLEMS ON THE SITE OR KNOWN EROSION PROBLEMS WITHIN 300' DOWNSTREAM.
14.) THERE IS NO SURFACE EVIDENCE OF EXISTING OR ABANDONED WATER WELLS, SUMPS, CESSPOOLS, SPRING WATER IMPOUNDMENTS, AND UNDERGROUND STRUCTURES WITHIN THE PROJECT.
15.) PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH AHTD SPECIFICATIONS, AND BASED ON GEOTECHNICAL ANALYSIS OF THE SOIL CONDITIONS. CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & BASE. TEST TO BE CONDUCTED AS PER GEOTECHNICAL SPECS.
16.) ALL SITE LIGHTING IS TO BE LOW LEVEL AND DIRECTIONAL, SHIELDED DOWNWARD AND INTO THE SITE. DESIGNED BY OTHER AS PER CITY OF BRYANT REQUIREMENTS.

UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
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501-943-0469

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888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 21954
TRISTIN SCOTT PHILLIPS

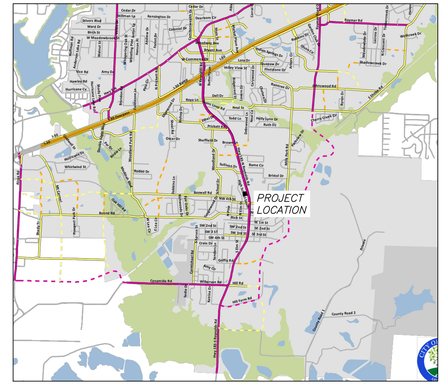
LEGAL DESCRIPTION DOC 2022-002110

PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER, SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, AND DESCRIBED AS FOLLOWS: FROM THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER OF SOUTHEAST QUARTER, RUN THENCE NORTH 87 DEG. 57 MIN. EAST ALONG THE SOUTH LINE OF SAID SOUTHWEST QUARTER OF SOUTHEAST QUARTER, 137.0 FEET; THENCE NORTH 00 DEG. 41 MIN. WEST, 198.1 FEET TO THE POINT OF BEGINNING; THENCE NORTH 66 DEG. 45 MIN, EAST, 129.9 FEET TO THE WEST RIGHT OF WAY LINE OF ARKANSAS STATE HIGHWAY #183; THENCE NORTH 21 DEG. 55 MIN. WEST, ALONG SAID RIGHT OF WAY LINE, 68.3 FEET; THENCE SOUTH 77 DEG. 14 MIN. 10 SEC. WEST, 198.19 FEET; THENCE SOUTH 00 DEG. 23 MIN. 30 SEC. WEST, 74.43 FEET; THENCE NORTH 87 DEG. 57 MIN. EAST, 100.0 FEET TO THE POINT OF BEGINNING.

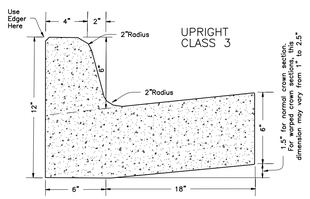
AND

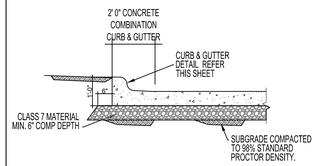
THAT PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER; THENCE NORTH 02°57'47" EAST ALONG THE WEST LINE THEREOF A DISTANCE OF 156.38 FEET TO THE POINT OF BEGINNING; THENCE NORTH 02°57'47" EAST CONTINUING ALONG SAID WEST LINE A DISTANCE OF 123.19 FEET; THENCE NORTH 89°11'41" EAST LEAVING SAID WEST LINE A DISTANCE OF 38.21 FEET; THENCE SOUTH 05°05'25" WEST A DISTANCE OF 73.89 FEET; THENCE SOUTH 86°56'40" EAST A DISTANCE OF 99.94 FEET; THENCE SOUTH 72°03'13" WEST A DISTANCE OF 144.86 FEET TO THE POINT OF BEGINNING. CONTAINING 0.14 ACRES, MORE OR LESS.

VICINITY MAP
1" = 2000'



TYPICAL CURB SECTION





TYPICAL CURB & GUTTER DETAIL
N.T.S.

GRAPHIC SCALE



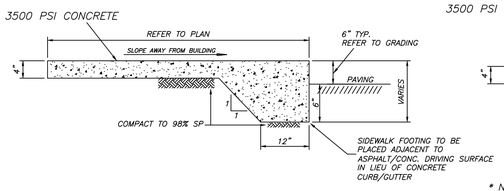
(IN FEET)
1 inch = 20 ft.

CONCRETE PAVEMENT NOTES:
1. CONCRETE TO BE 4000 PSI, SLUMP 4" +/- 1".
2. INSTALL 1" DIA. X 18" L SMOOTH DOWELS ON 18" CENTERS AT CONTROL JOINTS.
3. SAW CUT CONTROL JOINTS 15' MAX. EACH WAY AT A DEPTH OF 25% (¼" PER 1") OF CONCRETE SECTION THICKNESS.
4. AIR ENTRAINMENT 3-5%.
5. FINISH TO BE MEDIUM BROOM FINISH.
6. INSTALL EXPANSION JOINTS WHERE ABUTTING STRUCTURES AND AT A MAX. OF 200 LF OF PAVING. USE ¾" EXPANSION JOINT MATERIAL WHERE EXPANSION JOINTS ARE SPECIFIED. USE 1" DIA. X 18" L SMOOTH DOWELS ON 18" CENTERS IN EXPANSION JOINTS BETWEEN PAVEMENT SECTIONS.

Legend

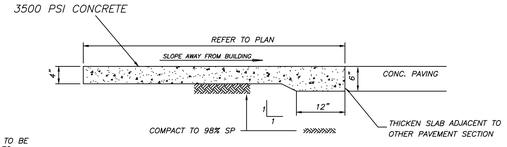
- Property Boundary
- Easement/BSL (Labeled)
- RW — Road Right of Way
- T — Telephone
- FO — FO — FO — Fiber Optic Line
- G — Gas Line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer
- W — Water Line
- OHE — Overhead Electric
- UGE — UGE — Underground Powerline
- PROPOSED CONCRETE
- Water Meter Box
- Sanitary Sewer Manhole
- Storm Drainage Manhole
- Telephone Pedistal
- Guy Wire
- Computed Corner
- Found Monument (Labeled)
- Utility Pole
- Gas Meter
- * APPROVED ADA SIDEWALK RAMP. REFER TO NOTES.

3500 PSI CONCRETE



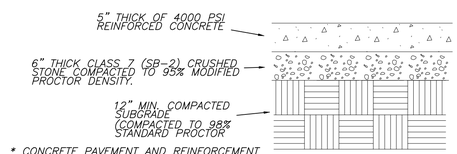
CONC. SIDEWALK - TYPE 'A'
NTS

3500 PSI CONCRETE



CONC. SIDEWALK - TYPE 'B'
NTS

* NOTES:
1. PORTLAND CEMENT CONCRETE 3500 PSI. MIN. MIX AS PER GEOTECHNICAL ENGINEERS RECOMMENDATIONS.
2. USE W1.4 X W1.4 (6" X 6") WWF SHEET REINFORCEMENT. CUT ⅓ THE WIRES AT CONTROL JOINTS.
3. CONCRETE TO CONTAIN 3-5% AIR ENTRAINMENT.
4. FINISH TO BE LIGHT BROOM FINISH.
5. DETECTABLE WARNING DEVICES TO BE INSTALLED AT RAMPS PER ADA REQUIREMENTS.
6. MAX CROSS SLOPE 2%. MAX LONGITUDINAL SLOPE ON RAMPS 1:12 MAX. LONGITUDINAL SLOPE 5% ON SIDEWALKS.
7. CONTROL JOINTS PER CONC. WALK CONTROL JOINT DETAIL.



* CONCRETE PAVEMENT AND REINFORCEMENT TO BE VERIFIED PER AOI 330E-08-SPB AND SUBJECT TO GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

CONCRETE PAVEMENT SECTION
NTS

RICHARDSON ENGINEERING
Planning • Engineering • Development Consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

SITE PLAN
STATE FARM - JAMEY SOUTH
PROPOSED STORAGE BUILDING
515 N. REYNOLDS ROAD
BRYANT, ARKANSAS

Prepared For:
JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

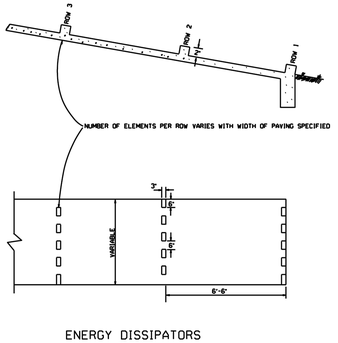
No.	Revisions	Date

PROJECT #: 025-007
Date: 4/22/2025
Scale: 1" = 20'
Sheet: 4 of 5



Legend

- Property Boundary
- Center line
- RW — Road Right of Way
- T — Telephone
- FO — FO — FO — Fiber Optic Line
- G — Gas Line
- X — Wire / Chainlink Fence
- S — Sanitary Sewer
- W — Water Line
- OHE — Overhead Electric
- UGE — UGE — Underground Powerline
- Water Meter Box
- Sanitary Sewer Manhole
- Storm Drainage Manhole
- Telephone Pedistal
- Guy Wire
- Computed Corner
- Found Monument (Labeled)
- Utility Pole
- 422.00 TC — TOP OF CURB ELEVATION
- 422.00 GU — CURB GUTTER ELEVATION
- 422.00 TP — TOP OF PAVEMENT ELEVATION
- 422.00 SW — TOP OF SIDWALK
- PROPOSED CONTOUR
- EXISTING CONTOUR



ENERGY DISSIPATORS
(NO SCALE)

GRAPHIC SCALE

10 0 10 20 30

(IN FEET)
1 inch = 10 ft.

UTILITIES:

SANITARY SEWER:
BRYANT SEWER DEPARTMENT
1019 S.W. 2ND ST.
BRYANT, AR 72022
501-943-0469

WATER:
BRYANT WATER DEPARTMENT
210 S.W. 3RD ST.
BRYANT, AR 72022
501-943-0441

ELECTRIC:
ENTERGY
425 W. CAPITAL AVE.
LITTLE ROCK, AR 72201
1-800-368-3749

NATURAL GAS:
SUMMIT UTILITIES
400 WEST CAPITOL #600
LITTLE ROCK, ARKANSAS
888-498-0409

ENGINEER
RICHARDSON ENGINEERING, PLLC
ADDRESS: 325 W.SOUTH ST.
BENTON, AR. 72015
PHONE NO. (501) 315-7225
PROJECT REPRESENTATIVE:
TRISTIN PHILLIPS, P.E.

SURVEYOR
RASBURRY SURVEYING LLC
308 W. SOUTH STREET
BENTON, AR 72015
(501)860-6893

DEVELOPERS
JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

OWNER OF RECORD
LM SOUTH INVESTMENTS LLC
515 N. REYNOLDS ROAD
BRYANT AR 72022
SOURCE OF TITLE: 2022-002110

GENERAL CONSTRUCTION NOTES

A. THE CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR DAMAGES OCCURRING TO ANY PROPERTY DURING THE CONSTRUCTION OF THIS PROJECT. SAID CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT PROPERTY DAMAGE.

B. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL SOLELY AND COMPLETELY BE RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND WILL NOT BE LIMITED TO NORMAL WORKING HOURS.

C. ALL SITE AND UTILITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST REVISION TO THE CITY OF BRYANT STANDARD SPECIFICATIONS.

D. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL DEBRIS, RUBBISH, AND OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.

E. PRIOR TO INSTALLATION OF ANY UTILITIES, THE CONTRACTOR IS TO EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM ANY IMPACTED UTILITY OWNERS OF ANY CONFLICTS PRIOR TO CONSTRUCTION.

F. CONSTRUCTION SHALL NOT START ON ANY WATER UTILITY TIE-INS UNTIL APPROVAL IS GIVEN BY CITY OF BRYANT. CONTRACTOR SHALL NOT OPERATE ANY VALVE, HYDRANT, OR WATER UTILITY APPURTENANCE NOR SHALL HE ATTACH TO OR TAP ANY WATER UTILITY MAIN WITHOUT APPROVAL FROM BRYANT. THE CONTRACTOR SHALL BEAR THE COST AND CONSEQUENCE OF ANY DISRUPTION OF UTILITY OPERATION CAUSED BY CONSTRUCTION.

G. FIBER OPTIC CABLE ON AND/OR ADJACENT TO THIS SITE WERE NOT LOCATED BY THE SURVEY AND ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ANY FIBER OPTIC CABLES AT TO NEAR THIS SITE AND TAKE ALL NECESSARY AND REQUIRED PRECAUTIONS TO PROTECT ANY EXISTING FIBER OPTIC CABLES. CONTRACTORS SHALL COORDINATE ALL EFFORTS WITH OWNER OF FIBER OPTIC CABLES OR THEIR DESIGNATED REPRESENTATIVE.

H. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING "ONECALL" SERVICE TO MARK ALL UTILITIES PRIOR TO ANY DEMOLITION, EARTHWORK, OR UTILITY WORK ON THIS SITE.

I. ANY LAND CLEARING, CONSTRUCTION, OR DEVELOPMENT INVOLVING THE MOVEMENT OF MATERIALS, UTILITIES OR GROUND EXCAVATION SHALL BE IN ACCORDANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN.

J. THE APPROXIMATE LOCATION OF KNOWN SURFACE AND SUBSURFACE STRUCTURES, PIPES, POWER, GAS, PHONE, ETC. ARE SHOWN ON THE DESIGN DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF THE AFOREMENTIONED ITEMS, SHOWN AND NOT SHOWN.

K. CONTRACTOR TO ADHERE TO CURRENT OSHA REGULATIONS, INCLUDING EXCAVATION & TRENCH SAFETY.

L. CONTRACTOR SHALL CONTACT THE CITY OF BRYANT STREET DEPARTMENT IN REGARD TO MAINTENANCE OF TRAFFIC PRIOR TO COMMENCEMENT OF WORK WITHIN STREET RIGHT OF WAY.

M. CONTRACTOR SHALL CONTACT CITY OF BRYANT PRIOR TO COMMENCEMENT OF UTILITY CONSTRUCTION OR TIE-INS.

RICHARDSON ENGINEERING
Planning • Engineering • Development consulting
325 W. SOUTH STREET, BENTON, AR 72015 (501)315-7225

CERTIFICATE OF AUTHORIZATION
Richardson Engineering, PLLC
No. 2519
ARKANSAS

GRADING PLAN
STATE FARM – JAMEY SOUTH
PROPOSED STORAGE BUILDING
515 N. REYNOLDS ROAD
BRYANT, ARKANSAS

Prepared For:
JAMEY SOUTH
515 N. REYNOLDS ROAD
BRYANT, AR 72022

No.	Revisions	Date

PROJECT #: 025-007
Date: 4/22/2025
Scale: 1" = 10'
Sheet: 5 of 5

ACE Sign Company
11935 Interstate 30
Little Rock, AR 72209

RE: Zoning Variance Application for:
Central Arkansas Truck Outfitters LLC

To the City of Bryant Adjustment Board Members:

Please allow this letter to serve as a formal recommendation for a variance in regards to the property for Central Arkansas Truck Outfitters. This property with interstate frontage has a physical address of 25633 I-30 in Bryant Arkansas.

The property ownership group is requesting to erect a lighted single pole cabinet sign with a 300 square foot (10' x30') overall size at an overall height of 40' from grade.

Specific points for your review of this variance application hardship letter are as follows:

- ***Unique shared plot placement with a completely different business address.***
- ***Interstate frontage with a building setback that requires additional visibility.***
- ***Surrounding businesses with the ability to construct pole signs on their property.***

We appreciate the consideration of the board, and we remain optimistic that a fair decision will be made regarding this specific request. Thank you.

Jason McDonald
Account Manager
ACE Sign Company



ACE SIGNS

PROPERTY BRAND/EXTENSION:
Central Arkansas Outfitters

PROPERTY LOCATION:
25633 I-30 Bryant, AR 72022

PROPERTY CODE:
TBD

DATE:
04/21/2025

SALES REP:
Jason McDonald

PREPARED BY:
Victoria Phan

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INITIALS: _____

LOCATION MAP



PROPERTY BRAND/EXTENSION: Central Arkansas Outfitters	**PROPERTY LOCATION:** 25633 I-30 Bryant, AR 72022	**PROPERTY CODE:** TBD
DATE: 01/13/2025	**SALES REP:** Jason McDonald	**PREPARED BY:** Victoria Phan

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INITIALS: _____

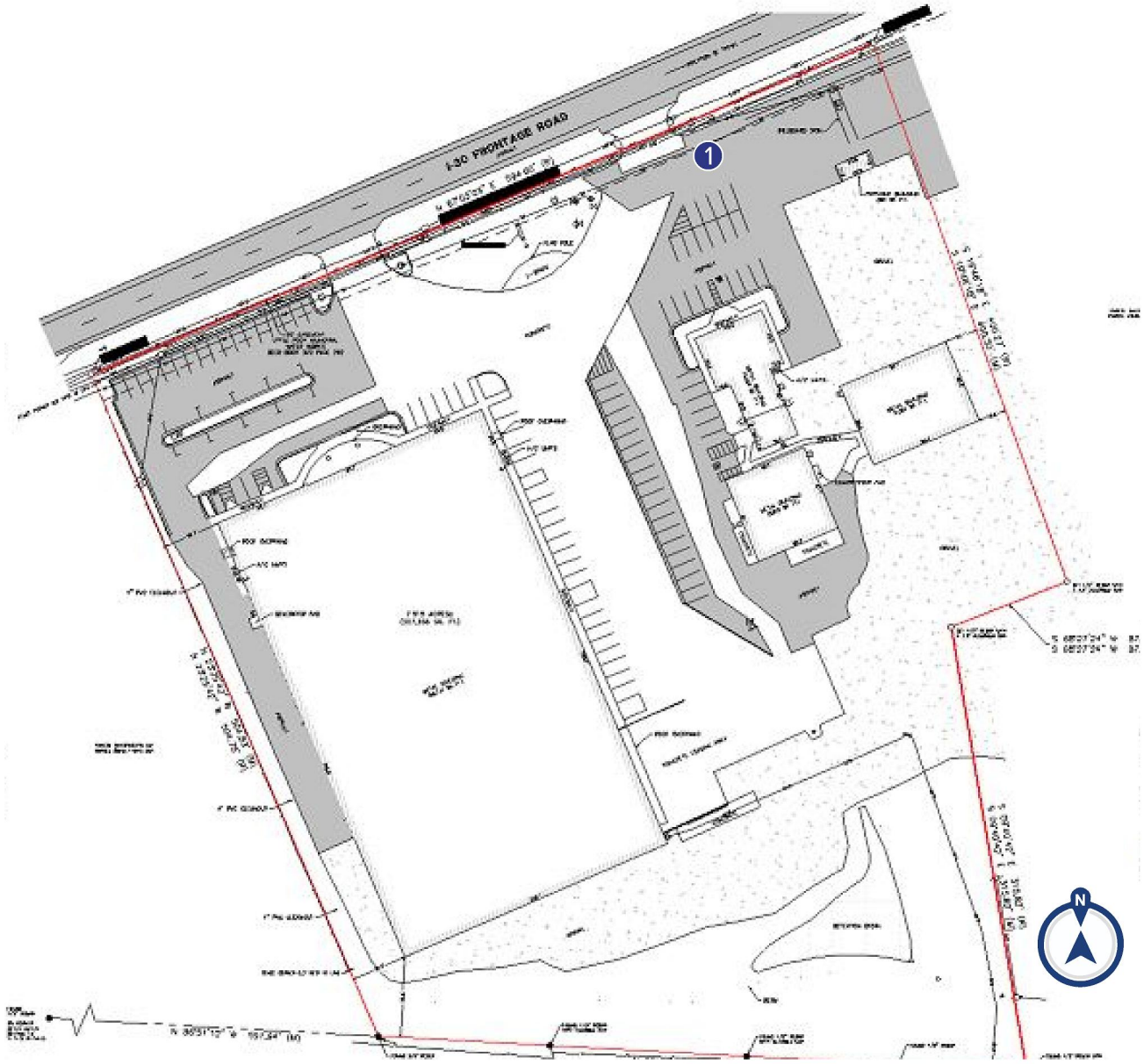
SITE PLAN

PROPOSED SIGNS:

1. MID-RISE

EXISTING SIGNS:

1. NO SIGN



ACE SIGNS

PROPERTY BRAND/EXTENSION: Central Arkansas Outfitters

PROPERTY LOCATION: 25633 I-30 Bryant, AR 72022

PROPERTY CODE: TBD

DATE: 04/16/2025

SALES REP: Jason McDonald

PREPARED BY: Victoria Phan

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INITIALS: _____

1 MID-RISE

EXISTING



PROPOSED



RENDERINGS NOT TO SCALE



H10' x W30' x D2'-8" Cabinet with applied graphics
Cabinet 300 Sq. Ft.
OAH 40'

- PANTONE WHITE
- TO BE DETERMINED
- TO BE DETERMINED
- TO BE DETERMINED

ACE SIGNS

PROPERTY BRAND/EXTENSION: Central Arkansas Outfitters

PROPERTY LOCATION: 25633 I-30 Bryant, AR 72022

PROPERTY CODE: TBD

DATE: 04/21/2025

SALES REP: Jason McDonald

PREPARED BY: Victoria Phan

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INITIALS: _____

Use table below to enter information regarding each sign for approval. Please use each letter to reference each sign rendering in packet.

SIGN	**Type** (Façade, Pole, Monument, other)	**Dimensions** (Height, Length, Width)	**Sqft** (Measurement standards found on Pg.7 of Sign Code)	**Façade Width** (Linear Ft of building façade where wall sign is being installed)	**Height**	
					To Top	To Bottom
A	Pole Sign	10' x 30'	300 sq ft	N/A	30'	40'
B						
C						
D						
E						
F						