



Special Bryant Planning Commission Meeting

Boswell Municipal Complex - City Hall Court Room

210 SW 3rd Street

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

Date: March 24, 2025 - **Time:** 6:00 PM

Call to Order

Announcements

DRC Report

1. Hawkins Valley Phase 1 - Preliminary Plat

GarNat Engineering - Requesting Recommendation for Preliminary Plat Approval - RECOMMENDED APPROVAL

2. 505, 509, and 513 Boswell Road - Sidewalk Waiver

Carla Baggett - Requesting Recommendation for Approval of Sidewalk Waiver - RECOMMENDED

3. The Hills Ph 3 - Lot 20 - 1120 Hillsboro Rd - Replat

Chad Taylor - Requesting Recommendation for Approval of Replat - RECOMMENDED APPROVAL, Contingent upon updated plat showing the existing sewer easement.

4. Dunlap Commercial Plaza - Dell Drive

Hope Consulting - Requesting Approval for Commercial Subdivision Plat and Waiver on Half-Street Improvements - RECOMMENDED APPROVAL OF PLAT, Contingent upon updated plat showing sewer easement that connects to the lot East of subdivision. NO RECOMMENDATION FOR WAIVER ON HALF-STREET IMPROVEMENTS

Old Business

New Business

5. Hawkins Valley Phase 1 - Preliminary Plat

GarNat Engineering - Requesting Preliminary Plat Approval

- [0941-OWS-01.pdf](#)
- [0941-PLN-02.pdf](#)
- [0941-RSPCO-01.pdf](#)
- [0941-DRN-02.pdf](#)
- [0941-PLN-01.pdf](#)
- [0941-RSP-01.pdf](#)
- [0941-DRN-03.pdf](#)

6. 505, 509, and 513 Boswell Road - Sidewalk Waiver

Carla Baggett - Requesting Recommendation for Approval of Sidewalk Waiver

- [0945-WVR-01.pdf](#)

7. The Hills Ph 3 - Lot 20 - 1120 Hillsboro Rd - Replat

Chad Taylor - Requesting Approval for Replat (Updated Plat to be Attached)

- [0943-PLT-01.pdf](#)

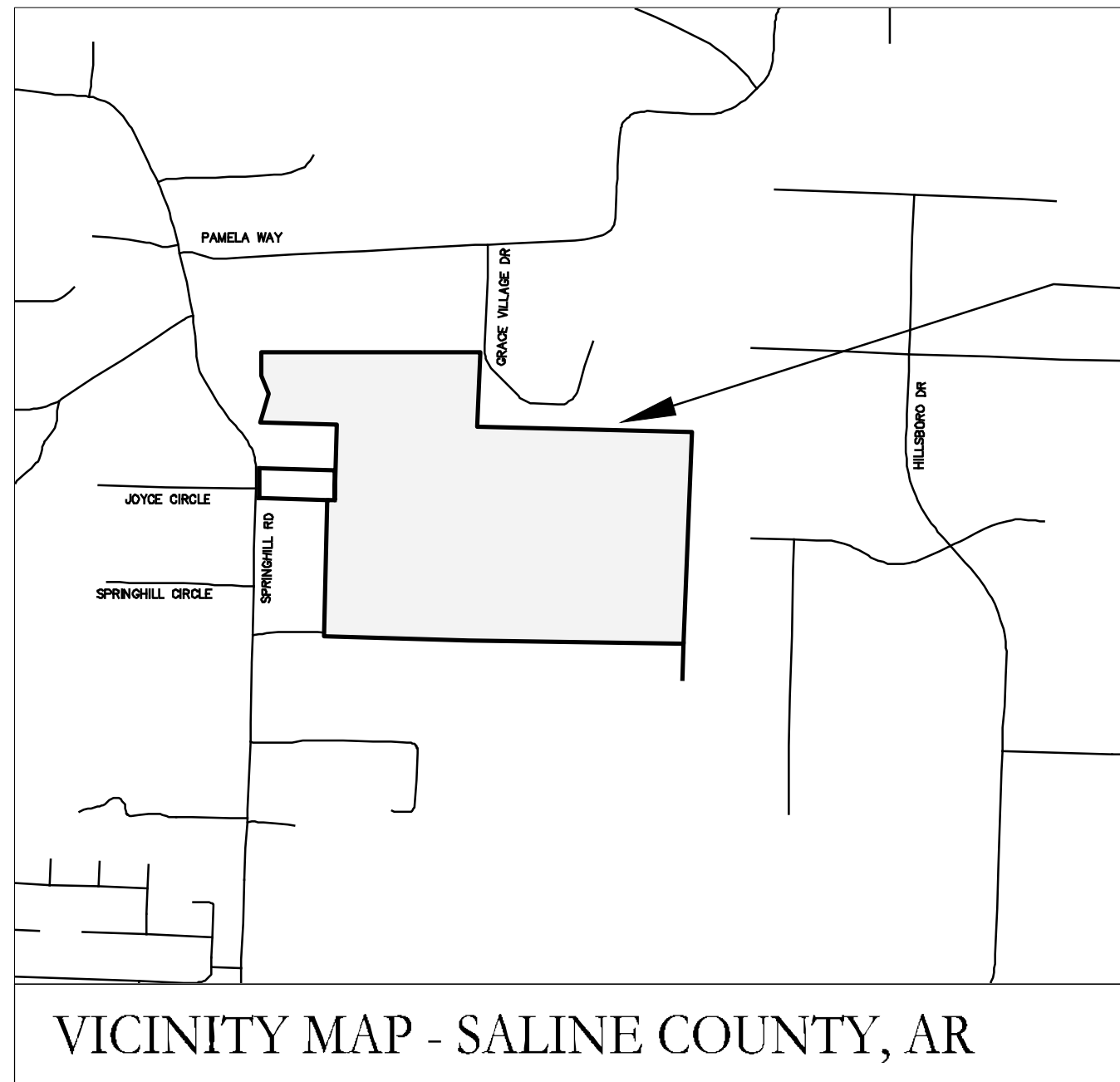
8. Dunlap Commercial Plaza - Dell Drive

Hope Consulting - Requesting Approval for Commercial Subdivision Plat and Waiver on Half-Street Improvements (Updated Plat to be Attached)

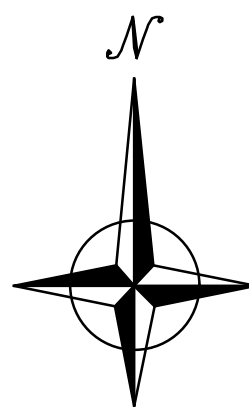
- [0942-PLT-02.pdf](#)
- [0942-WVR-01.pdf](#)
- [0942-LTR-01.pdf](#)

Adjournments

HAWKINS VALLEY OVERALL WATER & SEWER FOR THOMAS D.B. COLLINS, LTD. CITY OF BRYANT, SALINE COUNTY, ARKANSAS



PROJECT
LOCATION



Prepared by:

GarNat Engineering, LLC

P.O. Box 116

Benton, AR 72018

Ph (501) 408-4650

3825 Mt Carmel Road

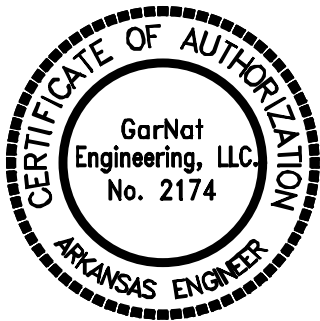
Bryant, AR 72022

www.garnatengineering.com

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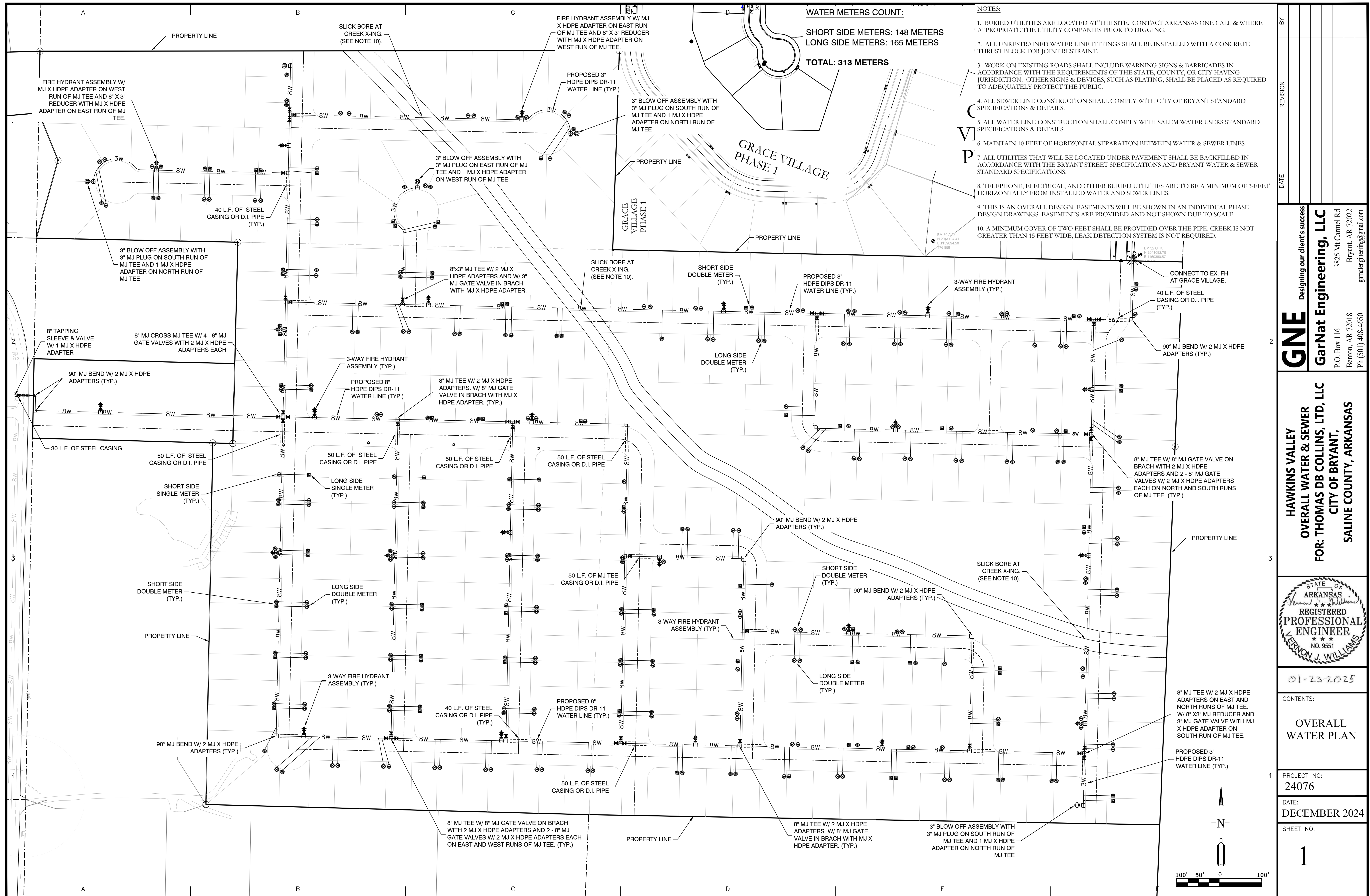
01-23-2025



- 1 OVERALL WATER PLAN
- 2 OVERALL SANITARY SEWER PLAN
- 3 SANITARY SEWER PLAN & PROFILE
MAIN "A" STA. 0+00 - 11+65
- 4 SANITARY SEWER PLAN & PROFILE
MAIN "A" STA. 11+63 - 21+60
- 5 SANITARY SEWER PLAN & PROFILE
MAIN "A" STA. 21+59 - 29+02
MAIN "P" STA. 0+00 - 5+09
- 6 SANITARY SEWER PLAN & PROFILE
MAIN "B" STA. 0+00 - 10+00
- 7 SANITARY SEWER PLAN & PROFILE
MAIN "C" STA. 0+00 - 2+70
- 8 SANITARY SEWER PLAN & PROFILE
MAIN "D" STA. 0+00 - 1+30
- 9 SANITARY SEWER PLAN & PROFILE
MAIN "E" STA. 0+00 - 5+50
- 10 SANITARY SEWER PLAN & PROFILE
MAIN "D" STA. 0+00 - 5+50
- 11 SANITARY SEWER PLAN & PROFILE
MAIN "G" STA. 0+00 - 4+21
- 12 SANITARY SEWER PLAN & PROFILE
MAIN "I" STA. 0+00 - 3+42
MAIN "H" STA. 0+00 - 1+64
- 13 SANITARY SEWER PLAN & PROFILE
MAIN "J" STA. 0+00 - 13+22
- 14 SANITARY SEWER PLAN & PROFILE
MAIN "K" STA. 0+00 - 10+72
- 15 SANITARY SEWER PLAN & PROFILE
MAIN "K" STA. 10+71 - 19+00
- 16 SANITARY SEWER PLAN & PROFILE
MAIN "K" STA. 19+00 - 23+90
MAIN "L" STA. 0+00 - 4+90
- 17 SANITARY SEWER PLAN & PROFILE
MAIN "M" STA. 0+00 - 6+40
MAIN "Q" STA. 0+00 - 2+39
- 18 SANITARY SEWER PLAN & PROFILE
MAIN "I" STA. 0+00 - 3+36
- 19 SANITARY SEWER PLAN & PROFILE
MAIN "N" STA. 0+00 - 8+70
- 20 SANITARY SEWER PLAN & PROFILE
MAIN "R" STA. 0+00 - 3+10
- 21 SANITARY SEWER PLAN & PROFILE
MAIN "S" STA. 0+00 - 7+25
MAIN "O" STA. 0+00 - 3+26



ARKANSAS

[illegible]

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 3825 Mt Carmel Rd
 Bryant, AR 72022
 501-408-4650
garnatengineering@gmail.com

**HAWKINS VALLEY
OVERALL WATER & SEWER
FOR: THOMAS DB COLLINS, LTD, LLC
CITY OF BRYANT,
SALINE COUNTY, ARKANSAS**



01-23-2025

CONTENTS:

OVERALL
WATER PLAN

PROJECT NO:
24076

DATE:
DECEMBER 2024

SHEET NO:

1



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-
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FOR: THOMAS DB COLLINS, LTD, LLC
CITY OF BRYANT,
SALINE COUNTY, ARKANSAS**



01-23-2025

CONTENTS:

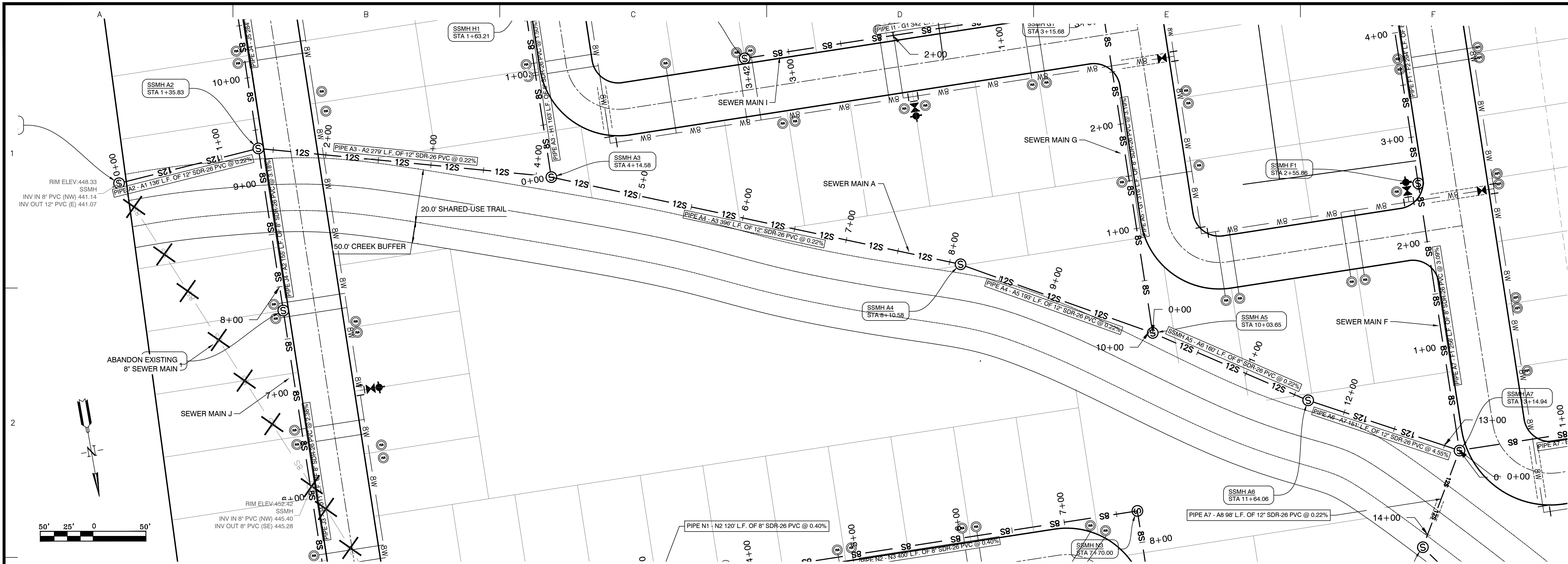
OVERALL
SANITARY
SEWER PLAN

PROJECT NO:
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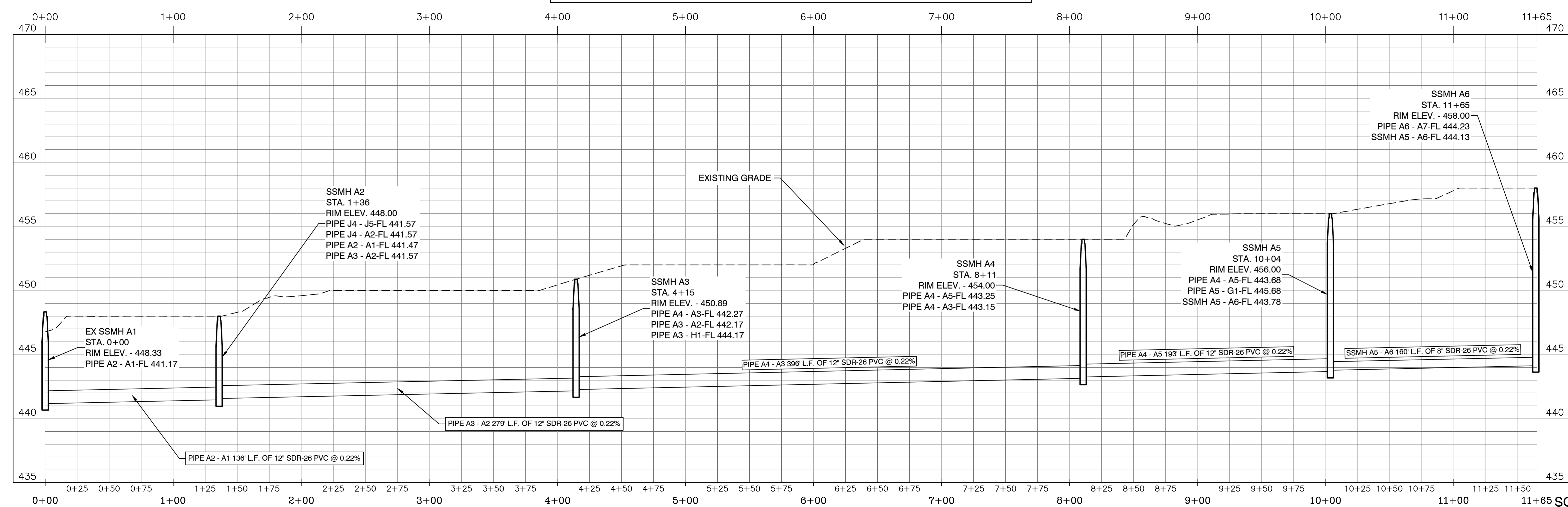
DATE: **DECEMBER 2024**

SHEET NO:

2



SEWER MAIN A STA. 0+00 - 11+65



SCALE: H 1" = 50'
V 1" = 5'

REVISION		DATE	BY

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SALINE COUNTY, ARKANSAS

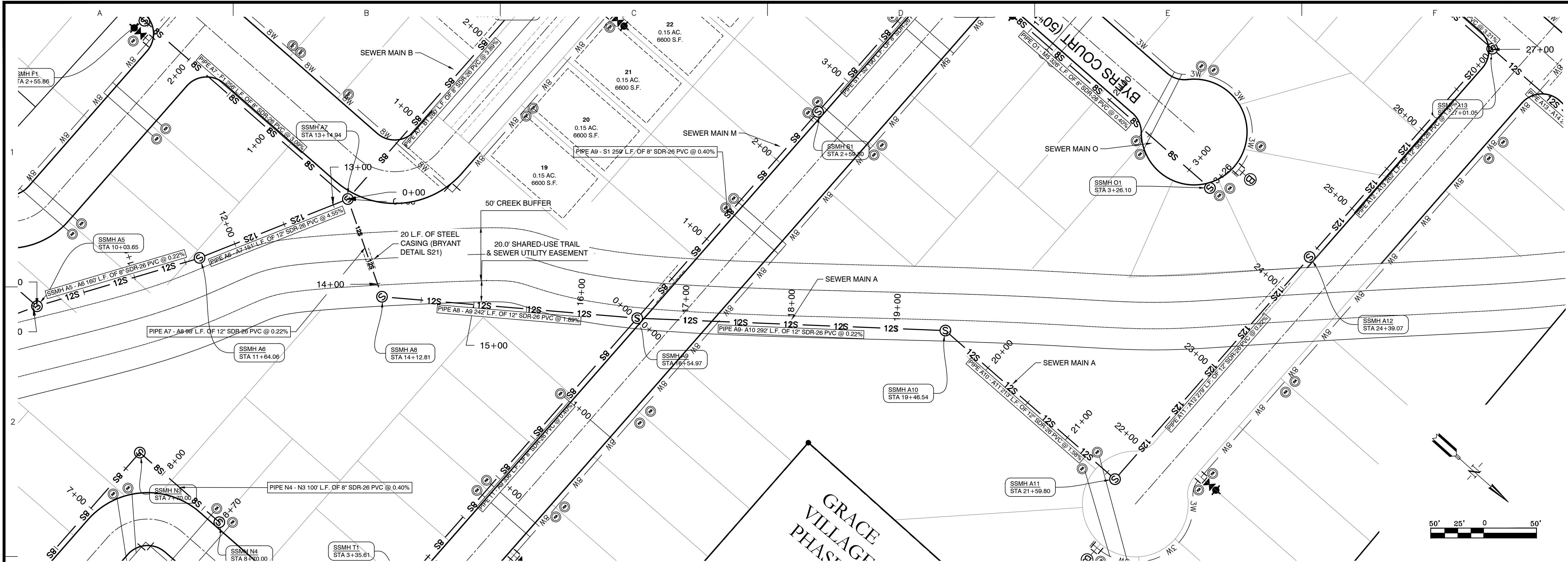
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PLAN & PROFILE
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STA. 0+00 - 11+65

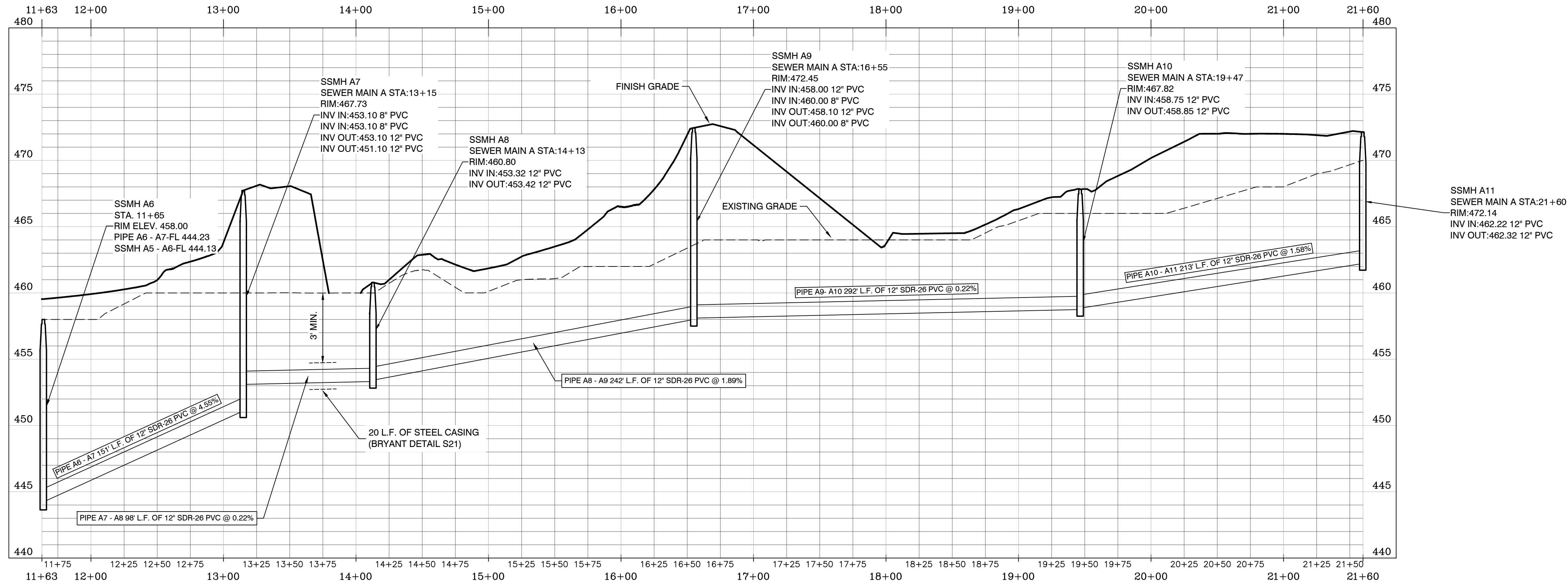
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24076

DATE:
DECEMBER 2024

SHEET NO:
3



SEWER MAIN A STA. 11+63 - 21+60



SCALE: H 1" = 50'
V 1" = 5'

REVISION		DATE
1		
2		
3		
4		

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HAWKINS VALLEY

OVERALL WATER & SEWER

FOR: THOMAS DB COLLINS, LTD, LLC

CITY OF BRYANT,

SALINE COUNTY, ARKANSAS

STATE OF ARKANSAS

REGISTERED PROFESSIONAL ENGINEER

KERNON J. WILLIAMS

NO. 9551

01-23-2025

CONTENTS:

SANITARY SEWER

PLAN & PROFILE

MAIN "A"

STA. 11+63 - 21+60

PROJECT NO:

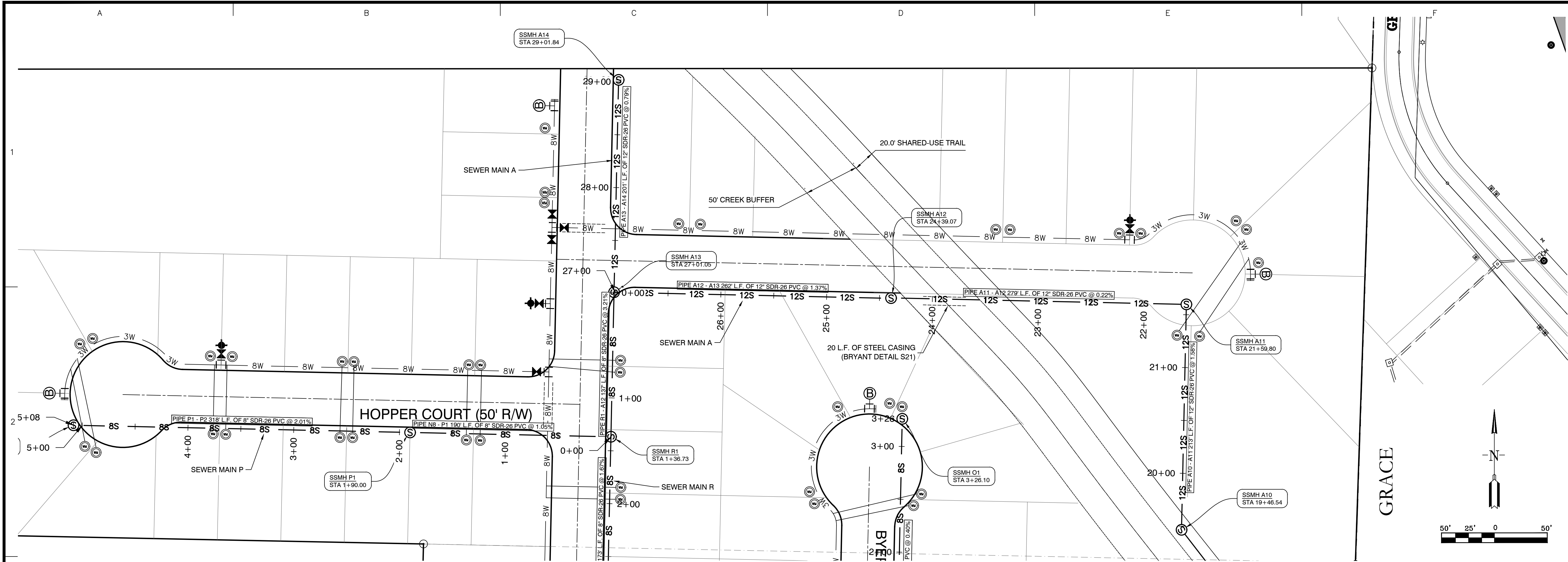
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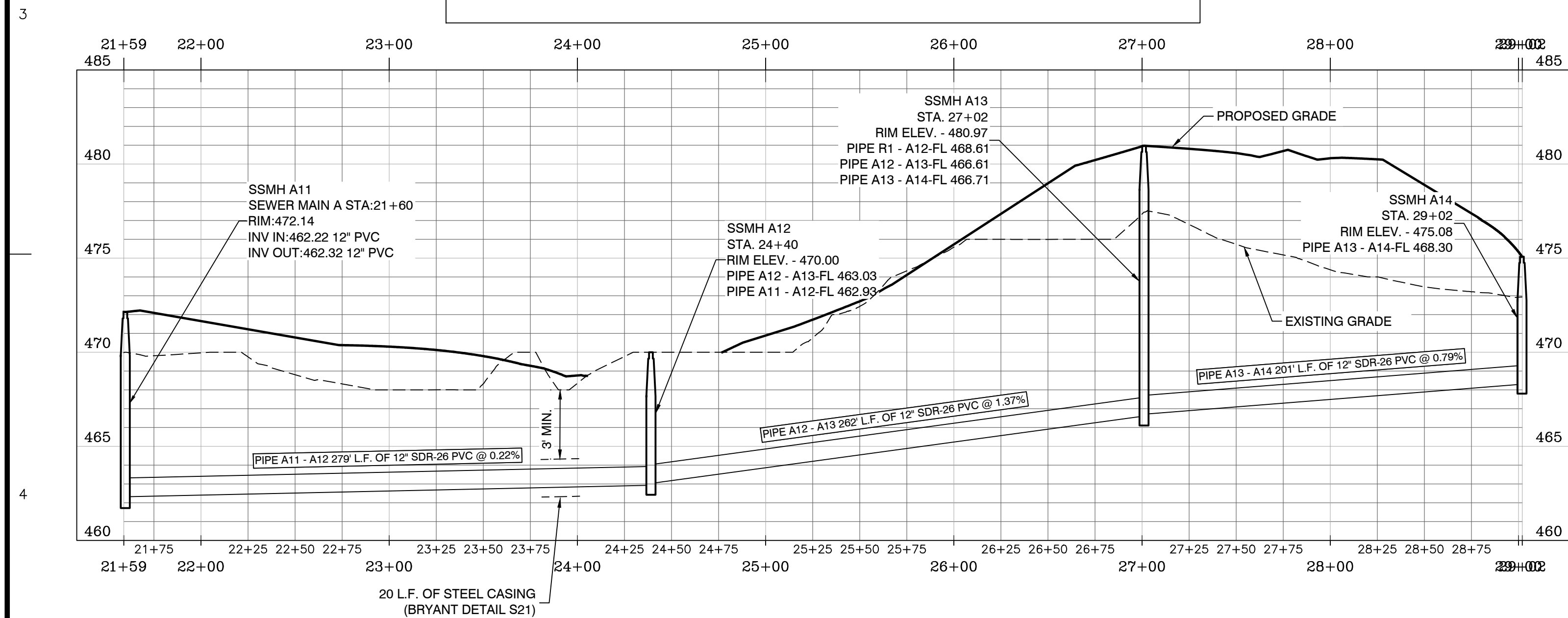
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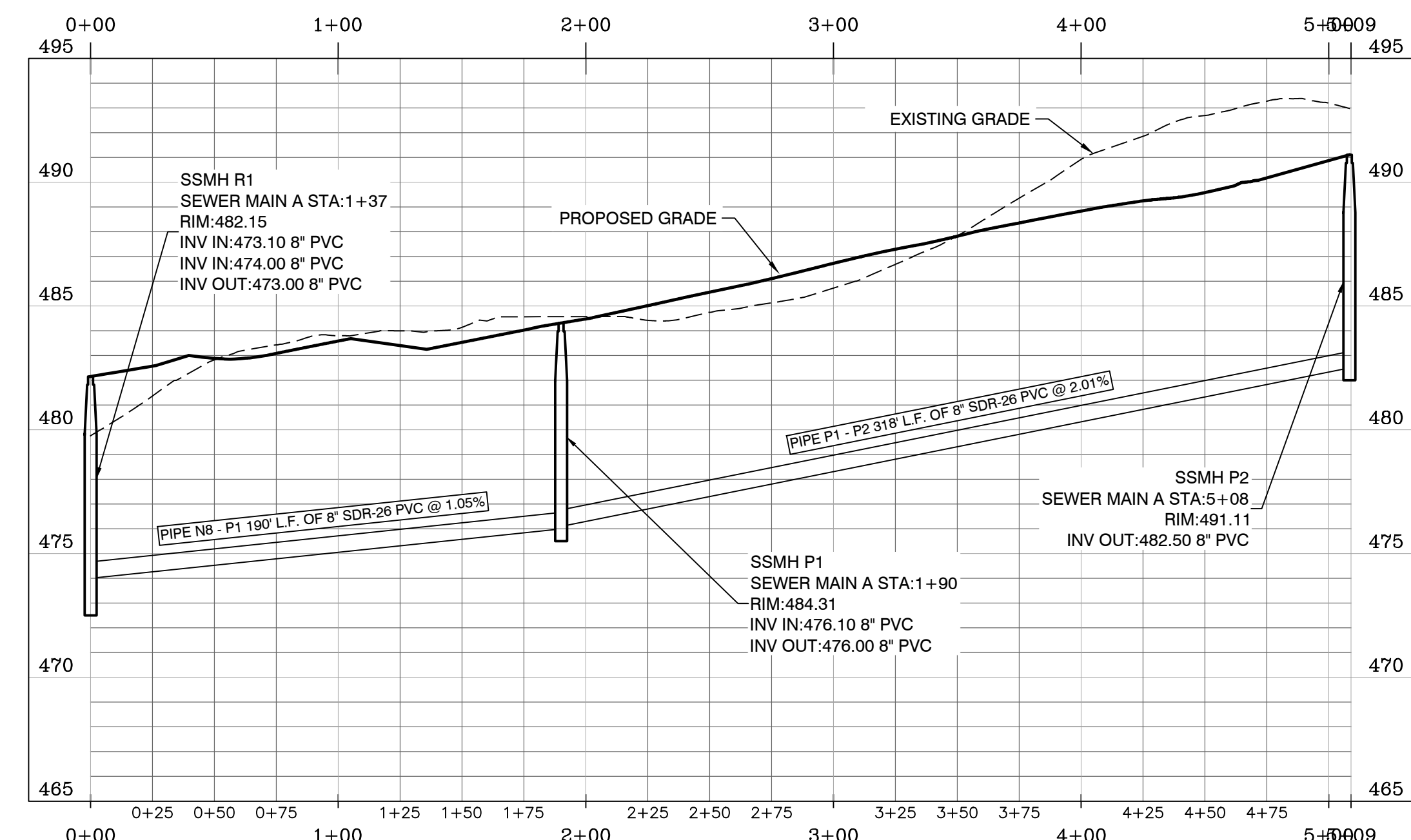
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SEWER MAIN A STA. 21+59 - 29+02

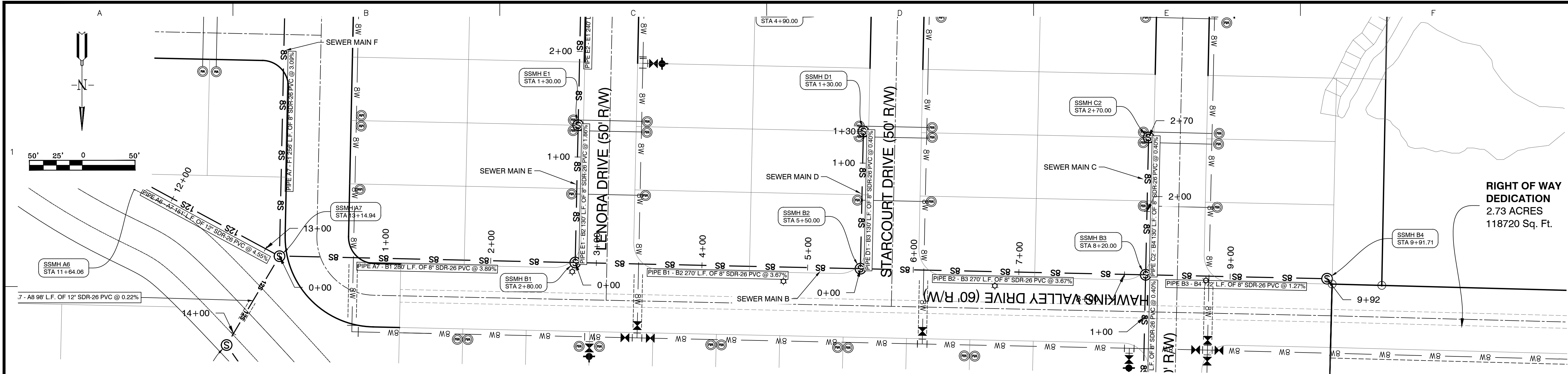


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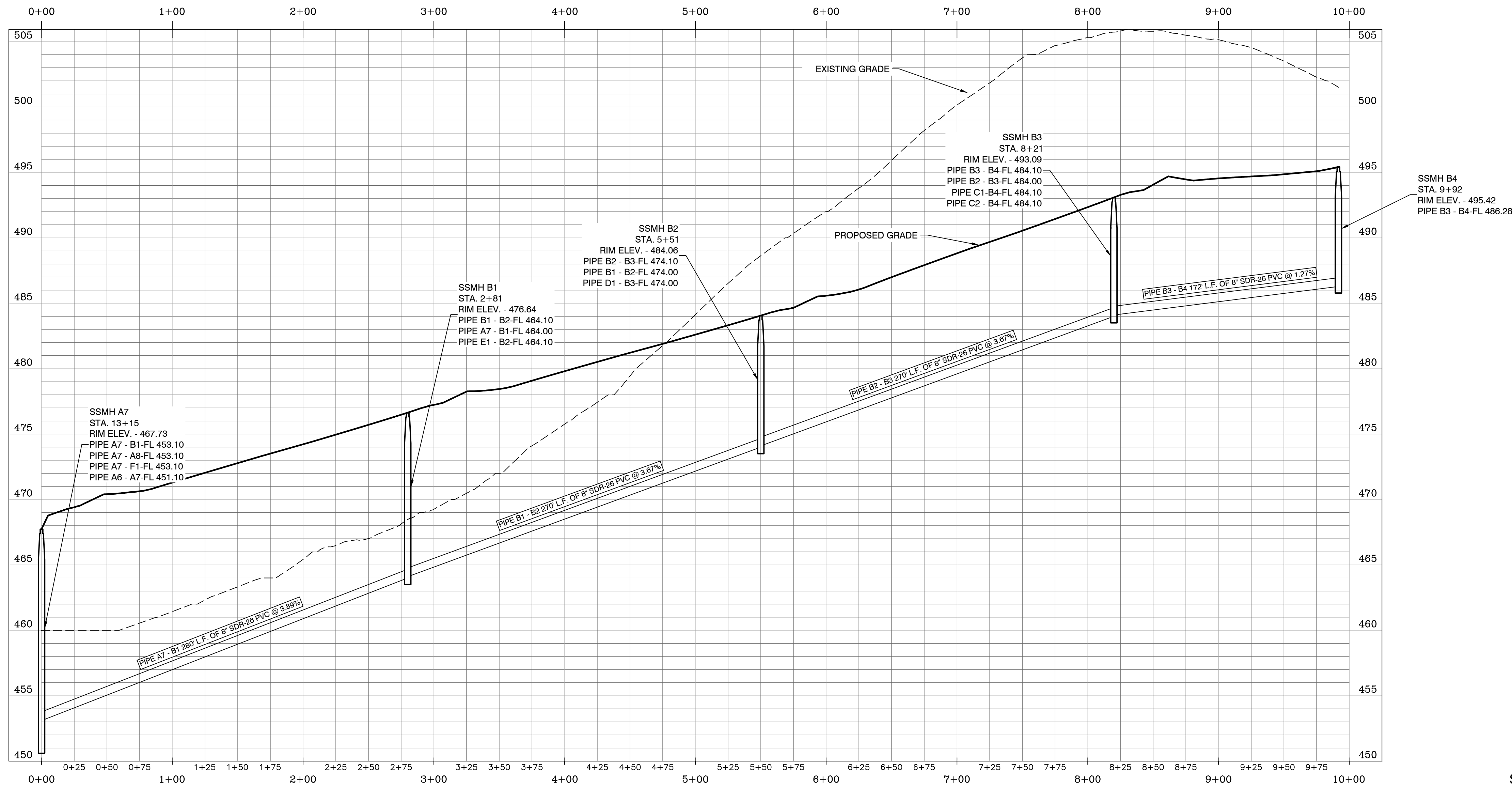


SCALE: H 1" = 50'
V 1" = 5'

BY	REVISION	DATE	1
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3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com			
P.O. Box 116 Bryant, AR 72018 Ph (501) 408-4650			
HAWKINS VALLEY OVERALL WATER & SEWER FOR: THOMAS DB COLLINS, LTD, LLC CITY OF BRYANT, SALINE COUNTY, ARKANSAS			
			
01-23-2025			
CONTENTS: SANITARY SEWER PLAN & PROFILE MAIN "A" STA. 21+59 - 29+02 MAIN "P" STA. 0+00 - 5+09			
PROJECT NO: 24076			
DATE: DECEMBER 2024			
SHEET NO: 5			



SEWER MAIN B STA. 0+00 -10+00



SCALE: H 1" = 50'
V 1" = 5'

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**HAWKINS VALLEY
OVERALL WATER & SEWER
FOR: THOMAS DB COLLINS, LTD, LLC
CITY OF BRYANT,
SALINE COUNTY, ARKANSAS**

STATE OF
ARKANSAS
Kernon J. Williams
REGISTERED
PROFESSIONAL
ENGINEER
NO. 9551

01-23-2025

CONTENTS:

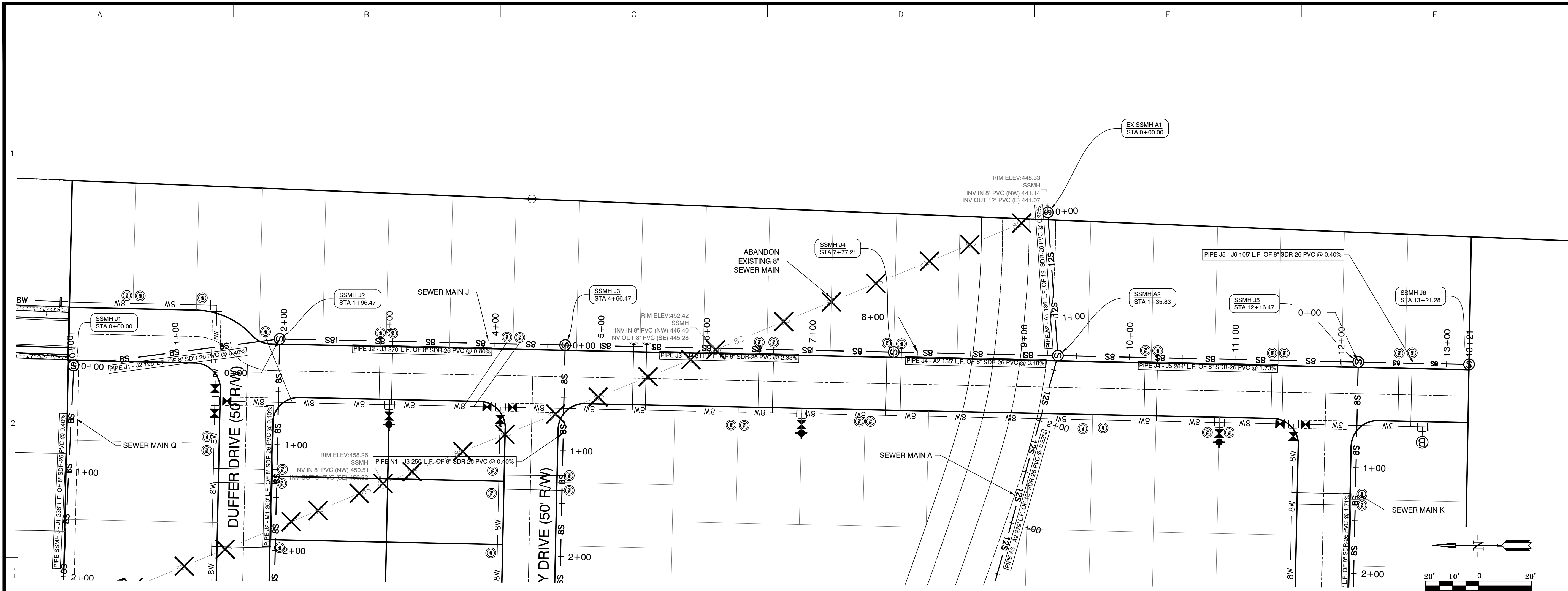
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PLAN & PROFILE
MAIN "B"
STA. 0+00 - 10+00

PROJECT NO:
24076

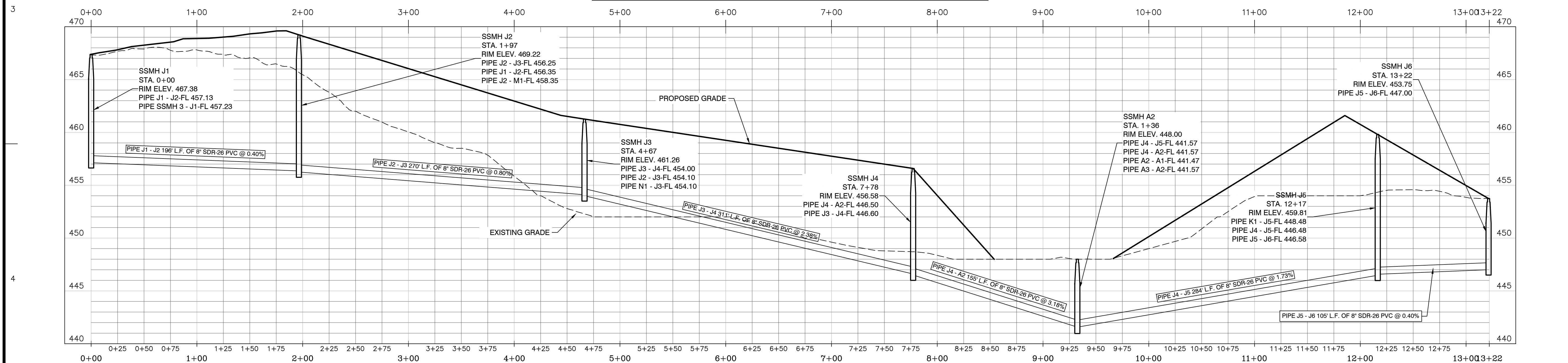
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DECEMBER 2024

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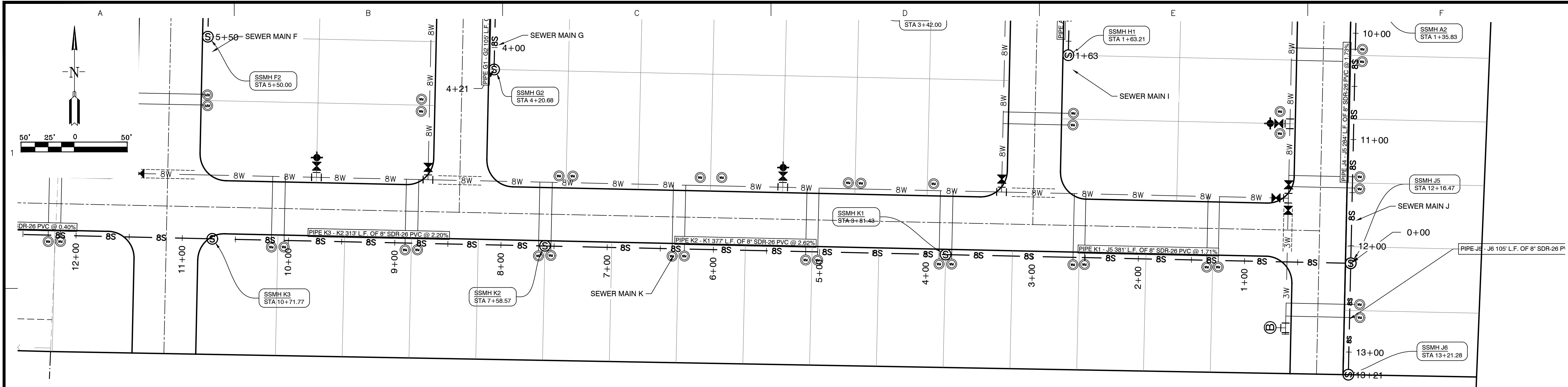


SEWER MAIN J STA. 0+00 - 13+22

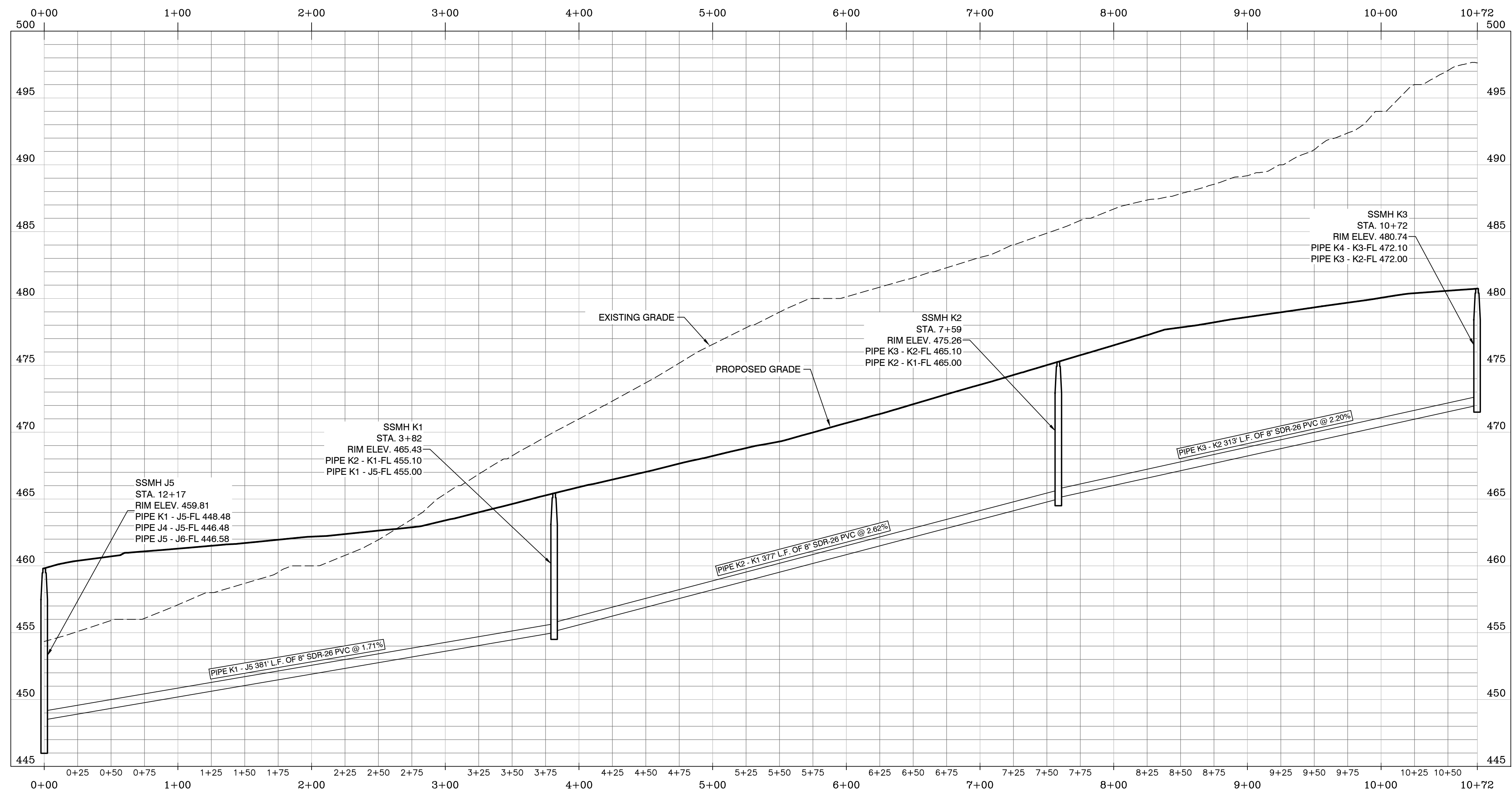


SCALE: H 1" = 50'
V 1" = 5'

BY		REVISION	
DATE			
Designing our client's success GarNat Engineering, LLC 3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com		1	
		2	
HAWKINS VALLEY OVERALL WATER & SEWER FOR: THOMAS DB COLLINS, LTD, LLC CITY OF BRYANT, SALINE COUNTY, ARKANSAS		3	
		4	
 01-23-2025		CONTENTS: SANITARY SEWER PLAN & PROFILE MAIN "J" STA. 0+00 - 13+22	
		PROJECT NO: 24076	
DATE: DECEMBER 2024		SHEET NO: 13	



SEWER MAIN K STA. 0+00 - 10+72



SCALE: H 1" = 50'
V 1" = 5'

REVISION		DATE	BY
1			
2			
3			
4			

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HAWKINS VALLEY

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CITY OF BRYANT,

SALINE COUNTY, ARKANSAS

STATE OF ARKANSAS
Kernon J. Williams
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NO. 9551

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CONTENTS:

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MAIN "K"

STA. 0+00 - 10+72

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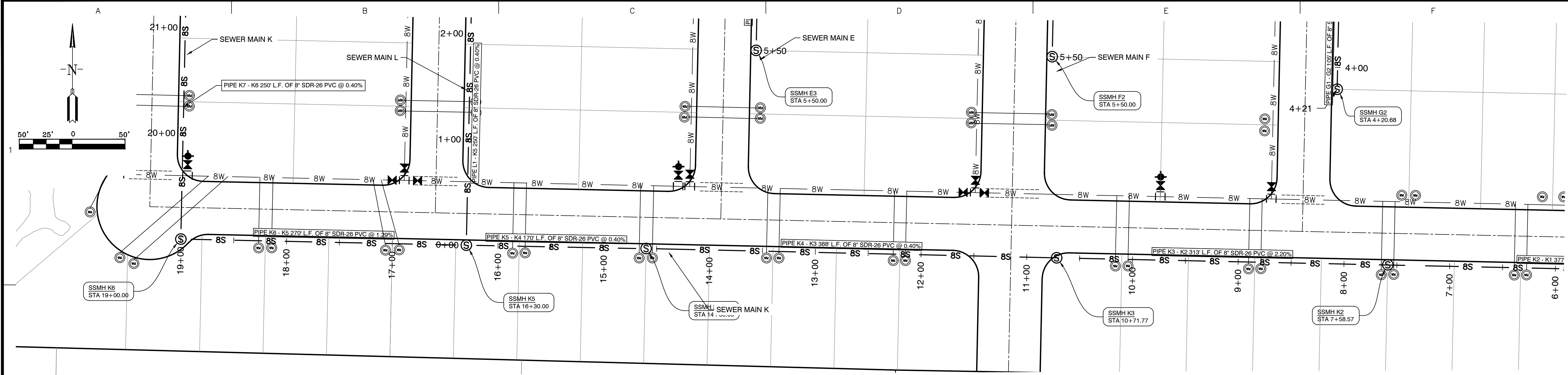
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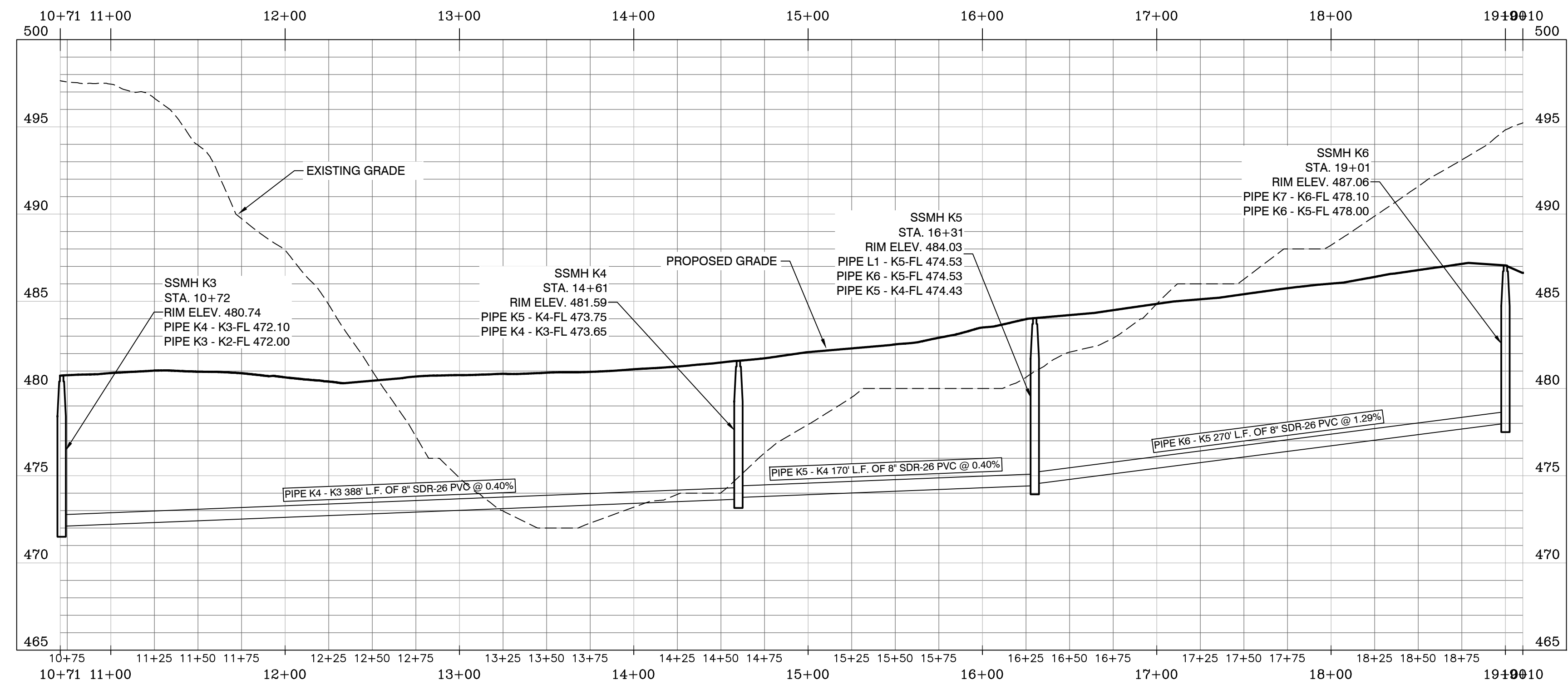
DECEMBER 2024

SHEET NO:

14



SEWER MAIN K STA. 10+71 - 19+00



SCALE: H 1" = 50'
V 1" = 5'

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gamateengineering@gmail.com

HAWKINS VALLEY

OVERALL WATER & SEWER

FOR: THOMAS DB COLLINS, LTD, LLC

CITY OF BRYANT,

SALINE COUNTY, ARKANSAS

STATE OF
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REGISTERED
PROFESSIONAL
ENGINEER
KERNON J. WILLIAMS
NO. 9551

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PROFILE
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STA. 10+71 - 19+00

PROJECT NO:

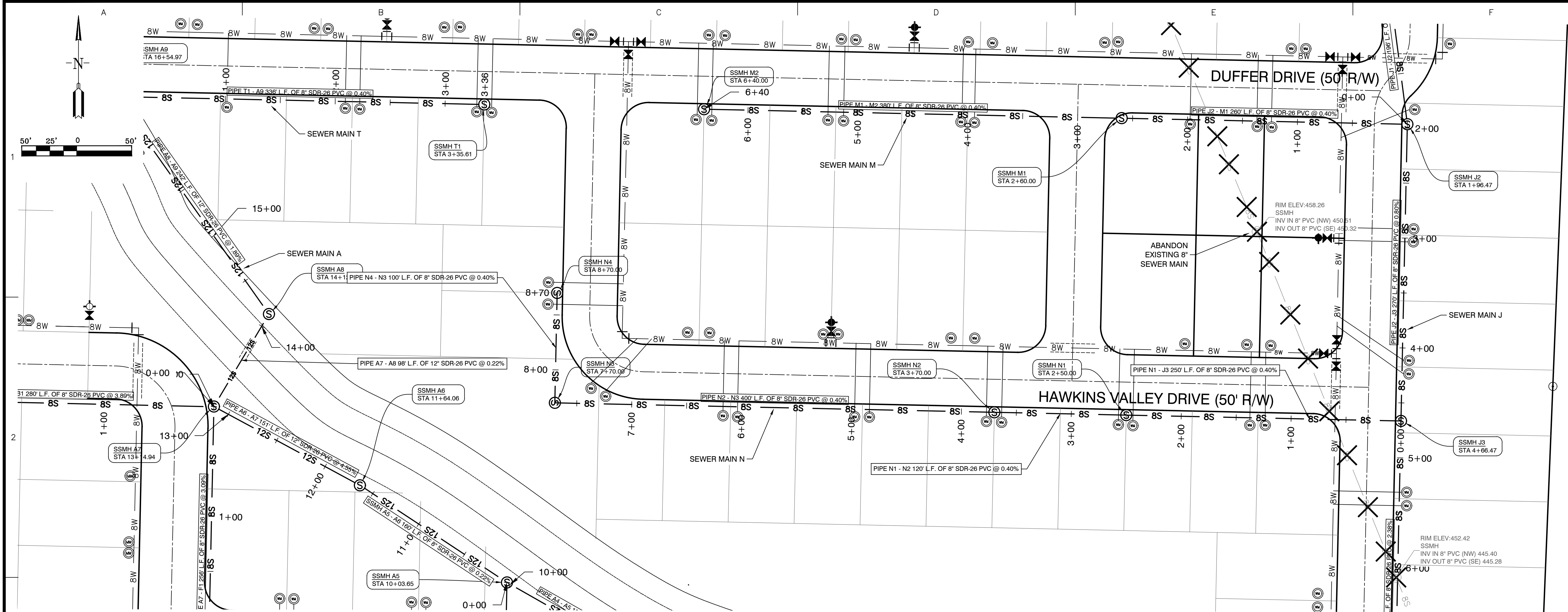
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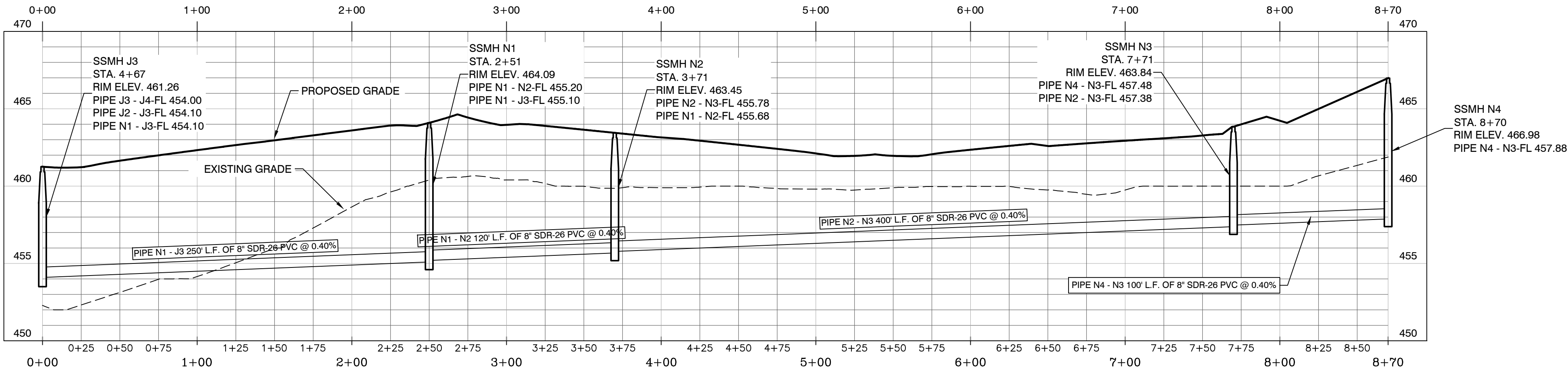
DECEMBER 2024

SHEET NO:

15



SEWER MAIN N STA. 0+00 - 8+70



SCALE: H 1" = 50'
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BY	REVISION	DATE
	1	
	2	
	3	
	4	

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STATE OF ARKANSAS
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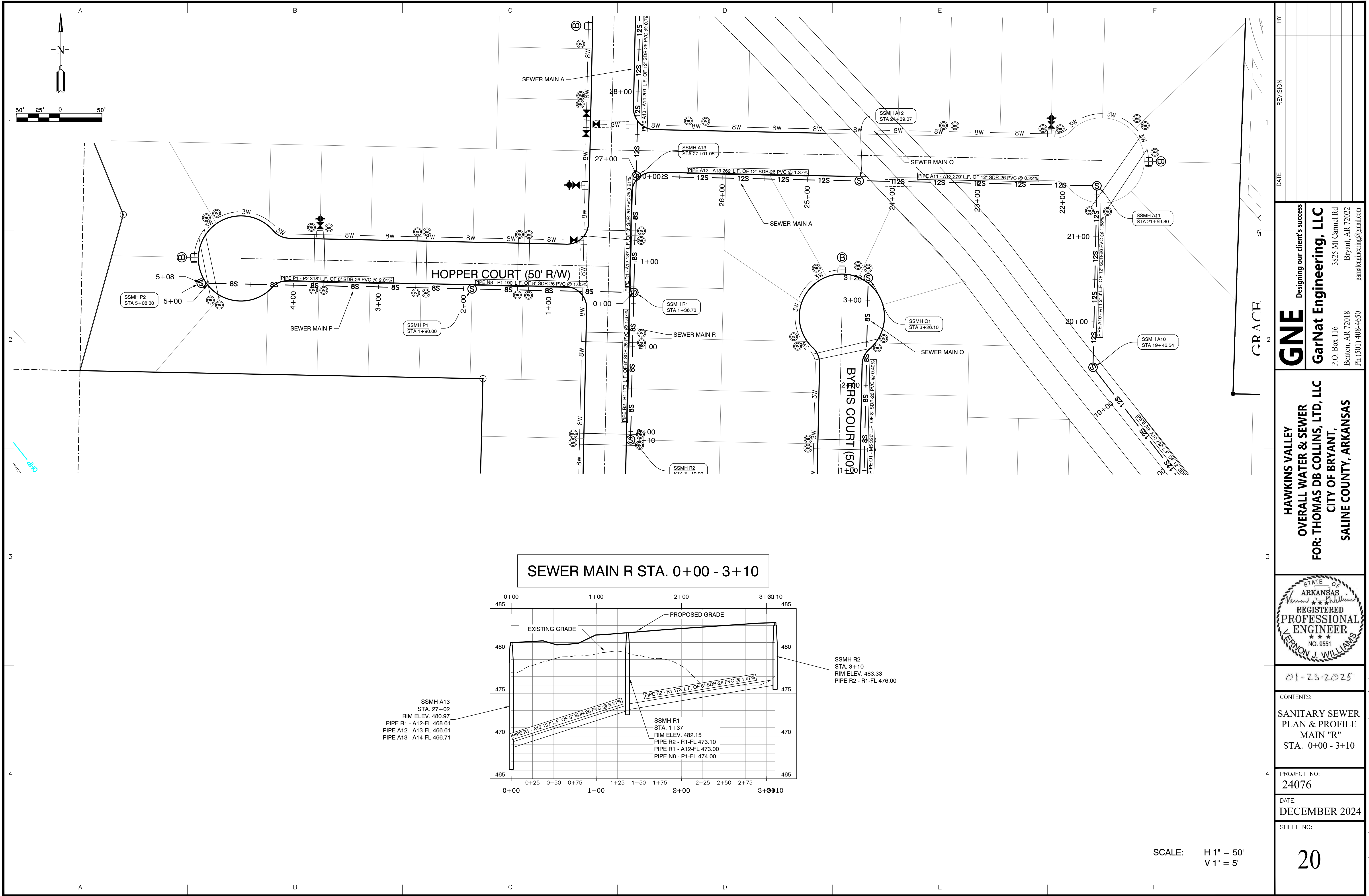
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PLAN & PROFILE
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STA. 0+00 - 8+70

PROJECT NO:
24076

DATE:
DECEMBER 2024

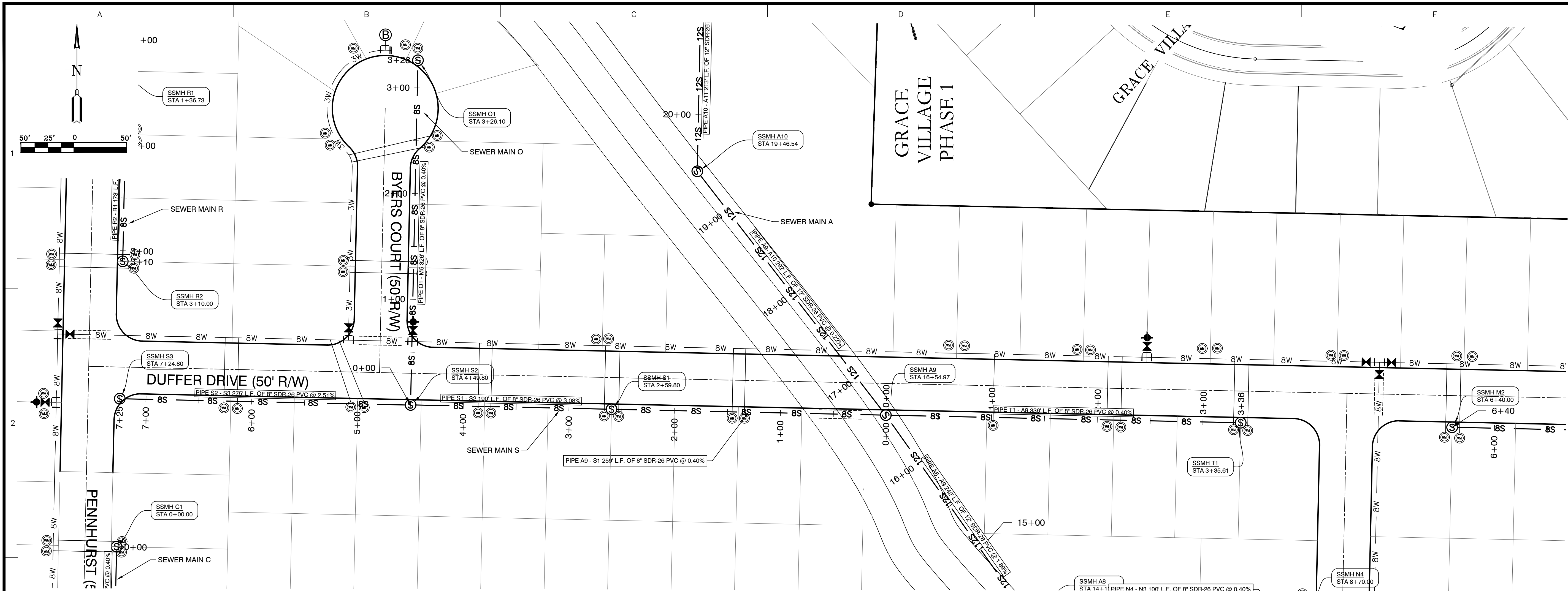
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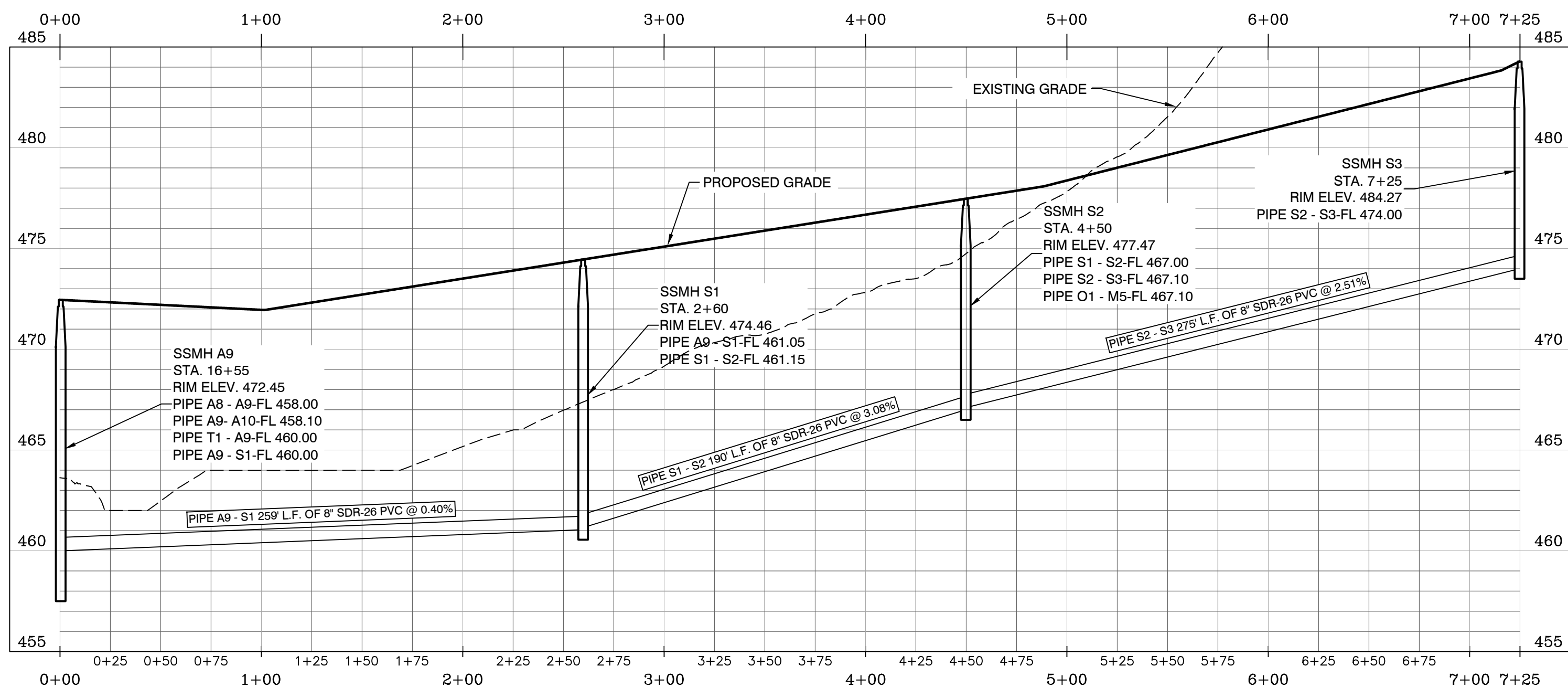


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PROJECT NO: 24076		
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SHEET NO:		

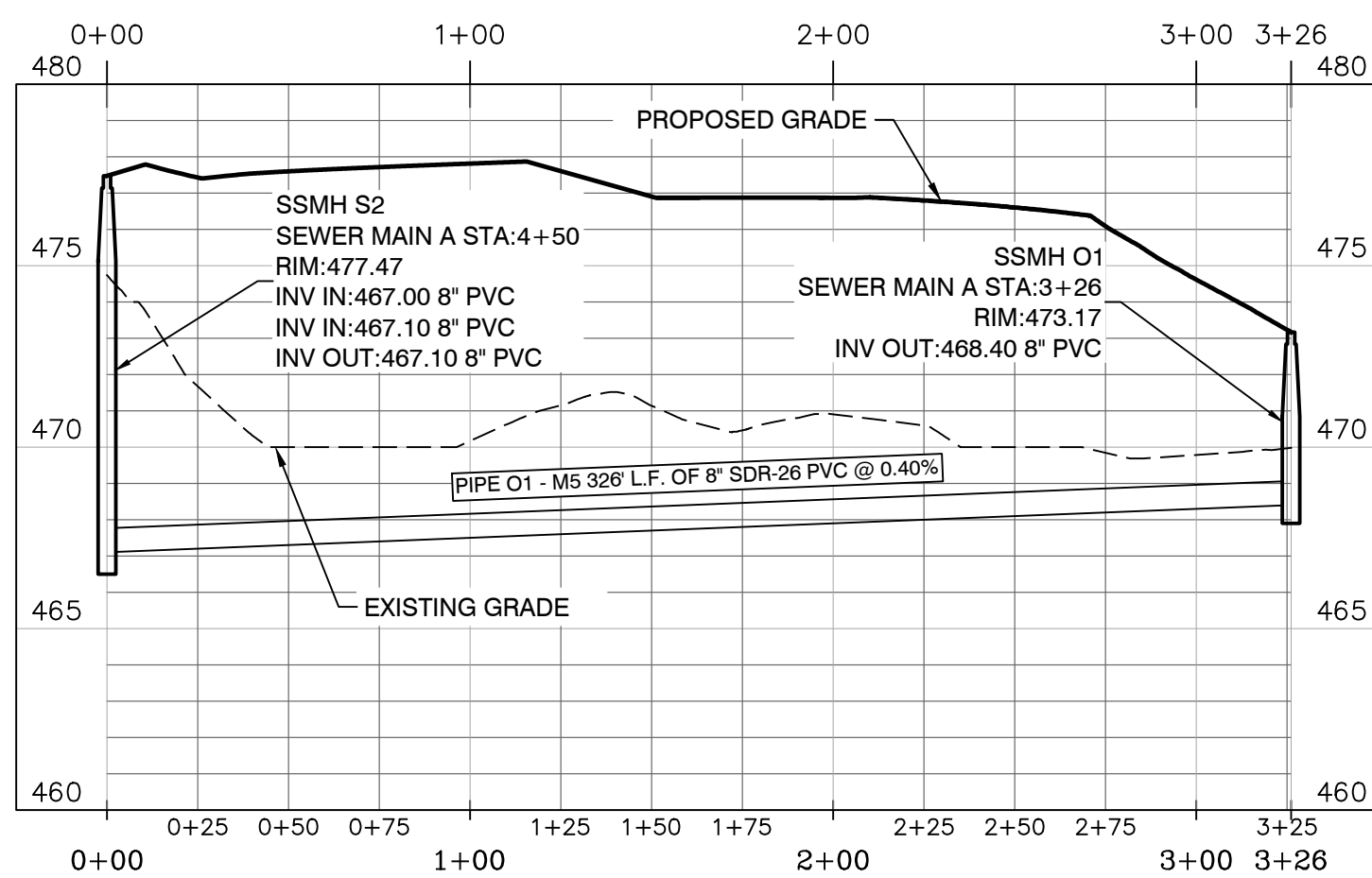
SCALE: H 1" = 50'
V 1" = 5'



SEWER MAIN S STA. 0+00 - 7+25



SEWER MAIN O STA. 0+00 - 3+26



SCALE: H 1" = 50'
V 1" = 5'

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CONTENTS:
SANITARY SEWER
PLAN & PROFILE
MAIN "S"
STA. 0+00 - 7+25
MAIN "O"
STA. 0+00 - 3+26

PROJECT NO:
24076

DATE:
DECEMBER 2024

SHEET NO:

21

HAWKINS VALLEY PHASE 1 FOR THOMAS D.B. COLLINS, LTD. CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Prepared by:

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Designing our client's success

DRAWING INDEX:

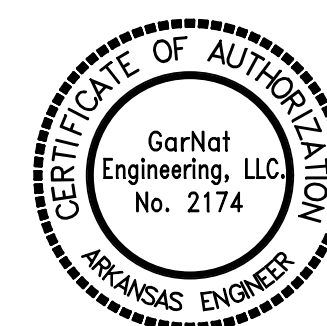
V1.0	PRELIMINARY PLAT
C2.0	WATER AND SEWER PLAN
C2.1	SEWER PLAN & PROFILE MAIN A
C2.2	SEWER PLAN & PROFILE MAIN B
C2.3	SEWER PLAN & PROFILE MAIN C
C2.4	SEWER PLAN & PROFILE MAIN D & E
C3.0	STREET & DRAINAGE PLAN
C3.1	ROAD PROFILES
C3.2	OUTLET STRUCTURE DETAILS

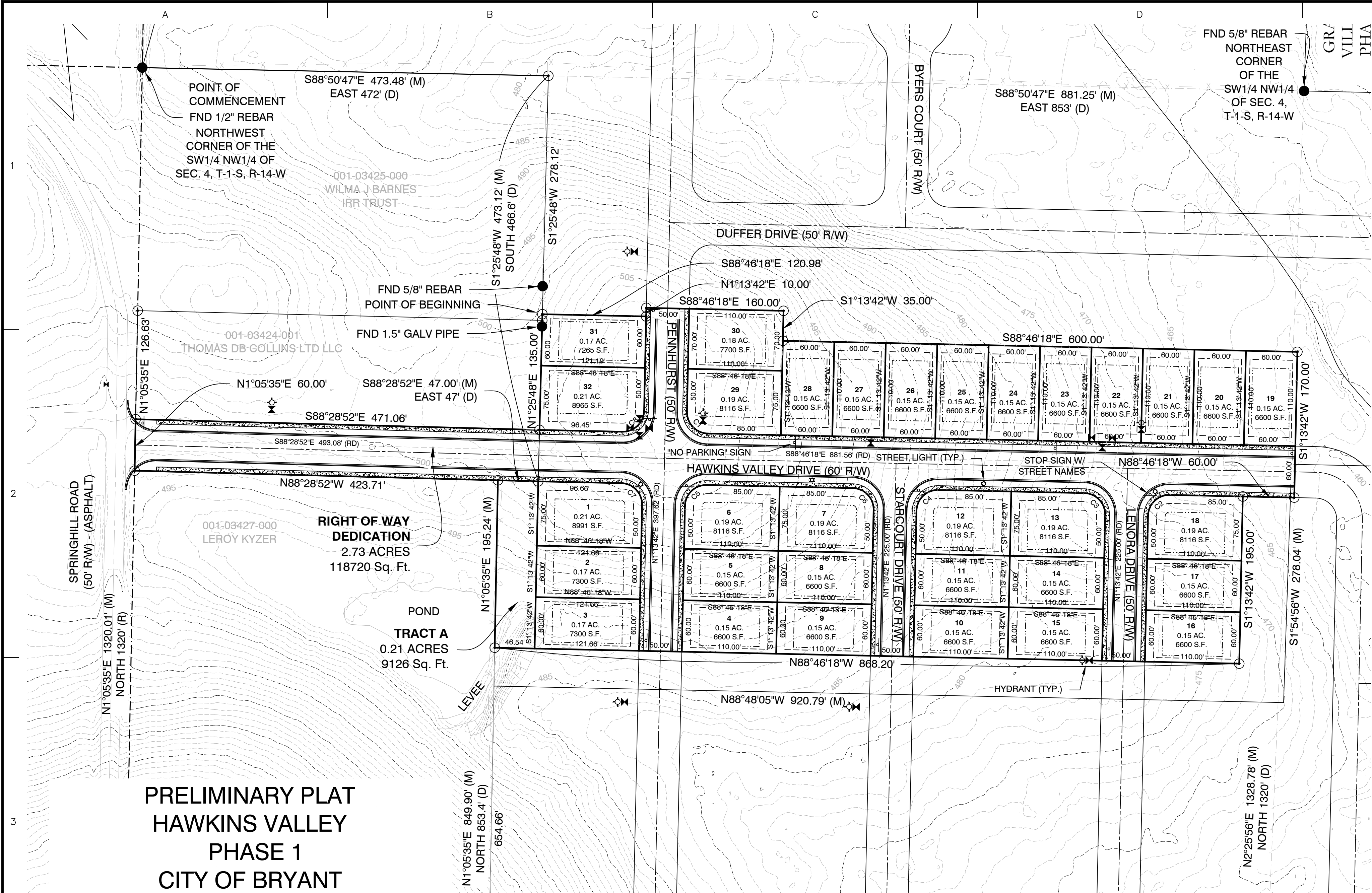


ARKANSAS



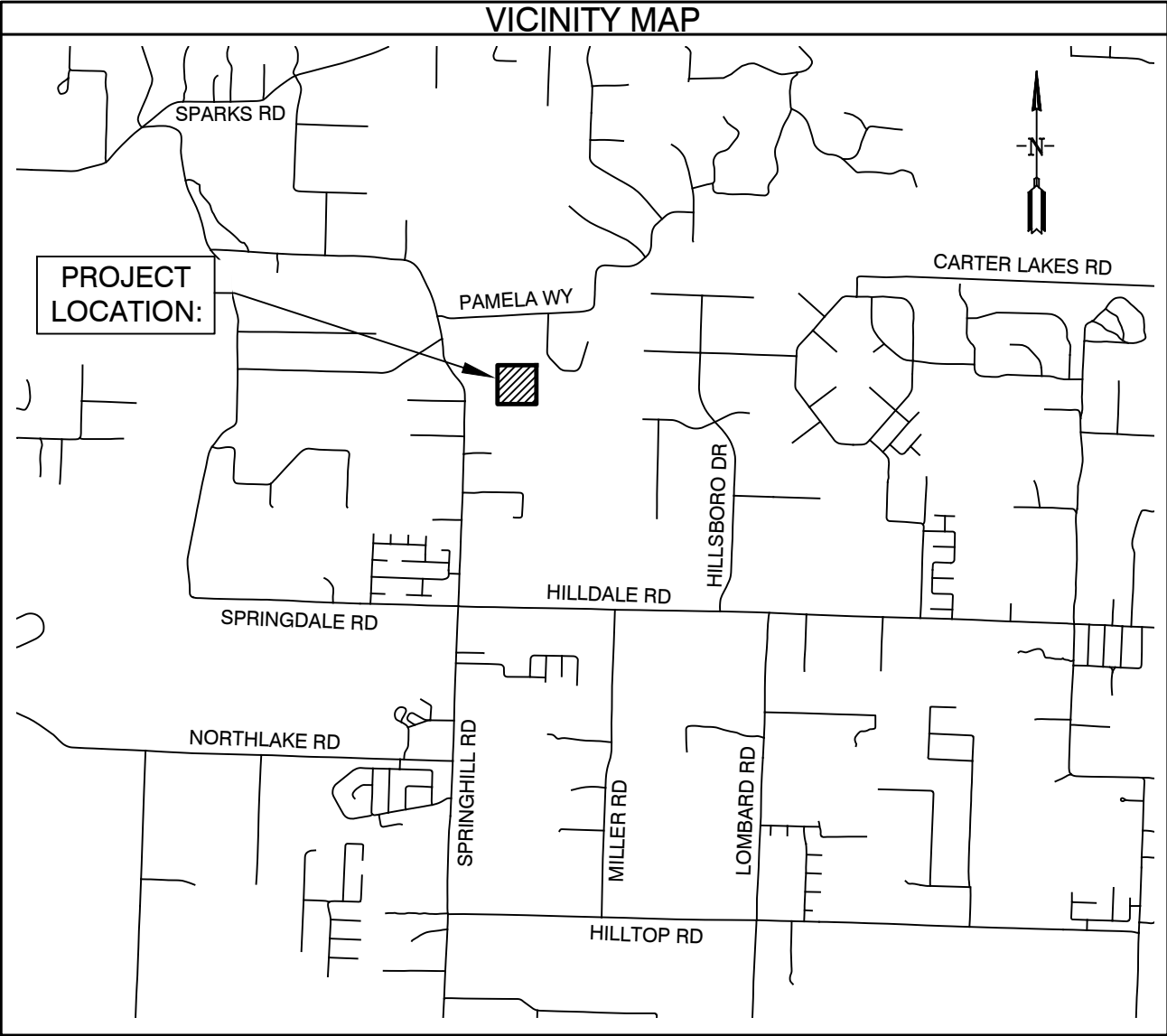
02-03-2025





SURVEY LEGEND

△	Computed point
●	Found monument
○	Set #4 RB/Plas. Cap
(M)	Measured
(R)	Record
(P)	Platted



Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	39.27	25.00	90°00'00"	N43°46'18"W	35.36'
C2	39.27	25.00	90°00'00"	N46°13'42"E	35.36'
C3	39.27	25.00	90°00'00"	N43°46'18"W	35.36'
C4	39.27	25.00	90°00'00"	S46°13'42"W	35.36'
C5	39.27	25.00	90°00'00"	N46°13'42"E	35.36'
C6	39.27	25.00	90°00'00"	S43°46'18"E	35.36'
C8	39.27	25.00	90°00'00"	S46°13'42"W	35.36'

GENERAL NOTES:

- ALL STREETS & DRAINAGE TO MEET CITY OF BRYANT STANDARD SPECIFICATIONS & DETAILS.
- ALL TRAFFIC CONTROL DEVICES SHALL MEET THE REQUIREMENTS OF CITY OF BRYANT STANDARD SPECIFICATIONS PER PART 4.9.
- NO FENCES CAN BE CONSTRUCTED IN DRAINAGE EASEMENTS WHERE OPEN DITCHES EXIST.
- ROADS WILL BE MAINTAINED, INSPECTED, & ACCEPTED BY SALINE COUNTY.
- NO FENCES SHALL BE BUILT WITHIN THIS DRAINAGE EASEMENT.
- NO POOLS OR PERMANENT STRUCTURES SHALL BE BUILT IN EASEMENTS.
- NO FENCES SHALL BE BUILT IN ROAD RIGHT-OF-WAY OR ACCESS EASEMENTS.
- THE NUMBER OF HOUSES IS LIMITED TO THIRTY, UNTIL SECONDARY FIRE ACCESS ROAD MEETING CITY OF BRYANT REQUIREMENTS IS CONSTRUCTED.

PROPERTY SPECIFICATIONS:

ZONING CLASSIFICATION: R-1-S
MIN. LOT SIZE: 6,600 S.F.
NUMBER OF LOTS: 32
SOURCE OF WATER: SALEM WATER
SOURCE OF SEWER: CITY OF BRYANT
BUILDING SETBACKS:
FRONT - 20' OR AS SHOWN
REAR - 20' OR AS SHOWN
SIDE - 8' OR AS SHOWN
EASEMENTS: UTILITY & DRAINAGE (D.E. & U.E.)
FRONT - 10' OR AS SHOWN
REAR - 10' OR AS SHOWN
SIDE - 5' OR AS SHOWN
STREET RIGHT OF WAY: 50' OR AS SHOWN
STREET WIDTH: 28' BOC TO BOC
LOT CORNERS: SET #4 REBAR WITH CAP

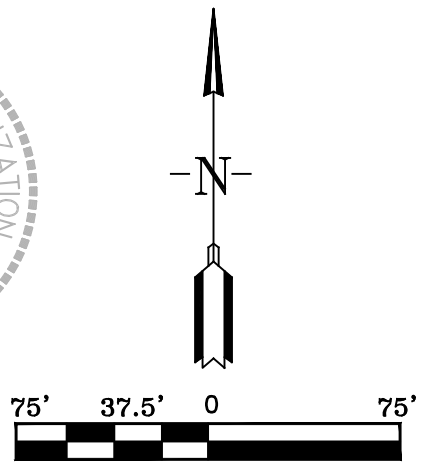
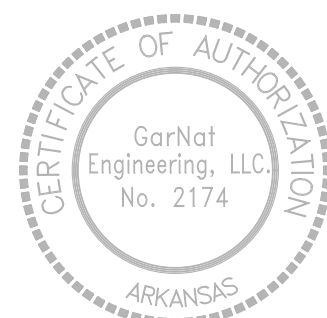
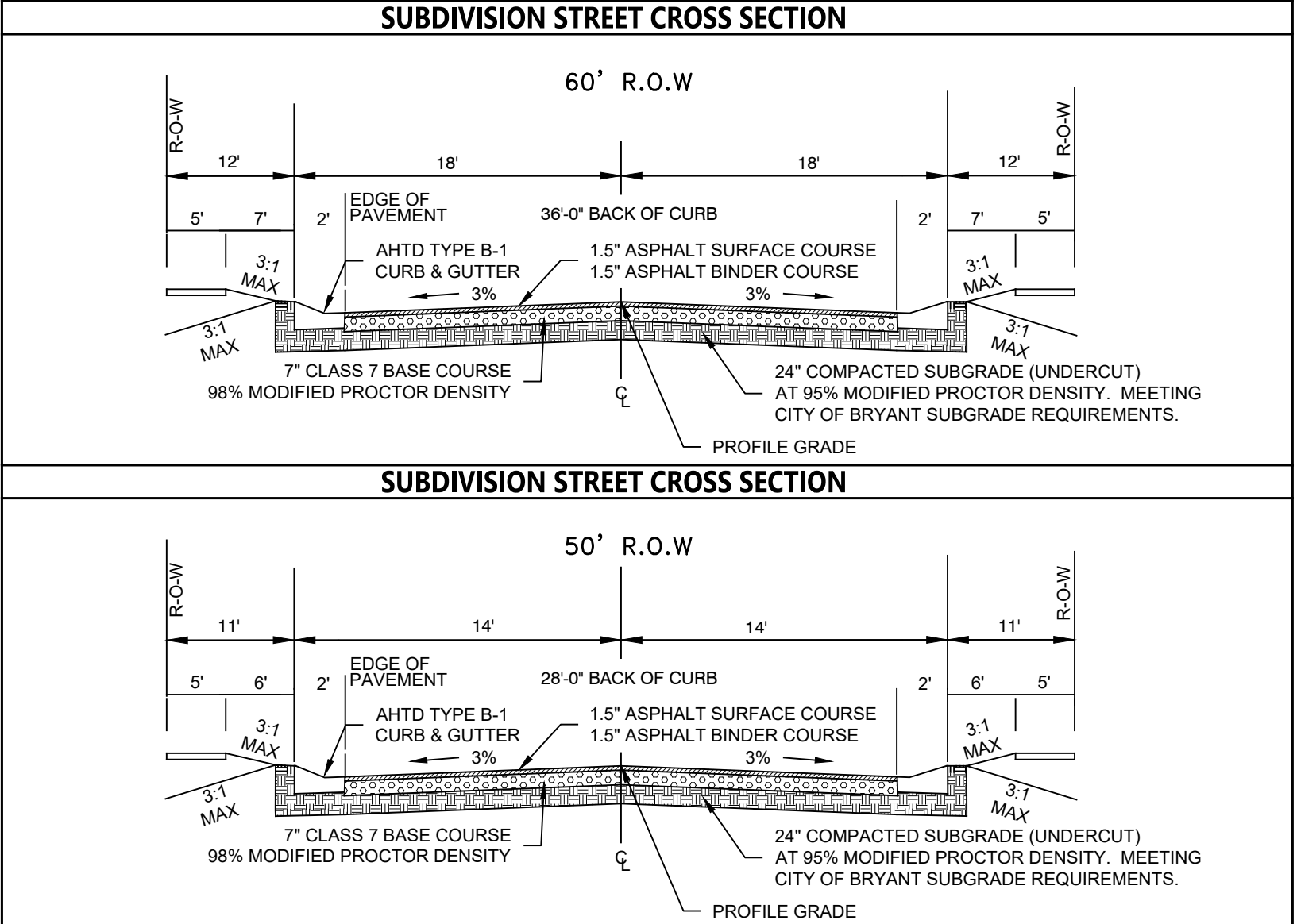


02-03-2025

PROPERTY DESCRIPTION:

PHASE 1 SUBDIVISION DESCRIPTION

PART OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER (SW1/4 NW1/4) OF SECTION 4, TOWNSHIP 1 SOUTH, RANGE 14 WEST, MORE PARTICULARLY DESCRIBED AS FOLLOWS: **COMMENCING** AT A FOUND 1/2" REBAR FOR THE NORTHWEST CORNER OF THE SAID SW1/4 NW1/4; THENCE S88°50'47"E, ALONG THE NORTH LINE THEREOF, FOR A DISTANCE OF 473.48 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S1°25'48"W, LEAVING SAID NORTH LINE, FOR A DISTANCE OF 278.12 FEET TO A SET 1/2" REBAR WITH CAP #1573 FOR THE **POINT OF BEGINNING**; THENCE S88°46'18"E FOR A DISTANCE OF 120.98 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE WEST RIGHT OF WAY OF PENNHURST; THENCE N1°13'42"E, ALONG SAID WEST RIGHT OF WAY, FOR A DISTANCE OF 10.00 FEET TO A POINT; THENCE S88°46'18"E, LEAVING SAID WEST RIGHT OF WAY, FOR A DISTANCE OF 160.00 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S1°13'42"W FOR A DISTANCE OF 35.00 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S88°46'18"E FOR A DISTANCE OF 600.00 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S1°13'42"W FOR A DISTANCE OF 170.00 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE SOUTH RIGHT OF WAY OF HAWKINS VALLEY DRIVE; THENCE N88°46'18"W, ALONG SAID SOUTH RIGHT OF WAY, FOR A DISTANCE OF 60.00 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S1°13'42"W, LEAVING SAID SOUTH RIGHT OF WAY, FOR A DISTANCE OF 195.00 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE N88°46'18"W FOR A DISTANCE OF 868.20 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE N1°05'35"E FOR A DISTANCE OF 195.24 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE SOUTH RIGHT OF WAY OF HAWKINS VALLEY DRIVE; THENCE N88°28'52"W, ALONG SAID SOUTH RIGHT OF WAY, FOR A DISTANCE OF 423.71 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE EAST RIGHT OF WAY OF SPRINGHILL ROAD; THENCE N1°05'35"E, ALONG SAID EAST RIGHT OF WAY, FOR A DISTANCE OF 60.00 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE NORTH RIGHT OF WAY OF HAWKINS VALLEY DRIVE; THENCE S88°28'52"E, LEAVING SAID SPRINGHILL ROAD EAST RIGHT OF WAY AND ALONG NORTH RIGHT OF WAY OF HAWKINS VALLEY DRIVE, FOR A DISTANCE OF 471.06 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE N1°25'48"E, LEAVING SAID NORTH RIGHT OF WAY, FOR A DISTANCE OF 135.00 FEET TO THE **POINT OF BEGINNING**, CONTAINING 8.17 ACRES, MORE OR LESS. SUBJECT TO THE RIGHT OF WAY OF SPRINGHILL ROAD AND ANY EXISTING EASEMENTS.



SURVEY PLAT CODE:
500-01S-14W-0-04-430-62-1573

BASIS OF BEARINGS:
NAD 83 ARKANSAS GRID SOUTH ZONE (GPS)
CERTIFICATIONS:
By affixing my seal and signature, I George P. Wooden, PLS No. 1573, hereby certify that this drawing correctly depicts a survey compiled under my supervision dated June 22, 2024.
According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Saline County unincorporated areas, panel # 05125C0225E dated 6/5/2020, no portion of the property described hereon does lie within the 100 year flood hazard boundary.

PLAT CERTIFICATES:	
OWNER:	DEVELOPER:
Name: Phillip Pengelly Thomas DB Collins LTD, LLC Address: 9360 Gilbert Road Benton, Arkansas 72019	Name: Lee Pengelly Thomas DB Collins LTD, LLC Address: 9360 Gilbert Road Benton, Arkansas 72019
CERTIFICATE OF OWNER:	CERTIFICATE OF PRELIMINARY SURVEYING ACCURACY:
We, the undersigned, owners of the real estate shown and described herein do hereby certify that we have laid off, platted and subdivided, and do hereby lay off, plat and subdivide said real estate in accordance with the within plat.	I, George P. Wooden, hereby certify that this proposed preliminary plat correctly represents a boundary survey made by me or under my supervision; that the boundary lines shown hereon correspond with the description in the deeds cited in the above Source of Title; and that all monuments which were found or placed on the property are correctly described and located.
Date: _____ Signed: _____ Name: Phillip Pengelly Address: 9360 Gilbert Road, Benton, Arkansas 72019	Date: _____ Signed: _____ George P. Wooden Registered Land Surveyor No. 1573, Arkansas
Source of Title Saline County: Deed Book 2024, Page 013856	
CERTIFICATE OF PRELIMINARY ENGINEERING ACCURACY:	CERTIFICATE OF PRELIMINARY PLAT APPROVAL:
I, Vernon J. Williams, hereby certify that this plat correctly represents a survey and a plan made by me or under my supervision; that all monuments shown hereon actually exist and their locations, size, type, and material are correctly shown; and that all requirements of the City of Bryant Subdivision Rules and Regulations have been fully complied with.	All requirements of the City of Bryant Subdivision Rules and Regulations relative to the preparation and submittal of a Preliminary Plat having been fulfilled, approval of this plat is hereby granted, subject to further provisions of said Rules and Regulations.
Date: _____ Signed: _____ Vernon J. Williams Registered Professional Engineer No. 9551, Arkansas	Date: _____ Signed: _____ Lance Penfield, Chairman Bryant Planning Commission

BY

REVISION

DATE

1

2

3

4

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GarNat Engineering, LLC

3825 Mt Carmel Road
Bryant, AR 72022

P.O. Box 116
Benton, AR 72018

garnateengineering@gmail.com

PH (501) 408-4650

GNE

HAWKINS VALLEY
PHASE 1
CITY OF BRYANT,
SALINE COUNTY, ARKANSAS

CONTENTS:

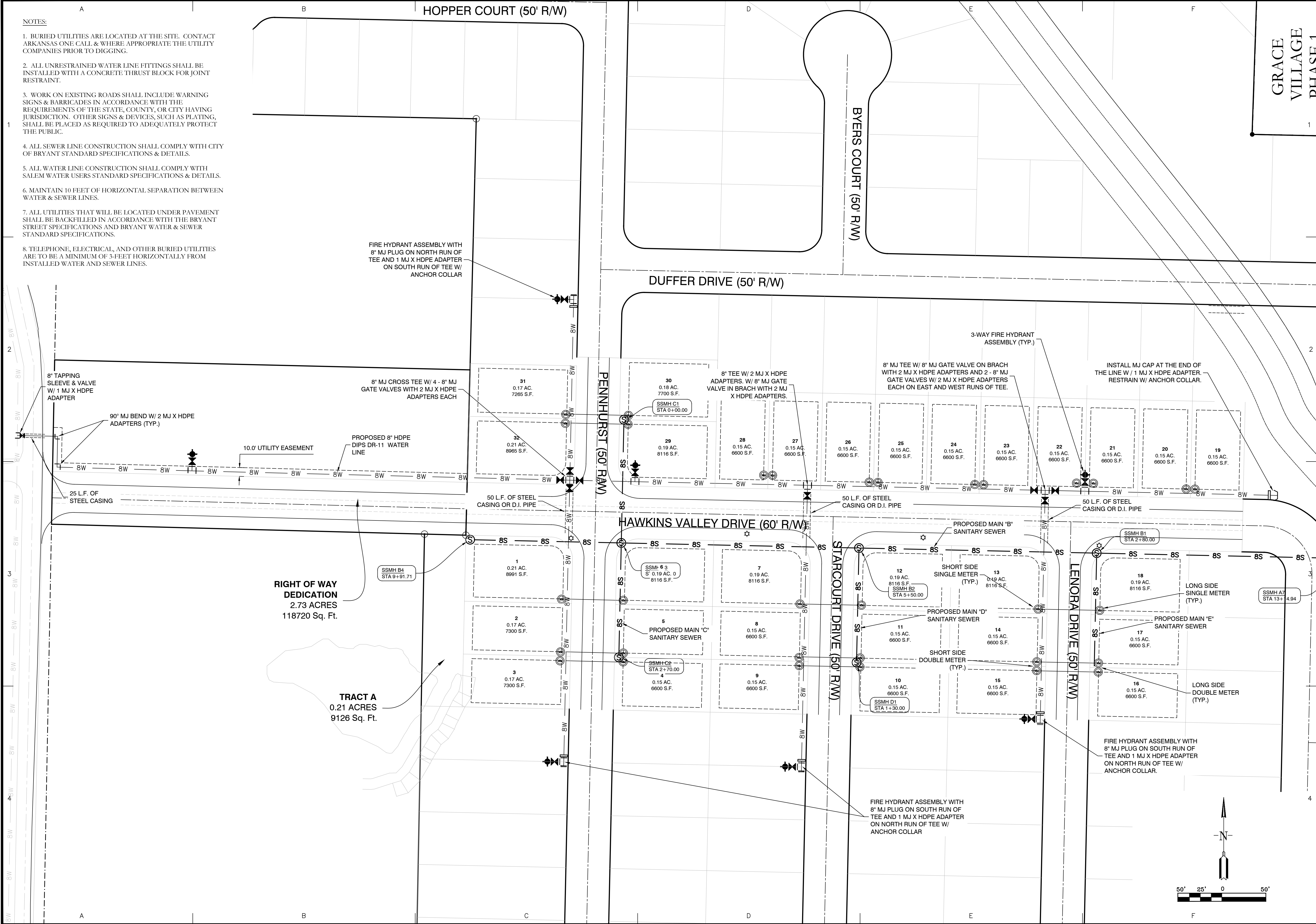
PRELIMINARY
PLAT

PROJECT NO:
24076

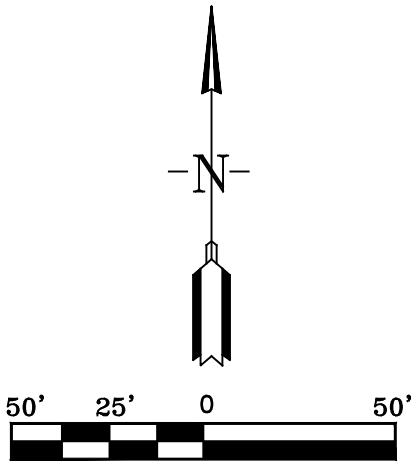
DATE:
DEC. 17, 2024

SHEET NO:

V1.0

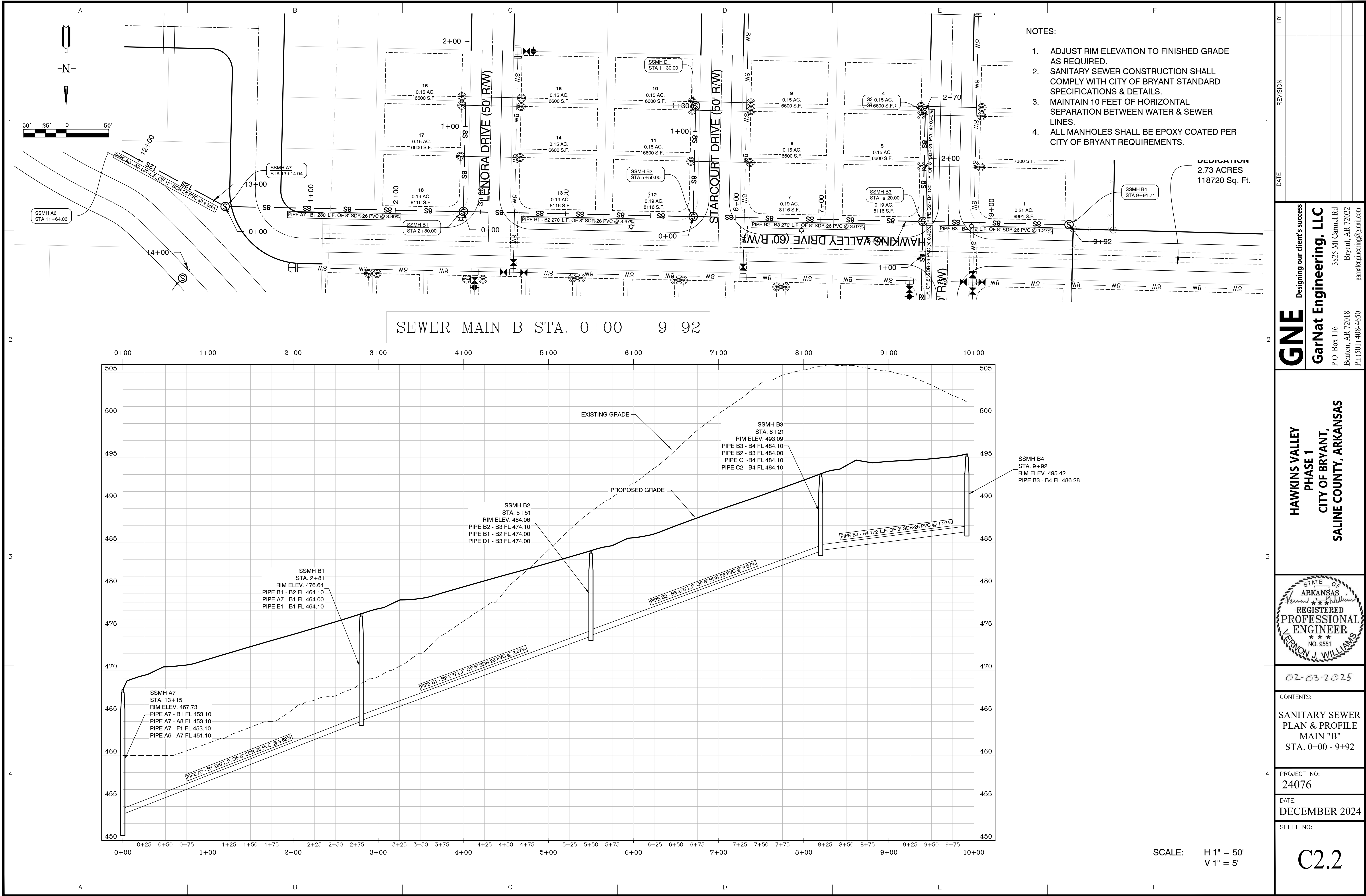


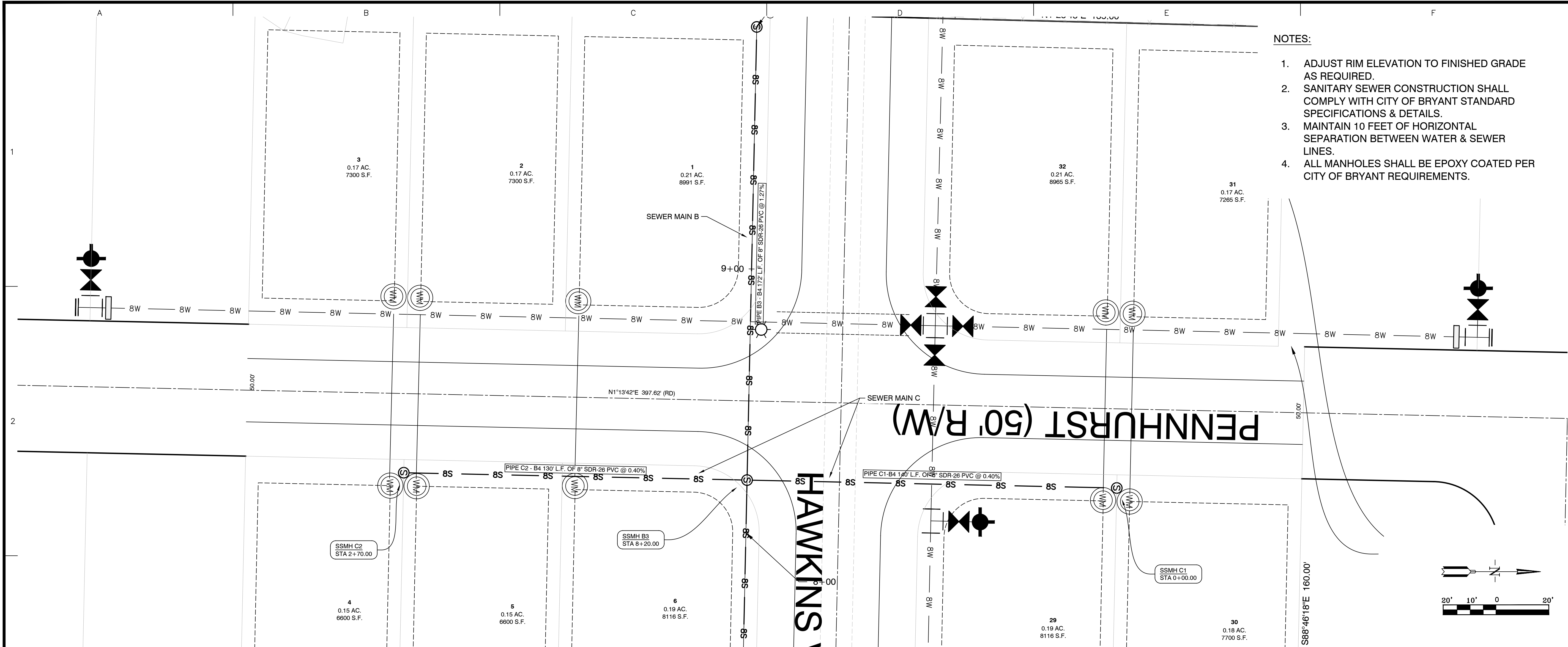
- NOTES:
1. BURIED UTILITIES ARE LOCATED AT THE SITE. CONTACT ARKANSAS ONE CALL & WHERE APPROPRIATE THE UTILITY COMPANIES PRIOR TO DIGGING.
 2. ALL UNRESTRAINED WATER LINE FITTINGS SHALL BE INSTALLED WITH A CONCRETE THRUST BLOCK FOR JOINT RESTRAINT.
 3. WORK ON EXISTING ROADS SHALL INCLUDE WARNING SIGNS & BARRICADES IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE, COUNTY, OR CITY HAVING JURISDICTION. OTHER SIGNS & DEVICES, SUCH AS PLATING, SHALL BE PLACED AS REQUIRED TO ADEQUATELY PROTECT THE PUBLIC.
 4. ALL SEWER LINE CONSTRUCTION SHALL COMPLY WITH CITY OF BRYANT STANDARD SPECIFICATIONS & DETAILS.
 5. ALL WATER LINE CONSTRUCTION SHALL COMPLY WITH SALEM WATER USERS STANDARD SPECIFICATIONS & DETAILS.
 6. MAINTAIN 10 FEET OF HORIZONTAL SEPARATION BETWEEN WATER & SEWER LINES.
 7. ALL UTILITIES THAT WILL BE LOCATED UNDER PAVEMENT SHALL BE BACKFILLED IN ACCORDANCE WITH THE BRYANT STREET SPECIFICATIONS AND BRYANT WATER & SEWER STANDARD SPECIFICATIONS.
 8. TELEPHONE, ELECTRICAL, AND OTHER BURIED UTILITIES ARE TO BE A MINIMUM OF 3-FEET HORIZONTALLY FROM INSTALLED WATER AND SEWER LINES.



GN Designing our client's success GarNat Engineering, LLC P.O. Box 116 Benton, AR 72018 Ph (501) 408-4650 gamateengineering@gmail.com	DATE	BY
	REVISION	
HAWKINS VALLEY PHASE 1 CITY OF BRYANT, SALINE COUNTY, ARKANSAS		
02-03-2025		
CONTENTS:		
WATER & SEWER PLAN		
PROJECT NO: 24076		
DATE: DECEMBER 2024		
SHEET NO: C2.0		

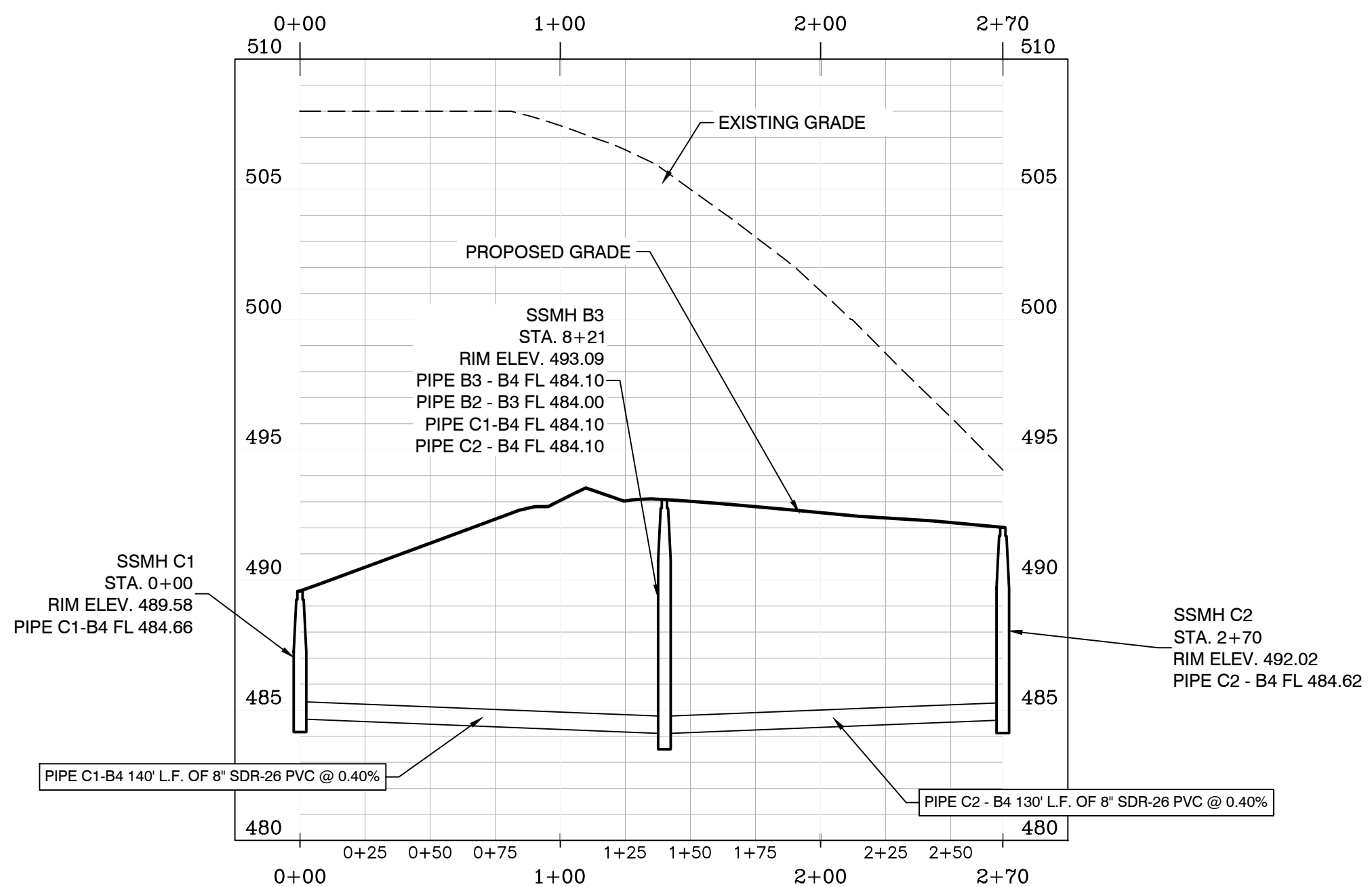
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- NOTES:
1. ADJUST RIM ELEVATION TO FINISHED GRADE AS REQUIRED.
 2. SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH CITY OF BRYANT STANDARD SPECIFICATIONS & DETAILS.
 3. MAINTAIN 10 FEET OF HORIZONTAL SEPARATION BETWEEN WATER & SEWER LINES.
 4. ALL MANHOLES SHALL BE EPOXY COATED PER CITY OF BRYANT REQUIREMENTS.

SEWER MAIN C STA. 0+00 - 2+70



SCALE: H 1" = 50'
V 1" = 5'

BY	REVISION	DATE

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Benton, AR 72018
Ph (501) 408-4650
gamateengineering@gmail.com

3825 Mt Carmel Rd
Bryant, AR 72022

**HAWKINS VALLEY
PHASE 1
CITY OF BRYANT,
SALINE COUNTY, ARKANSAS**

STATE OF
ARKANSAS
REGISTERED
PROFESSIONAL
ENGINEER
K. VERNON J. WILLIAMS
NO. 9551

02-03-2025

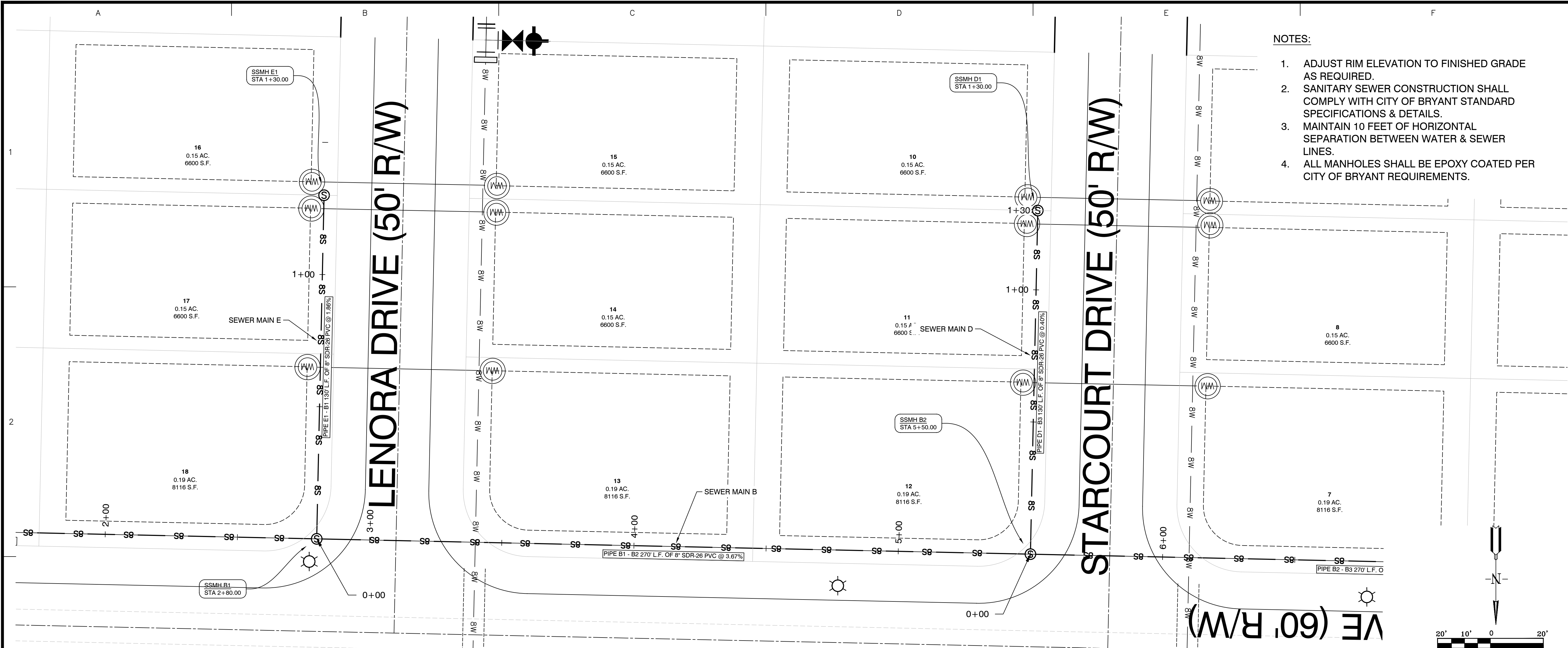
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SANITARY SEWER
PLAN & PROFILE
MAIN "C"
STA. 0+00 - 2+70

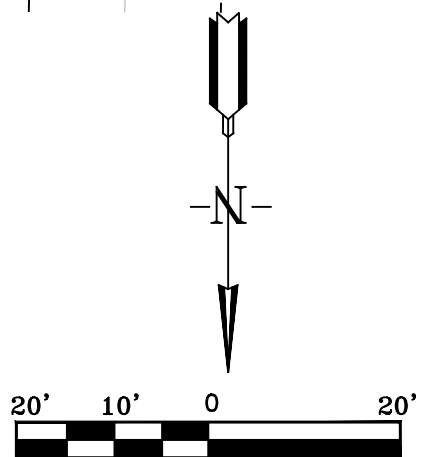
PROJECT NO:
24076

DATE:
DECEMBER 2024

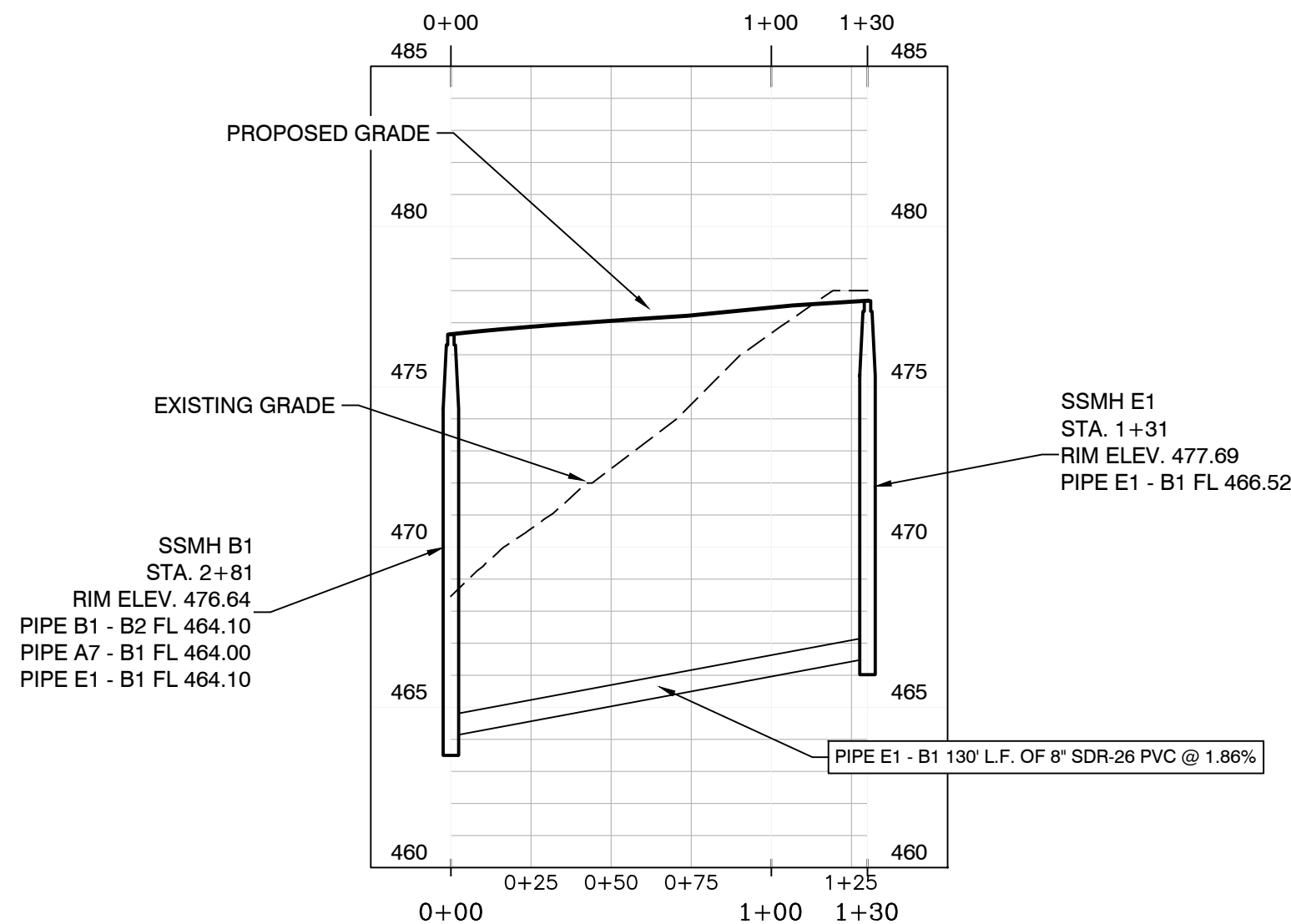
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C2.3



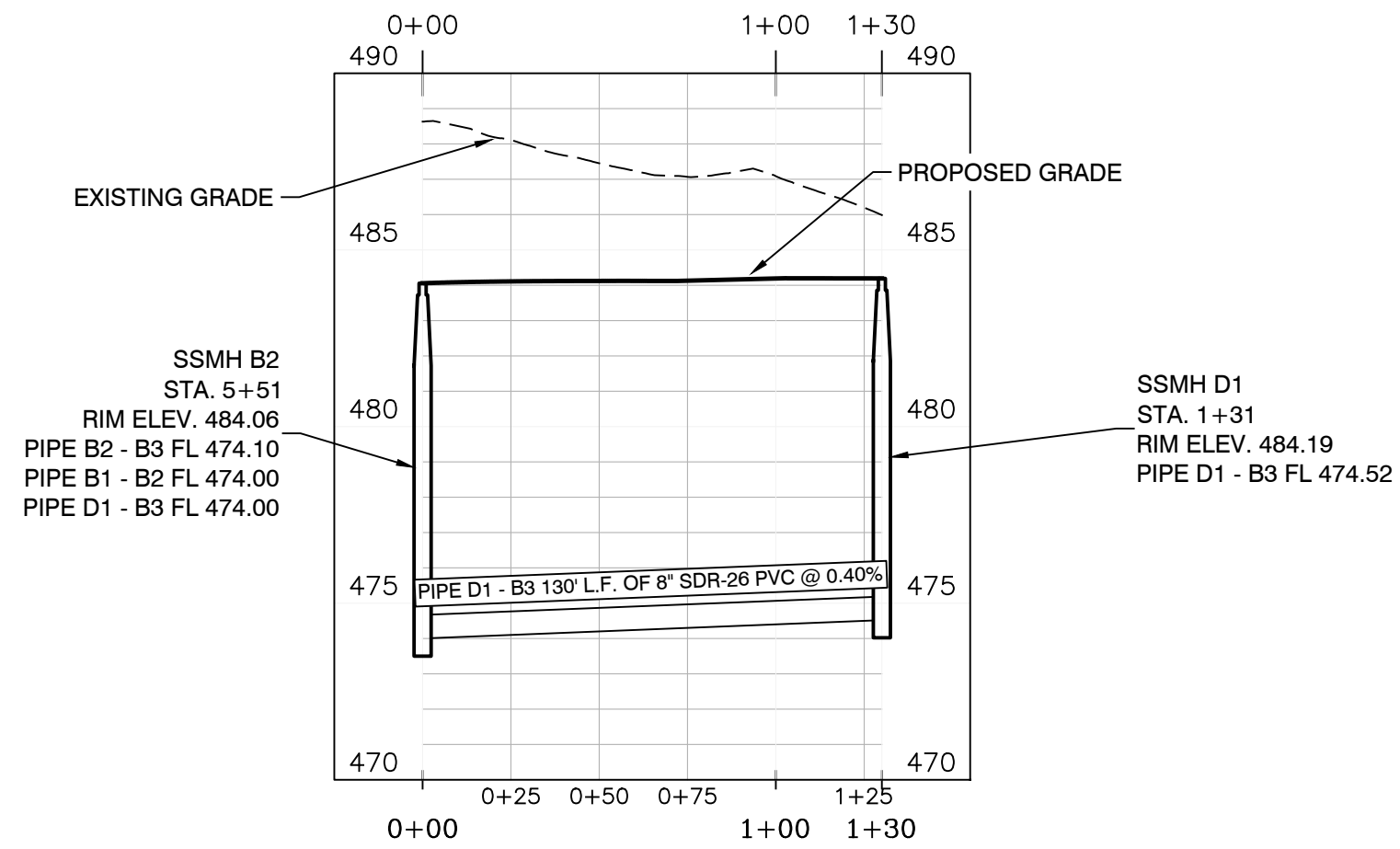
- NOTES:
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 2. SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH CITY OF BRYANT STANDARD SPECIFICATIONS & DETAILS.
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 4. ALL MANHOLES SHALL BE EPOXY COATED PER CITY OF BRYANT REQUIREMENTS.



SEWER MAIN E STA. 0+00 - 1+30



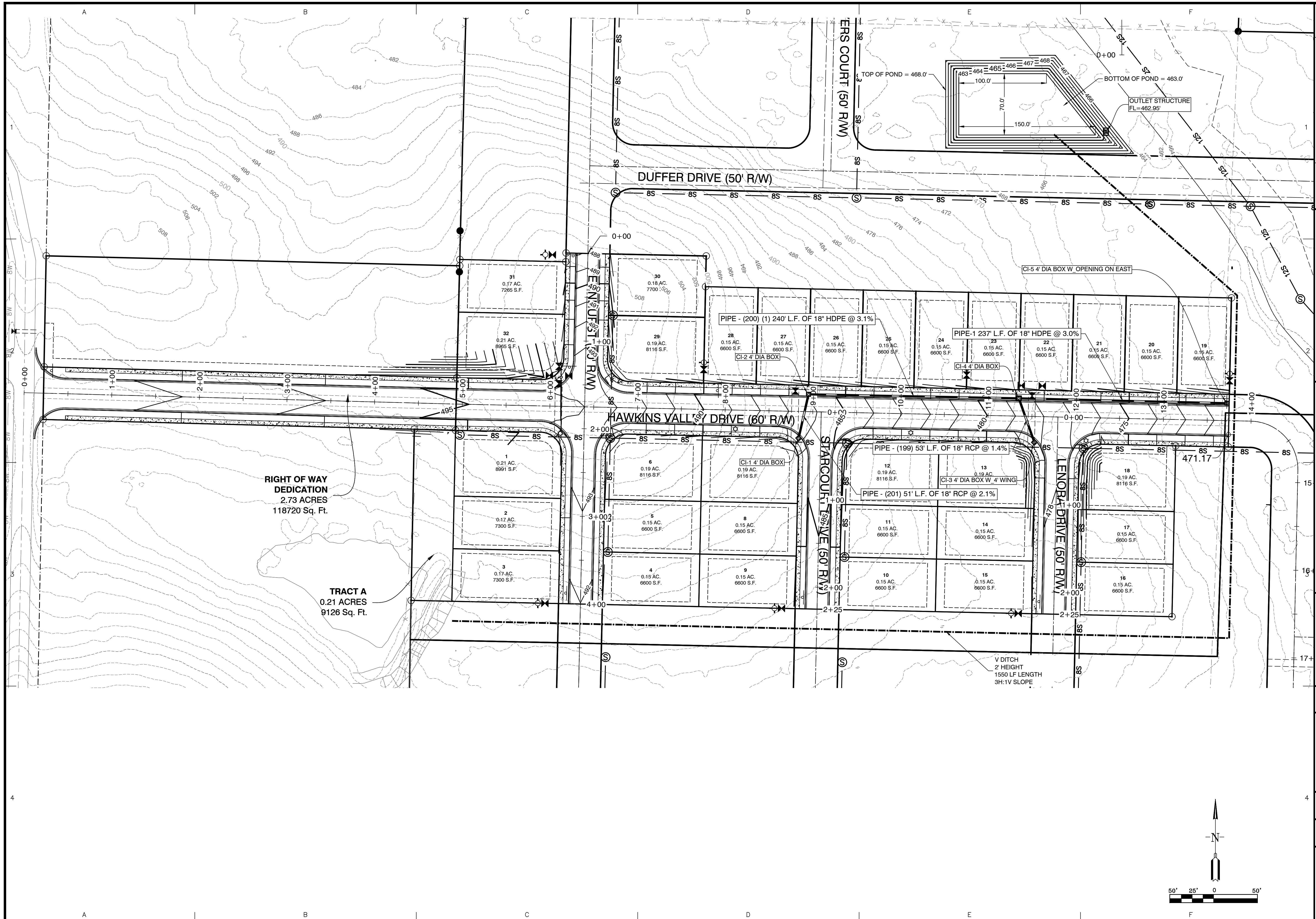
SEWER MAIN D STA. 0+00 - 1+30



SCALE: H 1" = 50'
V 1" = 5'

BY		REVISION		DATE	
Designing our client's success					
GarNat Engineering, LLC			3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com		
HAWKINS VALLEY PHASE 1 CITY OF BRYANT, SALINE COUNTY, ARKANSAS					
02-03-2025					
CONTENTS: SANITARY SEWER PLAN & PROFILE MAIN "D" & MAIN "E" STA. 0+00 - 1+30					
PROJECT NO: 24076					
DATE: DECEMBER 2024					
SHEET NO:					
C2.4					

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GNE

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3825 Mt Carmel Rd
Bryant, AR 72022

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garnatengineering@gmail.com
Ph (501) 408-4650

**FOR: THOMAS DB COLLINS, LTD, LLC
HAWKINS VALLEY
PHASE 1
SALINE COUNTY, ARKANSAS**



1-06-2025

CONTENTS:

ROAD PROFILES

PROJECT NO:
24076

DATE:
JAN 2025

C3.1

SCALE: H 1" = 50'
 V 1" = 5'

1

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A

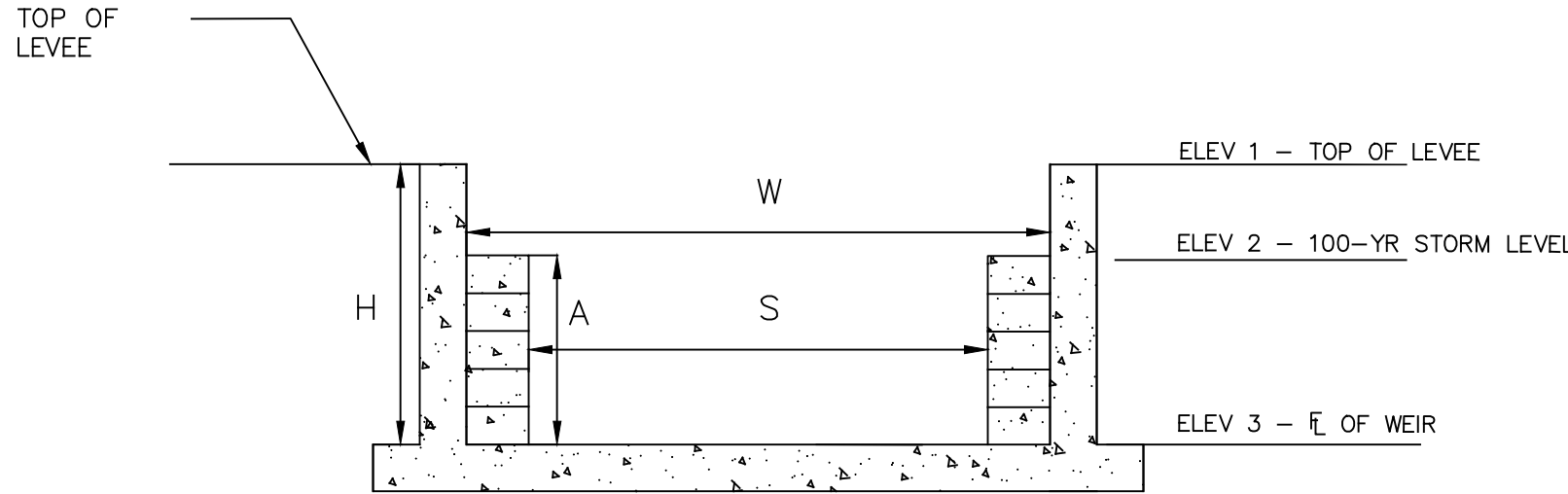
B

C

D

E

F

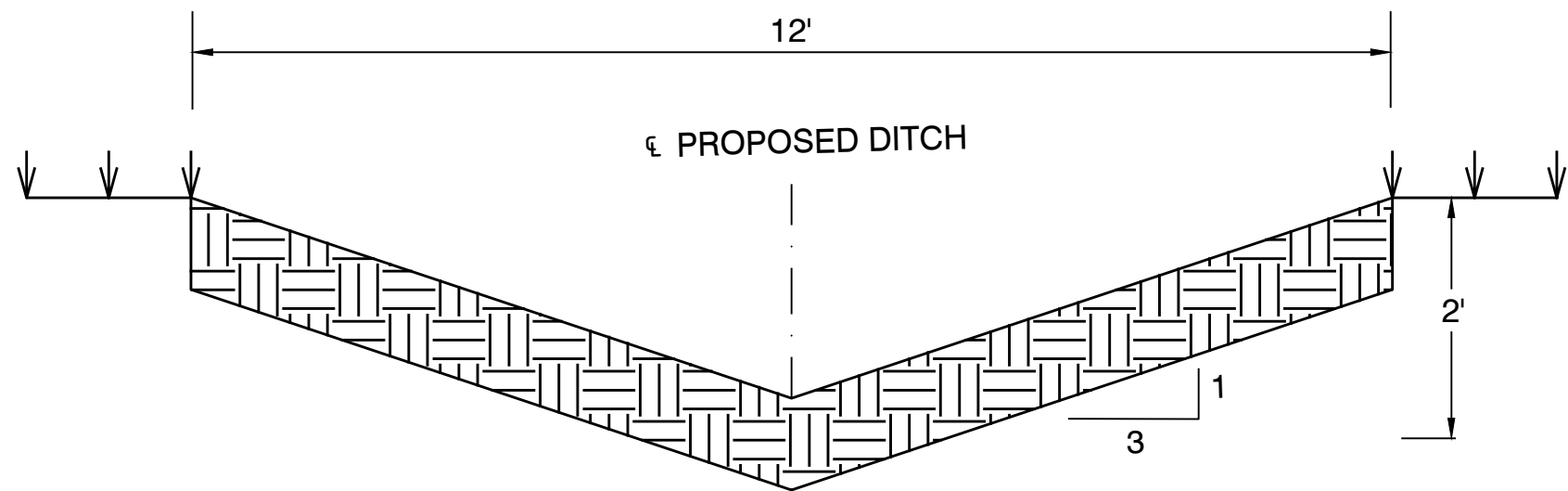


**DETENTION OUTLET
SECTION**
NOT TO SCALE

CONTROL STRUCTURE								
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	ELEV 3	S	A
1	5'-0"	7'-8"	5'-1"	468.00	467.00	462.95	5'-9"	4'-0"

DETENTION OUTLET NOTES:

- ALL CONCRETE WALLS SHALL BE A MINIMUM OF 6" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.
- BOTTOM SLAB SHALL BE 12" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.



TYPICAL DITCH CROSS SECTION
(N.T.S)

A

B

C

D

E

F

BY

REVISION

DATE

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Bryant, AR 72022
gamateengineering@gmail.com

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Benton, AR 72018
Ph (501) 408-4650

FOR: THOMAS DB COLLINS, LTD, LLC
HAWKINS VALLEY
PHASE 1
SALINE COUNTY, ARKANSAS



1-06-2025

CONTENTS:

**OUTLET
STRUCTURE
DETAILS**

**PROJECT NO:
24076**

**DATE:
JAN 2025**

SHEET NO:

C3.2

HAWKINS VALLEY

PHASE 1

FOR THOMAS D.B. COLLINS, LTD.

CITY OF BRYANT,

SALINE COUNTY, ARKANSAS

GNE response to comments drawn in red

Prepared by:

GarNat Engineering, LLC

P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650

3825 Mt Carmel Road
Bryant, AR 72022
www.garnatengineering.com

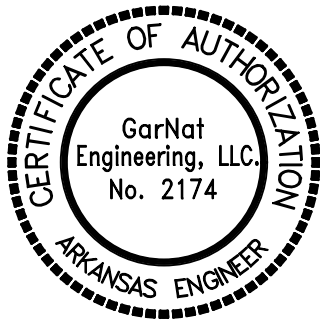
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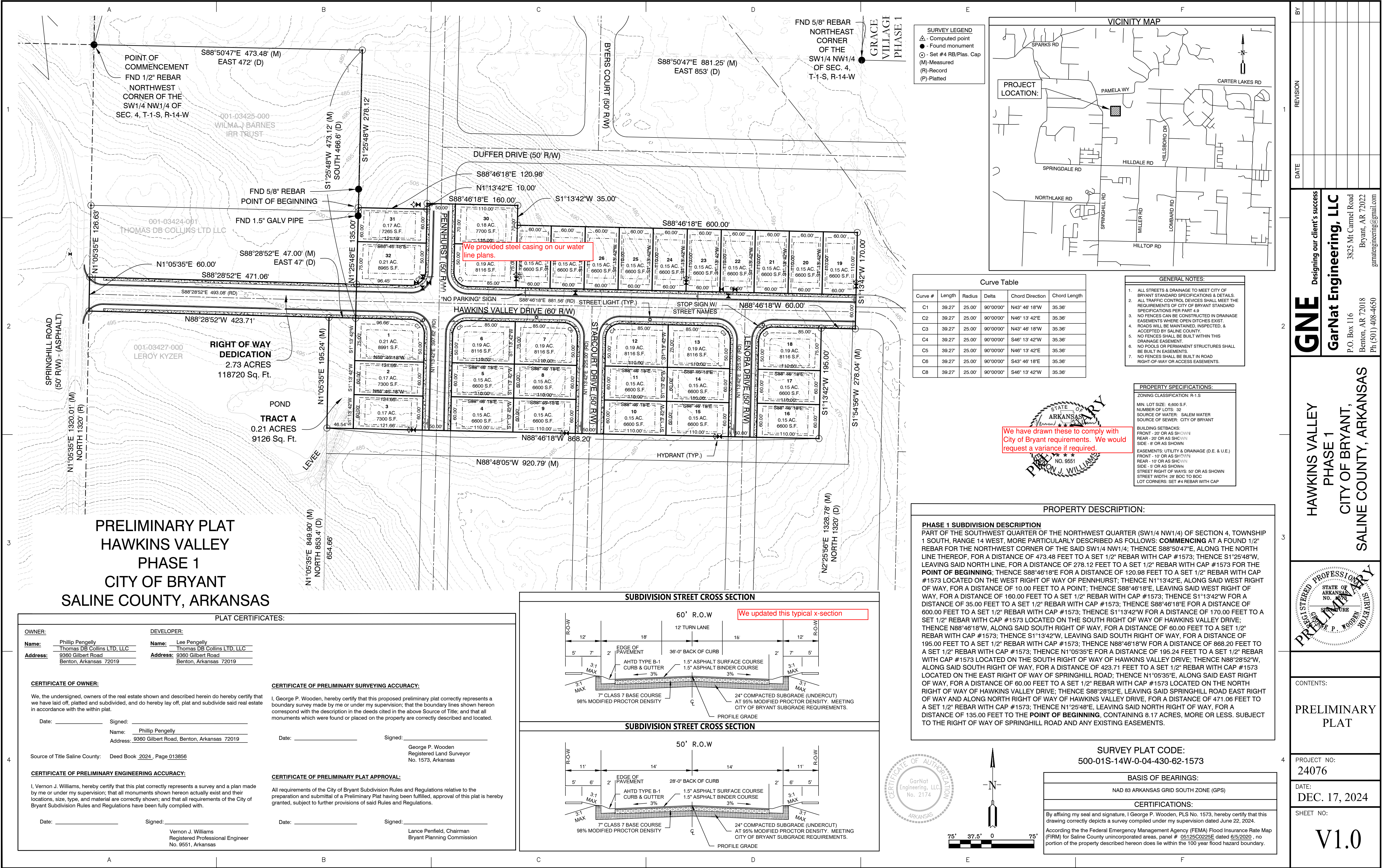
DRAWING INDEX:

V1.0	PRELIMINARY PLAT
C2.0	OVERALL WATER AND SEWER PLAN
C2.1	SEWER PLAN & PROFILE MAIN A
C2.2	SEWER PLAN & PROFILE MAIN B
C2.3	SEWER PLAN & PROFILE MAIN C
C2.4	SEWER PLAN & PROFILE MAIN D & E
C3.0	STREET & DRAINAGE PLAN
C3.1	ROAD PROFILES
C3.2	OUTLET STRUCTURE DETAILS

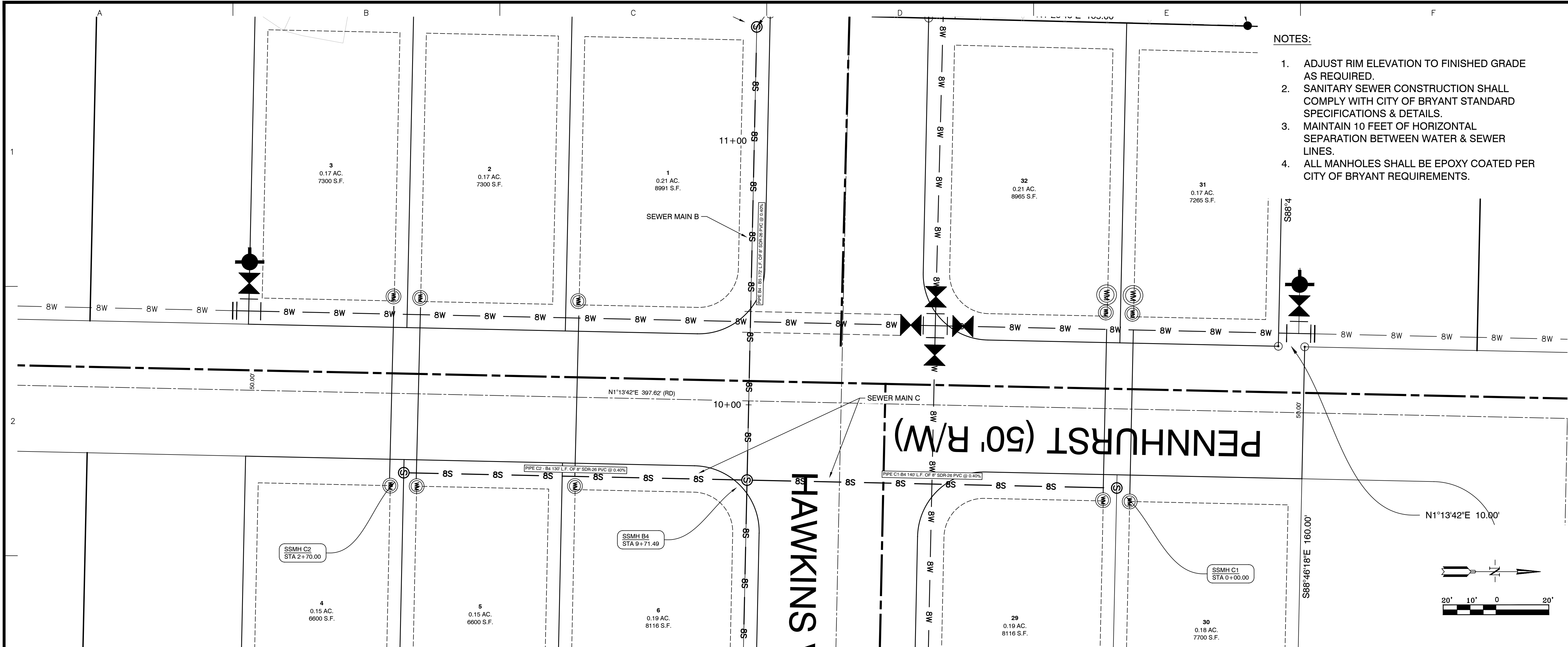


ARKANSAS



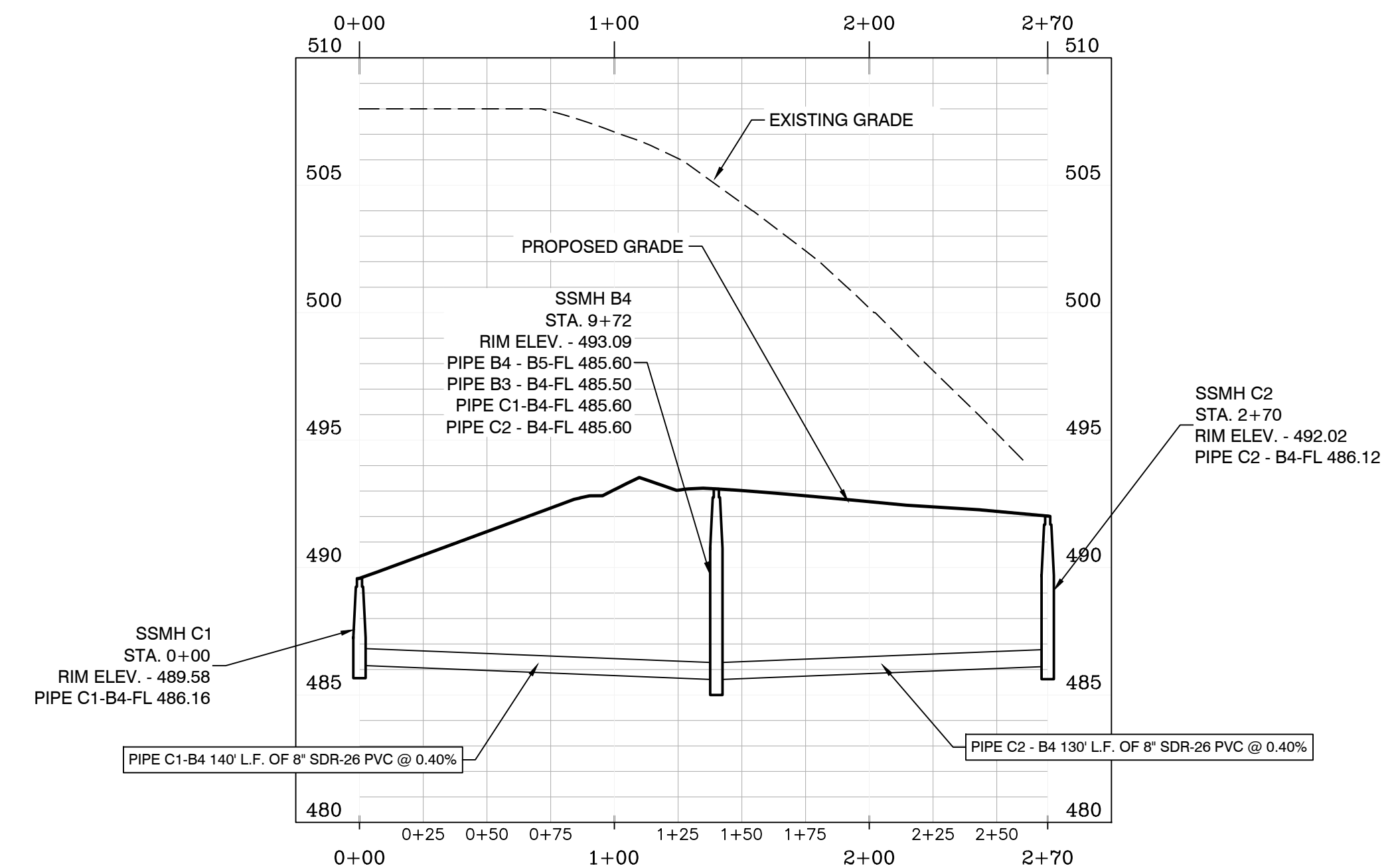


8. TELEPHONE, ELECTRICAL, AND OTHER BURIED UTILITIES ARE TO BE A MINIMUM OF 3-FEET HORIZONTALLY FROM INSTALLED WATER AND SEWER LINES.



- NOTES:
1. ADJUST RIM ELEVATION TO FINISHED GRADE AS REQUIRED.
 2. SANITARY SEWER CONSTRUCTION SHALL COMPLY WITH CITY OF BRYANT STANDARD SPECIFICATIONS & DETAILS.
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 4. ALL MANHOLES SHALL BE EPOXY COATED PER CITY OF BRYANT REQUIREMENTS.

SEWER MAIN C STA. 0+00 - 2+70



SCALE: H 1" = 50'
V 1" = 5'

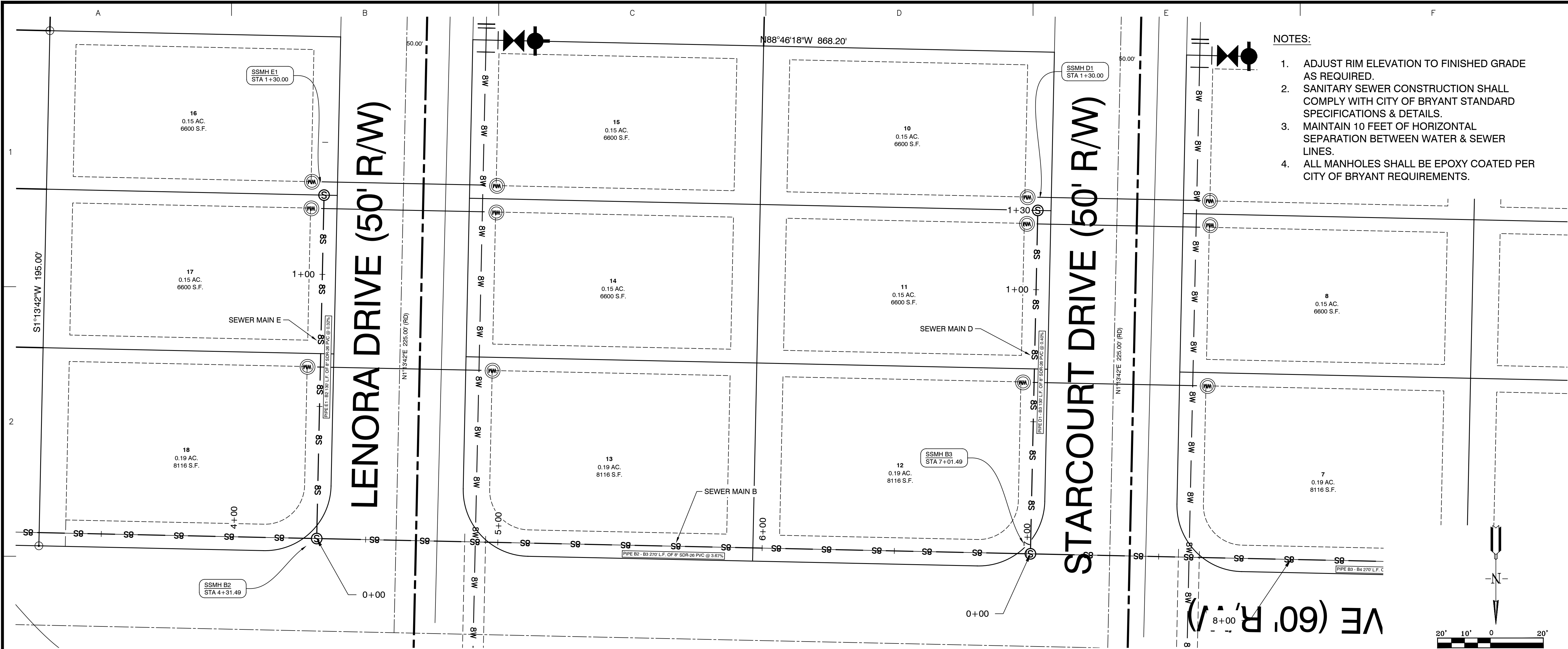
BY									
REVISION									
DATE									
FOR: THOMAS DB COLLINS, LTD, LLC HAWKINS VALLEY PHASE 1 SALINE COUNTY, ARKANSAS  CONTENTS: SANITARY SEWER PLAN & PROFILE MAIN "C" STA. 0+00 - 2+70 PROJECT NO: 24076 DATE: DECEMBER 2024 SHEET NO: C2.3									

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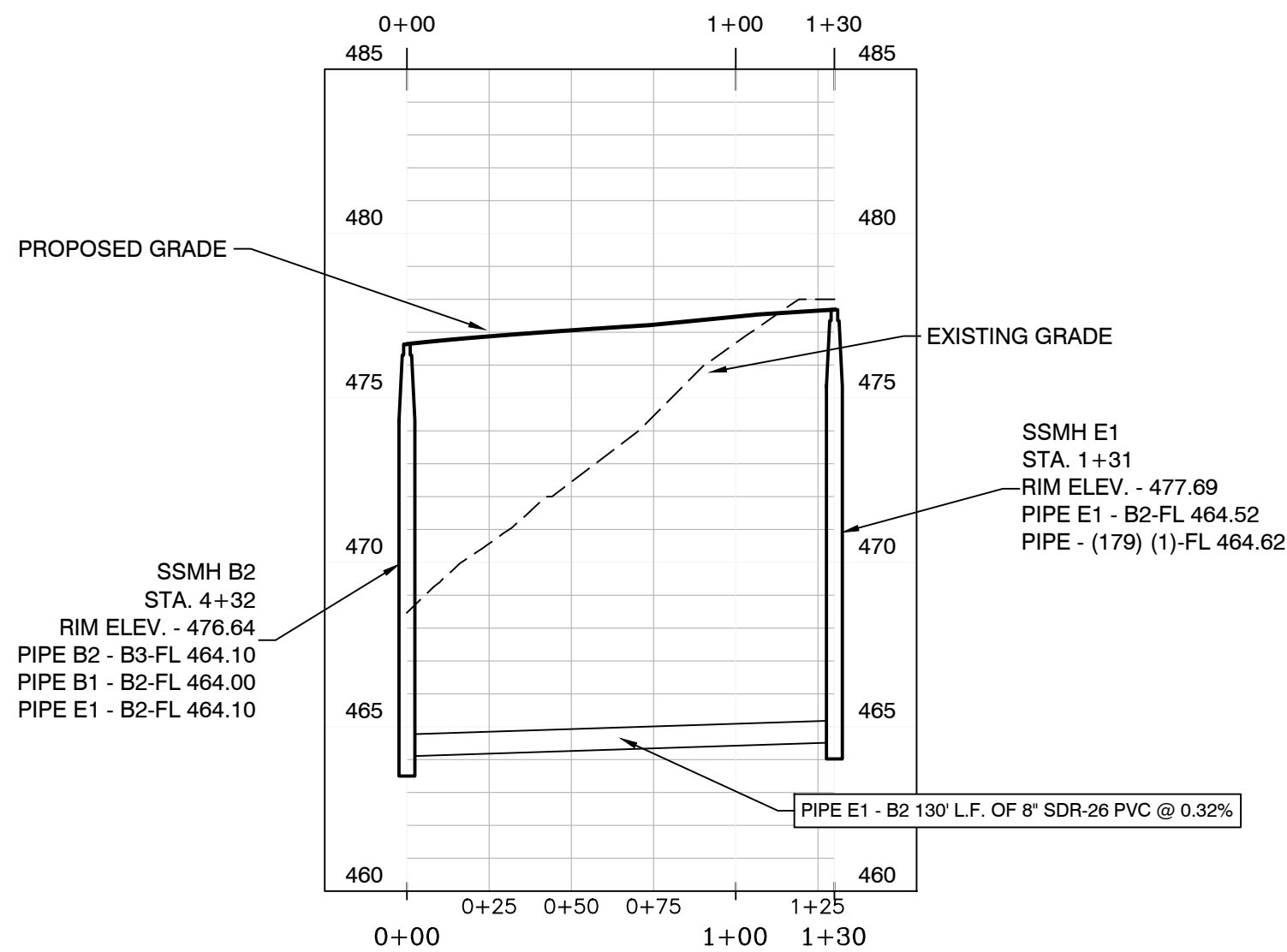
GarNat Engineering, LLC

P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650
gamateengineering@gmail.com

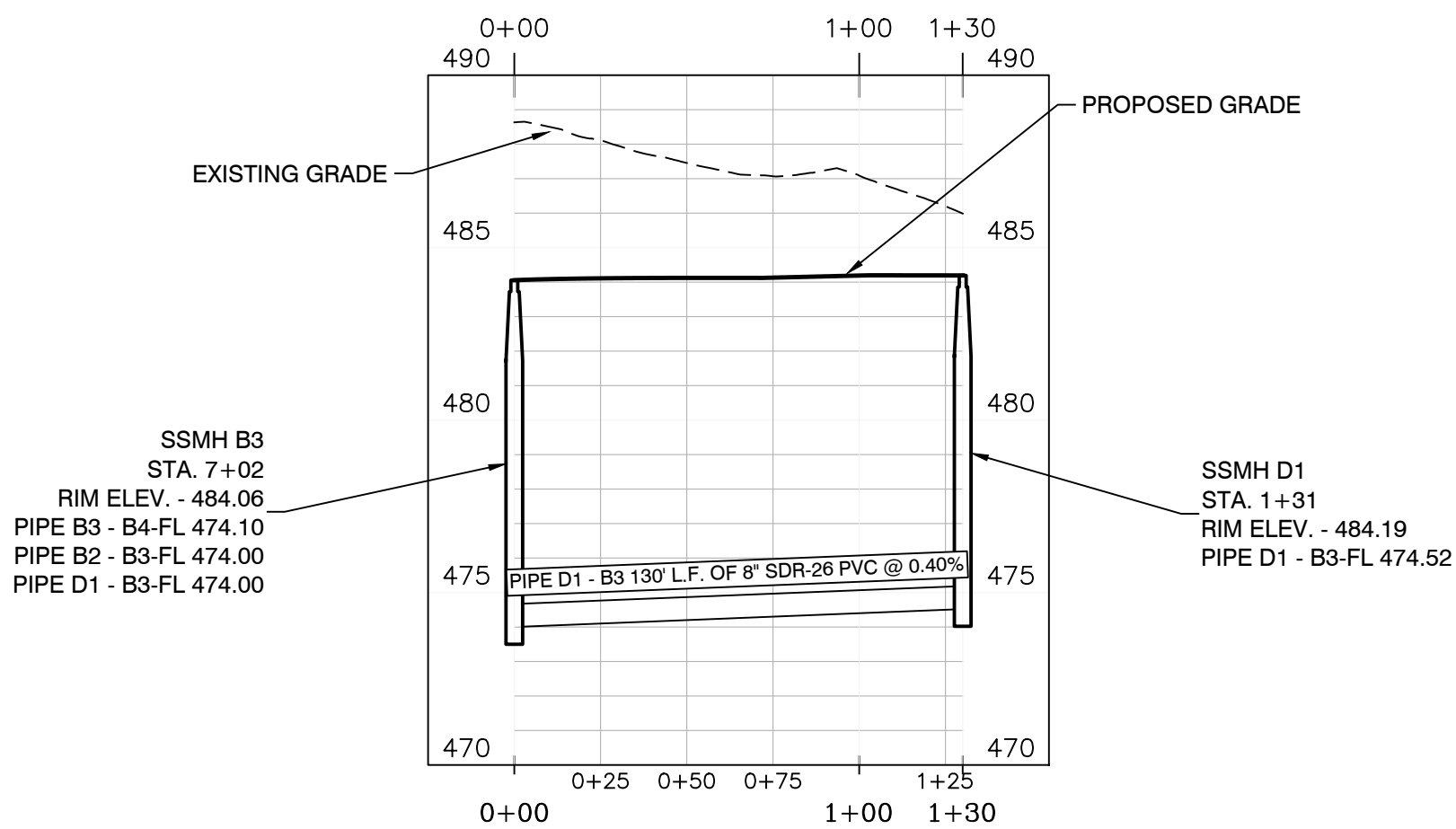
3825 Mt Carmel Rd
Bryant, AR 72022



SEWER MAIN E STA. 0+00 - 1+30



SEWER MAIN D STA. 0+00 - 1+30



SCALE: H 1" = 50'
V 1" = 5'

BY

REVISION

DATE

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Benton, AR 72018
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gamateengineering@gmail.com

3825 Mt Carmel Rd
Bryant, AR 72022

FOR: THOMAS DB COLLINS, LTD, LLC

HAWKINS VALLEY

PHASE 1

SALINE COUNTY, ARKANSAS

STATE OF ARKANSAS

REGISTERED PROFESSIONAL ENGINEER

NO. 9551

KEVIN J. WILLIAMS

CONTENTS:

SANITARY SEWER PLAN & PROFILE

MAIN "D" & MAIN "E"

STA. 0+00 - 1+30

PROJECT NO:

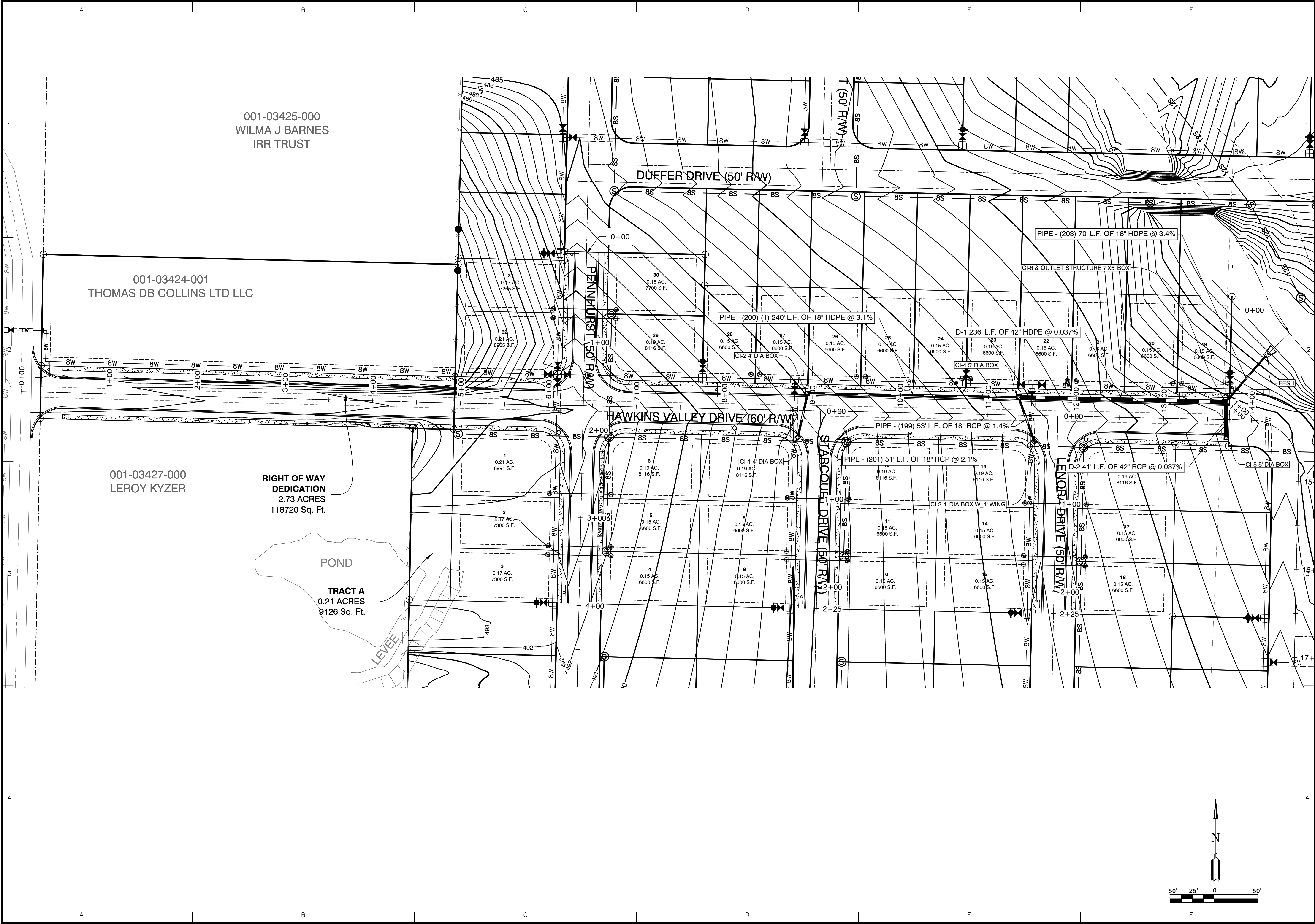
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DATE:

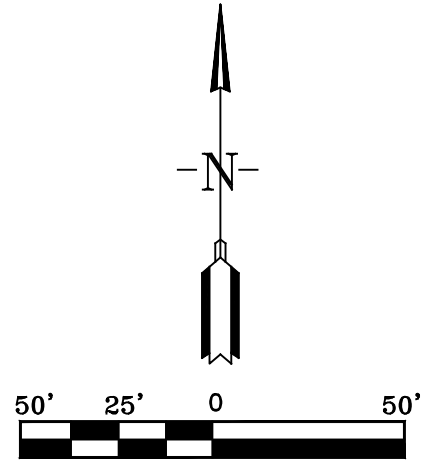
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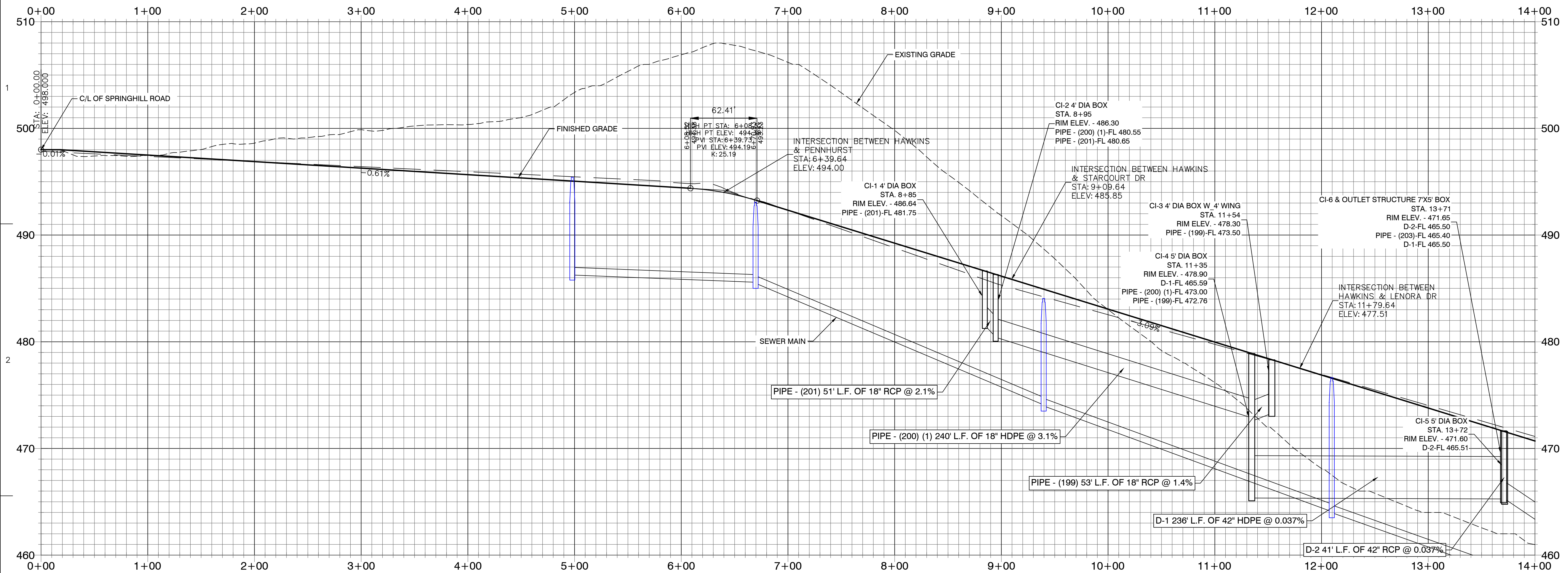
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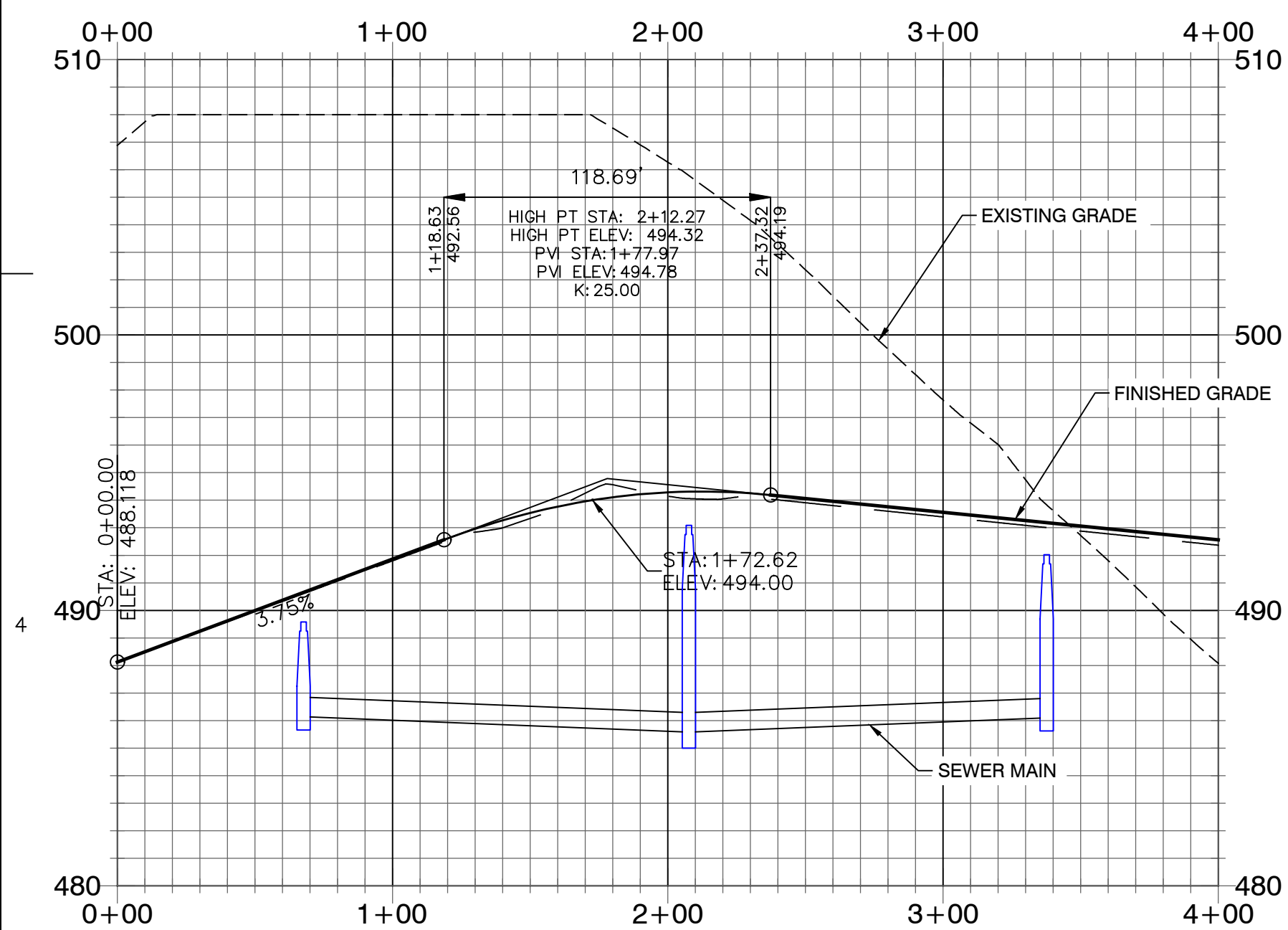


GN GarNat Engineering, LLC P.O. Box 116 Benton, AR 72018 Ph (501) 408-4650 gamateengineering@gmail.com	DATE	REVISION	BY
FOR: THOMAS DB COLLINS, LTD, LLC HAWKINS VALLEY PHASE 1 SALINE COUNTY, ARKANSAS			
 1-06-2025			
CONTENTS:			
STREET & DRAINAGE PLAN			
PROJECT NO: 24076			
DATE: JAN 2025			
SHEET NO: 3.0			

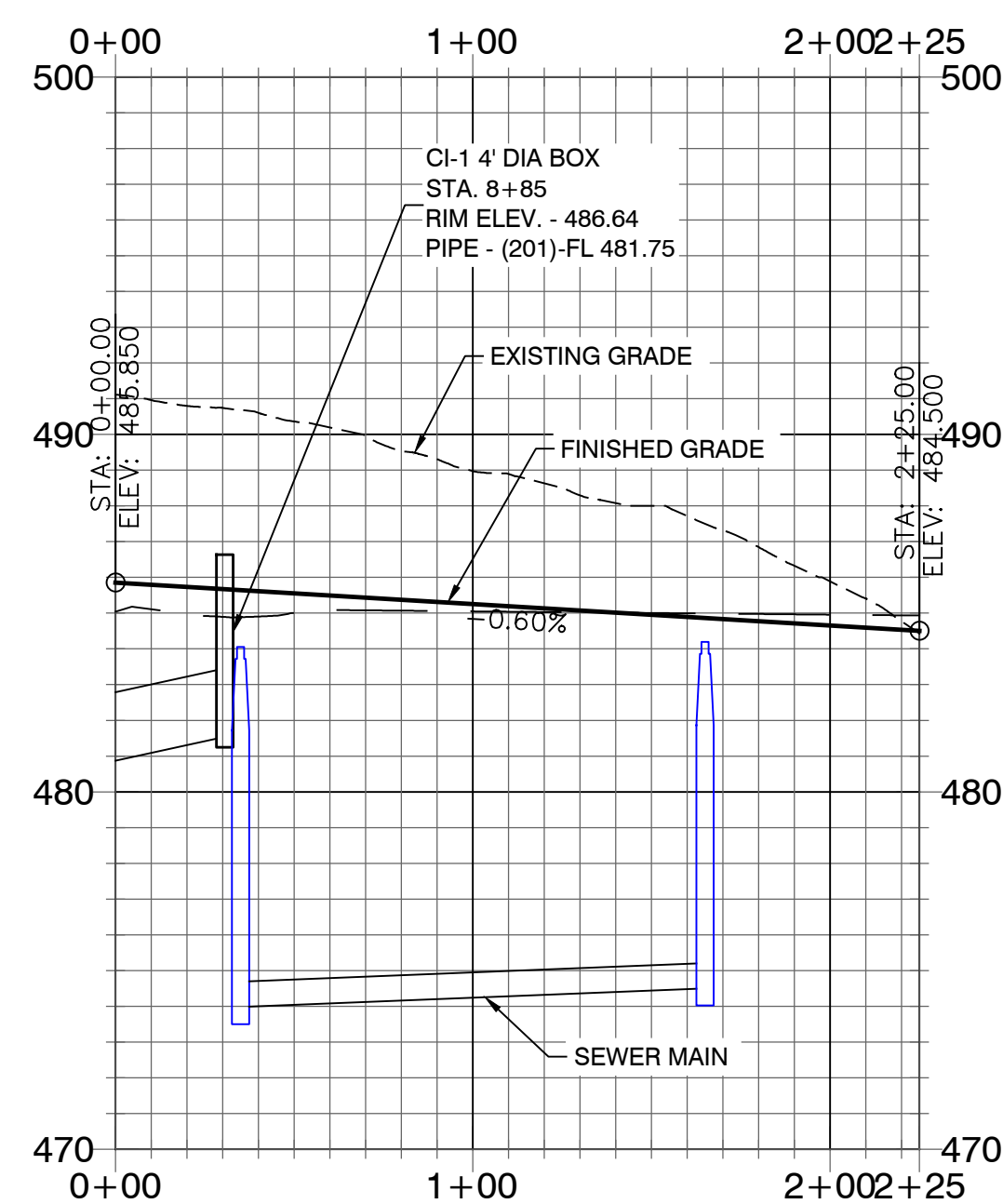




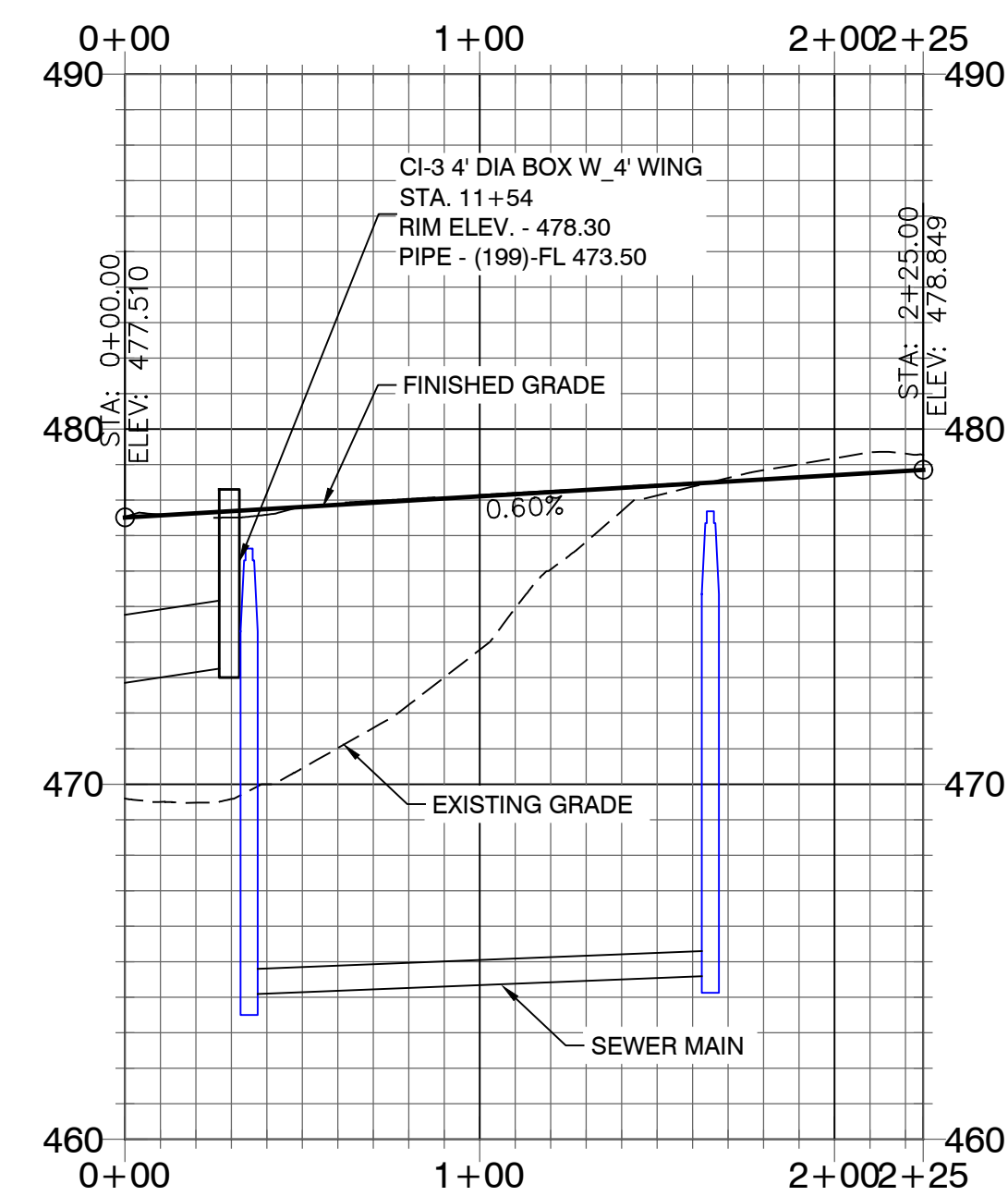
PENNHURST ROAD PROFILE



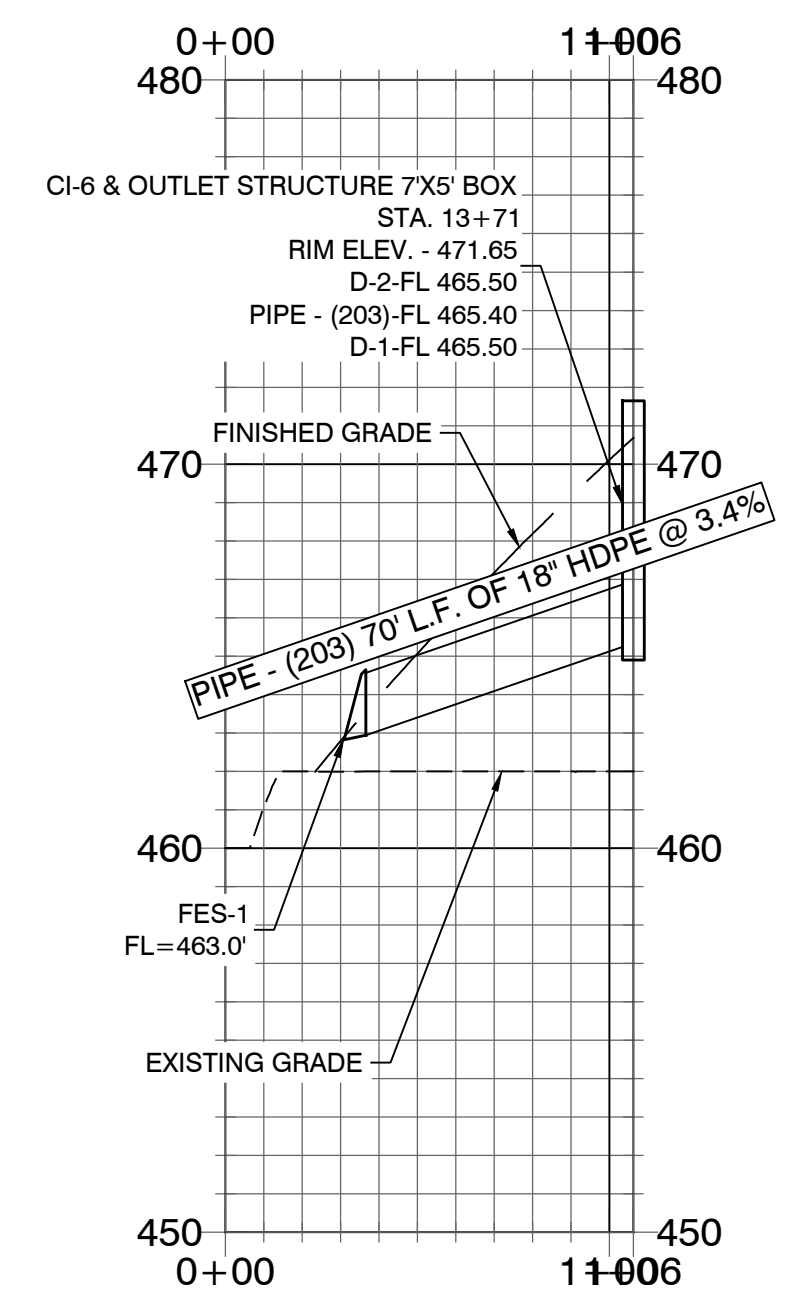
STARCOURT DRIVE PROFILE



LENORA DRIVE PROFILE



OUTLET PIPE PROFILE



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GarNat Engineering, LLC

**FOR: THOMAS DB COLLINS, LTD, LLC
HAWKINS VALLEY
PHASE 1
SALINE COUNTY, ARKANSAS**



1-06-2025

ROAD PROFILES

PROJECT NO:
4076

DATE: JAN 2025

SHEET NO:

C3.1

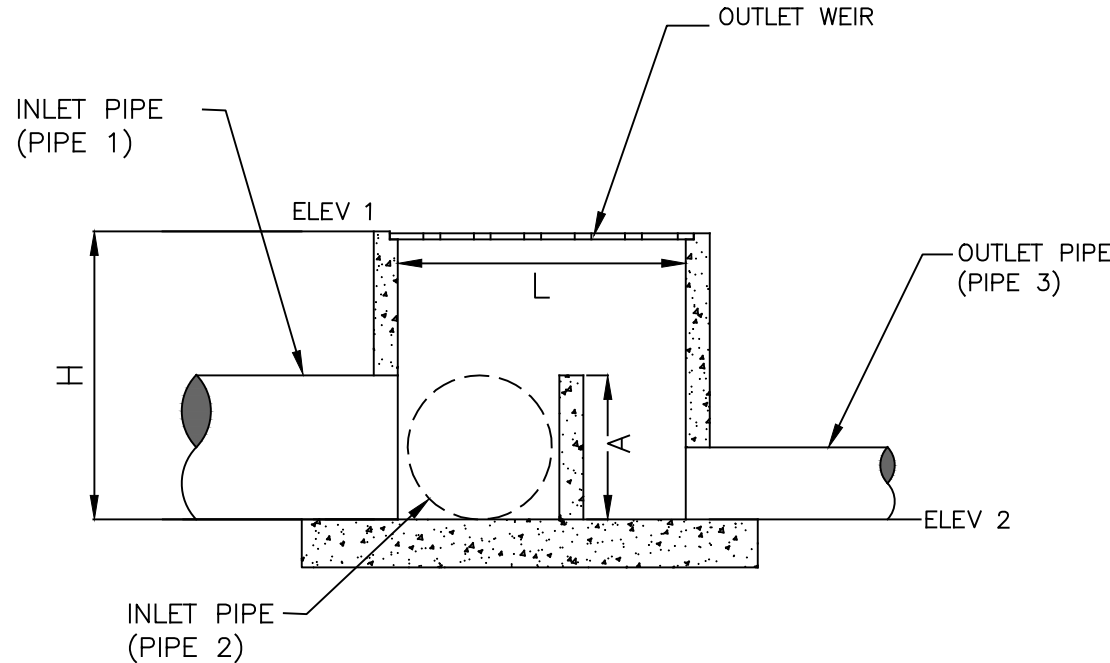
$$\begin{aligned} H \ 1'' &= 50' \\ V \ 1'' &= 5' \end{aligned}$$

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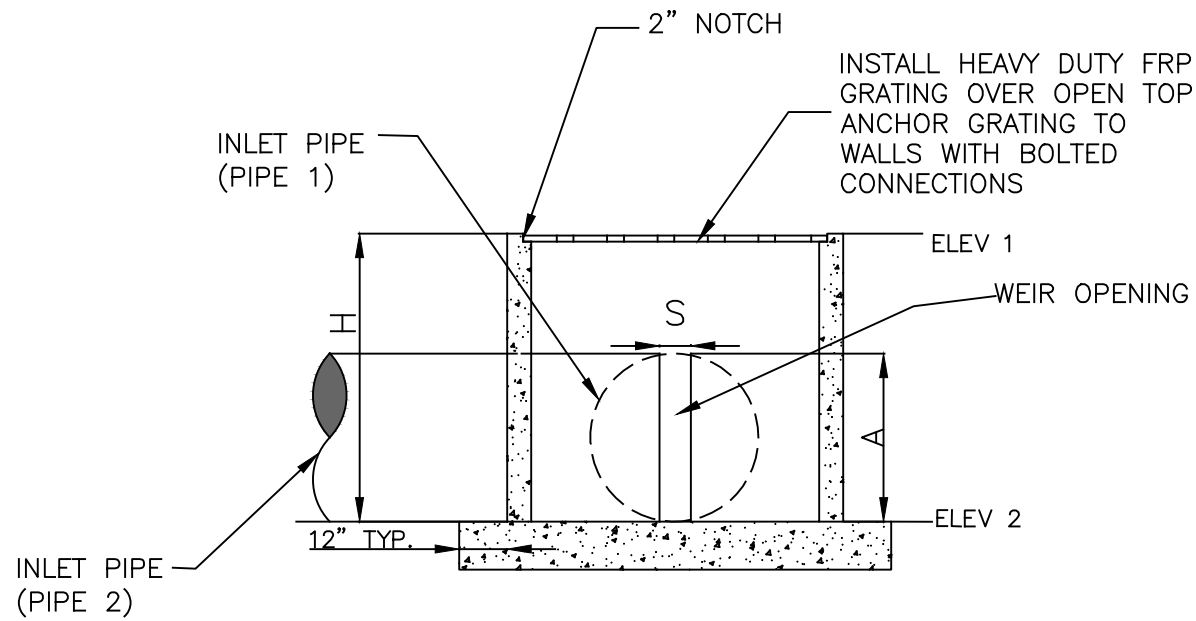
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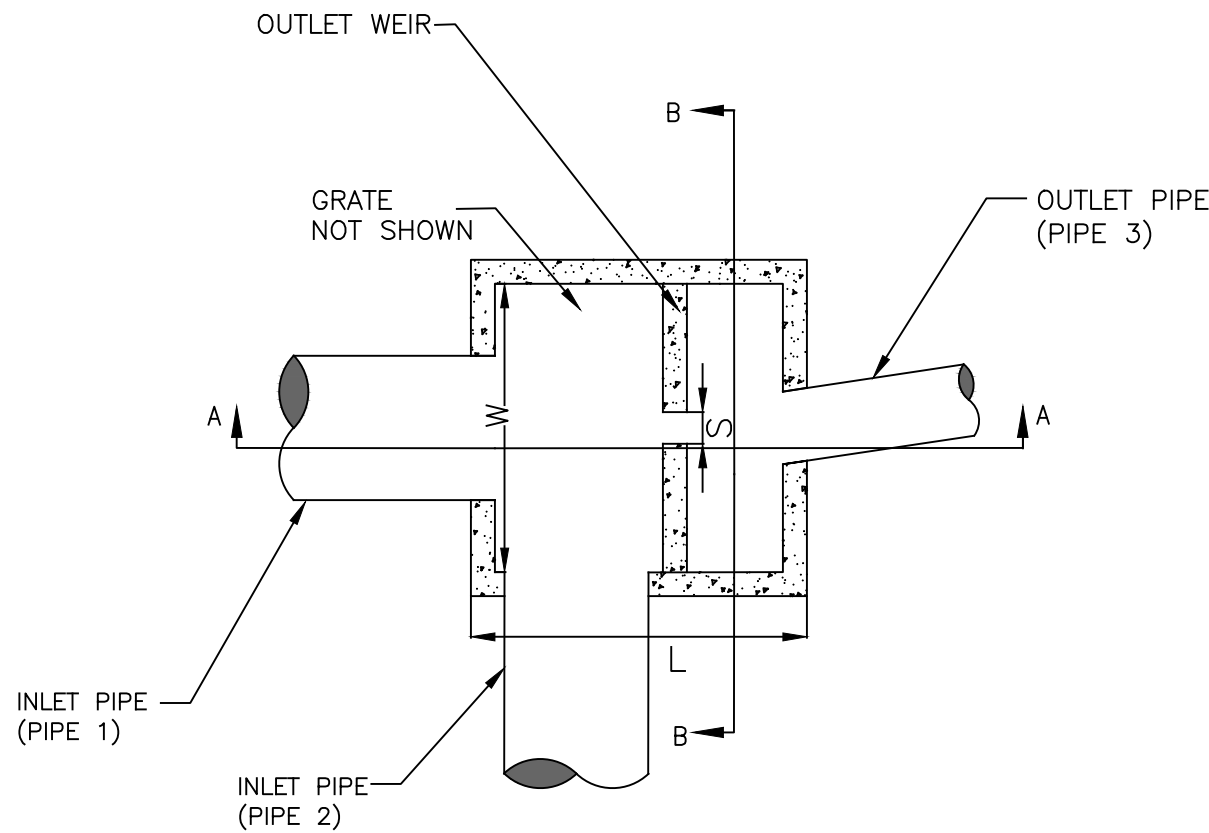
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DETENTION OUTLET
SECTION A-A
NOT TO SCALE



DETENTION OUTLET
SECTION B-B
NOT TO SCALE



DETENTION OUTLET
PLAN VIEW
NOT TO SCALE

CONTROL STRUCTURE										
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	S	PIPE 1 DIA	PIPE 2 DIA	PIPE 3 DIA	A
1	7'-0"	5'-0"	6'-3"	471.65	465.40	0'-7.5"	42"	42"	18"	3'-6"

DETENTION OUTLET NOTES:

- ALL CONCRETE WALLS SHALL BE A MINIMUM OF 6" THICK & REINFORCED WITH #4S @ 12" O.C. BOTH WAYS.
- BOTTOM SLAB SHALL BE 12" THICK & REINFORCED WITH #4S @ 12" O.C. BOTH WAYS.

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GNE

GarNat Engineering, LLC

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Bryant, AR 72022
gamateengineering@gmail.com

FOR: THOMAS DB COLINS, LTD, LLC
HAWKINS VALLEY
PHASE 1
SALINE COUNTY, ARKANSAS



1-06-2025

CONTENTS:

OUTLET
STRUCTURE
DETAILS

PROJECT NO:
24076

DATE:
JAN 2025

SHEET NO:

C3.2

HAWKINS VALLEY
DRAINAGE CALCULATIONS – SUMMARY
1/29/2025

DESCRIPTION OF PROJECT

Hawkins Valley subdivision is an approximately 9.35 Acre development located in the Saline County, Arkansas east of Springhill Road. There is a large drainage basin on the site. Detention pond is located on the northeast corner of the site and discharged on the existing creek.

Stormwater Calculations were prepared with the intent to comply with the City of Bryant's Drainage Code. The primary intent of this analysis is to produce a drainage system adequately sized to convey post development runoff while attenuating post development discharge levels equal to or less than pre development flows.

Hydraulic calculations were made using the Rational Method. Design frequencies were analyzed for 2, 5, 10, 25, 50, and 100-year return periods.

These calculations are divided into the following sections:

Summary of Drainage Basins

Summary of Inlets

Summary of Pipes

Pipe Network Storage Summary

Appendices

Exhibit A – Pre-Development Drainage Basins

Exhibit B – Post-Development Drainage Basins

HAWKINS VALLEY
DRAINAGE CALCULATIONS – SUMMARY
1/29/2025

SUMMARY OF DRAINAGE BASINS

PRE-DEVELOPMENT CONDITIONS

The entire area for pre-existing drainage area of the site drains to a creek to the east. There is a drainage basin in the site that flows onto the creek. Discharge will be captured and detained.

POST-DEVELOPMENT CONDITIONS

As previously described, this site is being developed into a residential subdivision. Slopes range from 1% to 10%. Runoff drains from the developed areas to detention pond on the northeast corner of the site. 100-year storm event is considered for detention. A concrete control structure is used to release the water without the loss of life or major property damage.

SUMMARY OF INLETS

On the drainage plan you will see labels for all of the inlets for these calculations. The flows shown are for the 25-year return storm. The distance from the back of the curb to the center of the street is 18 feet. One lane of traffic remains unobstructed by storm sewer discharges during a 25-year storm event.

SUMMARY OF PIPES

All pipes used in this project are HDPE and RCP. Therefore, a manning's of 0.012 was used on all pipes in the analysis.

POND SUMMARY

The pond in these calculations detains flows from all of the runoff of the site. The pond is located on the northeast corner of the site. Water collected in the storm water system is discharged into the pond via a pipe culvert and a ditch. A concrete control structure is constructed on the eastern edge of the pond. This control structure uses a slotted weir to limit the discharge through the structure to that of the pre-development flow. The Pond volume is designed to hold the 100-year storm event and a factor of safety of 25% is added on detention volumes.

Stormwater Calcs - Hawkins Valley

Using Rational Method

Pre-development

Calculated Tc values - Drainage Basin 1

[illegible]

Stormwater Calcs - Hawkins Valley
using Rational Method

Pre-development

Calculated C values - Drainage Basin 1

	Area	C ₁₀₀	C ₅₀	C ₂₅	C ₁₀	C ₅	C ₂
Undeveloped	44.03	0.47	0.43	0.4	0.36	0.34	0.31
Total Area =	44.03	0.47	0.43	0.40	0.36	0.34	0.31

(C values taken from Table 400-1 of City of Bryant Drainage Manual)

Woodlands, Average, 2-7%

Stormwater Calcs - Hawkins Valley
using Rational Method

Post-development

Calculated C values - Drainage Basin 1A

	Area	C ₁₀₀	C ₅₀	C ₂₅	C ₁₀	C ₅	C ₂
Undeveloped	34.68	0.47	0.43	0.4	0.36	0.34	0.31
Single Family House	9.35	0.70	0.65	0.60	0.50	0.45	0.40
Total Area =	44.03	0.52	0.48	0.44	0.39	0.36	0.33

(C values taken from Table 400-1 of City of Bryant Drainage Manual)
(C values taken from Page-50 of City of Bryant Drainage Manual)

Stormwater Calcs - Hawkins Valley
using Rational Method
Culvert Capacities

CI-1 Q₂₅ = 1.44 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.20 acres	CI-2 Q₂₅ = 1.37 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.19 acres	CI-3 Q₂₅ = 6.99 CFS c = 0.64 Road/Asphalt i= 8.4 in/hr A= 1.30 acres	CI-4 Q₂₅ = 1.23 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.17 acres
CI-5 Q₂₅ = 1.16 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.16 acres			

Pipe Name	From	To	Design Flow (cfs):	Slope (ft/ft):	Diameter (inches)	No. Pipes	Manning's	Area Full (sf)	Wetted Perimeter Full (ft)	Hydraulic Flow Capacity (cfs)	% Capacity
18" RCP	CI-1	CI-2	1.44	0.0210	18	1	0.012	1.77	4.712	0.375	16.49 9%
18" HDPE	CI-2	CI-4	2.82	0.0310	18	1	0.012	1.77	4.712	0.375	20.04 14%
18" RCP	CI-3	CI-4	9.81	0.0140	18	1	0.012	1.77	4.712	0.375	13.46 73%
18" HDPE	CI-4	CI-5	11.03	0.0310	18	1	0.012	1.77	4.712	0.375	20.04 55%

Stormwater Calcs - Hawkins Valley
Using Rational Method

Mannings equation for ditch

n= 0.022 based on n for open channel earth with short grass, few weeds

Slope= 3 :1

Depth (ft)	Bottom (ft)	Top (ft)	area (ft^2)	rH	slope (ft/ft)	Velocity (ft/s)	Q (cfs)	
	2	1	13	14	1.03	0.01	6.89	96.44

Stormwater Calcs - Hawkins Valley
using Rational Method
Weir Sizing

Storm Event Flow (cfs)

Q2 - Pre 38.22
Q10 - Pre 61.82
Q25 - Pre 81.02
Q50 - Pre 96.56
Q100 - Pre 115.89

Q2 - Post 40.57
Q10 - Post 66.92
Q25 - Post 89.62
Q50 - Post 107.05
Q100 - Post 127.93

Rectangular Weir

Q2

Q (cfs)	CLH^1.5
C	2.5
L	5.75
H	1.9
Q (cfs)	37.65

5.75'

Q10

Q (cfs)	CLH^1.5
C	2.5
L	5.75
H	2.6
Q (cfs)	60.27

5.75'

Q25

Q (cfs)	CLH^1.5
C	2.5
L	5.75
H	3.15
Q (cfs)	80.37

5.75'

Q50

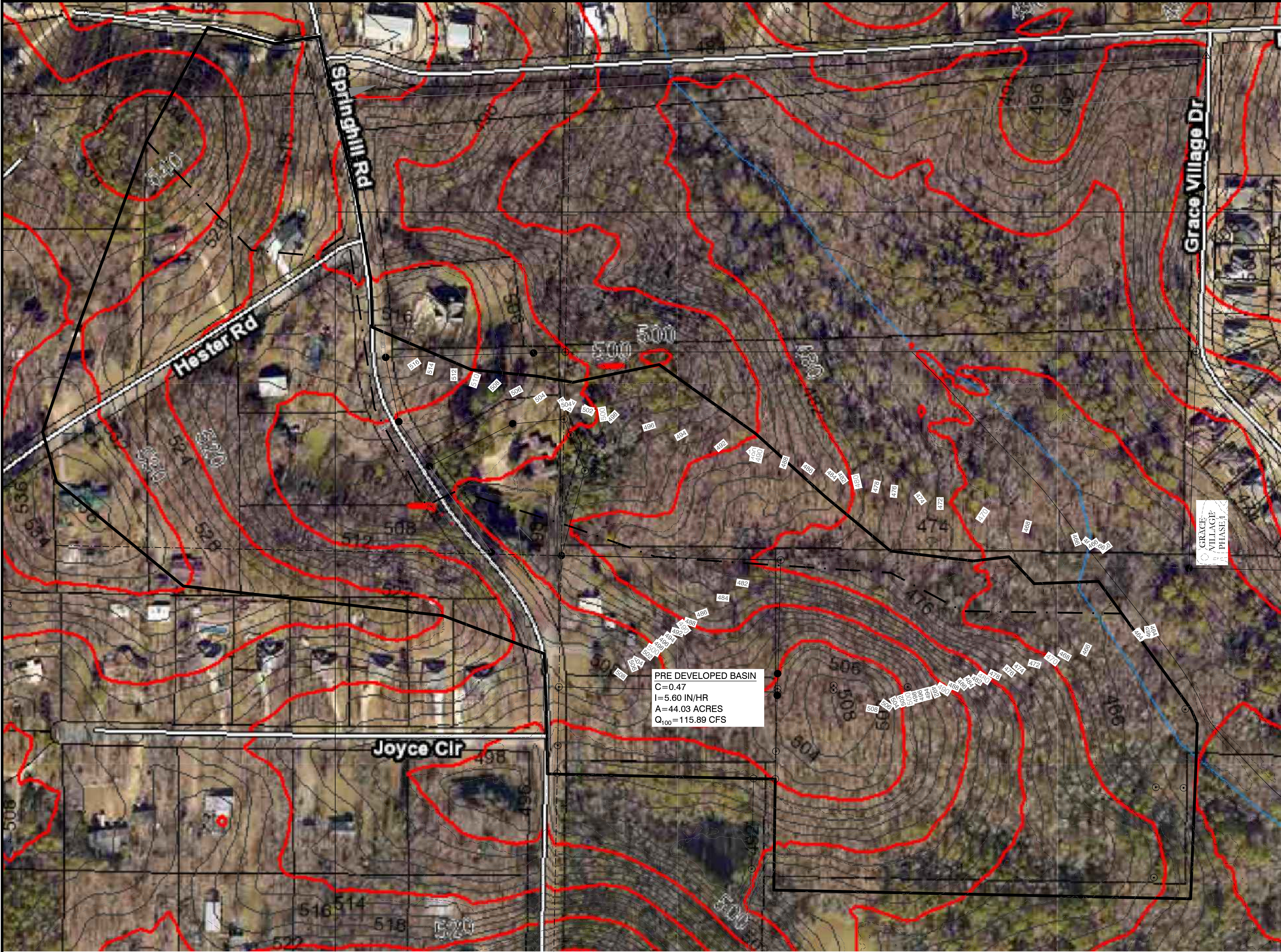
Q (cfs)	CLH^1.5
C	2.5
L	5.75
H	3.55
Q (cfs)	96.15

5.75'

Q100

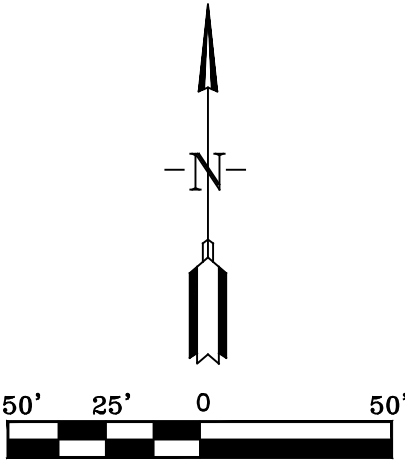
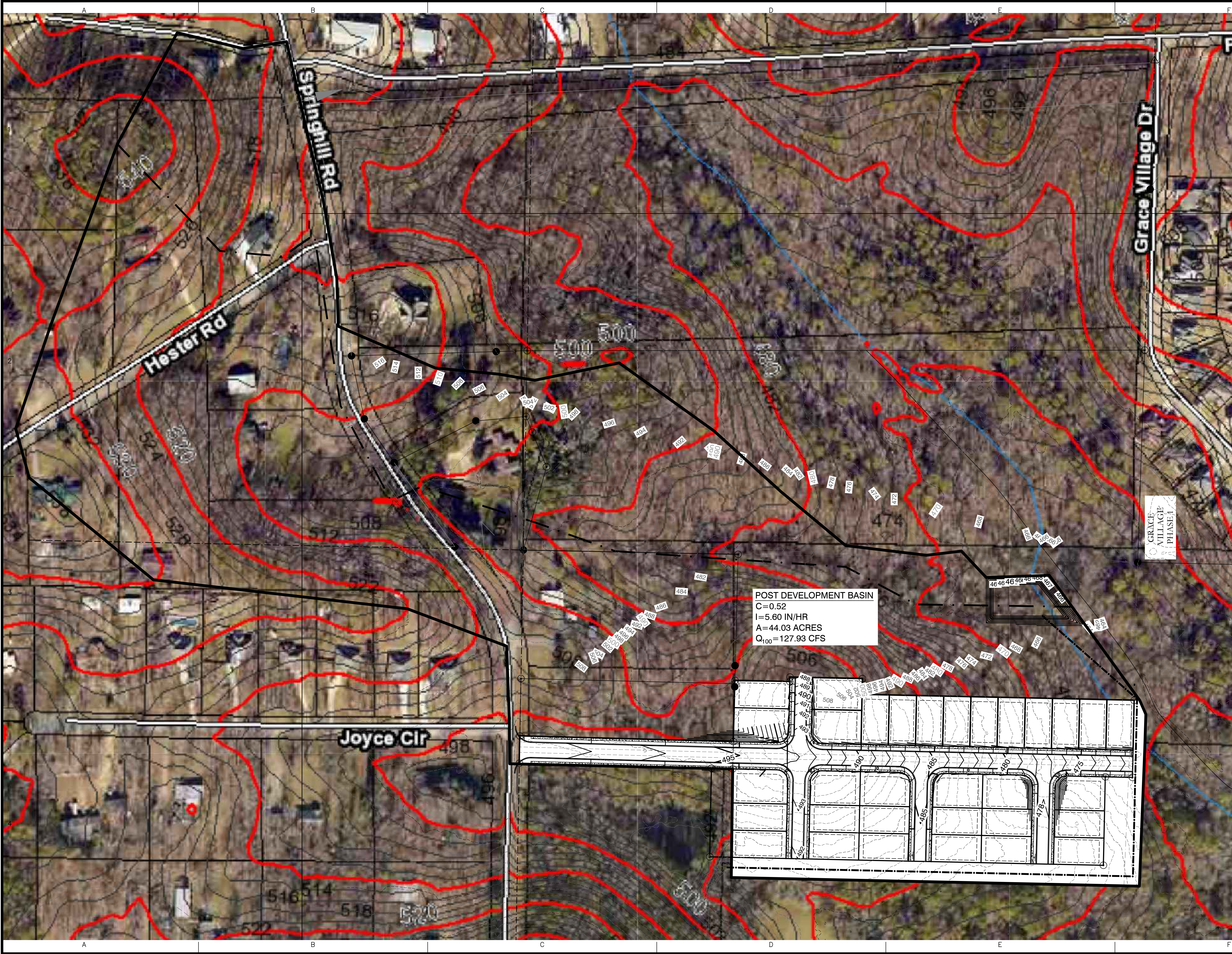
Q (cfs)	CLH^1.5
C	2.5
L	5.75
H	4
Q (cfs)	115.00

5.75'



1	DATE	REVISION	BY
2	Designing our client's success		
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	P.O. Box 116 Benton, AR 72018		
	3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com		
3	FOR: THOMAS DB COLLINS, LTD, LLC		
	HAWKINS VALLEY		
	PHASE 1		
	SALINE COUNTY, ARKANSAS		
4	PRELIMINARY		
	CONTENTS:		
	PRE DRAINAGE BASIN		
	PROJECT NO: 24076		
5	DATE: JAN 2025		
	SHEET NO:		
	1.0		

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1	DATE	REVISION	BY
2	Designing our client's success		
	GarNat Engineering, LLC		
	P.O. Box 116 Benton, AR 72018		
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3	FOR: THOMAS DB COLLINS, LTD, LLC		
	HAWKINS VALLEY		
	PHASE 1		
	SALINE COUNTY, ARKANSAS		
4	PRELIMINARY		
	CONTENTS:		
	POST DRAINAGE BASIN		
	PROJECT NO: 24076		
5	DATE: JAN 2025		
	SHEET NO:		
	2.0		

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Stormwater Calcs - Hawkins Valley
Using Rational Method

Calculated Tc values - Drainage Basin CI-1

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes			Overland Flow	Tsc = $\frac{L}{60V}$ minutes			Shallow Concentrated Flow
				V= 20.3282 * S^0.5 ft/sec			Paved
L1 =	150	feet		L1 =	115	feet	
n1 =	0.013	concrete					
S1 =	0.026	ft/ft	Z1=493.65 Z2=489.77	S1 =	0.032	ft/ft	Z1=489.77 Z2=486.12
Tc _{calculated} = 3.39 minutes				V _{calculated} = 3.62 ft/sec			
				Tc _{calculated} = 0.53 minutes			
Tc = 3.92 minutes							
Use Tc = 5.0 minutes				I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual			
				I ₂₅ = 8.4 Inches/hr			
				I ₁₀ = 7.6 Inches/hr			

Calculated Tc values - Drainage Basin CI-2

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes			Overland Flow	Tsc = $\frac{L}{60V}$ minutes			Shallow Concentrated Flow
				V= 20.3282 * S^0.5 ft/sec			Paved
L1 =	150	feet		L1 =	120	feet	
n1 =	0.013	concrete					
S1 =	0.024	ft/ft	Z1=493.41 Z2=489.82	S1 =	0.032	ft/ft	Z1=489.82 Z2=486.01
Tc _{calculated} = 3.47 minutes				V _{calculated} = 3.62 ft/sec			
				Tc _{calculated} = 0.55 minutes			
Tc = 4.03 minutes							
Use Tc = 5.0 minutes				I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual			
				I ₂₅ = 8.4 Inches/hr			
				I ₁₀ = 7.6 Inches/hr			

Calculated Tc values - Drainage Basin CI-3

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes			Overland Flow	Tsc = $\frac{L}{60V}$ minutes			Shallow Concentrated Flow
				V= 20.3282 * S^0.5 ft/sec			Paved
L1 =	150	feet		L1 =	125	feet	
n1 =	0.013	concrete					
S1 =	0.029	ft/ft	Z1=486.12 Z2=481.77	S1 =	0.029	ft/ft	Z1=481.77 Z2=478.13
Tc _{calculated} = 3.28 minutes				V _{calculated} = 3.47 ft/sec			
				Tc _{calculated} = 0.60 minutes			
Tc = 3.88 minutes							
Use Tc = 5.0 minutes				I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual			
				I ₂₅ = 8.4 Inches/hr			
				I ₁₀ = 7.6 Inches/hr			

Calculated Tc values - Drainage Basin CI-4

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes			Overland Flow	Tsc = $\frac{L}{60V}$ minutes			Shallow Concentrated Flow
				V= 20.3282 * S^0.5 ft/sec			Paved
L1 =	150	feet		L1 =	86	feet	
n1 =	0.013	concrete					
S1 =	0.031	ft/ft	Z1=486.01 Z2=481.34	S1 =	0.042	ft/ft	Z1=481.34 Z2=478.57
				V _{calculated} =	4.18	ft/sec	
Tc _{calculated}	3.21 minutes			Tc _{calculated}	0.34 minutes		
Tc =	3.55	minutes					
Use Tc =	5.0	minutes	I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual				
			I ₂₅ = 8.4 Inches/hr				
			I ₁₀ = 7.6 Inches/hr				

Calculated Tc values - Drainage Basin CI-5

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes			Overland Flow	Tsc = $\frac{L}{60V}$ minutes			Shallow Concentrated Flow
				V= 20.3282 * S^0.5 ft/sec			Paved
L1 =	150	feet		L1 =	85	feet	
n1 =	0.013	concrete					
S1 =	0.032	ft/ft	Z1=478.57 Z2=473.84	S1 =	0.031	ft/ft	Z1=473.84 Z2=471.22
				V _{calculated} =	3.57	ft/sec	
Tc _{calculated}	3.20 minutes			Tc _{calculated}	0.40 minutes		
Tc =	3.60	minutes					
Use Tc =	5.0	minutes		I ₁₀₀ =	10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual		
				I ₂₅ =	8.4 Inches/hr		
				I ₁₀ =	7.6 Inches/hr		

Stormwater Calcs - Hawkins Valley
using Rational Method
POST-DEV C VALUES

SDMH-C1

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.20	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.20	0.81	0.86	0.95	

SDMH-C2

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.19	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.19	0.81	0.86	0.95	

SDMH-C3

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.20	0.81	0.86	0.95	Road/Asphalt
	1.10	0.5	0.6	0.7	Single Family House
Total Area =	1.30	0.55	0.64	0.74	

SDMH-C4

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.17	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.17	0.81	0.86	0.95	

SDMH-C5

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-2 of City of Bryant Drainage Manual)
	0.16	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.16	0.81	0.86	0.95	

Stormwater Calcs - Hawkins Valley
using Rational Method
Post Development Flowrates

SDMH-C1

$Q_{10} = 1.21$ CFS
 $c = 0.81$
 $i = 7.60$ in/hr
 $A = 0.20$ acres

$Q_{25} = 1.43$ CFS
 $c = 0.86$
 $i = 8.40$ in/hr
 $A = 0.20$ acres

$Q_{100} = 1.87$ CFS
 $c = 0.95$
 $i = 10.00$ in/hr
 $A = 0.20$ acres

SDMH-C2

$Q_{10} = 1.19$ CFS
 $c = 0.81$
 $i = 7.60$ in/hr
 $A = 0.19$ acres

$Q_{25} = 1.40$ CFS
 $c = 0.86$
 $i = 8.40$ in/hr
 $A = 0.19$ acres

$Q_{100} = 1.84$ CFS
 $c = 0.95$
 $i = 10.00$ in/hr
 $A = 0.19$ acres

SDMH-C3

$Q_{10} = 5.43 \text{ CFS}$
 $c = 0.55$
 $i = 7.60 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

$Q_{25} = 7.00 \text{ CFS}$
 $c = 0.64$
 $i = 8.40 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

$Q_{100} = 9.62 \text{ CFS}$
 $c = 0.74$
 $i = 10.00 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

SDMH-C4

$Q_{10} = 1.02 \text{ CFS}$
 $c = 0.81$
 $i = 7.60 \text{ in/hr}$
 $A = 0.17 \text{ acres}$

$Q_{25} = 1.19 \text{ CFS}$
 $c = 0.86$
 $i = 8.40 \text{ in/hr}$
 $A = 0.17 \text{ acres}$

$Q_{100} = 1.57 \text{ CFS}$
 $c = 0.95$
 $i = 10.00 \text{ in/hr}$
 $A = 0.17 \text{ acres}$

SDMH-C5

$Q_{10} = 1.01 \text{ CFS}$
 $c = 0.81$
 $i = 7.60 \text{ in/hr}$
 $A = 0.16 \text{ acres}$

$Q_{25} = 1.18 \text{ CFS}$
 $c = 0.86$
 $i = 8.40 \text{ in/hr}$
 $A = 0.16 \text{ acres}$

$Q_{100} = 1.55 \text{ CFS}$
 $c = 0.95$
 $i = 10.00 \text{ in/hr}$
 $A = 0.16 \text{ acres}$

Hawkins Valley GUTTER SPREAD 25-YR STORM

SDMH-C1

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.43 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.031
T	<u>4.87</u> ft

Q= Flowrate(cfs)
n=manning's number
k=0.56
S_x= cross slope
S_L= longitudinal slope
T= Gutter Spread

SDMH-C2

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.40 cfs
n	0.012
k _u	0.56
S _x	0.03
S _L	0.017
T	<u>5.18</u> ft

SDMH-C3

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	7.00 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.03
T	<u>9.01</u> ft

SDMH-C4

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.19 cfs
n	0.012
k _u	0.56
S _x	0.03
S _L	0.03
T	<u>4.44</u> ft

SDMH-C5

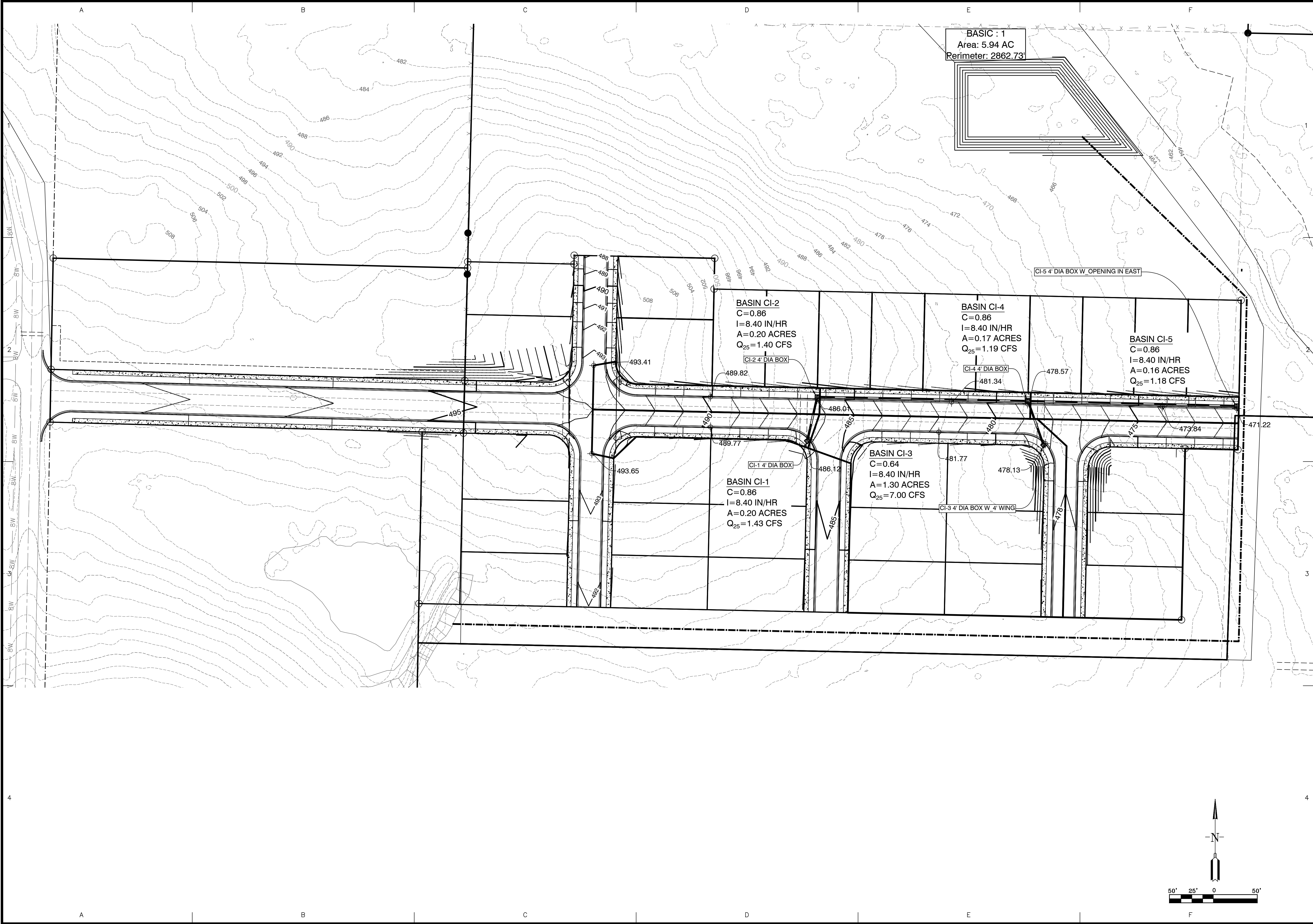
$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.18 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.03
T	<u>4.56</u> ft

Hawkins Valley - CURB INLETS

25-YEAR STORM

Area #	Area	I	C	Weir			Required L (ft)	Actual L (ft)	
				Q (cfs)	Q=3.0LY ^{1.5} Q (cfs)	Y (ft)			
SDMH-C1	0.20	8.40	0.86	1.43	1.43	0.49	1.39	4	4' box
SDMH-C2	0.19	8.40	0.86	1.40	1.40	0.49	1.36	4	4' box
SDMH-C3	1.30	8.40	0.64	7.00	7.00	0.49	6.81	4	4' box with 4' wing
SDMH-C4	0.17	8.40	0.86	1.19	1.19	0.49	1.16	4	4' box
SDMH-C5	0.16	8.40	0.86	1.18	1.18	0.49	1.15	4	4' box



BY		DATE	REVISION
FOR: THOMAS DB COLINS, LTD, LLC HAWKINS VALLEY PHASE 1 SALINE COUNTY, ARKANSAS			
PRELIMINARY			
CONTENTS: INLET BASIN PLAN			
PROJECT NO:	24076		
DATE:	JAN 2025		
SHEET NO:	3.0		

GNE Designing our client's success
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Benton, AR 72018
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gamateengineering@gmail.com

3825 Mt Carmel Rd
Bryant, AR 72022

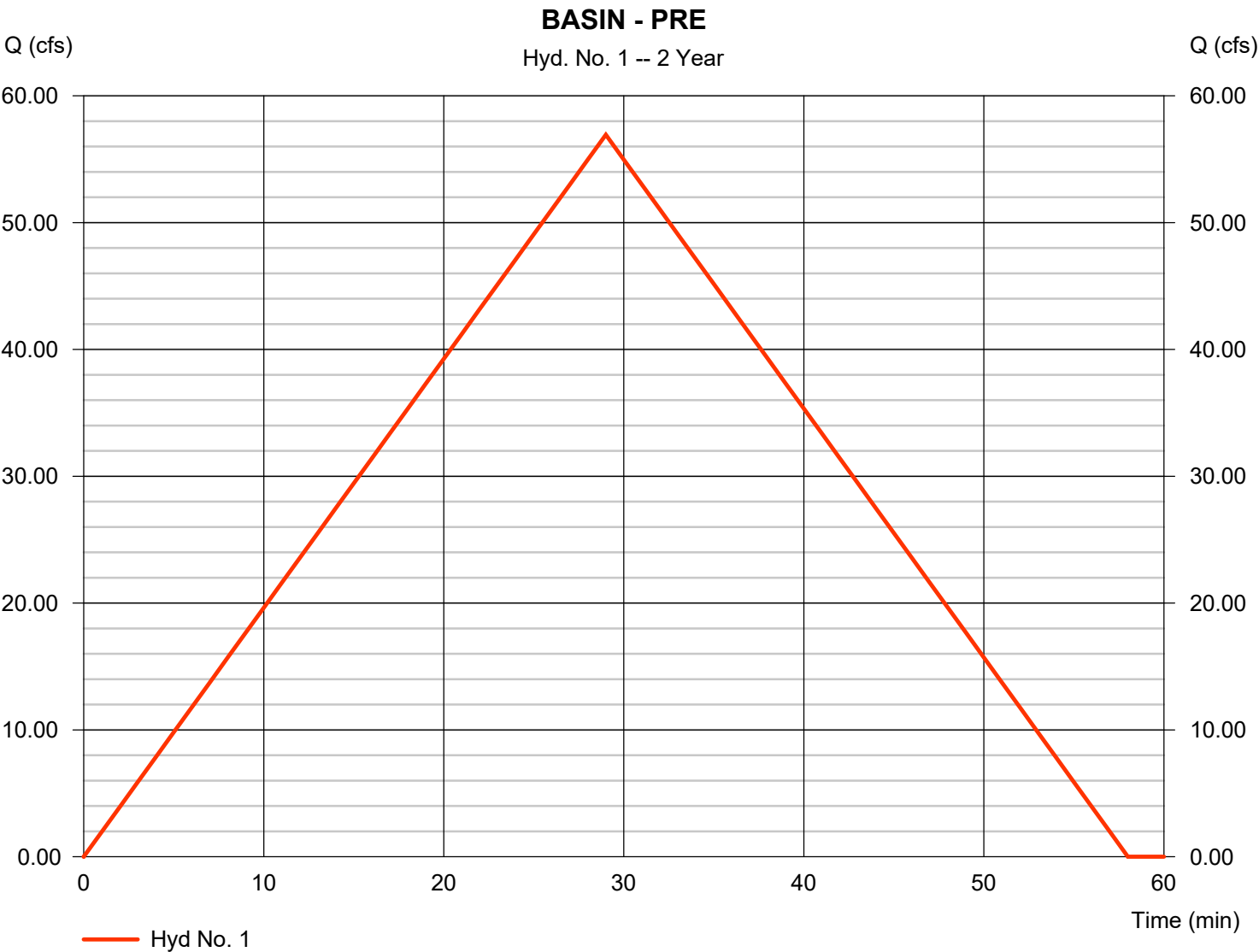
\\192.168.0.25\\Project\\24076 Project\\24076 Hawkins Valley Springhill Road Strawberry Lane Lee Purgill\\Drawings\\Plan\\34076 Springhill Road Strawberry Map-RE.dwg

Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 56.93 cfs
Storm frequency	= 2 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 99,054 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 2.751 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

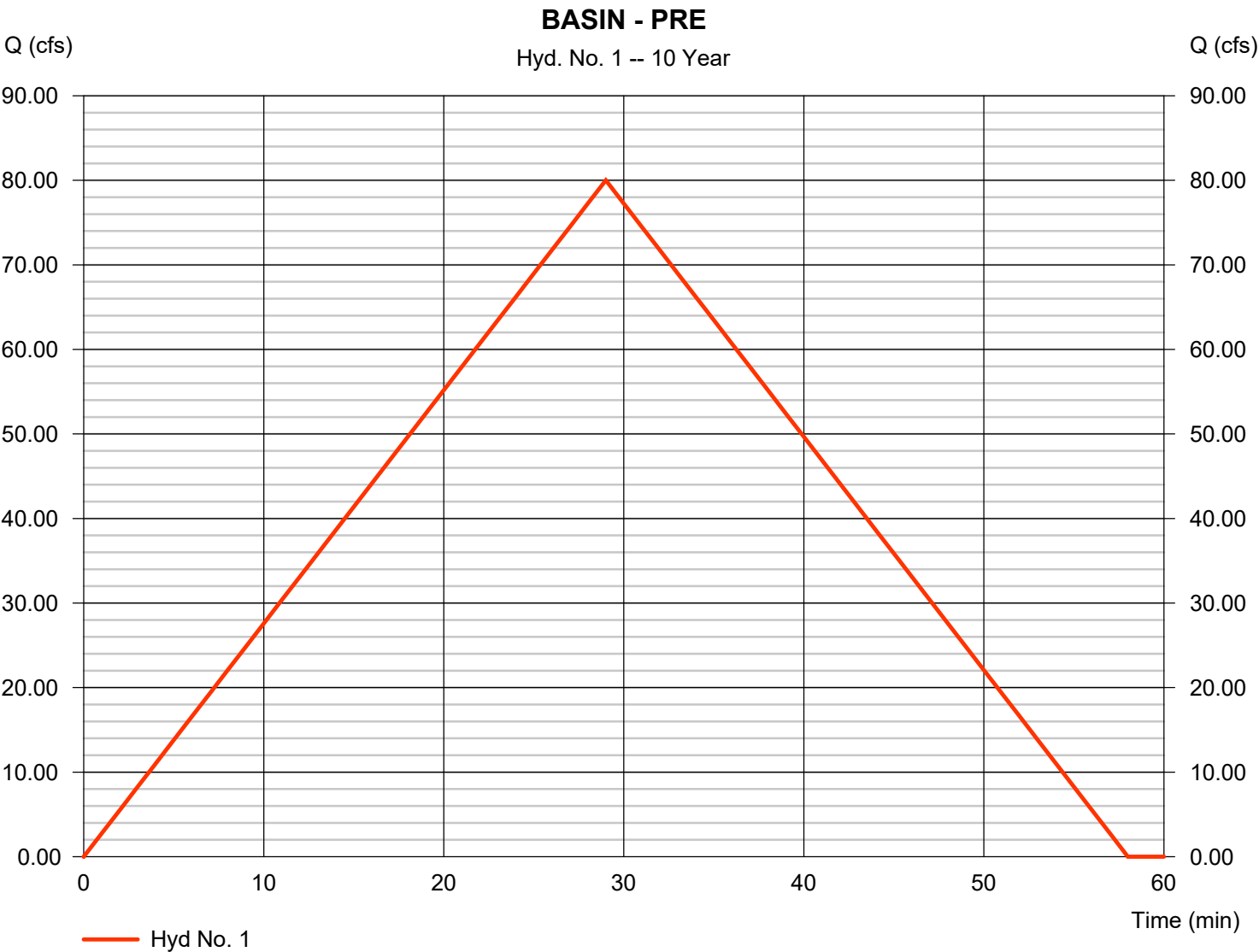


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 80.01 cfs
Storm frequency	= 10 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 139,223 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 3.866 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

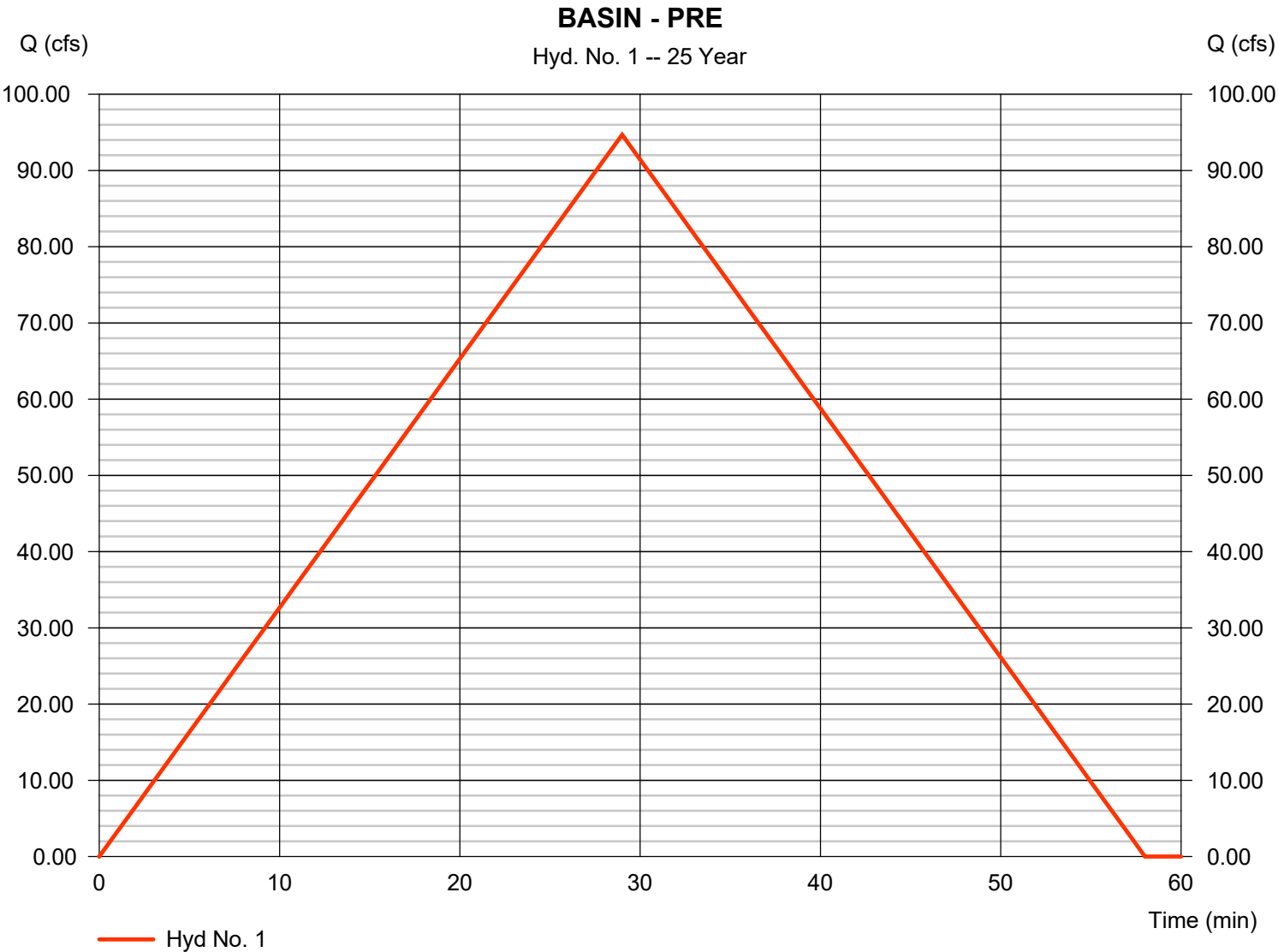


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 94.69 cfs
Storm frequency	= 25 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 164,756 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 4.576 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

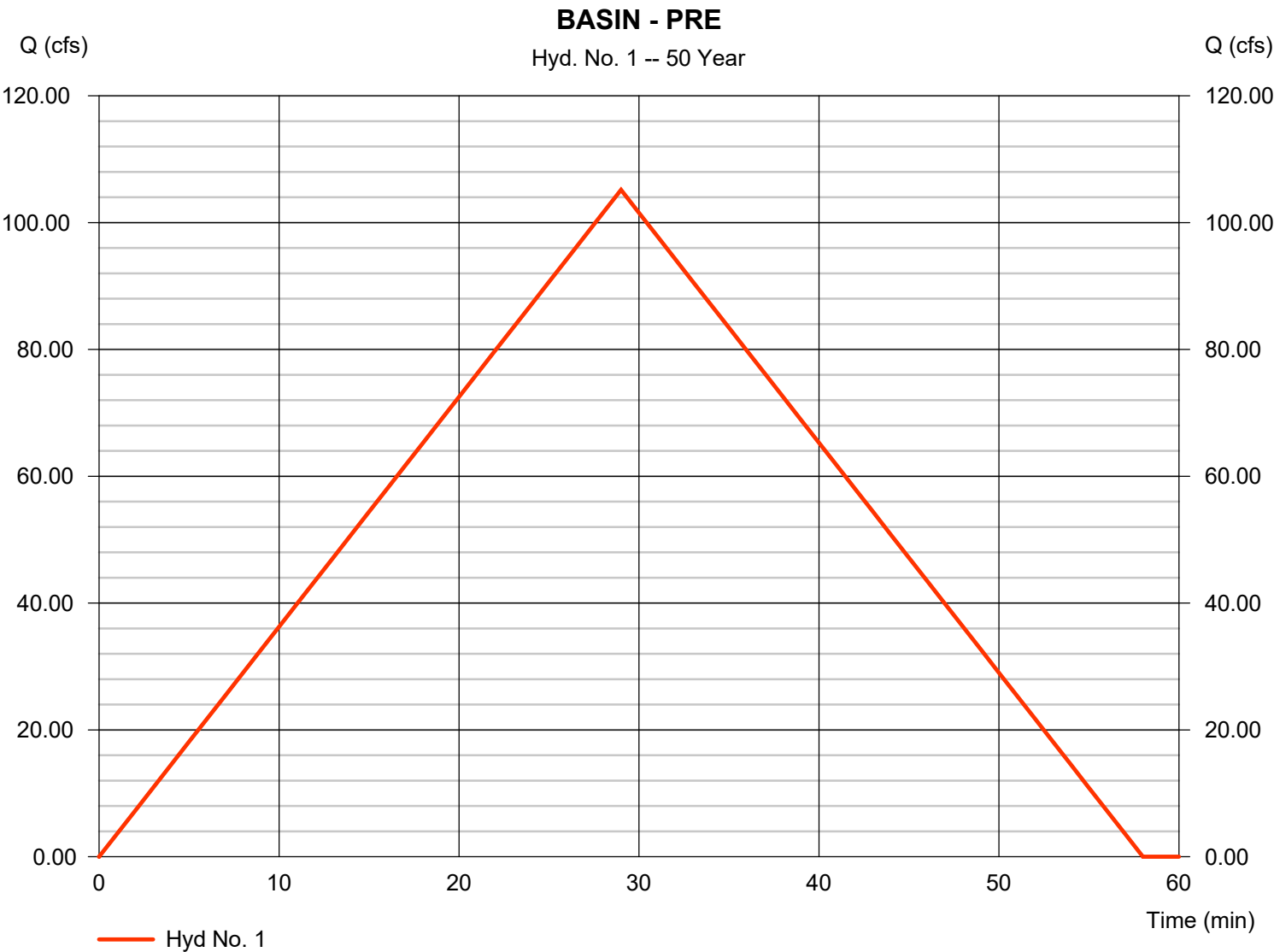


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 105.16 cfs
Storm frequency	= 50 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 182,986 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 5.082 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

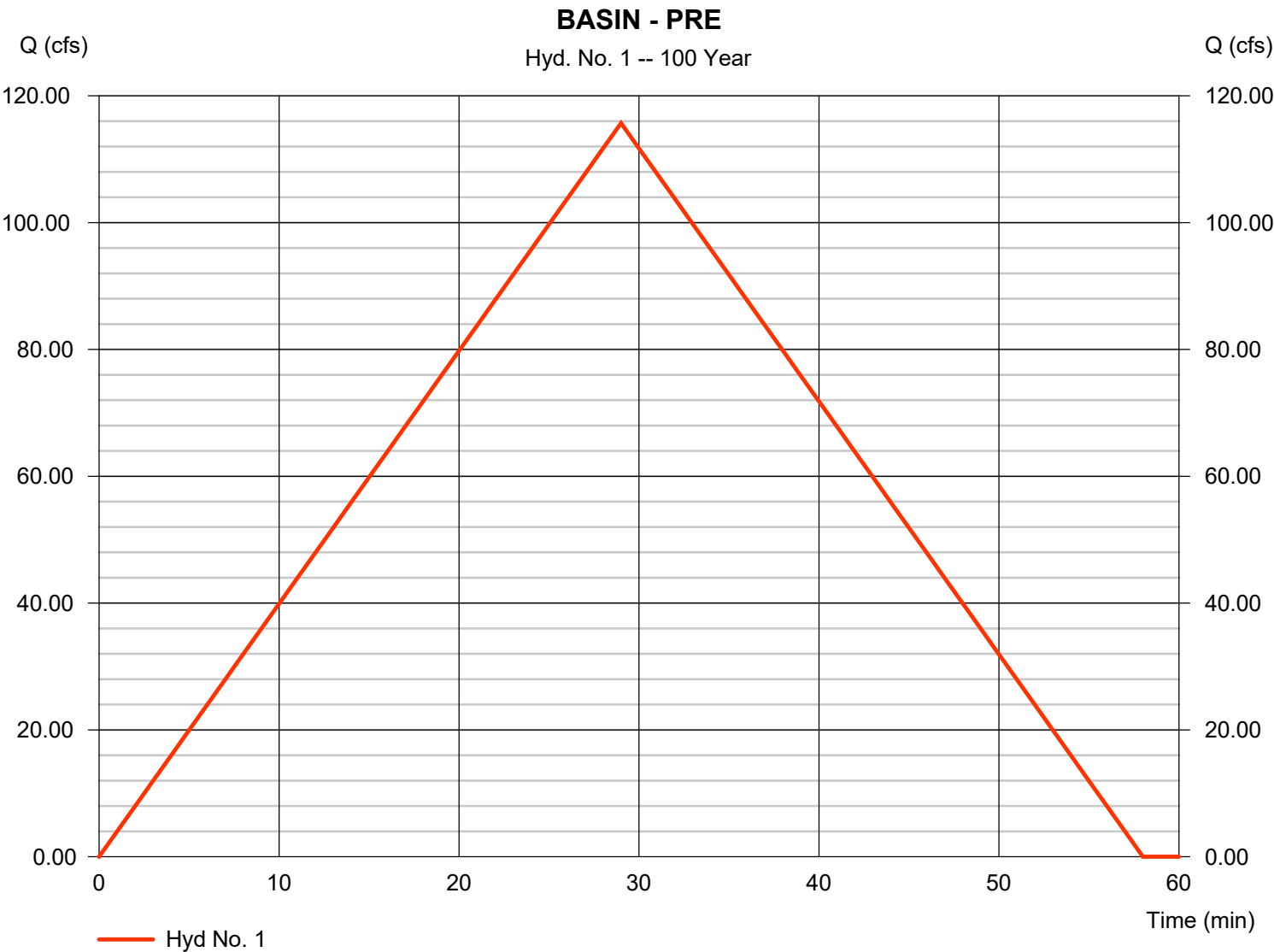


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 115.69 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 201,307 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 5.591 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

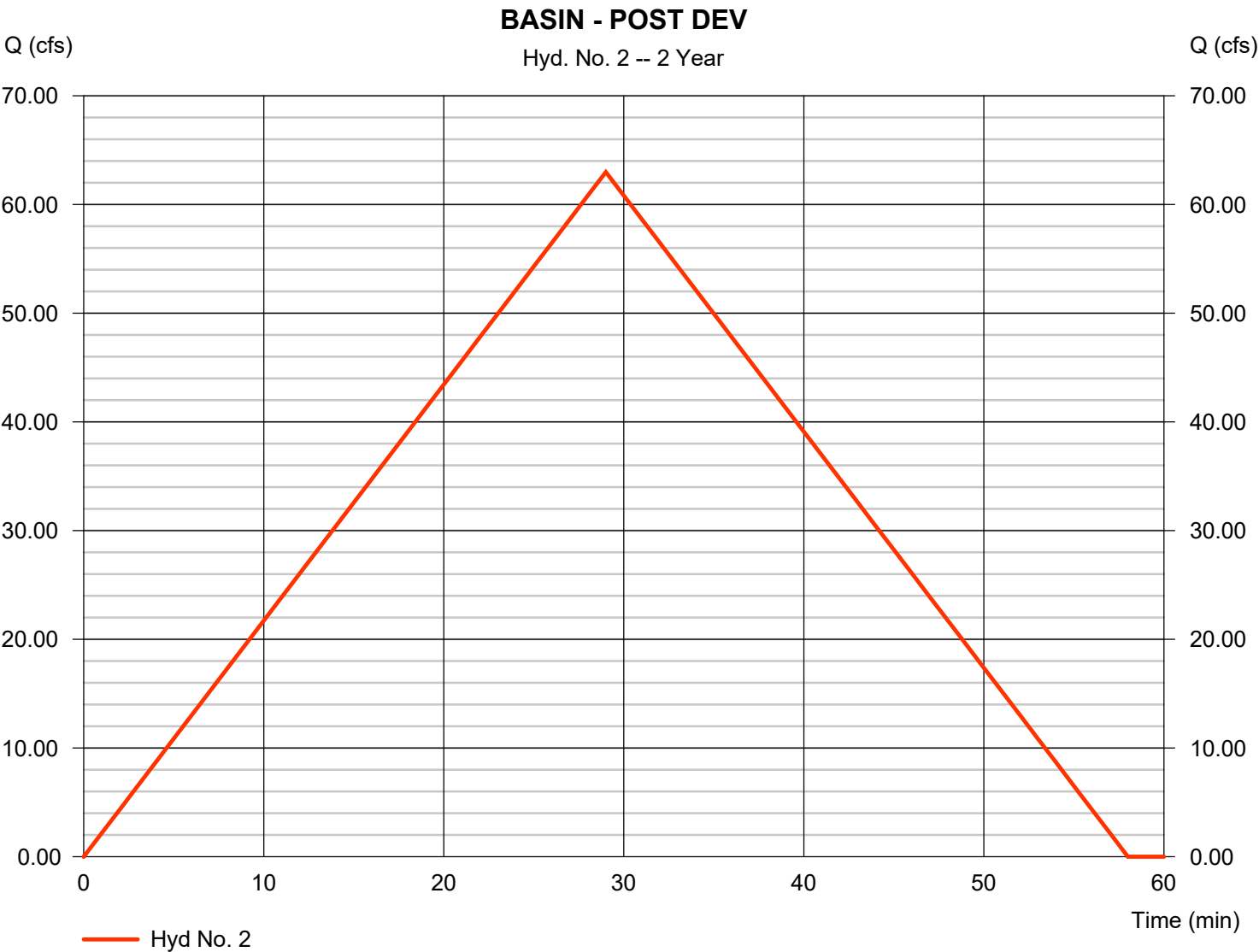


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 62.98 cfs
Storm frequency	= 2 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 109,592 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 2.751 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

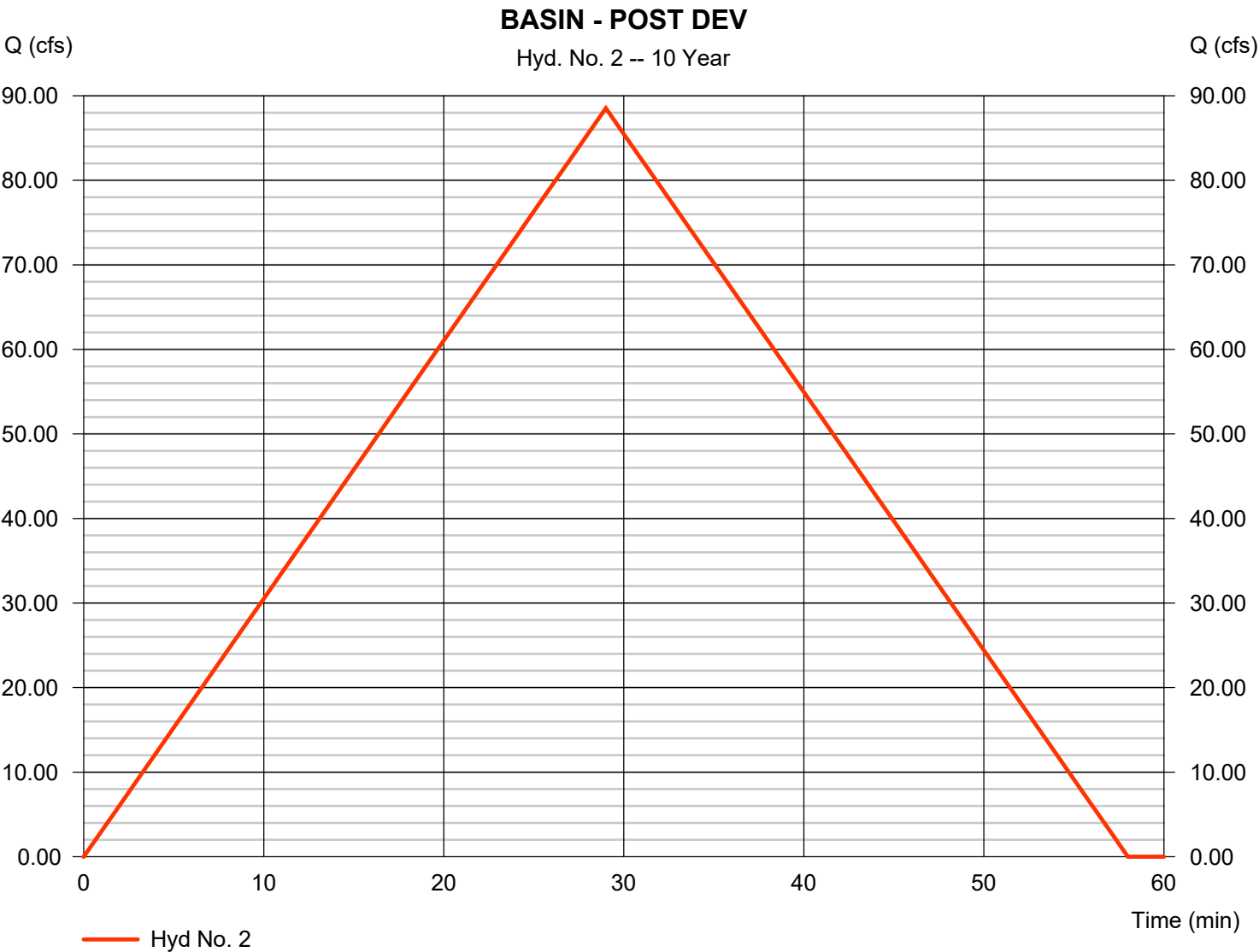


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 88.53 cfs
Storm frequency	= 10 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 154,034 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 3.866 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

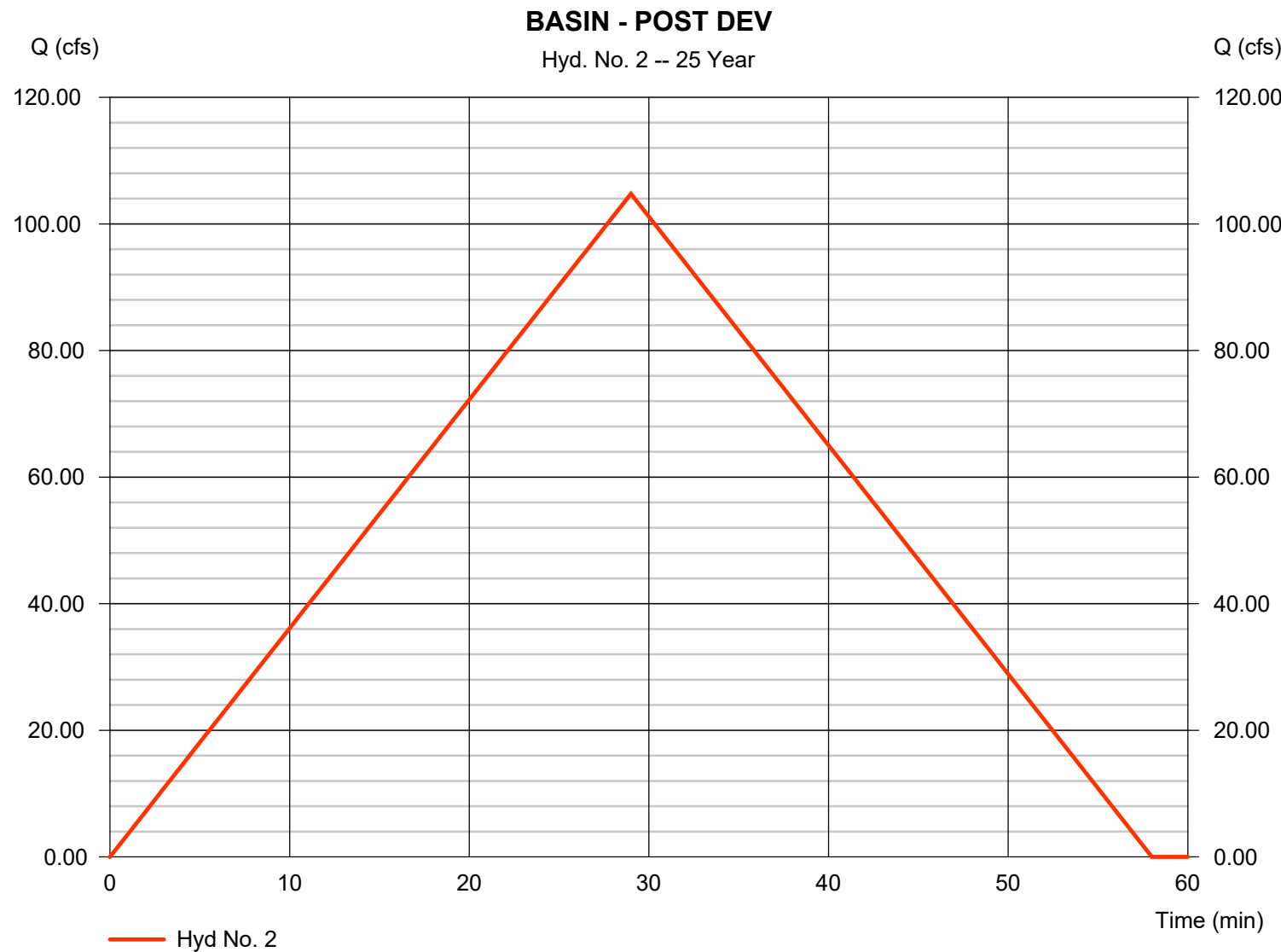


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 104.76 cfs
Storm frequency	= 25 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 182,283 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 4.576 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

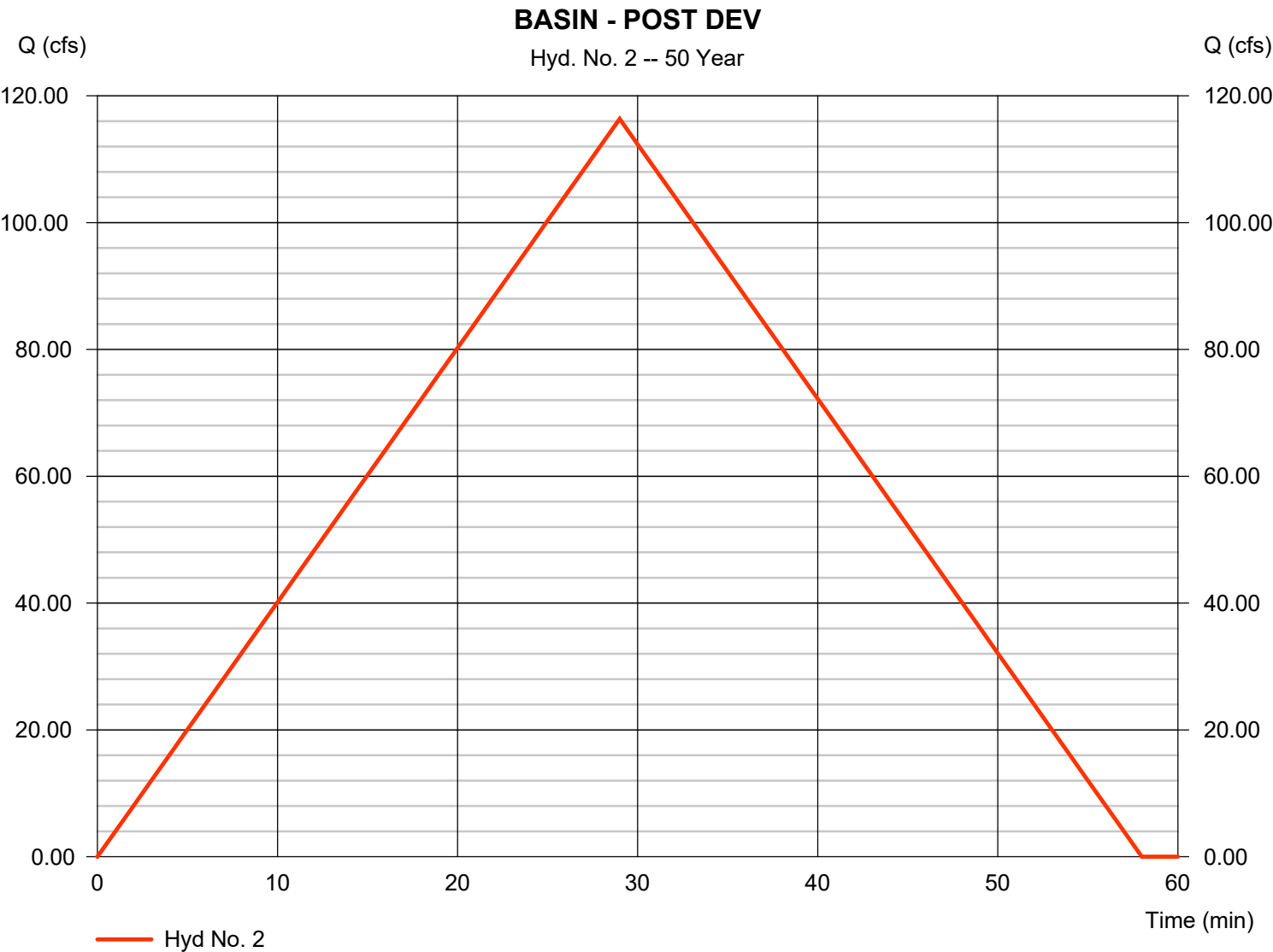


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 116.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 202,453 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 5.082 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

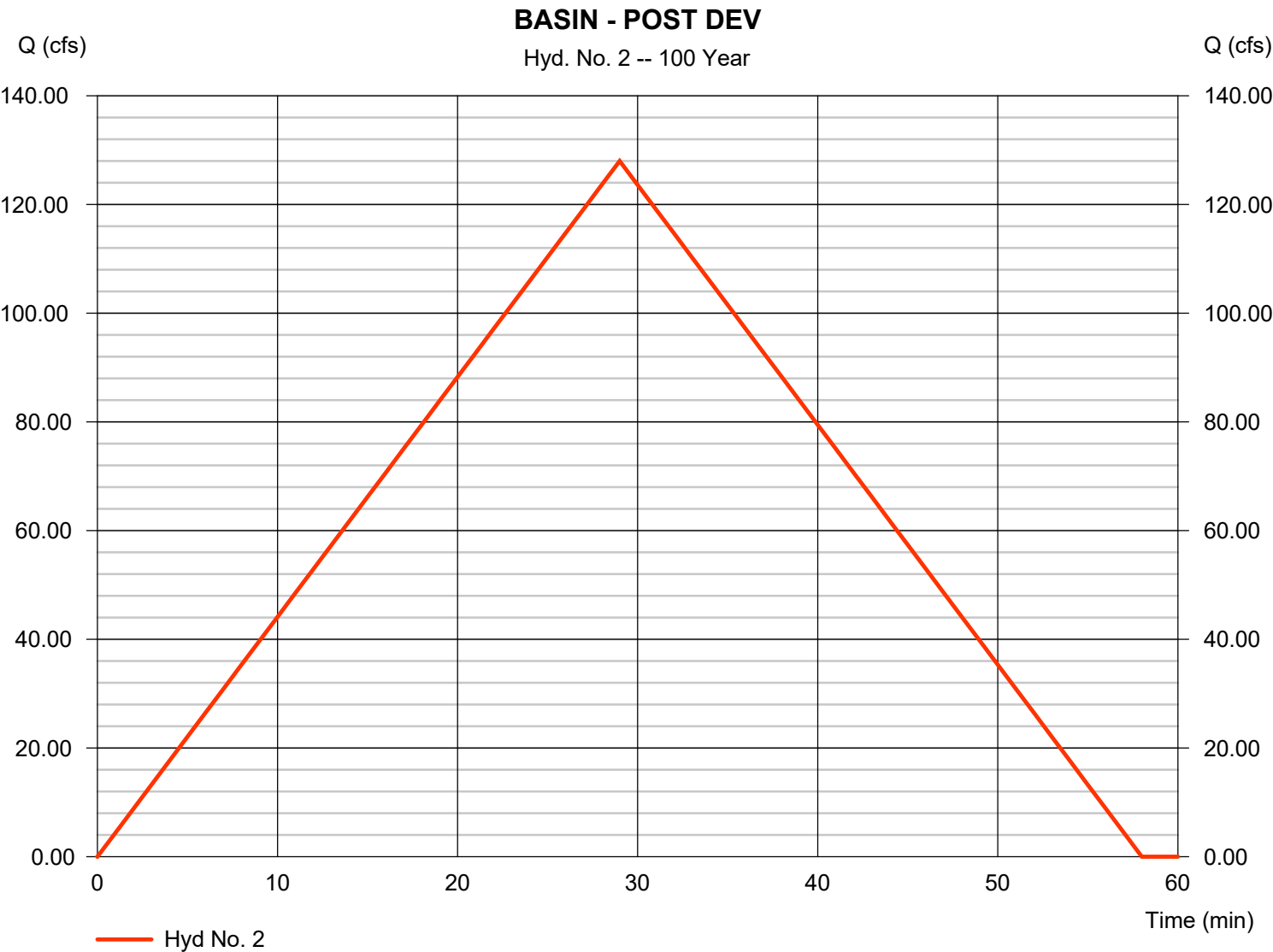


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 128.00 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 222,723 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 5.591 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1



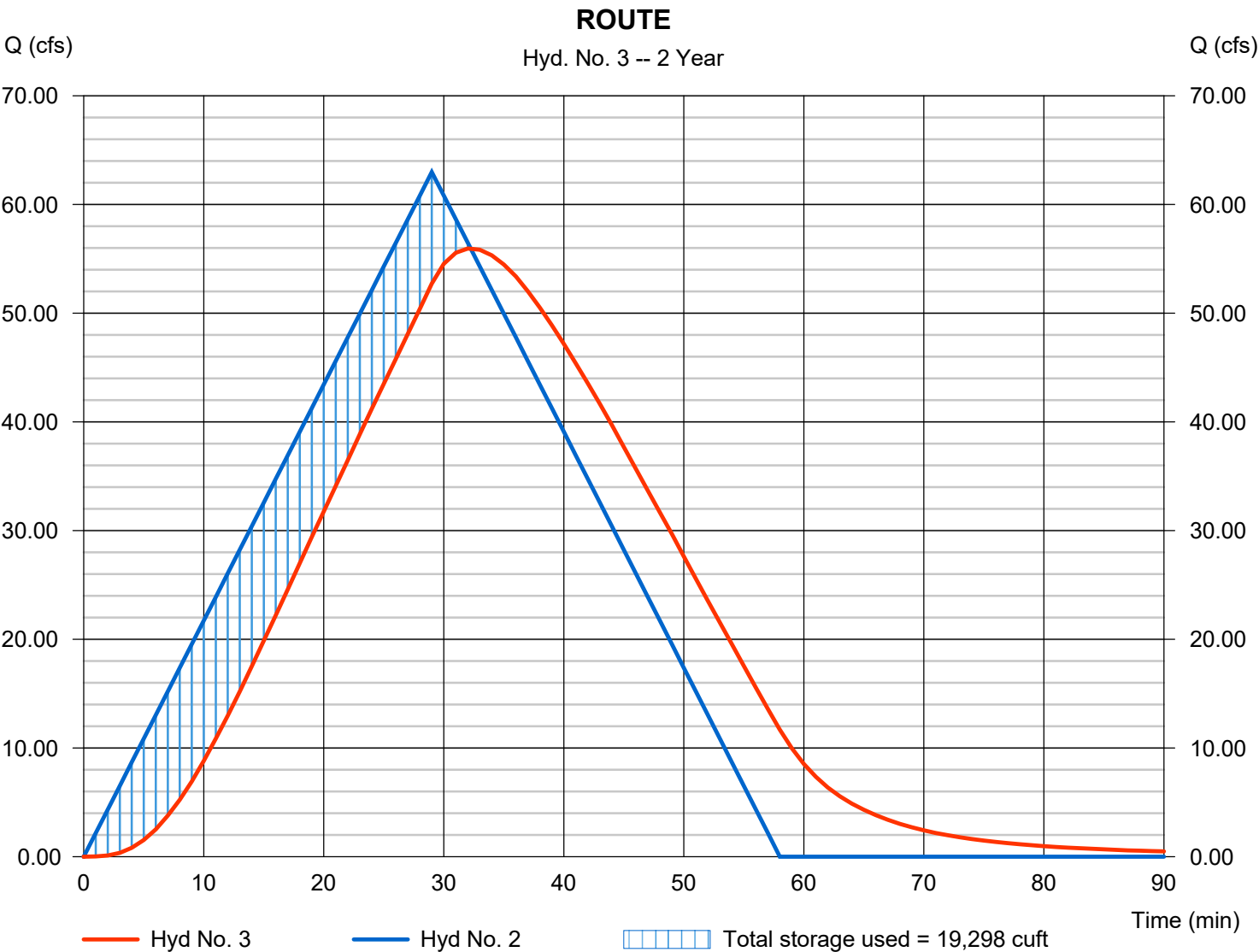
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 55.95 cfs
Storm frequency	= 2 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 109,590 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 465.47 ft
Reservoir name	= POND	Max. Storage	= 19,298 cuft

Storage Indication method used.



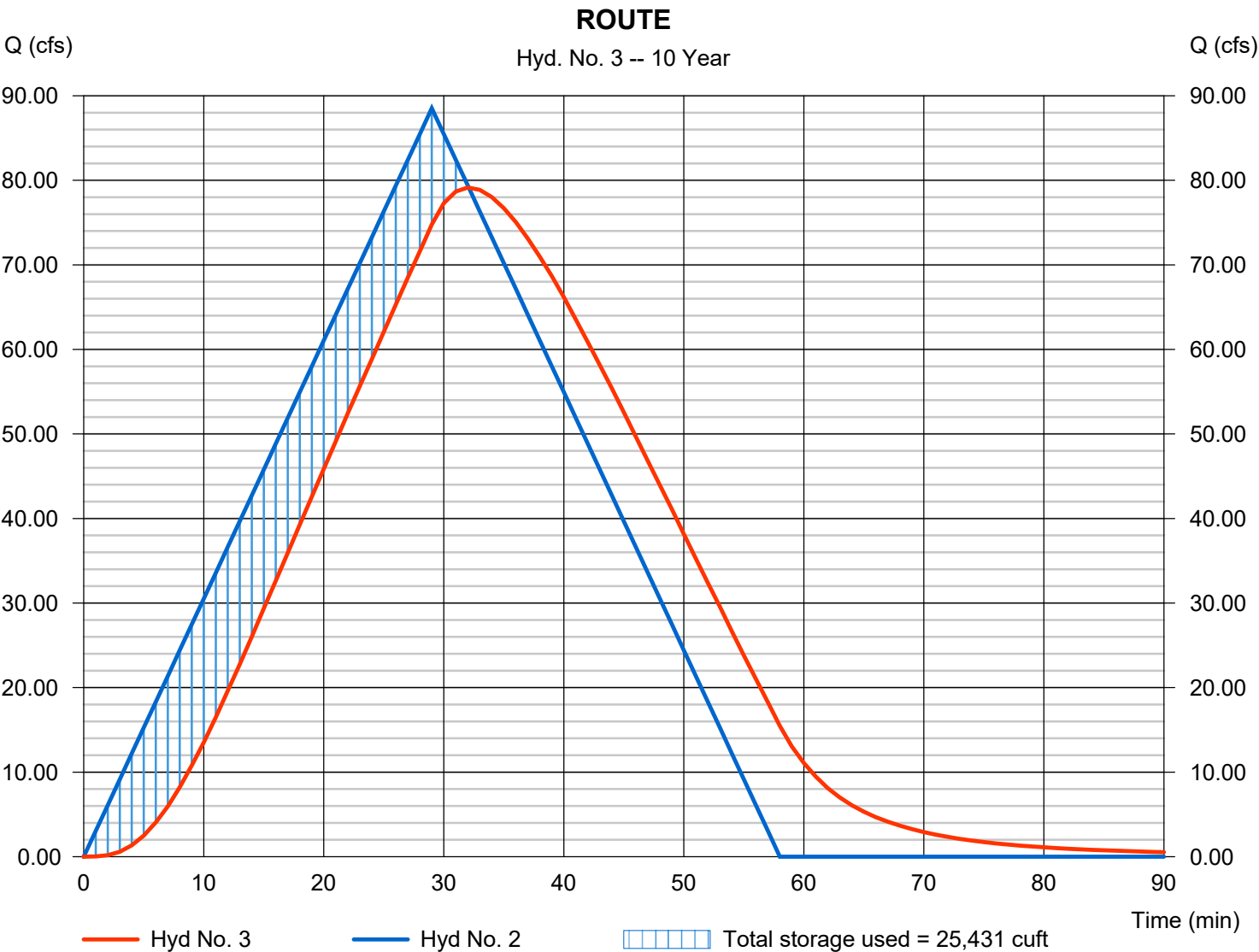
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 79.14 cfs
Storm frequency	= 10 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 154,032 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.12 ft
Reservoir name	= POND	Max. Storage	= 25,431 cuft

Storage Indication method used.



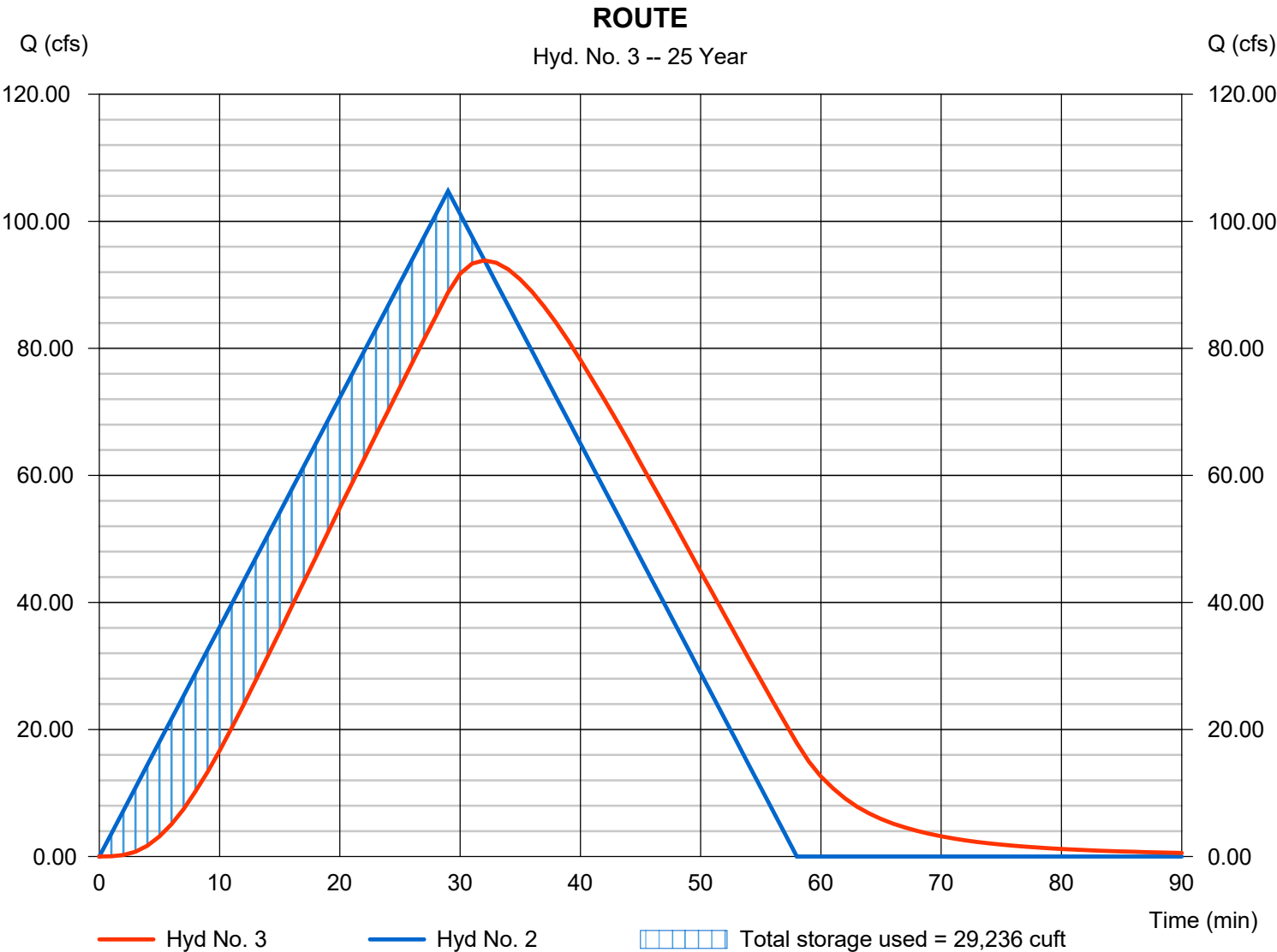
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 93.85 cfs
Storm frequency	= 25 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 182,281 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.49 ft
Reservoir name	= POND	Max. Storage	= 29,236 cuft

Storage Indication method used.



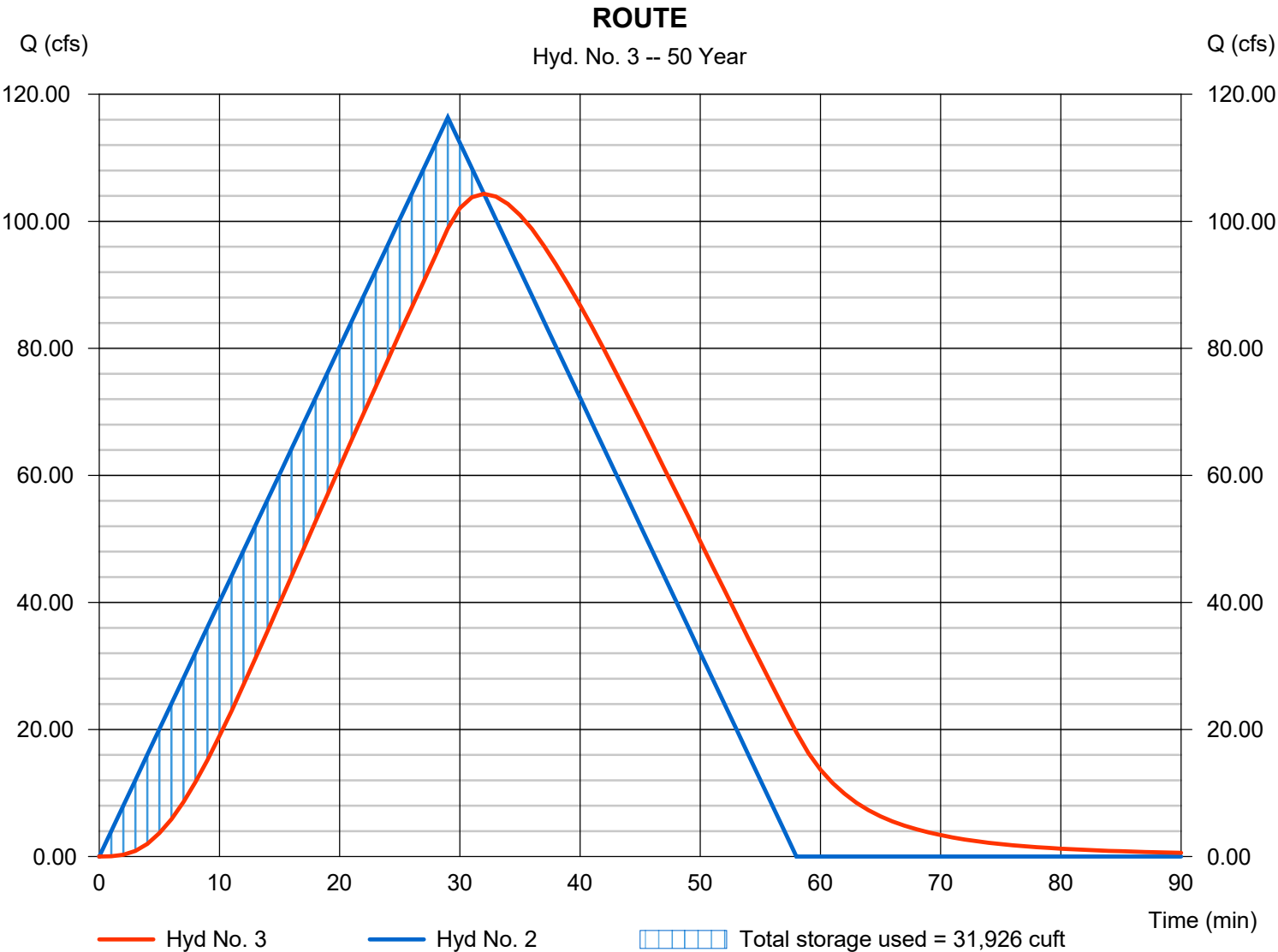
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 104.32 cfs
Storm frequency	= 50 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 202,450 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.75 ft
Reservoir name	= POND	Max. Storage	= 31,926 cuft

Storage Indication method used.



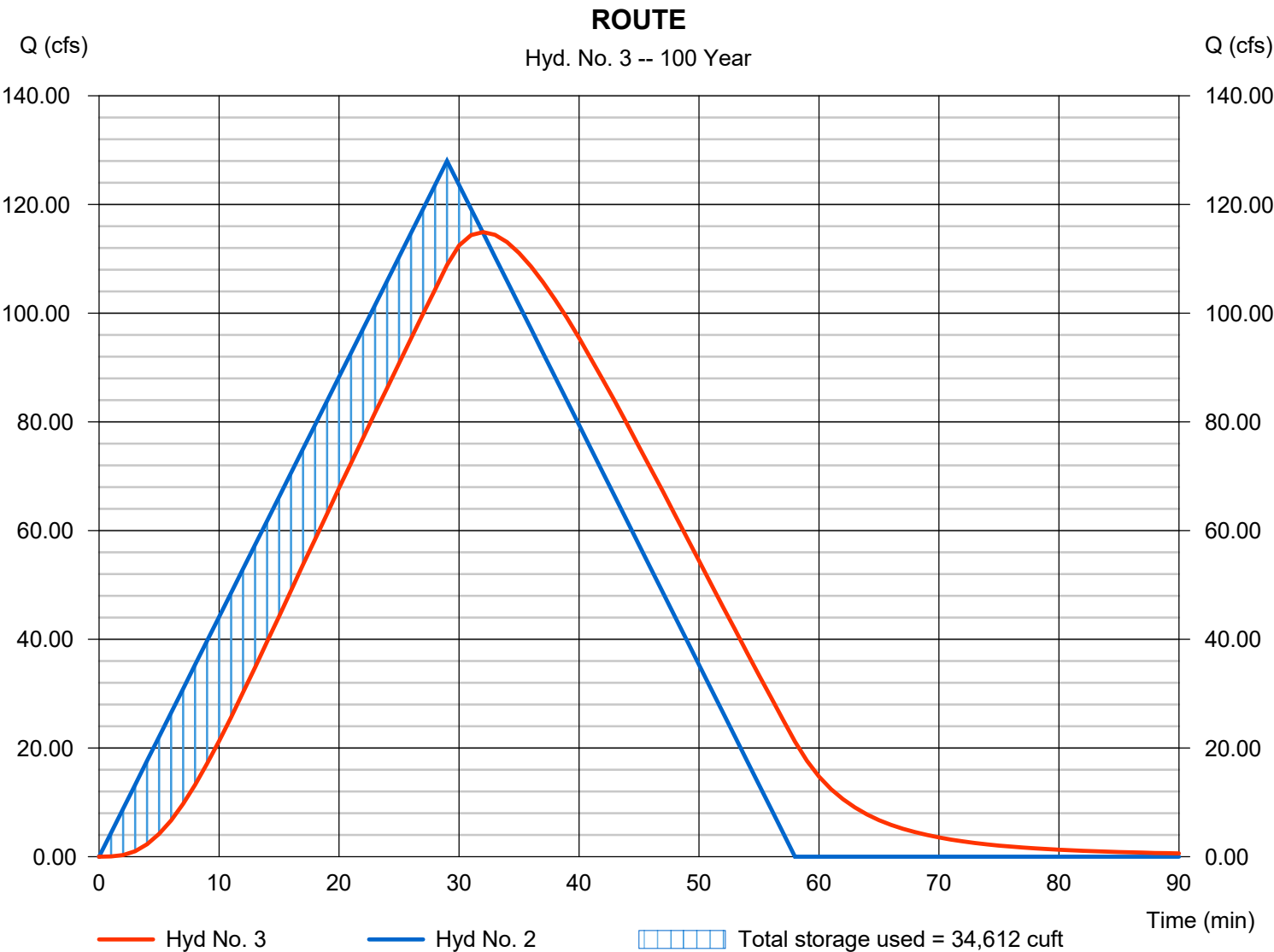
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 114.92 cfs
Storm frequency	= 100 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 222,721 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 467.00 ft
Reservoir name	= POND	Max. Storage	= 34,612 cuft

Storage Indication method used.



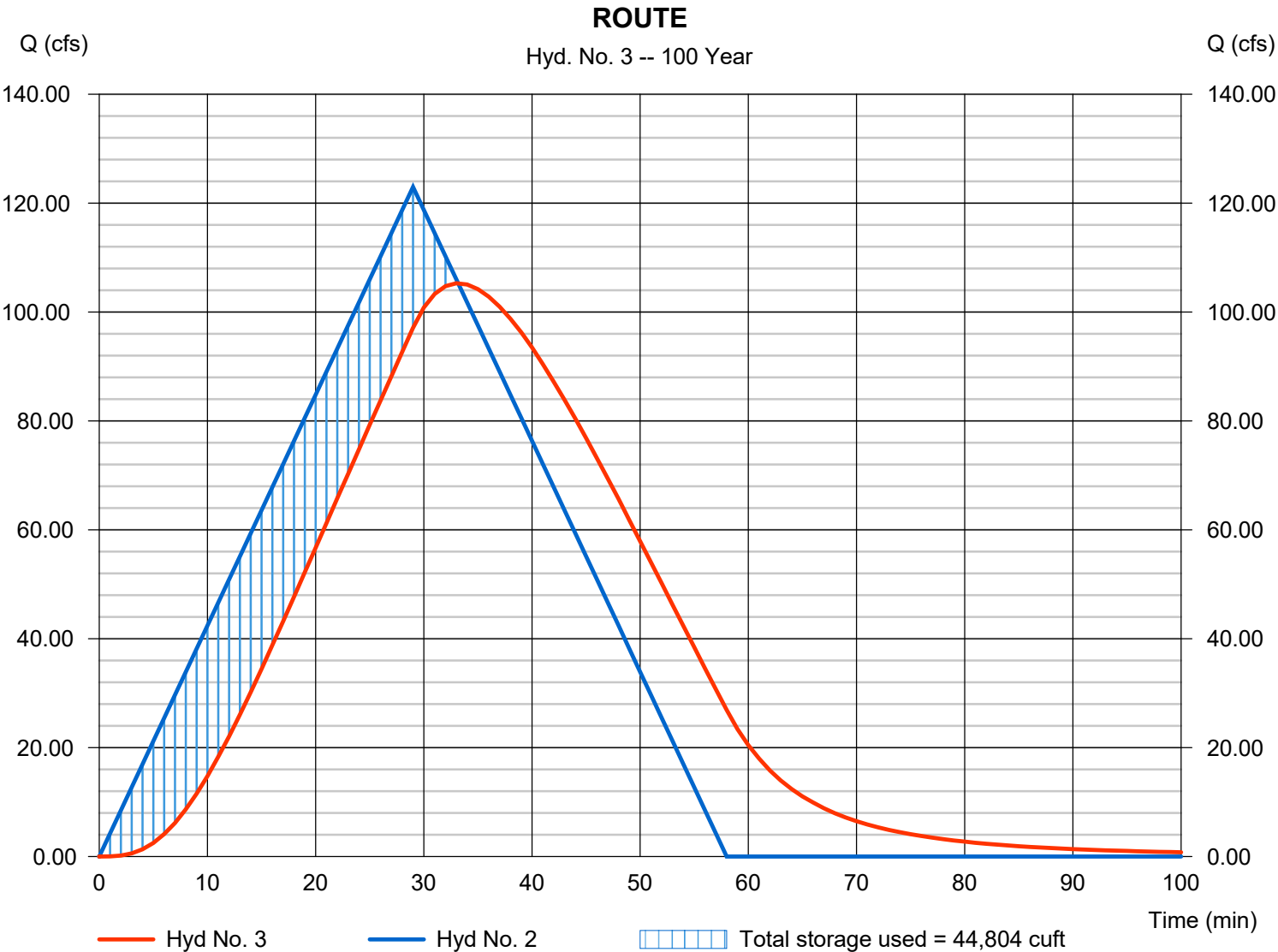
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 105.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 213,968 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.86 ft
Reservoir name	= POND	Max. Storage	= 44,804 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - POND

Pond Data

Trapezoid -Bottom L x W = 130.0 x 70.0 ft, Side slope = 3.00:1, Bottom elev. = 463.00 ft, Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	463.00	9,100	0	0
0.40	463.40	9,586	3,737	3,737
0.80	463.80	10,083	3,933	7,670
1.20	464.20	10,592	4,135	11,805
1.60	464.60	11,112	4,340	16,145
2.00	465.00	11,644	4,551	20,696
2.40	465.40	12,187	4,766	25,462
2.80	465.80	12,742	4,986	30,447
3.20	466.20	13,309	5,210	35,657
3.60	466.60	13,887	5,439	41,096
4.00	467.00	14,476	5,672	46,768

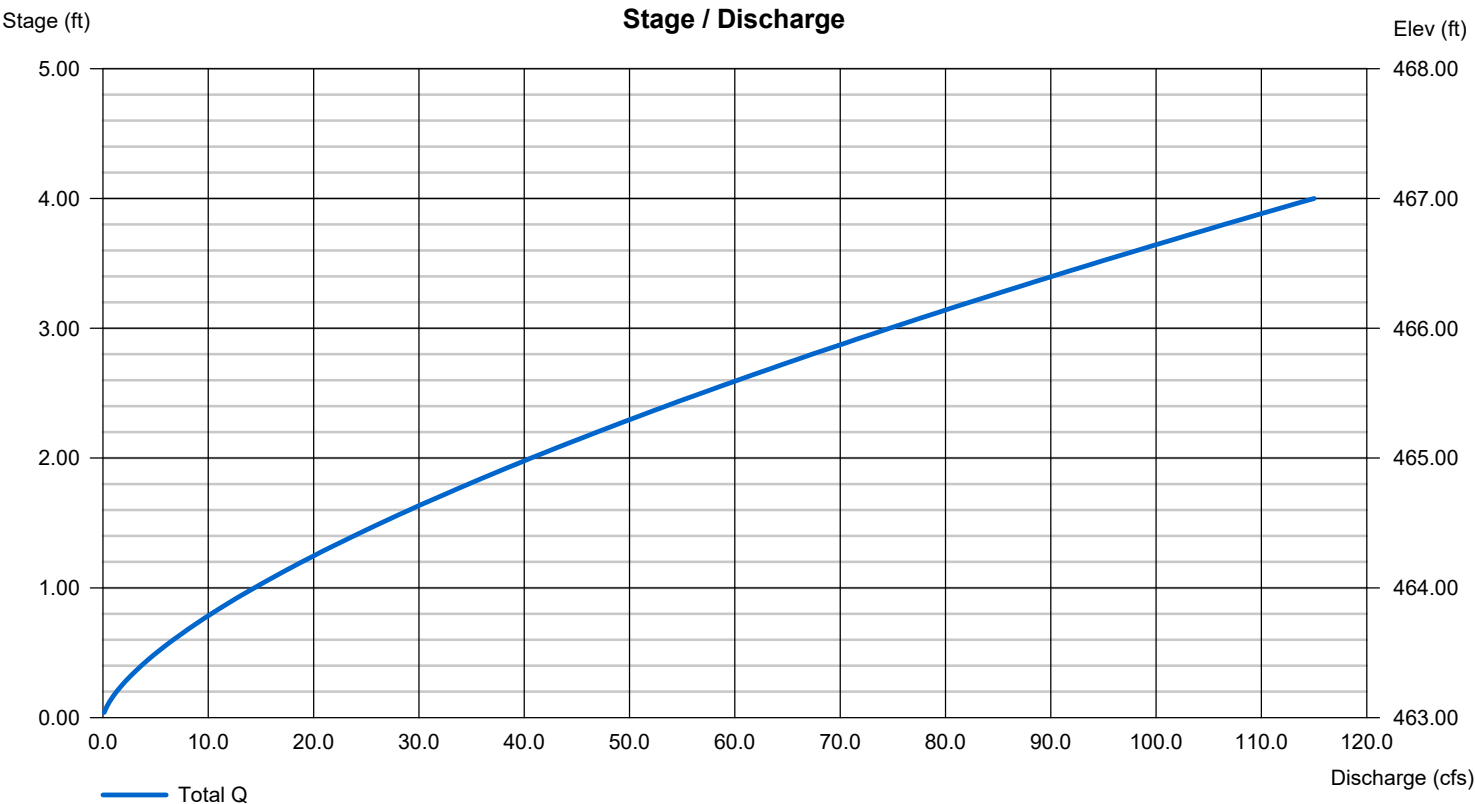
Culvert / Orifice Structures

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

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.75	0.00	0.00	0.00
Crest El. (ft)	= 463.00	0.00	0.00	0.00
Weir Coeff.	= 2.50	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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



Pond Report

Pond No. 1 - POND

Pond Data

Trapezoid -Bottom L x W = 130.0 x 70.0 ft, Side slope = 3.00:1, Bottom elev. = 463.00 ft, Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	463.00	9,100	0	0
0.40	463.40	9,586	3,737	3,737
0.80	463.80	10,083	3,933	7,670
1.20	464.20	10,592	4,135	11,805
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2.00	465.00	11,644	4,551	20,696
2.40	465.40	12,187	4,766	25,462
2.80	465.80	12,742	4,986	30,447
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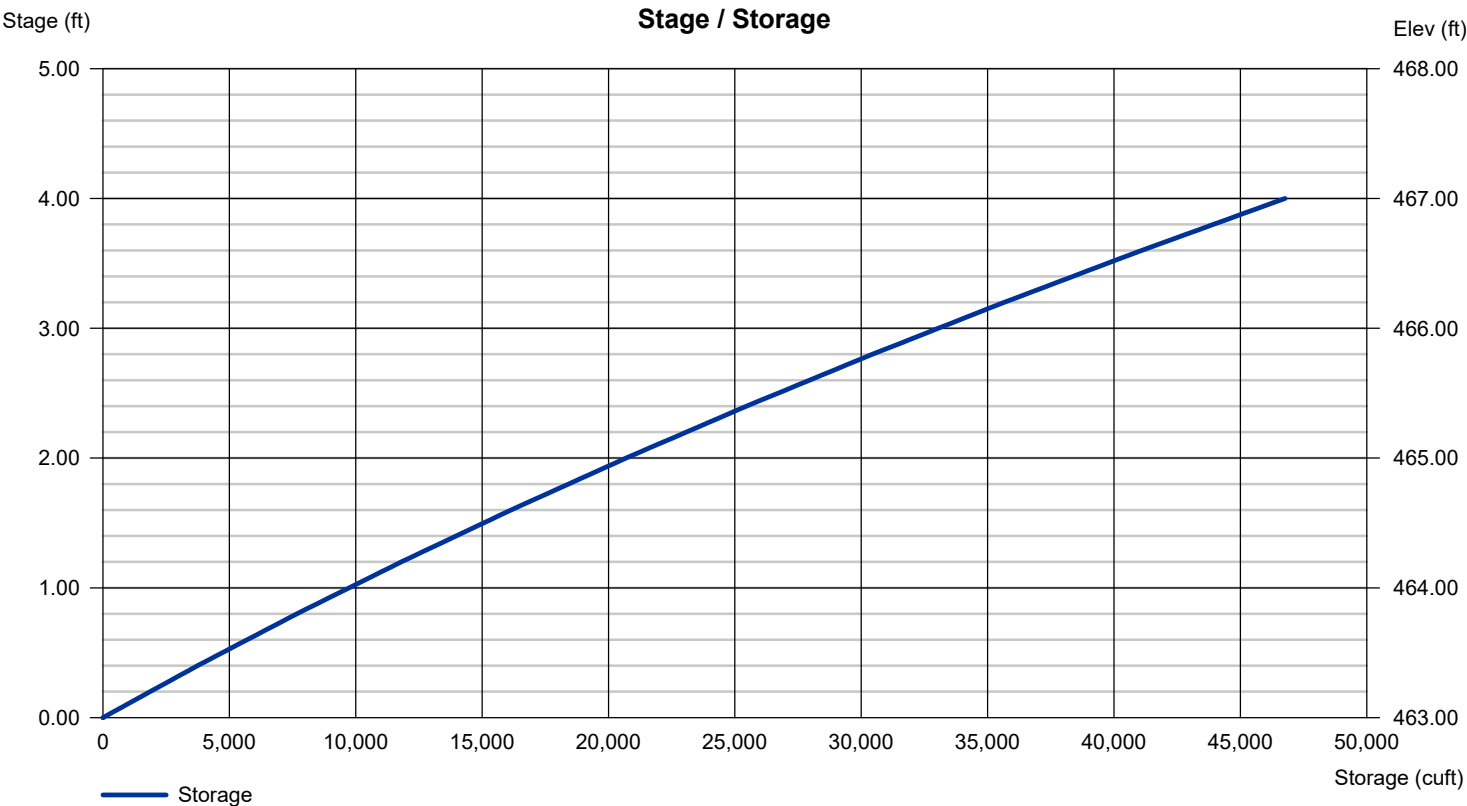
Culvert / Orifice Structures

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

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.75	0.00	0.00	0.00
Crest El. (ft)	= 463.00	0.00	0.00	0.00
Weir Coeff.	= 2.50	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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



Weir Report

Weir

Rectangular Weir

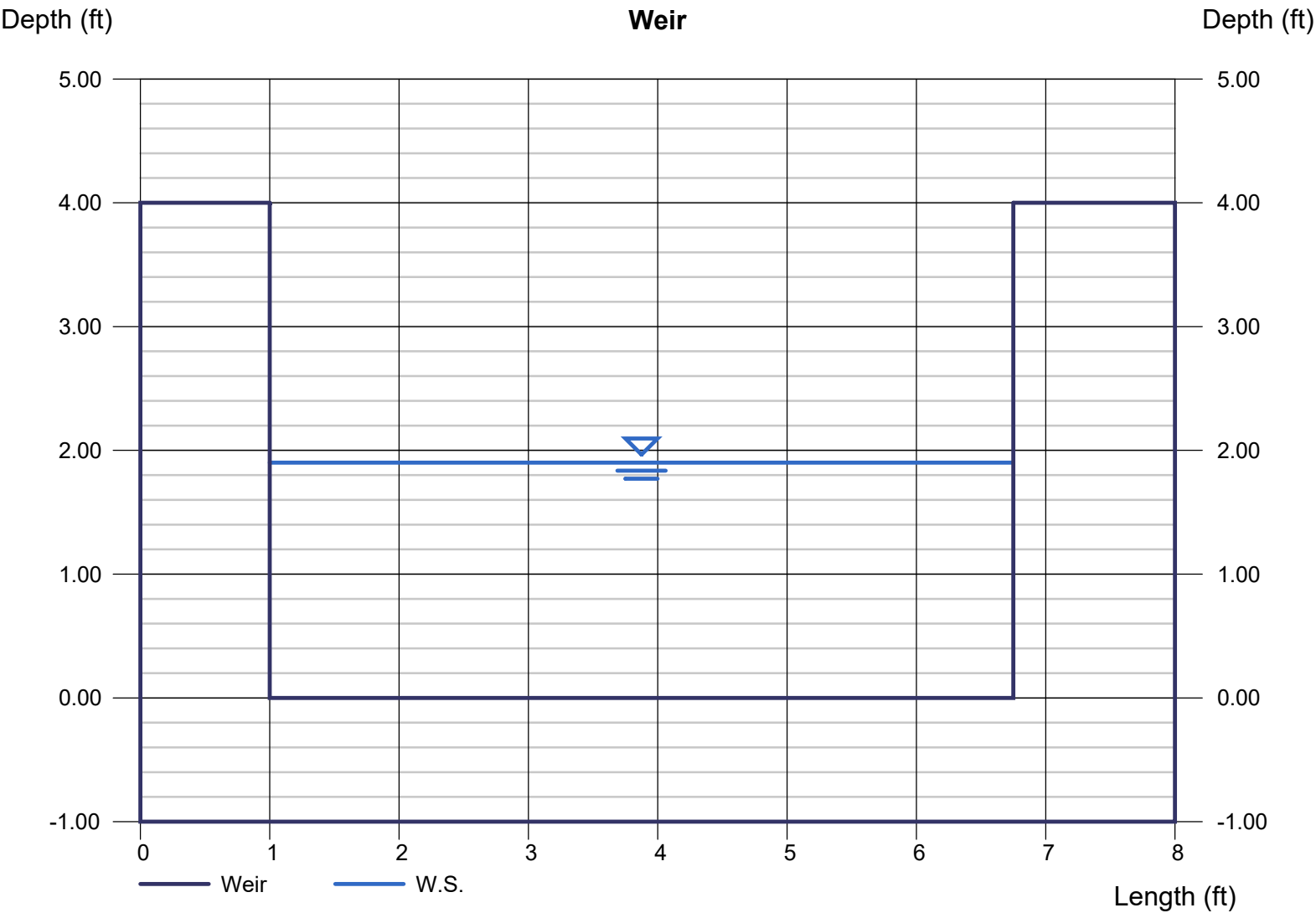
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 37.65

Highlighted

Depth (ft) = 1.90
Q (cfs) = 37.65
Area (sqft) = 10.93
Velocity (ft/s) = 3.44
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

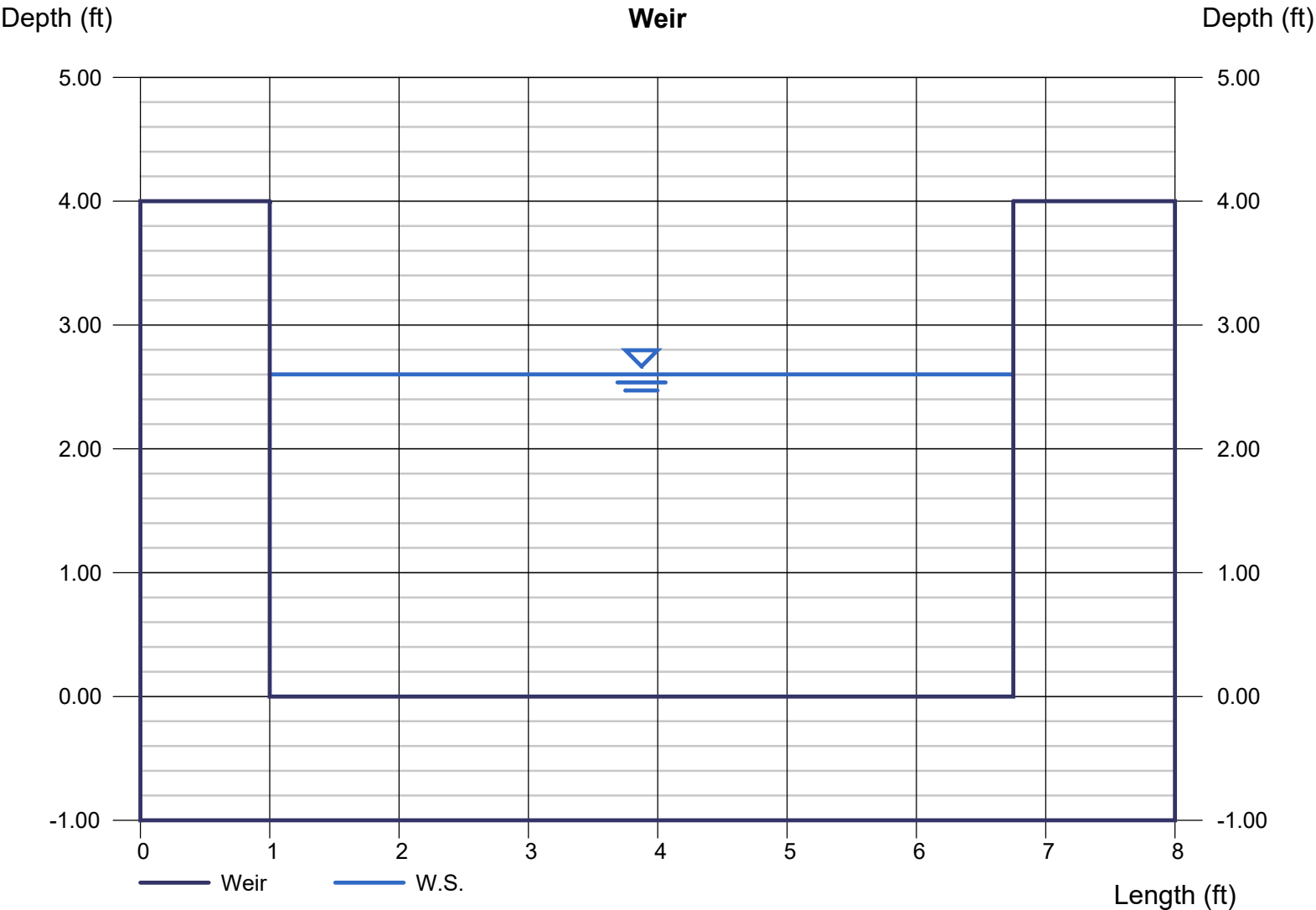
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 60.27

Highlighted

Depth (ft) = 2.60
Q (cfs) = 60.27
Area (sqft) = 14.96
Velocity (ft/s) = 4.03
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

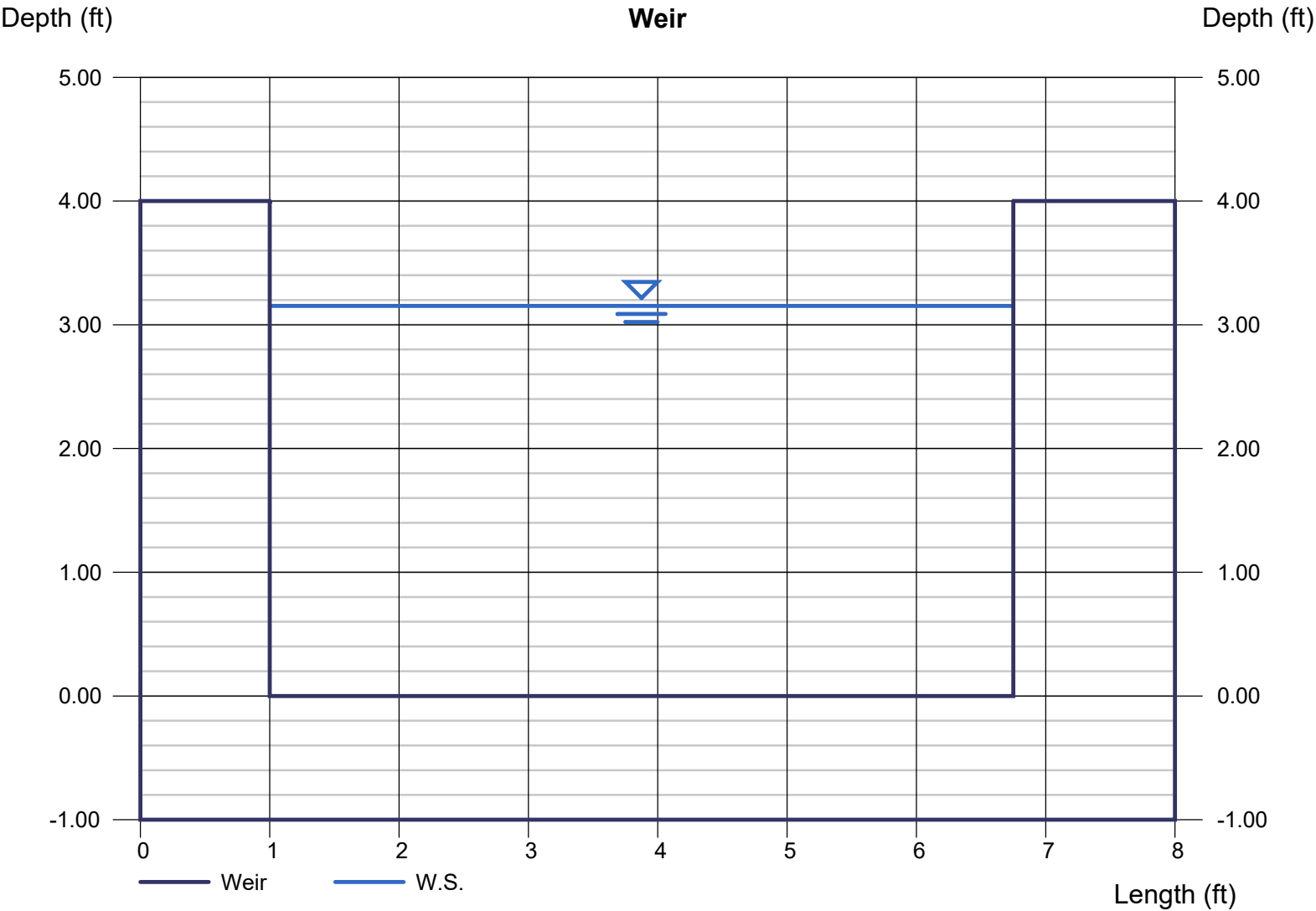
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 80.37

Highlighted

Depth (ft) = 3.15
Q (cfs) = 80.37
Area (sqft) = 18.12
Velocity (ft/s) = 4.43
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

Crest = Broad

Bottom Length (ft) = 5.75

Total Depth (ft) = 4.00

Highlighted

Depth (ft) = 3.55

Q (cfs) = 96.15

Area (sqft) = 20.43

Velocity (ft/s) = 4.71

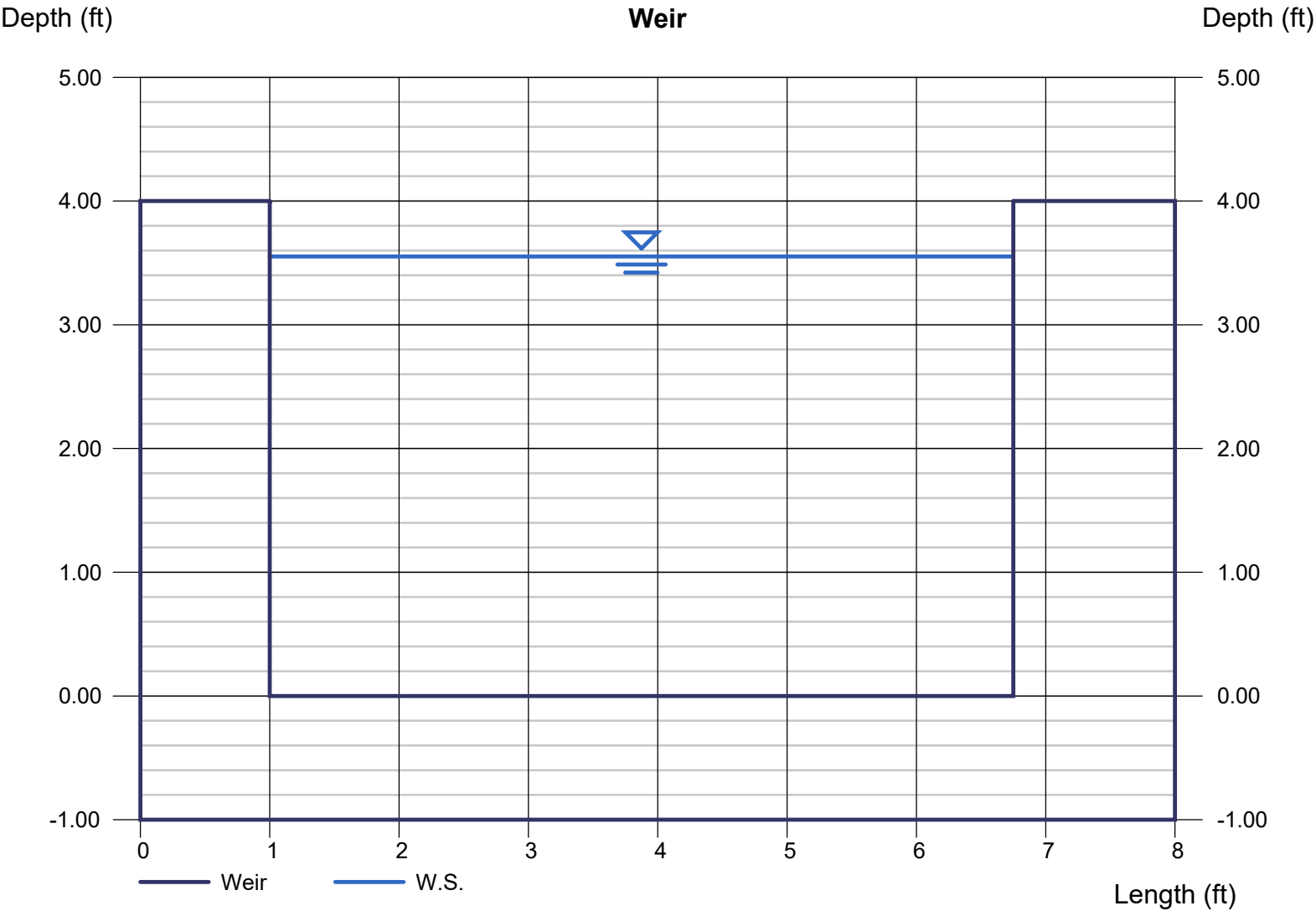
Top Width (ft) = 5.75

Calculations

Weir Coeff. Cw = 2.50

Compute by: Known Q

Known Q (cfs) = 96.15



Weir Report

Weir

Rectangular Weir

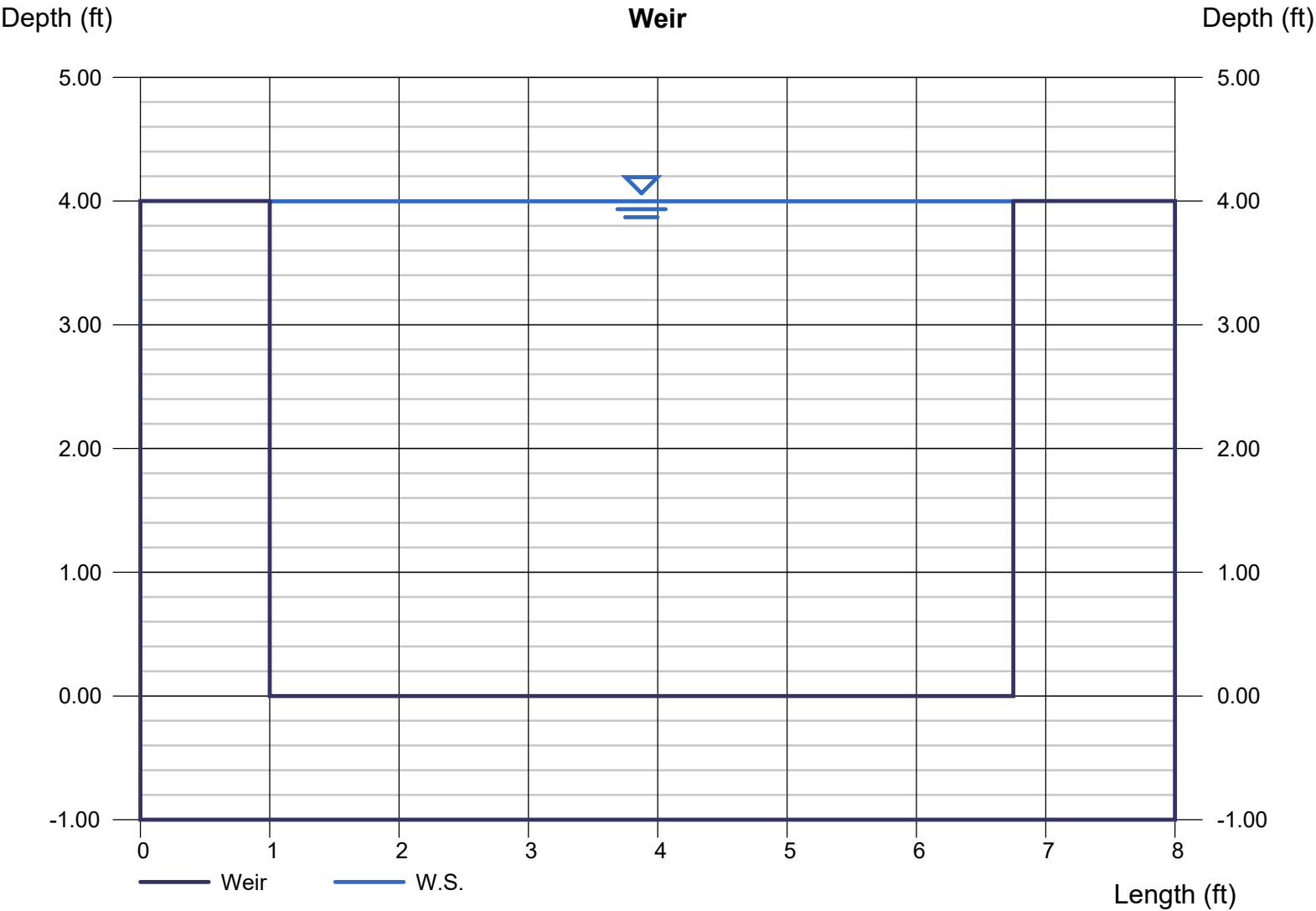
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

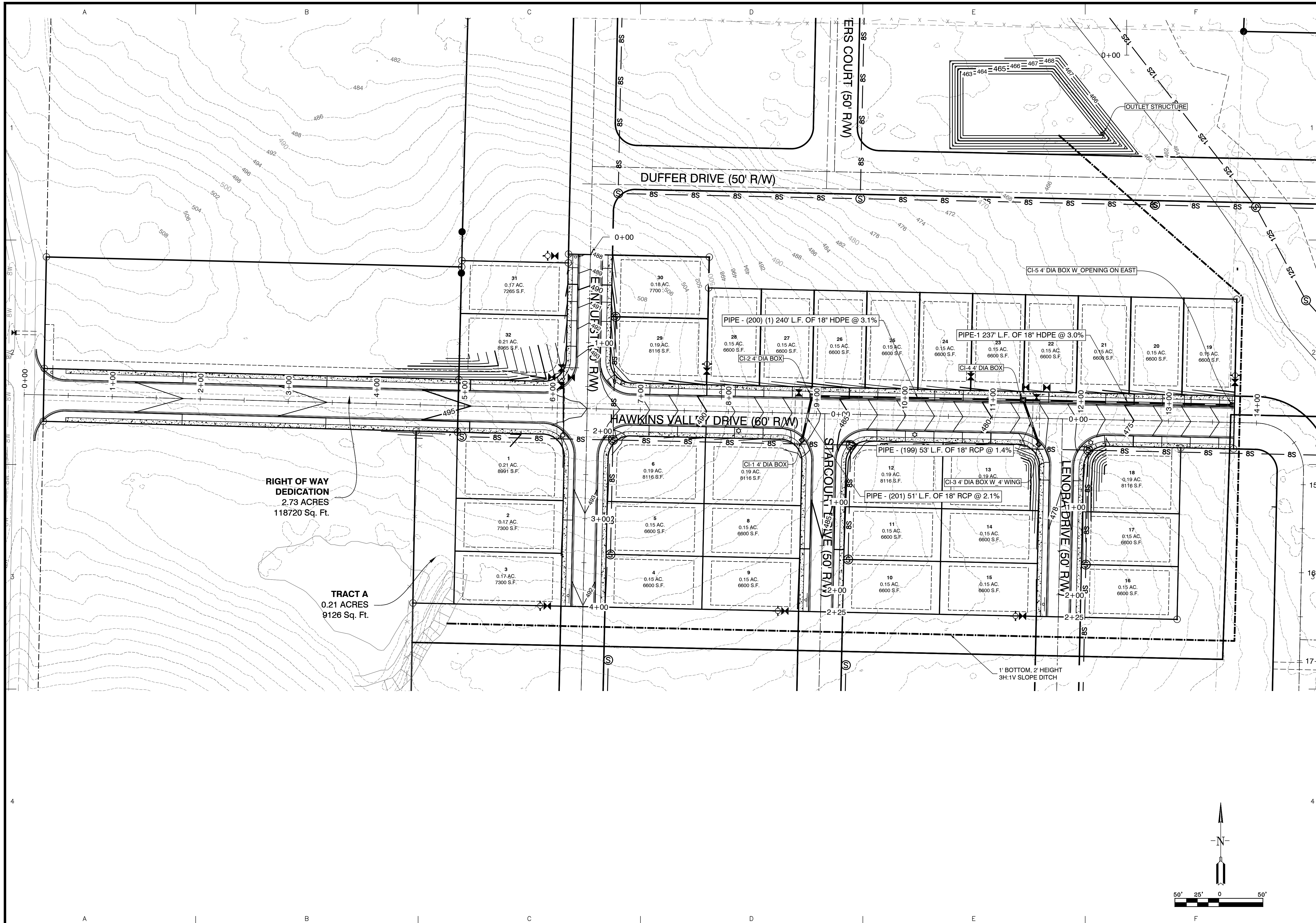
Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 115.00

Highlighted

Depth (ft) = 4.00
Q (cfs) = 115.00
Area (sqft) = 22.99
Velocity (ft/s) = 5.00
Top Width (ft) = 5.75



[illegible]

[illegible]

GNE

GarNat Engineering, LLC

P.O. Box 116
Benton, AR 72018

3825 Mt Carmel Rd
Bryant, AR 72022

Designing our client's success

garnatengineering@gmail.com
Ph (501) 408-4650

**FOR: THOMAS DB COLLINS, LTD, LLC
HAWKINS VALLEY
PHASE 1
SALINE COUNTY, ARKANSAS**



1-06-2025

CONTENTS:

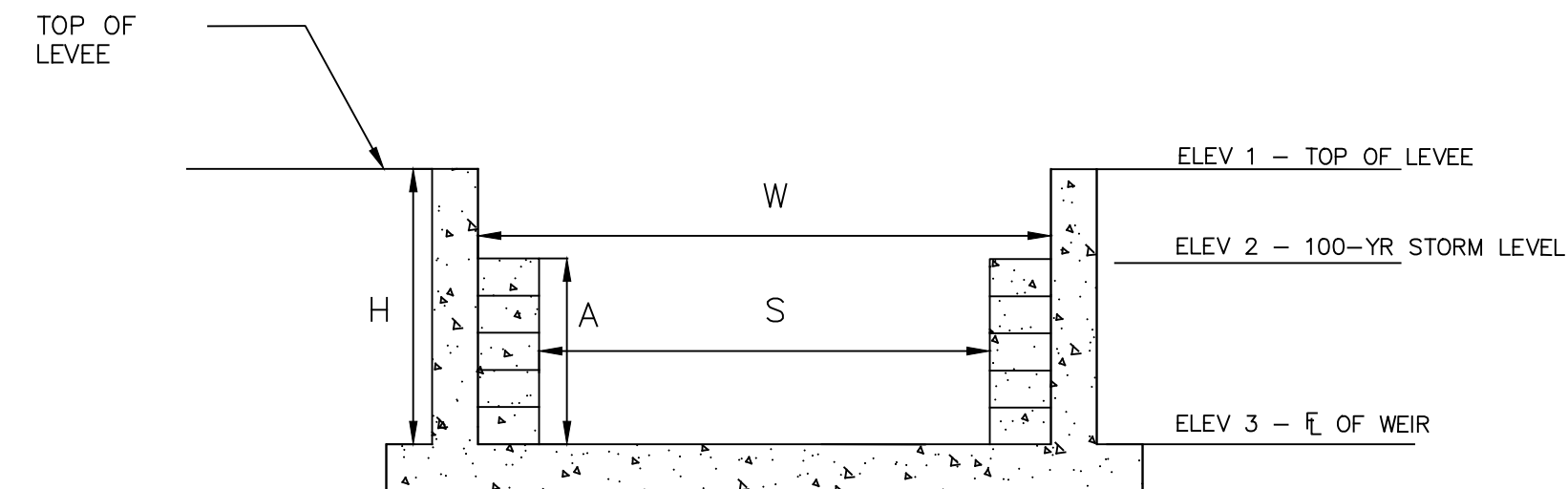
ROAD PROFILES

PROJECT NO:
24076

DATE:
JAN 2025

C3.1

SCALE: H 1" = 50'
 V 1" = 5'



DETENTION OUTLET
SECTION
NOT TO SCALE

CONTROL STRUCTURE								
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	ELEV 3	S	A
1	5'-0"	7'-8"	5'-0"	468.00	467.00	463.00	5'-9"	4'-0"

DETENTION OUTLET NOTES:

1. ALL CONCRETE WALLS SHALL BE A MINIMUM OF 6" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.
2. BOTTOM SLAB SHALL BE 12" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.

Designing our client's success

GarNat Engineering, LLC

P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650

**FOR: THOMAS DB COLLINS, LID, LLC
HAWKINS VALLEY**

KINS VALLEY PHASE 1

SALINE COUNTY, ARKANSAS



1-06-2025

CONTENTS:

OUTLET STRUCTURE DETAILS

PROJECT NO:
24076

DATE:
JAN 2025

SHEET NO:

C3.2

Hawkins Valley Subdivision – Phase 1

Drainage Calculations – review comments

1. Page 3 – justification for roughness coefficients REFERENCE ADDED.
2. Page 4 – duplicate? NO, IT IS FOR POST DEVELOPMENT. IT WAS DESIGNED PER POST DEVELOPMENT FLOW. SEE PAGE 24 & 25
3. Page 9 – what basins is this based upon – see smaller basins / comments on page 22
4. Pages 11 & 12 – verify drainage basins SEE BELOW***
5. Page 13 – see comments on plan sheet PIPE SLOPES, SIZES, DITCH DETAILS, AND WEIR DETAILS ADDED. SEE PAGE 26 & 27.
6. Page 21 – Show enclosed storm pipe calculations for inside proposed phase PIPE SIZE CALCULATED BASED ON INLET BASIN.
7. Page 21 – Show ditch sizing calculations based upon actual contributing basins DITCH IS SIZED PER CONTRIBUTING BASIN.
8. Page 22 – see other basins not included in the calculations.
 - a. Show pond details and layout including control structure POND DETAILS AND WEIR DETAILS ADDED SEE PAGE 26 & 27.
 - b. Show pipe sizes, slopes etc PIPE SLOPES, SIZES ADDED. SEE PAGE 26
 - c. Label ditch, show details,, slope, lengths, DITCH DETAILS, SLOPE AND LENGHT ADDED AND LABELLED. SEE PAGE 26 & 27.
9. Page 33 - Somewhere show a summary of the results of the pond and weir calculations ADDED PAGE 2.
10. Page 39 – Show details on pond POND DIMENSION, DEPTH AND WEIR DETAILS ADDED. SEE PAGE 26 & 27.
11. Page 40 – is this a dup licate? NO, 1ST CURVE IS STAGE VS DISCHARGE AND 2ND CURVE IS STAGE VS STORAGE CURVE.
- 12.

*** WE AGREE WITH THE BASINS. HOWEVER, WE DIDN'T CHANGE THE BASIN TO MEET THE BRYANT DEADLINE. WE WOULD LIKE TO ADD OUR PROJECT TO THE FEBRUARY AGENDA. ALL FLOWS ARE RELEASED TO THE CREEK TO COMPLY WITH THE BRYANT DRAINAGE CODE.

HAWKINS VALLEY
DRAINAGE CALCULATIONS – SUMMARY
2/3/2025

DESCRIPTION OF PROJECT

Hawkins Valley subdivision is an approximately 9.35 Acre development located in the Saline County, Arkansas east of Springhill Road. There is a large drainage basin on the site. Detention pond is located on the northeast corner of the site and discharged on the existing creek.

Stormwater Calculations were prepared with the intent to comply with the City of Bryant's Drainage Code. The primary intent of this analysis is to produce a drainage system adequately sized to convey post development runoff while attenuating post development discharge levels equal to or less than pre development flows.

Hydraulic calculations were made using the Rational Method. Design frequencies were analyzed for 2, 5, 10, 25, 50, and 100-year return periods.

These calculations are divided into the following sections:

Summary of Drainage Basins

Summary of Inlets

Summary of Pipes

Pipe Network Storage Summary

Appendices

Exhibit A – Pre-Development Drainage Basins

Exhibit B – Post-Development Drainage Basins

HAWKINS VALLEY
DRAINAGE CALCULATIONS – SUMMARY
2/3/2025

SUMMARY OF DRAINAGE BASINS

PRE-DEVELOPMENT CONDITIONS

The entire area for pre-existing drainage area of the site drains to a creek to the east. There is a drainage basin in the site that flows onto the creek. Discharge will be captured and detained. The amount of pre development flow is 115.89 cfs.

POST-DEVELOPMENT CONDITIONS

As previously described, this site is being developed into a residential subdivision. Slopes range from 1% to 10%. Runoff drains from the developed areas to detention pond on the northeast corner of the site. The amount of post development flow is 127.93 cfs. 100-year storm event is considered for detention. A concrete control structure is used to release the water without the loss of life or major property damage.

SUMMARY OF INLETS

On the drainage plan you will see labels for all of the inlets for these calculations. The flows shown are for the 25-year return storm. The distance from the back of the curb to the center of the street is 18 feet. One lane of traffic remains unobstructed by storm sewer discharges during a 25-year storm event.

SUMMARY OF PIPES

All pipes used in this project are HDPE and RCP. Therefore, a manning's of 0.012 was used on all pipes in the analysis.

POND SUMMARY

The pond in these calculations detains flows from all of the runoff of the site. The pond is located on the northeast corner of the site. Water collected in the storm water system is discharged into the pond via a pipe culvert and a ditch. The Pond volume is designed to hold the 100-year storm event and a factor of safety of 25% is added on detention volumes. The pond storage is 44,804 cft. A concrete control structure is constructed on the eastern edge of the pond. This control structure uses 5.75 feet wide slotted weir to limit the discharge through the structure to that of the 2, 10, 25, 50, and 100-year pre-development flow.

Stormwater Calcs - Hawkins Valley

Using Rational Method

Post-development

Calculated Tc values - Drainage Basin 1

Shallow Concentrated Flow																				
Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes (Eqn 400-3)			Tsc = $\frac{L}{60V}$ minutes			Pipe Flow (Eqn 400-4)			Tsc = $\frac{L}{60V}$ minutes			Pipe Flow (Eqn 400-4)			Tsc = $\frac{L}{60V}$ minutes			Open Channel (Eqn 400-4)		
			V= 16.1345 * S^0.5 ft/sec			Unpaved (Eqn 400-5)			V= $\frac{1.49*(D/4)^{(2/3)*S^{0.5}}}{n}$ ft/sec			Unpaved (Eqn 400-5)			V= $\frac{1.49*(D/4)^{(2/3)*S^{0.5}}}{n}$ ft/sec			Open Channel		
L1 = 150 feet			L1 = 400 feet			L1 = 50 feet			L1 = 570 feet			L1 = 50 feet			L1 = 1480 feet					
n1 = 0.6						D= 2 feet						D= 2 feet			R= 0.95 feet			(V-Ditch 2 ' ht., 3:1 Slope)		
S1 = 0.053			ft/ft			S1 = 0.070 ft/ft			Vcalculated = 4.27 ft/sec			S1 = 0.010 ft/ft			n= 0.013			concrete pipe (n values from Table 600-3 of COB Drainage Manual)		
												Vcalculated = 7.22 ft/sec								
Tccalculated = 16.35 minutes			Tccalculated = 1.56 minutes			Tccalculated = 0.12 minutes			Tccalculated = 4.69 minutes			Tccalculated = 0.12 minutes			Tccalculated = 5.93 minutes					
Tc = 28.76 minutes																				
Use Tc = 29.0 minutes			I100 = 5.6 Inches/hr			I10 = 3.9 Inches/hr														
			I50 = 5.1 Inches/hr			I5 = 3.5 Inches/hr			i from Exhibit 400-1 of Bryant Drainage Manual											
			I25 = 4.6 Inches/hr			I2 = 2.8 Inches/hr														

Stormwater Calcs - Hawkins Valley
using Rational Method

Pre-development

Calculated C values - Drainage Basin 1

	Area	C ₁₀₀	C ₅₀	C ₂₅	C ₁₀	C ₅	C ₂
Undeveloped	44.03	0.47	0.43	0.4	0.36	0.34	0.31
Total Area =	44.03	0.47	0.43	0.40	0.36	0.34	0.31

(C values taken from Table 400-1 of City of Bryant Drainage Manual)

Woodlands, Average, 2-7%

Stormwater Calcs - Hawkins Valley
using Rational Method

Post-development

Calculated C values - Drainage Basin 1

	Area	C ₁₀₀	C ₅₀	C ₂₅	C ₁₀	C ₅	C ₂
Undeveloped	34.68	0.47	0.43	0.4	0.36	0.34	0.31
Single Family House	9.35	0.70	0.65	0.60	0.50	0.45	0.40
Total Area =	44.03	0.52	0.48	0.44	0.39	0.36	0.33

(C values taken from Table 400-1 of City of Bryant Drainage Manual)
(C values taken from Page-50 of City of Bryant Drainage Manual)

Stormwater Calcs - Hawkins Valley
Using Rational Method
Ditch Capacity

Mannings equation for ditch

n= 0.022 based on n for open channel earth with short grass, few weeds

(n values from Table 500-1 of COB Drain

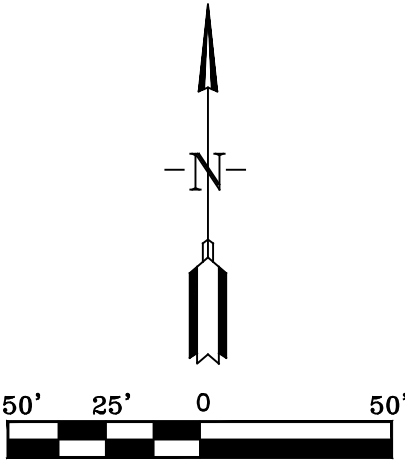
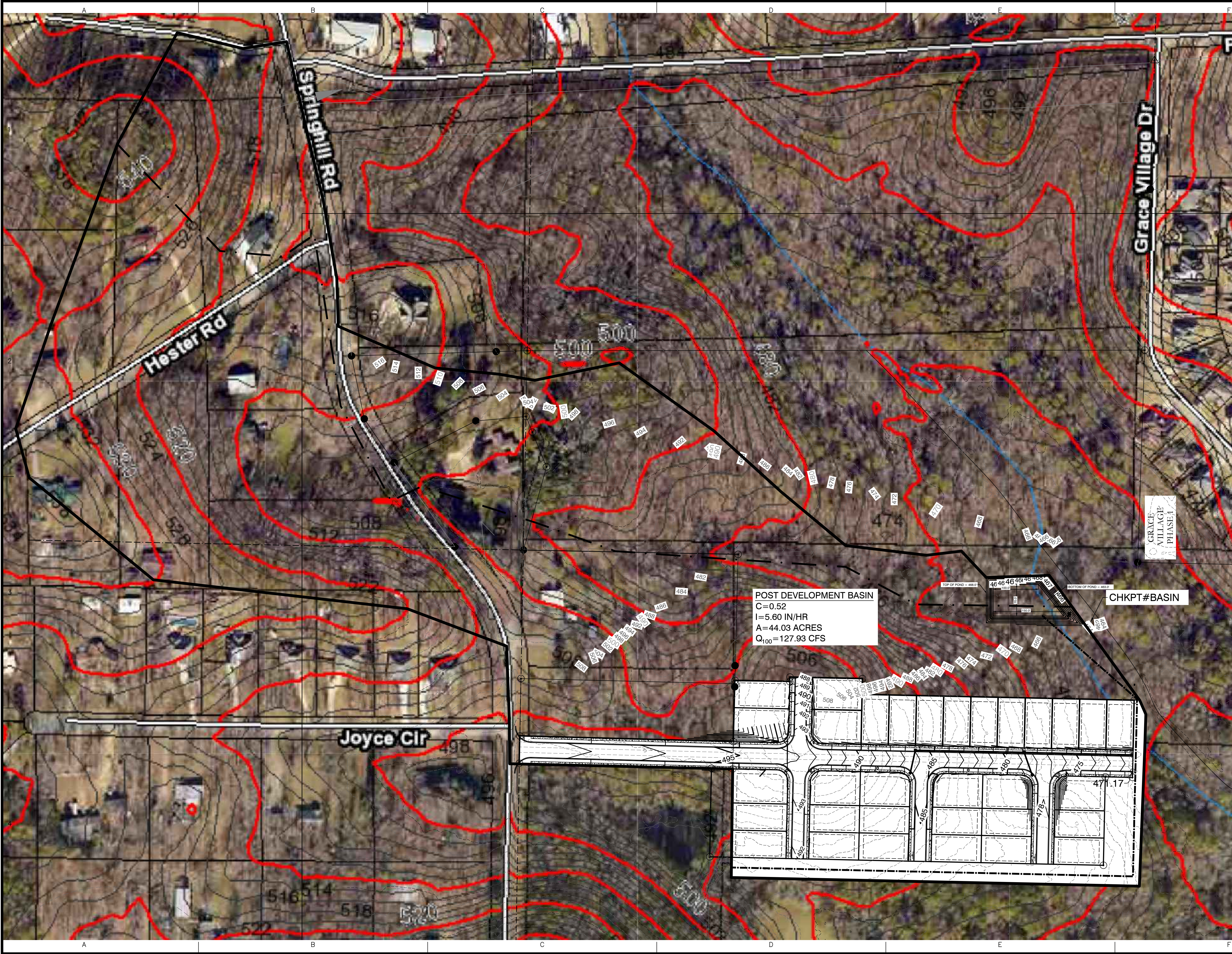
Slope= 3 :1

Design Q100= 63.75 cfs

Depth (ft)	Bottom (ft)	Top (ft)	area (ft^2)	rH	slope (ft/ft)	Velocity (ft/s)	Q (cfs)
2	0	12	12	0.95	0.01	6.54	78.47



1	DATE	REVISION	BY
2	Designing our client's success		
	GarNat Engineering, LLC		
	P.O. Box 116 Benton, AR 72018		
	3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com		
3	FOR: THOMAS DB COLLINS, LTD, LLC		
	HAWKINS VALLEY		
	PHASE 1		
	SALINE COUNTY, ARKANSAS		
4	PRELIMINARY		
	CONTENTS:		
	PRE DRAINAGE BASIN		
	PROJECT NO: 24076		
5	DATE: JAN 2025		
	SHEET NO:		
	1.0		
	\\102.168.0.251\Projects\2024 Projects\24076 Hawkins Valley Springhill Road Strawberry Lane Lot 1 Project\Drawings\Phase 1\0076-Springhill-Road-Drainage Map-RB.dwg		



1	DATE	REVISION	BY
2	Designing our client's success		
	GarNat Engineering, LLC		
	P.O. Box 116 Benton, AR 72018		
	3825 Mt Carmel Rd Bryant, AR 72022 gamateengineering@gmail.com		
3	FOR: THOMAS DB COLLINS, LTD, LLC		
	HAWKINS VALLEY		
	PHASE 1		
	SALINE COUNTY, ARKANSAS		
4	PRELIMINARY		
	CONTENTS:		
	POST DRAINAGE BASIN		
	PROJECT NO: 24076		
5	DATE: JAN 2025		
	SHEET NO:		
	2.0		

\\192.168.0.24\\Project\\24076 PostDev\\24076 Hawkins Valley Springhill Road Stormwater Drainage Map-Rev.dwg

Stormwater Calcs - Hawkins Valley
Using Rational Method

Calculated Tc values - Drainage Basin CI-1

Tc =	$\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$	minutes	Overland Flow	Tsc =	$\frac{L}{60V}$	minutes	Shallow Concentrated Flow
				V=	$20.3282 * S^{.5}$	ft/sec	Paved
L1 =	150	feet		L1 =	115	feet	
n1 =	0.013	concrete					
S1 =	0.026	ft/ft	Z1=493.65 Z2=489.77	S1 =	0.032	ft/ft	Z1=489.77 Z2=486.12
Tc _{calculated}		3.39 minutes		V _{calculated} =	3.62	ft/sec	
				Tc _{calculated}		0.53 minutes	
Tc =	3.92	minutes					
Use Tc =	5.0	minutes		I ₁₀₀ =	10 Inches/hr	i from Exhibit 400-1 of Bryant Drainage Manual	
				I ₂₅ =	8.4 Inches/hr		
				I ₁₀ =	7.6 Inches/hr		

Calculated Tc values - Drainage Basin CI-2

Tc =	$\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$	minutes	Overland Flow	Tsc =	$\frac{L}{60V}$	minutes	Shallow Concentrated Flow
				V=	$20.3282 * S^{.5}$	ft/sec	Paved
L1 =	150	feet		L1 =	120	feet	
n1 =	0.013	concrete					
S1 =	0.024	ft/ft	Z1=493.41 Z2=489.82	S1 =	0.032	ft/ft	Z1=489.82 Z2=486.01
Tc _{calculated}		3.47 minutes		V _{calculated} =	3.62	ft/sec	
				Tc _{calculated}		0.55 minutes	
Tc =	4.03	minutes					
Use Tc =	5.0	minutes		I ₁₀₀ =	10 Inches/hr	i from Exhibit 400-1 of Bryant Drainage Manual	
				I ₂₅ =	8.4 Inches/hr		
				I ₁₀ =	7.6 Inches/hr		

Calculated Tc values - Drainage Basin CI-3

Tc =	$\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$	minutes	Overland Flow	Tsc =	$\frac{L}{60V}$	minutes	Shallow Concentrated Flow
				V=	$20.3282 * S^{.5}$	ft/sec	Paved
L1 =	150	feet		L1 =	125	feet	
n1 =	0.013	concrete					
S1 =	0.029	ft/ft	Z1=486.12 Z2=481.77	S1 =	0.029	ft/ft	Z1=481.77 Z2=478.13
Tc _{calculated}		3.28 minutes		V _{calculated} =	3.47	ft/sec	
				Tc _{calculated}		0.60 minutes	
Tc =	3.88	minutes					
Use Tc =	5.0	minutes		I ₁₀₀ =	10 Inches/hr	i from Exhibit 400-1 of Bryant Drainage Manual	
				I ₂₅ =	8.4 Inches/hr		
				I ₁₀ =	7.6 Inches/hr		

Calculated Tc values - Drainage Basin CI-4

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes				Overland Flow	Tsc = $\frac{L}{60V}$ minutes				Shallow Concentrated Flow
					V= 20.3282 * S^0.5 ft/sec				Paved
L1 =	150	feet			L1 =	86	feet		
n1 =	0.013	concrete							
S1 =	0.031	ft/ft	Z1=486.01		S1 =	0.042	ft/ft	Z1=481.34	
			Z2=481.34					Z2=478.57	
Tc _{calculated}			3.21 minutes		V _{calculated} =			4.18 ft/sec	
					Tc _{calculated}			0.34 minutes	
Tc =				3.55 minutes					
Use Tc =				5.0 minutes					
					I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual				
					I ₂₅ = 8.4 Inches/hr				
					I ₁₀ = 7.6 Inches/hr				

Calculated Tc values - Drainage Basin CI-5

Tc = $\frac{0.83 * L^{.467} * n^{.467}}{S^{.5}}$ minutes				Overland Flow	Tsc = $\frac{L}{60V}$ minutes				Shallow Concentrated Flow
					V= 20.3282 * S^0.5 ft/sec				Paved
L1 =	150	feet			L1 =	85	feet		
n1 =	0.013	concrete							
S1 =	0.032	ft/ft	Z1=478.57		S1 =	0.031	ft/ft	Z1=473.84	
			Z2=473.84					Z2=471.22	
Tc _{calculated}			3.20 minutes		V _{calculated} =			3.57 ft/sec	
					Tc _{calculated}			0.40 minutes	
Tc =				3.60 minutes					
Use Tc =				5.0 minutes					
					I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual				
					I ₂₅ = 8.4 Inches/hr				
					I ₁₀ = 7.6 Inches/hr				

Calculated Tc values - Drainage Basin A1, A2, A3, A4, A5, A6, A7

Use Tc =				5.0 minutes					
					I ₁₀₀ = 10 Inches/hr i from Exhibit 400-1 of Bryant Drainage Manual				
					I ₂₅ = 8.4 Inches/hr				
					I ₁₀ = 7.6 Inches/hr				

Stormwater Calcs - Hawkins Valley
 using Rational Method
 POST-DEV C VALUES

SDMH-C1					
	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.20	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.20	0.81	0.86	0.95	

SDMH-C2					
	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.19	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.19	0.81	0.86	0.95	

SDMH-C3					
	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.20	0.81	0.86	0.95	Road/Asphalt
	1.10	0.5	0.6	0.7	Single Family House (C values taken from Page-50 of City of Bryant Drainage Manual)
Total Area =	1.30	0.55	0.64	0.74	

SDMH-C4

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.17	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.17	0.81	0.86	0.95	

SDMH-C5

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.16	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.16	0.81	0.86	0.95	

SDMH-A1

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.51	0.36	0.42	0.49	Pasture, Average 2-7%
	0.53	0.81	0.86	0.95	Road/Asphalt
Total Area =	1.04	0.59	0.64	0.72	

SDMH-A2

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.07	0.81	0.86	0.95	Road/Asphalt
Total Area =	0.07	0.81	0.86	0.95	

SDMH-A3

	Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
	0.81	0.36	0.42	0.49	Pasture, Average 2-7%
	1.48	0.5	0.6	0.7	Single Family House (C values taken from Page-50 of City of Bryant Drainage Manual)
Total Area =	2.29	0.45	0.54	0.63	

SDMH-A4

	Area	C ₁₀	C ₂₅	C ₁₀₀	
	1.31	0.5	0.6	0.7	Single Family House (C values taken from Page-50 of City of Bryant Drainage Manual)
Total Area =	1.31	0.50	0.60	0.70	

SDMH-A5

	Area	C ₁₀	C ₂₅	C ₁₀₀	
	1.14	0.5	0.6	0.7	Single Family House (C values taken from Page-50 of City of Bryant Drainage Manual)
Total Area =	1.14	0.50	0.60	0.70	

SDMH-A6

Area	C ₁₀	C ₂₅	C ₁₀₀	
0.75	0.5	0.6	0.7	Single Family House
(C values taken from Page-50 of City of Bryant Drainage Manual)				
Total Area = 0.75	0.50	0.60	0.70	

SDMH-A7

Area	C ₁₀	C ₂₅	C ₁₀₀	(C values taken from Table 400-1 of City of Bryant Drainage Manual)
0.53	0.35	0.39	0.46	Good Condition, Average 2-7%
Total Area = 0.53	0.35	0.39	0.46	

Stormwater Calcs - Hawkins Valley
using Rational Method
Post Development Flowrates

SDMH-C1

$Q_{10} = 1.21 \text{ CFS}$
 $c = 0.81$
 $i = 7.60 \text{ in/hr}$
 $A = 0.20 \text{ acres}$

$Q_{25} = 1.43 \text{ CFS}$
 $c = 0.86$
 $i = 8.40 \text{ in/hr}$
 $A = 0.20 \text{ acres}$

$Q_{100} = 1.87 \text{ CFS}$
 $c = 0.95$
 $i = 10.00 \text{ in/hr}$
 $A = 0.20 \text{ acres}$

SDMH-C2

$Q_{10} = 1.19 \text{ CFS}$
 $c = 0.81$
 $i = 7.60 \text{ in/hr}$
 $A = 0.19 \text{ acres}$

$Q_{25} = 1.40 \text{ CFS}$
 $c = 0.86$
 $i = 8.40 \text{ in/hr}$
 $A = 0.19 \text{ acres}$

$Q_{100} = 1.84 \text{ CFS}$
 $c = 0.95$
 $i = 10.00 \text{ in/hr}$
 $A = 0.19 \text{ acres}$

SDMH-C3

$Q_{10} = 5.43 \text{ CFS}$
 $c = 0.55$
 $i = 7.60 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

$Q_{25} = 7.00 \text{ CFS}$
 $c = 0.64$
 $i = 8.40 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

$Q_{100} = 9.62 \text{ CFS}$
 $c = 0.74$
 $i = 10.00 \text{ in/hr}$
 $A = 1.30 \text{ acres}$

SDMH-C4

$Q_{10} = 1.02$ CFS
 $c = 0.81$
 $i = 7.60$ in/hr
 $A = 0.17$ acres

$Q_{25} = 1.19$ CFS
 $c = 0.86$
 $i = 8.40$ in/hr
 $A = 0.17$ acres

$Q_{100} = 1.57$ CFS
 $c = 0.95$
 $i = 10.00$ in/hr
 $A = 0.17$ acres

SDMH-C5

$Q_{10} = 1.01$ CFS
 $c = 0.81$
 $i = 7.60$ in/hr
 $A = 0.16$ acres

$Q_{25} = 1.18$ CFS
 $c = 0.86$
 $i = 8.40$ in/hr
 $A = 0.16$ acres

$Q_{100} = 1.55$ CFS
 $c = 0.95$
 $i = 10.00$ in/hr
 $A = 0.16$ acres

SDMH-A1

$Q_{10} = 4.64$ CFS
 $c = 0.59$
 $i = 7.60$ in/hr
 $A = 1.04$ acres

$Q_{25} = 5.61$ CFS
 $c = 0.64$
 $i = 8.40$ in/hr
 $A = 1.04$ acres

$Q_{100} = 7.51$ CFS
 $c = 0.72$
 $i = 10.00$ in/hr
 $A = 1.04$ acres

SDMH-A2

$Q_{10} = 0.43$ CFS
 $c = 0.81$
 $i = 7.60$ in/hr
 $A = 0.07$ acres

$Q_{25} = 0.50$ CFS
 $c = 0.86$
 $i = 8.40$ in/hr
 $A = 0.07$ acres

$Q_{100} = 0.66$ CFS
 $c = 0.95$
 $i = 10.00$ in/hr
 $A = 0.07$ acres

SDMH-A3

$Q_{10} = 7.83$ CFS
 $c = 0.45$
 $i = 7.60$ in/hr
 $A = 2.29$ acres

$Q_{25} = 10.30$ CFS
 $c = 0.54$
 $i = 8.40$ in/hr
 $A = 2.29$ acres

$Q_{100} = 14.30$ CFS
 $c = 0.63$
 $i = 10.00$ in/hr
 $A = 2.29$ acres

SDMH-A4

$Q_{10} = 4.96$ CFS
 $c = 0.50$
 $i = 7.60$ in/hr
 $A = 1.31$ acres

$Q_{25} = 6.58$ CFS
 $c = 0.60$
 $i = 8.40$ in/hr
 $A = 1.31$ acres

$Q_{100} = 9.14$ CFS
 $c = 0.70$
 $i = 10.00$ in/hr
 $A = 1.31$ acres

SDMH-A5

$Q_{10} = 4.34$ CFS
 $c = 0.50$
 $i = 7.60$ in/hr
 $A = 1.14$ acres

$Q_{25} = 5.75$ CFS
 $c = 0.60$
 $i = 8.40$ in/hr
 $A = 1.14$ acres

$Q_{100} = 7.99$ CFS
 $c = 0.70$
 $i = 10.00$ in/hr
 $A = 1.14$ acres

SDMH-A6

$Q_{10} = 2.85$ CFS
 $c = 0.50$
 $i = 7.60$ in/hr
 $A = 0.75$ acres

$Q_{25} = 3.78$ CFS
 $c = 0.60$
 $i = 8.40$ in/hr
 $A = 0.75$ acres

$Q_{100} = 5.25$ CFS
 $c = 0.70$
 $i = 10.00$ in/hr
 $A = 0.75$ acres

SDMH-A7

$Q_{10} = 1.41 \text{ CFS}$

$c = 0.35$

$i = 7.60 \text{ in/hr}$

$A = 0.53 \text{ acres}$

$Q_{25} = 1.74 \text{ CFS}$

$c = 0.39$

$i = 8.40 \text{ in/hr}$

$A = 0.53 \text{ acres}$

$Q_{100} = 2.44 \text{ CFS}$

$c = 0.46$

$i = 10.00 \text{ in/hr}$

$A = 0.53 \text{ acres}$

TOTAL

$Q_{10} = 36.31 \text{ CFS}$

$Q_{25} = 46.46 \text{ CFS}$

$Q_{100} = 63.75 \text{ CFS}$

Hawkins Valley GUTTER SPREAD 25-YR STORM

SDMH-C1

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.43 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.031
T	<u>4.87</u> ft

Q= Flowrate(cfs)
n=manning's number
k=0.56
S_x= cross slope
S_L= longitudinal slope
T= Gutter Spread

SDMH-C2

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.40 cfs
n	0.012
k _u	0.56
S _x	0.03
S _L	0.017
T	<u>5.18</u> ft

SDMH-C3

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	7.00 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.03
T	<u>9.01</u> ft

SDMH-C4

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.19 cfs
n	0.012
k _u	0.56
S _x	0.03
S _L	0.03
T	<u>4.44</u> ft

SDMH-C5

$$T = \left(\frac{Q * n}{k_u * S_x^{1.67} * S_L^{0.5}} \right)^{.375}$$

Q	1.18 cfs
n	0.012
k _u	0.56
S _x	0.028
S _L	0.03
T	<u>4.56</u> ft

Hawkins Valley - CURB INLETS

25-YEAR STORM

Area #	Area	I	C	Weir			Required L (ft)	Actual L (ft)	
				Q (cfs)	Q=3.0LY ^{1.5} Q (cfs)	Y (ft)			
SDMH-C1	0.20	8.40	0.86	1.43	1.43	0.49	1.39	4	4' box
SDMH-C2	0.19	8.40	0.86	1.40	1.40	0.49	1.36	4	4' box
SDMH-C3	1.30	8.40	0.64	7.00	7.00	0.49	6.81	4	4' box with 4' wing
SDMH-C4	0.17	8.40	0.86	1.19	1.19	0.49	1.16	4	4' box
SDMH-C5	0.16	8.40	0.86	1.18	1.18	0.49	1.15	4	4' box

Stormwater Calcs - Hawkins Valley
using Rational Method
Culvert Capacities

CI-1 Q₂₅ = 1.44 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.20 acres	CI-2 Q₂₅ = 1.37 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.19 acres	CI-3 Q₂₅ = 6.99 CFS c = 0.64 Road/Asphalt i= 8.4 in/hr A= 1.30 acres	CI-4 Q₂₅ = 1.23 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.17 acres
CI-5 Q₂₅ = 1.16 CFS c = 0.86 Road/Asphalt i= 8.4 in/hr A= 0.16 acres			

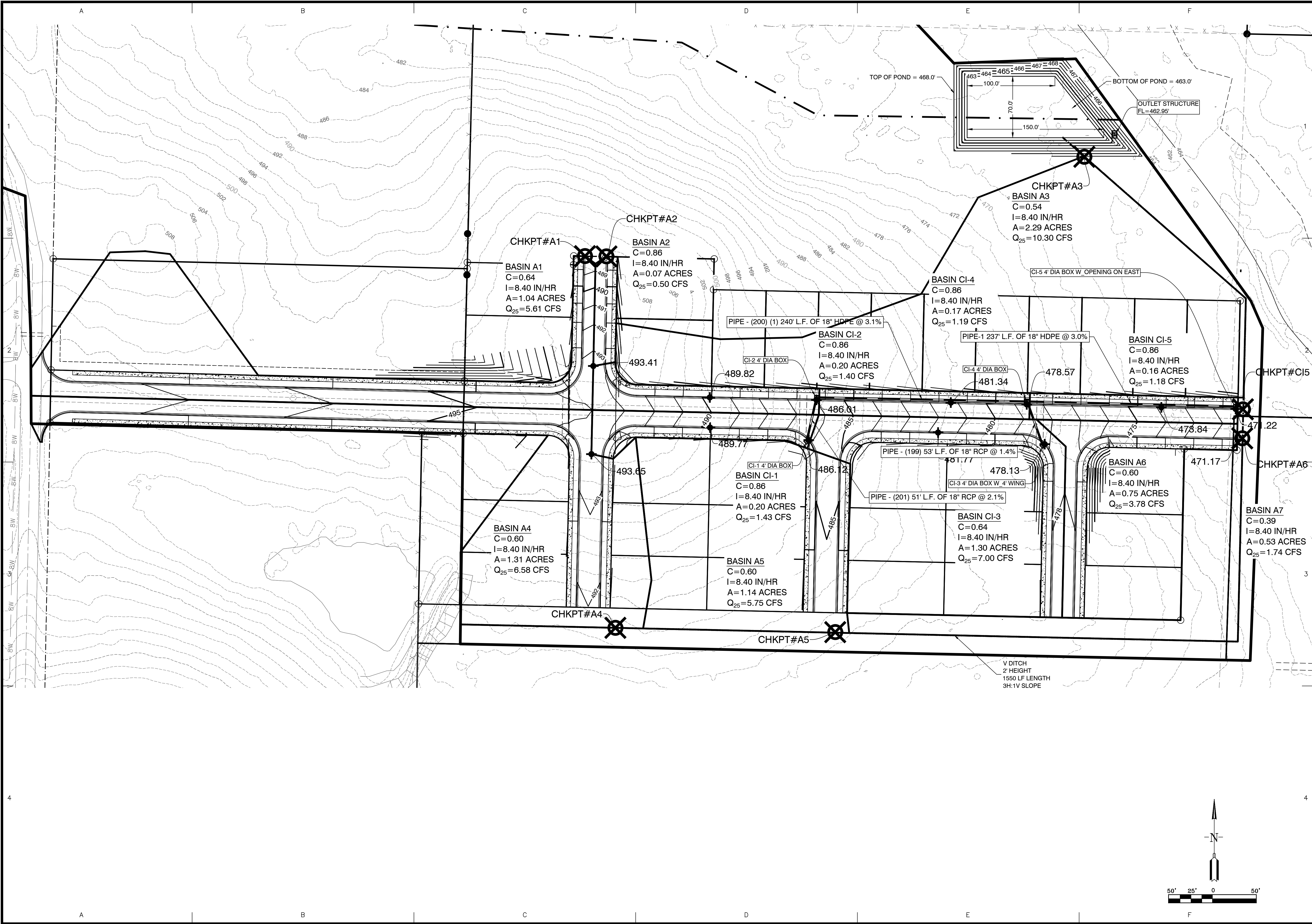
Pipe Name	From	To	Design Flow (cfs):	Slope (ft/ft):	Diameter (inches)	No. Pipes	Manning's	Area Full (sf)	Wetted Perimeter Full (ft)	Hydraulic Flow Capacity (cfs)	% Capacity
18" RCP	CI-1	CI-2	1.44	0.0210	18	1	0.012	1.77	4.712	0.375	16.49 9%
18" HDPE	CI-2	CI-4	2.82	0.0310	18	1	0.012	1.77	4.712	0.375	20.04 14%
18" RCP	CI-3	CI-4	9.81	0.0140	18	1	0.012	1.77	4.712	0.375	13.46 73%
18" HDPE	CI-4	CI-5	11.03	0.0310	18	1	0.012	1.77	4.712	0.375	20.04 55%

Stormwater Calcs - Hawkins Valley
Using Rational Method
Ditch Capacity

Mannings equation for ditch
n= 0.022 based on n for open channel earth with short grass, few weeds (n values from Table 500-1 of COB Drainage Manual)
Slope= 3 :1

Design Q100= 63.75 cfs

Depth (ft)	Bottom (ft)	Top (ft)	area (ft^2)	rH	slope (ft/ft)	Velocity (ft/s)	Q (cfs)
2	0	12	12	0.95	0.01	6.54	78.47



BY		DATE	REVISION	1
FOR: THOMAS DB COLINS, LTD, LLC HAWKINS VALLEY PHASE 1 SALINE COUNTY, ARKANSAS				
PRELIMINARY				
CONTENTS: INLET BASIN PLAN				
PROJECT NO:	24076			
DATE:	JAN 2025			
SHEET NO:	3.0			

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1

2

3

4

A

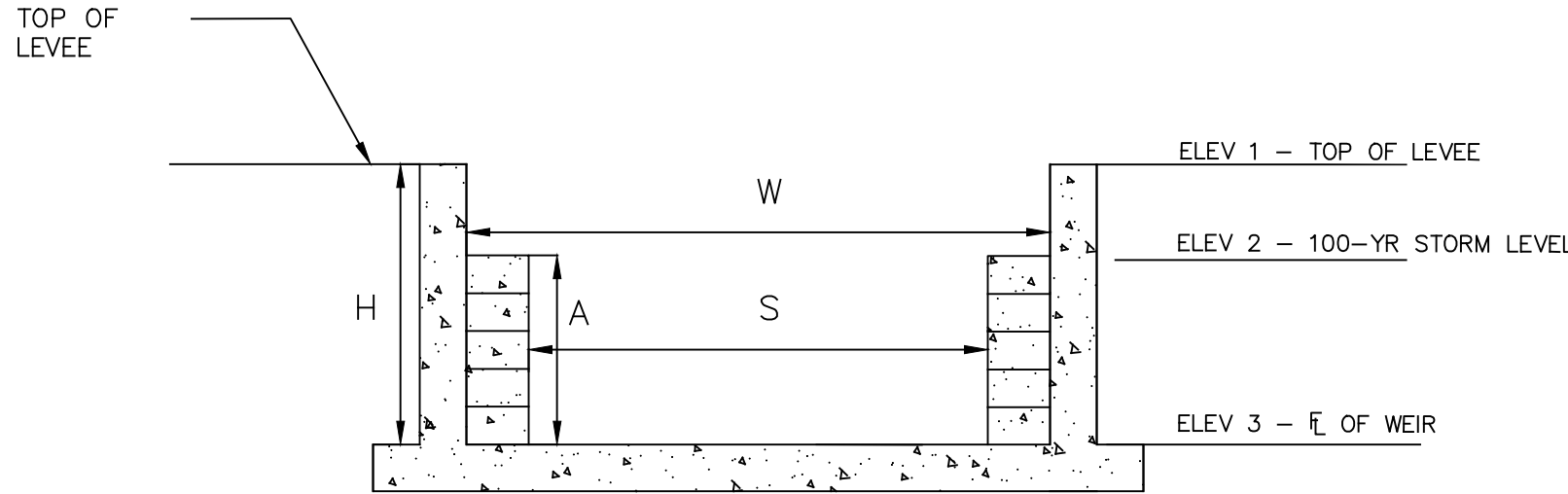
B

C

D

E

F

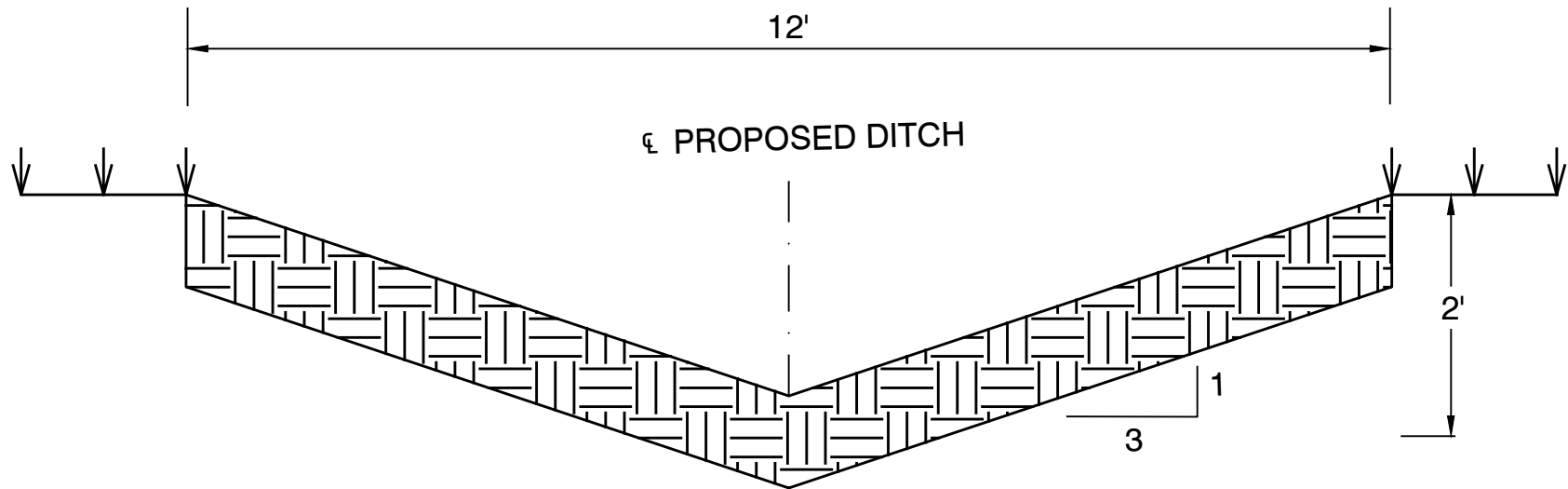


**DETENTION OUTLET
SECTION**
NOT TO SCALE

CONTROL STRUCTURE								
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	ELEV 3	S	A
1	5'-0"	7'-8"	5'-1"	468.00	467.00	462.95	5'-9"	4'-0"

DETENTION OUTLET NOTES:

- ALL CONCRETE WALLS SHALL BE A MINIMUM OF 6" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.
- BOTTOM SLAB SHALL BE 12" THICK & REINFORCED WITH #4'S @ 12" O.C. BOTH WAYS.



TYPICAL DITCH CROSS SECTION
(N.T.S)

A

B

C

D

E

F

BY

REVISION

DATE

Designing our client's success

GarNat Engineering, LLC

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GNE

FOR: THOMAS DB COLLINS, LTD, LLC

HAWKINS VALLEY

PHASE 1

SALINE COUNTY, ARKANSAS



1-06-2025

CONTENTS:

**OUTLET
STRUCTURE
DETAILS**

**PROJECT NO:
24076**

**DATE:
JAN 2025**

SHEET NO:

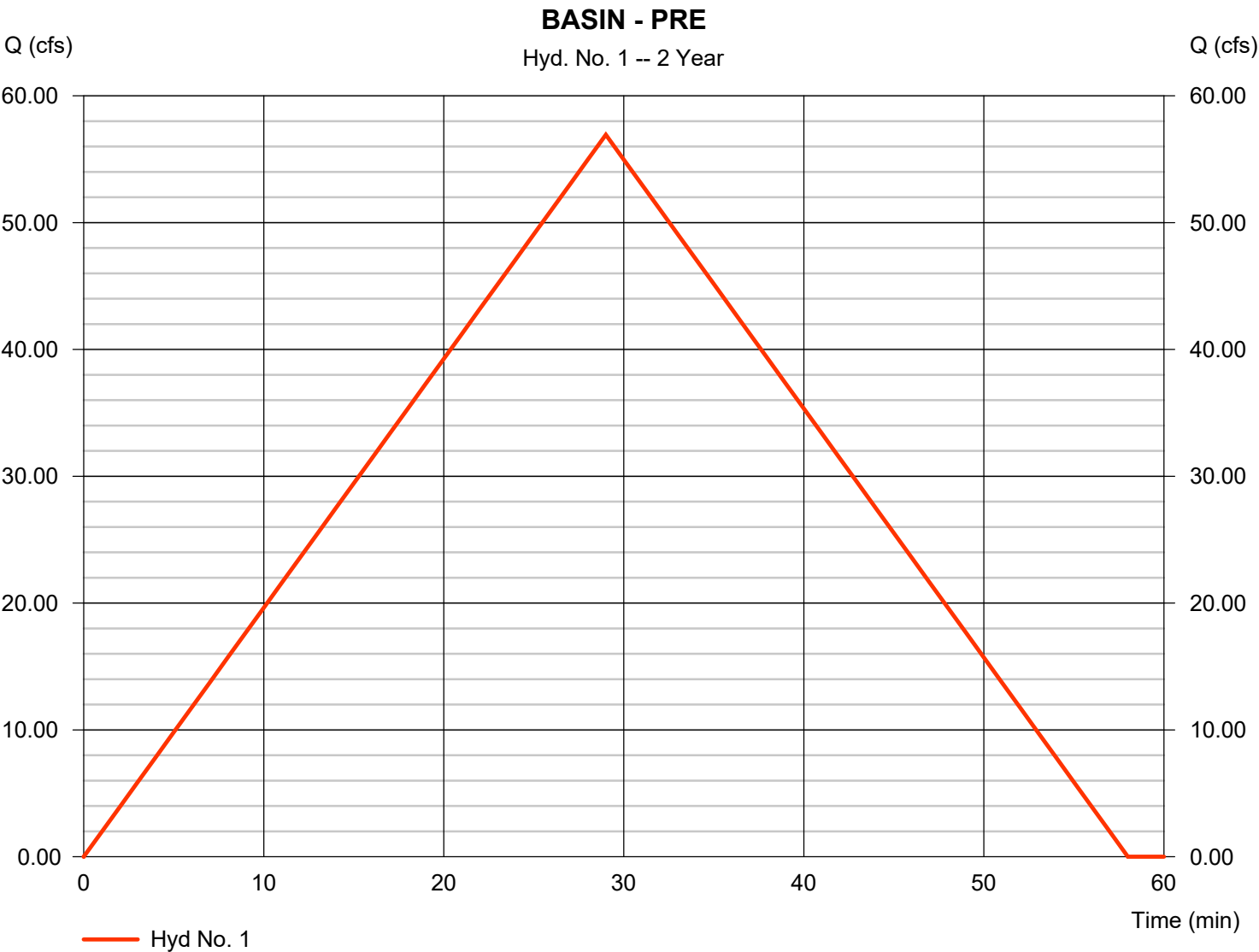
C3.2

Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 56.93 cfs
Storm frequency	= 2 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 99,054 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 2.751 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

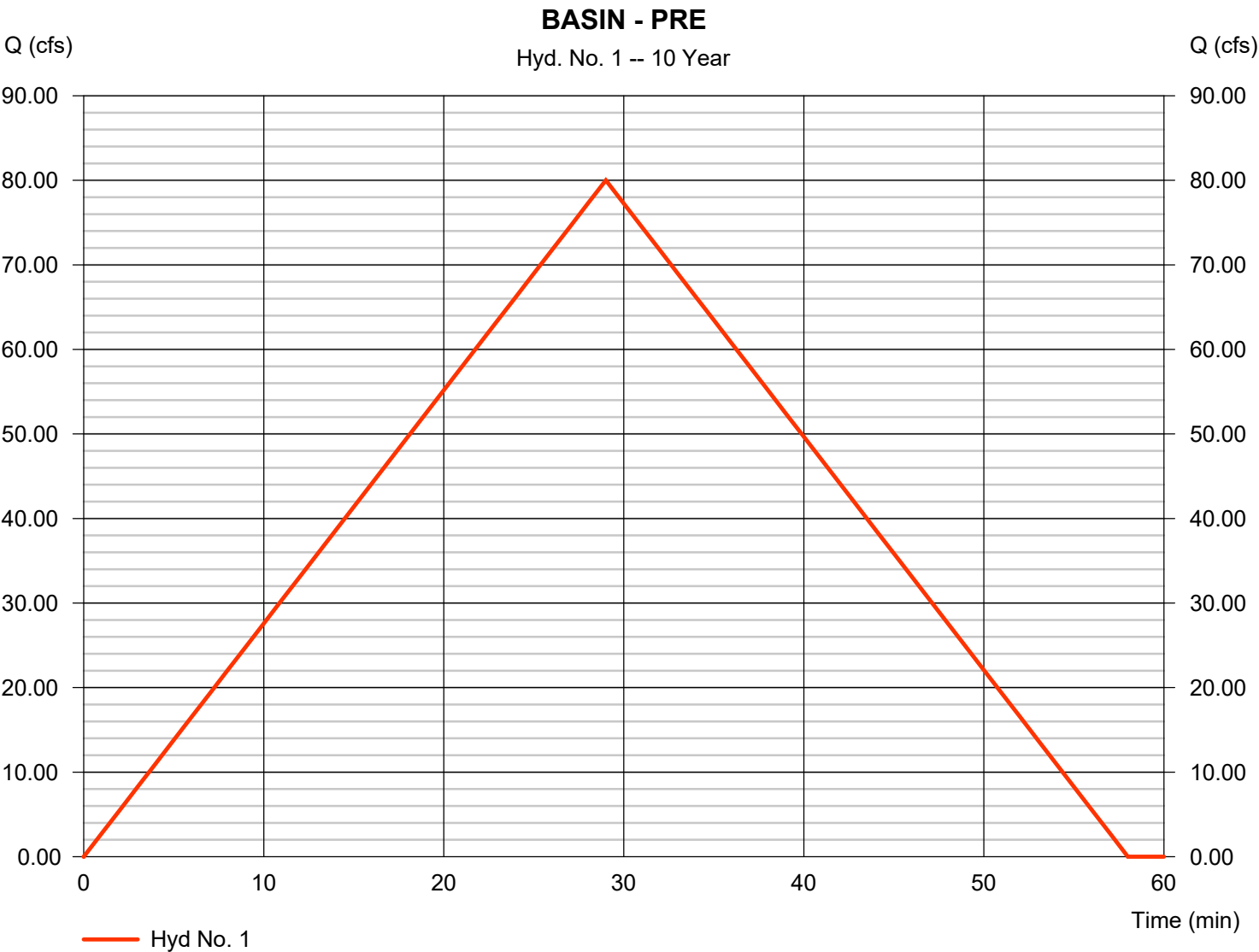


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 80.01 cfs
Storm frequency	= 10 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 139,223 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 3.866 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

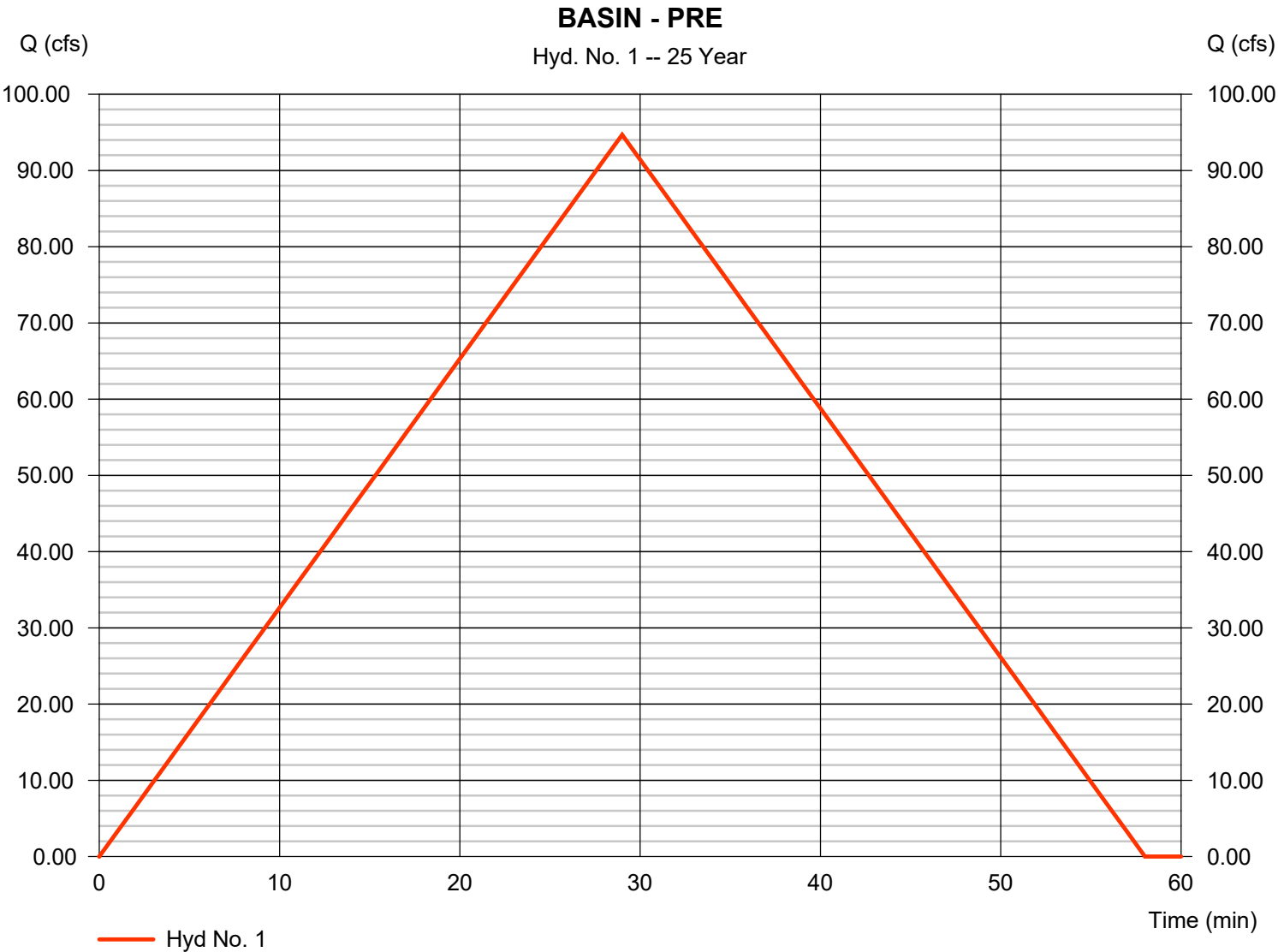


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 94.69 cfs
Storm frequency	= 25 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 164,756 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 4.576 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

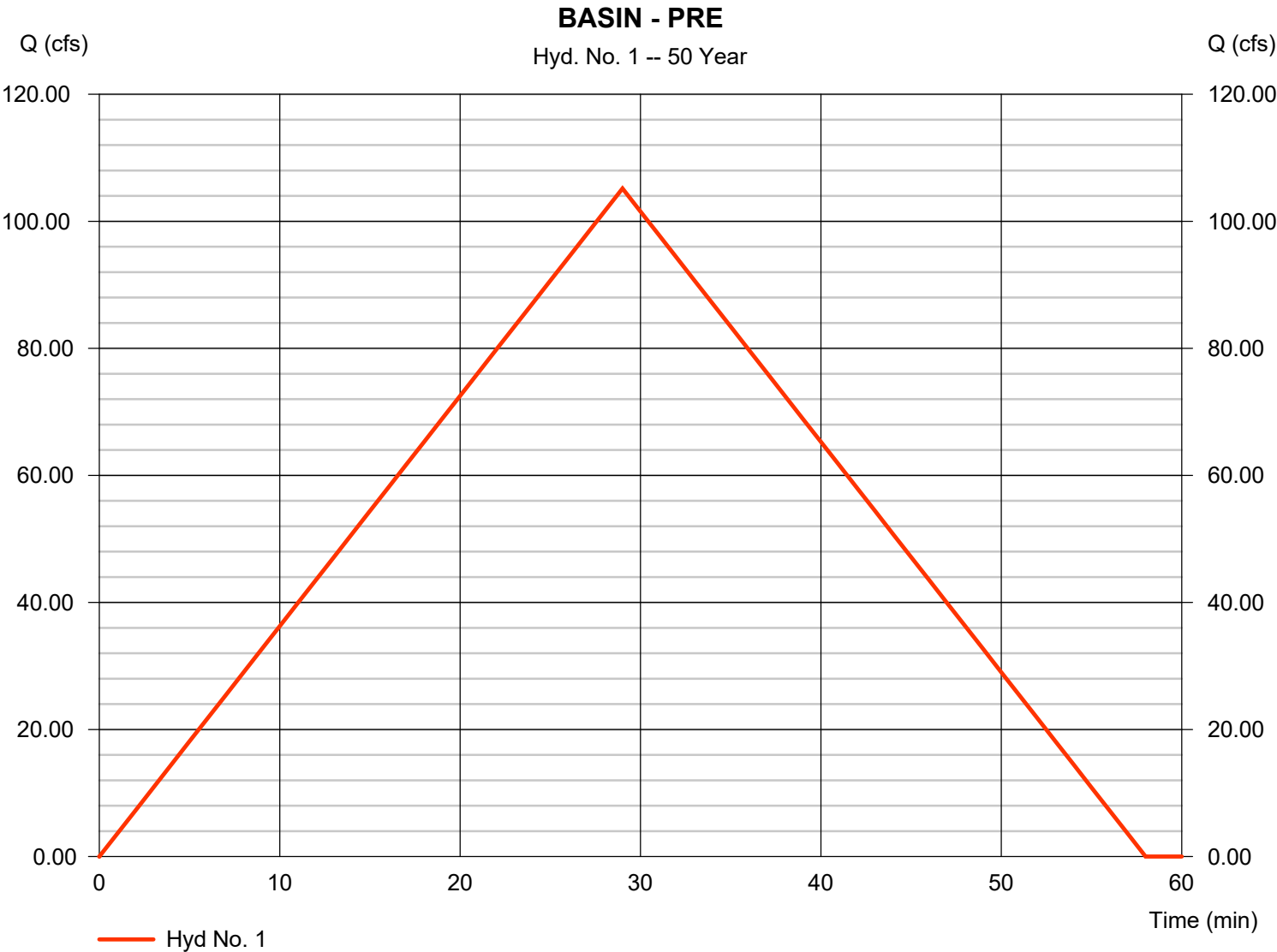


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 105.16 cfs
Storm frequency	= 50 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 182,986 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 5.082 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

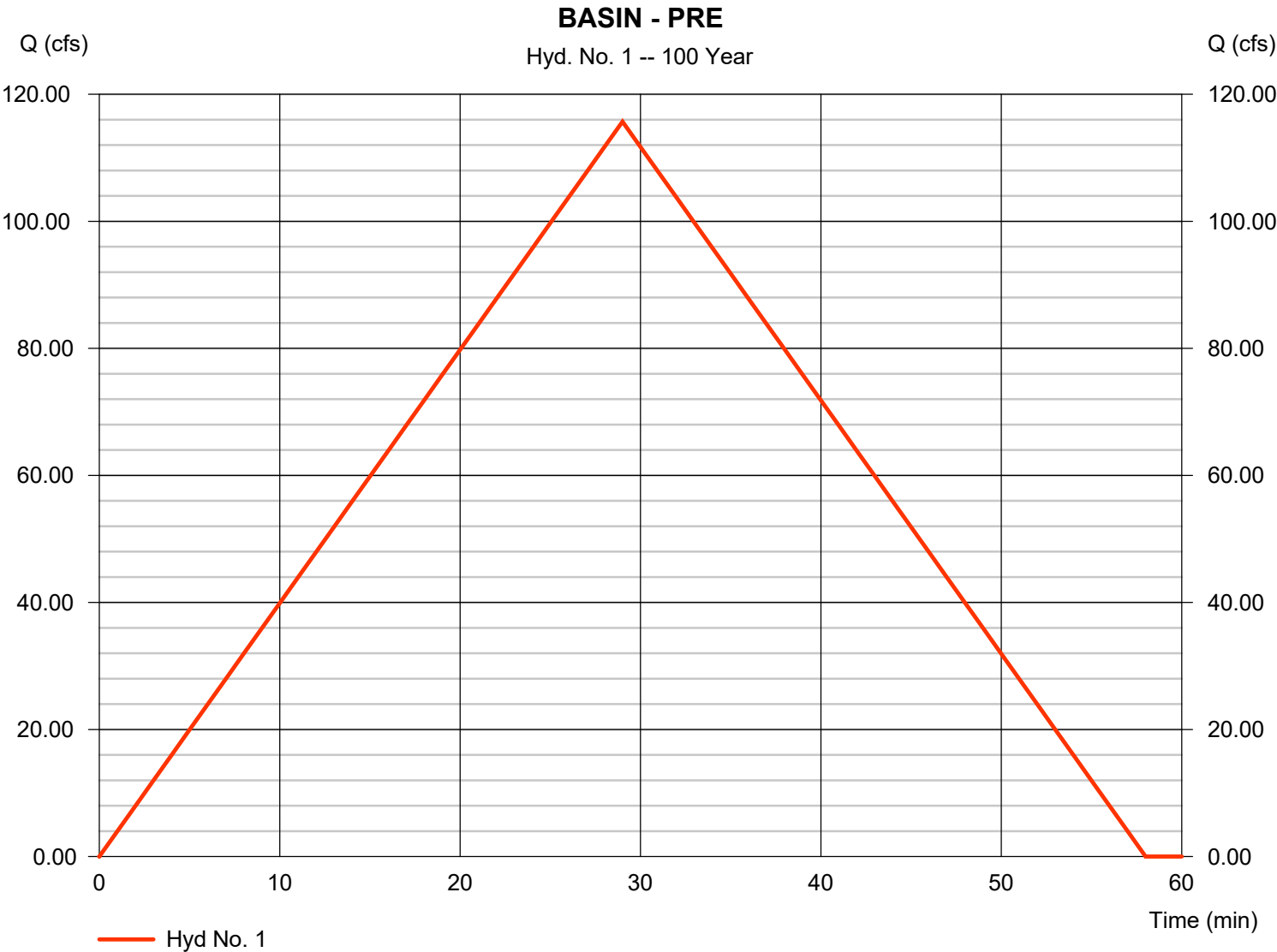


Hydrograph Report

Hyd. No. 1

BASIN - PRE

Hydrograph type	= Rational	Peak discharge	= 115.69 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 201,307 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.47
Intensity	= 5.591 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

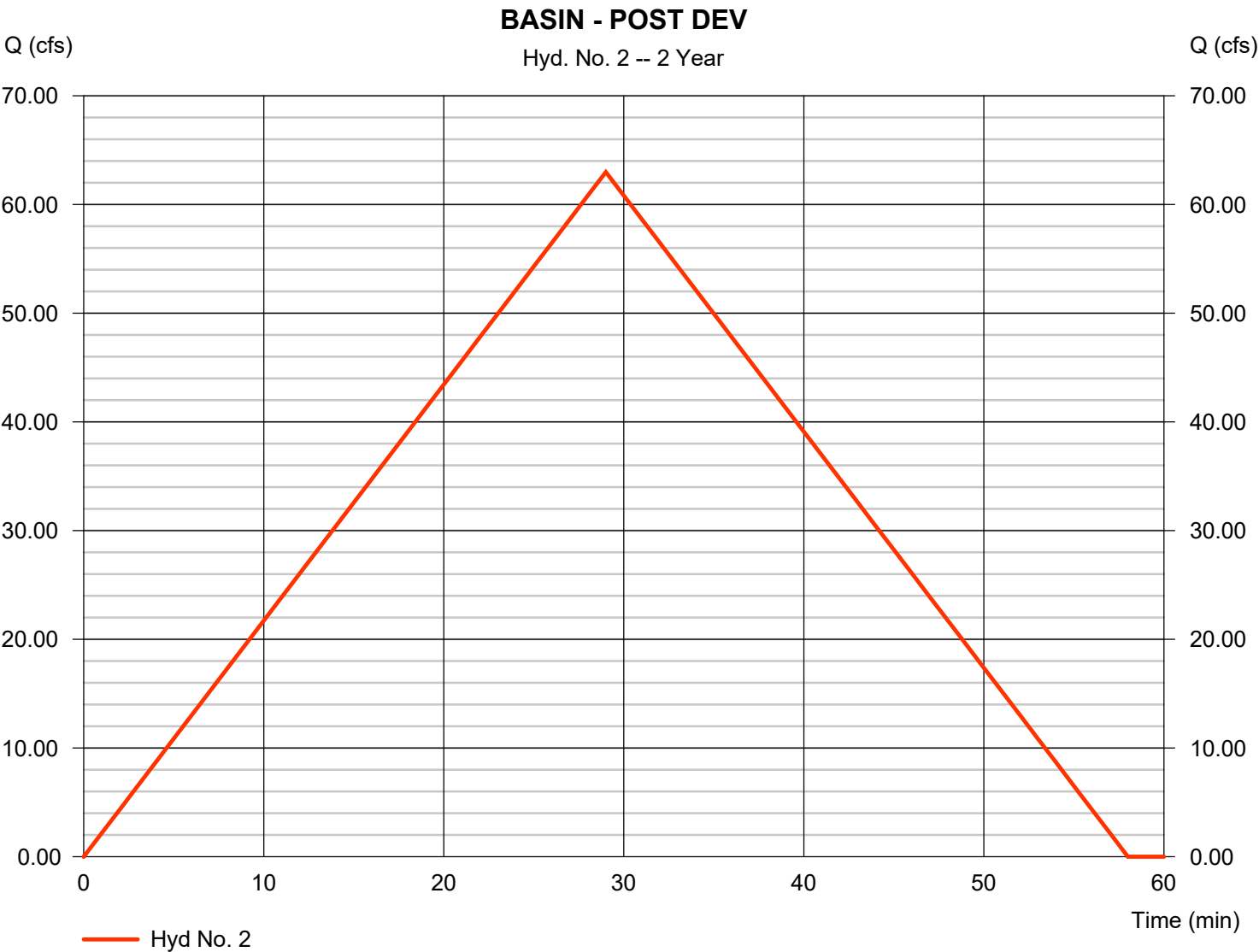


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 62.98 cfs
Storm frequency	= 2 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 109,592 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 2.751 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

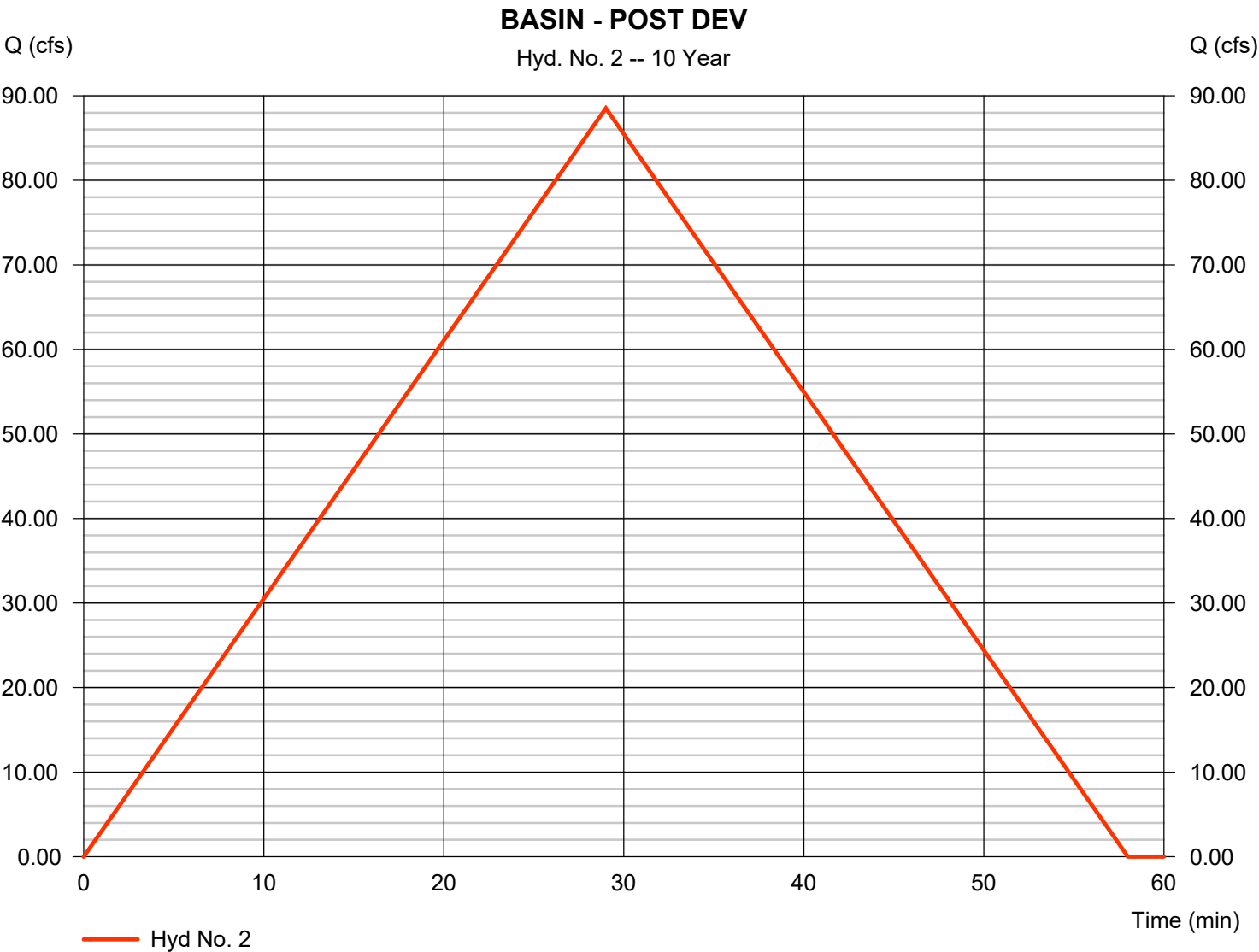


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 88.53 cfs
Storm frequency	= 10 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 154,034 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 3.866 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

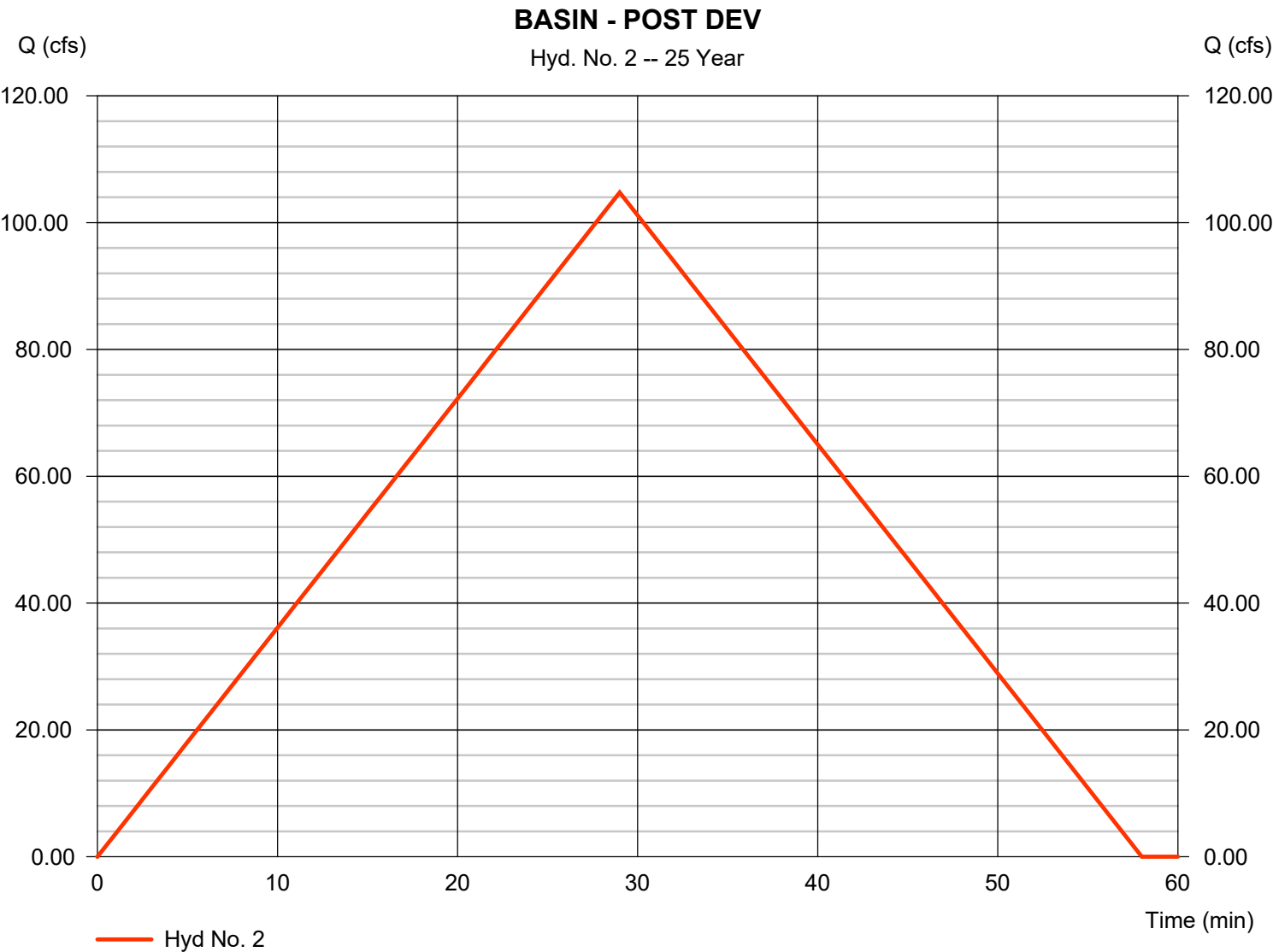


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 104.76 cfs
Storm frequency	= 25 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 182,283 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 4.576 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

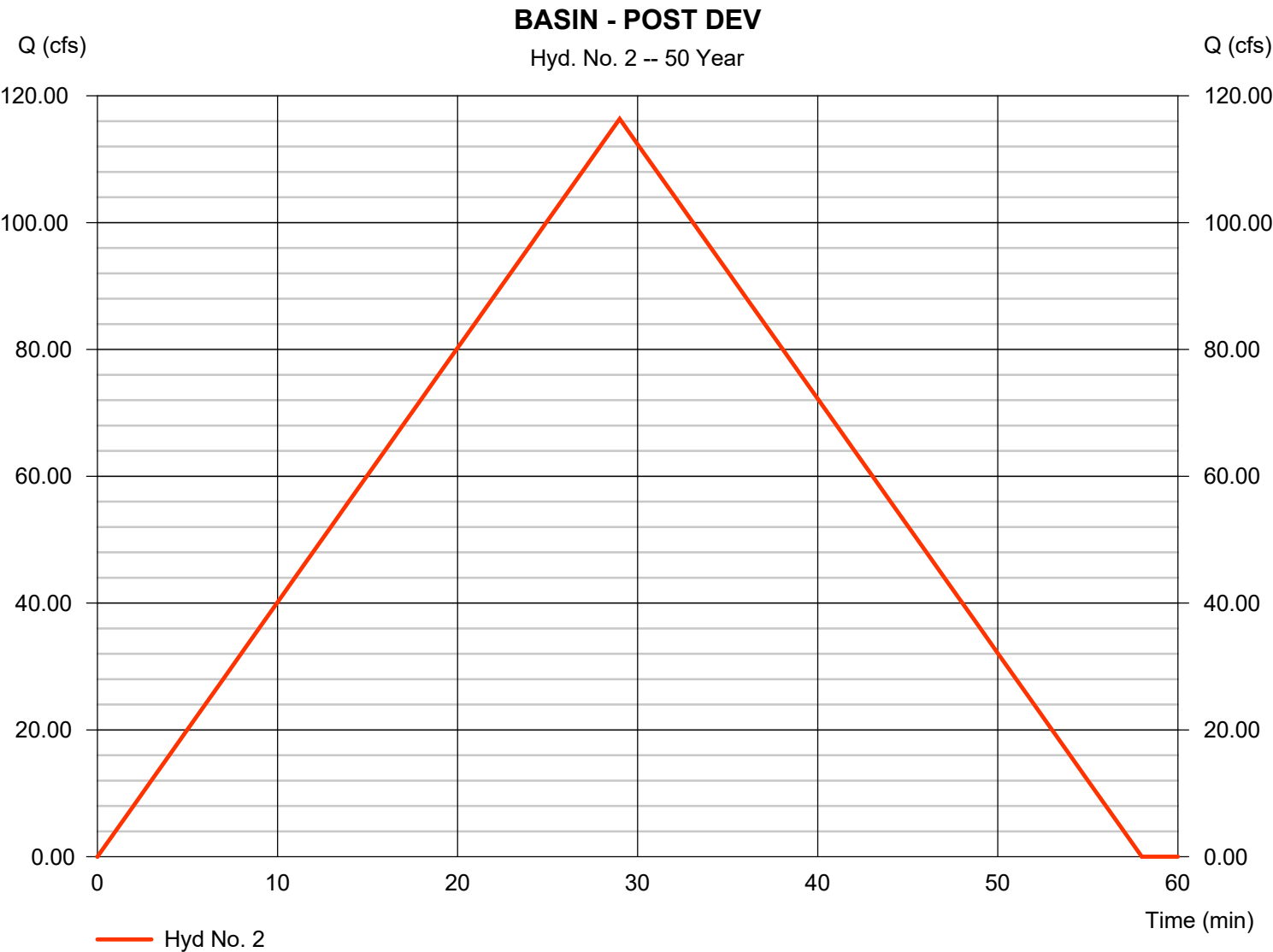


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 116.35 cfs
Storm frequency	= 50 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 202,453 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 5.082 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1

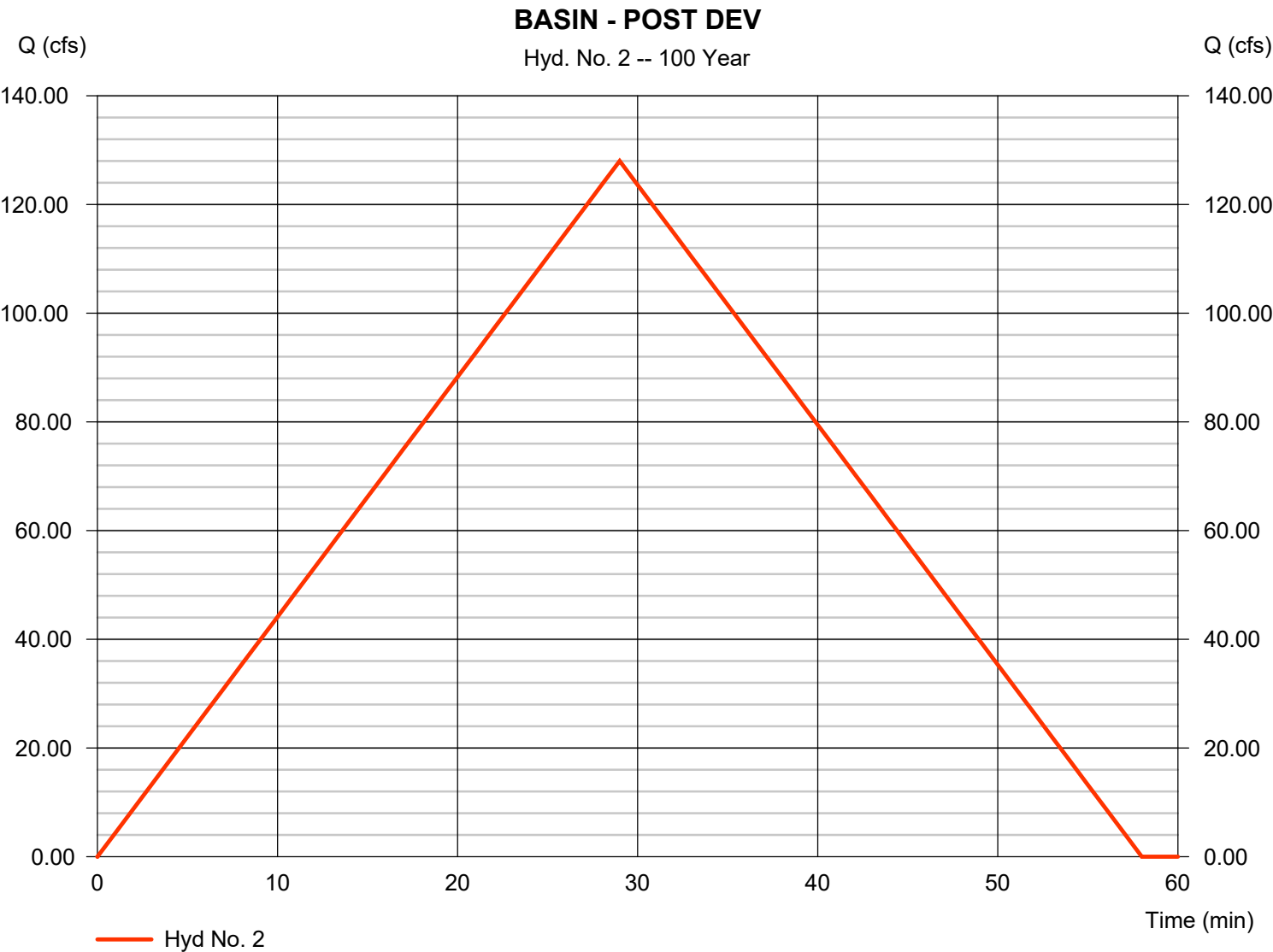


Hydrograph Report

Hyd. No. 2

BASIN - POST DEV

Hydrograph type	= Rational	Peak discharge	= 128.00 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 222,723 cuft
Drainage area	= 44.030 ac	Runoff coeff.	= 0.52
Intensity	= 5.591 in/hr	Tc by User	= 29.00 min
IDF Curve	= BRYANT IDF.IDF	Asc/Rec limb fact	= 1/1



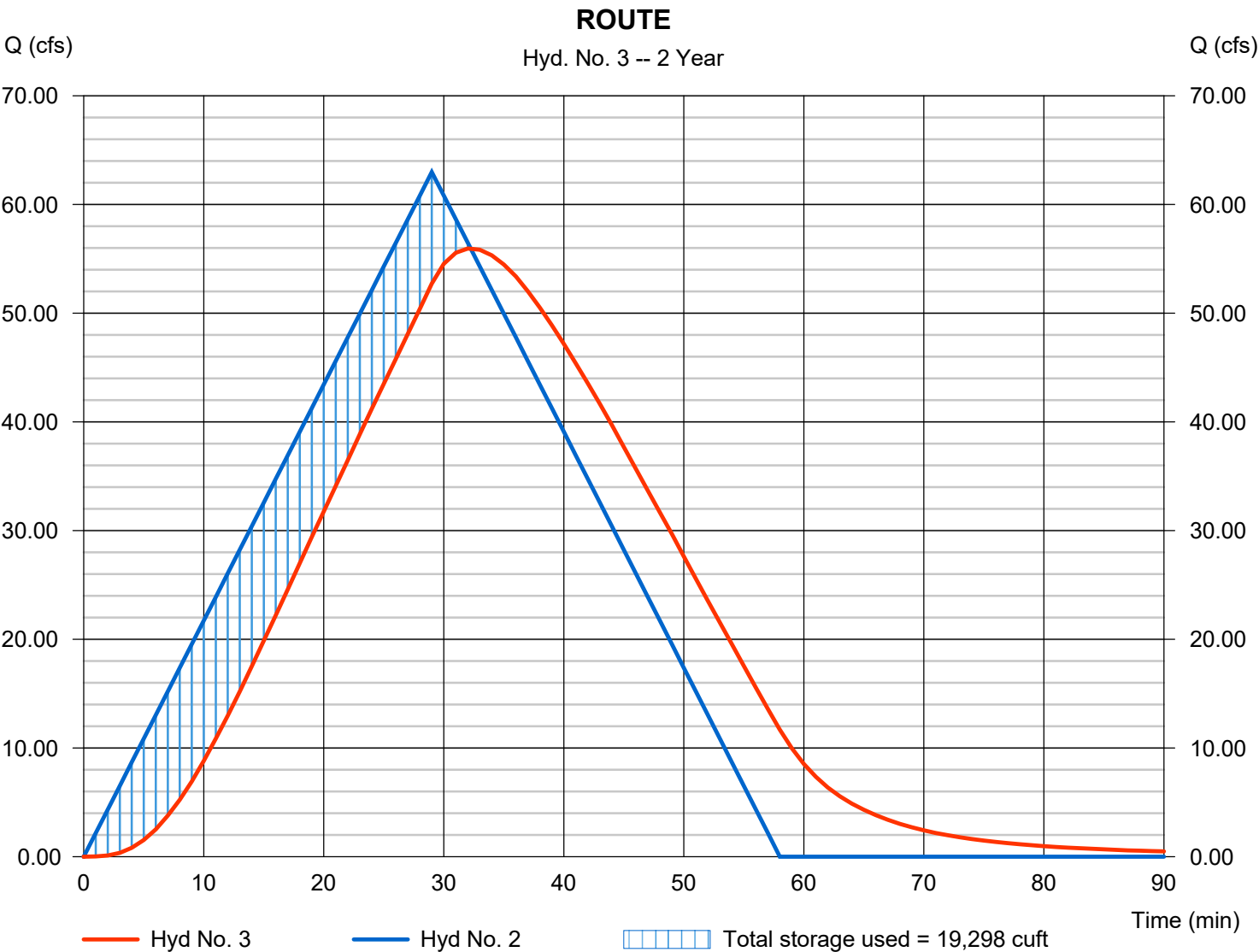
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 55.95 cfs
Storm frequency	= 2 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 109,590 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 465.47 ft
Reservoir name	= POND	Max. Storage	= 19,298 cuft

Storage Indication method used.



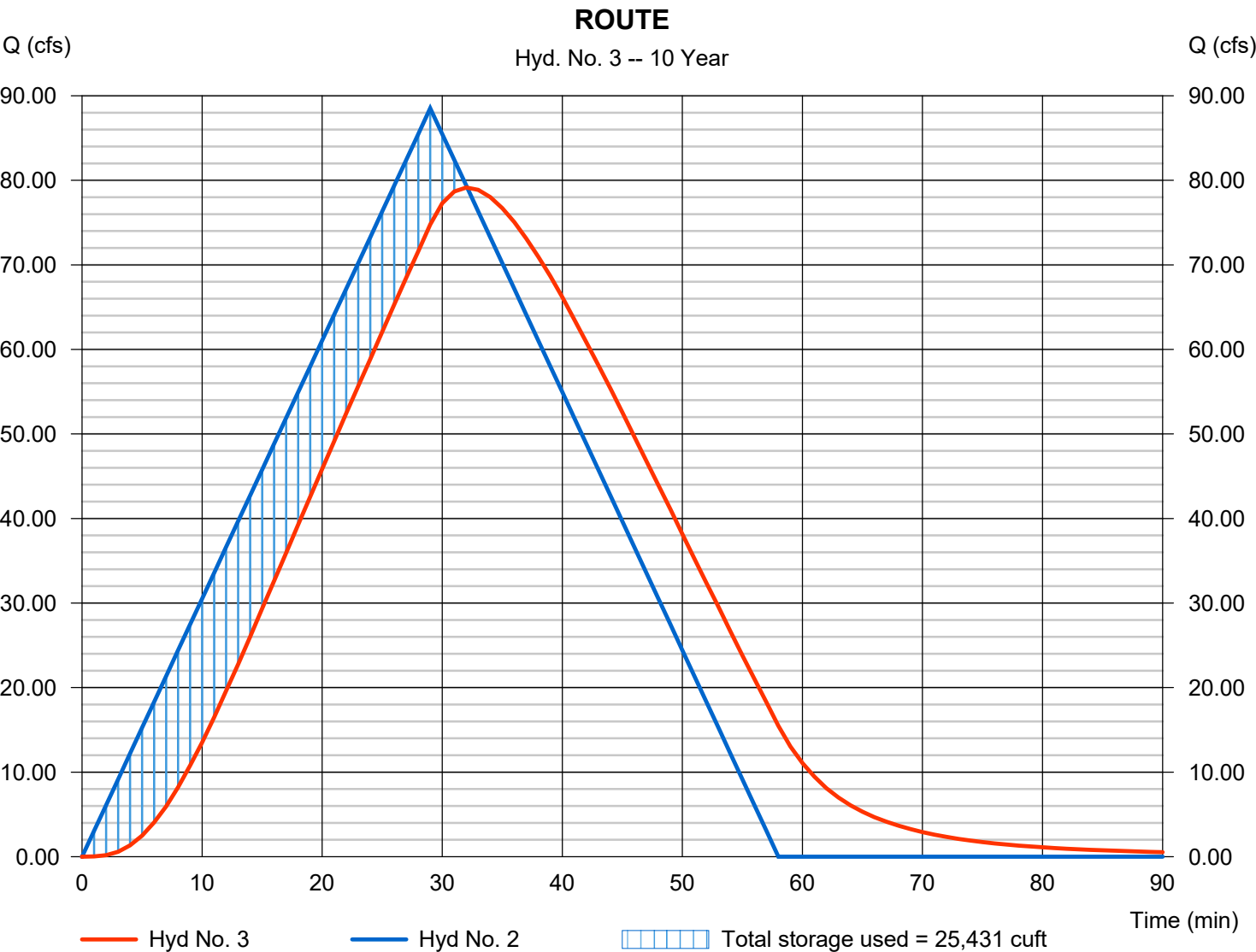
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 79.14 cfs
Storm frequency	= 10 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 154,032 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.12 ft
Reservoir name	= POND	Max. Storage	= 25,431 cuft

Storage Indication method used.



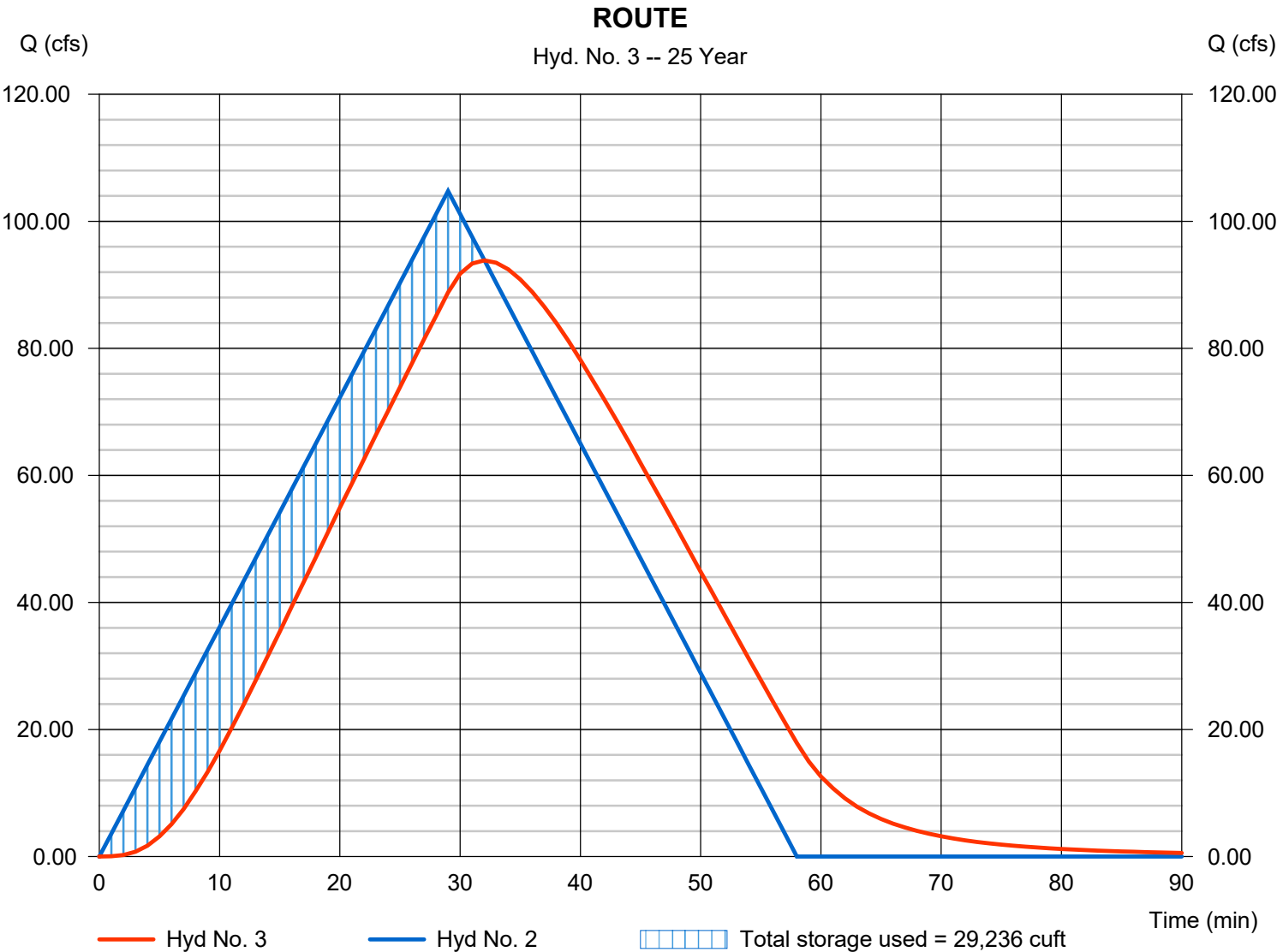
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 93.85 cfs
Storm frequency	= 25 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 182,281 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.49 ft
Reservoir name	= POND	Max. Storage	= 29,236 cuft

Storage Indication method used.



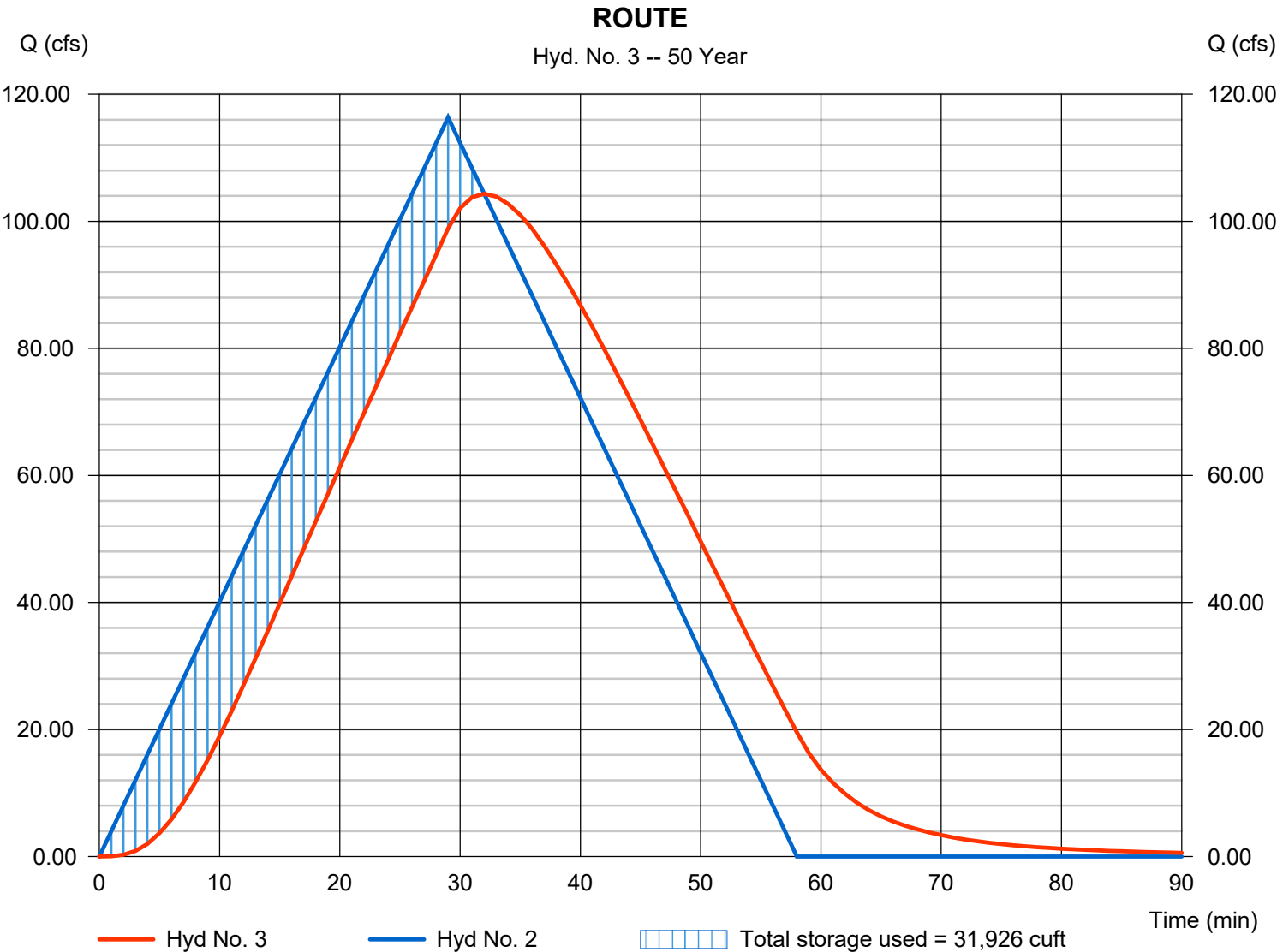
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 104.32 cfs
Storm frequency	= 50 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 202,450 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.75 ft
Reservoir name	= POND	Max. Storage	= 31,926 cuft

Storage Indication method used.



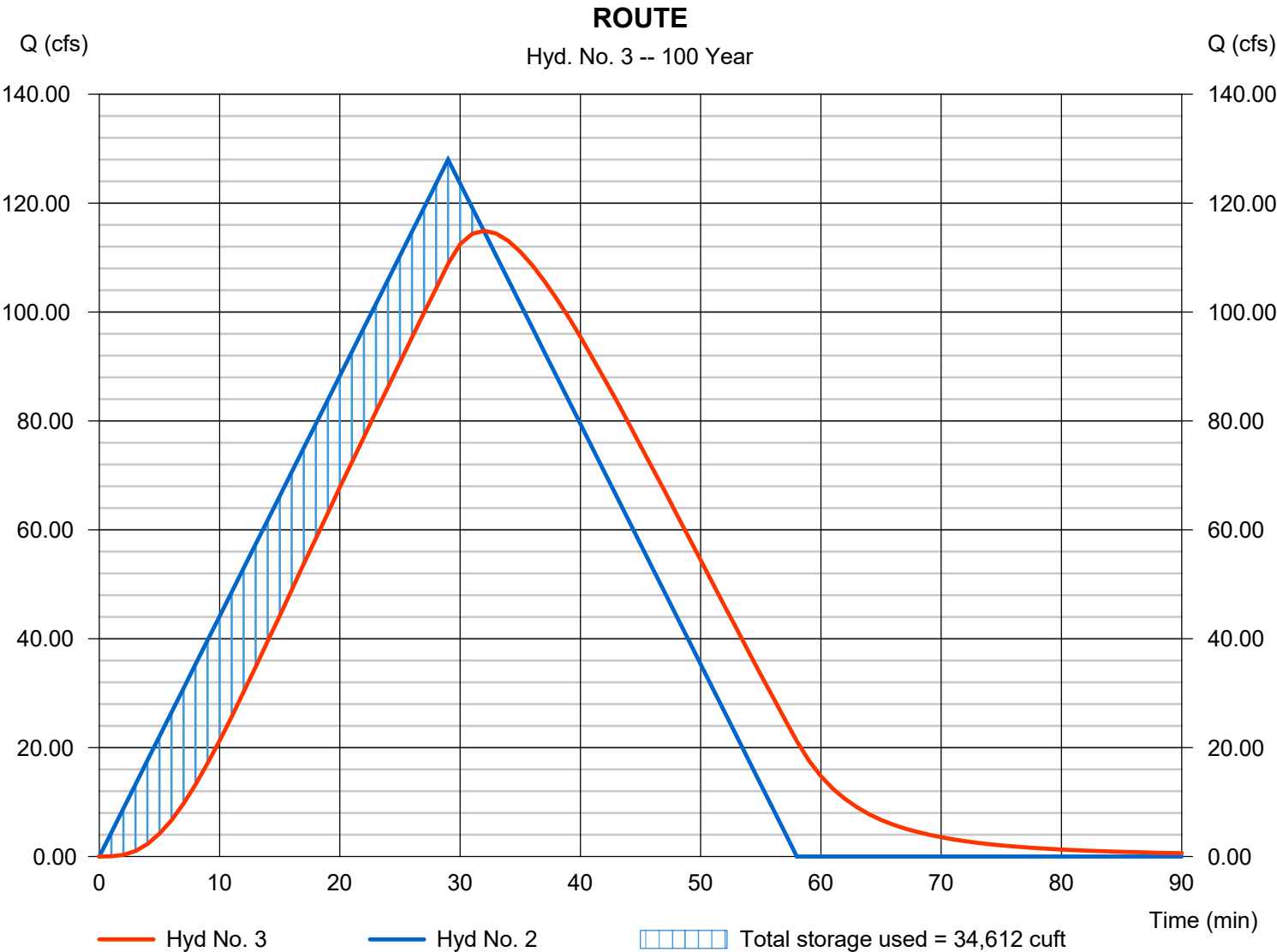
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 114.92 cfs
Storm frequency	= 100 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 222,721 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 467.00 ft
Reservoir name	= POND	Max. Storage	= 34,612 cuft

Storage Indication method used.



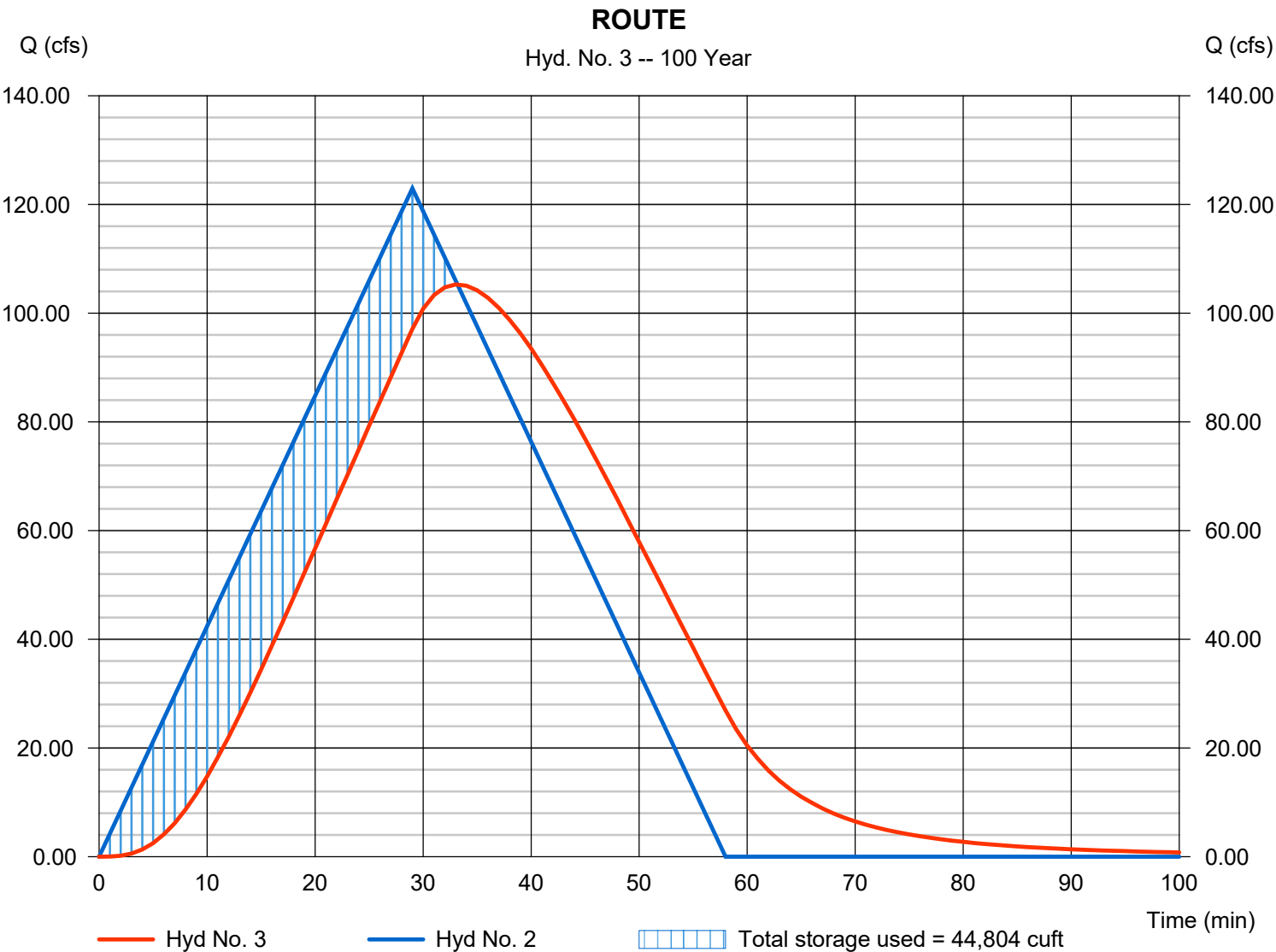
Hydrograph Report

Hyd. No. 3

ROUTE

Hydrograph type	= Reservoir	Peak discharge	= 105.29 cfs
Storm frequency	= 100 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 213,968 cuft
Inflow hyd. No.	= 2 - BASIN - POST DEV	Max. Elevation	= 466.86 ft
Reservoir name	= POND	Max. Storage	= 44,804 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - POND

Pond Data

Trapezoid -Bottom L x W = 130.0 x 70.0 ft, Side slope = 3.00:1, Bottom elev. = 463.00 ft, Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	463.00	9,100	0	0
0.40	463.40	9,586	3,737	3,737
0.80	463.80	10,083	3,933	7,670
1.20	464.20	10,592	4,135	11,805
1.60	464.60	11,112	4,340	16,145
2.00	465.00	11,644	4,551	20,696
2.40	465.40	12,187	4,766	25,462
2.80	465.80	12,742	4,986	30,447
3.20	466.20	13,309	5,210	35,657
3.60	466.60	13,887	5,439	41,096
4.00	467.00	14,476	5,672	46,768

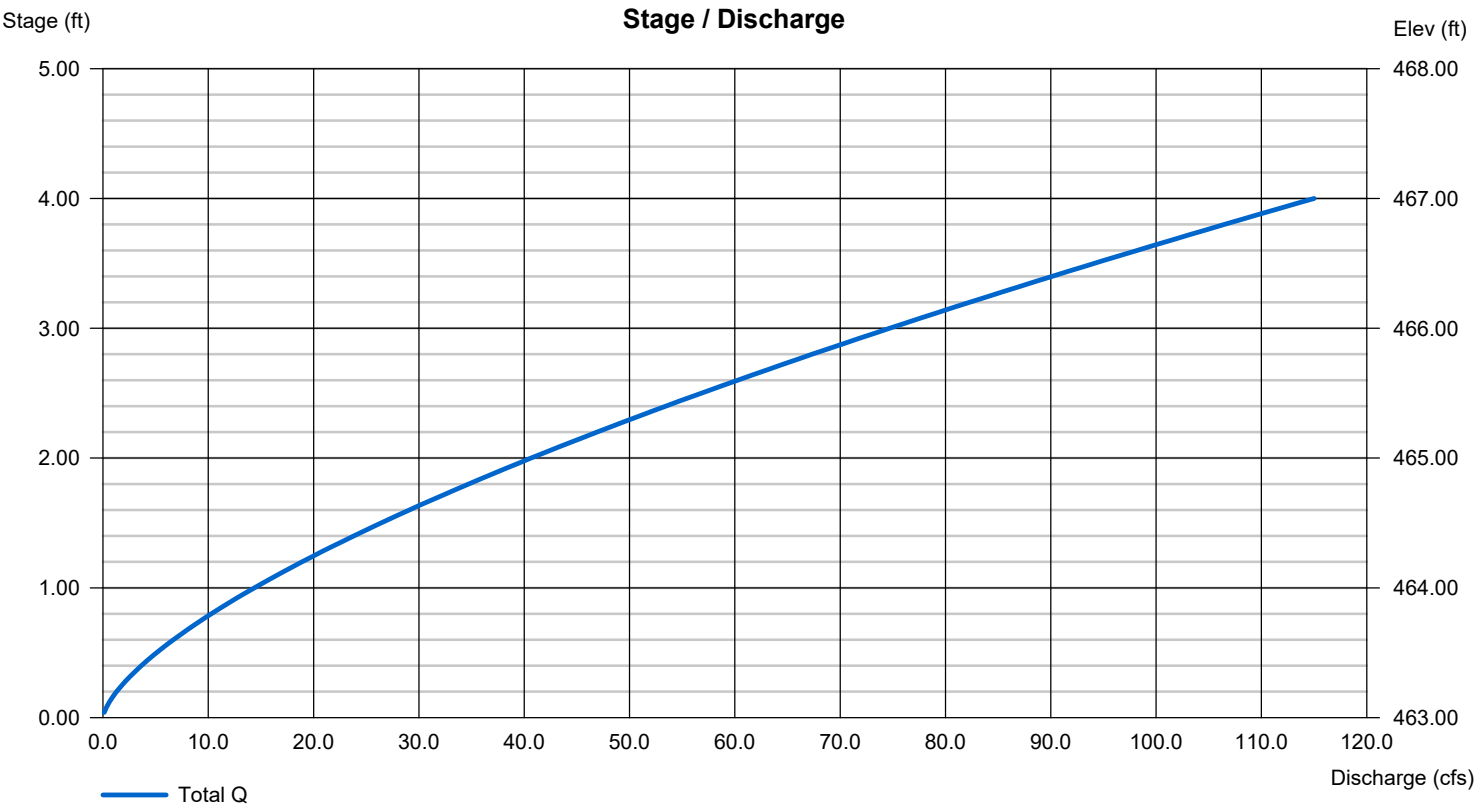
Culvert / Orifice Structures

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

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.75	0.00	0.00	0.00
Crest El. (ft)	= 463.00	0.00	0.00	0.00
Weir Coeff.	= 2.50	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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



Pond Report

Pond No. 1 - POND

Pond Data

Trapezoid -Bottom L x W = 130.0 x 70.0 ft, Side slope = 3.00:1, Bottom elev. = 463.00 ft, Depth = 4.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	463.00	9,100	0	0
0.40	463.40	9,586	3,737	3,737
0.80	463.80	10,083	3,933	7,670
1.20	464.20	10,592	4,135	11,805
1.60	464.60	11,112	4,340	16,145
2.00	465.00	11,644	4,551	20,696
2.40	465.40	12,187	4,766	25,462
2.80	465.80	12,742	4,986	30,447
3.20	466.20	13,309	5,210	35,657
3.60	466.60	13,887	5,439	41,096
4.00	467.00	14,476	5,672	46,768

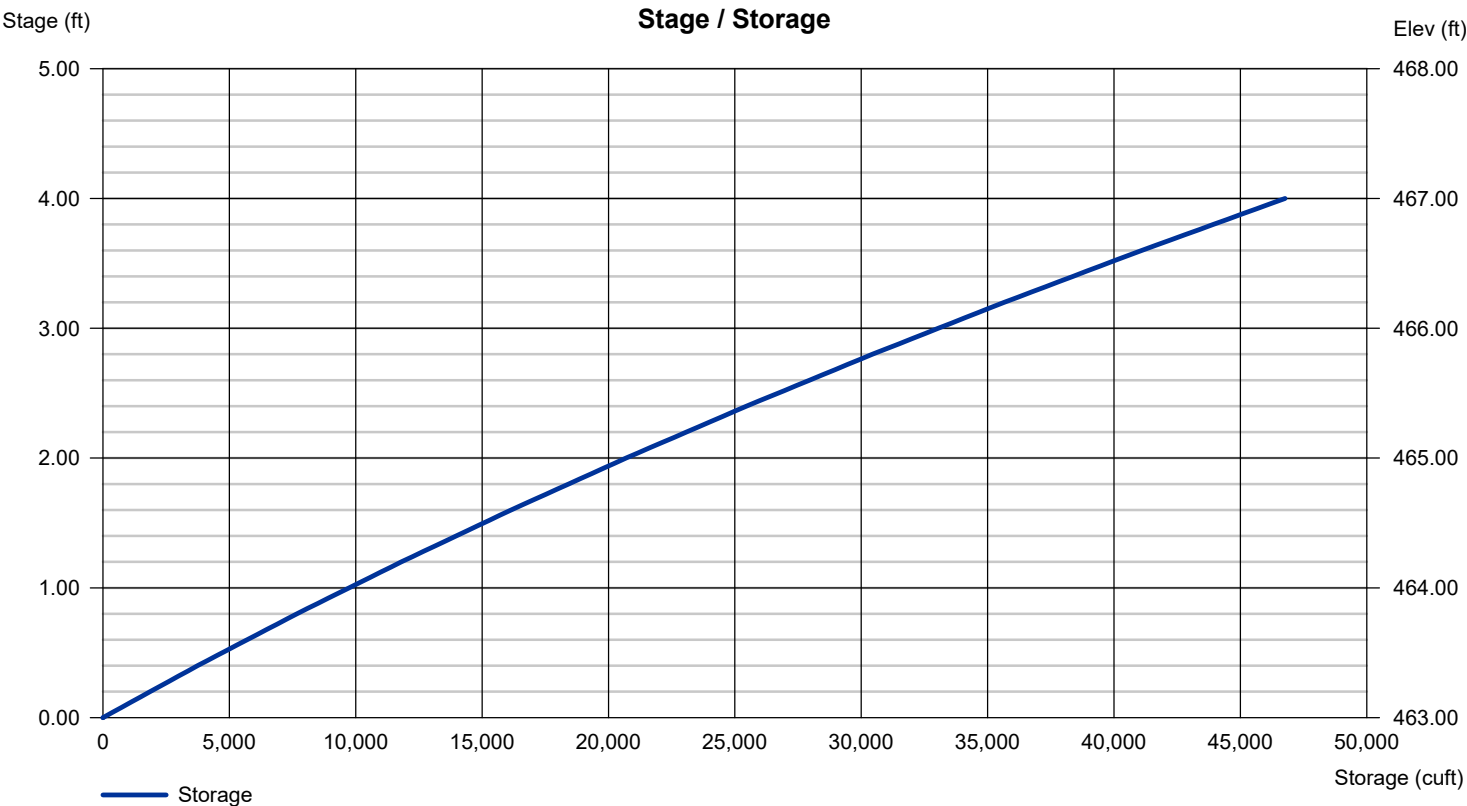
Culvert / Orifice Structures

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

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.75	0.00	0.00	0.00
Crest El. (ft)	= 463.00	0.00	0.00	0.00
Weir Coeff.	= 2.50	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

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



Weir Report

Weir

Rectangular Weir

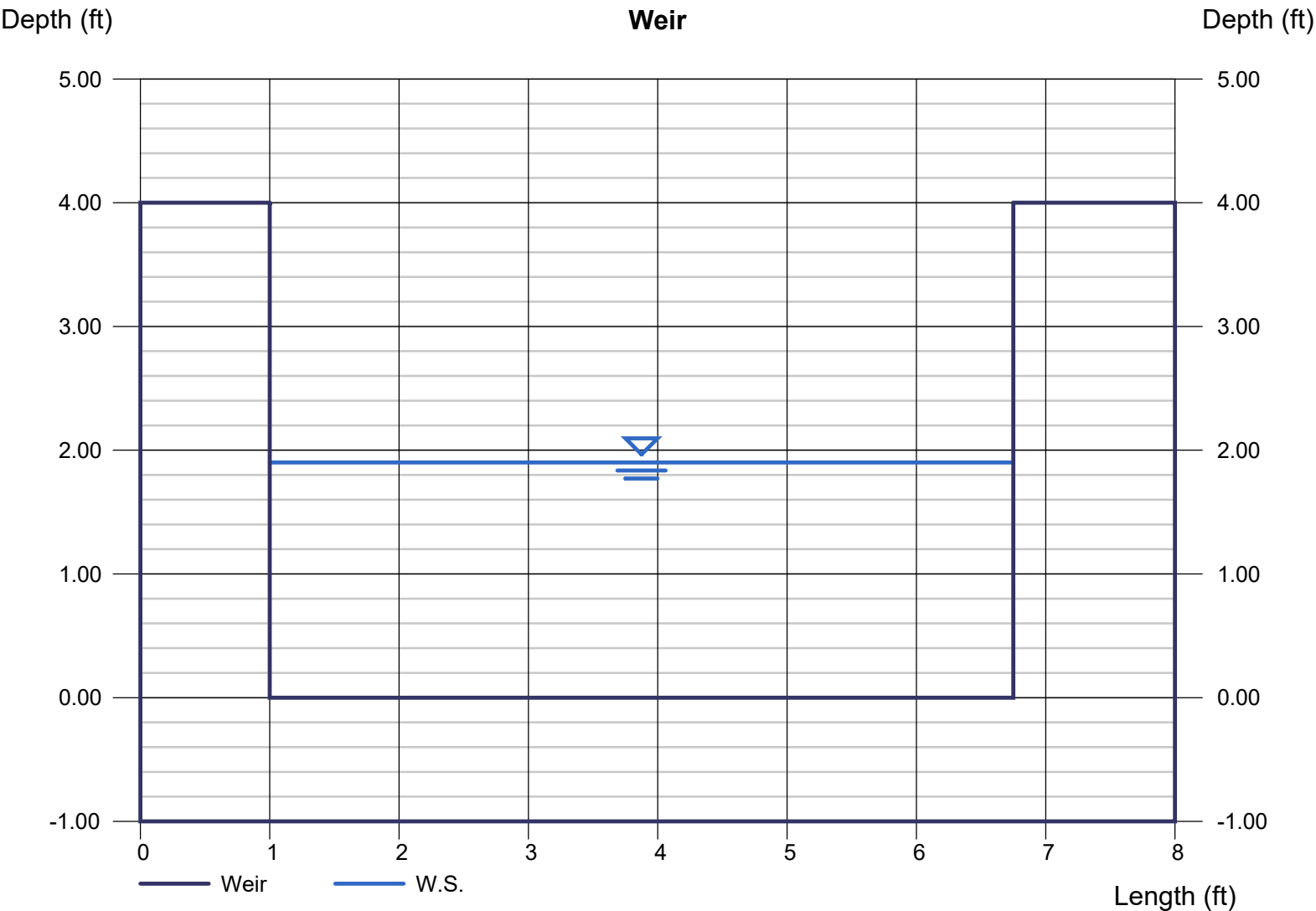
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 37.65

Highlighted

Depth (ft) = 1.90
Q (cfs) = 37.65
Area (sqft) = 10.93
Velocity (ft/s) = 3.44
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

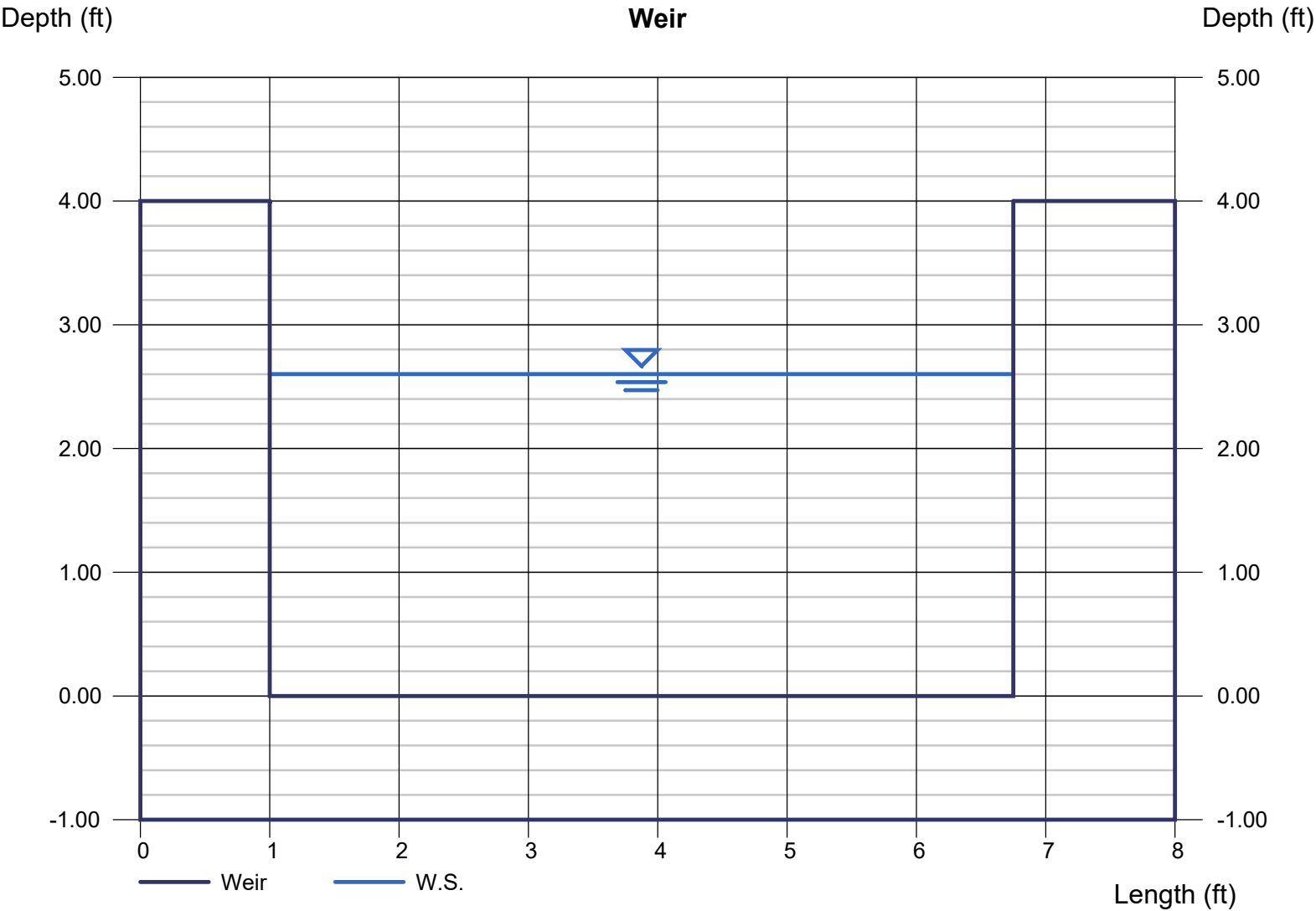
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 60.27

Highlighted

Depth (ft) = 2.60
Q (cfs) = 60.27
Area (sqft) = 14.96
Velocity (ft/s) = 4.03
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

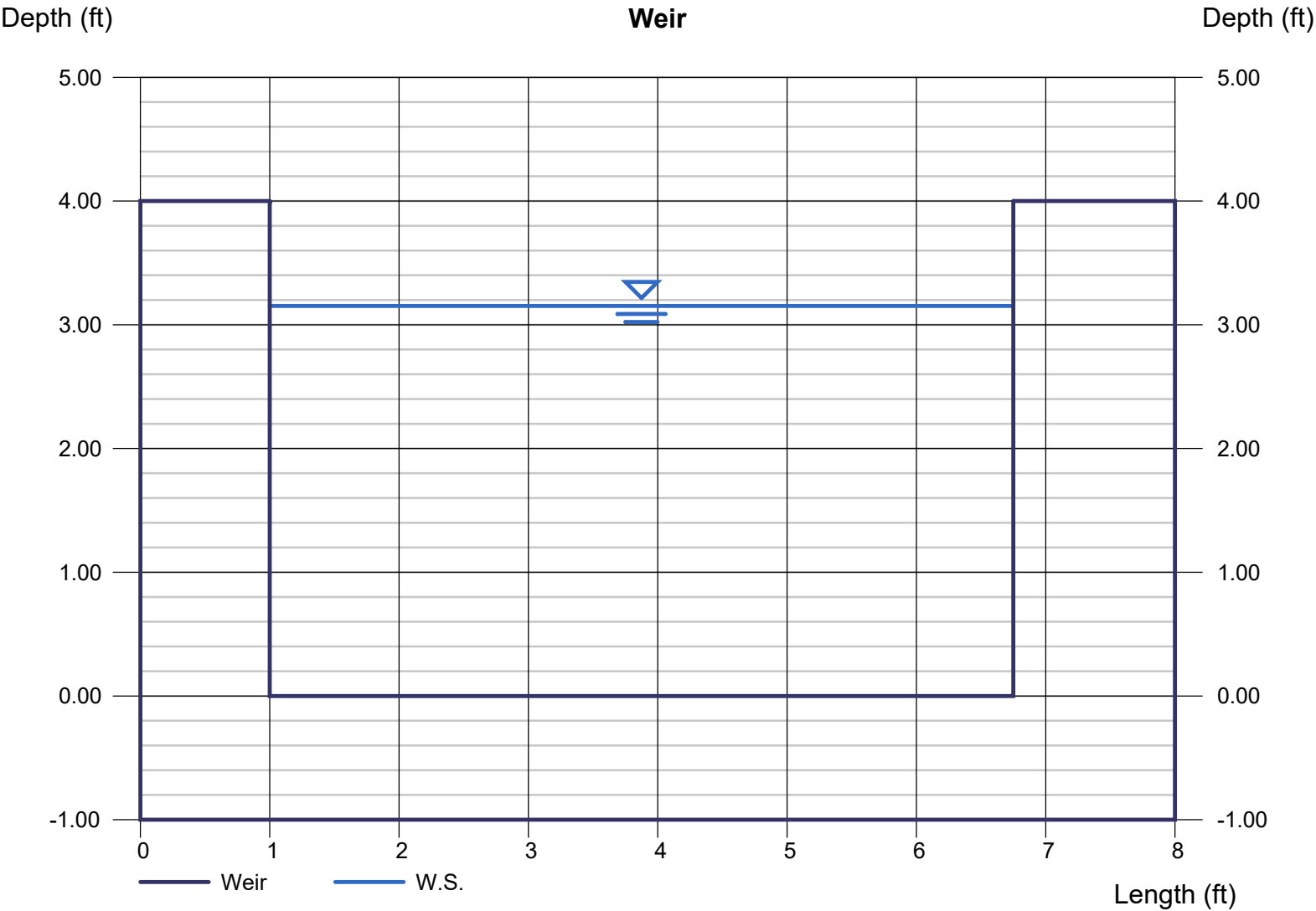
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 80.37

Highlighted

Depth (ft) = 3.15
Q (cfs) = 80.37
Area (sqft) = 18.12
Velocity (ft/s) = 4.43
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

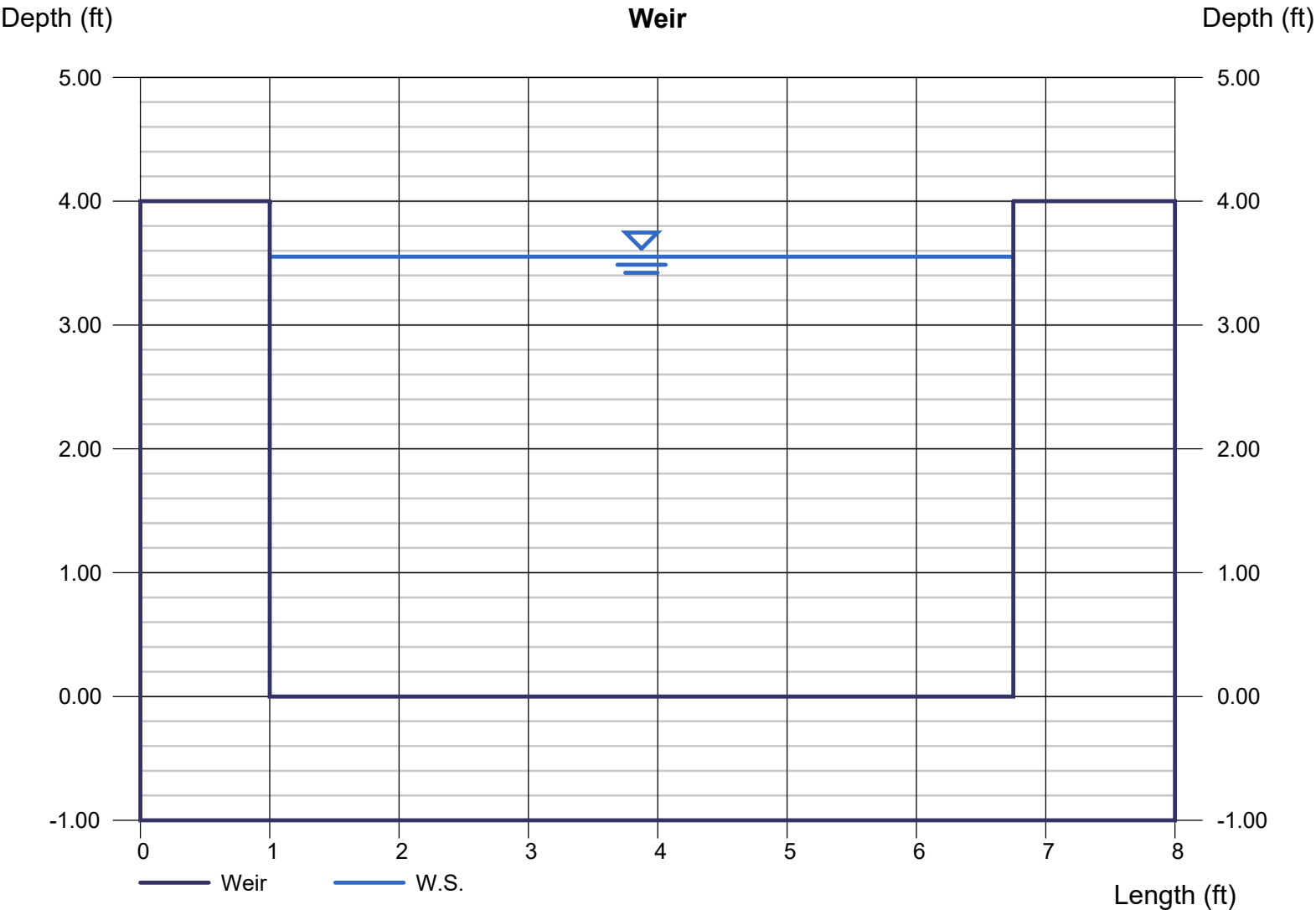
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 96.15

Highlighted

Depth (ft) = 3.55
Q (cfs) = 96.15
Area (sqft) = 20.43
Velocity (ft/s) = 4.71
Top Width (ft) = 5.75



Weir Report

Weir

Rectangular Weir

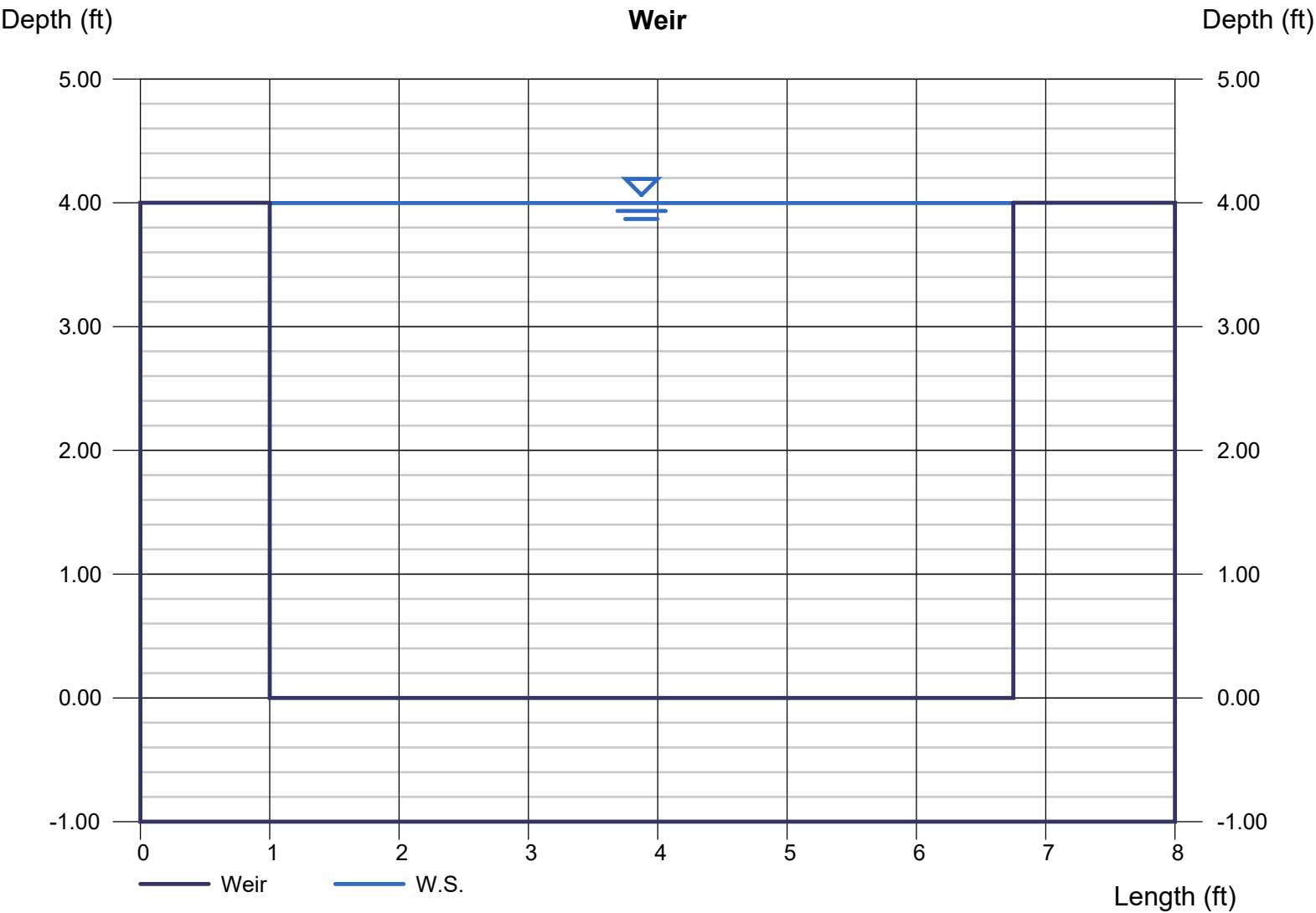
Crest = Broad
Bottom Length (ft) = 5.75
Total Depth (ft) = 4.00

Calculations

Weir Coeff. Cw = 2.50
Compute by: Known Q
Known Q (cfs) = 115.00

Highlighted

Depth (ft) = 4.00
Q (cfs) = 115.00
Area (sqft) = 22.99
Velocity (ft/s) = 5.00
Top Width (ft) = 5.75





Colton Leonard <cleonard@cityofbryant.com>

Boswell Road Sidewalk waver

Carla Baggett <carlasbaggett@gmail.com>

Thu, Mar 13, 2025 at 1:19 PM

To: Butch <butch4bryant@gmail.com>

Cc: Colton Leonard <cleonard@cityofbryant.com>, Ted Taylor <ttaylor@cityofbryant.com>, Chris Treat <ctreat@cityofbryant.com>

Dear Mr. Leonard and Mr. Taylor,

For our properties at 505, 509 and 513 Boswell Rd, we would like a sidewalk waiver. This is due to the street set backs, the location of the ditch and the existing utilities on the ground. This would create a hardship because the sidewalk would be placed in the center of the yard and the pedestrians would have to come down the driveway to get onto the sidewalks. There are also sidewalks present across the street. Please consider our waiver and request!

Thank you so much, Kirby and Carla Baggett

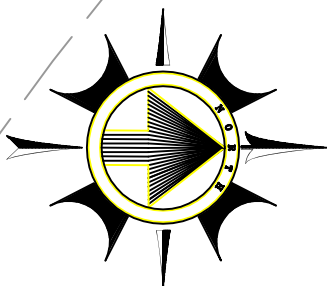
[Quoted text hidden]

BRET AND STELLA PRATHER
PARCEL NO. 343-01021-000

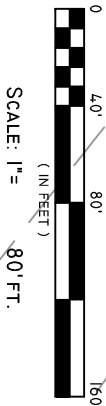
FOUND 1/2" REBAR
N89°06'26"E 644.69' 15' UTILITY ESMT.
FOUND 1/2" REBAR

LOT 20R

7.15 ACRES±



BASIS OF BEARING:
NAD-83 GRID NORTH
ARSP SOUTH ZONE.



HILLSBORO DRIVE (60' R/W)

N00°02'14"W 454.61'

N45°09'35"W

CH=39.38'

39.38'

25.00'

30' BLDG. LINE

THE PURPOSE OF THIS
RE-PLAT IS TO ADJUST
THE BUILDING LINE FROM
50' TO 30' ALONG
HILLSBORO CIRCLE

N89°43'05"E 564.12' 15' UTILITY ESMT.

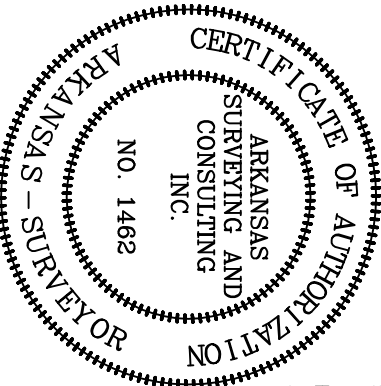
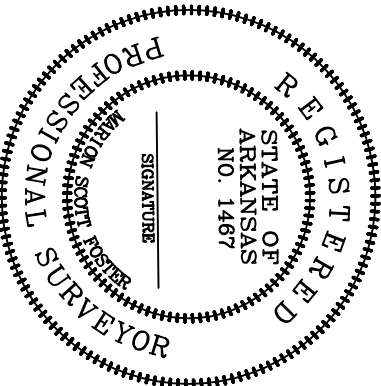
HILLSBORO CIRCLE (50' R/W)

PLAT OF LOT 20R

BEING A RE-PLAT OF LOT 20

OF THE HILLS PHASE 3

SALINE COUNTY, ARKANSAS



CERTIFICATE OF OWNER
WE, THE UNDERSIGNED, OWNERS OF THE REAL ESTATE SHOWN
AND DESCRIBED HEREIN DO HEREBY CERTIFY THAT WE HAVE
CAUSED TO BE LAID OFF, PLATTED AND SUBDIVIDED, AND TO
HEREBY LAY OFF, PLAT AND SUBDIVIDE SAID REAL ESTATE IN
ACCORDANCE WITH THE PLAT.

DATE OF EXECUTION _____ SIGNED _____
SOURCE OF TITLE: INSTRUMENT 200617607

CERTIFICATE OF FINAL PLAT APPROVAL
PURSUANT TO THE SALINE COUNTY SUBDIVISION RULES AND
REGULATIONS, AND ALL OF THE CONDITIONS OF APPROVAL
HAVING BEEN COMPLETED, THIS DOCUMENT IS HEREBY
ACCEPTED. THIS CERTIFICATE IS HEREBY EXECUTED UNDER THE
AUTHORITY OF SAID RULES AND REGULATIONS.

SIGNED _____
DATE OF EXECUTION _____
CHAIRMAN, SALINE COUNTY
PLANNING BOARD

PHILLIP AND SUE EDMONSON
PARCEL NO. 343-01019-000
CERTIFICATE OF SURVEYING ACCURACY
I, MARION SCOTT FOSTER, HEREBY CERTIFY THAT THIS PLAT
CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME OR
UNDER MY SUPERVISION; THAT ALL MONUMENTS SHOWN HEREON
ACTUALLY EXIST AND THEIR LOCATION, SIZE, TYPE AND MATERIAL
ARE CORRECTLY SHOWN; AND THAT ALL INTERIOR LOT LINES ARE
ACCURATELY DESCRIBED IN TERMS OF LENGTH AND DIRECTION OF
THE PROPERTY SIDES.

DATE OF EXECUTION _____
MARION SCOTT FOSTER P.S.
1926 SALEM ROAD
BENTON, ARKANSAS 72019

CERTIFICATE OF RECORDING
THIS DOCUMENT, NUMBER _____, IS FILED FOR RECORD ON THIS
DAY OF _____, 2023 AT _____ AM/PM, IN
PLAT OR DEED BOOK _____ PAGE _____

SIGNED _____

TITLE _____

FOR BILL OF ASSURANCE, SEE DEED RECORD BOOK _____ PAGE _____

NOTES

- (1) WATER SERVICE: CENTRAL ARKANSAS WATER
- (2) ELECTRIC SERVICE: FIRST ELECTRIC COOPERATIVE
- (3) TELEPHONE SERVICE: HERITAGE
- (4) GAS SERVICE: SUMMIT ENERGY
- (5) SEWER SERVICE: NONE (PRIVATE SEPTIC SYSTEM)
- (6) ☒ 1/2" REBAR SET AT ALL LOT CORNERS,
UNLESS OTHERWISE SHOWN.

NOTES
SURVEY BEARINGS ARE BASED ON GRID
NORTH AR STATE PLANE SOUTH ZONE AS
DETERMINED BY GPS.

THE BEARINGS SHOWN ON THIS PLAT ARE
ASSUMED AND ARE TO BE USED TO
DEFINE THE GENERAL DIRECTION AND
TRUE ANGLES AT INTERSECTION OF
PROPERTY AND LAND LINES.
TRACT IS SUBJECT TO EASEMENTS,
RESTRICTIVE COVENANTS, SUBDIVISION
RESTRICTIONS, AND PLANNING AND
ZONING REGULATIONS OF RECORD, IF ANY,
AND IS SUBJECT TO SUCH FACTS AS AN
ACCURATE AND CURRENT TITLE SEARCH
MAY DISCLOSE.

NO STATEMENT IS MADE AS TO THE
EXISTENCE OR LOCATION, EXCEPT WHERE
SHOWN OF ANY PROPERTY CORNER
MONUMENTS.

NO STATEMENT IS MADE CONCERNING
SUBSURFACE CONDITIONS.

CONTRACTOR IS RESPONSIBLE FOR
VERIFYING ALL MEASUREMENTS PRIOR TO
BEGINNING CONSTRUCTION. (IF
APPLICABLE).

SURVEY VALID ONLY IF PRINT HAS
ORIGINAL SEAL AND SIGNATURE OF
SURVEYOR IN **RED** PRESENT ON IT.

UTILITIES NOT FIELD VERIFIED. NO OTHER
STATEMENT IS MADE AS TO UTILITY
EXISTENCE OR LOCATION.

I CERTIFY THAT THE ABOVE DESCRIBED
PROPERTY HAS BEEN SURVEYED. CORNER
MONUMENTS HAVE BEEN ESTABLISHED IN
ACCORDANCE WITH EXISTING
MONUMENTATION IN THE AREA AND
IMPROVEMENTS IF ANY ARE AS SHOWN
HEREON.

DECLARATION IS MADE TO ORIGINAL
PURCHASER OF THE SURVEY. IT IS NOT
TRANSFERABLE TO ADDITIONAL
INSTITUTIONS OR SUBSEQUENT OWNERS.

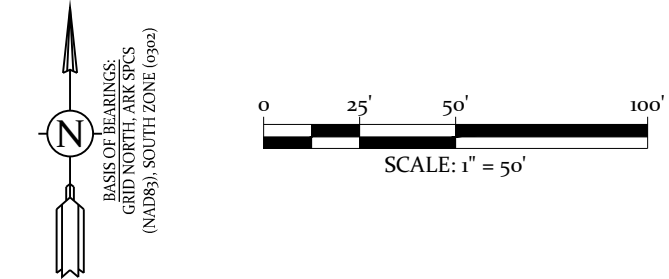
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AND CONSULTING, INC.

DATE: 02-12-2025
SCALE: 1"= 80'
DRAWN BY: MSF
CHECKED BY: MSF
FILE NAME: LOT 20



ASC
ARKANSAS SURVEYING & CONSULTING
1926 SALEM ROAD
BENTON, ARKANSAS 72019
TELE. OFFICE (501) 794-4500
CLARENDON ARKANSAS, 72029
TELE OFFICE (870) 747-1761

JIM AND TAMI DRAPER
1122 HILLSBORO CIRCLE
SALINE COUNTY, AR
RE-PLAT LOT 20



PROPERTY DESCRIPTION OF RECORD
 SALINE COUNTY DEED 2018-024633

ALL THAT PART OF THE SOUTHWEST QUARTER OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT AN ARKANSAS GEOLOGICAL MONUMENT MARKING THE SOUTHWEST CORNER OF SAID SECTION 22; THENCE NORTH 02 DEGREES 32 MINUTES 00 SECONDS EAST, ALONG THE WEST LINE THEREOF, 501.52 FEET; TO A POINT; THENCE SOUTH 88 DEGREES 33 MINUTES 53 SECONDS EAST, CROSSING REYNOLDS ROAD (ALSO KNOWN AS ARKANSAS STATE HIGHWAY NUMBER 183) FOR 62.85 FEET TO THE EAST RIGHT OF WAY LINE OF REYNOLDS ROAD AND THE SOUTHWEST CORNER OF DELL DRIVE; THENCE NORTH 02 DEGREES 31 MINUTES 30 SECONDS EAST, ALONG SAID REYNOLDS ROAD R-O-W, 26.58 FEET TO THE NORTHWEST CORNER OF DELL DRIVE; THENCE SOUTH 88 DEGREES 32 MINUTES 07 SECONDS EAST, ALONG DELL DRIVE R-O-W, 460.41 FEET TO A TWO INCH PIPE; THENCE NORTH 00 DEGREES 46 MINUTES 50 SECONDS WEST, 4.42 FEET TO A 5/8 INCH REBAR AND THE POINT OF BEGINNING; THENCE NORTH 00 DEGREES 46 MINUTES 50 SECONDS WEST, 193.64 FEET TO A 5/8 INCH REBAR; THENCE NORTH 88 DEGREES 33 MINUTES 43 SECONDS WEST, 459.80 FEET TO A 5/8 INCH REBAR IN THE EAST RIGHT OF WAY LINE OF ARKANSAS STATE HIGHWAY NO. 183; THENCE NORTH 02 DEGREES 34 MINUTES 12 SECONDS EAST, ALONG SAID HIGHWAY R-O-W, 60.18 FEET TO A 5/8 INCH REBAR; THENCE SOUTH 88 DEGREES 34 MINUTES 10 SECONDS EAST, LEAVING SAID HIGHWAY, 502.98 FEET TO A 5/8 INCH REBAR; THENCE NORTH 01 DEGREES 38 MINUTES 53 SECONDS EAST, 118.02 FEET TO A 5/8 INCH REBAR AND THE SOUTHWEST CORNER OF LAND OF LOWES; THENCE SOUTH 87 DEGREES 05 MINUTES 10 SECONDS EAST, ALONG A LINE COMMON WITH THE LAND OF LOWES, 305.54 FEET TO A 5/8 INCH REBAR; THENCE SOUTH 02 DEGREES 54 MINUTES 50 SECONDS WEST, ALONG A LINE COMMON WITH THE LAND OF LOWES, 8.84 FEET TO A 5/8 INCH REBAR; THENCE SOUTH 87 DEGREES 05 MINUTES 10 SECONDS EAST, ALONG A LINE COMMON WITH THE LAND OF LOWES, 477.06 FEET TO A 5/8 INCH REBAR AND THE SOUTHEAST CORNER OF SAID LAND OF LOWES; THENCE SOUTH 02 DEGREES 34 MINUTES 53 SECONDS WEST, ALONG A LINE COMMON WITH THE WEST LINE OF PIKEWOOD SUBDIVISION NUMBER 2, AS FILED IN DEED BOOK 109 AT PAGE 314 FOR 342.19 FEET TO A 5/8 INCH REBAR, SAID REBAR IS LOCATED NORTH 02 DEGREES 34 MINUTES 48 SECONDS EAST, 4.12 FEET FROM A 1/2 INCH REBAR WITH A BEN KITTLER, JR. CAP, MARKING THE NORTHEAST CORNER OF RAYMOND EVANS LAND AS SHOWN IN DEED BOOK 189, PAGE 22; THENCE NORTH 88 DEGREES 36 MINUTES 25 SECONDS WEST, ALONG THE NORTH RIGHT OF WAY LINE OF DELL DRIVE, 812.58 FEET TO THE POINT OF BEGINNING.

PROPERTY DESCRIPTIONS FROM SURVEY - LOT 1
 A PART OF THE SOUTHWEST QUARTER (SW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 COMMENCING AT THE SW CORNER OF SAID SW1/4, SW1/4 OF SECTION 22;
 THENCE NORTH 02°32'03" EAST A DISTANCE OF 501.50 FEET TO A POINT;
 THENCE SOUTH 88°33'50" EAST, CROSSING REYNOLDS ROAD (ALSO KNOWN AS ARKANSAS STATE HIGHWAY NUMBER 183) A DISTANCE OF 62.85 FEET TO A POINT ON THE FORMER EAST RIGHT-OF-WAY OF SAID REYNOLDS ROAD;
 THENCE NORTH 02°31'33" EAST A DISTANCE OF 26.58 FEET TO A POINT;
 THENCE SOUTH 88°32'04" EAST A DISTANCE OF 460.39 FEET TO A POINT;
 THENCE NORTH 00°46'47" WEST A DISTANCE OF 4.42 FEET TO A FND. 5/8" REBAR & CAP (PS 1506);
 THENCE NORTH 01°05'50" WEST A DISTANCE OF 13.39 FEET TO A SET 1/2" REBAR & CAP (PS 1664) ON THE CURRENT NORTHERLY RIGHT-OF-WAY OF DELL DRIVE (SAID R/W BEING 30 FEET, MORE OR LESS, TO THE CENTERLINE THEREOF);
 THENCE NORTH 01°05'50" WEST A DISTANCE OF 179.88 FEET TO A FND. 1/2" REBAR & CAP (PS 1141);
 THENCE NORTH 88°30'12" WEST A DISTANCE OF 458.94 FEET TO A FND. 1/2" REBAR & CAP (PS 164);
 THENCE NORTH 02°33'00" EAST A DISTANCE OF 60.14 FEET TO A FND. 1/2" REBAR & CAP (PS 164);
 THENCE SOUTH 88°33'59" EAST A DISTANCE OF 502.86 FEET TO A FND. 5/8" REBAR & CAP (PS 1506) AND THE POINT OF BEGINNING;
 THENCE NORTH 01°41'30" EAST A DISTANCE OF 118.02 FEET TO A 1/2" REBAR;
 THENCE SOUTH 86°59'17" EAST A DISTANCE OF 306.13 FEET TO A FND. COTTON SPINDLE IN ASPHALT;
 THENCE SOUTH 02°52'36" WEST A DISTANCE OF 8.84 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;
 THENCE CONTINUE SOUTH 02°52'36" WEST A DISTANCE OF 149.43 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;
 THENCE NORTH 88°29'45" WEST A DISTANCE OF 270.00 FEET TO A POINT;
 THENCE NORTH 32°32'44" WEST A DISTANCE OF 58.25 FEET TO THE POINT OF BEGINNING;
 CONTAINING 48,606.71 SQUARE FEET, OR 1.12 ACRES, MORE OR LESS.

PROPERTY DESCRIPTION FROM SURVEY - LOT 2
 A PART OF THE SOUTHWEST QUARTER (SW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 COMMENCING AT THE SW CORNER OF SAID SW1/4, SW1/4 OF SECTION 22;
 THENCE NORTH 02°32'03" EAST A DISTANCE OF 501.50 FEET TO A POINT;
 THENCE SOUTH 88°33'50" EAST, CROSSING REYNOLDS ROAD (ALSO KNOWN AS ARKANSAS STATE HIGHWAY NUMBER 183) A DISTANCE OF 62.85 FEET TO A POINT ON THE FORMER EAST RIGHT-OF-WAY OF SAID REYNOLDS ROAD;
 THENCE NORTH 02°31'33" EAST A DISTANCE OF 26.58 FEET TO A POINT;
 THENCE SOUTH 88°32'04" EAST A DISTANCE OF 460.39 FEET TO A POINT;
 THENCE NORTH 00°46'47" WEST A DISTANCE OF 4.42 FEET TO A FND. 5/8" REBAR & CAP (PS 1506);
 THENCE NORTH 01°05'50" WEST A DISTANCE OF 13.39 FEET TO A SET 1/2" REBAR & CAP (PS 1664) ON THE CURRENT NORTHERLY RIGHT-OF-WAY OF DELL DRIVE (SAID R/W BEING 30 FEET, MORE OR LESS, TO THE CENTERLINE THEREOF) AND THE POINT OF BEGINNING;
 THENCE NORTH 01°05'50" WEST A DISTANCE OF 179.88 FEET TO A FND. 1/2" REBAR & CAP (PS 1141);
 THENCE NORTH 88°30'12" WEST A DISTANCE OF 458.94 FEET TO A FND. 1/2" REBAR & CAP (PS 164);
 THENCE NORTH 02°33'00" EAST A DISTANCE OF 60.14 FEET TO A FND. 1/2" REBAR & CAP (PS 164);
 THENCE SOUTH 88°33'59" EAST A DISTANCE OF 502.86 FEET TO A FND. 5/8" REBAR & CAP (PS 1506);
 THENCE SOUTH 32°32'44" EAST A DISTANCE OF 58.25 FEET TO A 1/2" REBAR & CAP (PS 1664);
 THENCE SOUTH 88°29'45" EAST A DISTANCE OF 270.00 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;
 THENCE SOUTH 02°52'36" WEST A DISTANCE OF 192.33 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT ON SAID NORTHERLY RIGHT-OF-WAY OF DELL DRIVE;
 THENCE NORTH 88°28'15" WEST A DISTANCE OF 334.86 FEET TO THE POINT OF BEGINNING;
 CONTAINING 96,276.22 SQUARE FEET, OR 2.21 ACRES, MORE OR LESS.

PROPERTY DESCRIPTION FROM SURVEY-ROW DEDICATION
 A PART OF THE SOUTHWEST QUARTER (SW1/4) OF THE SOUTHWEST QUARTER (SW1/4) OF SECTION 22, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS MORE PARTICULARLY DESCRIBED AS FOLLOWS:
 COMMENCING AT THE SW CORNER OF SAID SW1/4, SW1/4 OF SECTION 22;
 THENCE NORTH 02°32'03" EAST A DISTANCE OF 501.50 FEET TO A POINT;
 THENCE SOUTH 88°33'50" EAST, CROSSING REYNOLDS ROAD (ALSO KNOWN AS ARKANSAS STATE HIGHWAY NUMBER 183) A DISTANCE OF 62.85 FEET TO A POINT ON THE FORMER EAST RIGHT-OF-WAY OF SAID REYNOLDS ROAD;
 THENCE NORTH 02°31'33" EAST A DISTANCE OF 26.58 FEET TO A POINT;
 THENCE SOUTH 88°32'04" EAST A DISTANCE OF 460.39 FEET TO A POINT;
 THENCE NORTH 00°46'47" WEST A DISTANCE OF 4.42 FEET TO A FND. 5/8" REBAR & CAP (PS 1506) AND THE POINT OF BEGINNING;
 THENCE NORTH 01°05'50" WEST A DISTANCE OF 13.39 FEET TO A SET 1/2" REBAR & CAP (PS 1664);
 THENCE SOUTH 88°28'15" EAST A DISTANCE OF 334.86 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;
 THENCE SOUTH 02°52'36" WEST A DISTANCE OF 12.56 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;
 THENCE NORTH 88°36'41" WEST A DISTANCE OF 333.95 FEET TO THE POINT OF BEGINNING;
 CONTAINING 4,335.26 SQUARE FEET, OR 0.10 ACRES, MORE OR LESS.

CERTIFICATE OF OWNER:

We, the undersigned, owners of the real estate shown and described herein do hereby certify that we have caused to be laid off, platted and subdivided, and to hereby lay off, plat and subdivide said real estate in accordance with the plat.

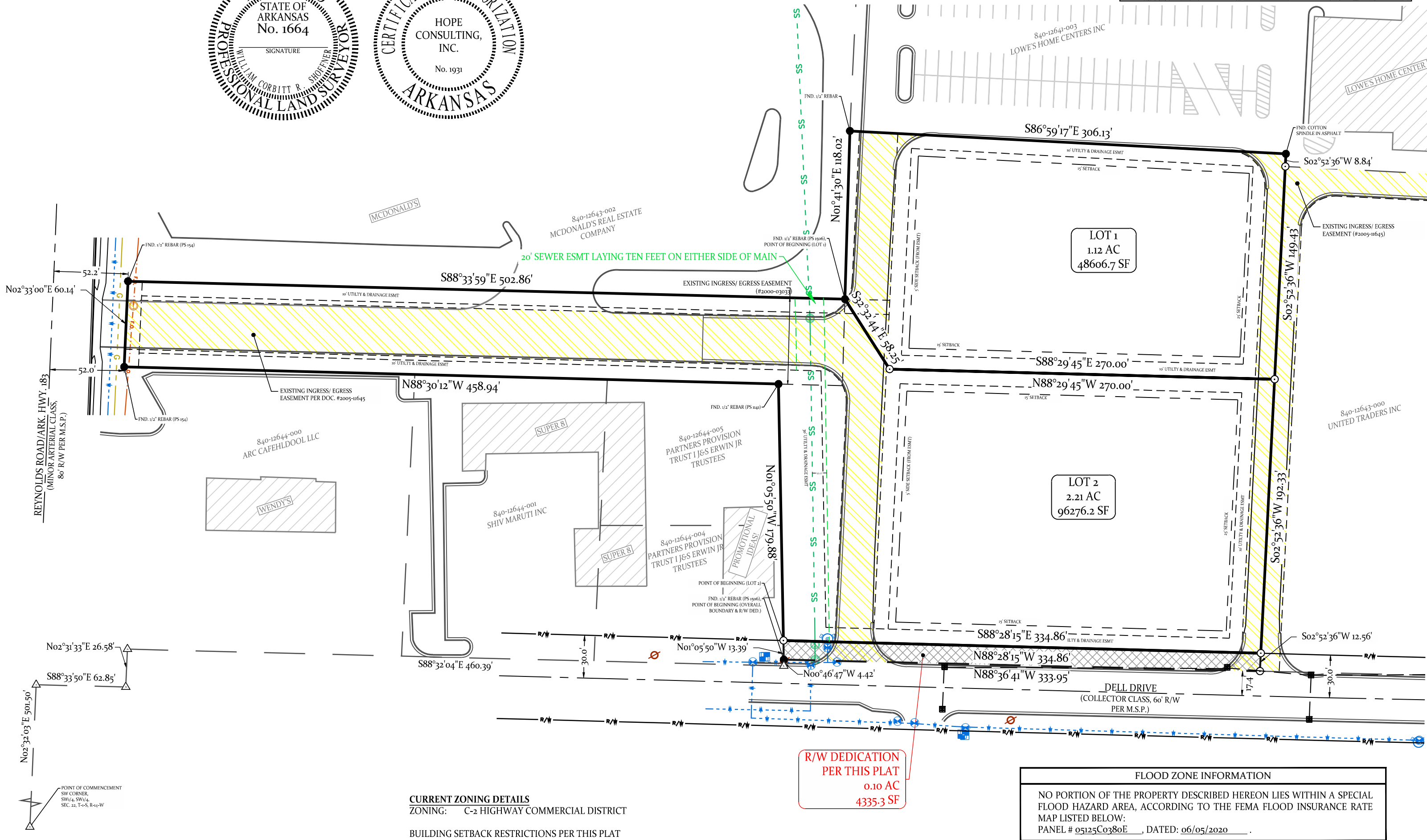
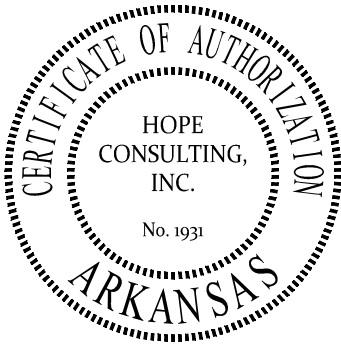
Date of Execution: _____ Name: _____

Source of Title: SALINE COUNTY DEED #2018-024633

CERTIFICATE OF FINAL SURVEYING ACCURACY:

I, William Corbitt R. Shoffner, hereby certify that this plat correctly represents a survey and a plan made by me or under my supervision; that all monuments shown hereon actually exist and their location, size, type and material are correctly shown; and that all interior lot lines have been adjusted to "as built conditions" and are accurately described on the plat and identified on the ground in terms of length and direction of the property sides.

Date of Execution _____
 William Corbitt R. Shoffner
 Registered Professional
 Land Surveyor No. 1664 Arkansas



EXISTING ENCUMBRANCES OF RECORD*:

1. MISC. BOOK 59, PAGE 299, TELEPHONE UTILITY EASEMENT, DATED 7/24/1979 (SHOWN ON PLAT BY SHAMBARGER)
 2. DOC. #2000-09033, INGRESS AND EGRESS EASEMENT TO MCDONALD'S CORP. (SHOWN ON PLAT BY SHAMBARGER)
 3. DOC. #2005-116451, EASEMENTS, COVENANTS, CONDITIONS, AND RESTRICTIONS
 4. DOC. #2007-019196, FIRST AMENDMENT TO EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS
 5. DOC. #2008-015986, NOTICE OF DEED RESTRICTION (MITIGATION EASEMENT)

*THIS SURVEY IS BASED ON PUBLIC RECORDS FURNISHED BY THIRD PARTIES. NO INDEPENDENT SEARCH OR INVESTIGATION HAS BEEN MADE BY THIS FIRM FOR ANY RECORDS, PUBLIC OR PRIVATE. LISTED REFERENCE DOCUMENTS HEREON WERE USED AND CONSIDERED AS A PART OF THIS SURVEY; HOWEVER OTHER RECORDS, IF ANY, COULD FURTHER AFFECT THIS SURVEY. NO STATEMENT OR GUARANTEES OF OWNERSHIP, RIGHTS, RESTRICTIONS, OR OTHER ENCUMBRANCES OR INTERESTS ARE MADE BY THIS SURVEY PLAT.

REFERENCE PLATS & MAPS

RECORDED SURVEY PLATS BY:

1. NEAL WAGNER (PS 154), FOR PILOT CORPORATION, AND DATED 6/19/99
 2. DOUG SHAMBARGER (PS 1388), FOR REYNOLDS ROAD DEVELOPMENT, AND DATED 1/14/2004
 3. DOUG SHAMBARGER (PS 1388), FOR REYNOLDS ROAD DEVELOPMENT, AND DATED 11/26/2004
 4. BEN KITTLER, JR. (PS 568), FOR REYNOLDS ROAD DEVELOPMENT, AND DATED 3/29/2006

CURRENT ZONING DETAILS

ZONING: C-2 HIGHWAY COMMERCIAL DISTRICT

BUILDING SETBACK RESTRICTIONS PER THIS PLAT

FRONT YARD: 15 FEET
 SIDE YARD: 15 SHOWN
 REAR YARD: 25 FEET

SURVEY DETAILS AND NOTES

OWNER OF RECORD: UNITED TRADERS INC
 PHYSICAL ADDRESS: DELL DRIVE, BRYANT, ARKANSAS
 COUNTY PARCEL TAX ID: 840-12643-000

ALL DIMENSIONS LISTED ARE AS MEASURED BY THIS SURVEYOR UNLESS OTHERWISE NOTED. FOR RECORD DIMENSIONS SEE DOCUMENTS OF RECORD.

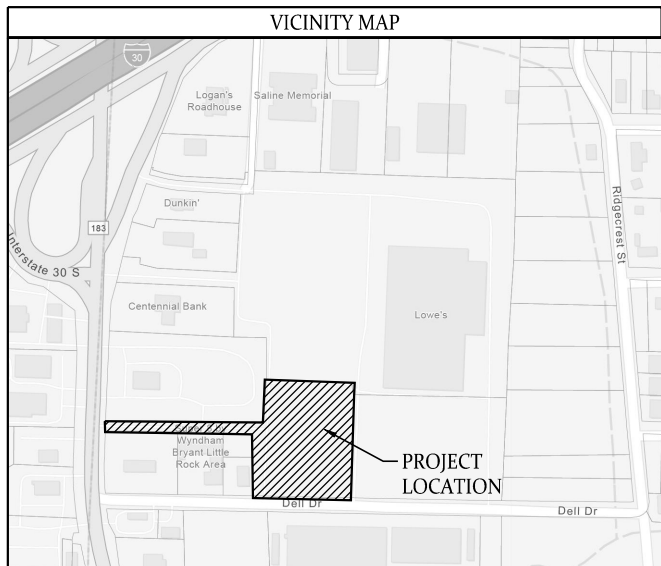
OWNERSHIP INFORMATION, IF SHOWN, IS LISTED AS PUBLISHED BY THE LOCAL COUNTY TAX ASSESSOR AND IS LISTED FOR REFERENCE ONLY. NO STATEMENTS OF OWNERSHIP, RIGHTS, OR INTERESTS ARE MADE.

LEGEND			
● - PLSS Aliquot Corner	🚰 - Clean Out	— x — x — - Fence	📏 - Existing Access Agreement
● - Fnd. Corner Monument	⚡ - Water Meter	— - - - - Overhead Power	
⊙ - Set 1/2" Rebar/Cap (1664)	⚡ - Power Pole	- - - - - Sewer Line	
△ - As Measured	🚰 - Sewer Manhole	- - - - - Water Line	
(M) - Per Deed or Plat Records	🚰 - Light Pole	- - - - - Telephone Line	
ESMT - Easement	🚰 - Telephone Pedestal	— - - - - Electric Line	
B.S.L. - Building Setback Lines	🚰 - Drainage Manhole	- - - - - Gas Line	
	🚰 - Gas Meter		

CERTIFICATE OF FINAL PLAT APPROVAL:

Pursuant to the City of Bryant Subdivision Rules and Regulations, this document was given approval by the Bryant Planning Commission at a meeting held _____, 20____. All Documents are hereby accepted, and this certificate is hereby executed under the authority of said rules and regulations.

Date of Execution _____
 Lance Penfield
 Bryant Planning Commission Chairperson



HOPE CONSULTING
ENGINEERS - SURVEYORS

129 North Main Street
 Benton, Arkansas 72015
 Office: (501) 315-2626 | Fax: (501) 315-0024
 www.HopeConsulting.com

PLAT OF
 LOTS 1 & 2 OF DUNLAP
 COMMERCIAL DEVELOPMENT,
 A COMMERCIAL SUBDIVISION
 IN THE CITY OF BRYANT,
 SALINE COUNTY, ARKANSAS

FOR USE AND BENEFIT OF:			
R & M DUNLAP PROPERTIES, LLC			
FIRST NATIONAL TITLE COMPANY			
FIRST AMERICAN TITLE INSURANCE COMPANY			
DATE: 1/15/2025	CAD BY: OV	PROJECT NUMBER: 24-1351	
REVISED:	CHECKED BY: WCS		
SHEET: 1 OF 1	SCALE: 1" = 60'		
AR STATE LAND SURVEY FILING CODE: 500 - 01S - 14W - 0 - 22 - 330 - 62 - 1664			

January 2, 2025

Colton Leonard
City of Bryant
Planning Department
210 SW 3rd St.
Bryant, AR 72022

RE: Waiver from Master Transportation Plan: Dell Drive Commercial (Hope Job #24-1351)

Dear Colton,

Dell Drive is shown as a proposed Collector on Master Transportation Plan. The development to the south received a waiver for this construction recently. We are requesting this waiver as well.

We thank you for your review and look forward to addressing any comments.

Sincerely,

Jonathan Hope

January 2, 2025

Colton Leonard
City of Bryant
Planning Department
210 SW 3rd St.
Bryant, AR 72022

RE: Site Plan Dell Drive, Bryant, AR (Hope Job #24-1351)

Dear Colton,

I represent Rye General Contractors, in the above-captioned development. Phillip Rye is requesting the City of Bryant start the review process for the Site Plan and Civil Construction Drawing of this property on Dell Drive, Bryant.

We would like to be included on the March 10th Planning Commission Meeting. Please feel free to contact me with any questions or concerns or if I can be of any further assistance.

We thank you for your review and look forward to addressing any comments.

Sincerely,

Jonathan Hope