



# Bryant Development and Review Committee Meeting

Boswell Municipal Complex - City Hall Conference Room

210 SW 3rd Street

**Date:** October 03, 2024 - **Time:** 9:00 AM

## Call to Order

## Old Business

## New Business

### 1. 2714 Lavern St - Conditional Use Permit for Duplex

*Vanessa Guerra - Requesting recommendation for approval of CUP*

- [0908-APP-01.pdf](#)

### 2. Window World - 511 Boone Road - New Driveway

*Jodie Cerrato - Requesting Approval for New Additional Driveway*

- [0905-PLN-01.pdf](#)

### 3. 21814 I-30 - Site Plan Addition

*Requesting Approval for Addition of Two Carports on Site*

- [0914-PLN-03.pdf](#)
- [0914-PLN-02.pdf](#)
- [0914-PLN-01.png](#)
- [0914-DRW-01.pdf](#)

### 4. Hillcrest Addition - Preliminary plat

*Tim Lemons - Requesting Recommendation for Preliminary Plat Approval*

- [0890-PLN-03.pdf](#)
- [0890-RSP-02.pdf](#)
- [0890-DRN-04.pdf](#)

### 5. First Southern Baptist Church - 604 S Reynolds Rd - Site Plan

*Hope Consulting - Requesting Recommendation for Approval of Site Plan*

- [0912-PLN-02.pdf](#)
- [0912-RSP-01.pdf](#)
- [0912-DRN-02.pdf](#)
- [0912-SRVY-01.pdf](#)
- [0912-LTR-01.pdf](#)

### 6. Skye Blue Duplexes Subdivision - Preliminary Plat and Conditional Use Permits

*Hope Consulting - Requesting Recommendation for Approval of Preliminary Plat and Four Conditional Use Permits for Duplexes*

- [0889-DRN-02.pdf](#)
- [0889-PLN-03.pdf](#)
- [0889-LTR-01.pdf](#)

#### **7. Midtown Ph. 3 - Final Plat**

*Hope Consulting - Requesting Recommendation for Approval of Final Plat*

- [0917-BNDLTR-01.pdf](#)
- [0917-PLN-01.pdf](#)
- [0917-LTR-01.pdf](#)

### **Staff Approved**

#### **8. Rookh - 22000 I-30 - Sign Permit**

*Seiz Sign Company - Requesting Sign Permit Approval - Staff Approved*

- [92829-SGNAPP-02.pdf](#)
- [92829-SGNAPP-01.jpg](#)

#### **9. 7 Brew Coffee - 2006 N Reynolds Road - Sign Permit**

*Springfield Sign - Requesting Sign Permit Approval - Staff Approved*

- [92828-SGNAPP-02.pdf](#)
- [92828-SGNAPP-01.pdf](#)

### **Permit Report**

### **Adjournments**



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

## Conditional Use Permit Application

Applicants are advised to read the Conditional Use Permit section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at [www.cityofbryant.com](http://www.cityofbryant.com) under the Planning and Community Development tab.

Date: 08/22/2024

**Applicant or Designee:**

**Project Location:**

Name Delia Vanessa Guerra Chon Property Address 2714 Laverne St.  
Address 7029 Kiwer Dr. NLR AR 72110 Bryant, AR.  
Phone 501-283-4058 Parcel Number \_\_\_\_\_  
Email Address: deliaguerra@gmail.com Zoning Classification R-M

**Property Owner (If different from Applicant):**

Name \_\_\_\_\_  
Phone \_\_\_\_\_  
Address \_\_\_\_\_  
Email Address \_\_\_\_\_

**Additional Information:**

Legal Description (Attach description if necessary)

\_\_\_\_\_

Description of Conditional Use Request (Attach any necessary drawings or images)

Convert portion of home to duplex

Proposed/Current Use of Property for Duplex  
current is single family

# Application Checklist

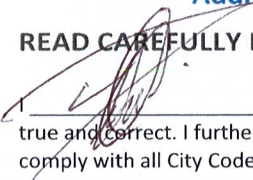
## Requirements for Submission

- Letter stating request of Conditional Use and reasoning for request
- Completed Conditional Use Permit Application
- Submit Conditional Use Permit Application Fee (\$125)
- Submit Copy of completed Public Notice
- Publication: Public Notice shall be published at least one (1) time fifteen (15) days prior to the public hearing at which the variance will be heard. Once published please provide a proof of publication to the Community Development office.
- Posting of Property: The city shall provide a sign to post on the property involved for the fifteen (15) consecutive days leading up to Public hearing. One (1) sign is required for every two hundred (200) feet of street frontage.
- Submit eight (8) Copies of the Development Plan (Site Plan) showing:
  - Location, size, and use of buildings/signs/land or improvements
  - Location, size, and arrangement of driveways and parking. Ingress/Egress
  - Existing topography and proposed grading
  - Proposed and existing lighting
  - Proposed landscaping and screening
  - Use of adjacent properties
  - Scale, North Arrow, Vicinity Map
  - Additional information that may be requested by the administrative official due to unique conditions of the site.

**Once the application is received, the material will be reviewed to make sure all the required information is provided. The applicant will be notified if additional information is required. The application will then go before the Development and Review Committee (DRC) for a recommendation to the Planning Commission. A public hearing will be held at this meeting for comments on the Conditional Use. After the public hearing, the Planning Commission will make a decision on the use.**

**Note: that this is not an exhaustive guideline regarding the Conditional Use Permit Process. Additional information is available in the Bryant Zoning Ordinance.**

### **READ CAREFULLY BEFORE SIGNING**

 \_\_\_\_\_, do hereby certify that all information contained within this application is true and correct. I further certify that the owner of the property authorizes this proposed application. I understand that I must comply with all City Codes and that it is my responsibility to obtain all necessary permits required.

## NOTICE OF PUBLIC HEARING

A public hearing will be held on Monday, Oct. 14, 2024 at 6:00 P.M.  
at the Bryant City Office Complex, 210 Southwest 3<sup>rd</sup> Street, City of Bryant, Saline  
County, for the purpose of public comment on a conditional use request at the site of  
2714 Lavern St. Bryant, AR 72022 (address).

A legal description of this property can be obtained by contacting the Bryant Department  
of Community Development.

Lance Penfield  
Chairman of Planning Commission  
City of Bryant

*This notice is to be run in the legal notices section of the Saline Courier  
no less than 15 days prior to the public hearing.*





We would like to add a

410' x 24"

Culvert for additional driveway entrance

Current Entry

Boone Rd

511 Boone Rd.

Boone Rd



## REGULAR / A-FRAME 24'-0" WIDE CARPORT STYLE BUILDINGS

### DESIGN NOTES

1. ALL CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH IBC 2012, OSHA, AISC 360, AISI 100, ASCE 7-10, AWS D 1.3 CODES AND ALL APPLICABLE LOCAL REQUIREMENTS.
2. BASE CONNECTIONS SHALL BE PROVIDED AS SHOWN ON FOUNDATION DETAILS SHEET.
3. ALL MATERIALS IDENTIFIED BY MANUFACTURER NAME MAY BE SUBSTITUTED WITH MATERIAL EQUAL OR EXCEEDING ORIGINAL.
4. ALL SHOP CONNECTIONS SHALL BE WELDED CONNECTIONS.
5. ALL FIELD CONNECTIONS SHALL BE #12X1" SDS (ESR-2196 OR EQ).
6. STEEL SHEATHING SHALL BE 29GA. CORRUGATED GALV. OR PAINTED STEEL - MAIN RIB HT. 3/4" (FY=80KSI) OR EQ.
7. ALL STRUCTURAL LIGHT GAUGE TUBING AND CHANNELS SHALL BE GRADE 50 STEEL.
8. STRUCTURAL TUBE T52 1/2"X2 1/2" - 14GA. IS EQUIVALENT TO T52 1/4"X2 1/4" - 12GA AND EITHER ONE MAY BE USED IN LIEU OF THE OTHER.
9. ALL DESIGN CRITERIA MUST BE INCREASED TO THE NEXT HIGHER INCREMENT BASED ON THE TABLES ON PAGE 4. NO INTERPOLATION IS ALLOWED.

### DESIGN CRITERIA

PREVAILING CODE:	AFFC 2012 (IBC 2012)
USE GROUP:	U (CARPORTS, BARNS)
RISK CATEGORY:	I
1. DEAD LOAD (D)	D = 4 PSF
2. ROOF LIVE/SNOW LOAD (Lr)	Lr = 20 - 61 PSF (AS PER SNOW LOAD SEE TABLE 4)
3. SNOW LOAD (S)	
GROUND SNOW LOAD	P <sub>g</sub> = 20 - 90 PSF
IMPORTANCE FACTOR	I <sub>s</sub> = 0.8
THERMAL FACTOR	C <sub>t</sub> = 1.2
EXPOSURE FACTOR	C <sub>e</sub> = 1.0
ROOF SLOPE FACTOR	C <sub>s</sub> = 1.0
4. WIND LOAD (W)	
BASIC WIND SPEED	V <sub>ULT</sub> = 105 - 180 MPH
EXPOSURE	C
5. SEISMIC LOAD (E)	
DESIGN CATEGORY	D
IMPORTANCE FACTOR	I <sub>e</sub> = 1.00

### LOAD COMBINATIONS:

1. D + (Lr OR S)
2. D + (0.6W OR ±0.7E)
3. D + 0.75 (0.6W OR ±0.7E) + 0.75 (Lr OR S)
4. 0.6D + (0.6W OR ±0.7E)

### DRAWING INDEX

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MANUFACTURED BY:



457 N. Broadway,  
Joshua, TX 76058  
1-866-730-9865

ENGINEERED BY:



**A&A ENGINEERING**  
CIVIL • STRUCTURAL  
6086 Renaissance Place, Toledo, OH 43623  
Tel. 419-292-1983 • Fax. 419-292-0955  
www.aa-engineers.com

### DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

COVER SHEET

SHEET NO.: 1 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

### LEGAL INFORMATION

- ANY DUPLICATION OF THIS DRAWING IN WHOLE OR PART IS STRICTLY FORBIDDEN. ANYONE DOING SO WILL BE PROSECUTED UNDER THE FULL EXTENT OF THE LAW.  
- DRAWINGS VALID UP TO DATE OF EXPIRATION.

SEAL:



### CUSTOMER INFORMATION

OWNER:  
ADDRESS:

### DESIGN LOADS

GROUND SNOW:

ROOF LIVE LOAD:

BASIC WIND SPEED:

### BUILDING INFORMATION

WIDTH:

LENGTH:

HEIGHT:

FRAME TYPE:  A-FRAME

REGULAR

FULL

PARTIAL

OPEN

### CERTIFICATION VALIDITY NOTICE

DATE OF PLANS  
EXPIRATION: **01-18-2024**

CERTIFICATION ON THESE DRAWINGS IS  
VALID FOR ONE YEAR FROM DATE OF ISSUE

STAMP EXPIRY: **12-31-2024**

DATE SIGNED: **01-18-2023**



TABLE 2.1: MEMBER PROPERTIES

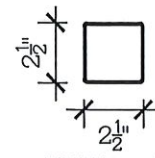
NO.	LABEL	PROPERTY	DETAIL NO.
1	COLUMN POST	2.5" X 2.5" X 14GA TUBE	1
2	ROOF BEAM	2.5" X 2.5" X 14GA TUBE	1
3	BASE RAIL	2.5" X 2.5" X 14GA TUBE	1
4	PEAK BRACE	2.5" X 2.5" 14GA CHANNEL	4
5	KNEE BRACES	2.5" X 1.5" 14GA CHANNEL	4
6	CONNECTOR SLEEVE	2.25" X 2.25" X 12GA TUBE	2
7	BASE ANGLE	2" X 2" X 3" LG. 3/16" ANGLE	10
8	PURLIN	4.25" X 1.5" X 14GA / 18GA HAT CHANNEL	5
9	GIRT	4.25" X 1.5" X 14GA / 18GA HAT CHANNEL	5
9A	OPT. END WALL GIRT	2.5" X 1.5" 14GA CHANNEL	1
10	SHEATHING	29 GA CORRUGATED SHEET	8
11	END WALL POST	2.5" X 2.5" X 14GA TUBE	1
12	DOOR POST	2.5" X 2.5" X 14GA TUBE	1
13	SINGLE HEADER	2.5" X 2.5" X 14GA TUBE	1
14	DOUBLE HEADER	DBL. 2.5" X 2.5" X 14GA TUBE	1
15	SERVICE DOOR / WINDOW FRAMING	2.5" X 2.5" X 14GA TUBE	1
16	ANGLE BRACKET	2" X 2" X 2" LG. 14GA ANGLE	7
17	STRAIGHT BRACKET	2" X 2" X 4" LG. 14GA PLATE	6
18	PB SUPPORT	2.5" X 2.5" X 14GA TUBE	1
19	DIAGONAL BRACE	2" X 2" X 14 GA TUBE	3
20	GABLE BRACE	2" X 2" X 14 GA TUBE	3
21	DB BRACKET	2.25" X 2.25" X 6" LG. 14GA ANGLE	9
22	TRUSS SPACER	2.5" X 2.5" X 14GA TUBE	1
23	ALL FASTENERS	#12 X 1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER	

TABLE 2.2: SHEATHING FASTENER SCHEDULE

LOCATION	CORNER PANELS	SIDE LAPS	EDGE LAPS	ELSEWHERE
SPACING	9" C/C	MIN. 1	4 1/2" C/C	9" C/C

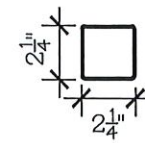
FASTENER TYPE: #12X1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER

\*SEE TYP. SHEATHING FASTENER SCHEDULE DIAGRAM ON PAGE 6.



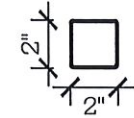
THICKNESS = 14GA

2.5" X 2.5" 14GA TUBE ①  
SCALE: NTS



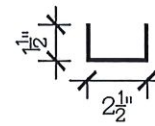
THICKNESS = 12GA

2.25" X 2.25" 12GA TUBE ②  
SCALE: NTS



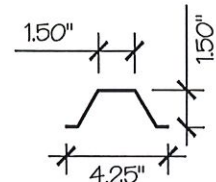
THICKNESS = 14GA

2" X 2" 14GA TUBE ③  
SCALE: NTS



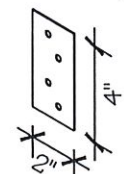
THICKNESS = 14GA

2.5" X 1.5" 14GA CHANNEL ④  
SCALE: NTS



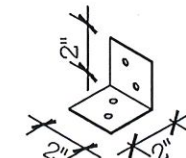
THICKNESS = 14GA / 18GA

4.25" X 1.5" X 14GA / 18GA HAT CHANNEL ⑤  
SCALE: NTS



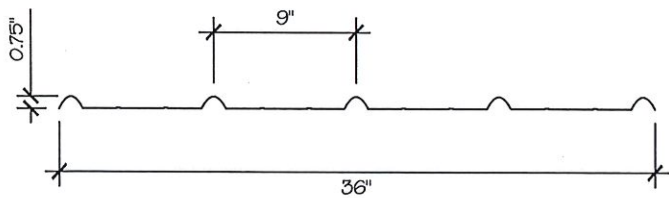
THICKNESS = 14GA

STRAIGHT BRACKET ⑥  
SCALE: NTS



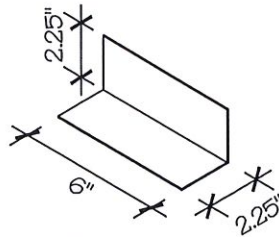
THICKNESS = 14GA

ANGLE BRACKET ⑦  
SCALE: NTS



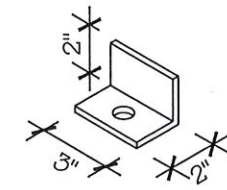
THICKNESS = 29GA

29 GA CORRUGATED SHEATHING ⑧  
SCALE: NTS



THICKNESS = 14GA

DB BRACKET ⑨  
SCALE: NTS



THICKNESS = 3/16"

BASE ANGLE ⑩  
SCALE: NTS

MANUFACTURED BY:



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6036 Renaissance Place, Toledo, OH 43623  
Tel. 419-292-1983 • Fax. 419-292-0955  
www.aa-engineers.com

DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

SCHEDULES &  
MEMBER SECTIONS

SHEET NO.: 2 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

LEGAL INFORMATION

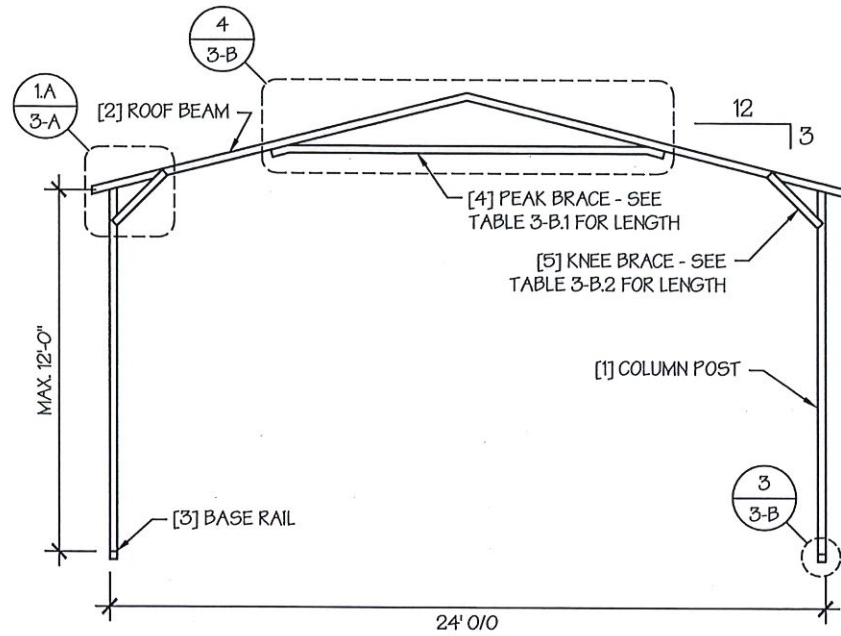
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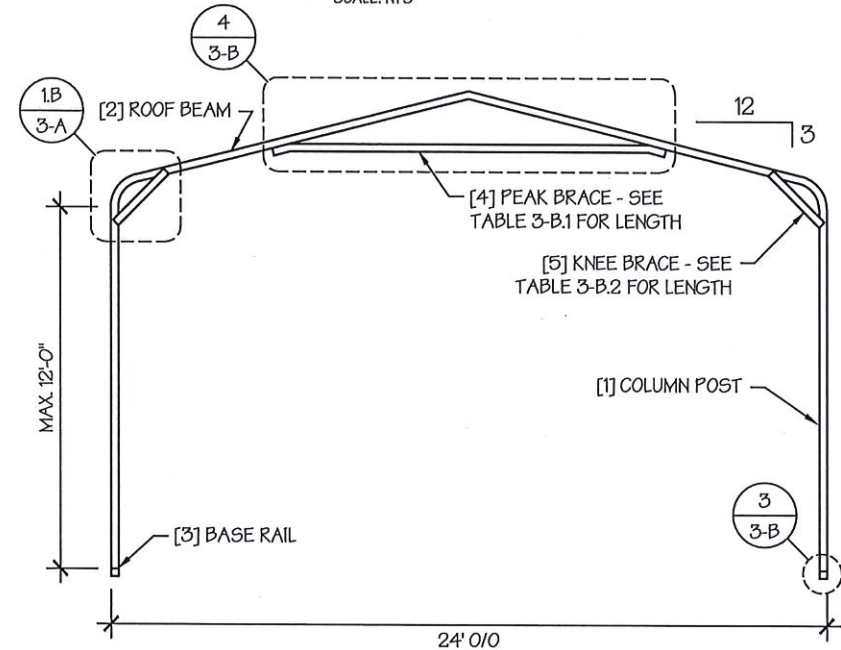


STAMP EXPIRY: 12-31-2024

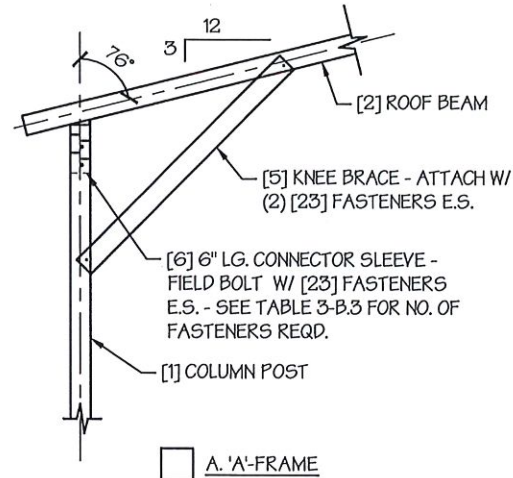
DATE SIGNED: 01-18-2023



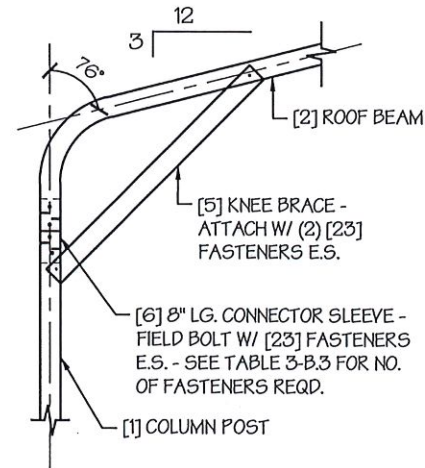
TYP. A-FRAME SECTION  
SCALE: NTS



TYP. REGULAR FRAME SECTION  
SCALE: NTS



A. 'A'-FRAME



B. REGULAR-FRAME

EAVE DETAIL  
SCALE: NTS 1

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LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

FRAME SECTIONS &  
DETAILS

SHEET NO.: 3-A / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

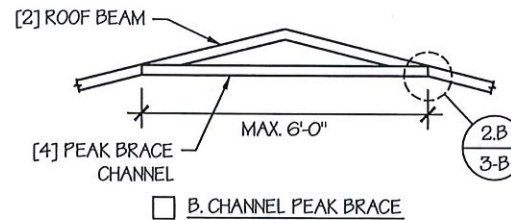
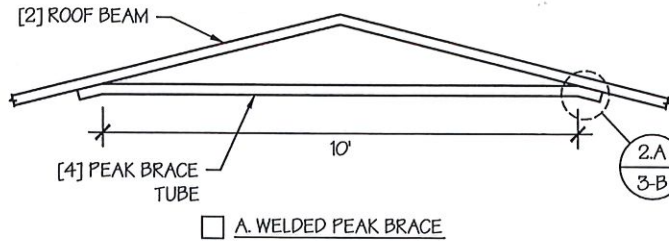
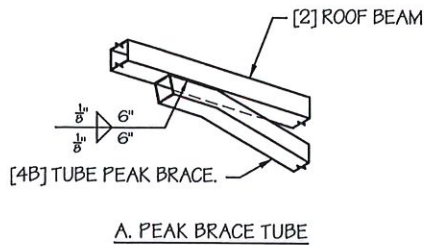
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[4] PEAK BRACE - ATTACH W/ (2)  
[23] FASTENERS E.S. (TOTAL 4 EACH  
END). MAINTAIN MIN. 1" EDGE  
DISTANCE AND SPACING

B. PEAK BRACE CHANNEL

PEAK BRACE CONNECTION DETAILS 2  
SCALE: NTS

PEAK BRACE DETAILS 4  
SCALE: NTS

TABLE 3-B.1: PEAK BRACE SCHEDULE

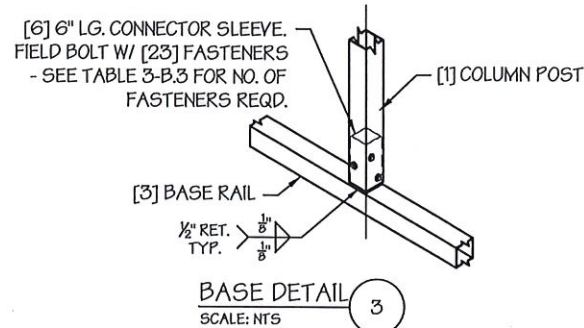
GROUND SNOW / ROOF LIVE LOAD (PSF)	WIND SPEED	
	□ 105 TO 130	□ 140 TO 180
□ 30 / 20	6'	10'
□ 35 / 25 TO 90 / 61	10'	10'

TABLE 3-B.2: KNEE BRACE SCHEDULE

EAVE HEIGHT	KNEE BRACE LENGTH
□ UP TO 8'	24"
□ 9' TO 12'	36"

TABLE 3-B.3 FASTENER SCHEDULE

WIND SPEED (MPH)	NO. OF FASTENERS
□ 105 TO 125	4
□ 130 TO 155	6
□ 160 TO 180	8



NOTE: COLUMN POST MAY BE ADJUSTED ±1" FOR LEVELING.  
MANUFACTURER IS NOT RESPONSIBLE FOR LEVELING OF GROUND  
AND/OR CONCRETE SURFACE PROVIDED BY OTHERS.

MANUFACTURED BY:



457 N. Broadway,  
Joshua, TX 76058  
1-866-730-9865

ENGINEERED BY:



A&A ENGINEERING  
CIVIL • STRUCTURAL  
6086 Renaissance Place, Toledo, OH 43623  
Tel. 419-292-1988 • Fax. 419-292-0955  
www.a-a-engineers.com

DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

FRAME DETAILS

SHEET NO.: 3-B / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

LEGAL INFORMATION

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SEAL:



STAMP EXPIRY: 12-31-2024  
DATE SIGNED: 01-18-2023

TABLE 4: FRAME SPACING CHART / SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	■ ENCLOSED BUILDINGS							■ OPEN BUILDINGS						
	WIND SPEED (MPH)													
	□105	□115	□130	□140	□155	□165	□180	□105	□115	□130	□140	□155	□165	□180
□30 / 20	60	60	54/60	54	42	42	36	48	48	48	42	36	30	24
□40 / 27	48/60	48/60	42/60	42/54	42	42	36	42	42	42	42	36	30	24
□50 / 34	40/48	40/48	40/48	40/48	40/42	40/42	36	30	30	30	30	30	30	24
□60 / 41	36	36	36	36	36	36	36	30	30	30	30	30	30	24
□70 / 47	30	30	30	30	30	30	30	24	24	24	24	24	24	24
□80 / 54	24	24	24	24	24	24	24	24	24	18	18	18	18	18
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
□30 / 20	60	60	54/60	54	48	42/48	42	54	54	48/54	42/54	36/48	36	30
□40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	42	42	42	42	36/42	36	30
□50 / 34	40/48	40/48	40/48	40/48	40/48	40/48	40/42	36	36	36	36	36	36	30
□60 / 41	36	36	36	36	36	36	36	30	30	30	30	30	30	30
□70 / 47	30	30	30	30	30	30	30	24	24	24	24	24	24	24
□80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
□30 / 20	60	60	54/60	54	48	42/48	42	60	54/60	48/60	42/54	36/48	36/42	36
□40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	48	48	42/48	42/48	36/48	36/42	36
□50 / 34	40/48	40/48	40/48	40/48	40/48	40/48	40/42	40/42	40/42	40/42	40/42	36/42	36	36
□60 / 41	36	36	36	36	36	36	36	36	36	36	36	36	36	30
□70 / 47	30	30	30	30	30	30	30	30	30	30	30	30	30	30
□80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---

EAVE HEIGHT = 10'-0" TO 12'-0"

EAVE HEIGHT = 7'-0" TO 9'-0"

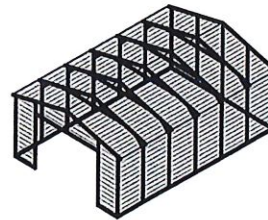
EAVE HEIGHT = UP TO 6'-0"

NOTES:

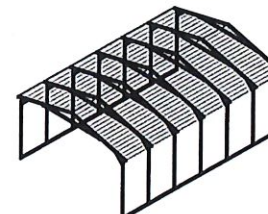
1. FRAME SPACINGS ARE IN UNITS OF INCHES (IN).
2. WHERE TWO VALUES ARE SHOWN, THE HIGHER VALUE CAN ONLY BE USED FOR VERTICAL SHEATHING.
3. SNOW LOADS AND ROOF LIVE LOADS ARE IN POUNDS PER SQUARE FOOT (PSF). WIND SPEED IS 3 SEC. GUST IN MILES PER HOUR (MPH).
4. FOR VALUES THAT LIE BETWEEN TWO CELLS, THE HIGHER (MORE STRINGENT) VALUE HAS TO BE USED. INTERPOLATION BETWEEN CELLS IS NOT ALLOWED.

ENCLOSURE CLASSIFICATION:

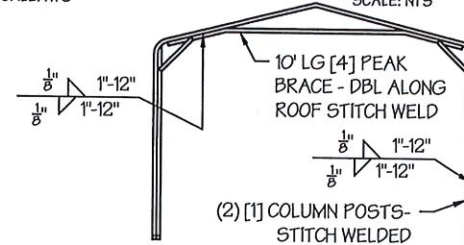
1. ENCLOSED BUILDING = ALL 4 WALLS FULLY ENCLOSED WITH DOORS/WINDOWS = USE ENCLOSED BUILDING SPACING CHART.
2. OPEN BUILDING = ALL 4 WALLS FULLY OPEN = USE OPEN BUILDING SPACING CHART.
3. 3FT PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ONLY 3FT ENCLOSED = USE OPEN BUILDING SPACING CHART.
4. PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ENCLOSED MORE THAN 3FT = START WITH OPEN BUILDING SPACING CHART AND THEN REDUCE SPACING BY 6".
5. 3 SIDED ENCLOSED = ALL WALLS ARE ENCLOSED EXCEPT FOR 1 END-WALL = START WITH ENCLOSED BUILDING SPACING + THE OPEN END FRAME MUST HAVE EITHER A GABLED END OR HAVE DOUBLED WELDED LEGS & ROOF.
6. FOR ALL SHEATHING ENCLOSURES NOT LISTED ABOVE, REFER TO SHEET 5 FOR SPACING AND DESIGN REQUIREMENTS.



TYP. ENCLOSED BUILDING  
SCALE: NTS



TYP. OPEN BUILDING  
SCALE: NTS



TYP. OPEN END WALL ON 3 SIDE ENCLOSED BUILDING  
SCALE: NTS

GENERAL NOTES:

1. THE MAX. BUILDING LENGTH FOR ENCLOSED BUILDINGS IS 50'-0". THIS CAN BE INCREASED BY ADDING A DOUBLE FRAME AT THE CENTER TO BREAK THE LENGTH OF THE BUILDING.
2. BUILDINGS WITH PARTIALLY ENCLOSED END WALLS NEED TO HAVE SIDE WALL BRACING TO SUPPORT THE PARTIALLY ENCLOSED END WALL. (SEE FIGURE A ON SHEET 5).
3. ALL BUILDINGS WITH AN OPEN END WALL MUST HAVE A 10'-0" TUBE PEAK BRACE.

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DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

SPACING SCHEDULES  
& ENCLOSURE NOTES

SHEET NO.: 4 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

LEGAL INFORMATION

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TABLE 5.1: PURLIN SPACING SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	14GA. HAT CHANNEL PURLIN						
	WIND SPEED (MPH)						
	105	115	130	140	155	165	180
30/20	54	48	42	36	30	24	24
40/27	42	42	42	36	30	24	24
50/34	40	40	40	36	30	24	24
60/41	36	36	36	36	30	24	24
70/47	32	32	32	32	30	24	24
80/54	30	30	30	30	30	24	24
90/61	24	24	24	24	24	24	24
30/20	54	48	42	42	36	30	30
40/27	42	42	42	42	36	30	30
50/34	40	40	40	40	36	30	30
60/41	36	36	36	36	36	30	30
70/47	32	32	32	32	32	30	30
80/54	32	32	32	32	32	30	30
90/61	30	30	30	30	30	30	30
30/20	54	48	42	42	36	36	30
40/27	42	42	42	42	36	36	30
50/34	40	40	40	40	36	36	30
60/41	36	36	36	36	36	36	30
70/47	32	32	32	32	32	32	30
80/54	32	32	32	32	32	32	30
90/61	30	30	30	30	30	30	30
30/20	54	48	42	42	36	36	30
40/27	42	42	42	42	36	36	30
50/34	40	40	40	40	36	36	30
60/41	36	36	36	36	36	36	30
70/47	32	32	32	32	32	32	30
80/54	32	32	32	32	32	32	30
90/61	30	30	30	30	30	30	30

FRAME SPACING: 3'-0" OR LOWER  
 FRAME SPACING: 3'-6"  
 FRAME SPACING: 4'-0"  
 FRAME SPACING: 4'-6"  
 FRAME SPACING: 5'-0"

- NOTES:
- PURLIN SPACING UNITS ARE IN INCHES.
  - FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.

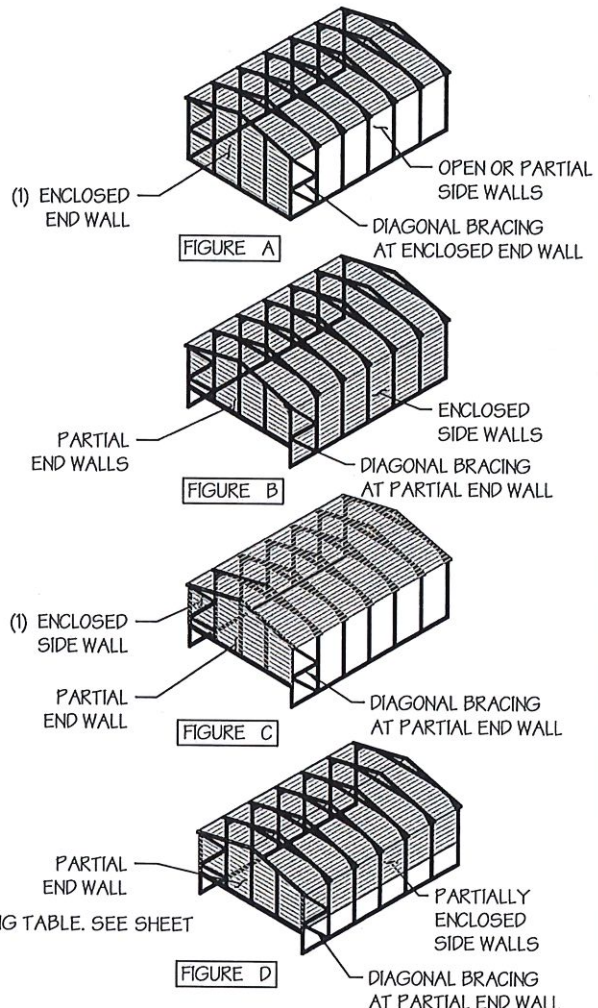
IRREGULAR BUILDING NOTES:

- FIGURES A, B, C & D ON THE RIGHT INDICATE EXAMPLES OF IRREGULAR BUILDINGS.
- FOR IRREGULAR BUILDINGS, FRAME SPACING MUST BE REDUCED BY 6" FROM OPEN BUILDING SPACING TABLE. SEE SHEET 4 FOR OPEN BUILDING TABLE.
- SITE SPECIFICS MAY ALLOW FOR ALTERNATIVE SPACING.
- IRREGULAR BUILDING & BUILDINGS W/ MORE THAN 2 SIDE OPENINGS MUST HAVE A 10' TUBE PEAK BRACE ON ALL FRAMES.

TABLE 5.2: GIRT SPACING SCHEDULE

FRAME SPACING	WIND SPEED (MPH)						
	105	115	130	140	155	165	180
5'-0"	60	48	36	30	24	24	18
4'-6"	60	60	48	42	36	30	24
4'-0"	60	60	54	54	42	36	30
3'-6"	60	60	54	54	48	42	42
2'-0" TO 3'-0"	60	60	54	54	48	42	42

- NOTES:
- GIRT SPACING UNITS ARE IN INCHES.
  - THIS SCHEDULE IS TO BE USED FOR BOTH 14GA
  - FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.



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DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE: PURLIN & GIRT SPACING SCHEDULES

SHEET NO.: 5 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

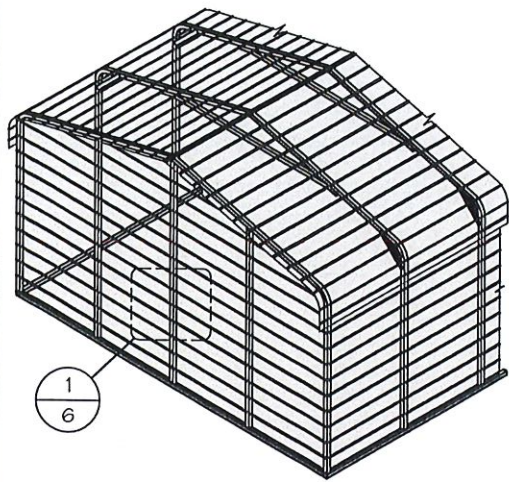
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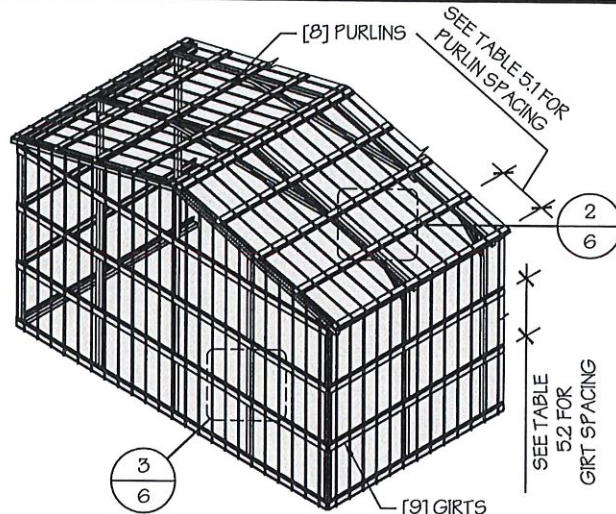
SEAL:

STATE OF ARKANSAS  
 LICENSED PROFESSIONAL ENGINEER  
 No. 14606  
 OMAR ABU-YASEIN

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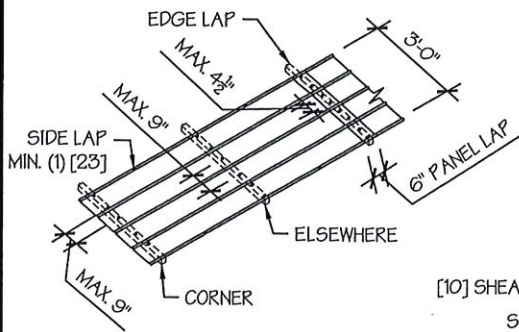
TYP. HORIZONTAL SHEATHING  
SCALE: NTS



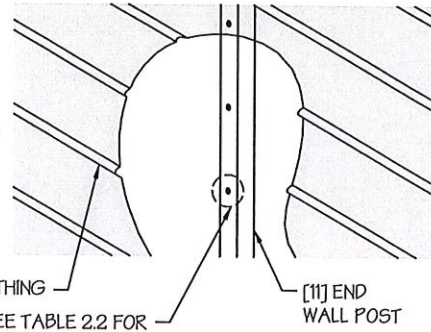
TYP. VERTICAL SHEATHING  
SCALE: NTS

**GENERAL SHEATHING NOTES:**

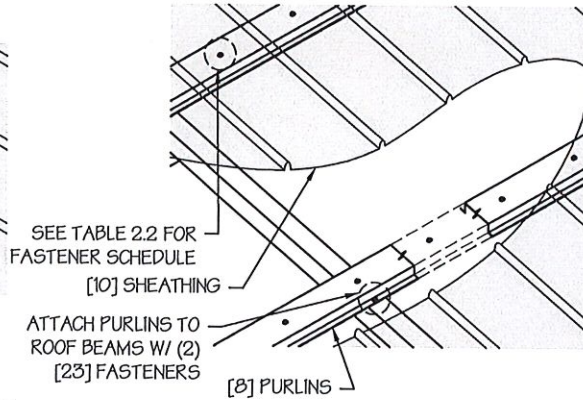
1. REGULAR STYLE BUILDINGS CAN ONLY HAVE HORIZONTAL SHEATHING ON ROOF AND WALLS.
2. A-FRAME STYLE BUILDINGS CAN HAVE ANY COMBINATION OF HORIZONTAL OR VERTICAL SHEATHING ON ROOFS AND WALLS.
3. BOTH HORIZONTAL AND VERTICALS ROOF SHEATHING CAN HAVE MAX. 6" OVERHANG.
4. USING VERTICAL SHEATHING MAY ALLOW FOR GREATER FRAME SPACING. SEE NOTE 2 UNDER TABLE 4.
5. VERTICAL SHEATHING RECOMMENDED FOR BUILDINGS 30' OR LONGER



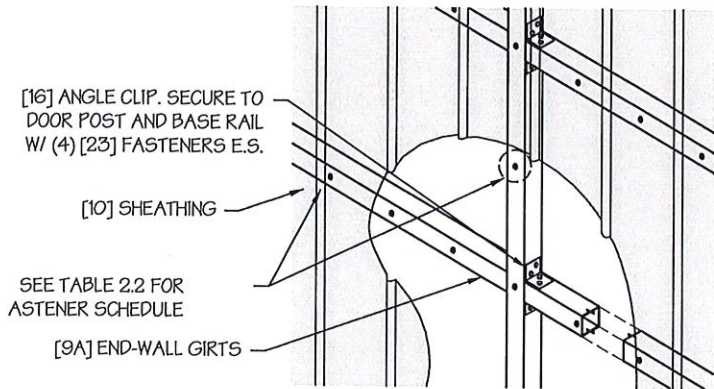
TYP. SHEATHING FASTENER SCHEDULE  
SCALE: NTS



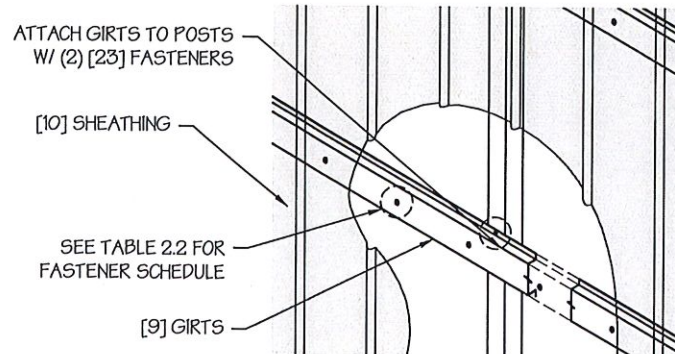
TYP. HORIZONTAL SHEATHING DETAIL  
SCALE: NTS



ROOF VERTICAL SHEATHING DETAIL  
SCALE: NTS



WALL VERTICAL SHEATHING - TUBE DETAIL  
SCALE: NTS



WALL VERTICAL SHEATHING - HAT CHANNEL DETAIL  
SCALE: NTS

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

**SHEATHING OPTIONS & DETAILS**

SHEET NO.: 6 / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

**END WALL FRAMING**

SHEET NO.: 8-A / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

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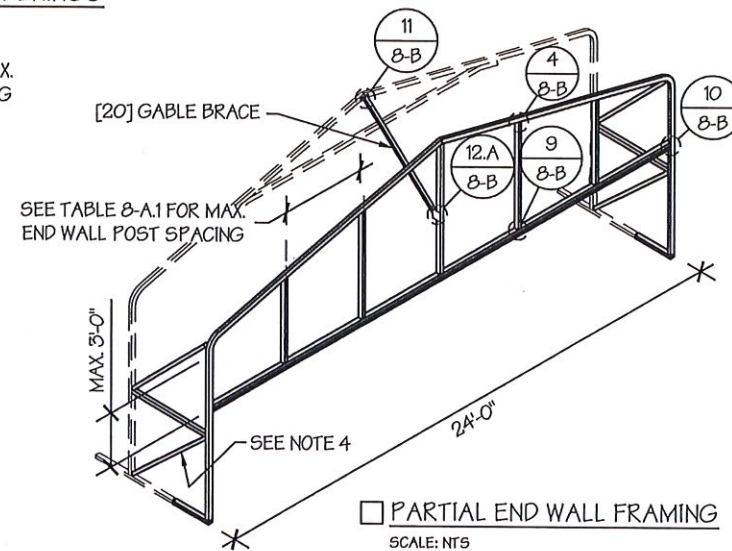
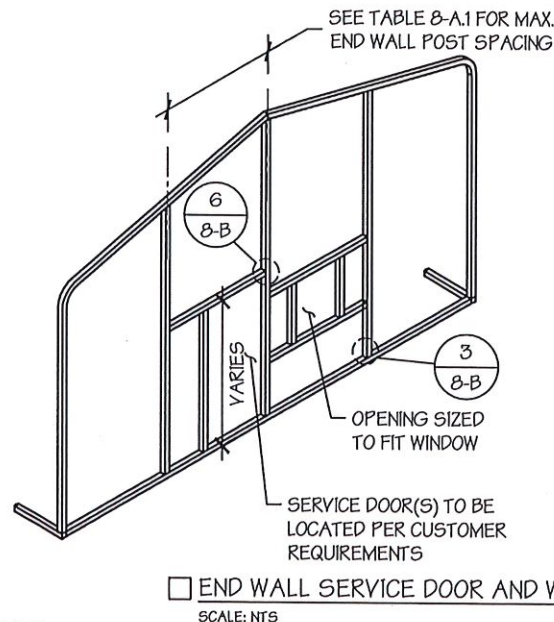
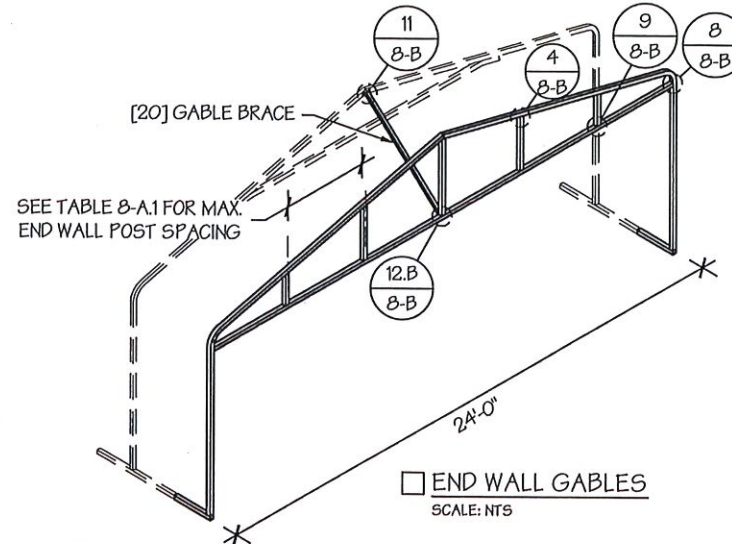
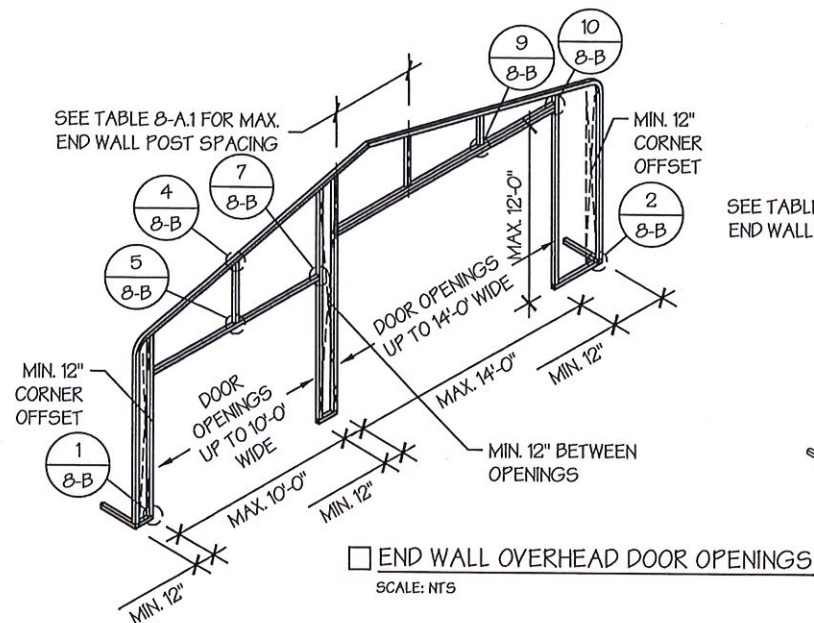
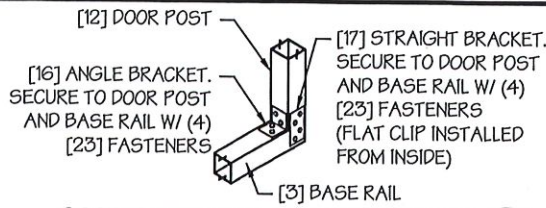


TABLE 8-A.1: END WALL POST SPACING SCHEDULE

WIND SPEED (MPH)	EAVE HEIGHT		
	UP TO 7'	8' TO 9'	10' TO 12'
<input type="checkbox"/> 105	5'	5'	5'
<input type="checkbox"/> 115	5'	5'	4.5'
<input type="checkbox"/> 130	4.5'	4.5'	4'
<input type="checkbox"/> 140	4.5'	4.5'	3'
<input type="checkbox"/> 155	4'	4'	2.5'
<input type="checkbox"/> 165 - 180	3.5'	3'	2'

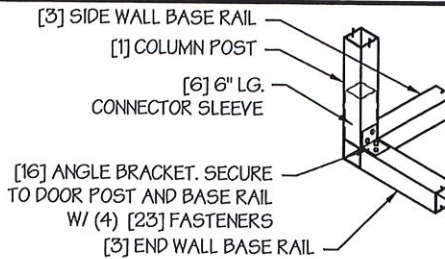
**END WALL FRAMING NOTES:**

- DESIGNS AND DETAILS SHOWN HERE ARE APPLICABLE TO BOTH REGULAR AND A-FRAME STYLE BUILDINGS.
- MIN. 12" CLEARANCE MUST BE MAINTAINED BETWEEN ANY TWO OPENINGS (OVERHEAD DOOR OR SERVICE DOOR) AND FROM CORNERS.
- SERVICE DOORS AND WINDOWS CAN BE PLACED AS NEEDED.
- DIAGONAL BRACES NEED TO BE ADDED FOR PARTIAL END WALL ENCLOSURES. SEE SHEET 9 FOR DIAGONAL BRACE CONNECTION DETAILS.



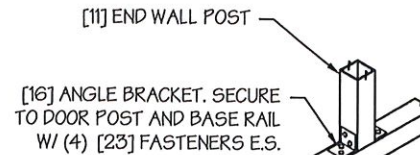
**DOOR POST BASE RAIL CONN. DETAIL**  
SCALE: NTS

1



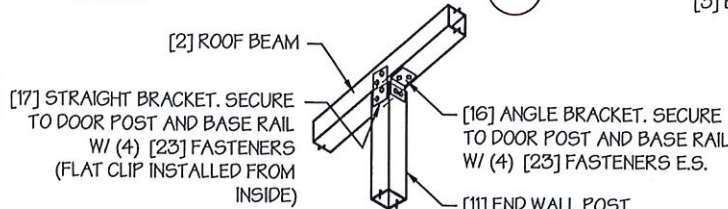
**CORNER DETAIL**  
SCALE: NTS

2



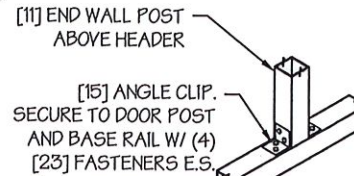
**END WALL POST - BASE RAIL CONN. DETAIL**  
SCALE: NTS

3



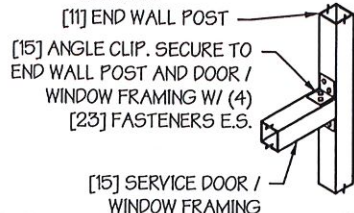
**END WALL POST - ROOF BEAM CONN. DETAIL**  
SCALE: NTS

4



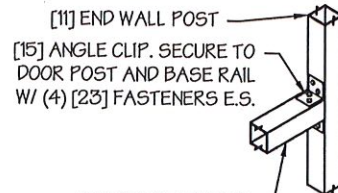
**END WALL POST ABOVE HEADER CONN. DETAIL**  
SCALE: NTS

5



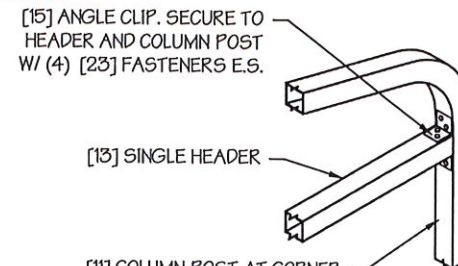
**TYP. SERVICE DOOR / WINDOW FRAMING CONN. DETAIL**  
SCALE: NTS

6



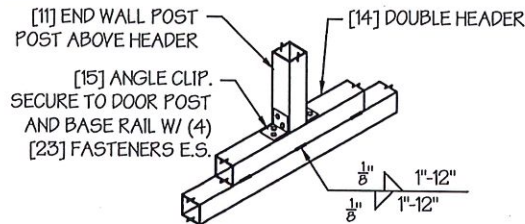
**HEADER - END WALL POST CONN. DETAIL**  
SCALE: NTS

7



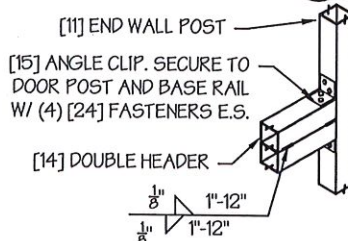
**GABLE HEADER - CORNER POST CONN. DETAIL**  
SCALE: NTS

8



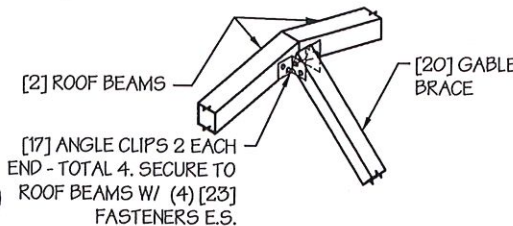
**END WALL POST ABOVE DOUBLE HEADER CONN. DETAIL**  
SCALE: NTS

9



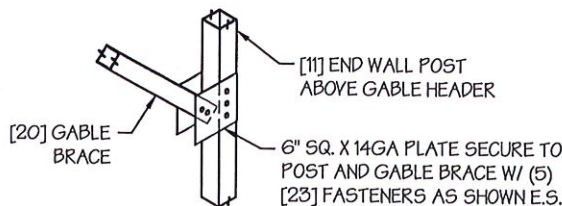
**DOUBLE HEADER - END WALL POST CONN. DETAIL**  
SCALE: NTS

10



**TYP. GABLE BRACE CONN. DETAIL**  
SCALE: NTS

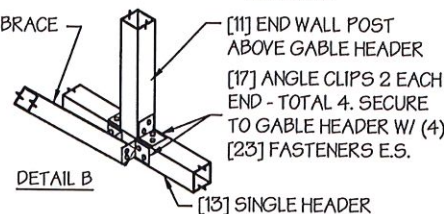
11



**DETAIL A**

**GABLE BRACE - END WALL CONN. DETAIL**  
SCALE: NTS

12



**DETAIL B**

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

**END WALL FRAMING  
DETAILS**

SHEET NO.: 8-B / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

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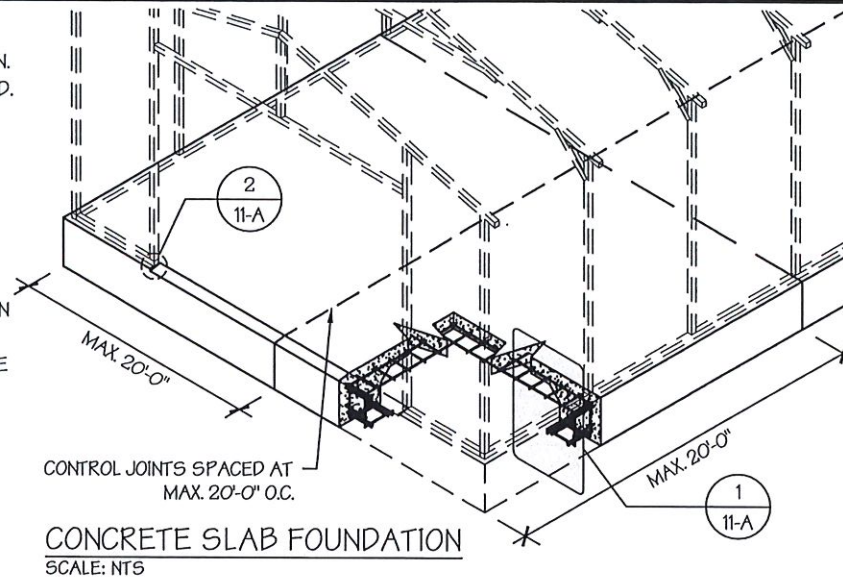
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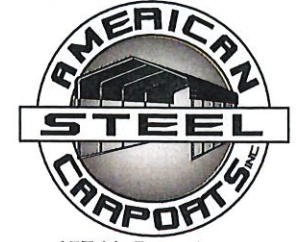


**CONCRETE SLAB FOUNDATION NOTES:**

- DESIGNS SHOWN ON THIS SHEET ARE FOR CONCRETE SLAB FOUNDATION. ANY OF THE FOUNDATIONS SHOWN ON SHEETS 11-A THRU C CAN BE USED.
- CONCRETE ANCHORS SHALL BE LOCATED NEXT TO EVERY POST AND ON EITHER SIDE OF OPENINGS. TWO ANCHORS SHALL BE INSTALLED AT CORNERS OF ENCLOSED BUILDINGS WITH END WALLS - ONE ON EACH BASE RAIL. IN LOCATIONS REQUIRING TWO ANCHORS DUE TO WIND, ONE ANCHOR IS TO BE ON EACH SIDE OF THE COLUMN POST.
- ANCHORS IN CLOSE PROXIMITY TO EACH OTHER MUST HAVE A MIN. 4" SPACING.
- MIN. NUMBER OF CONCRETE ANCHORS PER POST SHALL BE AS SHOWN IN TABLE 11-A.2.
- THE SIZE OF THE SLAB SHALL BE THE SIZE (WIDTH AND LENGTH) OF THE BUILDING PLUS 5 1/2" FOR 14GA MATERIAL AND 5 3/4" FOR 12GA MATERIAL.
- DEPTH OF SLAB TURN DOWN FOOTING SHALL BE GREATER THAN FROST DEPTH SPECIFIED PER LOCAL CODE.
- CONTROL JOINTS SHALL BE PLACED SO AS TO LIMIT MAX. SLAB SPANS TO 20' IN EACH DIRECTION.
- ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.
- CONCRETE STRENGTH TO BE A MIN OF 2500 PSI @ 28 DAYS.



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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

FOUNDATION OPTION 1:  
CONCRETE SLAB

SHEET NO.: 11-A / 11

DRAWN BY: AW DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

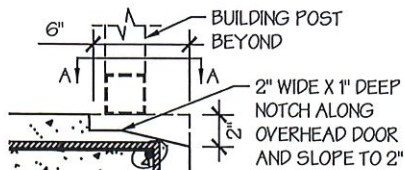
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STAMP EXPIRY: 12-31-2024

DATE SIGNED: 01-18-2023



**OVERHEAD DOOR NOTCH DETAIL**

SCALE: NTS

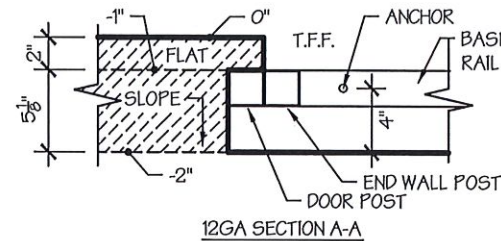
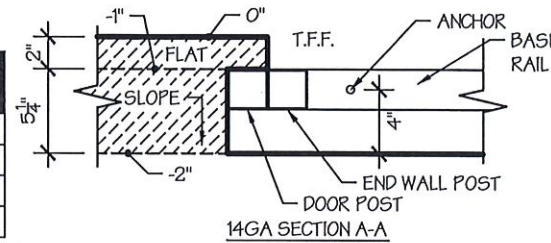
2

**TABLE 11-A.2: CONCRETE SLAB ANCHOR SCHEDULE**

ENCLOSURE	WIND SPEED (MPH)	ANCHOR SIZE/NUMBER
ENCLOSED	□ 105 TO 135	(1) 1/2" Ø X 7"
	□ 136 TO 180	(2) 1/2" Ø X 7"
OPEN	□ 105 TO 135	(1) 1/2" Ø X 7"
	□ 136 TO 180	(2) 1/2" Ø X 7"

**NOTES:**

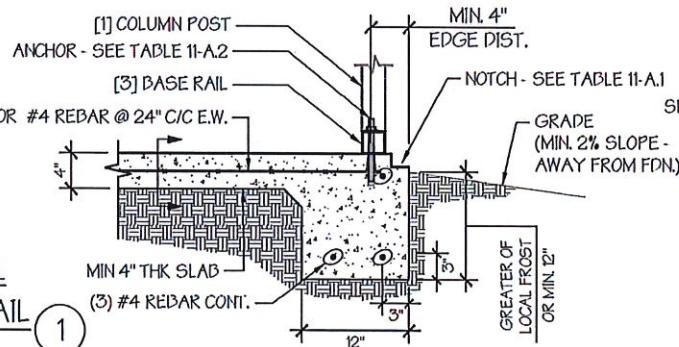
- ANCHORS ARE TO BE CONCRETE WEDGE OR EXPANSION ANCHORS.
- MIN. EMBEDMENT DEPTH TO BE 2 7/8".
- ANCHORS TO BE SPACED NO MORE THAN 6" FROM POSTS.



**TABLE 11-A.1: NOTCH WIDTH**

HORIZONTAL/OPEN		VERTICAL	
□ 14GA	□ 12GA	□ 14GA	□ 12GA
2 3/4"	2 7/8"	1 3/4"	1 7/8"

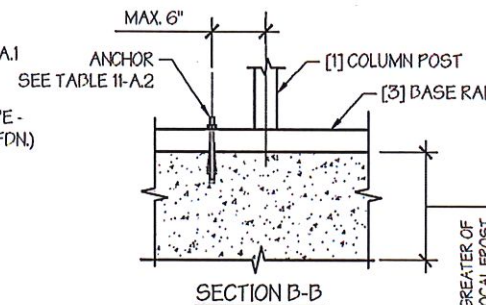
NOTE: DEPTH IS TO BE 1 1/2"



**NOTCH EDGE DETAIL**  
**EDGE OFFSET DETAIL**

SCALE: NTS

1





## REGULAR / A-FRAME 24'-0" WIDE CARPORT STYLE BUILDINGS

### DESIGN NOTES

1. ALL CONSTRUCTION SHALL BE PROVIDED IN ACCORDANCE WITH IBC 2012, OSHA, AISC 360, AISI 100, ASCE 7-10, AWS D 1.3 CODES AND ALL APPLICABLE LOCAL REQUIREMENTS.
2. BASE CONNECTIONS SHALL BE PROVIDED AS SHOWN ON FOUNDATION DETAILS SHEET.
3. ALL MATERIALS IDENTIFIED BY MANUFACTURER NAME MAY BE SUBSTITUTED WITH MATERIAL EQUAL OR EXCEEDING ORIGINAL.
4. ALL SHOP CONNECTIONS SHALL BE WELDED CONNECTIONS.
5. ALL FIELD CONNECTIONS SHALL BE #12X1" SDS (ESR-2196 OR EQ).
6. STEEL SHEATHING SHALL BE 29GA. CORRUGATED GALV. OR PAINTED STEEL - MAIN RIB HT. 3/4" (FY=80KSI) OR EQ.
7. ALL STRUCTURAL LIGHT GAUGE TUBING AND CHANNELS SHALL BE GRADE 50 STEEL.
8. STRUCTURAL TUBE T52 1/2"X2 1/2" - 14GA. IS EQUIVALENT TO T52 1/4"X2 1/4" - 12GA AND EITHER ONE MAY BE USED IN LIEU OF THE OTHER.
9. ALL DESIGN CRITERIA MUST BE INCREASED TO THE NEXT HIGHER INCREMENT BASED ON THE TABLES ON PAGE 4. NO INTERPOLATION IS ALLOWED.

### DESIGN CRITERIA

PREVAILING CODE:	AFFC 2012 (IBC 2012)
USE GROUP:	U (CARPORTS, BARNS)
RISK CATEGORY:	I
1. DEAD LOAD (D)	D = 4 PSF
2. ROOF LIVE/SNOW LOAD (Lr)	Lr = 20 - 61 PSF (AS PER SNOW LOAD SEE TABLE 4)
3. SNOW LOAD (S)	
GROUND SNOW LOAD	P <sub>g</sub> = 20 - 90 PSF
IMPORTANCE FACTOR	I <sub>s</sub> = 0.8
THERMAL FACTOR	C <sub>t</sub> = 1.2
EXPOSURE FACTOR	C <sub>e</sub> = 1.0
ROOF SLOPE FACTOR	C <sub>s</sub> = 1.0
4. WIND LOAD (W)	
BASIC WIND SPEED	V <sub>ULT</sub> = 105 - 180 MPH
EXPOSURE	C
5. SEISMIC LOAD (E)	
DESIGN CATEGORY	D
IMPORTANCE FACTOR	I <sub>e</sub> = 1.00

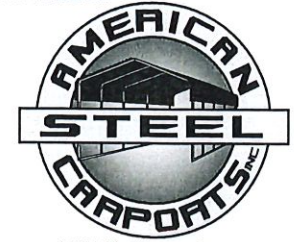
### LOAD COMBINATIONS:

1. D + (Lr OR S)
2. D + (0.6W OR ±0.7E)
3. D + 0.75 (0.6W OR ±0.7E) + 0.75 (Lr OR S)
4. 0.6D + (0.6W OR ±0.7E)

### DRAWING INDEX

COVER SHEET	-----	1
SCHEDULES & MEMBER -		
SECTIONS	-----	2
FRAME SECTIONS & DETAILS	-----	3-A, 3-B
SPACING SCHEDULES -		
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PURLIN & GIRT SCHEDULES	-----	5
SHEATHING OPTIONS	-----	6
SIDE WALL FRAMING		
& OPENINGS	-----	7-A, 7-B
END WALL FRAMING		
& OPENINGS	-----	8-A, 8-B
CORNER BRACING DETAILS	-----	9
OPTIONAL LEAN-TO ADDITION	-----	10
FOUNDATION OPTIONS	-----	11-A TO 11-D

MANUFACTURED BY:



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6086 Renaissance Place, Toledo, OH 43623  
Tel. 419-292-1983 • Fax. 419-292-0955  
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### DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

COVER SHEET

SHEET NO.: 1 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

### LEGAL INFORMATION

- ANY DUPLICATION OF THIS DRAWING IN WHOLE OR PART IS STRICTLY FORBIDDEN. ANYONE DOING SO WILL BE PROSECUTED UNDER THE FULL EXTENT OF THE LAW.  
- DRAWINGS VALID UP TO DATE OF EXPIRATION.

SEAL:



### CUSTOMER INFORMATION

OWNER:  
ADDRESS:

### DESIGN LOADS

GROUND SNOW:

ROOF LIVE LOAD:

BASIC WIND SPEED:

### BUILDING INFORMATION

WIDTH:

LENGTH:

HEIGHT:

FRAME TYPE:  A-FRAME

REGULAR

FULL

PARTIAL

OPEN

### CERTIFICATION VALIDITY NOTICE

DATE OF PLANS  
EXPIRATION: **01-18-2024**

CERTIFICATION ON THESE DRAWINGS IS  
VALID FOR ONE YEAR FROM DATE OF ISSUE

STAMP EXPIRY: **12-31-2024**

DATE SIGNED: **01-18-2023**

TABLE 2.1: MEMBER PROPERTIES

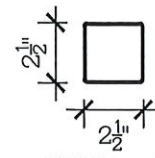
NO.	LABEL	PROPERTY	DETAIL NO.
1	COLUMN POST	2.5" X 2.5" X 14GA TUBE	1
2	ROOF BEAM	2.5" X 2.5" X 14GA TUBE	1
3	BASE RAIL	2.5" X 2.5" X 14GA TUBE	1
4	PEAK BRACE	2.5" X 2.5" 14GA CHANNEL	4
5	KNEE BRACES	2.5" X 1.5" 14GA CHANNEL	4
6	CONNECTOR SLEEVE	2.25" X 2.25" X 12GA TUBE	2
7	BASE ANGLE	2" X 2" X 3" LG. 3/16" ANGLE	10
8	PURLIN	4.25" X 1.5" X 14GA / 18GA HAT CHANNEL	5
9	GIRT	4.25" X 1.5" X 14GA / 18GA HAT CHANNEL	5
9A	OPT. END WALL GIRT	2.5" X 1.5" 14GA CHANNEL	1
10	SHEATHING	29 GA CORRUGATED SHEET	8
11	END WALL POST	2.5" X 2.5" X 14GA TUBE	1
12	DOOR POST	2.5" X 2.5" X 14GA TUBE	1
13	SINGLE HEADER	2.5" X 2.5" X 14GA TUBE	1
14	DOUBLE HEADER	DBL. 2.5" X 2.5" X 14GA TUBE	1
15	SERVICE DOOR / WINDOW FRAMING	2.5" X 2.5" X 14GA TUBE	1
16	ANGLE BRACKET	2" X 2" X 2" LG. 14GA ANGLE	7
17	STRAIGHT BRACKET	2" X 2" X 4" LG. 14GA PLATE	6
18	PB SUPPORT	2.5" X 2.5" X 14GA TUBE	1
19	DIAGONAL BRACE	2" X 2" X 14 GA TUBE	3
20	GABLE BRACE	2" X 2" X 14 GA TUBE	3
21	DB BRACKET	2.25" X 2.25" X 6" LG. 14GA ANGLE	9
22	TRUSS SPACER	2.5" X 2.5" X 14GA TUBE	1
23	ALL FASTENERS	#12 X 1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER	

TABLE 2.2: SHEATHING FASTENER SCHEDULE

LOCATION	CORNER PANELS	SIDE LAPS	EDGE LAPS	ELSEWHERE
SPACING	9" C/C	MIN. 1	4 1/2" C/C	9" C/C

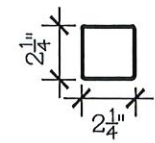
FASTENER TYPE: #12X1" SELF-DRILL SCREWS (ESR-2196 OR EQ) W/ NEOPRENE/STEEL WASHER

\*SEE TYP. SHEATHING FASTENER SCHEDULE DIAGRAM ON PAGE 6.



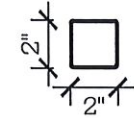
THICKNESS = 14GA

2.5" X 2.5" 14GA TUBE ①  
SCALE: NTS



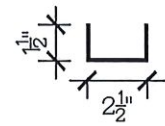
THICKNESS = 12GA

2.25" X 2.25" 12GA TUBE ②  
SCALE: NTS



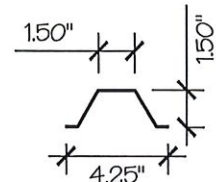
THICKNESS = 14GA

2" X 2" 14GA TUBE ③  
SCALE: NTS



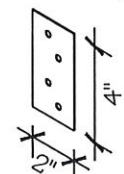
THICKNESS = 14GA

2.5" X 1.5" 14GA CHANNEL ④  
SCALE: NTS



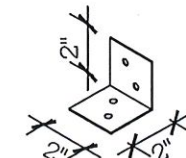
THICKNESS = 14GA / 18GA

4.25" X 1.5" X 14GA / 18GA HAT CHANNEL ⑤  
SCALE: NTS



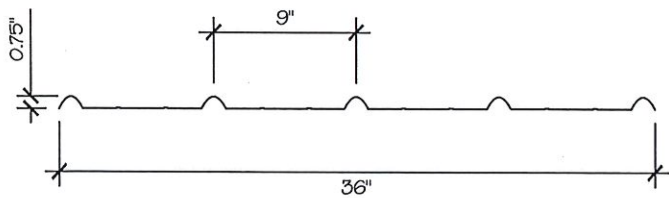
THICKNESS = 14GA

STRAIGHT BRACKET ⑥  
SCALE: NTS



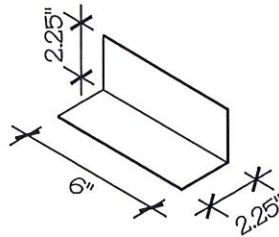
THICKNESS = 14GA

ANGLE BRACKET ⑦  
SCALE: NTS



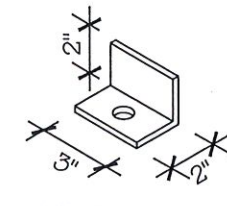
THICKNESS = 29GA

29 GA CORRUGATED SHEATHING ⑧  
SCALE: NTS



THICKNESS = 14GA

DB BRACKET ⑨  
SCALE: NTS



THICKNESS = 3/16"

BASE ANGLE ⑩  
SCALE: NTS

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www.aa-engineers.com

DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

SCHEDULES &  
MEMBER SECTIONS

SHEET NO.: 2 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

LEGAL INFORMATION

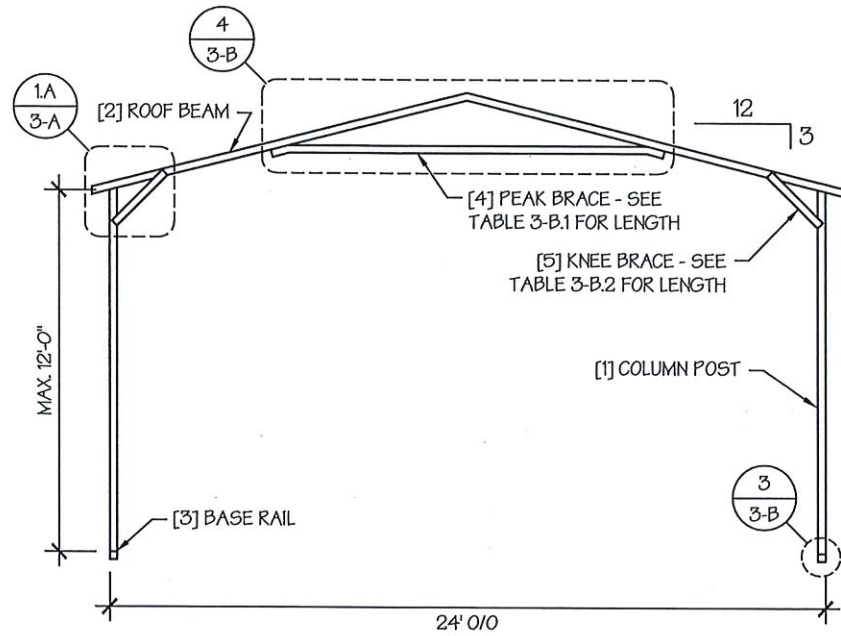
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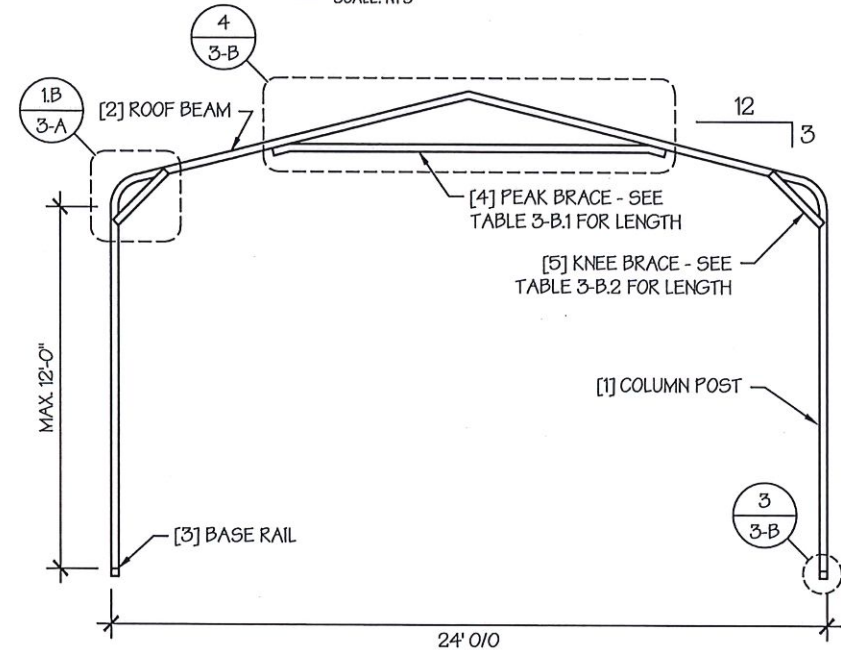


STAMP EXPIRY: 12-31-2024

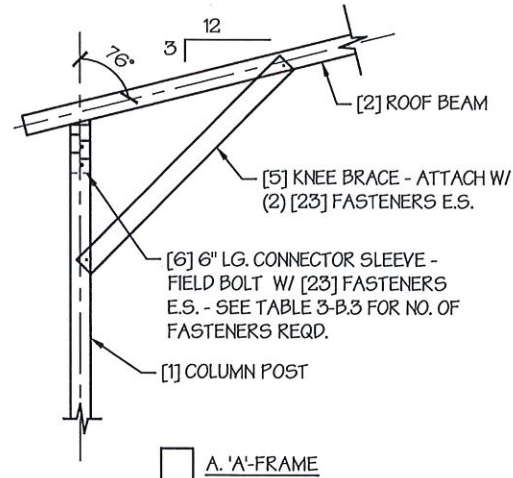
DATE SIGNED: 01-18-2023



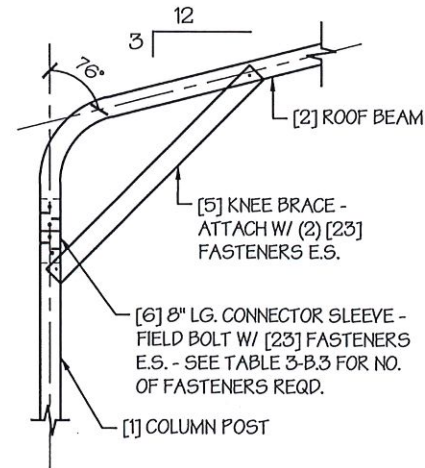
TYP. A-FRAME SECTION  
SCALE: NTS



TYP. REGULAR FRAME SECTION  
SCALE: NTS



A. 'A'-FRAME



B. REGULAR-FRAME

EAVE DETAIL  
SCALE: NTS 1

MANUFACTURED BY:



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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

FRAME SECTIONS &  
DETAILS

SHEET NO.: 3-A / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

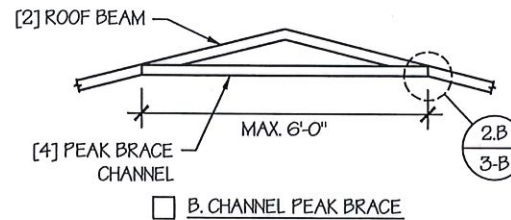
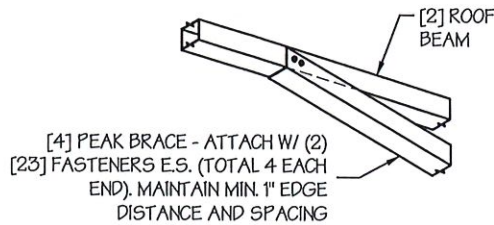
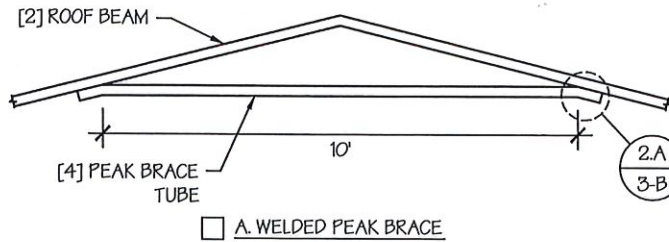
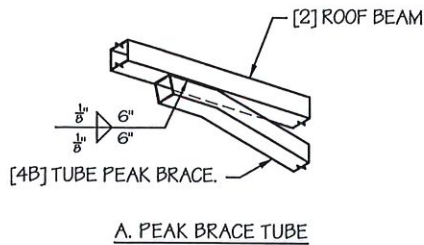
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DATE SIGNED: 01-18-2023



PEAK BRACE DETAILS 4  
SCALE: NTS

B. PEAK BRACE CHANNEL

PEAK BRACE CONNECTION DETAILS 2  
SCALE: NTS

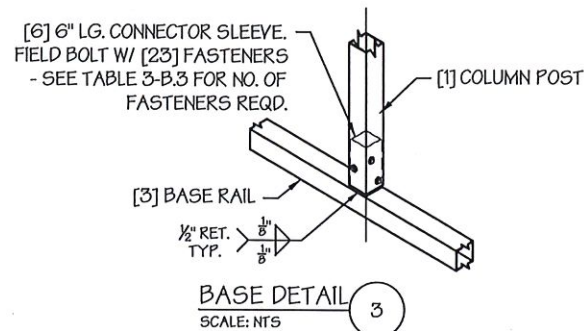


TABLE 3-B.1: PEAK BRACE SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	WIND SPEED	
	105 TO 130	140 TO 180
30 / 20	6'	10'
35 / 25 TO 90 / 61	10'	10'

TABLE 3-B.2: KNEE BRACE SCHEDULE

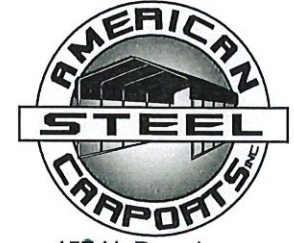
EAVE HEIGHT	KNEE BRACE LENGTH
UP TO 8'	24"
9' TO 12'	36"

TABLE 3-B.3 FASTENER SCHEDULE

WIND SPEED (MPH)	NO. OF FASTENERS
105 TO 125	4
130 TO 155	6
160 TO 180	8

NOTE: COLUMN POST MAY BE ADJUSTED ±1" FOR LEVELING. MANUFACTURER IS NOT RESPONSIBLE FOR LEVELING OF GROUND AND/OR CONCRETE SURFACE PROVIDED BY OTHERS.

MANUFACTURED BY:



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ENGINEERED BY:



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DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

FRAME DETAILS

SHEET NO.: 3-B / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

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SEAL:



STAMP EXPIRY: 12-31-2024  
DATE SIGNED: 01-18-2023

TABLE 4: FRAME SPACING CHART / SCHEDULE

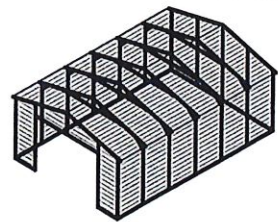
GROUND SNOW / ROOF LIVE LOAD (PSF)	■ ENCLOSED BUILDINGS							■ OPEN BUILDINGS						
	WIND SPEED (MPH)							WIND SPEED (MPH)						
	□105	□115	□130	□140	□155	□165	□180	□105	□115	□130	□140	□155	□165	□180
□30 / 20	60	60	54/60	54	42	42	36	48	48	48	42	36	30	24
□40 / 27	48/60	48/60	42/60	42/54	42	42	36	42	42	42	42	36	30	24
□50 / 34	40/48	40/48	40/48	40/48	40/42	40/42	36	30	30	30	30	30	30	24
□60 / 41	36	36	36	36	36	36	36	30	30	30	30	30	30	24
□70 / 47	30	30	30	30	30	30	30	24	24	24	24	24	24	24
□80 / 54	24	24	24	24	24	24	24	24	24	18	18	18	18	18
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
□30 / 20	60	60	54/60	54	48	42/48	42	54	54	48/54	42/54	36/48	36	30
□40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	42	42	42	42	36/42	36	30
□50 / 34	40/48	40/48	40/48	40/48	40/48	40/48	40/42	36	36	36	36	36	36	30
□60 / 41	36	36	36	36	36	36	36	30	30	30	30	30	30	30
□70 / 47	30	30	30	30	30	30	30	24	24	24	24	24	24	24
□80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---
□30 / 20	60	60	54/60	54	48	42/48	42	60	54/60	48/60	42/54	36/48	36/42	36
□40 / 27	48/60	48/60	42/60	42/54	42/48	42/48	42	48	48	42/48	42/48	36/48	36/42	36
□50 / 34	40/48	40/48	40/48	40/48	40/48	40/48	40/42	40/42	40/42	40/42	40/42	36/42	36	36
□60 / 41	36	36	36	36	36	36	36	36	36	36	36	36	36	30
□70 / 47	30	30	30	30	30	30	30	30	30	30	30	30	30	30
□80 / 54	24	24	24	24	24	24	24	24	24	24	24	24	24	24
□90 / 61	---	---	---	---	---	---	---	---	---	---	---	---	---	---

NOTES:

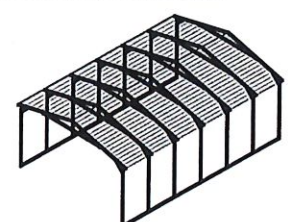
1. FRAME SPACINGS ARE IN UNITS OF INCHES (IN).
2. WHERE TWO VALUES ARE SHOWN, THE HIGHER VALUE CAN ONLY BE USED FOR VERTICAL SHEATHING.
3. SNOW LOADS AND ROOF LIVE LOADS ARE IN POUNDS PER SQUARE FOOT (PSF). WIND SPEED IS 3 SEC. GUST IN MILES PER HOUR (MPH).
4. FOR VALUES THAT LIE BETWEEN TWO CELLS, THE HIGHER (MORE STRINGENT) VALUE HAS TO BE USED. INTERPOLATION BETWEEN CELLS IS NOT ALLOWED.

ENCLOSURE CLASSIFICATION:

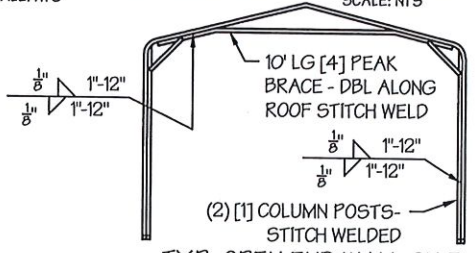
1. ENCLOSED BUILDING = ALL 4 WALLS FULLY ENCLOSED WITH DOORS/WINDOWS = USE ENCLOSED BUILDING SPACING CHART.
2. OPEN BUILDING = ALL 4 WALLS FULLY OPEN = USE OPEN BUILDING SPACING CHART.
3. 3FT PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ONLY 3FT ENCLOSED = USE OPEN BUILDING SPACING CHART.
4. PARTIALLY ENCLOSED = BOTH END-WALLS FULLY OPEN, WITH BOTH SIDE-WALLS ENCLOSED MORE THAN 3FT = START WITH OPEN BUILDING SPACING CHART AND THEN REDUCE SPACING BY 6".
5. 3 SIDED ENCLOSED = ALL WALLS ARE ENCLOSED EXCEPT FOR 1 END-WALL = START WITH ENCLOSED BUILDING SPACING + THE OPEN END FRAME MUST HAVE EITHER A GABLED END OR HAVE DOUBLED WELDED LEGS & ROOF.
6. FOR ALL SHEATHING ENCLOSURES NOT LISTED ABOVE, REFER TO SHEET 5 FOR SPACING AND DESIGN REQUIREMENTS.



TYP. ENCLOSED BUILDING  
SCALE: NTS



TYP. OPEN BUILDING  
SCALE: NTS

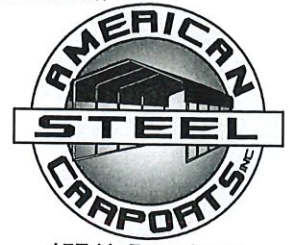


TYP. OPEN END WALL ON 3 SIDE ENCLOSED BUILDING  
SCALE: NTS

GENERAL NOTES:

1. THE MAX. BUILDING LENGTH FOR ENCLOSED BUILDINGS IS 50'-0". THIS CAN BE INCREASED BY ADDING A DOUBLE FRAME AT THE CENTER TO BREAK THE LENGTH OF THE BUILDING.
2. BUILDINGS WITH PARTIALLY ENCLOSED END WALLS NEED TO HAVE SIDE WALL BRACING TO SUPPORT THE PARTIALLY ENCLOSED END WALL. (SEE FIGURE A ON SHEET 5).
3. ALL BUILDINGS WITH AN OPEN END WALL MUST HAVE A 10'-0" TUBE PEAK BRACE.

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DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

SPACING SCHEDULES  
& ENCLOSURE NOTES

SHEET NO.: 4 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

LEGAL INFORMATION

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TABLE 5.1: PURLIN SPACING SCHEDULE

GROUND SNOW / ROOF LIVE LOAD (PSF)	14GA. HAT CHANNEL PURLIN						
	WIND SPEED (MPH)						
	105	115	130	140	155	165	180
30/20	54	48	42	36	30	24	24
40/27	42	42	42	36	30	24	24
50/34	40	40	40	36	30	24	24
60/41	36	36	36	36	30	24	24
70/47	32	32	32	32	30	24	24
80/54	30	30	30	30	30	24	24
90/61	24	24	24	24	24	24	24
30/20	54	48	42	42	36	30	30
40/27	42	42	42	42	36	30	30
50/34	40	40	40	40	36	30	30
60/41	36	36	36	36	36	30	30
70/47	32	32	32	32	32	30	30
80/54	32	32	32	32	32	30	30
90/61	30	30	30	30	30	30	30
30/20	54	48	42	42	36	36	30
40/27	42	42	42	42	36	36	30
50/34	40	40	40	40	36	36	30
60/41	36	36	36	36	36	36	30
70/47	32	32	32	32	32	32	30
80/54	32	32	32	32	32	32	30
90/61	30	30	30	30	30	30	30
30/20	54	48	42	42	36	36	30
40/27	42	42	42	42	36	36	30
50/34	40	40	40	40	36	36	30
60/41	36	36	36	36	36	36	30
70/47	32	32	32	32	32	32	30
80/54	32	32	32	32	32	32	30
90/61	30	30	30	30	30	30	30

FRAME SPACING: 3'-0" OR LOWER  
 FRAME SPACING: 3'-6"  
 FRAME SPACING: 4'-0"  
 FRAME SPACING: 4'-6"  
 FRAME SPACING: 5'-0"

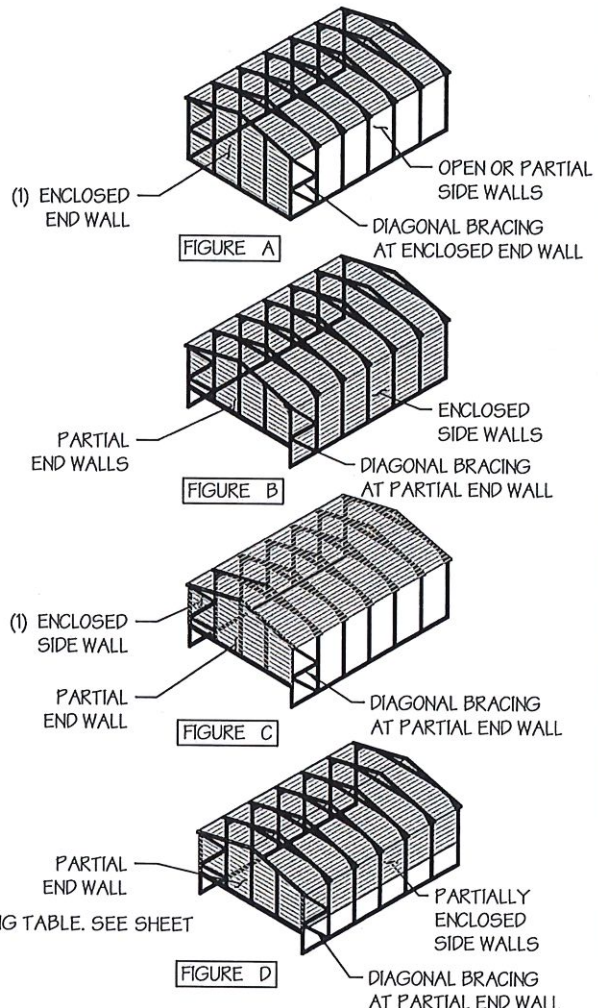
- NOTES:
- PURLIN SPACING UNITS ARE IN INCHES.
  - FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.

- IRREGULAR BUILDING NOTES:
- FIGURES A, B, C & D ON THE RIGHT INDICATE EXAMPLES OF IRREGULAR BUILDINGS.
  - FOR IRREGULAR BUILDINGS, FRAME SPACING MUST BE REDUCED BY 6" FROM OPEN BUILDING SPACING TABLE. SEE SHEET 4 FOR OPEN BUILDING TABLE.
  - SITE SPECIFICS MAY ALLOW FOR ALTERNATIVE SPACING.
  - IRREGULAR BUILDING & BUILDINGS W/ MORE THAN 2 SIDE OPENINGS MUST HAVE A 10' TUBE PEAK BRACE ON ALL FRAMES.

TABLE 5.2: GIRT SPACING SCHEDULE

FRAME SPACING	WIND SPEED (MPH)						
	105	115	130	140	155	165	180
5'-0"	60	48	36	30	24	24	18
4'-6"	60	60	48	42	36	30	24
4'-0"	60	60	54	54	42	36	30
3'-6"	60	60	54	54	48	42	42
2'-0" TO 3'-0"	60	60	54	54	48	42	42

- NOTES:
- GIRT SPACING UNITS ARE IN INCHES.
  - THIS SCHEDULE IS TO BE USED FOR BOTH 14GA
  - FRAME SPACING NEEDS TO BE DETERMINED FROM TABLE 4.



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DRAWING INFORMATION

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE: PURLIN & GIRT SPACING SCHEDULES

SHEET NO.: 5 / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

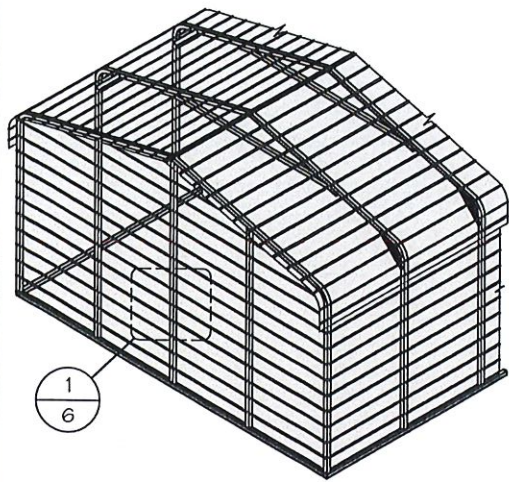
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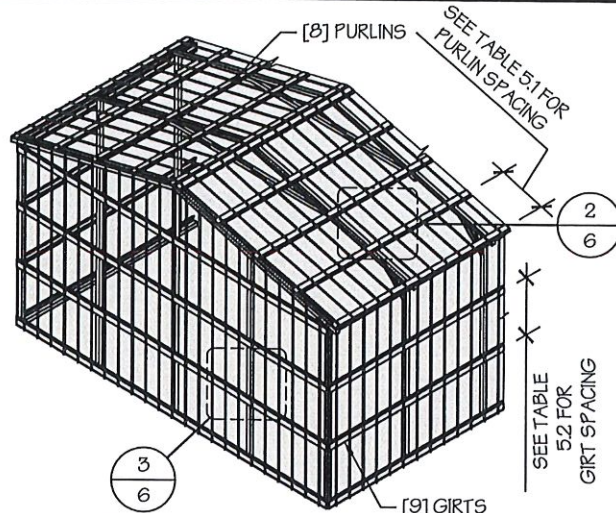
SEAL:

STATE OF ARKANSAS  
 LICENSED PROFESSIONAL ENGINEER  
 No. 14606  
 OMAR ABU-YASEIN

STAMP EXPIRY: 12-31-2024  
 DATE SIGNED: 01-18-2023



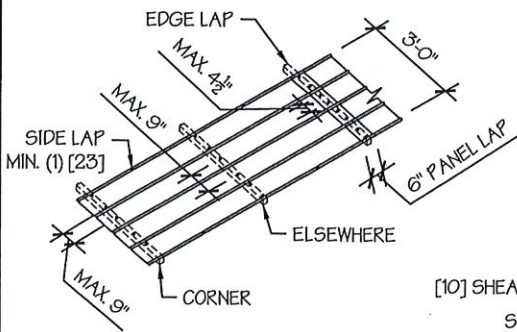
TYP. HORIZONTAL SHEATHING  
SCALE: NTS



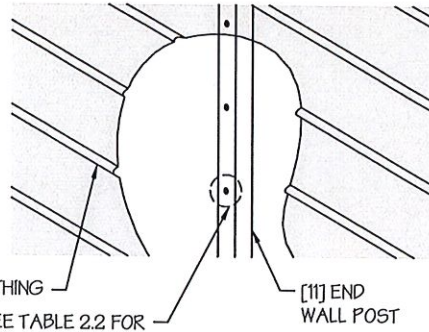
TYP. VERTICAL SHEATHING  
SCALE: NTS

**GENERAL SHEATHING NOTES:**

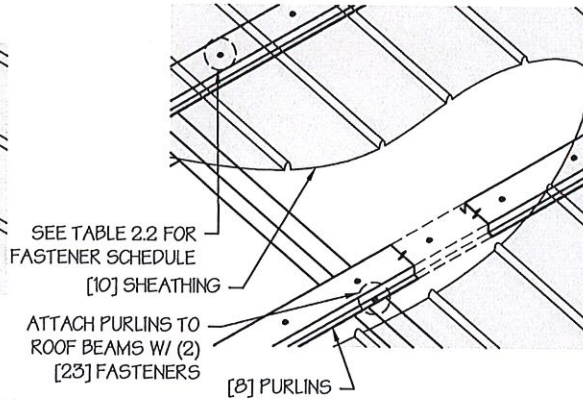
1. REGULAR STYLE BUILDINGS CAN ONLY HAVE HORIZONTAL SHEATHING ON ROOF AND WALLS.
2. A-FRAME STYLE BUILDINGS CAN HAVE ANY COMBINATION OF HORIZONTAL OR VERTICAL SHEATHING ON ROOFS AND WALLS.
3. BOTH HORIZONTAL AND VERTICALS ROOF SHEATHING CAN HAVE MAX. 6" OVERHANG.
4. USING VERTICAL SHEATHING MAY ALLOW FOR GREATER FRAME SPACING. SEE NOTE 2 UNDER TABLE 4.
5. VERTICAL SHEATHING RECOMMENDED FOR BUILDINGS 30' OR LONGER



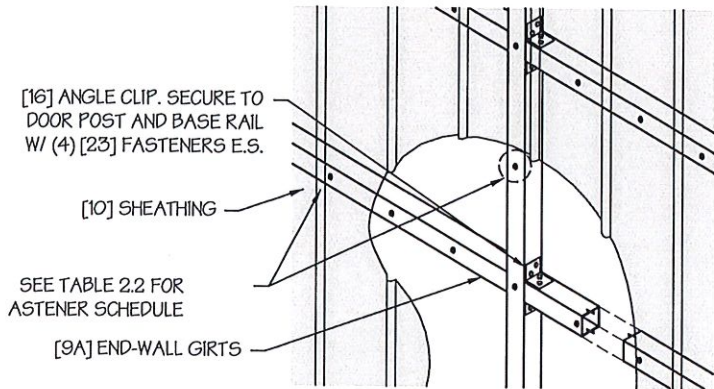
TYP. SHEATHING FASTENER SCHEDULE  
SCALE: NTS



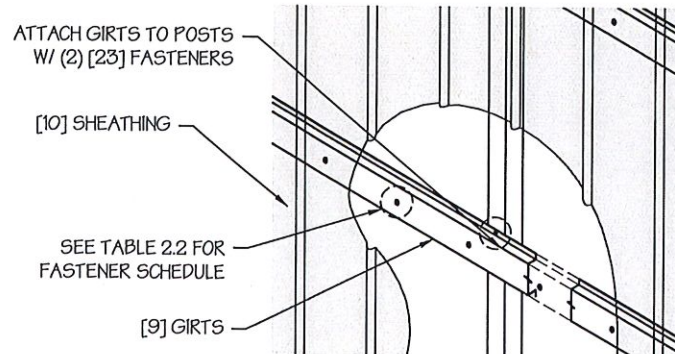
TYP. HORIZONTAL SHEATHING DETAIL  
SCALE: NTS



ROOF VERTICAL SHEATHING DETAIL  
SCALE: NTS



WALL VERTICAL SHEATHING - TUBE DETAIL  
SCALE: NTS



WALL VERTICAL SHEATHING - HAT CHANNEL DETAIL  
SCALE: NTS

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

**SHEATHING OPTIONS & DETAILS**

SHEET NO.: 6 / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

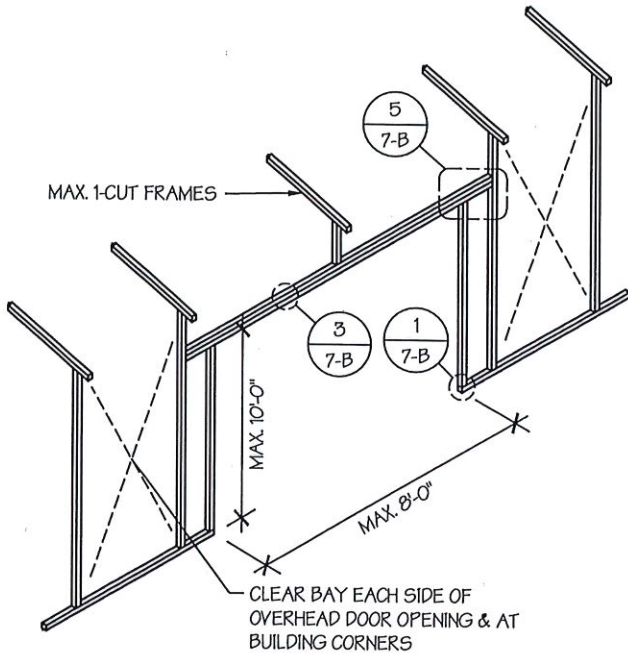
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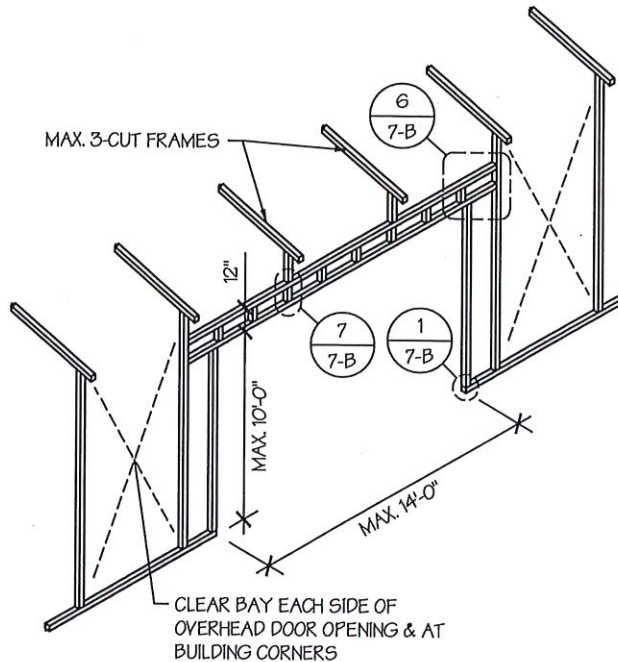
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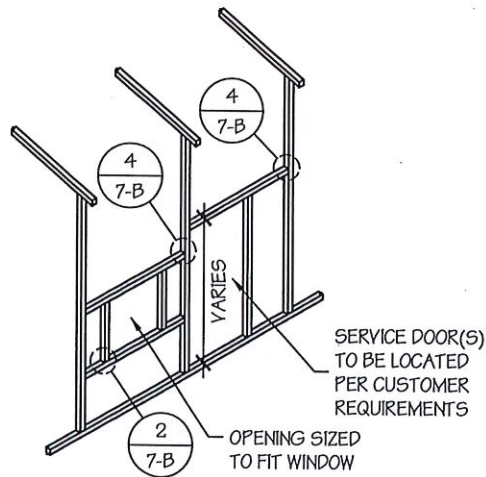
SIDE WALL OVERHEAD DOOR OPENINGS

SCALE: NTS



SIDE WALL OVERHEAD DOOR OPENINGS WITH TRUSS STYLE HEADER

SCALE: NTS



SIDE WALL SERVICE DOOR / WINDOW OPENINGS

SCALE: NTS

SIDE WALL FRAMING NOTES:

1. TRUSS-STYLE HEADERS ARE REQUIRED FOR WHERE THE GROUND SNOW LOAD IS 40 PSF OR GREATER.
2. DESIGNS AND DETAILS SHOWN HERE ARE APPLICABLE TO BOTH REGULAR AND A-FRAME STYLE BUILDINGS.
3. MAX. HEIGHT OF SIDE WALL OVERHEAD DOOR OPENINGS IS 2 FT LESS THAN THE EAVE HEIGHT.
4. OVERHEAD DOOR OPENINGS CANNOT CUT THROUGH MORE THAN 2 FULL FRAMES.
5. MIN. 1 CLEAR BAY MUST BE MAINTAINED BETWEEN ANY 2 OVERHEAD DOOR OPENINGS. A CLEAR BAY IS A SPACE BETWEEN TWO FRAMES THAT HAS NO OVERHEAD DOOR OPENINGS.
6. MIN. 1 CLEAR BAY MUST ALSO BE MAINTAINED FROM THE BUILDING CORNERS.
7. SERVICE DOORS AND WINDOWS CAN BE PLACED IN CLEAR BAYS OR ANY WHERE ELSE AS NEEDED.

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

**SIDE WALL FRAMING  
& OPENINGS**

SHEET NO.: 7-A / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

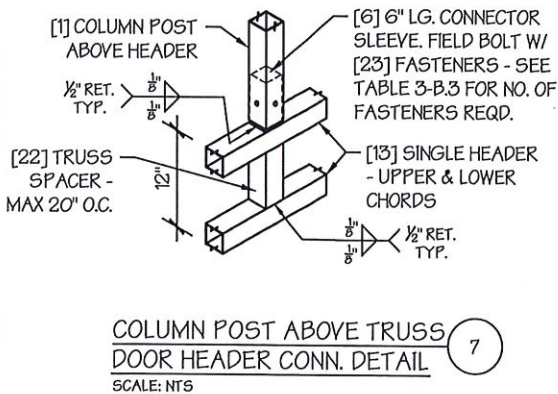
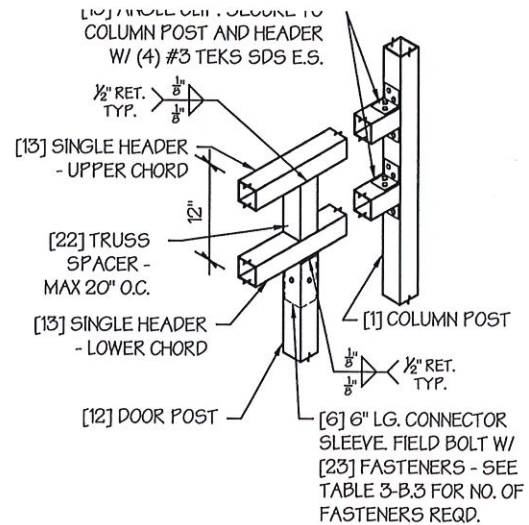
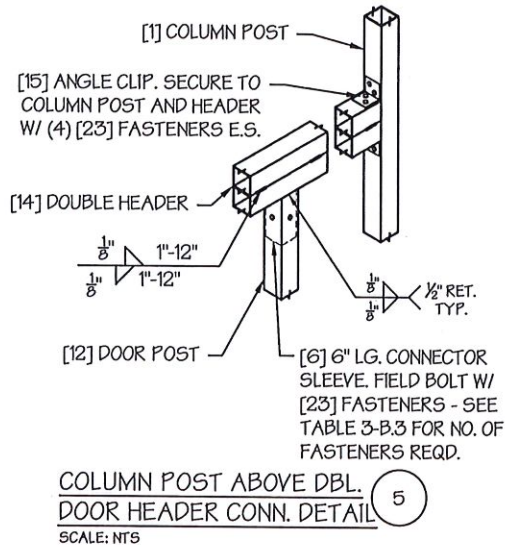
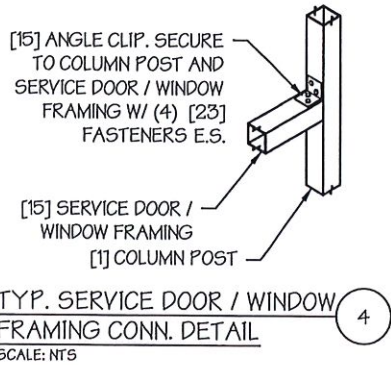
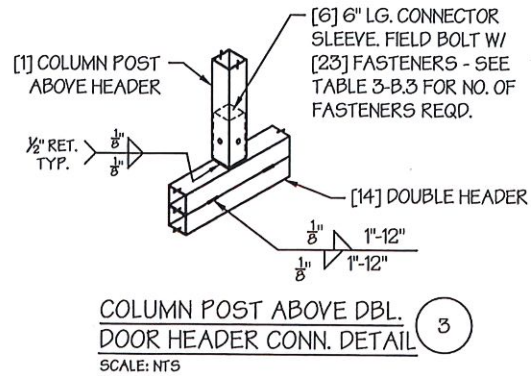
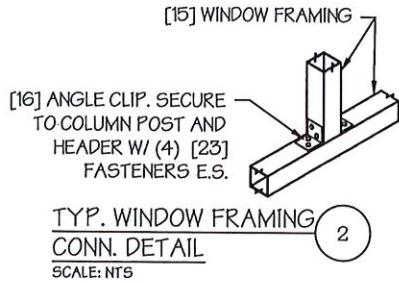
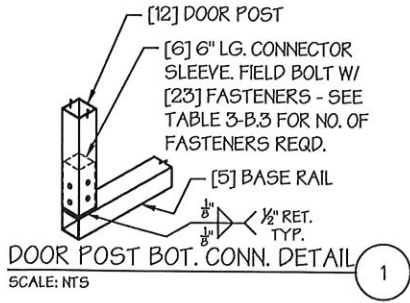
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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

**SIDE WALL FRAMING  
DETAILS**

SHEET NO.: 7-B / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE:

**END WALL FRAMING**

SHEET NO.: 8-A / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

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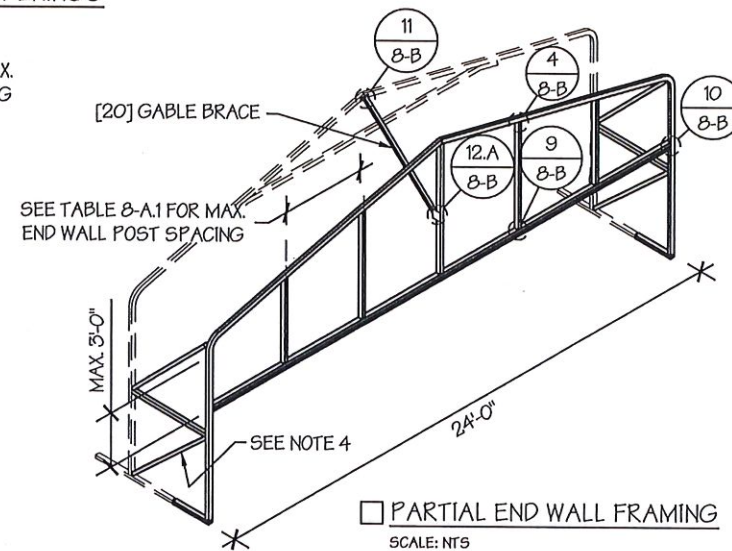
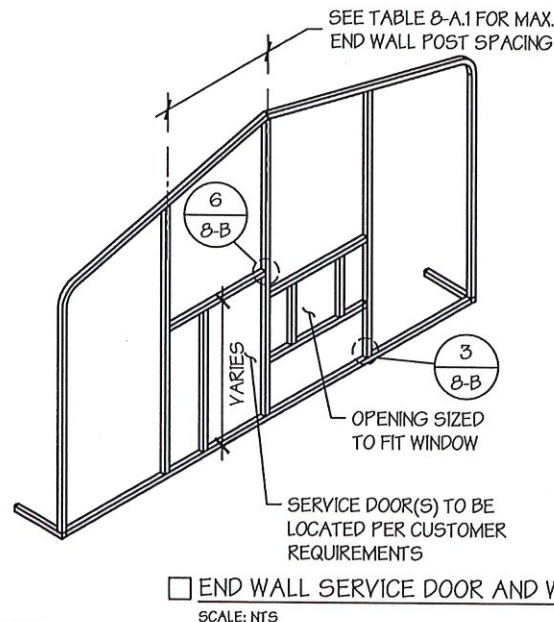
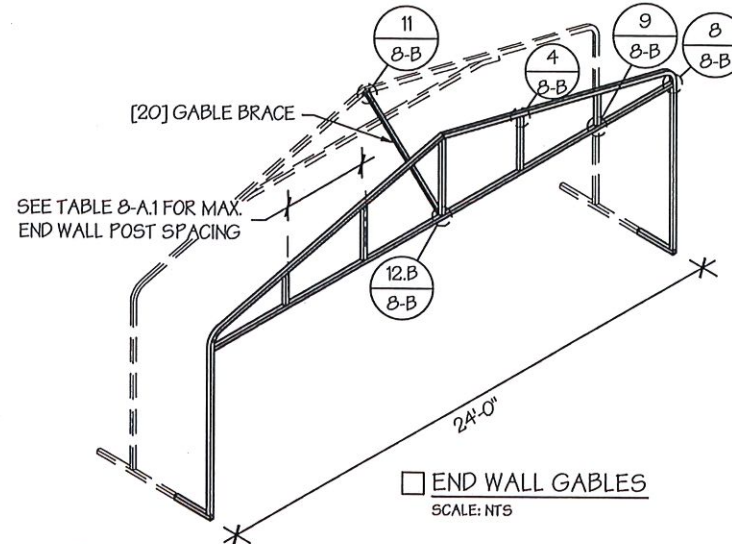
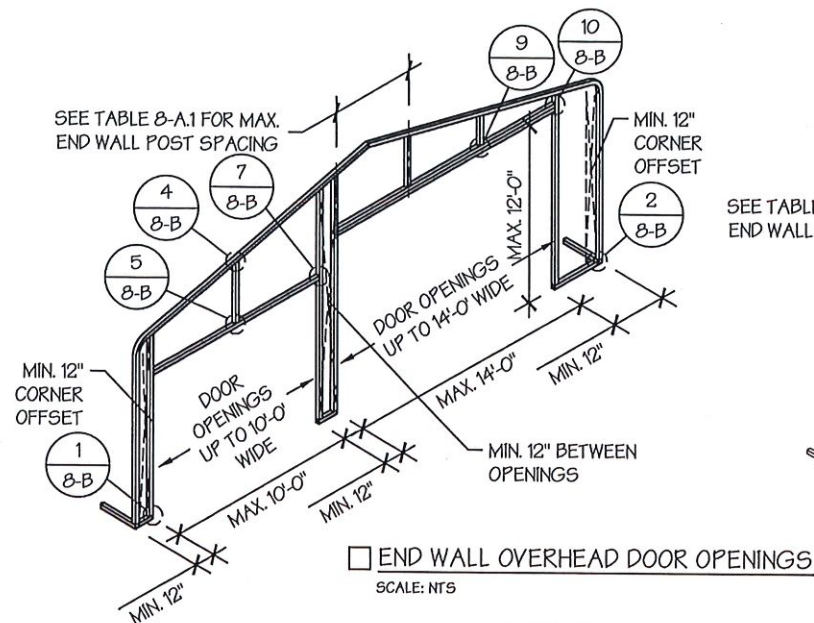
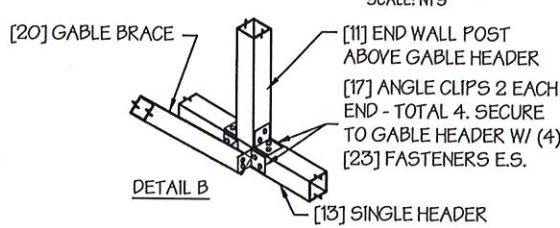
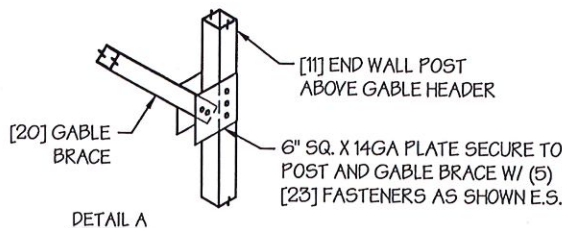
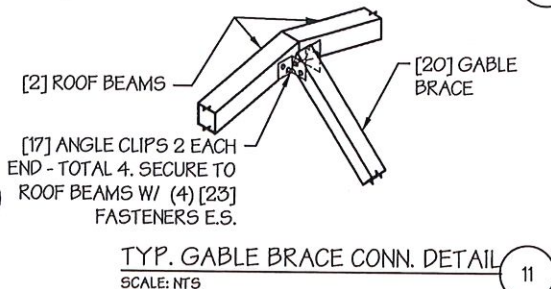
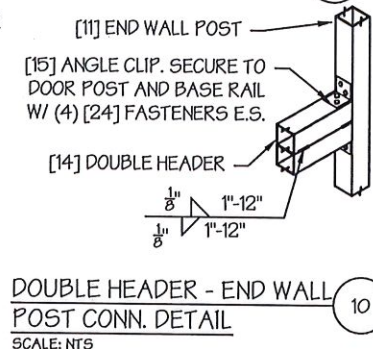
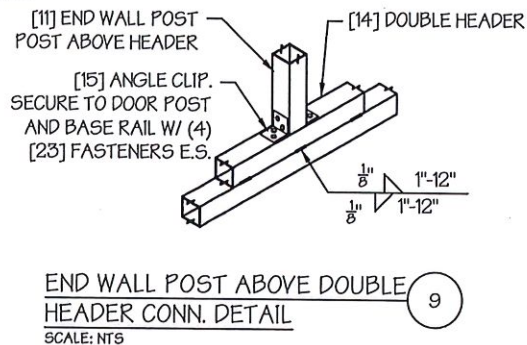
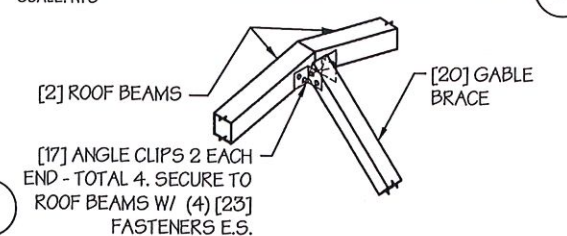
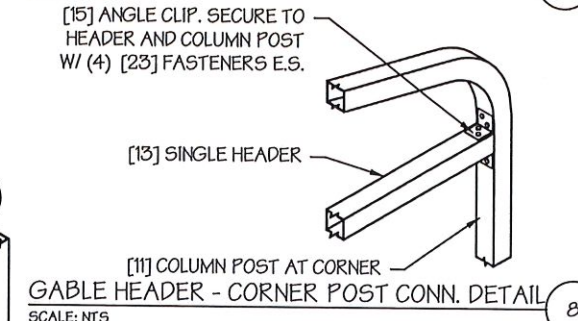
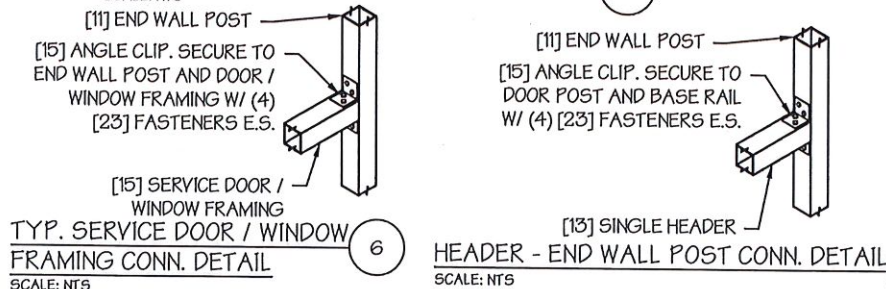
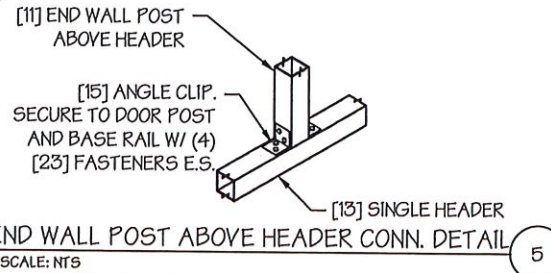
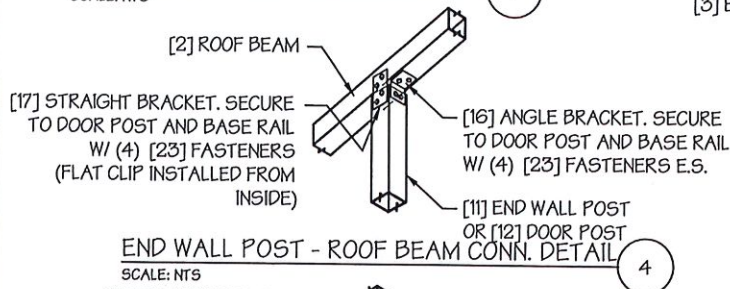
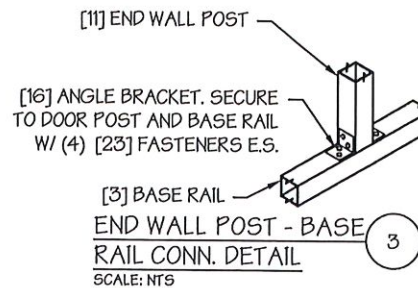
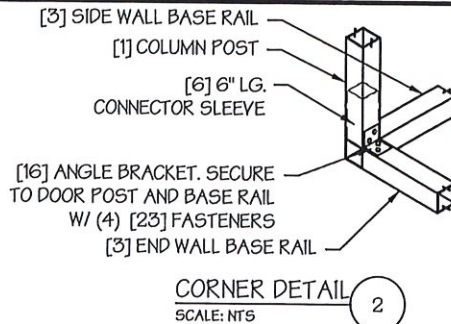
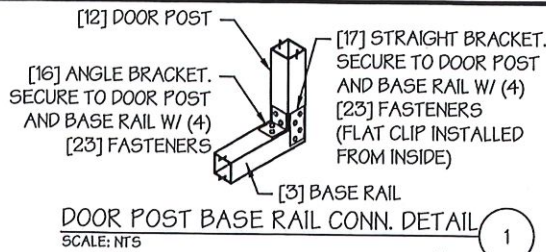


TABLE 8-A.1: END WALL POST SPACING SCHEDULE

WIND SPEED (MPH)	EAVE HEIGHT		
	UP TO 7'	8' TO 9'	10' TO 12'
<input type="checkbox"/> 105	5'	5'	5'
<input type="checkbox"/> 115	5'	5'	4.5'
<input type="checkbox"/> 130	4.5'	4.5'	4'
<input type="checkbox"/> 140	4.5'	4.5'	3'
<input type="checkbox"/> 155	4'	4'	2.5'
<input type="checkbox"/> 165 - 180	3.5'	3'	2'

**END WALL FRAMING NOTES:**

- DESIGNS AND DETAILS SHOWN HERE ARE APPLICABLE TO BOTH REGULAR AND A-FRAME STYLE BUILDINGS.
- MIN. 12" CLEARANCE MUST BE MAINTAINED BETWEEN ANY TWO OPENINGS (OVERHEAD DOOR OR SERVICE DOOR) AND FROM CORNERS.
- SERVICE DOORS AND WINDOWS CAN BE PLACED AS NEEDED.
- DIAGONAL BRACES NEED TO BE ADDED FOR PARTIAL END WALL ENCLOSURES. SEE SHEET 9 FOR DIAGONAL BRACE CONNECTION DETAILS.



**GABLE BRACE - END WALL CONN. DETAIL**  
SCALE: NTS

MANUFACTURED BY:



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**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS

LOCATION: STATE OF ARKANSAS

PROJECT NO.: 033-23-0101

SHEET TITLE:

**END WALL FRAMING  
DETAILS**

SHEET NO.: 8-B / 11

DRAWN BY: A.W. DATE: 1/22/21

CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

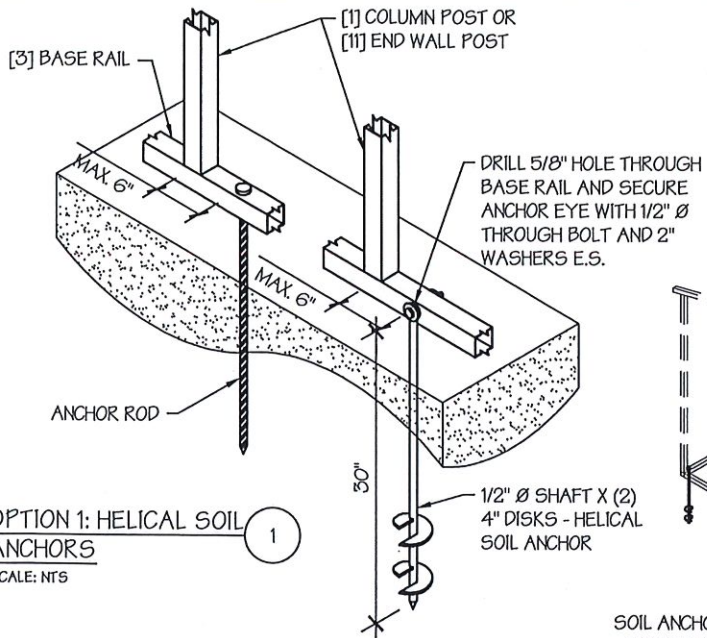
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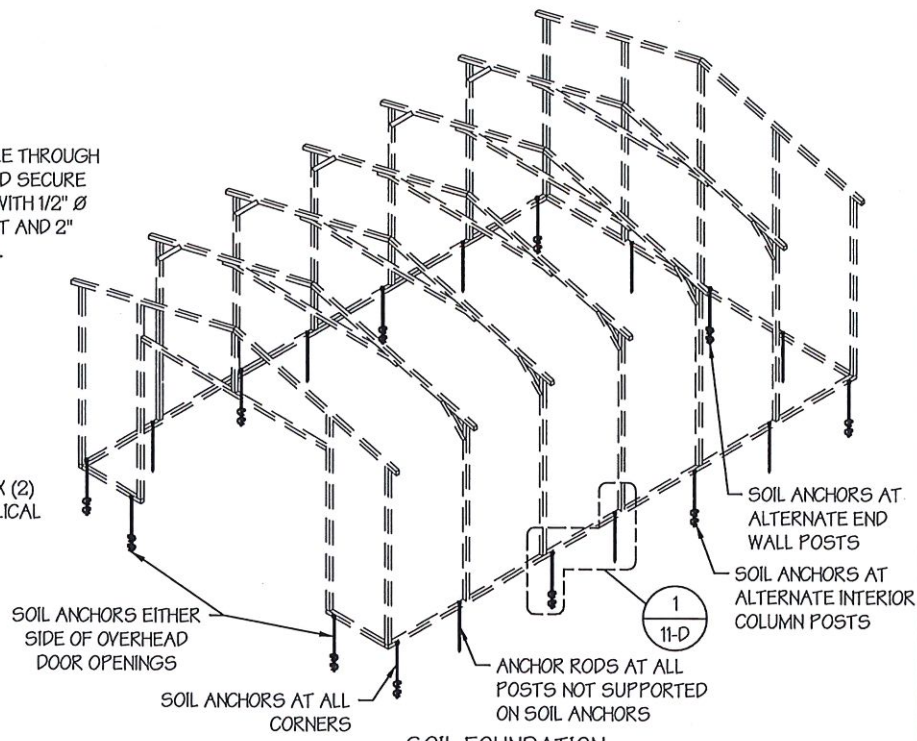


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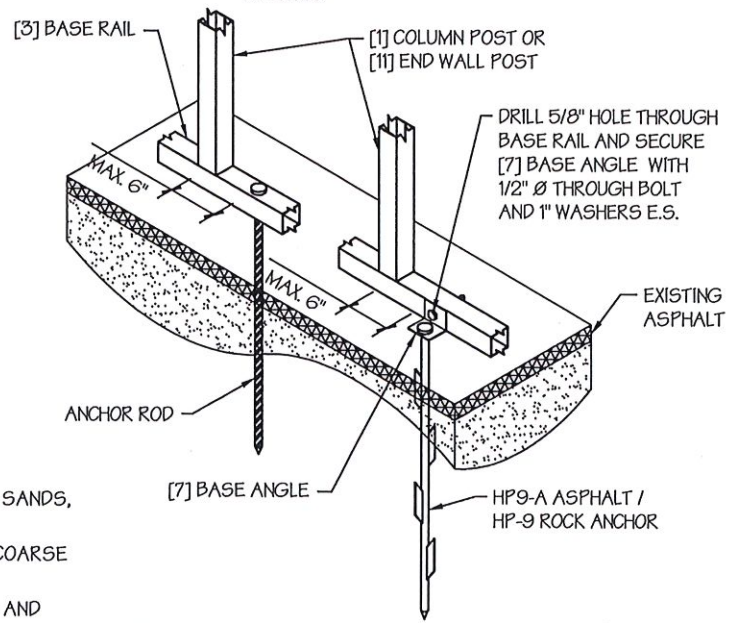
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**OPTION 1: HELICAL SOIL ANCHORS**  
SCALE: NTS



**OPTION 2: ROCK / ASPHALT ANCHORS**  
SCALE: NTS



**OPTION 2: ROCK / ASPHALT ANCHORS**  
SCALE: NTS

**SOIL FOUNDATION NOTES:**

- DESIGNS SHOWN ON THIS SHEET ARE FOR SOIL ANCHOR FOUNDATION.
- SOIL ANCHORS (HELICAL OR ROCK/ASPHALT) SHALL BE LOCATED AT ALL 4 CORNERS, ON EACH SIDE OF OVERHEAD DOOR OPENINGS, ON POSTS WITH DIAGONAL BRACING IF REQUIRED, AND ON ALTERNATE INTERIOR COLUMN POSTS AND END WALLS POSTS.
- HELICAL ANCHORS ARE TO BE USED ONLY IF THE DRIVING TORQUE INTO THE GROUND IS 150 FT-LBS OR GREATER. MANUFACTURER IS NOT RESPONSIBLE FOR SOIL QUALITY AT SITE.
- HELICAL ANCHORS CAN ONLY BE USED FOR CLASS 2, 3 & 4 SOILS (SEE SOIL CLASSIFICATIONS THIS PAGE).
- ALL POSTS WITH NO ANCHORS ADJACENT SHALL BE ANCHORED TO THE GROUND WITH A 1/2" X 30" LG. ROD. RODS WILL HAVE A PRE-FORMED HEAD AT THE TOP AND ONE COAT OF RUST PROOF MATERIAL.
- ASSUMED SOIL BEARING CAPACITY IS TO BE A MIN. OF 1500 PSF.

**SOIL CLASSIFICATIONS:**

SOIL CLASS	DESCRIPTION
2	SANDY GRAVEL AND GRAVEL, VERY THIN DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL/COBBLES, PRELOADED SILTS, CLAYS AND CORAL.
3	SAND, SILTY SAND, CLAYEY SAND, SILTY GRAVEL, MEDIUM DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILT AND SANDY CLAYS.
4	LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS AND ALLUVIAL FILLS.

"FROM HUD "MODEL MANUFACTURED HOME INSTALLATION STANDARDS"

MANUFACTURED BY:

457 N. Broadway,  
Joshua, TX 76058  
1-866-730-9865

ENGINEERED BY:

**A&A ENGINEERING**  
CIVIL • STRUCTURAL  
6086 Renaissance Place, Toledo, OH 43623  
Tel. 419-292-1983 • Fax. 419-292-0955  
www.aa-engineers.com

**DRAWING INFORMATION**

PROJECT: 24'-0" WIDE BUILDINGS  
LOCATION: STATE OF ARKANSAS  
PROJECT NO.: 033-23-0101  
SHEET TITLE: FOUNDATION OPTION 4: SOIL ANCHORS  
SHEET NO.: 11-D / 11  
DRAWN BY: A.W. DATE: 1/22/21  
CHECKED BY: OAA DATE: 1/22/21

**LEGAL INFORMATION**

- ANY DUPLICATION OF THIS DRAWING IN WHOLE OR PART IS STRICTLY FORBIDDEN. ANYONE DOING SO WILL BE PROSECUTED UNDER THE FULL EXTENT OF THE LAW.  
- DRAWINGS VALID UP TO DATE OF EXPIRATION.

SEAL:

STAMP EXPIRY: **12-31-2024**  
DATE SIGNED: **01-18-2023**

Springhill Rd

CME Post

175FT

Building

21814

40ft

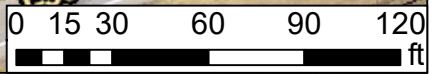
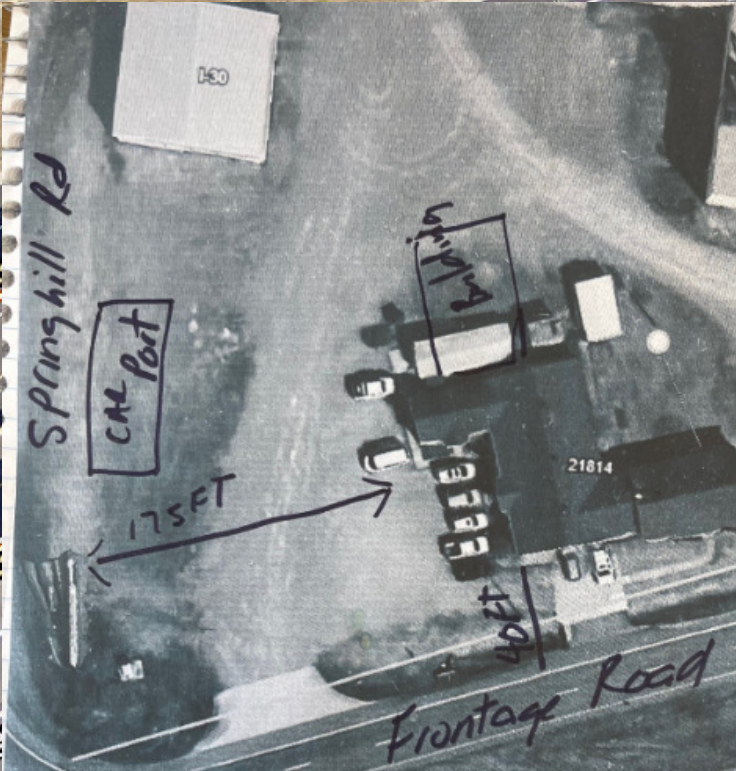
Frontage Road

Hwy 70E





Not A Legal Survey



DETAILED PLANS:

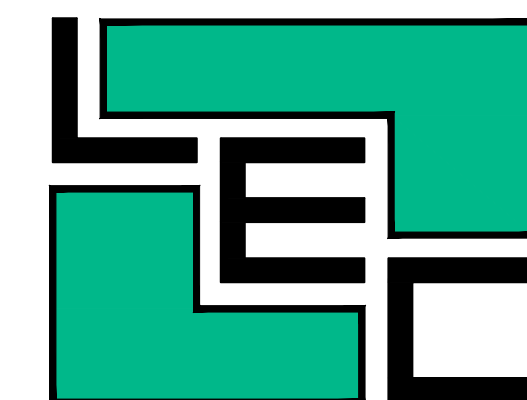
*HILLCREST ADDITION*

PART OF SECTION 12, T-4-N, R-10-W  
CITY OF BRYANT, SALINE COUNTY, ARKANSAS

JULY 9, 2024  
REVISED: SEPTEMBER 20, 2024

PREPARED FOR:

SPRINGHILL HWY 5 DEVELOPMENT, LLC  
816 E. OAK STREET  
CONWAY, ARKANSAS 72032



Prepared By:

LEMONS ENGINEERING CONSULTANTS, INC.  
204 CHERRY STREET  
CABOT, ARKANSAS 72023

ENGINEERING • SURVEYING • PLANNING

*INDEX OF SHEETS*

Preliminary Plat	1
Street Plan/Profile	2
Culvert Plan/Profile	3
Grading Plan	4
Detention Pond Plan	5
Water Layout	6
Construction Details – Water	7
Sewer Plan/Profile	8
Construction Details – Sewer	9
Erosion Control Plan	10

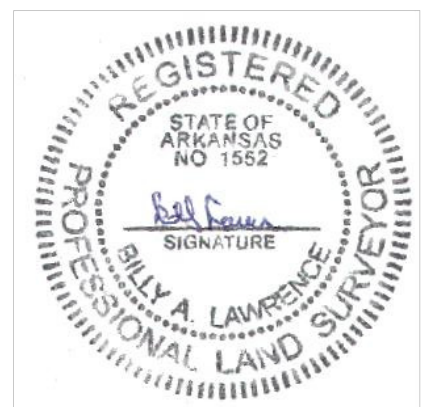




**CERTIFICATE OF ENGINEERING ACCURACY:**

I, TIMOTHY B. LEMONS, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A PLAT MADE BY ME, OR UNDER MY SUPERVISION, AND THAT ENGINEERING REQUIREMENTS OF THE BRYANT SUBDIVISION RULES AND REGULATIONS HAVE BEEN COMPLIED WITH.

DATE: \_\_\_\_\_  
 TIMOTHY B. LEMONS, REGISTERED PROFESSIONAL ENGINEER NO. 7373, ARKANSAS



**CERTIFICATE OF SURVEYING ACCURACY:**

I, BILLY A. LAWRENCE, HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A BOUNDARY SURVEY MADE BY ME AND ALL MONUMENTS SHOWN HEREON ACTUALLY EXIST AND THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE CORRECTLY SHOWN.

DATE: \_\_\_\_\_  
 BILLY A. LAWRENCE, ARKANSAS PROFESSIONAL SURVEYOR, NO. 1552

**CERTIFICATE OF PRELIMINARY PLAT APPROVAL:**

ALL REQUIREMENTS OF THE BRYANT SUBDIVISION RULES AND REGULATIONS RELATIVE TO THE PREPARATION AND SUBMITTAL OF A PRELIMINARY PLAT HAVING BEEN FULFILLED, APPROVAL OF THIS DOCUMENT IS HEREBY GRANTED, SUBJECT TO FURTHER PROVISIONS OF SAID RULES AND REGULATIONS, THIS CERTIFICATE SHALL EXPIRE \_\_\_\_\_ DATE \_\_\_\_\_

DATE OF EXECUTION: \_\_\_\_\_  
 SIGNED: CHAIRMAN, BRYANT PLANNING COMMISSION

**CERTIFICATE OF OWNERS:**

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 THIS PLAT.

DATE: \_\_\_\_\_  
 SPRINGHILL HWY 5 DEVELOPMENT, LLC  
 816 E. OAK STREET  
 CONWAY, ARKANSAS 72032

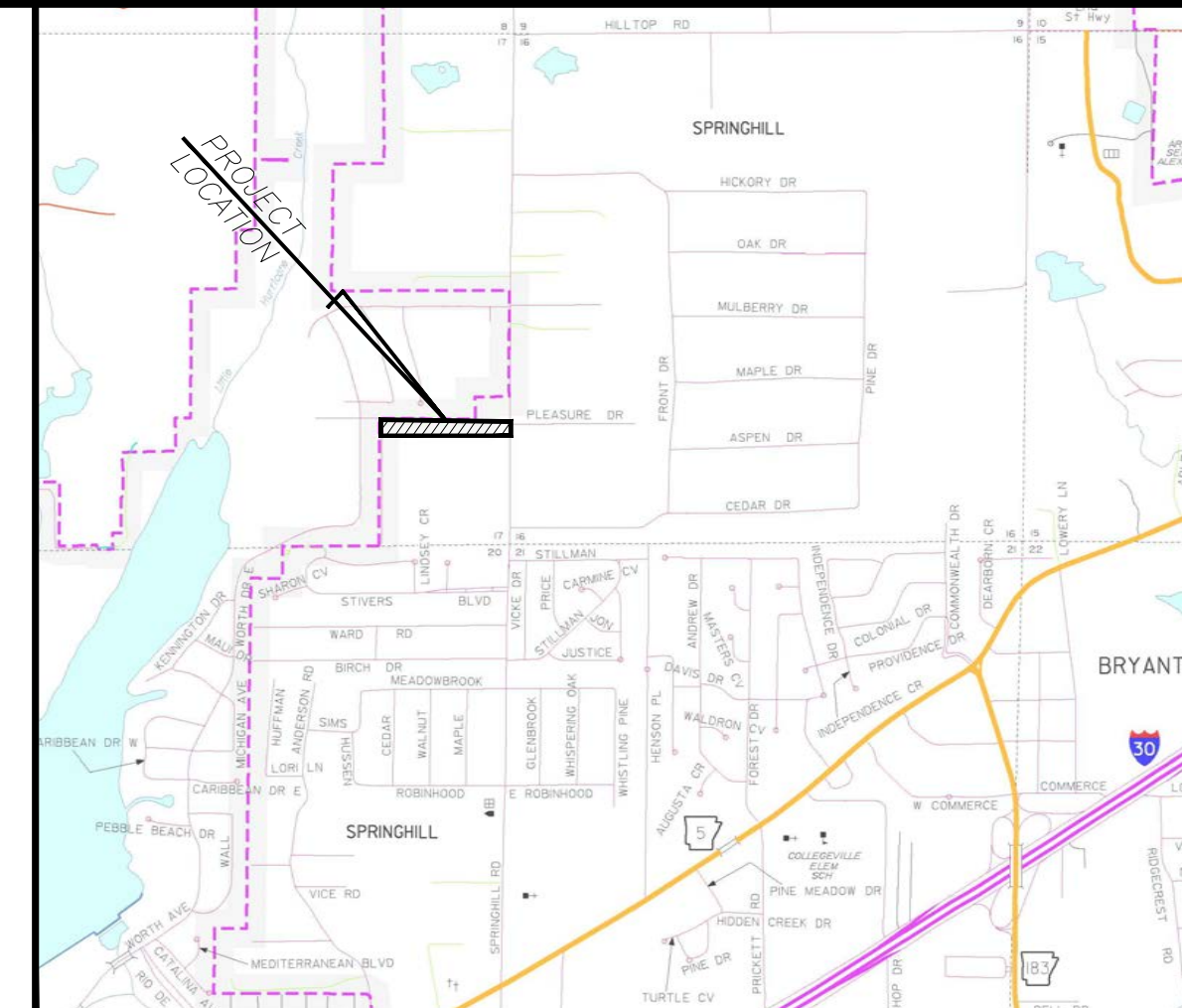
**LEGAL DESCRIPTION:**

PART OF THE SE 1/4, OF THE SE 1/4, SECTION 17, T-1-S, R-14-W, SALINE COUNTY, ARKANSAS; BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE SE 1/4, OF THE SE 1/4, SECTION 17, T-1-S, R-14-W, SALINE COUNTY, ARKANSAS; THENCE N 02°17'33"E, 1167.19 FEET TO THE POINT OF BEGINNING; THENCE N 88°34'40"W, 1344.97 FEET; THENCE N 01°36'19"E, 167.98 FEET; THENCE S 87°44'58"E, 1346.85 FEET; THENCE S 02°18'02"W, 148.52 FEET; TO THE POINT OF BEGINNING, CONTAINING 4.89 ACRES, MORE OR LESS. SOURCE OF TITLE: 2021-03012

**FLOOD CERTIFICATION:**

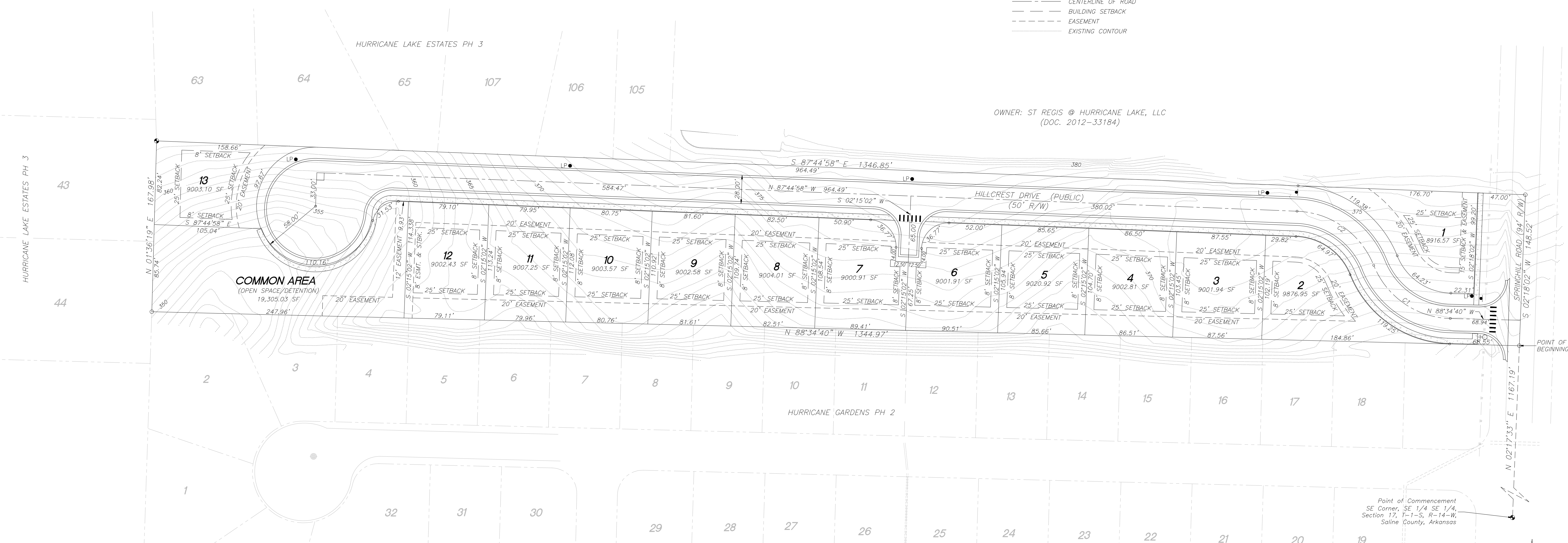
BASED UPON REVIEW OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FIRM COMMUNITY PANEL NO. 05125C0225E, EFFECTIVE DATE: JUNE 5, 2020 THE PROPERTY DEPICTED ON THIS PLAT IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.



VICINITY MAP  
 SCALE: 1" = 2000'

LEMONS ENGINEERING CONSULTANTS, INC.  
 CABOT, ARKANSAS REG 7023  
 (501) 843-5081 • Fax (501) 941-0959  
 ENGINEERING + SURVEYING  
 WATER • SEWER • TRANSPORTATION • SUBDIVISIONS

- LEGEND:**
- FOUND CONC. MONUMENT
  - FOUND IRON PIN (FIP)
  - LIGHT POLE
  - STOP/STREET NAME SIGN
  - STREET SIGN
  - PROPERTY BOUNDARY
  - LOT LINE
  - CENTERLINE OF ROAD
  - BUILDING SETBACK
  - EASEMENT
  - EXISTING CONTOUR



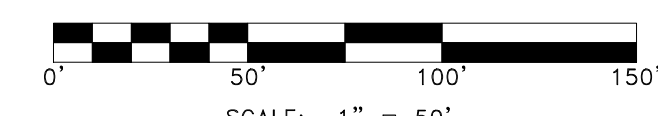
OWNER: ST REGIS @ HURRICANE LAKE, LLC  
 (DOC. 2012-33184)

Point of Commencement  
 SE Corner, SE 1/4 SE 1/4,  
 Section 17, T-1-S, R-14-W,  
 Saline County, Arkansas

CURVE	RADIUS	ARC LENGTH	TANGENT	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	83.37'	97.14'	54.93'	66°45'36"	N 55°11'52" W	91.74'
C2	84.70'	97.46'	54.93'	65°55'55"	N 54°47'01" W	92.17'

**GENERAL NOTES:**

- 1.) IRON PINS TO BE SET AT ALL LOT CORNERS.
- 2.) EASEMENTS TO BE USED FOR UTILITIES AND DRAINAGE.
- 3.) ALL EASEMENTS ARE AS NOTED.
- 4.) ALL BUILDING LINES ARE AS NOTED.
- 5.) CURRENT ZONING - R2.
- 6.) WATER - SALEM WATER.
- 7.) SEWER - CITY OF BRYANT.



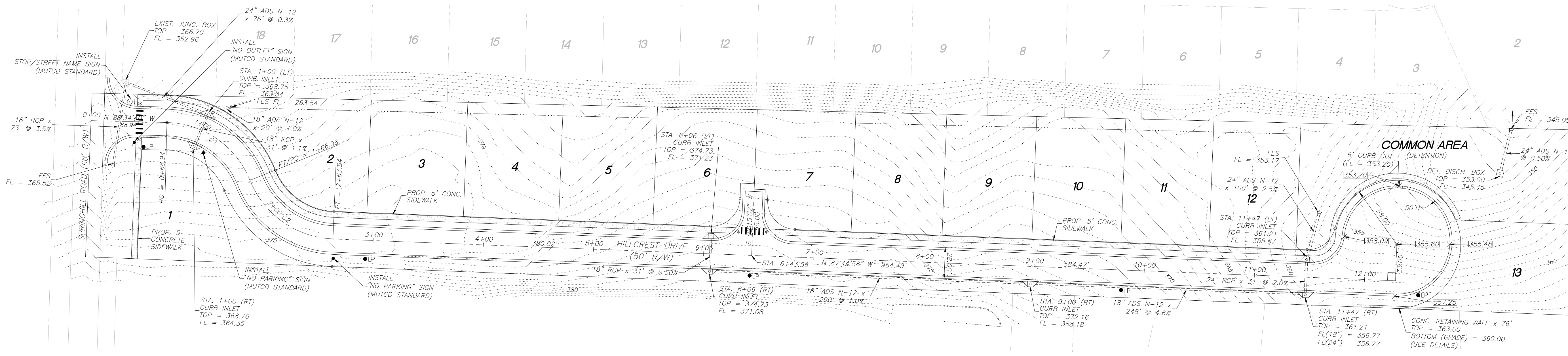
PRELIMINARY PLAT  
 HILLCREST ADDITION  
 PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Springhill Hwy 5  
 Development, LLC  
 816 E. Oak Street  
 Conway, Arkansas 72032

Project No.	24-018
Title	01-Hilcrest Plat
Sheet	1 of 10
Date	JULY 9, 2024
Scale	1" = 50'
Drawn By	B. Judd
Checked By	
Reviewed By	
Revised	
By	
Date	
By	
Date	
By	

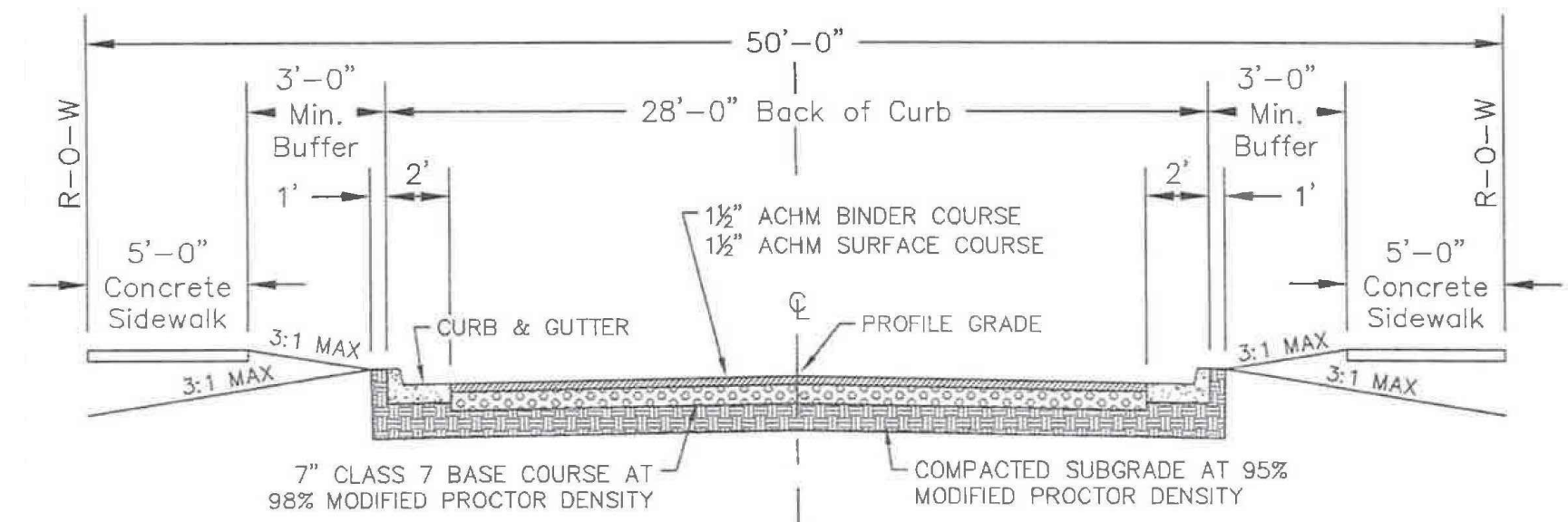


CURVE	RADIUS	ARC LENGTH	TANGENT	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	83.37'	97.14'	54.93'	66°45'36"	N 55°11'52" W	91.74'
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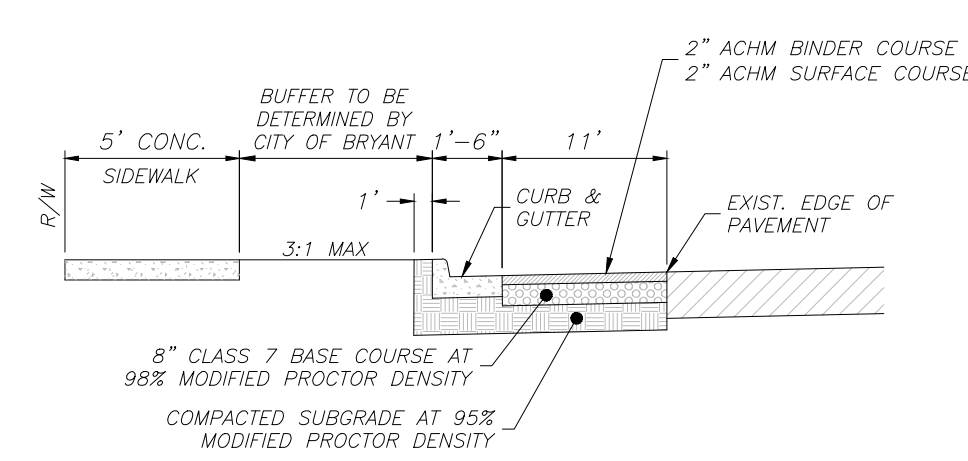


\* = ADA COMPLIANT RAMP  
INSTALL MUTCD SIGNAGE @ CROSSWALK.

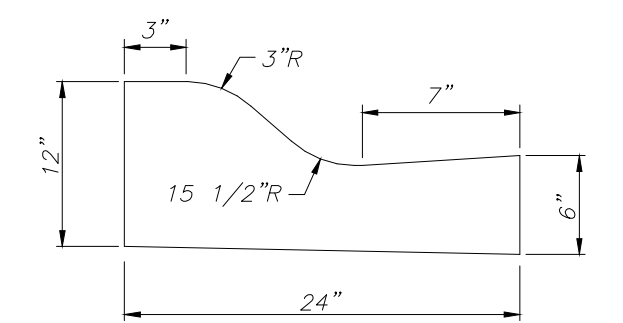
- LEGEND:**
- STOP / STREET NAME COMBINATION SIGN
  - STREET SIGN
  - LIGHT POLE
  - ADA RAMP
  - INLET
  - PROPERTY BOUNDARY
  - LOT LINE
  - CENTERLINE OF ROAD
  - EXISTING CONTOUR
  - DRAINAGE PIPE
  - PROPOSED SIDEWALK



TYPICAL CROSS SECTION - LOCAL STREET  
NTS

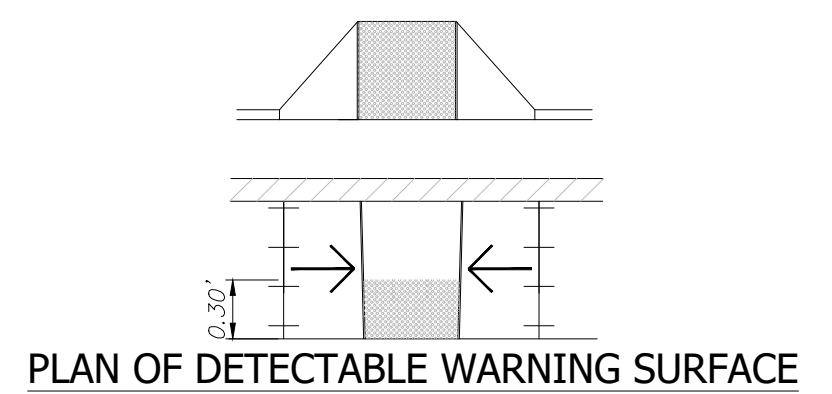


CROSS SECTION - SPRINGHILL RD  
(MINOR ARTERIAL)  
NTS

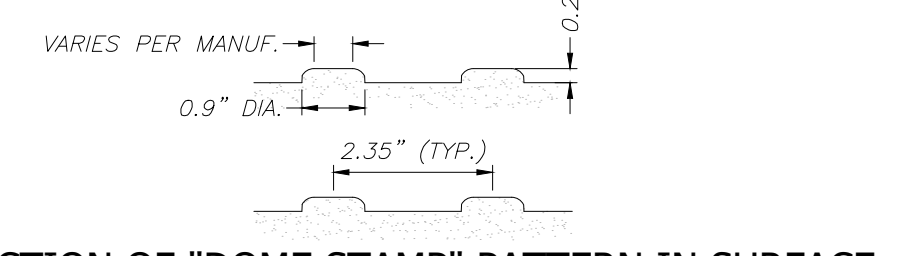


TYPICAL - CONC. CURB/GUTTER  
NTS

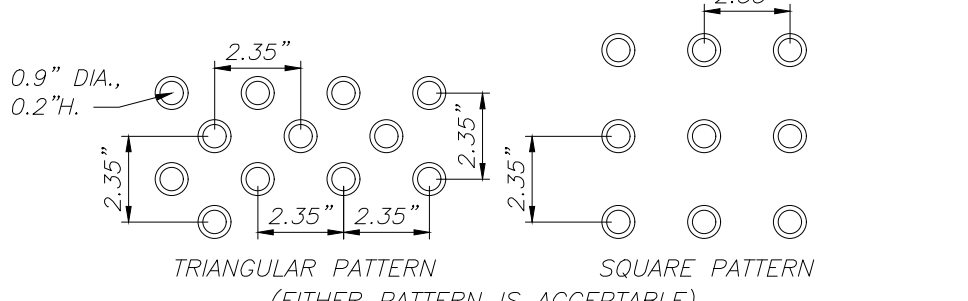
PAVEMENT STRUCTURE TO BE DETERMINED BY GEOTECHNICAL CONSULTANT



PLAN OF DETECTABLE WARNING SURFACE



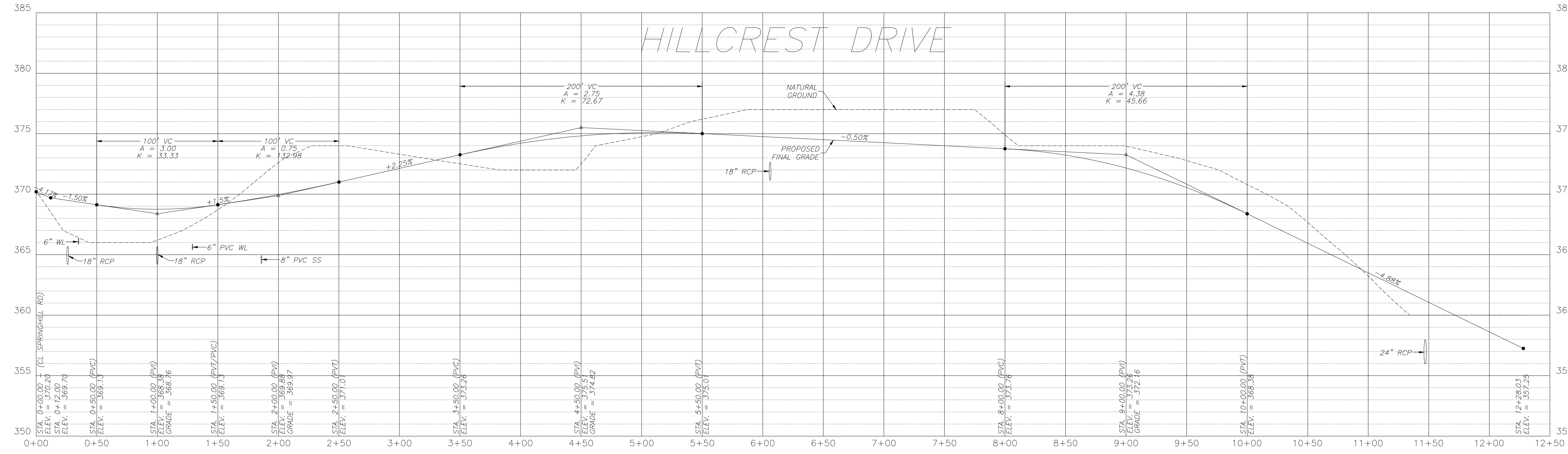
SECTION OF "DOME STAMP" PATTERN IN SURFACE



PLAN OF "DOME STAMP" PATTERN IN SURFACE

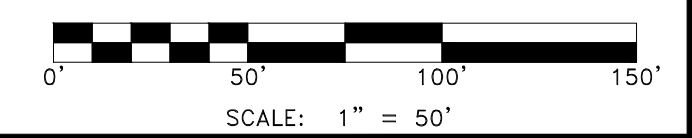
CURB RAMPS MUST HAVE A DETECTABLE WARNING FEATURE EXTENDING THE FULL WIDTH AND DEPTH OF THE RAMP (MID-WALK "IN-LINE" RAMPS ONLY NEED DETECTABLE WARNINGS AT WALK/PARKING TRANSITION). THE DETECTABLE SURFACE MUST CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 INCHES, A HEIGHT OF NOMINAL 0.2 INCHES AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 INCHES. THE TEXTURE OF THE DETECTABLE WARNING FEATURE MUST CONTRAST WITH THE SURROUNDING SURFACES (EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT). SEE ABOVE.

- GENERAL NOTES**
- IN AREAS TO RECEIVE BITUMINOUS PAVING, CONCRETE DRIVEWAYS OR CURB AND GUTTER, SUBGRADE SHALL BE COMPACTED TO A DENSITY NOT LESS THAN 95% OF MAXIMUM MODIFIED DENSITY OBTAINED AT OPTIMUM MOISTURE CONTENT.
  - FOR AREAS OF SUBGRADE PREPARATION TO RECEIVE CONCRETE SIDEWALKS, SUBGRADE SHALL BE COMPACTED TO DENSITY OF 90% MAXIMUM MODIFIED DENSITY.
  - CRUSHED STONE - MATERIAL IN EACH COURSE SHALL BE COMPACTED TO A DENSITY OF 98% MAXIMUM MODIFIED DENSITY.
  - CONCRETE SIDEWALK SHALL BE A MINIMUM OF 4' WIDE IN RESIDENTIAL SUBDIVISIONS



(H) 1" = 50'  
(V) 1" = 5'

(H) 1" = 50'  
(V) 1" = 5'



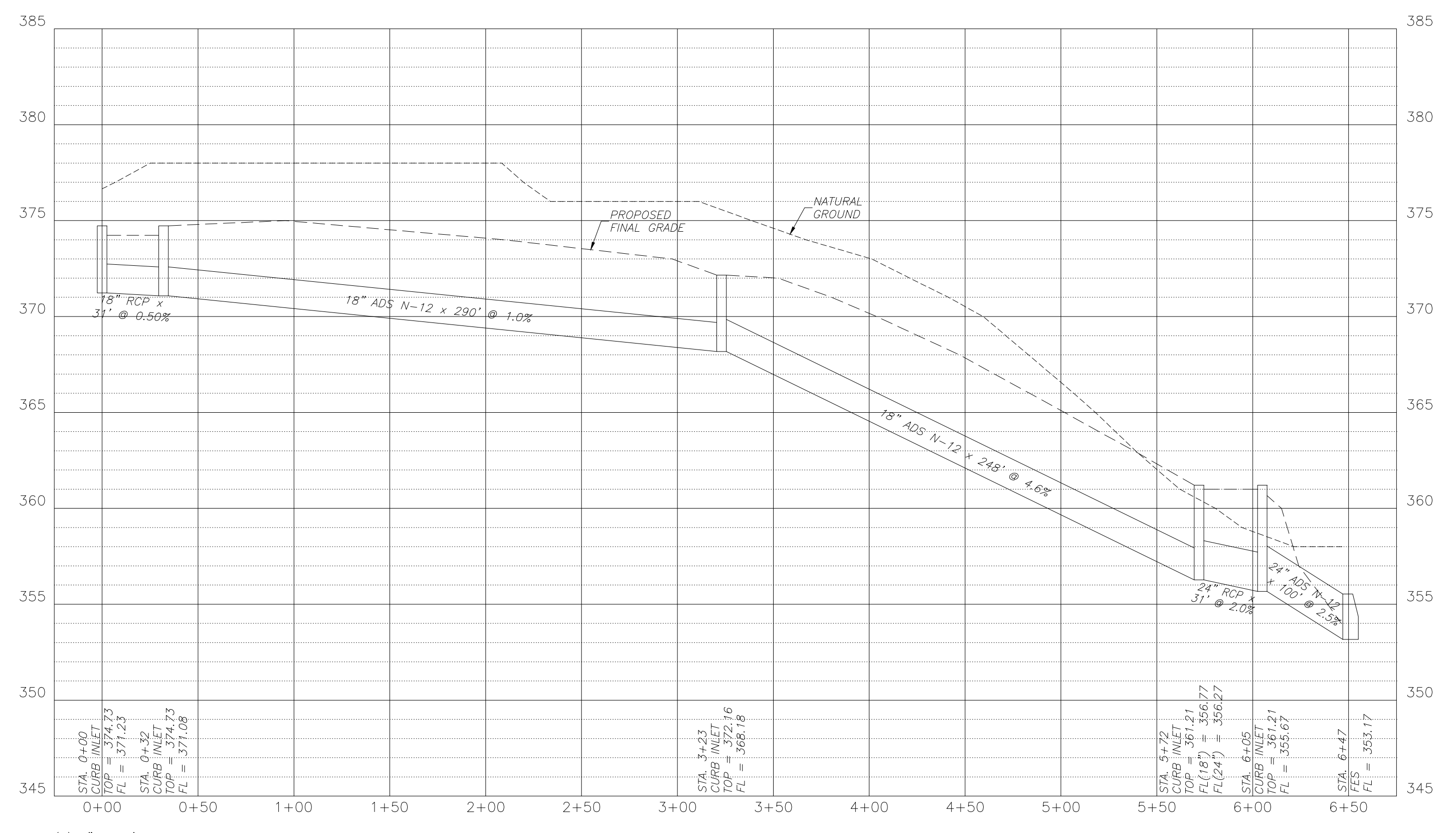
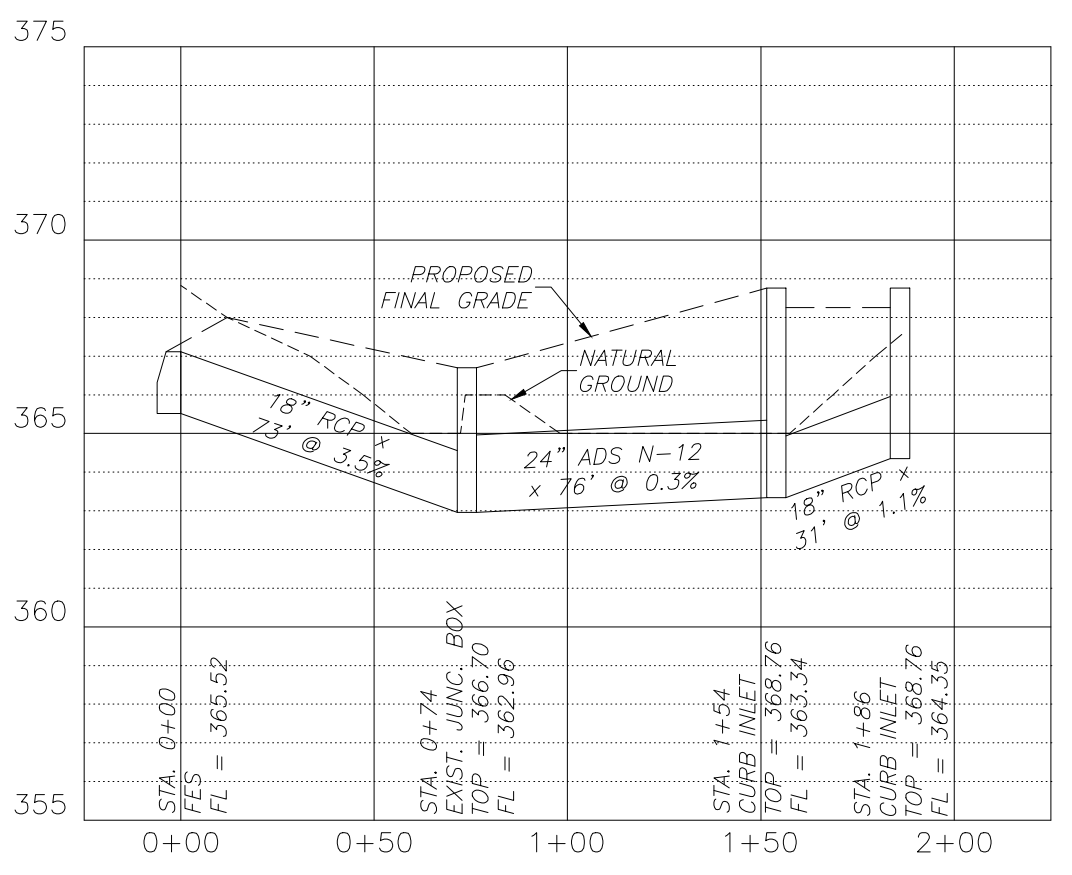
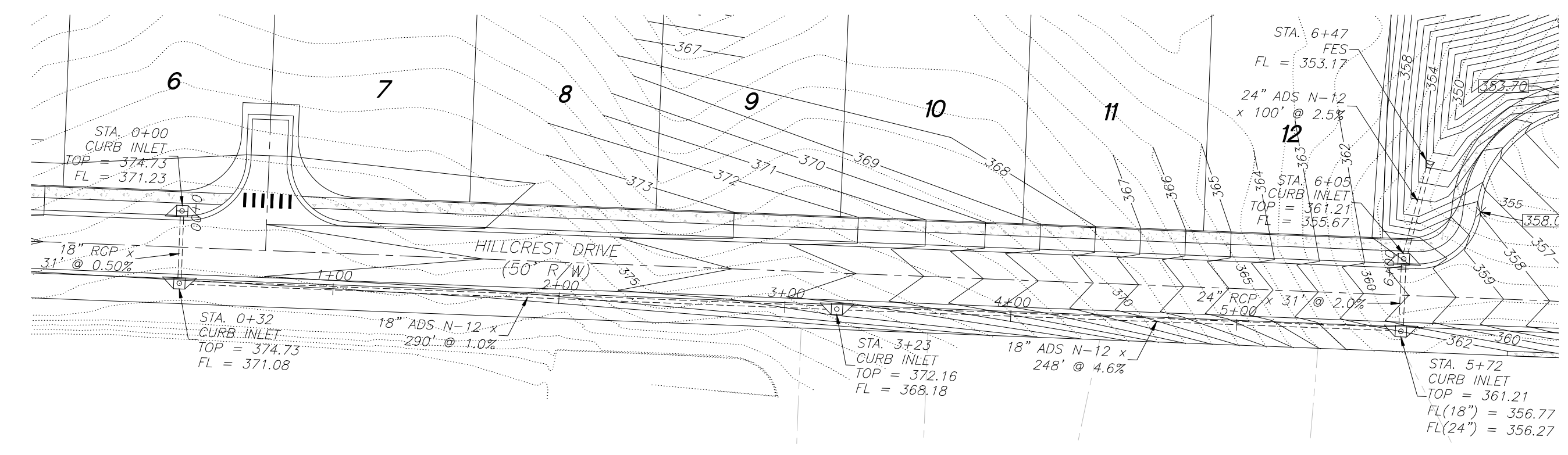
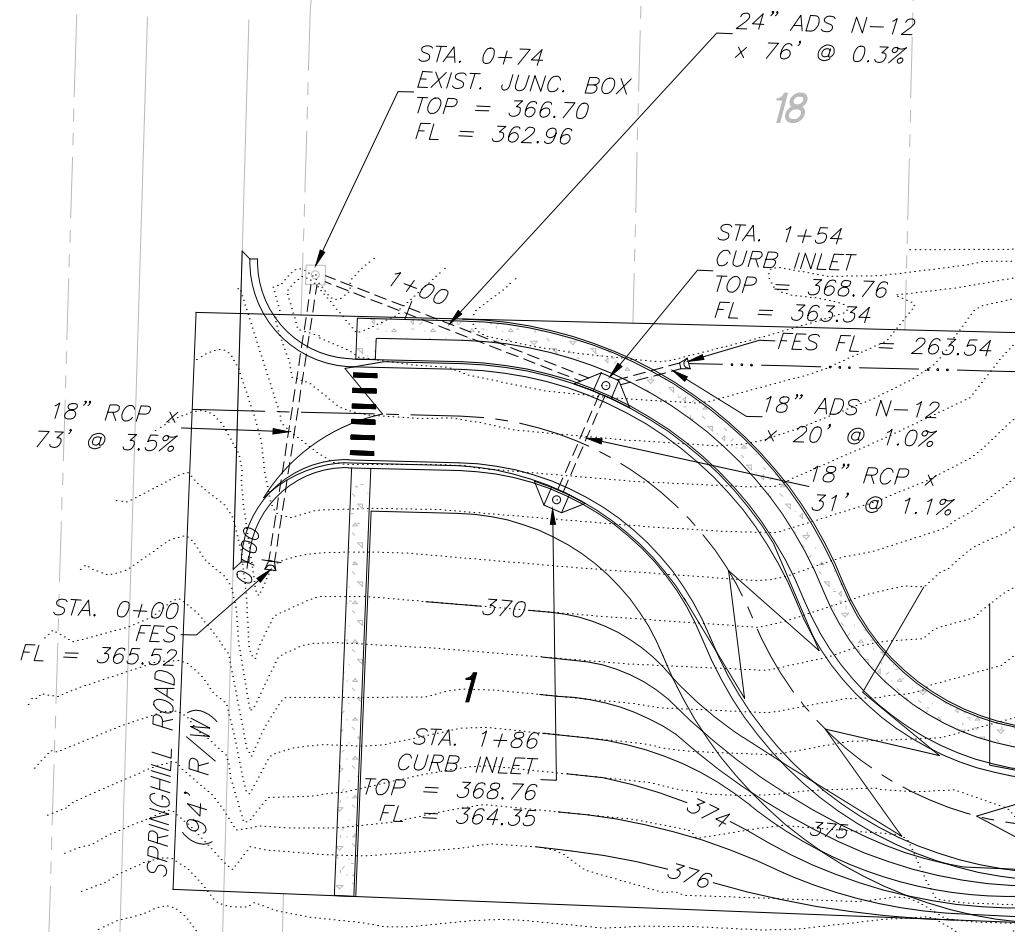
- GENERAL NOTES:**
- ALL STOP SIGNS SHALL BE 30" X 30"
  - ALL TRAFFIC CONTROL MARKERS MUST MEET MUTCD SPECS.
  - CONTRACTOR SHALL INCLUDE IN BID THE COST FOR COMPACTION TESTS ON SUBGRADE & SUBBASE. TEST TO BE CONDUCTED ON 500' INTERVALS. CONTRACTOR TO PROOF ROLL BOTH SUBGRADE AND SUBBASE (CITY TO WSP/PT).
  - LIGHT POLES SHALL BE PLACED AT ALL INTERSECTIONS. ADDITIONAL LOCATIONS TO BE DETERMINED BY THE CITY.
  - ALL BACK OF CURB RADI AT INTERSECTIONS SHALL BE 25' UNLESS OTHERWISE NOTED.
  - CONTRACTOR TO INCLUDE IN BID THE COST OF MATERIAL AND INSTALLATION OF STREET SIGNS & TRAFFIC CONTROL SIGNS. WHERE STOP SIGNS & STREET NAME SIGNS ARE SHOWN ON THE PLAN, A COMBINATION SIGN IS ACCEPTABLE.
  - SEE PLAN/PROFILE SHEETS FOR ADDITIONAL INFORMATION.
  - ALL PAVEMENT TO BE TYPE 'A'.
  - ALL INLETS TO HAVE DOUBLE EXTENDED THROATS UNLESS STATED OTHERWISE.

LEMONS ENGINEERING CONSULTANTS, INC.  
CABOT, ARKANSAS 72023  
(501) 843-5081 • Fax (501) 941-0959  
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**STREET PLAN/PROFILE**  
**HILLCREST ADDITION**  
PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
CITY OF BRYANT, SALINE COUNTY, ARKANSAS

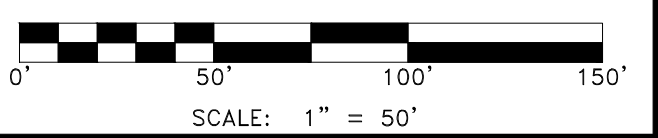
Springhill Hwy 5  
Development, LLC  
816 E. Oak Street  
Conway, Arkansas 72032

Project No. 24-018  
Date: JULY 9, 2024  
Scale: 1" = 50'  
Sheet: 2 of 10  
Drawn By: B. Judd



(H) 1" = 50'  
 (V) 1" = 5'

(H) 1" = 50'  
 (V) 1" = 5'



CULVERT PLAN/PROFILE  
 HILLCREST ADDITION  
 PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

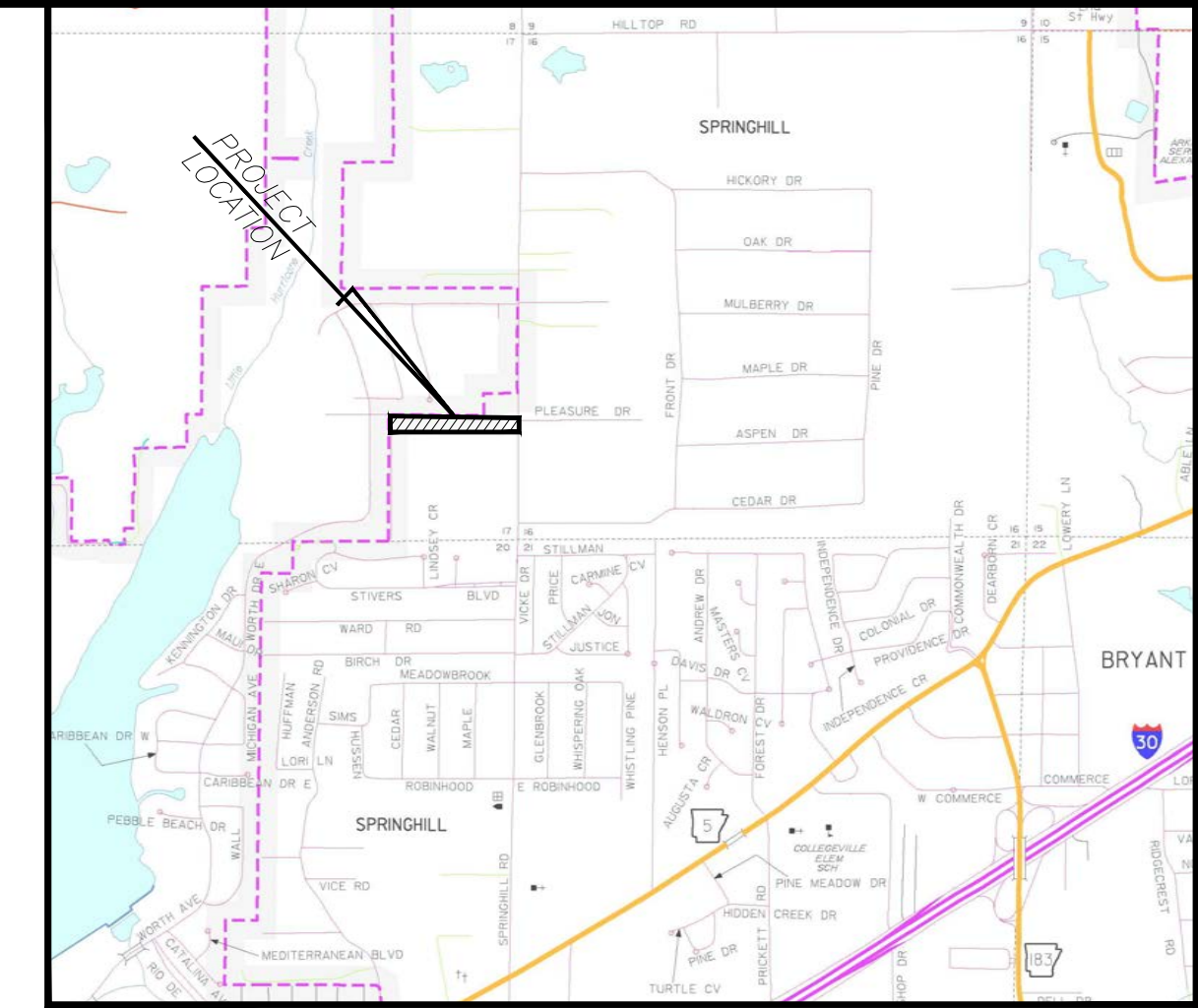
Prepared For:  
 Springhill Hwy 5  
 Development, LLC  
 816 E. Oak Street  
 Conway, Arkansas 72032

By	
Date	
Revisions	
No.	

Date:	SEPTEMBER 20, 2024
Project No.:	24-018
Title:	03-Hillcrest Culvert
Scale:	1" = 50'
Drawn By:	B. Judd
Sheet:	3 of 10

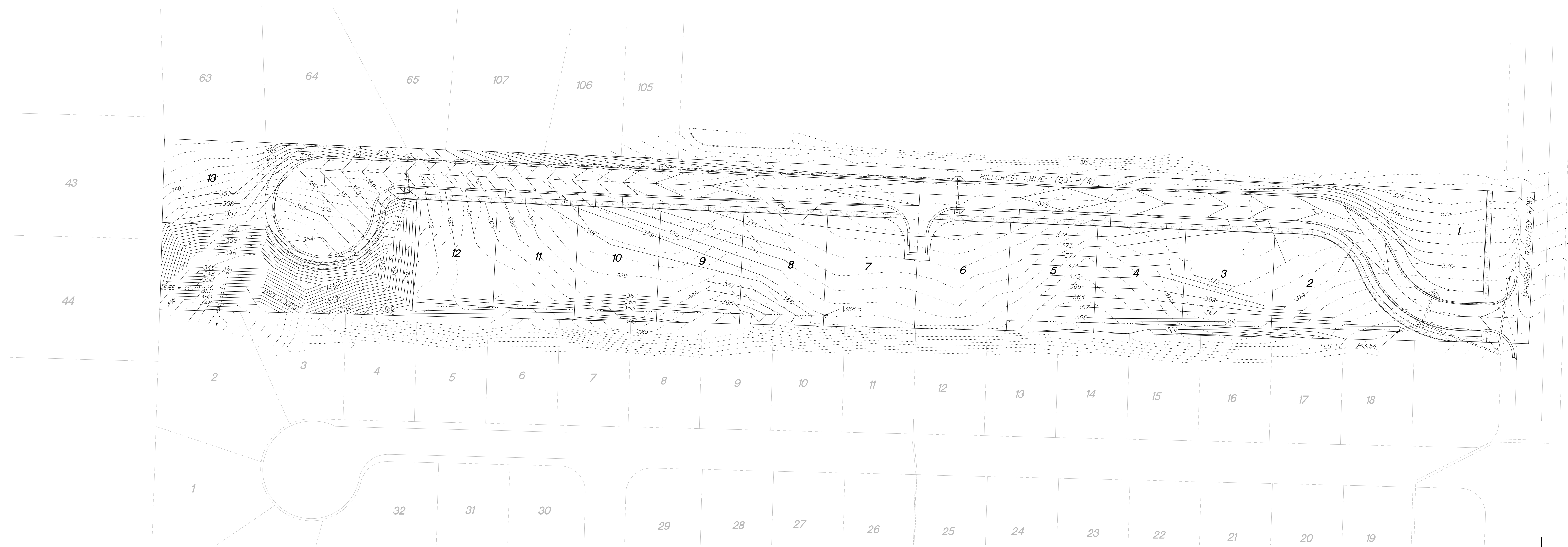
GENERAL NOTES:

- 1.) ALL CONSTRUCTION AND MATERIALS TO BE VERIFIED BY A GEOTECHNICAL CONSULTANT PRIOR TO CONSTRUCTION.
- 2.) CONTRACTOR SHALL NOTIFY ENGINEER IF SIGNIFICANT CHANGES ARE MADE TO GRADING PLAN.
- 3.) ALL MATERIAL TO BE COMPACTED TO 95% STANDARD PROCTOR, INSTALLED IN 6" - 8" LIFTS, OR AS DIRECTED BY GEOTECHNICAL CONSULTANT.
- 4.) CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE.
- 5.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.).
- 6.) CONTRACTOR SHALL NOT DISTURB ANY MORE GROUND THAN IS NECESSARY FOR THE INSTALLATION OF IMPROVEMENTS & GRADING WORK.
- 7.) CONTRACTOR SHALL GRADE YARDS TO ENSURE THAT GROUND SLOPES AWAY FROM ALL BUILDINGS IN ALL DIRECTIONS.



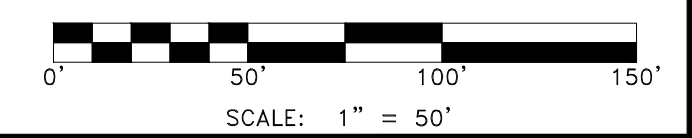
VICINITY MAP  
SCALE: 1" = 2000'

LEMONS ENGINEERING CONSULTANTS, INC.  
REGISTERED PROFESSIONAL ENGINEERS  
STATE OF ARKANSAS REG. NO. 2023  
(501) 843-5081 • Fax (501) 941-0959  
ENGINEERING + SURVEYING  
WATER • SEWER • TRANSPORTATION • SUBDIVISIONS



LEGEND:

- 350--- EXISTING CONTOUR
- 350— PROPOSED CONTOUR



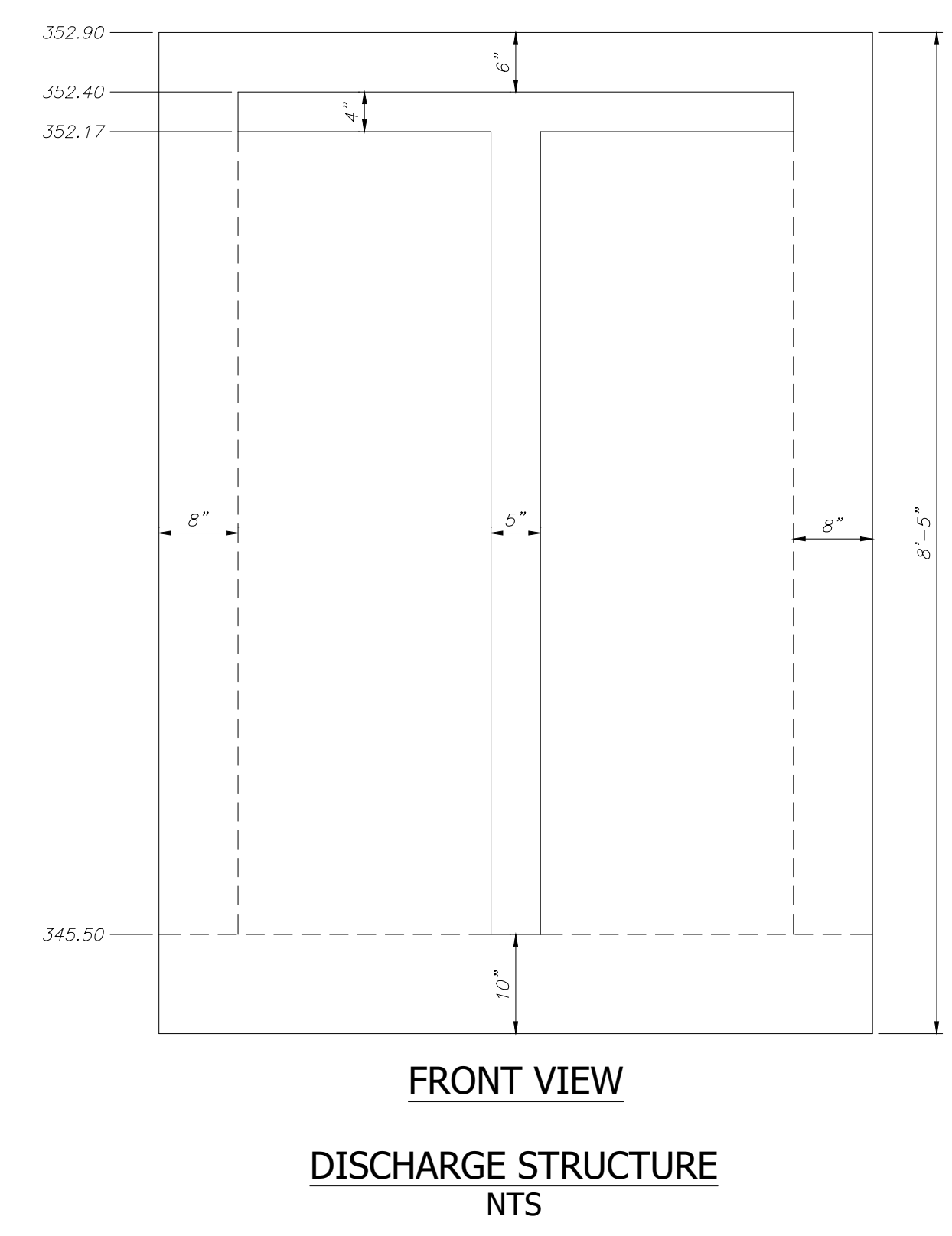
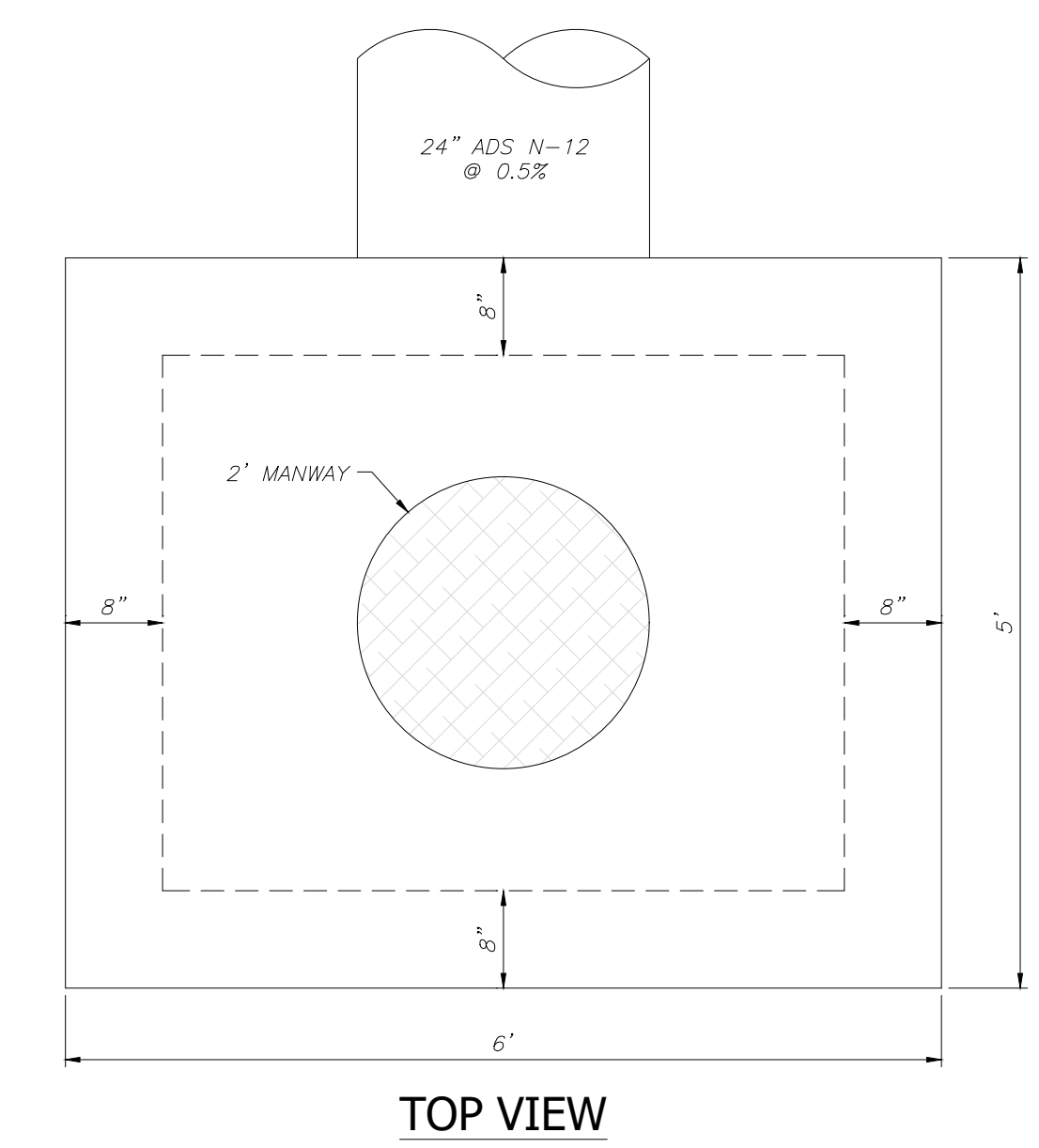
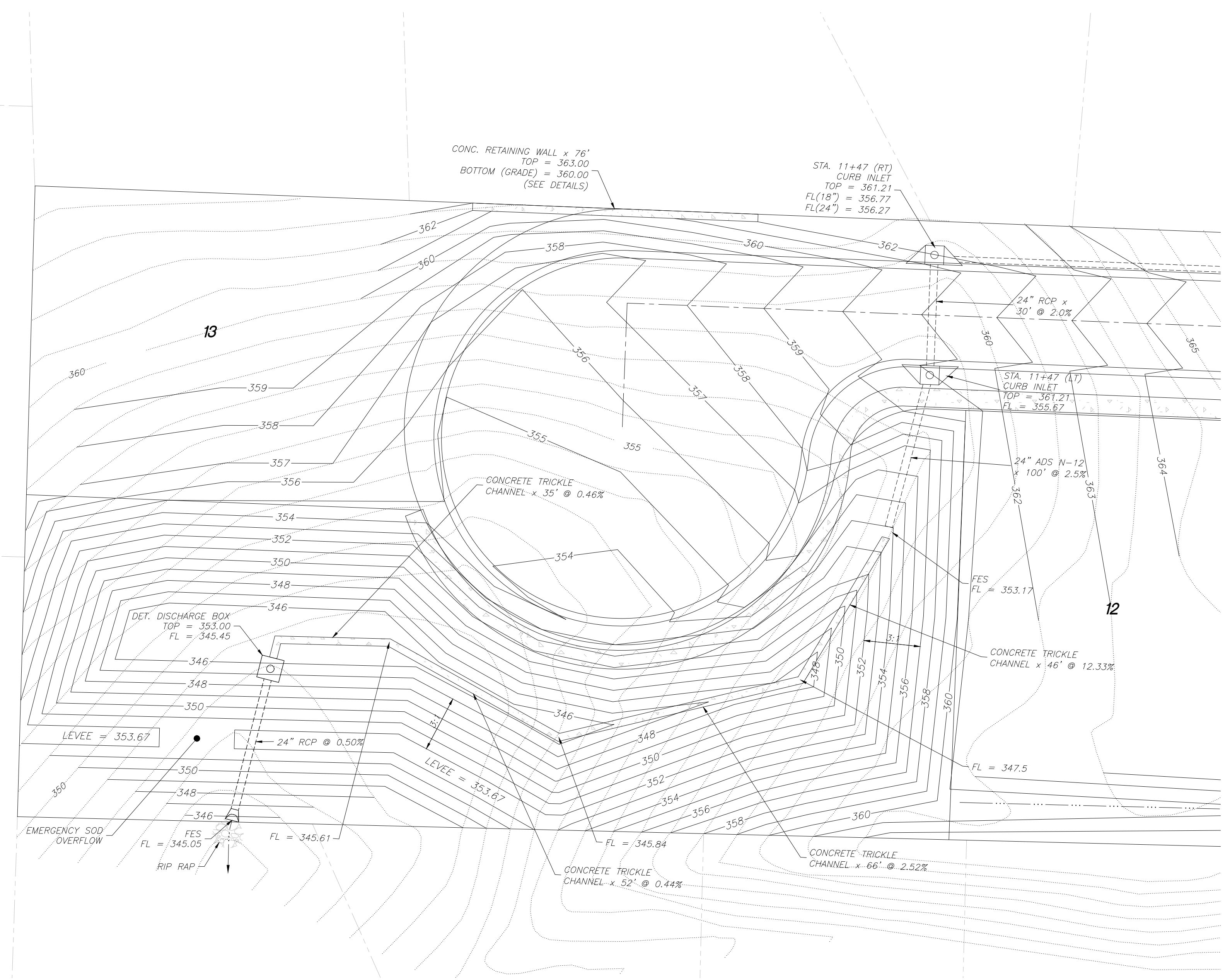
GRADING PLAN  
HILLCREST ADDITION  
PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Prepared For:  
Springhill Hwy 5  
Development, LLC  
816 E. Oak Street  
Conway, Arkansas 72032

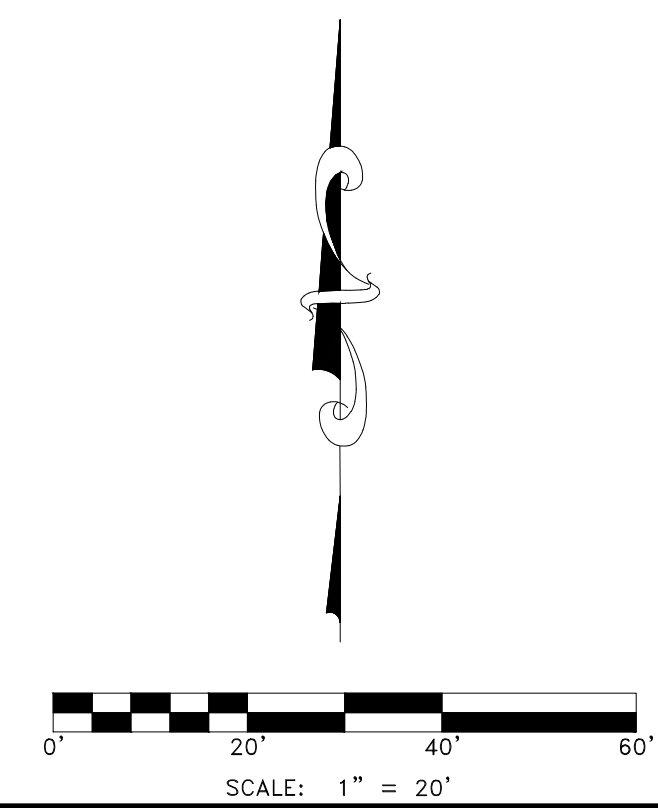
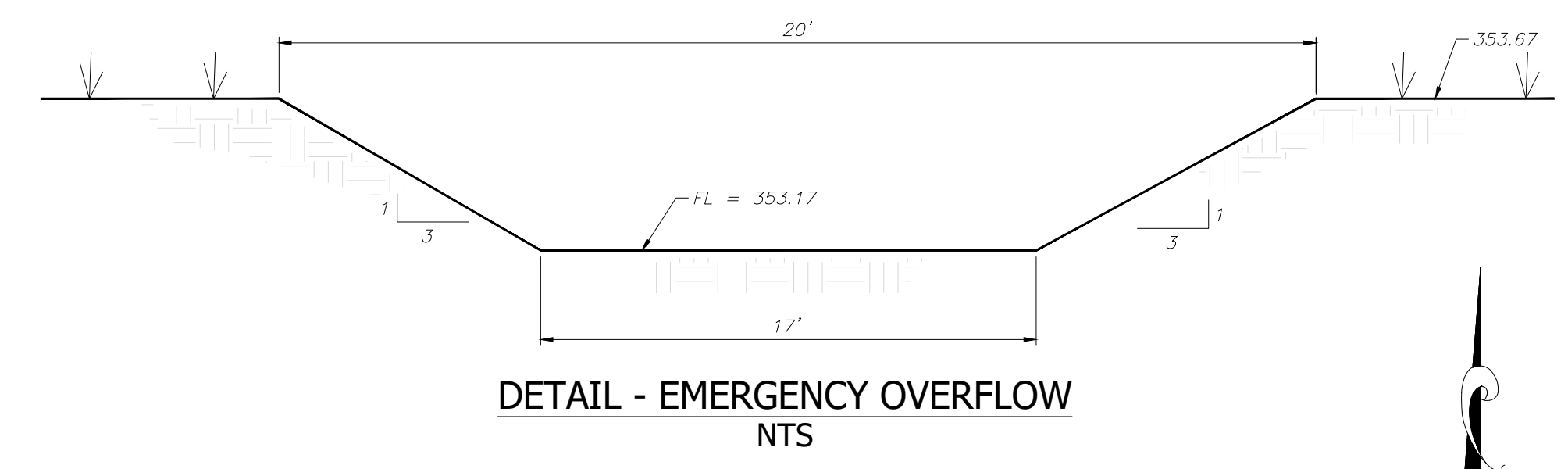
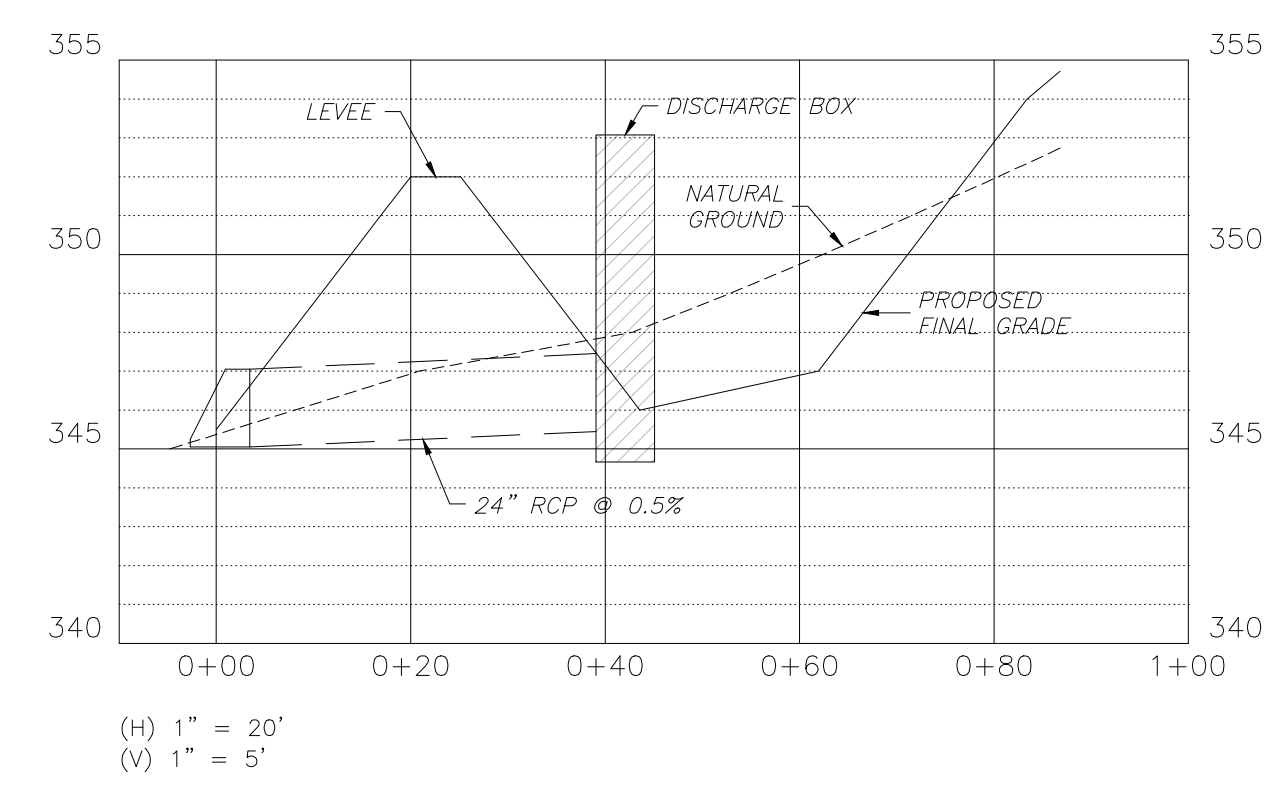
Project No. 24-018	Date JULY 9, 2024	Revised 1	By B. Judd
Title 04-Hilcrest Grading	Scale 1" = 50'	Revised as per city's comments.	Drawn By B. Judd
Sheet 4	of 10		

Project No.	24-018	Date:	JULY 9, 2024
Title	05-Hillcrest Pond	Scale:	1" = 20'
Sheet	5 of 10	Drawn By:	B. Judd
No.	1	Revisions	
2	2	Added cross section Revised as per city's comments.	
Date:	7-23-24	By:	B. Judd
	8-20-24		B. Judd

**LEGEND:**  
 --- 350 --- EXISTING CONTOUR  
 --- 350 --- PROPOSED CONTOUR

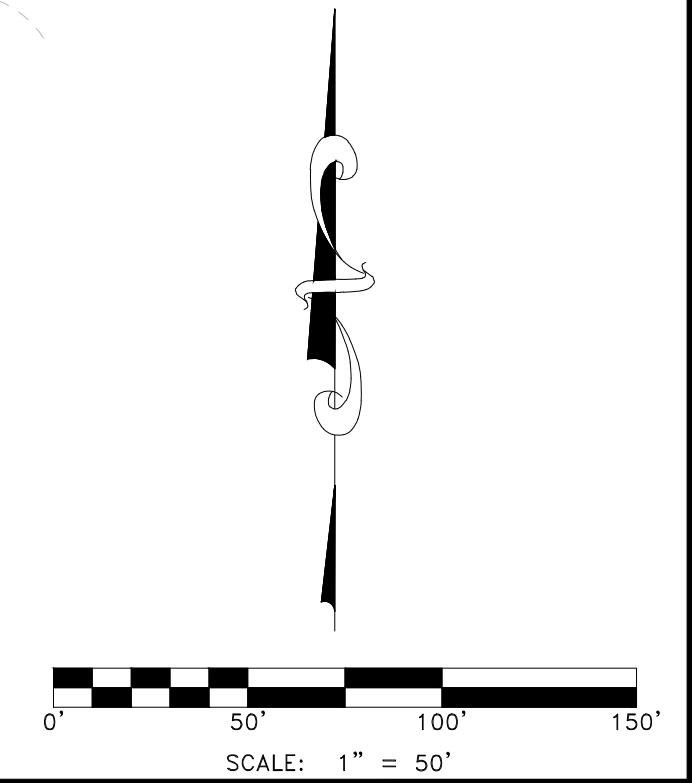
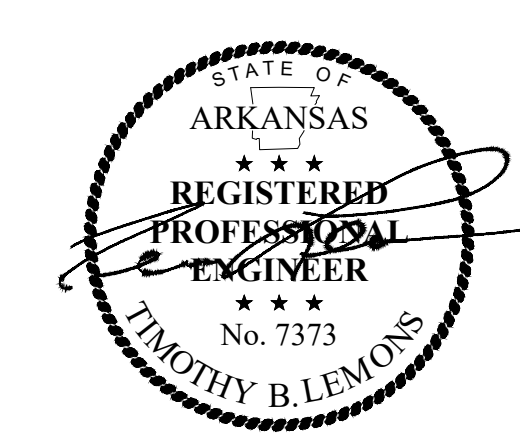
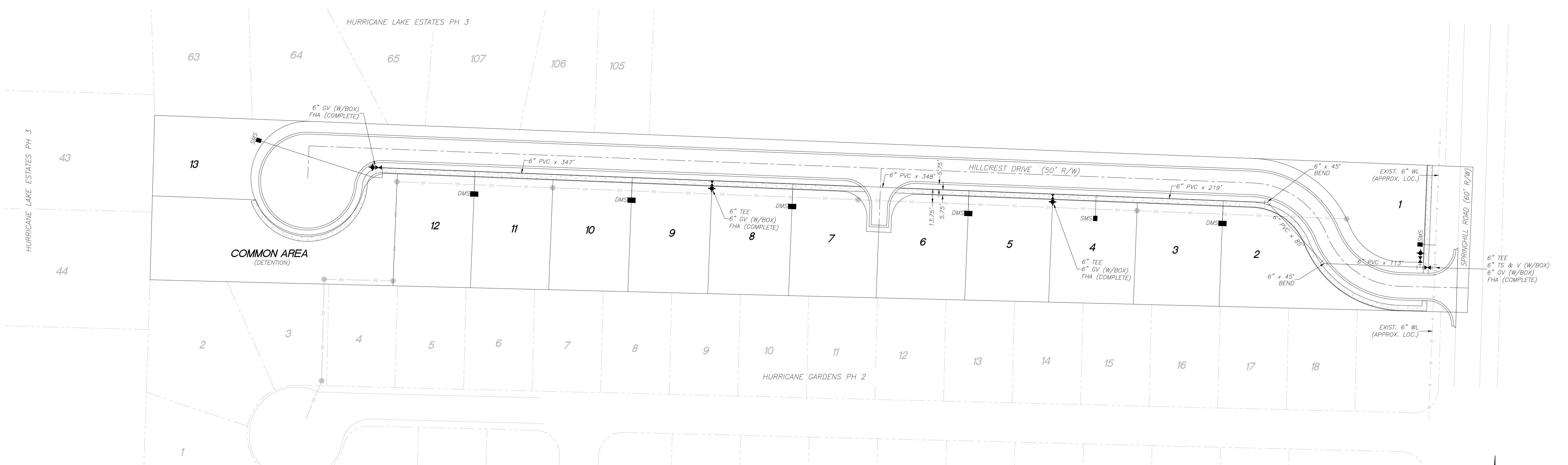


- GENERAL NOTES:**
- 1.) ALL CONSTRUCTION AND MATERIALS TO BE VERIFIED BY A GEOTECHNICAL CONSULTANT PRIOR TO CONSTRUCTION.
  - 2.) CONTRACTOR SHALL NOTIFY ENGINEER IF SIGNIFICANT CHANGES ARE MADE TO GRADING PLAN.
  - 3.) ALL MATERIAL TO BE COMPACTED TO 95% STANDARD PROCTOR, INSTALLED IN 6" - 8" LIFTS, OR AS DIRECTED BY GEOTECHNICAL CONSULTANT.
  - 4.) CONTRACTOR SHALL PROVIDE TEMPORARY EROSION CONTROL MEASURES UNTIL CONSTRUCTION IS COMPLETE.
  - 5.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.).
  - 6.) CONTRACTOR SHALL NOT DISTURB ANY MORE GROUND THAN IS NECESSARY FOR THE INSTALLATION OF IMPROVEMENTS & GRADING WORK.
  - 7.) ALL LEVEES ASSOCIATED WITH DETENTION FACILITY SHALL NOT HAVE A SLOPE GREATER THAN 3:1.
  - 8.) ALL AREAS OF DETENTION FACILITY SHALL INCLUDE SOLID SOD STABILIZATION.



GENERAL NOTES:

- 1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED SALEM WATER SPECIFICATIONS.
- 2.) INSTALL 12ga BLUE POLYETHYLENE COATED SOLID COPPER WIRE IN A CONTINUOUS CIRCUIT UNDER ALL WATER MAINS AND SERVICE LINES. DIRECT BURY, WATERPROOF WIRE SPLICE CONNECTORS SHALL BE USED. TRACER WIRE SHALL BE TURNED UP AT ALL VALVES, HYDRANTS, METERS, AND BLOW-OFFS.
- 3.) ALL FITTINGS SHALL BE DUCTILE IRON M.J. (WHERE AVAILABLE).
- 4.) ATTENTION IS CALLED TO DETAILS FOR ADDITIONAL INFORMATION.
- 5.) CONSTRUCTION SHALL COMPLY WITH SECTION XIV.A -ADH RULES PERTAINING TO PUBLIC WATER SYSTEMS THAT STATES: "THE OPERATING ROUTINE SHALL INCLUDE NECESSARY PROTECTIVE MEASURES TO DETECT AND REMOVE OR DESTROY ANY CONTAMINANT OF CONCERN OR REGULATION THAT MIGHT ENTER THE DISTRIBUTION SYSTEM. EVERY PRECAUTION MUST BE TAKEN AGAINST THE POSSIBILITY OF SEWAGE CONTAMINATION OF THE WATER IN THE DISTRIBUTION SYSTEM. WATER MAINS AND SANITARY SEWERS SHALL BE CONSTRUCTED AS FAR APART AS PRACTICABLE, AND SHALL BE SEPARATED BY UNDISTURBED AND COMPACTED EARTH. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER LINES OR OTHER SOURCES OF CONTAMINATION. WATER LINES AND SEWERS SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ARKANSAS DEPARTMENT OF HEALTH. WATER MAINS NECESSARILY IN CLOSE PROXIMITY TO SEWERS MUST BE PLACED SO THAT THE BOTTOM OF THE WATER LINE WILL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE AT ITS HIGHEST POINT. IF THIS DISTANCE MUST UNAVOIDABLY BE REDUCED, THE WATER LINE OR THE SEWER LINE MUST BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATERTIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING. ANY JOINT IN THE ENCASEMENT PIPE IS TO BE MECHANICALLY RESTRAINED. THE ENCASEMENT PIPE MAY BE VENTED TO THE SURFACE IF CARRYING WATER OR SEWER UNDER PRESSURE. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH THE SEWER LINE, AT LEAST 18 INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT. EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH. A MINIMUM HORIZONTAL DISTANCE OF THREE FEET SHALL BE MAINTAINED BETWEEN WATER LINES AND OTHER UNDERGROUND UTILITIES OF A NONSANITARY NATURE (GAS, ELECTRIC, ETC.). EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH.
- 6.) CONTRACTOR SHALL ADHERE TO CURRENT OSHA REGULATIONS FOR EXCAVATION & TRENCH SAFETY.
- 7.) CONTRACTOR TO ADHERE TO AWWA SPECS FOR BLOCKING.
- 8.) CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO CONSTRUCTION.
- 9.) CONTRACTOR SHALL CONTACT WATER & WASTEWATER UTILITIES FOR ALL APPLICABLE INSPECTION & TESTING.
- 10.) CONTRACTOR SHALL CONTACT WATER & WASTEWATER UTILITIES AT LEAST 24 HOURS PRIOR TO DISRUPTION OF ANY SERVICE.
- 11.) ALL MATERIALS AND COMPONENTS INSTALLED IN DRINKING WATER SYSTEMS ARE REQUIRED TO COMPLY WITH THE FEDERAL DEFINITION OF "LEAD FREE" CONTAINED IN PUBLIC LAW 111-380.

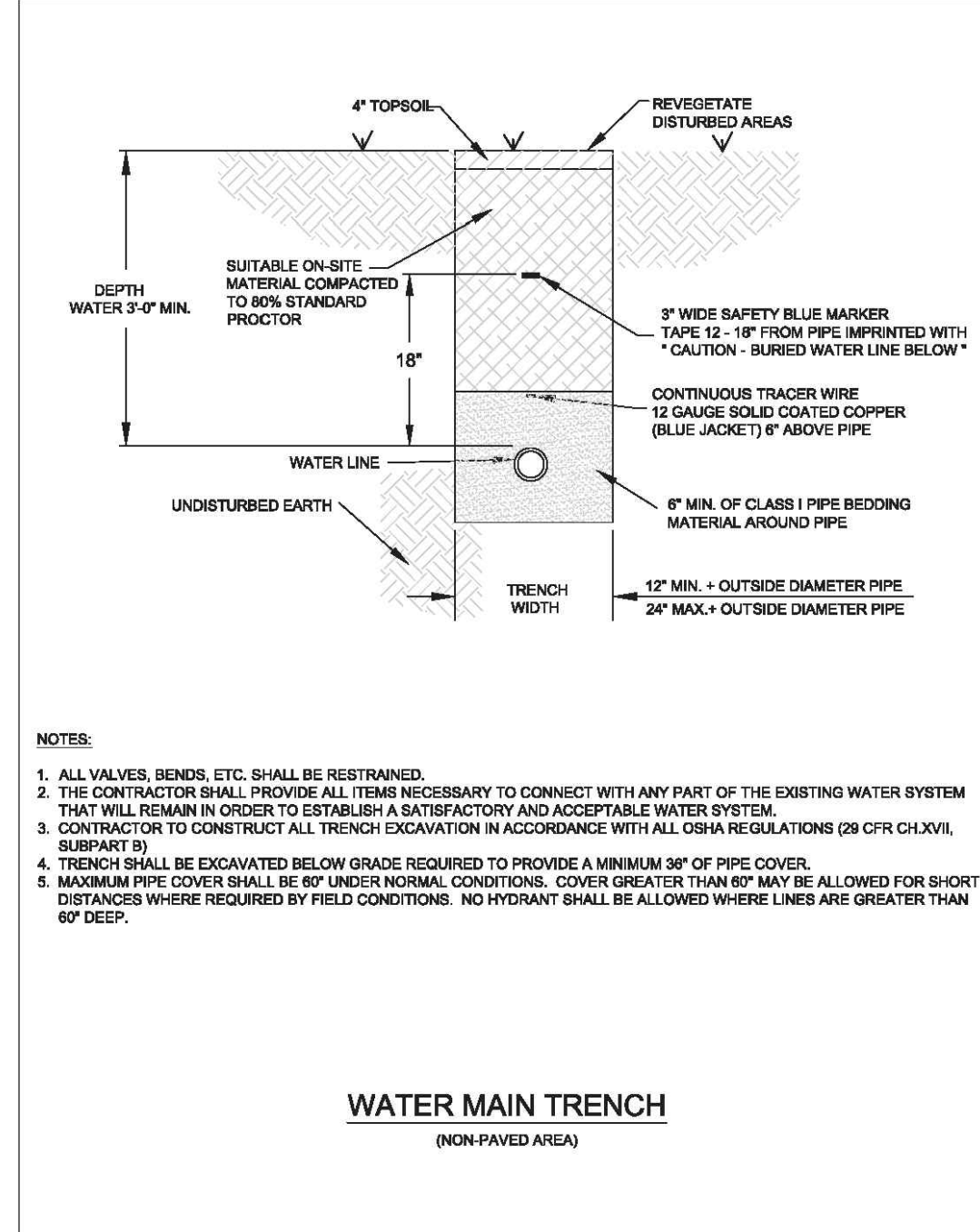


**LEMONS ENGINEERING CONSULTANTS, INC.**  
 1000 N. WILSON ST., SUITE 200  
 CONWAY, ARKANSAS 72032  
 (501) 843-5081 • Fax (501) 941-0959  
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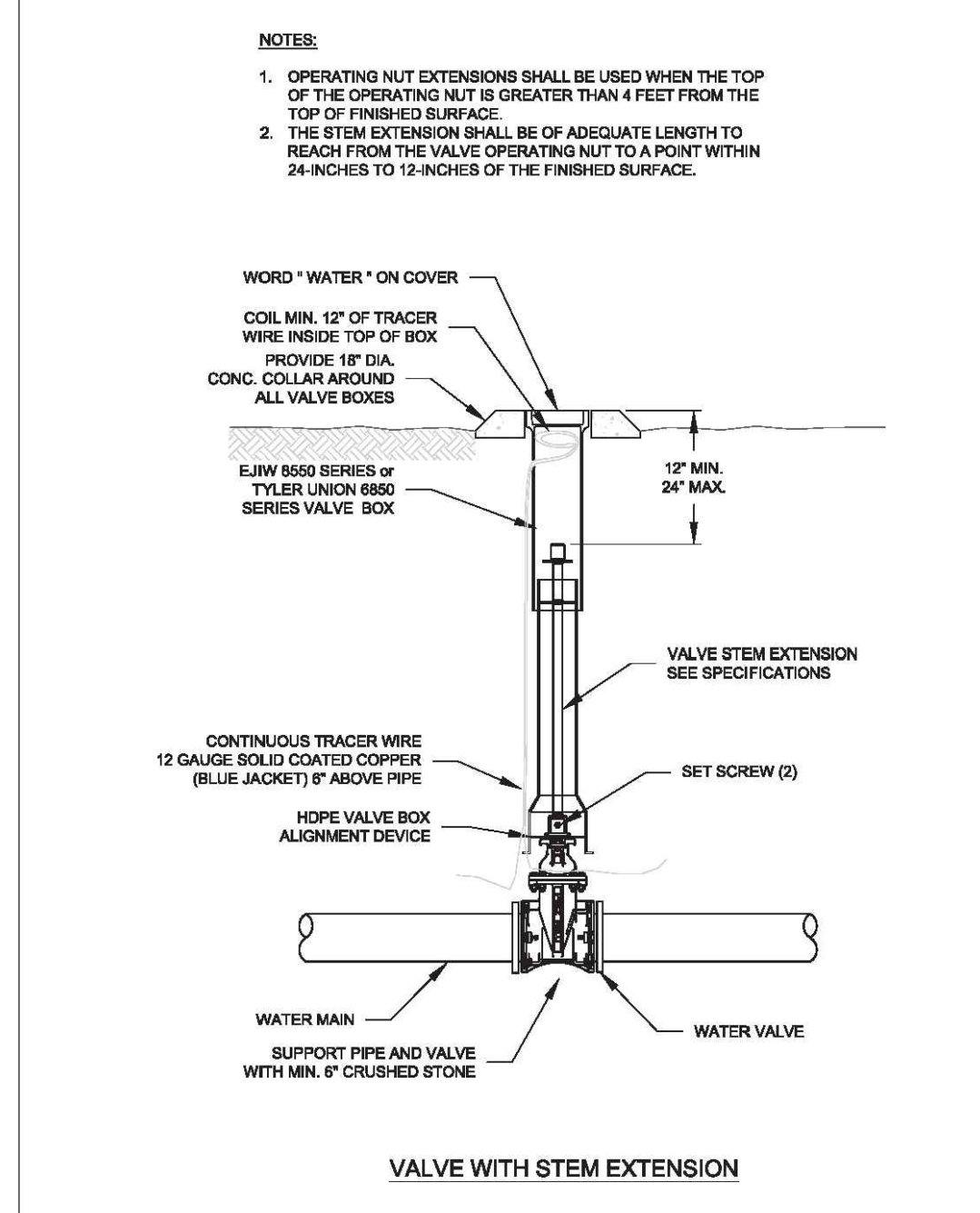
**WATER LAYOUT**  
**HILLCREST ADDITION**  
 PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Prepared For:  
 Springhill Hwy 5  
 Development, LLC  
 816 E. Oak Street  
 Conway, Arkansas 72032

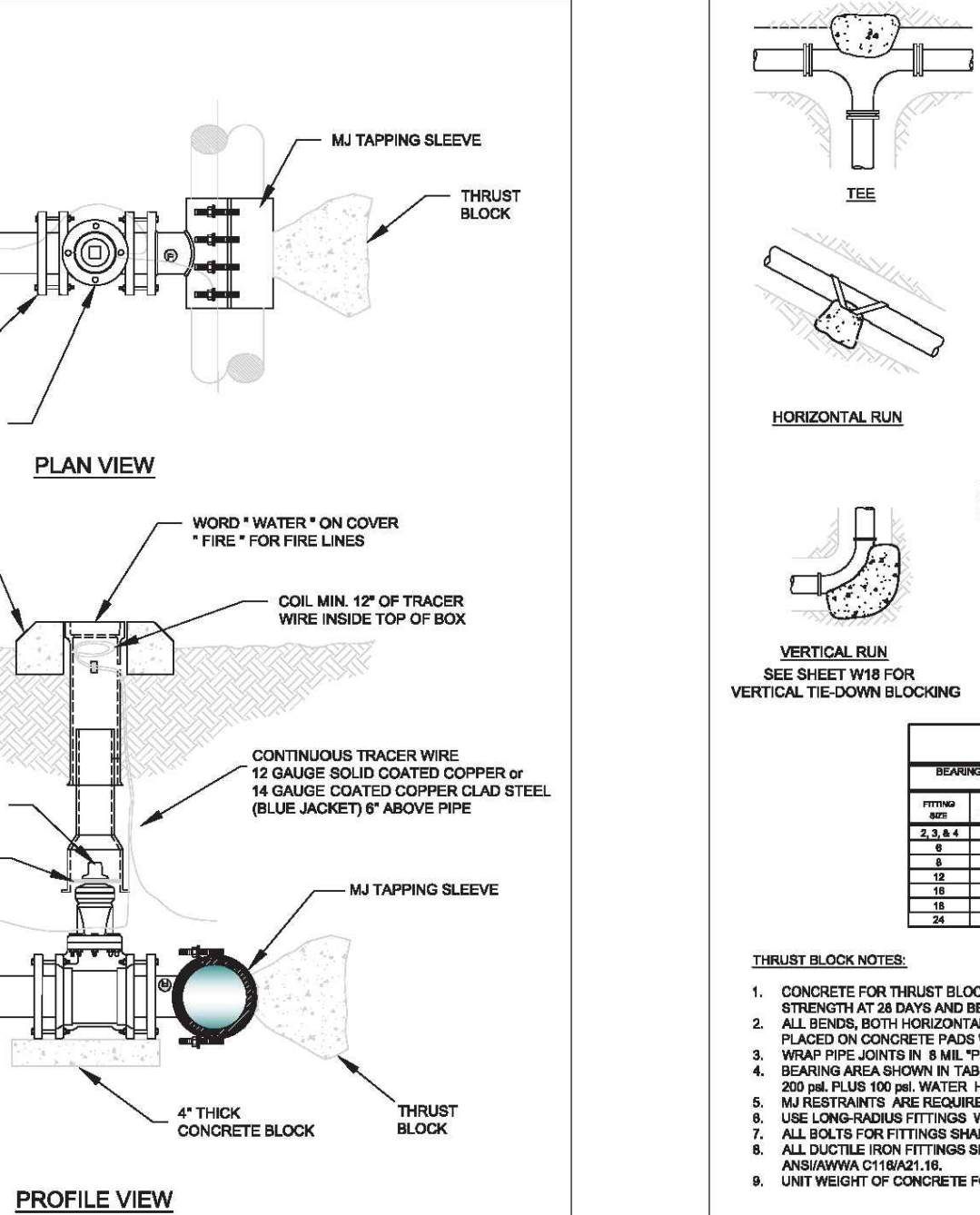
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Date	JULY 9, 2024
Scale	1" = 50'
Drawn By	B. Judd
Sheet	6 of 10
Revised	Revised as per city's comments.
Date	12-20-24
By	B. Judd



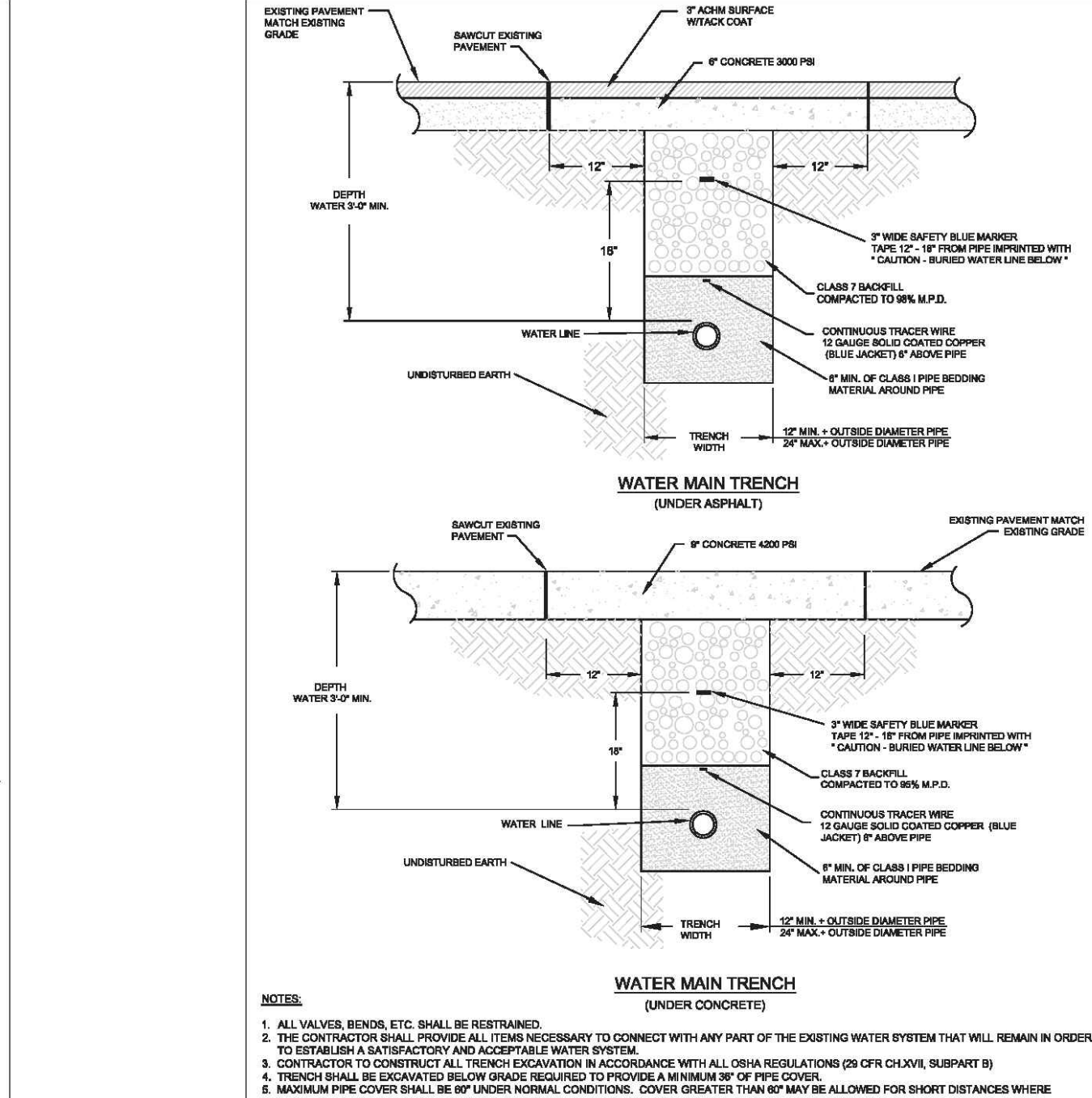
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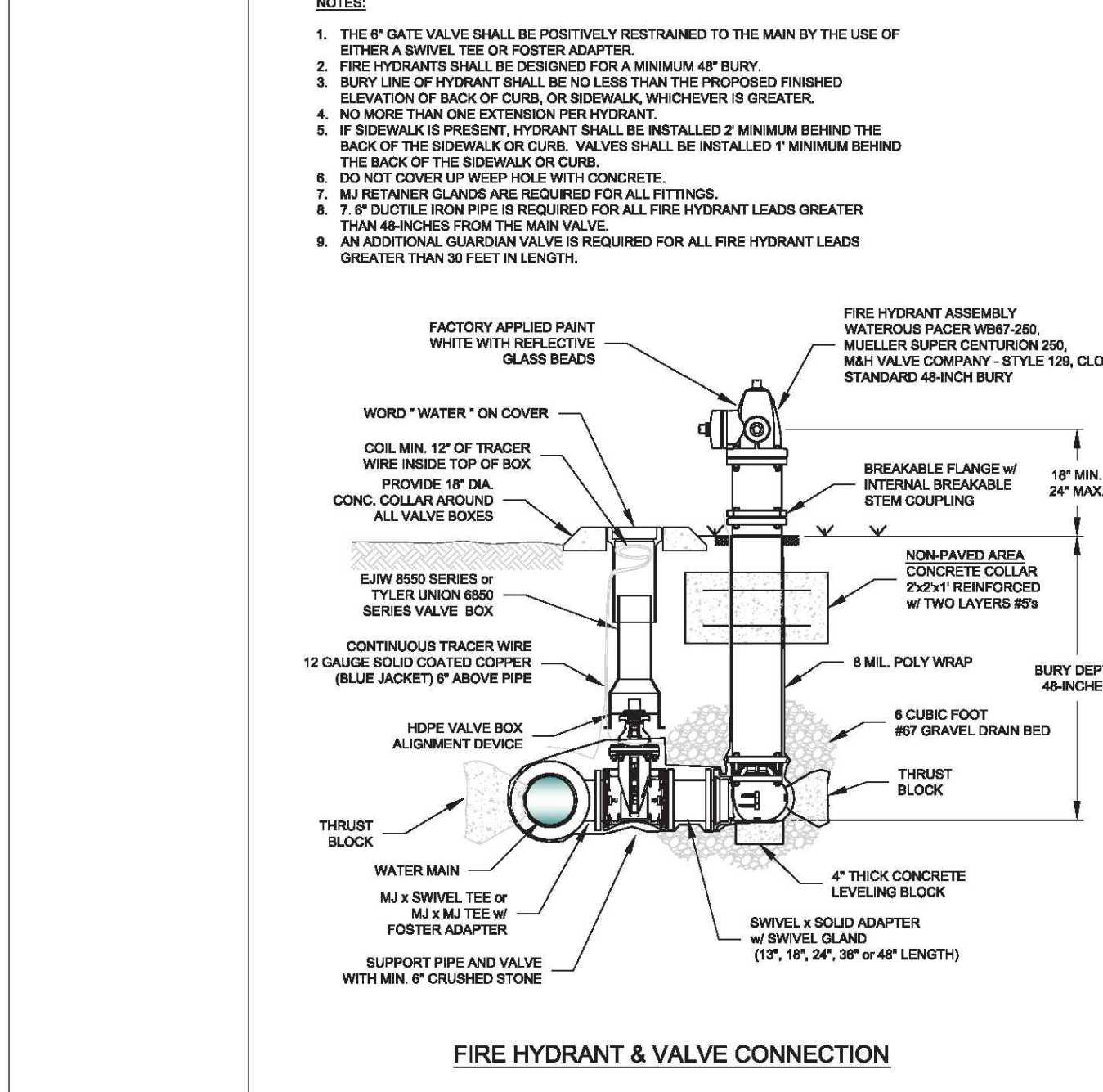
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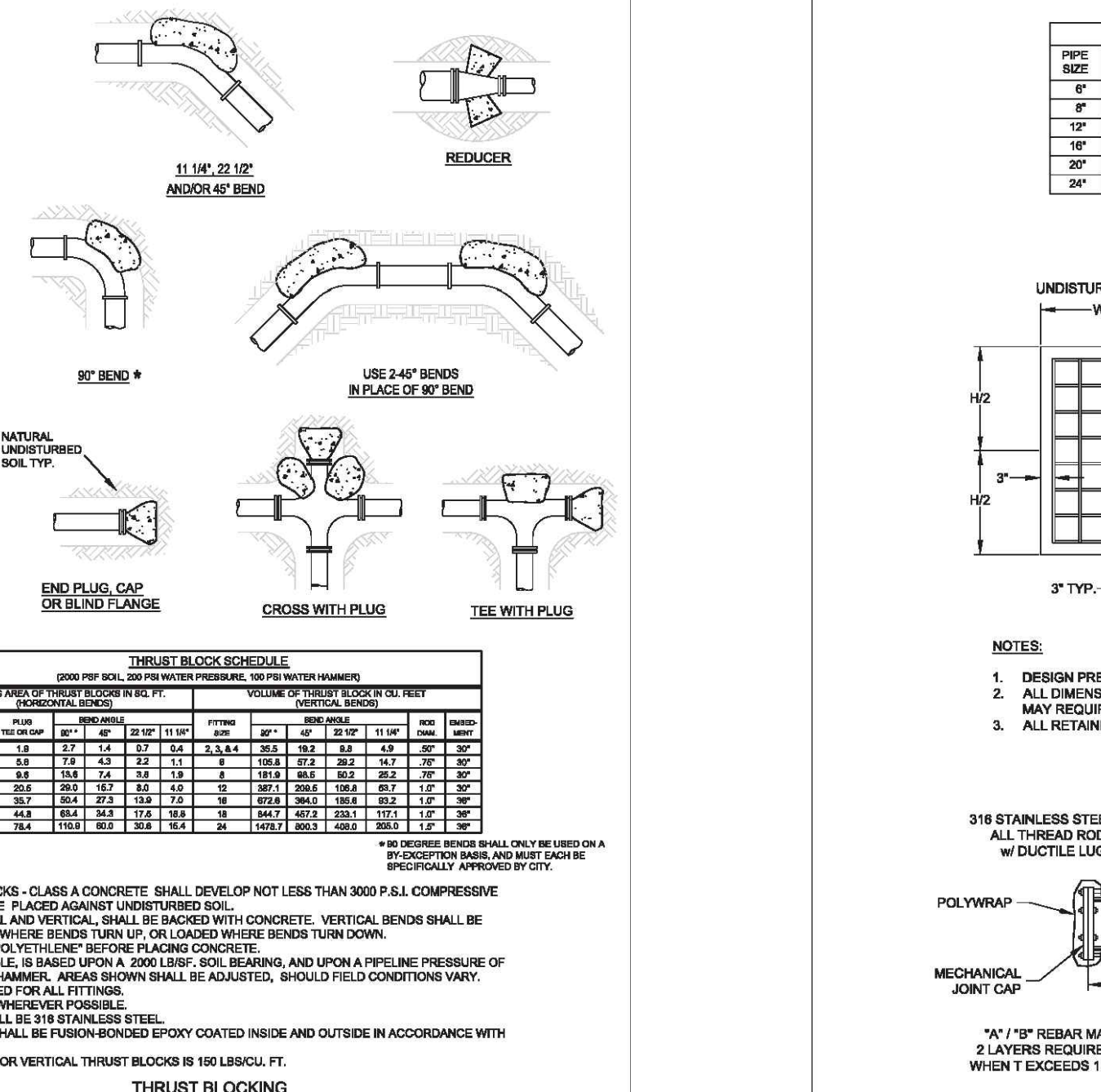
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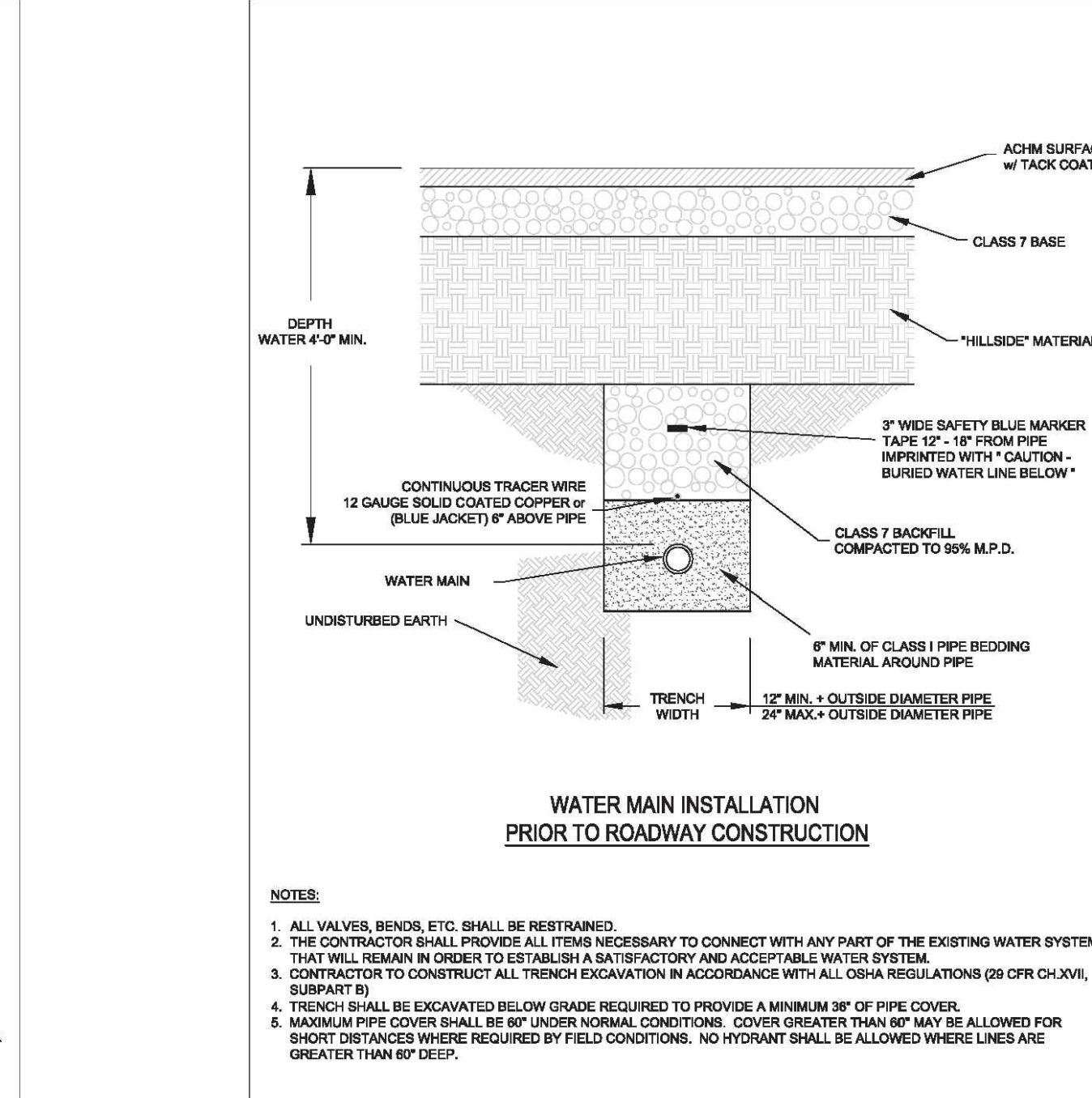
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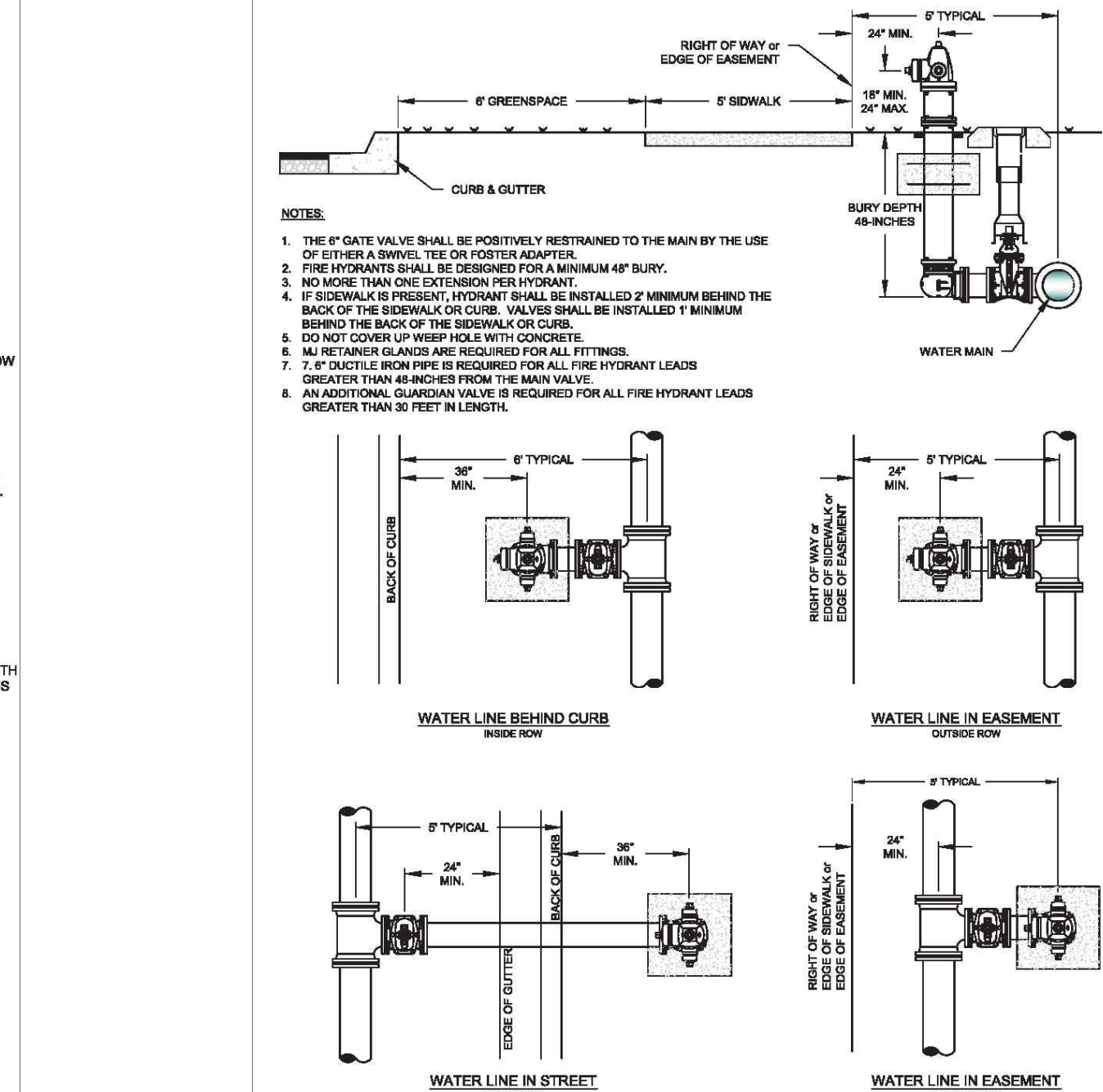
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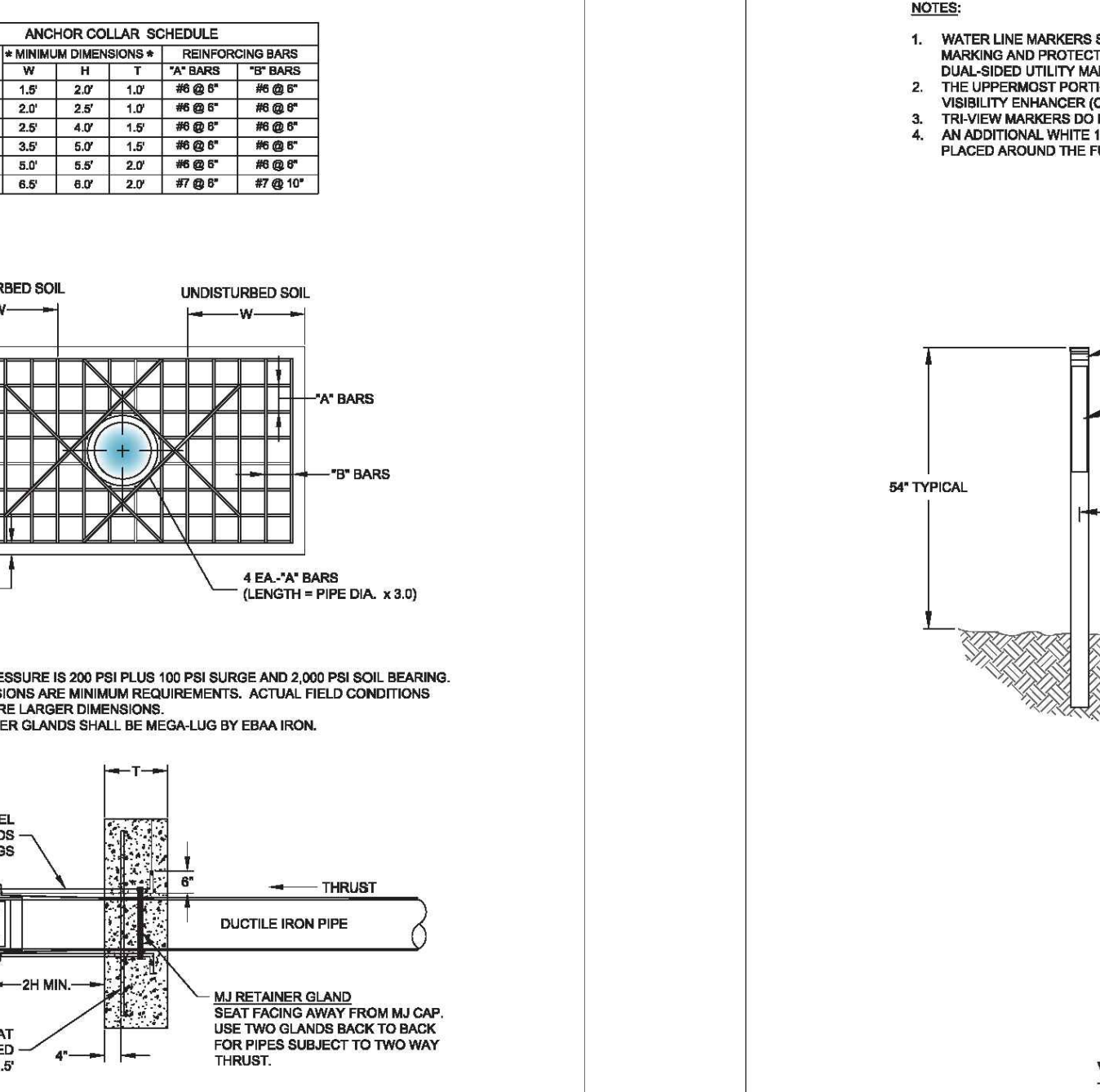
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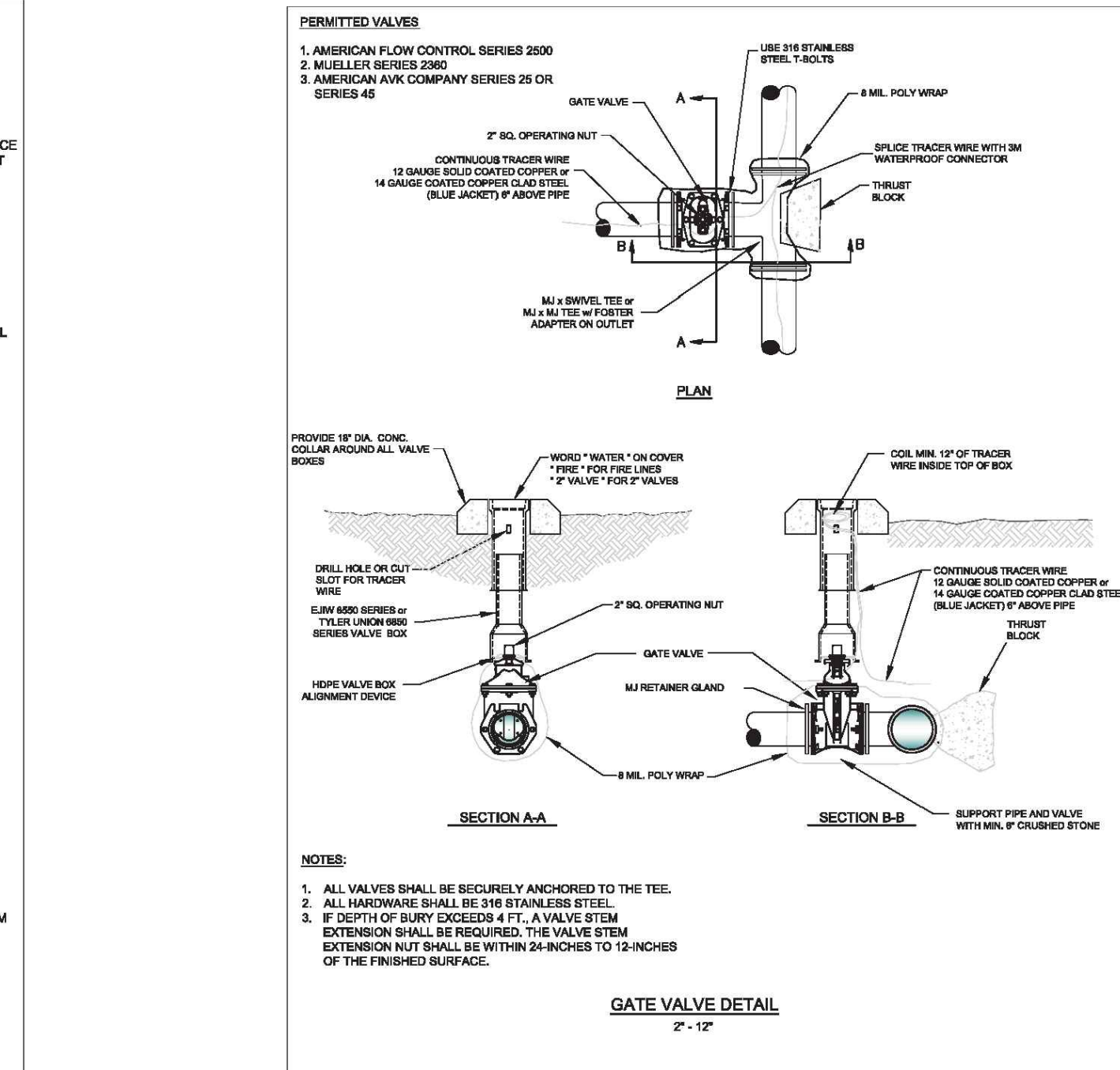
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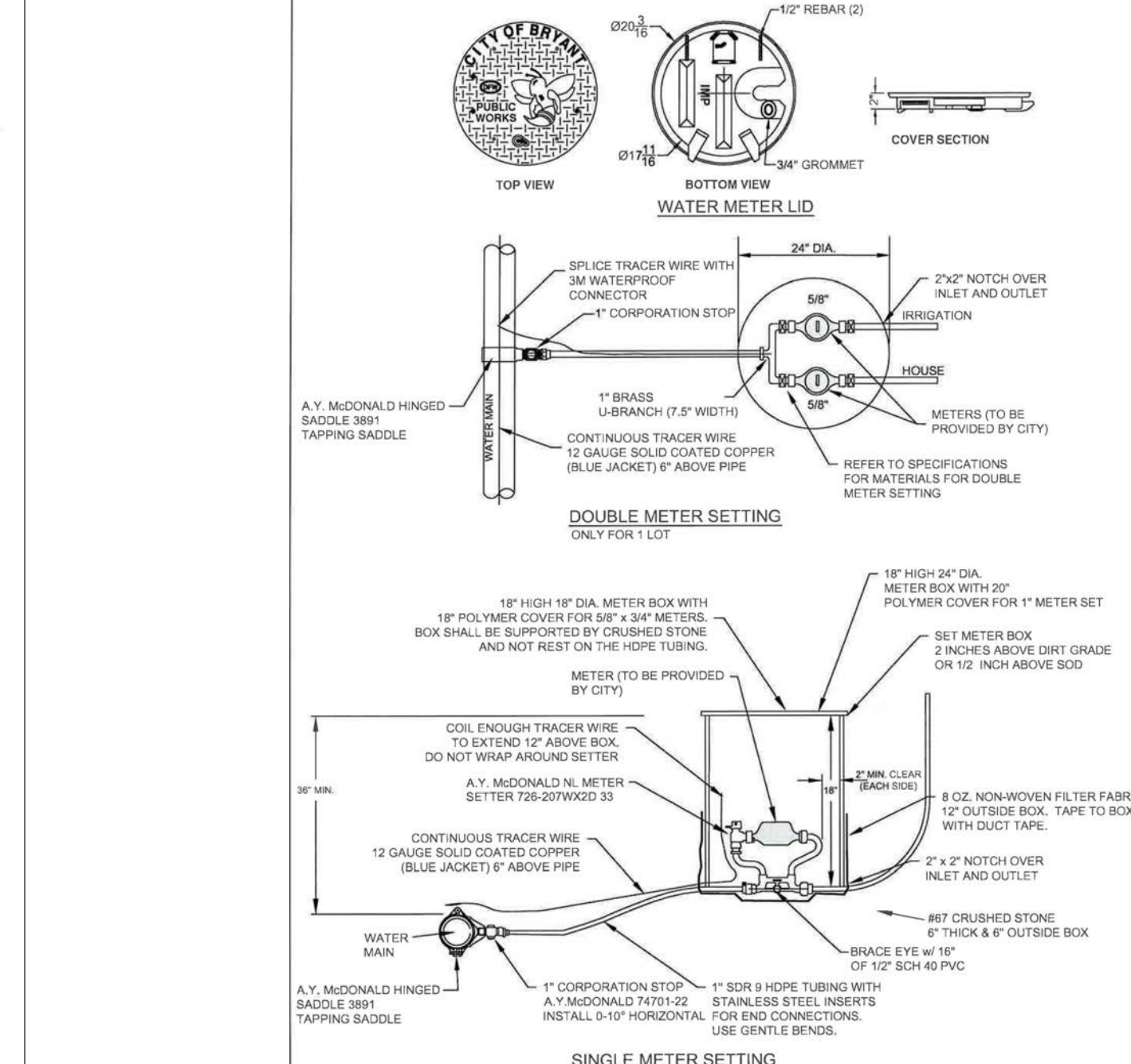
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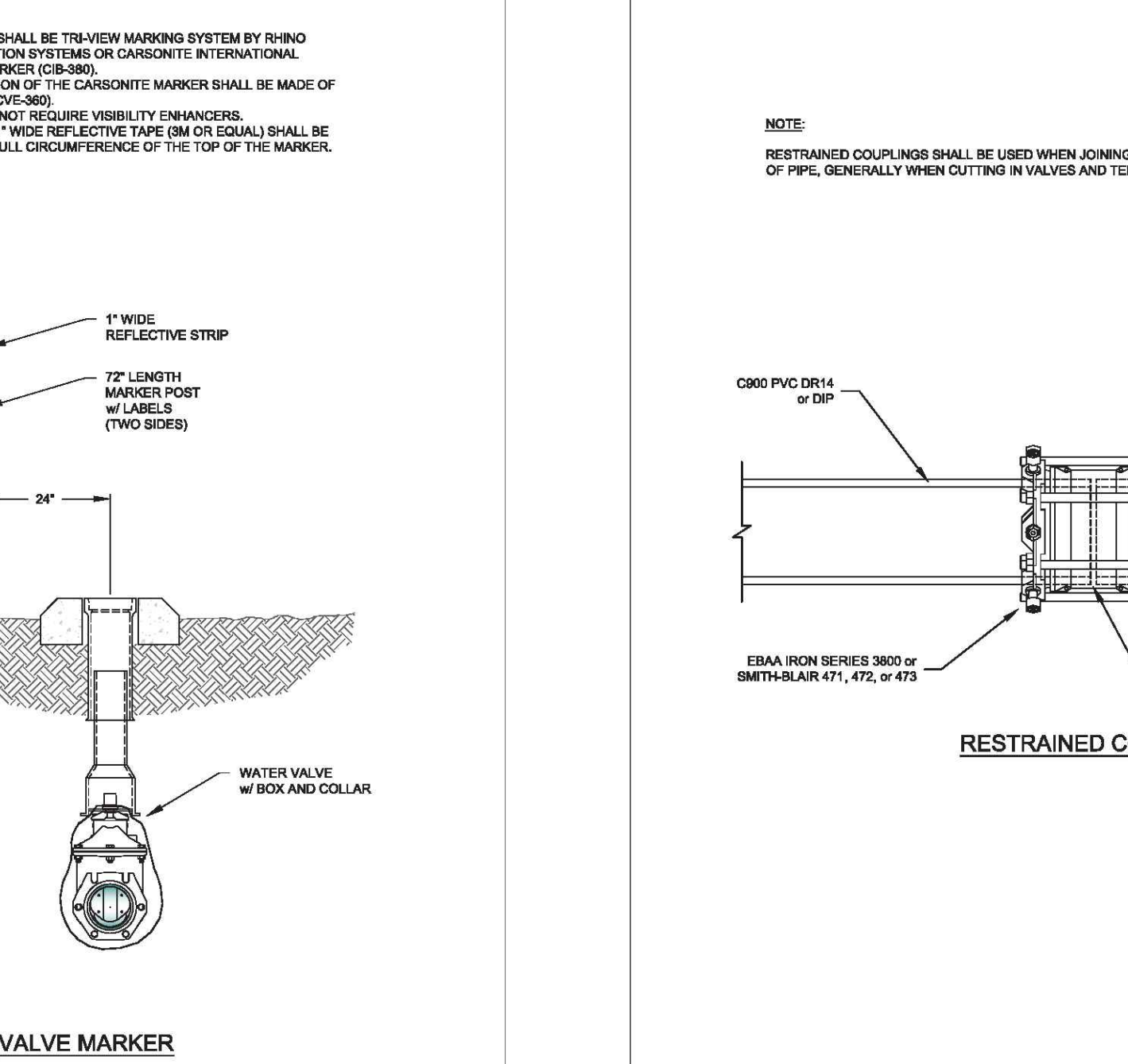
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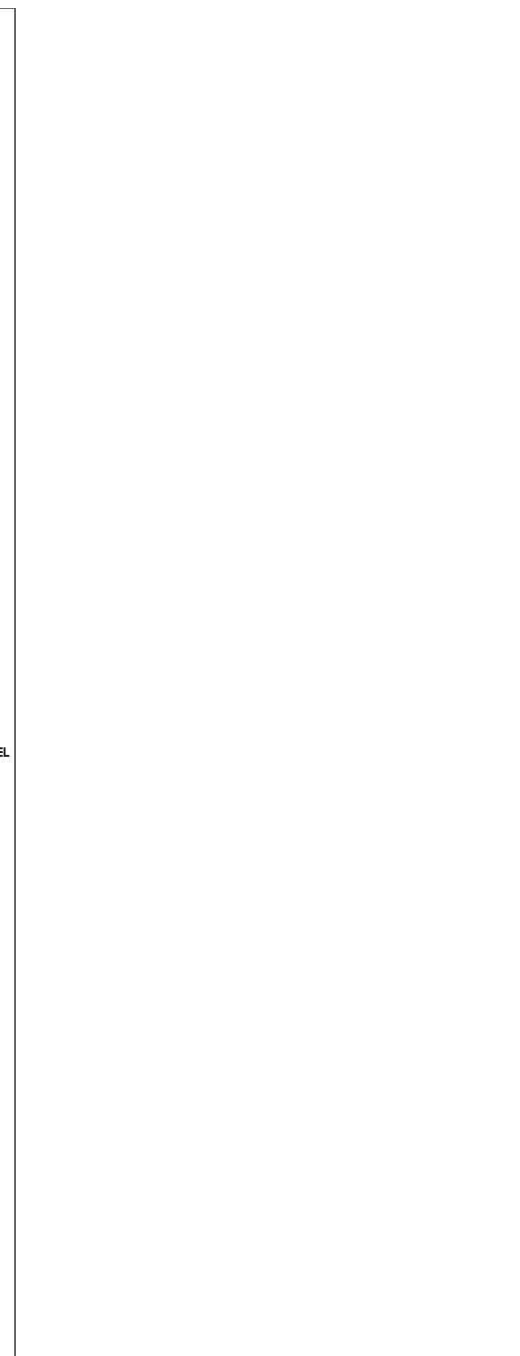
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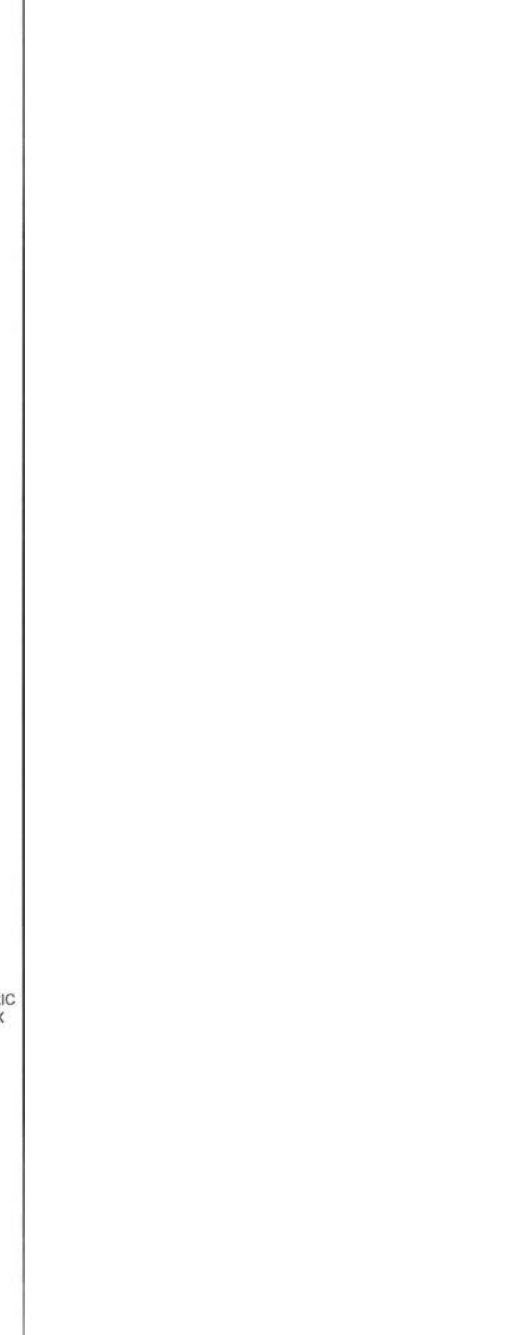
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DATE	APP. BY	SHEET
		<b>W22</b>



DATE	APP. BY	SHEET
		<b>W26</b>



DATE	APP. BY	SHEET
		<b>W26</b>

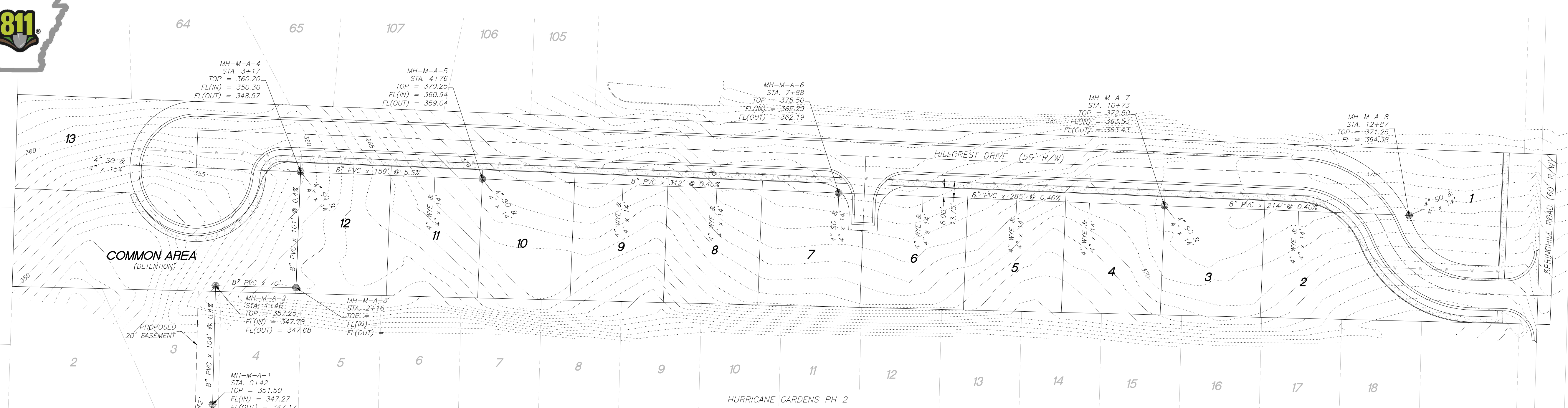
**LEMONS ENGINEERING CONSULTANTS, INC.**  
 204 CHERRY STREET  
 CABOT, ARKANSAS 72023  
 (501) 843-5081 • Fax (501) 941-0959  
**ENGINEERING + SURVEYING**  
 WATER • SEWER • TRANSPORTATION • SUBDIVISIONS

**CONSTRUCTION DETAILS - WATER**  
**HILLCREST ADDITION**  
 PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Springhill Hwy 5  
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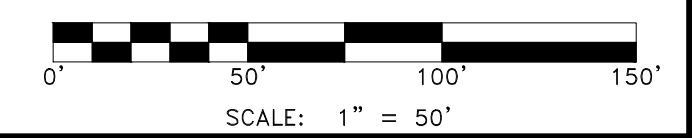
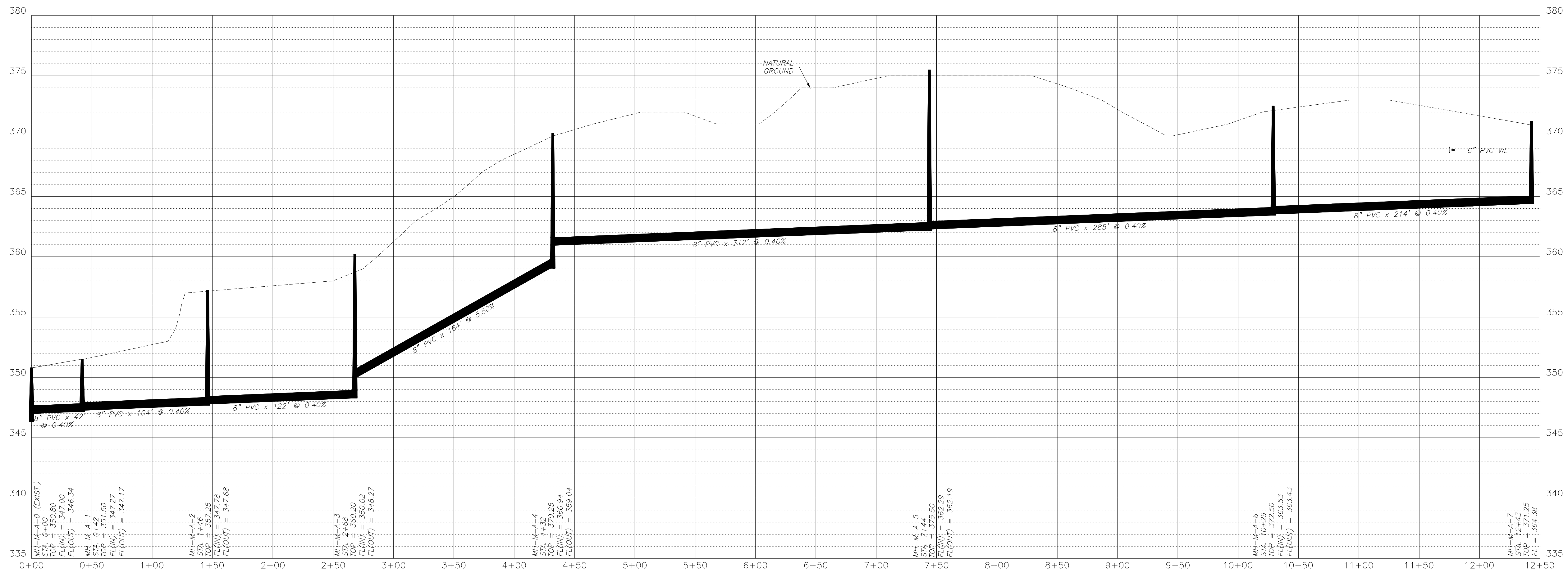
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 Date: July 9, 2024  
 Scale: N.T.S.  
 Drawn By: B. Judd  
 Checked By: [Signature]  
 No. 7 of 10

HURRICANE LAKE ESTATES PH 3



**GENERAL NOTES:**

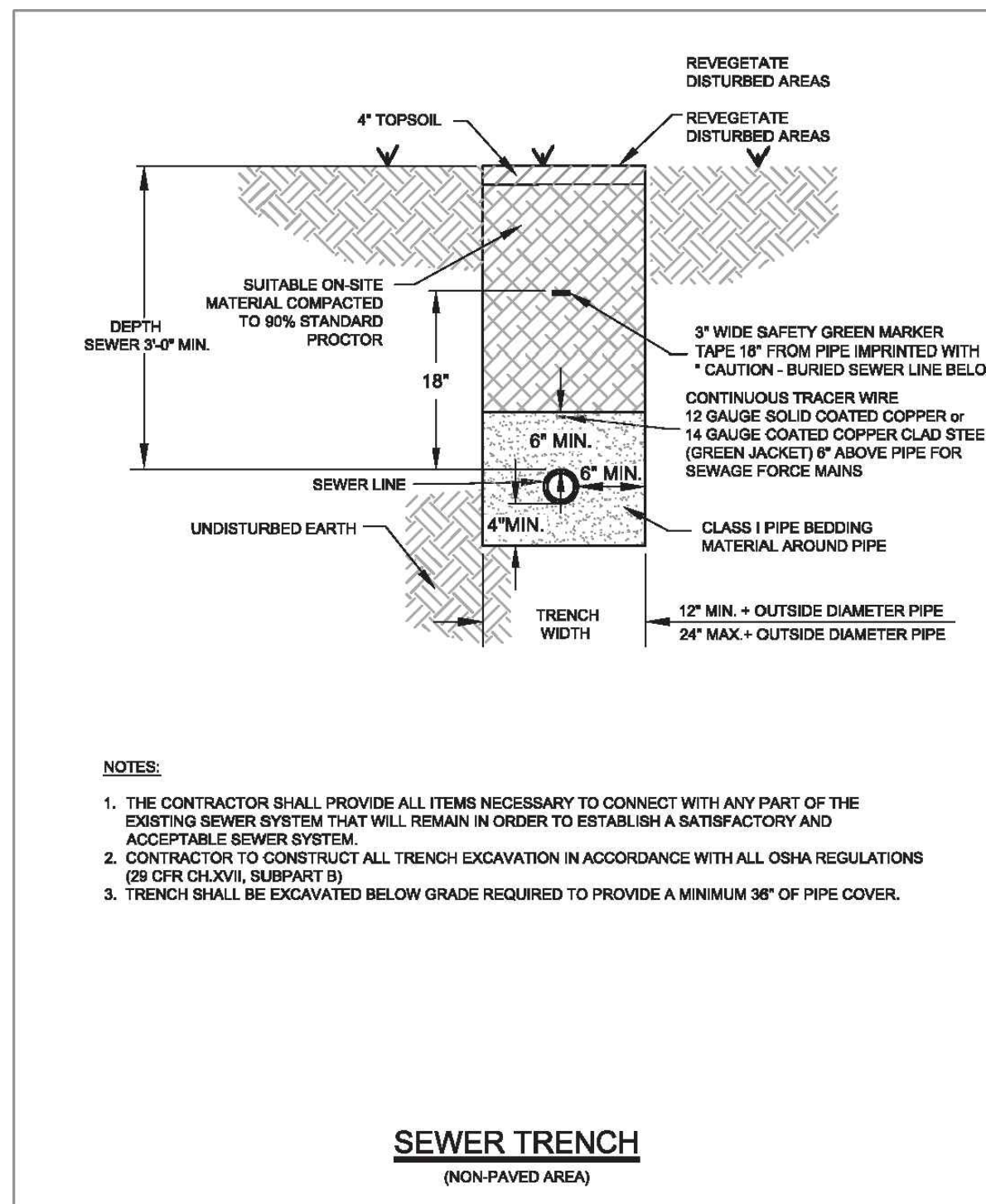
- 1.) ALL CONSTRUCTION AND MATERIALS TO MEET OR EXCEED BRYANT SPECS.
- 2.) CONTRACTOR TO VERIFY METHOD OF CONNECTION WITH THE CITY PRIOR TO CONSTRUCTION.
- 3.) ATTENTION IS CALLED TO CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
- 4.) ALL UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION (ONE CALL, CITY, ETC.)
- 5.) CONSTRUCTION SHALL COMPLY WITH SECTION XIV.A - ADH RULES PERTAINING TO PUBLIC WATER SYSTEMS THAT STATES: "THE OPERATING ROUTINE SHALL INCLUDE NECESSARY PROTECTIVE MEASURES TO DETECT AND REMOVE OR DESTROY ANY CONTAMINANT OF CONCERN OR REGULATION THAT MIGHT ENTER THE DISTRIBUTION SYSTEM. EVERY PRECAUTION MUST BE TAKEN AGAINST THE POSSIBILITY OF SEWAGE CONTAMINATION OF THE WATER IN THE DISTRIBUTION SYSTEM. WATER MAINS AND SANITARY SEWERS SHALL BE CONSTRUCTED AS FAR APART AS PRACTICABLE, AND SHALL BE SEPARATED BY UNDISTURBED AND COMPACTED EARTH. A MINIMUM HORIZONTAL DISTANCE OF TEN FEET SHOULD BE MAINTAINED BETWEEN WATER LINES AND SEWER LINES OR OTHER SOURCES OF CONTAMINATION. WATER LINES AND SEWERS SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ARKANSAS DEPARTMENT OF HEALTH. WATER MAINS NECESSARILY IN CLOSE PROXIMITY TO SEWERS MUST BE PLACED SO THAT THE BOTTOM OF THE WATER LINE WILL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE AT ITS HIGHEST POINT. IF THIS DISTANCE MUST UNAVOIDABLY BE REDUCED, THE WATER LINE OR THE SEWER LINE MUST BE ENCASED IN WATERTIGHT PIPE WITH SEALED WATERTIGHT ENDS EXTENDING AT LEAST TEN FEET EITHER SIDE OF THE CROSSING. ANY JOINT IN THE ENCASEMENT PIPE IS TO BE MECHANICALLY RESTRAINED. THE ENCASEMENT PIPE MAY BE VENTED TO THE SURFACE IF CARRYING WATER OR SEWER UNDER PRESSURE. WHERE A WATER LINE MUST UNAVOIDABLY PASS BENEATH THE SEWER LINE, AT LEAST 18 INCHES OF SEPARATION MUST BE MAINTAINED BETWEEN THE OUTSIDE OF THE TWO PIPES IN ADDITION TO THE PRECEDING ENCASEMENT REQUIREMENT. EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH. A MINIMUM HORIZONTAL DISTANCE OF THREE FEET SHALL BE MAINTAINED BETWEEN WATER LINES AND OTHER UNDERGROUND UTILITIES OF A NONSANITARY NATURE (GAS, ELECTRIC, ETC.). EXCEPTIONS TO THIS MUST BE APPROVED IN WRITING BY THE ARKANSAS DEPARTMENT OF HEALTH.
- 6.) CONTRACTOR TO ADHERE TO CURRENT OSHA EXCAVATION & TRENCH SAFETY REGULATIONS.
- 7.) BACKFILL FOR ALL DISTURBED (EXCAVATED) AREAS TO BE COMPACTED TO 95% SP.



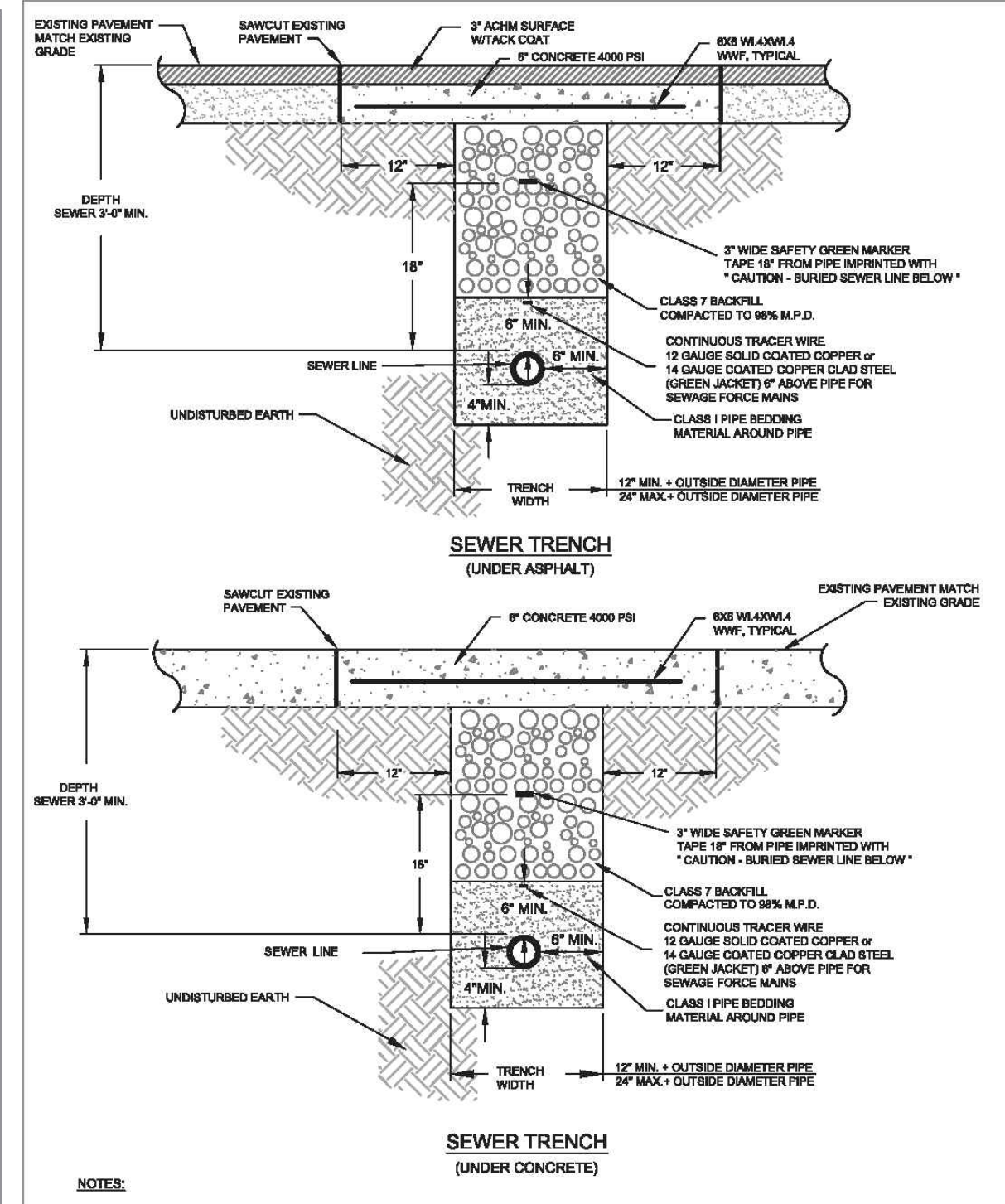
No.	Date	Revisions
1	7-23-24	Revised sewer grades.
2	8-26-24	Revised as per city's comments.

Project No.	24-018
Date	JULY 9, 2024
Scale	1" = 50'
Sheet	8 of 10
Drawn By	B. Judd

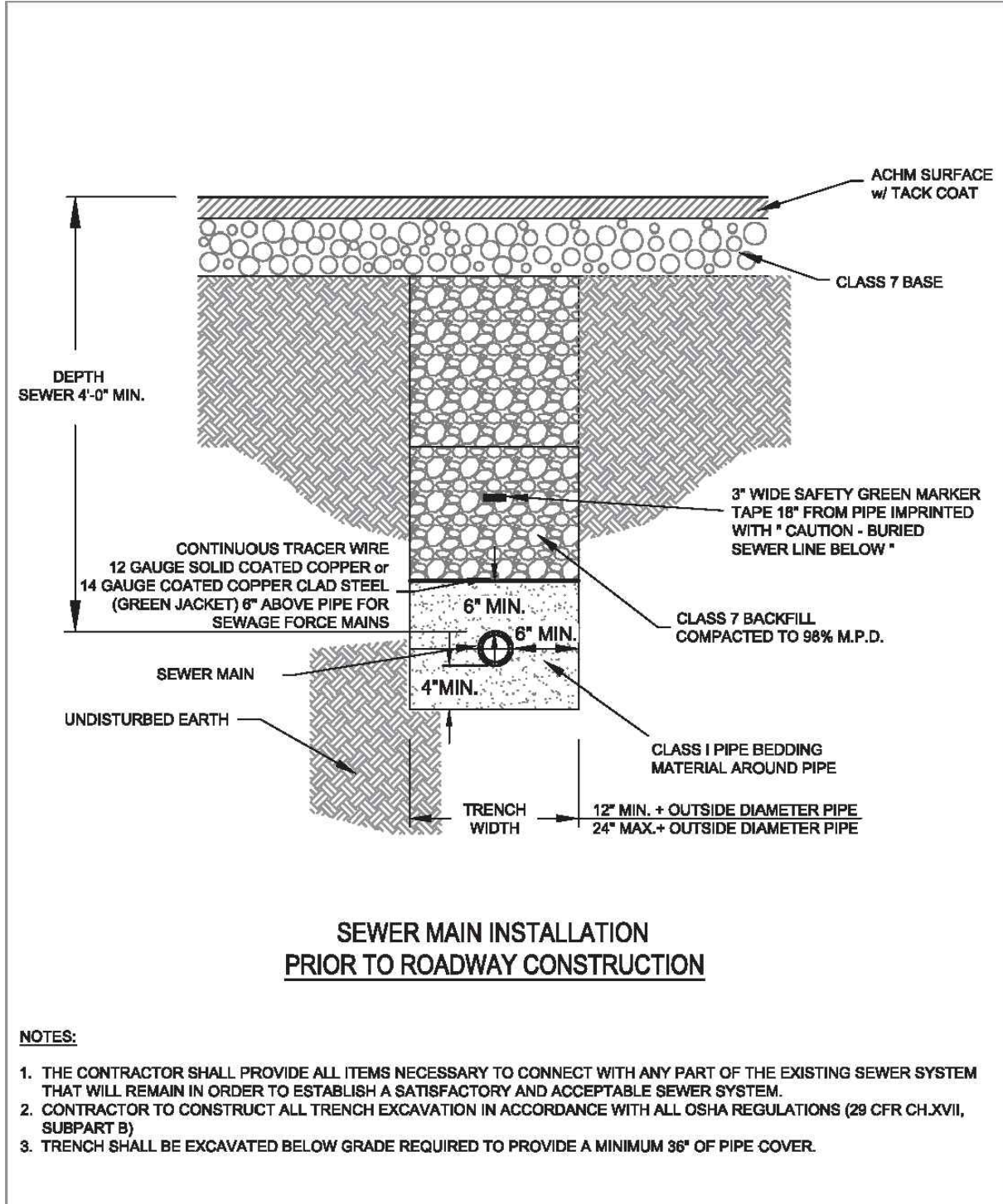




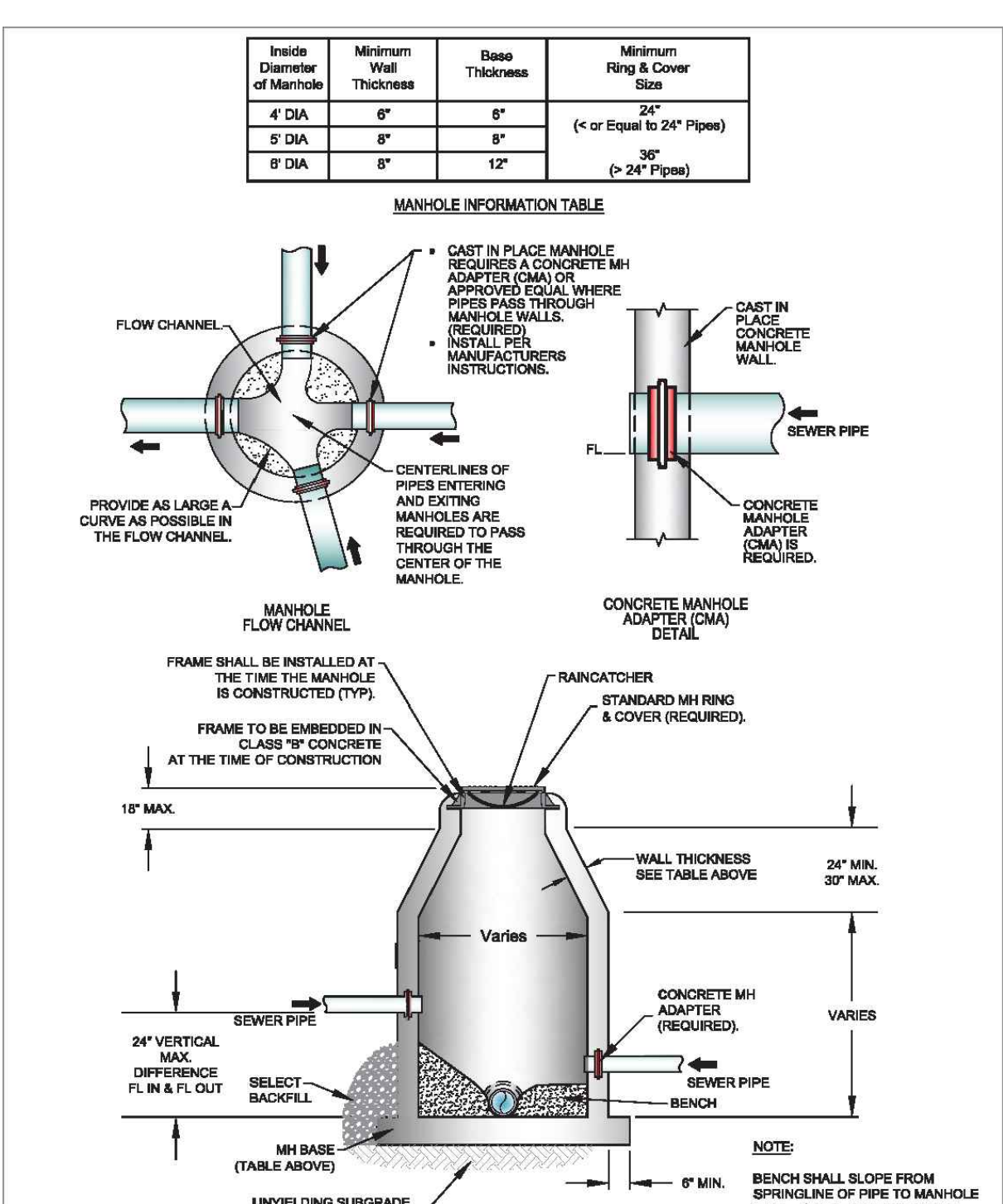
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	DESCRIPTION: SEWER TRENCH (NON-PAVED AREA)	DESIGNED BY: FILE: 01-Sewer-Trench-Non-Paved-Areas	



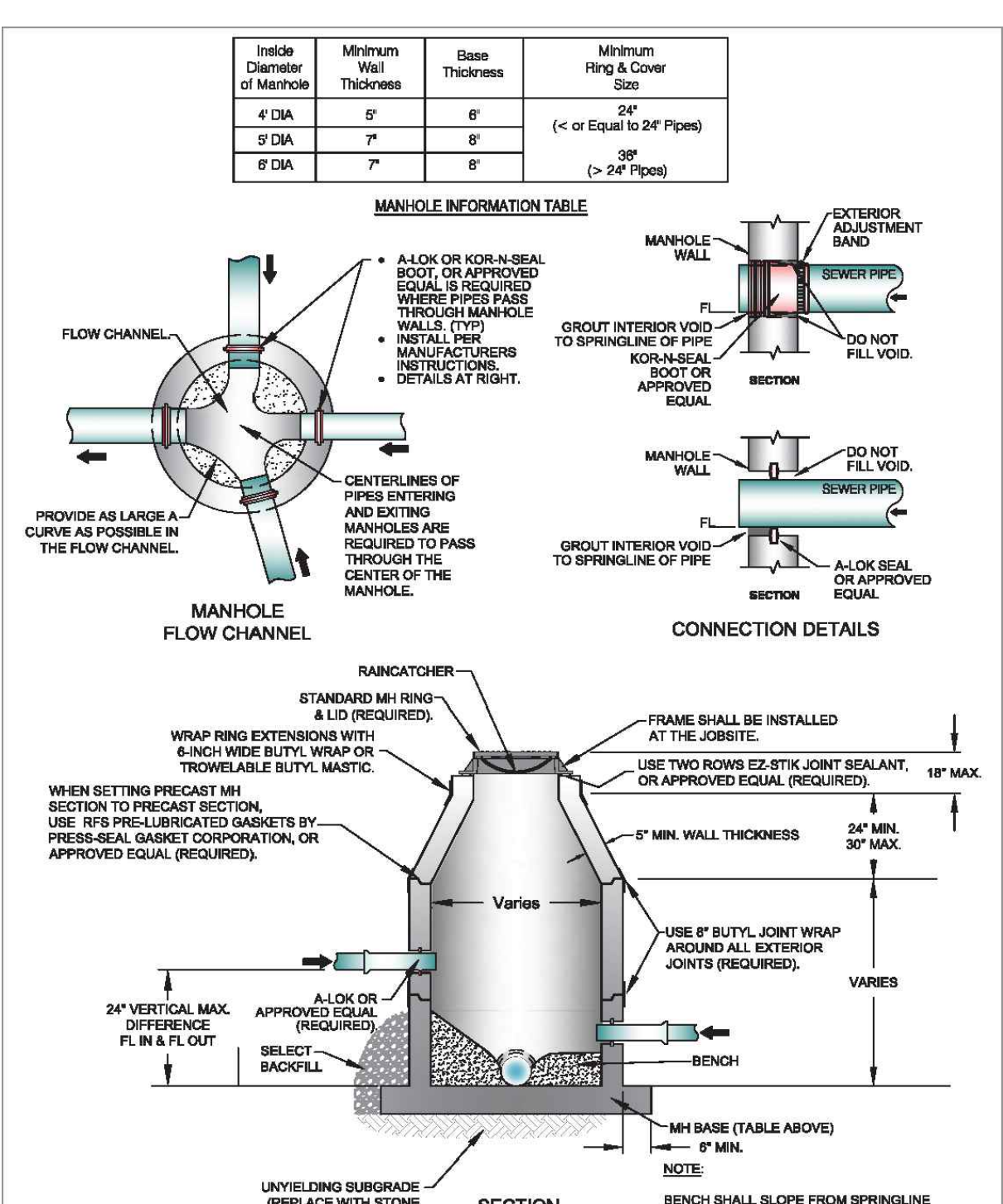
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	DESCRIPTION: SEWER TRENCH (UNDER PAVEMENT)	DESIGNED BY: FILE: 01-Sewer-Trench-Under-Pavement	



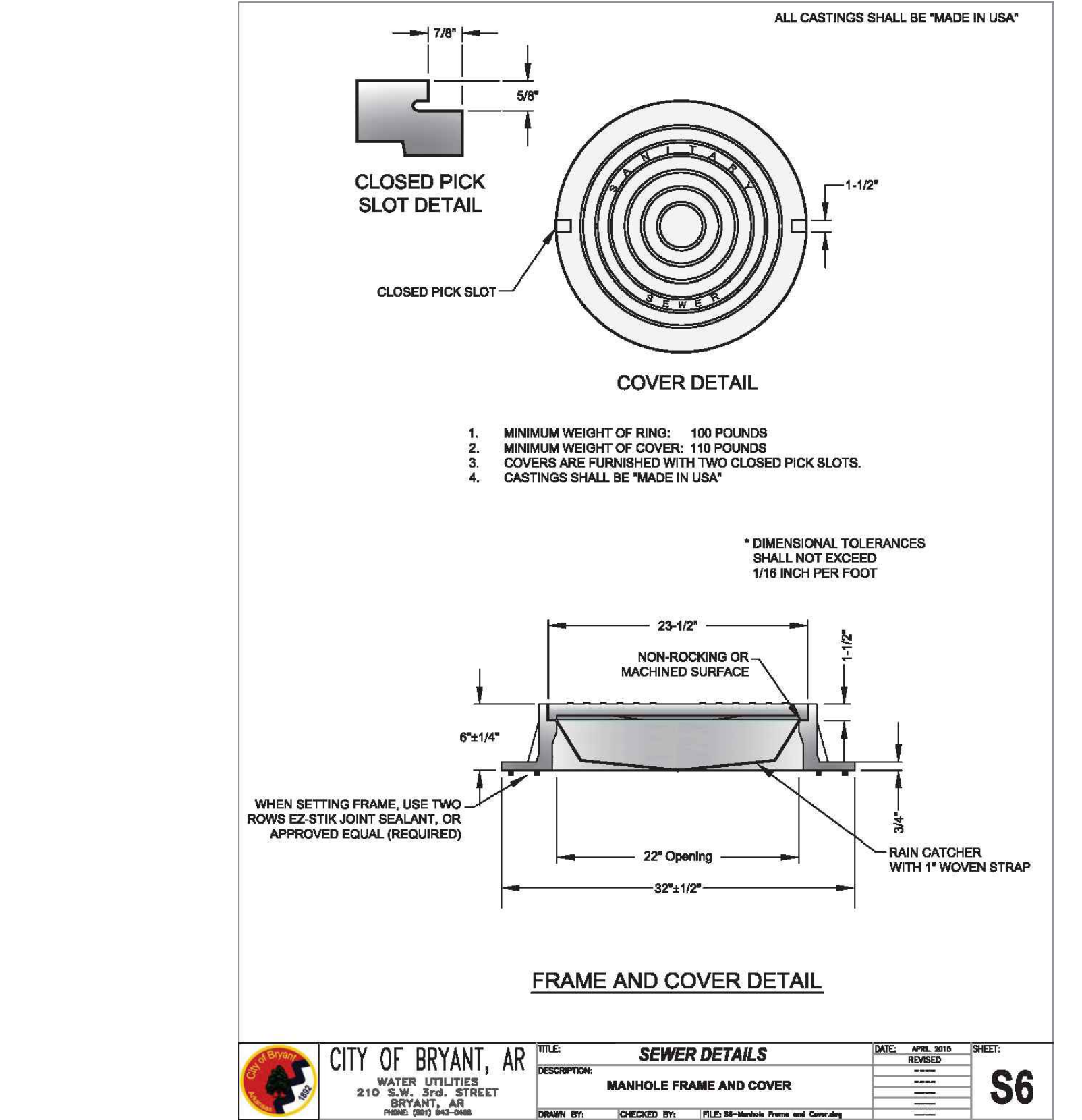
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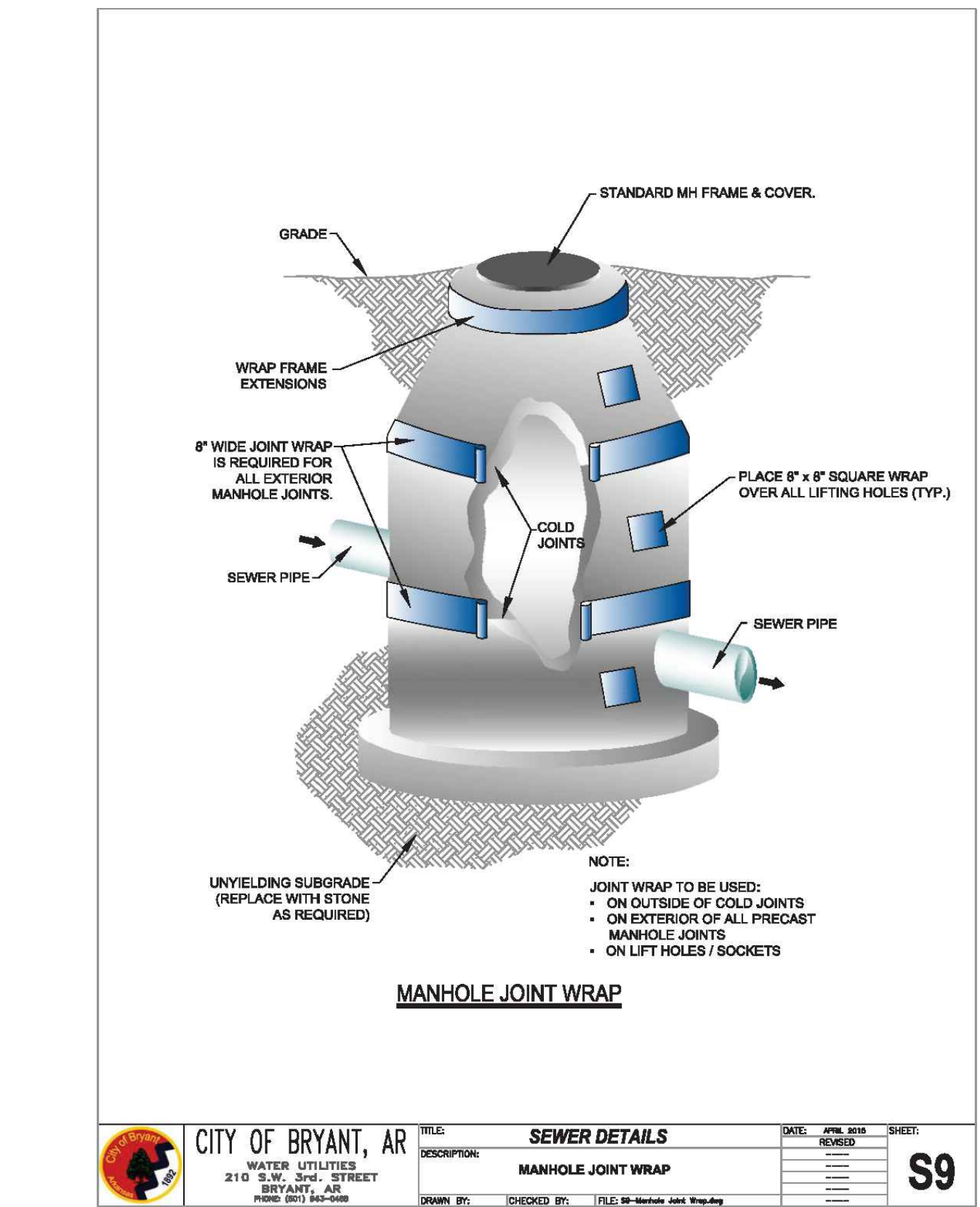
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	DESCRIPTION: CAST-IN-PLACE MANHOLE	DESIGNED BY: FILE: 01-Cast-in-Place-Manhole	



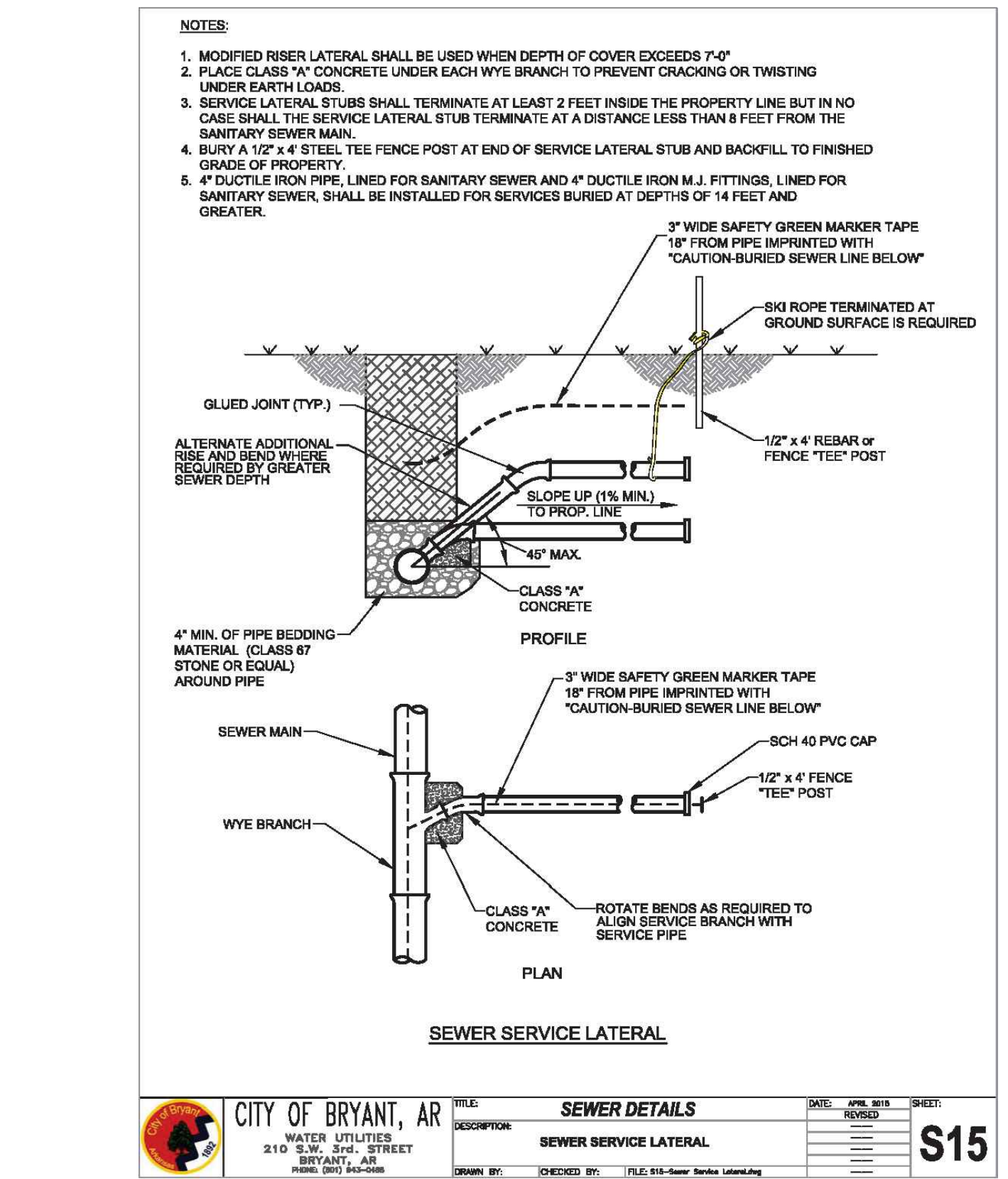
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	DESCRIPTION: PRECAST MANHOLE	DESIGNED BY: FILE: 01-Precast-Manhole	



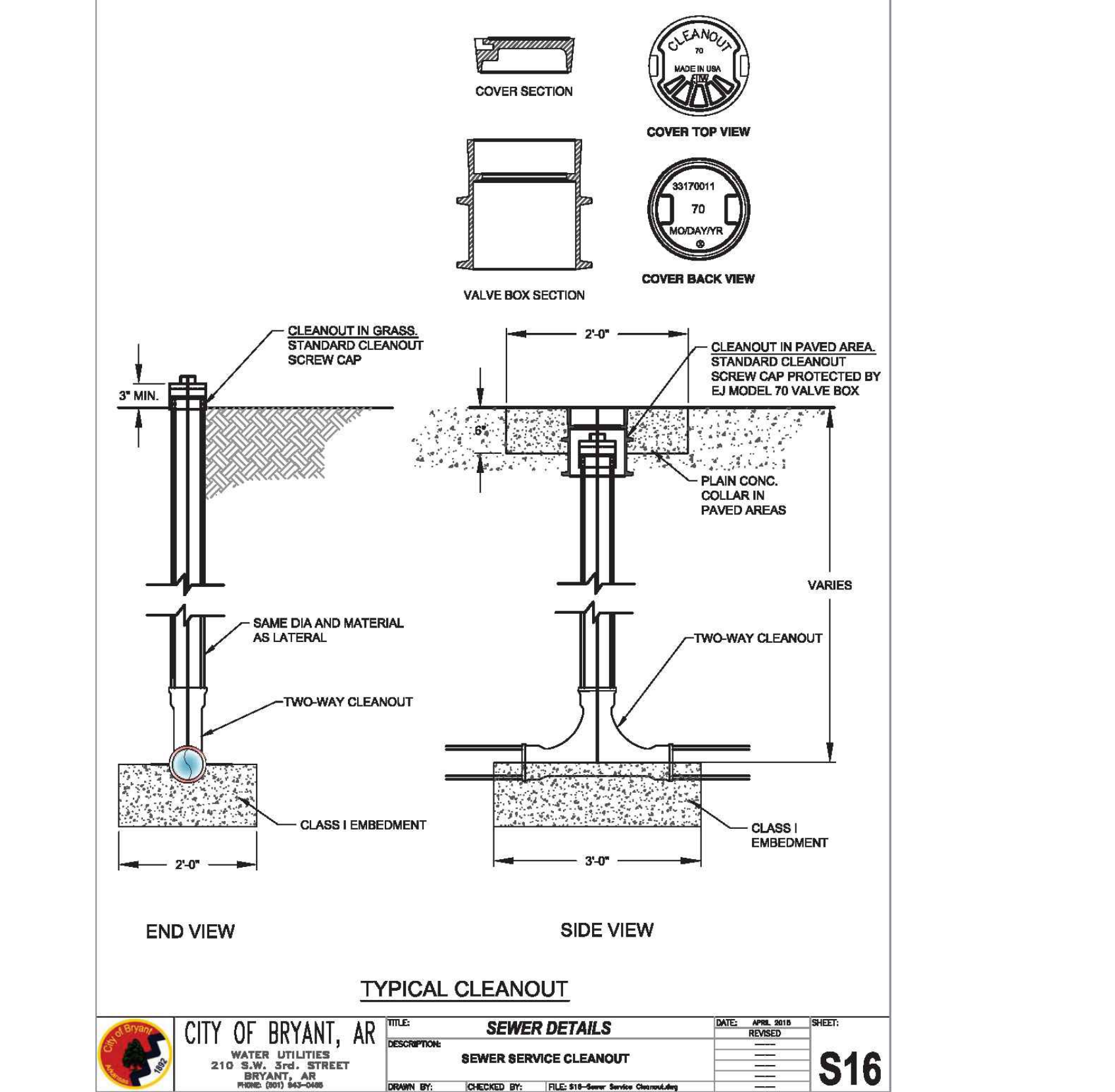
CITY OF BRYANT, AR	TITLE: SEWER DETAILS	DATE: APR 2024	SHEET: S6
	DESCRIPTION: MANHOLE FRAME AND COVER	DESIGNED BY: FILE: 01-Manhole-Frames-and-Covers	



CITY OF BRYANT, AR	TITLE: SEWER DETAILS	DATE: APR 2024	SHEET: S9
	DESCRIPTION: MANHOLE JOINT WRAP	DESIGNED BY: FILE: 01-Manhole-Joint-Wrap	

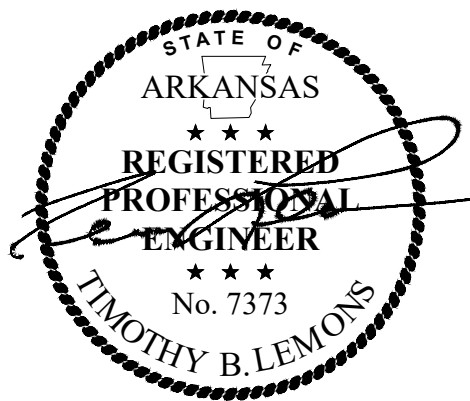


CITY OF BRYANT, AR	TITLE: SEWER DETAILS	DATE: APR 2024	SHEET: S15
	DESCRIPTION: SEWER SERVICE LATERAL	DESIGNED BY: FILE: 01-Sewer-Service-Lateral	



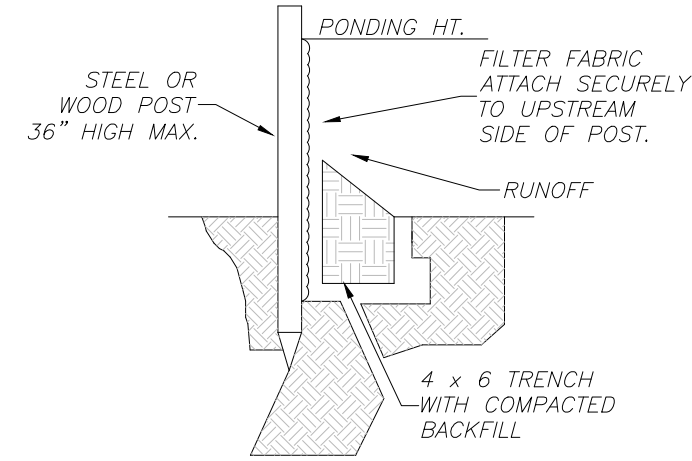
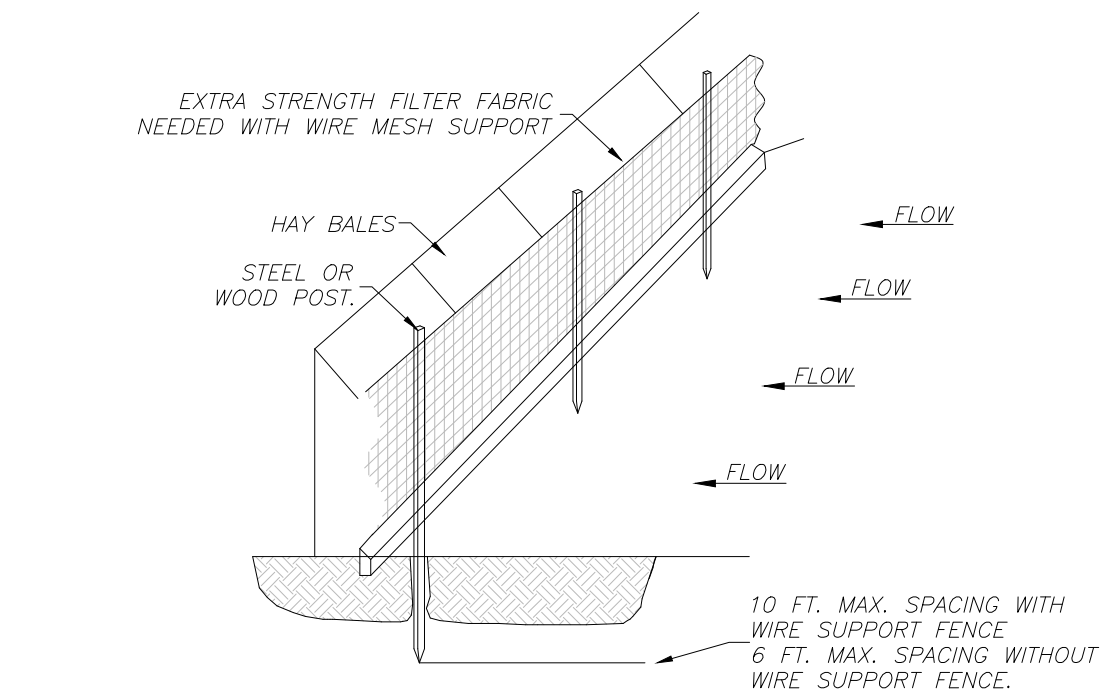
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	DESCRIPTION: SEWER SERVICE CLEANOUT	DESIGNED BY: FILE: 01-Sewer-Service-Cleanout	

Project No:	24-018
Date:	JULY 9, 2024
Scale:	N.T.S.
Drawn By:	B. Judd
Sheet:	9 of 10

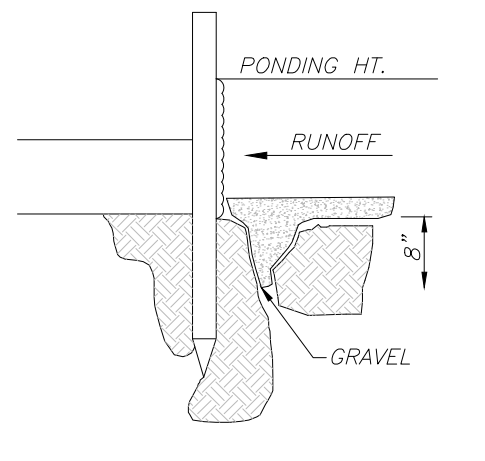


**GENERAL NOTES:**

- 1.) A SILT FENCE AND STRAW BALE DIKE SHALL BE PLACED AT POTENTIAL LOCATIONS OF HEAVY EROSION.
- 2.) TEMPORARY STRAW BALE DIKES ARE TO BE CONSTRUCTED NOT TO POND WATER ON ADJACENT PROPERTY.
- 3.) ALL TEMPORARY EROSION CONTROLS SHALL BE MAINTAINED UNTIL ALL CONSTRUCTION IS COMPLETE & PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
- 4.) ONE OF THE FOLLOWING GROUND COVER METHODS SHALL BE USED AT AREAS OF CLEARING OTHER THAN FUTURE PAVEMENT SURFACES:  
 STRAW OR HAY-LOOSE 2.0 TONS/ACRE  
 STRAW OR HAY-TIED, ANCHORED, OR TACKED 1.5 TONS/ACRE
- 5.) SOIL EXPOSED FOR MORE THAN 14 DAYS WITH NO CONSTRUCTION ACTIVITY SHALL BE SEEDED OR REVEGETATED.
- 6.) CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING ON FLOW OF MUD INTO PUBLIC RIGHT-OF-WAY.
- 7.) ADDITIONAL EROSION CONTROL MEASURES WILL BE EMPLOYED WHERE NECESSARY BY SITE CONDITIONS.
- 8.) CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES & PROVIDE RAIN FALL MONITORING & BI-WEEKLY INSPECTION REPORTS IN ACCORDANCE WITH THE NPDES PERMIT REQUIREMENTS.
- 9.) CONTRACTOR SHALL USE "BEST MANAGEMENT PRACTICES" (BMP'S) WHEN IMPLEMENTING & MAINTAINING SEDIMENT & RUN-OFF CONTROLS.
- 10.) THE USE OF "BIO-DEGRADABLE SOCK" IS ALLOWED AS OPPOSED TO SILT FENCE.

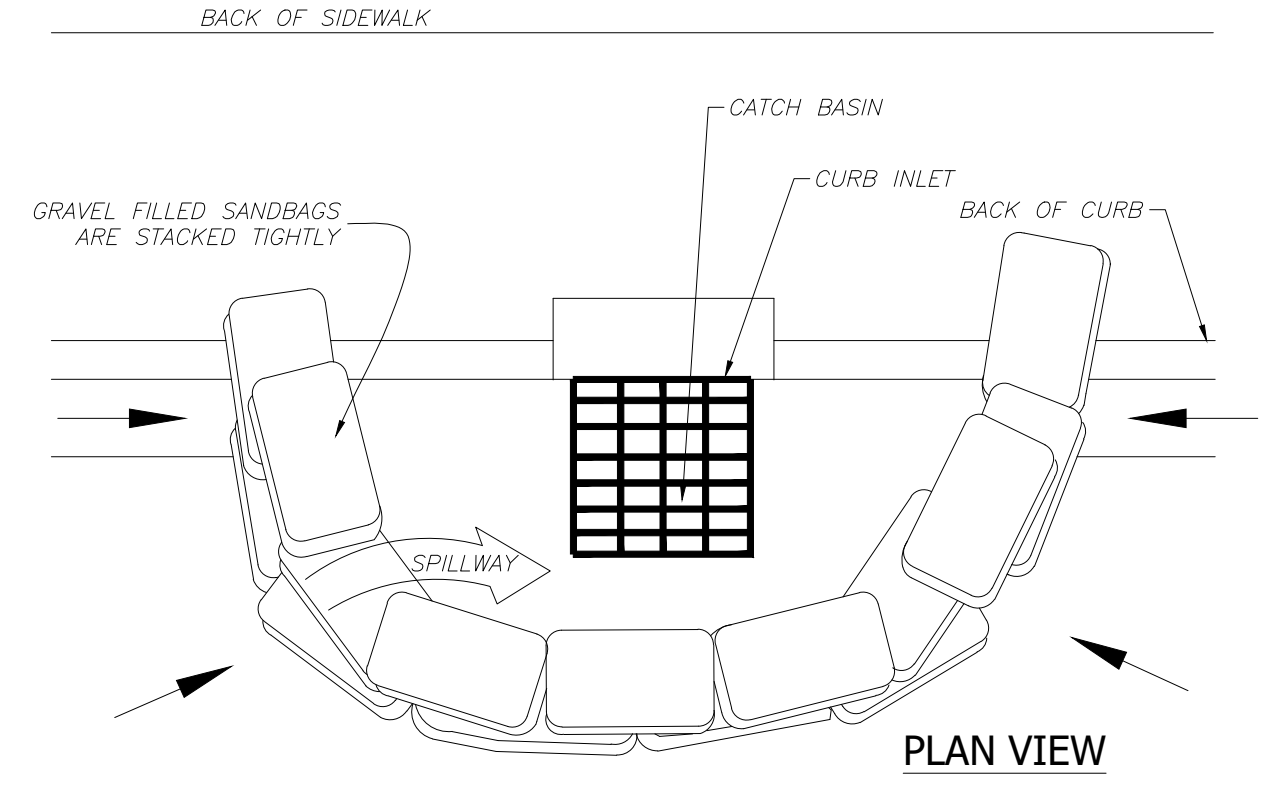


**STANDARD DETAIL TRENCH WITH NATIVE GRAVEL**

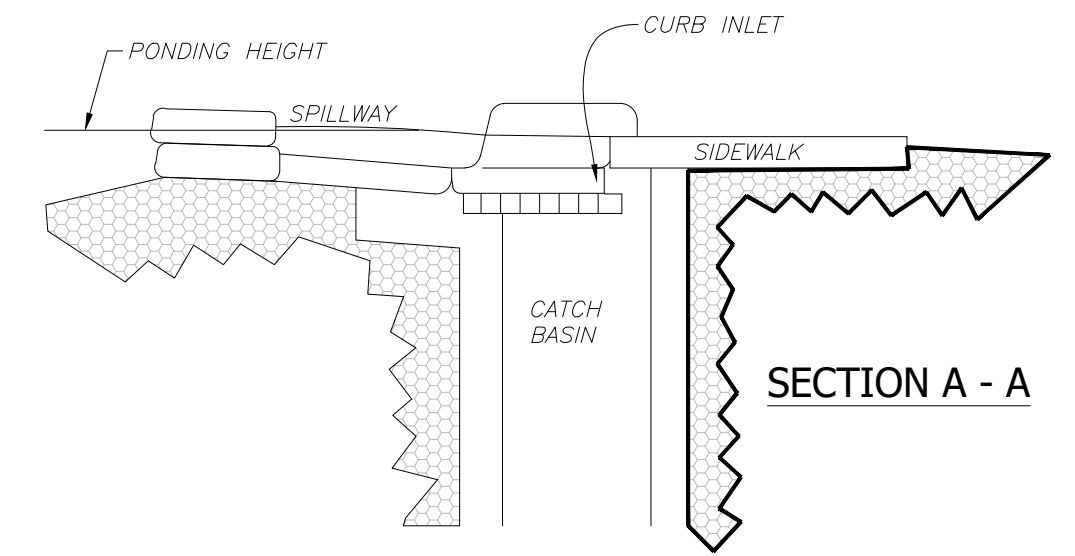


**ALTERNATE DETAIL TRENCH WITH GRAVEL**

- SILT FENCE NTS**
- NOTE:  
 1.) INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.  
 2.) REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.  
 3.) SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.



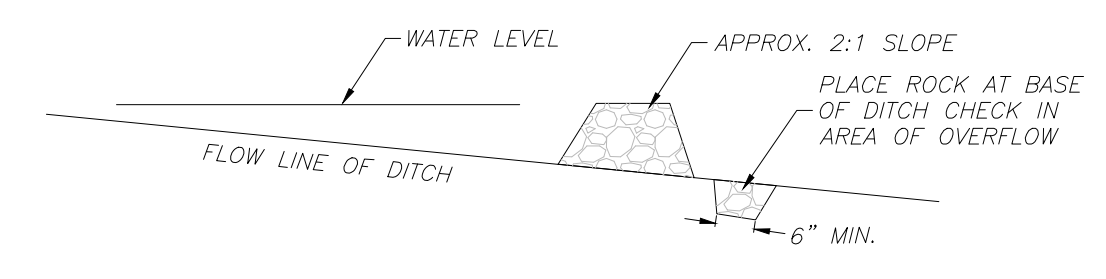
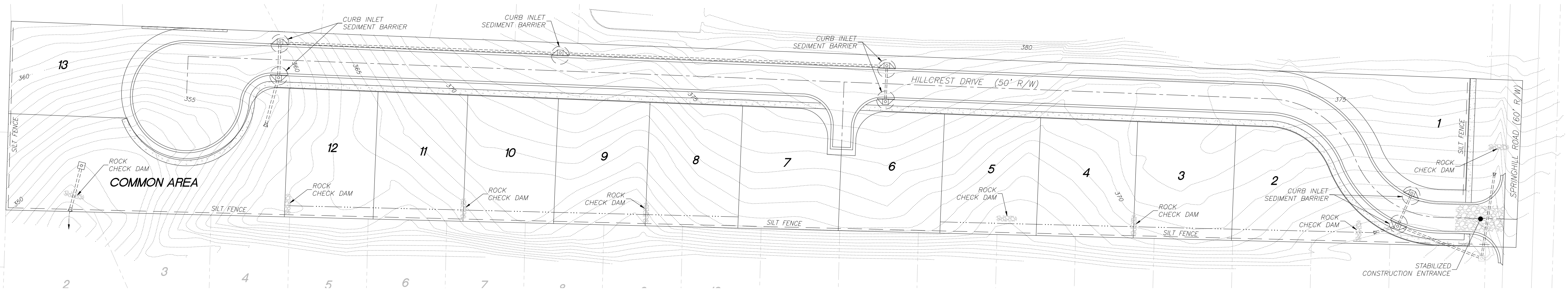
**PLAN VIEW**



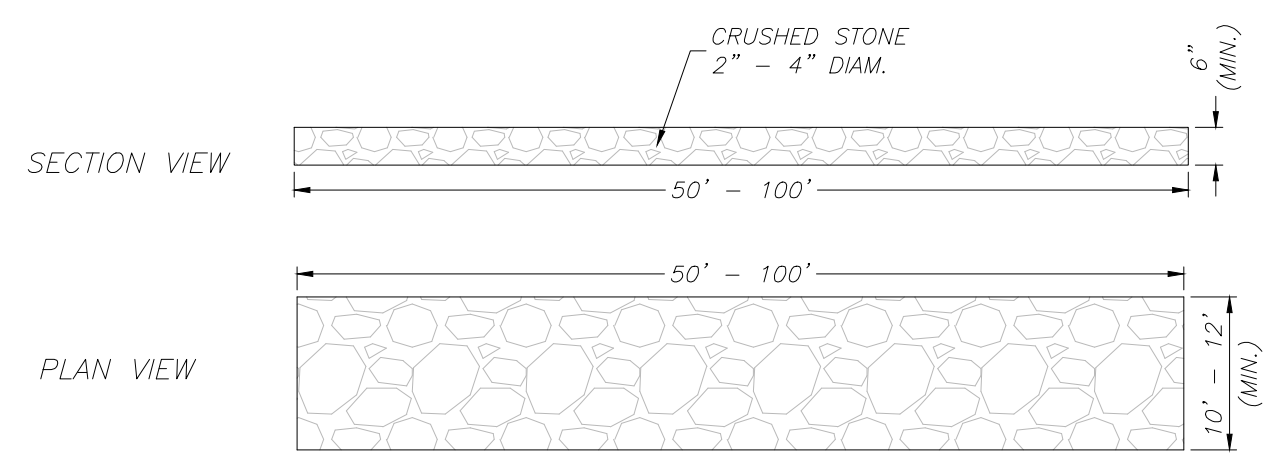
**SECTION A - A**

**CURB INLET SEDIMENT BARRIER NTS**

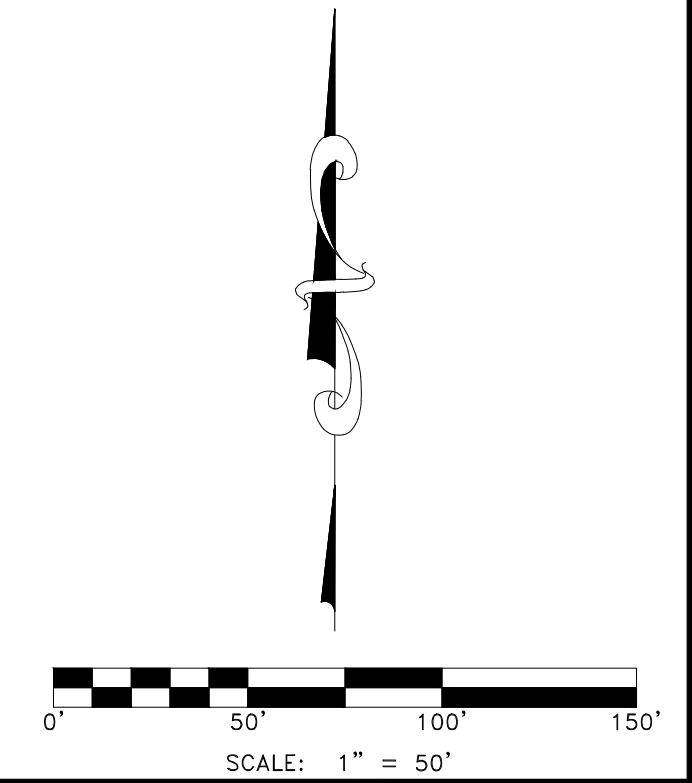
- NOTES:**
- 1.) PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
  - 2.) SANDBAGS OF EITHER BURLAP OR WOVEN GEOTEXTILE FABRIC ARE FILLED WITH GRAVEL, LAYERED, AND PACKED TIGHTLY.
  - 3.) LEAVE ONE SANDBAG GAP IN THE TOP ROW TO PROVIDE A SPILLWAY FOR OVERFLOW.
  - 4.) INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.



**ROCK CHECK DAM NTS**



**STABILIZED CONSTRUCTION ENTRANCE NTS**



LEMONS ENGINEERING CONSULTANTS, INC.  
 1000 N. UNIVERSITY BLVD., SUITE 2023  
 CABOT, ARKANSAS 72023  
 (501) 843-5081 • Fax (501) 941-0959  
**ENGINEERING + SURVEYING**  
 WATER • SEWER • TRANSPORTATION • SUBDIVISIONS

**EROSION CONTROL PLAN**  
**HILLCREST ADDITION**  
 PART OF THE SE 1/4 OF SECTION 17, T-1-S, R-14-W  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Prepared For:  
 Springhill Hwy 5  
 Development, LLC  
 816 E. Oak Street  
 Conway, Arkansas 72032

Project No.	24-018
Date	JULY 9, 2024
Scale	1" = 50'
Sheet	10-Hilcrest Erosion
Drawn By	B. Judd
No.	1
Date	12-20-24
By	B. Judd
Checked	
Approved	



Lemons Engineering Consultants, Inc.  
204 West Cherry Street  
Cabot, Arkansas 72023  
(501) 605-7565  
arstrep43@gmail.com

September 23, 2024

Mr. Colton Leonard, City Planner  
City of Bryant, Arkansas  
Community Development  
210 SW 3<sup>rd</sup> Street  
Bryant, Arkansas 72022

Re: Preliminary Plat  
3927 Springhill Road, Bryant, AR  
Parcel # 840-11855-000

Dear Mr. Leonard:

Enclosed you will find the revised Civil Plans, and Drainage Report as pertaining to the referenced project. A brief summary of the revisions are as follows. Please review the attached revised plans, and include this project on the agenda of the next available City of Bryant Planning Commission Meeting.

## Public Works

1. Discuss where the sewer will tie in. **Connection is planned within the Hurricane Gardens development. See plans.**
2. Will roads be Public or Private? **Public.**
3. Site will require ADA Compliant Ramps and MUTCD Signage at Crosswalk. **References to this requirement have been added to the revised plans.**
4. Discuss Half Street Improvements. **Half Street Improvements have been added to the revised plans.**
5. Gravity sewer- Manhole M-A-3 to M-A-1 will require minimum 20' easement per Bryant specifications section 1200-6-1.08, 1,2 and 3. **This easement has been added.**
6. How will the newly installed Gravity sewer main conflict with the existing retaining wall? **No conflicts expected.**
7. Street Department will require a geotechnical report for subdivision. **This shall be submitted upon receipt.**
8. Streets will need to meet minimum subgrade and base standards. Current plans do not meet specifications. (Must be shown on plans) **Plans have been revised (see attached).**
9. MUTCD No Parking signs will be required to avoid Street Parking. **See revised plans showing the placement of such signs.**

10. Stop Sign at Springhill Rd and No Outlet sign will be required per MUTCD Standards *See revised plans showing the placement of such signs.*
11. Right of way on Springhill road will be 94 feet with half street improvements. *Revised, see plans.*

## Stormwater

1. Discuss downstream drainage issues into Hurricane Gardens Subdivision? *Please see the attached revised plans and drainage report.*
2. Detention basin will require concrete trickle channels from all inflow to outflow points. *Trickle channels have been added to revised plans.*
3. Detention basin will require 3:1 safety slopes. *Annotations with respect to slopes within the detention basin have been added.*
4. Detention basin will require solid sod stabilization. *A note pertaining to this item has been added to the revised plans.*
5. Detention basin outflow pipes are required to be RCP, ADS does not meet specification. *This has been revised as requested.*
6. 8" sewer main can not run through any portion of the detention basin per Ordinance 2019-32. *The sewer main is not being placed within the detention basin.*
7. Discuss detention pond outflow pipe location and direction. *See revised plans and report.*
8. Will subdivision be put in a POA or Improvement District? *POA is planned.*

## Engineering

1. Verify drainage area. Topography and eye witness accounts indicate the site receives runoff from north and east off-site and Springhill road. *This has been verified.*
2. 0890-DRN-03.PDF
  - a. This off-site drainage plan shows the drainage basins that exist are apparently based upon the contours from Bryant's GIS, even though there is no reference to the source of the base map and contours. *Information added to the Drainage Report.*
  - b. There does not appear to be any basins delineated which extend to the south property line of the proposed subdivision. Provide a map showing the pre-development basins for the site, with checkpoints at all locations where flows leave the site. *Information added to the Drainage Report.*
3. 0890-PLN-02.PDF
  - a. On sheet 1, some of the lot dimensions are obscured on the drawing. *This has been revised.*
  - b. On sheet 2:
    - i. the curb and gutter detail does not match the detail show in the City of Bryant's standard curb and gutter section, Detail 7; *This has been revised.*
    - ii. The typical street section does not match Detail 1 of the City of Bryant's typical section for Local 1 / Residential Streets; *This has been revised.*
  - iii. The pavement structure detail shown does not match the typical street section, see 3.b.ii. above. *This has been revised.*
    - c. On sheet 3:
      - i. The grading plan shows that grades will continue to slope south from the south curb and gutter on the street, unlike shown in the drainage calculations (see section 4 below). *Grading Plan has been revised.*
      - ii. Significant stormwater is being allowed to drain off of the site to the south, it is recommended that the engineer look at diverting flow to the detention pond. *A swale has been added along the South*

**property line to assist in diverting flow away from homes within Hurricane Gardens. See revised plans.**

- iii. Will a separate drainage plan be developed for the plans? Profiles for the storm drainage? **Drainage profiles have been added to the plans.**
- iv. How will the discharge to Springhill Road be detained so that there is no increase in runoff from that part of the project? **Due to the relatively small area flowing into the culvert system near the Southeast corner of the proposed development, no detention is being provided. However, the existing culvert does appear to have the capacity to accept the small increase in flow.**
- d. On sheet 4:
  - i. Include a trickle channel in the pond; **Added.**
  - ii. Include an emergency overflow for the pond, designed for the 100-year flow. This overflow must be 1-ft below the top of the levee. **Added.**
  - iii. Verify that the slopes inside and outside of the pond are no steeper than 3 horizontal : 1 vertical. **All slopes have been verified.**
  - iv. The outfall structure detail of the pond shown on the drawing is not labeled or titled. Show slopes, elevations, etc. **Information added as requested.**
  - v. Provide solid sodding inside of the pond. **A note pertaining to this item has been added to the plans.**
  - vi. How far will the closest building be to the pond? **Approximately 50 feet.**
  - vii. The top of the levee on the detention pond must be .2-ft above the outfall box, include 1-ft of freeboard, and be 1-ft higher than the 100-year elevation inside of the pond. **Based on our present model, we can only provide 18" of the requested 2'. We ask that the City grant a waiver on the 6" difference.**
  - viii. What downstream scour protection will there be below the outfall pipe? **Rip rap is planned for the discharge culvert from the pond.**
  - ix. What checks have been performed in the drain to the southwest? Verify that the flows will not exceed the current flows in this area. **See Drainage Report.**
  - x. Provide Scour protection from the inflow pipe on the east end of the pond. **A concrete trickle channel has been added to the end of the inflow FES.**
- e. On sheet 5:
  - i. The main water line must be at least 8" up to the last fire hydrant, see city specifications. **This has been revised.**
  - ii. The last fire hydrant shown on the west side of the cul-de-sac should be moved to the east side of the cul-de-sac. **Revised as requested.**
- 4. Drainage Calculations:
  - a. For the runoff coefficient calculations on pages 5 and 6, please explain which basins A1, A2, A3, and A4 reflect. What about Basins B1 thru D3 and Ao thru Do2? **The runoff coefficients shown on pages 5 and 6 are used on all basins.**
  - b. Each return storm has it's own C-factor. Show the C-factor used for each of the return storms, on each basin. **This was shown in the previous revised report.**
  - c. Detention pond design volume must be increased by 25% as a safety factor. **At the 25 year storm elevation (in the pond) the volume is 21,300.7 cf. At the 100 year storm elevation, the volume is 31,596.5 cf. That is above the 25% safety factor.**
  - d. The emergency overflow spillway must be designed for the 100-year storm + 50% for blockage. **Emergency spillway has a capacity of 44.22 cfs, with a 100 year storm flowrate of 23.62 cfs.**
  - e. The map on page 9 does not show the pre-development basins, including the current discharge locations from the site. **Study Points have been added to all maps.**

- f. Determine pre-development basins from the same discharge points for both pre-development and post-development conditions. ***The comparison between Pre and Post flowrates are shown near the end of the Drainage Report (see Page 29).***
- g. The basins shown on the map on page 10 does not reflect what the grading plan shows, see sheet 3 in the plans. It shows drainage of half of the lots going to the street, when the grading plan shows that flows will go to the south. ***This has been corrected. See revised Drainage Report.***
- h. Show check points for each basin so calculations can be followed. ***Check points have been added to the maps within the Drainage Report.***
- i. Show the hydraulic grade calculations for all of the storm drainage on the project (see section 600 in the stormwater manual). ***This has been added to the Drainage Report.***
- j. Adjust drainage calculations for all flows for a 28-ft street instead of a 27-ft street. ***Revised.***
- k. Show calculations for emergency spillway (include 50% blockage). ***See previous comment and response.***
- l. Are the time of concentration calculations on pages 16 and 17 showing that there is the same velocity for all basins? Which basins do these graphs apply to for the pond? ***This is a comprehensive analysis using the entire watershed.***
- m. On page 15 it refers to the C-factor for the detention facility was shown on pages 5 and 6 but the C-factor is different for each storm event, and that is not reflected on pages 5 and 6. ***This was revised in an earlier submittal.***
- n. For the detention pond calculations, what basin(s) did you use for the pre- and post-development peak flows? ***The areas behind the proposed houses in this new development were not included in the Detention computations. However, we have added a sod swale along the South of this development that will assist in sending most of the area to the Detention facility. See revised plans.***
- o. Sheet 4 in the plans shows a detail for a box with a slotted weir topped with a 5" high rectangular weir. Please verify that calculations reflect the correct weir type. ***Yes the calculations are based on this type of weir.***
- p. Refer to section 1000.4.3 of the stormwater manual for multi-stage outlet design considerations.
- q. Refer to section 1000.5.6 of the stormwater manual for configuration of the outlet structure.
- r. Note allowable computer software in section 600.6 of the stormwater manual. ***Our program is based on the City of Rogers Drainage Manual which has been used by basically all municipalities in Northwest Arkansas, and is considered an acceptable method.***

#### Com Dev

1. Cul-de-sac turnarounds must have a 50ft radius. Currently the plans show 49' to BOC. ***This has been revised as requested.***
2. According to Subdivision Code, Cul-de-sac streets or courts designed to have one end permanently closed shall be no more than 550' long. This will have to be met or a modification from the subdivision code for a waiver on this requirement will have to be requested. ***Considering that all properties adjacent to this development have been developed, we formally ask for this waiver.***
3. Half-Street improvements to Springhill are required as part of this development. Springhill is designated as a minor arterial with a trail along the East Side. ***Plans have been modified to show this.***
4. Typical street cross section shown on page 3 of plans does not meet our street specifications. City Street specification for local road shown below. ***This has been corrected. Please see attached revised plans.***

5. Will this street be privately owned/maintained? ***Street shall be public.***
6. Discuss stormwater and outfall of detention pond area. ***See previous responses in this letter.***
7. Preliminary Plat application fees required to be paid \$664. ***I will inform the owner.***

Please let me know if you need anything additional.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tim Lemons". The signature is fluid and cursive, with a long horizontal stroke at the end.

Tim Lemons, PE

# **Drainage Report**

For

## **Hillcrest Addition**

**Springhill Road  
Bryant, Arkansas**

Revised: September 23, 2024

Prepared By:



**Lemons Engineering Consultants, Inc.**  
204 West Cherry Street  
Cabot, Arkansas 72023  
(501) 605-7565  
arstrep43@gmail.com



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# Project Information

- Project Title:** Hillcrest Addition
- Project Description:** 13 lot single family development located on the West side of Springhill Road, North of and adjacent to Hurricane Gardens, Bryant, Arkansas (address: 3927 Springhill Road)
- Owner/Developer:** Springhill – Hwy 5 Development, LLC  
816 East Oak Street  
Conway, Arkansas 72032
- Engineer of Record:** Lemons Engineering Consultants, Inc.  
Tim Lemons, PE  
204 Cherry Street  
Cabot, Arkansas 72023  
(501) 605-7565

# General Information

This proposed development shall include 13 single family lots. This property is essentially the Northern Most tract of land within the city limits of Bryant as they presently exist. The property to the North of the subject site is developed with duplex style residential structures. The property to the South is an established subdivision (Hurricane Gardens). The property drains North to South. There have been several reports of drainage issues by the residents of Hurricane Gardens. At present, the drainage from the subject property, and that to the north of the subject property, flows onto Hurricane Gardens. No detention exists on the property located north of the subject property. In this report, we will design a detention facility to accommodate the possible increase in flow for the subject property (Hillcrest Addition). Also, our goal is to divert a large majority of the drainage falling onto Hurricane Gardens. This diversion will force the runoff to the proposed detention facility on Hillcrest Addition as shown in the civil plans.

# Project Vicinity Map



Source: ARCOUNTYDATA.com

# Hydrological Computations

For this analysis, we will use the Rational Method in determining culvert sizes, culvert capacity computations, and other related issues on site. The total watershed size for this development is estimated at 10.57 acres. Attention is called to the Watershed Map included in this report.

As per the Rational Method, the following equation is used:

$Q = C \times I \times A$ , where:  
 Q = Flowrate (cfs)  
 C = Runoff Coefficient  
 I = Intensity (from tables)  
 A = area (acres)

The selection of the appropriate intensity is based on the estimated time of concentration (tc).

## Determination of Runoff Coefficients “C”

In determining the Pre Construction C, we must consider the property to the North that is developed, and discharging onto the subject property. The C factor for Pre and Post Conditions are based on Table 400-1 “Runoff Coefficients for Surface Types” as provided in the Bryant Drainage Manual. A factored (weighted) value of C is determined in the following tables:

**Pre Construction Conditions**

Storm Event	Off Site C1	Off Site A1 (acres)	Off Site C2	Off Site A2 (acres)	On Site C3	On Site A3 (acres)	On Site C4	On Site A4 (acres)	Weighted C Factor
2	0.75	3.04	0.29	4.73	0.75	0.19	0.29	4.59	0.41
5	0.8	3.04	0.32	4.73	0.8	0.19	0.32	4.59	0.44
10	0.83	3.04	0.35	4.73	0.83	0.19	0.35	4.59	0.47
25	0.88	3.04	0.39	4.73	0.88	0.19	0.39	4.59	0.52
50	0.92	3.04	0.42	4.73	0.92	0.19	0.42	4.59	0.55
100	0.97	3.04	0.46	4.73	0.97	0.19	0.46	4.59	0.59

- C1 (off site for homes, streets, etc.)
- C2 (off site for grass, landscaping, etc.)
- C3 (on site for homes, streets, etc.)
- C4 (on site for grass. Landscaping, etc.)

- A1 (off site area for C1)
- A2 (off site area for C2)
- A3 (on site area for C3)
- A4 (on site area for C4)

### Post Construction Conditions

Storm Event	Off Site C1	Off Site A1 (acres)	Off Site C2	Off Site A2 (acres)	On Site C3	On Site A3 (acres)	On Site C4	On Site A4 (acres)	Weighted C Factor
2	0.75	3.04	0.29	4.73	0.75	1.81	0.29	3.07	0.47
5	0.8	3.04	0.32	4.73	0.8	1.81	0.32	3.07	0.50
10	0.83	3.04	0.35	4.73	0.83	1.81	0.35	3.07	0.53
25	0.88	3.04	0.39	4.73	0.88	1.81	0.39	3.07	0.58
50	0.92	3.04	0.42	4.73	0.92	1.81	0.42	3.07	0.61
100	0.97	3.04	0.46	4.73	0.97	1.81	0.46	3.07	0.66

C1 (off site for homes, streets, etc.)

C2 (off site for grass, landscaping, etc.)

C3 (on site for homes, streets, etc.)

C4 (on site for grass. Landscaping, etc.)

A1 (off site area for C1)

A2 (off site area for C2)

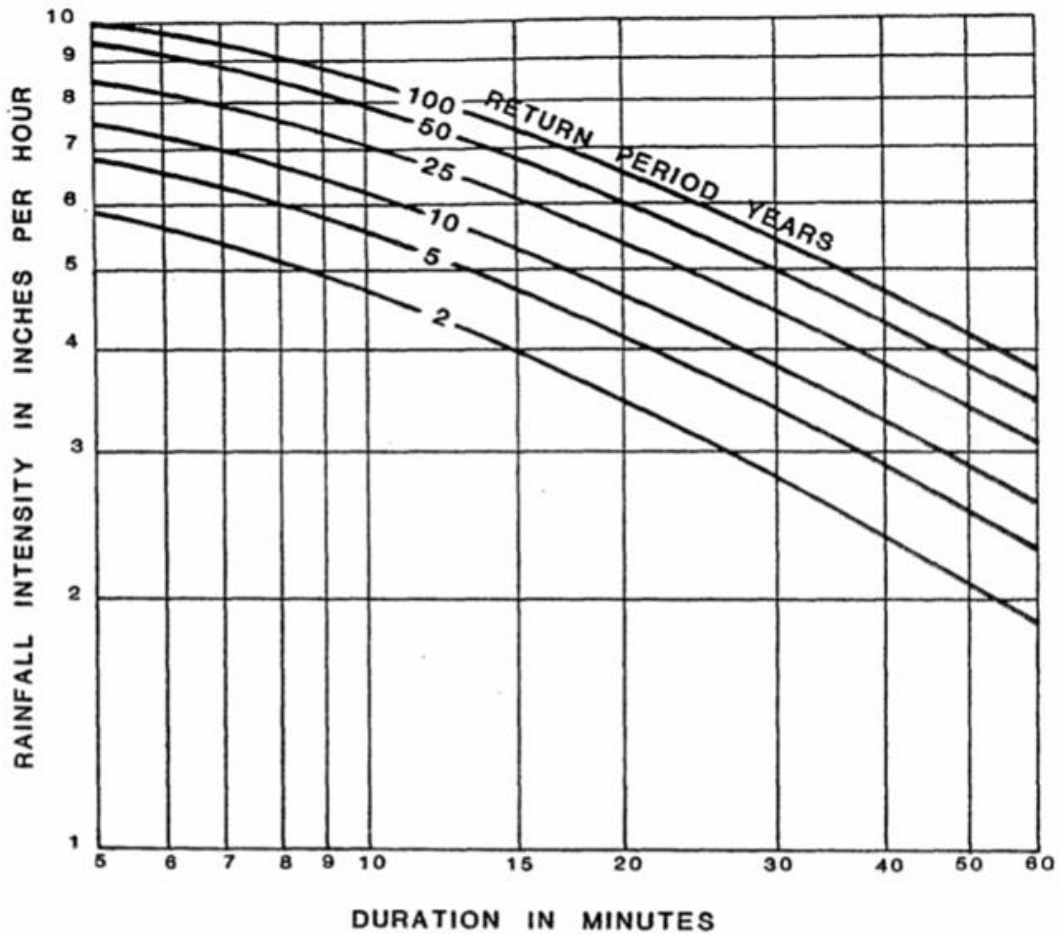
A3 (on site area for C3)

A4 (on site area for C4)

The above variable values will be used in designing the Detention Facility. For culvert design, we will use the Post C values for the 25 year storm.

# Determination of Intensity Values "I"

For this analysis, we will use the Intensity – Duration - Frequency Chart from the Little Rock Drainage Manual. Whereas the calculated value of I shall be used for Detention, we will use a  $t_c$  (time of concentration) of 5 min for the culverts to also provide a conservative value.



**INTENSITY - DURATION - FREQUENCY**

**LITTLE ROCK**

**SOURCE : HYDRO 35 & T.P. No. 40**

# Determination of Flowrates for Culverts & Spreadflow

Attention is called to the following chart which provides C, Intensity, Area, and Flowrate (Q) of each Tract. Again, the Rational Method is being used for all basins. Attention is called to the Maps on the next two pages for a detailed drawings showing the various watershed tracts. The 25 year storm event will be used for culvert design. A conservative tc of 5 minutes is used for the culvert design.

<b>Tract</b>	<b>C (post)</b>	<b>I (in/hr)</b>	<b>A (ac)</b>	<b>Q (cfs)</b>
Ao	0.58	8.5	2	9.86
Bo	0.58	8.5	1.53	7.54
Co	0.58	8.5	1.73	8.53
Do1	0.58	8.5	1.92	9.47
Do2	0.58	8.5	0.59	2.91
A1	0.58	8.5	0.54	2.66
A2	0.58	8.5	0.29	1.43
A3	0.58	8.5	0.25	1.23
B1	0.58	8.5	0.47	2.32
B2	0.58	8.5	0.33	1.63
C1	0.58	8.5	0.49	2.42
C2	0.58	8.5	0.36	1.77
D1	0.58	8.5	0.44	2.17
D2	0.58	8.5	0.32	1.58
D3	0.58	8.5	1.15	5.67

# Drainage Watershed Map (Off Site)

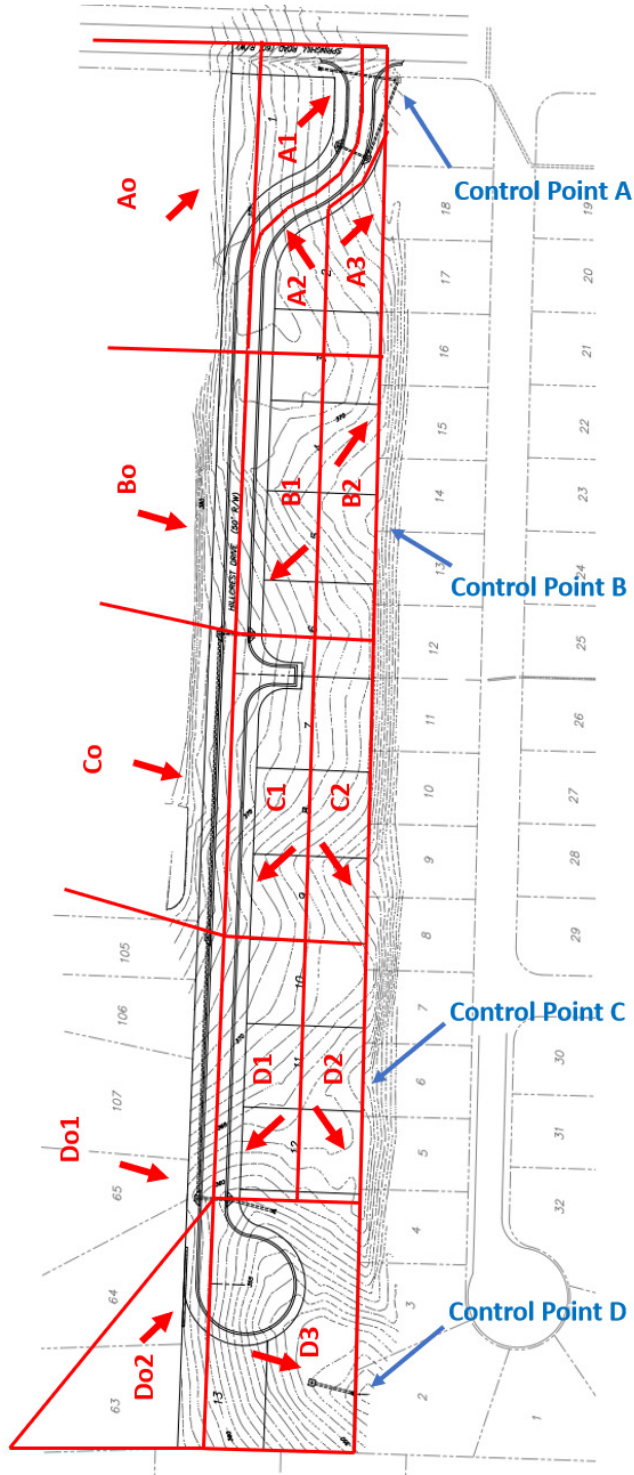


Source: Saline County GIS Map



# Drainage Watershed Map (On Site)

Revised 9/23/2024



# Culvert Sizing

All culverts are sized to meet a 25 year storm, and the Rational Method is used. We will use a Manning's Coefficient of 0.012 shall be for all culverts (concrete and HDPE).

## FES 1a

$$Q = Q_{ao} (2/3) = 9.86 (2/3) = 6.58 \text{ cfs}$$

Use 18" @ 0.7%

$$Q \text{ capacity} = 9.23 \text{ cfs}$$

$$V \text{ actual} = 5.80 \text{ fps (d/D} = 0.61)$$

## Inlet 1

$$Q = Q_{ao} (2/3) + Q_{a1} = 9.86 (2/3) + 2.66 = 9.24 \text{ cfs}$$

Use 18" @ 1.1%

$$Q \text{ capacity} = 12.30 \text{ cfs}$$

$$V \text{ actual} = 7.45 \text{ fps (d/D} = 0.66)$$

## Inlet 2

$$Q = \text{Inlet 1} + Q_{a2} = 9.24 + 1.43 = 10.67 \text{ cfs}$$

Use 18" @ 1.4%

$$Q \text{ capacity} = 13.87 \text{ cfs}$$

$$V \text{ actual} = 8.44 \text{ fps (d/D} = 0.67)$$

## Junction Box 3 (verify capacity)

$$Q = Q_{ao} + Q_{a1} + Q_{a2} + \text{Exist 18" in Hurricane Gardens}$$

(Culvert in Hurricane Gardens is an 18" ADS at 0.46%, Capacity = 7.95 cfs at d/D=0.85)

$$Q = 9.86 + 2.66 + 1.43 + 7.95 = 21.90 \text{ cfs}$$

Existing 24" Discharging from Junc Box is 24" ADS @ 5.20%

$$Q \text{ capacity} = 57.58 \text{ cfs } \textbf{Capacity appears to exist}$$

$$V \text{ actual} = 16.61 \text{ fps (d/D} = 0.43)$$

## Inlet 4

$$Q = Q_{b1} = 2.32 \text{ cfs}$$

Use 18" @ 0.5%

$$Q \text{ capacity} = 8.29 \text{ cfs}$$

$$V \text{ actual} = 4.00 \text{ fps (d/D} = 0.38)$$

**Inlet 5**

$$Q = \text{Inlet 4} + Q_{bo} = 2.32 + 7.54 = 9.86 \text{ cfs}$$

Use 18" @ 1.0%

$$Q \text{ capacity} = 11.73 \text{ cfs}$$

$$V \text{ actual} = 7.35 \text{ fps (d/D} = 0.71)$$

**Inlet 6**

$$Q = \text{Inlet 5} + Q_{co} = 9.86 + 8.53 = 18.39 \text{ cfs}$$

Use 18" @ 4.60%

$$Q \text{ capacity} = 25.15 \text{ cfs}$$

$$V \text{ actual} = 15.18 \text{ fps (d/D} = 0.65)$$

**Inlet 7**

$$Q = \text{Inlet 6} + Q_{do1} = 18.39 + 9.47 = 27.86 \text{ cfs}$$

Use 24" @ 2.0%

$$Q \text{ capacity} = 35.71 \text{ cfs}$$

$$V \text{ actual} = 12.22 \text{ fps (d/D} = 0.67)$$

**Inlet 8**

$$Q = \text{Inlet 7} + Q_{d1} = 27.86 + 2.17 = 30.03 \text{ cfs}$$

Use 18" @ 2.25%

$$Q \text{ capacity} = 37.87 \text{ cfs}$$

$$V \text{ actual} = 13.06 \text{ fps (d/D} = 0.69)$$

## Street Spreadflow Analysis (Gutter Capacity)

In this Section of the Report, we will examine how the stormwater in the street gutters may impact in proposed inlets. We will use our 27' street width (back of curb to back of curb), while giving allowances for the vertical portion of the curb on each side. The crown on the street shall be 3.0%. The available street width, to handle the stormwater, has a width of 26'. Our goal is to provide a minimum "non submerged" street width ("clear space") of 8 feet. A Manning's Coefficient of 0.12 is used for the pavement surface. Attention is called to the Appendix for the spreadsheets used to evaluate these areas.

## Check Inlet 1 & 2 – Hillcrest Drive

### Inlet 1

$$Q = Q_{a0}(1/2) + Q_{a1}/2 = 9.86 (0.5) + 2.66 (0.5) = 6.26 \text{ cfs}$$

$$\text{Gutter Slope} = 1.50\%$$

$$\text{Height of water (from gutter)} = 0.30'$$

$$\text{Width of water (from gutter)} = 10.0'$$

$$\text{Clear space (half street)} = 13.0 - 10.0' = 3.0'$$

### Inlet 2

$$Q = Q_{a2} = 1.43 \text{ cfs}$$

$$\text{Gutter Slope} = 1.50\%$$

$$\text{Height of water (from gutter)} = 0.17'$$

$$\text{Width of water (from gutter)} = 5.5'$$

$$\text{Clear space (half street)} = 13.0 - 5.5' = 7.5'$$

$$\text{Total Clear Space} = 3.0 + 7.5 = 10.5'$$

## Check Inlet 4 & 5 – Hillcrest Drive

### Inlet 4

$$Q = Q_{b1} = 2.32 \text{ cfs}$$

$$\text{Gutter Slope} = 0.5\%$$

$$\text{Height of water (from gutter)} = 0.26'$$

$$\text{Width of water (from gutter)} = 8.5'$$

$$\text{Clear space (half street)} = 13.0 - 8.5' = 4.5'$$

### Inlet 5

$$Q = Q_{b0} = 7.54 \text{ cfs}$$

$$\text{Gutter Slope} = 0.5\%$$

$$\text{Height of water (from gutter)} = 0.39'$$

$$\text{Width of water (from gutter)} = 13.0'$$

$$\text{Clear space (half street)} = 13.0 - 13.0' = 0.0'$$

$$\text{Total Clear Space} = 4.5 + 0.0 = 4.5'$$

## TRY 10 YEAR STORM

### Inlet 4

$$Q = Q_{b1} = 1.97 \text{ cfs}$$

$$\text{Gutter Slope} = 0.5\%$$

$$\text{Height of water (from gutter)} = 0.23'$$

$$\text{Width of water (from gutter)} = 7.5'$$

$$\text{Clear space (half street)} = 13.0 - 7.5' = 5.5'$$

### Inlet 5

$$Q = Q_{b0} = 6.41 \text{ cfs}$$

$$\text{Gutter Slope} = 0.5\%$$

$$\text{Height of water (from gutter)} = 0.36'$$

$$\text{Width of water (from gutter)} = 12.0'$$

$$\text{Clear space (half street)} = 13.0 - 12.0' = 1.0'$$

$$\text{Total Clear Space} = 5.5 + 1.0 = 6.5'$$

## **Check Inlet 6 & Across Street – Hillcrest Drive**

### **Inlet 6**

$$Q = Q_{co} = 8.53 \text{ cfs}$$

$$\text{Gutter Slope} = 2.67\%$$

$$\text{Height of water (from gutter)} = 0.30'$$

$$\text{Width of water (from gutter)} = 10.0'$$

$$\text{Clear space (half street)} = 13.0 - 10.0' = 3.0'$$

### **Across from Inlet 6**

$$Q = Q_{c1} = 2.42 \text{ cfs}$$

$$\text{Gutter Slope} = 2.67\%$$

$$\text{Height of water (from gutter)} = 0.18'$$

$$\text{Width of water (from gutter)} = 6.0'$$

$$\text{Clear space (half street)} = 13.0 - 6.0' = 7.0'$$

$$\textbf{Total Clear Space} = 3.0 + 7.0 = 10.0'$$

## **Check Inlet 7 & 8 – Hillcrest**

### **Inlet 7**

$$Q = Q_{do1(1/2)} = 9.47 (0.5) = 4.74 \text{ cfs}$$

$$\text{Gutter Slope} = 4.88\%$$

$$\text{Height of water (from gutter)} = 0.21'$$

$$\text{Width of water (from gutter)} = 7.0'$$

$$\text{Clear space (half street)} = 13.0 - 7.0' = 6.0'$$

### **Inlet 8**

$$Q = Q_{c1} + Q_{d1} = 2.42 + 2.17 = 4.59 \text{ cfs}$$

$$\text{Gutter Slope} = 4.88\%$$

$$\text{Height of water (from gutter)} = 0.21'$$

$$\text{Width of water (from gutter)} = 7.0'$$

$$\text{Clear space (half street)} = 13.0 - 7.0' = 6.0'$$

$$\textbf{Total Clear Space} = 6.0 + 6.0 = 12.0'$$

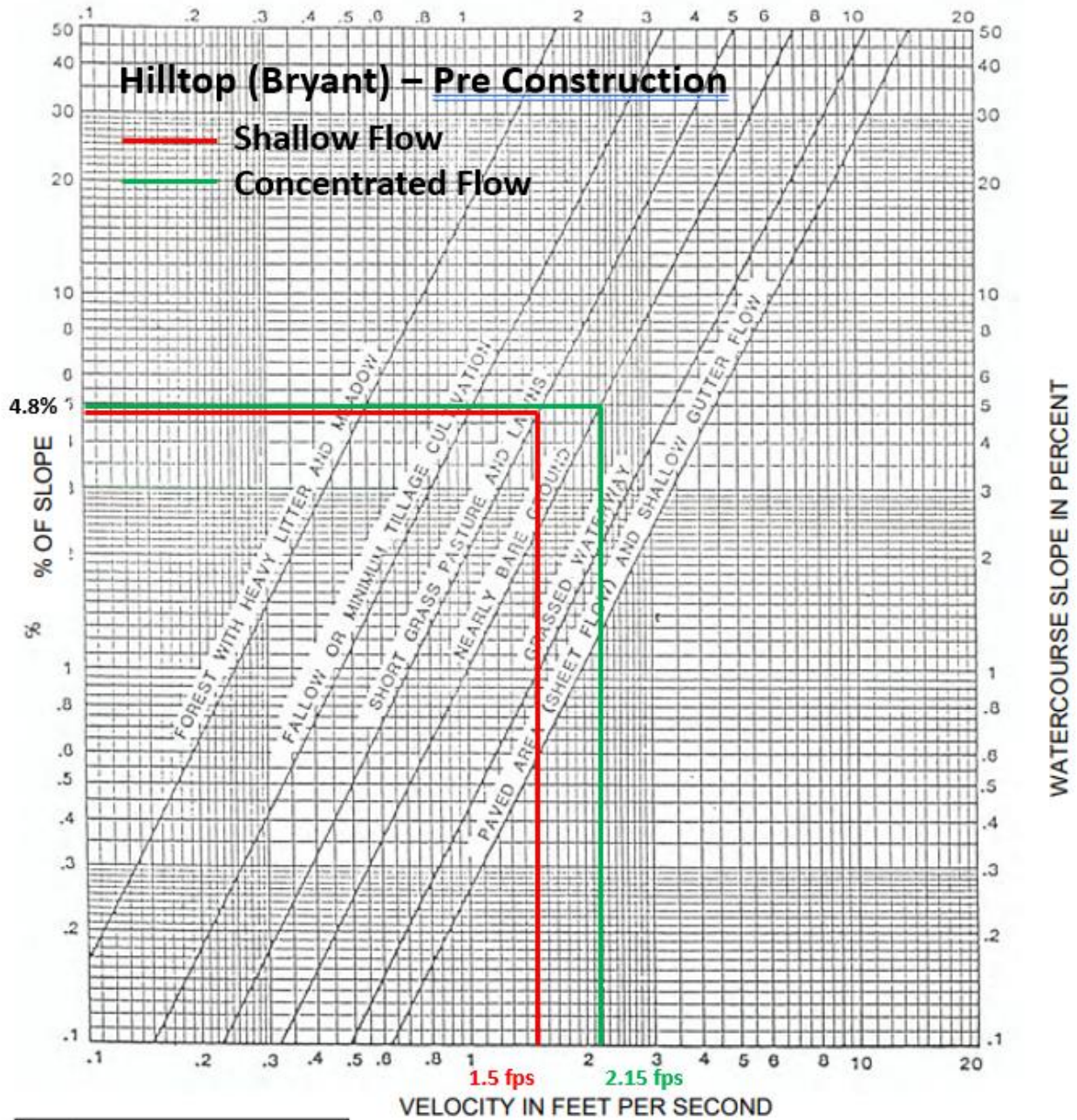
# Detention Facility Computations

In this section, we will size the detention facility located in the Common Area (West side of the project). At the completion of this section, a summary of pre and post flows will be provided. Whereas the time of concentration will be used to determine the intensity (I), the runoff coefficient (C) for each storm analysis shall be based on that determined on pages 5 and 6 of this report.

## Time of Concentration (tc)

In determining the time of concentration, we must first determine the velocity of the runoff based on the type of ground cover and type of flow. The total tc is a sum of the tc for overland flow, the tc for shallow concentrated flow, and the tc for channelized flow. For this analysis, we will use the US Soil Conservation Service Technical Release #55, "Watercourse Slope vs Velocity" graph. A Pre Construction and Post Construction graph for each watershed is provided on the following pages.

# Pre Construction Time of Concentration (tc)



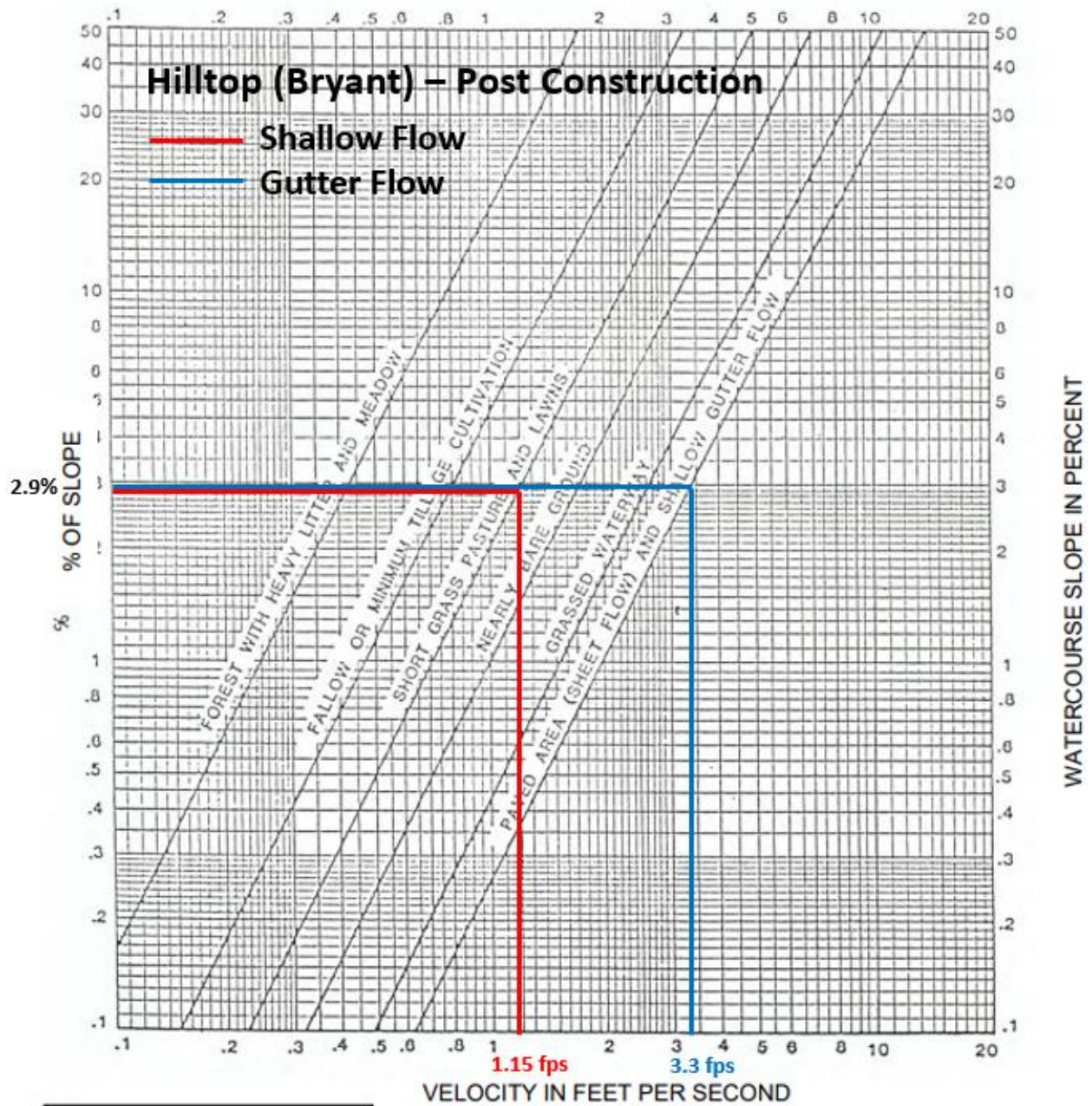
$$T = \frac{L}{60V}$$

T = time of concentration (min.)  
L = length of flow (ft)  
V = velocity of flow (ft/s)

SOURCE:  
U.S. SOIL CONSERVATION SERVICE  
TECHNICAL RELEASE #55

Pre-Construction  $t_c = \Sigma(L/(60)(V)) = 6 \text{ min}$

# Post Construction Time of Concentration (tc)



$$T = \frac{L}{60V}$$

T = time of concentration (min.)  
L = length of flow (ft)  
V = velocity of flow (ft/s)

SOURCE:  
U.S. SOIL CONSERVATION SERVICE  
TECHNICAL RELEASE #55

Post-Construction  $t_c = \Sigma(L/(60)(V)) = 9 \text{ min}$



## Stage – Storage Table

The following Stage Storage Table is provided, based on the grading plan contained in the Civil Plans. The accumulative storage is provided in the right most column.

<b>TYPE 3</b>			
<b>Stage - Storage for Irregular Detention Basin</b>			
Top Elev	Bottom Elev	Increment	
353.5	345.5	1	
Stage msl	Area sf	Δ Volume cf	Volume cf
345.50	1	0	0
346.50	1853.50	927.25	927.25
347.50	2951.40	2402.45	3329.70
348.50	4240.13	3595.77	6925.47
349.50	5637.46	4938.80	11864.26
350.50	7118.75	6378.11	18242.37
351.50	8673.71	7896.23	26138.60
352.50	10265.99	9469.85	35608.45
353.50	11858.27	11062.13	46670.58

## Stage – Discharge Table

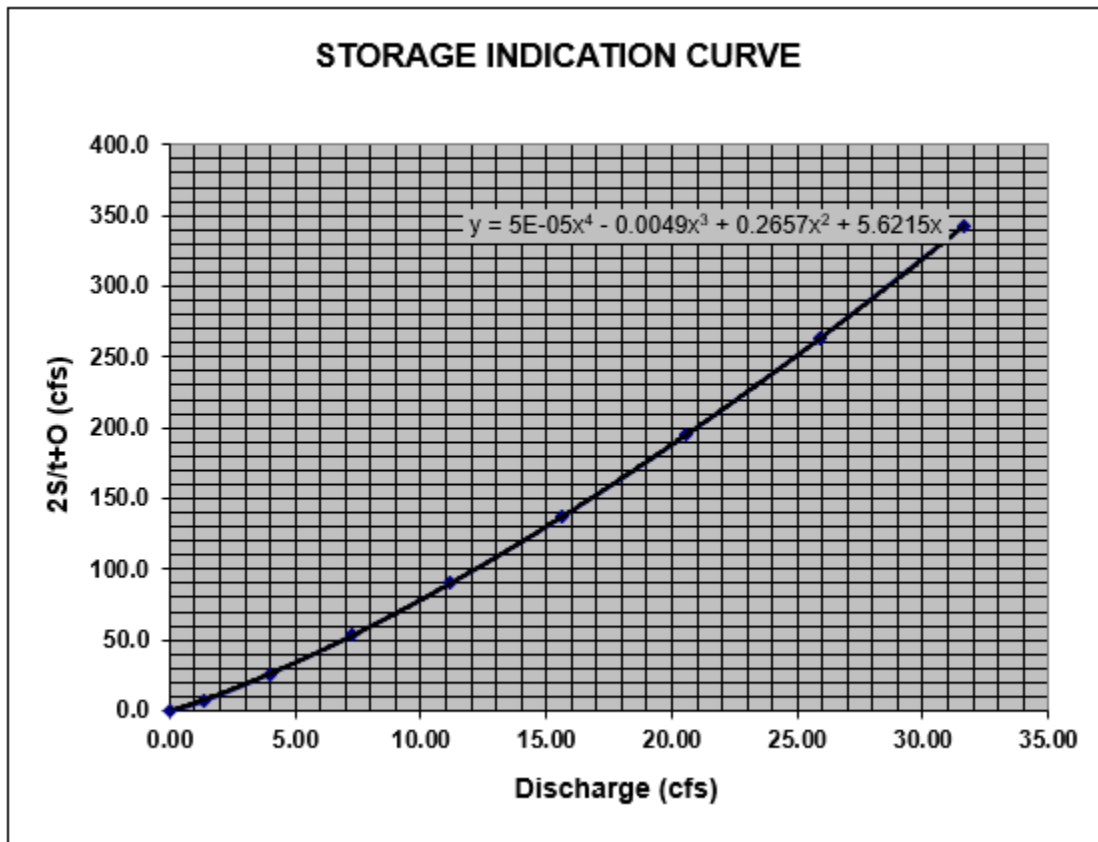
The following Stage Discharge Table is provided, based on the grading plan contained in the Civil Plans. The discharge structure planned for this facility is shown later in this report.

### TYPE 2

<b>Stage - Discharge for Rectangular Weir</b>			
FL Discharge	Beginning Elevation	Elevation Increment	Top of Basin
345.50	345.50	1.00	353.50

Stage	Head (H)	Weir Length (L)	Area (A)	Orifice Coefficient (C)	Velocity	Discharge (Q)
msl	ft	ft	sf		ft/s	cfs
345.50	0.00	0.42	0.00	3.33	0.00	0.00
346.50	1.00	0.42	0.42	3.33	3.33	1.40
347.50	2.00	0.42	0.84	3.33	4.71	3.96
348.50	3.00	0.42	1.26	3.33	5.77	7.27
349.50	4.00	0.42	1.68	3.33	6.66	11.19
350.50	5.00	0.42	2.10	3.33	7.45	15.64
351.50	6.00	0.42	2.52	3.33	8.16	20.56
352.50	7.00	0.42	2.94	3.33	8.81	25.90
353.50	8.00	0.42	3.36	3.33	9.42	31.65

## Storage Indication Curve



## Alternate Routing Time

The following spreadsheets represent the Hydrograph Routing for the various storm events. In each case, the Routing Storm Duration time was adjusted to provide the maximum storage required. Also, runoff coefficients C have been adjusted for each storm event:

Storm Event	Pre C	Post C
2	0.41	0.47
5	0.44	0.50
10	0.47	0.53
25	0.52	0.58
50	0.55	0.61
100	0.59	0.66

# 2 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 2 YEAR DESIGN STORM

Routing Storm Duration

**20** minutes

	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	15.97	0	15.973	0	0	15.972	0.001
5	8.87	24.85	10.876	35.723	2.548	2013.7	35.724	-0.001
10	15.97	31.95	25.334	57.280	5.194	4579.3	57.280	0.000
15	15.97	31.95	41.818	73.764	7.731	7432.4	73.764	-0.001
20	15.97	23.07	54.737	77.809	9.513	9637.5	77.810	-0.001
25	7.10	7.10	57.939	65.038	9.935	10181.1	8.503	56.535
30	0.00	0.00	62.199	62.199	1.520	9527.8	0.000	62.199
35	0.00	0.00	50.999	50.999	0.000	9329.8	0.000	50.999
40	0.00	0.00	51.199	51.199	0.000	7649.8	0.000	51.199
45	0.00	0.00	51.399	51.399	0.000	7679.8	0.000	51.399
50	0.00	0.00	51.599	51.599	0.000	7709.8	0.000	51.599
55	0.00	0.00	51.799	51.799	0.000	7739.8	0.000	51.799
60	0.00	0.00	51.999	51.999	0.000	7769.8	0.000	51.999

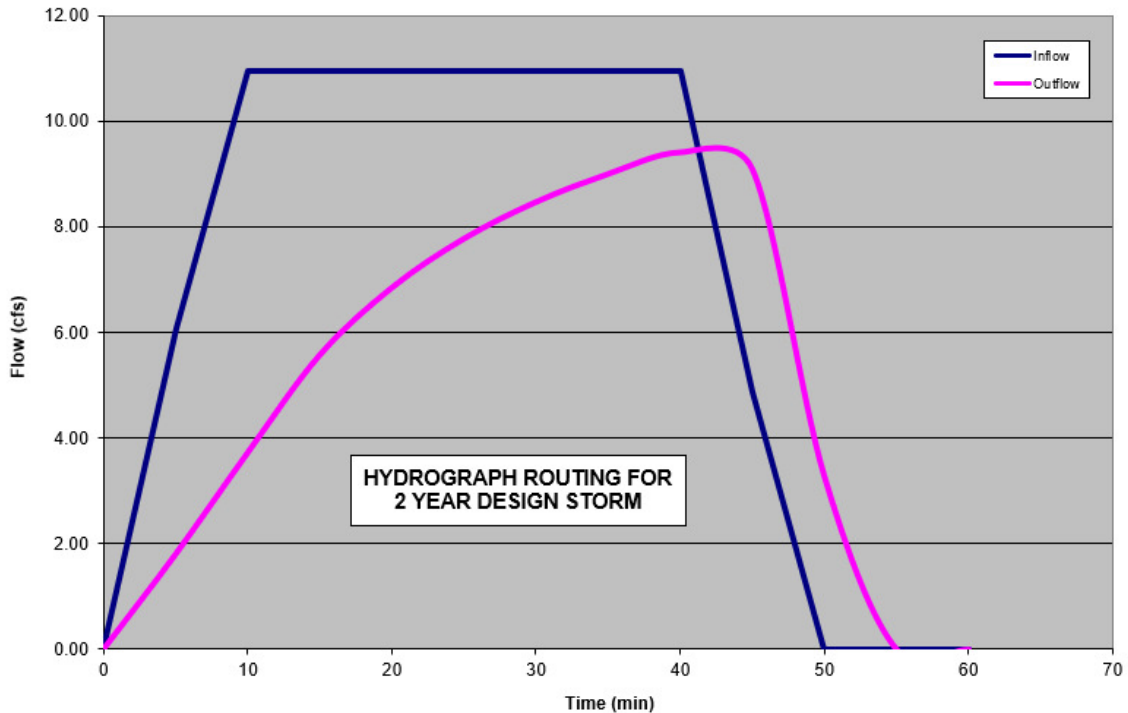
Actual Maximum Storage needed is 10181.1 cubic feet

Maximum Storage required is achieved at an elev. = 349.32

Maximum Allowable (undeveloped) Discharge is 11.99 cfs

Maximum Discharge for the above storm is 9.93 cfs

### DETENTION HYDROGRAPH



# 5 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 5 YEAR DESIGN STORM

Routing Storm Duration

**30** minutes

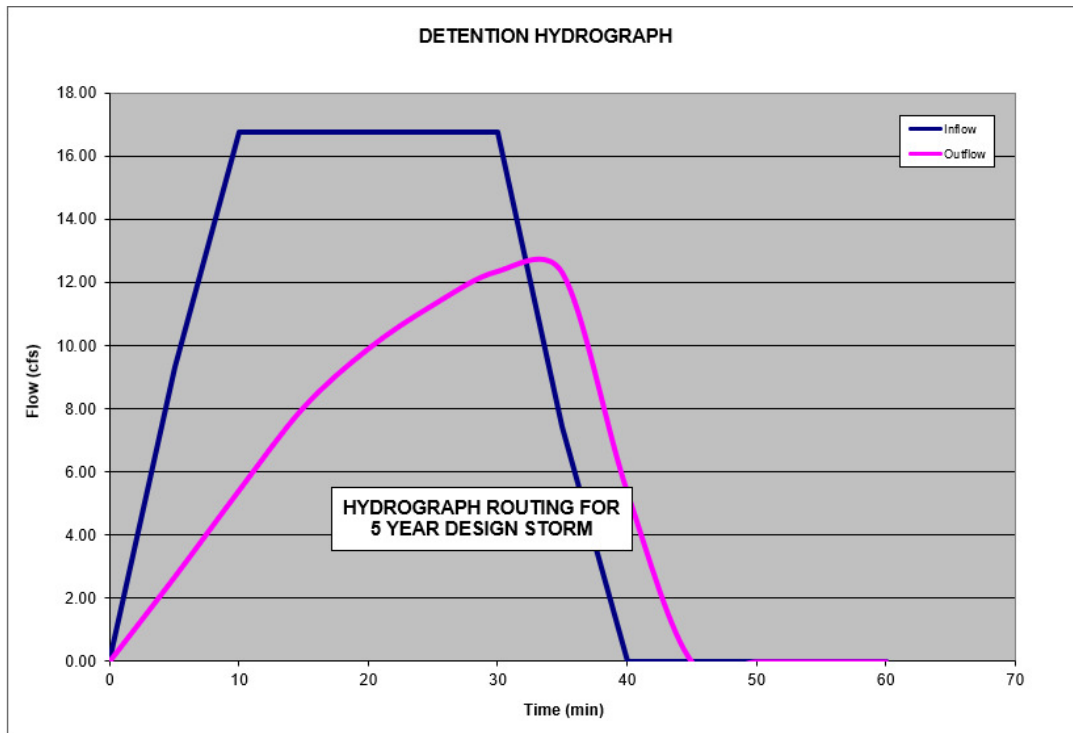
	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	16.75	0	16.750	0	0	16.749	0.001
5	9.31	26.06	11.428	37.484	2.661	2113.4	37.485	-0.001
10	16.75	33.50	26.658	60.157	5.413	4810.6	60.158	-0.001
15	16.75	33.50	44.056	77.555	8.051	7816.0	77.555	0.001
20	16.75	33.50	57.739	91.238	9.908	10147.0	91.236	0.002
25	16.75	33.50	68.648	102.147	11.295	11991.4	102.146	0.001
30	16.75	24.19	77.420	101.614	12.364	13467.5	101.615	-0.001
35	7.44	7.44	76.989	84.434	12.312	13395.2	36.484	47.950
40	0.00	0.00	73.856	73.856	5.389	11856.7	0.000	73.856
45	0.00	0.00	74.056	74.056	0.000	11078.4	0.000	74.056
50	0.00	0.00	74.256	74.256	0.000	11108.4	0.000	74.256
55	0.00	0.00	74.456	74.456	0.000	11138.4	0.000	74.456
60	0.00	0.00	74.656	74.656	0.000	11168.4	0.000	74.656

Actual Maximum Storage needed is 13467.5 cubic feet

Maximum Storage required is achieved at an elev. = 349.89

Maximum Allowable (undeveloped) Discharge is 14.9 cfs

Maximum Discharge for the above storm is 12.36 cfs



# 10 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 10 YEAR DESIGN STORM

Routing Storm Duration

**40** minutes

	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	17.24	0	17.240	0	0	17.239	0.001
5	9.58	26.82	11.778	38.596	2.731	2176.3	38.597	-0.001
10	17.24	34.48	27.496	61.977	5.550	4956.9	61.976	0.001
15	17.24	34.48	45.475	79.956	8.251	8058.9	79.956	0.000
20	17.24	34.48	59.644	94.124	10.156	10469.9	94.123	0.001
25	17.24	34.48	70.962	105.442	11.581	12381.4	105.442	0.000
30	17.24	34.48	80.081	114.561	12.681	13914.2	114.560	0.001
35	17.24	34.48	87.472	121.953	13.544	15152.5	121.953	0.000
40	17.24	24.90	93.489	118.391	14.232	16158.1	118.390	0.001
45	7.66	7.66	90.587	98.249	13.902	15673.3	50.238	48.011
50	0.00	0.00	84.384	84.384	7.032	13682.5	0.000	84.384
55	0.00	0.00	84.584	84.584	0.000	12657.6	0.000	84.584
60	0.00	0.00	84.784	84.784	0.000	12687.6	0.000	84.784

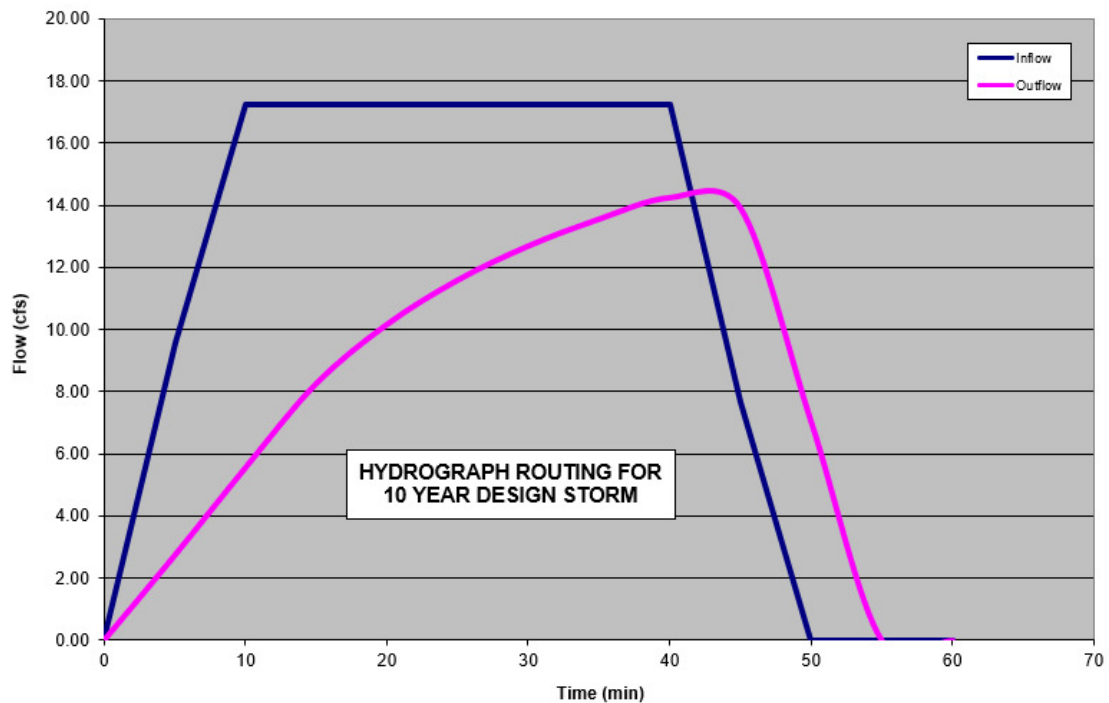
Actual Maximum Storage needed is 16158.1 cubic feet

Maximum Storage required is achieved at an elev. = 350.25

Maximum Allowable (undeveloped) Discharge is 17.36 cfs

Maximum Discharge for the above storm is 14.23 cfs

### DETENTION HYDROGRAPH



# 25 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 25 YEAR DESIGN STORM

Routing Storm Duration

**30** minutes

	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	23.16	0	23.158	0	0	23.159	-0.001
5	12.87	36.02	16.041	52.065	3.559	2939.9	52.066	-0.001
10	23.16	46.32	37.780	84.097	7.142	6738.4	84.098	-0.001
15	23.16	46.32	62.939	109.256	10.579	11027.7	109.256	0.000
20	23.16	46.32	83.168	129.485	13.044	14431.8	129.484	0.001
25	23.16	46.32	99.641	145.958	14.922	17184.4	145.957	0.001
30	23.16	33.45	113.166	146.617	16.396	19434.3	146.616	0.001
35	10.29	10.29	113.708	124.001	16.454	19524.4	36.239	87.762
40	0.00	0.00	113.484	113.484	5.359	17796.3	0.000	113.484
45	0.00	0.00	113.684	113.684	0.000	17022.6	0.000	113.684
50	0.00	0.00	113.884	113.884	0.000	17052.6	0.000	113.884
55	0.00	0.00	114.084	114.084	0.000	17082.6	0.000	114.084
60	0.00	0.00	114.284	114.284	0.000	17112.6	0.000	114.284

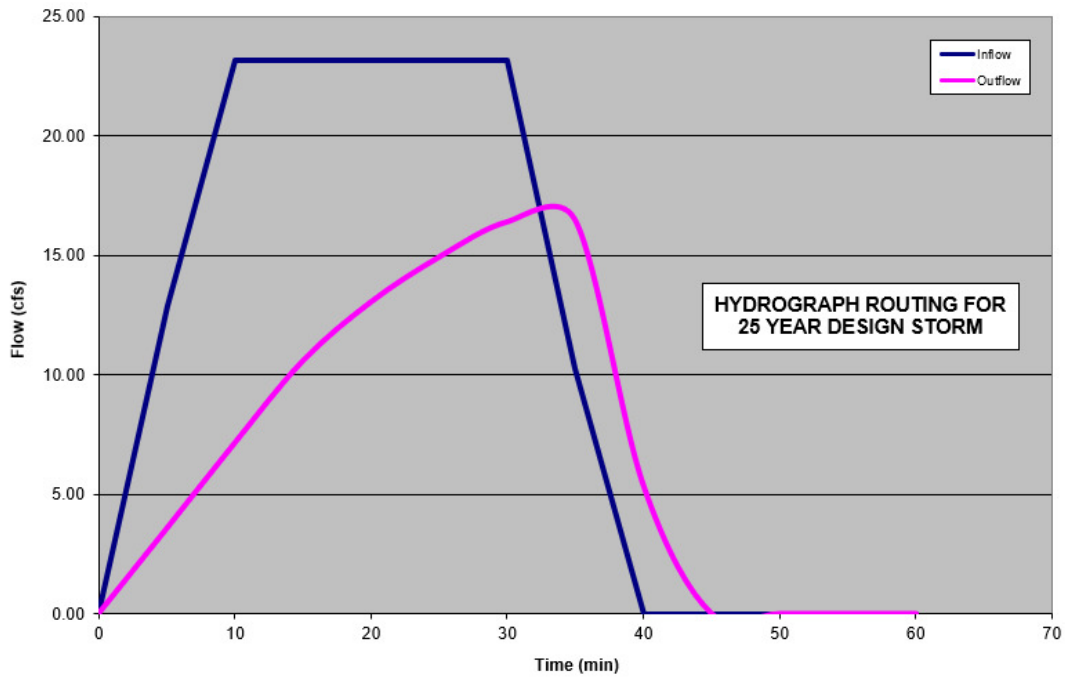
Actual Maximum Storage needed is 19524.4 cubic feet

Maximum Storage required is achieved at an elev. = 350.65

Maximum Allowable (undeveloped) Discharge is 19.53 cfs

Maximum Discharge for the above storm is 16.45 cfs

DETENTION HYDROGRAPH



# 50 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 50 YEAR DESIGN STORM

Routing Storm Duration

**30** minutes

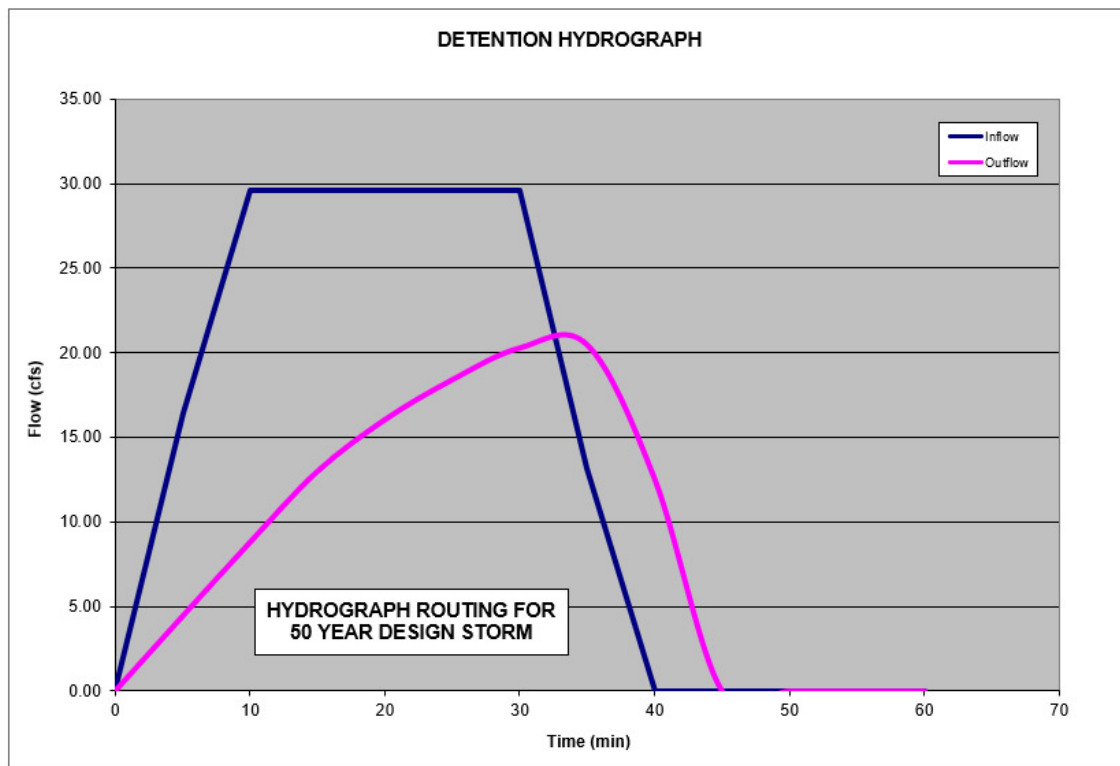
	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	29.62	0	29.616	0	0	29.615	0.001
5	16.45	46.07	20.781	66.850	4.417	3779.8	66.850	0.000
10	29.62	59.23	49.291	108.522	8.779	8710.6	108.523	-0.001
15	29.62	59.23	82.573	141.804	12.974	14332.1	141.804	0.000
20	29.62	59.23	109.747	168.978	16.029	18866.3	168.978	0.000
25	29.62	59.23	132.202	191.433	18.388	22588.5	191.434	0.000
30	29.62	42.78	150.904	193.682	20.265	25675.3	193.683	-0.001
35	13.16	13.16	152.783	165.945	20.449	25984.8	102.860	63.085
40	0.00	0.00	141.080	141.080	12.532	23011.9	0.000	141.080
45	0.00	0.00	141.280	141.280	0.000	21162.0	0.000	141.280
50	0.00	0.00	141.480	141.480	0.000	21192.0	0.000	141.480
55	0.00	0.00	141.680	141.680	0.000	21222.0	0.000	141.680
60	0.00	0.00	141.880	141.880	0.000	21252.0	0.000	141.880

Actual Maximum Storage needed is 25984.8 cubic feet

Maximum Storage required is achieved at an elev. = 351.37

Maximum Allowable (undeveloped) Discharge is 25.68 cfs

Maximum Discharge for the above storm is 20.45 cfs



# 100 YEAR STORM EVENT

Coefficients for Storage Indication Curve from Chart			
$Ax^4$	$Bx^3$	$Cx^2$	$Dx$
0.0001	-0.0049	0.2657	5.6215

## HYDROGRAPH ROUTING FOR 100 YEAR DESIGN STORM

Routing Storm Duration

**40** minutes

	1	2	3	4	5	6	7	8
Time min	$I_1$ cfs	$I_1+I_2$ cfs	$2S_1/t-Q_1$ cfs	$2S_2/t+Q_2$ cfs	$Q_2$ cfs	$S_2$ cf	$2S/t-Q$ from eqn.	Col 4 - 7
0	0.00	30.44	0	30.441	0	0	30.440	0.001
5	16.91	47.35	21.393	68.745	4.524	3887.5	68.746	-0.001
10	30.44	60.88	50.780	111.662	8.983	8964.4	111.661	0.001
15	30.44	60.88	85.119	146.000	13.272	14758.5	146.001	-0.001
20	30.44	60.88	113.200	174.082	16.400	19440.0	174.083	-0.001
25	30.44	60.88	136.442	197.324	18.820	23289.3	197.323	0.001
30	30.44	60.88	155.829	216.711	20.747	26486.5	216.710	0.001
35	30.44	60.88	172.091	232.972	22.310	29160.1	232.973	-0.001
40	30.44	43.97	185.788	229.759	23.592	31407.1	229.758	0.001
45	13.53	13.53	183.077	196.607	23.341	30962.7	94.375	102.232
50	0.00	0.00	173.395	173.395	11.706	27735.1	0.000	173.395
55	0.00	0.00	173.595	173.595	0.000	26009.2	0.000	173.595
60	0.00	0.00	173.795	173.795	0.000	26039.2	0.000	173.795

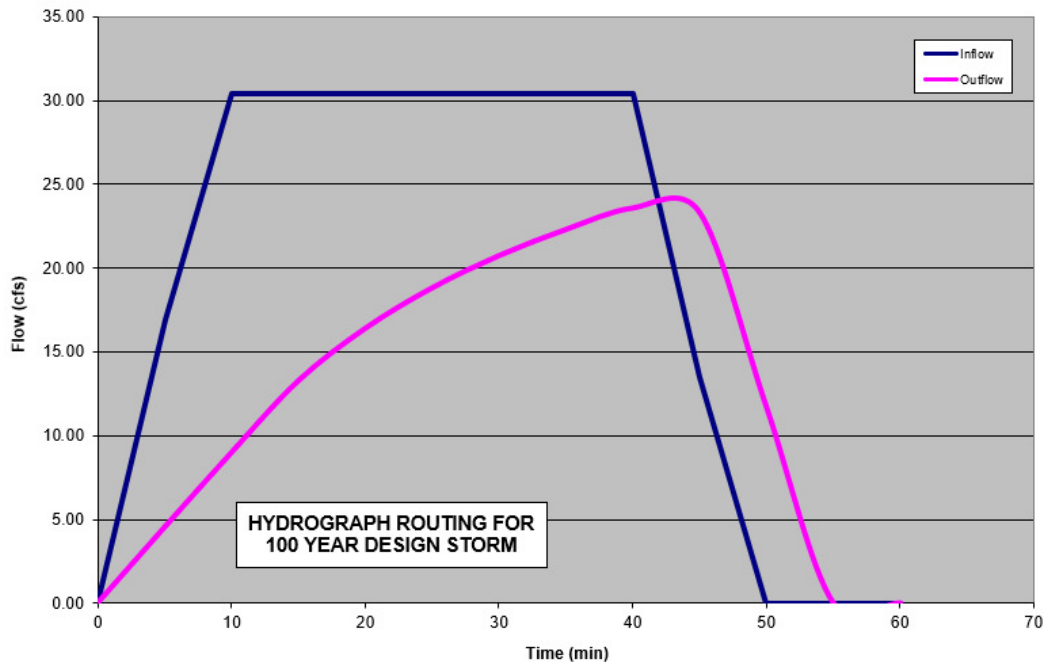
Actual Maximum Storage needed is 31407.1 cubic feet

Maximum Storage required is achieved at an elev. = 352.03

Maximum Allowable (undeveloped) Discharge is 29.36 cfs

Maximum Discharge for the above storm is 23.59 cfs

### DETENTION HYDROGRAPH

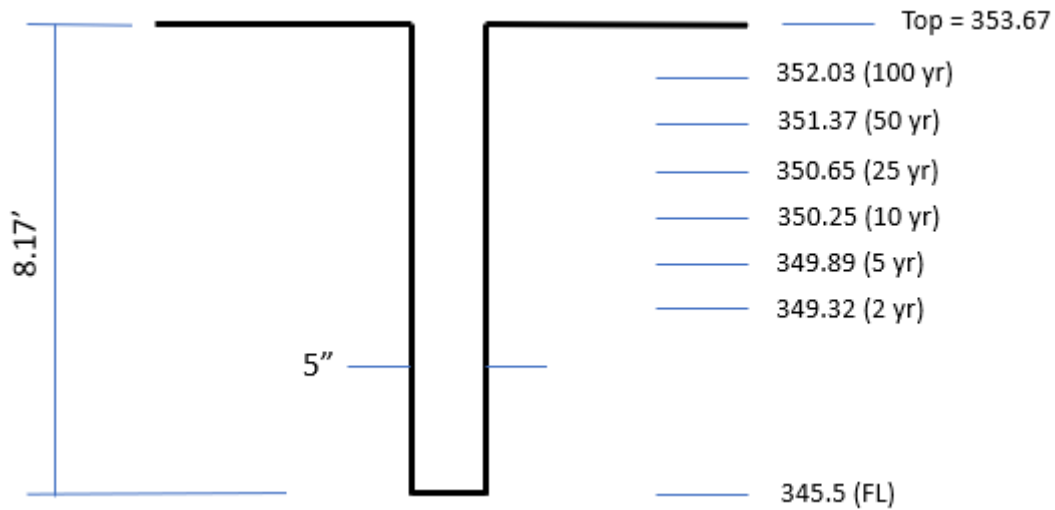




### Summary – Detention

Storm Event	Volume Needed (cf)	WSE	Max Discharge Allowed (cfs)	Max Discharge Model (cfs)
2	10181.1	349.32	11.99	9.93
5	13467.5	349.89	14.90	12.36
10	16158.1	350.25	17.36	14.23
25	19524.4	350.65	19.53	16.45
50	25984.8	351.37	25.68	20.45
100	31407.1	352.03	29.36	23.59

### Discharge Structure Detail





## Study Point Summary (25 yr Storm)

Study Point	Pre Construction	Post Construction	Change
A	15.18 cfs	16.81 cfs	1.63 cfs*
B	11.49 cfs	0.00 cfs	-11.49 cfs
C	12.72 cfs	0.00 cfs	-12.72 cfs
D	18.46 cfs	16.45 cfs	-2.01 cfs
<b>Total:</b>			<b>-24.59 cfs</b>

\* Existing culvert originating at the Junction Box near the NE corner of Hurricane Gardens has adequate capacity to accept this slight increase in flow.

# Engineering Certification

I, Tim Lemons, Arkansas Registered Professional Engineer No. 7373, hereby certify that the drainage reports, and calculations contained in this report, have been prepared in accordance with sound engineering practice and principles, and based on best known available data. Improvements as outlined in this report and depicted on the preliminary plat and design drawings should not increase the risk of endangerment to life or have negative impacts on adjacent or downstream property or watersheds.



Timothy B. Lemons, PE  
Arkansas Professional Engineer, #7373

# Appendix

<b>GUTTER CAPACITY OF STREETS - 27' BC to BC</b>								
<b>Slope = 0.5%, n = 0.012</b>								
<b>Width (ft)</b>	<b>Slope</b>	<b>Height (ft)</b>	<b>Area (sf)</b>	<b>R</b>	<b>R<sup>2/3</sup></b>	<b>S</b>	<b>S<sup>1/2</sup></b>	<b>Q (cfs)</b>
0.5	0.030	0.02	0.00	0.01	0.04	0.00500	0.0707	0.00
1	0.030	0.03	0.02	0.01	0.06	0.00500	0.0707	0.01
1.5	0.030	0.05	0.03	0.02	0.08	0.00500	0.0707	0.02
2	0.030	0.06	0.06	0.03	0.10	0.00500	0.0707	0.05
2.5	0.030	0.08	0.09	0.04	0.11	0.00500	0.0707	0.09
3	0.030	0.09	0.14	0.04	0.13	0.00500	0.0707	0.15
3.5	0.030	0.11	0.18	0.05	0.14	0.00500	0.0707	0.22
4	0.030	0.12	0.24	0.06	0.15	0.00500	0.0707	0.32
4.5	0.030	0.14	0.30	0.07	0.16	0.00500	0.0707	0.44
5	0.030	0.15	0.38	0.07	0.18	0.00500	0.0707	0.58
5.5	0.030	0.17	0.45	0.08	0.19	0.00500	0.0707	0.75
6	0.030	0.18	0.54	0.09	0.20	0.00500	0.0707	0.94
6.5	0.030	0.20	0.63	0.10	0.21	0.00500	0.0707	1.17
7	0.030	0.21	0.74	0.10	0.22	0.00500	0.0707	1.43
7.5	0.030	0.23	0.84	0.11	0.23	0.00500	0.0707	1.71
8.5	0.030	0.26	1.08	0.13	0.25	0.00500	0.0707	2.39
9	0.030	0.27	1.22	0.13	0.26	0.00500	0.0707	2.79
9.5	0.030	0.29	1.35	0.14	0.27	0.00500	0.0707	3.22
10	0.030	0.30	1.50	0.15	0.28	0.00500	0.0707	3.69
10.5	0.030	0.32	1.65	0.16	0.29	0.00500	0.0707	4.21
11	0.030	0.33	1.82	0.16	0.30	0.00500	0.0707	4.76
11.5	0.030	0.35	1.98	0.17	0.31	0.00500	0.0707	5.36
12	0.030	0.36	2.16	0.18	0.32	0.00500	0.0707	6.01
12.5	0.030	0.38	2.34	0.19	0.33	0.00500	0.0707	6.70
13	0.030	0.39	2.54	0.19	0.33	0.00500	0.0707	7.44

<b>GUTTER CAPACITY OF STREETS - 27' BC to BC</b>								
<b>Slope = 1.50%, n = 0.012</b>								
<b>Width (ft)</b>	<b>Slope</b>	<b>Height (ft)</b>	<b>Area (sf)</b>	<b>R</b>	<b>R<sup>2</sup>/3</b>	<b>S</b>	<b>S<sup>1/2</sup></b>	<b>Q (cfs)</b>
0.5	0.030	0.02	0.00	0.01	0.04	0.01500	0.1225	0.00
1	0.030	0.03	0.02	0.01	0.06	0.01500	0.1225	0.01
1.5	0.030	0.05	0.03	0.02	0.08	0.01500	0.1225	0.04
2	0.030	0.06	0.06	0.03	0.10	0.01500	0.1225	0.09
2.5	0.030	0.08	0.09	0.04	0.11	0.01500	0.1225	0.16
3	0.030	0.09	0.14	0.04	0.13	0.01500	0.1225	0.26
3.5	0.030	0.11	0.18	0.05	0.14	0.01500	0.1225	0.39
4	0.030	0.12	0.24	0.06	0.15	0.01500	0.1225	0.55
4.5	0.030	0.14	0.30	0.07	0.16	0.01500	0.1225	0.76
5	0.030	0.15	0.38	0.07	0.18	0.01500	0.1225	1.01
5.5	0.030	0.17	0.45	0.08	0.19	0.01500	0.1225	1.30
6	0.030	0.18	0.54	0.09	0.20	0.01500	0.1225	1.64
6.5	0.030	0.20	0.63	0.10	0.21	0.01500	0.1225	2.03
7	0.030	0.21	0.74	0.10	0.22	0.01500	0.1225	2.47
7.5	0.030	0.23	0.84	0.11	0.23	0.01500	0.1225	2.97
8.5	0.030	0.26	1.08	0.13	0.25	0.01500	0.1225	4.15
9	0.030	0.27	1.22	0.13	0.26	0.01500	0.1225	4.83
9.5	0.030	0.29	1.35	0.14	0.27	0.01500	0.1225	5.58
10	0.030	0.30	1.50	0.15	0.28	0.01500	0.1225	6.40
10.5	0.030	0.32	1.65	0.16	0.29	0.01500	0.1225	7.29
11	0.030	0.33	1.82	0.16	0.30	0.01500	0.1225	8.25
11.5	0.030	0.35	1.98	0.17	0.31	0.01500	0.1225	9.29
12	0.030	0.36	2.16	0.18	0.32	0.01500	0.1225	10.41
12.5	0.030	0.38	2.34	0.19	0.33	0.01500	0.1225	11.61
13	0.030	0.39	2.54	0.19	0.33	0.01500	0.1225	12.89

<b>GUTTER CAPACITY OF STREETS - 27' BC to BC</b>								
<b>Slope = 2.67%, n = 0.012</b>								
<b>Width (ft)</b>	<b>Slope</b>	<b>Height (ft)</b>	<b>Area (sf)</b>	<b>R</b>	<b>R<sup>2/3</sup></b>	<b>S</b>	<b>S<sup>1/2</sup></b>	<b>Q (cfs)</b>
0.5	0.030	0.02	0.00	0.01	0.04	0.02670	0.1634	0.00
1	0.030	0.03	0.02	0.01	0.06	0.02670	0.1634	0.02
1.5	0.030	0.05	0.03	0.02	0.08	0.02670	0.1634	0.05
2	0.030	0.06	0.06	0.03	0.10	0.02670	0.1634	0.12
2.5	0.030	0.08	0.09	0.04	0.11	0.02670	0.1634	0.21
3	0.030	0.09	0.14	0.04	0.13	0.02670	0.1634	0.34
3.5	0.030	0.11	0.18	0.05	0.14	0.02670	0.1634	0.52
4	0.030	0.12	0.24	0.06	0.15	0.02670	0.1634	0.74
4.5	0.030	0.14	0.30	0.07	0.16	0.02670	0.1634	1.01
5	0.030	0.15	0.38	0.07	0.18	0.02670	0.1634	1.34
5.5	0.030	0.17	0.45	0.08	0.19	0.02670	0.1634	1.73
6	0.030	0.18	0.54	0.09	0.20	0.02670	0.1634	2.18
6.5	0.030	0.20	0.63	0.10	0.21	0.02670	0.1634	2.70
7	0.030	0.21	0.74	0.10	0.22	0.02670	0.1634	3.29
7.5	0.030	0.23	0.84	0.11	0.23	0.02670	0.1634	3.96
8.5	0.030	0.26	1.08	0.13	0.25	0.02670	0.1634	5.53
9	0.030	0.27	1.22	0.13	0.26	0.02670	0.1634	6.44
9.5	0.030	0.29	1.35	0.14	0.27	0.02670	0.1634	7.44
10	0.030	0.30	1.50	0.15	0.28	0.02670	0.1634	8.53
10.5	0.030	0.32	1.65	0.16	0.29	0.02670	0.1634	9.72
11	0.030	0.33	1.82	0.16	0.30	0.02670	0.1634	11.01
11.5	0.030	0.35	1.98	0.17	0.31	0.02670	0.1634	12.40
12	0.030	0.36	2.16	0.18	0.32	0.02670	0.1634	13.89
12.5	0.030	0.38	2.34	0.19	0.33	0.02670	0.1634	15.49
13	0.030	0.39	2.54	0.19	0.33	0.02670	0.1634	17.20

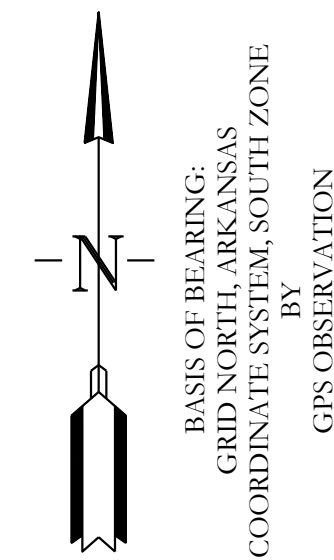
<b>GUTTER CAPACITY OF STREETS - 27' BC to BC</b>								
<b>Slope = 4.88%, n = 0.012</b>								
<b>Width (ft)</b>	<b>Slope</b>	<b>Height (ft)</b>	<b>Area (sf)</b>	<b>R</b>	<b>R<sup>2/3</sup></b>	<b>S</b>	<b>S<sup>1/2</sup></b>	<b>Q (cfs)</b>
0.5	0.030	0.02	0.00	0.01	0.04	0.04880	0.2209	0.00
1	0.030	0.03	0.02	0.01	0.06	0.04880	0.2209	0.02
1.5	0.030	0.05	0.03	0.02	0.08	0.04880	0.2209	0.07
2	0.030	0.06	0.06	0.03	0.10	0.04880	0.2209	0.16
2.5	0.030	0.08	0.09	0.04	0.11	0.04880	0.2209	0.28
3	0.030	0.09	0.14	0.04	0.13	0.04880	0.2209	0.46
3.5	0.030	0.11	0.18	0.05	0.14	0.04880	0.2209	0.70
4	0.030	0.12	0.24	0.06	0.15	0.04880	0.2209	1.00
4.5	0.030	0.14	0.30	0.07	0.16	0.04880	0.2209	1.37
5	0.030	0.15	0.38	0.07	0.18	0.04880	0.2209	1.81
5.5	0.030	0.17	0.45	0.08	0.19	0.04880	0.2209	2.34
6	0.030	0.18	0.54	0.09	0.20	0.04880	0.2209	2.95
6.5	0.030	0.20	0.63	0.10	0.21	0.04880	0.2209	3.65
7	0.030	0.21	0.74	0.10	0.22	0.04880	0.2209	4.45
7.5	0.030	0.23	0.84	0.11	0.23	0.04880	0.2209	5.35
8.5	0.030	0.26	1.08	0.13	0.25	0.04880	0.2209	7.48
9	0.030	0.27	1.22	0.13	0.26	0.04880	0.2209	8.71
9.5	0.030	0.29	1.35	0.14	0.27	0.04880	0.2209	10.06
10	0.030	0.30	1.50	0.15	0.28	0.04880	0.2209	11.54
10.5	0.030	0.32	1.65	0.16	0.29	0.04880	0.2209	13.14
11	0.030	0.33	1.82	0.16	0.30	0.04880	0.2209	14.88
11.5	0.030	0.35	1.98	0.17	0.31	0.04880	0.2209	16.76
12	0.030	0.36	2.16	0.18	0.32	0.04880	0.2209	18.77
12.5	0.030	0.38	2.34	0.19	0.33	0.04880	0.2209	20.94
13	0.030	0.39	2.54	0.19	0.33	0.04880	0.2209	23.25



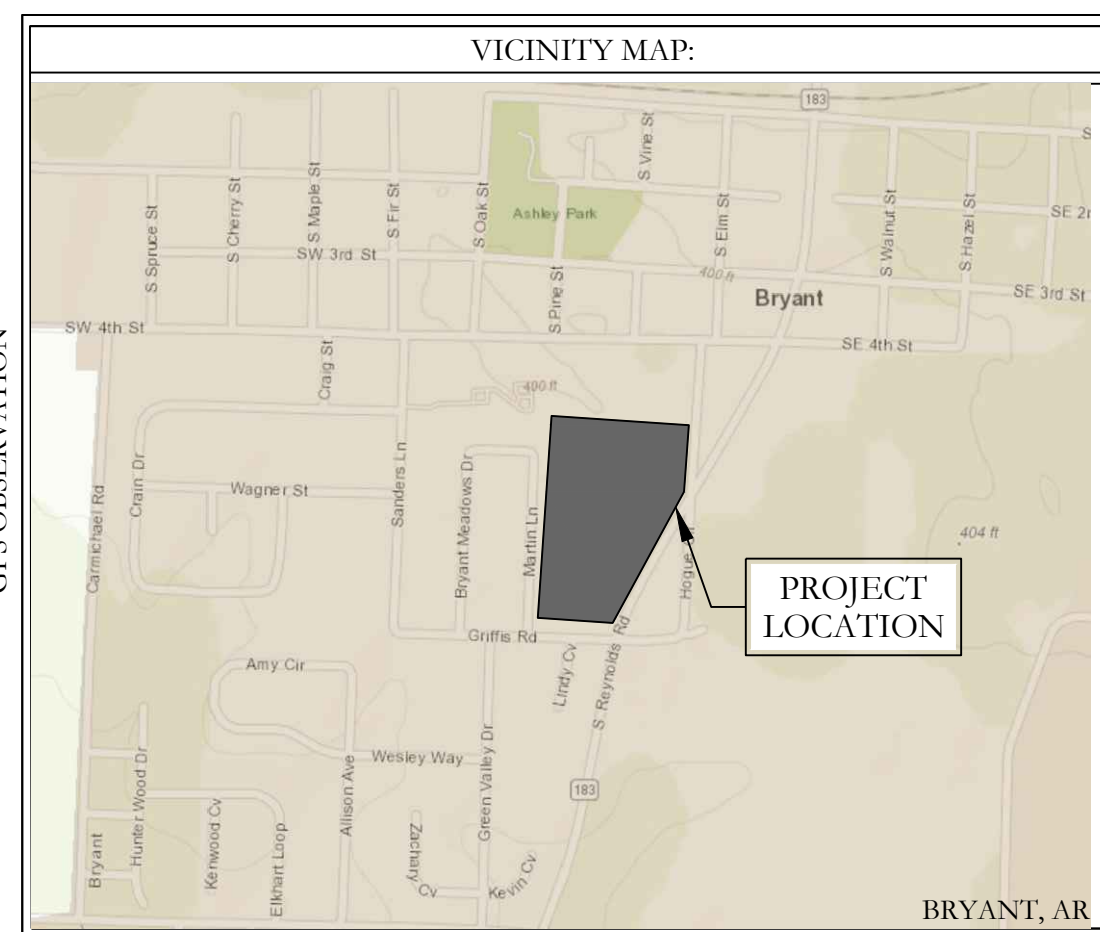
# CONSTRUCTION PLANS

## FIRST SOUTHERN CHURCH OF BRYANT

### 604 S REYNOLDS ROAD, BRYANT, SALINE COUNTY, ARKANSAS



BASIS OF BEARING:  
GRID NORTH, ARKANSAS  
COORDINATE SYSTEM, SOUTH ZONE  
BY  
GPS OBSERVATION



PREPARED BY:

**HOPE**  
**CONSULTING**  
ENGINEERS - SURVEYORS

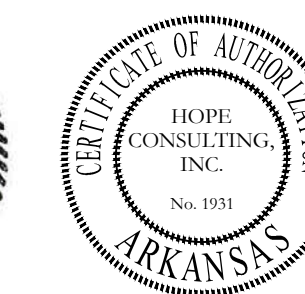
129 N. Main Street,  
Benton, Arkansas 72015  
PH. (501)315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

DRAWING INDEX

SHEET NO.	TITLE
	BOUNDARY & TOPO SURVEY
C-1.0	SITE PLAN
C-2.0	UTILITY PLAN
C-3.0	SEWER PLAN & PROFILE
C-4.0	GRADING PLAN
C-5.0	STORM DRAINAGE PLAN AND PROFILE
C-6.0	RETENTION PLAN
C-7.0	LANDSCAPE PLAN
C-8.0	EROSION PLAN
C-9.0	DEMOLITION PLAN

<b>OWNER:</b> Name: <u>Peter Cunningham</u> Address: <u>604 S Reynolds Rd, Bryant, Arkansas 72022</u> Email & <u>peter@fsbcbryant.org</u> Phone: <u>501-847-3014</u>	<b>DEVELOPER:</b> Name: <u>Peter Cunningham</u> Address: <u>604 S Reynolds Rd, Bryant, Arkansas 72022</u> Email & <u>peter@fsbcbryant.org</u> Phone: <u>501-847-3014</u>
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CIVIL ENGINEER  
HOPE CONSULTING INC  
129 N. MAIN STREET  
BENTON, AR 72015

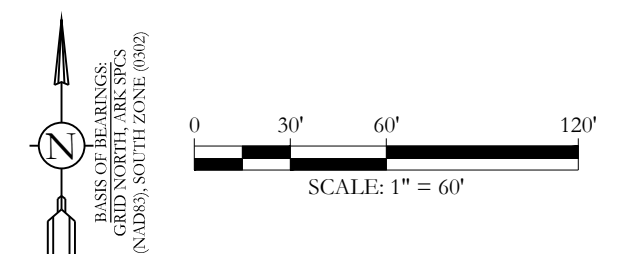


**HOPE CONSULTING** ENGINEERS - SURVEYORS  
129 N. Main Street,  
Benton, Arkansas 72015  
PH. (501)315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN CHURCH OF BRYANT**

**FSCB EXPANSION & REMODEL  
COVER SHEET**  
604 S REYNOLDS ROAD,  
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 9/4/2024	C.A.D. BY:	DRAWING NUMBER:
REVISED: 9-25-2024	CHECKED BY:	24-0260
SHEET:	SCALE:	
500	01S	14W 0 34 310 62 1664



**REFERENCE DOCUMENTS CITED**  
 RECORDED SURVEY PLATS BY:  
 JOHN C. WILLIAMS (PS 1091), FOR MURPHY, DATED 10/5/2000  
 KERRY D. LANE (PS 1141), FOR W. GRAY, DATED 8/12/2013  
 FINAL PLAT OF BRYANT MEADOWS SUBD., PHASE 3, AS RECORDED IN BOOK 337, PAGE 452  
 JOHN A. LANE (PS 1740), FOR B. GRAY, DATED 3/18/2014  
 PLAT OF FISCHERS SUBDIVISION, AS RECORDED IN BOOK 35, PAGE 400

**SURVEY DETAILS AND NOTES:**  
 OWNER OF RECORD: FIRST SOUTHERN BAPTIST CHURCH  
 PHYSICAL ADDRESS: 604 S. REYNOLDS RD., BRYANT, AR  
 COUNTY PARCEL TAX ID: 840-15972-003, 840-15972-000, 840-15973-000

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.

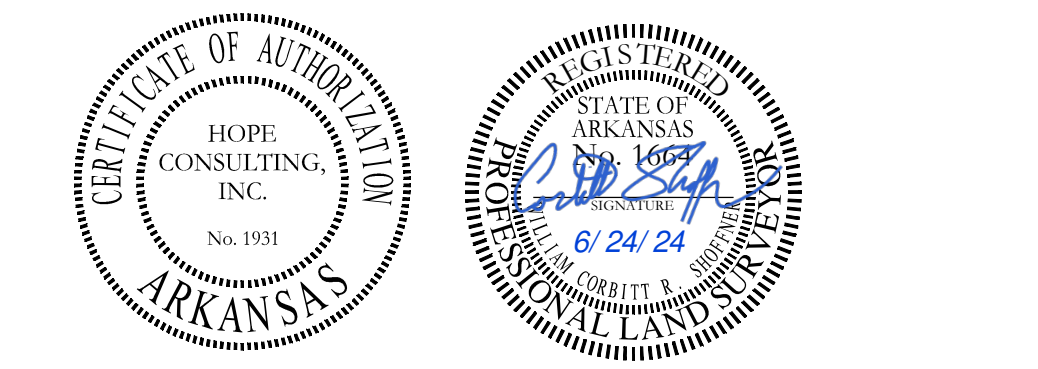
THIS SURVEY IS BASED ON PUBLIC RECORDS AND/OR TITLE INVESTIGATIONS FURNISHED BY THIRD PARTIES. NO INDEPENDENT SEARCH OR INVESTIGATION HAS BEEN MADE BY THIS FIRM FOR ANY RECORDS, PUBLIC OR PRIVATE. LISTED REFERENCE DOCUMENTS HEREON WERE USED AND CONSIDERED AS A PART OF THIS SURVEY. HOWEVER OTHER RECORDS,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

**RECORD PROPERTY DESCRIPTION**  
 SALINE COUNTY INSTRUMENT 2000-055449

ALL THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A 5/8 INCH REBAR ACCEPTED AS BEING THE SOUTHWEST CORNER OF SAID NE1/4 OF THE SW 1/4, SECTION 34, THENCE NORTH 89 DEG. 35 MIN. 27 SEC. EAST, ALONG THE SOUTH LINE THEREOF, 451.2 FEET TO A COTTON PICKER SPINDLE IN THE CENTERLINE OF GRIFFIS ROAD AND BEING THE POINT OF BEGINNING OF LANDS HEREIN DESCRIBED, THENCE SOUTH 89 DEG. 32 MIN. 03 SEC. EAST, ALONG THE CENTERLINE OF GRIFFIS ROAD AND THE SOUTH LINE OF SAID NE 1/4 OF THE SW 1/4, 313.90 FEET TO A RAILROAD SPIKE, THENCE SOUTH 89 DEG. 30 MIN. 25 SEC. EAST, ALONG THE CENTERLINE OF GRIFFIS ROAD AND THE SOUTH LINE OF SAID NE 1/4 OF THE SW 1/4, 197.38 FEET TO A COTTON PICKER SPINDLE IN THE WEST RIGHT OF WAY LINE OF ARKANSAS STATE HIGHWAY NO. 183, THENCE ALONG SAID STATE HIGHWAY RIGHT OF WAY LINE AND A CURVE TO THE RIGHT HAVING A RADIUS OF 1472.40 FEET FOR A CHORD OF NORTH 22 DEG. 36 MIN 45 SEC. EAST 339.84 FEET TO A REBAR, THENCE NORTH 60 DEG. 22 MIN. 07 SEC. WEST, ALONG SAID STATE HIGHWAY RIGHT OF WAY LINE, 2000 FEET TO A REBAR, THENCE NORTH 29 DEG. 37 MIN. 53 SEC. EAST, ALONG SAID STATE HIGHWAY RIGHT OF WAY LINE, 477.50 FEET TO A REBAR IN THE EAST LINE OF SAID NE 1/4 OF THE SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 15 SEC. EAST, ALONG EAST LINE OF SAID NE 1/4 OF THE SW 1/4, 288.55 FEET TO A RAILROAD SPIKE IN THE CENTERLINE OF ELM STREET AND THE SOUTHEAST CORNER OF LAND CONVEYED TO CITY OF BRYANT, ARKANSAS IN WARRANTY DEED DATED JUNE 15, 1961 AND FILED IN SALINE COUNTY DEED RECORD BOOK 103 AT PAGE 119 SAID POINT BEING LOCATED SOUTH 02 DEG. 46 MIN. 30 SEC. WEST 206.59 FEET FROM THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4, SECTION 34, THENCE LEAVING SAID ELM STREET, SOUTH 89 DEG. 35 MIN. 32 SEC. WEST 130.05 FEET TO A REBAR AND THE SOUTHWEST CORNER OF SAID LAND CONVEYED TO CITY OF BRYANT, THENCE NORTH 02 DEG. 48 MIN. 12 SEC. EAST 111.00 FEET TO A REBAR AND THE NORTHWEST CORNER OF SAID LAND CONVEYED TO CITY OF BRYANT, THENCE SOUTH 89 DEG. 34 MIN. 12 SEC. WEST, ALONG THE SOUTH LINE OF LAND GRANTED TO T. W. COLLE, JR. IN DEED OF CONFIRMATION AND QUIETING OF TITLE DATED OCTOBER 31, 1968 AND FILED IN SALINE COUNTY DEED RECORD BOOK 135 AT PAGE 888, 15.10 FEET, THENCE SOUTH 02 DEG. 48 MIN. 12 SEC. WEST, ALONG THE EAST LINE OF LAND CONVEYED TO T. W. COLLE, JR. AND MARY COLLE, HUSBAND AND WIFE, IN WARRANTY DEED DATED JULY 29, 1974 AND FILED IN SALINE COUNTY DEED RECORD BOOK 182 AT PAGE 164, 111.50 FEET, THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF LANDS CONVEYED TO T. W. COLLE, JR. AND MARY COLLE, HUSBAND AND WIFE, IN SAID DEED BOOK 182 AT PAGE 164, 185.00 FEET, THENCE NORTH 02 DEG. 48 MIN. 12 SEC. EAST, ALONG THE WEST LINE OF SAID LANDS CONVEYED IN DEED BOOK 182 AT PAGE 164, 112.98 FEET, THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF LANDS CONVEYED TO ROBERT LEE NOWLIN IN WARRANTY DEED DATED MARCH 16, 1971 AND FILED IN SALINE COUNTY DEED RECORD BOOK 146 AT PAGE 487 AND AS CONVEYED TO ROBERT LEE NOWLIN AND MARIE SELL NOWLIN, HUSBAND AND WIFE, IN CORRECTION WARRANTY DEED DATED SEPTEMBER 19, 1974 AND FILED IN SALINE COUNTY DEED RECORD BOOK 194 AT PAGE 104, 187.62 FEET, THENCE NORTH 00 DEG. 25 MIN. 43 SEC. WEST, ALONG THE WEST LINE OF LANDS CONVEYED TO SAID ROBERT LEE NOWLIN AND MARIE SELL NOWLIN, HUSBAND AND WIFE, 16.50 FEET TO THE SOUTHEAST CORNER OF LOT 6, FISCHERS SUBDIVISION; THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF SAID FISCHERS SUBDIVISION, 436.00 FEET TO THE SOUTHWEST CORNER OF LOT 2, FISCHERS SUBDIVISION; THENCE SOUTH 00 DEG. 25 MIN. 43 SEC. EAST, ALONG THE EAST LINE OF LAND CONVEYED TO PAUL AND ALISA GATTIN AND ALISA ANN GATTIN, HUSBAND AND WIFE, IN WARRANTY DEED DATED JANUARY 14, 1986 AND FILED IN SALINE COUNTY DEED RECORD BOOK 279 AT PAGE 512, 19.00 FEET; THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF LAND CONVEYED TO SAID PAUL AND ALISA GATTIN AND ALISA ANN GATTIN, HUSBAND AND WIFE, 57.20 FEET; THENCE NORTH 00 DEG. 25 MIN. 43 SEC. WEST, ALONG THE WEST LINE OF LAND CONVEYED TO SAID PAUL AND ALISA ANN GATTIN, HUSBAND AND WIFE, 19.00 FEET TO THE SOUTHWEST CORNER OF LOT 1, FISCHERS SUBDIVISION; THENCE SOUTH 89 DEG. 35 MIN. 22 SEC. WEST, ALONG THE SOUTH LINE OF LAND CONVEYED TO JOHN L. JACKSON AND ROBIN A. JACKSON, HUSBAND AND WIFE, IN WARRANTY DEED DATED JULY 3, 1986 AND FILED IN SALINE COUNTY DEED RECORD BOOK 284 AT PAGE 118, 269.38 FEET TO A COTTON PICKER SPINDLE IN THE CENTERLINE OF SANDERS ROAD AND THE WEST LINE OF SAID NE 1/4 OF THE SW 1/4, SAID POINT BEING LOCATED SOUTH 01 DEG. 24 MIN. 05 SEC. WEST 166.5 FEET FROM THE NORTHWEST CORNER THEREOF; THENCE SOUTH 01 DEG. 24 MIN. 05 SEC. WEST, ALONG THE CENTERLINE OF SANDERS ROAD AND THE WEST LINE OF SAID NE 1/4 OF SW 1/4, 334.54 FEET TO A COTTON PICKER SPINDLE; THENCE LEAVING SAID ROAD, SOUTH 88 DEG. 26 MIN. 35 SEC. EAST, ALONG THE NORTH LINE OF LAND CONVEYED TO SENIOR HOUSING SERVICES OF BRYANT, INC. IN WARRANTY DEED DATED JULY 11, 1988 AND FILED IN SALINE COUNTY DEED RECORD BOOK 308 AT PAGE 550, 606.92 FEET TO A REBAR, THENCE SOUTH 01 DEG. 29 MIN. 25 SEC. WEST, ALONG THE EAST LINE OF LAND CONVEYED TO SAID SENIOR HOUSING SERVICES OF BRYANT, INC., 150.00 FEET TO A REBAR, THENCE SOUTH 89 DEG. 32 MIN. 34 SEC. WEST, ALONG THE SOUTH LINE OF LAND CONVEYED TO SAID SENIOR HOUSING SERVICES OF BRYANT, INC., 152.99 FEET TO A REBAR, THENCE SOUTH 01 DEG. 33 MIN. 04 SEC. WEST, ALONG THE EAST LINE OF LANDS CONVEYED TO CORNERSTONE DEVELOPMENT CO. IN WARRANTY DEED DATED SEPTEMBER 6, 1989 AND FILED IN SALINE COUNTY DEED RECORD BOOK 322 AT PAGE 285, 677.04 FEET TO THE POINT OF BEGINNING, CONTAINING 18.462 ACRES, MORE OR LESS, SUBJECT TO A 30 FOOT ROAD RIGHT OF WAY FOR GRIFFIS ROAD, SUBJECT TO A 20 FOOT ROAD RIGHT OF WAY FOR ELM STREET, SUBJECT TO A 30 FOOT ROAD RIGHT OF WAY FOR SANDERS ROAD, SUBJECT TO A WATER LINE EASEMENT TRaversing THE NORTHERN PORTION OF LANDS DESCRIBED HEREIN ABOVE, SUBJECT TO A GAS LINE EASEMENT TRaversing SUBJECT PROPERTY.

LESS AND EXCEPT: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC. EAST (ASTRONOMIC) 982.13 FEET TO THE NORTH 01 DEG. 24 MIN. EAST 982.11 FEET, ALONG THE WEST LINE THEREOF, THENCE SOUTH 89 DEG. 01 MIN. 06 SEC. EAST 452.81 FEET TO THE NORTHEAST CORNER OF LANDS DESCRIBED IN SALINE COUNTY DEED RECORD BOOK 322 AT PAGE 285, SAID POINT BEING THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED, THENCE CONTINUE SOUTH 89 DEG. 01 MIN. 06 SEC. EAST 294.31 FEET, THENCE SOUTH 01 DEG. 41 MIN. 45 SEC. WEST 986.72 FEET TO THE SOUTH LINE OF SAID NE 1/4 OF SW 1/4, THENCE NORTH 88 DEG. 43 MIN. 48 SEC. WEST, ALONG SAID SOUTH LINE, 313.90 FEET TO THE SOUTHEAST CORNER OF LANDS DESCRIBED IN SALINE COUNTY DEED RECORD BOOK 322 AT PAGE 285, THENCE NORTH 02 DEG. 50 MIN. 15 SEC. EAST 984.37 FEET, ALONG THE EAST LINE OF LANDS DESCRIBED IN SAID DEED, TO THE POINT OF BEGINNING.

ALSO, LESS AND EXCEPT THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED, RUN THENCE WEST FOR 13 FEET, THENCE SOUTH 111.5 FEET, THENCE EAST 15 FEET, THENCE NORTH 111.5 FEET TO THE POINT OF BEGINNING.



**FLOOD ZONE INFORMATION**  
 NO PORTION OF THE PROPERTY DESCRIBED HEREON LIES WITHIN A SPECIAL FLOOD HAZARD AREA, ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP LISTED BELOW:  
 PANEL # 05125C080E, DATED: 06/05/2020.

**LEGEND**

● - PLSS Aliquot Corner	○ - Clean Out	--- - Fence	▬ - Asphalt
● - Fnd. Corner Monument	○ - Water Meter	--- - Sewer	▬ - Concrete
● - Set 1/2" Rebar/Cap (1664)	○ - Power Pole	--- - Overhead Power	▬ - Deed Records of FSCB Conveyances and Less & Excepts
△ - Computed Point	○ - Sewer Manhole	--- - Water Line	
(M) - As Measured	○ - Light Pole	--- - Telephone Line	
(P) - Per Deed or Plat Records	○ - Telephone Pedestal	--- - Electric Line	
ESMT - Easement	○ - Drainage Manhole	--- - Gas Line	
B.S.L. - Building Setback Lines	○ - Gas Meter		

**PROPERTY DESCRIPTION FROM SURVEY**  
 ALL THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID NE 1/4, SW 1/4 OF SECTION 34, THENCE ALONG THE EAST LINE THEREOF, SOUTH 02°24'31" WEST A DISTANCE OF 296.57 FEET TO THE POINT OF BEGINNING, A RAILROAD SPIKE IN ELM STREET;

THENCE ALONG THE SOUTH LINE OF THREE SEPARATE TRACTS AND THE FOLLOWING CONVEYANCES: A TRACT CONVEYED TO CITY OF BRYANT, AND FILED FOR RECORD IN DEED BOOK 103, PAGE 119; A TRACT CONVEYED TO T.W. AND MARY COLLE, AND FILED FOR RECORD IN DEED BOOK 358, PAGE 526; AND A TRACT CONVEYED TO T.W. AND MARY COLLE, AND FILED FOR RECORD IN DEED BOOK 182, PAGE 164, NORTH 88°44'21" WEST A DISTANCE OF 330.18 FEET TO A SET 1/2" REBAR & CAP (PS 1664);

THENCE NORTH 04°57'01" EAST A DISTANCE OF 112.65 FEET TO A SET 1/2" REBAR & CAP (PS 1664);  
 THENCE NORTH 88°30'34" WEST A DISTANCE OF 76.64 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE NORTHEAST CORNER OF A TRACT OF LAND CONVEYED TO WILLIAM AND KARLA GRAY, AND FILED FOR RECORD AS INSTRUMENT 2014-026572;

THENCE SOUTH 01°32'43" WEST A DISTANCE OF 17.34 FEET TO A FND 5/8" REBAR AND CAP (PS 1740) AND THE SOUTHEAST CORNER OF SAID TRACT;  
 THENCE NORTH 88°44'56" WEST A DISTANCE OF 109.79 FEET TO A FND 5/8" REBAR & CAP (PS 1740) AND THE SOUTHWEST CORNER OF SAID TRACT;

THENCE NORTH 01°32'43" EAST A DISTANCE OF 34.30 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHEAST CORNER OF SAID TRACT;  
 THENCE ALONG THE SOUTH LINE OF LOTS 6 THROUGH 2 OF SAID FISCHERS SUBDIVISION, NORTH 88°49'41" WEST A DISTANCE OF 438.92 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHWEST CORNER OF SAID LOT 2, FISCHERS SUBDIVISION;

THENCE LEAVING SAID SOUTH LINE, SOUTH 01°32'45" WEST A DISTANCE OF 19.00 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHEAST CORNER OF A TRACT OF LAND CONVEYED TO PAUL AND ALISA GATTIN, AND FILED FOR RECORD IN DEED BOOK 279, PAGE 512;

THENCE NORTH 88°49'41" WEST A DISTANCE OF 87.20 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHWEST CORNER OF SAID TRACT;  
 THENCE NORTH 01°32'43" EAST A DISTANCE OF 19.00 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHWEST CORNER OF LOT 1, OF SAID FISCHERS SUBDIVISION;

THENCE ALONG THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO JOHN AND ROBIN JACKSON, AND FILED FOR RECORD IN DEED BOOK 284, PAGE 118, NORTH 88°49'41" WEST A DISTANCE OF 267.34 FEET TO A POINT IN SANDERS ROAD ON THE WEST LINE OF SAID NE 1/4, SW 1/4 OF SECTION 34;

THENCE ALONG SAID WEST LINE, SOUTH 02°42'42" WEST A DISTANCE OF 335.4 FEET TO A POINT IN SANDERS ROAD;  
 THENCE LEAVING SAID WEST LINE, ALONG THE NORTH LINE OF A TRACT OF LAND CONVEYED TO SENIOR HOUSING SERVICES OF BRYANT, INC., AND FILED FOR RECORD IN DEED BOOK 308, PAGE 550, SOUTH 88°44'21" EAST A DISTANCE OF 605.66 FEET TO A FND 1/2" REBAR AND THE NORTHEAST CORNER OF SAID TRACT;

THENCE ALONG THE EAST LINE OF SAID TRACT AND CONVEYANCE SOUTH 03°07'44" WEST A DISTANCE OF 150.00 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE NORTH LINE OF BRYANT MEADOWS SUBDIVISION, PHASE 3, AS FILED FOR RECORD IN DEED BOOK 337, PAGE 452;

THENCE ALONG SAID NORTH LINE, SOUTH 88°47'25" EAST A DISTANCE OF 140.78 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE NORTHEAST CORNER OF LOT 49, OF SAID BRYANT MEADOWS SUBDIVISION, PHASE 3;

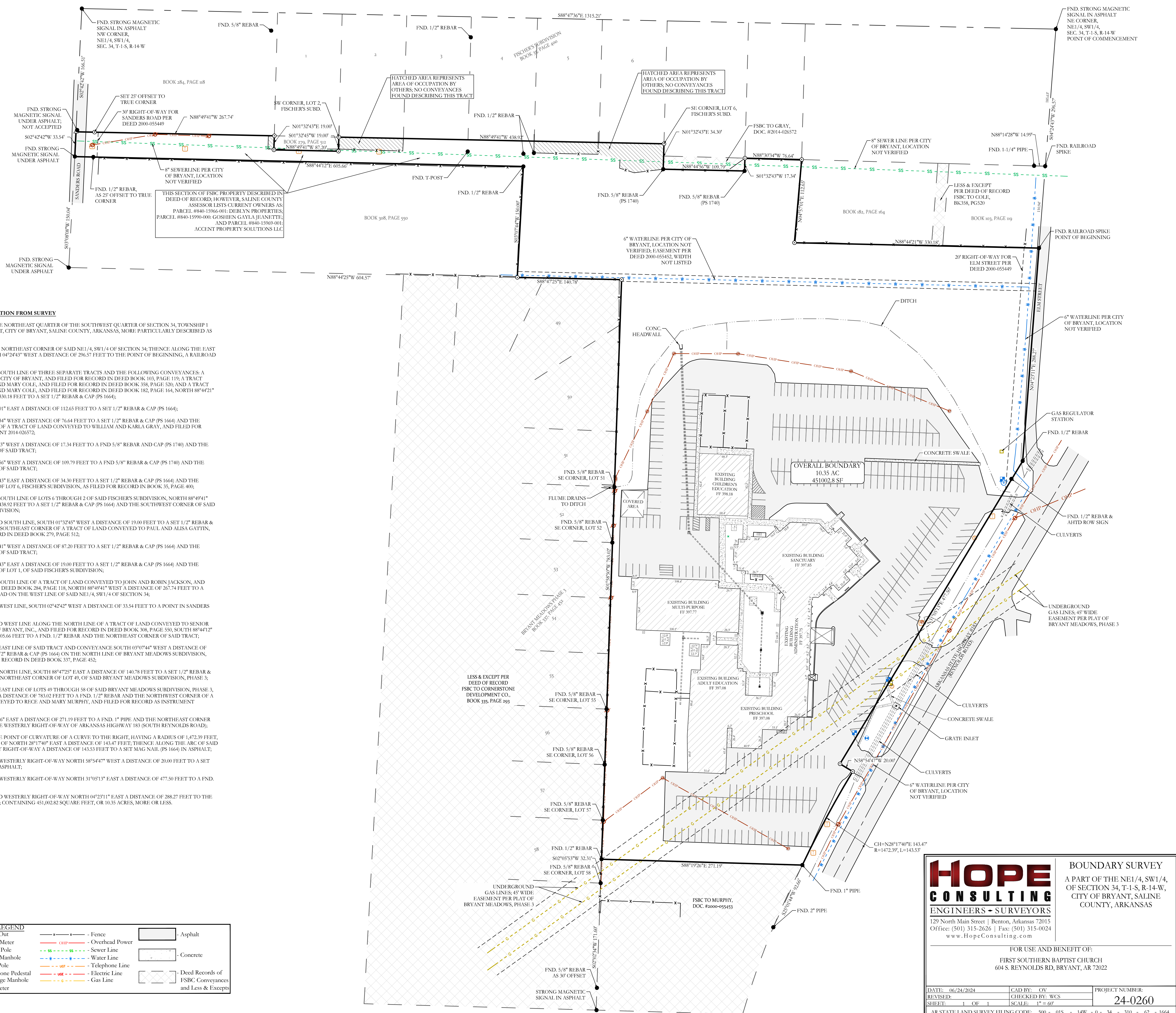
THENCE ALONG THE EAST LINE OF LOTS 49 THROUGH 58 OF SAID BRYANT MEADOWS SUBDIVISION, PHASE 3, SOUTH 01°58'50" WEST A DISTANCE OF 783.02 FEET TO A FND 1/2" REBAR AND THE NORTHWEST CORNER OF A TRACT OF LAND CONVEYED TO REGE AND MARY MURPHY, AND FILED FOR RECORD AS INSTRUMENT 2000-055453;

THENCE SOUTH 88°19'26" EAST A DISTANCE OF 271.19 FEET TO A FND 1" PIPE AND THE NORTHEAST CORNER OF SAID TRACT ON THE WESTERLY RIGHT-OF-WAY OF ARKANSAS HIGHWAY 183 (SOUTH REYNOLDS ROAD);  
 SAID POINT BEING THE POINT OF CURVATURE OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 1472.39 FEET, AND CHORD BEARING OF NORTH 28°17'40" EAST A DISTANCE OF 143.47 FEET; THENCE ALONG THE ARC OF SAID CURVE AND WESTERLY RIGHT-OF-WAY A DISTANCE OF 143.53 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;

THENCE ALONG SAID WESTERLY RIGHT-OF-WAY NORTH 58°54'47" WEST A DISTANCE OF 20.00 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;

THENCE ALONG SAID WESTERLY RIGHT-OF-WAY NORTH 31°05'13" EAST A DISTANCE OF 477.50 FEET TO A FND 1/2" REBAR;

THENCE LEAVING SAID WESTERLY RIGHT-OF-WAY NORTH 04°23'11" EAST A DISTANCE OF 288.27 FEET TO THE POINT OF BEGINNING, CONTAINING 451,002.82 SQUARE FEET, OR 10.35 ACRES, MORE OR LESS.



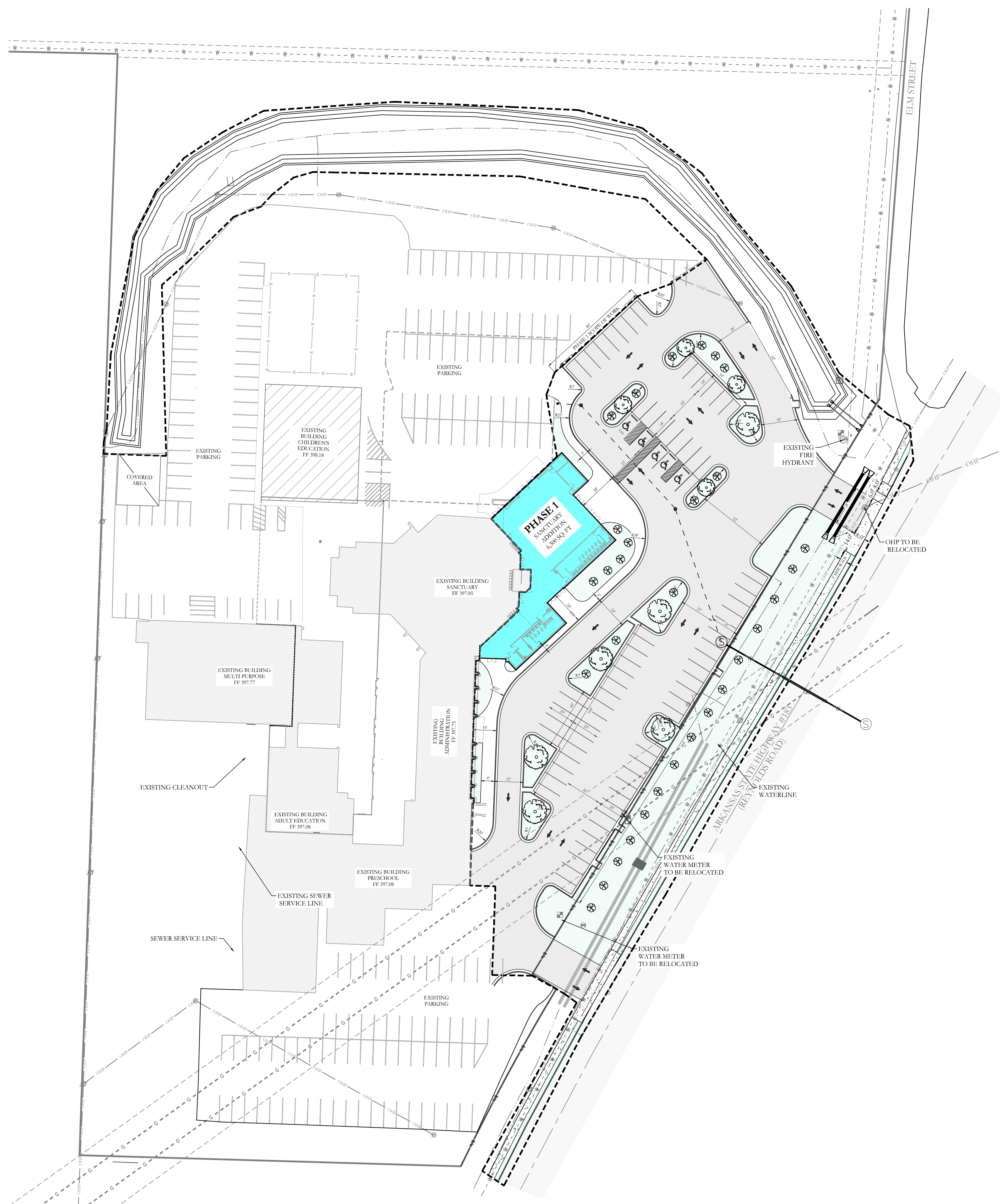
**HOPE CONSULTING ENGINEERS - SURVEYORS**  
 129 North Main Street | Benton, Arkansas 72015  
 Office: (501) 315-2626 | Fax: (501) 315-0024  
 www.HopeConsulting.com

**BOUNDARY SURVEY**  
 A PART OF THE NE 1/4, SW 1/4, OF SECTION 34, T-1-S, R-14-W, CITY OF BRYANT, SALINE COUNTY, ARKANSAS

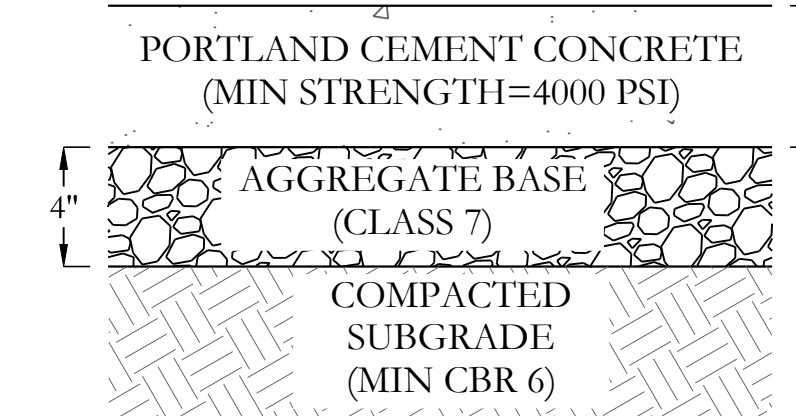
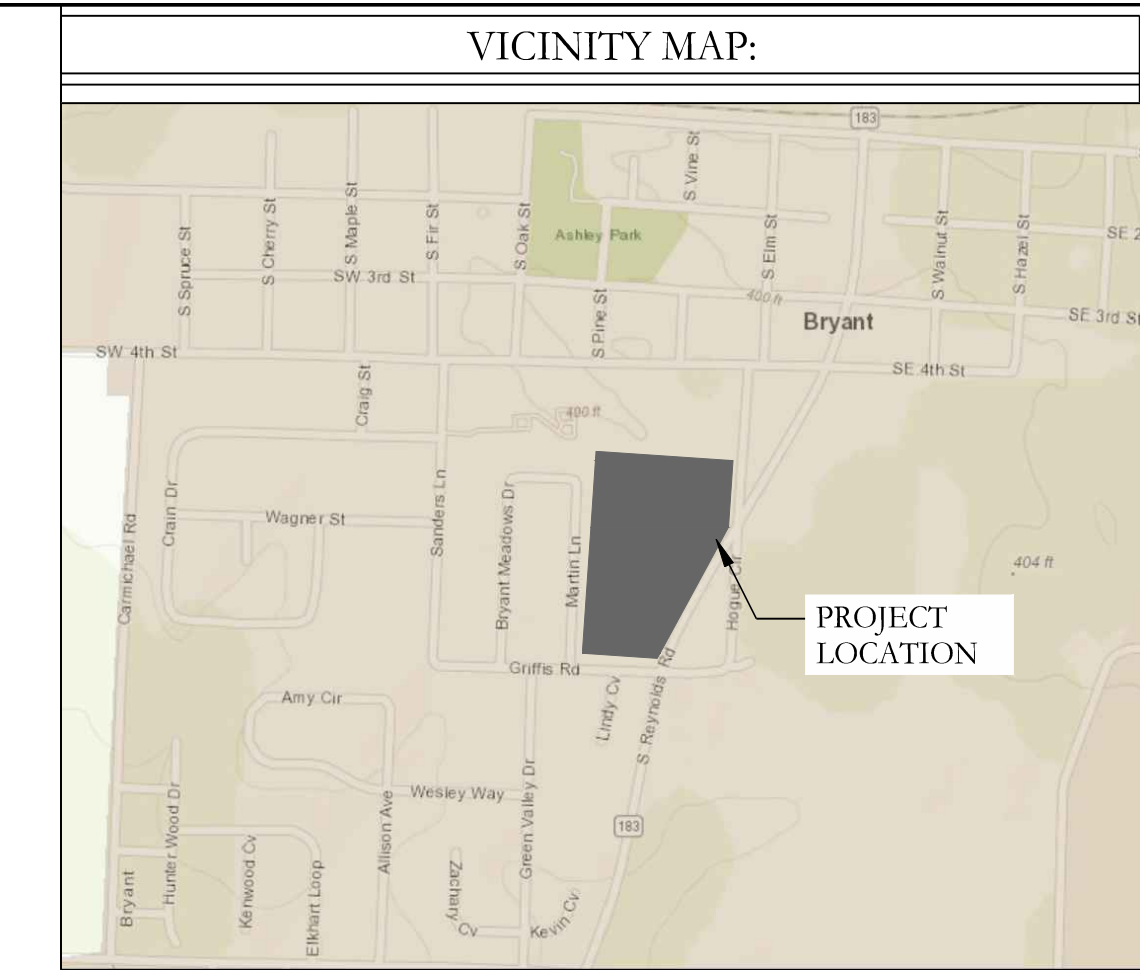
FOR USE AND BENEFIT OF:  
 FIRST SOUTHERN BAPTIST CHURCH  
 604 S. REYNOLDS RD., BRYANT, AR 72022

DATE: 06/24/2024	CAD BY: CV	PROJECT NUMBER:
REVISED:	CHECKED BY: WCS	24-0260
SHEET: 1 OF 1	SCALE: 1" = 60'	

AR STATE LAND SURVEY FILING CODE: 500 - 015 - 14W - 0 - 34 - 310 - 62 - 1664



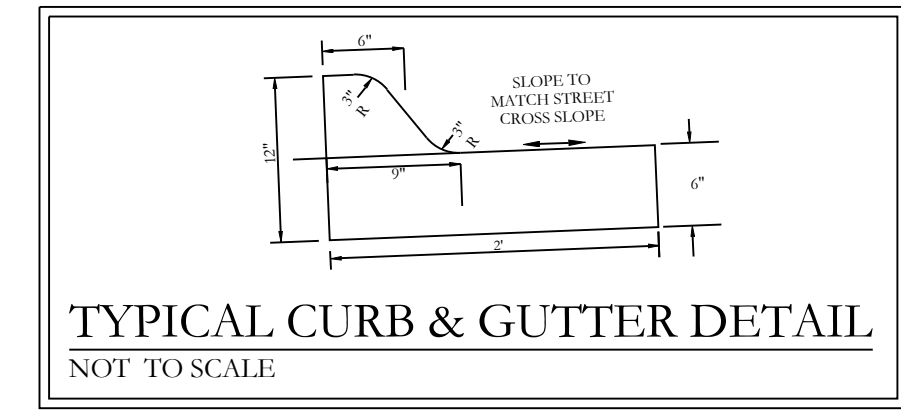
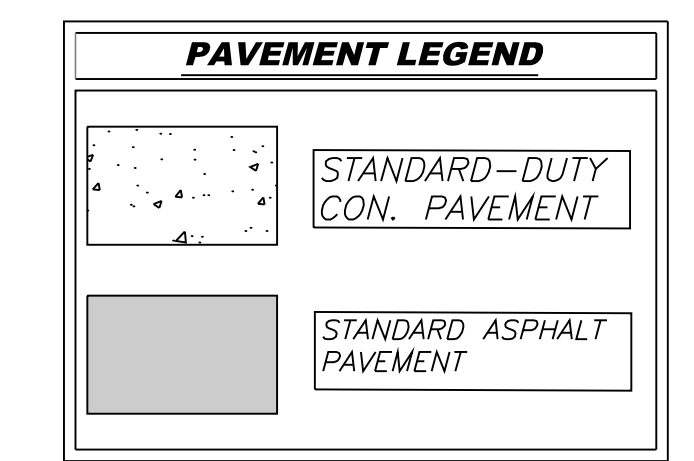
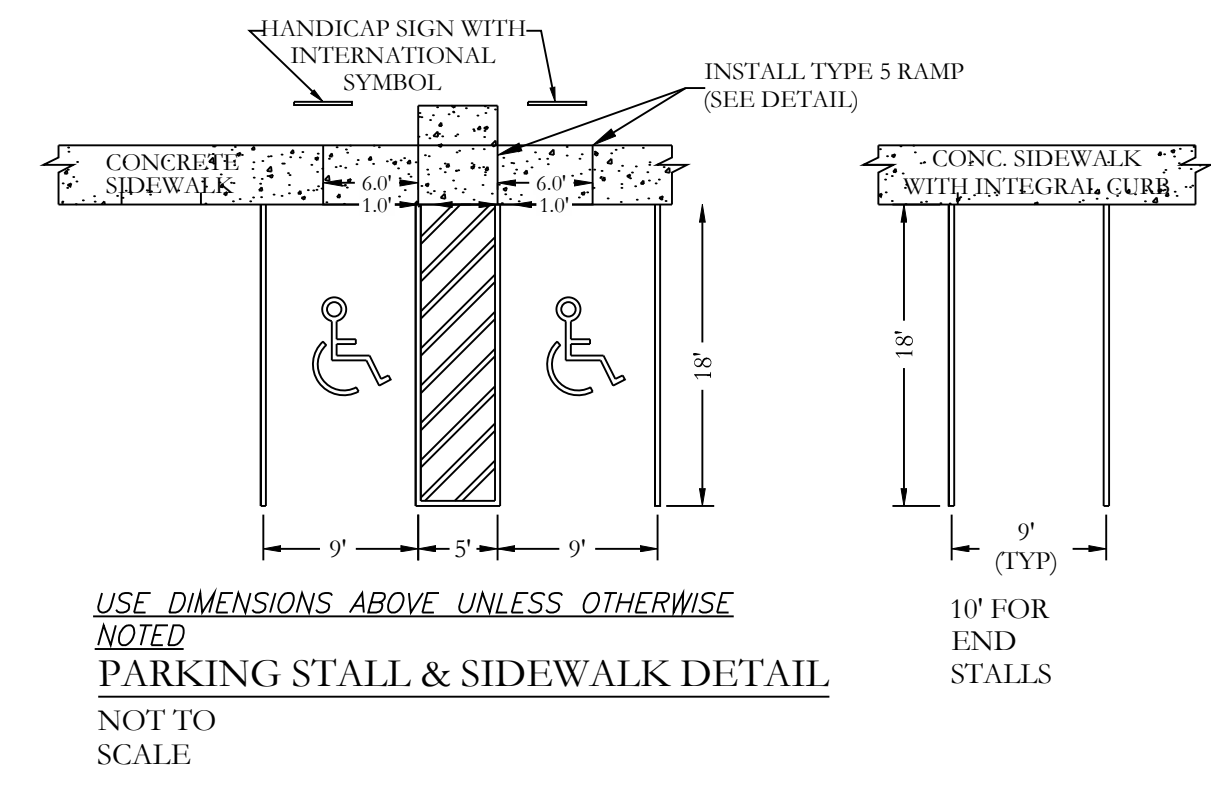
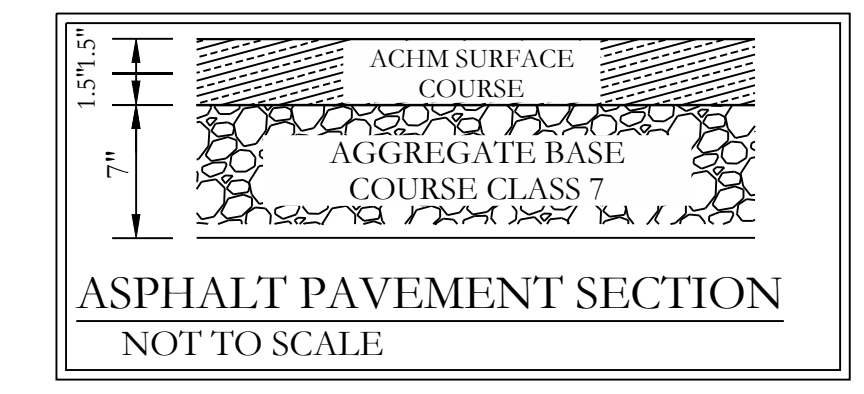
SITE DATA	
TOTAL SITE AREA	7.58 ACRES
TOTAL DEVELOPMENT AREA	2.94 ACRES
GROSS BUILDING AREA	TOTAL BUILDING AREA 6300 SF
ZONING	R-2
BUILDING SETBACKS	FRONT SETBACK LINE: 20' REAR SETBACK LINE: 20' INTERIOR SETBACK LINE: 5' EXTERIOR SETBACK LINE: 15'
BUILDING HEIGHTS	25'
BUILDING COVERAGE PERCENTAGE	6300/128066=0.0492=4.92%
PROPOSED LANDSCAPE AREA	25772 SF >5% OF 128066 SF
BUSINESS TYPE	CHURCH



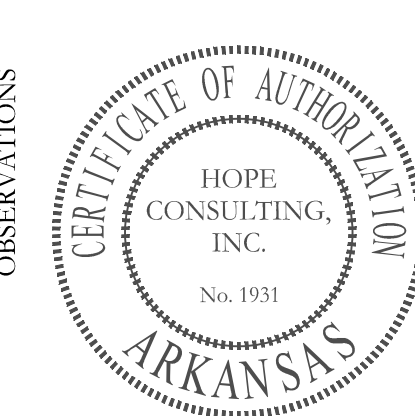
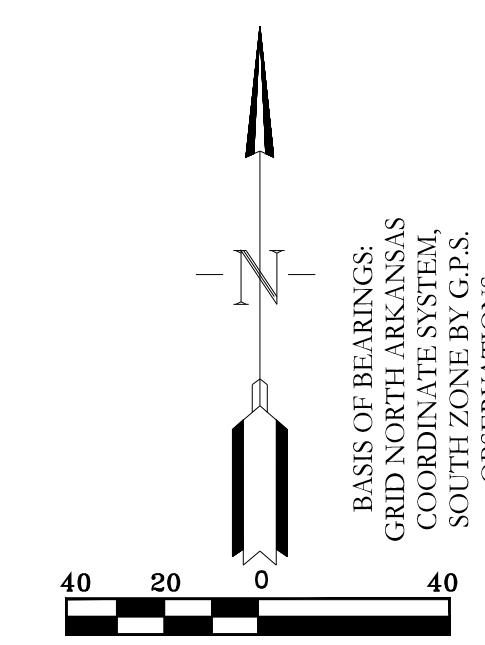
**STANDARD CONCRETE PAVEMENT SECTION**  
NOT TO SCALE

**OWNER:**  
Name: Peter Cunningham  
Address: 604 S Reynolds Rd, Bryant, Arkansas 72022  
Email & peter@fsbcbryant.org  
Phone: 501-847-3014

**DEVELOPER:**  
Name: Peter Cunningham  
Address: 604 S Reynolds Rd, Bryant, Arkansas 72022  
Email & peter@fsbcbryant.org  
Phone: 501-847-3014



**CIVIL ENGINEER**  
HOPE CONSULTING INC  
129 N. MAIN STREET  
BENTON, AR 72015  
CONTACT: KAZI TAMZIDUL ISLAM  
PHONE: 501-315-2626  
EMAIL: kazi@hopeconsulting.com



LEGEND	
• Aliquot Corner	• Pole/Post
• Found monument	• Water Meter
• Set 1/2" Rebar	• Water Valve
• Computed point	• Power Pole
(M) Measured	• Power Pole W/Anchor
(P) Deed/Plat	• Overhead Power
• Storm Drain Manhole	• Fence
	• Fire Hydrant
	• Informational Sign
	• Light Pole
	• Telephone Pedestal/Box
	• Clean Out
	• Power Pole
	• Overhead Power
	• Fence
	• Fire Hydrant
	• Informational Sign
	• Light Pole
	• Telephone Pedestal/Box
	• Guy Anchor
	• Concrete
	• Asphalt
	• Gas Line
	• Telephone Line
	• Sewer Manhole
	• Landscape Area / Proposed Sod

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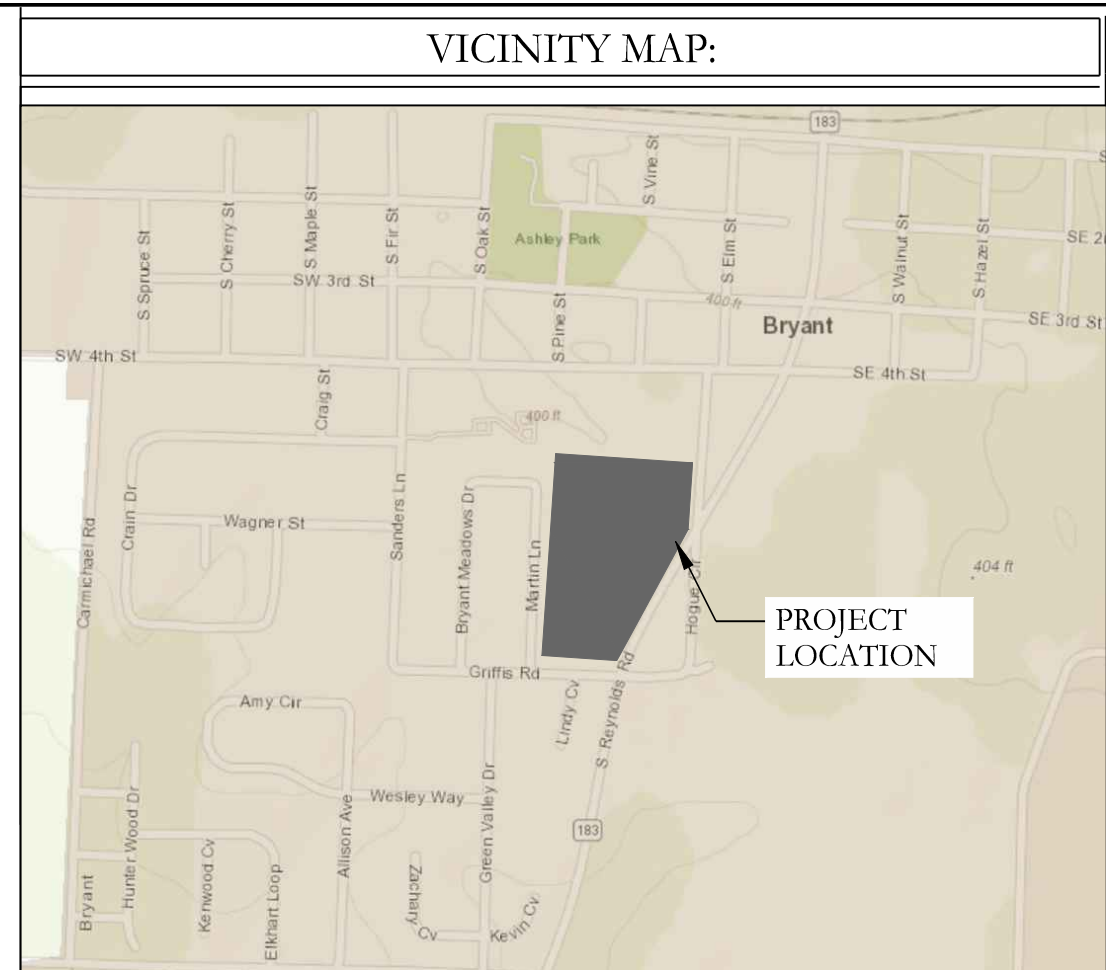
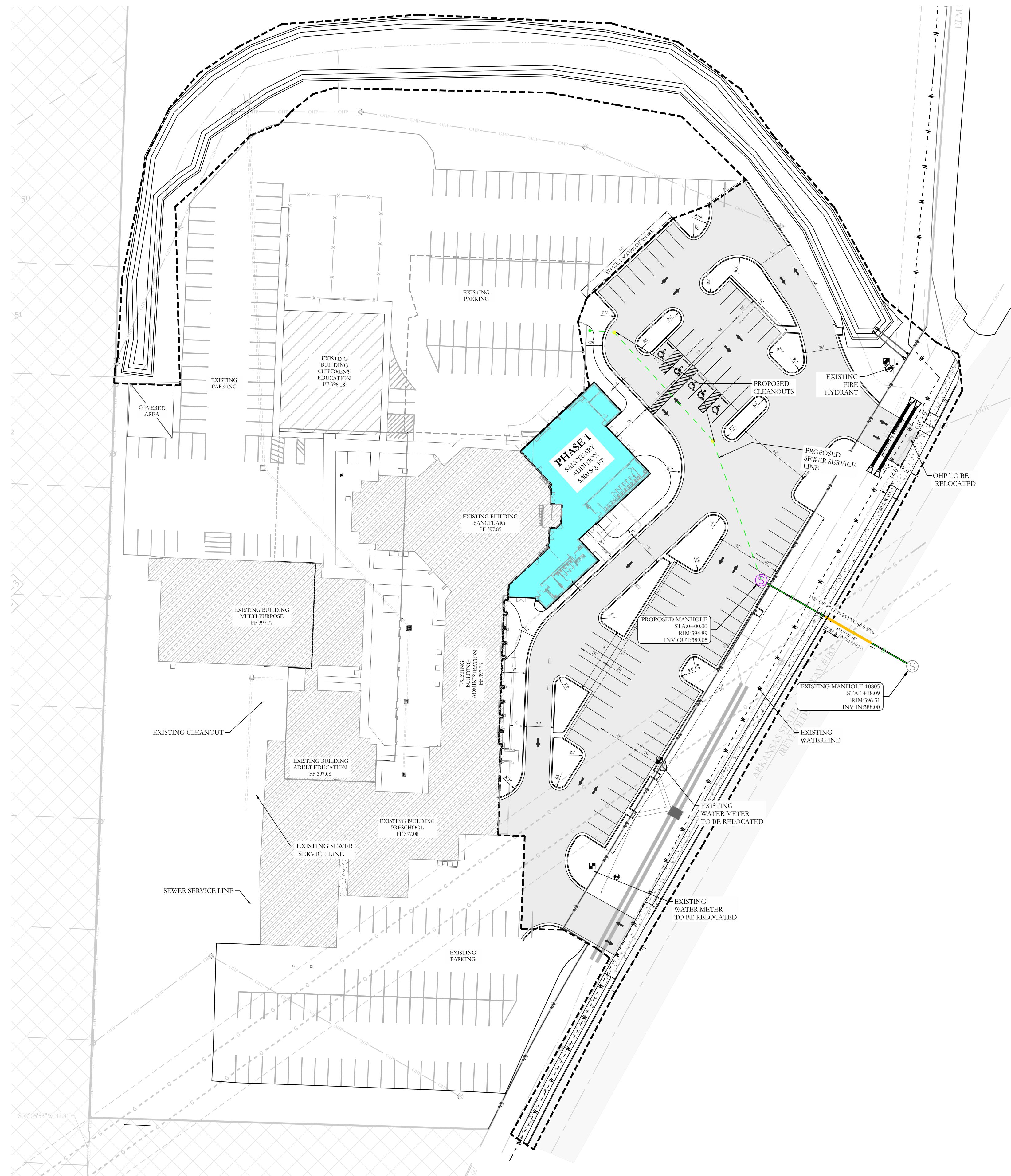
FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**  
CHURCH EXPANSION PHASE 1

SITE PLAN  
604 S REYNOLDS ROAD  
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 09-04-2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:
REVISED: 09-25-2024	CHECKED BY:	<b>24-0260</b>
SHEET: C-1.0	SCALE:	

500 01S 14W 0 34 310 62 1664

S:\LAND PROJECTS\2001\COMMERCIAL\2001-24-0260 FSBCB EXPANSION AND REARDOOR CIVIL.DWG: 24-0260 SITE PLAN-BASE - PHASE 1.DWG



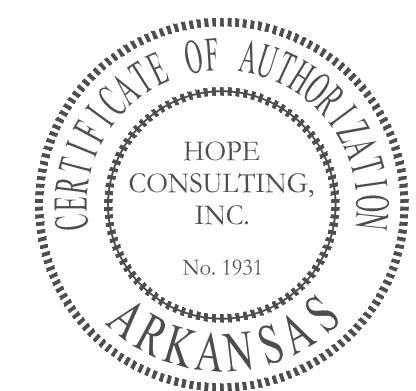
<b>OWNER:</b> Name: Peter Cunningham Address: 604 S Reynolds Rd, Bryant, Arkansas 72022 Email & peter@fsbcbryant.org Phone: 501-847-3014	<b>DEVELOPER:</b> Name: Peter Cunningham Address: 604 S Reynolds Rd, Bryant, Arkansas 72022 Email & peter@fsbcbryant.org Phone: 501-847-3014
---	---

**NOTE:**  
FIRE ALARM, EXISTING & PROPOSED FIRE SEPARATION DETAILS WILL BE PROVIDED AT THE TIME OF BUILDING PERMIT APPLICATION

LEGEND			
● COMPUTED POINT	⊕ FIRE HYDRANT	Ⓢ SEWER MANHOLE	▭ MISC FENCE LINE
● FOUND MONUMENT	⊗ WATER VALVE	— SANITARY SEWER LINE	▨ GRASS
— SET 1/2" REBAR	⊙ POWER POLE	— OHP OVERHEAD POWER LINE	▩ CONCRETE
(M) MEASURED	⊘ STORM DRAIN/MANHOLE	— TELEPHONE LINE	B.S.L. = BUILDING SETBACK LINE
(P) PLAT/DEED	⊕ GAS METER	— 12" 12" WATER LINE	P.L.S. = PERIMETER LANDSCAPE SETBACK
⊕ WATER METER	⊕ TELEPHONE PEDESTAL	— 8" 8" WATER LINE	

**CIVIL ENGINEER**  
HOPE CONSULTING INC  
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BENTON, AR 72015  
CONTACT: KAZI TAMZIDUL ISLAM  
PHONE: 501-315-2626  
EMAIL: kazi@hopeconsulting.com

BASE OF BEARINGS:  
COORDINATE SYSTEM  
SOUTH ZONE BY G.P.S.  
OBSERVATIONS

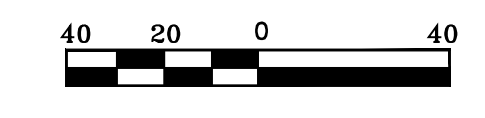


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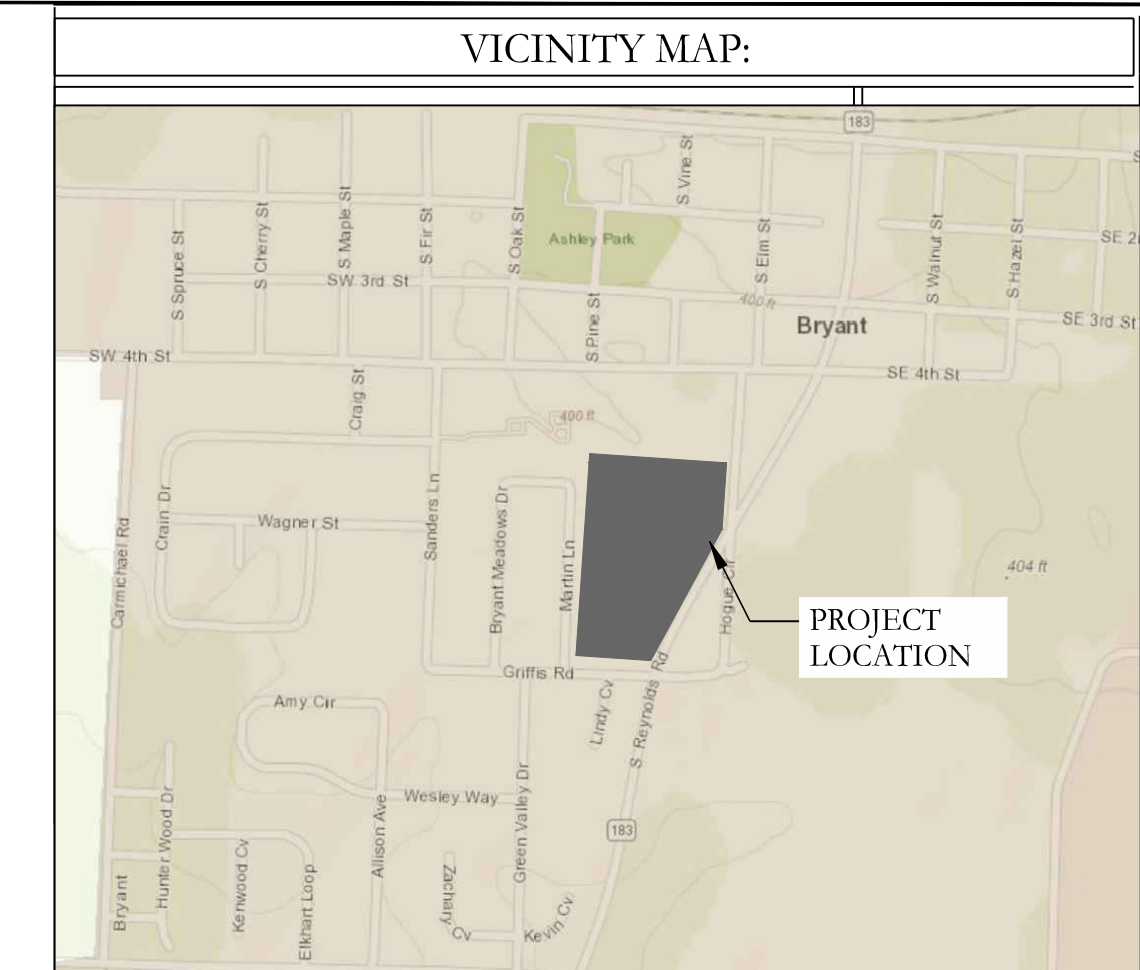
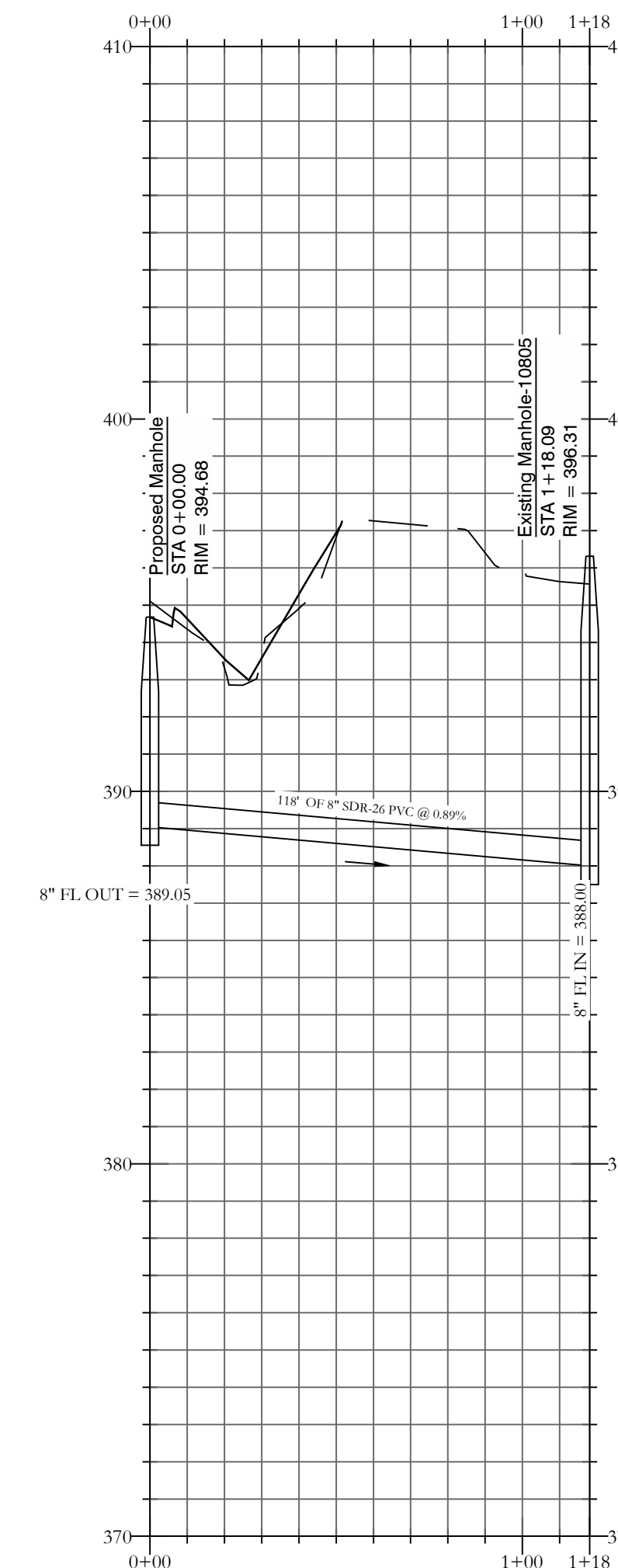
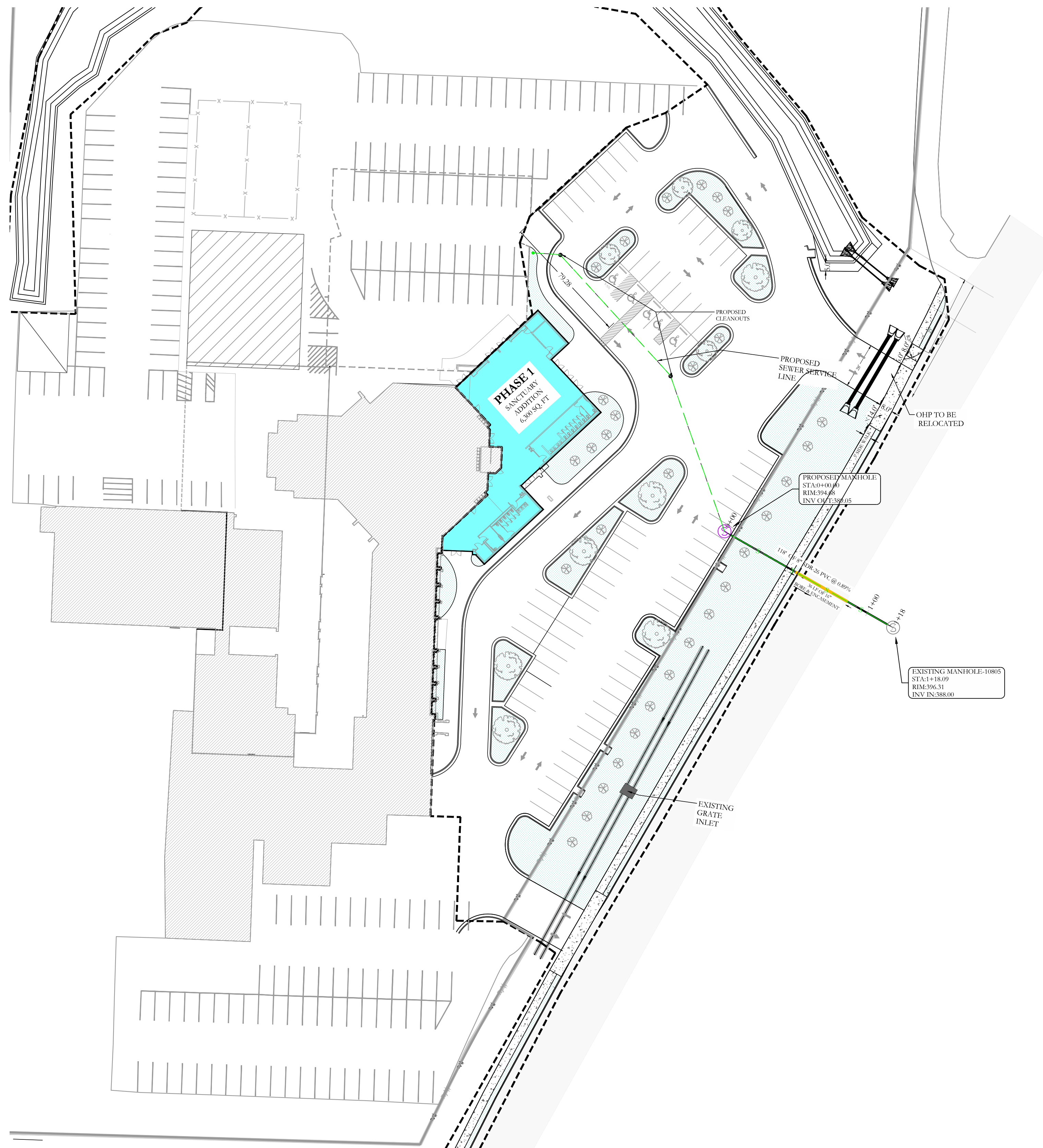
129 N. Main Street,  
Benton, Arkansas 72015  
PH. (501) 315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**  
CHURCH EXPANSION PHASE 1  
UTILITY PLAN  
604 S REYNOLDS ROAD  
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 09-04-2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:
REVISED: 09-25-2024	CHECKED BY:	24-0260
SHEET: C-2.0	SCALE:	



SCALE: PROJECT: 2004 COMMERCIAL 2004 24-0260 FSBC EXPANSION AND REMODEL CIVIL DWG 24-0260 SITE PLAN BASE - PHASE 1.DWG

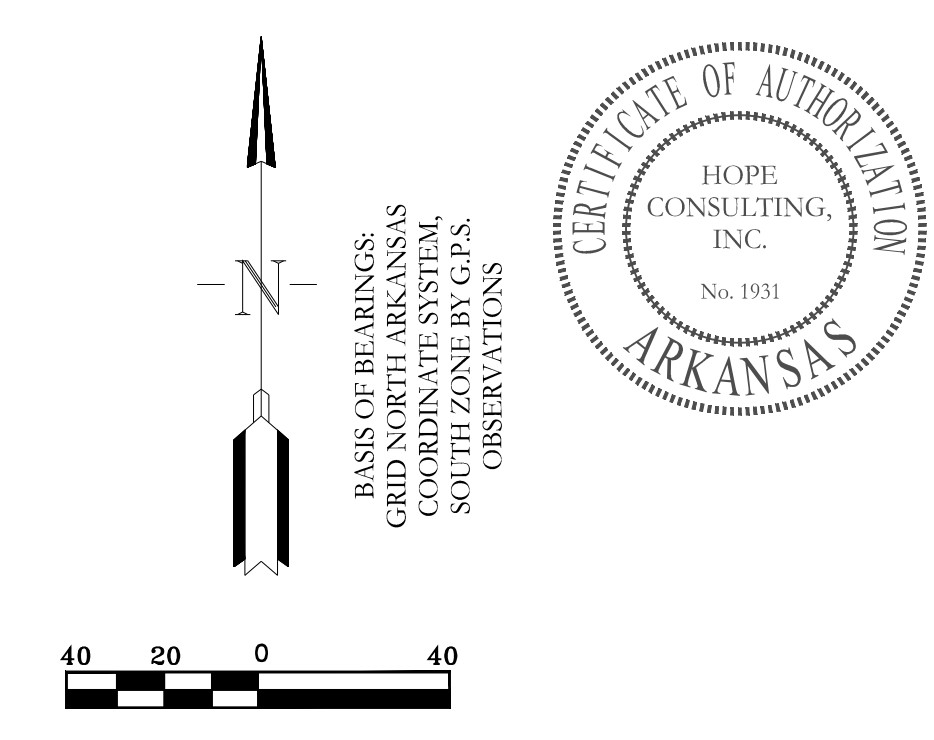


**OWNER:**  
 Name: Peter Cunningham  
 Address: 604 S Reynolds Rd, Bryant, Arkansas 72022  
 Email & peter@fsbcbryant.org  
 Phone: 501-847-3014

**DEVELOPER:**  
 Name: Peter Cunningham  
 Address: 604 S Reynolds Rd, Bryant, Arkansas 72022  
 Email & peter@fsbcbryant.org  
 Phone: 501-847-3014

LEGEND			
	COMPUTED POINT		FIRE HYDRANT
	FOUND MONUMENT		WATER VALVE
	SET 1/2" REBAR		POWER POLE
	MEASURED		STORM DRAIN/MANHOLE
	PLAT/DEED		GAS METER
	WATER METER		TELEPHONE PEDESTAL
	SEWER MANHOLE		MISC FENCE LINE
	SANITARY SEWER LINE		GRASS
	OHP OVERHEAD POWER LINE		CONCRETE
	TELEPHONE LINE		B.S.L. = BUILDING SETBACK LINE
	12" WATER LINE		P.L.S. = PERIMETER LANDSCAPE SETBACK
	8" WATER LINE		

**CIVIL ENGINEER**  
 HOPE CONSULTING INC  
 129 N. MAIN STREET  
 BENTON, AR 72015  
 CONTACT: KAZI TAMZIDUL ISLAM  
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 EMAIL: kazi@hopeconsulting.com



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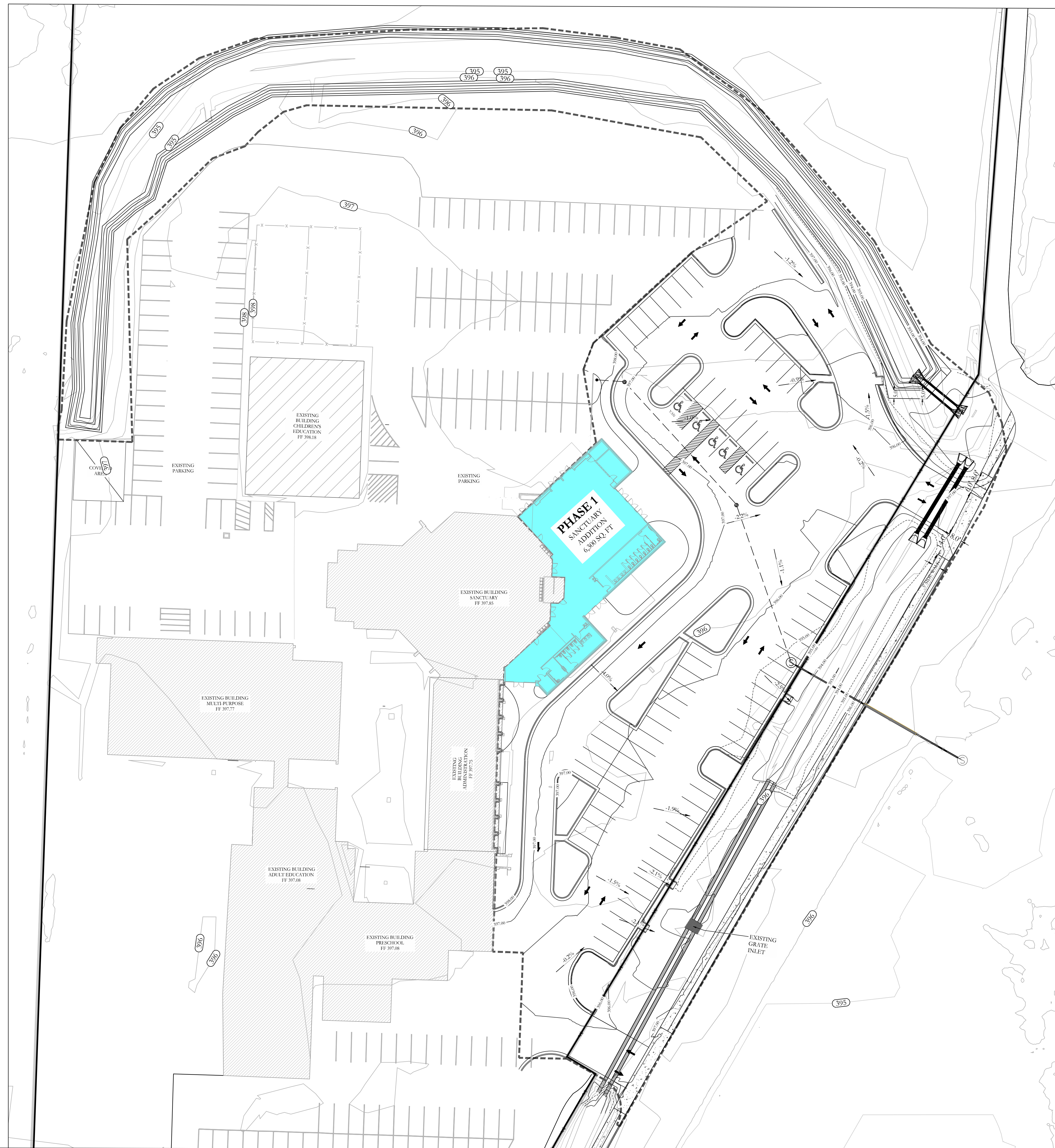
FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**

**FSCB EXPANSION & REMODEL PHASE 1**  
 SEWER PLAN & PROFILE  
 604 S REYNOLDS ROAD  
 BRYANT, SALINE COUNTY, ARKANSAS

DATE: 09-04-2024	C.A.D. BY:	DRAWING NUMBER: <b>24-0260</b>
REVISED: 09-25-2024	CHECKED BY:	
SHEET: C-3.0	SCALE:	

500 01S 14W 0 34 310 62 1664

K:\LAND PROJECTS\2024\24-0260 FSCB EXPANSION AND REMODEL\CIVIL\DWG\24-0260 FSCB EXPANSION & REMODEL\_08-27-2024.DWG

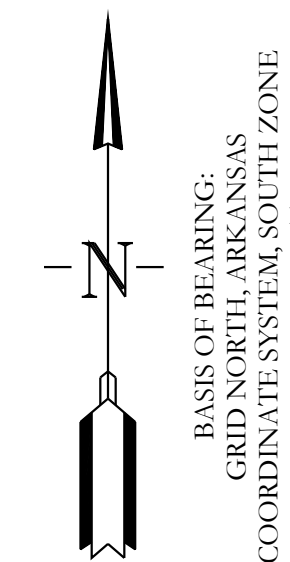


**GRADING PLAN NOTES**

1. DESIGN CONTOURS SHOWN ARE FINISHED GRADE.
2. SPOT ELEVATIONS SHOWN ARE FINISHED ASPHALT, GROUND OR CONCRETE ELEVATIONS.
3. CLEAR AND GRUB AREAS OF THE SITE WHERE CUT OR FILL IS TO OCCUR.
4. FILL SHALL BE COMPACTED TO AT LEAST 98% OF THE MATERIAL'S MAXIMUM STANDARD PROCTOR DRY DENSITY.
5. THE MOISTURE CONTENT OF FILL MATERIAL SHALL BE WITHIN THE RANGE OF 1% BELOW TO 3% ABOVE THE OPTIMUM MOISTURE CONTENT.
6. SUBGRADES SHALL BE PROOF-ROLLED WITH A LOADED DUMP TRUCK TO DETECT ZONES OF UNSUITABLE AND/OR EXCESSIVELY WET SOILS. IF PUMPING BEGINS, COMPACTION SHALL BE STOPPED IMMEDIATELY AND RESUMED ONLY WHEN THE MATERIAL IS SUFFICIENTLY DRY THAT PUMPING DOES NOT OCCUR.
7. ALL UNUSABLE SOILS SHALL BE USED ON SITE FOR FILL PURPOSES OUTSIDE THE AREAS OF BUILDING AND PAVEMENT CONSTRUCTION.

**LEGEND**

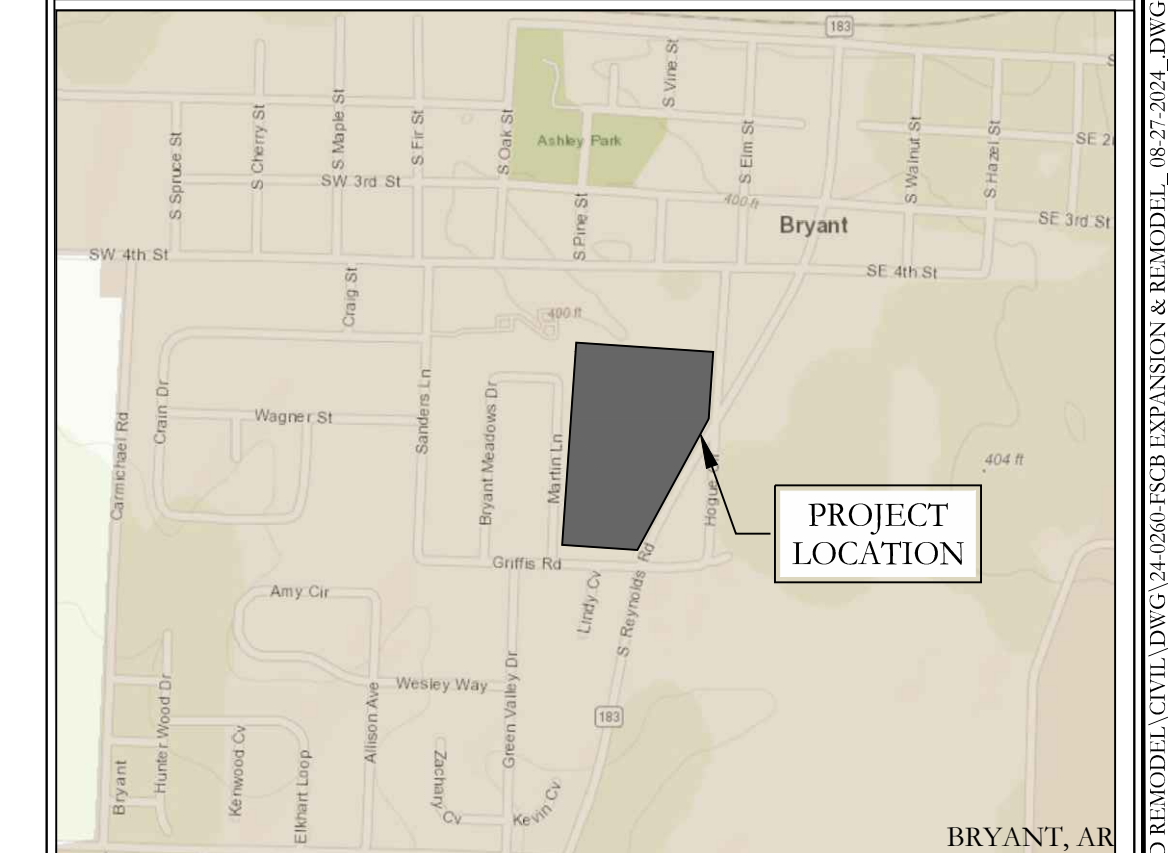
EXISTING CONTOUR LINE      - - - - - 363 - - - - -  
 PROPOSED CONTOUR LINE      ——— 363 ———



BASIS OF BEARING:  
 GRID NORTH ARKANSAS  
 COORDINATE SYSTEM, SOUTH ZONE  
 BY GPS OBSERVATION



**VICINITY MAP:**

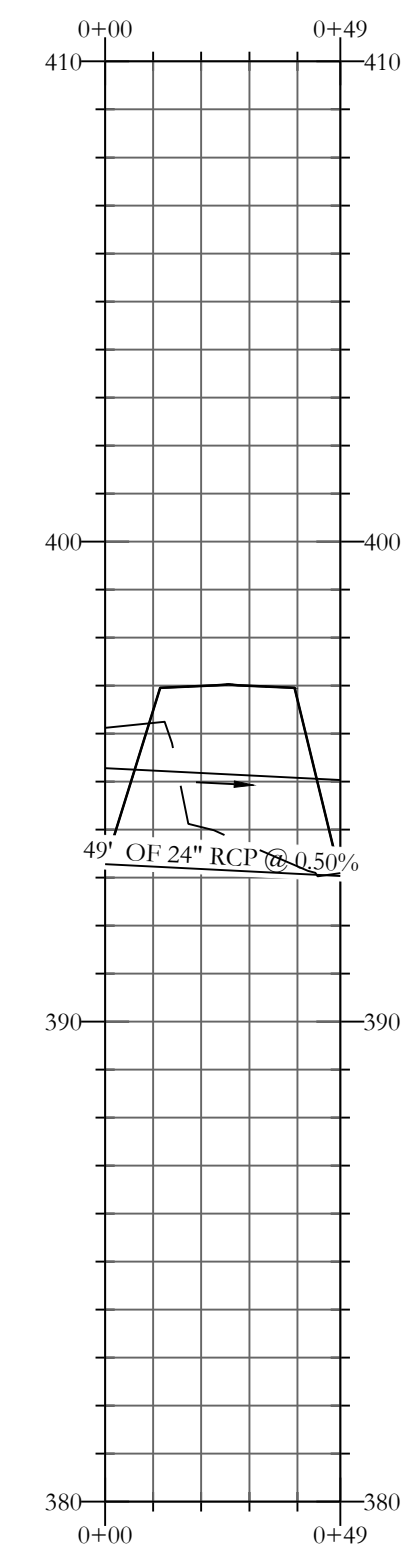
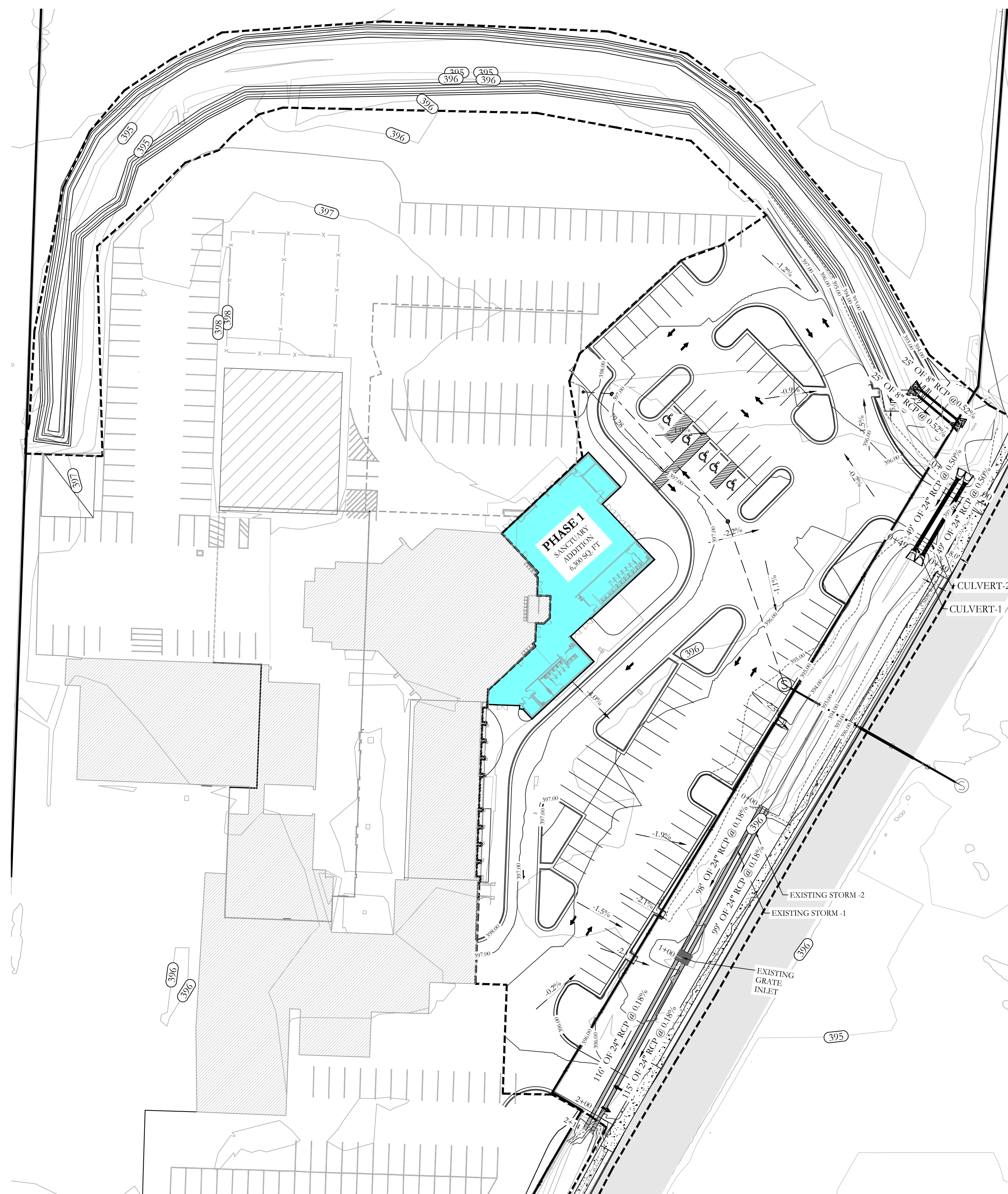


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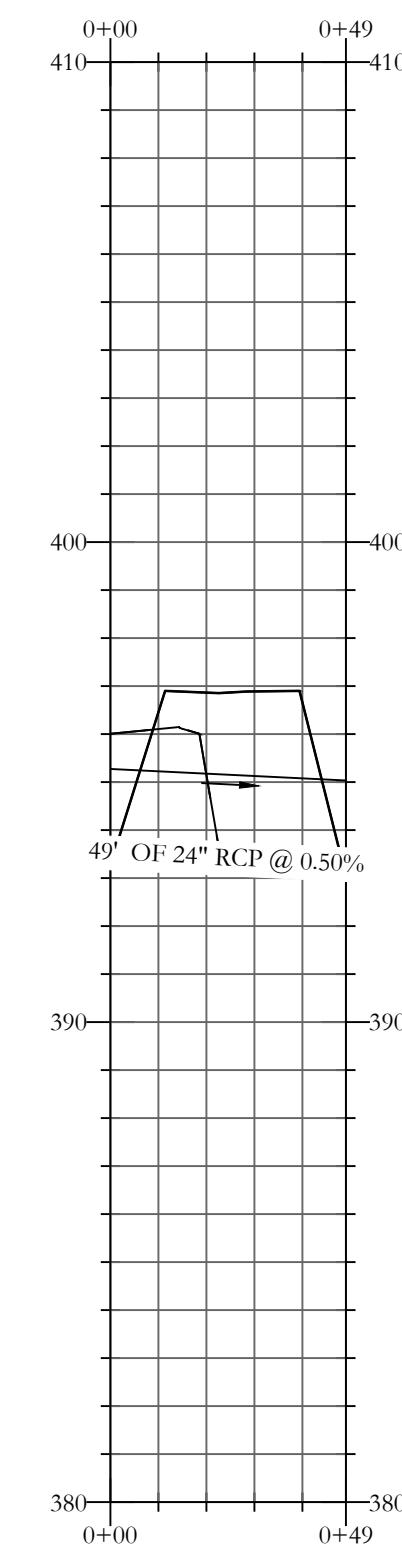
129 N. Main Street,  
 Benton, Arkansas 72015  
 PH. (501)315-2626  
 FAX (501) 315-0024  
 www.hopeconsulting.com

FOR USE AND BENEFIT OF: <b>FIRST SOUTHERN BAPTIST CHURCH OF BRYANT</b>			
<b>FSCB EXPANSION &amp; REMODEL PHASE 1</b>			
GRADING PLAN			
604 S REYNOLDS ROAD BRYANT, SALINE COUNTY, ARKANSAS			
DATE:	09-04-2024	C.A.D. BY:	<b>24-0260</b>
REVISED:	9-25-2024	CHECKED BY:	
SHEET:	C-4.0	SCALE:	
500	01S	14W	0 34 310 62 1664

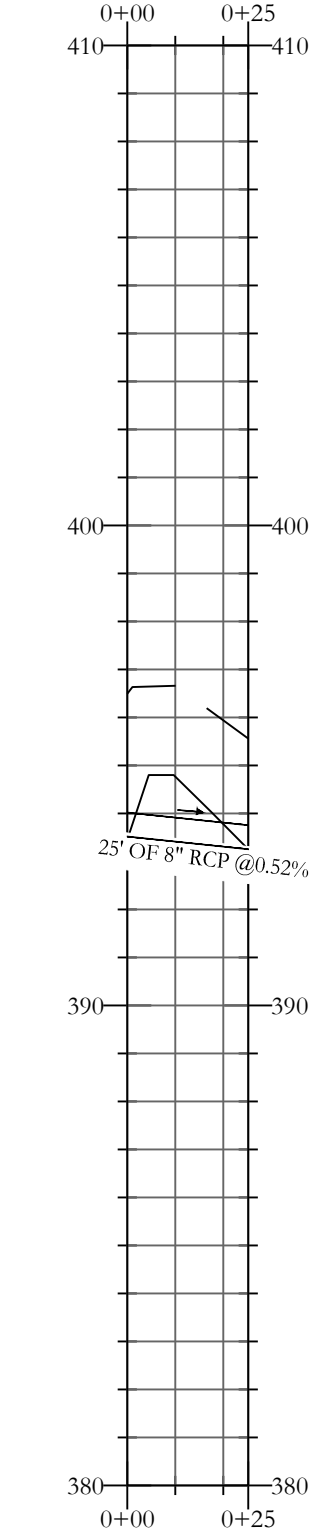
ISLAND PROJECTS 2004 COMMERCIAL 2024 34-0260 FSCB EXPANSION AND REMODEL CIVIL.DWG 24-0260 FSCB EXPANSION & REMODEL 08-27-2024 .DWG



CULVERT-1 PROFILE

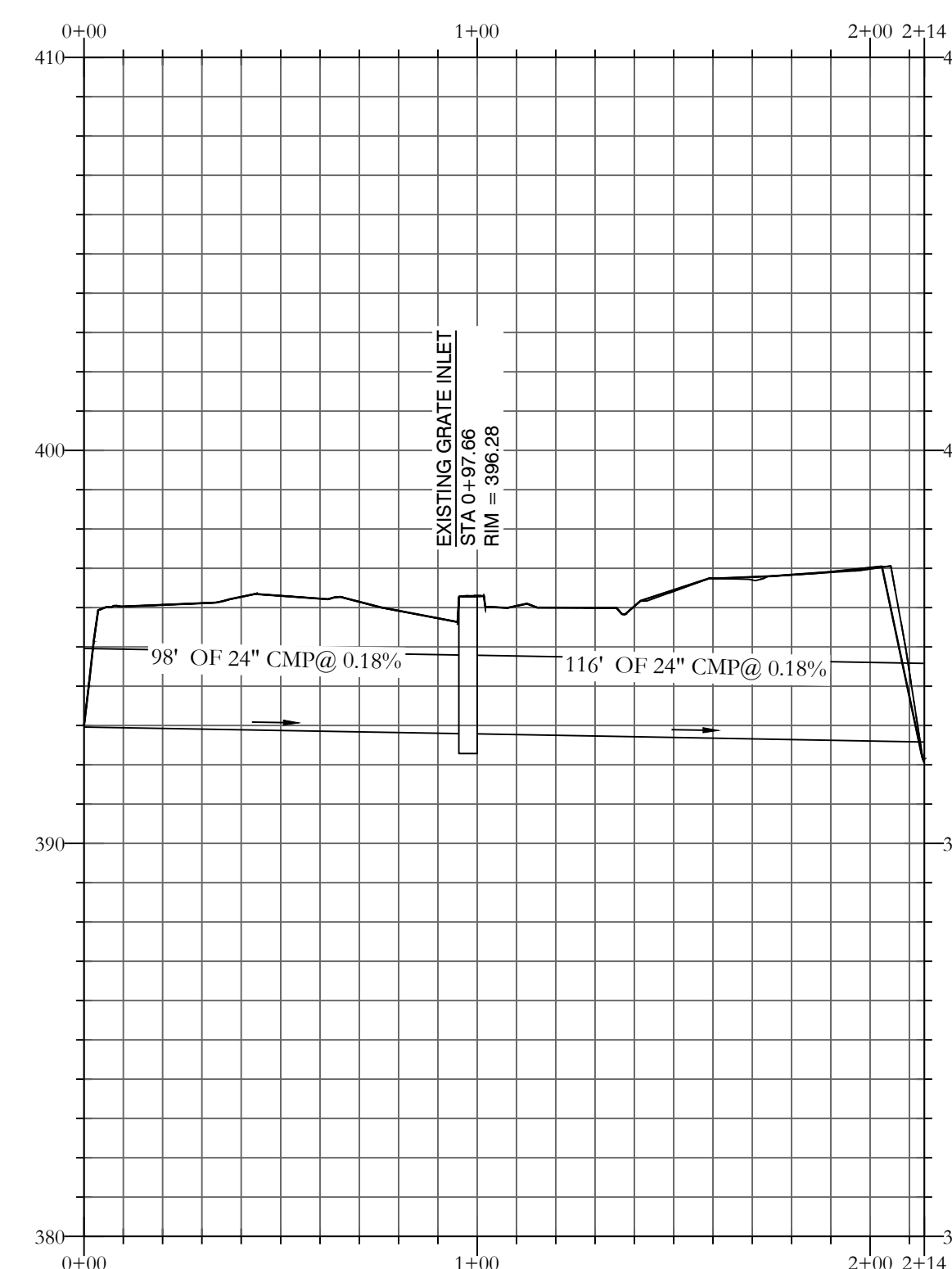


CULVERT-2 PROFILE

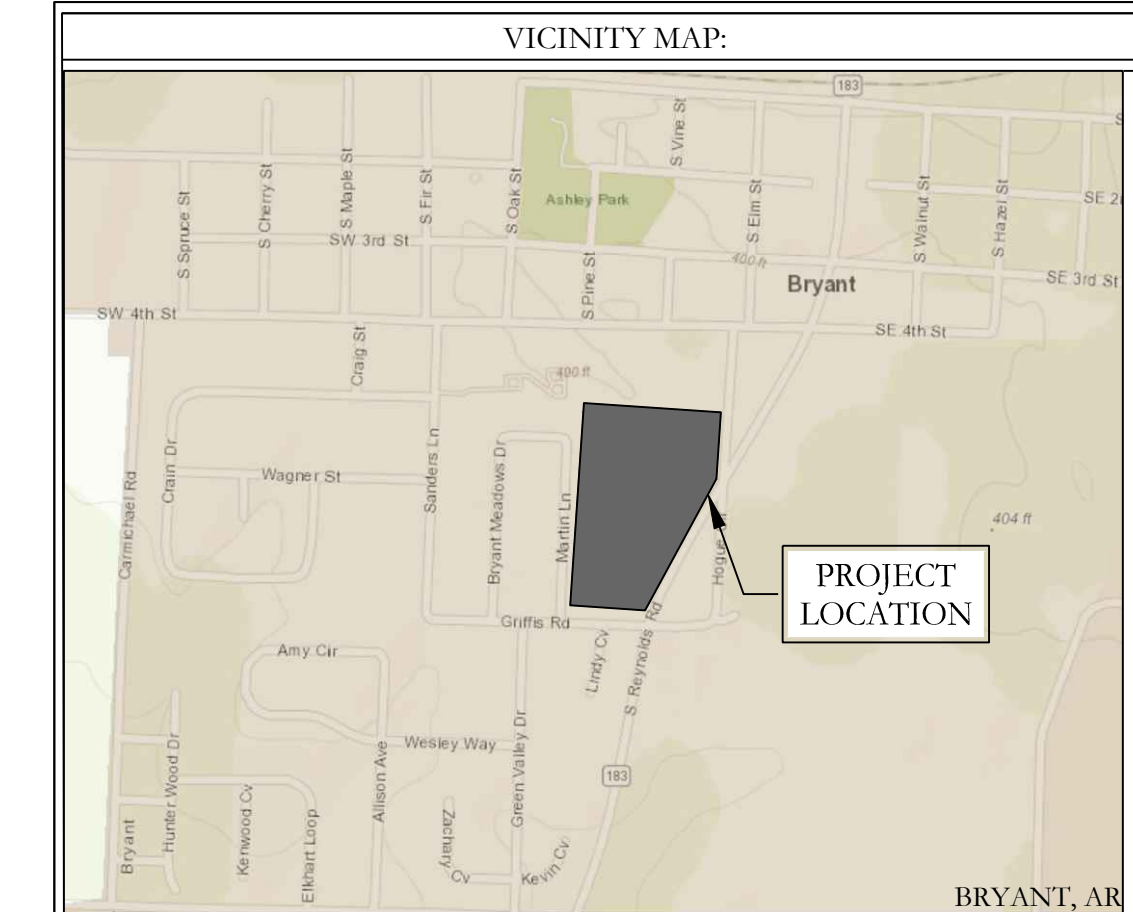
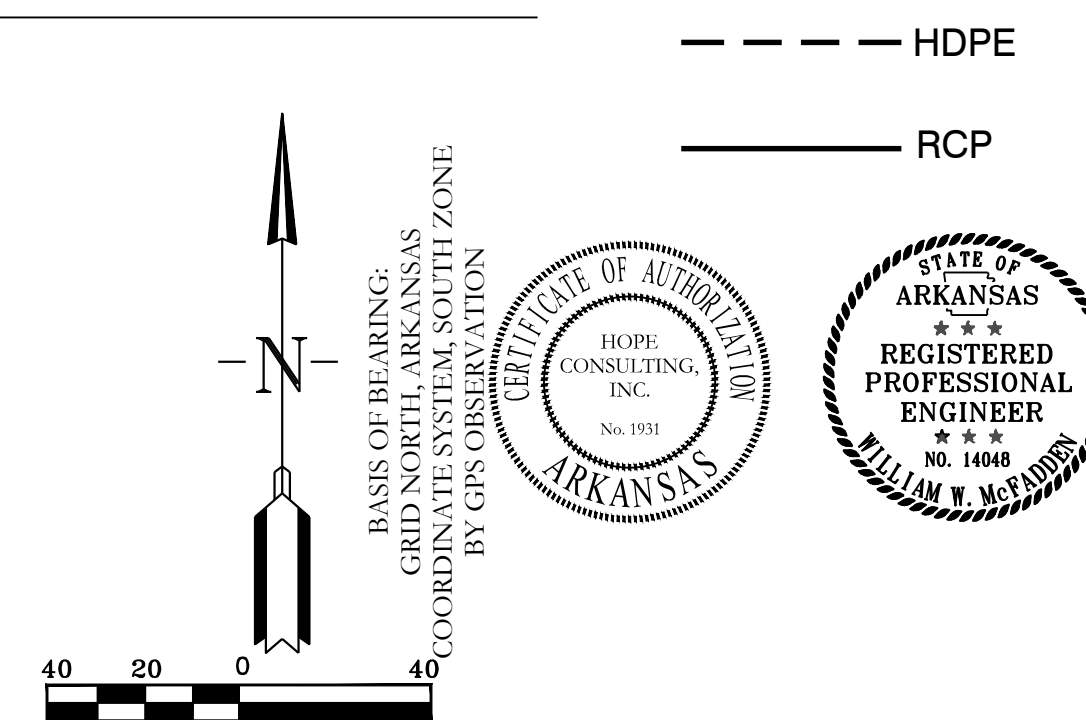
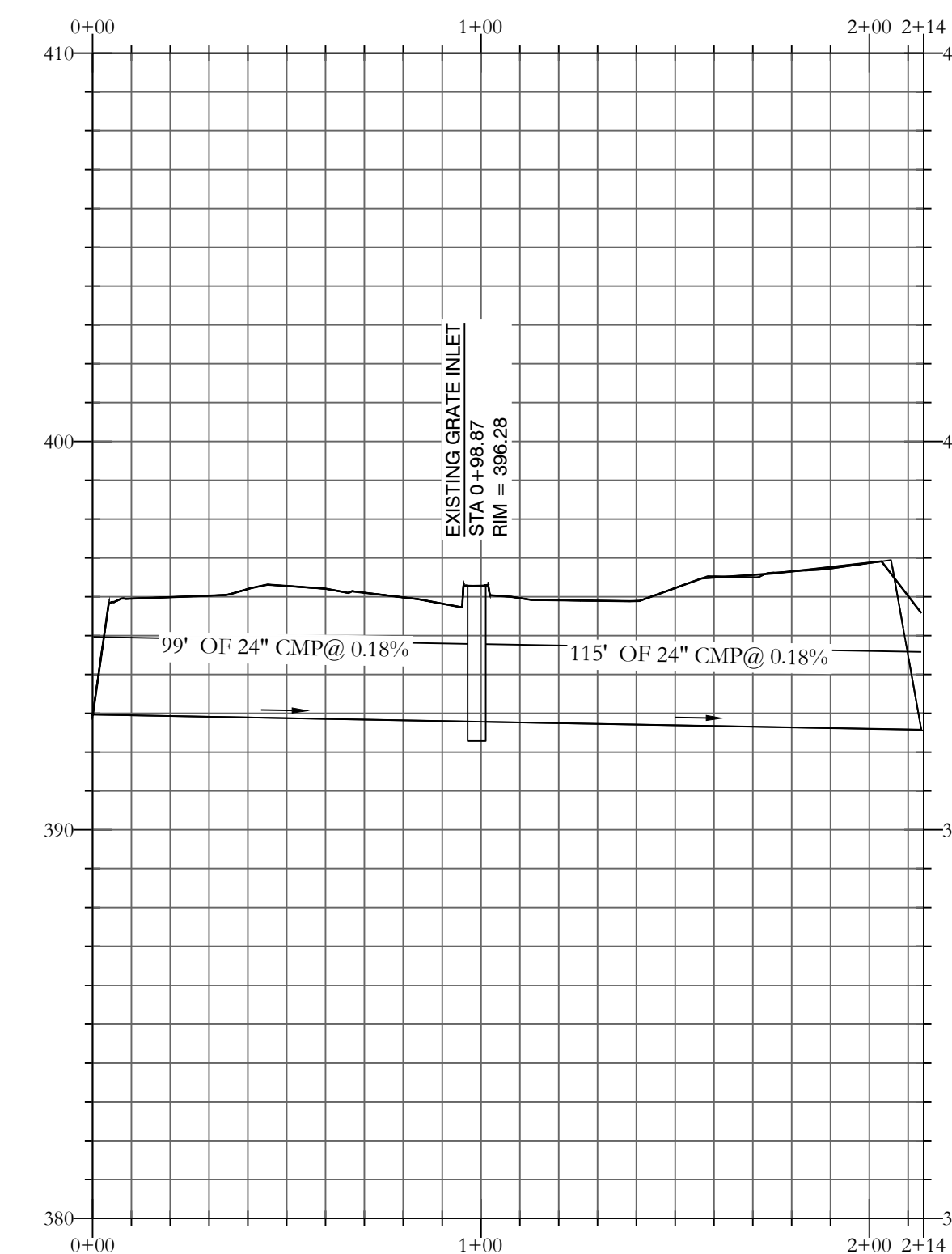


OUTLET PROFILE

EXISTING STORM-1 PROFILE



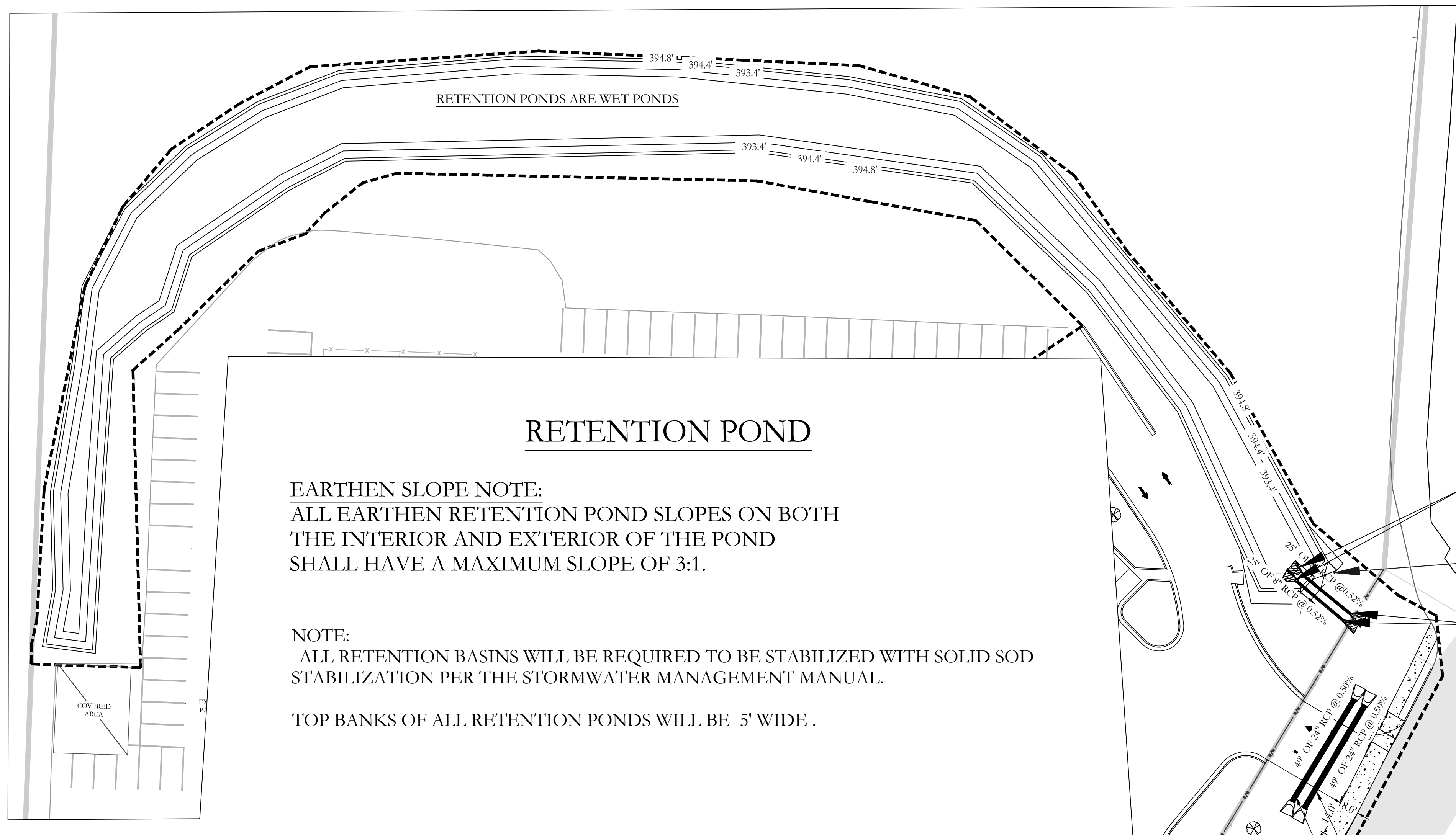
EXISTING STORM-2 PROFILE



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FOR USE AND BENEFIT OF: <b>FIRST SOUTHERN BAPTIST CHURCH OF BRYANT</b>			
<b>FSCB EXPANSION &amp; REMODEL PHASE I</b>			
STORM DRAINAGE & PROFILE 604 S REYNOLDS ROAD BRYANT, SALINE COUNTY, ARKANSAS			
DATE:	9/25/2024	C.A.D. BY:	DRAWING NUMBER: <b>24-0260</b>
REVISIED:	9-25-2024	CHECKED BY:	
SHEET:	C-5.0	SCALE:	
500	01S	14W	0 34 310 62 1664



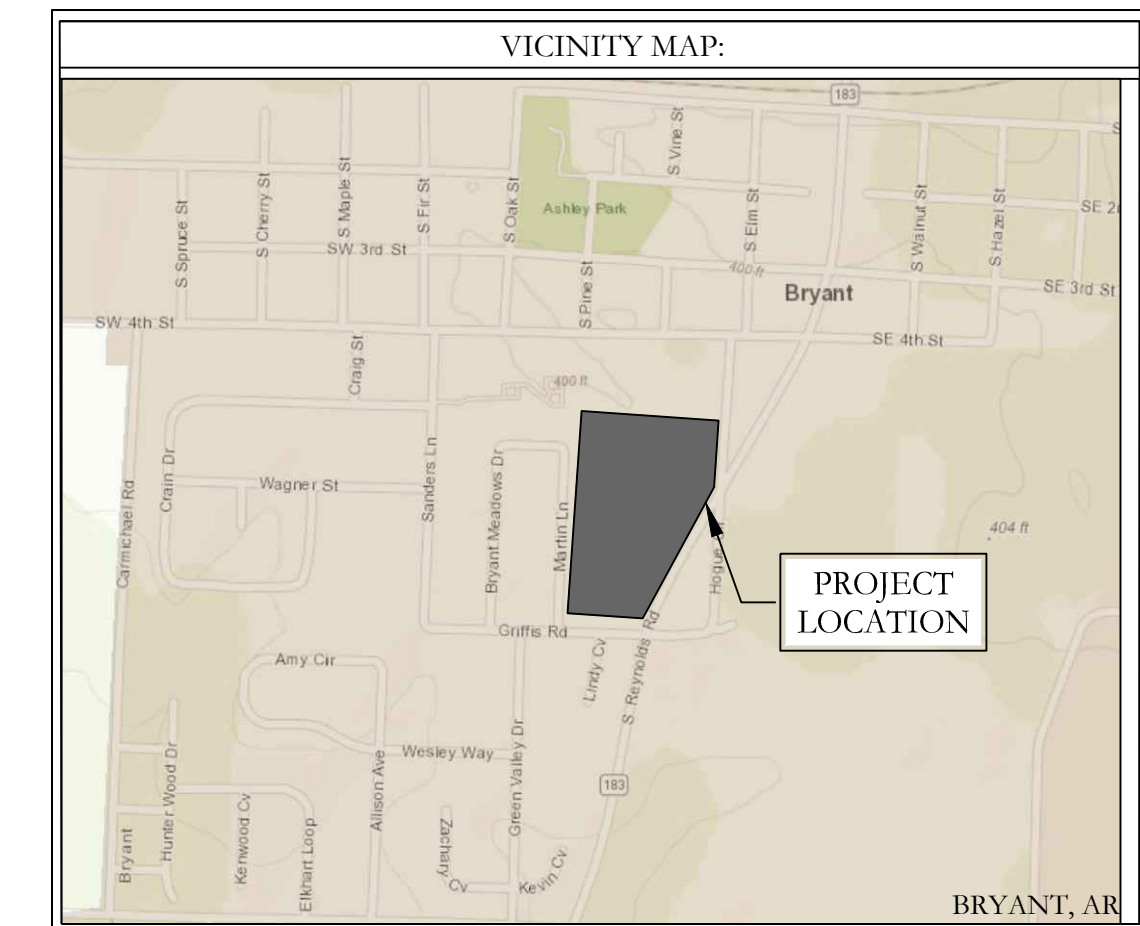
**RETENTION POND**

**EARTHEN SLOPE NOTE:**  
ALL EARTHEN RETENTION POND SLOPES ON BOTH THE INTERIOR AND EXTERIOR OF THE POND SHALL HAVE A MAXIMUM SLOPE OF 3:1.

**NOTE:**  
ALL RETENTION BASINS WILL BE REQUIRED TO BE STABILIZED WITH SOLID SOD STABILIZATION PER THE STORMWATER MANAGEMENT MANUAL.

TOP BANKS OF ALL RETENTION PONDS WILL BE 5' WIDE .

FL ELEV. 393.4'  
10' WIDE SPILLWAY  
FL ELEV. 393.27'



**DETENTION POND MAINTENANCE PLAN**

**Background**

The Retention ponds are located on the periphery of the subdivision. They are designed to temporarily detain stormwater to meet water quantity criteria before discharging off the property.

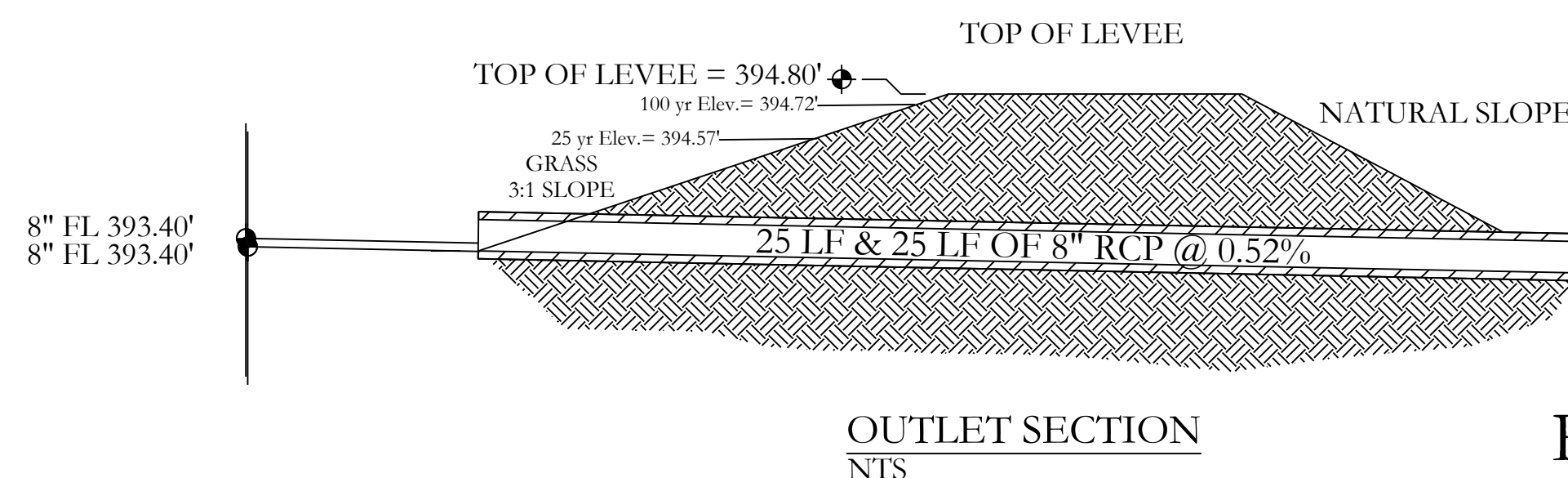
**Routine Maintenance:**

- The property owners association will maintain the drainage easements. Routine maintenance will include but not be limited to:
- Mowing of the bank slopes and area around the pond on a monthly basis during the growing season and as needed during the cooler months.
  - The outlet pipe from the pond and other areas will be inspected monthly for debris which could inhibit the proper flow of discharge. Any debris will be removed immediately and disposed of or placed in a location to prevent future maintenance and to not cause impact up or downstream of the structure.
  - Trash will be removed from around the pond to prevent entering the pond. Generally, the site should be kept free of loose trash which could be carried off site by wind or rain.
  - Inspect the pond and outlet pipe for non-routine maintenance need.

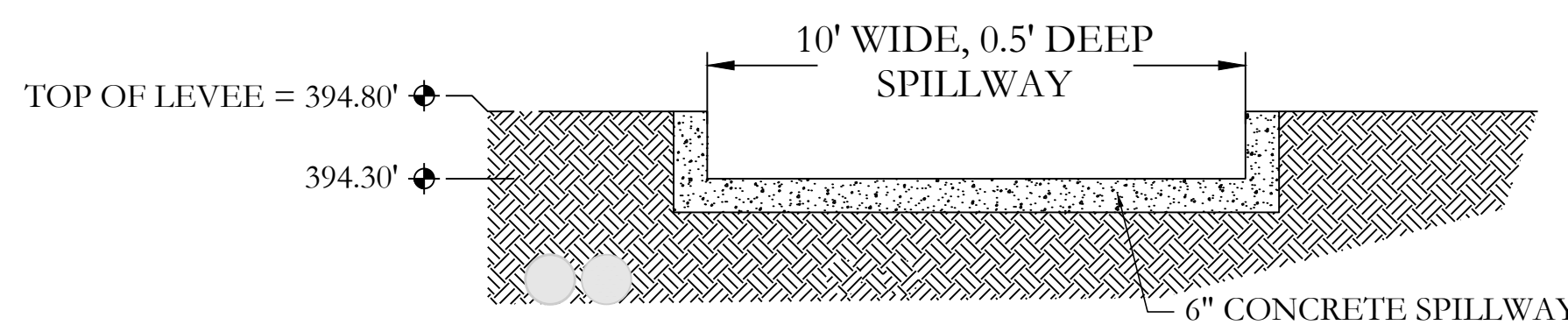
**Periodic or Non-Routine Maintenance**

The routine inspection of the ponds areas and discharge pipes will identify needed repairs and non-routine maintenance. These items may include but not be limited to:

- Re-growth of trees on or around the pond bank. These should be cut and removed from the pond area.
- Sediment from the site may accumulate in the pond bottom and reduce the pond to below design volume requirements. The pond should be excavated if the pond bottom elevation reached a level that allows excessive aquatic growth or reduces the pond efficiency such, that the sediments are passing the discharge structure and release off site.
- Stabilization or re-grading of side slopes may be required periodically or after excessive rain events. Any disturbance of slopes should be reseeded or may require installation of erosion control materials until seeding can reestablish adequate grasses to prevent future erosion.
- Any other maintenance or repairs which would minimize other maintenance to the pond or outfall structures.

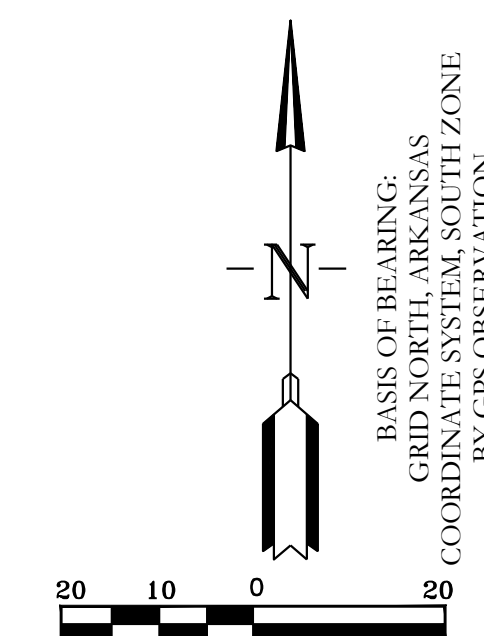


**OUTLET SECTION**  
NTS



**RETENTION POND**

**SPILLWAY END VIEW**  
NTS



BASIS OF BEARING:  
GRID NORTH, ARKANSAS  
COORDINATE SYSTEM, SOUTH ZONE  
BY GPS OBSERVATION

<b>HOPE CONSULTING</b> ENGINEERS - SURVEYORS		129 N. Main Street, Benton, Arkansas 72015 PH. (501) 315-2626 FAX (501) 315-0024 www.hopeconsulting.com	
FOR USE AND BENEFIT OF: <b>FIRST SOUTHERN BAPTIST CHURCH OF BRYANT</b>			
<b>FSCB EXPANSION &amp; REMODEL PHASE 1</b>			
RETENTION POND 604 S REYNOLDS ROAD BRYANT, SALINE COUNTY, ARKANSAS			
DATE:	9/25/2024	C.A.D. BY:	DRAWING NUMBER:
REVISION:		CHECKED BY:	<b>24-0260</b>
SHEET:	C-6.0	SCALE:	
500	01S	14W	0 34 310 62 1664

K:\LAND PROJECTS\2024\COMMERCIAL\24-0260\FSCB EXPANSION AND REMODEL\CADD\DWG\24-0260\FSCB EXPANSION & REMODEL\_08-27-2024.DWG



TREE LEGENDS		
COMMON NAME:	BOTANICAL NAME:	QTY.:
<b>SHRUBS:</b>		
NANDINA	NANDINA DOMESTICA	31
<b>TREES:</b>		
AMERICAN HOLLY TREE	ILEX OPACA	10
<b>SOD (INCLUDES MULCH BEDS):</b>		
BERMUDA		
<b>MULCH BEDS (OPTIONAL) PLANTER/FLOWER BED</b>		

**CITY PLATING REQUIREMENTS:**

**SECTION IV: MINIMUM LANDSCAPING CRITERIA**

	Residential Subdivision	C-1	C-2	PUD
Trees	N/A	1 each 1/3 acre or Fraction	1 each 1/2 acre or Fraction	X*
Evergreens	N/A	1/ 2,000 Sq. Ft.	1/ 2,000 Sq. Ft.	X*
Bedding Plants or Ground Cover in Containment	Primary Entrance must be Landscaped	100 Sq. Ft. Minimum	100 Sq. Ft. Minimum	X*
Lawn (Grass)	N/A	Options	Options	X*
Open Space Natural or Landscaping	100 Sq. Ft./Lot	N/A	N/A	X*

\* Landscape design must be approved

- No Planting within 5 feet of a fire hydrant.
- Spacing will be 40' between trees.
- Tree must be a minimum 3" in diameter @ the base and 12'+ tall.
- Existing trees meeting the minimum size can be counted to meet the criteria.
- No trees can be planted within thirty-foot (30') of a property corner or driveway.
- Shrubs along street fight-of-way lines cannot exceed thirty inches (30") in height.
- Separations noted in the zoning regulations must be bermed or screened with landscaping and ground cover or grass.

The following list of shrubs, are those which have been found to be best suited to this area and yet requiring the least amount of maintenance. This list, along with the secondary list, are those shrubs which may be planted in the required landscape area. Additional selective shrubs may be substituted when proven to be hearty in this region.

- Primary List:
 

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
Evergreen Hollies	Ilex species
Nandina	Nandina domestica
- Secondary List:
 

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
Abelia	Abelia grandiflora
Boxwood	Boxwood
Chinese Photinia	Photinia serrulata

Note: Secondary listed shrubs require increased maintenance

- Grasses
  - The following grasses may be used to comply with this ordinance:
 

Mayer Z-52	Zoysia
Bermuda Grass	Bermuda Grass hybrids
Centipede	St. Augustine
Fescue	
  - The Grasses listed in subsection (1) above are the more commonly used grasses adjacent to vehicular use areas.

- Ground Covers
  - The following primary list of ground covers are recommended for use to comply with this ordinance.
 

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
DwarfNandina	N. domestica "Harbour Dwarf"
Junipers	Juniperus species
Liriope	Liriope Muscart
Memorial Rose	Rosa Wichuralana
Mondo Grass	Ophiopogon japonicus
Periwinkle	Vinca minor
Spreading Euonymus	E. fortunei "Radicans"

The following list of shrubs, are those which have been found to be best suited to this area and yet requiring the least amount of maintenance. This list, along with the secondary list, are those shrubs which may be planted in the required landscape area. Additional selective shrubs may be substituted when proven to be hearty in this region.

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Periwinkle	Vinca minor
Spreading Euonymus	E. fortunei "Radicans"

- Secondary List: (This list can be used but must be confined to a bed.)
 

<b>COMMON NAME</b>	<b>SCIENTIFIC NAME</b>
Carolina Jessamine	Gelsemium sempervirens
Dwarf Bamboo	Arundinaria pygmaea
English Ivy	Hedera Helix
Honeysuckle	Lonicera sempervirens

**SECTION VI MAINTENANCE**

- The developer, his successor and the property owner shall be responsible for regular weeding, irrigating, fertilizing, pruning and other maintenance of all planting on private property of a development. Plant materials which are installed for compliance with this ordinance, both on private property and the public right-of-way, which exhibit evidence of insect pests, disease and/or damage, shall be appropriately treated and dead plant materials shall be replaced.
- The owner of land abutting a constructed public right-of-way shall be responsible for the tree planting strip lying between the private property line and the curbline or backslope line and shall be required to regularly weed, mow, prune and maintain plantings in compliance with good horticultural practices.
- If the owner of land thus situated as in (2) above, neglects or refuses to maintain the areas as proscribed, after having been given ten (10) days notice in writing to maintain by the City, the owner shall be guilty of a misdemeanor.

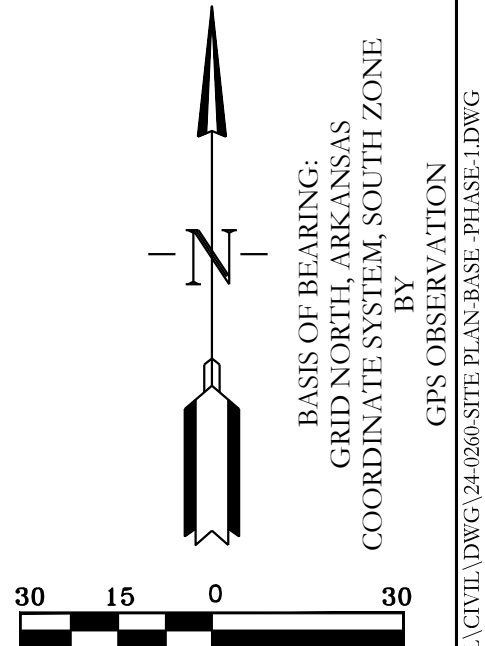
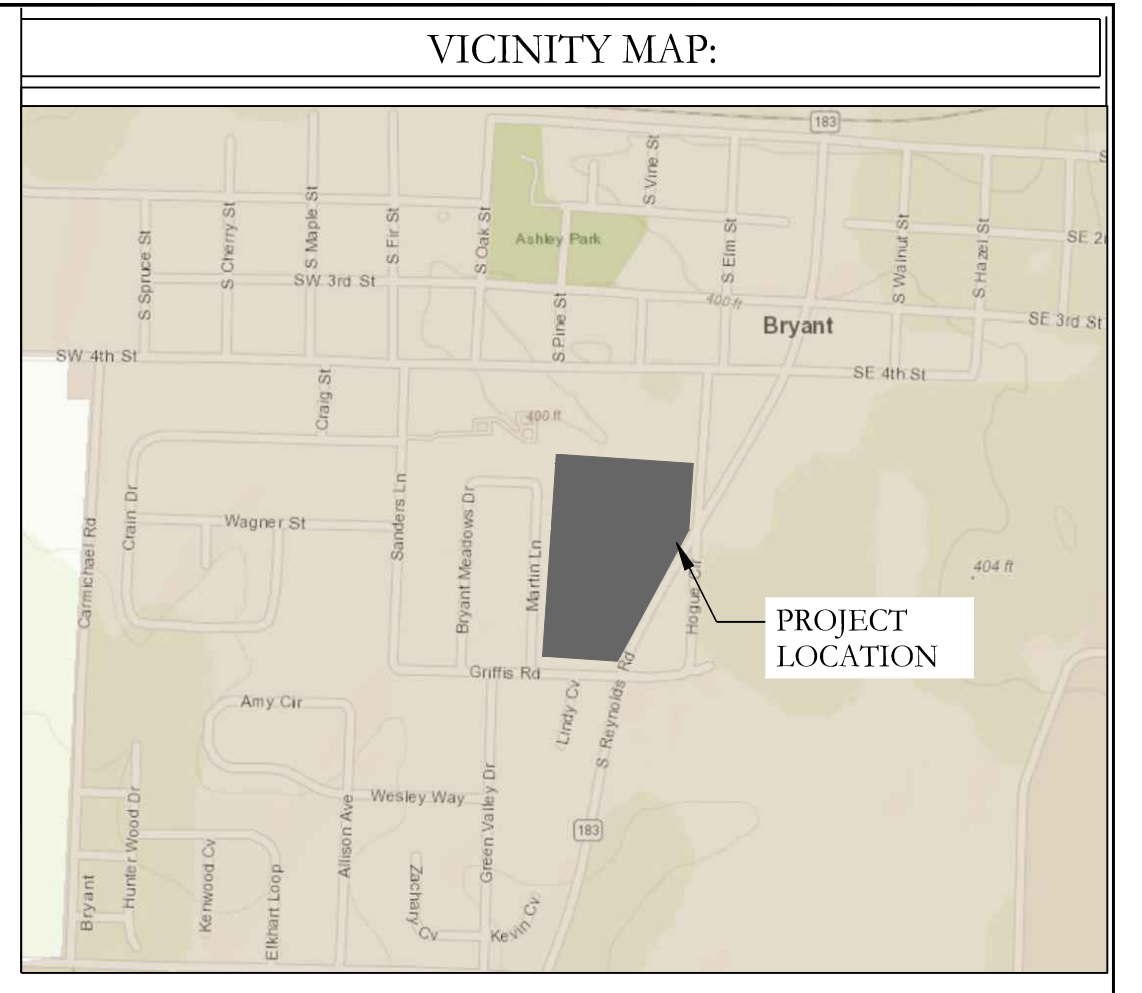
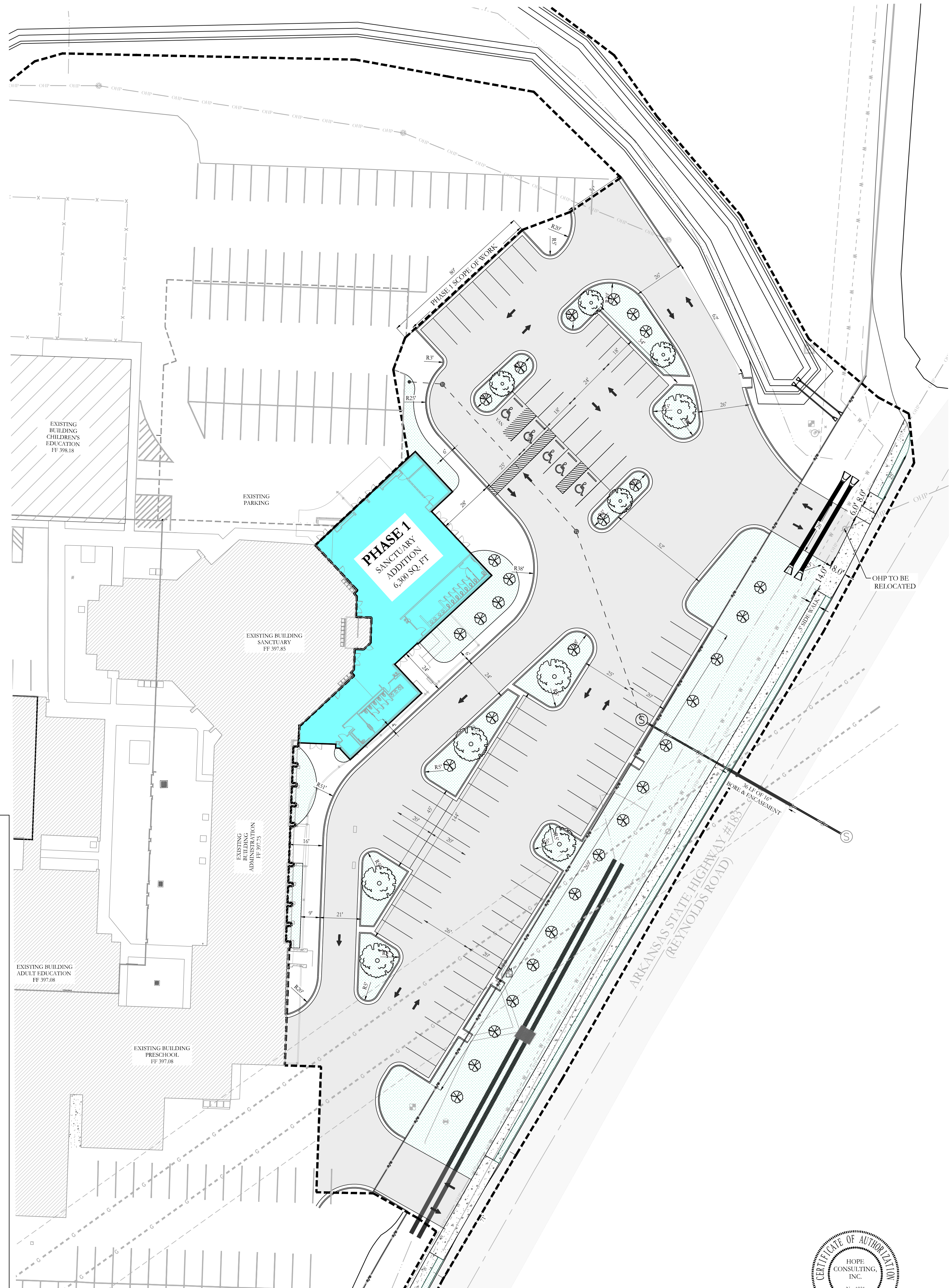
**SECTION VII PLANNING COMMISSION APPROVAL**

The City of Bryant Planning Commission will review and act on all landscaping proposals at the time building plans are submitted and in the case of subdivision at the preliminary plat submittal.

A certificate of occupancy will not be issued for a commercial establishment nor will the final subdivision plat be approved until landscaping requirements are satisfied.

**SECTION VIII ENFORCEMENT**

The code enforcement officer of the City of Bryant will enforce this ordinance and issue citations as authorized by law.



**HOPE CONSULTING**  
ENGINEERS - SURVEYORS

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Benton, Arkansas 72015  
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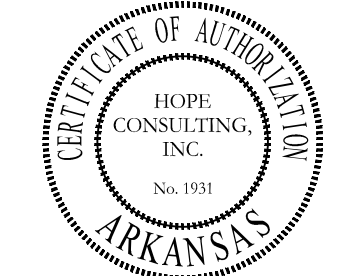
FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**

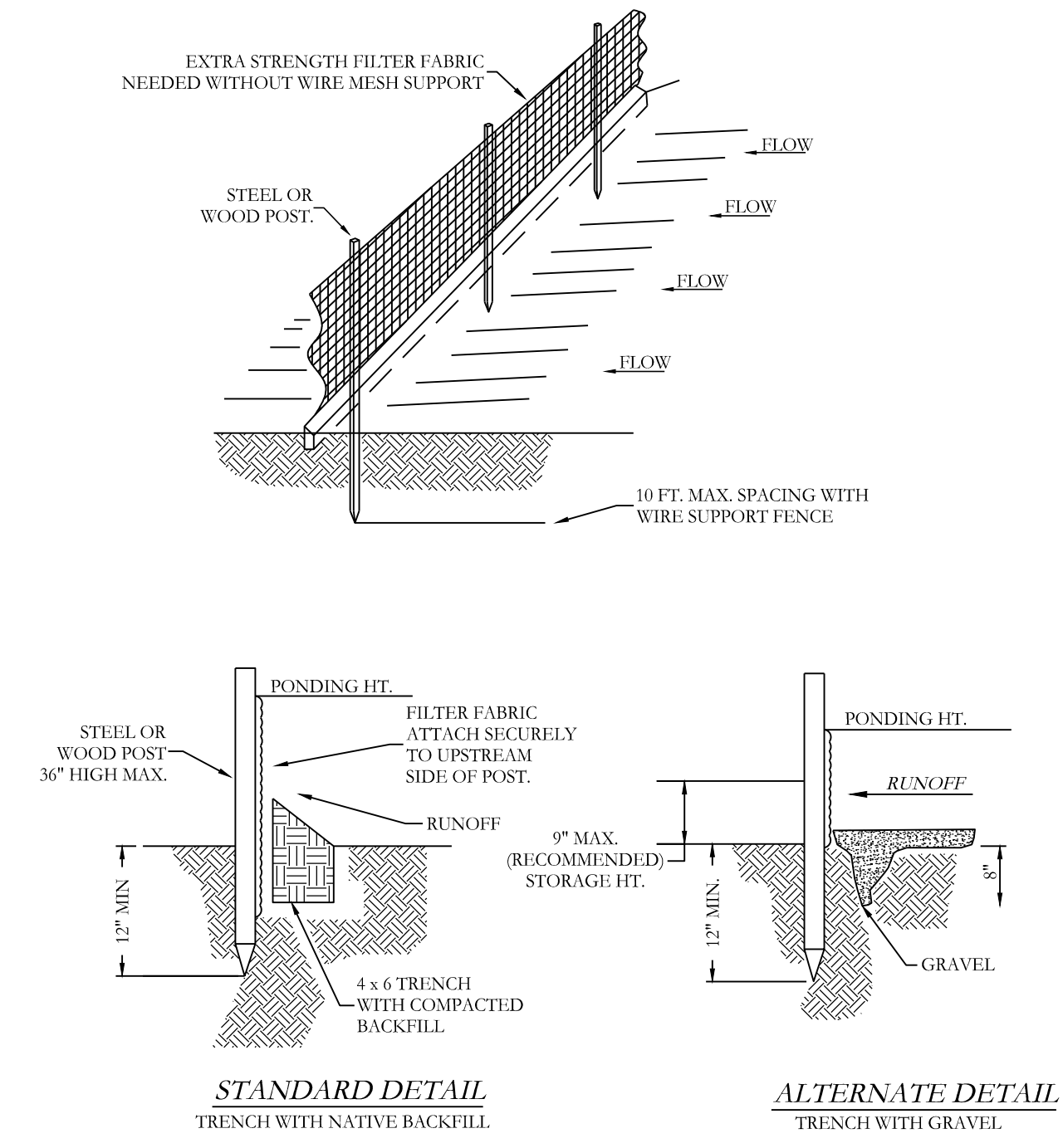
**CHURCH EXPANSION PHASE 1**

LANDSCAPE PLAN  
604 S REYNOLDS ROAD  
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 09-04-2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:
REVISED: 09-25-2024	CHECKED BY:	<b>24-0260</b>
SHEET: C-7.0	SCALE:	

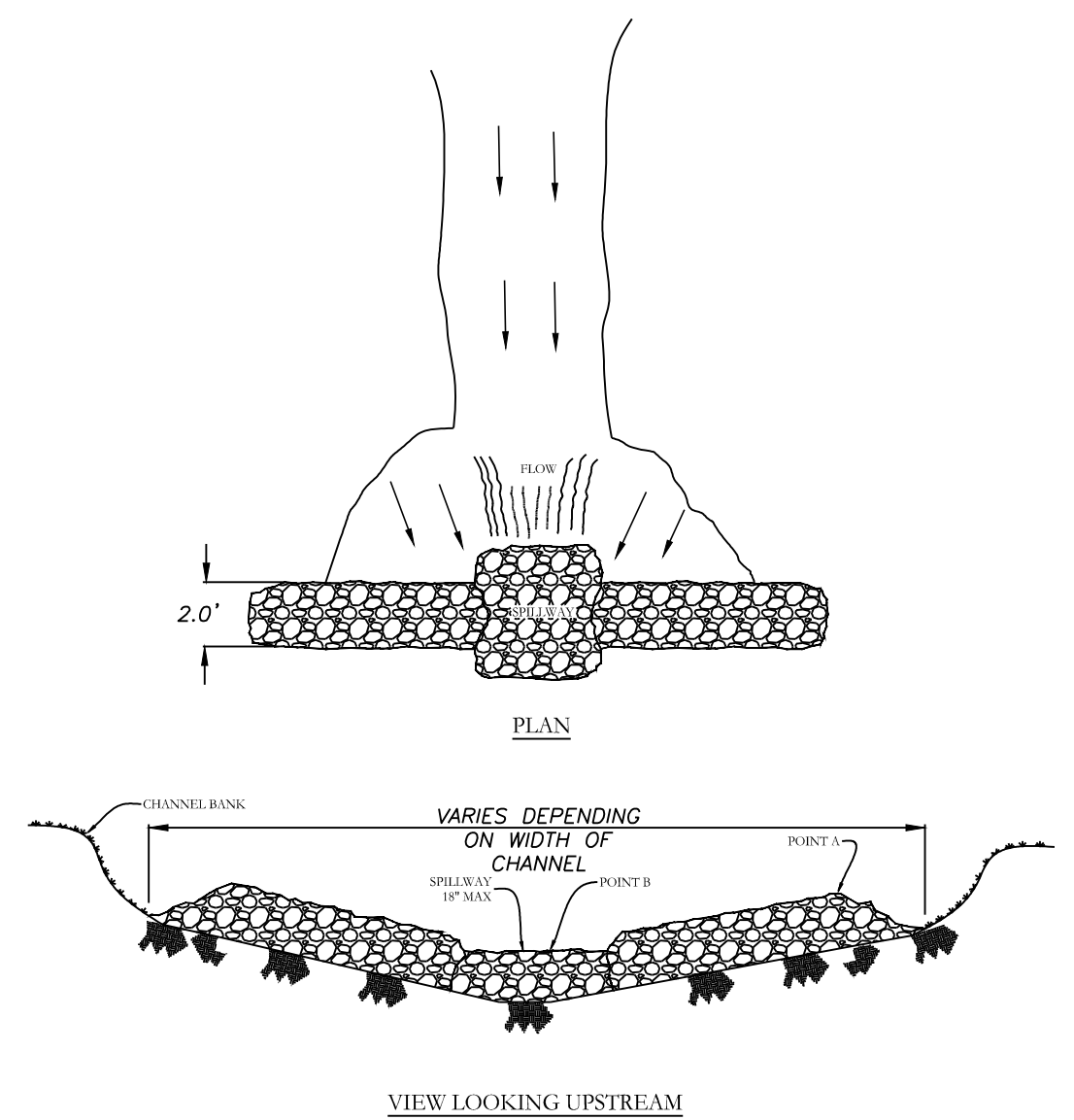
500 01S 14W 0 34 310 62 1664





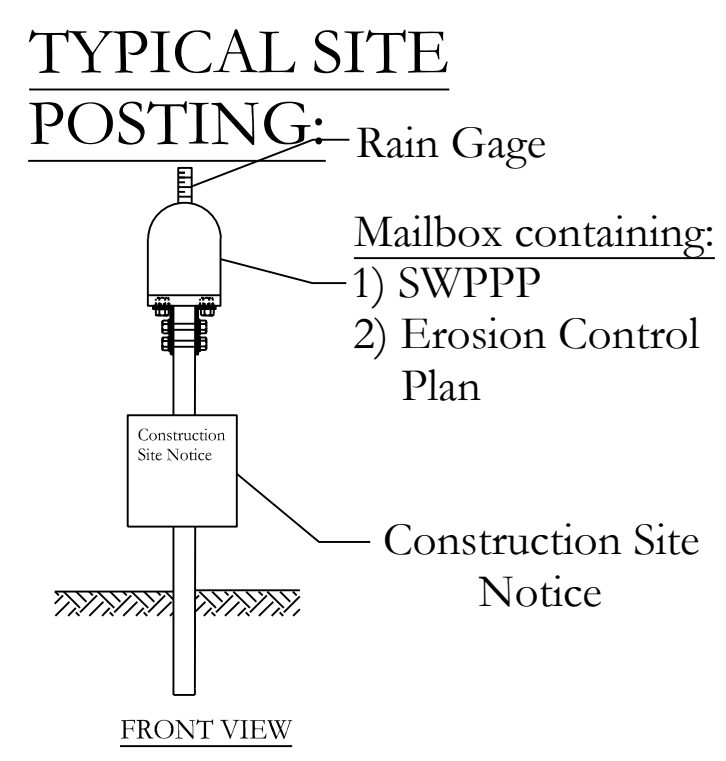
- NOTE:
- 1) INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
  - 2) REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
  - 3) SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

**SILT FENCE**

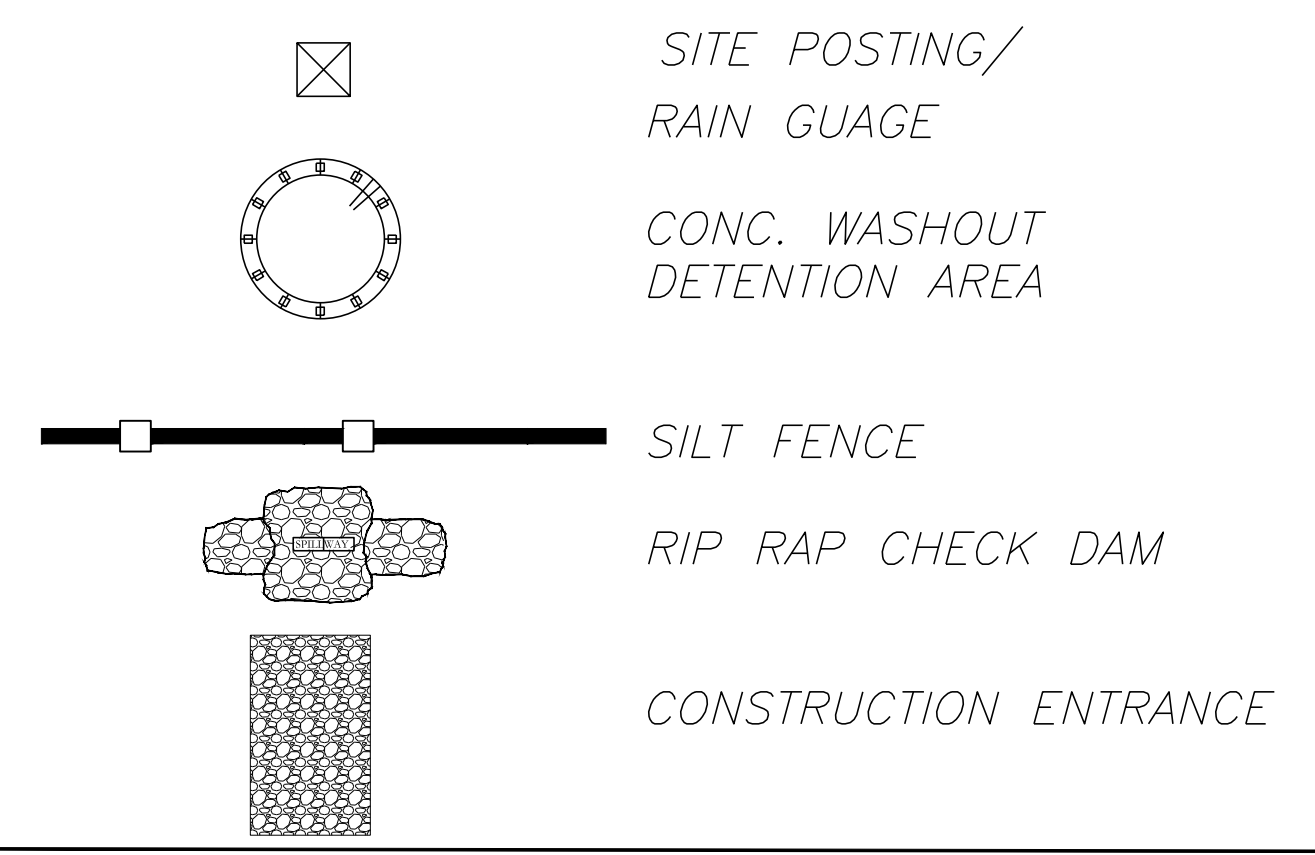


- NOTES:
- 1) POINT 'A' MUST BE HIGHER THAN POINT 'B' (SLOPE RISE).
  - 2) POINT 'B' SHOULD BE HIGHER THAN POINT 'C' (SLOPE FALL).
  - 3) USE STRAW, ROCKS OR FILTER FABRIC TO FILL ANY GAPS AND LEAKS.
  - 4) CHECK FOR PROPER SPACING AND MAINTENANCE OF THE DAM.
  - 5) SPACING BETWEEN DAMS SHOULD BE 25-30 FEET.
  - 6) INSPECT AFTER EACH STORM EVENT AND REPAIR AS NECESSARY.

**RIP-RAP CHECK DAM**



**ERC LEGEND**



**EROSION CONTROL NOTES**

**SOD DETENTION AREA POST-CONSTRUCTION (IF APPLICABLE)**

MAXIMUM SLOPE OF 3H:1V ON DETENTION POND LEVEES

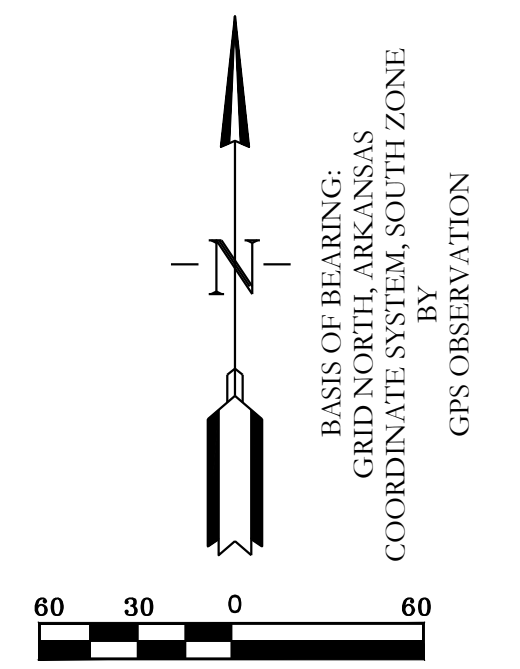
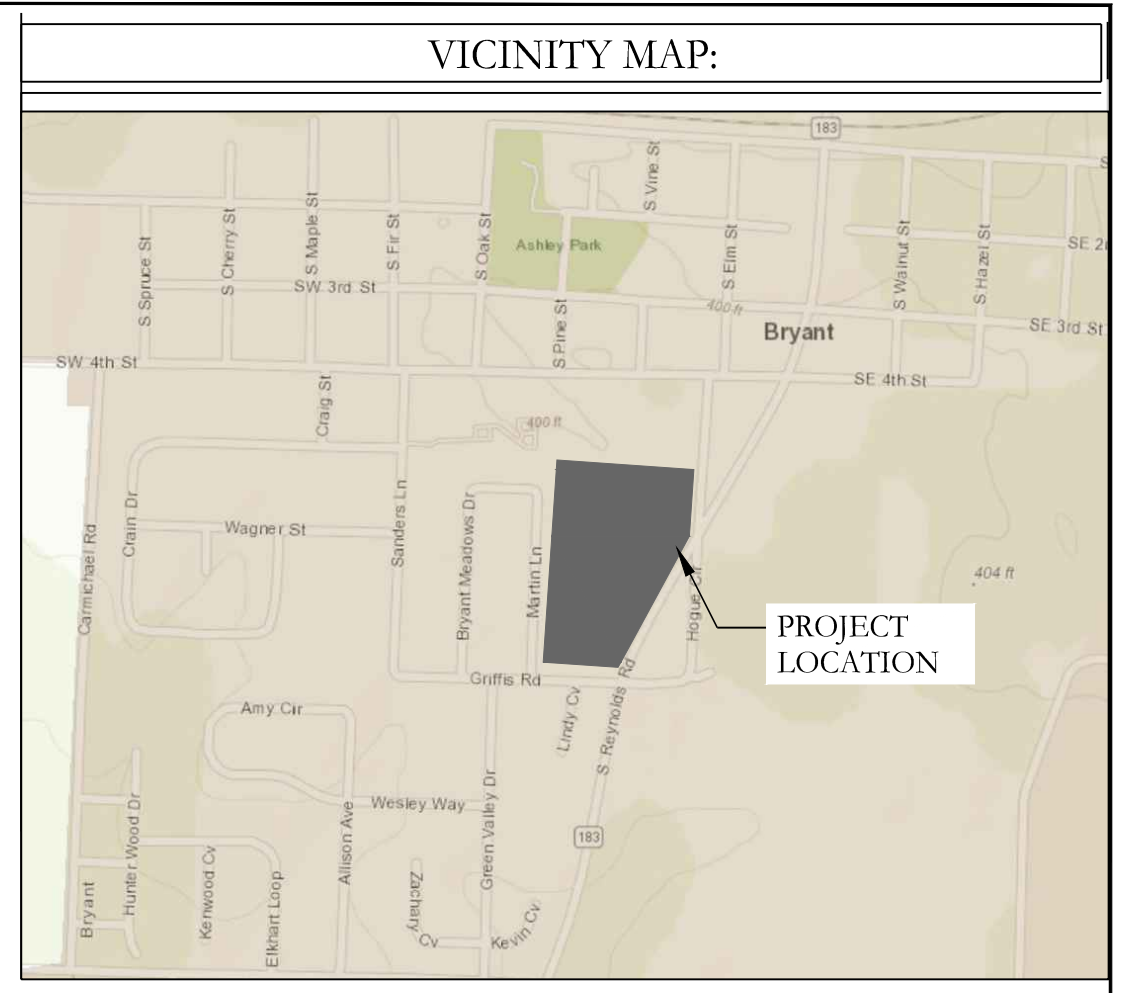
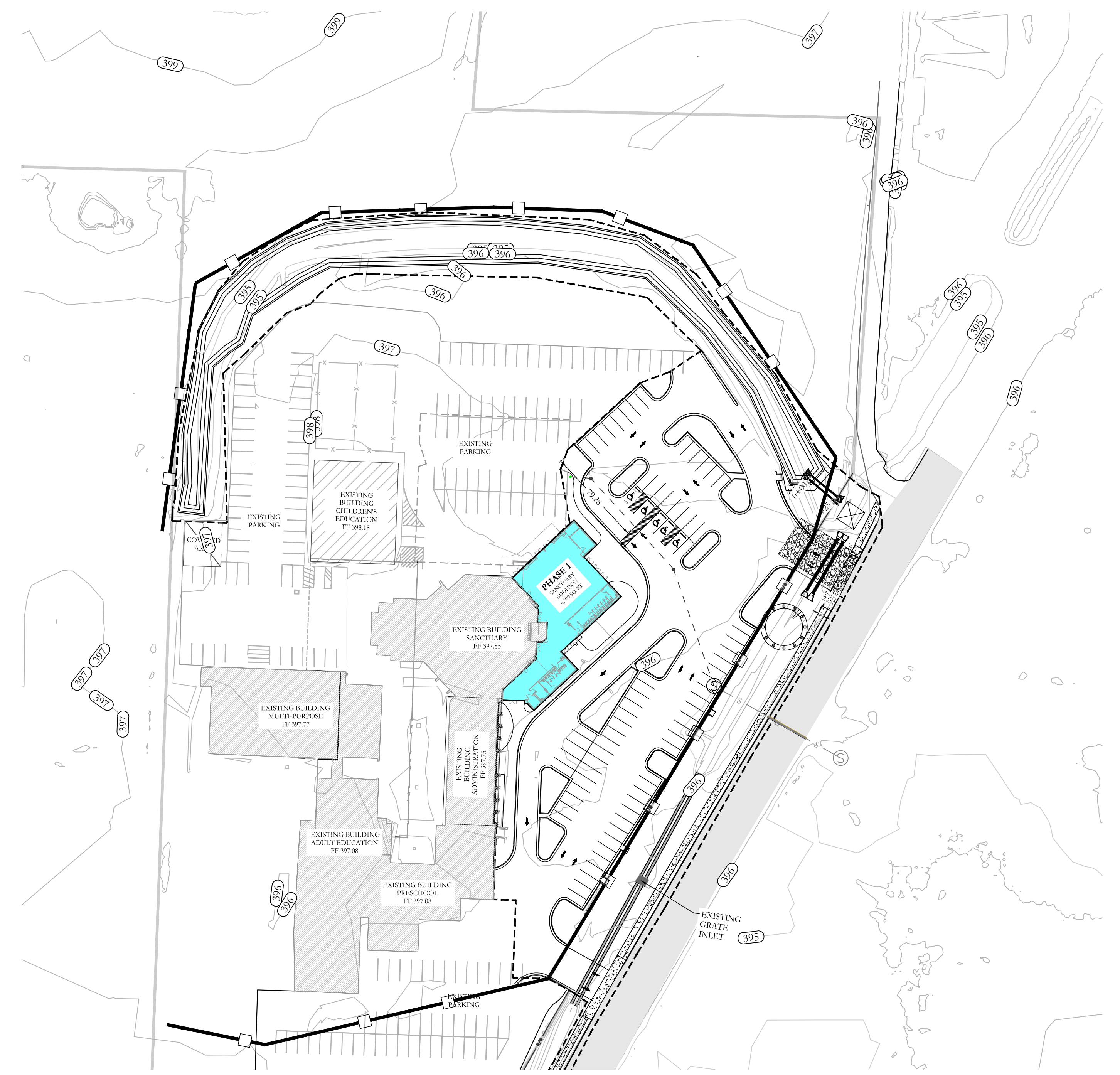
CONTRACTOR MUST HAVE INLET PROTECTION MEASURES INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF DRAINAGE INLETS/STRUCTURES IS COMPLETE. SEDIMENT BARRIERS SHALL BE MAINTAINED THROUGHOUT AND INSPECTED THROUGHOUT CONSTRUCTION PROCESS UNTIL PROJECT IS COMPLETE.

RIP RAP SEDIMENT BARRIERS SHALL BE USED AT ALL STORMWATER DISCHARGE POINTS SHOWN ON PLANS, ASAP

CONTRACTOR SHOULD WORK WITH ENGINEER TO ESTABLISH EFFECTIVE AND EFFICIENT PLAN TO PREVENT SEDIMENT RUNOFF BY DETERMINING WHERE SILT FENCING OR OTHER TYPES OF CONTROLS ARE NECESSARY

SOME EROSION CONTROL MEASURES, SILT FENCING, OR CHECK DAMS MAY NOT BE NECESSARY DURING INITIAL ROW CLEARING BUT MAY BE NEEDED ONCE LOT CLEARING AND HOME BUILDING BEGINS

EXISTING VEGETATION WILL ONLY BE REMOVED INSIDE ROW AND WITHIN HOUSE FOOTPRINTS AS THEY ARE CONSTRUCTED. ADDITIONAL SILT FENCING WILL BE ADDED TO INDIVIDUAL LOTS AS HOME CONSTRUCTION TAKES PLACE.



**HOPE CONSULTING ENGINEERS - SURVEYORS**

129 N. Main Street, Benton, Arkansas 72015  
PH. (501) 315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**

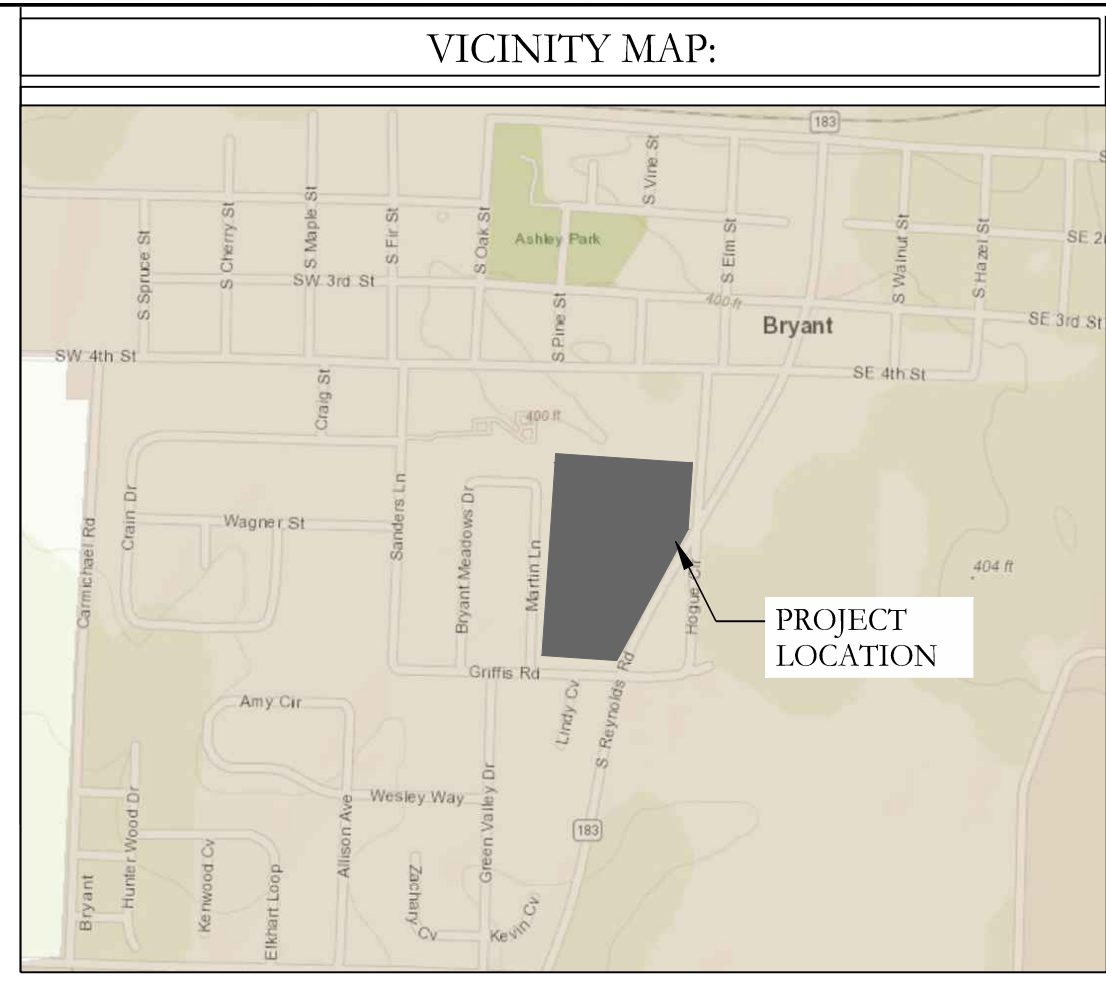
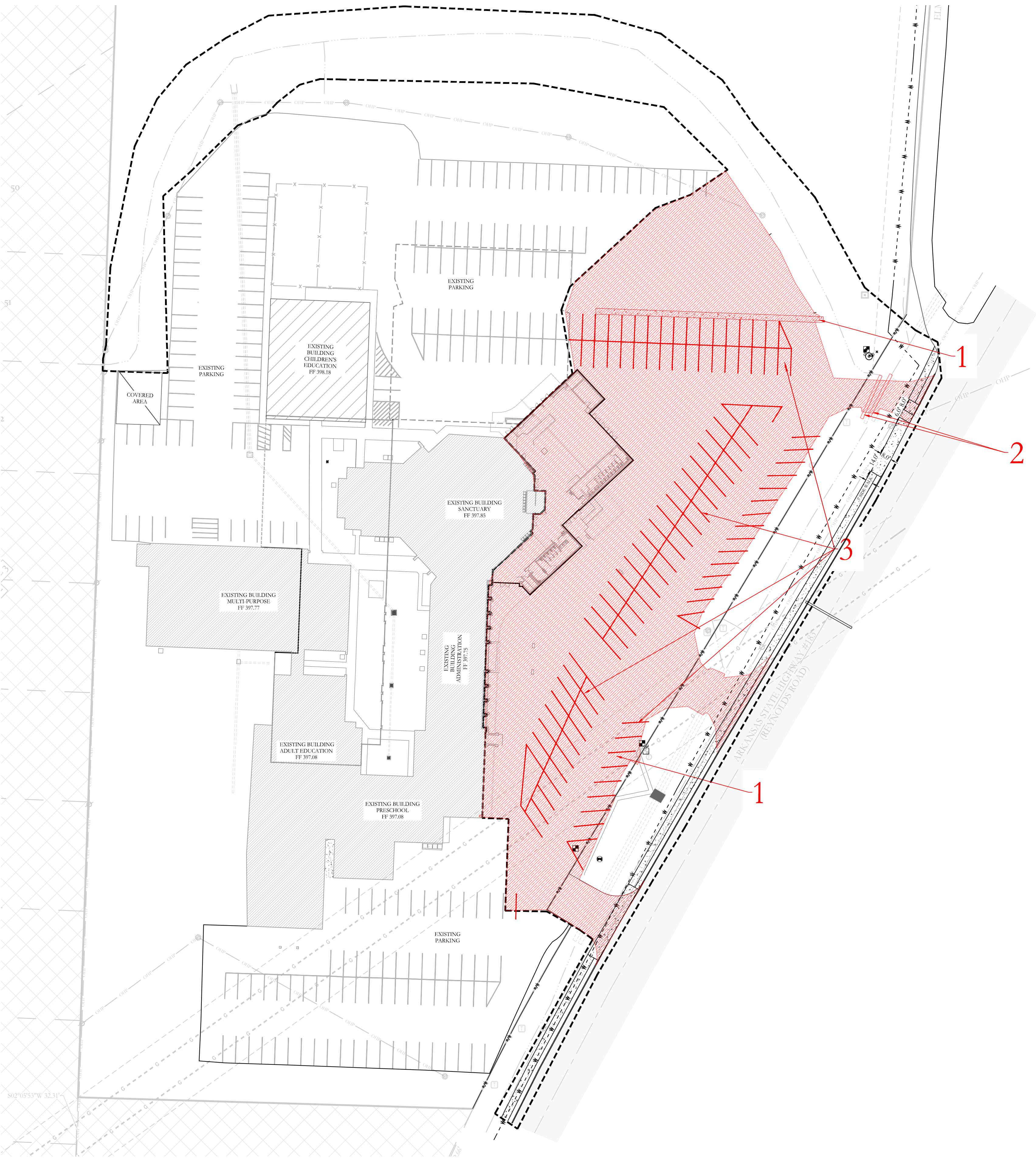
**FSCB EXPANSION & REMODEL PHASE 1**

EROSION CONTROL PLAN  
604 S REYNOLDS ROAD  
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 09-04-2024	C.A.D. BY:	DRAWING NUMBER:
REVISED: 9-25-2024	CHECKED BY:	24-0260
SHEET: C-8.0	SCALE:	

500 01S 14W 0 34 310 62 1664

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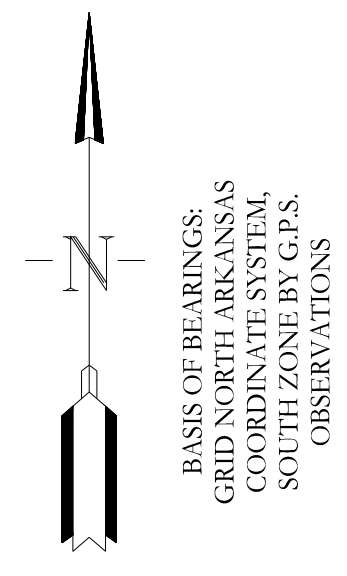


<b>OWNER:</b> Name: Peter Cunningham Address: 604 S Reynolds Rd, Bryant, Arkansas 72022 Email & peter@fsbcbryant.org Phone: 501-847-3014	<b>DEVELOPER:</b> Name: Peter Cunningham Address: 604 S Reynolds Rd, Bryant, Arkansas 72022 Email & peter@fsbcbryant.org Phone: 501-847-3014
--	--

**DEMO PLAN NOTES**

1. DEMOLITION OF ASPHALT & CONCRETE AREA( 70,260 SF)
2. DEMOLITION OF EXISTING CULVERTS
3. DEMOLITION OF EXISTING PARKING SPACE

**CIVIL ENGINEER**  
**HOPE CONSULTING INC**  
 129 N. MAIN STREET  
 BENTON, AR 72015  
 CONTACT: KAZI TAMZIDUL ISLAM  
 PHONE: 501-315-2626  
 EMAIL: kazi@hopeconsulting.com



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 129 N. Main Street,  
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FOR USE AND BENEFIT OF: <b>FIRST SOUTHERN BAPTIST CHURCH OF BRYANT</b>		
CHURCH EXPANSION PHASE 1		
DEMO PLAN		
604 S REYNOLDS ROAD BRYANT, SALINE COUNTY, ARKANSAS		
DATE: 09-04-2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:
REVISED: 9-25-2024	CHECKED BY:	<b>24-0260</b>
SHEET: C-90	SCALE:	
500	01S	14W
0	34	310
62	1664	

S:\LAND PROJECTS\2004\COMMERCIAL\2004\24-0260 FSBC EXPANSION AND REARDOOR CIVIL.DWG: 24-0260 SITE PLAN BASE - PHASE 1.DWG

## City Comment Response Letter

### First Southern Baptist Church - 604 Reynolds - Site Plan

#### Stormwater

1. Stormwater Drainage Calculations

Response: Drainage calculations have been provided. See drainage report.

2. Stormwater In-Lieu Fee

Response: Stormwater In-Lieu fee will be provided

#### Engineering

1. Submit drainage calculations

Response: Drainage calculations have been provided. See drainage report.

#### Com Dev

1. Provide Request letter for Site Plan.

Response: Request letter for site plan will be provided.

2. Provide Commercial site plan stormwater review fee \$250

Response: Review fee will be provided.

3. Sidewalk not shown along Reynolds

Response: Sidewalk has been shown along Reynolds Rd (see sheet C-1.0)

4. Is the existing monument sign going to be removed and placed back?

Response: Yes the sign will be removed and placed back.

## Fire

1. Discuss Fire Alarm

Response: Fire design will be submitted during building permit application submission.

2. Discuss fire separation between new and existing.

Response: Fire separation details will be submitted during building permit application submission.

*First Southern Baptist Church of Bryant*

604 S REYNOLDS ROAD, BRYANT, AR 72022

*DRAINAGE REPORT*

*FOR*

*City of Bryant, Saline County, AR*

September 2024

Owner & Developer: Peter Cunningham.

By:

**HOPE**  
**CONSULTING**  
ENGINEERS - SURVEYORS

# TABLE OF CONTENTS

## ITEM DESCRIPTION

1. Narrative & Summary
2. Hydrograph Report

## **Narrative & Summary**



**PROJECT TITLE**

First Southern Baptist Church of Bryant

**PROJECT PROPERTY OWNER**

Peter Cunningham

**PROJECT LOCATION**

604 S Reynolds Road, Bryant, AR

**PROJECT DESCRIPTION**

The proposed development is on South Reynolds Road, Bryant, AR. Total development site area is 7.58 acres.

**DRAINAGE ANALYSIS**

**On Site Drainage-** Rational method was used to determine the existing and proposed flows from proposed site. There will be one retention pond to detain water from this development. Detailed drainage calculations considering the future expected development have been conducted to determine the required detention pond and culvert dimensions. Summary of the calculations are below:

**Retention Pond**

- Pond is situated on the north-east side of the property.
- Pre-development area 7.36 acres.
- Post-development area 7.34 acres.
- Pre-development runoff cumulative coefficient 0.65.
- Post-development runoff cumulative coefficient 0.72
- Pond has a bottom area of 16,570 sqft with bottom elevation of 393.4’.
- Two 8” RCPs with 0.52% slope is proposed for outflow pipes.

**Peak flows for Pre and post development phase of onsite area have been tabulated below-**

Period of time	Pre-development	Post-dev. Without detention	Post-dev. With detention
	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	18.69	22.67	1.911
5-Year	20.65	25.15	2.677
10-Year	24.35	29.23	4.569
25-Year	27.93	33.44	6.883
50-Year	31.84	38.07	9.645
100-Year	33.86	40.40	11.06

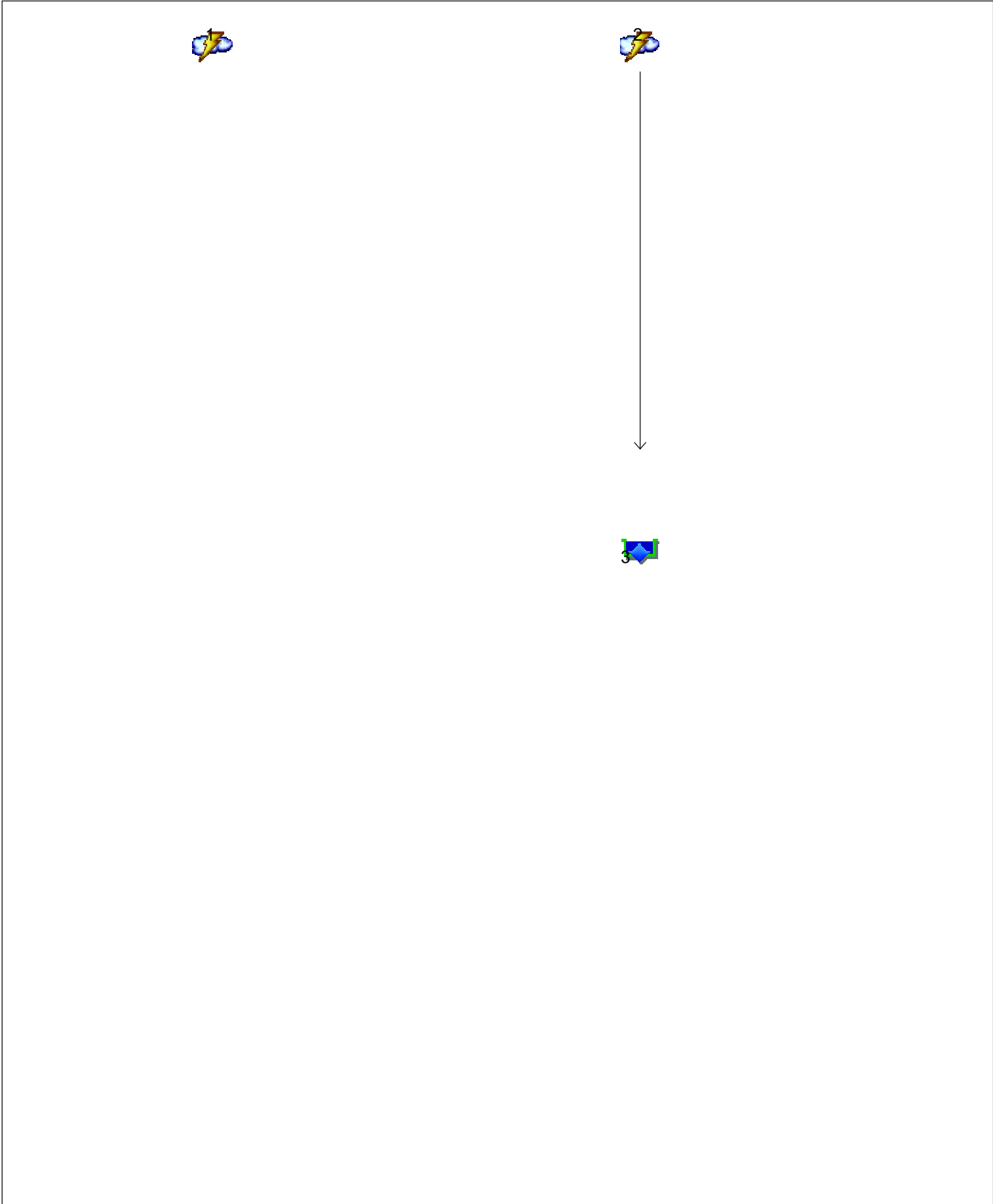
## **CONCLUSION**

From the onsite drainage calculation, it is seen that there is decrease in flow for all storm events due to the proposed retention pond.

# **Hydrograph Summary Report**

# Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025



# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

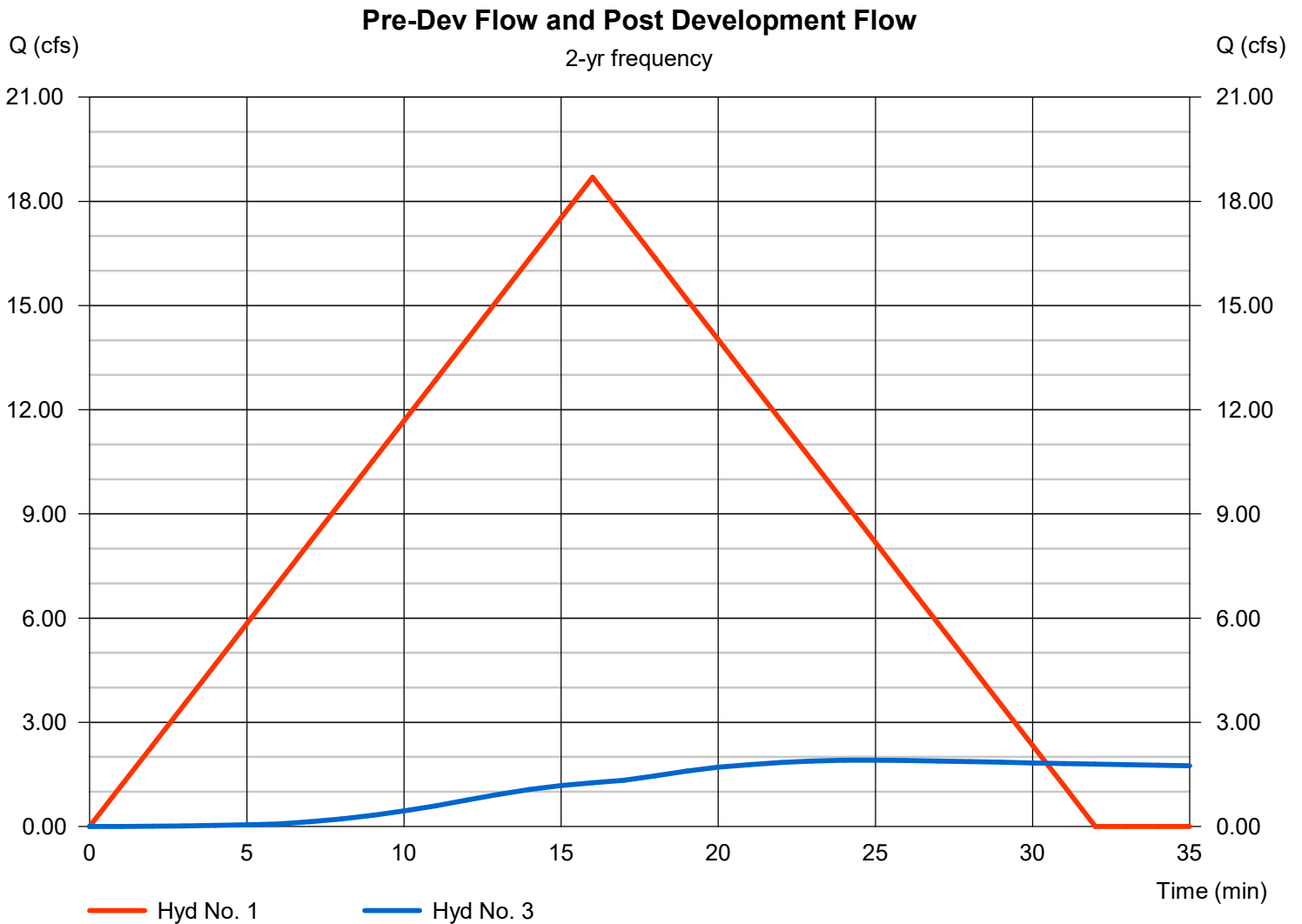
Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 18.69 cfs  
Time to peak = 16 min  
Hyd. Volume = 17,943 cuft

## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 1.91 cfs  
Time to peak = 25 min  
Hyd. Volume = 17,652 cuft



# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

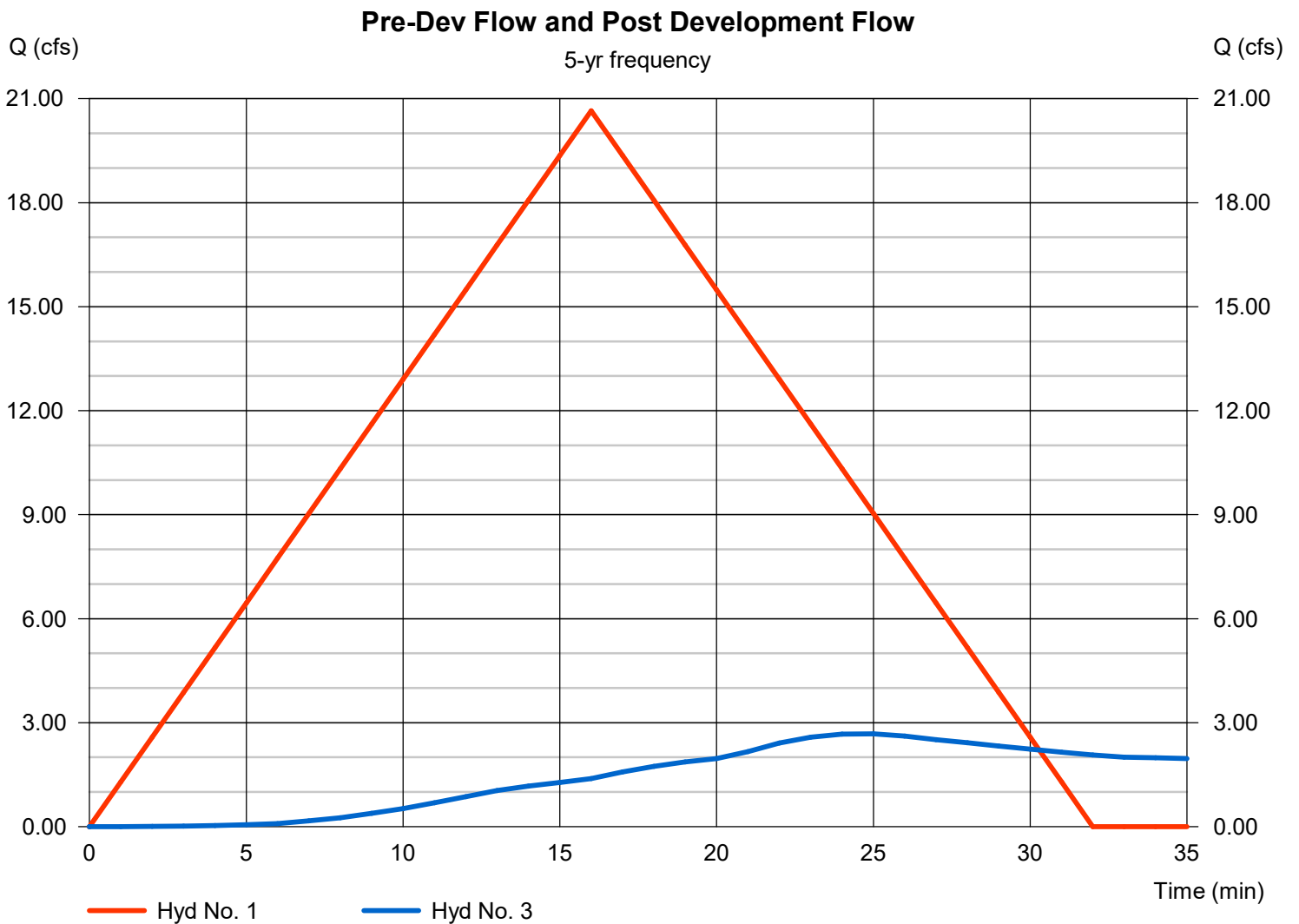
Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 20.65 cfs  
Time to peak = 16 min  
Hyd. Volume = 19,826 cuft

## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 2.68 cfs  
Time to peak = 25 min  
Hyd. Volume = 19,588 cuft



# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 24.35 cfs  
Time to peak = 16 min  
Hyd. Volume = 23,373 cuft

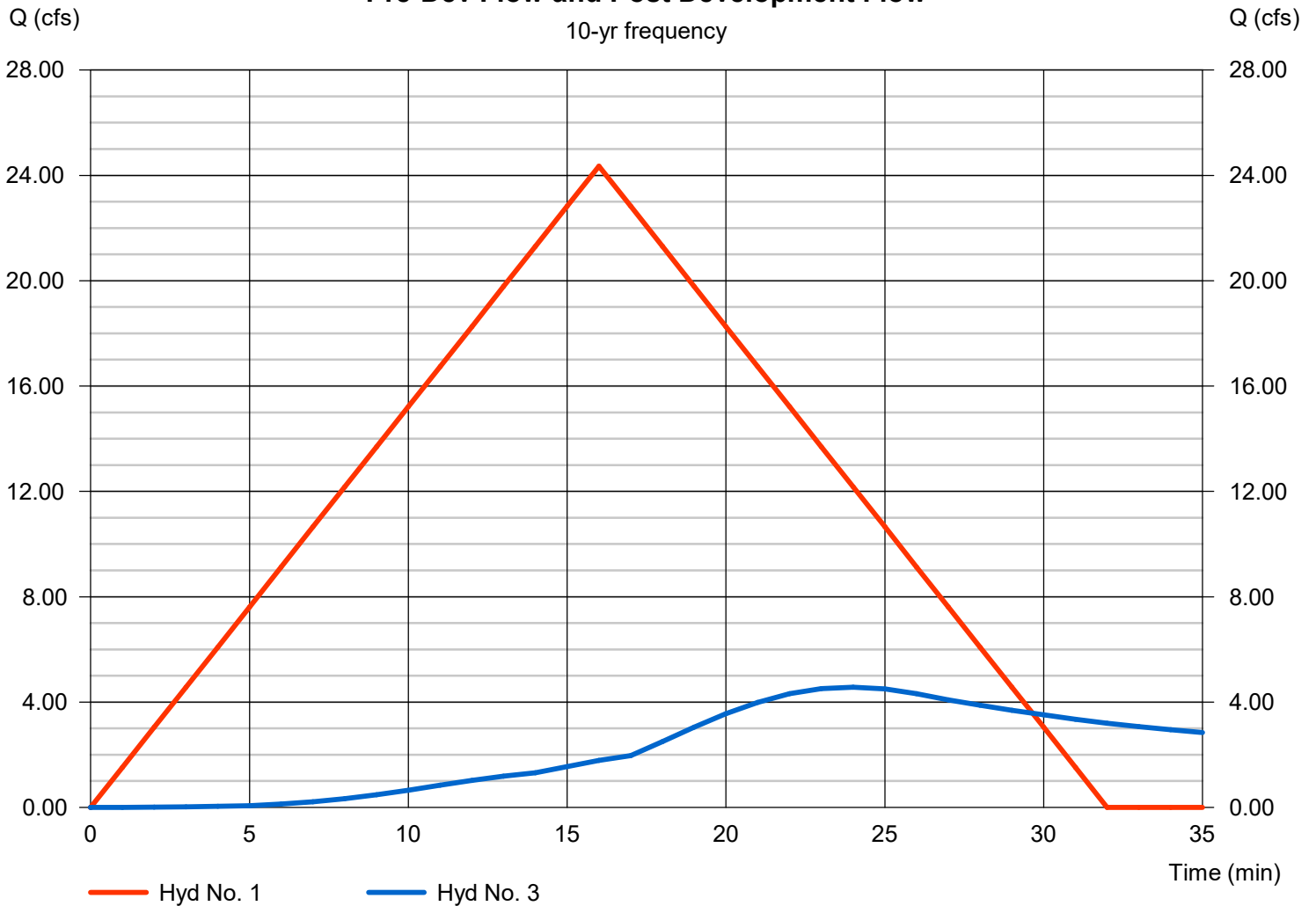
## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 4.57 cfs  
Time to peak = 24 min  
Hyd. Volume = 22,771 cuft

Pre-Dev Flow and Post Development Flow

10-yr frequency



# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

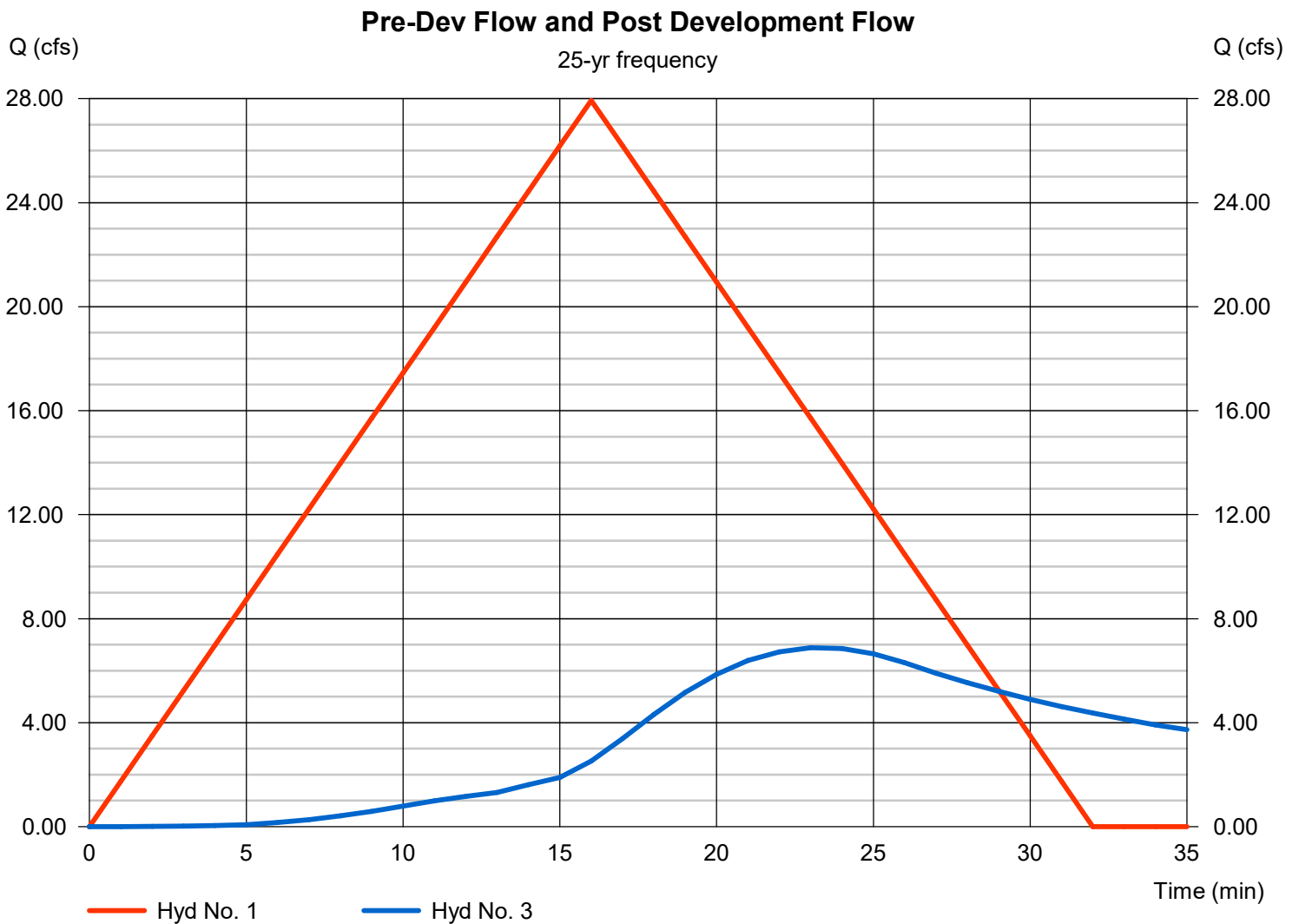
Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 27.93 cfs  
Time to peak = 16 min  
Hyd. Volume = 26,812 cuft

## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 6.88 cfs  
Time to peak = 23 min  
Hyd. Volume = 26,060 cuft





# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

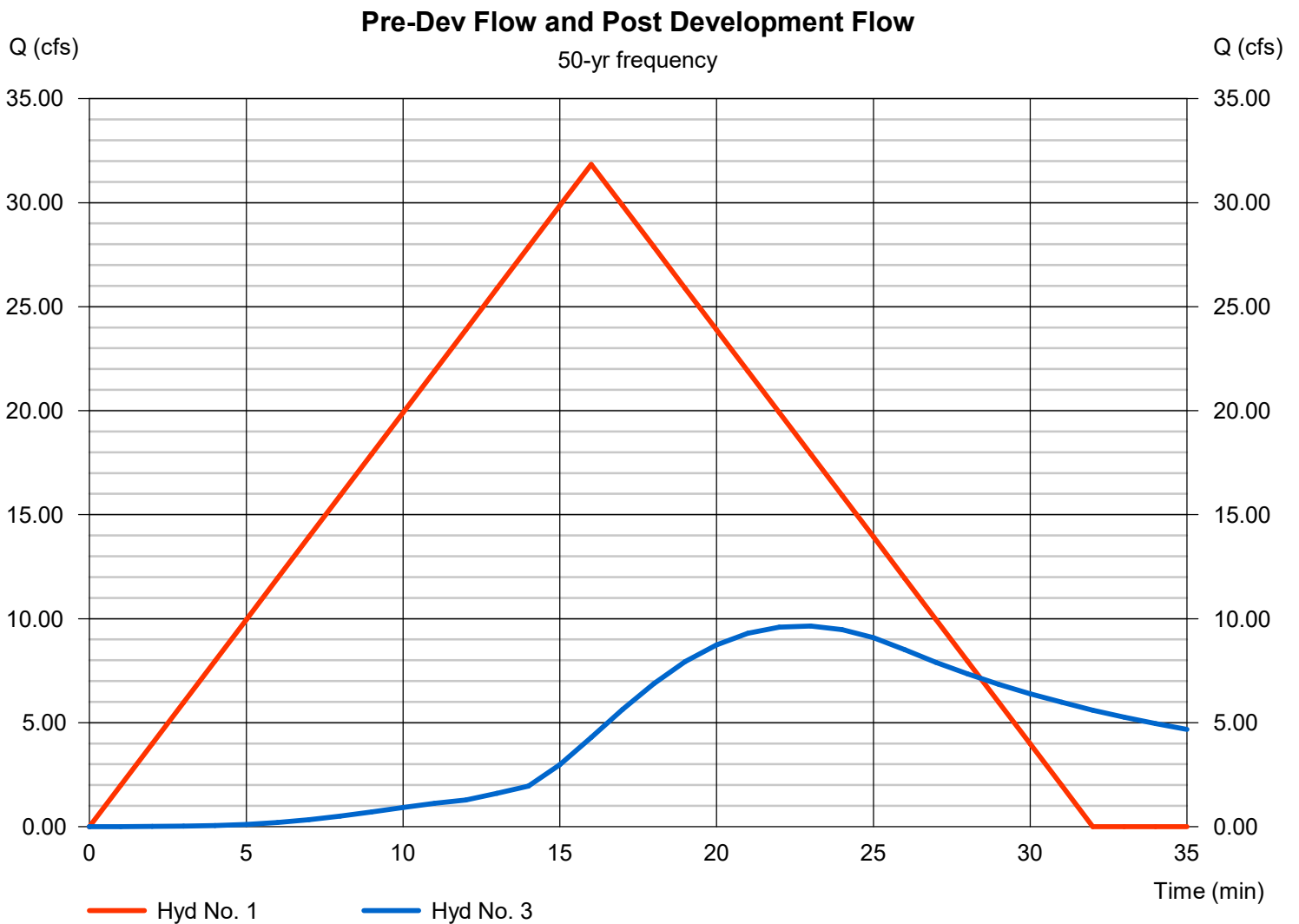
Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 31.84 cfs  
Time to peak = 16 min  
Hyd. Volume = 30,570 cuft

## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 9.64 cfs  
Time to peak = 23 min  
Hyd. Volume = 29,672 cuft



# Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## Hyd. No. 1

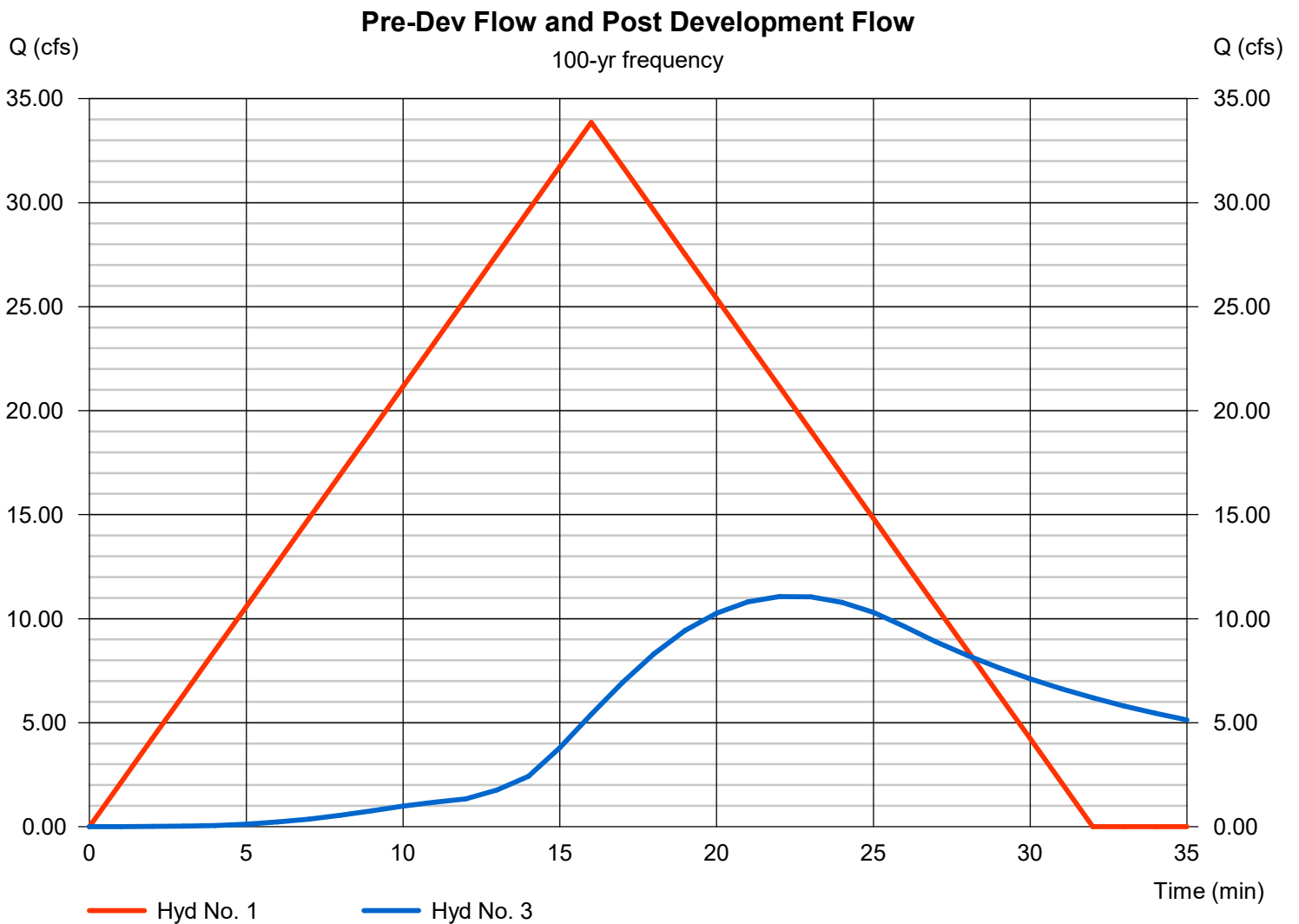
Pre-Dev Flow

Hydrograph type = Rational  
Peak discharge = 33.86 cfs  
Time to peak = 16 min  
Hyd. Volume = 32,504 cuft

## Hyd. No. 3

Post Development Flow

Hydrograph type = Reservoir  
Peak discharge = 11.06 cfs  
Time to peak = 22 min  
Hyd. Volume = 31,482 cuft



# Pond Report

## Pond No. 1 - Retention Pond

### Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 393.40 ft

### Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	393.40	16,570	0	0
1.00	394.40	21,182	18,827	18,827
1.40	394.80	23,045	8,842	27,669

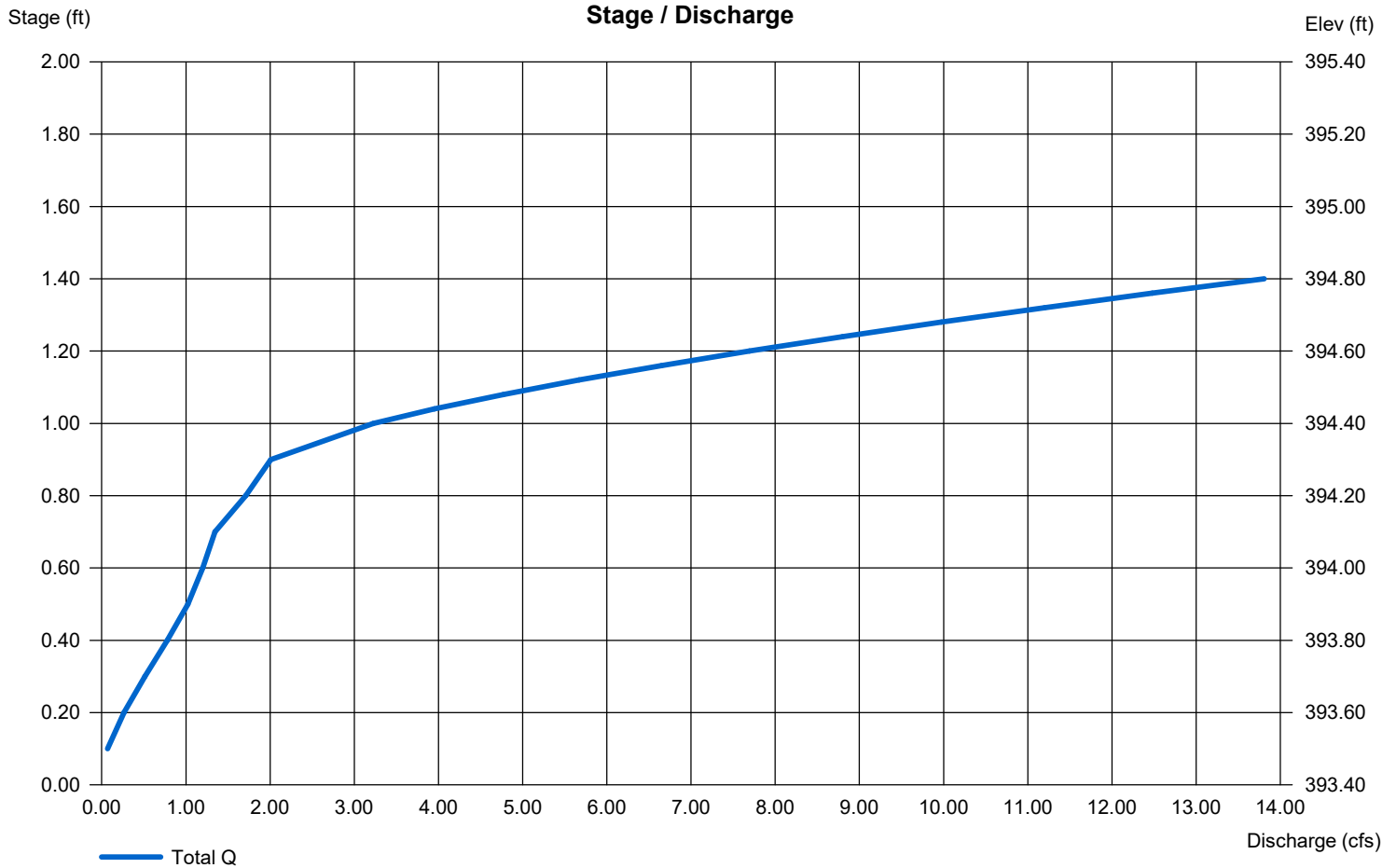
### Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	8.00	Inactive	Inactive
Span (in)	= 8.00	8.00	0.00	0.00
No. Barrels	= 1	1	0	0
Invert El. (ft)	= 393.40	393.40	0.00	0.00
Length (ft)	= 25.00	25.00	0.00	0.00
Slope (%)	= 0.52	0.52	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)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 394.30	0.00	0.00	0.00
Weir Coeff.	= 3.03	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

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



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	18.69	1	16	17,943	-----	-----	-----	Pre-Dev Flow	
2	Rational	22.67	1	13	17,679	-----	-----	-----	Development Generated Flow	
3	Reservoir	1.911	1	25	17,652	2	394.27	16,333	Post Development Flow	
DETENTION-CONTOUR.gpw					Return Period: 2 Year			Wednesday, 09 / 4 / 2024		

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	20.65	1	16	19,826	-----	-----	-----	Pre-Dev Flow
2	Rational	25.15	1	13	19,614	-----	-----	-----	Development Generated Flow
3	Reservoir	2.677	1	25	19,588	2	394.35	17,979	Post Development Flow

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	24.35	1	16	23,373	-----	-----	-----	Pre-Dev Flow	
2	Rational	29.23	1	13	22,797	-----	-----	-----	Development Generated Flow	
3	Reservoir	4.569	1	24	22,771	2	394.47	20,378	Post Development Flow	
DETENTION-CONTOUR.gpw					Return Period: 10 Year			Wednesday, 09 / 4 / 2024		

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	27.93	1	16	26,812	-----	-----	-----	Pre-Dev Flow
2	Rational	33.44	1	13	26,086	-----	-----	-----	Development Generated Flow
3	Reservoir	6.883	1	23	26,060	2	394.57	22,563	Post Development Flow
DETENTION-CONTOUR.gpw					Return Period: 25 Year			Wednesday, 09 / 4 / 2024	

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

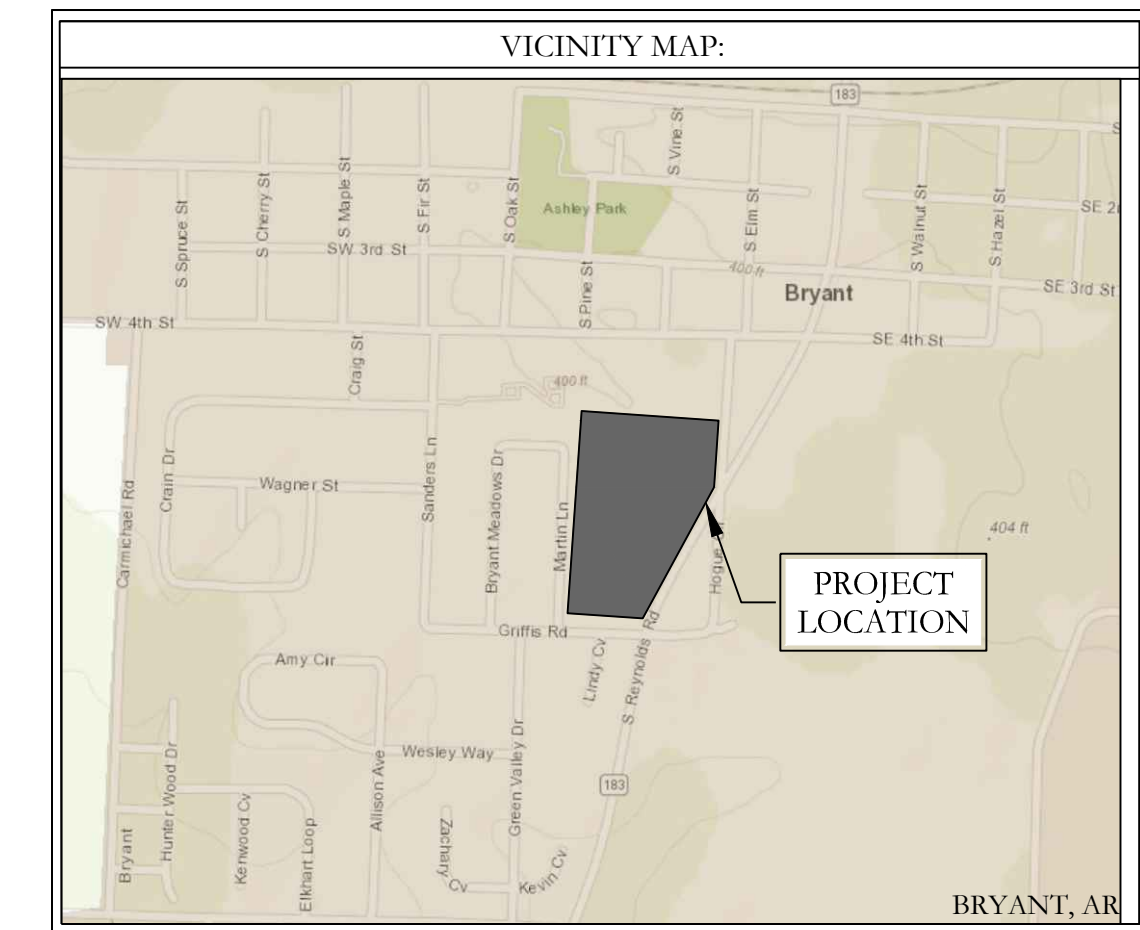
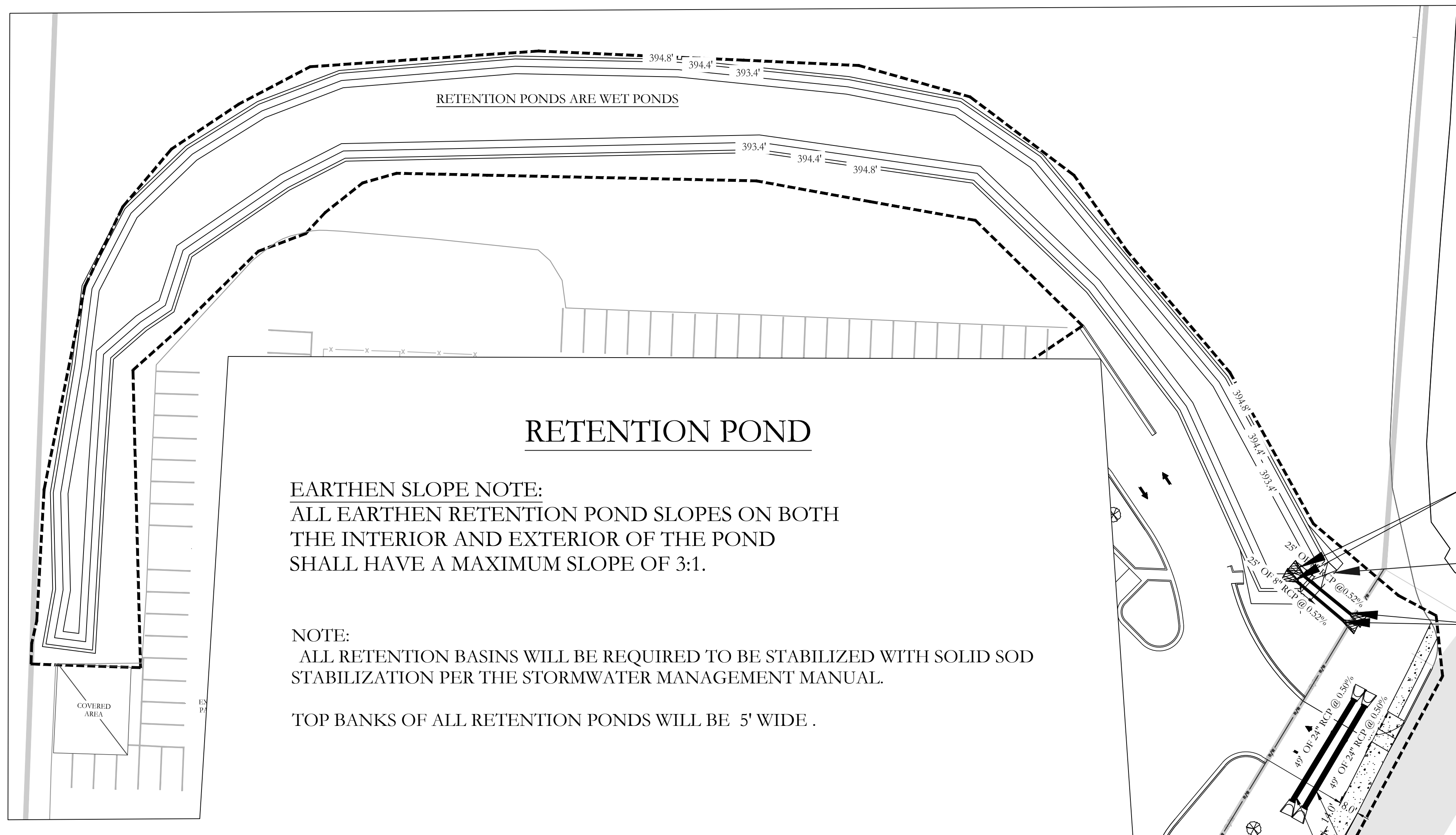
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	31.84	1	16	30,570	-----	-----	-----	Pre-Dev Flow	
2	Rational	38.07	1	13	29,698	-----	-----	-----	Development Generated Flow	
3	Reservoir	9.645	1	23	29,672	2	394.67	24,768	Post Development Flow	
DETENTION-CONTOUR.gpw					Return Period: 50 Year			Wednesday, 09 / 4 / 2024		



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	33.86	1	16	32,504	-----	-----	-----	Pre-Dev Flow	
2	Rational	40.40	1	13	31,509	-----	-----	-----	Development Generated Flow	
3	Reservoir	11.06	1	22	31,482	2	394.72	25,801	Post Development Flow	
DETENTION-CONTOUR.gpw					Return Period: 100 Year			Wednesday, 09 / 4 / 2024		



**RETENTION POND**

**EARTHEN SLOPE NOTE:**  
ALL EARTHEN RETENTION POND SLOPES ON BOTH THE INTERIOR AND EXTERIOR OF THE POND SHALL HAVE A MAXIMUM SLOPE OF 3:1.

**NOTE:**  
ALL RETENTION BASINS WILL BE REQUIRED TO BE STABILIZED WITH SOLID SOD STABILIZATION PER THE STORMWATER MANAGEMENT MANUAL.

TOP BANKS OF ALL RETENTION PONDS WILL BE 5' WIDE .

FL ELEV. 393.4'  
10' WIDE SPILLWAY  
FL ELEV. 393.27'

**DETENTION POND MAINTENANCE PLAN**

**Background**

The Retention ponds are located on the periphery of the subdivision. They are designed to temporarily detain stormwater to meet water quantity criteria before discharging off the property.

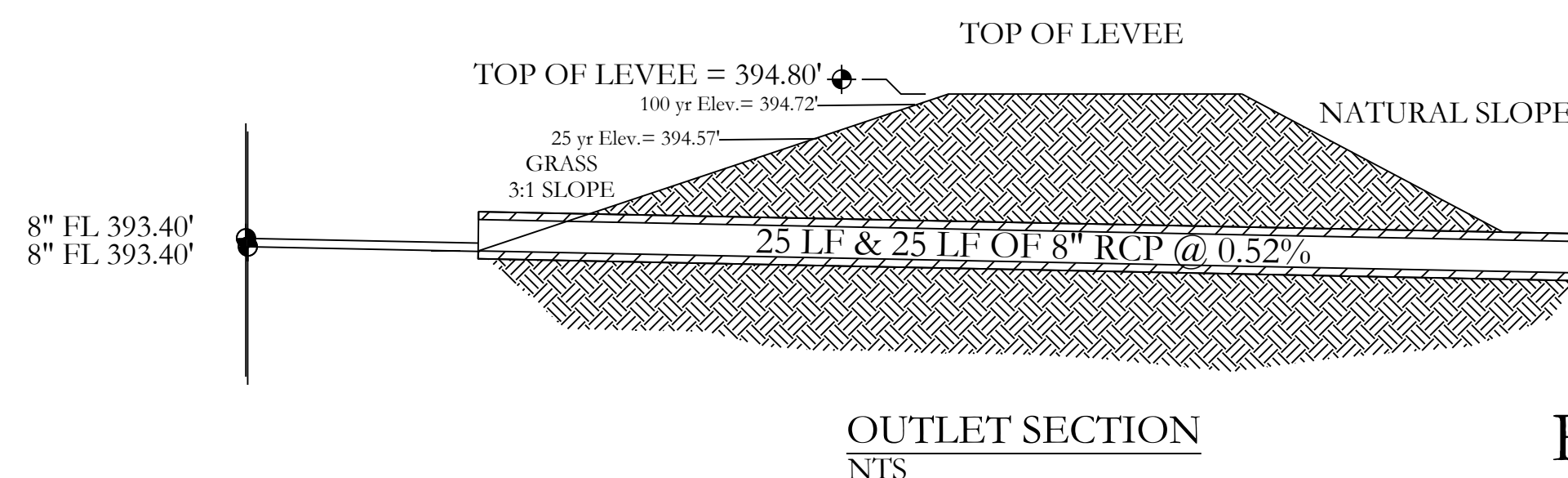
**Routine Maintenance:**

- The property owners association will maintain the drainage easements. Routine maintenance will include but not be limited to:
- Mowing of the bank slopes and area around the pond on a monthly basis during the growing season and as needed during the cooler months.
  - The outlet pipe from the pond and other areas will be inspected monthly for debris which could inhibit the proper flow of discharge. Any debris will be removed immediately and disposed of or placed in a location to prevent future maintenance and to not cause impact up or downstream of the structure.
  - Trash will be removed from around the pond to prevent entering the pond. Generally, the site should be kept free of loose trash which could be carried off site by wind or rain.
  - Inspect the pond and outlet pipe for non-routine maintenance need.

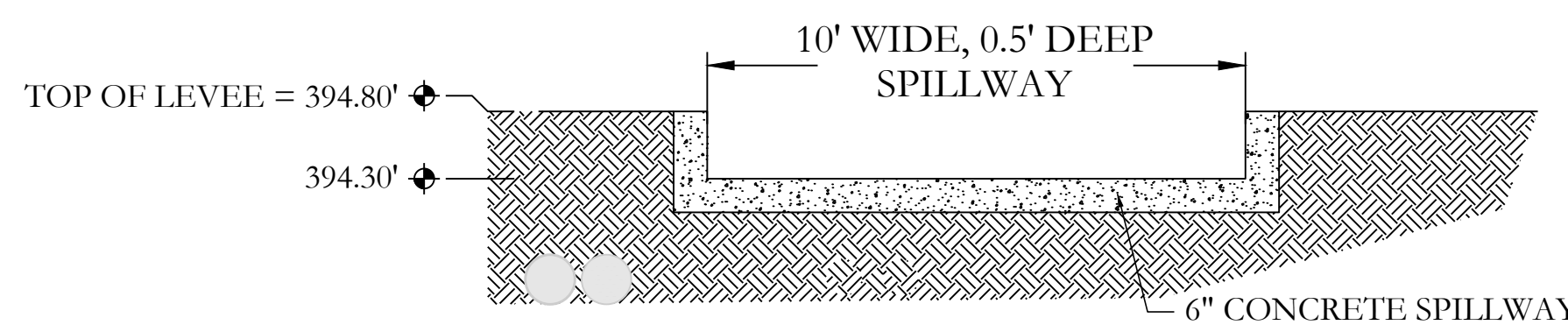
**Periodic or Non-Routine Maintenance**

The routine inspection of the ponds areas and discharge pipes will identify needed repairs and non-routine maintenance. These items may include but not be limited to:

- Re-growth of trees on or around the pond bank. These should be cut and removed from the pond area.
- Sediment from the site may accumulate in the pond bottom and reduce the pond to below design volume requirements. The pond should be excavated if the pond bottom elevation reached a level that allows excessive aquatic growth or reduces the pond efficiency such, that the sediments are passing the discharge structure and release off site.
- Stabilization or re-grading of side slopes may be required periodically or after excessive rain events. Any disturbance of slopes should be reseeded or may require installation of erosion control materials until seeding can reestablish adequate grasses to prevent future erosion.
- Any other maintenance or repairs which would minimize other maintenance to the pond or outfall structures.

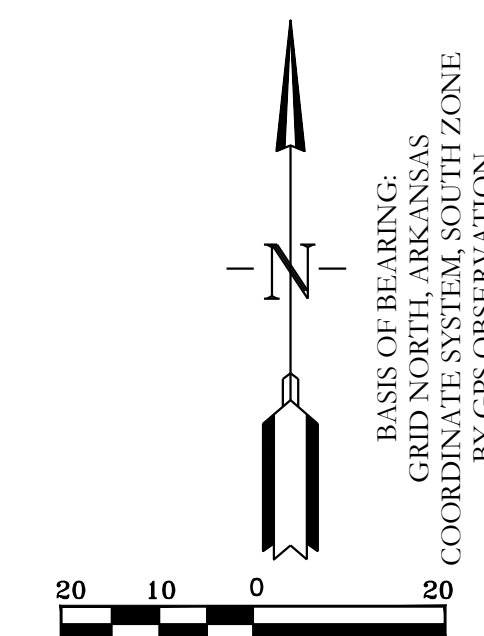


**OUTLET SECTION**  
NTS



**RETENTION POND**

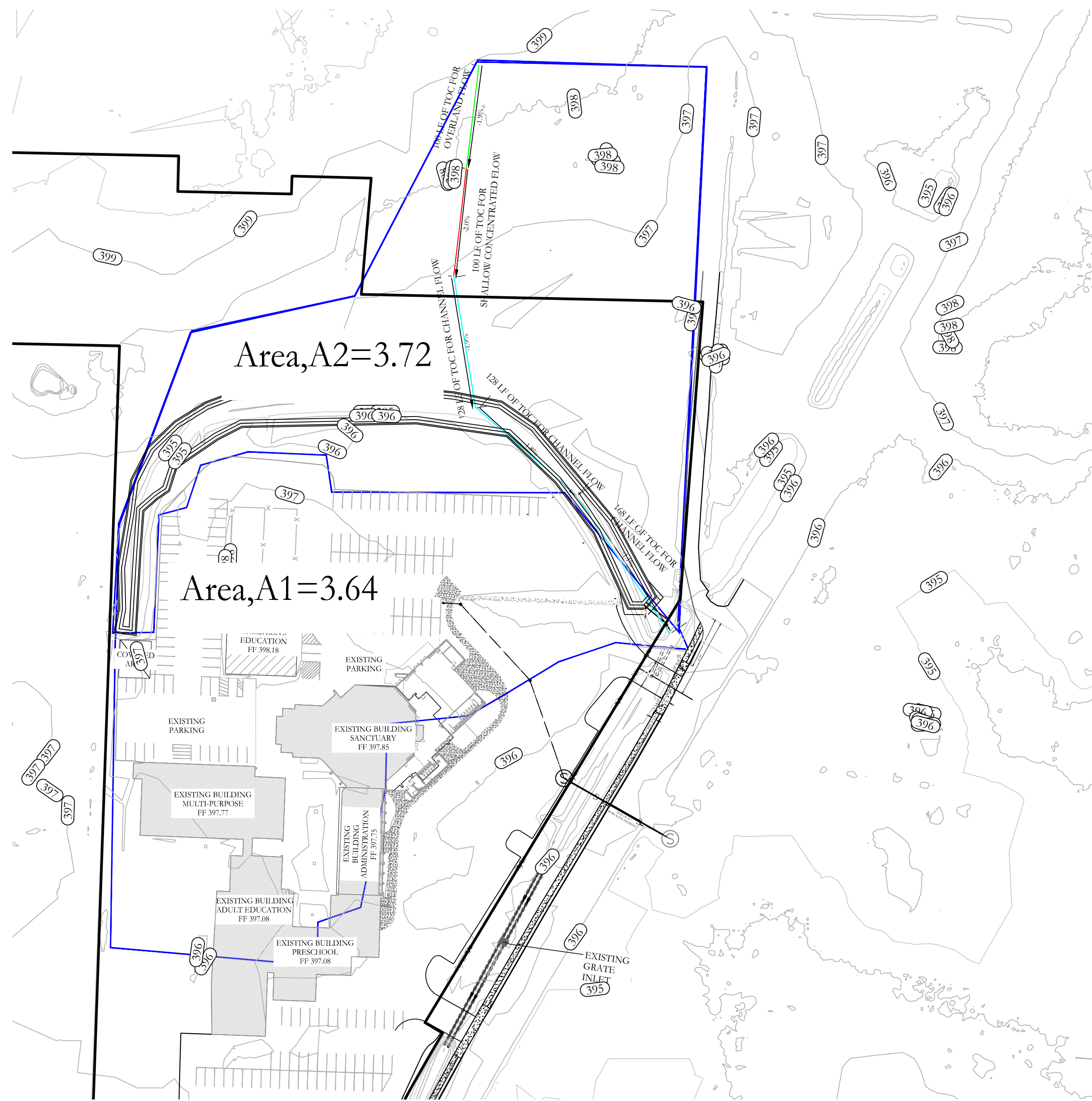
**SPILLWAY END VIEW**  
NTS



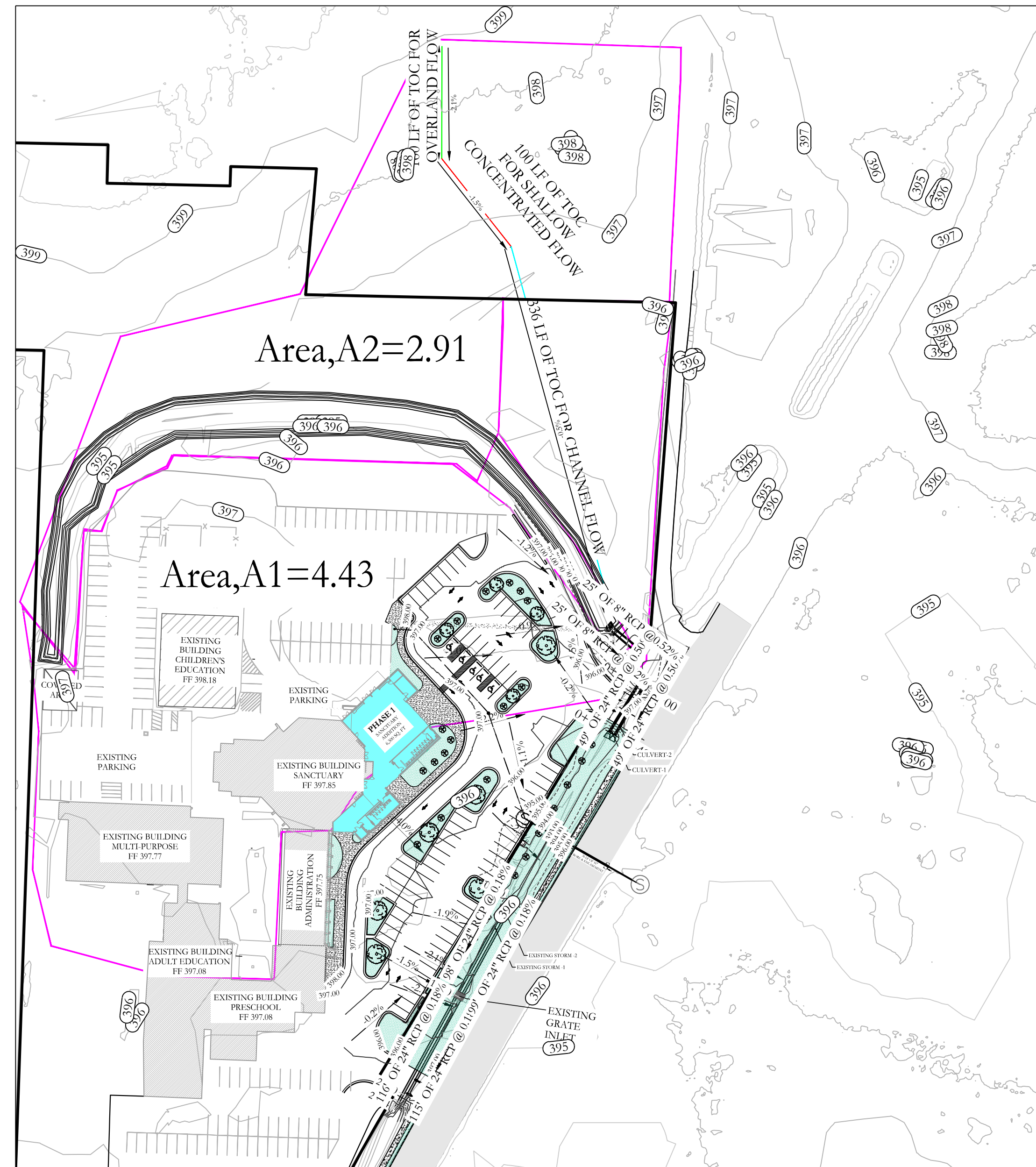
BASIS OF BEARING:  
GRID NORTH, ARKANSAS  
COORDINATE SYSTEM, SOUTH ZONE  
BY GPS OBSERVATION

<b>HOPE CONSULTING</b> ENGINEERS - SURVEYORS		129 N. Main Street, Benton, Arkansas 72015 PH. (501) 315-2626 FAX (501) 315-0024 www.hopeconsulting.com	
FOR USE AND BENEFIT OF: <b>FIRST SOUTHERN BAPTIST CHURCH OF BRYANT</b>			
<b>FSCB EXPANSION &amp; REMODEL PHASE 1</b>			
RETENTION POND 604 S REYNOLDS ROAD BRYANT, SALINE COUNTY, ARKANSAS			
DATE:	9/25/2024	C.A.D. BY:	
REVISIONS:		CHECKED BY:	
SHEET:	C-6.0	SCALE:	
			DRAWING NUMBER: <b>24-0260</b>
500	01S	14W	0 34 310 62 1664

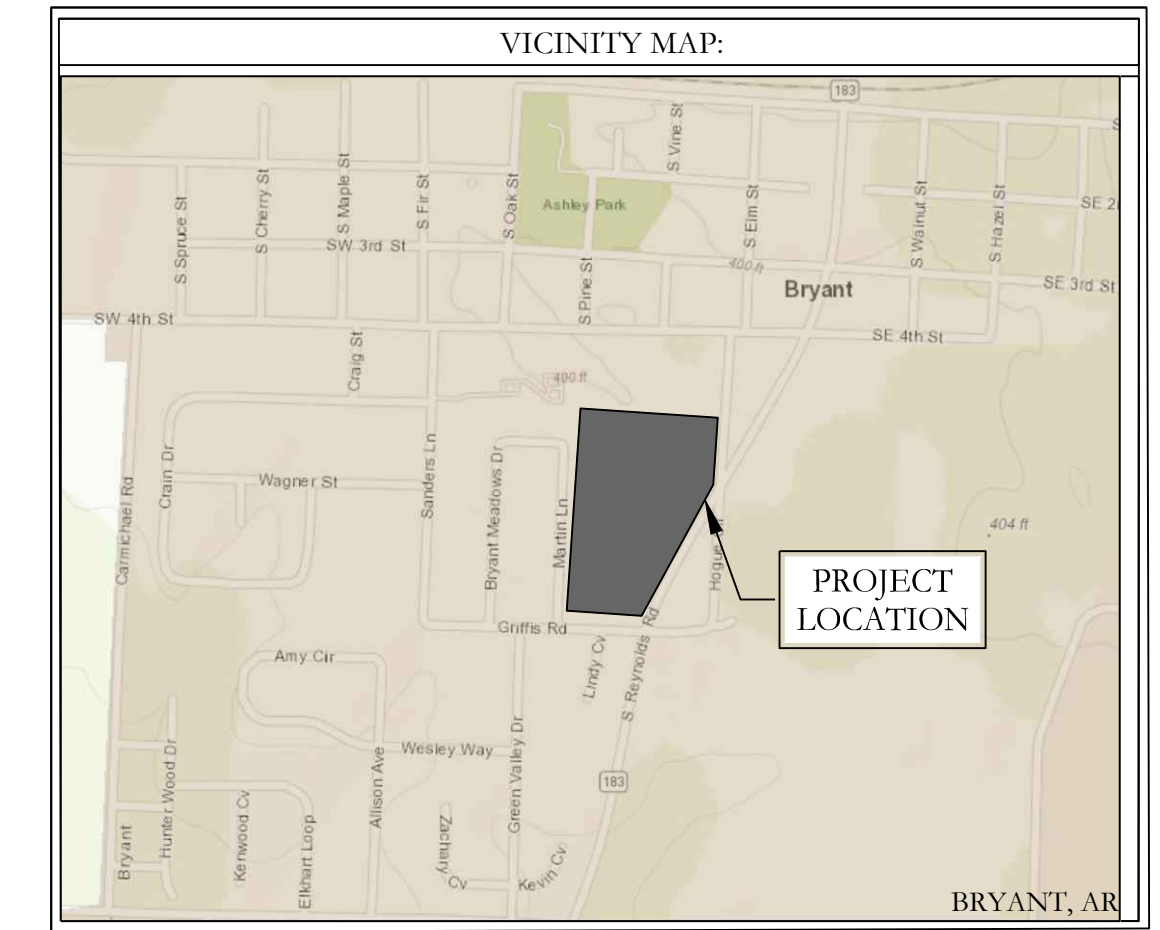
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Pre Development



Post Development



- OVERLAND FLOW
- SHALLOW CONCENTRATED FLOW
- CHANNEL FLOW

**Drainage Calculations:**

TOC Calculations for 100 yr:

**Pre-Development:**

Overland Flow:  
 $t_1 = 0.82 \left[ \frac{NL}{50^5} \right]^{0.467}$  |  $N = 0.30$   
 $= 10.25 \text{ min}$  |  $L = 100'$   
 $S = 1.9\%$

Shallow Concentrated Flow:  
 $t_{sc} = \frac{L}{60V}$  |  $V = 16.1345 (S)^{0.5}$   
 $= 0.73 \text{ min}$  |  $S = 2.28\%$   
 $L = 100'$

Channel Flow:  
 $t_{cs} = \frac{L}{60V}$  |  $L = 420'$   
 $= 5.19 \text{ min}$  |  $L_1 = 128', L_2 = 128', L_3 = 164'$   
 $S_1 = 1.9\%, S_2 = 1.8\%, S_3 = 1.1\%$   
 $n = 0.15, R = 0.22$   
 $V = \frac{1.49}{n} R^{2/3} S^{1/2}$   
 $V_1 = 0.49$   
 $V_2 = 0.48$  |  $V = 1.35$   
 $V_3 = 0.38$

Total TOC = 16.16 min  
 ∴ Rainfall Intensity,  $I = 7.4 \text{ in/hr}$   
 Area,  $A = 7.36 \text{ ac}$   
 Run-off Co-efficient (Cumulative) = 0.65 [ $C_1 = 0.36, C_2 = 0.95$ ]  
 ∴ Discharge,  $Q = CIA = 35.40 \text{ cfs}$

**Post-Development: (Without Detention)**

Overland Flow:  
 $t_1 = 10.015 \text{ min}$  |  $N = 0.30$   
 $L = 100'$  |  $S = 2.1\%$

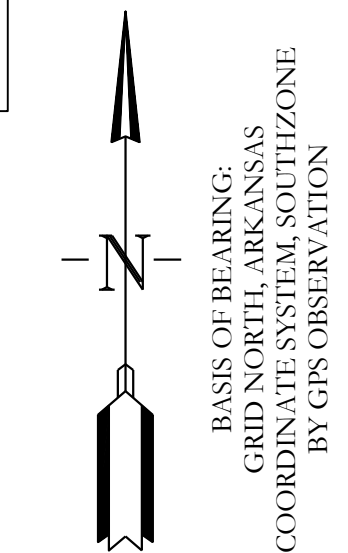
Shallow Concentrated Flow:  
 $t_{sc} = 0.84 \text{ min}$  |  $V = 16.1345 (S)^{0.5}$   
 $S = 1.5\%$   
 $L = 100'$

Channel Flow:  
 $t_{cs} = 1.89 \text{ min}$  |  $L = 336'$   
 $S = 0.5\%$   
 $V = \frac{1.49}{n} R^{2/3} S^{1/2}$ ;  $n = 0.013$   
 $V = 2.95$

∴ Total TOC = 12.78 min  
 ∴ Rainfall Intensity,  $I = 7.8 \text{ in/hr}$   
 Area,  $A = 7.34 \text{ ac}$   
 ∴ Cumulative Run-off coefficient = 0.72  
 ∴ Total Discharge,  $Q = CIA$   
 $∴ Q = 41.22 \text{ cfs}$

Peak flows for Pre and post development phase of onsite area have been tabulated below-

Period of time	Pre-development	Post-dev. Without detention	Post-dev. With detention
	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	18.69	22.67	2.319
5-Year	20.65	25.15	3.152
10-Year	24.35	29.23	5.424
25-Year	27.93	33.44	8.087
50-Year	31.84	38.07	11.15
100-Year	33.86	40.40	12.73



- LEGEND**
- - Found Aliquot Corner
  - - Found monument
  - - Set 1/2" Rebar
  - △ - Computed point
  - (M) - Measured
  - (P) - Plat/Deed
  - - Fence

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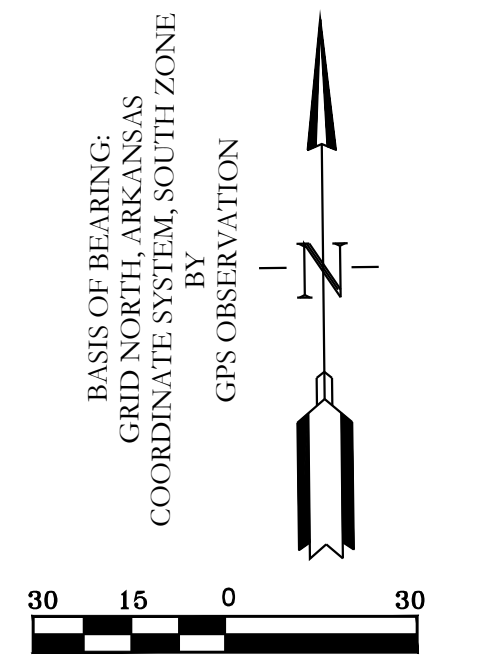
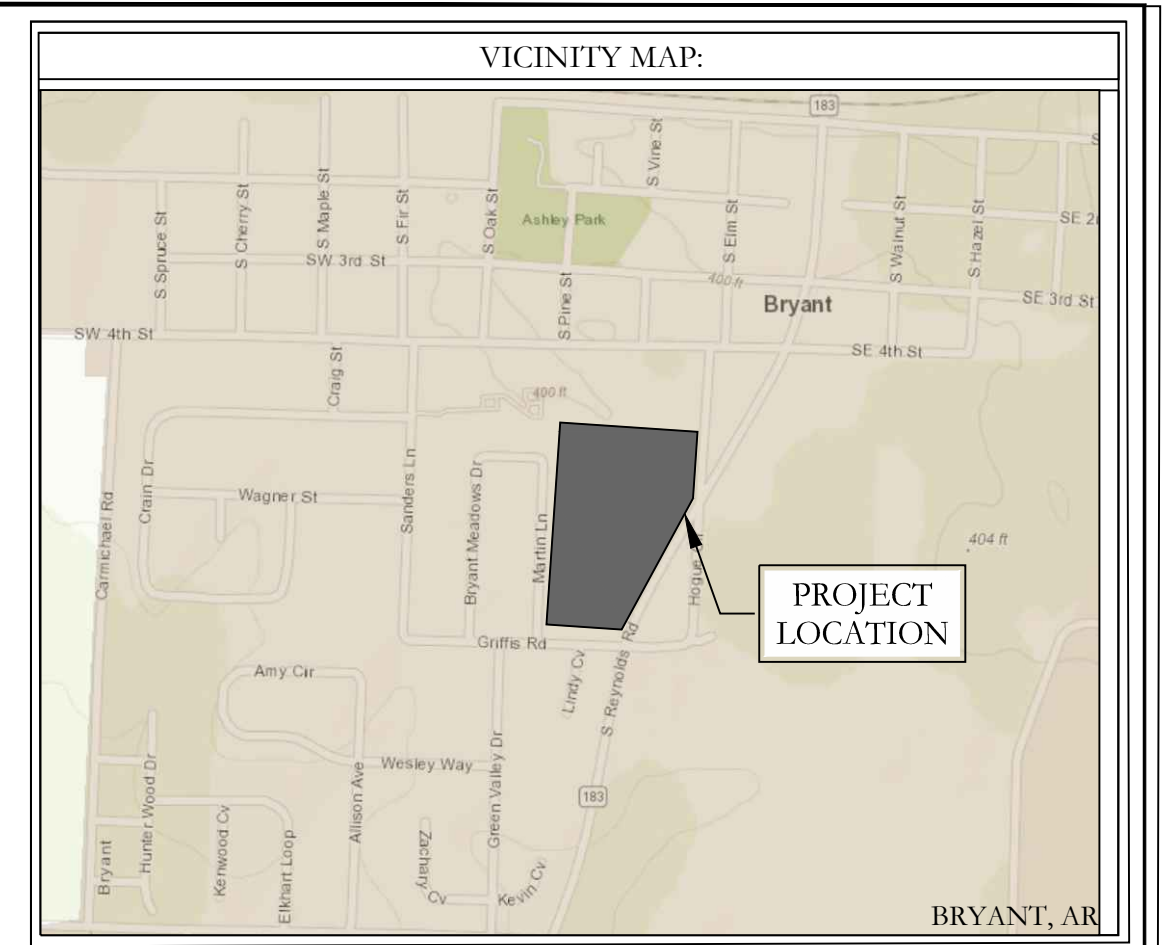
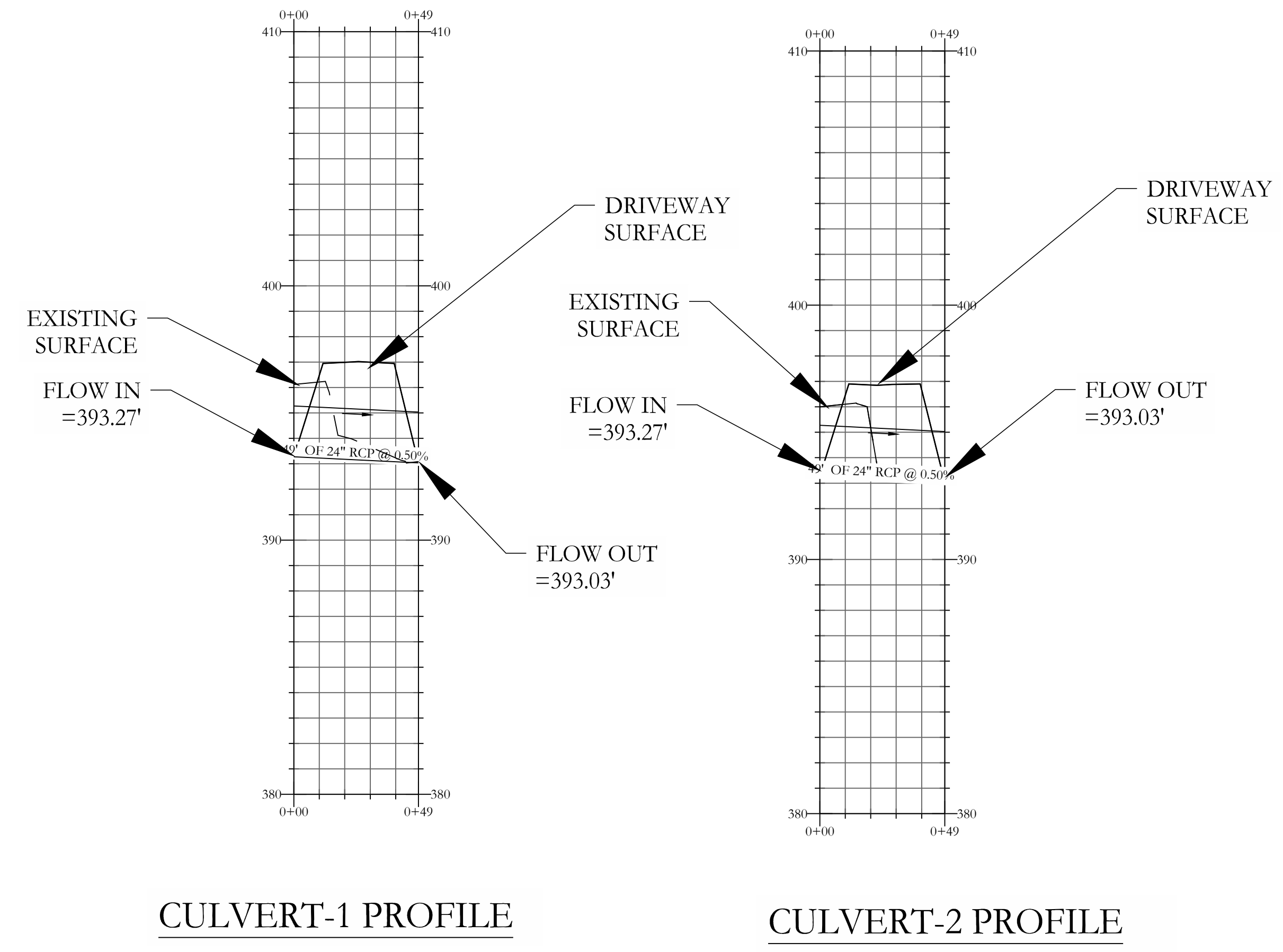
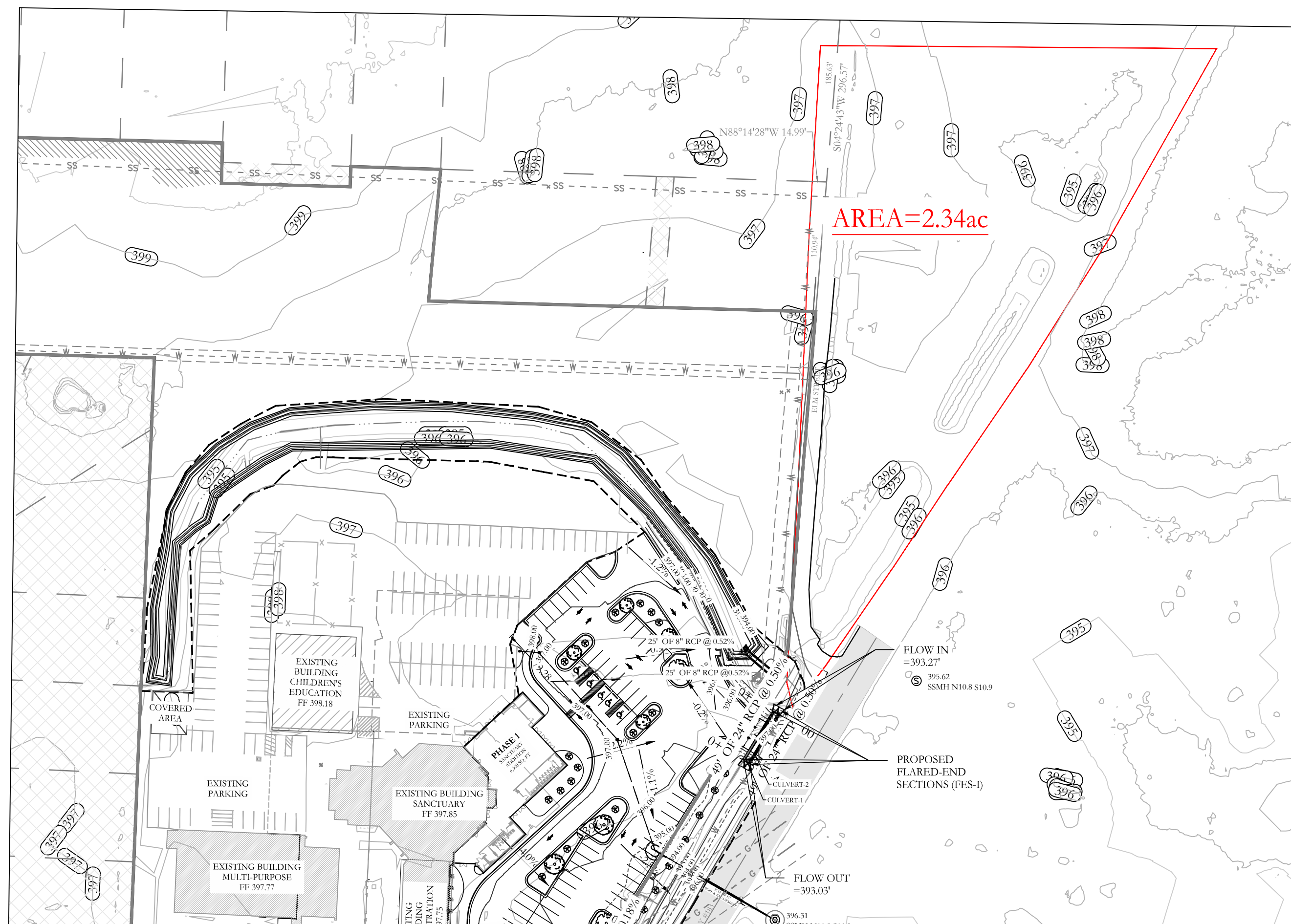
FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**

**FSCB EXPANSION & REMODEL PHASE 1**  
 DRAINAGE CALCULATIONS  
 604 S REYNOLDS ROAD  
 BRYANT, SALINE COUNTY, ARKANSAS

DATE: 9/25/2024	C.A.D. BY:	DRAWING NUMBER:
REVISIED:	CHECKED BY:	24-0260
SHEET: C-5.0	SCALE:	

500 01S 14W 0 34 310 62 1664

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Edge of pavement elev. =397.45'  
 Proposed Driveway Surface elev. =397.00'  
 10 yr Storm Discharge Elevation=394.97'  
 50 yr Storm Discharge Elevation =395.28'

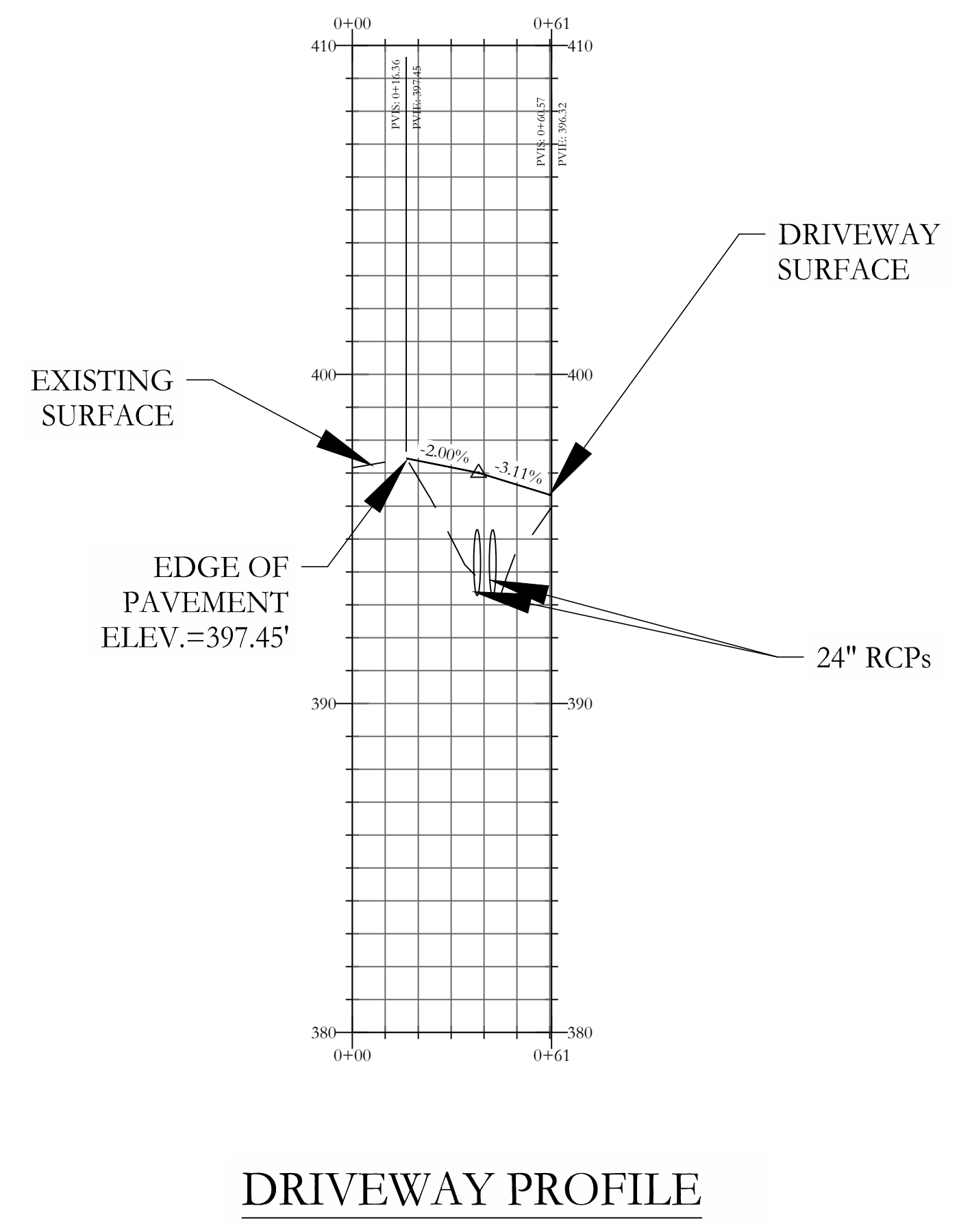
**DRAINAGE CALCULATION**

Discharge,  $Q_{10} = 0.83 * 6.3 * 2.34 = 12.24$  cfs  
 Discharge,  $Q_{50} = 0.92 * 7.9 * 2.34 = 17.00$  cfs

Discharge from Detention Outlets:  
 Discharge,  $Q_{10} = 4.569$  cfs  
 Discharge,  $Q_{50} = 9.645$  cfs

Total Discharge,  $Q_{10} = 16.81$  cfs  
 $Q_{50} = 26.65$  cfs

For 24" RCP pipes,  
 10 yr Storm Discharge Elevation,  $d_{10} = 394.97'$   
 50 yr Storm Discharge Elevation,  $d_{50} = 395.28'$



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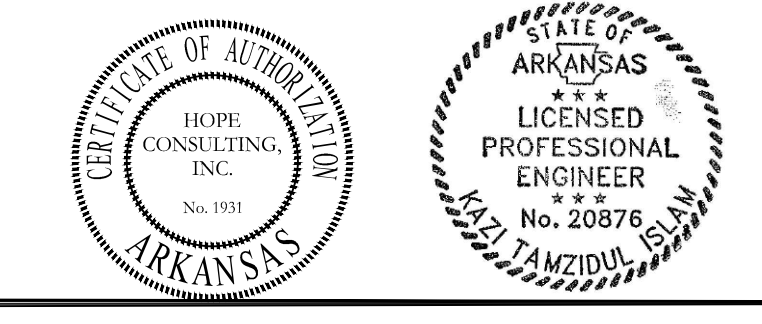
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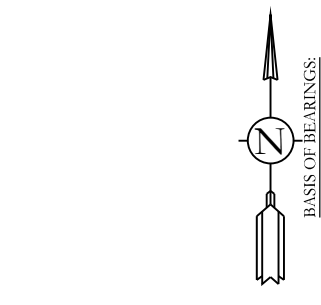
FOR USE AND BENEFIT OF:  
**FIRST SOUTHERN BAPTIST CHURCH OF BRYANT**

**FSCB EXPANSION & REMODEL PHASE 1**  
 DRAINAGE EXHIBIT  
 604 S REYNOLDS ROAD  
 BRYANT, SALINE COUNTY, ARKANSAS

DATE: 08-28-2024	C.A.D. BY:	DRAWING NUMBER:
REVISID: 09-23-2024	CHECKED BY:	<b>24-0260</b>
SHEET: No. 20876	SCALE:	

500 01S 14W 0 12 310 62 1664





**REFERENCE DOCUMENTS CITED**  
 RECORDED SURVEY PLATS BY:  
 JOHN C. WILLIAMS (PS 1091), FOR MURPHY, DATED 10/5/2000  
 KERRY D. LANE (PS 1141), FOR W. GRAY, DATED 8/12/2013  
 FINAL PLAT OF BRYANT MEADOWS SUBD., PHASE 3, AS RECORDED IN BOOK 337, PAGE 452  
 JOHN A. LANE (PS 1740), FOR B. GRAY, DATED 3/18/2014  
 PLAT OF FISCHER'S SUBDIVISION, AS RECORDED IN BOOK 35, PAGE 400

**SURVEY DETAILS AND NOTES:**  
 OWNER OF RECORD: FIRST SOUTHERN BAPTIST CHURCH  
 PHYSICAL ADDRESS: 604 S. REYNOLDS RD, BRYANT, AR  
 COUNTY PARCEL TAX ID: 840-15972-003, 840-15972-000, 840-15973-000

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.

THIS SURVEY IS BASED ON PUBLIC RECORDS AND/OR TITLE INVESTIGATIONS 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  
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 FURTHER AFFECT THIS SURVEY. NO STATEMENT OR GUARANTEES OF OWNERSHIP, RIGHTS, OR  
 OTHER INTERESTS ARE MADE BY THIS SURVEYOR.

**RECORD PROPERTY DESCRIPTION**  
 SALINE COUNTY INSTRUMENT 2006-055449

ALL THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS  
 FOLLOWS: COMMENCING AT A 5/8 INCH REBAR ACCEPTED AS BEING THE SOUTHWEST CORNER OF SAID NE1/4  
 OF THE SW 1/4, SECTION 34, THENCE NORTH 89 DEG. 55 MIN. 27 SEC. EAST, ALONG THE SOUTH LINE THEREOF,  
 45.1 FEET TO A COTTON PICKER SPINDLE IN THE CENTERLINE OF GRIFFIS ROAD AND BEING THE POINT OF  
 BEGINNING OF LANDS HEREIN DESCRIBED; THENCE SOUTH 89 DEG. 52 MIN. 05 SEC. EAST, ALONG THE  
 CENTERLINE OF GRIFFIS ROAD AND THE SOUTH LINE OF SAID NE 1/4 OF THE SW 1/4, 313.90 FEET TO A  
 RAILROAD SPIKE; THENCE SOUTH 89 DEG. 59 MIN. 25 SEC. EAST, ALONG THE CENTERLINE OF GRIFFIS ROAD AND  
 THE SOUTH LINE OF SAID NE 1/4 OF THE SW 1/4, 197.38 FEET TO A COTTON PICKER SPINDLE IN THE WEST  
 RIGHT OF WAY LINE OF ARKANSAS STATE HIGHWAY NO. 183; THENCE ALONG SAID STATE HIGHWAY RIGHT OF  
 WAY LINE AND A CURVE TO THE RIGHT HAVING A RADIUS OF 1472.40 FEET FOR A CHORD OF NORTH 22 DEG. 56  
 MIN 45 SEC. EAST 359.04 FEET TO A REBAR; THENCE NORTH 40 DEG. 22 MIN. 07 SEC. WEST, ALONG SAID STATE  
 HIGHWAY RIGHT OF WAY LINE, 2000 FEET TO A REBAR; THENCE NORTH 29 DEG. 37 MIN. 53 SEC. EAST, ALONG  
 SAID STATE HIGHWAY RIGHT OF WAY LINE, 477.50 FEET TO A REBAR IN THE EAST LINE OF SAID NE 1/4 OF THE  
 SW 1/4; THENCE NORTH 02 DEG. 45 MIN. 35 SEC. EAST, ALONG EAST LINE OF SAID NE 1/4 OF THE SW 1/4, 288.55  
 FEET TO A RAILROAD SPIKE IN THE CENTERLINE OF ELM STREET AND THE SOUTHEAST CORNER OF LAND  
 CONVEYED TO CITY OF BRYANT, ARKANSAS IN WARRANTY DEED DATED JUNE 15, 1961 AND FILED IN SALINE  
 COUNTY DEED RECORD BOOK 103 AT PAGE 119 SAID POINT BEING LOCATED SOUTH 02 DEG. 46 MIN. 30 SEC.  
 WEST 206.59 FEET FROM THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4, SECTION 34; THENCE LEAVING  
 SAID ELM STREET, SOUTH 89 DEG. 53 MIN. 52 SEC. WEST 130.05 FEET TO A REBAR AND THE SOUTHWEST CORNER  
 OF SAID LAND CONVEYED TO CITY OF BRYANT; THENCE NORTH 02 DEG. 48 MIN. 12 SEC. EAST 111.00 FEET TO A  
 REBAR AND THE NORTHWEST CORNER OF SAID LAND CONVEYED TO CITY OF BRYANT; THENCE SOUTH 89  
 DEG. 54 MIN. 12 SEC. WEST, ALONG THE SOUTH LINE OF LAND GRANTED TO T. W. COLLE, JR. IN DEED OF  
 CONFIRMATION AND QUIETING OF TITLE DATED OCTOBER 31, 1968 AND FILED IN SALINE COUNTY DEED  
 RECORD BOOK 135 AT PAGE 888, 15.10 FEET; THENCE SOUTH 02 DEG. 48 MIN. 12 SEC. WEST, ALONG THE EAST  
 LINE OF LAND CONVEYED TO T. W. COLLE, JR. AND MARY COLLE, HUSBAND AND WIFE, IN WARRANTY DEED  
 DATED JULY 29, 1974 AND FILED IN SALINE COUNTY DEED RECORD BOOK 182 AT PAGE 164, 111.50 FEET;  
 THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF LANDS CONVEYED TO T. W. COLLE,  
 JR. AND MARY COLLE, HUSBAND AND WIFE, IN SAID DEED REC'D BOOK 182 AT PAGE 164, 185.00 FEET; THENCE NORTH  
 02 DEG. 48 MIN. 12 SEC. EAST, ALONG THE WEST LINE OF SAID LANDS CONVEYED IN DEED BOOK 182 AT PAGE  
 164, 112.98 FEET; THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF LANDS CONVEYED  
 TO ROBERT LEE NOWLIN IN WARRANTY DEED DATED MARCH 16, 1971 AND FILED IN SALINE COUNTY DEED  
 RECORD BOOK 146 AT PAGE 487 AND AS CONVEYED TO ROBERT LEE NOWLIN AND MARI SELL NOWLIN,  
 HUSBAND AND WIFE, IN CORRECTION WARRANTY DEED DATED SEPTEMBER 19, 1974 AND FILED IN SALINE  
 COUNTY DEED RECORD BOOK 194 AT PAGE 104, 187.62 FEET; THENCE NORTH 06 DEG. 25 MIN. 43 SEC. WEST,  
 ALONG THE WEST LINE OF LANDS CONVEYED TO SAID ROBERT LEE NOWLIN AND MARI SELL NOWLIN,  
 HUSBAND AND WIFE, 16.50 FEET TO THE SOUTHEAST CORNER OF LOT 6, FISCHER'S SUBDIVISION; THENCE  
 SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF SAID FISCHER'S SUBDIVISION, 436.00 FEET TO  
 THE SOUTHWEST CORNER OF LOT 2, FISCHER'S SUBDIVISION; THENCE SOUTH 01 DEG. 25 MIN. 43 SEC. EAST,  
 ALONG THE EAST LINE OF LAND CONVEYED TO PAUL AND ALISA GATTIN AND ALISA ANN GATTIN, HUSBAND  
 AND WIFE, IN WARRANTY DEED DATED JANUARY 14, 1986 AND FILED IN SALINE COUNTY DEED RECORD  
 BOOK 279 AT PAGE 512, 19.00 FEET; THENCE SOUTH 89 DEG. 34 MIN. 17 SEC. WEST, ALONG THE SOUTH LINE OF  
 LAND CONVEYED TO SAID PAUL AND ALISA GATTIN AND ALISA ANN GATTIN, HUSBAND AND WIFE, 57.20 FEET;  
 THENCE NORTH 06 DEG. 25 MIN. 43 SEC. WEST, ALONG THE WEST LINE OF LAND CONVEYED TO SAID PAUL  
 DOUGLAS GATTIN AND ALISA ANN GATTIN, HUSBAND AND WIFE, 19.00 FEET TO THE SOUTHWEST CORNER OF  
 LOT 1, FISCHER'S SUBDIVISION; THENCE SOUTH 89 DEG. 35 MIN. 22 SEC. WEST, ALONG THE SOUTH LINE OF  
 LAND CONVEYED TO JOHN L. JACKSON AND ROBIN A. JACKSON, HUSBAND AND WIFE, IN WARRANTY DEED  
 DATED JULY 3, 1986 AND FILED IN SALINE COUNTY DEED RECORD BOOK 284 AT PAGE 118, 269.38 FEET TO A  
 COTTON PICKER SPINDLE IN THE CENTERLINE OF SANDERS ROAD AND THE WEST LINE OF SAID NE 1/4 OF  
 THE SW 1/4 SAID POINT BEING LOCATED SOUTH 01 DEG. 24 MIN. 05 SEC. WEST 166.5 FEET FROM THE  
 NORTHWEST CORNER THEREOF; THENCE SOUTH 01 DEG. 24 MIN. 05 SEC. WEST, ALONG THE CENTERLINE OF  
 SANDERS ROAD AND THE WEST LINE OF SAID NE 1/4 OF SW 1/4, 334.54 FEET TO A COTTON PICKER SPINDLE;  
 THENCE LEAVING SAID ROAD, SOUTH 88 DEG. 26 MIN. 35 SEC. EAST, ALONG THE NORTH LINE OF LAND  
 CONVEYED TO SENIOR HOUSING SERVICES OF BRYANT, INC. IN WARRANTY DEED DATED JULY 11, 1988 AND  
 FILED IN SALINE COUNTY DEED RECORD BOOK 308 AT PAGE 550, 606.92 FEET TO A REBAR; THENCE SOUTH  
 01 DEG. 29 MIN. 25 SEC. WEST, ALONG THE EAST LINE OF LAND CONVEYED TO SAID SENIOR HOUSING SERVICES  
 OF BRYANT, INC., 150.00 FEET TO A REBAR; THENCE SOUTH 89 DEG. 28 MIN. 34 SEC. WEST, ALONG THE SOUTH  
 LINE OF LAND CONVEYED TO SAID SENIOR HOUSING SERVICES OF BRYANT, INC., 152.99 FEET TO A REBAR;  
 THENCE SOUTH 01 DEG. 33 MIN. 04 SEC. WEST, ALONG THE EAST LINE OF LANDS CONVEYED TO  
 CORNERSTONE DEVELOPMENT CO. IN WARRANTY DEED DATED SEPTEMBER 6, 1989 AND FILED IN SALINE  
 COUNTY DEED RECORD BOOK 322 AT PAGE 285, 877.91 FEET TO THE POINT OF BEGINNING, CONTAINING  
 18.462 ACRES, MORE OR LESS, SUBJECT TO A 30 FOOT ROAD RIGHT OF WAY FOR GRIFFIS ROAD, SUBJECT TO  
 A 20 FOOT ROAD RIGHT OF WAY FOR ELM STREET, SUBJECT TO A 30 FOOT ROAD RIGHT OF WAY FOR SANDERS  
 ROAD, SUBJECT TO A WATER LINE EASEMENT TRaversING THE NORTHERN PORTION OF LANDS DESCRIBED  
 HEREINAbove, SUBJECT TO A GAS LINE EASEMENT TRaversING SUBJECT PROPERTY.

**PROPERTY DESCRIPTION FROM SURVEY**

ALL THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS  
 FOLLOWS:  
 COMMENCING AT THE NORTHEAST CORNER OF SAID NE1/4, SW1/4 OF SECTION 34; THENCE ALONG THE EAST  
 LINE THEREOF, SOUTH 02°24'37" WEST A DISTANCE OF 296.57 FEET TO THE POINT OF BEGINNING, A RAILROAD  
 SPIKE IN ELM STREET;  
 THENCE ALONG THE SOUTH LINE OF THREE SEPARATE TRACTS AND THE FOLLOWING CONVEYANCES: A  
 TRACT CONVEYED TO CITY OF BRYANT, AND FILED FOR RECORD IN DEED BOOK 103, PAGE 119; A TRACT  
 CONVEYED TO T.W. AND MARY COLLE, AND FILED FOR RECORD IN DEED BOOK 358, PAGE 520 AND A TRACT  
 CONVEYED TO T.W. AND MARY COLLE, AND FILED FOR RECORD IN DEED BOOK 182, PAGE 164, NORTH 88°44'21"  
 WEST A DISTANCE OF 330.18 FEET TO A SET 1/2" REBAR & CAP (PS 1664);  
 THENCE NORTH 04°57'01" EAST A DISTANCE OF 112.65 FEET TO A SET 1/2" REBAR & CAP (PS 1664);  
 THENCE NORTH 88°30'34" WEST A DISTANCE OF 76.64 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE  
 NORTHEAST CORNER OF A TRACT OF LAND CONVEYED TO WILLIAM AND KARLA GRAY, AND FILED FOR  
 RECORD AS INSTRUMENT 2014-026572;  
 THENCE SOUTH 01°32'43" WEST A DISTANCE OF 17.34 FEET TO A FND 5/8" REBAR AND CAP (PS 1740) AND THE  
 SOUTHWEST CORNER OF SAID TRACT;  
 THENCE NORTH 88°45'50" WEST A DISTANCE OF 109.79 FEET TO A FND 5/8" REBAR & CAP (PS 1740) AND THE  
 SOUTHWEST CORNER OF SAID TRACT;  
 THENCE NORTH 01°32'43" EAST A DISTANCE OF 34.30 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE  
 SOUTHEAST CORNER OF SAID TRACT;  
 THENCE ALONG THE SOUTH LINE OF LOTS 4 THROUGH 2 OF SAID FISCHER'S SUBDIVISION, NORTH 88°49'41"  
 WEST A DISTANCE OF 438.92 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE SOUTHWEST CORNER OF SAID  
 LOT 2, FISCHER'S SUBDIVISION;  
 THENCE LEAVING SAID SOUTH LINE, SOUTH 01°42'45" WEST A DISTANCE OF 19.00 FEET TO A SET 1/2" REBAR &  
 CAP (PS 1664) AND THE SOUTHEAST CORNER OF A TRACT OF LAND CONVEYED TO PAUL AND ALISA GATTIN,  
 AND FILED FOR RECORD IN DEED BOOK 279, PAGE 512;  
 THENCE NORTH 88°49'41" WEST A DISTANCE OF 87.20 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE  
 SOUTHWEST CORNER OF SAID TRACT;  
 THENCE NORTH 01°32'43" EAST A DISTANCE OF 19.00 FEET TO A SET 1/2" REBAR & CAP (PS 1664) AND THE  
 SOUTHWEST CORNER OF LOT 1, OF SAID FISCHER'S SUBDIVISION;  
 THENCE ALONG THE SOUTH LINE OF A TRACT OF LAND CONVEYED TO JOHN AND ROBIN JACKSON, AND  
 FILED FOR RECORD IN DEED BOOK 284, PAGE 118, NORTH 88°49'41" WEST A DISTANCE OF 267.34 FEET TO A  
 POINT IN SANDERS ROAD ON THE WEST LINE OF SAID NE1/4, SW1/4 OF SECTION 34;  
 THENCE ALONG SAID WEST LINE, SOUTH 02°42'42" WEST A DISTANCE OF 334.54 FEET TO A POINT IN SANDERS  
 ROAD;  
 THENCE LEAVING SAID WEST LINE ALONG THE NORTH LINE OF A TRACT OF LAND CONVEYED TO SENIOR  
 HOUSING SERVICES OF BRYANT, INC., AND FILED FOR RECORD IN DEED BOOK 308, PAGE 550, SOUTH 88°44'21"  
 EAST A DISTANCE OF 605.66 FEET TO A FND 1/2" REBAR AND THE NORTHEAST CORNER OF SAID TRACT;  
 THENCE ALONG THE EAST LINE OF SAID TRACT AND CONVEYANCE SOUTH 05°07'44" WEST A DISTANCE OF  
 150.00 FEET TO A SET 1/2" REBAR & CAP (PS 1664) ON THE NORTH LINE OF BRYANT MEADOWS SUBDIVISION,  
 PHASE 3, AS FILED FOR RECORD IN DEED BOOK 337, PAGE 452;  
 THENCE ALONG SAID NORTH LINE, SOUTH 88°47'25" EAST A DISTANCE OF 140.78 FEET TO A SET 1/2" REBAR &  
 CAP (PS 1664) AND THE NORTHEAST CORNER OF LOT 49, OF SAID BRYANT MEADOWS SUBDIVISION, PHASE 3;  
 THENCE ALONG THE EAST LINE OF LOTS 49 THROUGH 58 OF SAID BRYANT MEADOWS SUBDIVISION, PHASE 3,  
 SOUTH 01°58'50" WEST A DISTANCE OF 783.02 FEET TO A FND 1/2" REBAR AND THE NORTHWEST CORNER OF A  
 TRACT OF LAND CONVEYED TO REBE AND MARY MURPHY, AND FILED FOR RECORD AS INSTRUMENT  
 2000-055453;  
 THENCE SOUTH 88°19'26" EAST A DISTANCE OF 271.19 FEET TO A FND 1" PIPE AND THE NORTHEAST CORNER  
 OF SAID TRACT ON THE WESTERLY RIGHT-OF-WAY OF ARKANSAS HIGHWAY 183 (SOUTH REYNOLDS ROAD);  
 SAID POINT BEING THE POINT OF CURVATURE OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 1472.39 FEET,  
 AND CHORD BEARING OF NORTH 28°17'40" EAST A DISTANCE OF 143.47 FEET; THENCE ALONG THE ARC OF SAID  
 CURVE AND WESTERLY RIGHT-OF-WAY A DISTANCE OF 143.53 FEET TO A SET MAG NAIL (PS 1664) IN ASPHALT;  
 THENCE ALONG SAID WESTERLY RIGHT-OF-WAY NORTH 58°54'47" WEST A DISTANCE OF 20.00 FEET TO A SET  
 MAG NAIL (PS 1664) IN ASPHALT;  
 THENCE ALONG SAID WESTERLY RIGHT-OF-WAY NORTH 31°05'13" EAST A DISTANCE OF 477.50 FEET TO A  
 FND 1/2" REBAR;  
 THENCE LEAVING SAID WESTERLY RIGHT-OF-WAY NORTH 04°23'11" EAST A DISTANCE OF 288.27 FEET TO THE  
 POINT OF BEGINNING; CONTAINING 451,002.82 SQUARE FEET, OR 10.35 ACRES, MORE OR LESS.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**ALSO, LESS AND EXCEPT**: THAT PART OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF  
 SECTION 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF BEGINNING OF LAND HEREIN DESCRIBED; RUN  
 THENCE WEST FOR 135 FEET; THENCE SOUTH 111.5 FEET; THENCE EAST 15 FEET; THENCE NORTH 111.5 FEET TO  
 THE POINT OF BEGINNING.

**LESS AND EXCEPT**: THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION  
 34, TOWNSHIP 1 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY  
 DESCRIBED AS FOLLOWS:  
 BEGINNING AT THE SOUTHWEST CORNER OF THE NE 1/4 OF SW 1/4, THENCE NORTH 02 DEG. 45 MIN. 10 SEC.  
 EAST (ASTRONOMIC) 982.11 FEET TO THE NORTH CORNER OF SAID NE 1/4, SW 1/4, SECTION 34, TOWNSHIP 1  
 SOUTH, RANGE 14 WEST, CITY OF BRYANT, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:  
 BEGINNING AT A POINT THAT IS 185.5 FEET SOUTH OF THE NORTHEAST CORNER OF SAID NE 1/4 OF SW 1/4  
 AND RUN THENCE WEST FOR 130 FEET FOR THE POINT OF

September 4, 2024

Colton Leonard  
City of Bryant  
210 S.W. 3rd Street  
Bryant, Arkansas 72022

RE: First Southern Baptist Church of Bryant Expansion (Hope Job#24-0260)  
604 S. Reynolds Road Bryant, Arkansas

Dear Mr. Leonard,

I am writing to this item be added to the DRC agenda next week. I have attached construction drawings for the phased expansion of this property. This expansion will increase the building footprint, increase parking, create a new sewer main connection, and modify access to the highway. We will of course follow the drainage manual in desinging the detention pond and work closely with ArDOT on access to the highway.

Bryant Water and Sewer Service this property currently. The electric is served by Entergy. There is a large gas transmission line that crosses this property. Our proposed sewer main extertion will cross this transmission line but precaustions will be taken.

The church is very excited about this expansioin and we are also happy to see the groth in this community. We look forward to discussing this project with you at DRC.

Sincerely,



Jonathan Hope

*SKY BLUE DUPLEXES*  
*PROPOSED MULTI-FAMILY UNITS*

*DRAINAGE REPORT*

*FOR*

*City of Bryant, AR*

*DATE*

Hurricane Lake Road, Saline County, AR

By:

**HOPE**  
**CONSULTING**  
**ENGINEERS - SURVEYORS**

## **APPENDIX**

Project Description/Summary

Detention Discharge Summary, Composite C Values, & time of concentration

Street Drainage Calculation

East Ditch Calculations

Time of Concentration Calculation

Pond Report

Hydrographs

East Ditch Exhibit



## Summary

The following calculations pertain to the detention design for the proposed multi family development Located off Hurricane Lake Road in Bryant, AR.

Proposed Development area = 1.17 Acres

	<i>C</i>	<i>tc (min)</i>
Pre-development:	0.49	23
Post-development:	0.69	23

### *Detention Pre & Post Development Comparisons*

#### Prior to detention routing:

Event (yrs)	Pre-developed Flow Q (cfs)	Post-developed Flow (no pond) Q (cfs)
2	1.79	2.52
10	2.48	3.50
25	2.87	4.04
50	3.26	4.59
100	3.49	4.92

#### After routing to detention:

Event (yrs)	Pre-developed Q (cfs)	Post-developed (with pond) Q (cfs)	Water El. (ft)
2	1.79	1.23	402.37
10	2.48	1.52	402.66
25	2.87	1.64	402.80
50	3.26	1.75	402.96
100	3.49	1.82	403.06

Therefore, the development will not create any additional flow in the downstream area.

East Channel

The following calculations pertain to the existing east ditch, and are based on proposed re-design and excavation of the existing channel in order to have the needed vertical room necessary for detention and 2.0 feet of freeboard for the finished floor elevations of proposed structures.

<b>time of concentration, tc (min)</b>	REGION 3 IDF		
Pre			
<b>Channel Dimensions and Time of Concentration, tc</b>			
Area (ft2)	1998592.29		
Area (Acre)	46		
Length, L (ft)	2217.0		
Change in Elevation (ft)	60.27		
Slope, S (ft/ft)	0.027		
N (asphalt,grass,etc)	0.400	<b>h (ft)</b>	<b>S</b>
L( overland, ft)	200	4	0.020
L( channel 1, ft)	2017	56.27	0.028
L( channel 2, ft)	0.0	0	0.000
t <sub>i</sub>	45.4	<b>v</b>	
t <sub>t1</sub>	5.6	6.007023	
t <sub>t2</sub>	0.0	0	
time of concentration, tc (min)	51.0	use 50 min	

<b>Design Peak Runoff Rates, Qp (cfs)</b>		
Intensity, I (in/hr)	Runoff Coeff	Flow (cfs)
I	C	Q
100year 4.19	0.53	101.89

Qp,max (max flow) cfs

102

**V-Bottom Ditch (Analysis)**

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft <sup>2</sup>	ft/sec	ft
1: 3	103.0	0.023	0.005	2.53	30.4	19.26	5.35	15.20

**STATION 1+68**

<b>Elev. + 2.0'</b>	<b>Y + depth</b>	<b>Dist to outlet</b>	<b>El. @ Outlet</b>	<b>Low Point</b>
<b>freeboard</b>		x	y=mx+b	b
403.31	400.78	168.4	398.242	397.4

**V-Bottom Ditch (Analysis)**

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width
	cfs		ft/ft	ft	in	ft <sup>2</sup>	ft/sec	ft
1: 2	103.0	0.023	0.005	2.95	35.4	17.40	5.92	11.80

**STATION 1+00**

<b>EI. + 2.0</b>	<b>Y + depth</b>	<b>Re-grade Dist</b>	<b>El. @ x</b>	<b>Low Point</b>
<b>freeboard</b>		x	y=mx+b	b
403.80	400.85	100	397.9	397.4

**PRE DEVELOPMENT TOC:**

<b>Time of Concentration, tc (min)</b>		Bryant IDF		
<b>Channel Dimensions and Time of Concentration, tc</b>				
Area (ft <sup>2</sup> )	40262.9			
Area (Acre)	0.92			
Length, L (ft)	837.0			
Change in Elevation (ft)	32			
Slope, S (ft/ft)	0.038			
N (Coeff. Of roughness, Table 400-3)	0.100	<b>h (ft)</b>	<b>S</b>	
L( overland/sheet flow, ft)	75	1		0.013
L( channel 1, ft)	601	25.00		0.04
L( channel 2, ft)	161.0	1		0.006
t <sub>i</sub>	18.4	<b>v</b>		
t <sub>t1</sub>	3.3	3.0241		
t <sub>t2</sub>	0.9	2.909438		
time of concentration, tc (min)	<b>22.7</b>			<b>use 23</b>

**POST DEVELOPMENT TOC:**

<b>time of concentration, tc (min)</b>		Bryant IDF		
<b>Channel Dimensions and Time of Concentration, tc</b>				
Area (ft <sup>2</sup> )	40262.9			
Area (Acre)	0.92			
Length, L (ft)	888.0			
Change in Elevation (ft)	32			
Slope, S (ft/ft)	0.036			
N (Coeff. Of roughness, Table 400-3)	0.100	<b>h (ft)</b>	<b>S</b>	
L( overland/sheet flow, ft)	75	1		0.013
L( channel 1, ft)	659	25.00		0.04
L( channel 2, ft)	154.0	3		0.017
t <sub>i</sub>	18.4	<b>v</b>		
t <sub>t1</sub>	3.8	2.887956		
t <sub>t2</sub>	0.5	4.77828		
time of concentration, tc (min)	<b>22.8</b>			<b>use 23</b>

# Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

## **Legend**

<b><u>Hyd.</u></b>	<b><u>Origin</u></b>	<b><u>Description</u></b>
1	Rational	PRE DEV FLOW
2	Rational	DEVELOPMENT CREATED FLOW
3	Reservoir	POST DEV. FLOW

# Hydrograph Return Period Recap

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	Rational	-----	-----	1.786	-----	-----	2.482	2.872	3.262	3.493	PRE DEV FLOW
2	Rational	-----	-----	2.515	-----	-----	3.495	4.044	4.593	4.919	DEVELOPMENT CREATED FLOW
3	Reservoir	2	-----	1.232	-----	-----	1.524	1.643	1.752	1.815	POST DEV. FLOW

# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	1.786	1	23	2,464	-----	-----	-----	PRE DEV FLOW	
2	Rational	2.515	1	23	3,470	-----	-----	-----	DEVELOPMENT CREATED FLOW	
3	Reservoir	1.232	1	35	3,464	2	402.37	1,896	POST DEV. FLOW	
19-0066 Bessent Duplexes _09-25-2024.gpw					Return Period: 2 Year			Wednesday, 09 / 25 / 2024		

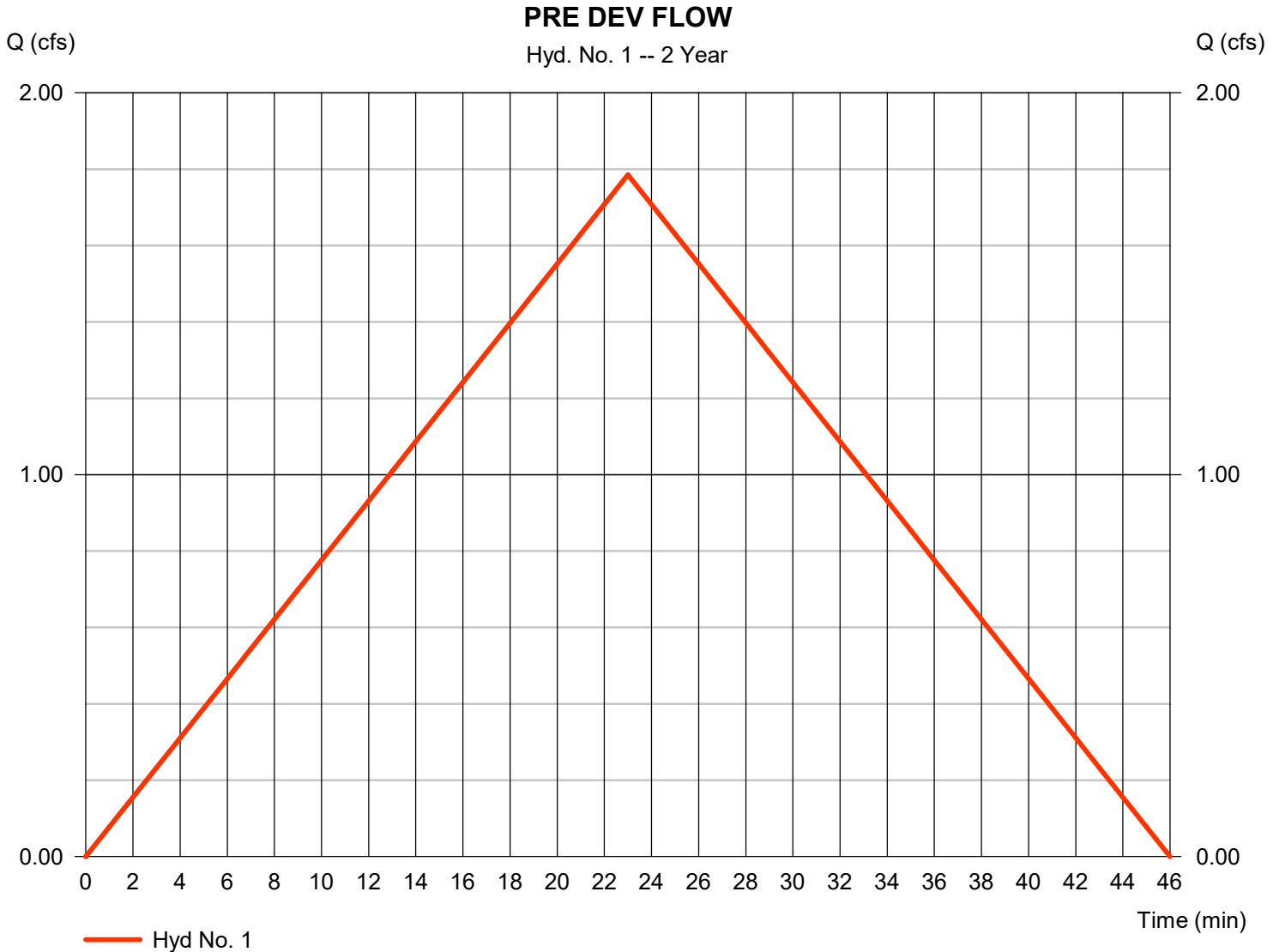
# Hydrograph Report

## Hyd. No. 1

### PRE DEV FLOW

Hydrograph type = Rational  
Storm frequency = 2 yrs  
Time interval = 1 min  
Drainage area = 1.170 ac  
Intensity = 3.115 in/hr  
IDF Curve = Bryant 50.IDF

Peak discharge = 1.786 cfs  
Time to peak = 23 min  
Hyd. volume = 2,464 cuft  
Runoff coeff. = 0.49  
Tc by User = 23.00 min  
Asc/Rec limb fact = 1/1



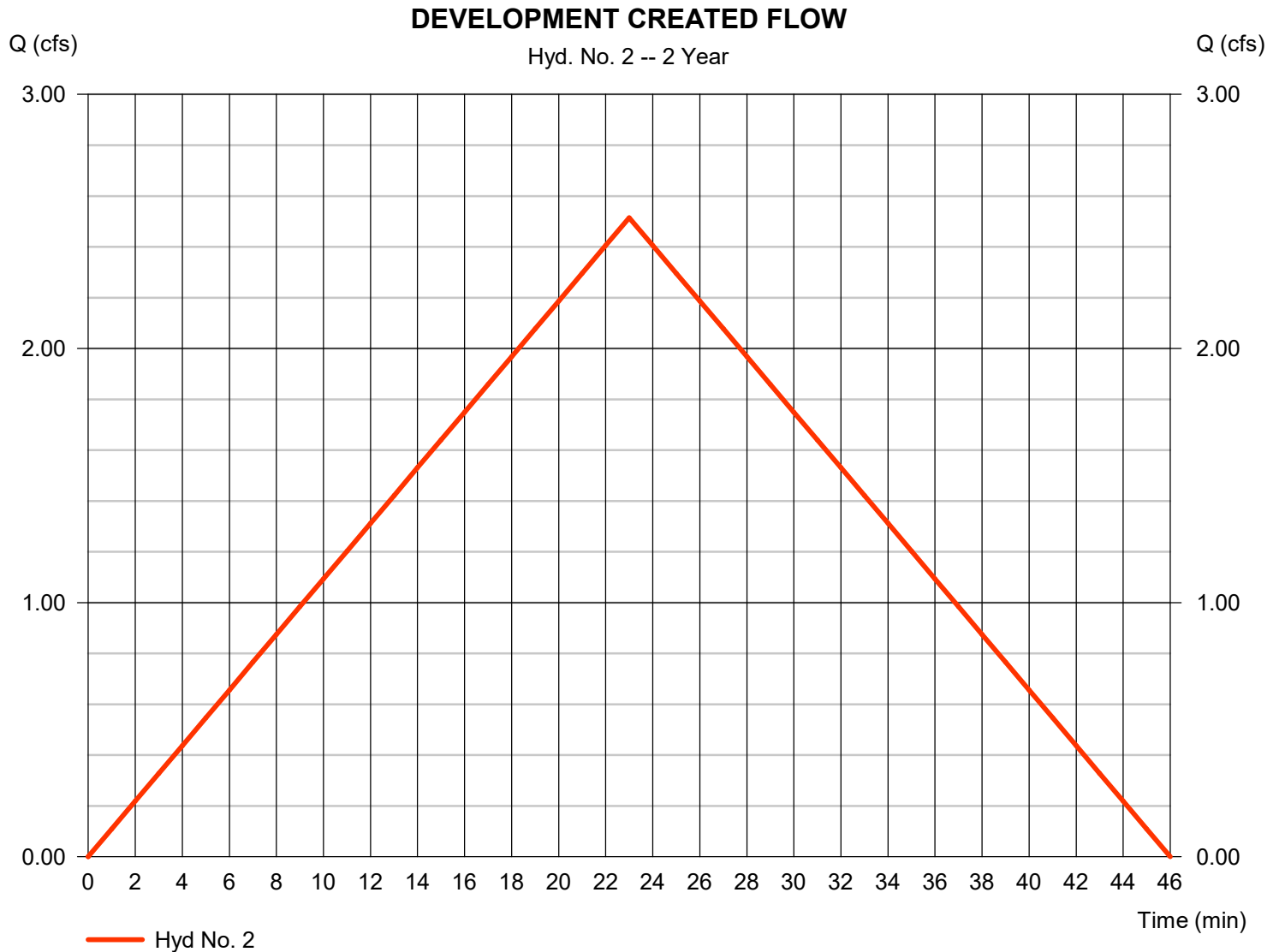


# Hydrograph Report

## Hyd. No. 2

### DEVELOPMENT CREATED FLOW

Hydrograph type	= Rational	Peak discharge	= 2.515 cfs
Storm frequency	= 2 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 3,470 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.69
Intensity	= 3.115 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

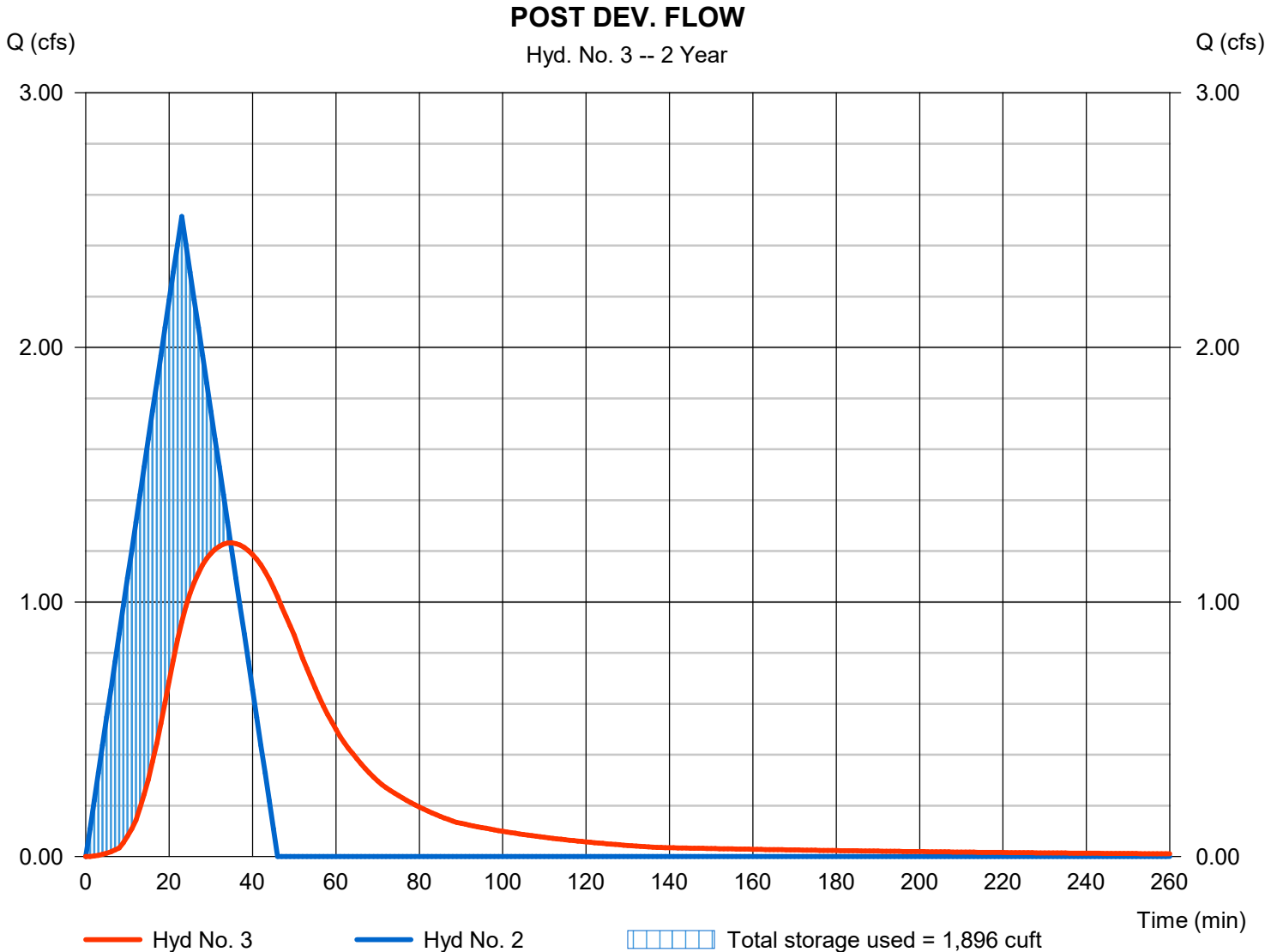
Wednesday, 09 / 25 / 2024

## Hyd. No. 3

### POST DEV. FLOW

Hydrograph type	= Reservoir	Peak discharge	= 1.232 cfs
Storm frequency	= 2 yrs	Time to peak	= 35 min
Time interval	= 1 min	Hyd. volume	= 3,464 cuft
Inflow hyd. No.	= 2 - DEVELOPMENT CREATED MAKE ME	Max. Elevation	= 402.37 ft
Reservoir name	= DETENTION	Max. Storage	= 1,896 cuft

Storage Indication method used.



# Pond Report

## Pond No. 1 - DETENTION

### Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 401.50 ft

### Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	401.50	1,616	0	0
1.00	402.50	2,786	2,174	2,174
2.00	403.50	4,028	3,388	5,562
3.00	404.50	5,328	4,662	10,224

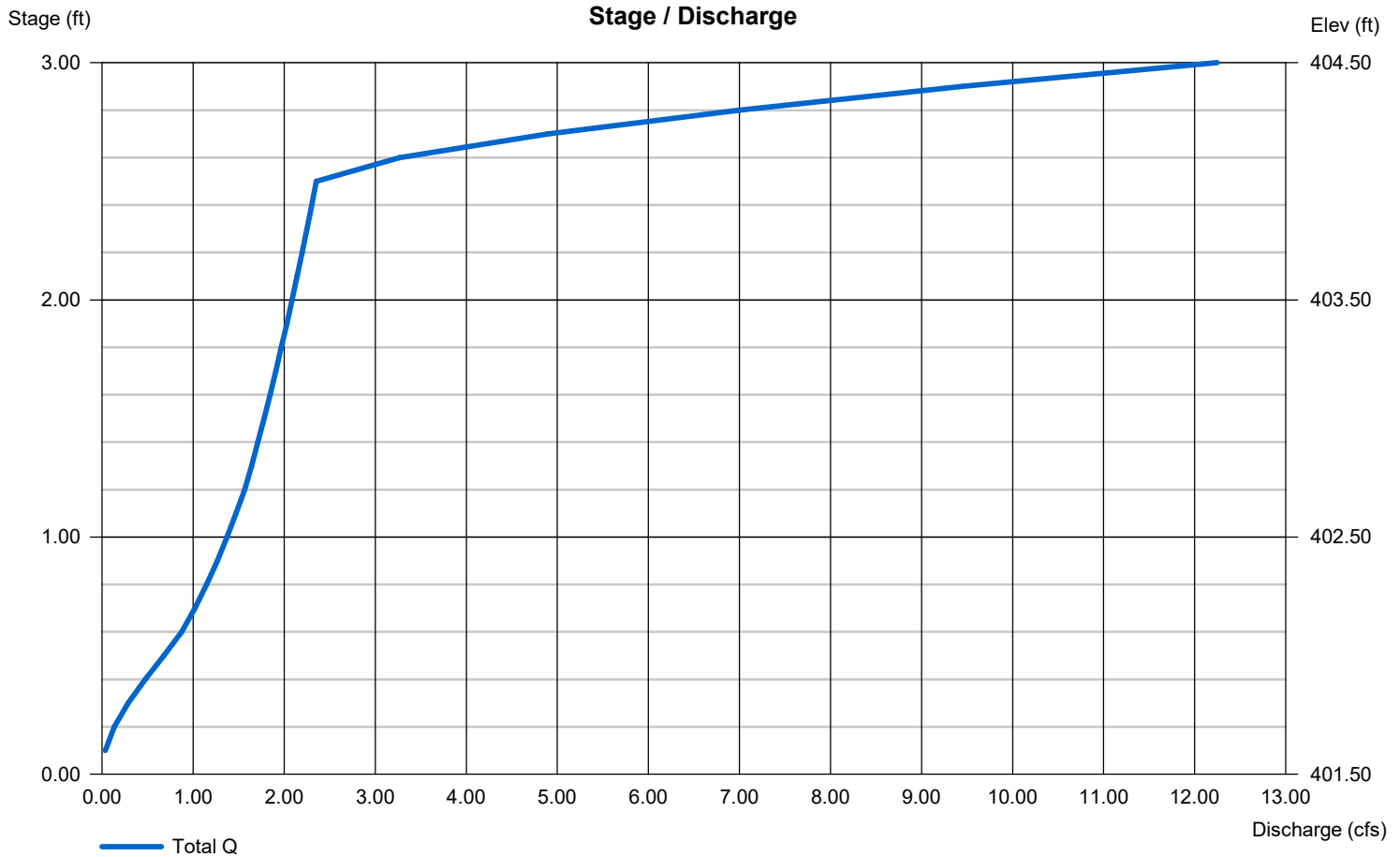
### Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 8.00	Inactive	Inactive	0.00
Span (in)	= 8.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 401.50	0.00	0.00	0.00
Length (ft)	= 34.00	0.00	0.00	0.00
Slope (%)	= 1.47	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)	= 10.50	0.00	0.00	0.00
Crest El. (ft)	= 404.00	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
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).



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

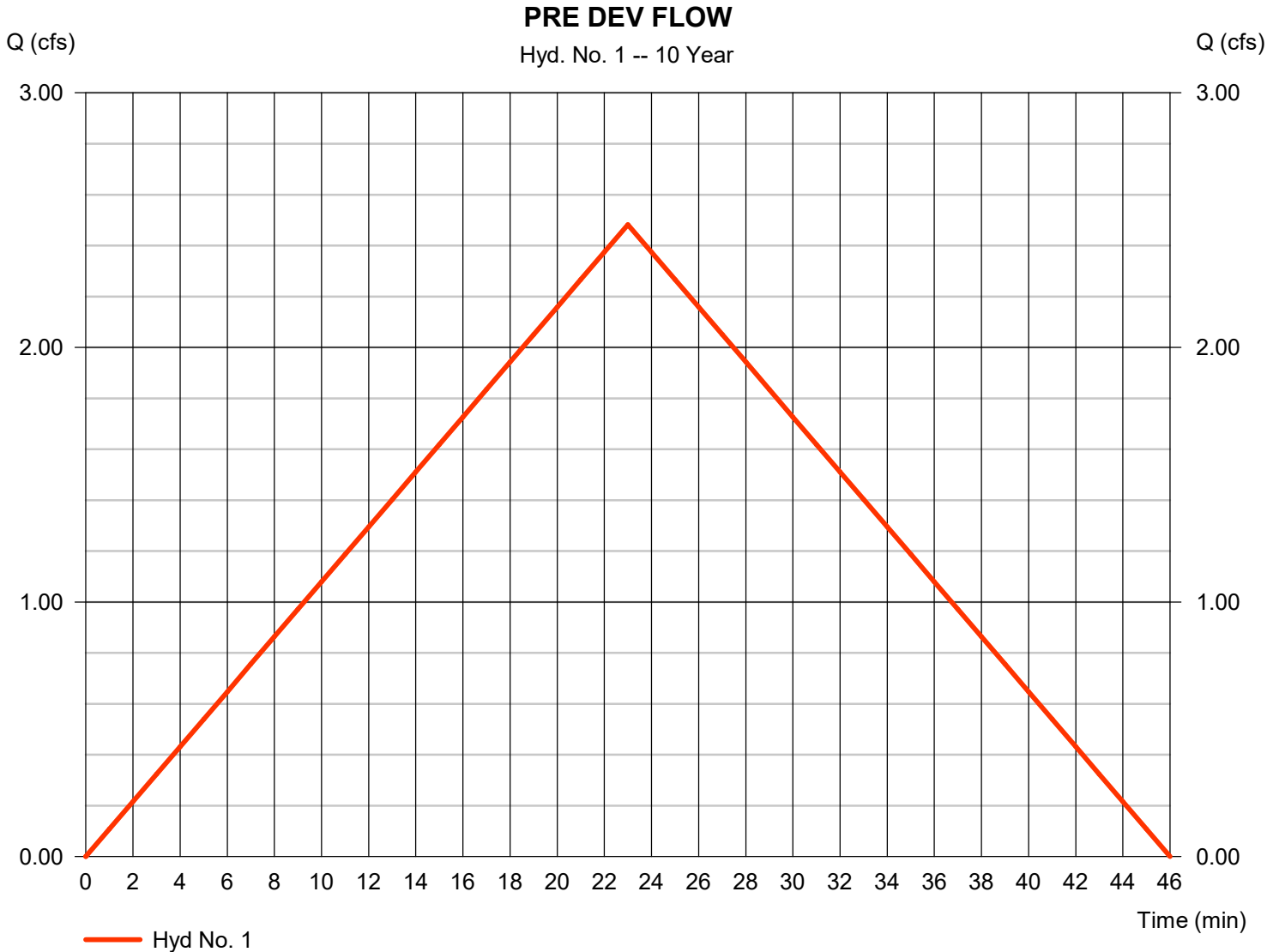
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	2.482	1	23	3,425	-----	-----	-----	PRE DEV FLOW	
2	Rational	3.495	1	23	4,823	-----	-----	-----	DEVELOPMENT CREATED FLOW	
3	Reservoir	1.524	1	36	4,817	2	402.66	2,704	POST DEV. FLOW	
19-0066 Bessent Duplexes _09-25-2024.gpw					Return Period: 10 Year			Wednesday, 09 / 25 / 2024		

# Hydrograph Report

## Hyd. No. 1

### PRE DEV FLOW

Hydrograph type	= Rational	Peak discharge	= 2.482 cfs
Storm frequency	= 10 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 3,425 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.49
Intensity	= 4.330 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

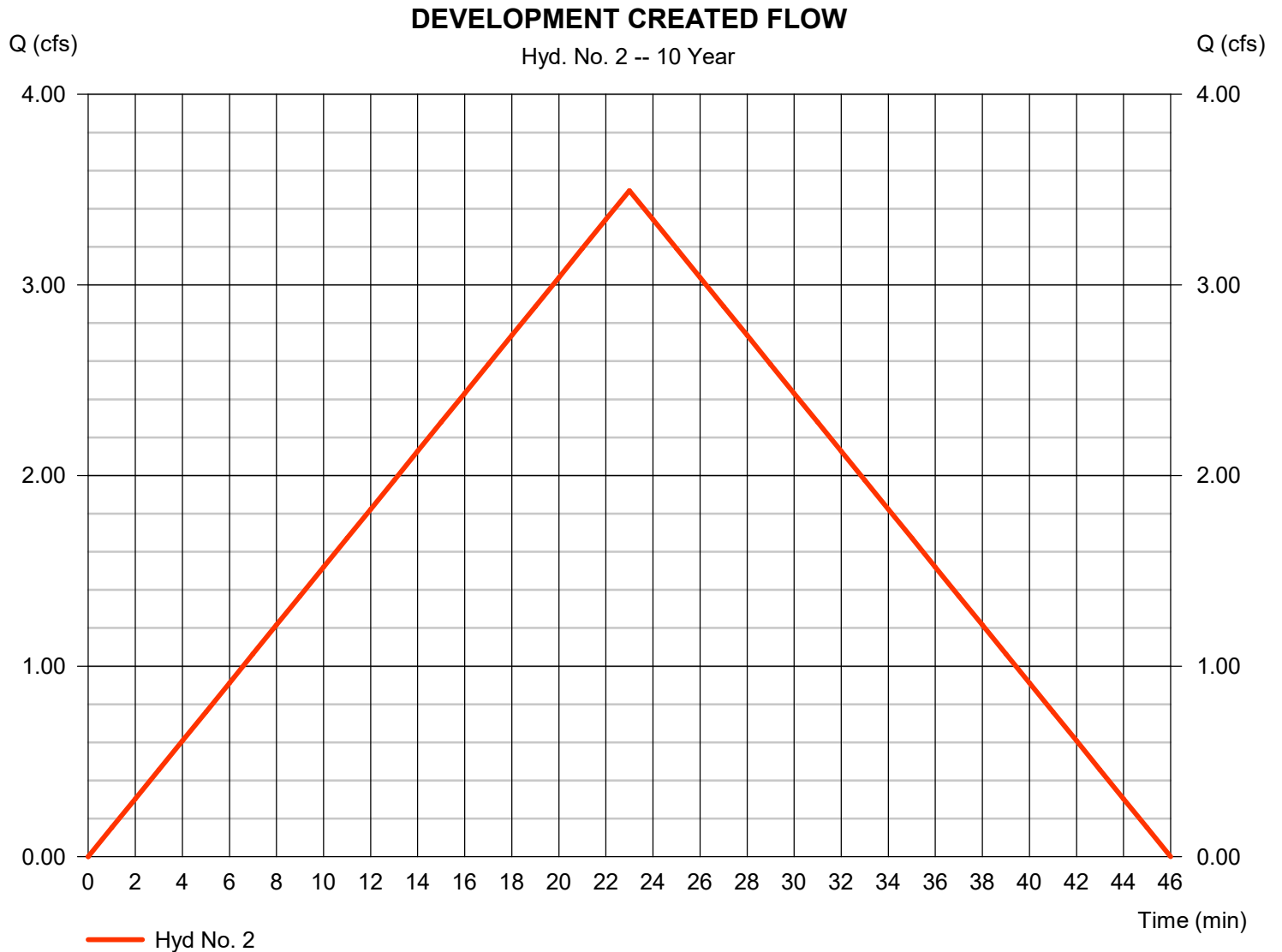
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 09 / 25 / 2024

## Hyd. No. 2

### DEVELOPMENT CREATED FLOW

Hydrograph type	= Rational	Peak discharge	= 3.495 cfs
Storm frequency	= 10 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 4,823 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.69
Intensity	= 4.330 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

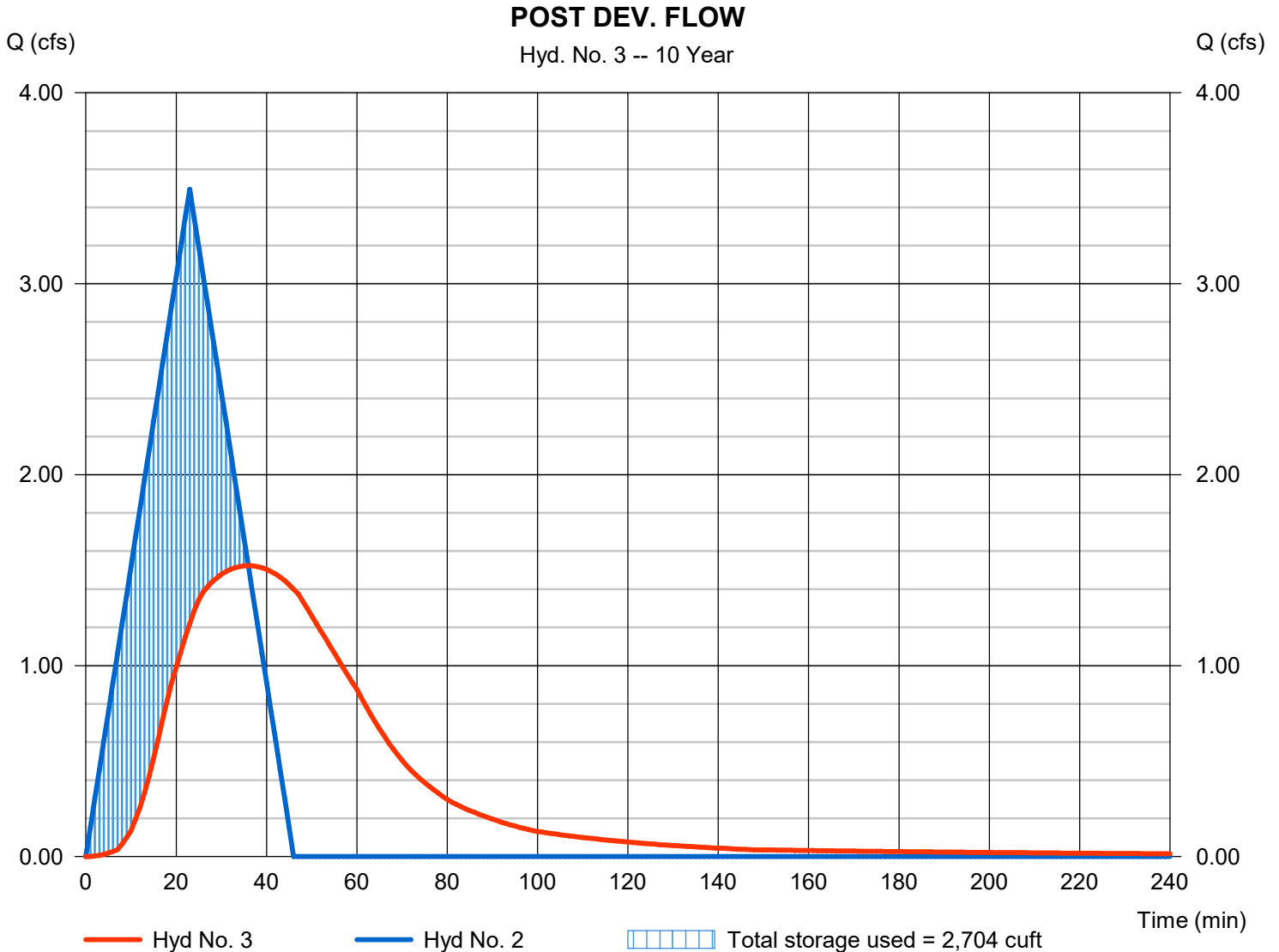
Wednesday, 09 / 25 / 2024

## Hyd. No. 3

### POST DEV. FLOW

Hydrograph type	= Reservoir	Peak discharge	= 1.524 cfs
Storm frequency	= 10 yrs	Time to peak	= 36 min
Time interval	= 1 min	Hyd. volume	= 4,817 cuft
Inflow hyd. No.	= 2 - DEVELOPMENT CREATED MAKE ONE	Max. Elevation	= 402.66 ft
Reservoir name	= DETENTION	Max. Storage	= 2,704 cuft

Storage Indication method used.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	2.872	1	23	3,963	-----	-----	-----	PRE DEV FLOW	
2	Rational	4.044	1	23	5,581	-----	-----	-----	DEVELOPMENT CREATED FLOW	
3	Reservoir	1.643	1	37	5,575	2	402.80	3,207	POST DEV. FLOW	
19-0066 Bessent Duplexes _09-25-2024.gpw					Return Period: 25 Year			Wednesday, 09 / 25 / 2024		



# Hydrograph Report

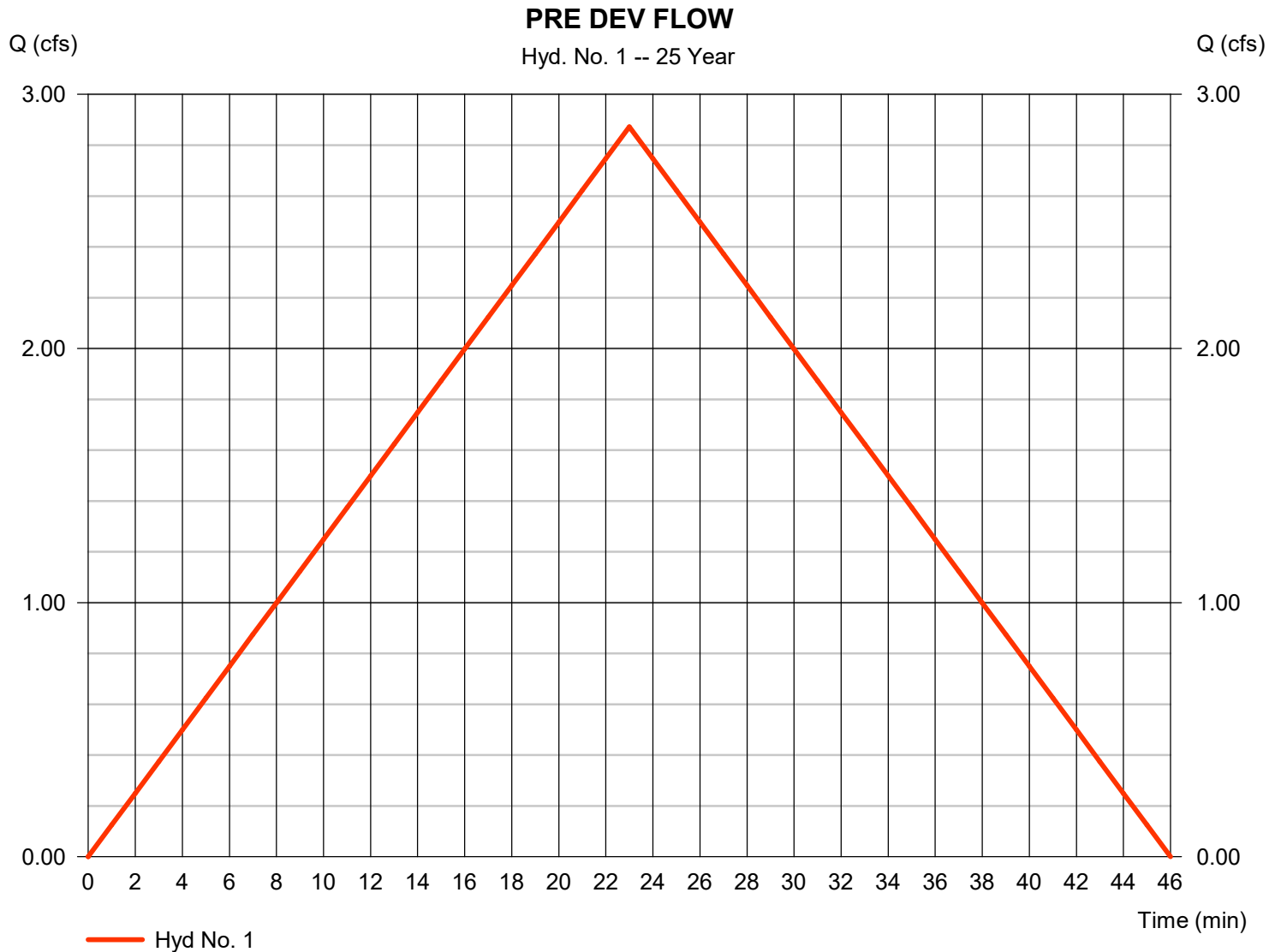
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 09 / 25 / 2024

## Hyd. No. 1

### PRE DEV FLOW

Hydrograph type	= Rational	Peak discharge	= 2.872 cfs
Storm frequency	= 25 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 3,963 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.49
Intensity	= 5.010 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 09 / 25 / 2024

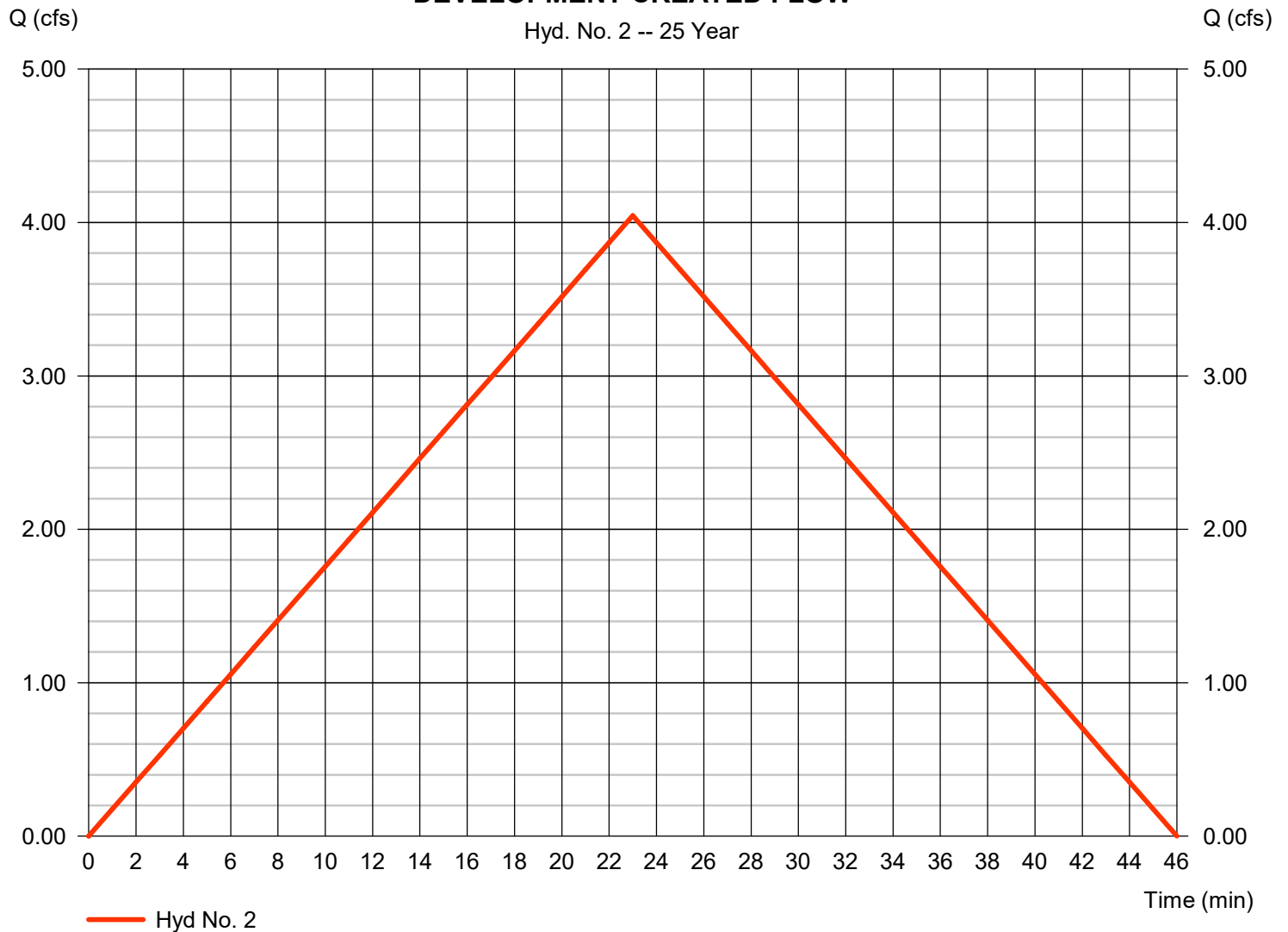
## Hyd. No. 2

### DEVELOPMENT CREATED FLOW

Hydrograph type	= Rational	Peak discharge	= 4.044 cfs
Storm frequency	= 25 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 5,581 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.69
Intensity	= 5.010 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1

### DEVELOPMENT CREATED FLOW

Hyd. No. 2 -- 25 Year



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

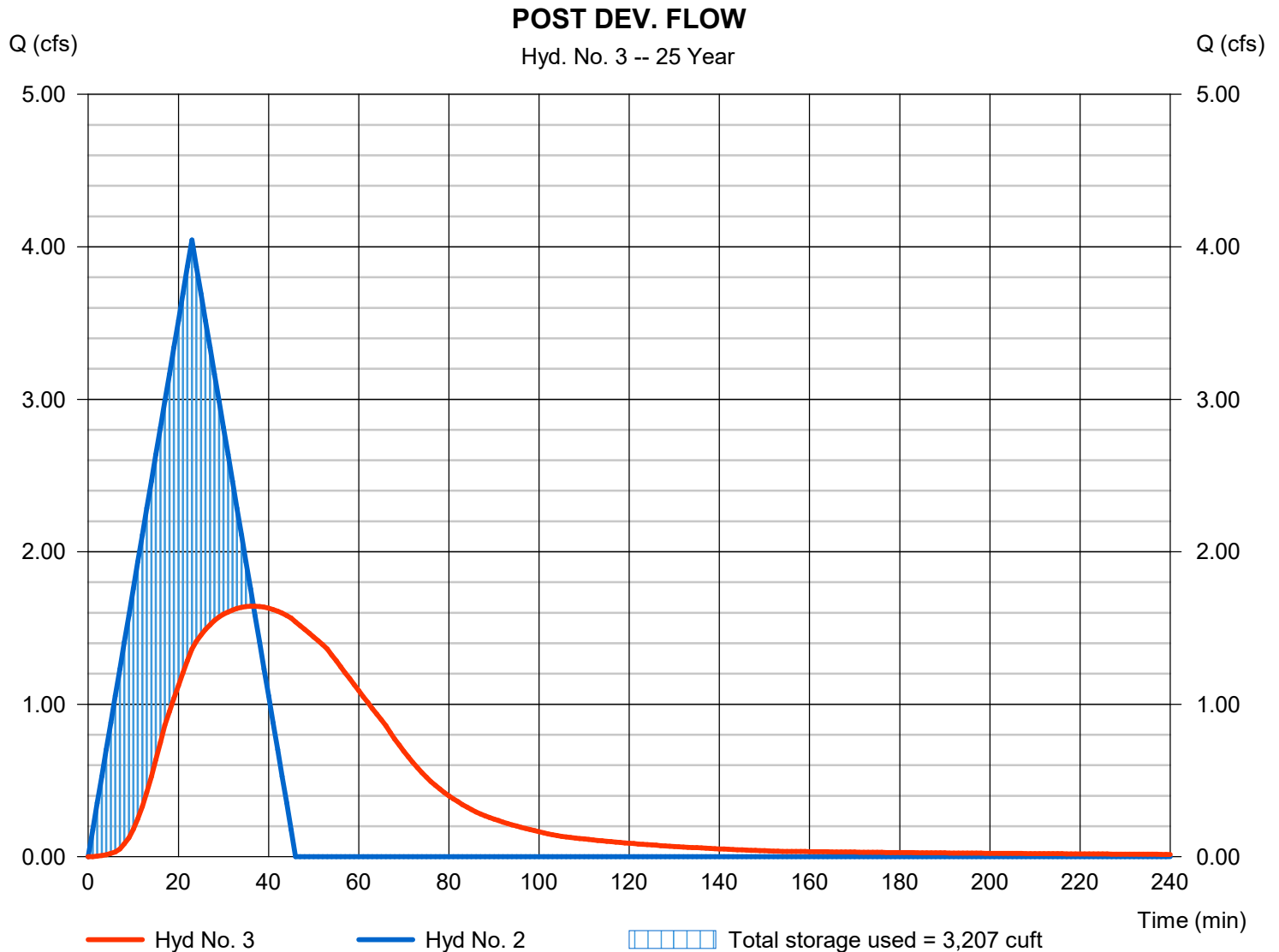
Wednesday, 09 / 25 / 2024

## Hyd. No. 3

### POST DEV. FLOW

Hydrograph type	= Reservoir	Peak discharge	= 1.643 cfs
Storm frequency	= 25 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 5,575 cuft
Inflow hyd. No.	= 2 - DEVELOPMENT CREATED MAKE ME	Peak elevation	= 402.80 ft
Reservoir name	= DETENTION	Max. Storage	= 3,207 cuft

Storage Indication method used.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

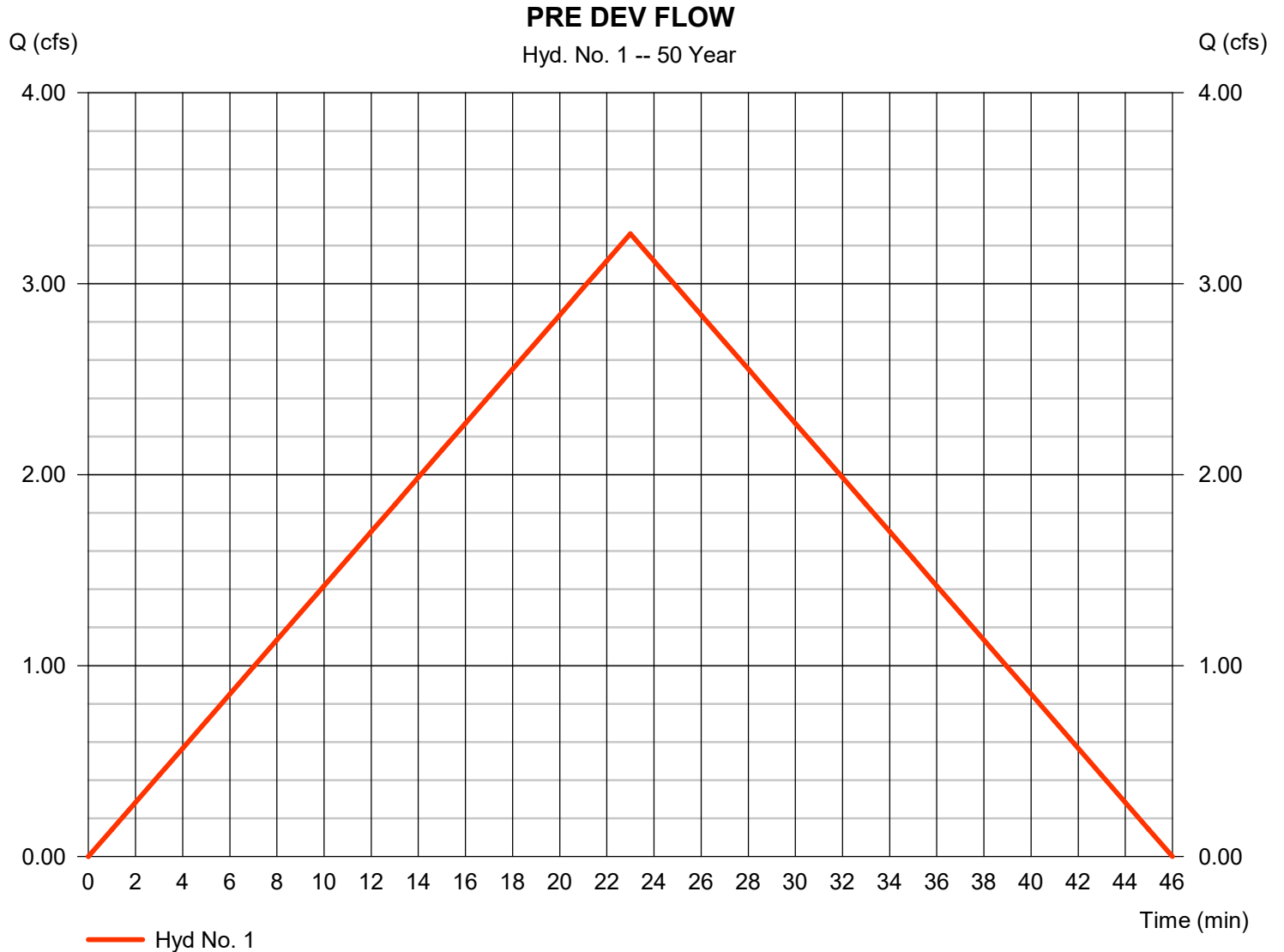
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	3.262	1	23	4,501	-----	-----	-----	PRE DEV FLOW	
2	Rational	4.593	1	23	6,339	-----	-----	-----	DEVELOPMENT CREATED FLOW	
3	Reservoir	1.752	1	37	6,332	2	402.96	3,737	POST DEV. FLOW	
19-0066 Bessent Duplexes _09-25-2024.gpw					Return Period: 50 Year			Wednesday, 09 / 25 / 2024		

# Hydrograph Report

## Hyd. No. 1

### PRE DEV FLOW

Hydrograph type	= Rational	Peak discharge	= 3.262 cfs
Storm frequency	= 50 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 4,501 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.49
Intensity	= 5.690 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

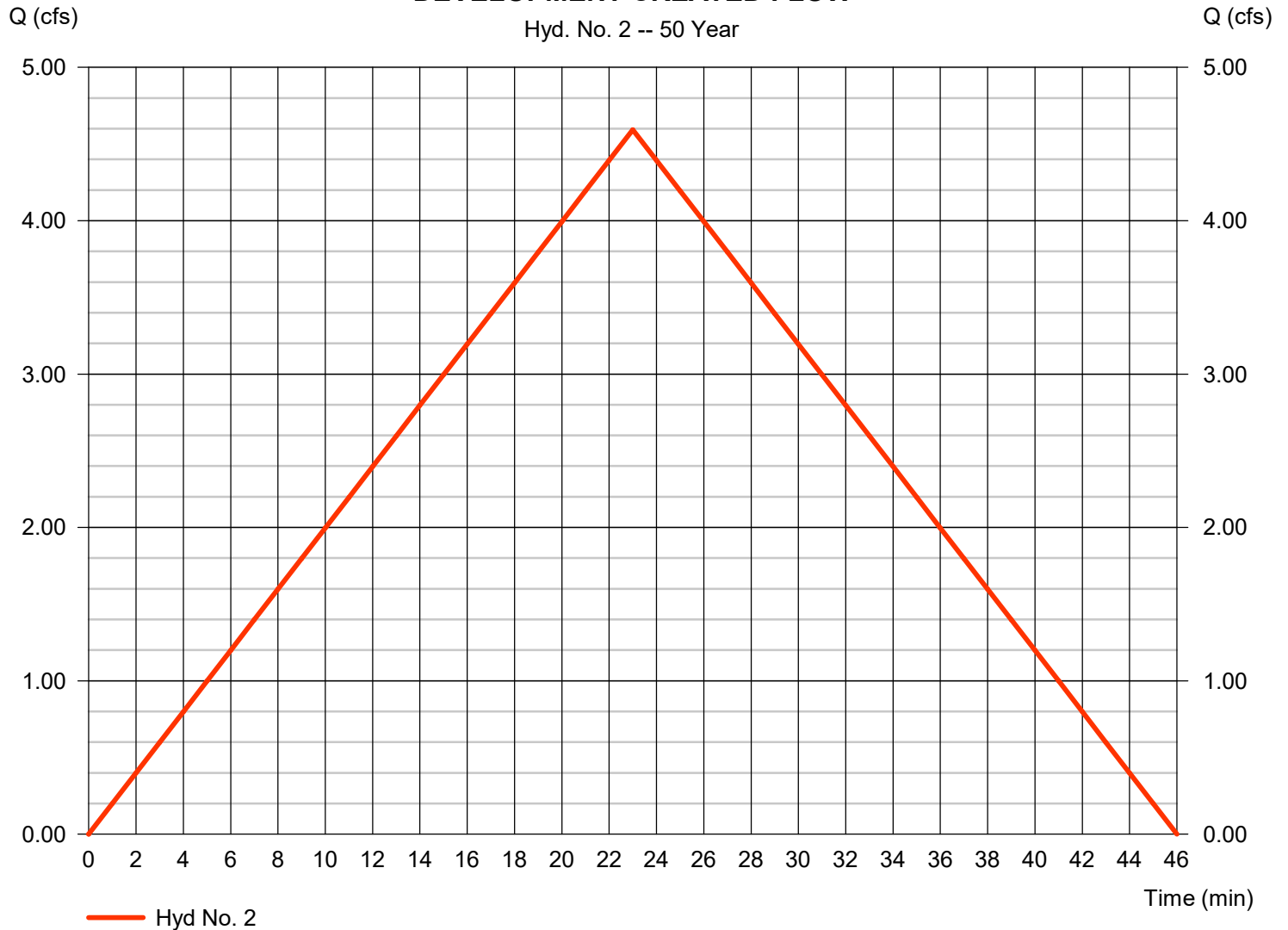
Wednesday, 09 / 25 / 2024

## Hyd. No. 2

### DEVELOPMENT CREATED FLOW

Hydrograph type	= Rational	Peak discharge	= 4.593 cfs
Storm frequency	= 50 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 6,339 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.69
Intensity	= 5.690 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1

### DEVELOPMENT CREATED FLOW



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

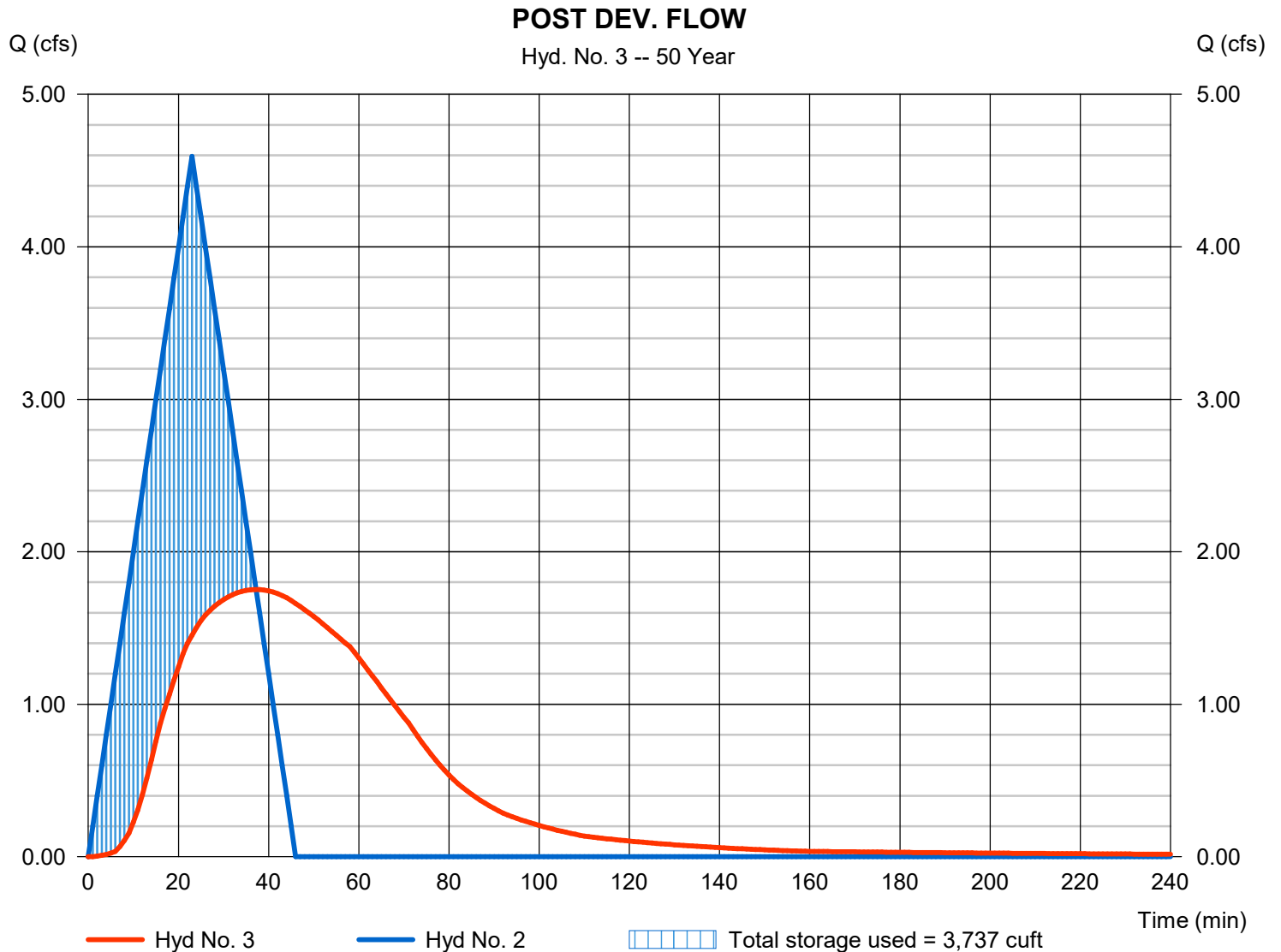
Wednesday, 09 / 25 / 2024

## Hyd. No. 3

### POST DEV. FLOW

Hydrograph type	= Reservoir	Peak discharge	= 1.752 cfs
Storm frequency	= 50 yrs	Time to peak	= 37 min
Time interval	= 1 min	Hyd. volume	= 6,332 cuft
Inflow hyd. No.	= 2 - DEVELOPMENT CREATED MAKE ONE	Peak elevation	= 402.96 ft
Reservoir name	= DETENTION	Max. Storage	= 3,737 cuft

Storage Indication method used.



# Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Rational	3.493	1	23	4,821	----	----	----	PRE DEV FLOW	
2	Rational	4.919	1	23	6,788	----	----	----	DEVELOPMENT CREATED FLOW	
3	Reservoir	1.815	1	38	6,782	2	403.06	4,058	POST DEV. FLOW	
19-0066 Bessent Duplexes _09-25-2024.gpw					Return Period: 100 Year			Wednesday, 09 / 25 / 2024		

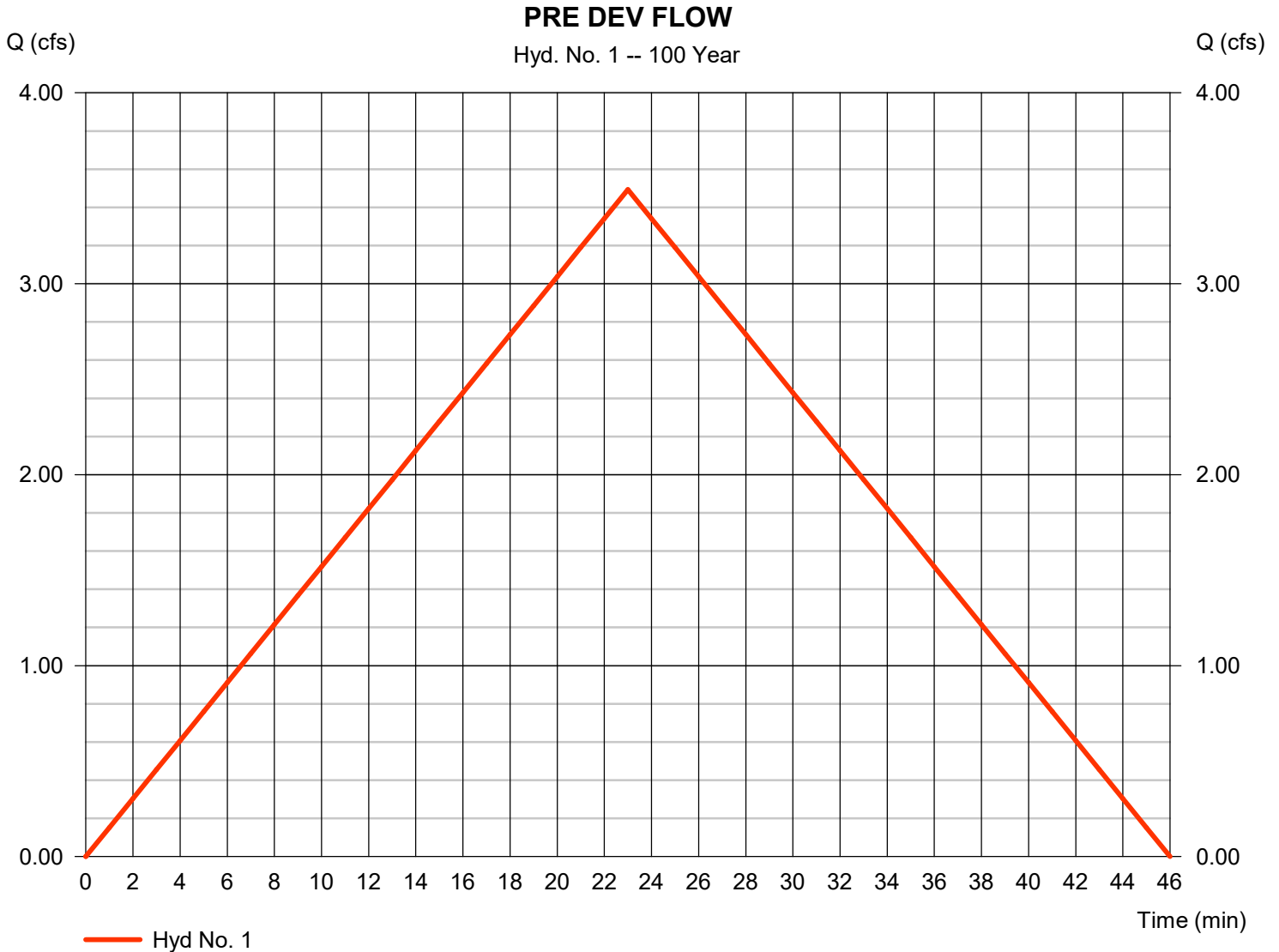


# Hydrograph Report

## Hyd. No. 1

### PRE DEV FLOW

Hydrograph type	= Rational	Peak discharge	= 3.493 cfs
Storm frequency	= 100 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 4,821 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.49
Intensity	= 6.093 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

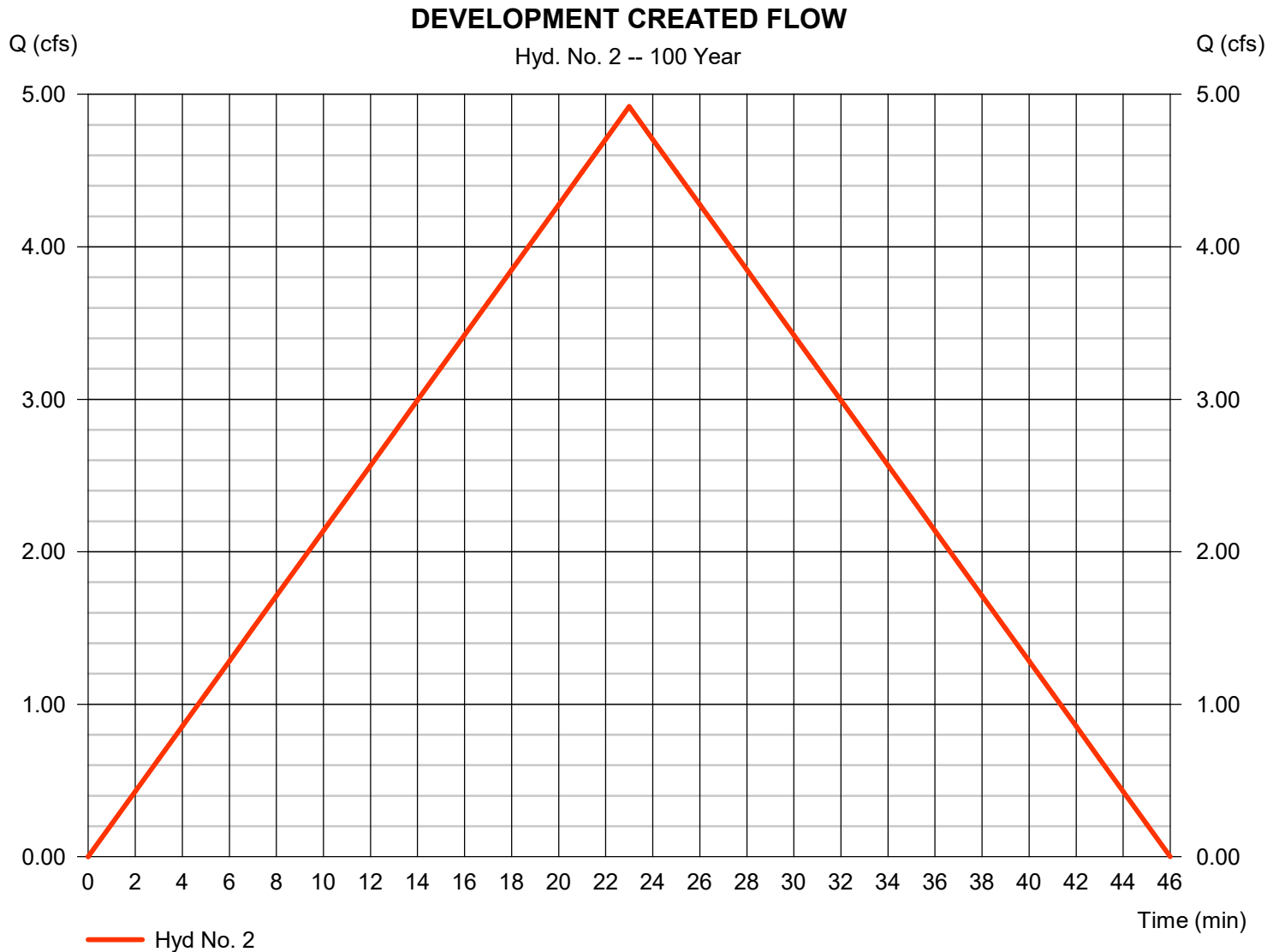
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

Wednesday, 09 / 25 / 2024

## Hyd. No. 2

### DEVELOPMENT CREATED FLOW

Hydrograph type	= Rational	Peak discharge	= 4.919 cfs
Storm frequency	= 100 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 6,788 cuft
Drainage area	= 1.170 ac	Runoff coeff.	= 0.69
Intensity	= 6.093 in/hr	Tc by User	= 23.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1



# Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2025

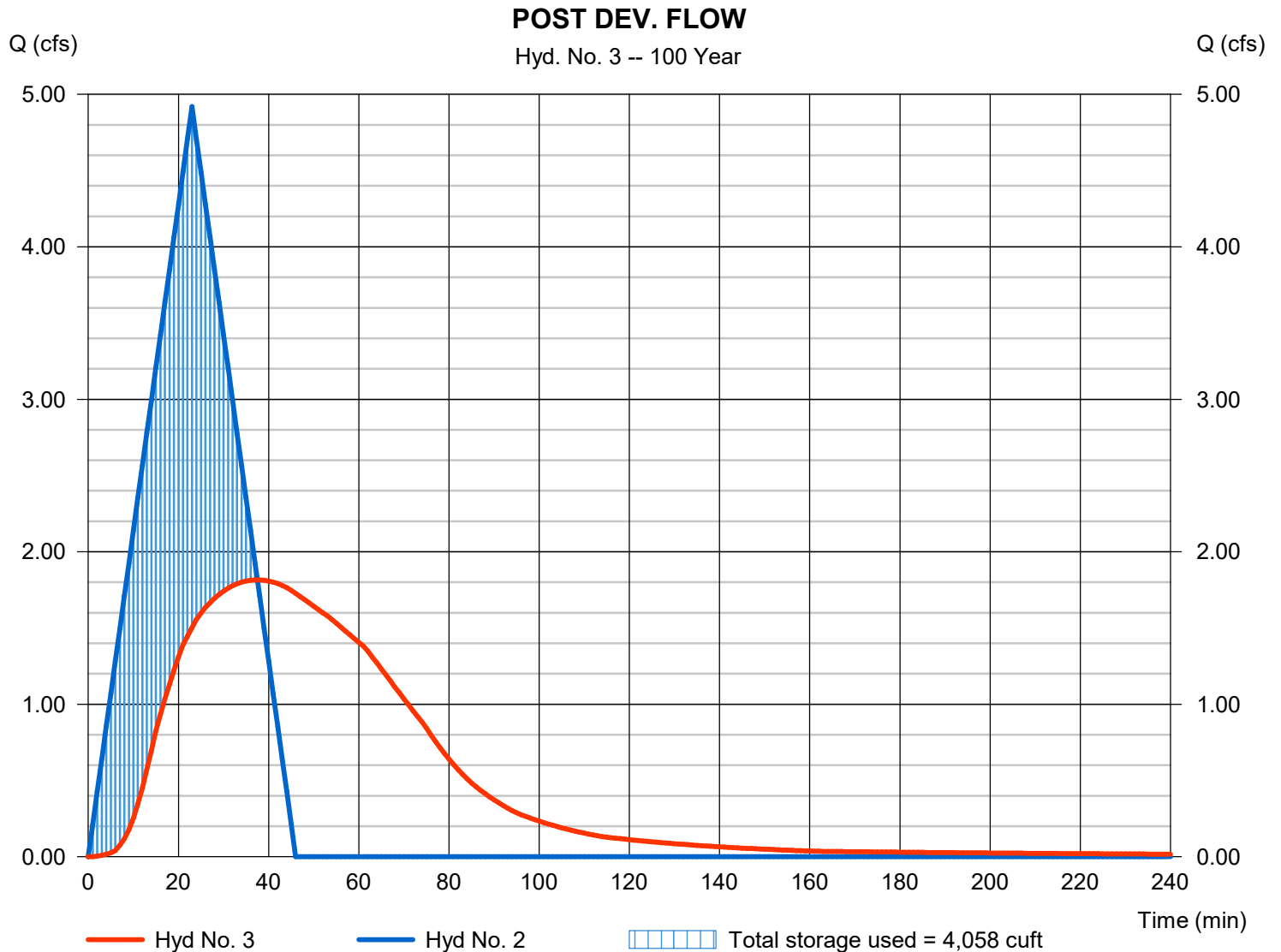
Wednesday, 09 / 25 / 2024

## Hyd. No. 3

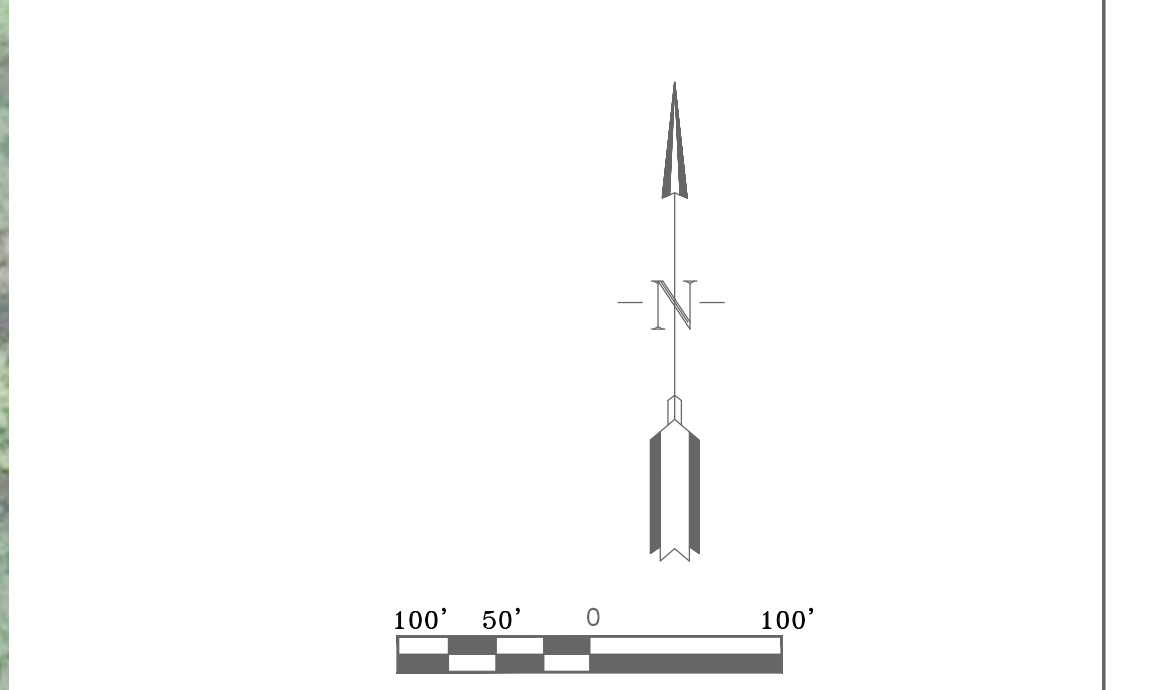
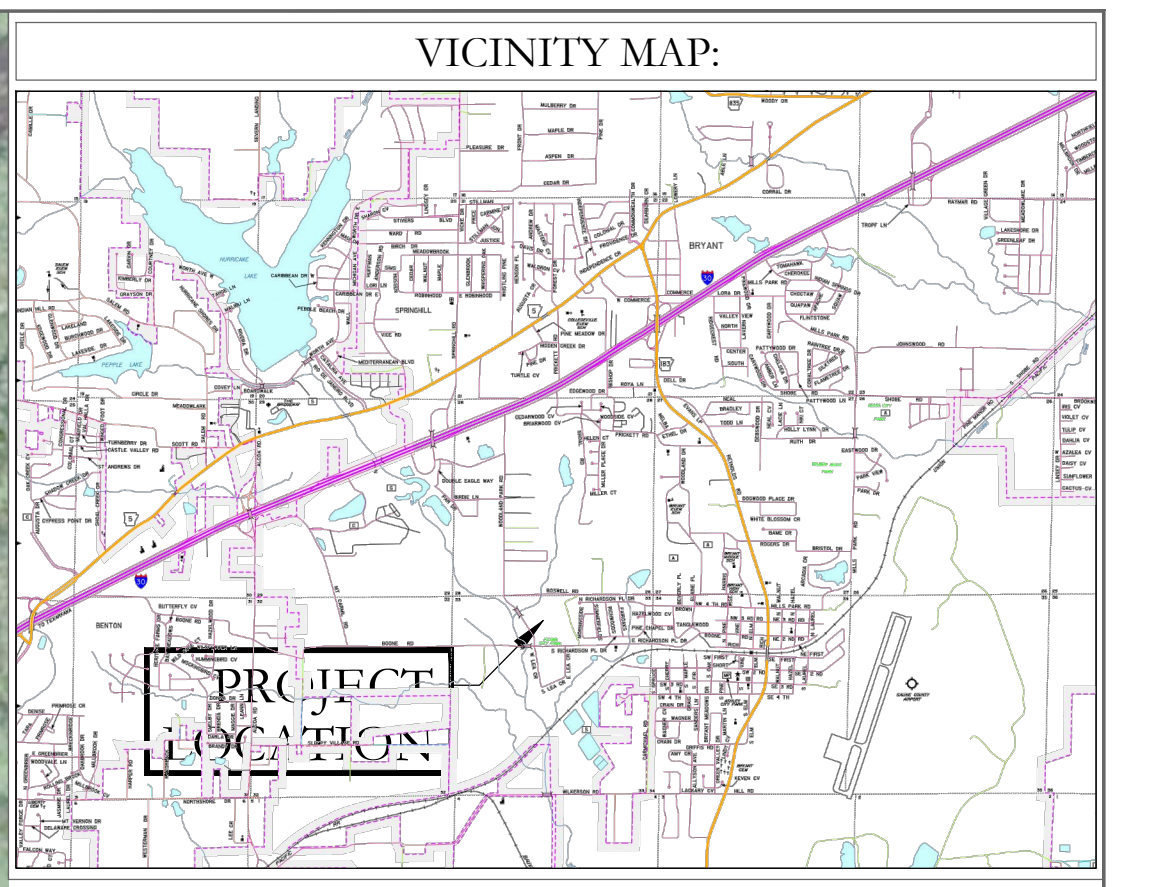
### POST DEV. FLOW

Hydrograph type	= Reservoir	Peak discharge	= 1.815 cfs
Storm frequency	= 100 yrs	Time to peak	= 38 min
Time interval	= 1 min	Hyd. volume	= 6,782 cuft
Inflow hyd. No.	= 2 - DEVELOPMENT CREATED MAKE ONE	Max. Elevation	= 403.06 ft
Reservoir name	= DETENTION	Max. Storage	= 4,058 cuft

Storage Indication method used.







time of concentration, tc (min)		REGION 3 IDF	
Pre			
Channel Dimensions and Time of Concentration, tc			
Area (ft <sup>2</sup> )	1998592.29		
Area (Acre)	46		
Length, L (ft)	2217.0		
Change in Elevation (ft)	60.27		
Slope, S (ft/ft)	0.027		
N (asphalt, grass, etc)	0.400	h (ft)	S
L (overland, ft)	200	4	0.020
L (channel 1, ft)	2017	56.27	0.028
L (channel 2, ft)	0.0	0	0.000
t <sub>1</sub>	45.4	v	
t <sub>2</sub>	5.6	6.007023	
t <sub>3</sub>	0.0	0	
time of concentration, tc (min)	51.0	use 50 min	

Design Peak Runoff Rates, Qp (cfs)		
Intensity, I (in/hr)	Runoff Coeff	Flow (cfs)
I	C	Q
100year	4.19	101.89
Qp,max (max flow) cfs		102
Qp,min (min flow)		102

**HOPE CONSULTING**  
ENGINEERS - SURVEYORS

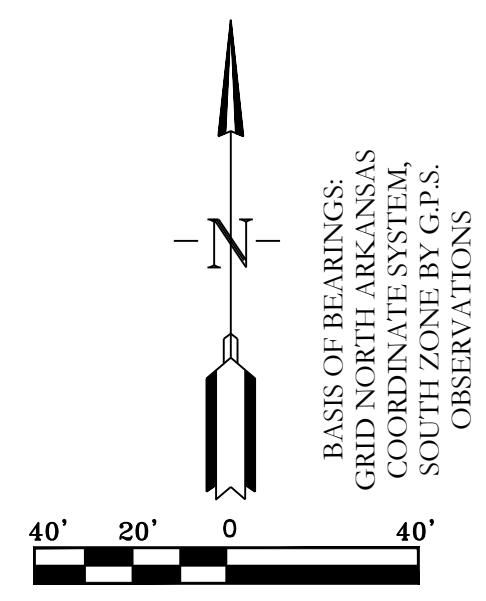
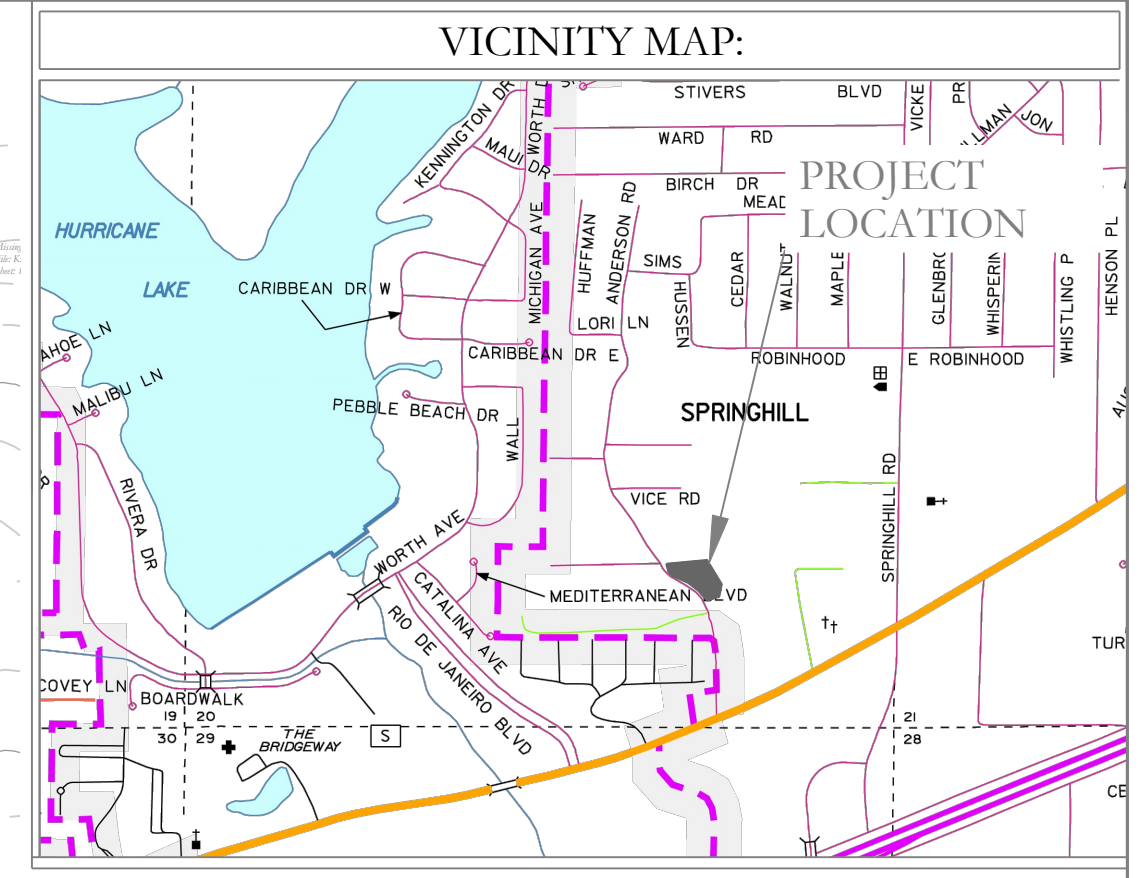
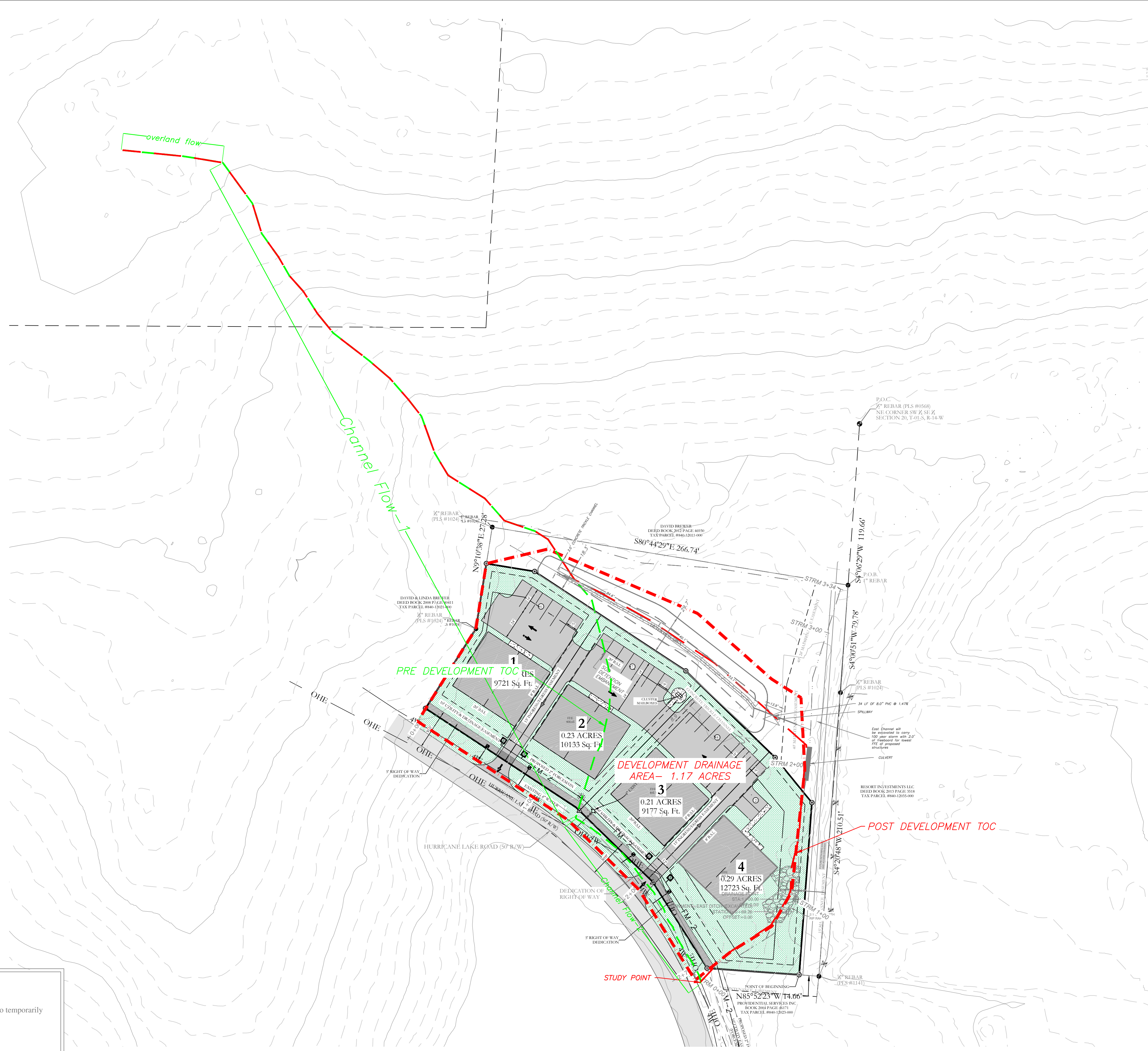
117 S. Market Street,  
Benton, Arkansas 72015  
PH. (501)315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

FOR USE AND BENEFIT OF: <b>SKY BLUE, LLC</b>		
SEWER EXTENSION PLAN PROFILE SKY BLUE DUPLEXES CITY OF BRYANT, SALINE COUNTY, ARKANSAS		
DATE: 4-1-19	C.A.D. BY:	DRAWING NUMBER:
REVISED:	CHECKED BY:	17-0532
SHEET: C-3.0	SCALE:	
500	01S	14W 0 27 430 62 1807

**NOTE:**

- ALL WATER AND SEWER INFRASTRUCTURE MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BRYANT'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATERLINES AND SEWER LINES, 2015 EDITION"
- INSTALL SEWER ID TAPE PER CITY OF BRYANT'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATERLINES AND SEWER LINES, 2015 EDITION"

K:\LAND PROJECTS 2004\SUBDIVISIONS\2019\19-0066\RESIDENT DUPLEXES\DELINITION & EXTRA LIDAR.DWG



CONTOUR INTERVAL:  
 EXISTING: 1' AND 5'  
 PROPOSED: 1' AND 5'

- NOTE:
1. ALL ROOF DRAINS WILL BE ROUTED TO DETENTION BY SURFACE GRADING OR PIPES.
  2. DETENTION EMBANKMENT AS WELL AS SLOPED EMBANKMENTS ADJACENT TO THE BUILDING SHALL CARRY A MAXIMUM SLOPE OF 3:1 AND BE SODDED FOR ADEQUATE VEGETATION.
  3. IN AREAS WHERE STEEP EMBANKMENT SLOPES ARE REQUIRED, A MAXIMUM SLOPE OF 2:1 MAY BE USED IN CONJUNCTION WITH RIP RAPPED EMBANKMENTS.



**DETENTION POND MAINTENANCE PLAN**

**Background**  
 The detention pond is located just beyond the northeast corner of the property. The modifications are designed to temporarily detain stormwater to meet the City of Bryant's water quantity criteria before discharging from the pond.

**Routine Maintenance**  
 Routine maintenance will include but not be limited to:  
 -The primary discharge (v-notch weir) from the pond and other areas will be inspected monthly for debris which could inhibit the proper flow of discharge. Any debris will be removed immediately and disposed of or placed in a location to prevent future maintenance and to not cause impact up or downstream of the structure.  
 -Trash will be removed from around the pond to prevent entering the pond. Generally, the site should be kept free of loose trash which could be carried off site by wind or rain.  
 -Inspect the pond and discharge weir for non-routine maintenance need.

**Periodic or Non-Routine Maintenance**  
 The routine inspection of the pond area and discharge weir will identify needed repairs and non-routine maintenance. These items may include but not be limited to:  
 -Bottom of pond will be sodded (except where trickle channel is located).  
 -Embankments sloped 2:1 will be rip rapped, 3:1 slopes shall be sodded  
 -Re-growth of trees on or around the pond bank. These should be cut and removed from the pond area.  
 -Stabilization of slopes may be required periodically or after excessive rain events. Any disturbance of slopes should be reseeded or may require installation of erosion control materials until seeding can reestablish adequate grasses to prevent future erosion.  
 -Any other maintenance or repairs which would minimize other maintenance to the pond or outfall structures.

For questions or concerns about the pond, contact \_\_\_ at 501-315-2626.

**HOPE CONSULTING**  
 ENGINEERS - SURVEYORS

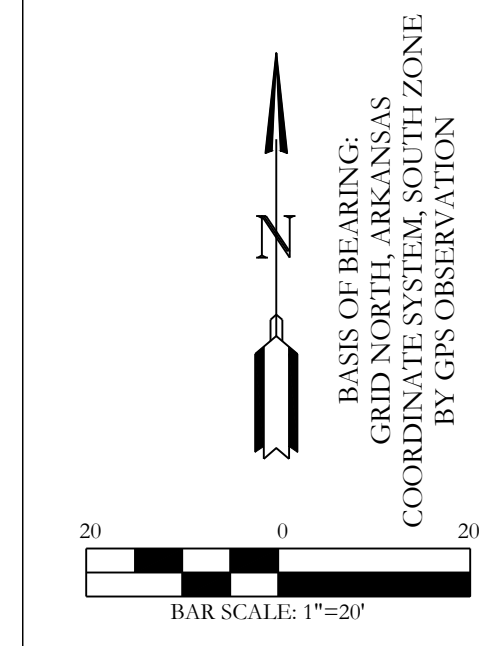
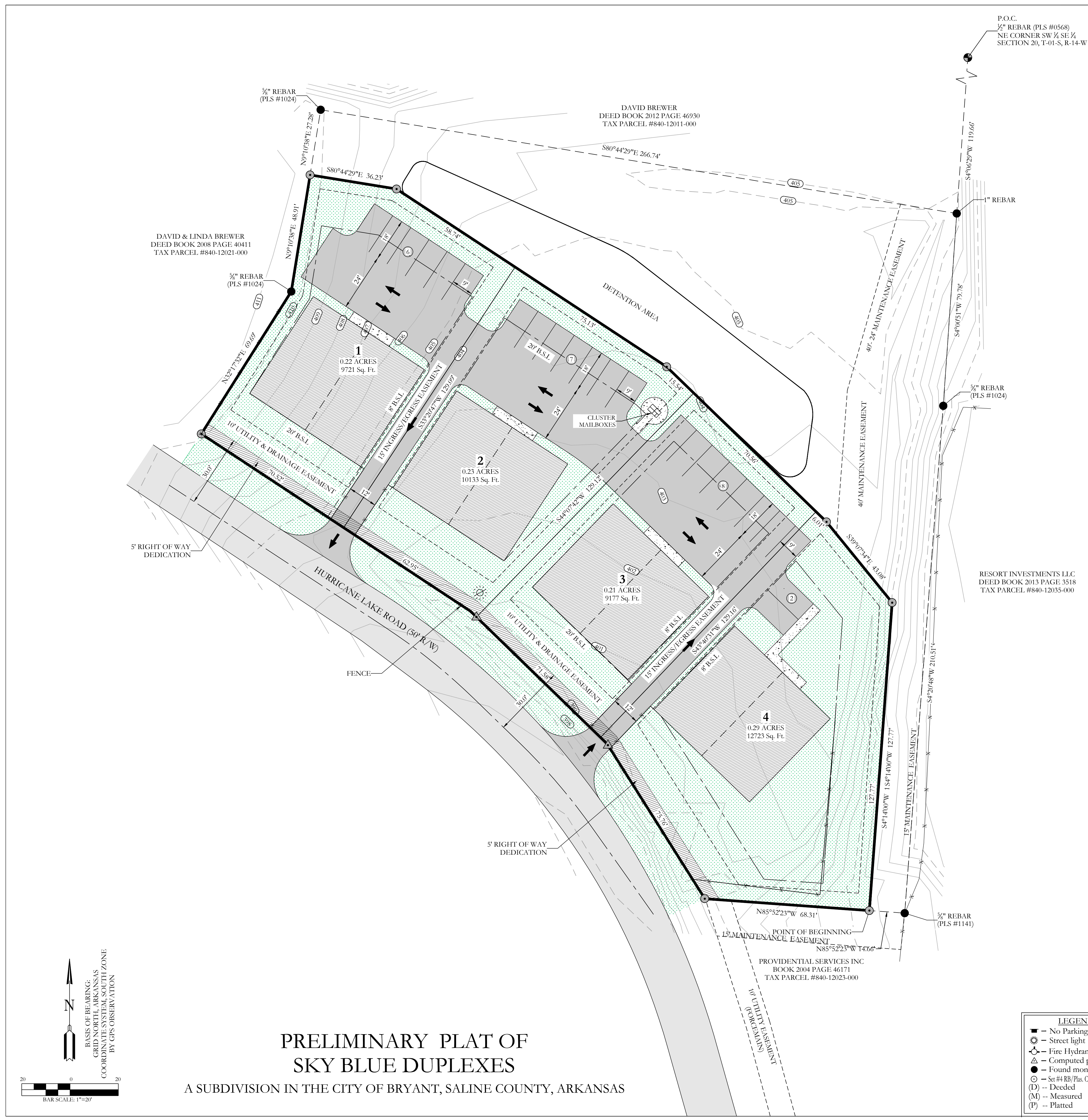
129 N. Main Street,  
 Benton, Arkansas 72015  
 PH. (501)315-2626  
 FAX (501) 315-0024  
 www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**SKY BLUE, LLC.**

**DRAINAGE AREA**  
 SKY BLUE DUPLEXES  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE:	09-25-2024	C.A.D. BY:		DRAWING NUMBER:
REVISED:		CHECKED BY:		19-0066
SHEET:	C-2.2	SCALE:		
500	01S	14W	0 19	440 62 1802

Z:\LAND PROJECTS\2004\SUBDIVISIONS\2019\19-0066\BUSSANT DUPLXES\19-0066-SKY BLUE DUPLEXES\_RL\_BASE.DWG, 09-25-2024.DWG



# PRELIMINARY PLAT OF SKY BLUE DUPLEXES

A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

**GENERAL NOTE:**

- LIGHTING WILL BE ATTACHED TO THE BUILDING ON THE REAR SIDE.
- PRIVACY FENCE WILL BE INSTALLED.

**AS-SURVEYED DESCRIPTION:**

PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER (SW 1/4 SE 1/4) OF SECTION 20, TOWNSHIP 01 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS; MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SW 1/4 SE 1/4 OF SECTION 20; THENCE S04°06'29"W, A DISTANCE OF 119.66 FEET; THENCE S04°06'51"W, A DISTANCE OF 79.78 FEET; THENCE S04°20'48"W, A DISTANCE OF 210.51 FEET; THENCE N85°52'23"W, A DISTANCE OF 14.66 FEET TO THE POINT OF BEGINNING; THENCE N85°52'23"W, A DISTANCE OF 68.31 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD; THENCE ALONG SAID EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD THE FOLLOWING COURSES:

N32°14'50"W, A DISTANCE OF 75.76 FEET; THENCE N45°50'42"W, A DISTANCE OF 78.70 FEET; THENCE N56°37'37"W, A DISTANCE OF 133.47 FEET; THENCE LEAVING SAID RIGHT OF WAY, N32°17'32"E, A DISTANCE OF 64.60 FEET; THENCE N09°10'38"E, A DISTANCE OF 48.91 FEET; THENCE S80°44'29"E, A DISTANCE OF 36.23 FEET; THENCE S56°39'13"E, A DISTANCE OF 133.87 FEET; THENCE S45°52'18"E, A DISTANCE OF 92.11 FEET; THENCE S39°07'34"E, A DISTANCE OF 43.08 FEET; THENCE S04°14'00"W, A DISTANCE OF 127.77 TO THE POINT OF BEGINNING. CONTAINING 41,754 SQUARE FEET, OR 0.96 ACRES, MORE OR LESS.

**AS-SURVEYED DESCRIPTION:**

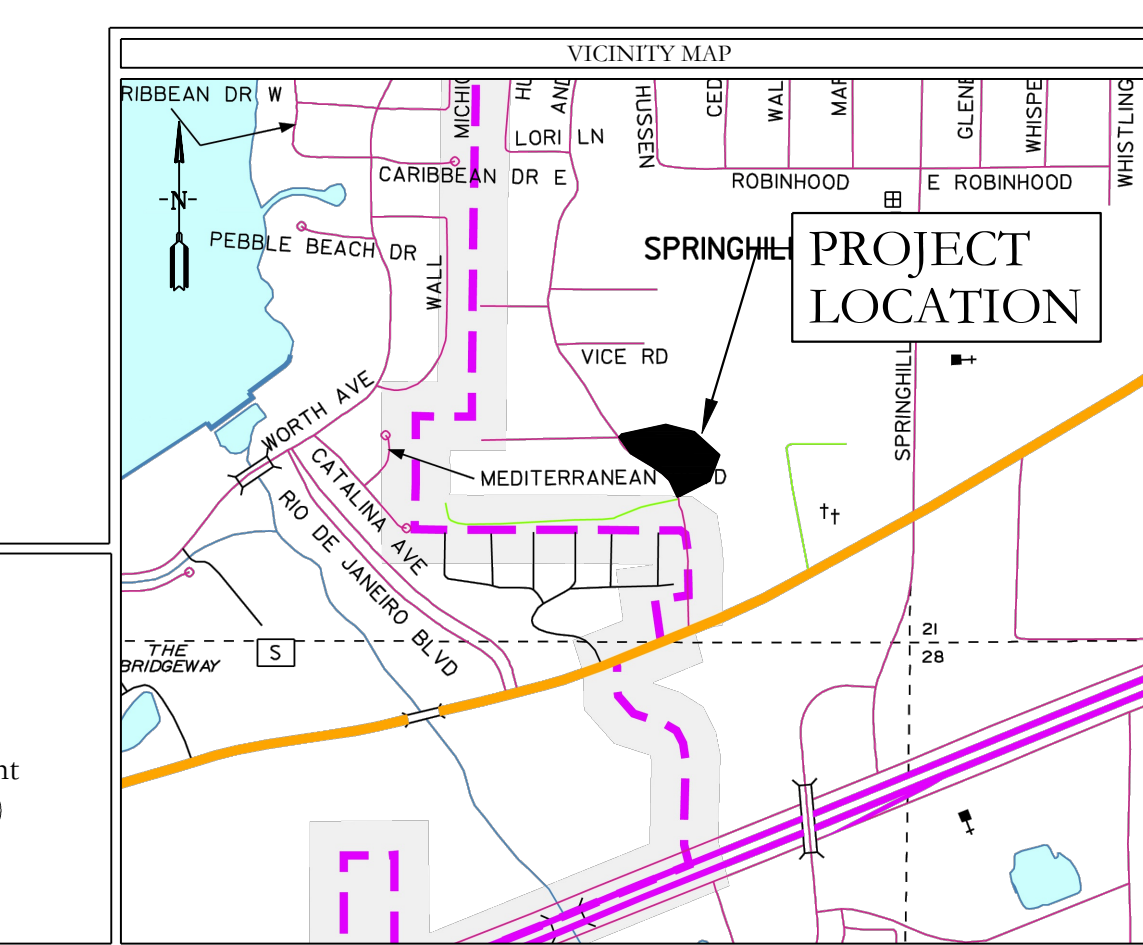
PART OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER (SW 1/4 SE 1/4) OF SECTION 20, TOWNSHIP 01 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS; MORE PARTICULARLY DESCRIBED AS COMMENCING AT THE NORTHEAST CORNER OF SAID SW 1/4 SE 1/4 OF SECTION 20; THENCE S04°06'29"W, A DISTANCE OF 119.66 FEET; THENCE S04°06'51"W, A DISTANCE OF 79.78 FEET; THENCE S04°20'48"W, A DISTANCE OF 210.51 FEET; THENCE N85°52'23"W, A DISTANCE OF 14.66 FEET TO THE POINT OF BEGINNING; THENCE N85°52'23"W, A DISTANCE OF 68.31 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD; THENCE ALONG SAID EAST RIGHT OF WAY LINE OF HURRICANE LAKE ROAD THE FOLLOWING COURSES:


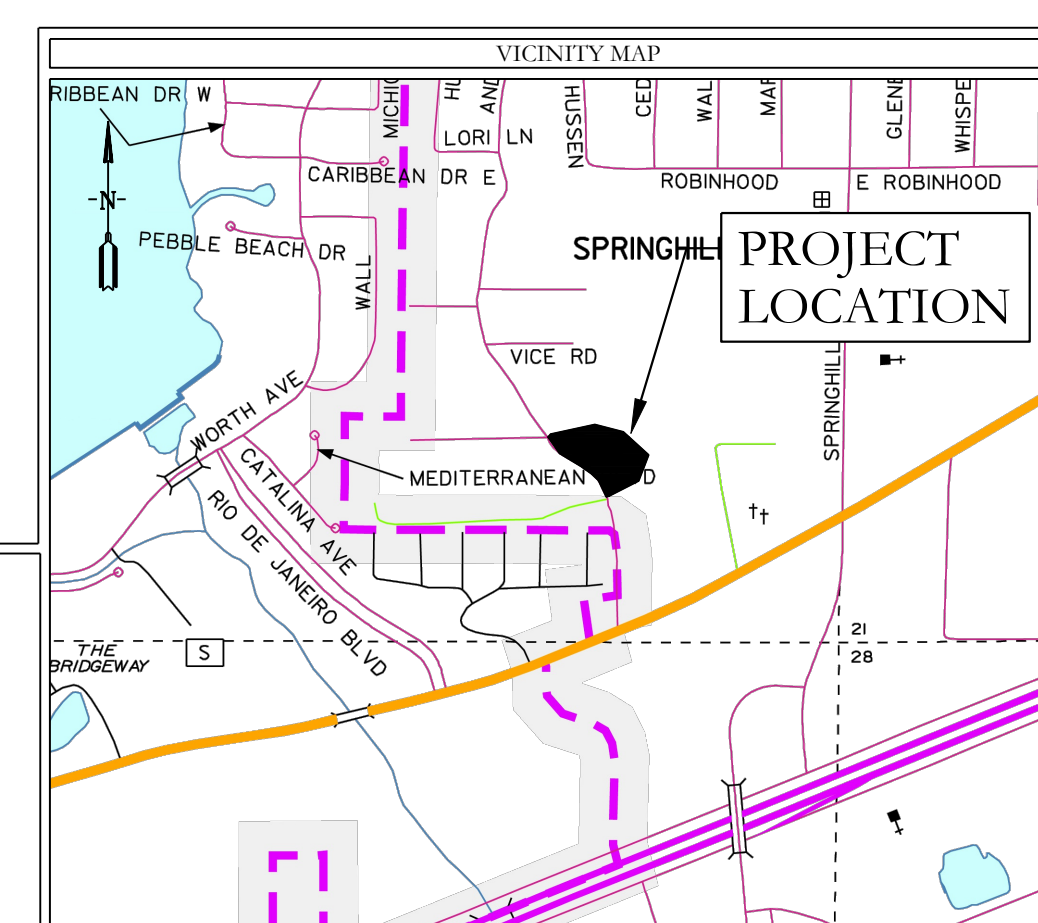
N32°14'50"W, A DISTANCE OF 75.76 FEET; THENCE N45°50'42"W, A DISTANCE OF 78.70 FEET; THENCE N56°37'37"W, A DISTANCE OF 133.47 FEET; THENCE LEAVING SAID RIGHT OF WAY, N32°17'32"E, A DISTANCE OF 64.60 FEET; THENCE N09°10'38"E, A DISTANCE OF 48.91 FEET; THENCE S80°44'29"E, A DISTANCE OF 36.23 FEET; THENCE S56°39'13"E, A DISTANCE OF 133.87 FEET; THENCE S45°52'18"E, A DISTANCE OF 92.11 FEET; THENCE S39°07'34"E, A DISTANCE OF 43.08 FEET; THENCE S04°14'00"W, A DISTANCE OF 127.77 TO THE POINT OF BEGINNING. CONTAINING 41,754 SQUARE FEET, OR 0.96 ACRES, MORE OR LESS.

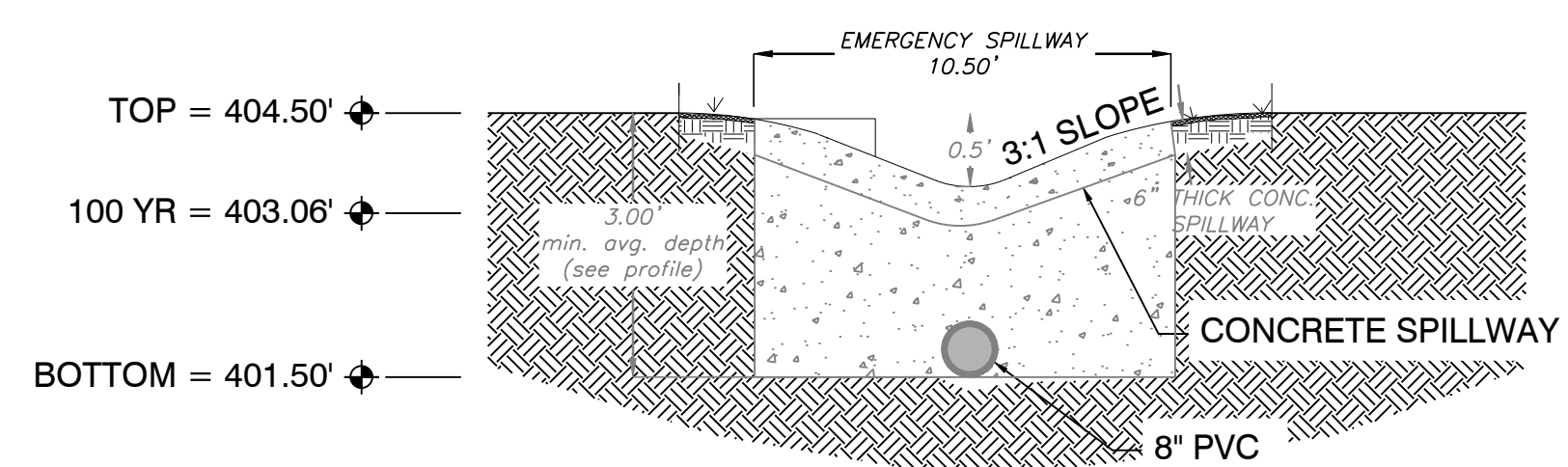
**NOTE:**

TRACT A WILL BE UTILIZED AS DRAINAGE AND UTILITY EASEMENTS MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION.

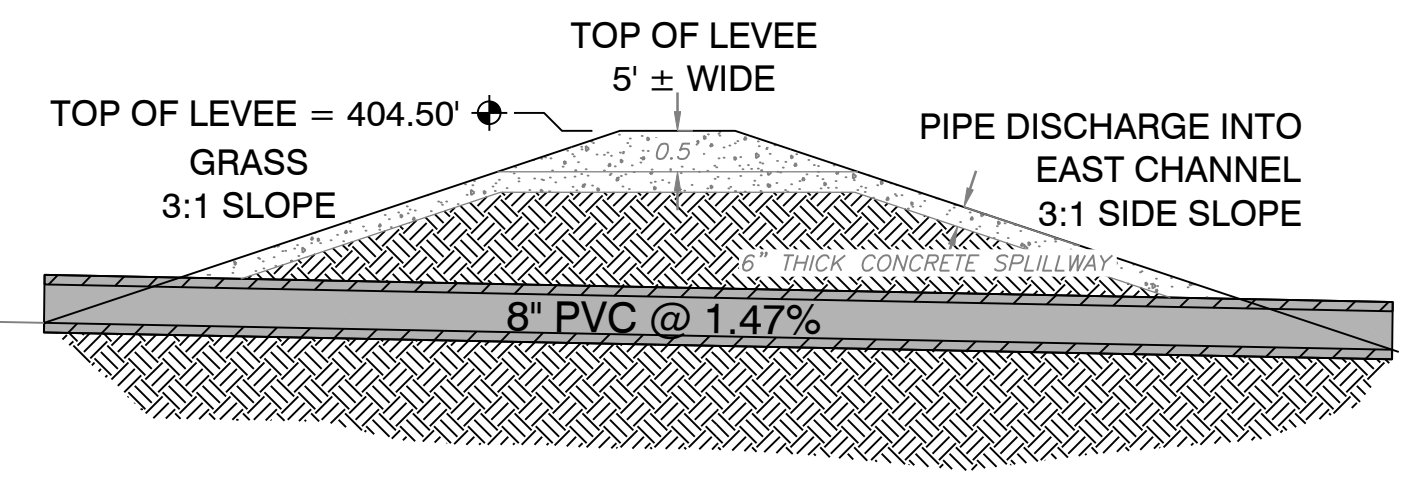
NO FENCES SHALL BE CONSTRUCTED IN THE DRAINAGE EASEMENT WHERE OPEN DITCHES ARE CONSTRUCTED.



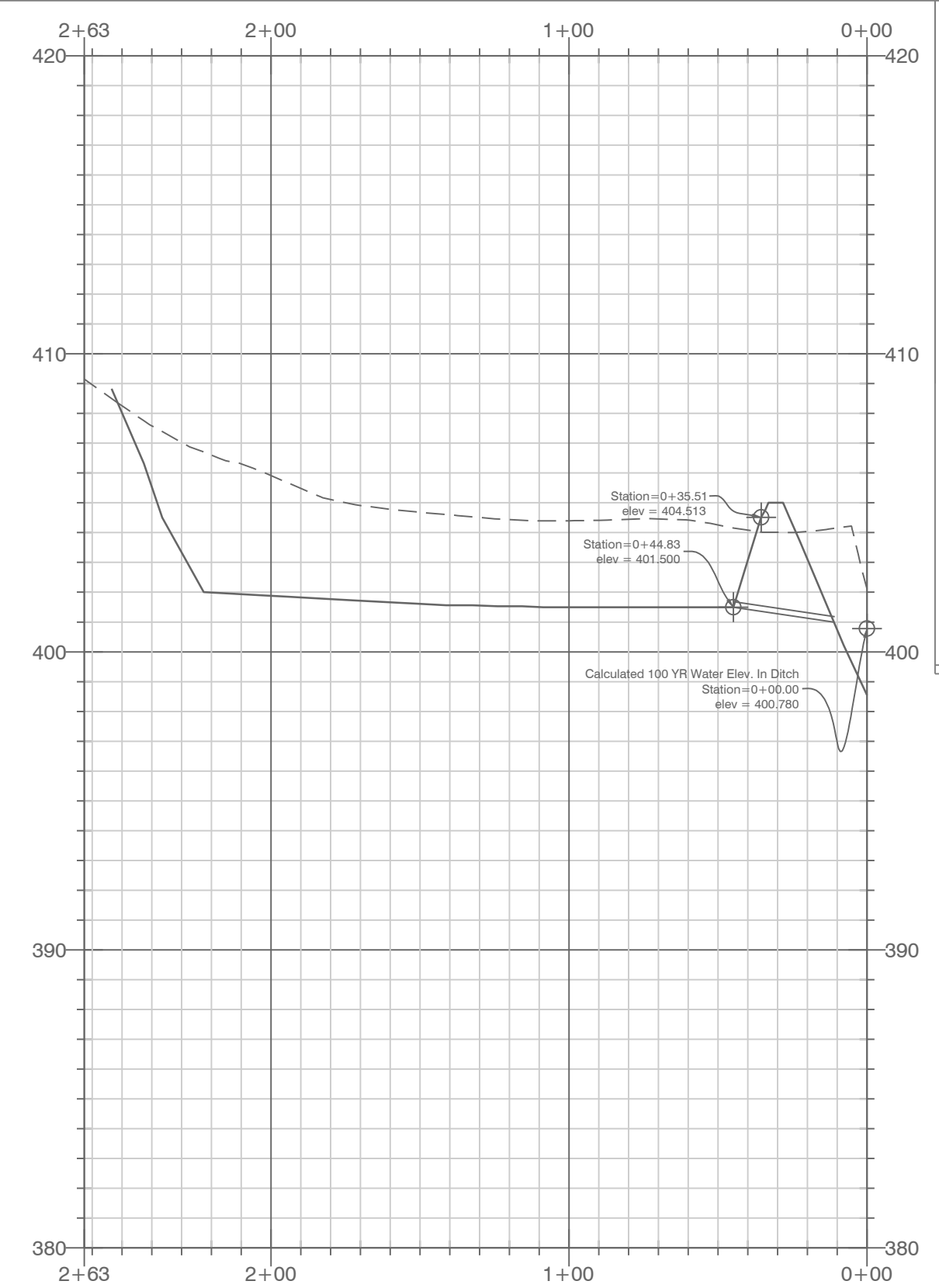
CERTIFICATIONS:							
<b>OWNER:</b> Name: SKY BLUE, LLC Address: 3621 INDEPENDENCE DRIVE BRYANT, AR 72022	<b>DEVELOPER:</b> Name: SKY BLUE, LLC Address: 3621 INDEPENDENCE DRIVE BRYANT, AR 72022						
<b>CERTIFICATE OF OWNER:</b> We, the undersigned, owners of the real estate shown and described herein 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: D.R. BOOK 2015 PAGE 7766							
<b>CERTIFICATE OF PROPERTY OWNERSHIP:</b> I, _____, hereby certify that the deed records in the office of Circuit Clerk and Ex-Officio recorder of Saline County, Arkansas, reflect that _____ is the record title owner of real property more particularly described herein on plat.							
Dated: _____ Certified Title Insurance Agent or Abstractor							
<b>CERTIFICATE OF PRELIMINARY SURVEYING ACCURACY:</b> I, William Corbett R. Shoffner, hereby certify that this proposed preliminary plat correctly represents a survey compiled by me or under my supervision on _____, 20____, that the boundary lines show 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 of Execution _____	William Corbett R. Shoffner Registered Professional Land Surveyor No. 1664 Arkansas						
<b>CERTIFICATE OF PRELIMINARY ENGINEERING ACCURACY:</b> I, Kazi Islam, hereby certify that this plat correctly represents a plan made by me, and that the engineering requirements of the City of Bryant Subdivision Rules and Regulations have been complied with.							
Date of Execution _____	Kazi Islam Registered Professional Engineer, No. 20876 Arkansas						
<b>CERTIFICATE OF PRELIMINARY PLAT APPROVAL:</b> Pursuant to the City of Bryant 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.							
Date of Execution _____	NAME, CHAIRMAN BRYANT PLANNING COMMISSION						
							
By affixing my seal and signature, I Kazi Islam PE No. 20876, hereby certify that this drawing correctly depicts a survey compiled under my supervision.							
NOTE: This survey was based on legal descriptions and title work furnished by others and does not represent a title search.							
No portion of the property described hereon lies within the 100 year floodplain, according to the Federal Insurance Rate Map, panel #0512503050; Dated: 06/05/2020.							
PROPERTY SPECIFICATIONS:							
OWNER: SKY BLUE, LLC 3621 INDEPENDENCE DRIVE BRYANT, AR 72022	AVERAGE LOT SIZE: 0.19 ACRES (8,437 SQ. FT.) MINIMUM LOT SIZE: 7,200 SQ. FT. NUMBER OF LOTS: 4						
DEVELOPER/ SURVEYOR: SKY BLUE, LLC 3621 INDEPENDENCE DRIVE BRYANT, AR 72022	SOURCE OF WATER: WATER USERS SOURCE OF SEWER: CITY OF BRYANT SOURCE OF ELECTRIC INTERGUY: BUILDING SETBACKS						
ENGINEERS: HOPE CONSULTING INC. 117 S. MARKET STREET BENTON, AR 72015	FRONT 20' OR AS SHOWN REAR 5' OR AS SHOWN SIDE 8' OR AS SHOWN						
NAME OF SUBDIVISION: SKY BLUE DUPLEXES INSTRUMENT # 2015-7766	UTILITY & DRAINAGE EASEMENTS: FRONT 10' OR AS SHOWN REAR 5' OR AS SHOWN SIDE 5' OR AS SHOWN						
ZONING: R-X							
							
<p>129 N. Main Street, Benton, Arkansas 72015 PH. (501)315-2626 FAX (501) 315-0024 www.hopeconsulting.com</p>							
FOR USE AND BENEFIT OF: <b>SKY BLUE, LLC</b>							
<b>PRELIMINARY PLAT SKY BLUE DUPLEXES</b> A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS							
DATE: 09/16/2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:					
REVISED:	CHECKED BY:	19-0066					
SHEET: C-1.0	SCALE: 1"=20'						
500	01S	14W	0	20	230	62	1807



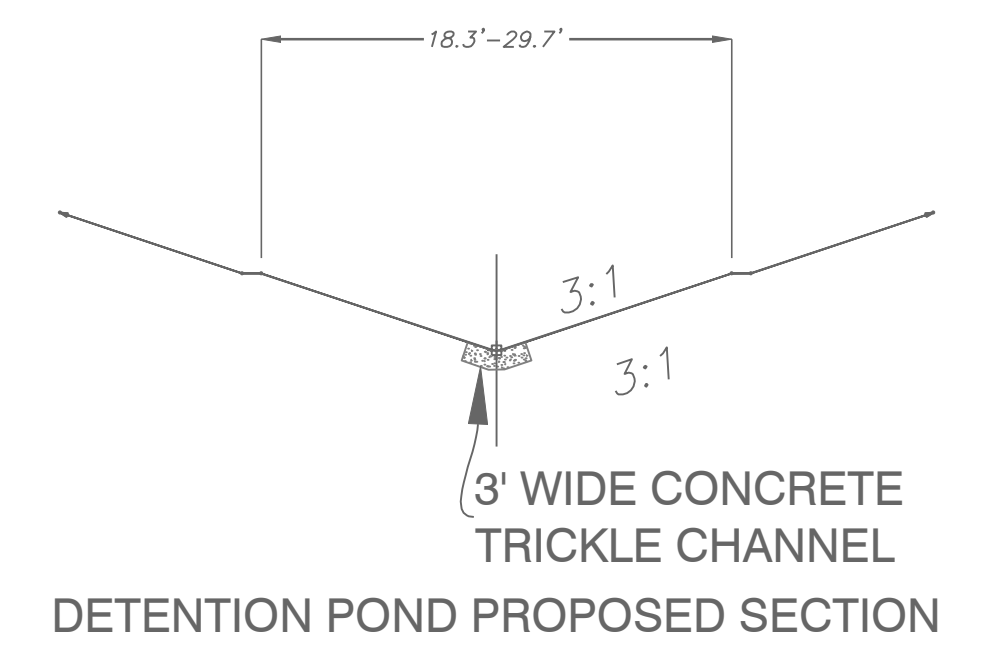
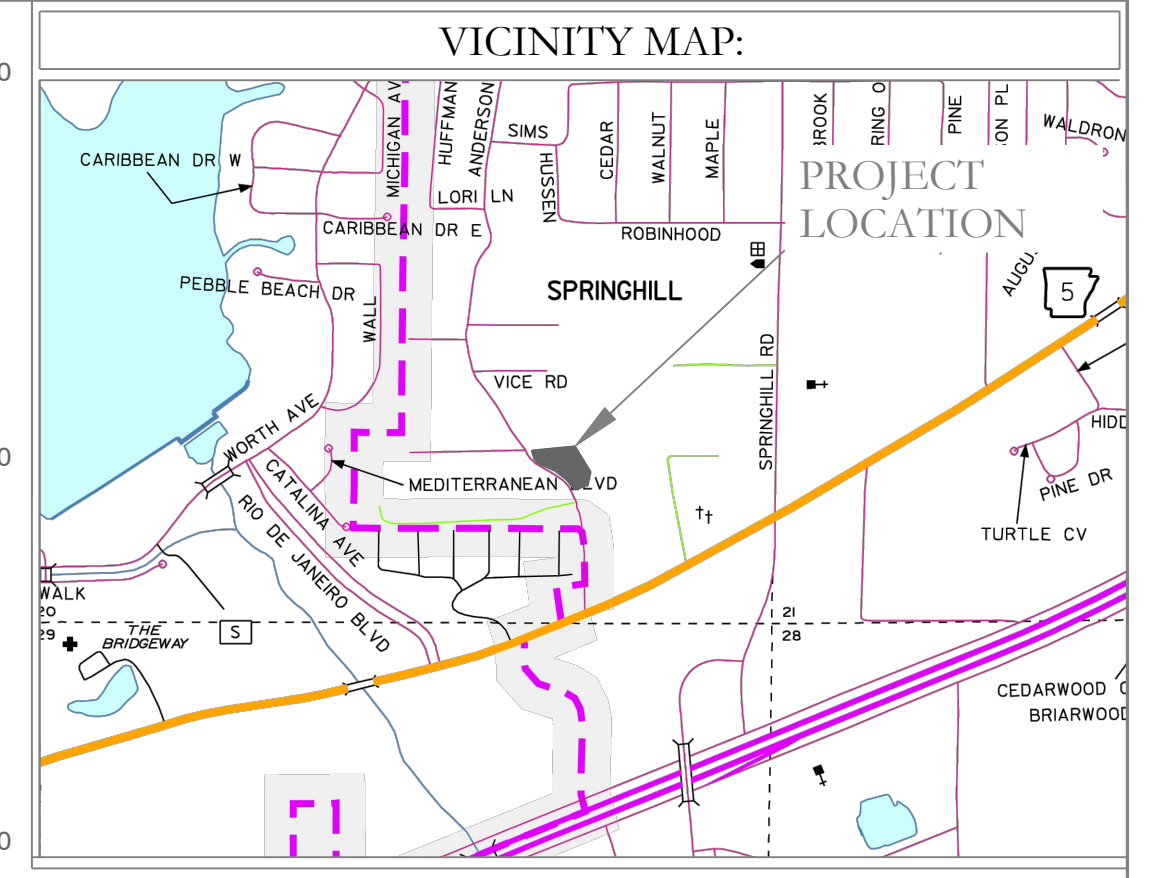
SPILLWAY END VIEW



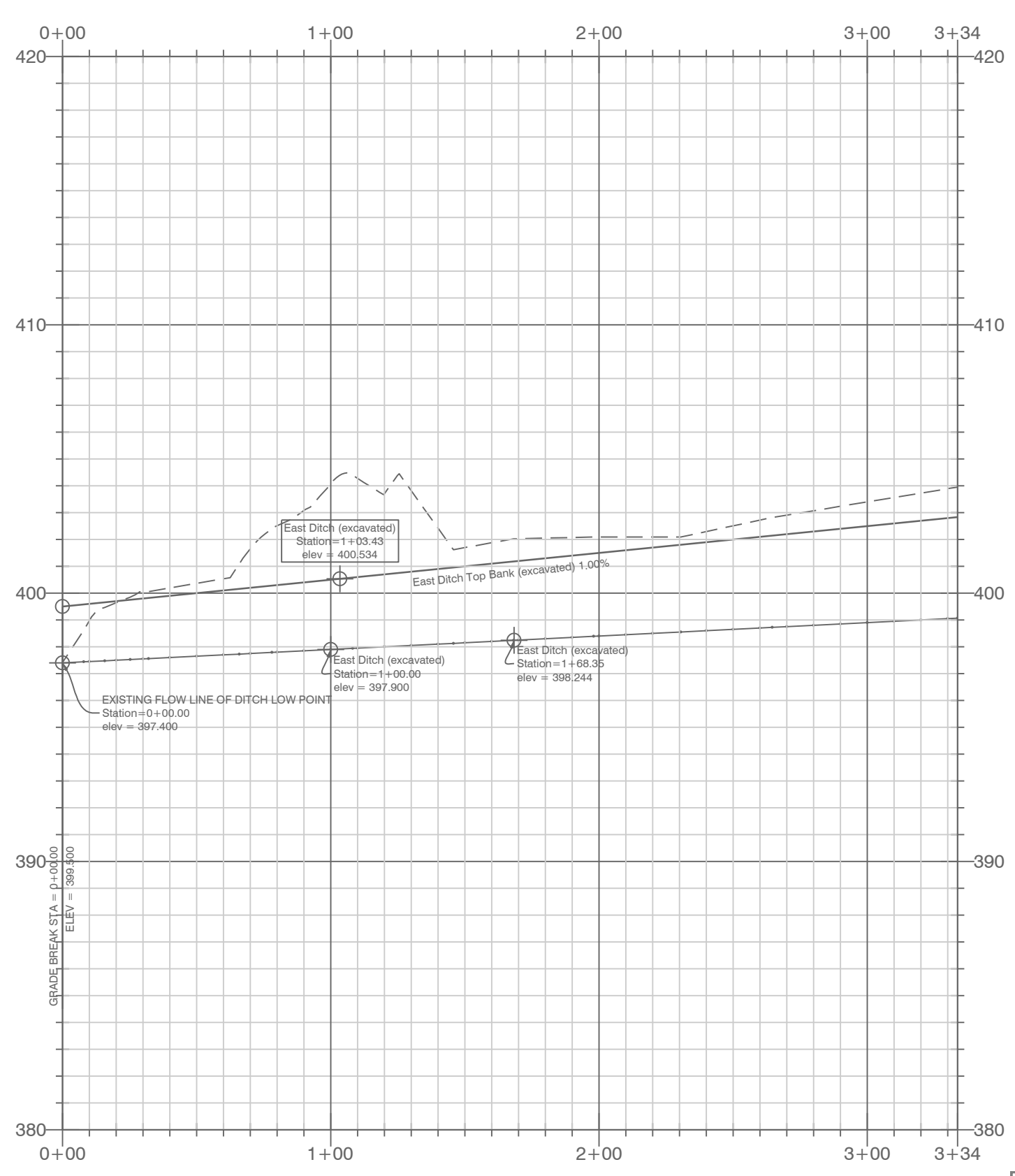
OUTLET SECTION NTS



PROFILE Pond Centerline  
HORIZONTAL SCALE 1" = 50'  
VERTICAL SCALE 1" = 5'



3' WIDE CONCRETE TRICKLE CHANNEL  
DETENTION POND PROPOSED SECTION

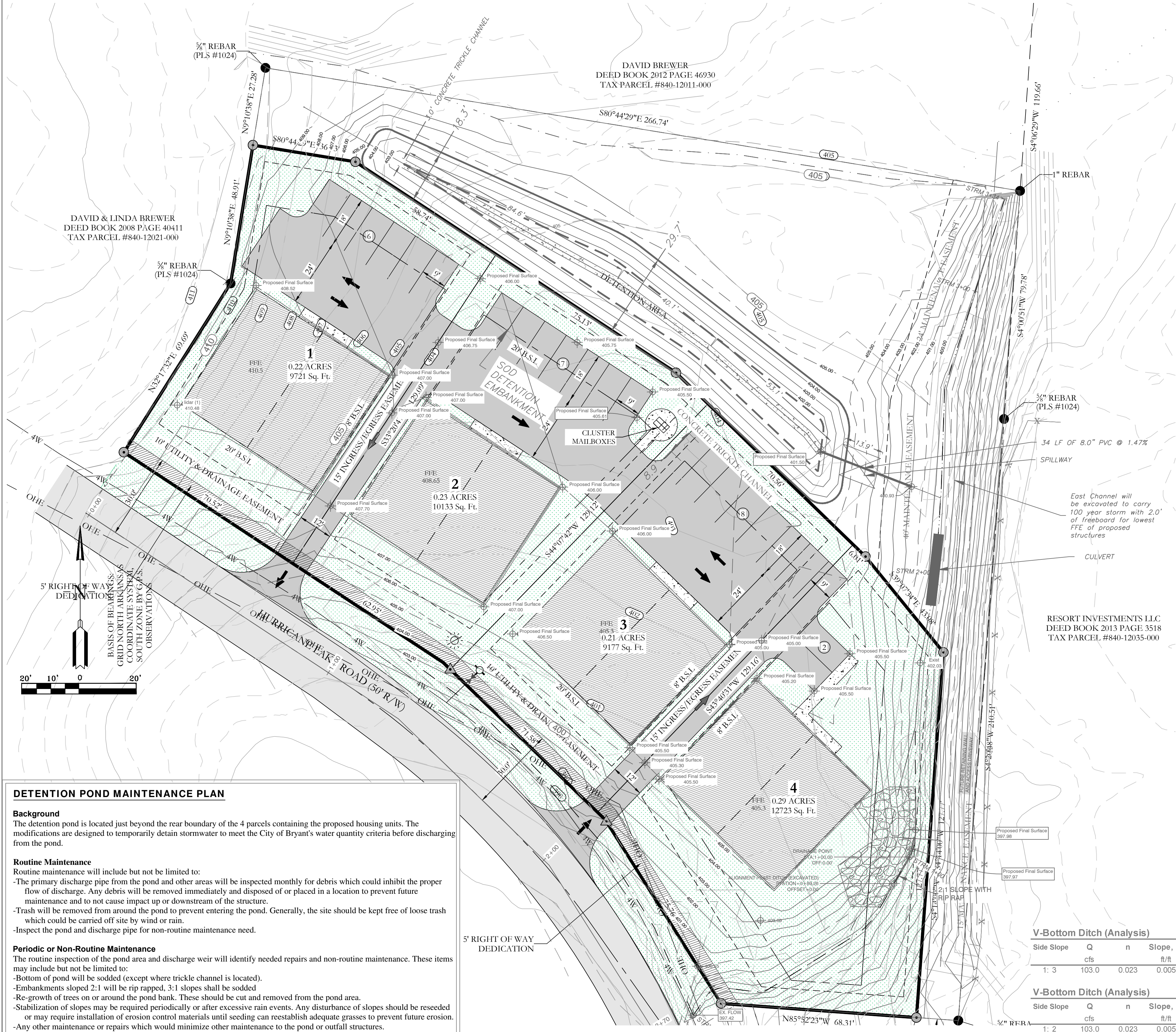


PROFILE East Ditch (excavated)  
HORIZONTAL SCALE 1" = 50'  
VERTICAL SCALE 1" = 5'

EAST DITCH PROPOSED TYP SECTION FOR EXCAVATION

CONTOUR INTERVAL:  
EXISTING: 1' AND 5'  
PROPOSED: 1' AND 5'

- NOTE:
- ALL ROOF DRAINS WILL BE ROUTED TO DETENTION BY SURFACE GRADING.
  - DETENTION EMBANKMENT AS WELL AS SLOPED EMBANKMENTS ADJACENT TO THE BUILDINGS SHALL BE A MAXIMUM SLOPE OF 3:1 AND BE SODDED FOR ADEQUATE VEGETATION.
  - IN AREAS WHERE STEEP EMBANKMENT SLOPES ARE REQUIRED, A MAXIMUM SLOPE OF 2:1 MAY BE USED IN CONJUNCTION WITH RIP RAP EMBANKMENTS.



**DETENTION POND MAINTENANCE PLAN**

**Background**  
The detention pond is located just beyond the rear boundary of the 4 parcels containing the proposed housing units. The modifications are designed to temporarily detain stormwater to meet the City of Bryant's water quantity criteria before discharging from the pond.

**Routine Maintenance**  
Routine maintenance will include but not be limited to:  
-The primary discharge pipe from the pond and other areas will be inspected monthly for debris which could inhibit the proper flow of discharge. Any debris will be removed immediately and disposed of or placed in a location to prevent future maintenance and to not cause impact up or downstream of the structure.  
-Trash will be removed from around the pond to prevent entering the pond. Generally, the site should be kept free of loose trash which could be carried off site by wind or rain.  
-Inspect the pond and discharge pipe for non-routine maintenance need.

**Periodic or Non-Routine Maintenance**  
The routine inspection of the pond area and discharge weir will identify needed repairs and non-routine maintenance. These items may include but not be limited to:  
-Bottom of pond will be sodded (except where trickle channel is located).  
-Embankments sloped 2:1 will be rip rapped, 3:1 slopes shall be sodded  
-Re-growth of trees on or around the pond bank. These should be cut and removed from the pond area.  
-Stabilization of slopes may be required periodically or after excessive rain events. Any disturbance of slopes should be reseeded or may require installation of erosion control materials until seeding can reestablish adequate grasses to prevent future erosion.  
-Any other maintenance or repairs which would minimize other maintenance to the pond or outfall structures.

For questions or concerns about the pond, contact \_\_\_ at 501-315-2626.

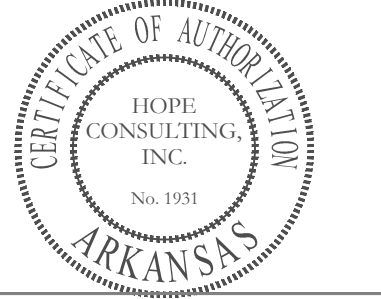
**V-Bottom Ditch (Analysis)**

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width	Elev. + 2.0'	Y + depth	Dist to outlet	EI. @ Outlet	Low Point
	cfs		ft/ft	ft	in	ft <sup>2</sup>	ft/sec	ft	freeboard	x	y=mx+b	b	
1: 3	103.0	0.023	0.005	2.53	30.4	19.26	5.35	15.20	403.31	400.78	168.4	398.242	397.4

**V-Bottom Ditch (Analysis)**

Side Slope	Q	n	Slope, m	Depth	Depth	Area	Velocity	Width	EI. + 2.0	Y + depth	Re-grade	Dist	EI. @ x	Low Point
	cfs		ft/ft	ft	in	ft <sup>2</sup>	ft/sec	ft	freeboard	x	y=mx+b	b		
1: 2	103.0	0.023	0.005	2.95	35.4	17.40	5.92	11.80	403.80	400.85	100	397.9	397.4	

DEPTH CALCULATION BASED ON DITCH SECTION, NEEDED CAPACITY, & RE-GRADING OF EXISTING EAST DITCH (3:1 AND 2:1 V-SECTION)



**HOPE CONSULTING**  
ENGINEERS - SURVEYORS

129 N. Main Street,  
Benton, Arkansas 72015  
PH. (501)315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**SKY BLUE, LLC.**

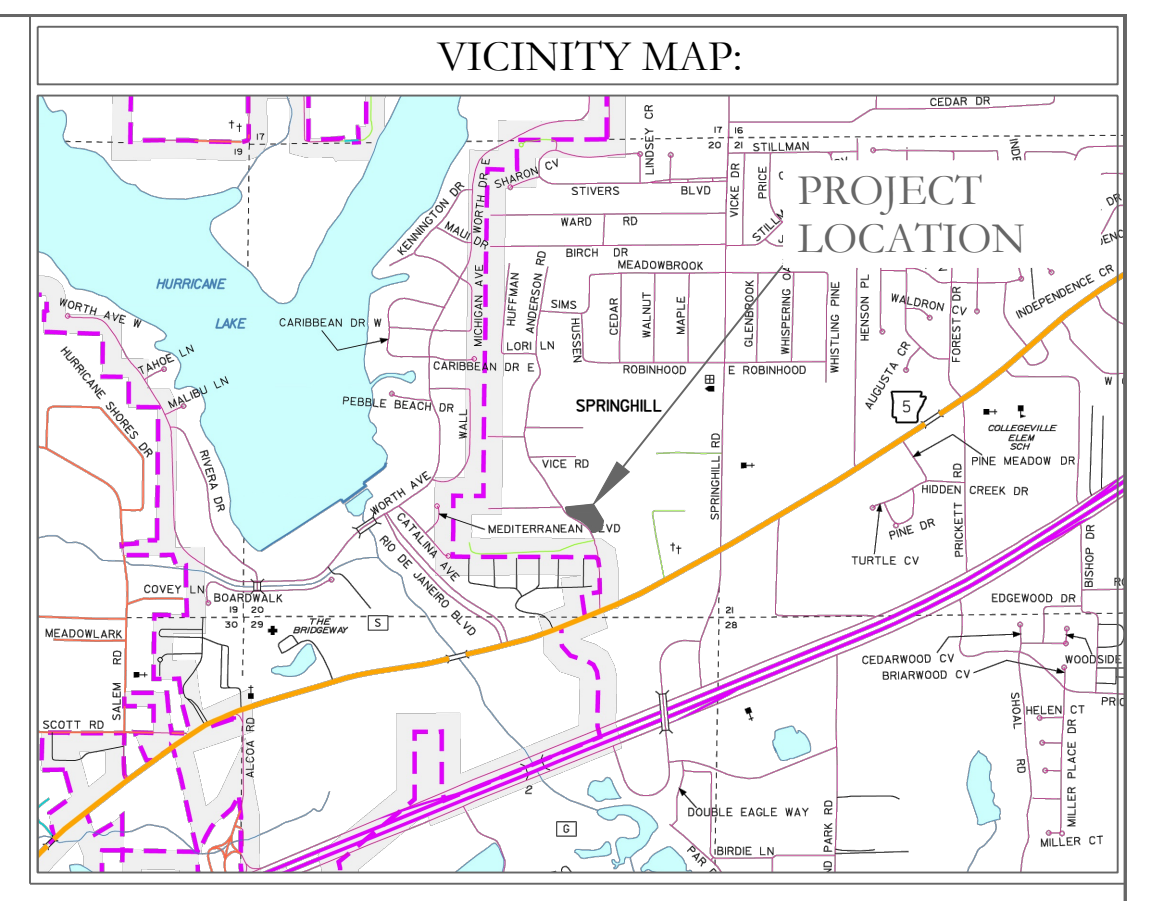
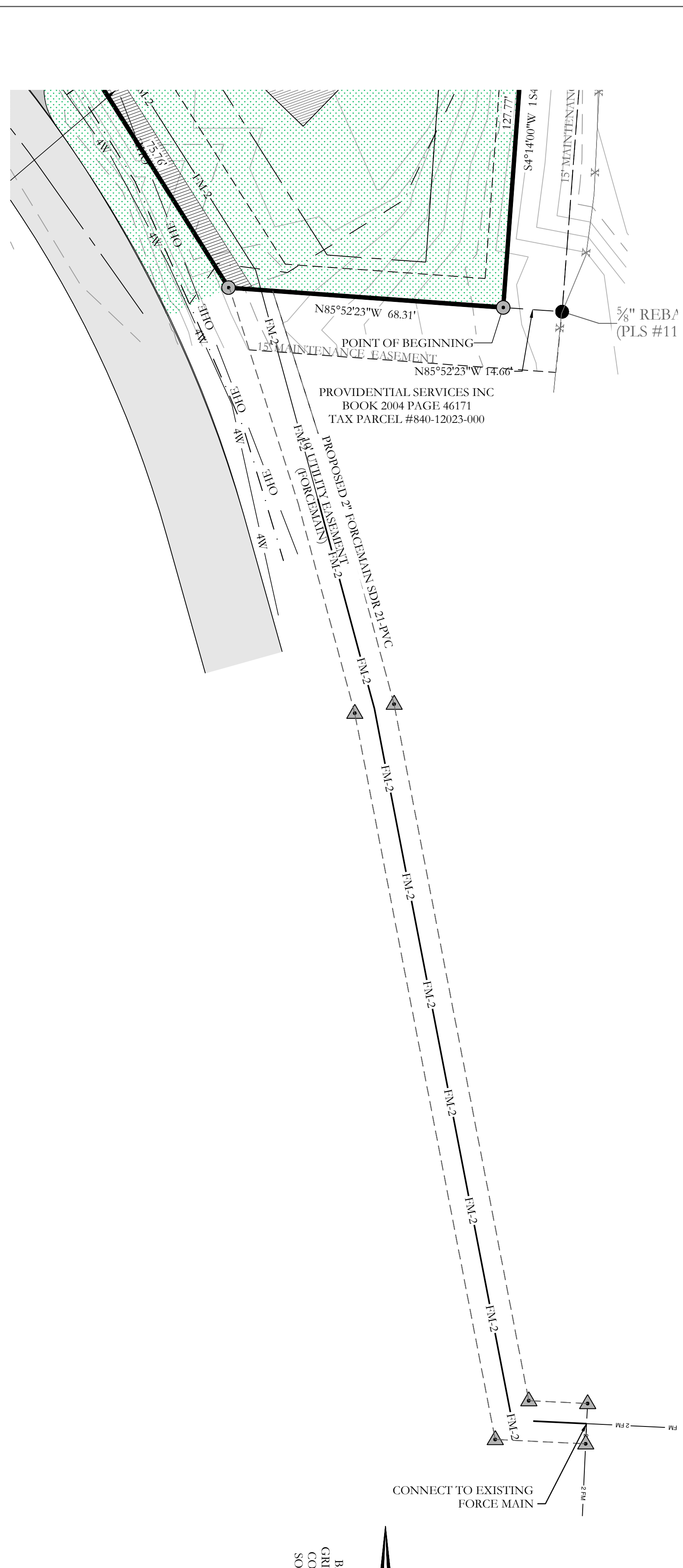
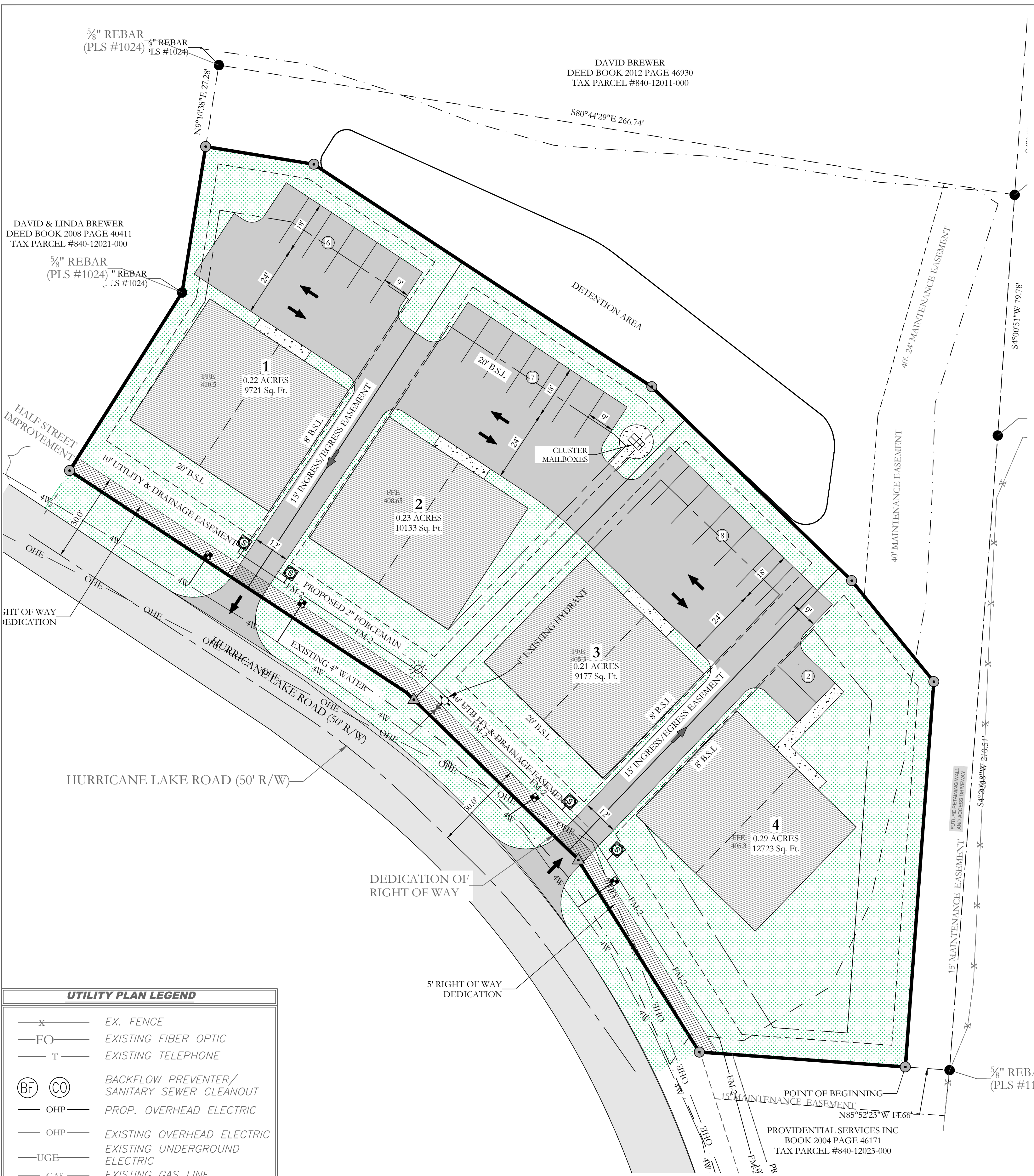
**GRADING AND DETENTION PLAN**  
SKY BLUE DUPLEXES  
CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE: 9/25/2024	C.A.D. BY:	DRAWING NUMBER:
REVISED: 09/25/2024	CHECKED BY:	19-0066
SHEET: C-2.0	SCALE:	

500 01S 14W 0 19 440 62 1802

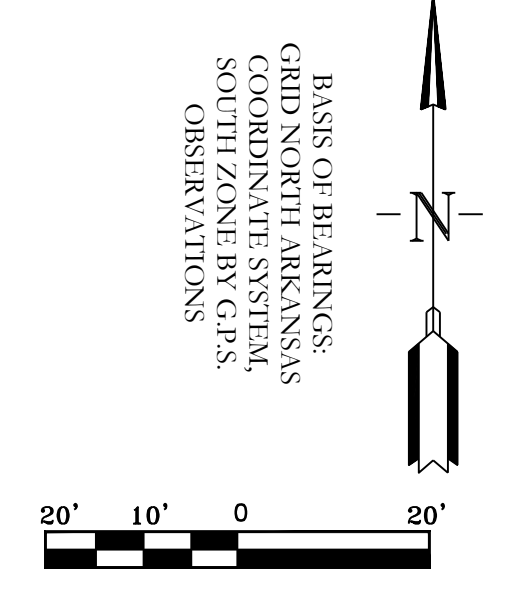
Z:\LAND PROJECTS\2004\SUBDIVISIONS\2019\19-0066\RESIDENT DUPLEXES\19-0066 - SKY BLUE DUPLEXES.RVT, BASE DRAWING, 09-26-2024.DWG





UTILITY PLAN LEGEND	
—x—	EX. FENCE
—FO—	EXISTING FIBER OPTIC
—T—	EXISTING TELEPHONE
(BF) (CO)	BACKFLOW PREVENTER/ SANITARY SEWER CLEANOUT
—OHP—	PROP. OVERHEAD ELECTRIC
—OHP—	EXISTING OVERHEAD ELECTRIC
—UGE—	EXISTING UNDERGROUND ELECTRIC
—GAS—	EXISTING GAS LINE
—GAS—	PROPOSED GAS LINE
—8W—	EXISTING WATERLINE
—6W—	PROPOSED 6\"/>
(S)	SANITARY SEWER MANHOLE
(FH)	FIRE HYDRANT
(V)	WATER VALVE
(M)	WATER METER

PROPERTY UTILITY SPECIFICATION	
WATER:	CITY OF BRYANT
SEWER:	CITY OF BRYANT
ELECTRIC:	ENERGY
GAS:	CENTERPOINTE
TELEPHONE:	AT&T



**NOTE:**

- ALL WATER AND SEWER INFRASTRUCTURE MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BRYANT'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATERLINES AND SEWER LINES, 2015 EDITION"
- INSTALL SEWER ID TAPE PER CITY OF BRYANT'S "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATERLINES AND SEWER LINES, 2015 EDITION"



**HOPE CONSULTING** ENGINEERS - SURVEYORS  
 129 N. Main Street, Benton, Arkansas 72015  
 PH. (501)315-2626 FAX (501) 315-0024  
 www.hopeconsulting.com

FOR USE AND BENEFIT OF:  
**SKY BLUE, LLC.**

UTILITY PLAN  
 SKY BLUE DUPLEXES  
 CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE: 06/26/2024	C.A.D. BY:	DRAWING NUMBER:
REVISED: 09/25/2024	CHECKED BY:	<b>19-0066</b>
SHEET: C-3.0	SCALE:	
500 01S 14W 0 27 430 62 1807		

Z:\LAND PROJECTS\2004\SUBDIVISIONS\2019\19-0066\BRYANT DUPLEXES\19-0066 - SKY BLUE DUPLEXES (19-0066) - BASE DRAWING\_09\_26\_2024.DWG

# HOPE

## CONSULTING

---

### ENGINEERS - SURVEYORS

September 12, 2024

Colton Leonard  
City of Bryant  
210 Southwest Third St.,  
Bryant, AR 72022


RE: Request for Modification from Code and Request for CUP (Parcel #:840-12022-000)

Dear Mr. Leonard,

We are proposing duplexes on the 4 lots of this proposed subdivision. I am also requesting a modification from the Walk Bike Drive Code for no curb improvements on this proposed development. We are also asking for a waiver on sidewalks and half-street improvements.

It is our goal to be included on the October 14, 2024 Planning Commission agenda.

Please feel free to contact me with any questions or concerns or if I can be of any further assistance.  
Sincerely,



Jonathan Hope  
Hope Consulting, Inc.

129 N. Main St. Benton, Arkansas 72015  
501-315-2626  
[www.hopeconsulting.com](http://www.hopeconsulting.com)

September 25, 2024

Tim Fournier  
Director of Public Works  
210 SW 3rd St  
Bryant, AR 72022

Re: Midtown Phase 3 Detailed Cost Estimate for Water/Sewer, Streets, and Storm water Bonds

Dear Tim,

Hope Consulting has reviewed the project with the owner and the cost associated costs with the Utility Construction, Street Construction, and Storm water Construction.

1. **Streets (1 Year Bond: 25% of the Total Cost)**
  - Total Street Costs on this project was \$398,994.4
  - Bond Cost \$99,748.60
  
2. **Sewer (2 Year Bond: 50% of the Total Cost)**
  - Total Utility Costs on this project was \$27,620
  - Bond Cost \$\$13,810.00
  
3. **Storm water (1 Year Bond: 100% of the Total Cost)**
  - Total Storm water Costs on this project was \$170,997.60
  - Bond Cost \$\$170,997.60

Please do not hesitate to contact us if you have any questions or require additional information.

Sincerely,

Jonathan Hope

- NOTES:**
1. ACCORDING TO TABLE 5 PUBLIC LIGHTING (PAGE 46) POST OR COLUMN LIGHT TYPES ARE ALLOWED.
  2. LOT 11, 12, 13 & 14 WILL HAVE FRONT ACCESS FROM COURT STREET
  3. ALL PRIVATE ALLEYS WILL BE UTILIZED AS UTILITY & DRAINAGE EASEMENTS.
  4. PRIVATE ALLEYS ARE COMMON AREAS THAT WILL BE MAINTAINED BY THE OWNER'S ASSOCIATION.

TND OVERLAY - TRANS-SEC SETBACKS			
BUILDING DISPOSITION	T3	T4	T5
FRONT SETBACKS	18 FT. MIN.	6 FT. MIN. 18 FT. MAX.	0 FT. MIN. 6 FT. MAX.
SIDE SETBACKS	6 FT. MIN.	0 FT. TOTAL MIN.	0 FT. MIN. 24 FT. MAX.
REAR SETBACKS	6 FT. MIN.	3 FT. MIN.	3 FT. MIN.

SETBACKS MEASURED FROM BACK OF CURB

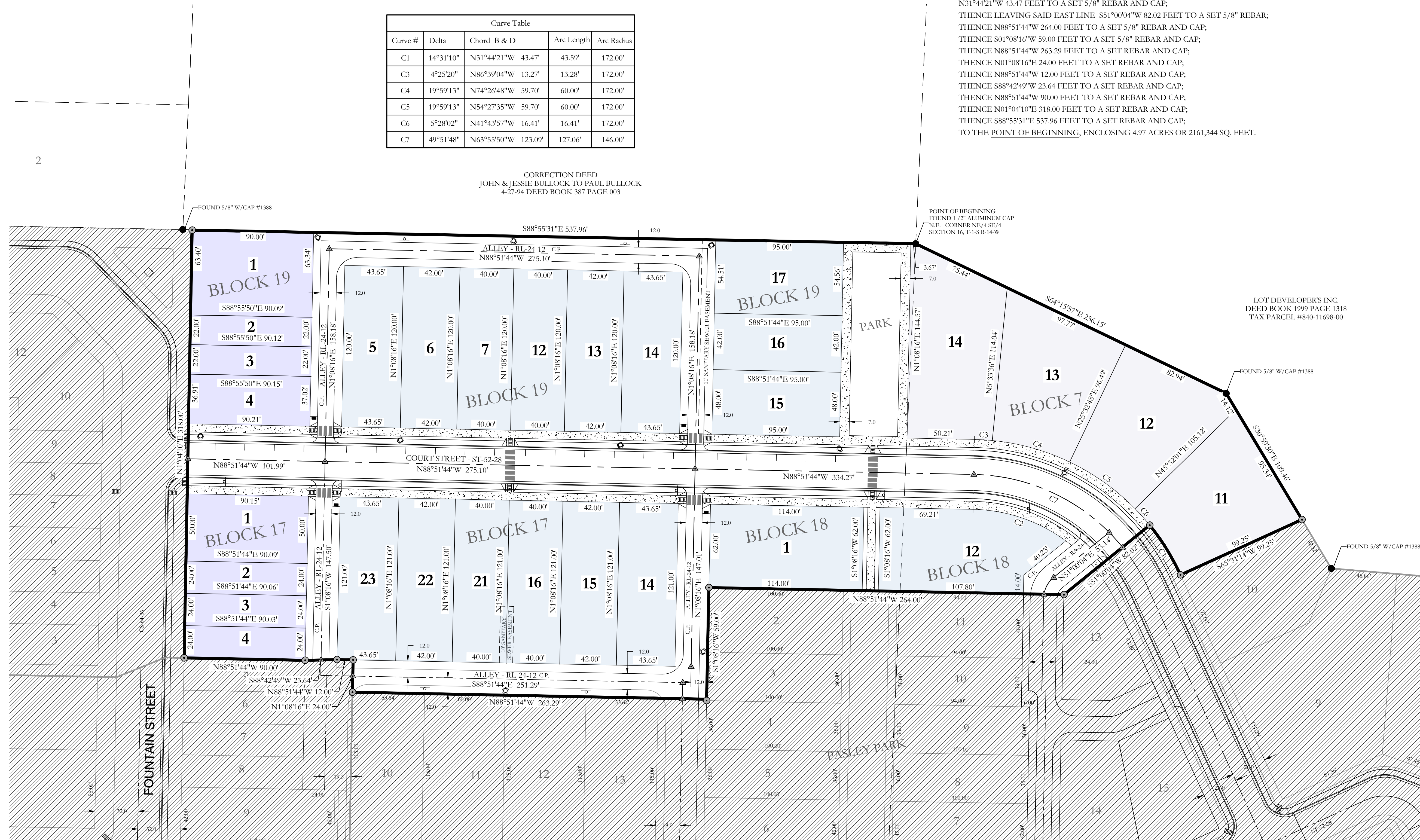
Curve Table				
Curve #	Delta	Chord B & D	Arc Length	Arc Radius
C1	14°31'10"	N31°44'21"W 43.47'	43.59'	172.00'
C3	4°25'20"	N86°39'04"W 13.27'	13.28'	172.00'
C4	19°59'13"	N74°26'48"W 59.70'	60.00'	172.00'
C5	19°59'13"	N54°27'35"W 59.70'	60.00'	172.00'
C6	5°28'02"	N41°43'57"W 16.41'	16.41'	172.00'
C7	49°51'48"	N63°55'50"W 123.09'	127.06'	146.00'

CORRECTION DEED  
JOHN & JESSIE BULLOCK TO PAUL BULLOCK  
4-27-94 DEED BOOK 387 PAGE 003

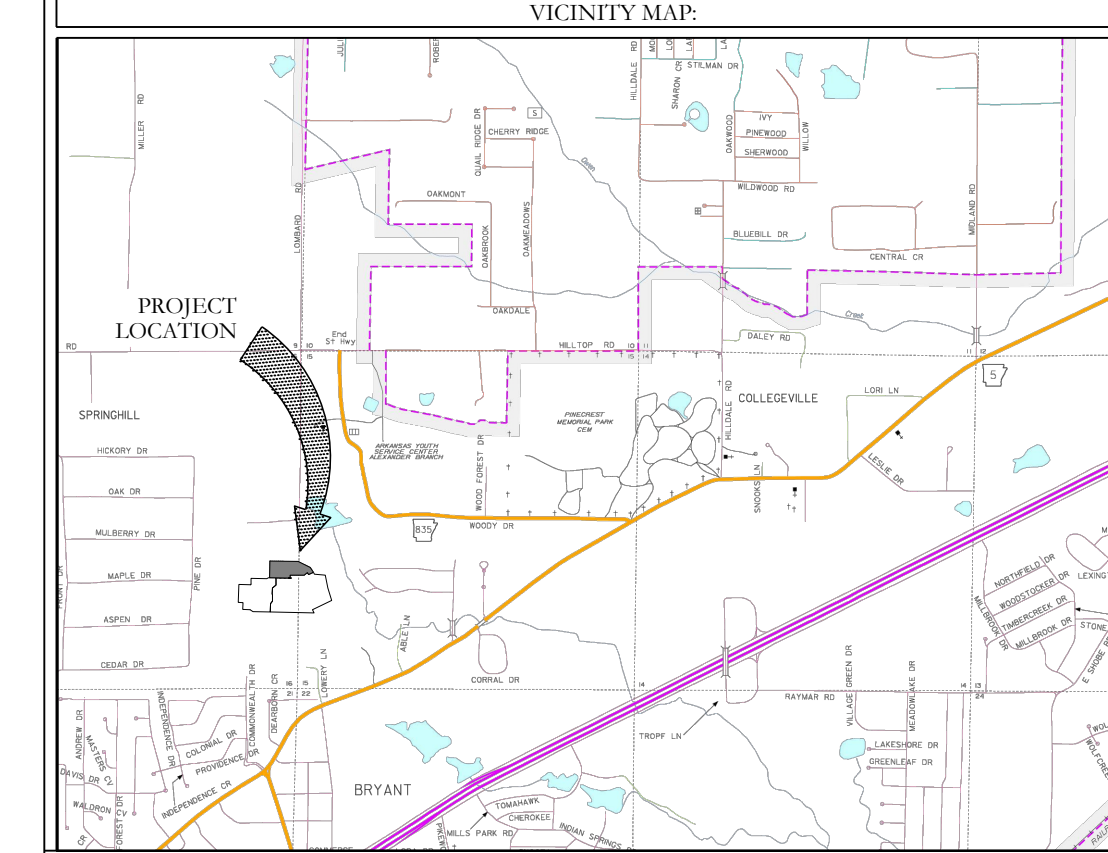
**PROPERTY DESCRIPTION:**

PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER (NW/4 SW/4) OF SECTION 15, AND PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER (NE/4 SE/4), OF SECTION 16, ALL BEING IN TOWNSHIP 1 SOUTH, RANGE 14 WEST, IN SALINE COUNTY, ARKANSAS, AND ALL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

**BEGINNING** AT THE NORTHEAST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE SAID SECTION 16, A FOUND 2 1/2" ALUMINUM CAP;  
THENCE S64°15'57"E 256.15 FEET TO A FOUND 5/8" REBAR AND CAP;  
THENCE S30°59'30"E 109.46 FEET TO A SET 5/8" REBAR AND CAP ON THE NORTH LINE OF MDTOWN BRYANT SUBDIVISION, PHASE 1;  
THENCE S65°31'14"W 99.25 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF COURT STREET;  
THENCE ALONG A CURVE TO THE LEFT WITH A RADIUS OF 172.00 FEET AND LENGTH OF 43.59 FEET AND A CHORD OF N31°44'21"W 43.47 FEET TO A SET 5/8" REBAR AND CAP;  
THENCE LEAVING SAID EAST LINE S51°00'04"W 82.02 FEET TO A SET 5/8" REBAR;  
THENCE N88°51'44"W 264.00 FEET TO A SET 5/8" REBAR AND CAP;  
THENCE S01°08'16"W 59.00 FEET TO A SET 5/8" REBAR AND CAP;  
THENCE N88°51'44"W 263.29 FEET TO A SET REBAR AND CAP;  
THENCE N01°08'16"E 24.00 FEET TO A SET REBAR AND CAP;  
THENCE N88°51'44"W 12.00 FEET TO A SET REBAR AND CAP;  
THENCE S88°42'49"W 23.64 FEET TO A SET REBAR AND CAP;  
THENCE N88°51'44"W 90.00 FEET TO A SET REBAR AND CAP;  
THENCE N01°04'10"E 318.00 FEET TO A SET REBAR AND CAP;  
THENCE S88°53'31"E 537.96 FEET TO A SET REBAR AND CAP;  
TO THE POINT OF BEGINNING, ENCLOSING 4.97 ACRES OR 2161,344 SQ. FEET.



LOT DEVELOPER'S INC.  
DEED BOOK 1999 PAGE 1318  
TAX PARCEL #840-11698-00



**CERTIFICATIONS:**

<b>OWNER:</b> Name: GRAHAM SMITH CONSTRUCTION Address: 12 PINE MANOR LITTLE ROCK, AR 72207	<b>DEVELOPER:</b> Name: GRAHAM SMITH CONSTRUCTION Address: 12 PINE MANOR LITTLE ROCK, AR 72207
---	---

**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, planned and subdivided, and to hereby lay off, plat and subdivide said real estate in accordance with the plat.  
Date of Execution \_\_\_\_\_ Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Source of Title: \_\_\_\_\_ BOOK \_\_\_\_\_ PAGE \_\_\_\_\_

**CERTIFICATE OF FINAL SURVEYING ACCURACY:**  
I, Jonathan L. Hope, 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 side as required in accord with the City of Bryant Subdivision Regulation Ordinance.  
Date of Execution \_\_\_\_\_ Jonathan L. Hope  
Registered Professional  
Land Surveyor No. 1762 Arkansas

**CERTIFICATE OF FINAL ENGINEERING ACCURACY:**  
I, Kazi Tamzidul Islam, hereby certify that this plat correctly represents a plat made by me, and that the engineering requirements of the City of Bryant Subdivision Rules and Regulations have been complied with.  
Date of Execution \_\_\_\_\_ Kazi Tamzidul Islam  
Registered Professional  
Engineer, No. 20876 Arkansas

**CERTIFICATE OF FINAL PLAT APPROVAL:**  
Pursuant to the City of Bryant 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.  
Date of Execution \_\_\_\_\_ Chairman  
Benton Planning Commission

**PROPERTY SPECIFICATIONS:**

<b>OWNER:</b> GRAHAM SMITH CONSTRUCTION 12 PINE MANOR LITTLE ROCK, AR 72207	<b>NUMBER OF LOTS:</b> 29 <b>SOURCE OF WATER:</b> CITY OF BRYANT <b>SOURCE OF SEWER:</b> CITY OF BRYANT
<b>DEVELOPER:</b> GRAHAM SMITH CONSTRUCTION SUBDIVIDER 12 PINE MANOR LITTLE ROCK, AR 72207	<b>EASEMENTS (UTILITY &amp; DRAINAGE):</b> 1. ALL ALLEYS AND COMMERCIAL PARKING LOTS ARE CONSIDERED UTILITY & DRAINAGE EASEMENTS.
<b>ENGINEERS:</b> HOPE CONSULTING INC. 117 MARKET STREET BENTON, AR 72015	2. ANY UTILITY OR DRAINAGE STRUCTURES OUTSIDE OF EXISTING R/W; ALLEYWAY OR PARKING LOT WILL BE WITHIN A 10' EASEMENT.
<b>NAME OF SUBDIVISION:</b> MDTOWN BRYANT PHASE 3	
<b>ZONING CLASSIFICATION:</b> TND OVERLAY DISTRICT	
<b>SOURCE OF TITLE:</b> BOOK 2020 PAGE 8135	

**HOPE CONSULTING ENGINEERS - SURVEYORS**  
129 N. Main Street, Benton, Arkansas 72015  
PH. (501) 315-2626  
FAX (501) 315-0024  
www.hopeconsulting.com

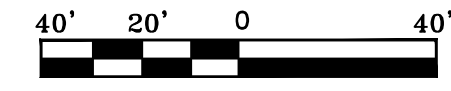
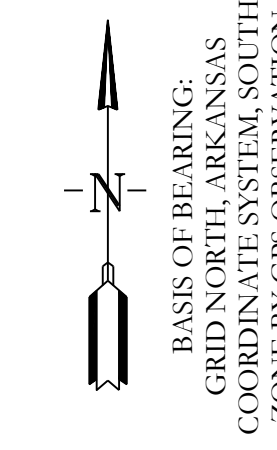
FOR USE AND BENEFIT OF:  
**GRAHAM SMITH CONSTRUCTION**

FINAL PLAT  
**MDTOWN BRYANT, PHASE 3**  
A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

DATE: 09-20-2024	C.A.D. BY: BJOHNSON	DRAWING NUMBER:
REVISED:	CHECKED BY:	07-0032
500	1S	14W
0	15/16	210/340
62	1762	

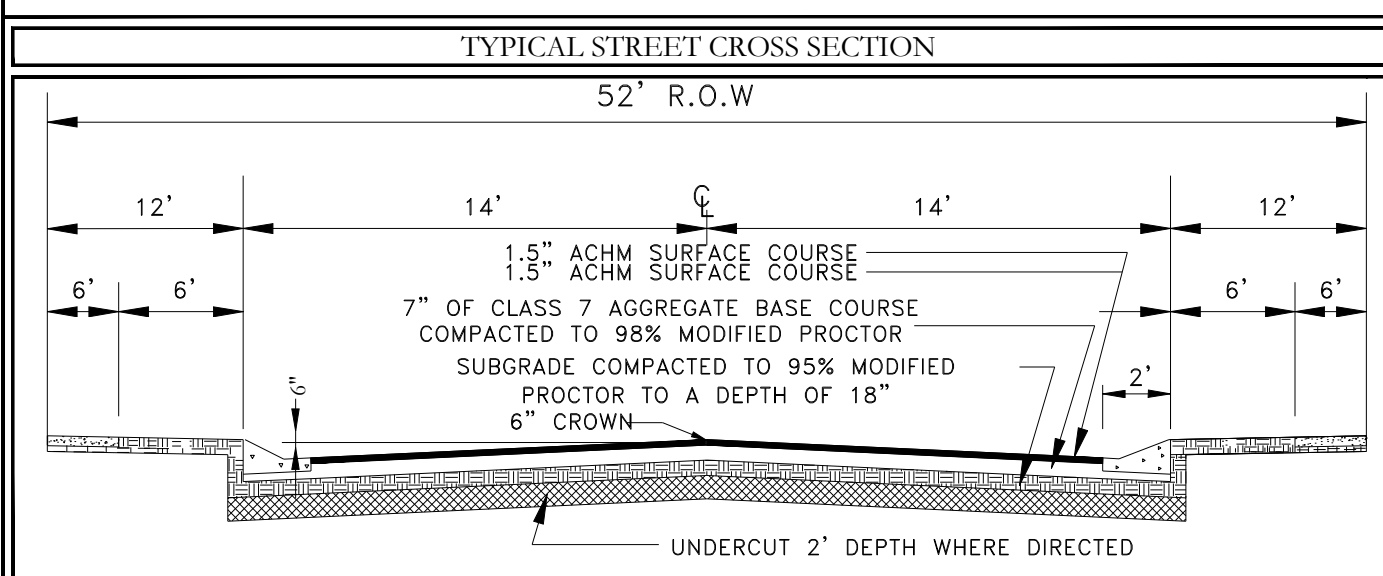
FINAL PLAT OF  
**MDTOWN BRYANT, PHASE 3**

A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS



- LEGEND**
- ▲ - Computed point
  - - Found monument
  - - Set #4 RB/Plas. Cap(SIP)
  - (M) - Measured
  - (R) - Record
  - (P) - Platted
  - ☼ - Street Light
  - ⊕ - Fire Hydrant
  - ⊘ - No Parking Sign
  - - Stop Sign
  - - Common Place

By affixing my seal and signature, I, Jonathan L. Hope, PLS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.  
NOTE: This survey was based on legal descriptions and title work furnished by others and does not represent a title search.  
According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Saline County unincorporated areas, panel # 05125C0225D, dated 06/19/2012, NO portion of the property described herein does lie within the 100 year flood hazard boundary.



September 25, 2024

Colton Leonard  
Colton Leonard  
City of Bryant  
210 Southwest Third St.,  
Bryant, AR 72022

RE: Midtown Phase 3 Final Plat Hope Job #22-0497

Dear Mr. Leonard:

Please find the attached Final Plat of Midtown Phase 3 for review. We are currently working through the construction numbers with the contractor finalizing the bond amounts for the roads and utilities. We should have those letters prepared for Ted Taylor to review soon.

Please feel free to contact me with any questions or concerns or if I can be of any further assistance.

Respectfully Submitted,

**HOPE CONSULTING**

  
**Jonathan Hope, PS**  
President

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

SIGN	Type (Façade, Pole, Monument, other)	Dimensions (Height, Length, Width)	Sqft (Measurement standards found on Pg.7 of Sign Code)	Façade Width (Linear Ft of building façade where wall sign is being installed)	Height	
					To Top	To Bottom
A	Wall	42" x 151"	44	50'	15'	11.5'
B						
C						
D						
E						
F						

Existing sign ON BUILDING is 4' x 14'

**Job Info**

Date	8/20/24
Job #	
Salesperson	Ronny Skipper
Designer	Scott Telfer
email	scott@seizsigns.com

**Client/file name**

Rookh  
Rookh\_fusion food sign\_PROOF3

**Specifications**

Quantity	1 ea	SFX	DF
Substrate			
Material			
Color(s)			
Laminate			
Equipment			

**Notes**

**Client Approval**

1. The client is responsible for content accuracy. Please review the text, dimensions, and layout carefully.
2. Colors are representative only. There are variations in color between computer monitors, desktop printers, and sign prints.
3. All designs presented and represented in this drawing (except registered trademarks) are the sole property of Seiz Sign Company, and may not be reproduced in part or whole without written permission from Seiz Sign Company. The rights thereof are protected by law.



Digitally printed banner with grommets



Signature Required  
For Approval \_\_\_\_\_

DATE \_\_\_\_\_

By signing you agree that all artwork is correct and give Seiz Sign Company permission to begin production.



SEVEN BREW

2006 N REYNOLDS DR  
BRYANT, AR 72022

SIGN PACKAGE  
ao55275  
#21399



springfieldsign.com



Linked In



Facebook

PRESENTED BY  
**SHAUNCRAWFORD**

o: 417.862.2454  
c: 417.705.2122  
e: [ShaunC@springfieldsign.com](mailto:ShaunC@springfieldsign.com)

a: 4825 E. Kearney St.  
Springfield, MO 65803





N. REYNOLDS RD.

17.0'

(E) REUSE EXISTING POLE AND REPLACE CABINET

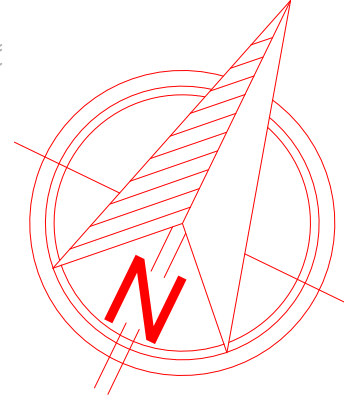
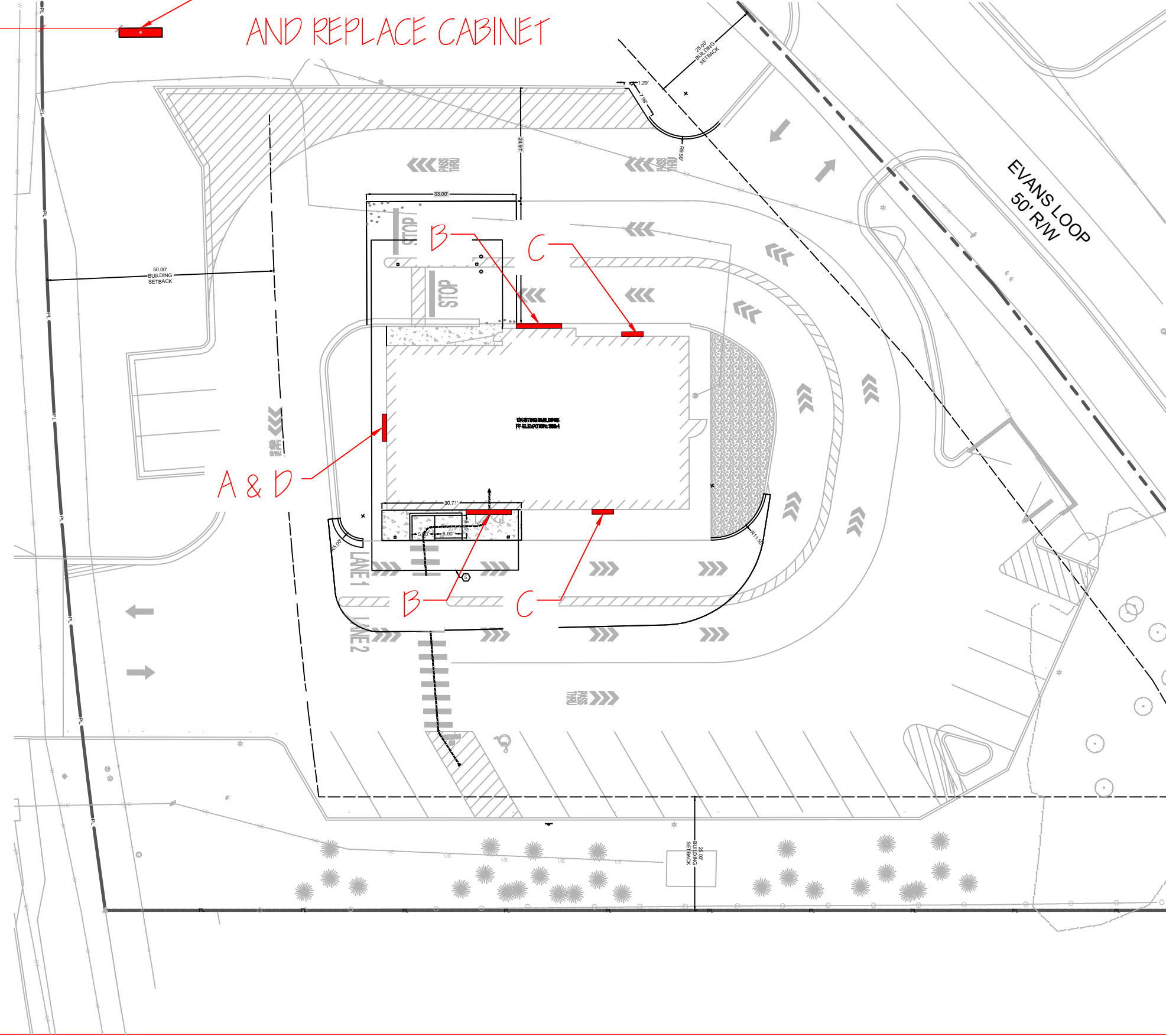
A & D

B

C

B

C



SCALE 1" = 25'

LOCATION: **BRYANT, AR.**

**SPRINGFIELD SIGN**  
 4825 E. Kearney St.  
 Springfield, MO 65803  
 (417) 862-2454

7 BREW  
**NEW-SIGNAGE**  
 2006 N. REYNOLDS DRIVE  
 BRYANT, AR. 72022  
**SIGN PLACEMENT PLAN**

Project Number: 55275  
 Drawn By: CLH  
 Reviewed By: MW  
 Date: 8-16-24

Sheet Number:  
**1 OF 1**



# ELEVATION

SALES: Shaun Crawford | 800.845.9927

CLIENT: 7Brew # 21399

DRAWING #: ao55275-2

PAGE

ARTIST: Joshua Kroeger | CREATED: 4/29/24

LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

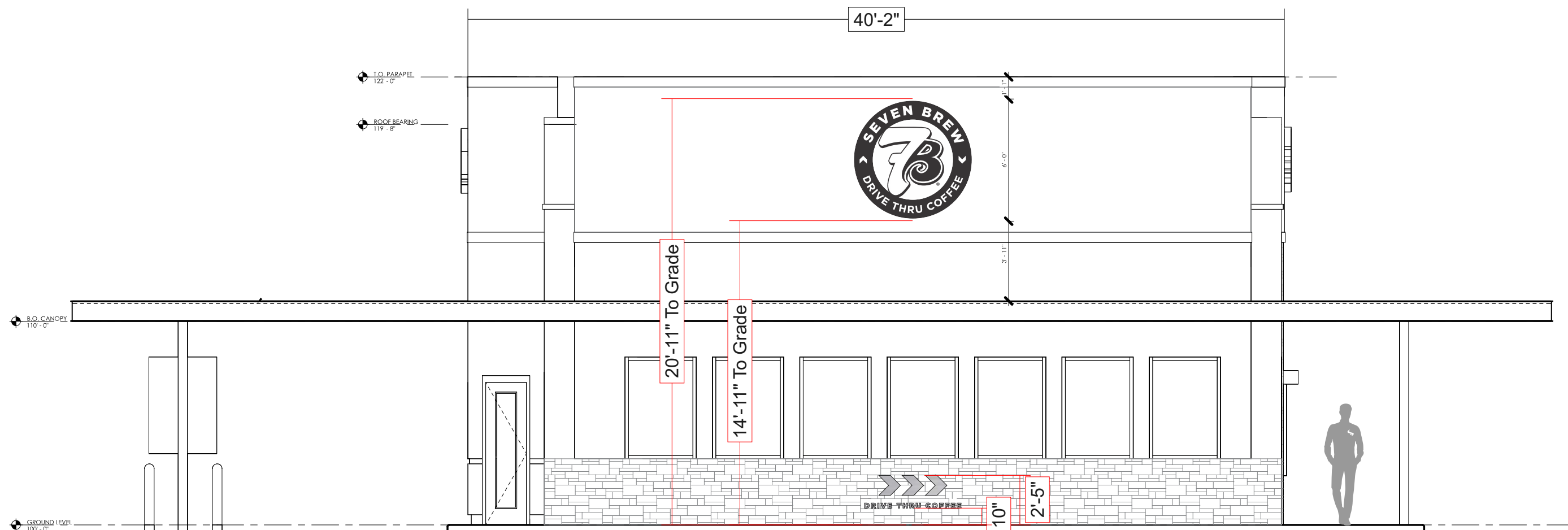
REV DATE: 08/12/24 | REV\_01 DM

03

## EXTERIOR

SCALE: 3/16"=1'

Elevation Sq. Ft. 883.7





# ELEVATION

SALES: Shaun Crawford

800.845.9927

CLIENT: 7Brew

# 21399

DRAWING #: ao55275-3

PAGE

04

ARTIST: Joshua Kroeger

CREATED: 4/29/24

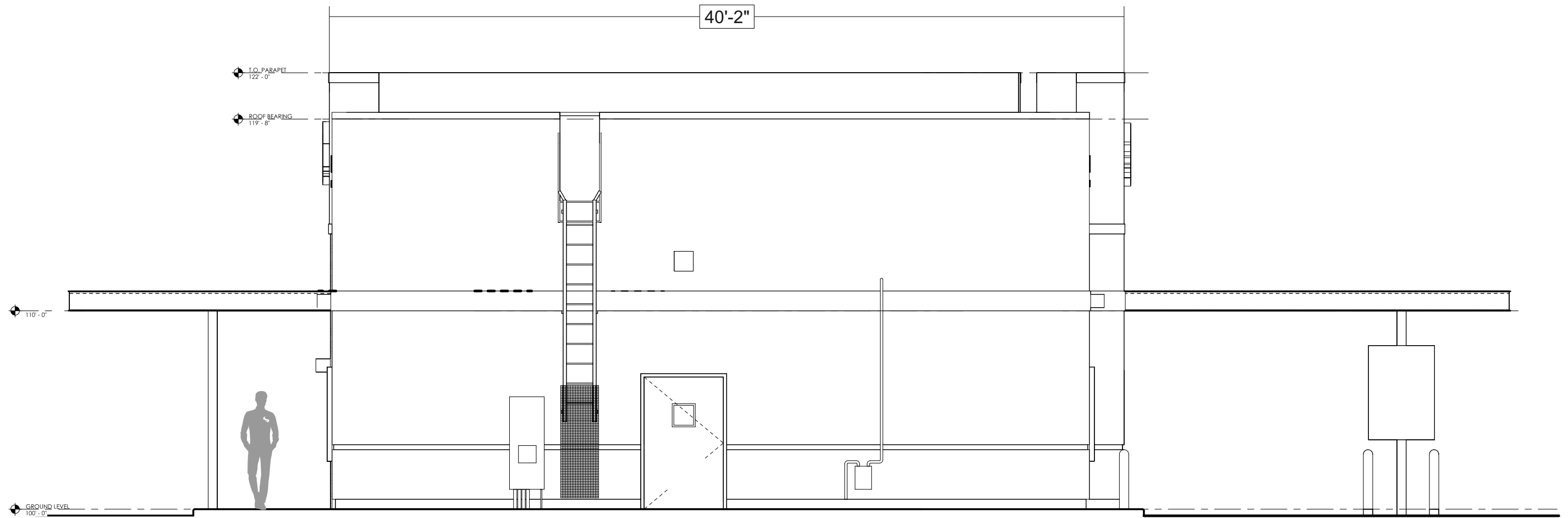
LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: 08/12/24 | REV\_01 DM

## EXTERIOR

SCALE: 3/16"=1'

Elevation Sq. Ft. 883.7





# ELEVATION

SALES: Shaun Crawford | 800.845.9927

CLIENT: 7Brew # 21399

DRAWING #: ao55275-3

PAGE

ARTIST: Joshua Kroeger | CREATED: 4/29/24

LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

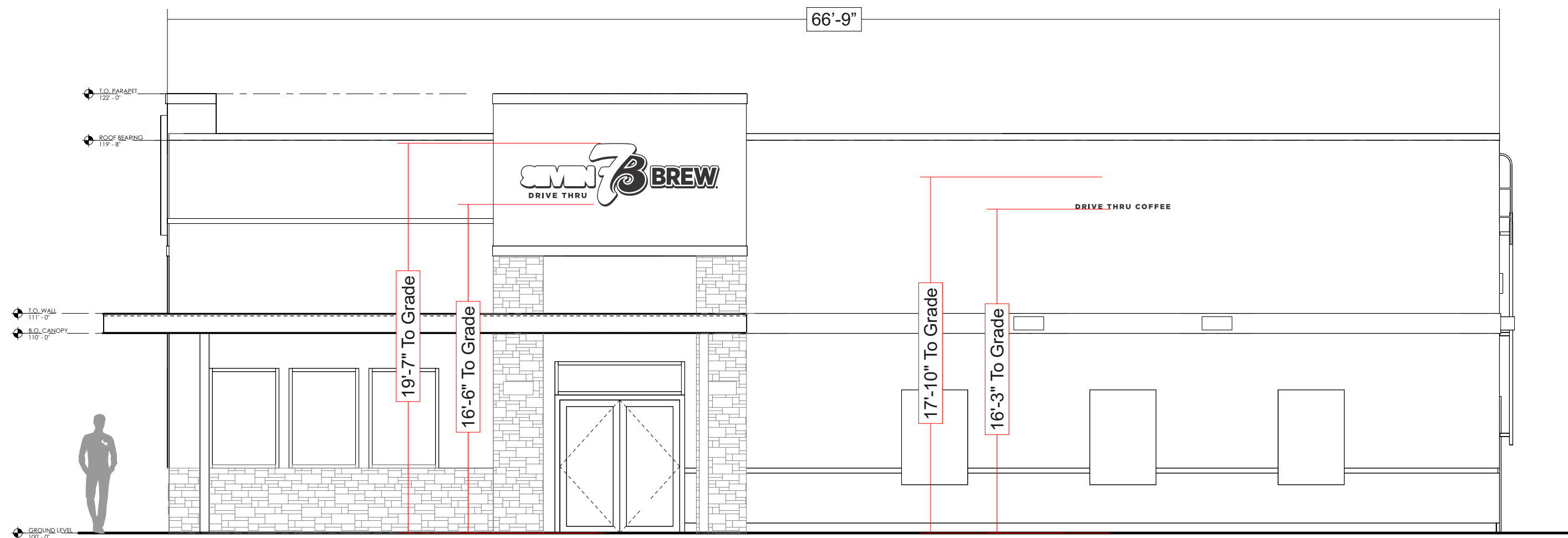
REV DATE: 08/12/24 | REV\_01 DM

04

## EXTERIOR

SCALE: 3/16"=1'

Elevation Sq. Ft. 1468.5





# ELEVATION

SALES: Shaun Crawford

800.845.9927

CLIENT: 7Brew

# 21399

DRAWING #: ao55275-3

PAGE

ARTIST: Joshua Kroeger

CREATED: 4/29/24

LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

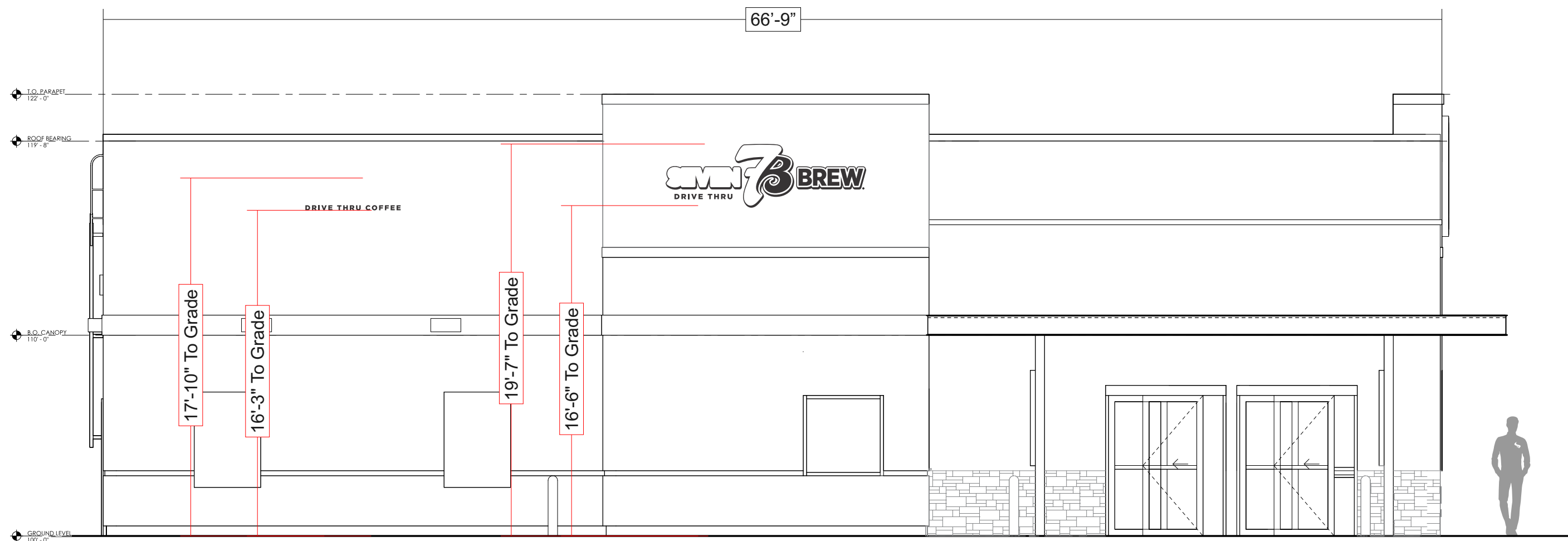
REV DATE: 08/12/24 | REV\_01 DM

04

## EXTERIOR

SCALE: 3/16"=1'

Elevation Sq. Ft. 1468.5





# CABINET

SALES: Shaun Crawford

800.845.9927

CLIENT: 7Brew

# 21399

DRAWING #: ao55275-4

PAGE

05

ARTIST: Joshua Kroeger

CREATED: 4/29/24

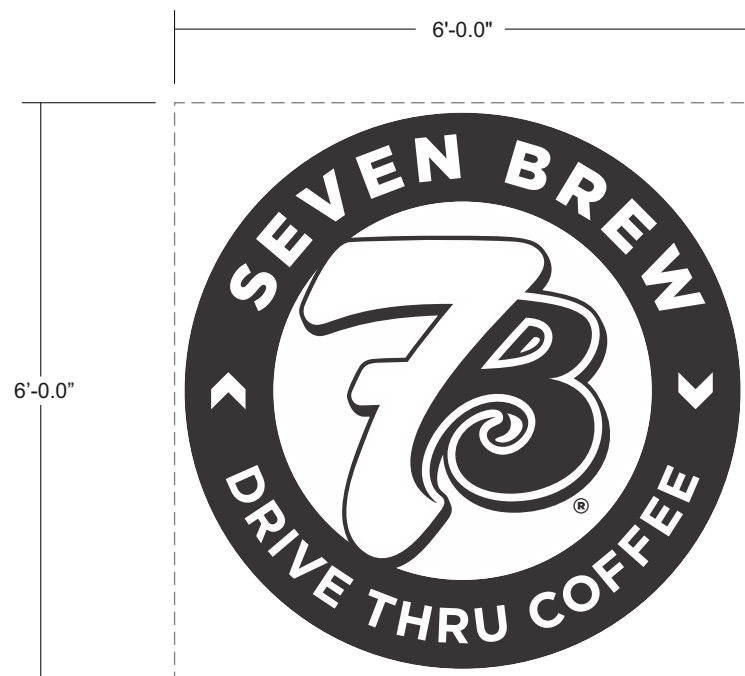
LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: 12/18/23 REV\_1

## EXTERIOR

## WALL SIGN

SCALE: 1/2"=1'



### FLUSH MOUNT CABINET

- WHITE EMBOSSED ACRYLIC PAN FACE
- INTERNAL LED ILLUMINATION
- FLUSH MOUNTED TO FASCIA
- CUT VINYL APPLIED FIRST SURFACE
- BLACK TRIM AND RETURNS

**Total Sq. Ft. 28.27**

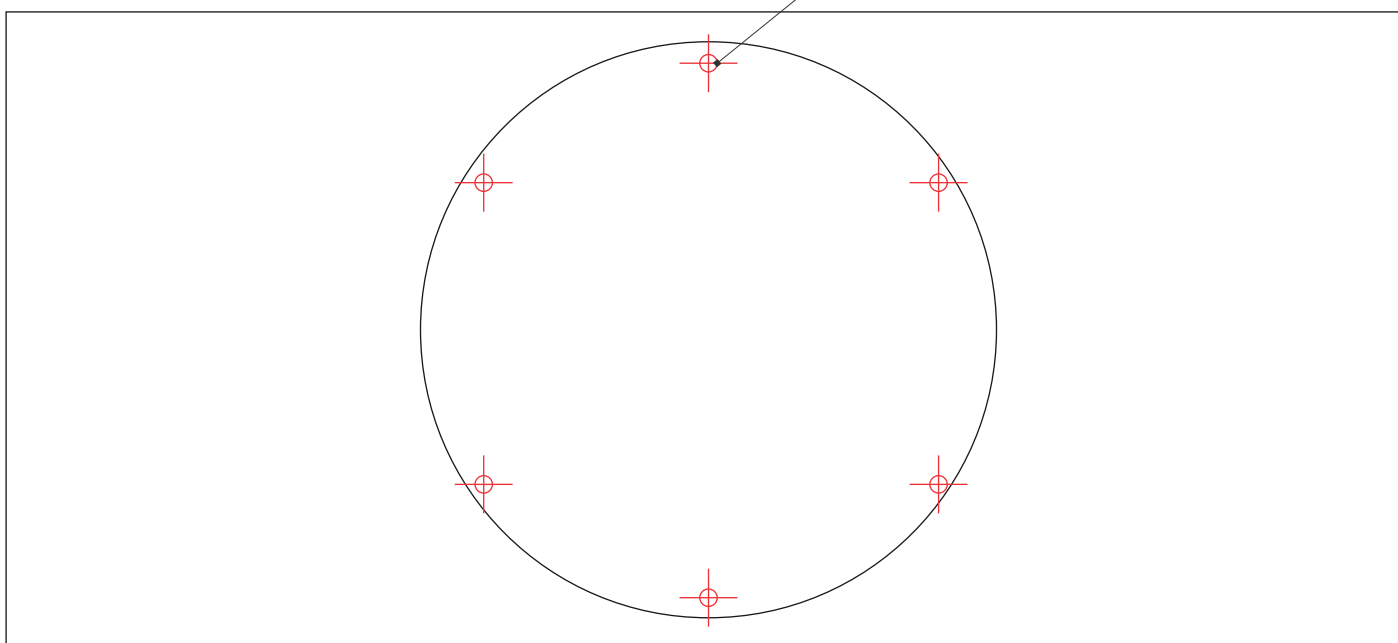


PANTONE 202 C

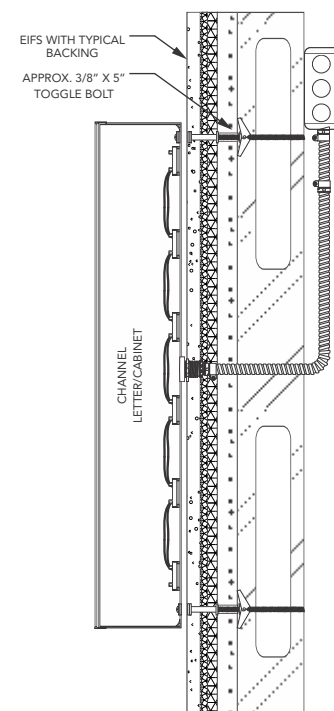


BLACK

6 ATTACHMENT POINTS



### DIRECT





# CHANNEL LETTER

SALES: Shaun Crawford

800.845.9927

CLIENT: 7Brew

# 21399

DRAWING #: ao55275-5

PAGE

06

ARTIST: Joshua Kroeger

CREATED: 4/29/24

LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: N/A | REV\_0

## EXTERIOR

## WALL SIGN

SCALE: 3/4"=1'



### FLUSH MOUNT CHANNEL LETTERS

- "SEVEN 7B BREW"
- WHITE EMBOSSD ACRYLIC PAN FACE
- INTERNAL LED ILLUMINATION
- FLUSH MOUNTED TO FASCIA
- CUT VINYL APPLIED FIRST SURFACE
- BLACK TRIM AND RETURNS

### FLUSH MOUNT FCO

- "DRIVE THRU" AND "COFFEE >>>"
- PAINTED AS SHOWN
- FLUSH MOUNTED FCOS

**Total Sq. Ft. 31.76**

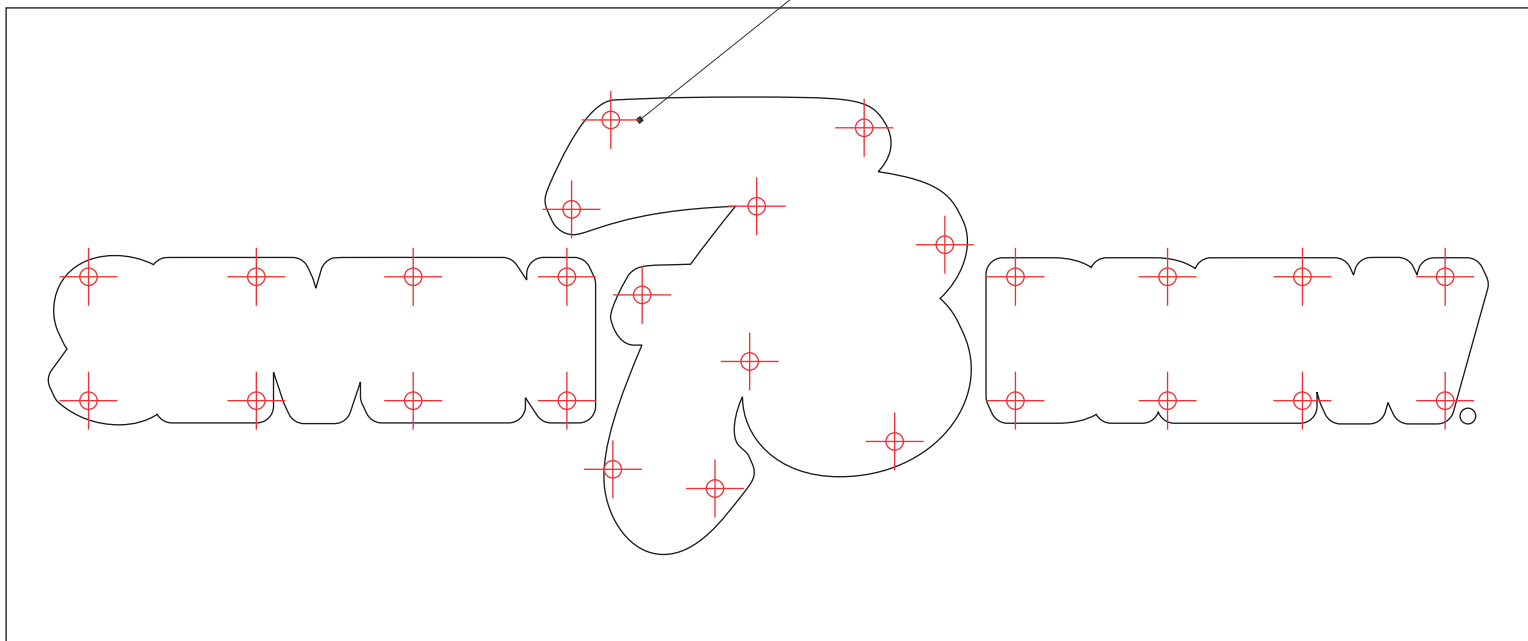


PANTONE 202 C

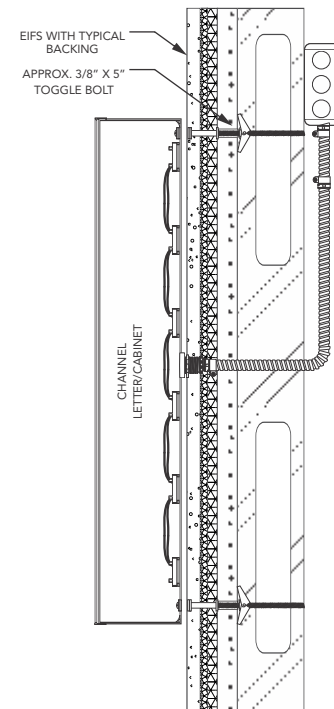


BLACK

26 ATTACHMENT POINTS



### DIRECT



AUTHORIZED SIGNATURE:

DATE:

This drawing is copyrighted material. It remains the property of Springfield Sign unless otherwise agreed upon in writing. It is unlawful to use this drawing for bidding purposes, nor can it be reproduced, copied, or used in the production of a sign without the written permission from Springfield Sign, Inc. This is an artistic rendition and final colors/sizes may vary from that depicted herein.



# PANEL

SALES: Shaun Crawford | 800.845.9927

CLIENT: 7Brew # 21399

DRAWING #: ao55275-6

PAGE 07

ARTIST: Joshua Kroeger | CREATED: 4/29/24

LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: N/A | REV\_0

## EXTERIOR

## WALL SIGN

SCALE: 1-1/2"=1'



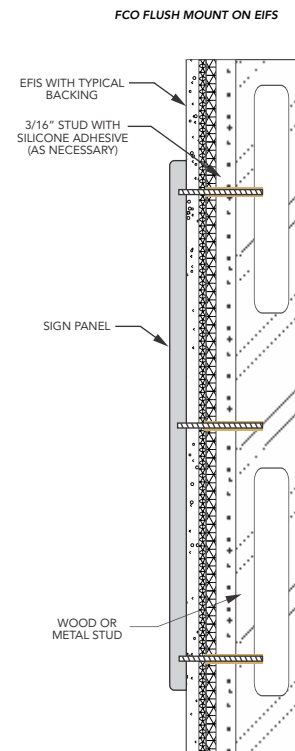
- FLUSH MOUNT FCOs
- 1/2" ACRYLIC FCOs
  - PAINTED AS SHOWN
  - FLUSH MOUNTED
  - INSTALL LOCATION ON PREV. DRAWINGS

**Total Sq. Ft. 7.66**

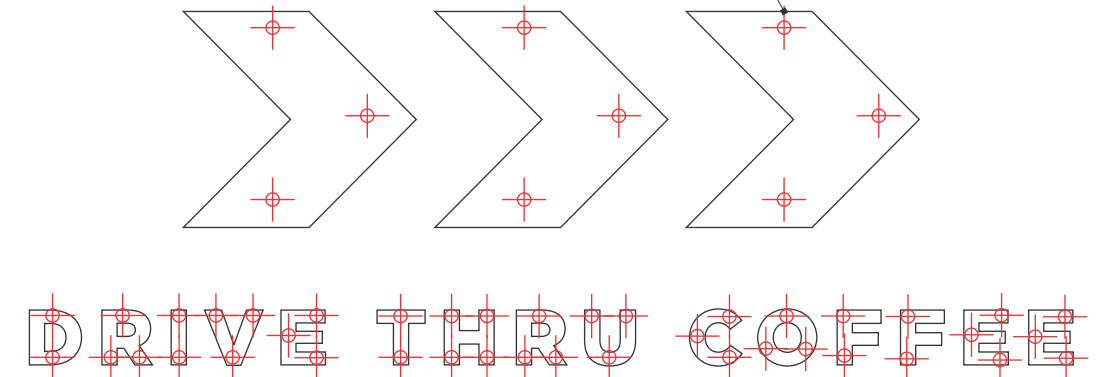
PANTONE 202 C



AZKO NOBEL BRUSHED ALUMINUM



50 ATTACHMENT POINTS







# PANEL

SALES: Shaun Crawford | 800.845.9927

CLIENT: 7Brew # 21399

DRAWING #: ao55275-7

ARTIST: Joshua Kroeger | CREATED: 4/29/24

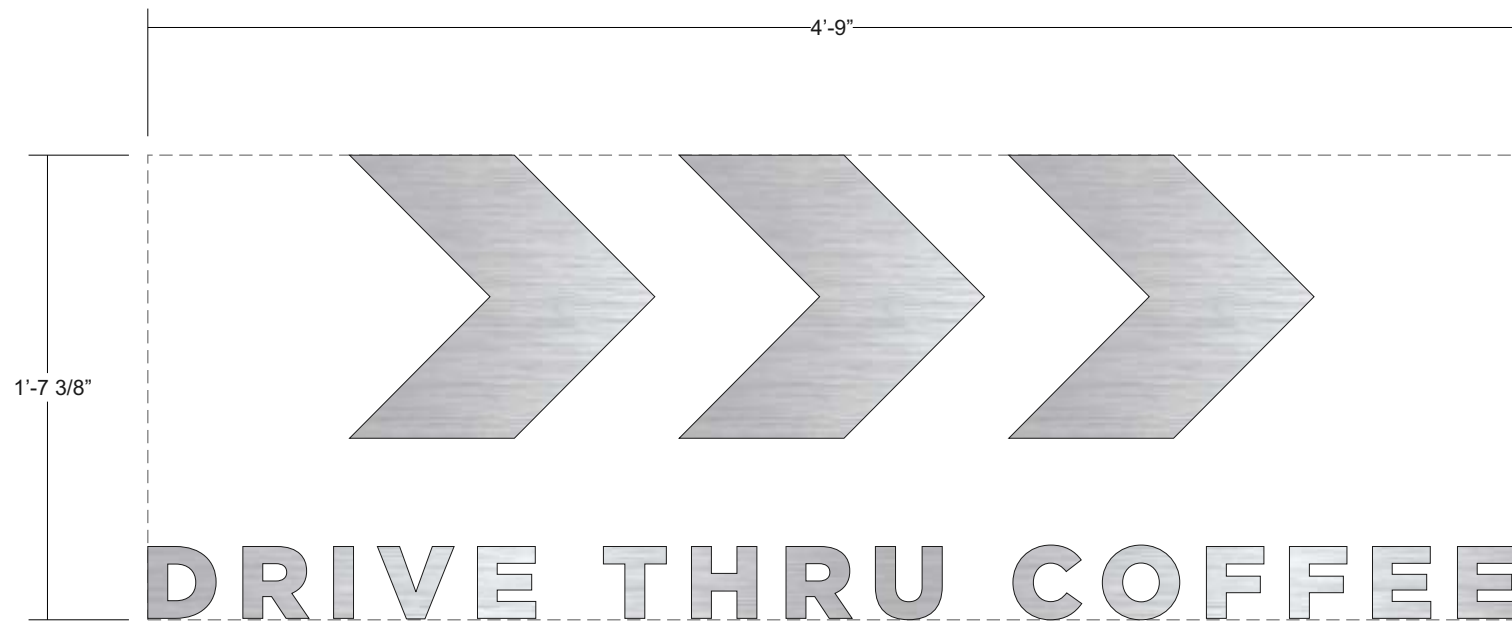
LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: N/A | REV\_0

## EXTERIOR

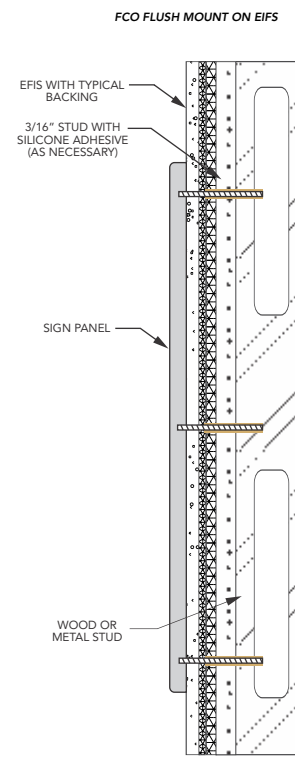
## WALL SIGN

SCALE: 1-1/2"=1'

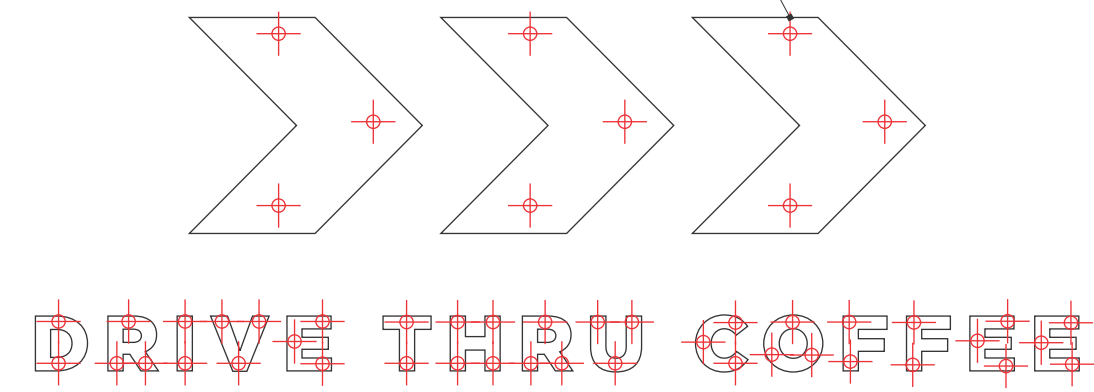


- FLUSH MOUNT FCOs
- 1/4" BRUSHED ACM FCO
  - FACE AS SHOWN
  - FLUSH MOUNTED
  - INSTALL LOCATION ON PREV. DRAWINGS

**Total Sq. Ft. 7.66**



50 ATTACHMENT POINTS





# PYLON

SALES: Shaun Crawford

800.845.9927

CLIENT: 7Brew

# 21399

DRAWING #: ao55275-8

PAGE

09

ARTIST: Joshua Kroeger

CREATED: 4/29/24

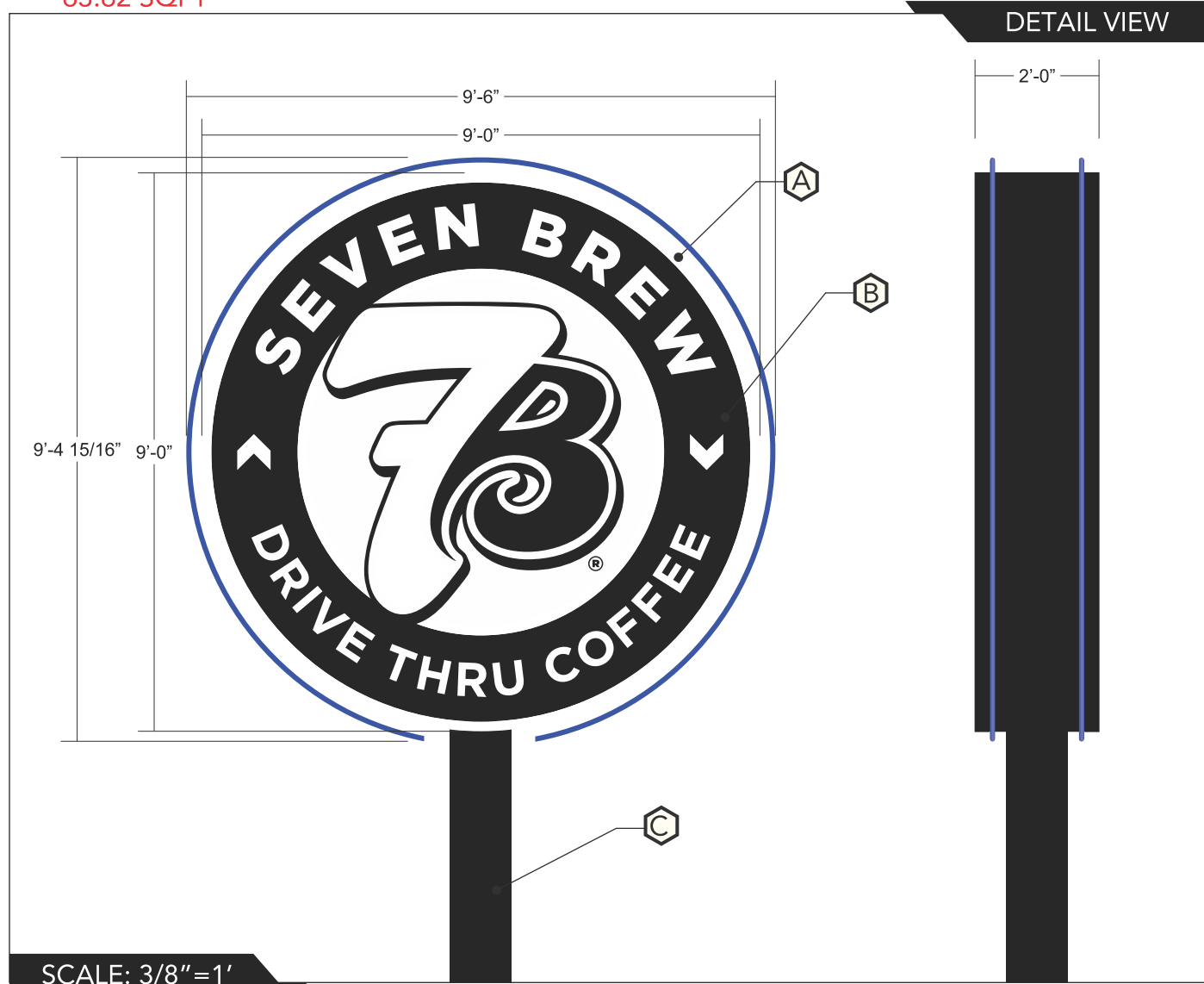
LOCATION: 2006 N Reynolds Dr Bryant, AR 72022

REV DATE: 8/26/24 | REV\_2

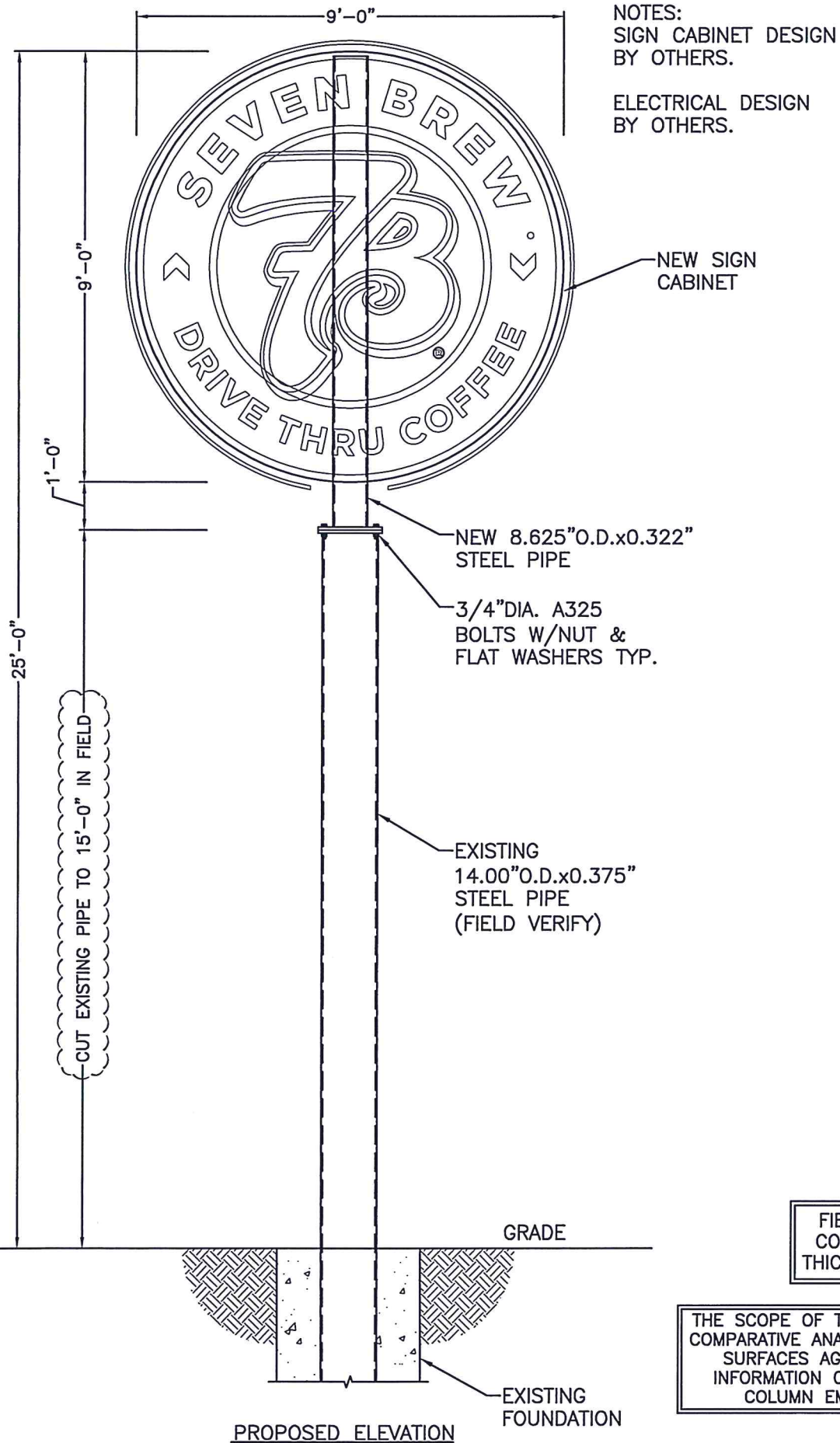
## EXTERIOR

## PYLON

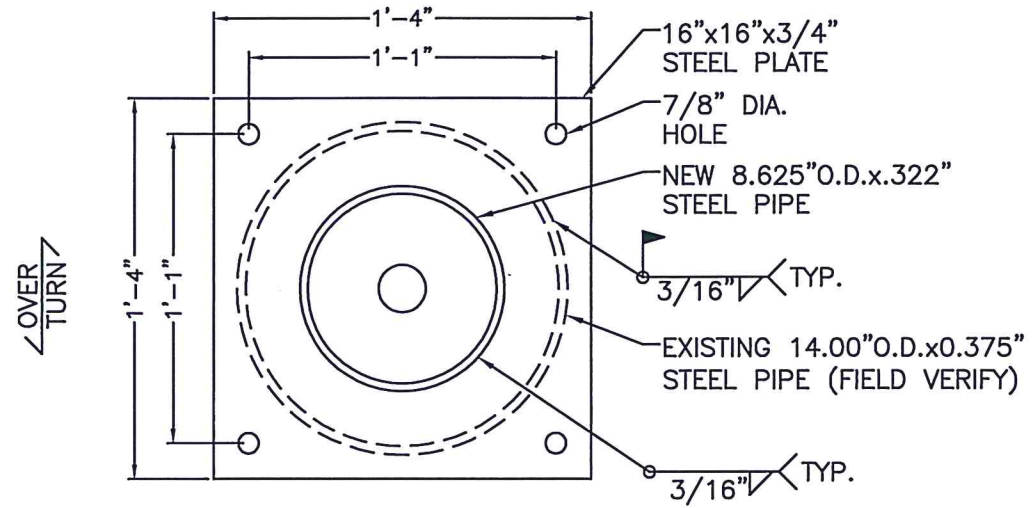
63.62 SQFT



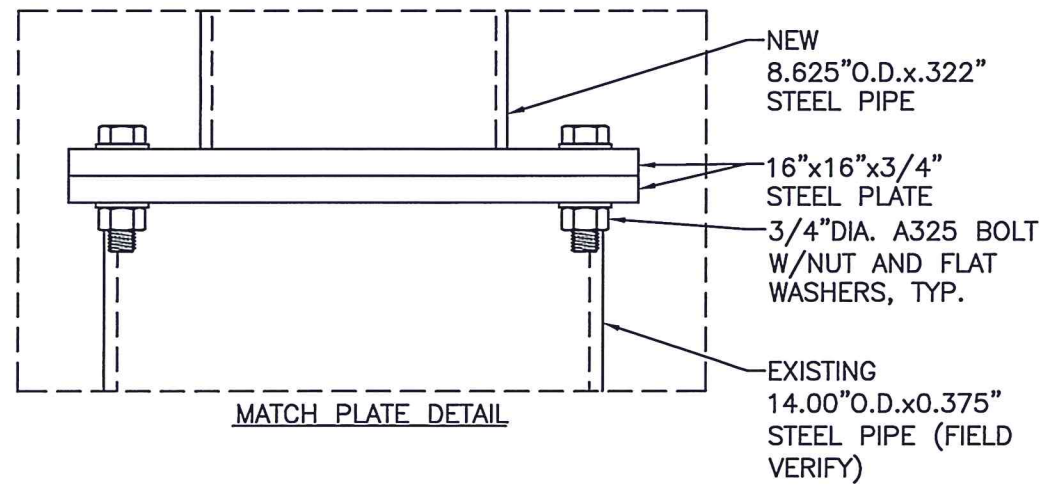
- A** D/F ALUMINUM FLEX FACE PYLON CABINET
  - Black PAINTED CABINET AND SIDE TRIM
  - BLUE FAUX NEON AROUND OUTSIDE OF CABINET
  - INTERNAL LED ILLUMINATION
- B** BLEED FACE FLEX FACES
  - ARTWORK CREATED WITH TRANSLUCENT VINYL
- C** POLE STRUCTURE
  - REUSE EXISTING POLE (14" X 237")



NOTES:  
SIGN CABINET DESIGN  
BY OTHERS.  
  
ELECTRICAL DESIGN  
BY OTHERS.



MATCH PLATE DETAIL  
(TOP VIEW)



MATCH PLATE DETAIL

FIELD VERIFY EXISTING  
COLUMN SIZE, LENGTH,  
THICKNESS, & CONDITION.

THE SCOPE OF THIS ENGINEERING IS LIMITED TO THE  
COMPARATIVE ANALYSIS OF PROPOSED WIND CATCHING  
SURFACES AGAINST EXISTING SIGN STRUCTURE.  
INFORMATION ON THE EXISTING FOUNDATION AND  
COLUMN EMBEDMENT WAS NOT PROVIDED.

INSTALLATION ADDRESS:

7 BREW COFFEE  
2202 N. REYNOLDS RD.  
BRYANT, AR 72022

CLIENT:



4825 E KEARNEY ST  
SPRINGFIELD, MO 65803  
417.862.2454  
FAX: 417.862.1887

REV	DATE	DESCRIPTION
△	-/-/-	-----
△	-/-/-	-----
△	-/-/-	-----

All designs and plans indicated on this drawing are created specifically for the noted project and are the sole property of IMAD KASHIF, P.E. Use of these designs or plans for any purpose other than the intended application shall be prohibited without the written consent of IMAD KASHIF, P.E. Disclosure of any of the information enclosed within, without consent of the owner, is a violation of intellectual property and shall not be tolerated.

SEAL & SIGNATURE:



9/5/24

**IMAD KASHIF, P.E.**

135 South David Lane • Knoxville, Tennessee 37922  
Phone: (865) 538-4001

Project Number: 24-0250R		Drawing Number: B1861518	
SHT. 1	OF 2	DATE: 9/5/24	BY: GHK

**EXISTING**

PROJECT #	24-0250R	OWNER:	7 BREW COFFEE
September 5, 2024			2202 N. REYNOLDS RD.
DRAWING #	B1861518		BRYANT, AR 72022
WIND LOAD	20.65	PSF	
WIND SPEED	105	MPH	CLIENT: SPRINGFIELD SIGN & NEON
# COLUMNS	1	IBC 2021 Amended	4825 E. KEARNEY ST.
DESIGNER	GHK		SPRINGFIELD, MO

ITEM	HEIGHT	WIDTH	SHAPE FACTOR	CENTROID HEIGHT	AREA	TOTAL FORCE	MOMENT
SIGN	8.000	8.000	1.000	4.000	64.000	1.321	5.285
COLUMN	17.000	1.167	0.700	8.500	13.883	1.608	30.185
OAH	25.000						

**PROPOSED**

PROJECT #	24-0250R	OWNER:	7 BREW COFFEE
September 5, 2024			2202 N. REYNOLDS RD.
DRAWING #	B1861518		BRYANT, AR 72022
WIND LOAD	20.65	PSF	
WIND SPEED	105	MPH	CLIENT: SPRINGFIELD SIGN & NEON
# COLUMNS	1	IBC 2021 Amended	4825 E. KEARNEY ST.
DESIGNER	GHK		SPRINGFIELD, MO

ITEM	HEIGHT	WIDTH	SHAPE FACTOR	CENTROID HEIGHT	AREA	TOTAL FORCE	MOMENT
SIGN	9.000	9.000	0.785	4.500	63.617	1.313	5.910
COLUMN	1.000	0.719	0.700	0.500	0.503	1.324	7.229
COLUMN	15.000	1.167	0.700	7.500	12.250	1.577	28.983
OAH	25.000						

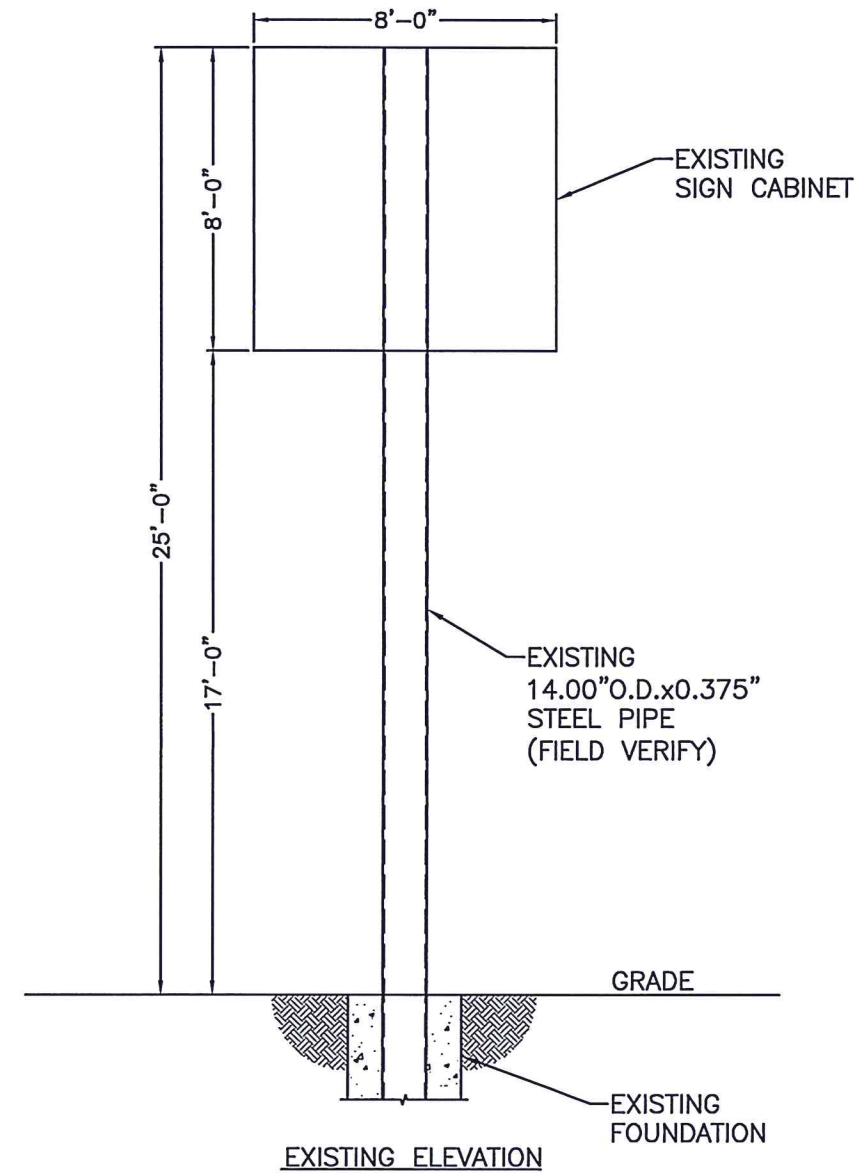
COLUMN CALCULATIONS		(CODES P=PIPE, O=OTHER, T=TUBE)						
ITEM	COLUMN WIDTH	COLUMN DEPTH	COLUMN WALL	lx	MODULUS	REQUIRED	AVAILABLE	
				COLUMN	COLUMN	MOMENT	FLEXURAL STRENGTH	
P SIGN		8.625	0.300	68.1	20.80	5.910	36.33	
P COLUMN		8.625	0.300	68.1	20.80	7.229	36.33	
P COLUMN		14.000	0.349	348.9	65.05	28.983	113.61	

BOLT CALCULATIONS							
ITEM	MOMENT	BOLT SPACING	BOLTS/ PLATE	TENSION/ BOLT	BOLT DIAM.	ALLOW. STRESS	ALLOWABLE TENSION
COLUMN	7.229	13.000	4.000	3.337	0.750	20.000	8.836

PLATE CALCULATIONS							
ITEM	TENSION/ BOLT	MOMENT ARM	MOMENT PLATE	PLATE WIDTH	PLATE DEPTH	PLATE THICK.	MINIMUM THICK.
COLUMN	3.337	4.875	16.266	9.125	16.000	0.750	0.629



**General Notes:**

- Design is based on a 105 mph, 3 second gust wind design per IBC 2021 Amended, Category II, Exposure C. Seismic Design Category D.
- All support members is assumed to be free from defects. Steel Pipe up to 24 inch O.D. is presumed to meet ASTM A53 Grade B with a minimum yield strength of 35000 psi.
- Steel welds shall be made with E70xx low hydrogen electrodes by persons qualified in accordance with AWS standards within the past two years.
- All structural bolts shall conform to ASTM A325, and be zinc coated unless noted otherwise. When used with structural bolts, heavy hex nuts shall conform to ASTM A563, and washers shall conform to ASTM F436. Pretension all high strength bolts using the Turn-of-Nut method unless noted otherwise.
- The scope of this engineer is limited to the comparative analysis of proposed wind catching surfaces against the existing sign structure. No information pertaining to the existing foundation or column embedment was made available.
- The proposed structure depicted on this drawing will produce 96% of the overturning moment of the existing structure at grade. Based on this analysis, the existing foundation will support the new structure with a greater factor of safety than it supports the existing structure.
- Structural analysis for this sign is based on field measurements as reported by SPRINGFIELD SIGN. Should field conditions differ from what is shown on this drawing, cease all work and contact SPRINGFIELD SIGN immediately for direction. The scope of this engineer does not include onsite observations.
- Imad Kashif, P.E., will not be responsible for the safety on this job site before, during or after installation of this structure. It is the responsibility of the owners, contractors and installers to ensure that the installation and erection of this structure is performed using methods that are in full compliance with OSHA regulations.
- Any deviation from this design or from any part of this drawing, including the General Notes, without prior written consent from Imad Kashif, P.E., voids this drawing in its entirety.
- The structure designed on this drawing is intended to be installed at the address shown and should not be used at any other location.

INSTALLATION ADDRESS:

7 BREW COFFEE  
2202 N. REYNOLDS RD.  
BRYANT, AR 72022

CLIENT:

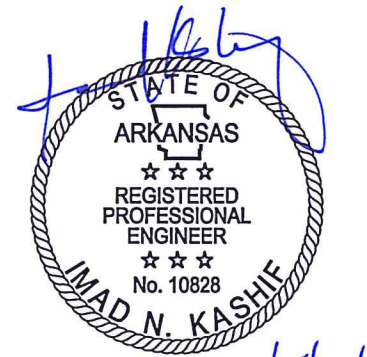


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REV	DATE	DESCRIPTION
△	-/-/-	-----
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△	-/-/-	-----

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SEAL & SIGNATURE:



**IMAD KASHIF, P.E.**

135 South David Lane • Knoxville, Tennessee 37922  
Phone: (865) 539-4001

Project Number:	24-0250R	Drawing Number:	B1861518
SHT.	2	OF	2
DATE:	9/5/24	BY:	GHK



# SIGN PURCHASE AGREEMENT

☎ 800.845.9927 🌐 springfieldsign.com

DESCRIPTION

This agreement, made and entered into this \_\_\_\_ day of \_\_\_\_ (month), 20 \_\_\_\_ (year), by and between Springfield Sign & Graphics, INC. d/b/a Springfield Sign (herein after referred to as Seller), and Buyer (as outlined below and labeled as Buyer) witnesseth, that the Seller agrees to manufacture for Buyer the sign(s) and/or other sign products/services as outlined in a separate E2 document as follows, QUOTE Number: \_\_\_\_\_ or other such unique document of description as follows:

\_\_\_\_\_

CONTACT

### BUYER:

COMPANY NAME:	D/B/A:	
_____		
BILLING ADDRESS:	CITY:	STATE:
_____	_____	_____

### JOB DETAILS:

COMPANY NAME:	D/B/A:	
_____		
BILLING ADDRESS:	CITY:	STATE:
_____	_____	_____

FINE PRINT

All wiring on the premises to the site of the signs- installed location, including the connection of the sign to such primary wiring source is to be the responsibility of the Buyer, at additional cost to the Buyer, at the direction of the Buyer. as designed by the Buyer or Buyer's agents and, as necessary, all other aspects and expenses, as required, to bring primary electrical wiring to the sign's location for energizing of such signs. All voltages to be 120 Volt at 60 Hertz unless otherwise specified. Any damages caused by the energizing circuit to the sign or sign products due to improper design (including but not limited to improper voltages), improper connection thereof or any other causes related to the energizing primary circuitry will be solely and completely at the Buyer's risk and expense. Any additional work, trouble shooting in the field, by phone, by internet or otherwise required on behalf of Seller will be bi/Jed in addition to Buyer on a Time and Materials basis, at additional expense. All Permit fees/Engineering fees and labor/drawing costs for the acquisition thereof will be billed in addition to prices stated herein at additional expense unless specifically outlined in this document to be bi fled in another manner as described herein. Any required sales/use taxes are the responsibility of the Buyer, now and in the future as so levied by applicable governing authorities. All taxes are due and payable upon demand by Seller at or any time subsequent to the execution of this SIGN PURCHASE AGREEMENT. It is understood that taxes are in addition to the prices outlined in the SIGN PURCHASE AGREEMENT, E2 Quote or any other document outlining the signs, products or services for stated Job Location unless specifically and clearly outlined otherwise. It is expressly and undeniably understood by both Buyer (or Buyer's agents, subcontractors, salespersons, etc.) and Seller that no verbal agreement has been entered into. Both parties are to adhere to the terms and conditions of this SIGN PURCHASE AGREEMENT and related attachments as properly executed and initialed. Any governing entity outside the control of Seller, such as but not limited to, any applicable City/Municipalities, County Office/Agent, national codes (such as but not limited to NEC, BOCA, ETC.) with jurisdiction or control upon the product, labor (manufacturing or installation) or any issues, procedures or otherwise related to the execution of the terms, signs, sign products, services or otherwise, foreseen or unforeseen, may affect the costs and timely delivery of such products/services herein NOTICE: THIS IS A LEGAL DOCUMENT WITH BINDING OBLIGATIONS READ BOTH SIDES OF THIS INSTRUMENT BEFORE SIGNING, AS THE TERMS OF THIS SIGN PURCHASE AGREEMENT ARE SET OUT THEREON, The specific terms for payment may vary based on product types or other reasons, but it is expressly understood that PAYMENT IN FULL as outlined by this Agreement is due and must be paid PRIOR TO INSTALLATION OF SIGN PRODUCT, PARTS OR SERVICES. All outstanding balances over 30 days due are subject to a 2% per month (collectively compounding) Late Fee.

Buyer's Guarantee to Build \_\_\_\_\_ (initials)

Rejection of Buyer's Guarantee to Build \_\_\_\_\_ (initials)

### BUYER:

I/We have read this entire agreement and agree to defend and hold harmless Seller as stated herein. ACCEPTED:

By: \_\_\_\_\_

PRINTED NAME:	TITLE:	DATE:
_____	_____	_____

### SELLER:

ACCEPTED:

By: \_\_\_\_\_

Mark Wessell, CEO  
Springfield Sign  
4825 E Kearney St  
Springfield, MO 65803

AGREEMENT

**1. DOCUMENT ATTACHMENT** As allowed by this contract, other documents such as but not limited to E2 quotes, product specifications, manufacturer's specifications, etc. may be referenced in the area in the beginning of this Sign Purchase Agreement. These documents may have additional terms, conditions, pricing, restrictions, limitations or otherwise as describe by those written instruments, such as but not limited to LED (or other types) of electronic displays.

**2. LIMITED WARRANTY** Seller warrants all new materials and/or services delivered herein to be at time of completion of job and time of delivery, to Buyer, to be free from defects of material and/or workmanship. Seller agrees to repair or replace, solely at Seller's discretion, any products or parts thereof, which are found defective in material or workmanship within 90 days from time of installation of sign or sign product. Seller's obligation with respect to such products or parts shall be STRICTLY LIMITED to replacement or repair and in NO event shall Seller be liable for consequential, incidental or special damages, or for transportation, installation, adjustment or any other expenses which may arise in connection with such products or parts, including but not limited to loss of business or loss of trade. THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO OTHER WARRANTIES. Seller's obligations hereunder shall extend only to defects for which Buyer shall have given Seller written notice thereof within ninety (90) days after date of delivery or installation, as applicable. Buyer is NOT authorized to make independent arrangements for warranty work. All warranty work on said signs, products, parts, services, as described herein, shall be arranged or subcontracted by Seller or be done by Seller's employees or representatives, solely at the discretion of the Seller. In the event that Buyer does not permit Seller to inspect product, access property or in any other way directly or indirectly inhibits the Seller to arrange for or conduct necessary repair work required under this Agreement, or Buyer makes independent arrangements for such repair work, Buyer agrees that Buyer will be solely responsible for the costs of such repairs. In the event Buyer does not comply with the above, Seller hereby EXCLUDES ALL WARRANTIES, EXPRESS AND/OR IMPLIED, AND BUYER PURCHASES THE SIGN, SIGN PRODUCT AND/OR SERVICES "AS IS" and WITH ALL FAULTS, WAIVING ALL WARRANTIES HEREUNDER. Additional limitations include but are not limited to, acts of God, acts of nature, vandalism, acts of War or Terrorism and/or accidental damages.

**3. INSURANCE** As long as any amount of monies is due and owing to Seller, Buyer shall insure sign, sign products or services, in an amount no less than monies due Seller, and NAME SELLER in the loss payable clause of such insurance policy, strictly for the benefit of the Seller. Buyer further agrees to not limit the insured causes allowing for fire or any other casualty. Buyer shall furnish Seller with evidence of such certification of insurance, in writing from Buyer's insurance agent or agency, upon Seller's demand. Seller's certificate of insurance for liability/workers compensation shall be provided by Seller to buyer upon request from Buyer.

**4. TAXES** Buyer shall be responsible for and pay all taxes including but not limited to Sales, Use, Personal Property or any other municipal, county, state or federal taxes that may be levied, imposed or assessed by law on the sign product, parts or services or improvements thereon, or uses of such. Buyer agrees to reimburse Seller for any amount for such taxes, that may be billed to and paid by Seller. Any interests or penalties associated with any taxes as outlined herein will also be due and owing to Seller if so paid by Seller. These taxes, as allowed by law, may or may not be assessed at time of initial sale or delivery of sign product, parts or services and may continue forward in time without end.

**5. PERMITS/LICENSES** Seller shall not be obligated to commence fabrication of sign product, parts or services until all necessary permits have been issued. If permits are denied after reasonable effort by both parties to secure same, then this Sign Purchase Agreement shall terminate without liability to either Buyer or Seller, except that Buyer shall pay Seller for reasonable compensation for labor and costs expended until the time permits are denied. Buyer shall be responsible for securing and maintaining in effect written consent from the owner of record of the premises upon which sign product, parts or services is to be installed and for all other private permissions, consents or licenses, including but not limited to, the use of registered trademarks or copyrights used on the sign product, parts or services, necessary for the manufacture, the installation, maintenance and use of such. The only exception to this will be if the **Buyer's Guarantee to Build** check box at the beginning of this Sign Purchase Agreement is checked. The terms and conditions for this, briefly being stated herein, shall GUARANTEE FULL PAYMENT TO SELLER with no guarantee to Buyer that the sign product, parts or services will be utilized to any benefit of the Buyer. Buyer will be obligated to pay the full contract price, including installation and will have to make arrangements for receipt of, off loading of and storage of sign product, parts or services with no future claims for installation, service or maintenance of such from Seller. The **Buyer's Guarantee to Build** is strictly offered to allow manufacturing of sign product, parts or services to proceed WITHOUT the proper permits obtained. If in no way obligates Seller to be adverse to the law for installation (without permits) of sign product, parts or service.

**6. INSTALLATION OF SIGN PRODUCT** Buyer agrees to and stipulates that Buyer has designated the location for the sign product, parts or services and subsequent installation of such and is responsible for all required materials, labor and any other associated expense, at Buyer's risk, for the necessary requirements for proper, obstruction free and/or lawful installation. Obstructions, obstacles or other encumbrances, includes but is not limited to building reinforcement, building or site alterations, all obstacles as required for successful, safe, lawful installation including but not limited to overhead (power lines, buildings, trees or other encumbrances), underground (such as utilities, easements, rocks, buried objects natural, man made or otherwise), landscaping, sidewalks, planters, asphalt, concrete or any other such improvements, construction crews other that Seller's or Seller's agents or Buyer's normal business traffic, Seller will not be responsible for any damages for such items during the normal installation process. Any return trips or delays or overtime charges incurred will be passed on to Buyer at Buyer's expense.

**7. ASSIGNMENT** This Agreement shall be binding and inure to the benefit of the parties hereto, their respective successors, executors, administrators, assigns and legal representatives; provided, however

that the interests of Buyer herein shall be assigned only with the expressed, written consent and approval of Seller. No transfer or assignment of this Agreement or any interest hereunder shall release Buyer from their obligations herein.

**8. DEFAULT OR BREACH OF AGREEMENT** The parties stipulate that the sign product, parts or services is/are not an article of general trade or utility but is uniquely designed and is to be constructed and/or installed at the request and for the sale and special purposes of Buyer. The sign product, parts or services is of no value to Seller, and therefore, has no resale or other value to anyone other than Buyer, this Agreement is not cancellable except with expressed written permission of the Seller. Buyer shall be deemed to have breached this Agreement by insolvency, default in payment amounts or schedules as set forth herein, abandonment of the sign product, parts or services or vacating the premises where such is located, termination or transfer of Buyer's interest in the premises or business, appointment of a receiver for Buyer's business, the filing of a voluntary or involuntary petition of bankruptcy with respect to Buyer, or any act or omission of Buyer in contravention to this Agreement. In addition to Buyer's other obligations hereunder, in the event Seller shall institute any action or lawsuit for the enforcement of the obligations of Buyer herein, Buyer shall pay and indemnify Seller for all costs of court, reasonable attorney's fees expended, interest expenses of 2% per month or as allowed by law whichever is more, collection fees, administration fees, and, pay Seller all amounts awarded by the court as a result of such proceedings. Buyer's breach of any provision in any other Sign Purchase Agreement or other instruments as put forth by Seller or Confirmation of Order with Seller shall also be deemed to be a breach hereunder, and Seller may suspend its performance and delivery under this and all other agreements with Buyer until Buyer provides Seller with adequate assurance of performance within a reasonable time, not exceeding ten (10) days, after Seller has informed Buyer orally or in writing, of its grounds for insecurity.

**9. COPYRIGHTS, TITLE & CONVEYANCE OF OWNERSHIP** Seller specifically retains ownership and/or title of sign product, parts or services until Buyer has performed and fulfilled all terms and conditions required by Seller, herein, or as otherwise allowed by law to Seller's benefit. Buyer also, conveys to Seller the absolute right to access property to remove sign product or parts from said property, should any default arise on Buyer's behalf, and, to pay for all necessary costs for removal and possible subsequent re-installation of said product at expense in addition to that outlined herein, solely at Buyer's risk and expense. Buyer agrees and will defend same that Seller shall at all times have title to all original drawings, designs and specifications relating to the work hereunder, which were developed or created by or on behalf of Seller, and Seller hereby claims copyrights, where applicable, of all such drawings, designs and specifications. Payment of all or part of any amounts hereunder does not pass title to the "original drawings, designs, specifications" of said sign product, parts or services, although the same may be reproduced with the expressed written consent of Seller. Buyer shall, upon request of Seller, promptly return all such drawings, designs and specifications, and copies thereof, to Seller during all times which Buyer owes Seller any amounts hereunder. Buyer agrees that Seller has specific legal rights in the form of Copyrights or other instruments given by law to Protect and does hereby declare Seller's ownership of all drawings artwork and the like during and after the terms of the Agreement herein.

**10. MANUFACTURING SPECIFICATIONS/INDUSTRY STANDARDS** Buyer understands and agrees to allow Seller, solely at Seller's discretion to make modifications for and conforming to Seller's standard manufacturing practices. It is also understood by Buyer, that no color, shape, dimension or any other specific feature of said sign product, parts or services is guaranteed absolute. As practical examples absolute color matches or dimensions are not guaranteed and will be allowed reasonable differences within industry standards. Buyer agrees that Seller may mark and label sign for legal, national code, electrical, manufacturing, advertising or other requirements and purposes as is reasonably necessary to conduct day-to-day business as allowed or required in the industry and for Seller's own satisfaction and benefit.

**12. SUBJECT TO PRIOR SALE** Used sign products, new or used products offered for resale from other manufacturers, such as but not limited to electronic displays may be subject to prior sale affecting price and or delivery times to Buyer. Seller will not be responsible for any consequences related to such issues. This includes promotional or sales or any other type of proposal made to customer, Seller has no authority or control over other manufacturers and Seller employ's numerous sales agents all of whom may be promoting the same sale item, thus depleting any available inventory.

**13. CHANGE ORDERS** Any alteration, deviation and/or reasonably significant variance from the scope of work, construction or labor or otherwise from the sign(s) or products or services as outlined herein, including all extra costs, hereafter called Change Order, will be executed only upon written orders and may become an additional charge over and above the price stated herein. Any such Change Order requested by Buyer must be agreed to by Seller, in writing and solely at the discretion of the Seller. It is understood that any Change Order could necessitate the need for a price increase, an extension in the time required to complete the work outlined herein or any other reasonable and necessary charges, terms, conditions, equipment or the like as so required to execute the Change Order.

**14. SUSPENSION OF MANUFACTURING** Any request or event or otherwise required by Buyer to delay, suspend, cancel or otherwise impede the manufacture, delivery and/or installation of said sign product, parts or services, for any reason or occurrence out of the control of Seller, then Buyer shall immediately pay the full purchase price or any amount remaining and due to Seller. Furthermore, upon such request, Buyer shall be solely responsible for storage charges and any increases in labor and/or material costs incurred by Seller in the manufacturing process. Buyer's failure to comply with this provision will be deemed and construed as an anticipatory breach of this Agreement. In the event Buyer complies with the foregoing, Seller will complete the manufacturing, delivery and/or installation within a reasonable period of time upon reasonable request of Buyer.

**15. SECURITY INTEREST** Buyer grants Seller a SECURITY INTEREST in the sign product, parts and/or services until all obligations to Seller, hereunder are fully paid. Seller may file and record this Agreement as a financing statement under Chapter 400 of the Missouri Uniform

Commercial Code Section 400.9-521, in addition to any other permitted standard or nonstandard forms. If Buyer shall fail to pay as agreed to herein, Seller (or Seller's agents or representatives) shall have the right, and will be defended by Buyer, and is hereby authorized and empowered to take and resume possession of and remove into Seller's possession, with or without process of law, the sign product, parts or services and all other property described herein, wherever found, and remove and sell the same at either public or private sale, or by any other viable method, as deemed solely by Seller, at such time and place as Seller shall choose, and as allowed by law. Seller shall apply the proceeds of such sale as a credit upon the obligations of Buyer hereunder. In such event, Seller is entitled to recover all expenses of sale, including any reasonable attorney's fees necessary in handling the matter, without prejudice to Seller to the further enforcement of any balance of such obligation due Seller by Buyer, or expenses remaining due from such sale. In the event the proceeds of such sale exceed the balance of Buyer's obligation to Seller and the expenses of such sale, Seller shall forward any such excess to Buyer. Buyer shall not use said sign products as to lessen the value of Seller's SECURITY INTEREST or impair the operation of said sign product, and in the event the sign product is damaged through the intentional acts or willful negligence of Buyer, Buyer's customers, its agents or employees, contractors or third parties, or by wind, hail, earthquake, fire, war, tornado, hurricane, flood, labor dispute, vandalism, acts of God or acts of nature, Buyer agrees to pay for the necessary expenses to restore said sign product, part or services in operable condition. After delivery and/or installation, whichever is contracted for, in the event the sign product is lost, stolen, destroyed, or otherwise impaired, Buyer shall remain liable to Seller for all amounts hereunder, UNTIL BUYER'S OBLIGATIONS TO SELLER ARE FULLY SATISFIED HEREUNDER, THE PROPERTY DESCRIBED HEREIN WILL REMAIN PERSONAL PROPERTY OF SELLER WHETHER THE SAME IS ATTACHED IN ANY MANNER TO THE REALTY OR NOT. SAID PROPERTY SHALL NOT, BY REASON OF ATTACHMENT OR CONNECTION TO THE REALTY, BECOME OR BE DEEMED A FIXTURE OR APPURTENANT TO SUCH REALTY. No transfer, renewal, extension, or assignment of the Agreement or of any interest hereunder, and no loss, damage or destruction shall release Buyer or any Guarantor from the obligations assumed hereunder. During all times in which Buyer is obligated for any amounts to Seller hereunder, Buyer shall keep said property free from all tax liens and other encumbrances, and any sum of money that may be paid by Seller to release any such liens or encumbrances shall be paid on demand by Buyer in addition to the obligations secured hereunder.

### 16. WAIVER OF CONSUMER RIGHTS

**17. DELIVERY AND PERFORMANCE** Seller shall not be held responsible for, and the period of time required for completion of any project or maintenance or repairs, shall be tolled during any time when Seller is delayed or prevented from completing the obligations hereunder because of strikes, equipment breakage, fire, war, terrorism, labor disputes, commercial delays, acts of God/nature, regulations or restrictions of any government entity or public authority, or any accidents or forces, conditions, or circumstances beyond Seller's control, and Seller shall not be liable for any loss whatsoever suffered by Buyer, directly or indirectly, as a result of any such events or occurrences. Buyer agrees to examine and inspect all installations, repairs, and maintenance, and within ten (10) days, notify Seller in writing of any complaints about work performed under this Agreement. The failure of Buyer to give such written notice shall constitute acceptance of the work performed. The provisions of the paragraph shall not be limited by any provision in which time is made of the essence. Notwithstanding anything in this Agreement to the contrary, if at any time prior to completion of this Agreement Seller's prospects for payment are, in Seller's sole discretion, impaired, Seller may require payment in advance before permitting delivery or any installation or services hereunder, and may demand Buyer's immediate performance of Buyer's obligations hereunder. If requested by Seller, Buyer shall furnish evidence, satisfactory to Seller, prior to commencement of Seller's work hereunder or at any time thereafter, that sufficient funds are available and committed to pay the full amount owing by Buyer under this Agreement.

**18. STATE OF JURISDICTION/SEVERABILITY/MISCELLANEOUS** All representatives of Seller are stipulated and specified in this Agreement. No modifications hereof shall be valid unless made in writing AND agreed to, AND signed by both Seller and Buyer. No waiver by either party hereto shall be a waiver of any subsequent breach of or failure to perform the same or any other term, condition, or obligation hereof. It is agreed by both parties hereto that venue of any action arising under the Agreement shall be in Greene County, Missouri and the laws of the State of Missouri shall govern this Agreement. Should any part of this Agreement contravene public policy or laws of the jurisdiction in which it is sought to enforce the same, then such part shall be considered null and void and have no force and effect, and the balance of the terms and conditions of this Agreement shall remain valid and in full force and effect. Buyer expressly grants Seller the right to use photographs, drawings or other replicas of the sign product specified herein in its brochures, pamphlets, displays, sales documents or other advertising or promotional media in the ordinary course of business of Seller. Seller may place on the sign product its name, telephone number and location of such information, as shall be determined by Seller and solely by the Seller. Buyer agrees that Buyer is purchasing said sign product for business or commercial purposes or use and not for personal, family or household use or purposes. In regard to payment of any amount due hereunder, time is of the essence.



**City of Bryant, Arkansas**  
 Community Development  
 210 SW 3<sup>rd</sup> Street Bryant, AR 72022  
 501-943-0943

## SIGN PERMIT APPLICATION

Applicants are advised to read the Sign Ordinance prior to completing and signing this form. The Sign Ordinance is available at [www.cityofbryant.com](http://www.cityofbryant.com) under the Planning and Community Development tab.

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

Date: 9/6/2024

### Sign Co. or Sign Owner

Name Alicia Walton - Springfield Sign  
 Address 4825 E. Kearney St  
 City, State, Zip Springfield MO 65803  
 Phone 417-862-2454  
 Email Address aliciaw@springfieldsign.com

### Property Owner

Name Michael Lannon  
 Address 529 N Prince Lane  
 City, State, Zip Springfield MO 65803  
 Phone 417-860-4714  
 Email Address michael.lannon@cmcmmod.com

### GENERAL INFORMATION

Name of Business Seven Brew  
 Address/Location of sign 2006 N Reynolds Dr Bryant AR  
 Zoning Classification C-2

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

### READ CAREFULLY BEFORE SIGNING

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

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

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

SIGN	Type (Façade, Pole, Monument, other)	Dimensions (Height, Length, Width)	Sqft (Measured in whole as rectangle)	Height of Sign (Measured from lot surface)		Column for Admin Certifying Approval
				Top of Sign	Bottom of Sign	
A	Front Wall	6' x 6'	28.27	16' 10.2"	10'10.2"	
B	Left side wall	3' 2 1/8 x 10'	31.76	20' 3.8"	12' 4.5"	
C	Right side wall	3' 2 1/8 x 10'	31.76	20' 3.8"	12' 4.5"	
E	Front panel	1' 7 3/8 x 4'9"	7.66	2' 5.375"	10'	
F	Side panel x 2	1' 7 3/8 x 4'9"	7.66	9' 11.3	8'4.5"	
G	Pole sign	9' 4" x 9' 6"	63.62	25'	17	