Bryant Development and Review Committee Meeting

Boswell Municipal Complex - City Hall Conference Room

210 SW 3rd Street

Date: March 30, 2023 - **Time:** 9:00 AM

Call to Order

Old Business

New Business

1. 3113 Whispering Oak - CUP for Duplex

Kelley Tucker - Requesting Recommendation for Approval of Conditional Use Permit for a Duplex in R-M

- 0672-NOT-01.pdf
- 0672-APP-01.pdf

2. 507 Boone Road - New Office Addition

Jeremy McMillian - Requesting Approval for New Addition to Office Building

- 0698-APP-01.pdf

3. Home2 Outparcel - Span Way - Replat

Charlie Best - Requesting Recommendation for Approval of Replat

- 0699-RPLT-01.pdf

4. Butler Center - 1109 N Reynolds Road - Site Plan

GarNat Engineering - Requesting Approval for Site Plan and Recommendation for Approval of Variance

- 0685-MTP-01.pdf
- 0685-PLN-02.pdf
- 0685-RSP-01.pdf
- 0685-SWB-01.pdf
- 0685-SWP-01.pdf
- 0692-SignPicture.pdf

5. Elite Volleyball Academy - Vernia Park Subdivision - Site Plan

GarNat Engineering - Requesting Recommendation for Site Plan and Variance Approval

- 0693-PLN-02.pdf
- 0693-SMP-01.pdf
- 0693-SWP-01.pdf
- 0693-RSP-01.pdf
- 0695-SignPicture.pdf
- 0695-LTR-01.pdf

6. 25300 I-30 N - Conditional Use Permit

Hope Consulting - Requesting Recommendation for Approval of Conditional Use Permit for a Storage Facility

- 0687-RSP-01.pdf
- 0687-PLN-02.pdf

7. Jacob's Corner Subdivision - Final Plat

Hope Consulting - Requesting Recommendation for Approval of Final Plat

- 0688-LTR-02.pdf
- 0688-PLT-02.pdf

8. Midland Road Estates Subdivision - Preliminary Plat

Hope Consulting - Requesting Recommendation for Approval of Preliminary Plat

- 0691-DRN-01.pdf
- 0691-PLN-01.pdf
- 0691-PLT-01.pdf
- 0691-LTR-01.pdf

9. Coral Ridge Subdivision - Variances - Lots 1, 7, 11, 15, 16, 24, 28

Hope Consulting - Requesting Recommendation for Approval of Variances

- LOT 28 VAR-PACKET CORAL RIDGE.pdf
- LOT 24 VAR- PACKET CORAL RIDGE.pdf
- LOT 16 VAR-PACKET CORAL RIDGE.pdf
- LOT 15 VAR-PACKET CORAL RIDGE.pdf
- LOT 11 VAR-PACKET CORAL RIDGE.pdf
- LOT 7 VAR-PACKET CORAL RIDGE.pdf
- LOT 1 VAR-PACKET CORAL RIDGE.pdf

10. REQUEST TO ADD: Bryant Schools - Business Office Addition - 603 School Drive

Terry Harper - Requesting Approval for Building Addition

- Bryant Schools - Business Office New Addition.pdf

Staff Approved

11. Elysian Event - 2102 Brandon RD - Sign Permit

Arkansas Sign and Neon - Requesting Sign Permit Approval - STAFF APPROVED

12. Auto Glass Now - 1814 N Reynolds - Sign Permit

Action Signs - Requesting Sign Permit Approval - STAFF APPROVED

Permit Report

Adjournments

NOTICE OF PUBLIC HEARING

A public hearing will be held on Monday, 4/10/2023 at 6:00 P.M. at the Bryant City Complex, 210 Southwest 3 Street. City of Bryant. Saline County, for the purpose of public comment on a conditional use request at the site of 3113 Whispering Oak Bryant, AR 72022. A legal description of the property can be obtained by contacting the Bryant Department of Community Development.

Rick Johnson
Chairman Board of Zoning Adjustment
City of Bryant

City of Bryant, Arkansas
Community Development
210 SW 3rd 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 under the Planning and Community Development tab.

Date: 12/6/2022

Applicant or Designee:

Name Kelly Tucker
Address 9020 Chicot Road
Phone (501)912-7964
Email Address: kellytucker50@gmail.com

Project Location:

Property Address 3113 Whispering Oak Street Bryant, AR 72022
Parcel Number 840-08686-000
Zoning Classification _____

Property Owner (If different from Applicant):

Name Kelly Tucker
Phone (501)912-7964
Address 9020 Chicot Road, Little Rock, AR 72209
Email Address kellytucker50@gmail.com

Additional Information:

Legal Description (Attach description if necessary)
Lot 17, Block 3, Sherwood Estates in the City of Bryant

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

Proposed/Current Use of Property vacant lot

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

I Kelly Tucker, 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.

Kelly Tucker

9020 Chicot Road

Little Rock, AR 72209

To: Bryant Development and Review Committee

We are requesting a Conditional Use Permit at the Property located at 3113 Whispering Oak Drive in Bryant Arkansas. We are going to build a 3 bedroom 2 bath duplex at that location. If you need any other information, please call me at 501-912-7964.

Sincerely,

Kelly Tucker

Kellytucker50@gmail.com

NOTICE OF PUBLIC HEARING

A public hearing will be held on Monday, 6/10/2023 at 6:00 P.M. at the Bryant City Complex, 210 Southwest 3 Street. City of Bryant. Saline County, for the purpose of public comment on a conditional use request at the site of 3113 Whispering Oak Bryant, AR 72022. A legal description of the property can be obtained by contacting the Bryant Department of Community Development.

Rick Johnson
Chairman Board of Zoning Adjustment
City of Bryant

LAHA ENGINEERS, INC.
6602 Baseline Road Suite E
P. O. Box 190251
Little Rock, Arkansas 72219
501-565-7384
Fax 501-562-5467
e-mail: lahaengrls@sbcglobal.net

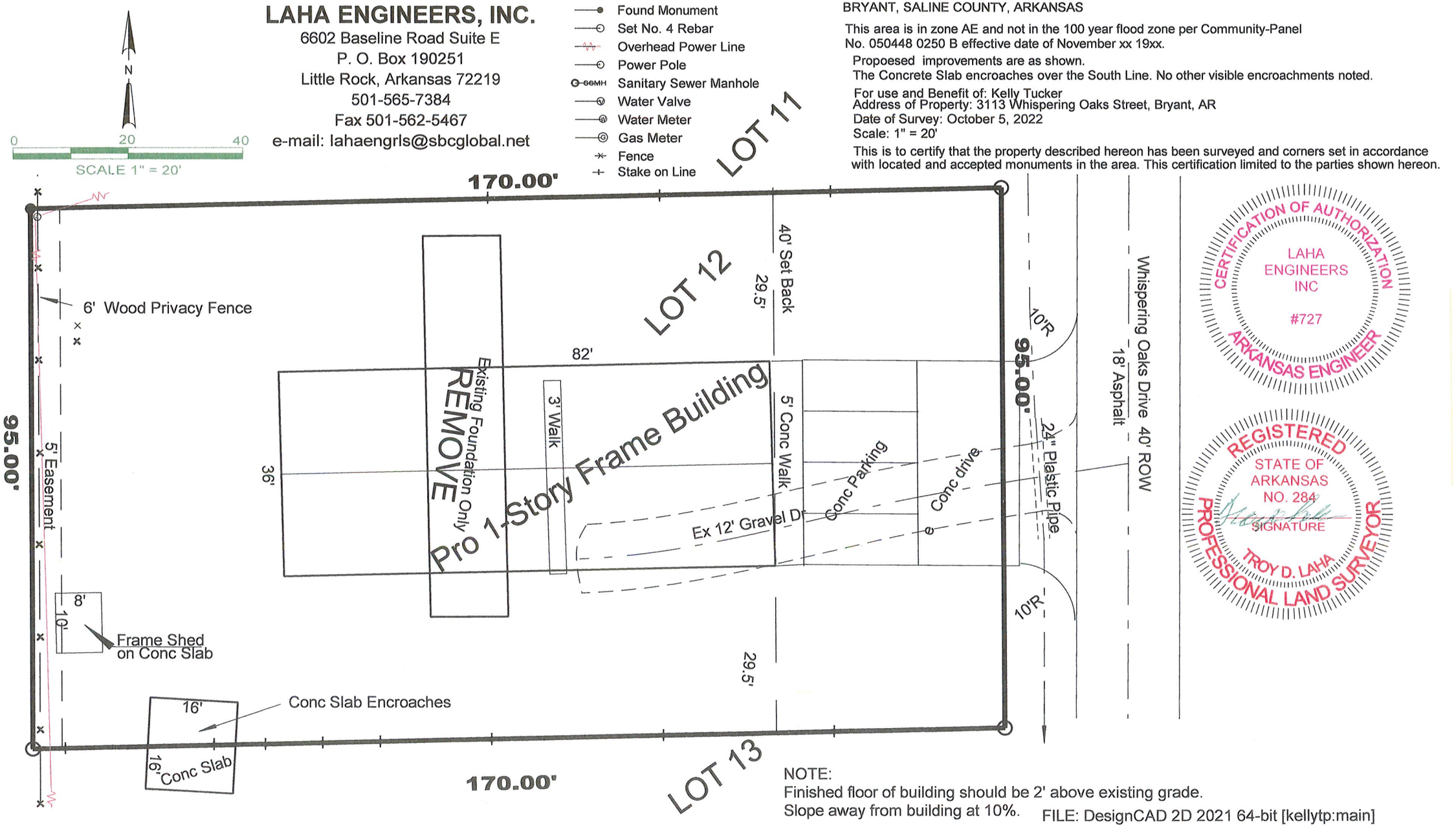
LEGAL DESCRIPTION: LOT 11 BLOCK 3 SHERWOOD ESTATES
BRYANT, SALINE COUNTY, ARKANSAS

This area is in zone AE and not in the 100 year flood zone per Community-Panel No. 050448 0250 B effective date of November xx 19xx.

Propoesed improvements are as shown.
The Concrete Slab encroaches over the South Line. No other visible encroachments noted.

For use and Benefit of: Kelly Tucker
Address of Property: 3113 Whispering Oaks Street, Bryant, AR
Date of Survey: October 5, 2022
Scale: 1" = 20'

This is to certify that the property described hereon has been surveyed and corners set in accordance with located and accepted monuments in the area. This certification limited to the parties shown hereon.



CERTIFICATION OF AUTHORIZATION
LAHA ENGINEERS INC
#727
ARKANSAS ENGINEER

REGISTERED
STATE OF ARKANSAS
NO. 284
SIGNATURE
TROY D. LAHA
PROFESSIONAL LAND SURVEYOR

NOTE:
Finished floor of building should be 2' above existing grade.
Slope away from building at 10%.

FILE: DesignCAD 2D 2021 64-bit [kellytp:main]

City of Bryant, Arkansas
Community Development
210 SW 3rd Street Bryant, AR 72022
501-943-0488, Comdev@cityofbryant.com

General – Permit Application

Please complete both pages of this application and submit to the City of Bryant Permitting office, located at the address above.

Completed applications can also be scanned and emailed to Comdev@cityofbryant.com.

Date: 3-20-23

Permit Type:

X Electrical Permit	X Remodel Permit/Addition	_____ Burn Permit
_____ Plumbing Permit	_____ Demolition Permit	_____ Site Clearance Permit
_____ Mechanical Permit	_____ Accessory Building Permit	_____ Mobile Home Permit

Other if not listed above I want to add An Addition on to my Existig Office

Contractor Information:

Contractor/Owner Kt Mac Enterprises LLC

Physical Address of Business 507 Boone Rd

City, State, Zip code Bryant AR 72022

Mailing Address (If different from Above) _____

City, State, Zip code _____

Email Address Kt-Mac@Ktmacenterprises.Co

Business Phone 501-766-7777 Cell Phone 501-366-0841 Fax _____

Project Information:

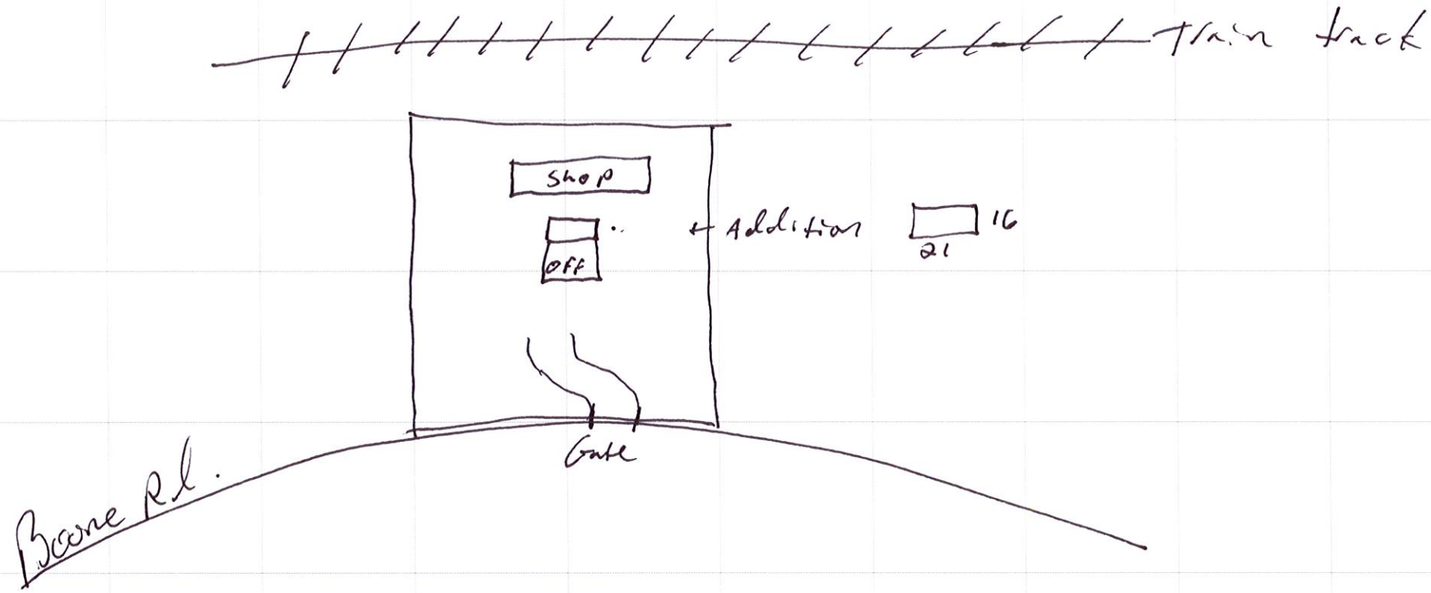
Project Address/Location 507 Boone Rd Bryant AR 72022

Project Cost $14,500 Commercial or Residential? Comm

Square footage (If Applicable) 336

If new addition, will foam insulation be used? No ✓ Yes ____ If "Yes", provide technical evaluation report on foam insulation type, and a copy of installer's certification. (Attach to application when submitted)

Additional Project Information Install Sub Floor Structure to South Side of Office 21'x16 Create New Walls & Roof to Match Existg Structure Brick New Addition to match, Paint Brick to match, New windows



APPROVED BY:			DESIGNED BY:	REV	DESCRIPTION	BY	DATE	NORTH:	SCALE: 0' ' ' GRAPHIC SCALE	NAME: Kt Mac	STRUCTURE TYPE: Office
TITLE / SIGNATURE / DATE			DRAWN BY:					INDICATE NORTH ABOVE	INDICATE SCALE OF GRID ABOVE IN 1" PER FEET EXAMPLE 1" = 50'	ADDRESS: 507 Boone Rd	SQUARE FT: 336
TITLE / SIGNATURE / DATE			CHECKED BY:							STREET: Bryant	LOT SIZE: 4 Acres
TITLE / SIGNATURE / DATE										PHONE: 501-366-0841	
										BRYANT, ARKANSAS 72022	

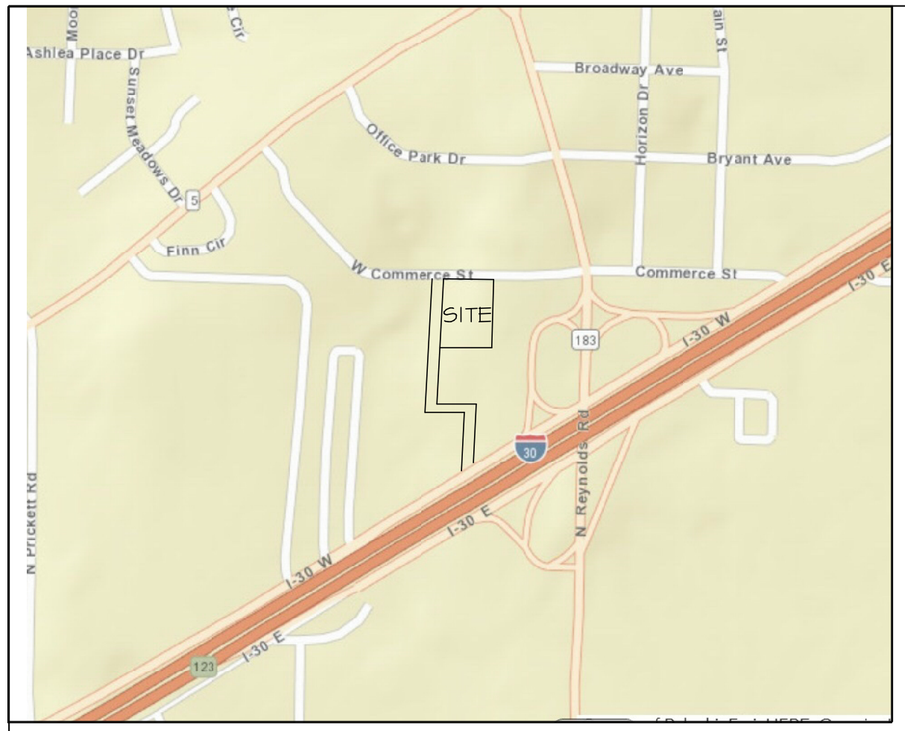
CITY OF BRYANT ARKANSAS Est. 1892

SUBMITTAL DATE:

WORK ORDER NO.:

SHEET NO.: OF

XXX####XXX.DWG



N

W E

S

BASIS OF BEARING
IS GRID NORTH
AR SOUTH ZONE
NAD83
GPS DATA
CF 0.9998954439
-0°16'47"

SOURCE OF TITLE: 2020-9437, 2020-25476

OWNER OF RECORD: BRYANT HOTEL INVESTMENTS, LLC
6733 AUSTIN BAY COURT
NLR, AR.

NAME OF SUBDIVIDER: BRYANT HOTEL INVESTMENTS, LLC
6733 AUSTIN BAY COURT
NLR, AR.

CURRENT ZONING: C2

CERTIFICATE OF OWNER

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

_____ _____
DATE OF EXECUTION BRYANT HOTEL INVESTMENTS, LLC

CERTIFICATE OF SURVEYING ACCURACY:

I, KERRY D. LANE, HEREBY CERTIFY THAT THIS PROPOSED PLAT CORRECTLY PRESENTS A SURVEY COMPLETED BY ME, OR UNDER MY SUPERVISION ON MARCH 16, 2023; THAT THE BOUNDARY LINE SHOWN HEREON CORRESPOND WITH THE DESCRIPTION IN THE DEEDS CITED IN THE ABOVE SOURCE OF TITLE; AND THAT ALL MONUMENTS WHICH WERE FOUND OR PLACED ON THE PROPERTY ARE CORRECTLY DESCRIBED AND LOCATED.

BY: _____, ARKANSAS PROFESSIONAL SURVEYOR NO. 1141,

DATE _____

CERTIFICATE OF FINAL PLAT APPROVAL:

PURSUANT TO THE CITY OF BRYANT SUBDIVISION RULES AND REGULATIONS, THIS DOCUMENT WAS GIVEN APPROVAL BY THE BRYANT PLANNING COMMISSION AT A METTING HELD_____ 20_____. ALL OF THE DOCUMENT IS HEREBY ACCEPTED, AND THIS CERTIFICATE EXECUTED UNDER THE AUTHORITY OF SAID RULES AND REGULATIONS.

DATE OF EXECUTION BRYANT PLANNING COMMISSION

_____ _____

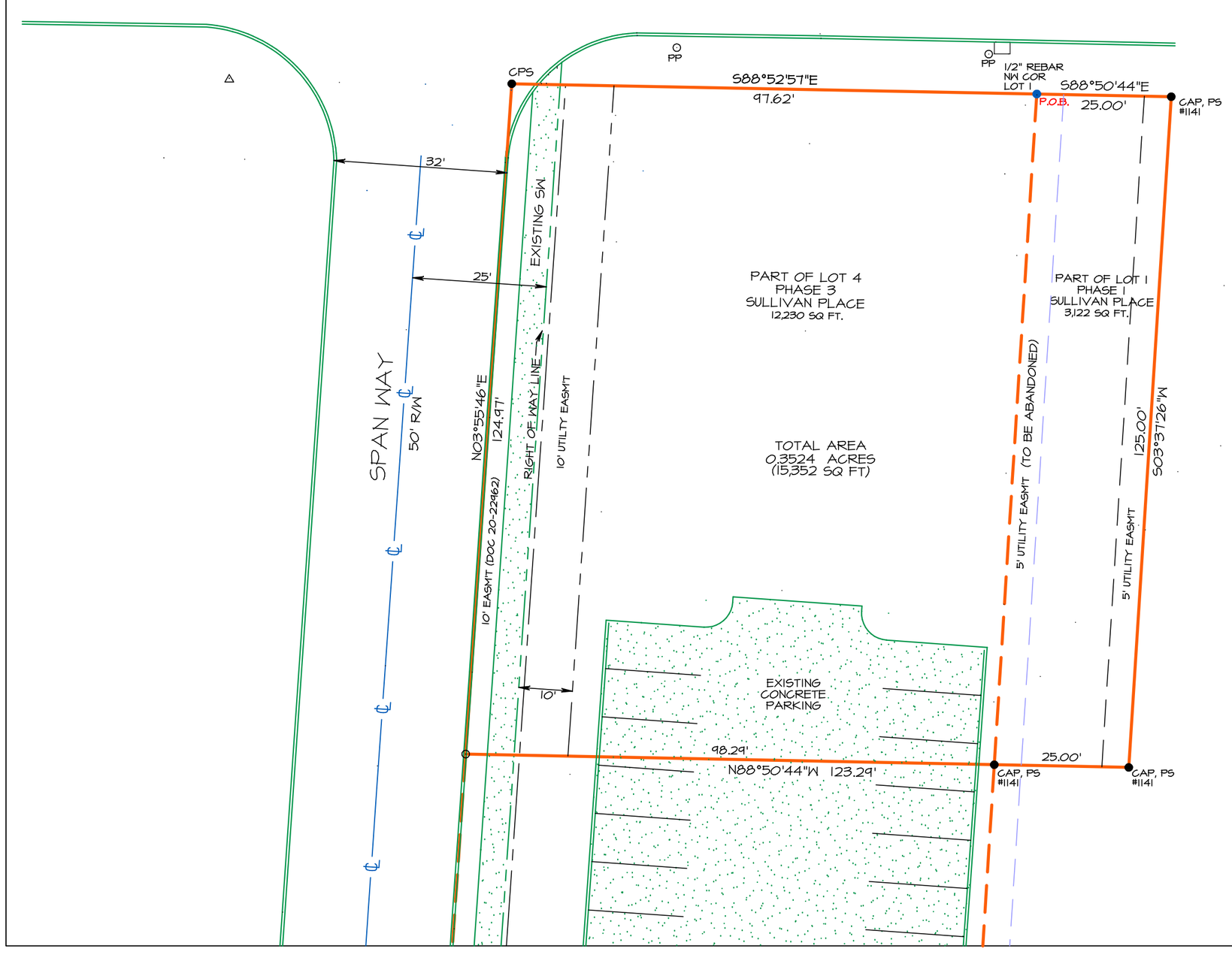
CERTIFICATE OF RECORDING

THIS DOCUMENT, NUMBER_____, FILED FOR RECORD_____, 20_____

IN PLAT BOOK_____ PAGE_____

CLERK

_____



DESCRIPTION
THAT PORTION OF LOT ONE OF THE SULLIVAN PLACE, PHASE I, AND THE THAT PORTION OF LOT 4 OF THE SULLIVAN PLACE, PHASE III, BEING A REPLAT OF LOT 2 OF THE SULLIVAN PLACE PHASE II, A SUBDIVISION OF A PART OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER, SECTION 21, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, BRYANT, ARKANSAS, AS SHOWN ON PLAT FILED FOR RECORD OCTOBER 16, 2002 AS SALINE COUNTY DOCUMENT NUMBER 2002 71604, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT ONE, THENCE SOUTH 88°50'44" EAST, A DISTANCE OF 25.00 FEET; THENCE SOUTH 03°37'26" WEST, A DISTANCE OF 125.00 FEET; THENCE NORTH 88°50'44" WEST, A DISTANCE OF 123.24 FEET; THENCE NORTH 03°55'46" EAST, A DISTANCE OF 124.97 FEET; THENCE SOUTH 88°52'57" EAST, A DISTANCE OF 97.62 FEET TO THE POINT OF BEGINNING, CONTAINING 0.3524 ACRES, MORE OR LESS.

SURVEYORS CERTIFICATION
UNLESS SPECIFICALLY STATED OR SHOWN, THIS BOUNDARY SURVEY IS MADE SUBJECT TO AND DOES NOT DELINEATE: BUILDING SETBACK LINES, ZONING REGULATIONS, RESTRICTIONS, OR OTHER ITEMS WHICH MAY AFFECT DEVELOPMENT. NO STATEMENT IS MADE CONCERNING SUBSURFACE CONDITIONS, OR THE EXISTANCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES, UNLESS SPECIFICALLY SHOWN, WHICH MAY AFFECT THE USE OR DEVELOPMENT OF THE TRACT. TRACT MAY BE SUBJECT TO EASEMENTS, RESTRICTIVE COVENANTS, SUBDIVISION RESTRICTIONS, AND PLANNING AND ZONING REGULATIONS OF RECORD, IF ANY, AND IS SUBJECT TO SUCH FACTS WHICH A CURRENT TITLE SEARCH MAY DISCLOSE. I HEREBY CERTIFY THAT THE ABOVE PLAT REPRESENTS A BOUNDARY SURVEY PERFORMED BY ME OR UNDER MY SUPERVISION ON THIS DAY.

DATE: 3-23-2023

GRAPHIC SCALE 1"=20'

0 20 40 60

PROFESSIONAL LICENSED SURVEYOR
STATE OF ARKANSAS
No. 1141
KERRY D. LANE

DRAWING NO. 020-23	REAL ESTATE SERVICES OF SALINE COUNTY,INC. 501-315-8866 lanesurveylng@gmail.com
REVISIONS BY	REPLAT OF PART LOT ONE AND LOT 4, SULLIVAN PLACE
DATE	1200 FERGUSON DR., SUITE 5, BENTON, AR., 72015
	500-015-14W-0-21-210-62-1141

DRAWN BY
CHECKED BY
APPROVED BY

New Facility For:
Butler Center
1109 N Reynolds Road
Bryant, AR 72022

STORM WATER MAINTENANCE PLAN

The Butler Center owner will be responsible for the inspection and maintenance of the stormwater detention pond located on its.

Inspections are to be scheduled as directed in this document. All documentation on scheduled inspections, dates of inspections, and maintenance completed shall be retained by the Butler Center owner for a period of three years.

DETENTION PIPES

Annual Maintenance (as applicable):

[ ] Check pipes for sediment in-fill, clean when necessary

[ ] Check outlets for clogging with trash or dead vegetation, clean when necessary

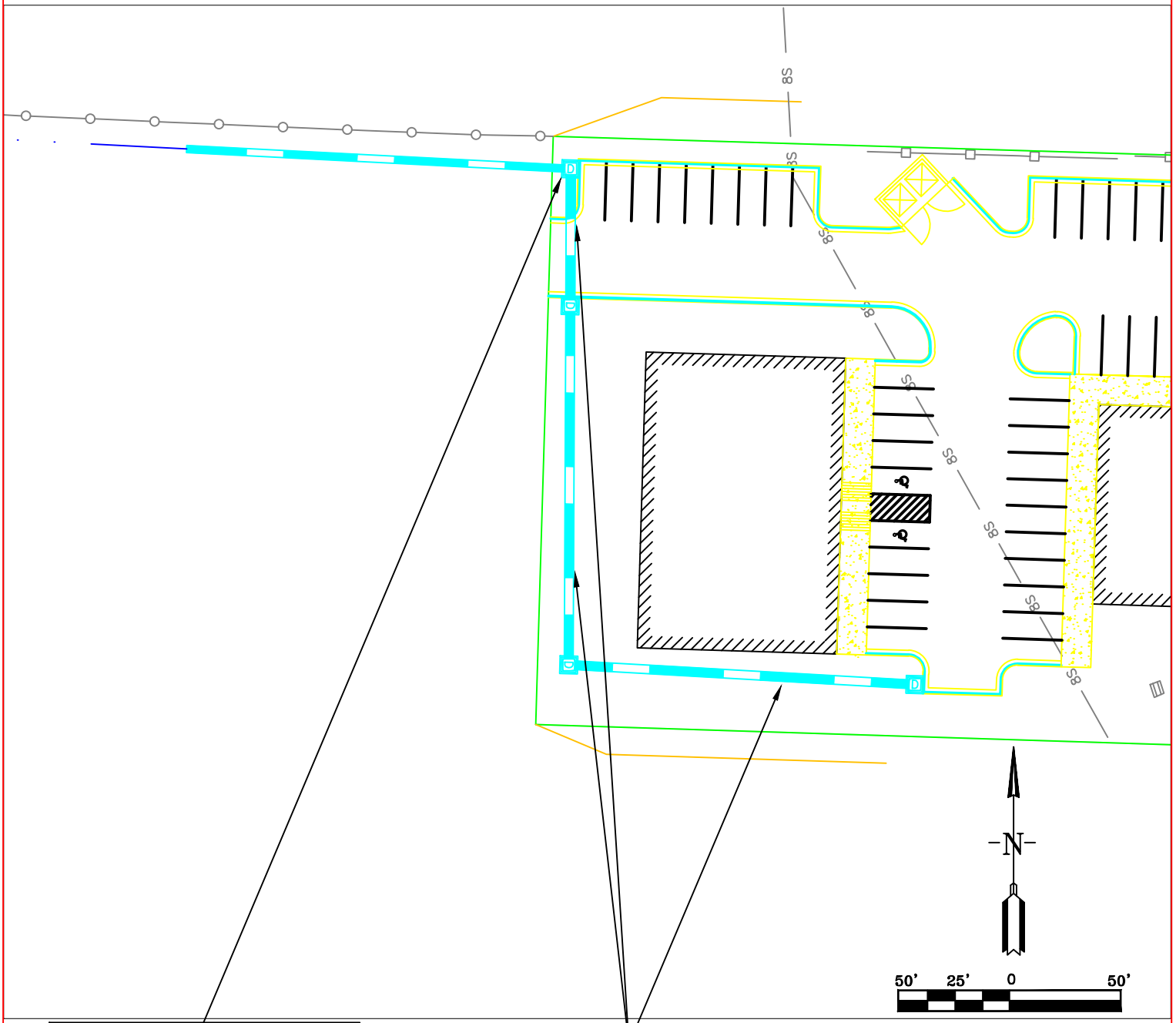
Michael Butler
Butler Wealth Capital, LLC

3-17-23
date

INSPECTION REPORT

DATE: / /

BUTLER CENTER

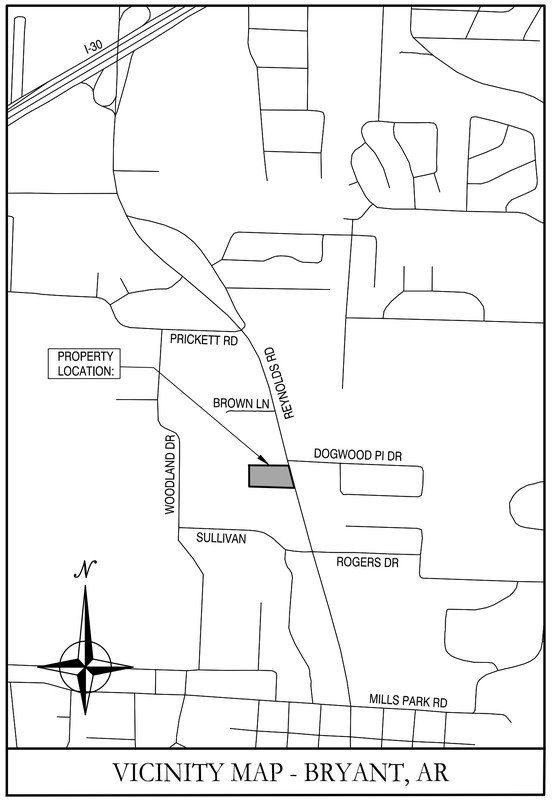


OUTLET

DETENTION PIPE

COMMENT

NEW FACILITY FOR:
BUTLER CENTER
CITY OF BRYANT, AR



VICINITY MAP - BRYANT, AR

Prepared by:

GarNat Engineering, LLC

Designing our client's success

www.garnatengineering.com

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

3825 Mt Carmel Road
Bryant, AR 72022
Fx (888) 900-3068

ARKANSAS

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

03-06-2023

CERTIFICATE OF AUTHORIZATION
GarNat Engineering, LLC.
No. 2174
ARKANSAS

DRAWING INDEX:

G1.0	GENERAL NOTES
V1.0	BUTLER CENTER SUBDIVISION - FINAL PLAT
D1.0	SITE DEMO PLAN
C1.0	SITE PLAN
C1.1	SITE DETAILS
C2.0	UTILITY PLAN
C3.0	GRADING & DRAINAGE PLAN
C3.1	DRAINAGE PROFILE & OUTLET STRUCTURE DETAILS
C3.2	OFFSITE DRAINAGE AND BMP
C4.0	EROSION CONTROL PLAN
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPING NOTES & DETAILS

ARDOT STANDARD DRAWINGS:

CG-1	CURBING DETAILS
DR-1	DETAILS OF DRIVEWAYS & ISLANDS
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES
FPC-9E	DETAILS OF DROP INLETS (TYPE C)
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
TEC-1	TEMPORARY EROSION CONTROL DEVICES
TEC-4	TEMPORARY EROSION CONTROL DEVICES
WR-2	WHEELCHAIR RAMPS ALTERATIONS ONLY

1. SAFETY

1.1. JOBSITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

1.2. THIS RESPONSIBILITY COVERS THEIR OWN WORK FORCE, ALL SUBCONTRACTORS, VISITING PERSONNEL, OFFICIALS, AND THE GENERAL PUBLIC WHICH MAY HAVE ACCESS TO THE JOBSITE.

1.3. THE CONTRACTOR SHALL EXERCISE COMPLETE CONTROL OVER WHO HAS ACCESS TO THE JOBSITE TO ENSURE JOBSITE SAFETY.

1.4. THE CONTRACTOR SHALL CONFORM TO ALL SECURITY AND SAFETY REQUIREMENTS OF THE OWNER.

1.5. ANY SAFETY OR OTHER TRAINING REQUIRED BY THE OWNER FOR THE WORK FORCE MUST BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

2. PERMITS

2.1. CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS AS REQUIRED BY REGULATING AUTHORITIES OR BY THE OWNER. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TERMS AND CONDITIONS ASSOCIATED WITH EACH REQUIRED PERMIT, AS WELL AS ADHERING TO THE RULES AND REGULATIONS OF EACH REGULATING AUTHORITY

3. CONTRACT DOCUMENTS

3.1. ALL WORK SHALL CONFORM TO THE PLANS, THESE NOTES, AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

4. INDEMNITY

4.1. BY ACCEPTING THE CONTRACT FOR THIS WORK, THE CONTRACTOR, AT THEIR OWN EXPENSE AND RISK, HEREBY RELEASES AND AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS THE OWNER, GARNAT ENGINEERING, THEIR OFFICERS, AGENTS, EMPLOYEES, CONSULTANTS, AND REPRESENTATIVES FOR DAMAGE TO THE PROPERTY OR INJURY TO, OR DEATH, OF ANY PERSONS, FROM ANY AND ALL CLAIMS, DEMANDS, ACTIONS OF ANY KIND WHATSOEVER ARISING OUT OF AND IN CONNECTION WITH THE AGREEMENT OR PROSECUTION OF WORK UNDER IT, WHETHER SUCH CLAIMS, DEMANDS, ACTIONS, OR LIABILITY ARE CAUSED BY THE CONTRACTOR, IT'S AGENTS, EMPLOYEES, SUBCONTRACTORS, PRODUCTS INSTALLED ON THE PROJECT OR CAUSED BY ANY OTHER PARTY.

5. CONSTRUCTION PROCEDURES, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS UNLESS OTHERWISE MODIFIED ON THE DRAWINGS OR IN THESE NOTES OR SPECIFICATIONS.

5.1. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

5.2. INTERNATIONAL BUILDING CODE

5.3. ACI 315 MANUAL OF STANDARD PRACTICES FOR DETAILING REINFORCED CONCRETE STRUCTURES

5.4. CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING STEEL.

5.5. CITY OF BRYANT STANDARD SPECIFICATIONS.

5.6. LATEST EDITIONS OF AWWA, ASTM, ADH, AND TEN STATES STANDARDS.

6. SITE

6.1. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS.

6.2. CONTRACTOR IS NOT TO PERFORM WORK BEYOND THE DESIGNATED WORK LIMITS WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION FROM THE PROJECT ENGINEER OR OWNER.

6.3. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO: DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN EXISTING CONDITIONS.

6.4. CONTRACTOR TO REMOVE OR RELOCATE, WHEN APPLICABLE, ALL ITEMS, SHOWN TO BE REMOVED OR RELOCATED AND NOT SHOWN WITHIN CONSTRUCTION LIMITS AND WHERE REQUIRED TO ALLOW FOR NEW CONSTRUCTION AS SHOWN.

6.5. CONTRACTOR TO ADJUST ALL EXISTING AND PROPOSED MANHOLES, VALVE BOXES, ETC. TO FINISH GRADE, WHERE REQUIRED.

7. STRUCTURES

7.1. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT IN TO INVERT OUT.

7.2. BEDDING FOR STORM STRUCTURES SHALL CONSIST OF A MINIMUM OF 6-INCHES OF COMPACTED #57 STONE ON TOP OF COMPACTED SUBGRADE.

7.3. AREAS EXPOSED BY EXCAVATION OR STRIPPING AND ON WHICH SUBGRADE PREPARATIONS ARE TO BE PERFORMED SHALL BE SCARIFIED TO MINIMUM DEPTH OF 0'-8" AND COMPACTED TO MINIMUM OF 95% OPTIMUM DENSITY. ANY AREAS THAT FAIL COMPACTION ARE TO BE STABLIZED AS DIRECTED BY THE ENGINEER.

8. PRIOR TO PLACING FILL IN LOW AREAS, SUCH AS PREVIOUSLY EXISTING CREEKS, PONDS, OR LAKES, PERFORM FOLLOWING PROCEDURES:

8.1. DRAIN WATER OUT BY GRAVITY WITH DITCH HAVING FLOW LINE LOWER THAN LOWEST ELEVATION IN LOW AREA. IF DRAINAGE CANNOT BE PERFORMED BY GRAVITY DITCH, USE ADEQUATE PUMP TO OBTAIN THE SAME RESULTS.

8.2. AFTER DRAINAGE OF LOW AREA IS COMPLETE, REMOVE MULCH, MUD DEBRIS, AND OTHER UNSUITABLE MATERIAL BY USING ACCEPTABLE EQUIPMENT AND METHODS THAT WILL KEEP NATURAL SOILS UNDERLYING LOW AREA DRY AND UNDISTURBED.

9. UTILITIES

9.1. AN ATTEMPT HAS BEEN MADE TO APPROXIMATELY LOCATE UTILITIES ON THE DRAWINGS.

9.2. UTILITIES SHOWN ON THE DRAWINGS WERE LOCATED BY VISUAL OBSERVATION, AND BY TRANSCRIBING FROM RECORD MAPS AND PLANS.

9.3. NO EXCAVATIONS WERE MADE TO CONFIRM SUB-SURFACE UTILITIES. NEITHER THE SURVEYOR NOR PROJECT ENGINEER GUARANTEES THAT ALL UTILITIES HAVE BEEN SHOWN, OR THAT THOSE SHOWN ARE FULLY ACCURATE.

9.4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADJUSTMENTS AND/OR RELOCATION OF EXISTING UTILITIES THAT ARE DAMAGED AS A RESULT OF WORK OF THIS PROJECT.

9.5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROPERLY DISCONNECTING, ABANDONING, RELOCATING, AND/OR ADJUSTING ALL AFFECTED UTILITIES WITHIN THE PROJECT AREA.

9.6. ALL UTILITY WORK SHALL BE COORDINATED AND EXECUTED IN ACCORDANCE WITH THE OWNER AND/OR GOVERNING UTILITY COMPANY CODES, SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.

9.7. DESIGN AND ALIGNMENT OF UNDERGROUND TELEPHONE, TV CABLE, GAS AND ELECTRIC SERVICES SHALL BE PROVIDED BY THE INDIVIDUAL UTILITIES AND ARE NOT NECESSARILY SHOWN WITH THESE PLANS. CONTRACTOR SHALL PROVIDE CONDUITS SIZED TO ACCOMMODATE UTILITY ROUTING WITH PULL STRINGS WHERE NECESSARY.

9.8. CONTRACTOR TO PROVIDE ALL NECESSARY APPURTENANCES NECESSARY FOR COMPLETE UTILITY SERVICES WHICH ARE NOT PROVIDED BY THE UTILITY COMPANY.

9.9. WATER AND SEWER RELOCATIONS SHOWN SHALL COMPLY WITH THE CITY OF BRYANT'S STANDARD WATER AND SEWER SPECIFICATIONS AND DETAILS. SERVICE LINE WORK SHALL BE COMPLETED BY A LICENSED PLUMBER AND COMPLY WITH ARKANSAS PLUMBING CODE.

10. DISPOSAL OF DEBRIS, WASTE OR SPOIL

10.1. BURNING OF DEBRIS AND WASTE IS NOT ALLOWED. CONTRACTOR MAY BE REQUIRED TO PROPERLY HAUL AWAY AND DISPOSE OF ANY WASTE MATERIAL REMOVED FROM THE SITE.

10.2. ANY WASTE OR SPOIL MATERIAL WHICH IS EXCAVATED FROM THE JOB SITE IS TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER OR OWNER.

10.3. REMOVAL AND DISPOSAL OF EXCAVATED WASTE MATERIAL IS CONSIDERED SUBSIDIARY TO ALL OTHER ITEMS IN THE PROJECT, AND WILL NOT BE PAID FOR SEPARATELY.

10.4. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS IN DISPOSING OF DEMOLISHED MATERIAL REMOVED FROM THIS SITE.

10.5. CONTRACTOR SHALL REMOVE FROM SITE AND DISPOSE OF MATERIAL ENCOUNTERED IN GRADING OPERATIONS THAT, IN OPINION OF THE ENGINEER, IS UNSUITABLE OR UNDESIRABLE FOR BACKFILLING OR SUBGRADE PURPOSES. DISPOSE OF IN A MANNER SATISFACTORY TO ENGINEER. BACKFILL UNDERCUT AREAS WITH LAYERS OF SUITABLE MATERIAL AND COMPACT AS SPECIFIED HEREIN.

11. SUBSTITUTIONS

11.1. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL FROM THE PROJECT ENGINEER.

12. ENVIRONMENTAL

12.1. THE CONTRACTOR IS TO MEET ALL ENVIRONMENTAL REQUIREMENTS OF THE OWNER AND ANY REGULATORY AGENCY HAVING AUTHORITY OVER THIS SITE.

12.2. THE CONTRACTOR IS TO UTILIZE BEST MANAGEMENT PRACTICES (BMP'S) FOR CONTROL OF EROSION DURING ALL CONSTRUCTION PHASES OF THIS PROJECT.

12.3. MININUM BMP'S REQUIRED FOR THE PROJECT ARE LISTED ON SHEET THESE PLANS. CONTRACTOR SHALL PROVIDE THESE BMP'S AND ANY OTHERS REQUIRED FOR THE PROJECT.

12.4. CONTRACTOR SHALL KEEP WORK AREA CLEAN AND FREE OF ACCUMULATED TRASH AND DEBRIS. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING MEASURES TO AVOID TRACKING OF MUD, DIRT, ROCKS, AND DEBRIS ONTO AREAS OUTSIDE THE PROJECT AREA. CONTRACTOR SHALL CLEAN PAVEMENTS WHEN NECESSARY OR AS OTHERWISE DIRECTED, AND SHALL CONTROL DUST BY SWEEPING AND WATERING AS NEEDED. DE-TRACKING MAY BE REQUIRED AT ALL ENTRANCES.

13. FINAL SITE CONDITIONS

13.1. ALL DISTURBED AREAS NOT RECEIVING PAVEMENT OR LANDSCAPING SHALL HAVE VEGETATION ESTABLISHED AT TIME OF FINAL INSPECTION.

13.2. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPE 2H:1V OR STEEPER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

13.3. ALL CUT OR FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED.

13.4. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS

13.5. UPON PARTIAL OR FINAL COMPLETION OF GRADING WORK, SPREAD TOPSOIL, SEED, FERTILIZER, AND MULCH IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE STORM WATER POLLUTION PREVENTION PLAN.

14. TRAFFIC CONTROL

14.1. CONTRACTOR SHALL ENGAGE A SUBCONSULTANT WHO SPECIALIZES IN MAINTENANCE OF TRAFFIC PLANS. SUBCONSULTANT SHALL PREPARE A MAINTENANCE OF TRAFFIC PLAN FOR THE PROJECT THAT COMPLIES WITH THE REQUIREMENTS OF MUTCD AND ALL APPLICABLE AUTHORITIES HAVING JURISDICTION OVER ROAD RIGHT-OF-WAY. CONTRACTOR SHALL SUBMIT MAINTENANCE OF TRAFFIC PLAN TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.

BY	REVISION	DATE

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GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
garnatengineering@gmail.com

NEW FACILITY FOR:
BUTLER CENTER
CITY OF BRYANT, AR

STATE OF ARKANSAS
Vernon ★★★ Williams
REGISTERED PROFESSIONAL ENGINEER
★★★
NO. 9551
VERNON J. WILLIAMS

03-06-2023

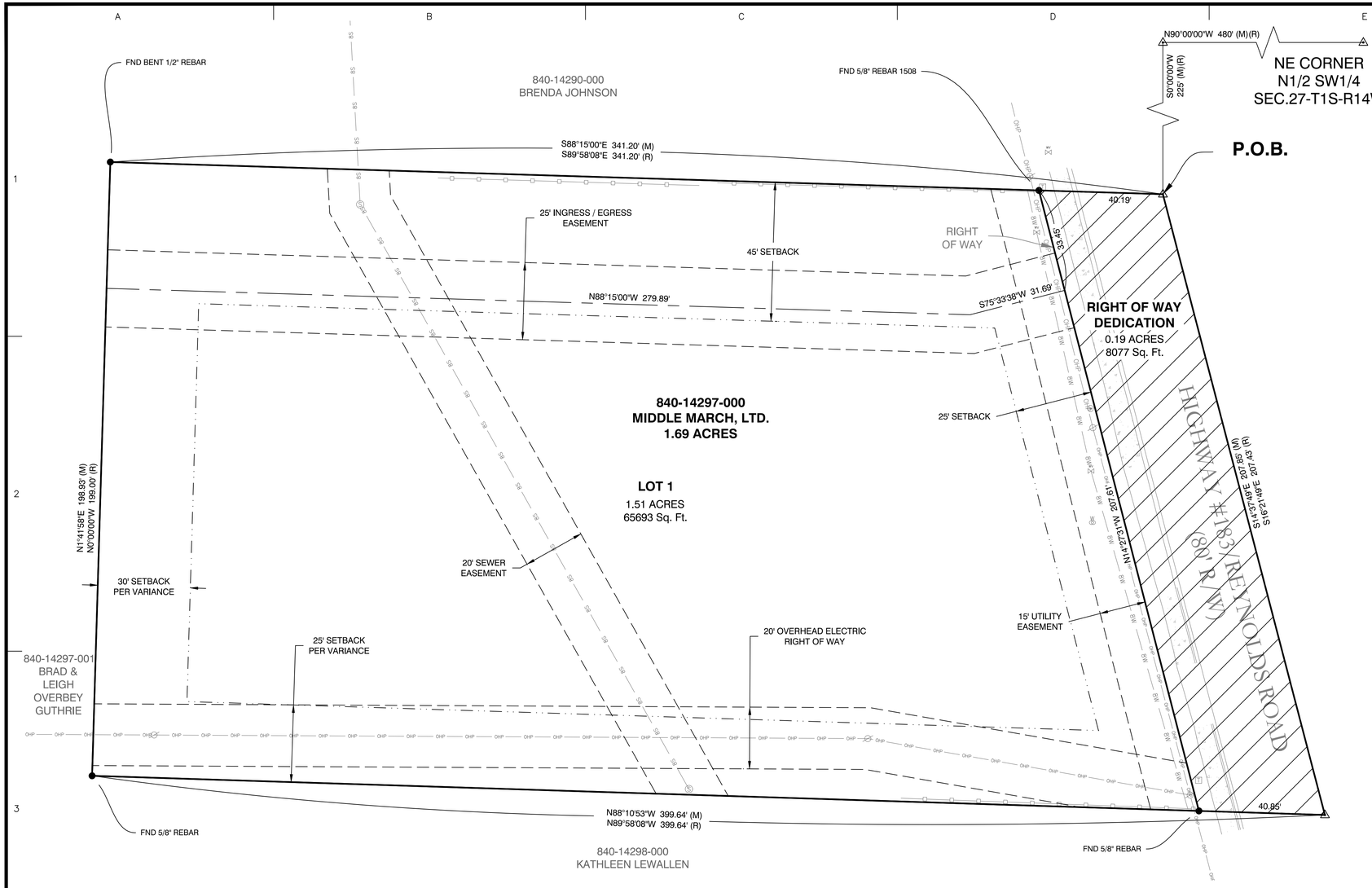
CONTENTS:

GENERAL NOTES

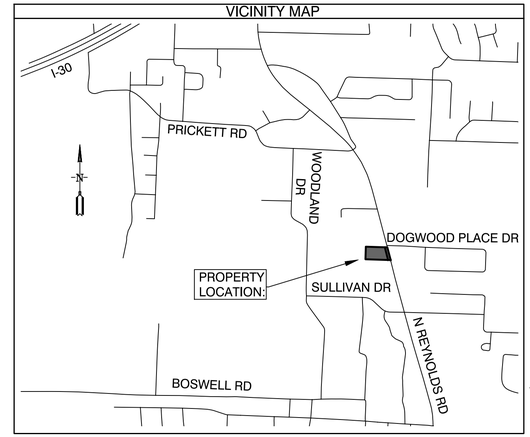
PROJECT NO: 22203

DATE: FEB 2023

SHEET NO: G1.0



VICINITY MAP



DESCRIPTIONS:

OVERALL PROPERTY DESCRIPTION:
PART OF THE NORTH HALF OF THE SOUTHWEST QUARTER (N1/2 SW1/4) OF SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: **BEGINNING** AT A COMPUTED POINT IN THE CENTERLINE OF HIGHWAY #183 (NORTH REYNOLDS ROAD), WHICH IS 480 WEST AND 225 FEET SOUTH OF THE NORTHEAST CORNER OF THE SAID N1/2 SW1/4; THENCE S14°37'49"E - 207.85 FEET ALONG SAID CENTERLINE OF HIGHWAY #183 TO A COMPUTED POINT; THENCE LEAVING SAID CENTERLINE OF HIGHWAY #183, N88°10'53"W - 399.64 FEET TO A FOUND 5/8" REBAR; THENCE N1°41'58"E - 198.93 FEET TO A FOUND BENT 1/2" REBAR; THENCE S88°15'00"E - 341.20 FEET TO THE **POINT OF BEGINNING**, CONTAINING 1.69 ACRES, MORE OR LESS. SUBJECT TO A RIGHT OF WAY FOR (HIGHWAY #183) REYNOLDS ROAD AND UTILITY EASEMENT ALONG EAST LINE.

RIGHT OF WAY DEDICATION:
PART OF THE NORTH HALF OF THE SOUTHWEST QUARTER (N1/2 SW1/4) OF SECTION 27, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: **BEGINNING** AT A COMPUTED POINT IN THE CENTERLINE OF HIGHWAY #183 (NORTH REYNOLDS ROAD), WHICH IS 480 WEST AND 225 FEET SOUTH OF THE NORTHEAST CORNER OF THE SAID N1/2 SW1/4; THENCE S14°37'49"E - 207.85 FEET ALONG SAID CENTERLINE OF HIGHWAY #183 TO A COMPUTED POINT; THENCE LEAVING SAID CENTERLINE OF HIGHWAY #183, N88°10'53"W - 40.85 FEET TO A FOUND 5/8" REBAR; THENCE N14°27'31"W - 207.61 FEET TO A FOUND 5/8" REBAR WITH CAP #1508; THENCE S88°15'00"E - 40.19 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.19 ACRES, MORE OR LESS.

DOCUMENTS USED:

- PREVIOUS SURVEY BY HOPE CONSULTING DATED 10/24/95
- DEED BOOK 1996 PAGE 17127

BASIS OF BEARINGS:

BENCHMARK(S) PROVIDED ARE REBAR AND COORDINATES ON BENCHMARKS ARE NORTH AMERICAN DATUM 1983, ARKANSAS NORTH ZONE, US SURVEY FEET, GRID COORDINATES AND ELEVATIONS ARE NAVD 1988. COORDINATES AND ELEVATIONS WERE ESTABLISHED USING GPS AND WERE PROCESSED USING THE NATIONAL GEODETIC SURVEY'S "ONLINE POSITIONING USER SERVICE" (OPUS).

CERTIFICATIONS:

BY AFFIXING MY SEAL AND SIGNATURE, I GEORGE P. WOODEN, PS NO.1573, HEREBY CERTIFY THAT THIS DRAWING CORRECTLY DEPICTS A SURVEY COMPILED UNDER MY SUPERVISION ON DECEMBER 2, 2022.

THIS SURVEY WAS BASED ON LEGAL DESCRIPTIONS AND TITLE WORK FURNISHED BY OTHERS AND DOES NOT REPRESENT A TITLE SEARCH.

THIS PROPERTY IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN. THE PROPERTY SHOWN ON THIS PLAT IS LOCATED IN ZONE "X" OF THE F.E.M.A. MAP PANEL 05125C0380E EFFECTIVE DATE JUNE 05, 2020.

PLAT CERTIFICATES:

OWNER:
Name: Middle March, LTD.
Address: P.O. Box 864, Bryant, AR 72089-0864

DEVELOPER:
Name: Middle March, LTD.
Address: P.O. Box 864, Bryant, AR 72089-0864

CERTIFICATE OF OWNER:
We, the undersigned, owners of the real estate shown and described herein do hereby certify that we have laid off, platted and subdivided, and do hereby lay off, plat and subdivide said real estate in accordance with the within plat.

Date: _____ Signed: _____
Kenny Whitfield
Middle March, LTD.

Source of Title: SALINE COUNTY, ARKANSAS
Saline County Document# 1996 - 17127

CERTIFICATE OF ENGINEERING ACCURACY:
I, Vernon J. Williams, hereby certify that this plat correctly represents a survey and a plan made by me or under my supervision; that all monuments shown hereon actually exist and their locations, size, type, and material are correctly shown; and that all requirements of the City of Bryant Subdivision Rules and Regulations have been fully complied with.

Date: _____ Signed: _____
Vernon J. Williams
Registered Professional Engineer
No. 9551, Arkansas

CERTIFICATE OF RECORDING: _____

CERTIFICATE OF SURVEYING ACCURACY:
I, George P. Wooden, hereby certify that this plat correctly represents a boundary survey made by me or under my supervision; that the boundary lines shown hereon correspond with the description in the deeds cited in the above Source of Title; and that all monuments which were found or placed on the property are correctly described and located.

Date: _____ Signed: _____
George P. Wooden
Registered Land Surveyor
No. 1573, Arkansas

CERTIFICATE OF FINAL PLAT APPROVAL:
Pursuant to the City of Bryant Subdivision Rules and Regulations, this document was given approval by the Bryant Planning Commission. All of the document is hereby accepted, and this certificate executed under the authority of said rules and regulations.

Date: _____ Signed: _____
Rick Johnson, Chairman
Bryant Planning Commission

PROPERTY SPECIFICATIONS:

ZONING CLASSIFICATION: C2

SOURCE OF WATER: CITY OF BRYANT
SOURCE OF SEWER: CITY OF BRYANT

BUILDING SETBACKS (SB):
FRONT - 25' (MIN. 15')
REAR - 30'
INTERIOR (SIDE) - AS SHOWN

LOT CORNERS: SET #4 REBAR WITH CAP

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

BUTLER CENTER SUBDIVISION FINAL PLAT

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

N

20' 10' 0 20'

SURVEY PLAT CODE:
500-01S-14W-0-27-300-62-1573

CERTIFICATE OF AUTHORIZATION GarNat Engineering, LLC No. 2174 ARKANSAS

BY	REVISION	DATE

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GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
garnatengineering@gmail.com

BUTLER CENTER
SUBDIVISION
BRYANT, ARKANSAS

REGISTERED PROFESSIONAL SURVEYOR STATE OF ARKANSAS NO. 1573 SIGNATURE GEORGE P. WOODEN DRAFT

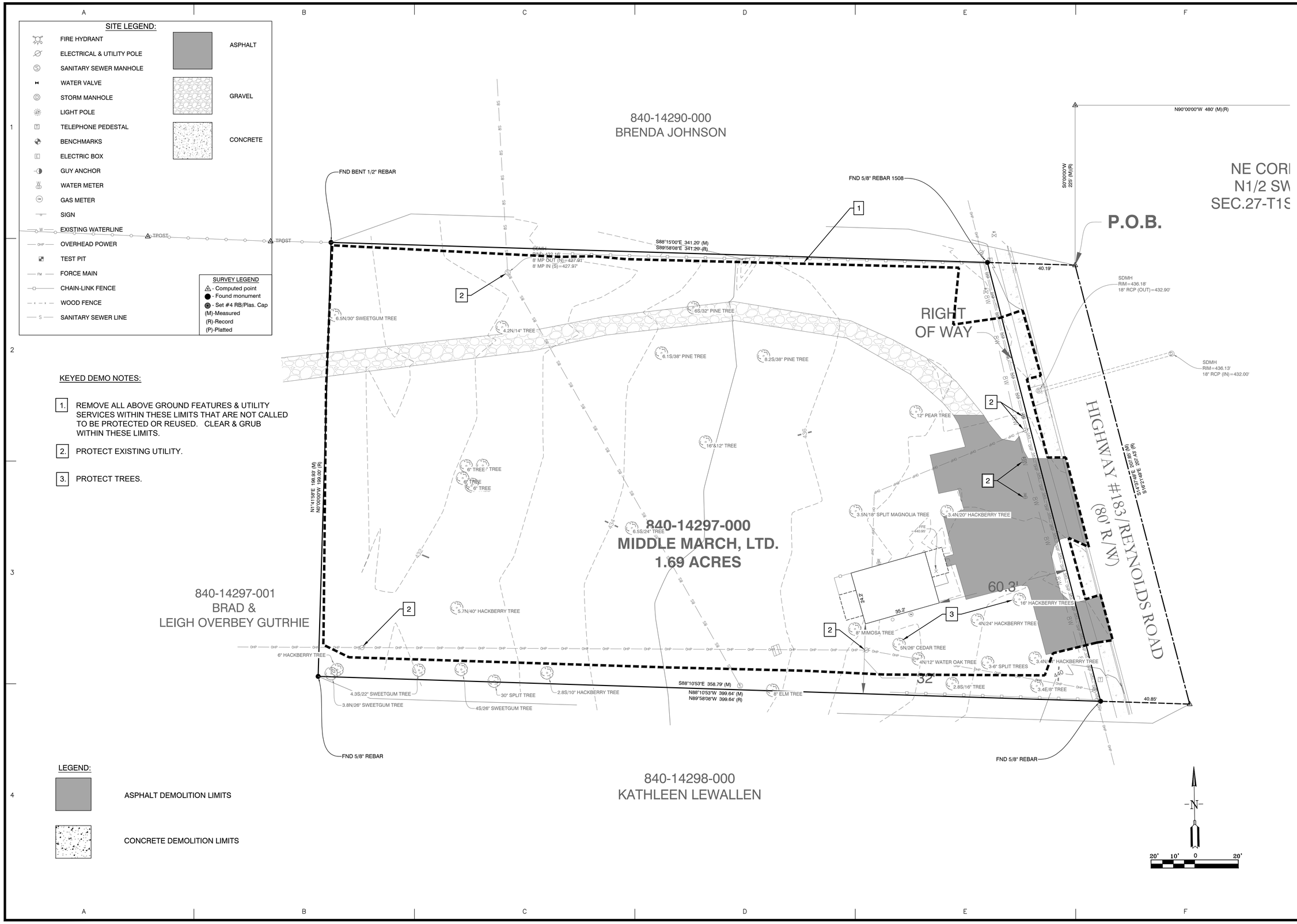
CONTENTS:
FINAL PLAT

PROJECT NO:
22203

DATE:
MAR. 21, 2023

SHEET NO:
V1.0

a:\Projects\2022 Projects\22203 Butler Center 8109 North Reynolds Road Kenny Whitfield\Drawings\[KRW] Design\[KRW] 22203 - Butler Center One Lot Subdivision Check Print 01-02023.dwg



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Vernon J. Williams
REGISTERED PROFESSIONAL ENGINEER
NO. 9551
VERNON J. WILLIAMS

03-06-2023

CONTENTS:
SITE DEMO PLAN

PROJECT NO: 22203

DATE: FEB 2023

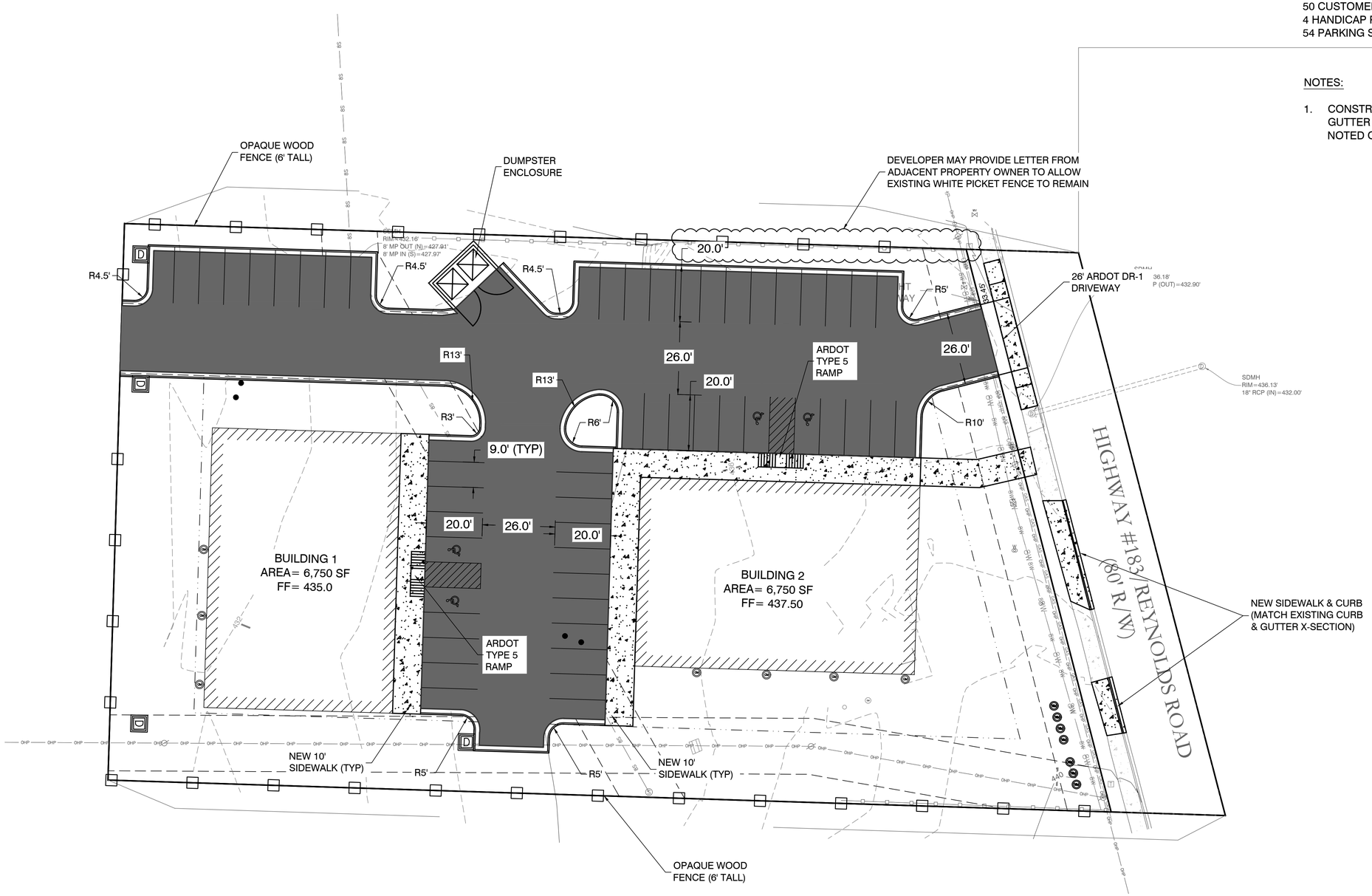
SHEET NO: D1.0

PARKING SPACES:

50 CUSTOMER PARKING SPACES
4 HANDICAP PARKING SPACES
54 PARKING SPACES TOTAL

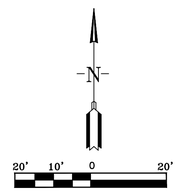
NOTES:

1. CONSTRUCT AHTD TYPE 'A' CURB & GUTTER IN ALL AREAS EXCEPT AS NOTED ON PLANS.



LEGEND:

- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING ASPHALT



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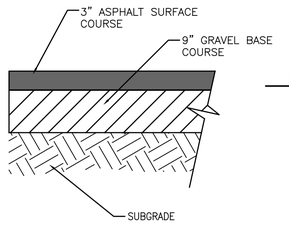
CONTENTS:
SITE PLAN

PROJECT NO:
22203

DATE:
FEB 2023

SHEET NO:
C1.0

J:\Projects\2022 Projects\22203 Butler Center 1100 North Reynolds Road Kenny #Skilled\Drawings\CAD\Sheets\22203 C1100 N Reynolds Rd Design - R2.dwg



ASPHALT PAVING 1

NOT TO SCALE

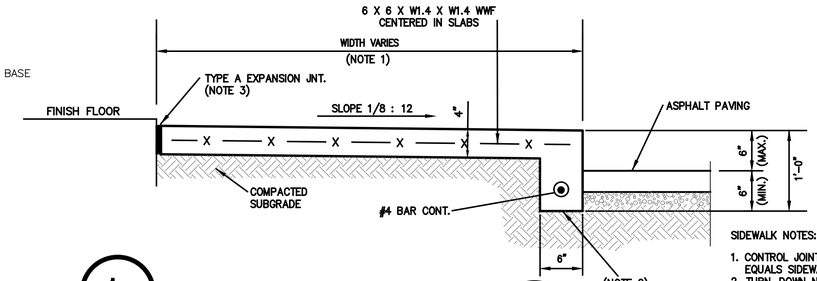
NOTES:

1. ASPHALT SURFACE COURSE SHALL MEET MATERIAL AND INSTALLATION REQUIREMENTS OF SECTION 407 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

2. ASPHALT BINDER COURSE SHALL MEET MATERIAL & INSTALLATION REQUIREMENTS OF SECTION 406 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

3. GRAVEL BASE COURSE SHALL MEET MATERIAL AND INSTALLATION REQUIREMENTS FOR AHTD CLASS 7 AGGREGATE BASE COURSE IN SECTION 303 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

4. SUBGRADE SHALL BE COMPACTED TO A UNIFORM DENSITY OF NOT LESS THAN 95% OF THE MODIFIED PROCTOR.

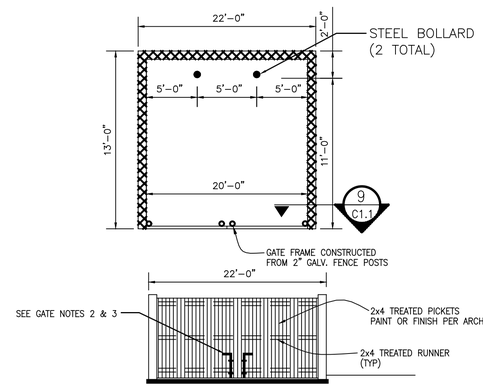


SIDEWALK DETAIL 2

NOT TO SCALE

SIDEWALK NOTES:

1. CONTROL JOINT SPACING EQUALS SIDEWALK WIDTH
2. TURN-DOWN NOT REQUIRED WHERE SIDEWALK MATCHES SURROUNDING GRADE
3. EXPANSION JOINT REQUIRED AT ALL ADJACENT CONCRETE. NOT REQUIRED AT ASPHALT PAVING OR SOIL



SCREENED DUMPSTER ENCLOSURE 3

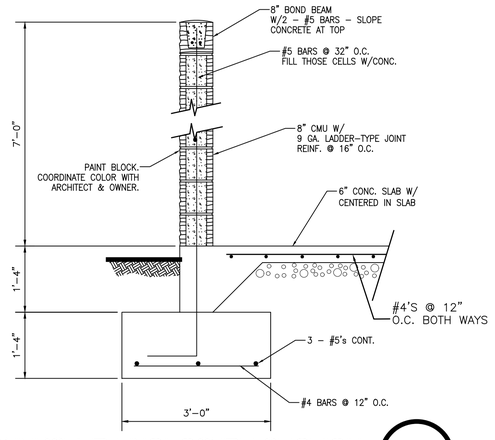
NOT TO SCALE

GATE NOTES:

1. GATE MUST OPEN AT LEAST 120°.

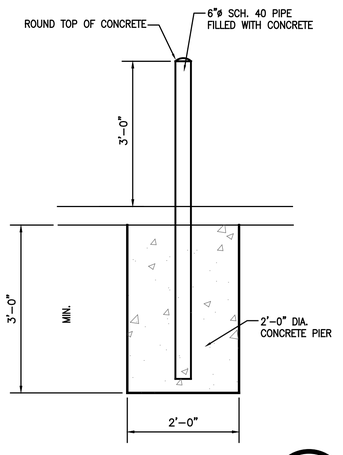
2. HOLD OPEN RODS MUST BE INSTALLED ON THE OUTSIDE FACE OF THE GATES WITH THE HANDLES AT LEAST 36" AFG.

3. HOLES MUST BE DRILLED IN THE PAVEMENT TO HOLD THE GATES IN THE OPEN AND CLOSED POSITION.



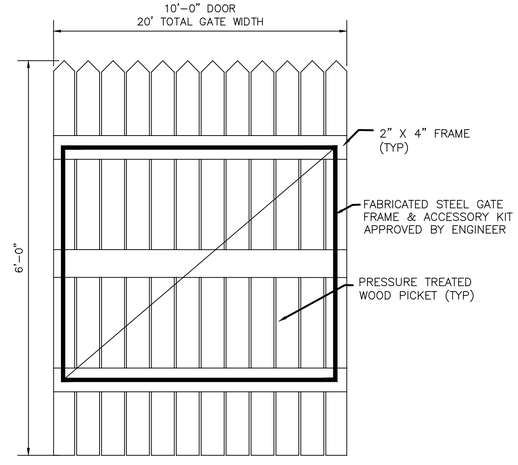
DUMPSTER ENCLOSURE SECTION 4

NOT TO SCALE



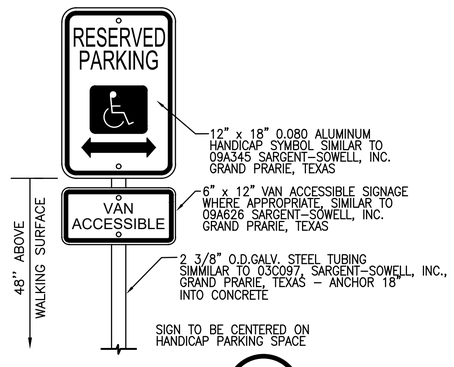
PIPE BOLLARD DETAIL 5

NOT TO SCALE



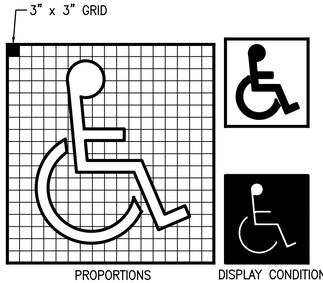
GATE DETAIL 6

NOT TO SCALE



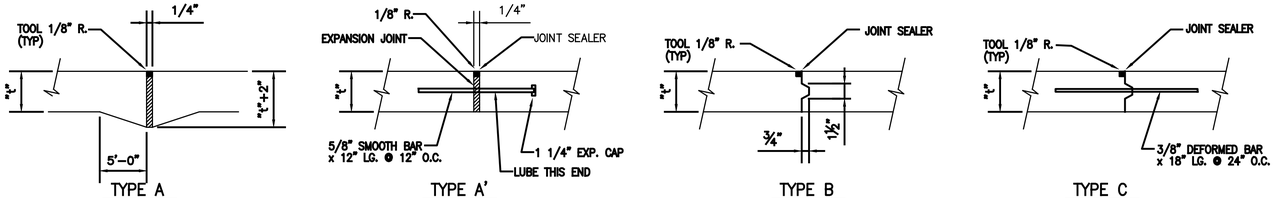
TYP. H.C. SIGN 7

NOT TO SCALE



H.C. PAVEMENT EMBLEM 8

NOT TO SCALE



"t" = SPECIFIED PAVEMENT THICKNESS

CONCRETE JOINTING DETAILS 9

NOT TO SCALE

NOTE: ALL JOINT SPACING NOT TO EXCEED 15'-0" INTERVALS

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GarNat Engineering, LLC
P.O. Box 116
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STATE OF ARKANSAS
Vernon W. Williams
REGISTERED PROFESSIONAL ENGINEER
NO. 9551
VERNON J. WILLIAMS

03-06-2023

CONTENTS:
SITE DETAILS

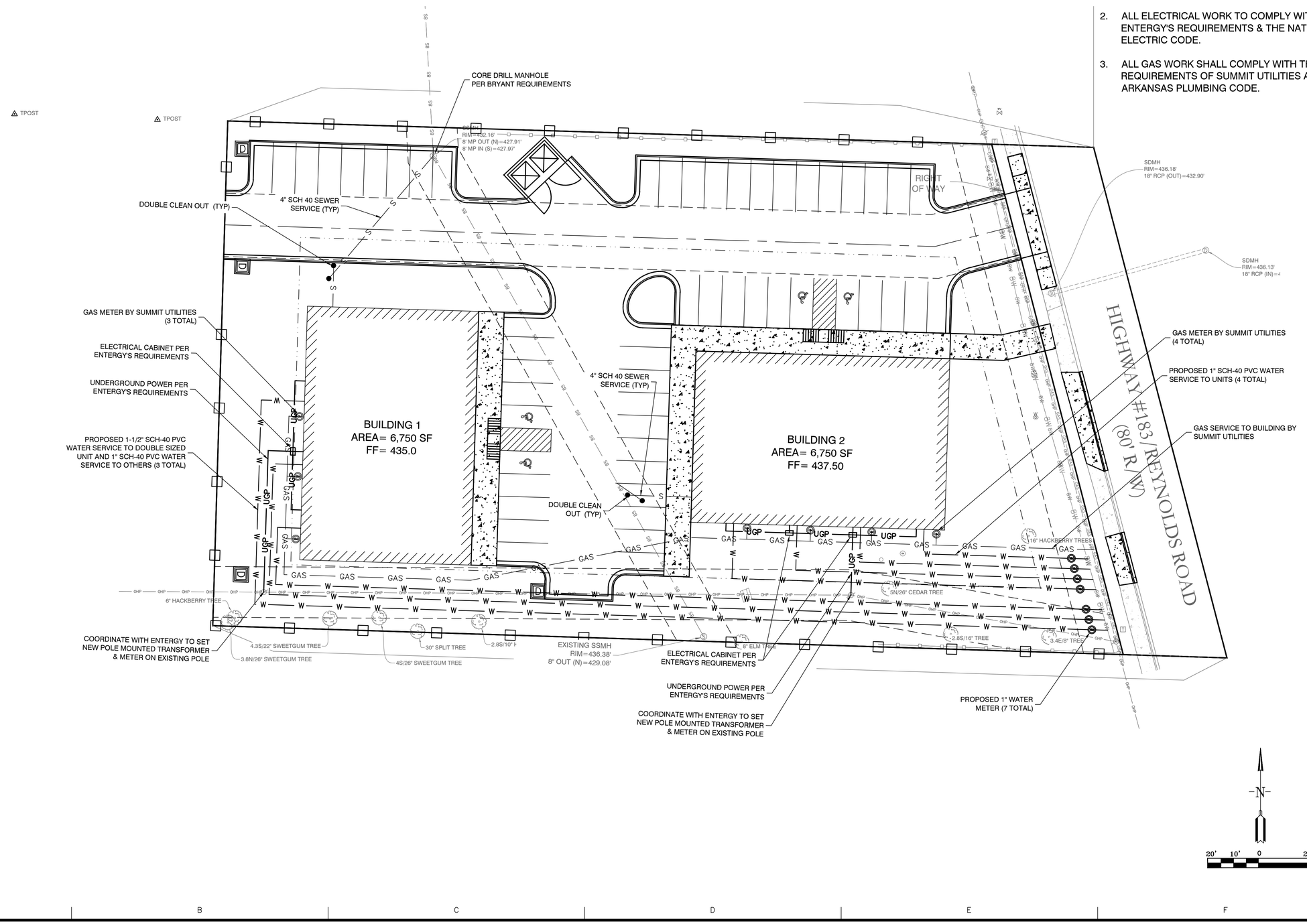
PROJECT NO:
22203

DATE:
FEB 2023

SHEET NO:
C1.1

NOTES:

1. ALL WATER AND SEWER WORK SHALL COMPLY WITH THE REQUIREMENTS OF CITY OF BRYANT STANDARD SPECIFICATIONS FOR DESIGN OF WATER AND SEWER AND THE ARKANSAS PLUMBING CODE. CITY OF BRYANT STANDARD SPECIFICATIONS ARE AVAILABLE FOR DOWNLOAD FROM WWW.CITYOFBRYANT.COM
2. ALL ELECTRICAL WORK TO COMPLY WITH ENTERGY'S REQUIREMENTS & THE NATIONAL ELECTRIC CODE.
3. ALL GAS WORK SHALL COMPLY WITH THE REQUIREMENTS OF SUMMIT UTILITIES AND ARKANSAS PLUMBING CODE.



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CONTENTS:

UTILITY PLAN

PROJECT NO: 22203

DATE: FEB 2023

SHEET NO: C2.0

PIPE - (142) 130' L.F. OF 14" X 22" RCAP @ 0.5%

V-BOTTOM DITCH

CI-1 6' X 5' ARDOT TYPE C & OUTLET STRUCTURE

TPOST

TPOST

0+00

1+00

PIPE - (140) 46' L.F. OF 30" RCP @ 0.058%

CI-2 5'X5' ARDOT TYPE C

PIPE - (139) 121' L.F. OF 30" HDPE @ 0.058%

JB-3 5' X 5' ARDOT TYPE E

2+00

3+00

4+00

4+42

PIPE - (141) 117' L.F. OF 30" HDPE @ 0.058%

CI-4 5' X 5' ARDOT TYPE C

RIM=432.16'
8' MP OUT (N)= 427.91'
8' MP IN (S)=427.97'

SDMH
RIM=436.18'
18" RCP (OUT)=432.90'

SDMH
RIM=436.13'
18" RCP (IN)=432.00'

BUILDING 1
AREA= 6,750 SF
FF= 435.0

BUILDING 2
AREA= 6,750 SF
FF= 437.50

HIGHWAY #183/REYNOLDS ROAD
(80' R/W)

6" HACKBERRY TREE

4.3S/22" SWEETGUM TREE

3.8N/26" SWEETGUM TREE

30" SPLIT TREE

2.8S/10" HACKBERRY TREE

4S/26" SWEETGUM TREE

8" ELM TREE

5N/26" CEDAR TREE

2.8S/16" TREE

3.4E/8" TREE

16" HACKBERRY TREES

N

20' 10' 0 20'

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VERNON J. WILLIAMS

03-06-2023

CONTENTS:

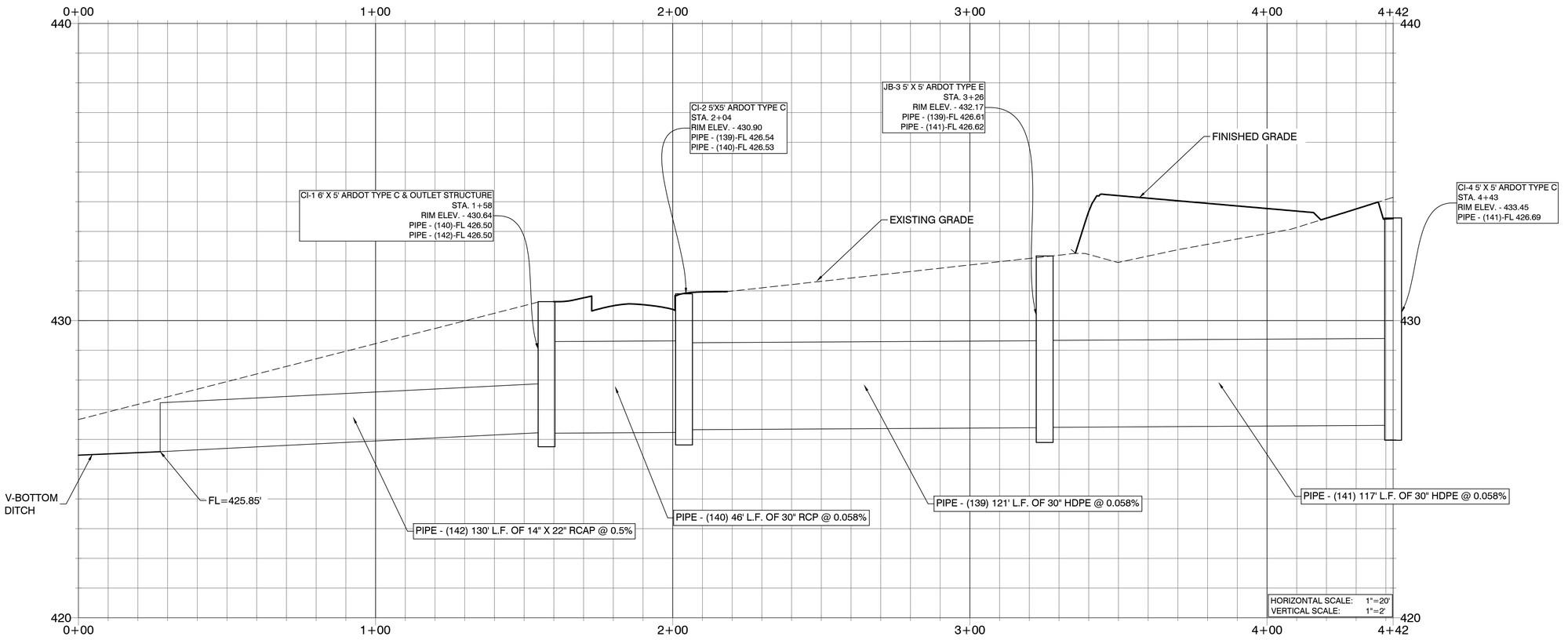
GRADING & DRAINAGE PLAN

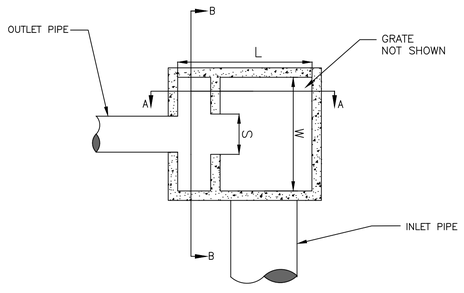
PROJECT NO: 22203

DATE: FEB 2023

SHEET NO: C3.0

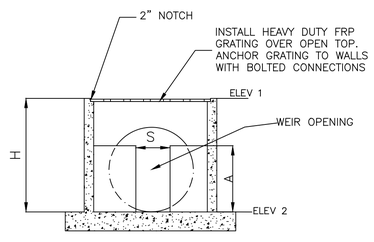
STORM DRAINAGE PROFILE





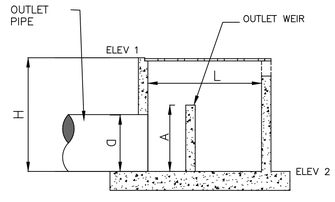
OUTLET STRUCTURE - WEIR PLAN VIEW

NOT TO SCALE



OUTLET STRUCTURE - WEIR SECTION B-B

NOT TO SCALE



OUTLET STRUCTURE - WEIR SECTION A-A

NOT TO SCALE

OUTLET STRUCTURE								
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	S	A	D
WEIR	6'-0"	5'-0"	4'-1 1/2"	430.64	426.50	0'-6"	2'-6"	18"

BY	REVISION	DATE

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GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650
3825 Mt Carmel Rd
Bryant, AR 72022
garnatengineering@gmail.com

NEW FACILITY FOR:
BUTLER CENTER
CITY OF BRYANT, AR

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

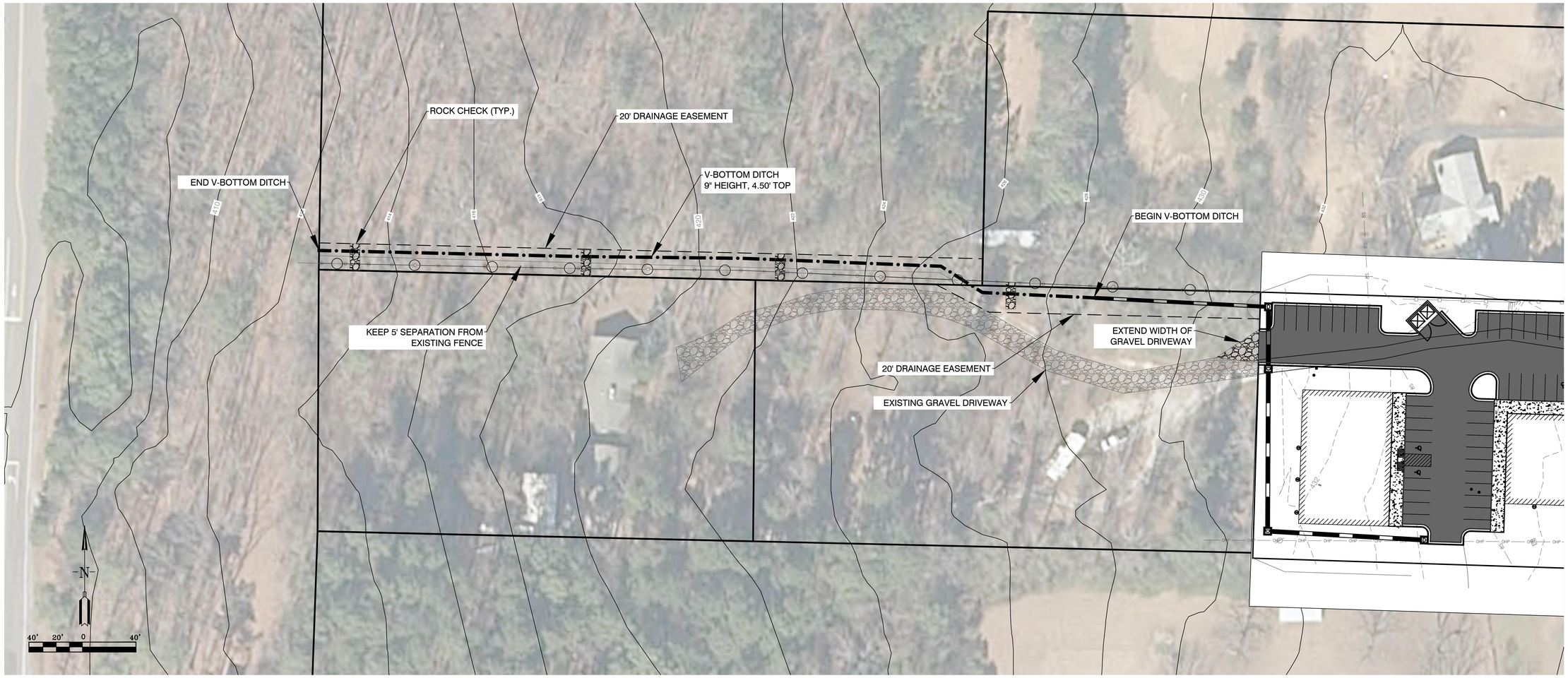
03-06-2023

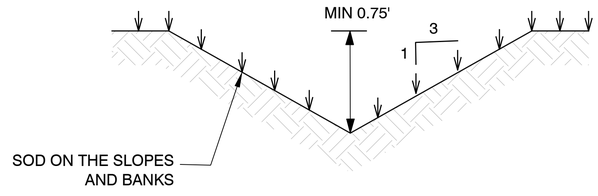
CONTENTS:
DRAINAGE PROFILE & OUTLET STRUCTURE DETAILS

PROJECT NO:
22203

DATE:
FEB 2023

SHEET NO:
C3.1





TYPICAL V-DITCH CROSS SECTION
(N.T.S)

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GarNat Engineering, LLC
P.O. Box 116 (72018)
Benton, AR 72015
Ph (501) 408-4650
3825 Mt Carmel Rd
Bryant, AR 72022
garnatengineering@gmail.com

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NO. 9551
VERNON J. WILLIAMS

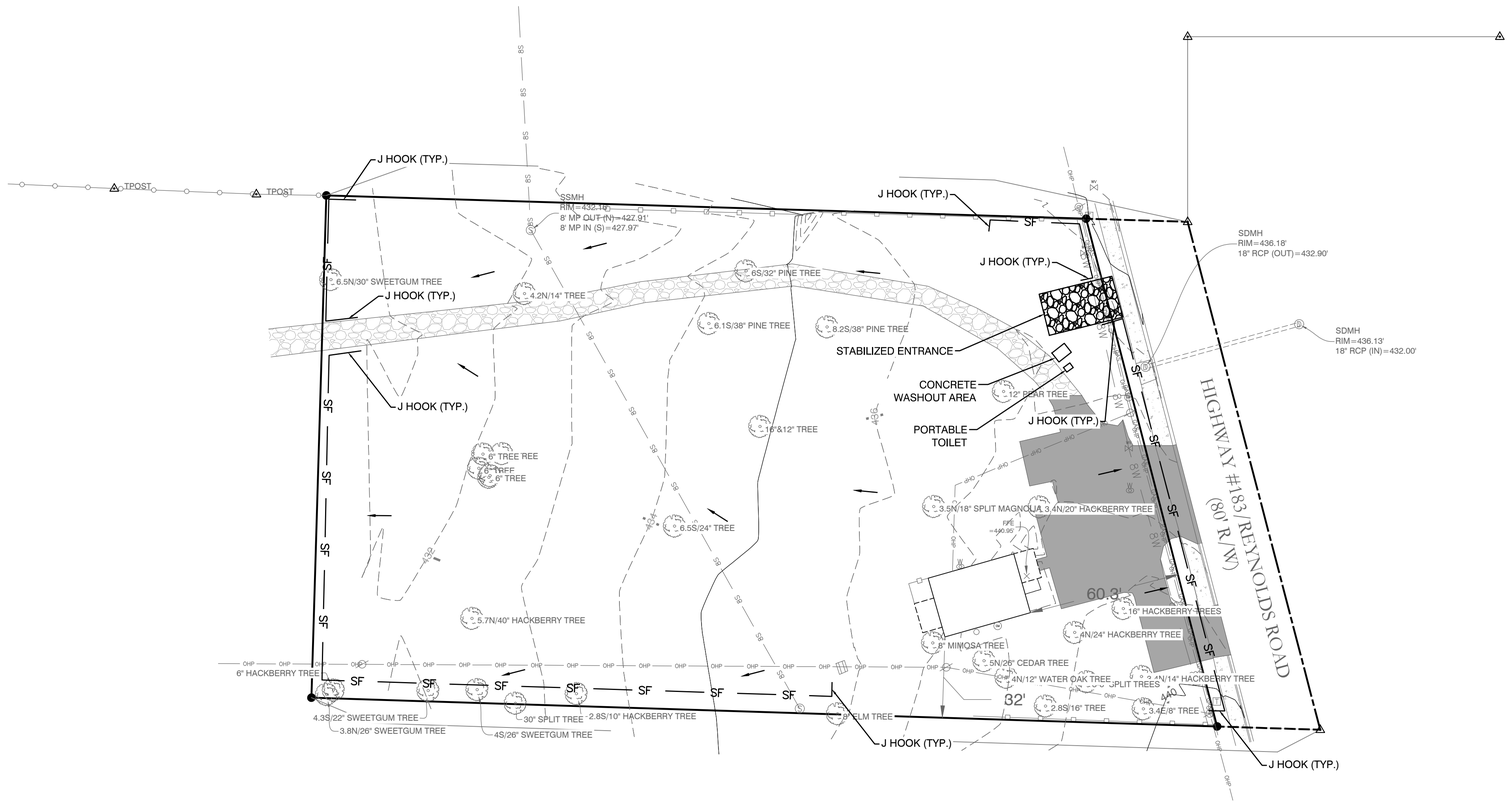
03-06-2023

CONTENTS:
OFFSITE
DRAINAGE
& BMP

PROJECT NO:
22203

DATE:
FEB 2023

SHEET NO:
C3.2



BMP NOTES:

1. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

2. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

3. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIAL SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

4. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

5. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

6. IF THE ACTION OF VEHICLES TRAVELING OVER THE SITE IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF OF THE SITE.

7. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

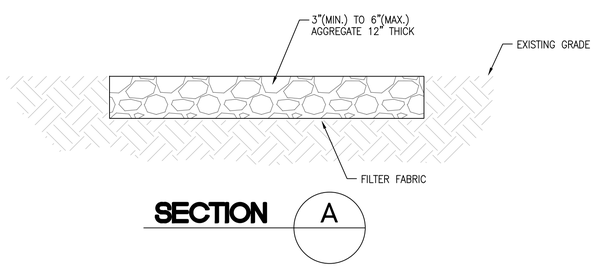
8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

9. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

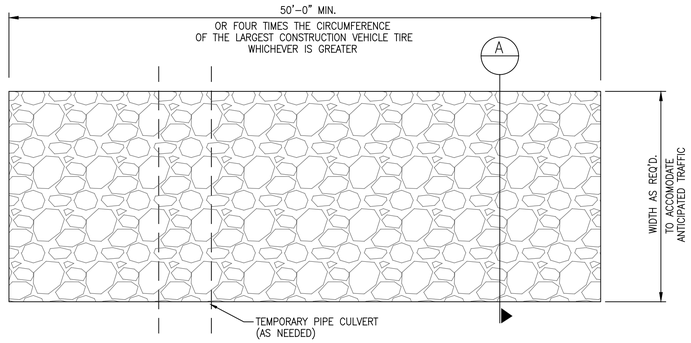
10. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

TOTAL SITE: 1.69 ACRES (INCLUDES R-0-W)

TOTAL DISTURBED AREA: 1.51 ACRES (INCLUDES R-O-W)



SECTION A



STABILIZED CONSTRUCTION ENTRANCE

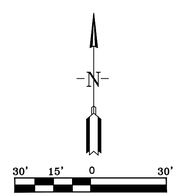
NOT TO SCALE

LEGEND:

500 EXISTING CONTOURS

DIRECTION OF OVERLAND FLOW

SF SILT FENCING



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GarNat Engineering, LLC
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Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
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STATE OF ARKANSAS
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VERNON J. WILLIAMS

03-06-2023

CONTENTS:

EROSION CONTROL PLAN

PROJECT NO: 22203

DATE: FEB 2023

SHEET NO: C4.0

a:\Projects\2022 Projects\22203 Butler Center 1109 North Reynolds Road Kenny Whitfield\Drawings\GRAD\Grading\22203 1109 N Reynolds Rd Grading.dwg

(7) NELLIE R. STEVENS HOLLY

TPOST

SOD

SOD

(13) COMPACTA HOLLY

STEEL EDGING, TYP.

STEEL EDGING, TYP.

(23) STELLA D'ORO DAYLILY

STEEL EDGING, TYP.

(23) STELLA D'ORO DAYLILY

SDMH
RIM=436.18'
18" RCP (OUT)=432.90'

SDMH
RIM=436.13'
18" RCP (IN)=432.00'

HIGHWAY #183/REYNOLDS ROAD
(80' R/W)

SOD

(3) FASHION AZALEA

SOD

(3) FASHION AZALEA

(3) NELLIE R. STEVENS HOLLY

BUILDING 1
AREA= 6,750 SF
FF= 435.0

BUILDING 2
AREA= 6,750 SF
FF= 437.50

(13) COMPACTA HOLLY

STEEL EDGING, TYP.

16" HACKBERRY TREES

SOD

SOD

6" HACKBERRY TREE

5N/26" CEDAR TREE

4.3S/22" SWEETGUM TREE

30" SPLIT TREE

2.8S/10" HACKBERRY TREE

8" ELM TREE

2.8S/16" TREE

3.4E/8" TREE

3.8N/26" SWEETGUM TREE

4S/26" SWEETGUM TREE

(16) COMPACTA HOLLY

(3) NELLIE R. STEVENS HOLLY

STEEL EDGING, TYP.

N

60' 30' 0 60'

BY	REVISION	DATE

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P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650
3825 Mt Carmel Rd
Bryant, AR 72022
garnatengineering@gmail.com

NEW FACILITY FOR:
BUTLER CENTER
CITY OF BRYANT, AR

LICENSED LANDSCAPE ARCHITECT
CHAD M. OPPENHUIZEN
No.5064
ARKANSAS

03-06-2023

CONTENTS:
LANDSCAPE PLAN

PROJECT NO:
22203

DATE:
FEB 2023

SHEET NO:
L1.0

a:\Projects\2022 Projects\22203 Butler Center 1109 North Reynolds Road Kenny Whitlow\Drawings\DWGs\Design\22203 1109 N Reynolds Rd Design - RC.dwg

LANDSCAPING NOTES:

1. REPORT ANY DISCREPANCIES FOUND IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE DESIGNER OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE DRAWINGS.

2. THE NUMBER OF PLANTS OR INTENDED COVERAGE AREAS SHOWN SHALL SUPERSEDE NOTED QUANTITIES. TREE LOCATIONS ARE DIAGRAMMATIC.

3. ALL PLANT MATERIALS MUST BE APPROVED PRIOR TO INSTALLATION. SUBSTITUTIONS OF SIZE OR TYPE OF MATERIAL ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL PRIOR TO DELIVERY OR INSTALLATION.

4. ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION. REPLACE ANY DAMAGED, DESTROYED, OR REMOVED PLANT MATERIALS WITH THE SAME VARIETY AND SIZE PRIOR TO FINAL ACCEPTANCE.

5. PLANT STORAGE TO BE LOCATED OUT OF VEHICULAR USE AREAS AND NEAR A WATERING SYSTEM TO OPTIMIZE SURVIVAL.

6. ALL PLANTING BEDS SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.

7. ALL PLANTING BEDS SHALL BE MULCHED WITH 3-INCHES SHREDDED HARDWOOD OR CYPRESS MUCH.

8. ALL SHRUBS AND TREES SHALL RECEIVE PLANTING BACKFILL OF 2/3 TOPSOIL AND 1/3 COMPOST BY VOLUME AND 2 POUNDS OF 14-14-14 TIMED-RELEASE FERTILIZER PER CUBIC YARD OF BACKFILL.

9. ALL BEDS INSIDE LAWN AREAS TO BE EDGED WITH 4" PAINTED STEEL EDGING.

10. ALL TREES AND SHRUBS SHALL BE THOROUGHLY WATERED IMMEDIATELY AFTER PLANTING.

11. TREES SHALL NOT BE TOPPED AT ANY TIME. PROPER TREE PRUNING TECHNIQUES AS ESTABLISHED BY THE LATEST EDITION OF ANSI A300 STANDARDS FOR TREE CARE SHALL BE UTILIZED FOR MAINTENANCE PURPOSES.

12. COORDINATE ALL INSTALLATION ACTIVITIES WITH IRRIGATION WORK AND IMMEDIATELY REPAIR DAMAGES TO FINISH GRADES, SOD, AND PLANT MATERIALS UNTIL FINAL ACCEPTANCE.

13. SEE GRADING AND DRAINAGE PLAN FOR PROPOSED SLOPES, SWALES, BERMS, AND WATER FEATURES. MAINTAIN PROPER FINISH GRADES IN ALL AREAS AS INDICATED.

14. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING, REMOVAL OF MISCELLANEOUS DEBRIS AND ANY ADDITIONAL FILL REQUIRED TO PROVIDE MINIMUM TOPSOIL DEPTHS AND CREATE A SMOOTH CONDITION PRIOR TO PLANTING IN ALL AREAS.

15. TOPSOIL SHALL BE FREE OF STONES, ROOTS, CLODS, AND ANY OTHER FOREIGN MATERIAL THAT IS NOT BENEFICIAL FROM PLANT GROWTH.

16. LANDSCAPE AND OPEN AREAS SHALL BE KEPT FREE OF TRASH, LITTER, AND WEEDS AT ALL TIMES DURING CONSTRUCTION.

17. IDENTIFICATION LABELS MUST BE ATTACHED TO ALL PLANT MATERIALS AND SHALL REMAIN INTACT UNTIL FINAL ACCEPTANCE OF THE WORK. REMOVE ALL TAGS AND LABELS FOLLOWING FINAL ACCEPTANCE.

18. CALIPER OF TREES TO BE MEASURED 6-INCHES ABOVE GROUND LEVEL FOR TREES UP TO 4-INCH CALIPER SIZE.

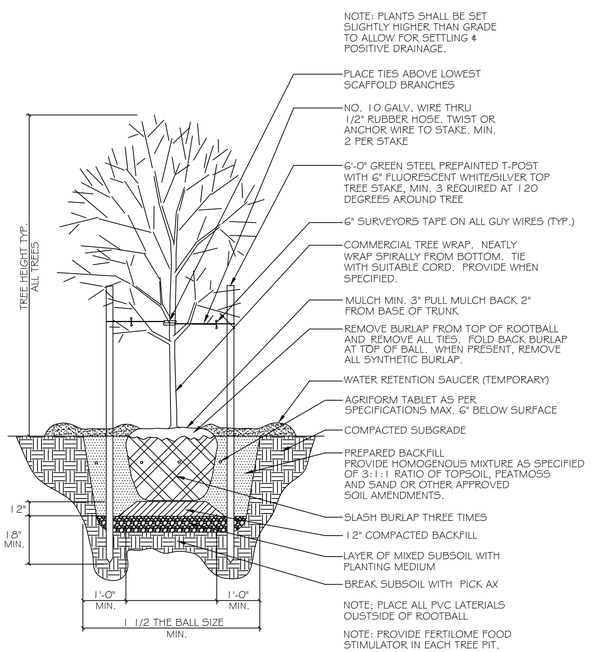
19. GENERAL CONTRACTOR SHALL PROVIDE 6-INCH DIAMETER MINIMUM SCHEDULE 40 PVC SLEEVING FOR IRRIGATION TO ALL CURB ISLANDS AND UNDER ALL DRIVE ISLE CROSSINGS.

20. CONTRACTOR TO REFER TO THE UTILITY PLAN SHEET FOR RECENT FIRE FLOW INFORMATION.

LEGEND:

PLAN QUANTITIES:

	Quantity	Common Name/Botanical Name	Size	Remarks
	13	Nellie R. Stevens Holly Ilex x 'Nellie R. Stevens'	10/15 gallon, 3-4' tall	Specimen with positive upright form and symmetrical. Well branched canopies.
	40	Compacta Holly Ilex crentata 'Compacta'	3 gallon	Full well branched shrub with uniform shape.
	6	Fashion Azalea Rhododendron 'Fashion'	3 gallon	Full well branched shrub with uniform shape.
	46	Stella D'Oro Daylily Hemerocallis x Stella D'oro	1 gallon	Plant 18" o.c.
	Contractor to measure	Bermuda Tifway 419 Cynodon Dactylon var. Tifway 419	Sod	Solid sod, all areas indicated with close knit joints



1 | L1 TREE PLANTING DETAIL
No Scale

SODDING OF DISTURBED AREAS

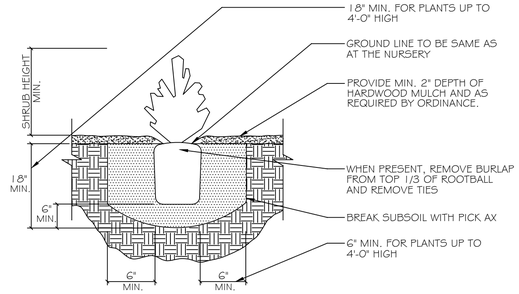
AREAS AND LIMITS OF SODDING ARE INDICATED BASED ON ANTICIPATED DISTURBANCE BY GRADING OPERATIONS. CONTRACTOR TO PROVIDE ADDITIONAL SODDING IN ANY OTHER AREAS DISTURBED BY WORK UNDER THIS CONTRACT. EXCAVATE AND REMOVE ANY REMAINING TURF AND SOIL TO A 4-INCH MINIMUM DEPTH WITHIN NEW SOD AREAS. HAND EXCAVATION REQUIRED WITHIN DRIP LINES OF TREE AREAS TO AVOID DAMAGE TO EXISTING ROOTS.CONTRACTOR TO INSTALL MINIMUM OF 3" OF TOPSOIL TO ALL AREAS TO BE SODDED OR SEEDED. FINE GRADE THE TOPSOIL TO ENSURE POSITIVE DRAINAGE AND A SMOOTH SURFACE FOR SOD INSTALLATION.

MAINTENANCE AND WARRANTY

CONTRACTOR TO PROVIDE FULL MAINTENANCE OF INSTALLED LANDSCAPE AND IRRIGATION UNTIL DATE OF FINAL ACCEPTANCE. ADDITIONALLY, CONTRACTOR TO PROVIDE ONE YEAR WARRANTY FOR ALL LANDSCAPE AND IRRIGATION WORK FROM THE DATE OF FINAL ACCEPTANCE.

IRRIGATION SYSTEM

CONTRACTOR TO PROVIDE AUTOMATIC IRRIGATION SYSTEM FOR ALL NEW LANDSCAPE AND TURF AREAS SHOWN ON THE PLANS. SYSTEM WILL REQUIRE PROVIDING BACKFLOW PREVENTER, PERMITTING, POWER CONNECTION, CONTROLLER, AND ALL OTHER WORK REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM THAT PROVIDES 100% COVERAGE. COORDINATE LOCATION OF CONTROLLER WITH OWNER, GENERAL CONTRACTOR, AND ELECTRICAL CONTRACTOR. COORDINATE LOCATION OF IRRIGATION SLEEVES WITH GENERAL CONTRACTOR PRIOR TO FULLY MOBILIZING TO SITE. CONTRACTOR TO REFER TO THE UTILITY PLAN SHEET FOR CURRENT FIRE FLOW INFORMATION.



NOTES:
1. PROVIDE WEED CONTROL AND/OR FERTILIZER AS SPECIFIED BELOW.
2. WEED CONTROL AND FERTILIZER MAY BE APPLIED AT A LATER DATE TO COMPLY WITH SEASONAL CONDITIONS AND THE GROWING PERIOD.
3. PROVIDE AGRIFORM TABLETS AS PER MANUFACTURERS RECOMMENDATIONS.
4. PROVIDE HOMOGENOUS BACKFILL PLANTING MIXTURE OF 3:1 RATIO TOPSOIL TO PEATMOSS AND/OR OTHER APPROVED SOIL AMENDMENTS.
5. PROVIDE FERTILOME ROOT STIMULATOR OR APPROVED EQUAL IN PITS.
6. APPLY BALAN PREEMERGENT WEED CONTROL OR APPROVED EQUAL TREATMENT ON ALL SHRUB AND GROUNDCOVER BEDS.

2 | L1 SHRUB PLANTING DETAIL
No Scale

BY	REVISION	DATE

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GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
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LICENSED LANDSCAPE ARCHITECT
CHAD M. OPPENHUIZEN
No 5064
ARKANSAS

03-06-2023

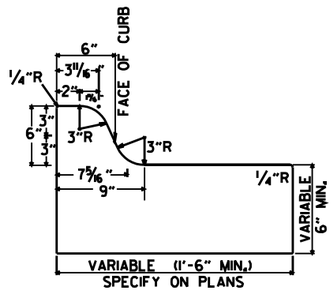
CONTENTS:

LANDSCAPING NOTES & DETAILS

PROJECT NO: 22203

DATE: FEB 2023

SHEET NO: L1.1



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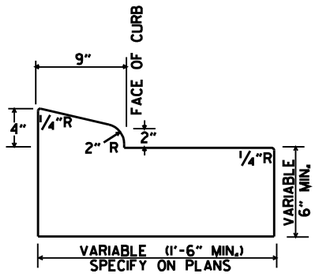

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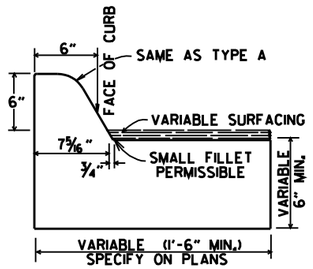

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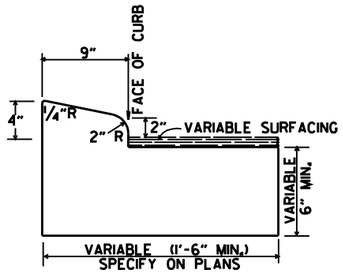

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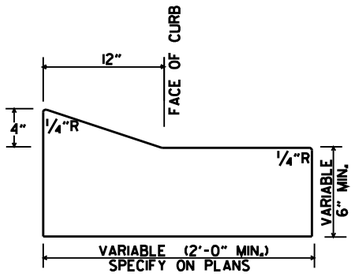

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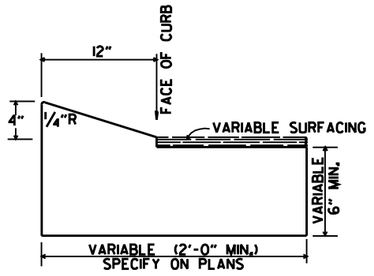
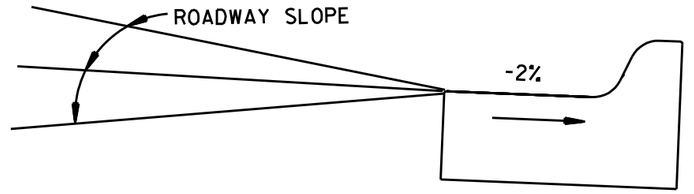


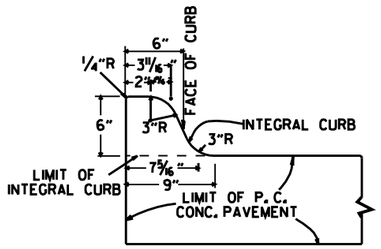
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER



DETAIL OF GUTTER SLOPE

GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



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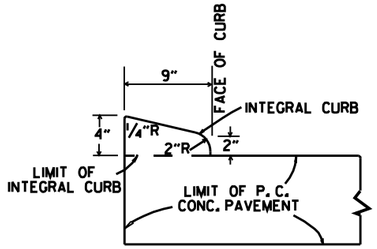

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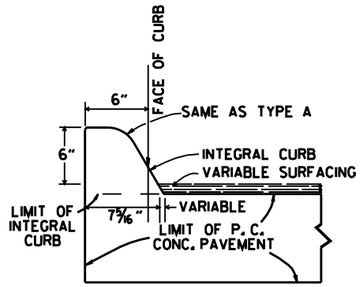
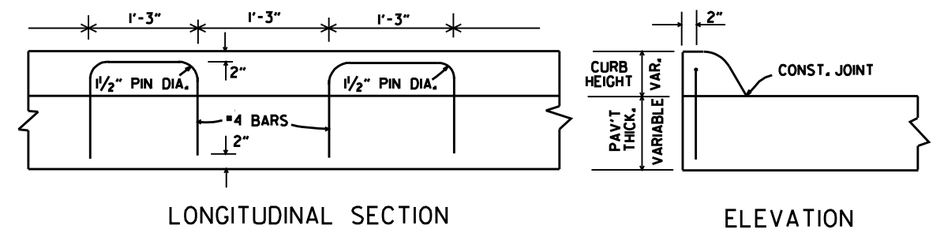
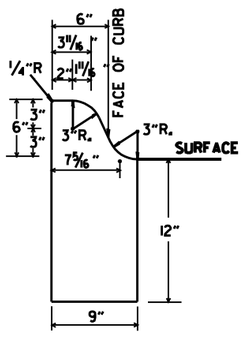


TYPE C

INTEGRAL CURB



ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



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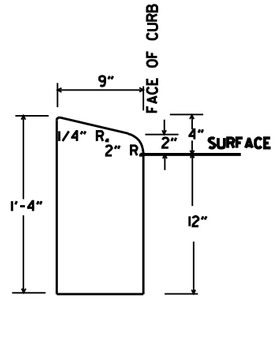

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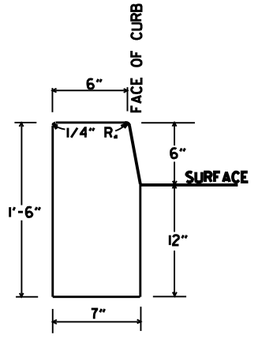

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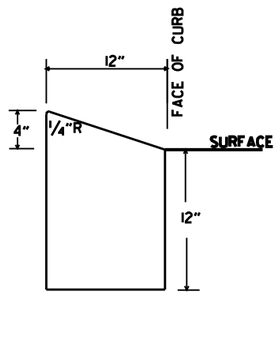
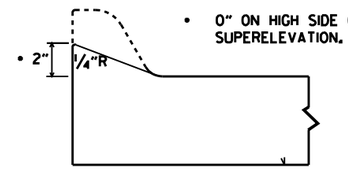


TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

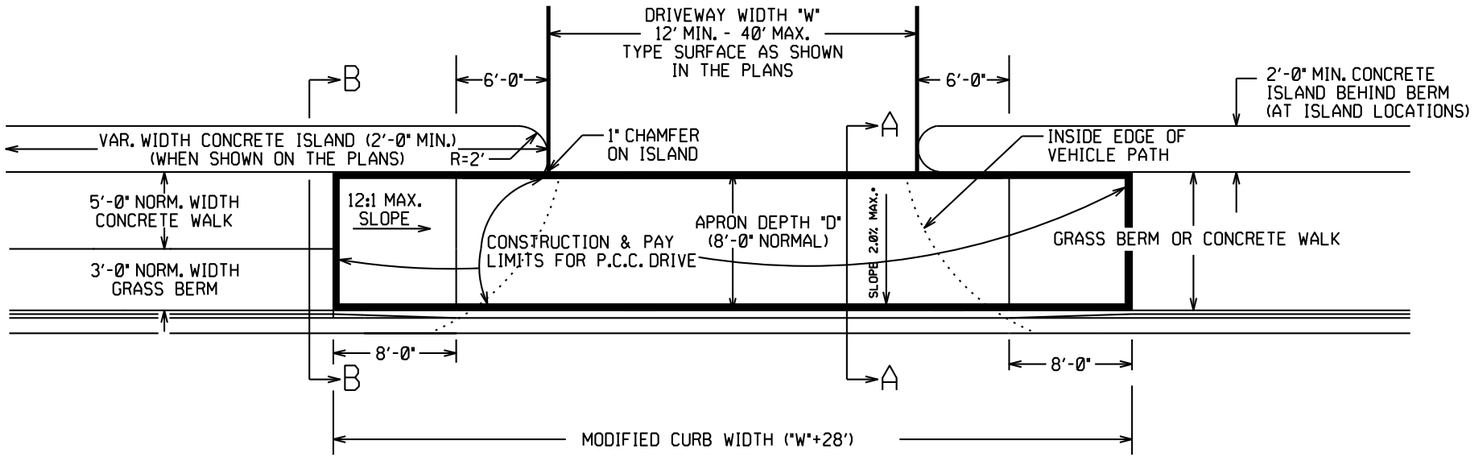
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	52-10-2-72

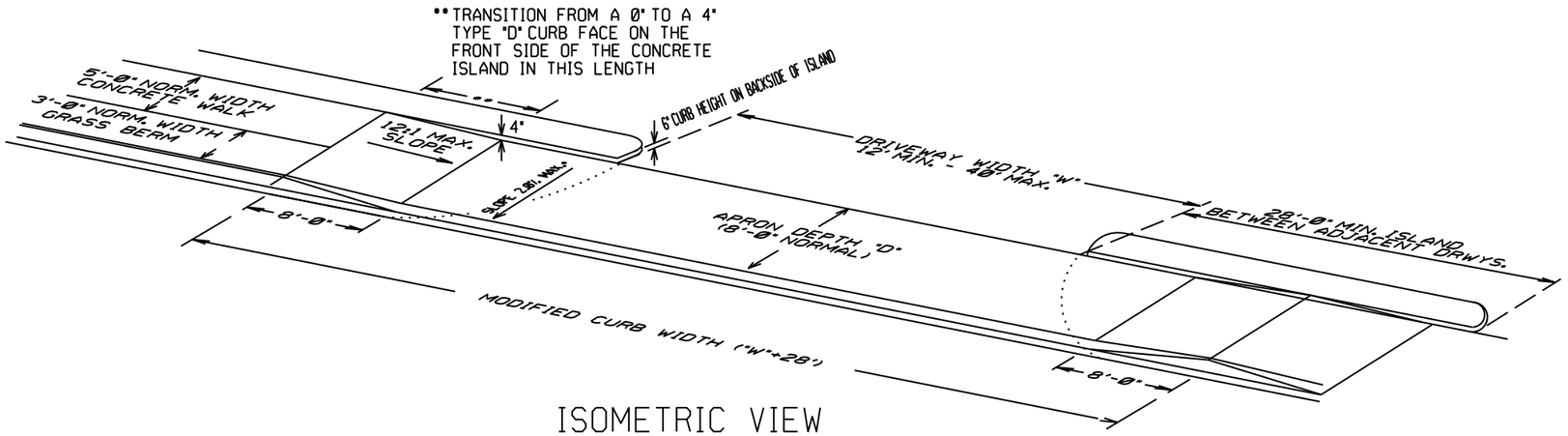
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

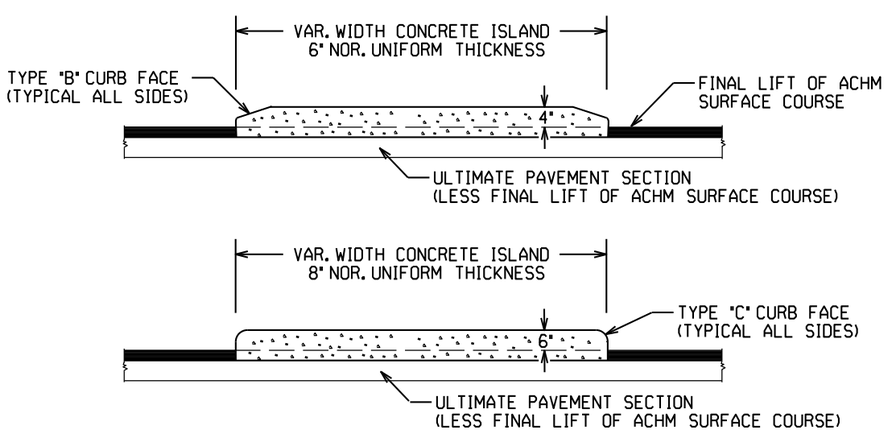
STANDARD DRAWING CG-1



PLAN VIEW



ISOMETRIC VIEW

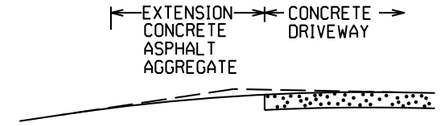


CURBED ISLANDS FOR CHANNELIZATION

CONCRETE ISLAND NOTES:

1. REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".

2. TRANSVERSE EXPANSION JOINTS, NOT LESS THAN 1/2" WIDE, SHALL BE PLACED AT MINIMUM INTERVAL OF 45'. TRANSVERSE JOINT SHALL BE CONSTRUCTED USING A JOINT FILLER COMPLYING WITH AASHTO M213.



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

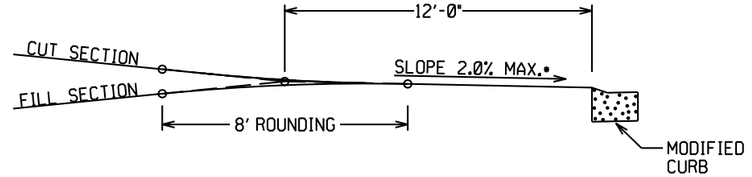
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

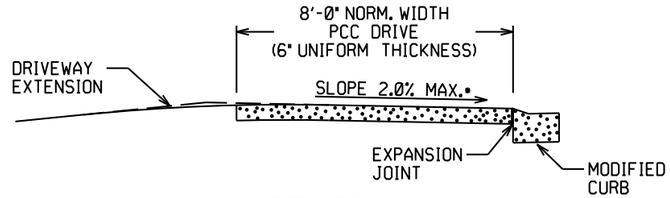
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

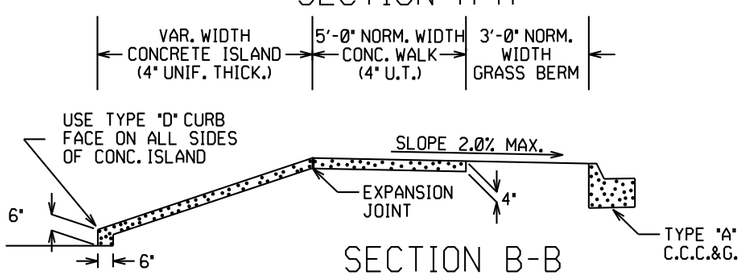


DRIVEWAY VERTICAL ALIGNMENT DETAILS

• NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



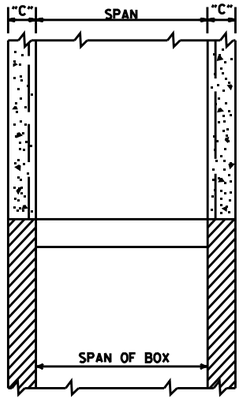
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
5-19-22		REVISED ISLAND NOTES
11-07-19		REVISED WALK DETAILS
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

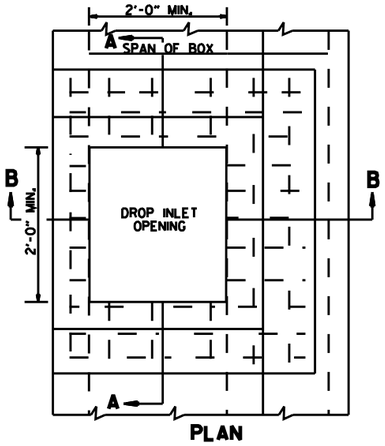
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

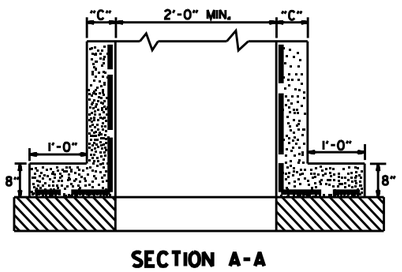
STANDARD DRAWING DR-1



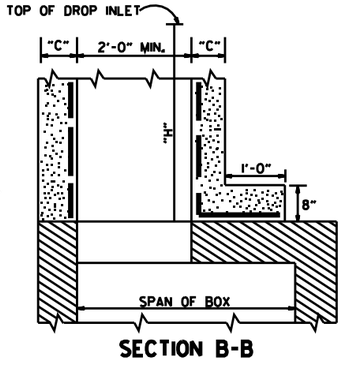
SECTION B-B



PLAN

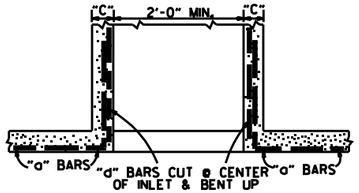


SECTION A-A

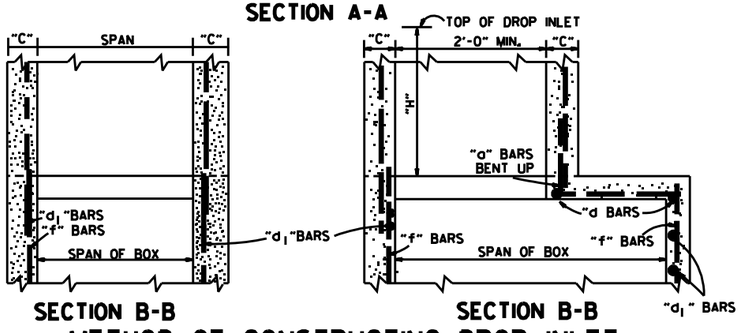


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



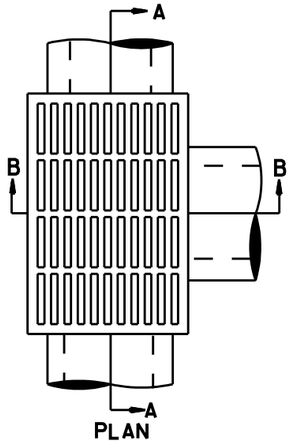
SECTION A-A



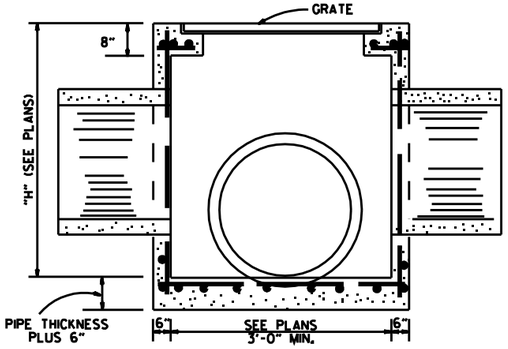
SECTION B-B SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

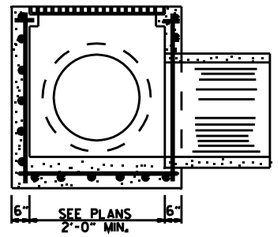


PLAN



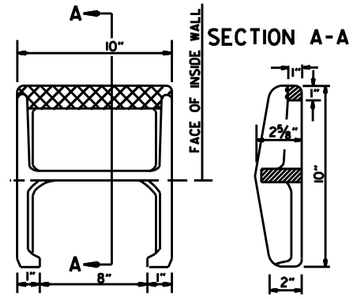
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)



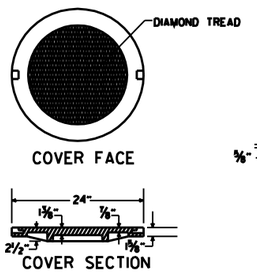
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

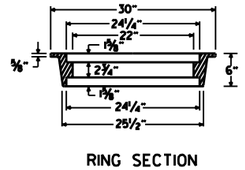
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



COVER FACE

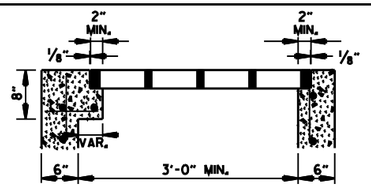
COVER SECTION



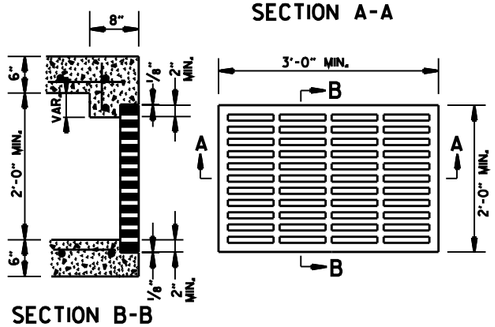
RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



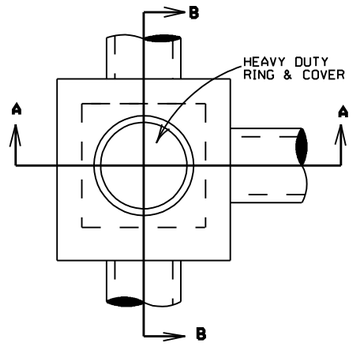
SECTION A-A



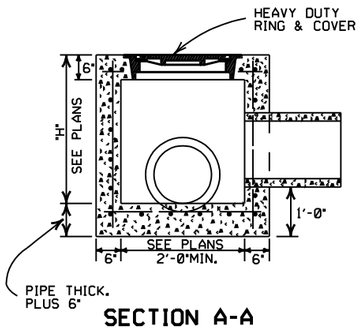
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

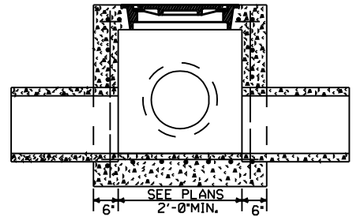


PLAN



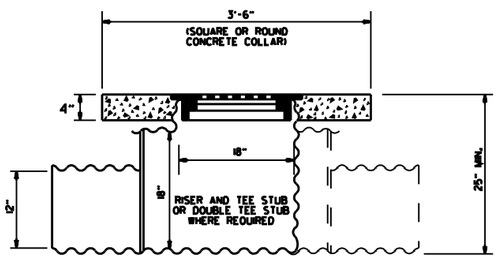
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

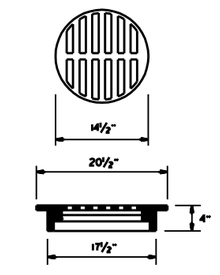


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. CU. YDS.	HEIGHT 5'-0" REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

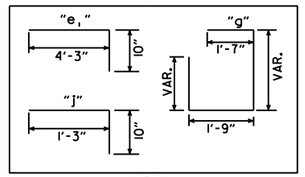
DROP INLET EXTENSION

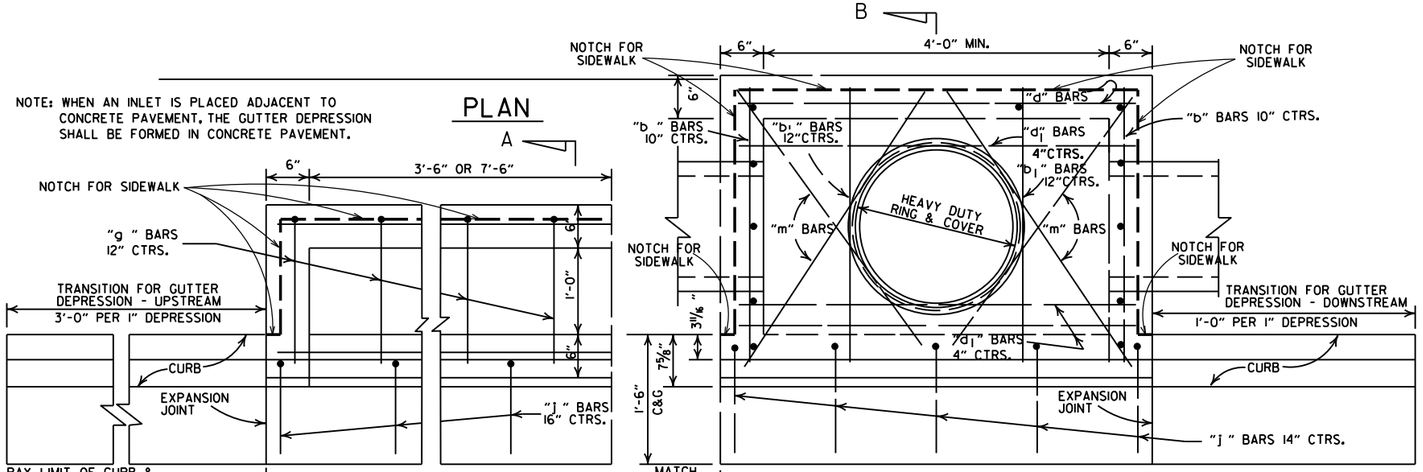
4'-0" CLASS A CONC. CU. YDS.	4'-0" REINF. STEEL POUNDS	8'-0" CLASS A CONC. CU. YDS.	8'-0" REINF. STEEL POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

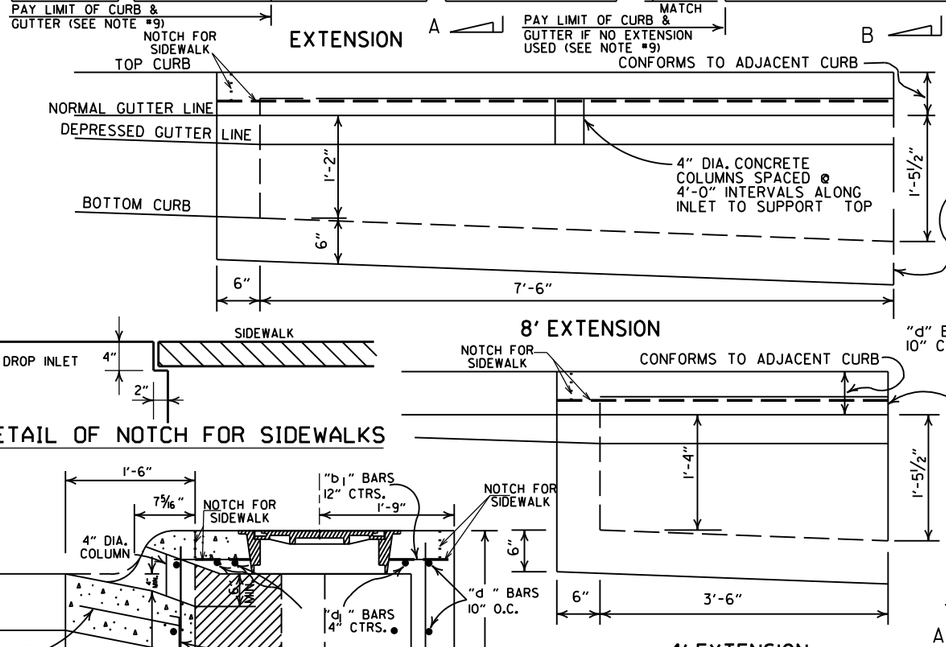
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

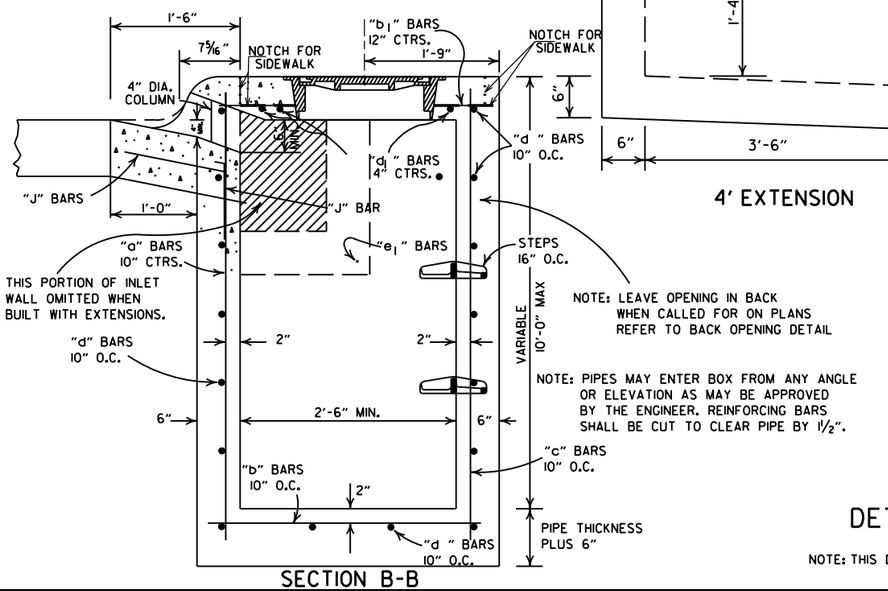
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

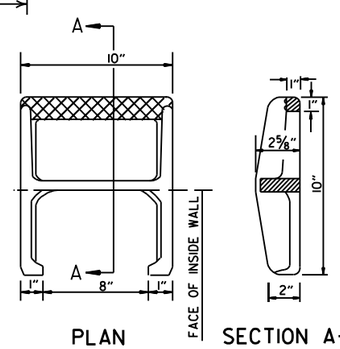
BAR DIAMETER

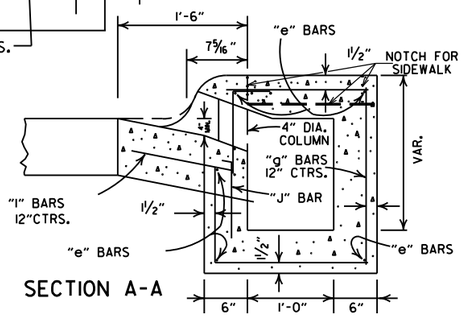


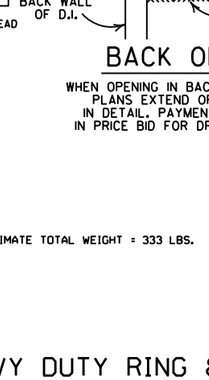






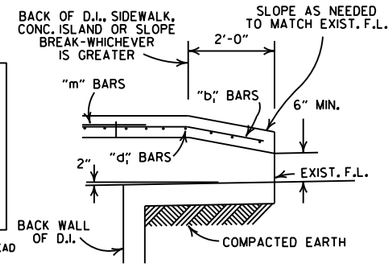






APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅜	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

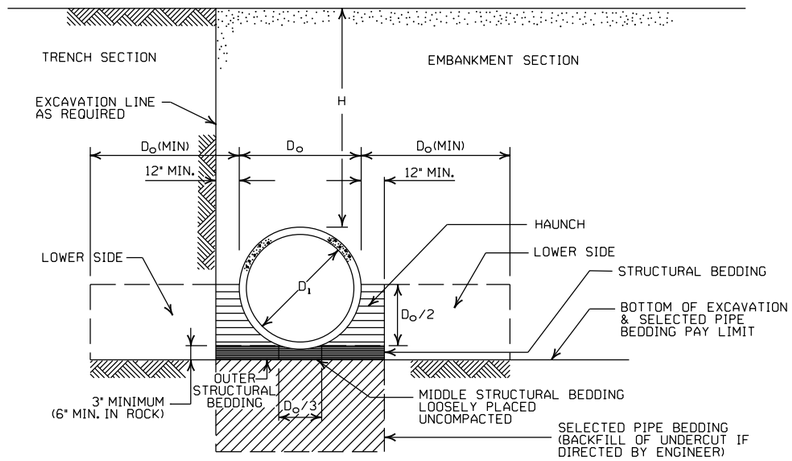
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_O = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

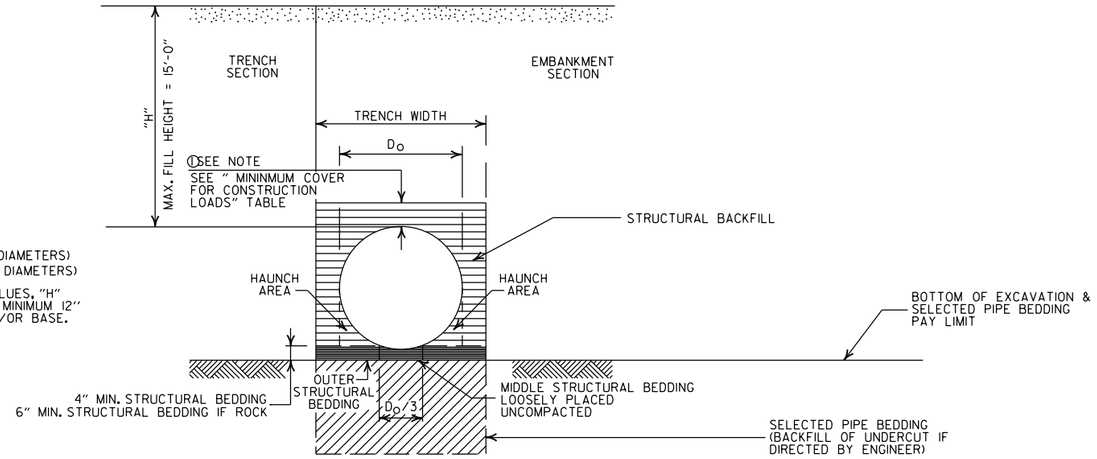
PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

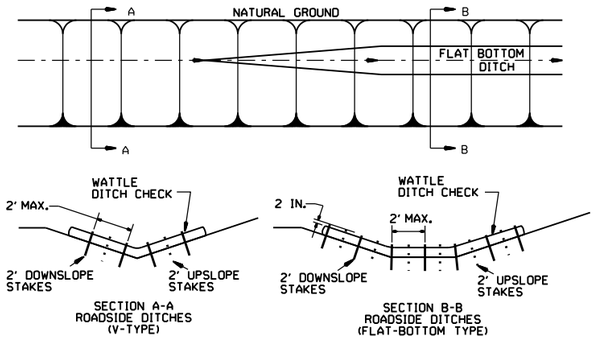
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

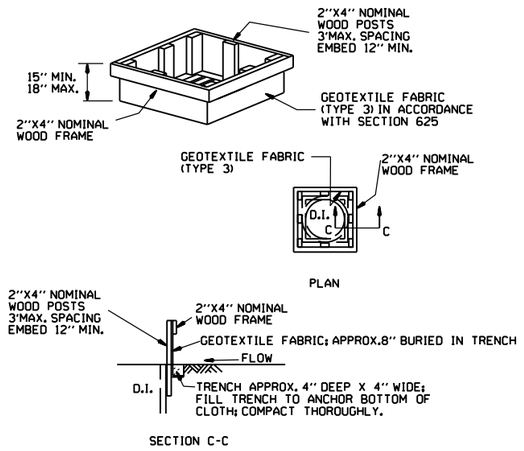
STANDARD DRAWING PCP-1

GENERAL NOTES

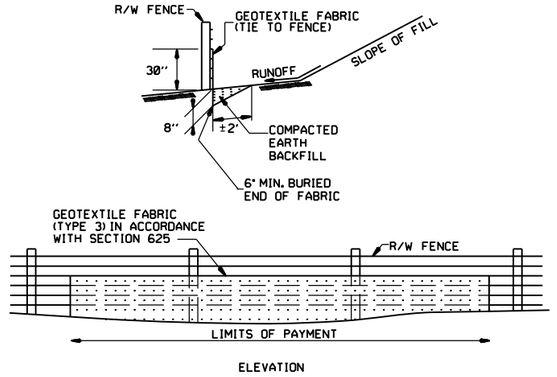
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



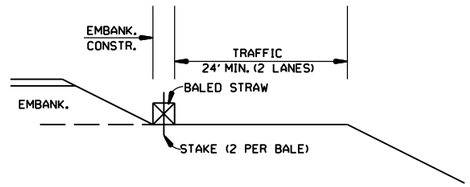
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

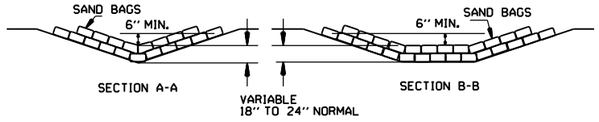
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



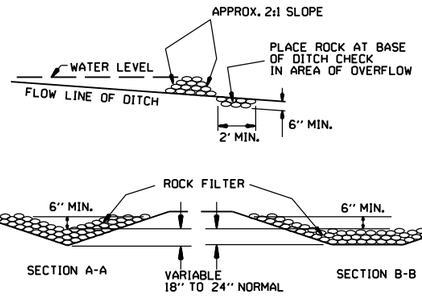
BALED STRAW FILTER BARRIER (E-2)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

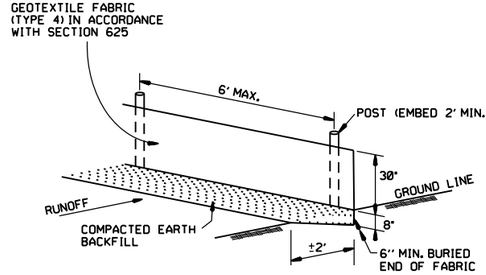
PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

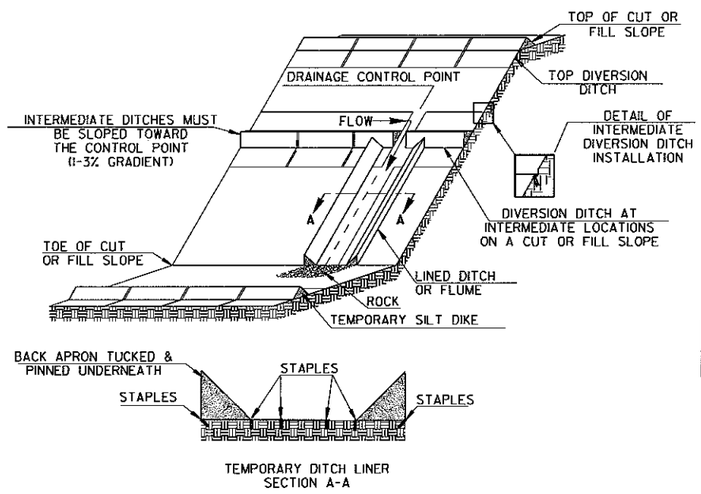
PER CITY OF BRYANT REQUIREMENTS, REQUIRES WIRED BACK FENCE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

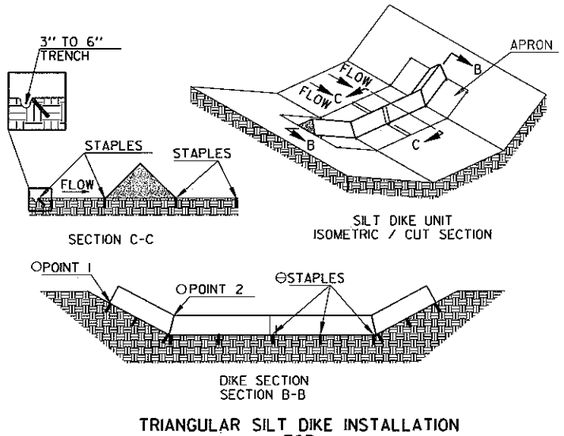
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



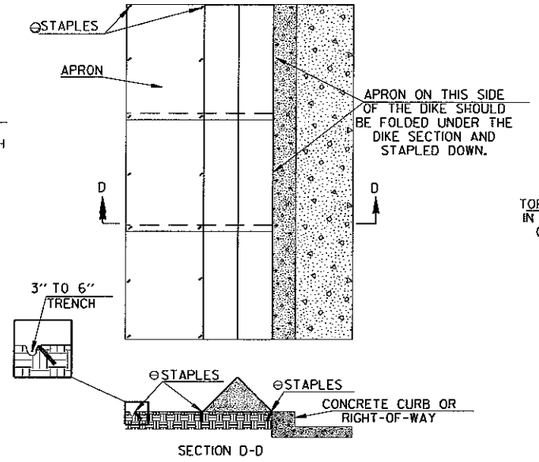
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



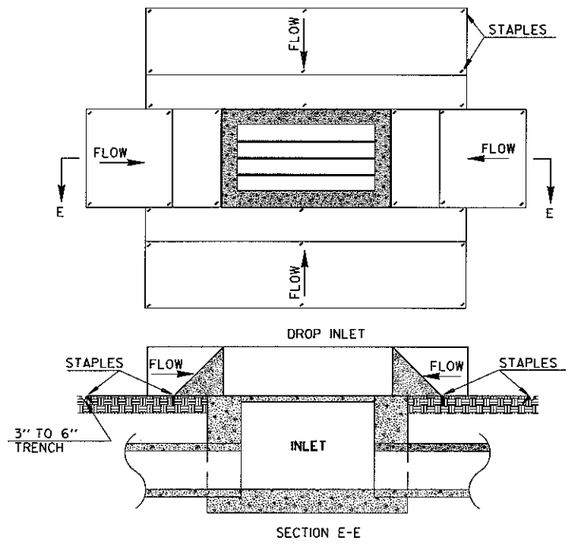
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

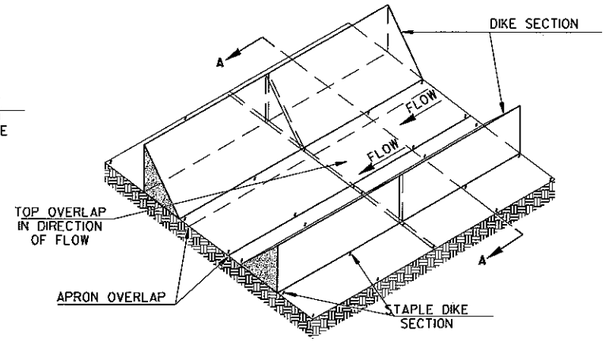
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

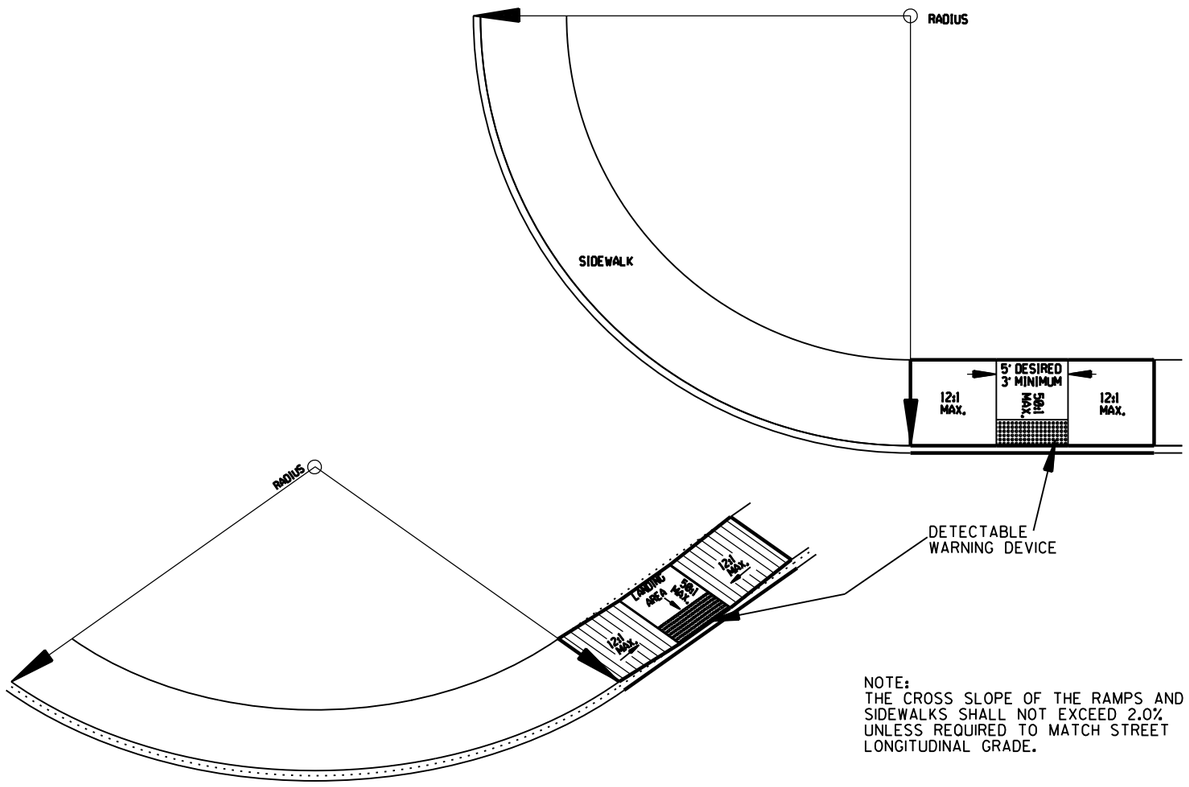
NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

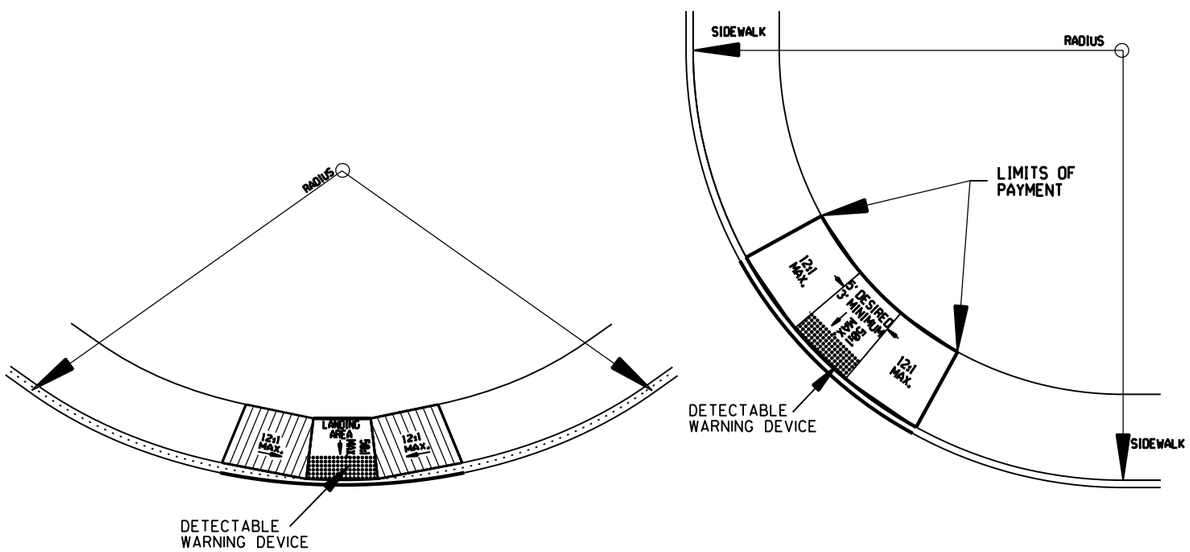
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



NOTE:
THE CROSS SLOPE OF THE RAMPS AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.

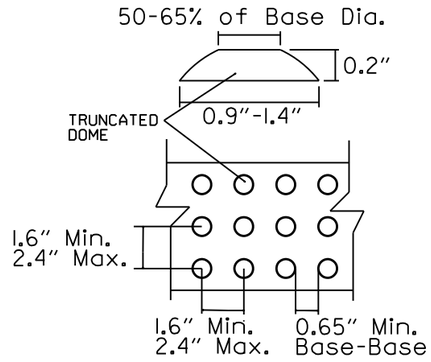
TYPE 5 RAMP



TYPE 6 RAMP

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE EXISTING WALK WIDTH OR 36", WHICHEVER IS GREATER.
MINOR MODIFICATIONS OF THESE DETAILS, AS APPPROVED BY THE ENGINEER, MAY BE MADE TO ADJUST TO LOCAL CONDITIONS.

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
10-9-03	REVISED GENERAL NOTES & ADDED NOTE.	
4-10-03	REVISED DETECTABLE WARNING DEVICE DETAIL	
8-22-02	ADDED DETECTABLE WARNING DEVICES DETAILS	
11-18-98	REV. FOURTH CHOICE NOTE	
8-12-98	REVISED TEXTURE	
7-02-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS ALTERATIONS ONLY

STANDARD DRAWING WR-2

Gmail George Wooden <georgewooden98@gmail.com>

Fwd: DRC Staff Comments 3/16/2023

1 message

Tariq Morshed <tariqgarnat@gmail.com> Wed, Mar 22, 2023 at 1:57 PM
To: George Wooden <GEORGEWOODEN98@gmail.com>

---------- Forwarded message ---------
From: **Vernon Williams** <garnatengineering@gmail.com>
Date: Thu, Mar 16, 2023 at 8:57 AM
Subject: Fwd: DRC Staff Comments 3/16/2023
To: Tariq Morshed <tariqgarnat@gmail.com>

Vernon J. Williams, P.E.
GarNat Engineering, LLC
Mailing Address: P.O. Box 116 Benton, AR 72018 Ph: (501) 408-4650 Fax: (888) 900-3068
Physical Address: 3825 Mt Carmel Road Bryant, AR 72022 Cell: (501) 425-2771 www.garnatengineering.com

---------- Forwarded message ---------
From: **Colton Leonard** <cleonard@cityofbryant.com>
Date: Thu, Mar 16, 2023 at 8:46 AM
Subject: DRC Staff Comments 3/16/2023
To: Vernon Williams <Garnatengineering@gmail.com>

Vernon,

Here are the comments for this morning's meeting.

Best,

Colton

1. Butler Center - Site Plan/Rezoning/Variance

Public Works

1. Site will require a ADEQ Small Scale Development Permit. Will comply.
2. Developer will be required to submit signed and notarized Stormwater Infrastructure Warranty Bond SOP per Ordinance 2019-32. Will comply.
3. Plans show that only top banks and slopes of v-bottom ditch shall be stabilized to with solid sod stabilization, this shall be updated to show bottom of ditch being solid sod stabilization as well. A v-bottom ditch has no bottom.
4. Erosion control plan does not show specific specs for silt fencing and installation. (detail needs to be shown on plans) Plans revised.

Engineering

Water:

1. Site plan only indicates 7 water meters however request is for 8. One bay deleted.
2. Bryant W/WW Specification 1100-1.22 B Fire hydrants for apartments, commercial and industrial sites shall exceed 400 feet spacing. Confirm with Bryant Fire Marshal Fire Hydrant Placement. There is an existing fire hydrant less than 400 feet.
3. Discuss provision of extended water main to adjoining property to the west.

Wastewater: Meter relocated with project.

4. Bryant W/WW Specification 3100-312 E Connection to existing manhole shall be Cored and Booted. Indicate on Utility Drawings. See Manholes 4578. Plans revised.
5. Provide documentation as to use of structure for Sanitary Sewer needs. Food preparation may be subject to an appropriate grease trap installation. No food prep anticipated.

Stormwater:

6. Discuss discharge off site onto adjacent property and downstream choke points .
7. Discuss the use of Storage Facility Personnel to maintain the onsite Drainage detention system. Typo fixed.

Streets:

8. A Designed driveway will be required in accordance with ArDOT.

Planning

1. Provide building Elevations showing facades/materials.
2. One lot commercial subdivision Plat? Added to plans.
3. Building setbacks not shown on plans. For C-2: 15ft Front Min, 15ft Side, 25ft Rear. 3X Multiplier for commercial abutting residential zoned lot. Added to plans.
4. Cross-access agreement in place for property owners to the West? Should probably be shown on plat. Shown on added plat.
5. Pedestrian access from building sidewalks to Reynolds Road sidewalk. Added to plans.

Fire

1. None

1. Elite Volleyball Academy

Public Works

1. Site will require ADEQ Small Scale Development permit.
2. Site will require a Stormwater Detention Maintenance Plan.
3. Developer will be required to submit signed and notarized Stormwater Infrastructure Warranty Bond SOP per Ordinance 2019-32.
4. Erosion control plan will be required to be updated to show use of wire-backed silt fencing.

Engineering

1. Fire line shall be 8” Ductile Iron per section 1100-2-1.05-B.
2. Show 15’ easement on water main extension 1100-4-1.11-A, water main easements on Plat.
3. Discuss water main extension to extend to the east property line.

4. Existing gravity sewer running north and south must have dedicated easement of 20'. Show on Plat
5. Provide stormwater calculations. **PROVIDED - UNDER REVIEW**
6. Discuss extension of Water line to edge of development.

Planning

1. Elevations - Commercial Design Standards
2. Sidewalk Access to building
3. Discuss building setbacks as it relates to variance requests. Can electrical/mechanical equipment be placed in the Building setback area?
4. Provide landscape plan

Fire

1. Building shall be sprinkled with 5" Storz FDC connection
2. Knox Box required for facility
3. Fire hydrant shall be within 100' of FDC.

--

Colton Leonard
City Planner
501-943-0301
cleonard@cityofbryant.com
www.cityofbryant.com
210 SW 3rd St, Bryant, AR 72022

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M M Tariq Morshed, E. I.
GarNat Engineering, LLC
Mailing Address: *Physical Address:*
P.O. Box 116 *3825 Mt Carmel Road*
Benton, AR 72018 *Bryant, AR 72022*
Ph: (501) 408-4650 *Cell: (870) 273-9256*
Fax: (888) 900-3068 *www.garnatengineering.com*

City of Bryant Stormwater Department

1019 SW 2nd St.
Bryant, Arkansas 72022
Office (501) 943-0453; Fax (501) 943-0851

WARRANTY BOND PROCEDURES

For Stormwater Infrastructure Public & Private

These procedures are applicable to Stormwater Infrastructure that is to be dedicated to the public and maintained by the City of Bryant and for Private Stormwater Infrastructure that will be connected to overall City of Bryant Stormwater Infrastructure.

In accordance with Ordinance No. 2019-32 Article V., The City of Bryant Stormwater Department will require a Maintenance Warranty Bond as part of the process for approving Stormwater Infrastructure. The purpose of the bond is to cover the cost of correcting deficiencies not addressed by the developer during the warranty period and to insure no adverse effects will occur to the overall function of the City of Bryant Stormwater Infrastructure.

ORDINANCE 2019-32 ARTICLE V. STORMWATER INFRASTRUCTURE WARRANTY BOND.

1. **Stormwater Infrastructure Warranty Bond.** A one year maintenance bond against defects in workmanship shall be required by the Administrative Authority for any portion of the stormwater management facilities privately owned or stormwater management improvements dedicated to the city, said maintenance bond is to be provide by cashier's check, irrevocable letter of credit or acceptable surety authorized to do business in the State of Arkansas. All forms of maintenance bonds shall be subject to approval by the Administrative Authority. The value of the bond shall be an amount equal to 100% of the value of the privately owned stormwater management facilities or stormwater system improvements being privately owned or dedicated to the city. A cost list must be provide to prove and verify the amount of the maintenance bond. The cost list shall include cost of stormwater infrastructure construction and components (piping, weirs, spillway structures, junction boxes, trickle channels, inlets, grates, riprap and site stabilization).

2. **Procedurals.** These procedures are applicable to Stormwater Infrastructure that is to be dedicated to the public and maintained by the City of Bryant and for Private Stormwater Infrastructure that will be connected to overall City of Bryant Stormwater Infrastructure.

   In accordance with Ordinance No. 2019-32 Article V., City of Bryant Stormwater Department will require a Maintenance Warranty Bond as part of the process for approving Stormwater Infrastructure. The bond will be equal to 100% of the cost of construction of the Stormwater Infrastructure System at the time of completion of the Stormwater Infrastructure System. The purpose of the bond is to cover the cost of correcting deficiencies not addressed by the developer during the warranty period and to insure no adverse effects will occur to the overall function of the City of Bryant Stormwater Infrastructure.

3. **Determining the Maintenance Warranty Bond Amount.** During the final inspection process, the City of Bryant Stormwater Department will verify and approve the Warranty Bond estimate for all Stormwater Infrastructure within the proposed unit using:

(a) The Warranty Bond cost list estimate shall be presented to the City of Bryant Stormwater Department by formal letter. The formal letter shall include project name, developer contact information and "Cost List for Construction of Stormwater Infrastructure Components" including but not limited to piping, weirs, spillway structures, junction boxes, trickle channels, riprap, inlets, grates, weirs and site stabilization;

(b) The Bond amount will need to be re-evaluated if more than 18 months have passed from the time of the estimate review to the time of providing the bond to the City of Bryant Stormwater Department;

4. **Submitting the bond to the city.** After requesting a final inspection of the Stormwater Infrastructure and approval of completion by the City of Bryant Stormwater Department, the developer must provide the City of Bryant Stormwater Department with a bond equal to amount determined in Article V. Section 3. of this document. The Bond must be for a period of 12 months and be a financial guarantee in the form of a bond, letter of credit, or trust agreement executed by a surety company authorized to do business in the State of Arkansas. The Bond must be payable to the City of Bryant Public Works Department, conditioned that the developer will maintain the Stormwater Infrastructure in accordance with the Stormwater Management Manual Ordinance No. 2019-31 and the Stormwater Management Ordinance No. 2019-32.

5. **Warranty period.** After the Stormwater Infrastructure construction passes the final inspection and the one year warranty bond is received, the one year maintenance warranty period will begin. The one-year warranty period will start on the date the Maintenance Warranty Bond is received and accepted. There shall be no separate warranty period start dates for Stormwater Infrastructure within a single unit.

6. **Follow-up inspection.** The City of Bryant Stormwater Department will conduct a follow-up inspection within the tenth month of the warranty period but in no event any later than two months prior to the bond expiring. The City of Bryant Stormwater Department will issue a punch list of deficiencies that will be sent to the developer or contractor for the unit. If no deficiencies are found and camera video passes inspection, release of the bond will proceed as set out and as listed in Article V. Section 10 of this document.

7. **Correcting Deficiencies and Camera Video.** The developer must contact the City of Bryant Stormwater Department at least 24 hours before correcting any decencies or performing camera video. The developer shall also camera all stormwater infrastructure to ensure that there is no sediment laden infrastructure. Upon notification by the developer that all deficiencies have been corrected and camera video has been completed, the City of Bryant Stormwater Department will re-inspect to verify compliance with correction of deficiencies and reviewing the camera video to assure the stormwater infrastructure is not sediment laden or defective.

8. **Calling in the bond.** If the developer does not contact the City of Bryant Stormwater Department, deficiencies have not been corrected and the stormwater infrastructures has not been camera videoed by the end of the 11th month or one (1) month prior to the expiration of the Bond, the City of Bryant Stormwater Department will prepare an estimate and list of work to be done to bring the stormwater infrastructure into compliance. The City of Bryant Stormwater Department will contact the bonding agency to submit the cost estimates for correcting the deficiencies.

9. **Requesting Acceptance.** Once all deficiencies have been corrected, the City of Bryant Stormwater Department will prepare the paperwork for the Stormwater Infrastructure within the unit accepted for maintenance by the City of Bryant 'if dedicated', or paperwork will be prepared to release the bond if infrastructure is a private unit.

10. **Bond Release.** The Bond will be released once the City of Bryant has accepted the Stormwater Infrastructure for maintenance 'if dedicated', and an acceptance letter has been written by the City of Bryant Public Works. If all compliance has been met with a private Stormwater Infrastructure Unit(s) then the City of Bryant Stormwater Department shall contact the developer by formal letter and release the bond. No partial release of the Bond will be allowed at any time.

ATTENTION: DO NOT FILL OUT INFORMATION BELOW UNTIL YOU ARE PRESENT WITH A NOTARY PUBLIC. (THIS DOCUMENT MUST BE NOTARIZED)

By filling out the information below, signing and dating, you are hereby acknowledging that you have read, understand and agree to adhere to the Stormwater Infrastructure Warranty Bond Procedures and Processes listed in this document. You the applicant are hereby responsible for upholding, without limitation, the Stormwater Infrastructure Warranty Bond Procedures.

Butler Center
Name of Project Site/Addition

Michael Butler
Applicant Name
(Print)

Applicant Name
(Signature)

Butler Wealth Capital, LLC
Applicant Business Name

6, Creekwood Court, Little Rock, AR 72223
Applicant Mailing Address

Notarization

State of ARKANSAS

County of SALINE

Subscribed and sworn before me, a Notary Public, on this 17TH **day of** MARCH, 2023.

Signature of Notary

02-05-2031
My commission expires:

Notary Seal Stamp Here:

GEORGE P. WOODEN
Notary Public-Arkansas
Saline County
My Commission Expires 02-05-2031
Commission # 12714343

SITE WITH AUTOMATIC COVERAGE (LESS THAN 5 ACRES) CONSTRUCTION SITE NOTICE

FOR THE
Arkansas Department of Environmental Quality (ADEQ)
Storm Water Program

NPDES GENERAL PERMIT NO. ARR150000

The following information is posted in compliance with **Part I.B.8.A** of the ADEQ General Permit Number **ARR150000** for discharges of stormwater runoff from sites with automatic coverage. Additional information regarding the ADEQ stormwater program may be found on the internet at:

www.adeq.state.ar.us/water/branch_npdes/stormwater

Permit Number	ARR150000
Contact Name: Phone Number:	Michael Butler 870-703-3807
Project Description (Name, Location, etc.): Start Date: End Date: Total Acres:	New Facility for Butler Center, Bryant, AR 1.69
Location of Stormwater Pollution Prevention Plan:	Mailbox on Site

For Construction Sites Authorized under **Part I.B.6.A** (Automatic Coverage) the following certification must be completed:

I _____ (Typed or Printed Name of Person Completing this Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part I.B.2. of the ADEQ General Permit Number ARR150000. A stormwater pollution prevention plan has been developed and implemented according to the requirements contained in Part II.A.2.B & D of the permit. I am aware there are significant penalties for providing false information or for conducted unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature and Title Date

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

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

Prepared for:
New Facility For
Butler Center

Date:
03/17/2023

Prepared by:
GarNat Engineering, LLC

Revised date: 10/20/2016

Table of Contents
New Facility for: Butler Center
Bryant, Arkansas

SWPPP for Construction Activity for Small Construction Sites

Appendix A- ARR150000 Inspection Form

SWPPP Figures

New Facility for: Butler Center Erosion Control Plan

AHTD Standard Drawings:

TEC-1 – Temporary Erosion Control Devices

TEC-4 – Temporary Erosion Control Devices

NPDES ARR150000

Project Name and Location: New Facility for Butler Center, 1109 N Reynolds Rd, Bryant, AR.

Property Parcel Number (*Optional*): 840-14297-000

Operator Name and Address: _____

A. Site Description

a. Project description, intended use after NOI is filed: Commercial development of a Chiropractic Clinic and parking lot.

b. Sequence of major activities which disturb soils: clearing & grubbing, earthwork, drainage structure, utilities

c. Total Area: 1.69 Ac. Disturbed Area: 1.51 Ac.

B. Responsible Parties

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

Individual/Company	Phone Number	Service Provided for SWPPP (i.e., Inspector, SWPPP revisions, Stabilization Activities, BMP Maintenance, etc.)
Michael Butler	870-703-3807	

C. Receiving Waters

a. The following waterbody (or waterbodies) receives stormwater from this construction site: Unnamed tributaries of Hurricane Creek

b. Is the project located within the jurisdiction of an MS4? ☒ Yes ☐ No

i. If yes, Name of MS4: Bryant

c. Ultimate Receiving Water:

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

D. Site Map Requirements (Attach Site Map):

a. Pre-construction topographic view;

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

E. Stormwater Controls

a. Initial Site Stabilization, Erosion and Sediment Controls, and Best Management Practices:

i. Initial Site Stabilization: Prior to starting clearing activities, the BMP's shown on the Erosion Control Plan will be installed.

ii. Erosion and Sediment Controls: Erosion and sediment controls are shown on the erosion control plan. They will be constructed per AHTD standard details

iii. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the operator will replace or modify the control for site situations: ☒ Yes ☐ No

If No, explain: _____

_____

iv. Off-site accumulations of sediment will be removed at a frequency sufficient to minimize off-site impacts: ☒ Yes ☐ No

If No, explain: _____

_____

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

If No, explain: _____

_____

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

If No, explain: _____

_____

vii. Off-site material storage areas used solely by the permitted project are being covered by this SWPPP: [ ] Yes [X] No (there are no such sites)

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

_____

b. Stabilization Practices

i. Description and Schedule: As soon as practical, the contractor will spread topsoil and seed the disturbed area with a perennial vegetation. Vegetation will be reseeded as required to establish the 80% coverage of perennial vegetation.

ii. Are buffer areas required? [ ] Yes [X] No

If Yes, are buffer areas being used? [ ] Yes [ ] No

If No, explain why not: _____

_____

If Yes, describe natural buffer areas: _____

_____

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

If No, explain: _____

_____

iv. Deadlines for stabilization:

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

c. Structural Practices

i. Describe any structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site: BMPs shown on the erosion control plan will be used to limit sediment from leaving the site

ii. Describe Velocity Dissipation Devices: _____

iii. Sediment Basins:

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

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

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

☐ 3600 cubic feet per acre = : _____

or

☐ 10 year, 24 hour storm = : _____

☐ Other criteria were used to design basin: _____

If No, explain why no sedimentation basin was included and describe required natural buffer areas and other controls implemented instead: Not appropriate for this project.

F. Other Controls

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

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

☒ A stabilized construction entrance and exit

☐ Vehicle tire washing

☒ Other controls, describe: * see below

c. Temporary Sanitary Facilities: A portable toilet will be provided. The location is shown on the Erosion Control Plan.

* The road adjacent to the property will be swept to remove offside vehicle tracks. Disturbed areas will be watered during construction.

d. Concrete Waste Area Provided:
☒ Yes
☐ No. Concrete is used on the site, but no concrete washout is provided.
Explain why: _____
_____
☐ N/A, no concrete will be used with this project

e. Fuel Storage Areas, Hazardous Waste Storage, and Truck Wash Areas: _____
_____

G. Non-Stormwater Discharges

a. The following allowable non-stormwater discharges comingled with stormwater are present or anticipated at the site:
☒ Fire-fighting activities;
☒ Fire hydrant flushings;
☒ Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2;
☒ Potable water sources including uncontaminated waterline flushings;
☒ Landscape Irrigation;
☒ Routine external building wash down which does not use detergents or other chemicals;
☒ Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;
☒ Uncontaminated air conditioning, compressor condensate (See Part I.B.12.C of the permit);,
☒ Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.13.C of the permit);
☒ Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.13.C of the permit);

b. Describe any controls associated with non-stormwater discharges present at the site: BMP's shown on the Erosion Control plan will also be utilized to prevent sedimentation from leaving site during construction.

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

I. Inspections

a. Inspection frequency:
☒ Every 7 calendar days
or
☐ At least once every 14 calendar days and within 24 hours of the end of a storm even 0.25 inches or greater (a rain gauge must be maintained on-site)

b. Inspections:

Completed inspection forms will be kept with the SWPPP.

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

or

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

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

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

i. Winter Conditions (Part II.A.4.L.4)

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

J. Maintenance:

The following procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition will be followed: See below*

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

K. Employee Training:

The following is a description of the training plan for personnel (including contractors and subcontractors) on this project: Operators will submit proof of training to engineer. Engineer will provide additional training as required to ensure that SWPPP is properly implemented.

**Note, Formal training classes given by Universities or other third-party organizations are not required, but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

* Built up sediment will be removed from silt fencing when it has reached 1/3 of the height of the fence. Silt fences will be inspected for the depth of sediment, tears, fabric attachment to the fence posts, and to see that the fence posts are firmly in the ground. Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth. Entrance will be inspected for sediment tracked on roads.

Certification

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

Signature of Responsible or Cognizant Official: _____

Title: _____ Date: _____

ARR150000 Inspection Form

Appendix A

Inspector Name: _____ Date of Inspection: _____

Inspector Title: _____

Date of Rainfall: _____ Duration of Rainfall: _____

Days Since Last Rain Event: _____ days Rainfall Since Last Rain Event: _____ inches

Description of any Discharges During Inspection: _____

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

_____

Locations in Need of Additional BMPs: _____

Information on Location of Construction Activities

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

Information on BMPs in Need of Maintenance

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

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

_____ _____

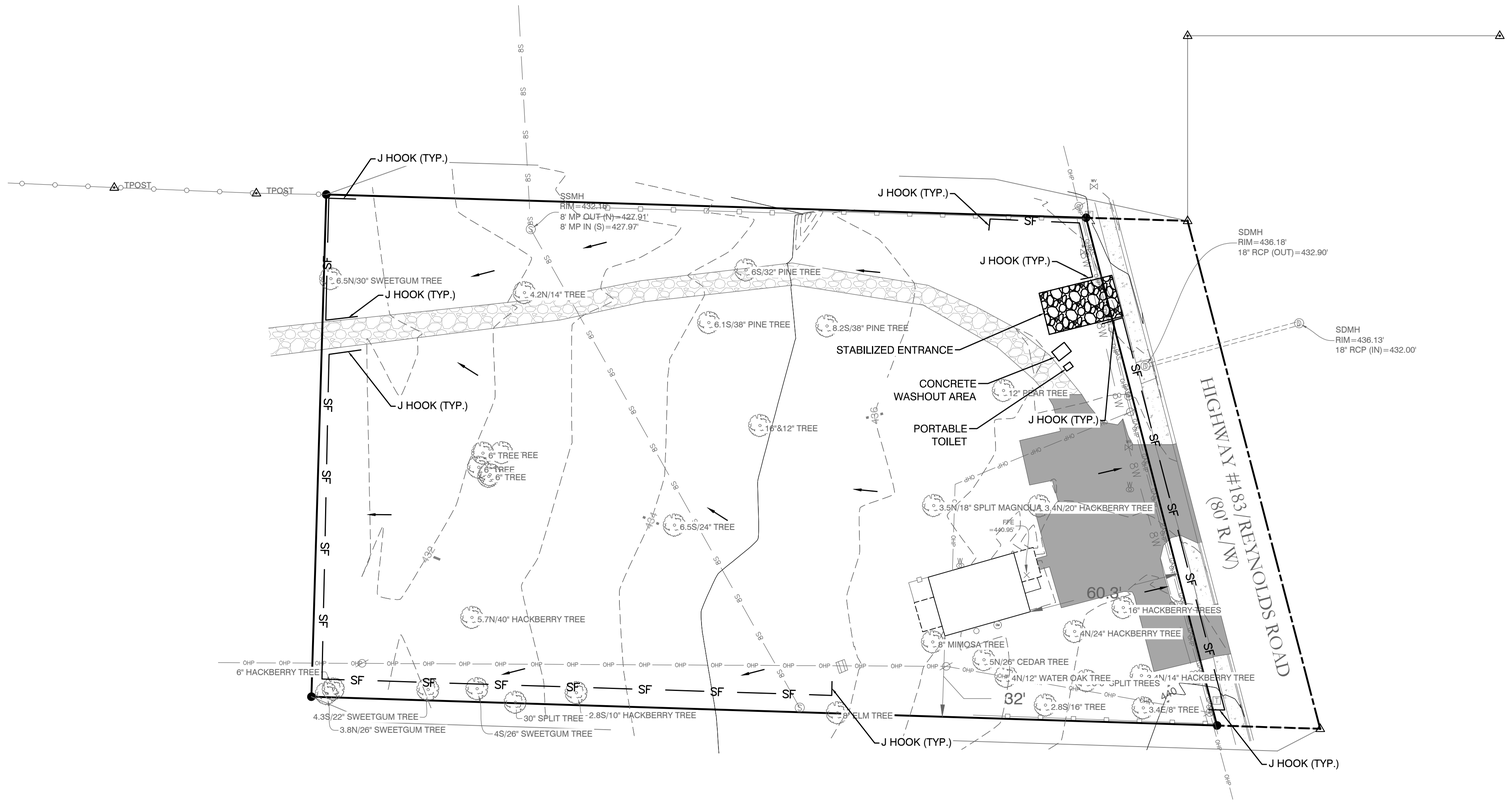
_____ _____

SWPPP changes completed (date): _____

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

Signature of Responsible or Cognizant Official: _____ Date: _____

Title: _____



BMP NOTES:

1. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

2. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

3. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIAL SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

4. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

5. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

6. IF THE ACTION OF VEHICLES TRAVELING OVER THE SITE IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF OF THE SITE.

7. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

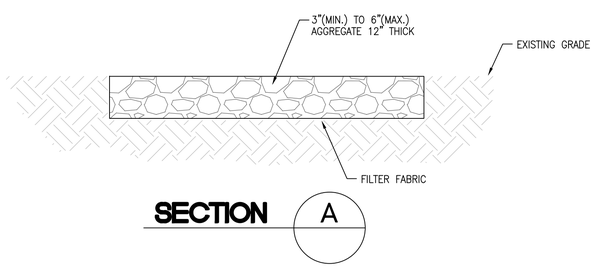
8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

9. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

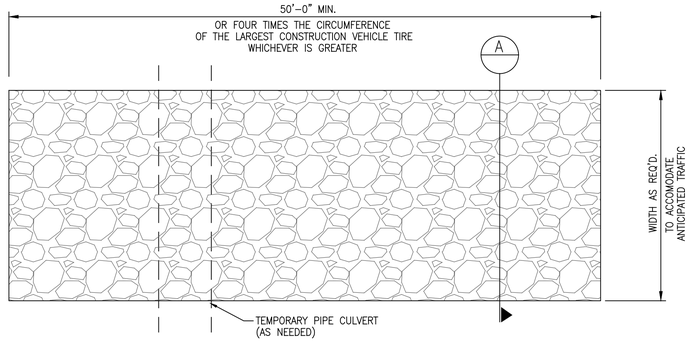
10. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

TOTAL SITE: 1.69 ACRES (INCLUDES R-0-W)

TOTAL DISTURBED AREA: 1.51 ACRES (INCLUDES R-O-W)



SECTION A



STABILIZED CONSTRUCTION ENTRANCE

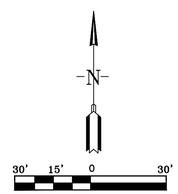
NOT TO SCALE

LEGEND:

500 EXISTING CONTOURS

DIRECTION OF OVERLAND FLOW

SF SILT FENCING



BY	REVISION	DATE

GNE Designing our client's success
GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
garnatengineering@gmail.com

NEW FACILITY FOR:
BUTLER CENTER
CITY OF BRYANT, AR

STATE OF ARKANSAS
Vernon W. Williams
REGISTERED PROFESSIONAL ENGINEER
NO. 9551
VERNON J. WILLIAMS

03-06-2023

CONTENTS:

EROSION CONTROL PLAN

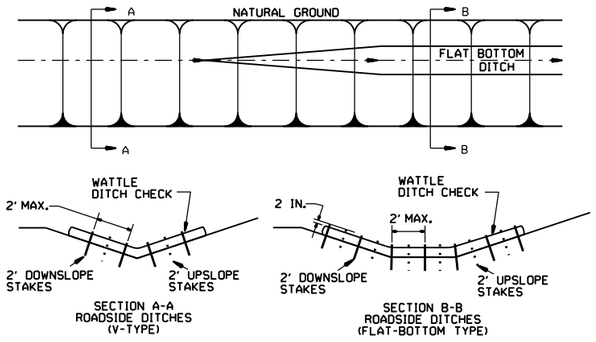
PROJECT NO: 22203

DATE: FEB 2023

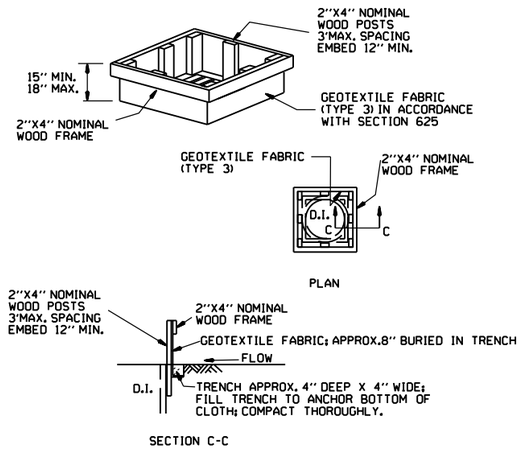
SHEET NO: C4.0

GENERAL NOTES

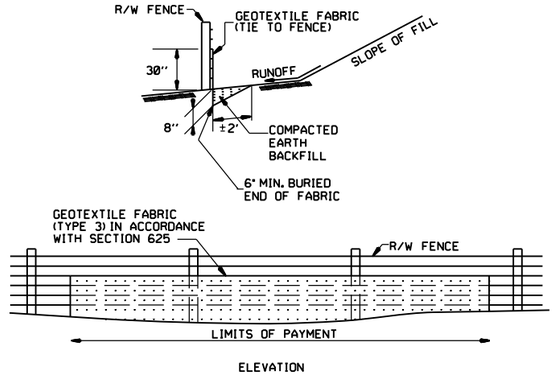
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



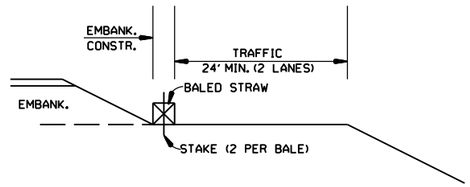
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

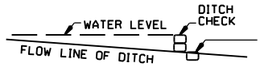
GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

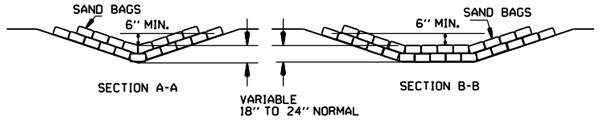


BALED STRAW FILTER BARRIER (E-2)

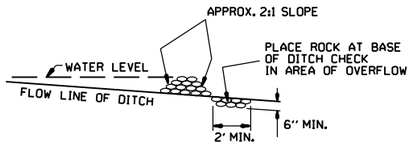
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.

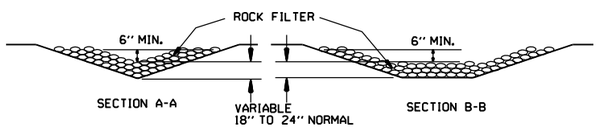


PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW

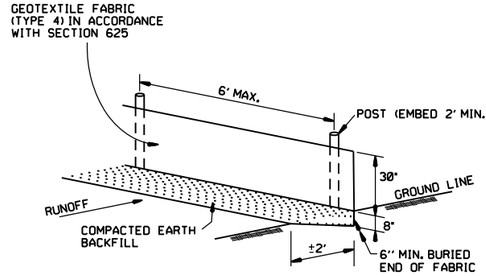


SAND BAG DITCH CHECK (E-5)





ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

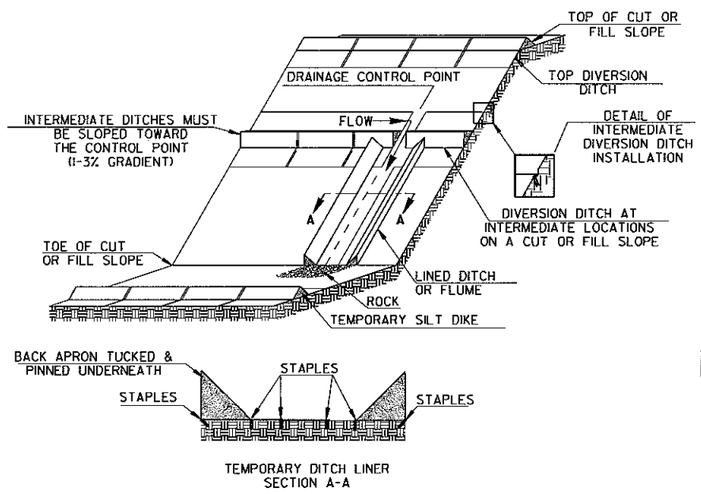
PER CITY OF BRYANT REQUIREMENTS, REQUIRES WIRED BACK FENCE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

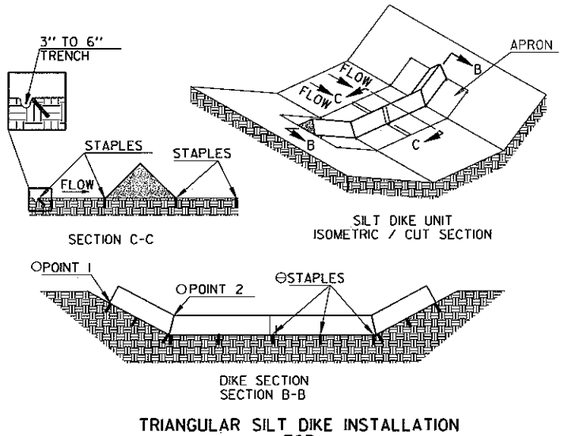
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



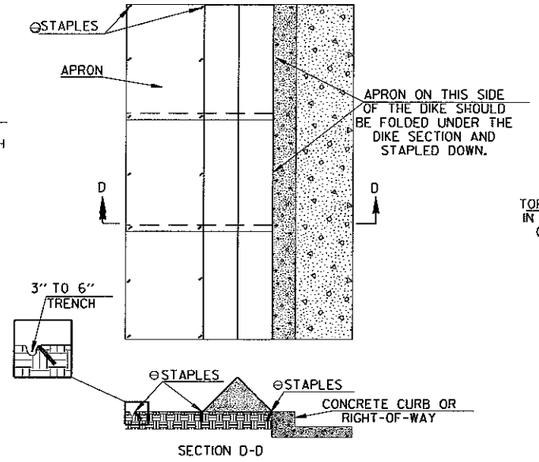
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



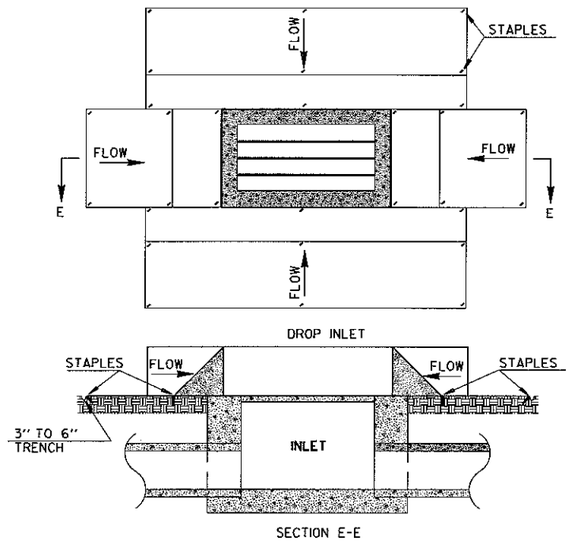
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

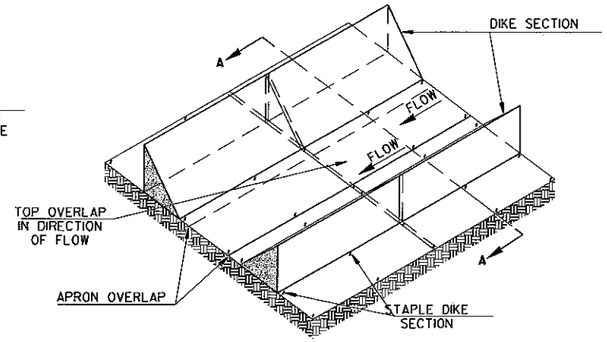
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4

AUTHORIZATION TO DISCHARGE STORMWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. 1251 et seq.), an

Operator of Facilities with Stormwater Discharges Associated with Construction Activity

is authorized to discharge to all receiving waters except as stated in Part I.B.11 (Exclusions).

For large construction sites that are eligible for coverage under this General Permit (GP), the Arkansas Department of Energy and Environment - Division of Environmental Quality (DEQ), Office of Water Quality will provide a Notice of Coverage (NOC) with tracking permit number which starts with ARR15 and a copy of the permit to the facility. The cover letter includes the DEQ's determination that a facility is covered under the GP and may specify alternate requirements outlined in the permit.

Small construction sites that are eligible for coverage under this GP will be considered to have automatic coverage under this GP and must follow the permit requirements outlined in Condition 6 of Part I.

Effective Date: November 1, 2021

Expiration Date: October 31, 2026

Digitally signed by Alan J. York
DN: cn=Alan J. York, o, ou, email=alan.york@adeq.state.ar.us, c=US
Date: 2021.05.04 09:13:53 -05'00'

Alan J. York
Associate Director, Office of Water Quality
Division of Environmental Quality

05/04/2021
Issue Date

PART I
PERMIT REQUIREMENTS

Information in **Part I** is organized as follows:

Section A: Definitions with Included Commentary
Section B: Coverage Under this Permit:

1. Permitted Area
2. Eligibility
3. Responsibilities of the Operator
4. Where to Submit
5. Requirements for Qualifying Local Program (QLP)
6. Requirements for Coverage
7. Notice of Intent (NOI) Requirements
8. Posting Notice of Coverage (NOC)
9. Applicable Federal, State or Local Requirements
10. Allowable Non-Stormwater Discharges
11. Limitations on Coverage (Exclusions)
12. Short Term Activity Authorization (STAA)
13. Effluent Limitation Guidelines (ELG)
14. Natural Buffer Zones
15. Waivers from Permit Coverage
16. Notice of Termination (NOT)
17. Responsibilities of the Operator of a Larger Common Plan of Development for a Subdivision
18. Change in Operator
19. Late Notifications
20. Failure to Notify
21. Maintenance
22. Releases in Excess of Reportable Quantities
23. Attainment of Water Quality Standards
24. Requiring an Individual Permit

SECTION A: DEFINITIONS WITH INCLUDED COMMENTARY

1. **"Arkansas Pollution Control and Ecology Commission"** shall be referred to as APC&EC throughout this permit.

2. **"Automatic Coverage"** is a term used to define the method of coverage for a small construction site.

3. **"Best Management Practices (BMPs)"** schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. According to the EPA BMP manual, the use of hay-bales in concentrated flow areas is not recommended as a BMP.

4. **"Cognizant Official" is** a duly authorized representative, as defined in Part II.B.9.B.

5. **"Commencement of Construction"** is the initial disturbance of soils (or breaking ground) associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material; placement of raw materials at the site).

6. **"Contaminated"** is a substance the entry of which into the MS4, waters of the State, or Waters of the United States may cause or contribute to a violation of Arkansas water quality standards.

7. **"Control Measure"** as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the State.

8. **"Construction Activity"** earth-disturbing activities, such as the clearing, grading, and excavation of land, and other construction–related activities (e.g., stockpiling of fill material; placement of raw materials at the site) that could lead to the generation of pollutants.

9. **"Construction Site"** is an area upon which one or more land disturbing construction activities occur that in total will disturb one acre or more of land, including areas that are part of a larger common plan of development or sale that may be less than one acre where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan such that the total disturbed area is one acre or more.

10. **"Construction Support Activity"** a construction-related activity that specifically supports the construction activity and involves earth disturbance of pollutant-generating activities of its own, and can include, but not limited to, activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and burrow areas.

11. **"CWA"** is the Clean Water Act or the Federal Water Pollution Control Act.

12. **"Department"** is referencing the Department of Energy and Environment.

13. **"DEQ"** or **"Division"** is referencing the Division of Environmental Quality. The Division is the governing authority for the National Pollutant Discharge Elimination System program in the state of Arkansas.

14. **"Detention Basin"** is an area where excess stormwater is stored or held temporarily and then slowly drains when water levels in the receiving channel recede. In essence, the water in a detention basin is temporarily detained until additional room becomes available in the receiving channel.

15. **"Director"** is the Director of the Division of Environmental Quality, or a designated representative.

16. **"Discharge"** is when used without qualification means the "discharge of a pollutant".

17. **"Disturbed area"** is the total area of the site where any construction activity is expected to disturb the ground surface. This includes any activity that could increase the rate of erosion, including, but not limited to, clearing, grubbing, grading, excavation, demolition activities, haul roads, and areas used for staging. Also included are stockpiles of topsoil, fill material and any other stockpiles with a potential to create additional runoff.

18. **"Drainageway"** is an open linear depression, whether constructed or natural, that functions for the collection and drainage of surface water.

19. **"Duly Authorized Representative"** is a representative of the Responsible Official meeting the requirements specified in Part II.B.9.B.

20. **"Eligible"** refers to being qualified for authorization to discharge stormwater under this general permit.

21. **"Erosion"** is the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

22. **"ERW"** Extraordinary Resource Water, in accordance with Rule 2.

23. **"ESW"** Ecologically Sensitive Waterbodies, in accordance with Rule 2.

24. **"Facility" or "Activity"** is any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

25. **"Final Stabilization"**:

A. All soil disturbing activities at the site have been completed and either of the two following criteria are met:

   1) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 80% or more of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
   2) Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

B. When background native vegetation will cover less than 100% of the ground (e.g., arid areas, beaches), the 80% coverage criteria is adjusted as follows: if the native vegetation covers 50% of the ground, 80% of 50% (0.80 x 0.50 = 0.40) would require 40% total cover for final stabilization. On a beach with no natural vegetation, no stabilization is required.

C. For individual lots in residential construction, final stabilization means that either:

   1) The homebuilder has completed final stabilization as specified above, or

2) The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

D. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land, staging areas for highway construction, etc.), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to "waters of the State", and areas which are not being returned to their pre-construction agricultural use shall meet the final stabilization criteria in A, B**,** or C above.

26. "Grading Activities" as used in this permit are those actions that disturb the surface layer of the ground to change the contouring, surface drainage pattern, or any other slope characteristics of the land without significantly adding or removing on-site rock, soil, and other materials. This can include demolition, excavation, and filling.

27. "Impaired Water" is a waterbody listed in the current, approved Arkansas 303(d) list.

28. "Infrastructure" refers to streets, drainage, curbs, utilities, etc.

29. "Landscaping" is improving the natural beauty of a piece of land (i.e. entrance of subdivision) through plantings or altering the contours of the ground.

30. "Large Construction Site" is a construction site in which construction activity including clearing, grading and excavation. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or greater. (Please see Part I.B.15 for partial waivers.)

31. "Larger Common Plan of Development or Sale" is a contiguous (sharing a boundary or edge; adjacent; touching) area where multiple and distinct construction activities may be taking place at different times on different schedules under one plan. Such a plan might consist of many small projects (e.g. a common plan of development for a residential subdivision might lay out the streets, house lots, and areas for parks, schools and commercial development that the developer plans to build or sell to others for development). All these areas would remain part of the common plan of development or sale. The following items can be used as guidance for deciding what might or might not be considered a "Common Plan of Development or Sale." The ''plan'' in a common plan of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. The applicant shall still meet the definition of operator in order to be required to get permit coverage, regardless of the acreage that is personally disturbed.

If a smaller project (i.e., less than 1 acre) is part of a larger common plan of development or sale (e.g., you are building a residential home on a ½ acre lot in a 40 acre subdivision or are putting in a fast food restaurant on a ¾ acre pad that is part of a 20 acre retail center), permit coverage is required.

32. "Losing Stream Segment" a stream segment which, beginning at the point of existing or proposed discharge and extending two (2) miles downstream, contribute thirty percent (30%) or more of its flow at a 7Q10 flow or one (1) cfs, whichever is greater, through natural processes such as permeable subsoil or cavernous bedrock into an aquifer.

33. "Natural Buffer" for purposes of this permit, an area of undisturbed natural cover surrounding waters of the State. Natural cover includes vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities

at the site.

34. **"NOC"** Notice of Coverage.

35. **"NOI"** Notice of Intent to be covered by this permit.

36. **"NOT"** Notice of Termination.

37. **"NSW"** Natural and Scenic Waterways, in accordance with Rule 2.

38. **"Operator"/"Permittee"** for the purpose of this permit and in the context of stormwater associated with construction activity, means any person(s),an individual, association, partnership, corporation, municipality, state or federal agency, associated with a construction project that has financial and operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; additionally, the Division may require any person(s), an individual, association, partnership, corporation, municipality, state or federal agency, associated with a construction project that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions can be named as a co-permittee.

In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline or a landowner who allows a mining company to remove dirt, shale, clay, sand, gravel, etc. from a portion of his property). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g., having a house built by a residential homebuilder).

39. **"Outfall"** a point source where stormwater leaves the construction site.

40. **"Owner"** refers to the owner or operator of any "facility or activity" subject to regulation under the NPDES program. In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g. having a house built by a residential homebuilder).

41. **"Physically Interconnected"** means that one municipal separate storm sewer system is connected to a second municipal separate storm sewer system in such a way that it allows for direct discharges into the second system.

42. **"Point Source"** is any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

43. **"Qualified Local Program"** is a municipal program for stormwater discharges associated with construction sites that has been formally approved by DEQ.

44. **"Qualified personnel"** a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the

construction activity.

45. **"Regulated Small Municipal Separate Storm Sewer System"** are all municipal separate storm sewer systems that are either:

A. Located within the boundaries of an "urbanized area" with a population of 50,000 or more as determined by the latest Decennial Census by the Bureau of Census; or
B. Owned or operated by a municipality other than those described in paragraph A and that serve a jurisdiction with a population of at least 10,000 and a population density of at least 1,000 people per square mile; or
C. Owned or operated by a municipality other than those described in paragraphs A and B and that contributes substantially to the pollutant loadings of a "physically interconnected" municipal separate storm sewer system.

46. **"Responsible Official"** is the authorized representative, as defined in Part II.B.9.A.

47. **"Retention Basin"** a basin that is designed to hold the stormwater from a rain event and allow the water to infiltrate through the bottom of the basin. A retention basin also stores stormwater, but the storage of the stormwater would be on a more permanent basis. In fact, water often remains in a retention basin indefinitely, with the exception of the volume lost to evaporation and the volume absorbed into the soils. This differs greatly from a detention basin, which typically drains after the peak of the storm flow has passed, sometimes while it is still raining.

48. **"Runoff Coefficient"** is the fraction of total rainfall that will appear at the conveyance as runoff.

49. **"Sediment"** is material that settles to the bottom of a liquid.

50. **"Sediment Basin"** is a basin that is designed to maintain a 10 year-24 hour storm event for a minimum of 24-hours in order to allow sediment to settle out of the water.

51. **"Small Construction Site"** is a construction site in which construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

52. **"Stormwater"** is stormwater runoff from rainfall, snow melt runoff, and surface runoff and drainage.

53. **"Stormwater Discharge Associated with Construction Activity"** refers to the discharge of runoff from any conveyance which is used for collecting and conveying stormwater and which is directly related to construction activity.

54. **"Stormwater Pollution Prevention Plan (SWPPP or SWP3)"** is a plan that includes site map(s), an identification of construction/contractor, activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants.

55. **"Temporary Sediment Controls"** are controls that are installed to control sediment runoff from the site during construction activity. These could be silt fencing, rock check dams, etc.

56. **"Total Maximum Daily Load" or "TMDL"** is the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources and natural background. If the receiving water has only one point

source discharger, the TMDL is the sum of that point source WLA plus the LAs for any non-point sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure.

57. "Uncontaminated" means that the water will not exceed the water quality standards as set forth in APC&EC Rule 2; also not containing a harmful quantity of any substance.

58. "Urbanized Area" means the areas of urban population density delineated by the Bureau of the Census for statistical purposes and generally consisting of the land area comprising one or more central place(s) and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile as determined by the latest Decennial Census by the Bureau of Census.

59. "Waters of the State" waters of the State means all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.

SECTION B: COVERAGE UNDER THIS PERMIT

Introduction

This Construction General Permit (CGP) authorizes stormwater discharges from large and small construction activities that result in a total land disturbance of equal to or greater than one acre or less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This permit also authorizes stormwater discharges from any other construction activity designated by DEQ where DEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the State. This permit replaces the permit issued in 2016. The goal of this permit is to minimize the discharge of stormwater pollutants from construction activity into waters of the State. The operator shall read and understand the conditions of the permit. A copy of the CGP is available on the DEQ web site at https://www.adeq.state.ar.us/water/permits/npdes/stormwater/. A hard copy may be obtained by contacting the DEQ's General Permits Section at (501) 682-0623.

1. **Permitted Area.** If a large or small construction activity is located within the State of Arkansas, the operator may be eligible to obtain coverage under this permit.

2. **Eligibility.** Permit eligibility is limited to discharges from "large" and "small" construction activity, or as otherwise designated by DEQ. This general permit contains eligibility restrictions, as well as permit conditions and requirements. Operators shall meet the requirements of Part I.B.6.A or Part I.B.6.B to be eligible for coverage under this permit. In such cases, operators shall continue to satisfy those eligibility provisions to maintain permit authorization. If operators do not meet the requirements that are a pre-condition to eligibility, then resulting discharges constitute unpermitted discharges. By contrast, if operators are eligible for coverage under this permit and do not comply with the requirements of the general permit, they may be in violation of the general permit for otherwise eligible discharges.

   A. This general permit authorizes discharges from construction activities as defined in 40 C.F.R. §122.26(a), 40 C.F.R. §122.26(b)(14)(x), 40 C.F.R. §122.26(b)(15)(i)-(ii) and 40 C.F.R. §450.

   B. This permit also authorizes stormwater discharges from support activities (e.g., concrete or asphalt batch plants, concrete truck washout, fueling, equipment staging yards, materials storage areas, excavated material disposal areas, stockpiles of top soil, borrow areas) provided:

      1) The support activity is directly related to a specific construction site that is required to have NPDES permit coverage for discharges of stormwater associated with the construction activity;
      2) The support activity is not a commercial operation, nor does it serve multiple unrelated construction projects; and does not continue to operate beyond the completion of the construction activity at the project it supports;
      3) Pollutant discharges from support activity areas are minimized in compliance with conditions of this permit; and
      4) Discharges from the support activity areas shall be identified in a Stormwater Pollution Prevention Plan (SWPPP) stating appropriate controls and measures for the areas off the construction site.

   C. Other activities may be considered for this permit at the discretion of the Director as defined in 40 C.F.R. §122.26(b)(15)(ii).

3. **Responsibilities of the Operator.** Permittees with operational control are responsible for compliance with all applicable terms and conditions of this permit as it relates to their activities on the construction site including construction support activities off site, including protection of endangered species and implementation of BMPs and other controls required by the SWPPP. Receipt of this general permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulation.

4. **Where to Submit.** The operator shall submit a complete and signed Notice of Intent (NOI) and SWPPP to DEQ through ePortal, unless the operator receives a waiver from DEQ, which can be found on the following website:

   https://eportal.adeq.state.ar.us/

   A. The operator shall submit the application fee to DEQ through ePortal (when available), submit an email requesting an invoice to be created to pay online, or mail in invoice from ePortal with a check (listing the invoice number on the check) to the follow address:

      Division of Environmental Quality
      ATTN: Fiscal
      5301 Northshore Drive
      North Little Rock, AR 72118-5317

   NOTE: Notice of Coverage (NOC) will **NOT** be issued until payment has been received by DEQ.

   B. Waivers from electronic reporting may be granted based on one of the following conditions:

      1) If the operational headquarters is physically located in a geographic area (i.e. Zip code or census tract) that is identified as under-served for broadcast internet access in the most recent report from the Federal Communications Commission;
      2) If available computer access or computer capability is limited; or
      3) If the operator is a religious community that choose not to use certain modern technologies pursuant to 40 C.F.R. §127.15(c)(1).

   C. In order to apply for a waiver from the electronic reporting, the operator must submit the required information outlined in 40 C.F.R. §127.15(b)(2).

   D. If DEQ grants a waiver approval to use a paper NOI, and operator elects to use it, the operator **must** use the approved form developed by DEQ.

5. **Requirements for Qualifying Local Program (QLP).** DEQ reviews and approves the QLPs to ensure that they meet or supersede both state and federal requirements outlined in this permit and 40 C.F.R. §122.44(s). DEQ will review the QLP at least every 5 years for recertification. If DEQ approves a QLP, then the QLP requirements shall at the minimum meet the DEQ's requirements. This includes all templates and forms. This permit may be modified to add new QLPs or modify existing QLPs at DEQ's discretion. All public notice and other applicable costs incurred by the modification of the permit for the addition or modification of a QLP will be paid by the QLP.

   If a small construction site is within the jurisdiction of a QLP, the operator of the small construction site is authorized to discharge stormwater associated with construction activity under QLP permit requirements only.

   At the time of issuance of this permit, only the City of Hot Springs is meeting the DEQ minimum requirements.

6. Requirements for Coverage.

A. *Small Construction Sites*. An operator of a small construction site will be considered to have automatic coverage under this general permit and may discharge without submitting a NOI, SWPPP or fee if the following conditions are met:

1) A completed Notice of Coverage (NOC) must be posted at the site prior to commencing construction and remain posted until final stabilization is completed;
2) A Stormwater Pollution Prevention Plan must be prepared in accordance with good engineering practice as described in Rule 6.203(B), completed prior to posting the NOC, implemented upon commencement of construction activities, and the latest copy must be maintained at the construction site;
3) All permit conditions set forth in this general permit must be followed; and
4) The operator is responsible for ensuring that the site is in compliance with any changes or updates of this general permit, by either contacting DEQ or reviewing the DEQ website:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

B. *Large Construction Sites.* An operator of a large construction site discharging under this general permit shall submit the following items at least ten (10) business days prior to the commencement of construction activities:

1) A complete NOI in accordance with the requirements of Part I.B.7 of this permit.
2) A complete SWPPP in accordance with the requirements of Part II.A of this permit.
3) An initial permit fee shall accompany the NOI under the provisions of APC&EC Rule 9. Subsequent annual fees will be billed by DEQ until the operator has requested a termination of coverage by submitting a Notice of Termination (NOT). Failure to remit the required initial permit fee shall be grounds for the Director to deny coverage under this general permit. Failure to remit the required annual fees shall be grounds for the Director to revoke coverage under this permit.

C. Modification of Permit Coverage to Include Additional Acreage. Any request to increase the total acreage of a construction site shall be accompanied by a $200 permit modification fee and an updated SWPPP. Any request to only increase the disturbed acreage without changing the total acreage shall be accompanied by an updated SWPPP. A $200 permit modification fee is not required with an increase in disturbed acreage. The operator shall submit a complete and signed Additional Acreage Request Form to DEQ through ePortal, which can be found on the following website:

https://eportal.adeq.state.ar.us/

7. Notice of Intent (NOI) Requirements.

A. *NOI Form*. Large construction site operators who intend to seek coverage for a stormwater discharge under this general permit shall submit a complete and accurate DEQ NOI form through the ePortal system (at https://eportal.adeq.state.ar.us/) at least ten (10) business days prior to the date coverage under this permit is desired, unless granted a waiver in accordance with Part I.B.4.D. The NOI form completed **must** be the current version obtained from ePortal.

If the NOI is deemed incomplete, DEQ will notify the applicant with regard to the deficiencies by a letter, email, or phone within ten (10) business days of the receipt of the NOI. If the operator does not receive a notification of deficiencies from DEQ's receipt of the NOI, the NOI is deemed complete. If the applicant does not provide DEQ with the requested deficiencies within the deadline set by DEQ, then DEQ will return the NOI, fee and SWPPP back to the

applicant.

B. *Contents of the NOI*. The NOI form contains, at a minimum, the following information:

1) Operator (Permittee) information (name, mailing address, telephone, and E-mail address)
2) Whether the operator is a federal, state, private, public, corporation, or other entity
3) Invoice mailing information (name, address, and telephone and fax numbers)
4) Project Construction site information (name, county, address, contact person, directions to the site, latitude and longitude for the entrance of the site or the endpoints for linear project (in degrees, minutes, and seconds), estimated construction start date and completion date through site final stabilization, the total project acreage and the acreage to be disturbed by the operator submitting the NOI, type of the project (subdivision, school, etc), whether the project is part of a larger common plan of development or sale.)
5) Discharge information (name of the receiving stream, ultimate receiving stream, name of municipal storm sewer system)
6) List of current permits
7) The Certification statement and signature of a qualified signatory person in accordance with 40 CFR 122.22, as adopted by reference in APC&EC Rule 6
8) The certification of the facility corporation
9) Other information (location of the SWPPP)
10) And the SIC Code.

C. *Notice of Coverage (NOC)*. Unless notified by the Director to the contrary, operators who submit a complete NOI and SWPPP in accordance with the requirements of this permit are authorized to discharge stormwater from the construction sites under the terms and conditions of this permit ten (10) business days after the date the NOI is deemed complete (which may not be the original submission date if revisions or additions were necessary) by DEQ. If the NOC has not been received by the permittee ten (10) business days after the date the NOI is deemed complete by DEQ, the NOI may be posted until the NOC is received. Upon review of the NOI and other available information, the Director may deny coverage under this permit and require submittal of an application for an individual NPDES permit.

8. Posting Notice of Coverage (NOC).

A. *Automatic Coverage Sites*. The NOC for small sites, as defined in Part I.A.51, shall be obtained from the DEQ's Stormwater website:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/ .

The NOC must be posted at the site prior to commencing construction. In addition, a copy of the latest signed and certified SWPPP must be available at the construction site in accordance with Part II.A.2.B and D prior to commencing construction.

B. *Large Sites: NOC Posting for Large Construction Sites*. The posting for large construction sites shall be obtained from DEQ only after the permittee has submitted the required NOI, permit fee and complete SWPPP to DEQ for the coverage.

C. *Linear Projects*. If the construction project is a linear construction project (e.g., pipeline, highway, etc.), the notice shall be placed in a publicly accessible location near where construction is actively underway and moved as necessary.

Please note, this permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that the permittee allow members of the public access to a construction site.

9. Applicable Federal, State or Local Requirements. The operator shall ensure that the stormwater controls implemented at the site are consistent with all applicable federal, state, or local requirements. Additionally, an operator who is operating under approved local erosion and sediment plans, grading plans, local stormwater permits, or stormwater management plans shall submit signed copies of the NOI to the local agency (or authority) upon the local agency's request.

10. Allowable Non-Stormwater Discharges.

A. The following non-stormwater discharges as part of the construction activity may be authorized by this permit through appropriate controls. Non-stormwater discharges shall be addressed in the stormwater pollution prevention plan and measures to minimize or eliminate non-stormwater discharge should be taken if reasonably possible.
   1) Fire-fighting activities;
   2) Fire hydrant flushings;
   3) Water used to wash vehicles and equipment (where detergents, soaps, solvents or other chemicals are not used) or to control dust in accordance with Part II.A.4.J.2;
   4) Potable water sources including uncontaminated waterline flushings;
   5) Uncontaminated landscape irrigation;
   6) Uncontaminated routine external building wash down which does not use detergents, soaps, solvents or other chemicals;
   7) Uncontaminated pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents, soaps. solvents or other chemicals are not used);
   8) Uncontaminated air conditioning compressor condensate (See Part I.B.13.C of this permit);
   9) Uncontaminated springs, excavation dewatering and uncontaminated groundwater (See Part I.B.13.C of this permit);
   10) Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater (See Part I.B.13.C of this permit).

11. Limitations on Coverage (Exclusions). The following stormwater discharges associated with construction activity are not covered by this permit:

A. *Post Construction Discharge.* Stormwater discharges associated with construction activities that originate from the site, as well as construction support activities located off site, after construction activities have been completed, the site has undergone final stabilization, and the permit has been terminated.

B. *Discharges Mixed with Non-Stormwater.* Stormwater discharges that are mixed with sources of non-stormwater other than those identified in Part I.B.10.

C. *Discharges Covered by another Permit.* Stormwater discharges associated with construction activity that are covered under an individual or an alternative general permit may be authorized by this permit after an existing permit expires, provided the expired permit did not establish numeric effluent limitations for such discharges.

D. *Discharges into Receiving Waters with an Approved TMDL.* Discharges from a site into receiving waters for which there is an established total maximum daily load (TMDL) allocation (https://www.adeq.state.ar.us/water/planning/integrated/tmdl/) are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that is consistent with the assumptions and requirements in the EPA approved TMDL. To be eligible for coverage under this general permit, operators shall incorporate into their SWPPP all conditions applicable to their discharges necessary for consistency with the assumptions and requirements of the TMDL within the timeframes established in the TMDL. If a specific numeric allocation has been established that

applies to the project's discharges, the operator shall incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation. If a numeric limit has been assigned to the facility, quarterly monitoring shall be submitted to DEQ demonstrating compliance with the assigned Waste Load Allocation established in the TMDL. Please note that DEQ will be reviewing this information. If it is determined that the project will discharge into a receiving stream with a TMDL, then DEQ may require additional BMPs.

E. *Discharges into Impaired Receiving Waters (303(d) List).* If stormwater discharges from a construction site enters the receiving water listed as impaired under Section 303(d) of the Clean Water Act (https://www.adeq.state.ar.us/water/planning/integrated/), the permittee shall incorporate into the SWPPP the additional BMPs needed to sufficiently protect water quality. Please note that DEQ will be reviewing this information. If it is determined that the project will discharge to an impaired water body, then DEQ may require additional BMPs.

F. *Discharges into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW).* Discharges from a construction site located within the watershed of any water body or waterway designated as an Outstanding Resource Water as defined in the APC&EC Rule 2.203, including ERWs, NSWs, or ESWs are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent possible exposure to precipitation and to stormwater of pollutants that could potentially impact water quality. For the purposes of this permit, the watershed of an Outstanding Resource Water will be identified by the United States Geological Survey's twelve (12) digit Hydrological Unit Code (HUC). Please note that DEQ will be reviewing this information. If the site will discharge to an ERW, NSW, or ESW, then DEQ may determine that additional requirements are necessary.

G. *Discharges into an area of the state which includes potential losing stream and/or sensitive aquatic species native to these areas.* Discharges from a construction site located within the watershed of any potential losing stream and/or sensitive aquatic species native to the area are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent possible exposure to precipitation and to stormwater of pollutants that could potentially impact water quality. In accordance with Part I.B.3, it is the responsibility of the permittee to prevent activity which may take or otherwise risk harm to endangered species. Please note that DEQ will be reviewing this information. If the site will discharge to an area of the state which includes potential losing stream and/or sensitive aquatic species native to these areas, then DEQ may determine that additional requirements are necessary.

12. Short Term Activity Authorization (STAA). Any work being conducted in waters of the State will require a STAA from DEQ in accordance with Rule 2.305. An STAA is necessary for any in-stream activity that has the potential to exceed the water quality standards, including, but not limited to: gravel removal, bridge or crossing repair/maintenance, bank stabilization, debris removal, culvert replacement, flood control projects, and stream relocation. Any work being conducted in Waters of the United States may require a Section 404 permit from the U.S. Army Corps of Engineers. This permit does not authorize any activity under an STAA, Individual 401 Certification, or Section 404 permit. The necessary forms to apply for coverage under an STAA or Individual 401 Certification can be found on the following website:

https://www.adeq.state.ar.us/water/planning/instream/

The SWPPP shall be updated to include a copy of the STAA letter (and Individual 401 Certification if needed) upon receipt. Re-submittal of the SWPPP is not required unless specifically requested by DEQ.

13. Effluent Limitation Guidelines (ELG). All permittees shall comply with the following effluent limits:

A. *Erosion and Sediment Controls.* Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:

1) Control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges;
2) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
3) Minimize the amount of soil exposed during construction activity;
4) Minimize the disturbance of steep slopes;
5) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
6) Provide and maintain natural buffers around waters of the State, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
7) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
8) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

B. *Soil Stabilization.* Stabilization of disturbed areas must, at a minimum, be initiated immediately (unless weather conditions do not allow immediate initiation) whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permitting authority. Stabilization must be completed within fourteen (14) calendar days. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.

C. *Dewatering.* Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. There shall be no turbid discharges to waters of the State resulting from dewatering activities. If trench or ground waters contain sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care shall be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

D. *Pollution Prevention Measures.* Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures shall be designed, installed, implemented and maintained to:

1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters shall be treated in a sediment basin or BMP control that provides equivalent or better treatment prior to discharge;
2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use); and
3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. *Prohibited discharges.* The following discharges are prohibited:

1) Wastewater from washout of concrete, unless managed by an appropriate control;
2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4) Soaps, solvents, or detergents used in vehicle, equipment washing, or external building washdown.
5) Toxic or hazardous substances from a spill or release.

F. *Surface Outlets.* When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

14. Natural Buffer Zones. A natural buffer zone as stated below shall be maintained at all times and direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law.

A. For construction projects where construction activities or construction support activities occur, the SWPPP shall provide at least twenty-five (25) feet of natural buffer zone, as measured horizontally from the top of the bank to the disturbed area, from any waters of the State.

B. DEQ will require at least fifty (50) feet of natural buffer zone, as measured horizontally from the top of the bank to the disturbed area, from established TMDL water bodies, streams listed on the 303(d) list, an Extraordinary Resource Water (ERW), Ecologically Sensitive Waterbody (ESW), Natural and Scenic Waterway (NSW), or any other uses at the discretion of the Director.

C. Linear projects will be evaluated individually by DEQ to determine natural buffer zone setbacks.

15. Waivers from Permit Coverage. The Director may waive the otherwise applicable requirements of this general permit for stormwater discharges from construction activities under the terms and conditions described in this section.

A. *Waiver Applicability and Coverage*. Based upon 40 C.F.R. §122.26.b.15.i.A, operators of small construction activities may apply for and receive a waiver from the requirements to obtain this permit.

B. *No Stormwater Leaving the Site.* If all of the stormwater from the construction activity is captured on-site under any size storm event and allowed to evaporate, soak into the ground on-site, or is used for irrigation, a permit is not needed.

C. *TMDL Waivers.* This waiver is available for sites with automatic coverage if the DEQ has established or approved a TMDL that addresses the pollutant(s) of concern and has determined that controls on stormwater discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that construction activity will take place, and storm water discharges will occur within the drainage area addressed by the TMDL or equivalent analysis. Information on approved TMDLs is available on DEQ's website:

https://www.adeq.state.ar.us/water/planning/integrated/tmdl/.

16. Notice of Termination (NOT). When all construction activities that disturbed soil are complete, the site has reached final stabilization (100% stabilization with 80% density or greater, or as defined in Part I.A.25.B for sites where background native vegetation will cover less than 100% of the ground), all stormwater discharges from construction activities authorized by this permit are eliminated and all temporary sediment controls are removed and properly disposed, the operator of the facility may submit a complete Notice of Termination (NOT) to the Director. Along with the NOT, pictures that represent the entire site shall be submitted for review. Final stabilization is not required if the land is returned to its pre-construction agriculture use. Operators of small construction sites are not required to submit NOTs for their construction sites. However, final stabilization is required on all sites. If a NOT is not submitted when the project is completed, the operator will be responsible for annual fees.

17. Responsibilities of the Operator of a Larger Common Plan of Development or Sale.

A. The operator is ultimately responsible for the runoff from the perimeter of the entire development. Regardless of the reason for the runoff, the operator is responsible for ensuring sufficient overall controls of the development.

B. The operator shall not terminate the permit coverage until the following conditions have been met:

1) After all construction activities including landscaping and lot development has been completed; and
2) All lots are sold and developed.

The following exceptions to this requirement may apply:

a. Less than 100% sold and developed at the discretion of the Director, or
b. Separation of the larger common plan if twenty-four (24) months have passed with no construction activity, or
c. All lots are developed and there are no temporary common controls for subdivision outfalls, i.e. sediment basins, large sediment traps, check dams, etc.

3) If lots are sold and then re-sold to a third party, permit coverage shall be obtained by each of the operators while they have ownership of the lots. The second owner is responsible for obtaining the same certification from the third owner (i.e. the certification shall pass from owner to owner).

C. The operator shall not terminate permit coverage until the operators of all of the individual lots within the larger common plan of development or sale are notified of their permitting requirements under this general permit. In this case, the signed certification statements from each operator of individual lots shall be maintained in the stormwater pollution prevention plan for the larger common plan of development or sale. A copy of the signed certifications shall be submitted to DEQ with the NOT. The certification shall be as follows:

"I, _____, operator of an individual lot #_____, block #_____ of _____ subdivision, certify under penalty of law that I was notified by the operator of the larger common plan of the stormwater permitting requirements for my construction site(s). I understand prior to commencement of any construction activity I have to prepare and comply with a SWPPP and post the Construction Site Notice . I understand that prior to the sale of this lot to another party; I must notify the new owner of DEQ requirements and obtain this certification from the new owner."

Signature _____

D. The following examples are provided as clarification:

1) If a small portion of the original common plan of development remains undeveloped and there has been a period of time (i.e., more than 24 months) where there are no ongoing construction activities (i.e., all areas are either undisturbed or have been finally stabilized), operators may re-evaluate the original project based on the acreage remaining from the original "larger common plan of development or sale." If less than five (5) but more than one (1) acre remains to build out the original "common plan", coverage under the large permit may not be required. However, operators will need to comply with the terms and conditions for Small Construction Sites in the Construction General Permit. If less than one acre remains of the original common plan, the individual project may be treated as a part of a less than one acre development and no permit would be required.
2) If operators have a long-range master plan of development or sale where some portions of the master plan are conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended period of time (i.e., more than 24 months), operators may consider the "conceptual" phases of development to be separate "common plans" provided the periods of construction for the physically interconnected phases will not overlap.
3) Where discrete construction projects within a larger common plan of development or sale are located ¼ mile or more apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed. For example, if an interconnecting access road or pipeline were under construction at the same time, they would generally be considered as a part of a single "common plan" for permitting purposes.
4) If the operator sells all the lots in the subdivision to one or more multi-lot homebuilder(s), provisions shall be made to obtain stormwater permit coverage by one of the following options:
   a. The permit may be transferred from the first "operator" to the new/second "operator".
   b. A new, separate permit coverage may be obtained by the second "operator".
   NOTE: If a new permit coverage is to be obtained, then it shall be obtained before the first/original permit is terminated.
5) If the operator retains ownership of any lots in the subdivision, the operator shall maintain permit coverage for those lots under the original permit coverage. The operator shall modify the SWPPP by stating which lots are owned and marking the lots on the site map. If there are one (1) or two (2) lots remaining and the total acreage is less than five (5) acres, the original permit coverage could be terminated and those lots could be covered as a small site.

18. <u>Change in Operator</u>. For stormwater discharges from large construction sites where the operator changes, including instances where an operator is added after the initial NOI has been submitted, the new operator shall ensure that a permit transfer form is received by DEQ at least two (2) weeks prior to the new operator beginning work at the site.

19. <u>Late Notifications</u>. A discharger is not precluded from submitting an NOI in accordance with the requirements of this part after the dates provided in Part I.B.7 of this permit. In such instances, the Director may bring an enforcement action for failure to submit an NOI in a timely manner or for any unauthorized discharges of stormwater associated with construction activity that have occurred on or after the dates specified in this permit.

20. <u>Failure to Notify</u>. The operator of a construction site who fails to notify the Director of their intent to be covered under this permit, and who potentially discharges pollutants (sediment, debris, etc.) to waters of the State without an NPDES permit, is in violation of the Arkansas Water and Air Pollution Control Act.

21. <u>Maintenance</u>. Determination of the acreage of disturbance does not typically include disturbance for routine maintenance activities on existing roads where the original line and grade, hydraulic capacity, or original purpose of the road is not being altered, nor does it include the paving of existing roads. Maintenance activities (returning to original conditions) are not

regulated under this permit unless one or more acres of underlying or surrounding soil are cleared, graded, or excavated as part of the operation.

22. Releases in Excess of Reportable Quantities.

A. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility. This permit does not relieve the operator of the reporting requirements of 40 C.F.R. §110, §117 and §302. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reporting quantity established under either 40 C.F.R. §110, 40 C.F.R. §117, or 40 C.F.R. §302, occurs during a twenty-four (24) hour period, the following action shall be taken:

1) Any person in charge of the facility is required to notify the National Response Center (NRC) (800-424-8802) in accordance with the requirements of 40 C.F.R. §110, 40 C.F.R. §117, or 40 C.F.R. §302 as soon as he/she has knowledge of the discharge;
2) The operator shall submit within five (5) calendar days of knowledge of the release a written description of the release (including the type and estimate of the amount of material released), the date that such release occurred, and the circumstances leading to the release, and steps to be taken in accordance with Part II.B.17 of this permit to the DEQ.
3) The SWPPP described in Part II.A of this permit shall be modified within fourteen (14) calendar days of knowledge of the release to:

    a. Provide a description of the release and the circumstances leading to the release; and
    b. The date of the release;

4) Additionally, the SWPPP shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

B. *Spills*. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

23. Attainment of Water Quality Standards.

The operator shall select, install, implement, and maintain control measures at the construction site and construction support activities off site that minimize the discharge of pollutants for which a stream is impaired at the discretion of the Director as necessary to protect water quality. In general, except in situations explained below, the stormwater controls developed, implemented, and updated to be considered stringent enough to ensure that discharges do not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

At any time after authorization, DEQ may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEQ will require the permittee to:

A. Develop a supplemental BMP action plan describing SWPPP modifications to address adequately the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

B. Cease discharges of pollutants from construction activity and submit an individual permit application.

All written responses required under this part shall include a signed certification consistent with Part II.B.9.

24. Requiring an Individual Permit

The Director may require any person eligible for coverage under the general permit to apply for and obtain an individual permit. In addition, any interested person(s) may submit an application for an individual permit. The Director may consider the issuance of individual permits according to the criteria in 40 C.F.R. §122.28(b)(3).

Coverage of the facility under this general permit is may be terminated by DEQ if the operator fails to submit or respond to the permitting process or requests for information in a timely manner.

Any operator covered under this general permit may request to be excluded from the coverage of this permit by applying for an APC&EC Rule 6 individual permit. The operator shall submit an application for an individual permit with the reasons supporting the application to DEQ. If a final, individual NPDES permit is issued to an operator otherwise subject to this general permit, the operator is required to submit a NOT. Coverage under this general permit will then be terminated no earlier than the effective date of the individual NPDES permit. Otherwise, the applicability of this general permit to the facility remains in full force and effect.

PART II
STANDARD CONDITIONS

Information in **Part II** is organized as follows:

Section A: Stormwater Pollution Prevention Plans (SWPPP):

1. Deadlines for Plan Preparation and Compliance
2. Signature, SWPPP, Inspection Reports, and Notice of Coverage (NOC)
3. Keeping SWPPP Current
4. Contents of the Stormwater Pollution Prevention Plan
5. Plan Certification

Section B: Standard Permit Conditions:

1. Retention of Records
2. Duty to Comply
3. Penalties for Violations of Permit Conditions
4. Continuance of the General Permit
5. Need to Halt or Reduce Activity Not a Defense
6. Duty to Mitigate
7. Duty to Provide Information
8. Other Information
9. Signatory Requirements
10. Certification
11. Penalties for Falsification of Reports
12. Penalties for Tampering
13. Oil and Hazardous Substance Liability
14. Property Rights
15. Severability
16. Transfers
17. Proper Operation and Maintenance
18. Inspection and Entry
19. Permit Actions
20. Re-Opener Clause
21. Local Requirements
22. Applicable Federal, State Requirements

SECTION A: STORMWATER POLLUTION PREVENTION PLANS (SWPPP)

The operator shall prepare a SWPPP before permit coverage. The SWPPP shall follow the order outlined in Part II.A.4 & 5 below. This basic DEQ format is available through DEQ's website https://www.adeq.state.ar.us/water/permits/npdes/stormwater/. Other formats may be used at the discretion of the Director if the format has been approved by DEQ prior to use. The operator shall implement the SWPPP as written from initial commencement of construction activity until final stabilization is complete, with changes being made as deemed necessary by the permittee, local, state or federal officials. The plan shall be prepared in accordance with good engineering practices, by qualified personnel and shall:

- Identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site and construction support activities off site;
- Identify, describe and ensure the implementation of BMPs, with emphasis on initial site stabilization, which are to be used to reduce pollutants in stormwater discharges from the construction site and construction support activities off site;
- Be site specific to what is taking place on a particular construction site;
- Ensure compliance with the terms and conditions of this permit; and
- Identify the responsible party for on-site SWPPP implementation.

1. Deadlines for Plan Preparation and Compliance.

A. *Automatic Coverage Sites.*

The plan shall be completed prior to obtaining permit coverage and commencement of construction activities and updated as appropriate. Submittal of the NOI, permit fee and SWPPP is not required. All conditions set forth in Part II.A must be followed, and the NOC must be posted at the site prior to commencing construction activities. In addition, a copy of the SWPPP must be available at the construction site in accordance with Part II.A.2.B and D prior to commencing construction.

B. *Large Construction Sites.*

The plan shall be completed and submitted for review, along with an NOI and initial permit fee ten (10) business days prior to the commencement of construction activities. Submittals of updates to the plan during the construction process are required in accordance with Part I.B.6.C or if requested by the Director.

C. *Existing Permittees.*

Existing permittees that were permitted prior to the issuance of this renewal permit are required to update their plan as appropriate to come into compliance with the requirements contained in Part II.A.4 by the effective date of this permit.

2. Signature, SWPPP, Inspection Reports and Notice of Coverage (NOC).

A. The SWPPP and inspection reports shall be signed by the operator (or cognizant official) in accordance with Part II.B.9 and be retained at the construction site during normal business hours (8:00 A.M. – 5:00 P.M.). The inspections frequency shall be conducted in accordance with Part II.A.4.N.1.

B. The operator shall make SWPPP and inspection reports available, upon request, to the Director, the EPA, or a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or, in the case of a stormwater discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system.

C. The Director, or authorized representative, may notify the operator at any time that the plan does not meet one or more of the minimum requirements of this Part. Within seven (7) business days of such notification from the Director (or as otherwise provided by the Director) or authorized representative, the operator shall make the required changes to the plan and submit to the Director a written certification that the requested changes have been made. DEQ may request re-submittal of the SWPPP to confirm that all deficiencies have been adequately addressed. DEQ may also take appropriate enforcement action for the period of time the operator was operating under SWPPP that did not meet the minimum requirements of this permit.

D. The operator shall post the NOC near the main entrance of the construction site and visible to the public. The NOC shall indicate the location of the SWPPP. If the SWPPP location is changed from the initial location, the NOC shall be updated to reflect the correct location of the SWPPP.

3. Keeping SWPPP Current. The operator shall amend the SWPPP within seven (7) business days or whenever there is a change in design, construction, operation, or maintenance at the construction site which has or could have a significant effect on the potential for the discharge of pollutants to the waters of the State that has not been previously addressed in the SWPPP. The SWPPP shall also be modified if a determination has been made through inspections, monitoring (if required), ***or*** investigation by the operator, local, state, or federal officials that the discharges are causing or contributing to water quality violation or the plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in stormwater discharges from the construction site.

4. Contents of the SWPPP. The SWPPP shall include the following items:

A. *Site Description*. SWPPP shall provide a description of the following:

1) A description of the nature of the construction activity and its intended use after the NOI is filed (i.e., residential subdivision, shopping mall, etc.);
2) A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. grubbing, excavation, grading, infrastructure installation, etc.);
3) Estimates of the total area of the site including off-site borrow and fill areas and the total area of the site that is expected to be disturbed by excavation, grading or other activities; and
4) An estimate of the runoff coefficient of the site for pre- and post-construction activities and existing data describing the soil or the quality of any discharge from the site.

B. *Responsible Parties*. The SWPPP shall identify (as soon as this information is known) all parties (i.e., General Contractors, Landscapers, Project Designers, and Inspectors) responsible for particular construction activities and services they provide to the operator to comply with the requirements of the SWPPP for the project site and construction support activities off site, and areas over which each party has control. If these parties change over the life of the permit, or new parties are added, the SWPPP shall be updated to reflect these changes.

C. *Receiving Waters*. The SWPPP shall include a clear description of the nearest receiving water(s), or if the discharge is to a MS4, the name of the operator of the municipal system, and the ultimate receiving water(s).

D. *Documentation of Permit Eligibility Related to the 303(d) list and Total Maximum Daily Loads (TMDL)*. The SWPPP shall include information on whether or not the stormwater discharges from the site enter a waterbody that is on the most recent 303(d) list or with an approved TMDL. If the stormwater discharge does enter a waterbody that is on the most recent 303(d) list or with an approved TMDL, then the SWPPP shall address the following items:

1) Identification of the pollutants that the 303(d) list or TMDL addresses, specifically whether the 303(d) list or TMDL addresses sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation);
2) Identification of whether the operator's discharge is identified, either specifically or generally, on the 303(d) list or

any associated assumptions and allocations identified in the TMDL for the discharge; and

3) Measures taken by the operator to ensure that its discharge of pollutants from the site is consistent with the assumptions and allocations of the TMDL.

If DEQ determines during the review process that the proposed project will be discharging to a receiving water that is on the most recent 303(d) list or with an approved TMDL, then DEQ may notify the applicant to include additional Best Management Practices in the SWPPP.

E. *Documentation of Permit Eligibility Related to Discharges into an ERW, NSW, or ESW*. The SWPPP shall include information whether or not the construction site located within a watershed of an ERW, ESW, or NSW. If the construction site is located within a watershed of an ERW, ESW, or NSW, then the SWPPP should consider using additional BMPs for these areas. The practices shall be considered during the progression of site activities and updates to the construction site SWPPP for continued protection of underground water resources.

F. *Documentation of Permit Eligibility related to potential losing stream and/or sensitive aquatic species native to these areas.* The SWPPP shall include information whether or not the construction site located within a watershed of a potential losing stream, and/or sensitive aquatic species native to these areas. If the construction site is located within a watershed of a potential losing stream and/or sensitive aquatic species native to these areas, then the SWPPP shall consider using BMPs for losing stream areas. The practices should be considered during the progression of site activities and updates to the facility SWPPP for continued protection of underground water resources.

G. *Attainment of Water Quality Standards After Authorization*.

1) The permittee shall select, install, implement, and maintain BMPs at the construction site and at the construction support activities off site that minimize pollutants in the discharge as necessary to meet applicable water quality standards. In general, except in situations explained below, the SWPPP shall be developed, implemented, and updated to be considered as stringent as necessary to ensure that the discharges do not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

2) At any time after authorization, DEQ may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEQ will require the permittee to:

   a. Develop a supplemental BMP action plan describing SWPPP modifications to adequately address the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

   b. Cease discharges of pollutants from construction activity and submit an individual permit application.

3) All written responses required under this part shall include a signed certification (Part II.B.9).

H. *Site Map*. The SWPPP shall contain a legible site map (or multiple maps, if necessary) complete to scale, showing the entire site, that identifies, at a minimum, the following:

1) Pre-construction topographic view;
2) Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
3) Delineate on the site map areas of soil disturbance and areas that will not be disturbed with regards to the construction activities and construction support activities off site under the coverage of this permit;
4) Location of major structural and nonstructural controls identified in the plan;
5) Location of main construction entrance and exit;

6) Location where stabilization practices are expected to occur;
7) Locations of all construction support activities off-site (i.e. materials, waste, borrow area, or equipment storage areas);
8) Location of areas used for concrete wash-out;
9) Location of all waters of the State with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
10) Locations where stormwater is discharged to waters of the State or a municipal separate storm sewer system if applicable,
11) Locations where stormwater is discharged off-site (shall be continuously updated);
12) Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
13) A legend that clearly specifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
14) Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

I. *Stormwater Controls*. Each plan shall include a description of appropriate controls and measures that will be installed and implemented at the construction site. The plan shall clearly describe each construction activity identified in the project description control measures associated with the construction activity and the schedule during the construction process that the measures will be implemented. Perimeter controls for the site shall be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Temporary controls shall be removed and properly disposed of after final stabilization. The description and implementation of controls shall address the following minimum components:

1) Initial Site Stabilization, Erosion, and Sediment Controls and Best Management Practices. Design, install, implement, and maintain effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum the following controls and BMPs shall be designed, installed, implemented, and maintained. Therefore, the SWPPP shall address, at a minimum, the following:

   a. For larger common plans of development or sale, only streets, drainage, utility areas, areas needed for initial construction of streets (e.g., borrow pits, parking areas, etc.) and areas needed for stormwater structures may be disturbed initially. Upon stabilization of the initial areas, additional areas may be disturbed.
   b. The construction-phase erosion (such as site stabilization) and sediment controls (such as check dams) shall be designed to retain sediment on-site to the extent practicable.
   c. All control measures shall be properly selected, installed, and maintained in accordance with the manufacturer's specifications, good engineering, and construction practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site situations.
   d. If sediment escapes the construction site, off site accumulations of sediment shall be removed before the next business day to minimize off-site impacts (e.g., to prevent fugitive sediment in a street could be washed into storm sewers by the next rain or pose a safety hazard to users of public streets). This permit does not give the authority to trespass onto other property; therefore this condition should be carried out along with the permission of neighboring land owners to remove sediment.
   e. Sediment shall be removed from sediment traps (if used, please specify what type) or sedimentation ponds when design capacity has been reduced by 50%.
   f. Litter, construction debris, and construction chemicals exposed to precipitation and to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls picked up daily).
   g. Construction support activities off site (i.e. material storage areas, overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and shall be addressed in the SWPPP.

2) Stabilization practices. The SWPPP shall include, at a minimum, the following information:

a. Description and Schedule: A description of initial, interim, and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed areas are stabilized. Stabilization practices may include, but not limited to: mulching, temporary seeding, permanent seeding, geotextiles, sod stabilization, natural buffer strips, protection of trees, and preservation of mature vegetation and other appropriate measures.

b. Description of natural buffer areas: DEQ requires that a natural buffer zone be established between the top of stream bank and the disturbed area. The SWPPP shall contain a description of how the site will maintain natural buffer zones. For construction projects where clearing and grading activities will occur, SWPPP shall provide at least twenty-five (25) feet of natural buffer zone from any named or unnamed streams, creeks, rivers, lakes or other water bodies. The plan shall also provide at least fifty (50) feet of natural buffer zone from established TMDL waterbodies, waterbodies listed on the 303(d) list, an ERW, ESW, NSW, or other uses at the discretion of the Director. If the site will be disturbed within the recommended buffer zone, then the buffer zone area shall be stabilized as soon as possible. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law. Please note that above-grade clearing that does not disturb the soil in the buffer zone area does not have to comply with buffer zone requirements.

c. Records of Stabilization: A record of the dates when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the plan.

d. Deadlines for Stabilization After Construction Activity Temporarily Ceases: Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily ceased, but in no case more than fourteen (14) calendar days after the construction activity in that portion of the site has temporarily ceased, except:

(1) Where the initiation of stabilization measures by the fourteenth (14^{th}) calendar day after construction activity temporarily ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

e. Deadline for Stabilization After Construction Activity Permanently Ceases: Stabilization measures shall be initiated immediately in portions of the site where construction activities have permanently ceased, except:

(1) Where the initiation of stabilization measures immediately after construction activity permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

3) Structural Practices. A description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices should be placed on upland soils to the degree attainable. The installation of these devices may

be subject to Section 404 of the Clean Water Act. Such practices may include but are not limited to:

- silt fences (installed and maintained);
- earthen dikes to prevent run-on;
- drainage swales to prevent run-on;
- check dams;
- subsurface drains;
- pipe slope drains;
- storm drain inlet protection;
- rock outlet protection;
- sediment traps;
- reinforced soil retaining systems;
- gabions;
- temporary or permanent sediment basins.

A combination of erosion and sediment control measures is encouraged to achieve maximum pollutant removal. Adequate spillway cross-sectional area and re-enforcement shall be provided for check dams, sediment traps, and sediment basins.

a. Sediment Basins:

(1) For common drainage locations that serve an area with ten (10) or more acres (including run-on from other areas) draining to a common point, a temporary or permanent sediment basin that provides storage based on either the smaller of 3600 cubic feet per acre, or a size based on the runoff volume of a 10 year, 24 hour storm, shall be provided where attainable (so as not to adversely impact water quality) until final stabilization of the site. In determining whether installing a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on site, etc. Proper hydraulic design of the outlet is critical to achieving the desired performance of the basin. The outlet should be designed to drain the basin within twenty-four (24) to seventy-two (72) hours. (A rule of thumb is one square foot per acre for a spillway design.) The 24-hour limit is specified to provide adequate settling time; the seventy-two (72) hour limit is specified to mitigate vector control concerns. If a pipe outlet design is chosen for the outfall, then an emergency spillway is required. If "non-attainability" is claimed, then an explanation of non-attainability shall be included in the SWPPP**.** Where a sediment basin is not attainable, smaller sediment basins or sediment traps shall be used. Where a sediment basin is un-attainable, natural buffer strips or other suitable controls which are effective are required for all side slopes and down slope boundaries of the construction area. The plans for removal or final usage of the sediment basin shall be included with the description of the basin in the SWPPP.

(2) For drainage locations serving an area less than ten (10) acres, sediment traps, silt fences, or equivalent sediment controls are required for all side slope and down slope boundaries of the construction area unless a sediment basin providing storage based on either the smaller of 3600 cubic feet per acre, or a size based on the run off volume of a 10 year, 24 hour storm is provided. The outlet should be designed to drain the basin within twenty-four (24) to seventy-two (72) hours. (A rule of thumb is one square foot per acre for a spillway design.) The 24-hour limit is specified to provide adequate settling time; the seventy-two (72) hour limit is specified to mitigate vector control concerns. If a pipe outlet design is chosen for the outfall, then an emergency spillway is required. However, in order to protect the waters of the State, the Director, at their discretion, may require a sediment basin for any drainage areas draining to a common point.

b. Velocity Dissipation Devices:

Velocity dissipation devices shall be placed at discharge locations, within concentrated flow areas serving two

or more acres, and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (i.e., no significant changes in the hydrological regime of the receiving water). Please note that the use of hay-bales is not recommended in areas of concentrated flow.

J. *Other Controls*.

1) No solid materials identified in Part I.B.13.D shall be discharged to waters of the State or offsite.
2) Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of a stabilized construction entrance and exit or vehicle tire washing.
3) For lots that are less than one (1) acre in size an alternative method may be used in addition to a stabilized construction entrance. An example of an alternative method could be daily street sweeping. This could allow for the shortening of the construction entrance.
4) The plan shall ensure and demonstrate compliance with applicable State or local waste disposal, temporary and permanent sanitary sewer or septic system regulations.
5) No liquid concrete waste shall be discharged to waters of the State. Appropriate controls to prevent the discharge of concrete washout waters shall be implemented if concrete washout will occur on-site.
6) No contaminants from fuel storage areas, hazardous waste storage and truck wash areas shall be discharged to waters of the State or offsite. Methods for protecting these areas shall be identified and implemented. These areas shall not be located near a waterbody, if there is a water body on or near the project.

K. *Non-stormwater discharges*. Sources of non-stormwater listed in Part I.B.10 of this permit that are combined with stormwater discharges associated with construction activity shall be identified in the plan. This list shall be site specific non-stormwater discharges.

L. *Post-Construction Stormwater Management*. The operator is required to provide a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. Structural measures shall be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 (Corps of Engineers) of the Clean Water Act. This permit only addresses the installation of stormwater management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization. However, post-construction stormwater BMPs that discharge pollutants from a point source once construction is completed may need authorization under a separate DEQ NPDES permit. Such practices may include but are not limited to:

- infiltration of runoff onsite;
- flow attenuation by use of open vegetated swales and natural depressions;
- stormwater retention structures;
- stormwater detention structures (including wet ponds);
- sequential systems, which combine several practices.

A goal of at least eighty percent 80 % removal of total suspended solids from these flows which exceed predevelopment levels should be used in designing and installing stormwater management controls (where practicable). Where this goal is not met, the operator shall provide justification for rejecting each practice listed above based on site conditions.

M. *Applicable State or Local Programs*. The SWPPP shall be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site.

N. *Inspections*. Inspections shall be conducted by qualified personnel (provided by the operator). Inspections shall include all areas of the site disturbed by construction activity and construction support activities located off site that are exposed to precipitation and to stormwater. Inspectors shall look for evidence of, or the potential for, pollutants entering

the stormwater conveyance system. All stormwater control measures shall be observed to ensure proper installation, operation, and maintenance. Discharge locations shall be inspected to determine whether all stormwater control measures are effective in preventing significant impacts to waters of the State or offsite, where accessible. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking. Inspections may not be required if the remaining lot(s) within a larger common plan of development or sale disturb less than one acre of land In addition, inspections may not be required on a completed section of a linear project if final stabilization has been completed for that section. Stabilized areas of the project shall be indicated in the SWPPP and site map and show what date they were stabilized. The operator shall ensure that no sediment will leave the lot(s) that are stabilized. These lots shall be identified within the SWPPP and show what date they were stabilized. If the operator is unable to ensure this, then inspections shall continue.

1) Inspection Frequency. Inspections shall be conducted in accordance with one of the following schedules listed below. The schedule **must be specified** in the SWPPP.

   a. At least once every seven (7) calendar days, or
   b. At least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event of 0.25 inches or greater (a rain gauge must be maintained on-site).

2) Inspection Form. The DEQ inspection form should be used for all inspections. The inspection form shall include all stormwater controls that are being used on site as well as at construction support activities off site. The form is available on DEQ's website www.adeq.state.ar.us. If a different form is used, it shall at a minimum contain the following information:

   a. Inspector name and title;
   b. Date of Inspection;
   c. Amount of rainfall and days since last rain event (only applicable to Part II.A.4.N.1.b);
   d. Approximate beginning and duration of the storm event;
   e. Description of any discharges during inspection;
   f. Locations of discharges of sediment/other pollutants;
   g. Locations of BMPs in need of maintenance or where maintenance was performed;
   h. If the BMPs are in working order and if maintenance is required (including when scheduled and completed);
   i. Locations that are in need of additional controls;
   j. Location and dates when major construction activities begin, occur or cease;
   k. Signature of qualified signatory official, in accordance with Part II.B.9.

   Additional information may be added to the inspection report at the permittee's discretion.

3) Inspection Records. Each report shall be retained as part of the SWPPP for at least three (3) years from the date the site is finally stabilized. Each report shall be signed and have a certification statement in accordance with Parts II.B.9 and 10 of this permit.

4) Winter Conditions. Inspections will not be required at construction sites nor the construction support activities located off site where snow cover exists over the entire site for an extended period, and melting conditions do not exist. If there is any runoff from the site at any time during snow cover, melting conditions are considered to be existent at the site and this inspection waiver does not apply. Regular inspections, as required by this permit, are required at all other times as specified in this permit. If winter conditions prevent compliance with the permit, documentation of the beginning and ending date of winter conditions shall be included in the SWPPP.

5) Adverse Weather Conditions. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make inspections

impractical, such as extended frozen conditions. When adverse weather conditions prevent the inspection of the site, an inspection shall be completed as soon as is safe and feasible. If adverse weather conditions prevent compliance with the permit, documentation of the beginning and ending date of adverse weather conditions shall be included in the SWPPP.

O. *Maintenance*. A description of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition shall be outlined in the plan. Any repairs that are needed based on an inspection shall be completed, when practicable, before the next storm event, but not to exceed a period of three (3) business days of discovery, or as otherwise directed by state or local officials. However, if conditions do not permit large equipment to be used, a longer time frame is allowed if the condition is thoroughly documented on the inspection form. Maintenance for manufactured controls shall be done at a minimum of the manufacturer's specifications. Maintenance for non-manufactured controls, i.e. check dams and sediment traps, shall be done when 50% of treatment capacity remains.

P. *Employee Training*. The permittee/operator is responsible for training personnel, who are responsible for implementing activities identified in the SWPPP, on the components and requirements of the SWPPP and the requirements of the general permit. This includes contractors and subcontractors. Training shall be given by a knowledgeable and qualified trainer. The SWPPP shall identify periodic dates for such training for all personnel and records of training shall be maintained with the SWPPP. Training records that are maintained electronically (i.e. database, etc.) do not need to be maintained with the SWPPP, but shall be accessible upon request. Formal training classes given by Universities or other third-party organizations are not required but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

5. Plan Certification. The SWPPP Certification shall be signed by either the operator or the cognizant official identified on the NOI. All documents required by the permit and other information requested by the Director shall be signed by operator or by a duly authorized representative of the operator (Please see Part II.B.10 below for certification).

SECTION B: STANDARD PERMIT CONDITIONS

1. **Retention of Records.**

   A. The operator shall retain records of all Stormwater Pollution Prevention Plans, all inspection reports required by this permit, and records of all data used to complete the NOI to be covered by this permit for a period of at least three (3) years from the date the NOT letter is signed by DEQ. This period may be extended by request of the Director at any time.

   B. The operator shall retain a signed copy of the SWPPP and inspection reports required by this permit at the construction site from the date of project initiation to the date of final stabilization.

2. **Duty to Comply.** The operator shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for: enforcement action; permit termination, revocation and re-issuance, or modification; or denial of a permit renewal application.

3. **Penalties for Violations of Permit Conditions.** The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a criminal penalty of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action. Any person that purposely, knowingly, or recklessly causes pollution of the water of the state in a manner not otherwise permitted by law and thereby places another person in imminent danger of death or serious bodily injury shall be guilty of a felony and shall be subject to imprisonment, a fine not more than two hundred fifty thousand dollars ($250,000), or both such fine and imprisonment.

4. **Continuance of the General Permit.** Permittees wishing to continue coverage under this general permit shall submit a Renewal NOI (see Part I.B.4 for where to submit documentation) up to 180 days prior to the expiration date, but no later than thirty (30) days prior to the expiration date. No additional fee is required to be submitted along with the Renewal NOI.

   An expired general permit continues in force and effect until a new general permit is issued. If this permit is not re-issued or replaced prior to the expiration date, it will be administratively continued in accordance with Ark. Code Ann. § 8-4-203(m) and remain in force and effect. If a permittee was granted permit coverage prior to the expiration date, the permittee will remain covered by the continued permit until the earliest of:

   A. The effective date of the re-issuance or replacement of this permit and a timely submittal of a renewal NOI by the operator; or

   B. The operator's submittal and DEQ approval of a NOT; or

   C. Issuance and effectiveness of an individual permit for the project's discharges and completion of item B of this section (see Part I.B.24); or

   D. A formal permit decision by DEQ to not re-issue this general permit, at which time operators must seek coverage under an alternative permit (see Part I.B.24).

   Small site operators are responsible for ensuring that the site is in compliance with any changes or updates of this general permit by reviewing DEQ's website at:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

5. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. **Duty to Mitigate.** The operator shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has reasonable likelihood of adversely affecting human health or the environment.

7. **Duty to Provide Information.** The operator shall furnish to the Director, an authorized representative of the Director, the EPA, a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or in the case of a stormwater discharge associated with industrial activity which discharges through a MS4 with an NPDES permit, to the municipal operator of the system, within a reasonable time, any information which is requested to determine compliance with this permit.

8. **Other Information.** When the operator becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, he or she shall promptly submit such facts or information.

9. **Signatory Requirements.** All NOIs, reports, or information submitted to the Director shall be signed and certified by the operator.

   A. All NOI shall be signed as follows:

      1) For a corporation: by a responsible corporate officer. For purposes of this section, a responsible corporate officer means:

         a. A president, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

         b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

      2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

      3) For a municipality, State, Federal or other public agency: by either a principal executive or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

         a. The chief executive officer of the agency; or

         b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

   B. All reports required by the permit and other information requested by the Director shall be signed by a person described

above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1) The authorization is made in writing by a person described above and submitted to the Director;

2) The authorization specifies either an individual or a person having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or position of equivalent responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

3) Changes to authorization. If an authorization under this Part is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the above requirements shall be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

10. Certification. Any person signing a document under this section shall make the following certification:

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

Note: For this permit only, “this document” refers to the Stormwater Pollution Prevention Plan, “attachments” refers to the site map and inspection forms, and “system” is referencing the project site.

11. Penalties for Falsification of Reports. The Arkansas Water and Air Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part II.B.3 of this permit and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.).

12. Penalties for Tampering. The Arkansas Water and Air Pollution Control act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment.

13. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under Section 311 of the Clean Water Act or Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

14. Property Rights. The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws or regulations.

15. Severability. The provisions of this permit are severable. If any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provisions to other circumstances and the remainder of this permit shall not be affected thereby.

16. Transfers. This permit is not transferable to any person except after notice to the Director. A transfer form shall be submitted to DEQ as required by this permit.

17. Proper Operation and Maintenance. The operator shall at all times:

A. Properly operate and maintain all systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the conditions of this permit. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by an operator only when the operation is necessary to achieve compliance with the conditions of the permit.
B. Provide an adequate operating staff which is duly qualified to carry out operation, inspection, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

18. Inspection and Entry. The operator shall allow the Director, the EPA, or an authorized representative, or, in the case of a construction site which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator of the separate sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

A. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
B. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
C. Inspect at reasonable times any facilities or equipment, including monitoring and control equipment and practices or operations regulated or required by the permit;
D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location on the permitted property.

19. Permit Actions. This permit may be modified, revoked and reissued, or terminated for any cause including, but not limited to, the following;

A. Violation of any terms or conditions of this permit;
B. Obtaining this permit by misrepresentation or failure to fully disclose all relevant facts;
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge;
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
E. Failure of the operator to comply with the provisions of DEQ Rule 9 (Fee Rule). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 C.F.R. §122.64 and §124.5(d), as adopted by reference in DEQ Rule 6, and the provisions of DEQ Rule 8.

20. Re-Opener Clause.

A. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with industrial activity covered by this permit, the operator of such discharge may be required to obtain an individual permit or an alternative general permit in accordance with Part I.B.24 of this permit, or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted in accordance with the provisions of 40 C.F.R. §122.62, §122.63, §122.64 and §124.5, as adopted by reference in DEQ Rule 6.

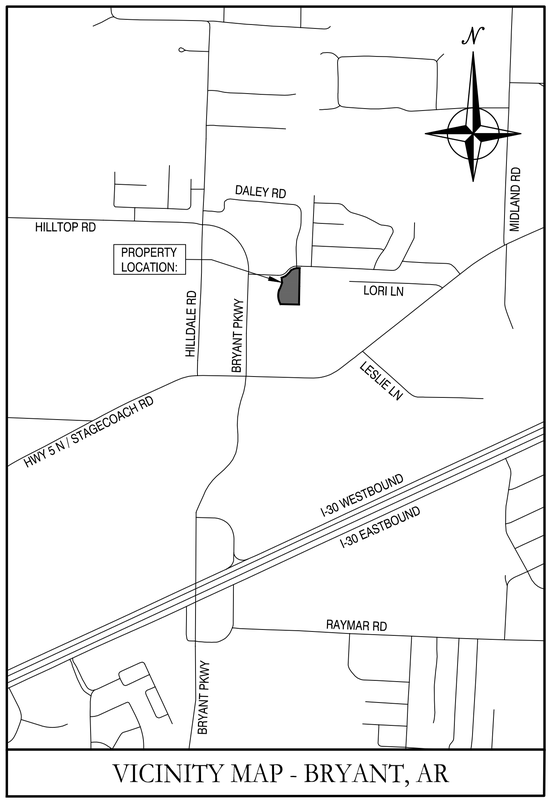
21. Local Requirements. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding any discharges of stormwater to storm drain systems or other water sources under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to

comply with the DEQ permits. Dischargers shall comply with local stormwater management requirements, policies, or guidelines including erosion and sediment control.

22. **Applicable Federal, State, or local Requirements.** Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance policy, or regulation. Nothing in this permit shall be construed to preclude the institution of any legal action or enforcement actions or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable local state, or federal law or regulation.


1109A
CITY OF BRYANT
HEARING
NOTICE

A NEW ELITE VOLLEYBALL ACADEMY GYM FOR JOHN ECKART VERNIA OFFICE PARK 1601 CHRISTY LANE ALEXANDER, ARKANSAS 72002



VICINITY MAP - BRYANT, AR

Prepared by:

GarNat Engineering, LLC

Designing our client's success

www.garnatengineering.com

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

3825 Mt Carmel Road
Bryant, AR 72022
Fx (888) 900-3068

ARKANSAS

03-13-2023

DRAWING INDEX:

G1.0	GENERAL NOTES
V1.0	DRAFT FINAL PLAT
C1.0	SITE PLAN
C1.1	SITE DETAILS
C2.0	UTILITY PLAN
C3.0	GRADING & DRAINAGE PLAN
C3.1	DRAINAGE PROFILES & DRAINAGE DETAILS
C4.0	EROSION CONTROL PLAN
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPING NOTES & DETAILS

ARDOT STANDARD DRAWINGS:

CG-1	CURBING DETAILS
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES
FPC-9E	DETAILS OF DROP INLETS (TYPE C)
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)
SI-1	DETAILS OF SPECIAL ITEMS
TEC-1	TEMPORARY EROSION CONTROL DEVICES
TEC-4	TEMPORARY EROSION CONTROL DEVICES
WR-1	WHEELCHAIR RAMPS

1. SAFETY

1.1. JOBSITE SAFETY IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

1.2. THIS RESPONSIBILITY COVERS THEIR OWN WORK FORCE, ALL SUBCONTRACTORS, VISITING PERSONNEL, OFFICIALS, AND THE GENERAL PUBLIC WHICH MAY HAVE ACCESS TO THE JOBSITE.

1.3. THE CONTRACTOR SHALL EXERCISE COMPLETE CONTROL OVER WHO HAS ACCESS TO THE JOBSITE TO ENSURE JOBSITE SAFETY.

1.4. THE CONTRACTOR SHALL CONFORM TO ALL SECURITY AND SAFETY REQUIREMENTS OF THE OWNER.

1.5. ANY SAFETY OR OTHER TRAINING REQUIRED BY THE OWNER FOR THE WORK FORCE MUST BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.

2. PERMITS

2.1. CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS AS REQUIRED BY REGULATING AUTHORITIES OR BY THE OWNER. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TERMS AND CONDITIONS ASSOCIATED WITH EACH REQUIRED PERMIT, AS WELL AS ADHERING TO THE RULES AND REGULATIONS OF EACH REGULATING AUTHORITY

3. CONTRACT DOCUMENTS

3.1. ALL WORK SHALL CONFORM TO THE PLANS, THESE NOTES, AND SPECIFICATIONS IN ALL RESPECTS AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

4. INDEMNITY

4.1. BY ACCEPTING THE CONTRACT FOR THIS WORK, THE CONTRACTOR, AT THEIR OWN EXPENSE AND RISK, HEREBY RELEASES AND AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS THE OWNER, GARNAT ENGINEERING, THEIR OFFICERS, AGENTS, EMPLOYEES, CONSULTANTS, AND REPRESENTATIVES FOR DAMAGE TO THE PROPERTY OR INJURY TO, OR DEATH, OF ANY PERSONS, FROM ANY AND ALL CLAIMS, DEMANDS, ACTIONS OF ANY KIND WHATSOEVER ARISING OUT OF AND IN CONNECTION WITH THE AGREEMENT OR PROSECUTION OF WORK UNDER IT, WHETHER SUCH CLAIMS, DEMANDS, ACTIONS, OR LIABILITY ARE CAUSED BY THE CONTRACTOR, IT'S AGENTS, EMPLOYEES, SUBCONTRACTORS, PRODUCTS INSTALLED ON THE PROJECT OR CAUSED BY ANY OTHER PARTY.

5. CONSTRUCTION PROCEDURES, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING STANDARDS UNLESS OTHERWISE MODIFIED ON THE DRAWINGS OR IN THESE NOTES OR SPECIFICATIONS.

5.1. STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION - ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT

5.2. INTERNATIONAL BUILDING CODE

5.3. ACI 315 MANUAL OF STANDARD PRACTICES FOR DETAILING REINFORCED CONCRETE STRUCTURES

5.4. CRSI RECOMMENDED PRACTICE FOR PLACING REINFORCING STEEL.

5.5. CITY OF BRYANT STANDARD SPECIFICATIONS.

5.6. LATEST EDITIONS OF AWWA, ASTM, ADH, AND TEN STATES STANDARDS.

6. SITE

6.1. CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS.

6.2. CONTRACTOR IS NOT TO PERFORM WORK BEYOND THE DESIGNATED WORK LIMITS WITHOUT FIRST OBTAINING WRITTEN AUTHORIZATION FROM THE PROJECT ENGINEER OR OWNER.

6.3. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO: DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO, OR BETTER THAN EXISTING CONDITIONS.

6.4. CONTRACTOR TO REMOVE OR RELOCATE, WHEN APPLICABLE, ALL ITEMS, SHOWN TO BE REMOVED OR RELOCATED AND NOT SHOWN WITHIN CONSTRUCTION LIMITS AND WHERE REQUIRED TO ALLOW FOR NEW CONSTRUCTION AS SHOWN.

6.5. CONTRACTOR TO ADJUST ALL EXISTING AND PROPOSED MANHOLES, VALVE BOXES, ETC. TO FINISH GRADE, WHERE REQUIRED.

7. STRUCTURES

7.1. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT IN TO INVERT OUT.

7.2. BEDDING FOR STORM STRUCTURES SHALL CONSIST OF A MINIMUM OF 6-INCHES OF COMPACTED #57 STONE ON TOP OF COMPACTED SUBGRADE.

7.3. AREAS EXPOSED BY EXCAVATION OR STRIPPING AND ON WHICH SUBGRADE PREPARATIONS ARE TO BE PERFORMED SHALL BE SCARIFIED TO MINIMUM DEPTH OF 0'-8" AND COMPACTED TO MINIMUM OF 95% OPTIMUM DENSITY. ANY AREAS THAT FAIL COMPACTION ARE TO BE STABLIZED AS DIRECTED BY THE ENGINEER.

8. PRIOR TO PLACING FILL IN LOW AREAS, SUCH AS PREVIOUSLY EXISTING CREEKS, PONDS, OR LAKES, PERFORM FOLLOWING PROCEDURES:

8.1. DRAIN WATER OUT BY GRAVITY WITH DITCH HAVING FLOW LINE LOWER THAN LOWEST ELEVATION IN LOW AREA. IF DRAINAGE CANNOT BE PERFORMED BY GRAVITY DITCH, USE ADEQUATE PUMP TO OBTAIN THE SAME RESULTS.

8.2. AFTER DRAINAGE OF LOW AREA IS COMPLETE, REMOVE MULCH, MUD DEBRIS, AND OTHER UNSUITABLE MATERIAL BY USING ACCEPTABLE EQUIPMENT AND METHODS THAT WILL KEEP NATURAL SOILS UNDERLYING LOW AREA DRY AND UNDISTURBED.

9. UTILITIES

9.1. AN ATTEMPT HAS BEEN MADE TO APPROXIMATELY LOCATE UTILITIES ON THE DRAWINGS.

9.2. UTILITIES SHOWN ON THE DRAWINGS WERE LOCATED BY VISUAL OBSERVATION, AND BY TRANSCRIBING FROM RECORD MAPS AND PLANS.

9.3. NO EXCAVATIONS WERE MADE TO CONFIRM SUB-SURFACE UTILITIES. NEITHER THE SURVEYOR NOR PROJECT ENGINEER GUARANTEES THAT ALL UTILITIES HAVE BEEN SHOWN, OR THAT THOSE SHOWN ARE FULLY ACCURATE.

9.4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ADJUSTMENTS AND/OR RELOCATION OF EXISTING UTILITIES THAT ARE DAMAGED AS A RESULT OF WORK OF THIS PROJECT.

9.5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND PROPERLY DISCONNECTING, ABANDONING, RELOCATING, AND/OR ADJUSTING ALL AFFECTED UTILITIES WITHIN THE PROJECT AREA.

9.6. ALL UTILITY WORK SHALL BE COORDINATED AND EXECUTED IN ACCORDANCE WITH THE OWNER AND/OR GOVERNING UTILITY COMPANY CODES, SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.

9.7. DESIGN AND ALIGNMENT OF UNDERGROUND TELEPHONE, TV CABLE, GAS AND ELECTRIC SERVICES SHALL BE PROVIDED BY THE INDIVIDUAL UTILITIES AND ARE NOT NECESSARILY SHOWN WITH THESE PLANS. CONTRACTOR SHALL PROVIDE CONDUITS SIZED TO ACCOMMODATE UTILITY ROUTING WITH PULL STRINGS WHERE NECESSARY.

9.8. CONTRACTOR TO PROVIDE ALL NECESSARY APPURTENANCES NECESSARY FOR COMPLETE UTILITY SERVICES WHICH ARE NOT PROVIDED BY THE UTILITY COMPANY.

10. DISPOSAL OF DEBRIS, WASTE OR SPOIL

10.1. BURNING OF DEBRIS AND WASTE IS NOT ALLOWED. CONTRACTOR MAY BE REQUIRED TO PROPERLY HAUL AWAY AND DISPOSE OF ANY WASTE MATERIAL REMOVED FROM THE SITE.

10.2. ANY WASTE OR SPOIL MATERIAL WHICH IS EXCAVATED FROM THE JOB SITE IS TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER OR OWNER.

10.3. REMOVAL AND DISPOSAL OF EXCAVATED WASTE MATERIAL IS CONSIDERED SUBSIDIARY TO ALL OTHER ITEMS IN THE PROJECT, AND WILL NOT BE PAID FOR SEPARATELY.

10.4. CONTRACTOR SHALL FOLLOW ALL LOCAL, STATE AND FEDERAL REGULATIONS IN DISPOSING OF DEMOLISHED MATERIAL REMOVED FROM THIS SITE.

10.5. CONTRACTOR SHALL REMOVE FROM SITE AND DISPOSE OF MATERIAL ENCOUNTERED IN GRADING OPERATIONS THAT, IN OPINION OF THE ENGINEER, IS UNSUITABLE OR UNDESIRABLE FOR BACKFILLING OR SUBGRADE PURPOSES. DISPOSE OF IN A MANNER SATISFACTORY TO ENGINEER. BACKFILL UNDERCUT AREAS WITH LAYERS OF SUITABLE MATERIAL AND COMPACT AS SPECIFIED HEREIN.

11. SUBSTITUTIONS

11.1. SUBSTITUTIONS ARE NOT ALLOWED WITHOUT PRIOR APPROVAL FROM THE PROJECT ENGINEER.

12. ENVIRONMENTAL

12.1. THE CONTRACTOR IS TO MEET ALL ENVIRONMENTAL REQUIREMENTS OF THE OWNER AND ANY REGULATORY AGENCY HAVING AUTHORITY OVER THIS SITE.

12.2. THE CONTRACTOR IS TO UTILIZE BEST MANAGEMENT PRACTICES (BMP'S) FOR CONTROL OF EROSION DURING ALL CONSTRUCTION PHASES OF THIS PROJECT.

12.3. MININUM BMP'S REQUIRED FOR THE PROJECT ARE LISTED ON SHEET THESE PLANS. CONTRACTOR SHALL PROVIDE THESE BMP'S AND ANY OTHERS REQUIRED FOR THE PROJECT.

12.4. IF A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS REQUIRED FOR THE CONSTRUCTION PHASE OF THIS PROJECT, THE CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS FOR EROSION CONTROL INCLUDED IN THE SWPPP DOCUMENTS.

12.5. CONTRACTOR SHALL KEEP WORK AREA CLEAN AND FREE OF ACCUMULATED TRASH AND DEBRIS. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING MEASURES TO AVOID TRACKING OF MUD, DIRT, ROCKS, AND DEBRIS ONTO AREAS OUTSIDE THE PROJECT AREA. CONTRACTOR SHALL CLEAN PAVEMENTS WHEN NECESSARY OR AS OTHERWISE DIRECTED, AND SHALL CONTROL DUST BY SWEEPING AND WATERING AS NEEDED. DE-TRACKING MAY BE REQUIRED AT ALL ENTRANCES.

13. FINAL SITE CONDITIONS

13.1. ALL DISTURBED AREAS NOT RECEIVING PAVEMENT OR LANDSCAPING SHALL HAVE VEGETATION ESTABLISHED AT TIME OF FINAL INSPECTION.

13.2. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPE 2H:1V OR STEEPER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

13.3. ALL CUT OR FILL SLOPES SHALL BE 3H:1V OR FLATTER UNLESS OTHERWISE NOTED.

13.4. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS

13.5. UPON PARTIAL OR FINAL COMPLETION OF GRADING WORK, SPREAD TOPSOIL, SEED, FERTILIZER, AND MULCH IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE STORM WATER POLLUTION PREVENTION PLAN.

BY	REVISION	DATE

GNE Designing our client's success

GarNat Engineering, LLC
P.O. Box 116 Benton, AR 72018
3825 Mt Carmel Road Bryant, AR 72022
Ph. (501) 408-4650
garnatengineering@gmail.com

A NEW ELITE VOLLEYBALL ACADEMY GYM FOR JOHN ECKART VERNIA OFFICE PARK 1601 CHRISTY LANE ALEXANDER, ARKANSAS 72002

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

03-13-2023

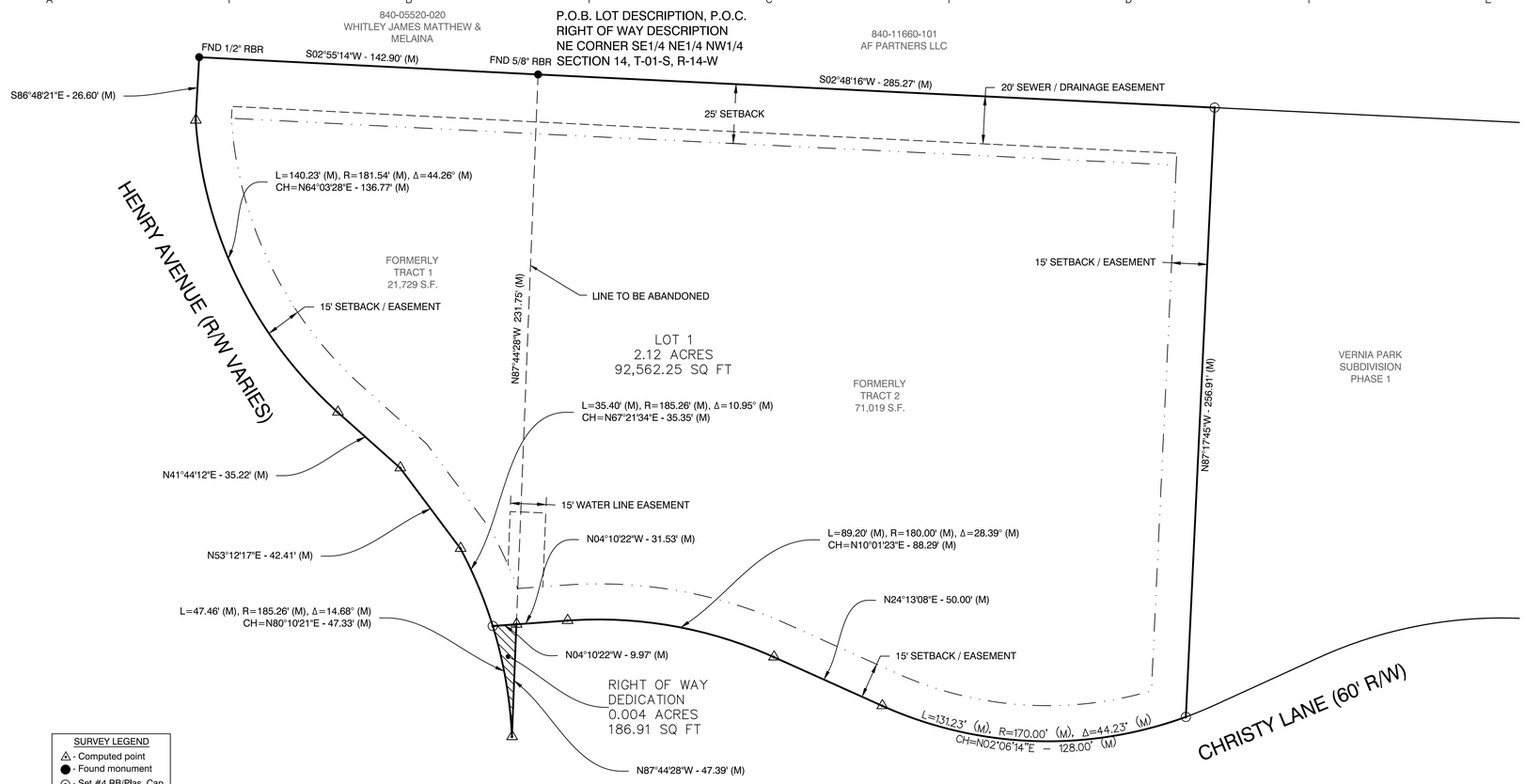
CONTENTS:

GENERAL NOTES

PROJECT NO: 20022

DATE: FEB. 8, 2023

SHEET NO: G1.0



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

VERNIA PARK NORTHEAST SUBDIVISION PHASE 1 FINAL PLAT

PLAT CERTIFICATES:

OWNER:

Name: EVA Real Estate, LLC

Address: P.O. Box 241273, Little Rock, AR 72223

DEVELOPER:

Name: EVA Real Estate, LLC

Address: P.O. Box 241273, Little Rock, AR 72223

CERTIFICATE OF RECORDING: ____

CERTIFICATE OF OWNER:
We, the undersigned, owners of the real estate shown and described herein do hereby certify that we have laid off, platted and subdivided, and do hereby lay off, plat and subdivide said real estate in accordance with the within plat.

Date: _____ Signed: _____
Tanja Eckart
EVA Real Estate, LLC

Source of Title: SALINE COUNTY, ARKANSAS
Saline County Document# _____

CERTIFICATE OF ENGINEERING ACCURACY:

I, Vernon J. Williams, hereby certify that this plat correctly represents a survey and a plan made by me or under my supervision; that all monuments shown hereon actually exist and their locations, size, type, and material are correctly shown; and that all requirements of the City of Bryant Subdivision Rules and Regulations have been fully complied with.

Date: _____ Signed: _____
Vernon J. Williams
Registered Professional Engineer
No. 9551, Arkansas

CERTIFICATE OF SURVEYING ACCURACY:

I, George P. Wooden, hereby certify that this plat correctly represents a boundary survey made by me or under my supervision; that the boundary lines shown hereon correspond with the description in the deeds cited in the above Source of Title; and that all monuments which were found or placed on the property are correctly described and located.

Date: _____ Signed: _____
George P. Wooden
Registered Land Surveyor
No. 1573, Arkansas

CERTIFICATE OF FINAL PLAT APPROVAL:

Pursuant to the City of Bryant Subdivision Rules and Regulations, this document was given approval by the Bryant Planning Commission. All of the document is hereby accepted, and this certificate executed under the authority of said rules and regulations.

Date: _____ Signed: _____
Rick Johnson, Chairman
Bryant Planning Commission

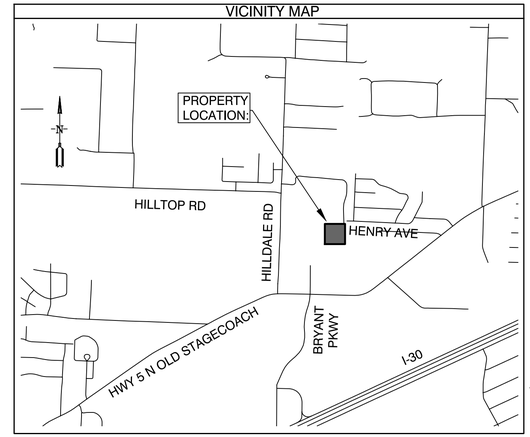
30' 15' 0 30'

SURVEY PLAT CODE:
500-01S-14W-0-14-410-62-1573

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

CERTIFICATE OF AUTHORIZATION
GarNat Engineering, LLC.
No. 2174
ARKANSAS

VICINITY MAP



PROPERTY SPECIFICATIONS:

ZONING CLASSIFICATION: C-2

SOURCE OF WATER: CITY OF BRYANT
SOURCE OF SEWER: CITY OF BRYANT

BUILDING SETBACKS (SB):
FRONT - 15'
REAR - 25'
INTERIOR (SIDE) - 15' UNLESS OTHERWISE NOTED
EXTERIOR - 15'

LOT CORNERS: SET #4 REBAR WITH CAP

PROPERTY DESCRIPTION:

LOT 1 - 2.12 ACRES (92,562 SQUARE FEET)
PART OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (SE1/4 NE1/4 NW1/4) AND PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (NE1/4 NE1/4 NW1/4) ALL IN SECTION 14, TOWNSHIP 01 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: **BEGINNING** AT A FOUND 5/8" REBAR FOR THE NORTHEAST CORNER OF THE SAID SE1/4 NE1/4 NW1/4; THENCE S 02°48'16" W, ALONG THE EAST LINE OF SAID SE1/4 NE1/4 NW1/4, FOR A DISTANCE OF 285.27 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE N 87°17'45" W, LEAVING SAID EAST LINE, A DISTANCE OF 256.91 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED ON THE EAST RIGHT OF WAY LINE OF CHRISTY LANE; THENCE ALONG THE SAID EAST RIGHT OF WAY THE FOLLOWING CALLS: THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 170 FEET AND A LENGTH OF 131.23 FEET, WHOSE CHORD BEARS N 02°06'14" E - 128.00 FEET, THENCE N 24°13'08" E - 50.00 FEET, THENCE ALONG A CURVE TO THE LEFT WITH A RADIUS OF 180 FEET AND A LENGTH OF 89.20 FEET, WHOSE CHORD BEARS N 10°01'23" E - 88.29 FEET, THENCE N 04°10'22" W - 31.53 FEET TO A SET 1/2" REBAR WITH CAP #1573 LOCATED AT THE INTERSECTION WITH THE SOUTH RIGHT OF WAY OF HENRY AVENUE; THENCE ALONG THE SAID SOUTH RIGHT OF WAY THE FOLLOWING CALLS: THENCE ALONG A CURVE TO THE LEFT WITH A RADIUS OF 185.26 FEET AND A LENGTH OF 35.40 FEET, WHOSE CHORD BEARS N 67°21'34"E - 35.35 FEET, THENCE N 53°12'17" E - 42.41 FEET, THENCE N 41°44'12" E - 35.22 FEET, THENCE ALONG A CURVE TO THE RIGHT WITH A RADIUS OF 181.54 FEET AND A LENGTH OF 140.23 FEET, WHOSE CHORD BEARS N 64°03'28" E - 136.77 FEET, THENCE S 86°48'21" E - 26.60 FEET TO A FOUND 1/2" REBAR LOCATED ON THE EAST LINE OF THE SAID NE1/4 NE1/4 NW1/4; THENCE S 02°55'14" W, LEAVING SAID SOUTH RIGHT OF WAY OF HENRY AVENUE AND ALONG THE EAST LINE OF THE SAID NE1/4 NE1/4 NW1/4 FOR A DISTANCE OF 142.90 FEET TO THE **POINT OF BEGINNING**, CONTAINING 2.12 ACRES, MORE OR LESS. SUBJECT TO ANY EASEMENTS OF RECORD AND THE RIGHTS OF WAY OF HENRY AVENUE AND CHRISTY LANE. LESS AND EXCEPT RIGHT OF WAY DEDICATION BELOW.

RIGHT OF WAY DEDICATION - 0.004 ACRES (187 SQUARE FEET)
PART OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER (NE1/4 NE1/4 NW1/4) SECTION 14, TOWNSHIP 01 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS: **COMMENCING** AT A FOUND 5/8" REBAR FOR THE SOUTHEAST CORNER OF THE SAID NE1/4 NE1/4 NW1/4; THENCE N 87°44'28" W, ALONG THE SOUTH LINE OF SAID NE1/4 NE1/4 NW1/4, FOR A DISTANCE OF 231.75 FEET TO A COMPUTED POINT ON THE EAST RIGHT OF WAY OF CHRISTY LANE FOR THE **POINT OF BEGINNING**; THENCE CONTINUING N 87°44'28" W, ALONG SAID SOUTH LINE, A DISTANCE OF 47.39 FEET TO A POINT OF INTERSECTION WITH THE SOUTH RIGHT OF WAY OF HENRY AVENUE; THENCE ALONG SAID SOUTH RIGHT OF WAY AND A CURVE TO THE LEFT WITH A RADIUS OF 185.26 FEET AND A LENGTH OF 47.46 FEET, WHOSE CHORD BEARS N 80°10'21" E - 47.33 FEET TO A SET 1/2" REBAR WITH CAP #1573; THENCE S 04°10'22" E, LEAVING SAID SOUTH RIGHT OF WAY OF HENRY AVENUE FOR A DISTANCE OF 9.97 FEET TO THE **POINT OF BEGINNING**, CONTAINING 0.004 ACRES (187 SQUARE FEET), MORE OR LESS.

DOCUMENTS USED:

- VERNIA PARK SUBDIVISION PHASE 1 FINAL PLAT BY ZANE ROBBINS PLS #1853

BASIS OF BEARINGS:

BENCHMARK(S) PROVIDED ARE REBAR AND COORDINATES ON BENCHMARKS ARE NORTH AMERICAN DATUM 1983, ARKANSAS SOUTH ZONE, US SURVEY FEET, GRID COORDINATES AND ELEVATIONS ARE NAVD 1988. COORDINATES AND ELEVATIONS WERE ESTABLISHED USING GPS AND WERE PROCESSED USING THE NATIONAL GEODETIC SURVEY'S "ONLINE POSITIONING USER SERVICE" (OPUS).

CERTIFICATIONS:

BY AFFIXING MY SEAL AND SIGNATURE, I GEORGE P. WOODEN, PS NO.1573, HEREBY CERTIFY THAT THIS DRAWING CORRECTLY DEPICTS A SURVEY COMPILED UNDER MY SUPERVISION ON MARCH 10, 2023.

THIS SURVEY WAS BASED ON LEGAL DESCRIPTIONS AND TITLE WORK FURNISHED BY OTHERS AND DOES NOT REPRESENT A TITLE SEARCH.

THIS PROPERTY IS NOT LOCATED IN THE 100 YEAR FLOOD PLAIN. THE PROPERTY SHOWN ON THIS PLAT IS LOCATED IN ZONE "X" OF THE F.E.M.A. MAP PANEL 05125C0240E EFFECTIVE DATE JUNE 05, 2020.

DATE	REVISION	BY

GNE Designing our client's success
GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
garnatengineering@gmail.com

VERNIA PARK NORTHEAST
SUBDIVISION PHASE 1
1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

PROFESSIONAL SURVEYOR
STATE OF ARKANSAS
NO. 1573
SIGNATURE
GEORGE P. WOODEN
DRAFT

CONTENTS:
FINAL PLAT

PROJECT NO:
22140

DATE:
MARCH 10, 2023

SHEET NO:
V1.0

J:\Projects\2022 Projects\22140 Vernia Park\Drawings\Survey\22140-John Eckert-One Lot-Subdivision-220323.dwg

PARKING SPACES:
2 HANDICAP SPACES
90 CUSTOMER SPACES
92 PARKING SPACES TOTAL

VOLLEYBALL NETTING SYSTEM
FND 1/2" RBR
FND 5/8" RBR
#6205 Ssmh 9.10 INV RIM ELEV=397.59
25' SETBACK
20' SEWER / DRAINAGE EASEMENT
STORM DRAIN BOX (TYP.) SEE SHEET C3.0
#2389 SSMH FL ELEV: 385.46 RIM ELEV=390.28
#2388 SSMH FL ELEV: 390.36 RIM ELEV=394.62
25' SETBACK - UTILITY - DRAINAGE EASEMENT
70' DETENTION AREA ESMT.
5' WIDE STAIR WITH RAILING (7 STEPS)
BUILDING FINISH FLOOR = 400
21,225 SQUARE FEET
ARDOT STANDARD TYPE A CURB
15' SETBACK / EASEMENT
6.5' WIDE WALK
SIGN TO DESIGNATE SPOT AS HANDICAP ACCESSIBLE (2 TOTAL)
HENRY AVENUE
6.5' WIDE WALK
24'
CURB 6" TURN DOWN
CURB & ASPH. FLUSH
CURB STOP (TYP.) (4 TOTAL)
15' WATER LINE EASEMENT
CURB & ASPH. FLUSH
CURB 6" TURN DOWN
7' WIDE WALK
PARKING SPACE (TYP.)
9'
18'
24'
15' SETBACK / EASEMENT
SIDEWALK
DETECTABLE WARNING DEVICE
6" INTEGRAL CURB
9' CURB TRANSITION
WHEELCHAIR RAMP (SEE ARDOT DWG WR-1)
5' SIDEWALK
EXISTING PATH
ELECTRIC BOX
#2351 sdmh rim 5.388 Inv RIM ELEV=398.79
#1571 7.02 Inv curb inlet rim RIM ELEV=408.34
8IKE/WALK PATH
REMOVE 5' OF PATH TO INSTALL STORM DRAIN THEN REBUILD AND CONSTRUCT REST OF PATH TO INTERSECTION.
CHRISTY LANE
#1569 dbl inlet rim 7.5 Inv RIM ELEV=406.61
INSTALL 48 LF OF MODIFIED CURB
15' WATER LINE EASEMENT
20' 10' 0 20'

LEGEND:
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- EXISTING CONCRETE

NOTES:
1. SITE PAVEMENT MARKINGS SHALL BE 4" WIDE WHITE PAINT (PER ARDOT STANDARD SPECIFICATION SECTION 718)

BY	REVISION	DATE

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1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

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

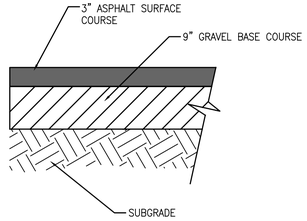
03-13-2023

CONTENTS:
SITE PLAN

PROJECT NO: 22140

DATE: MARCH 13, 2023

SHEET NO: C1.0



ASPHALT PAVING 1

NOT TO SCALE

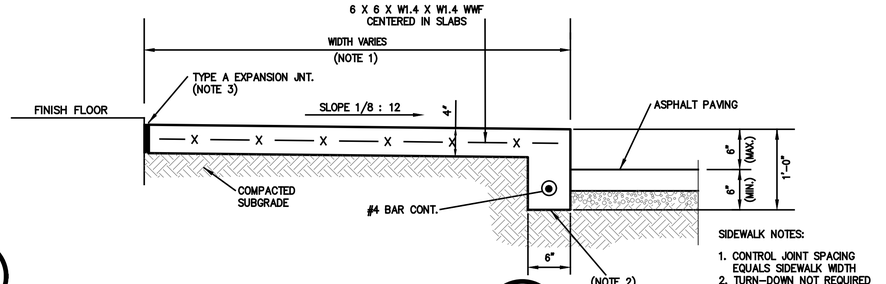
NOTES:

1. ASPHALT SURFACE COURSE SHALL MEET MATERIAL AND INSTALLATION REQUIREMENTS OF SECTION 407 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

2. ASPHALT BINDER COURSE SHALL MEET MATERIAL & INSTALLATION REQUIREMENTS OF SECTION 406 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

3. GRAVEL BASE COURSE SHALL MEET MATERIAL AND INSTALLATION REQUIREMENTS FOR AHTD CLASS 7 AGGREGATE BASE COURSE IN SECTION 303 OF AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

4. SUBGRADE SHALL BE COMPACTED TO A UNIFORM DENSITY OF NOT LESS THAN 95% OF THE MODIFIED PROCTOR.

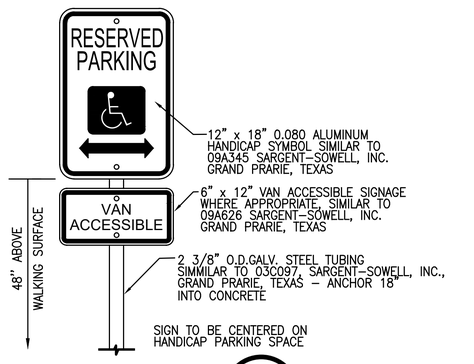


SIDEWALK DETAIL 2

NOT TO SCALE

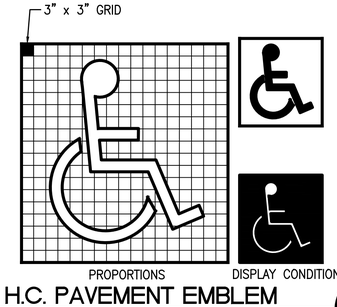
SIDEWALK NOTES:

1. CONTROL JOINT SPACING EQUALS SIDEWALK WIDTH
2. TURN-DOWN NOT REQUIRED WHERE SIDEWALK MATCHES SURROUNDING GRADE
3. EXPANSION JOINT REQUIRED AT ALL ADJACENT CONCRETE. NOT REQUIRED AT ASPHALT PAVING OR SOIL



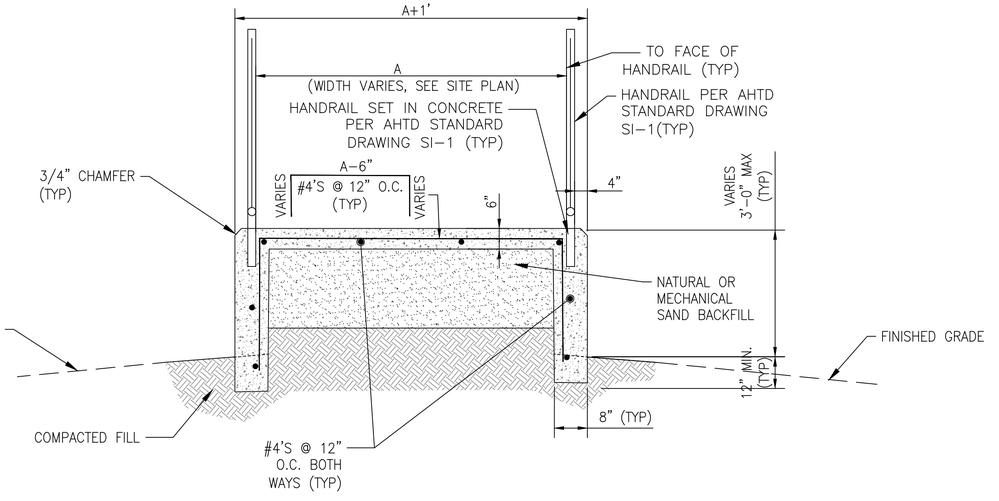
TYP. H.C. SIGN 3

NOT TO SCALE



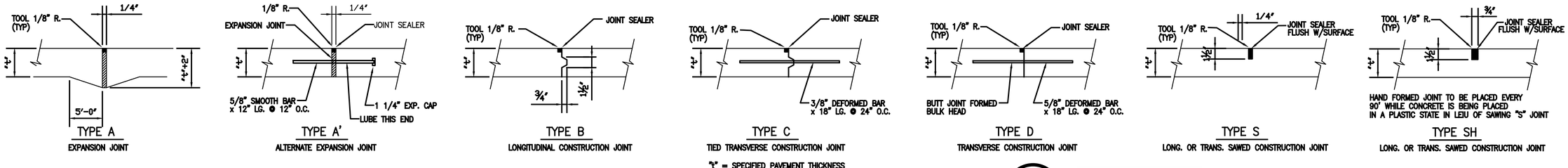
H.C. PAVEMENT EMBLEM 4

NOT TO SCALE



RAISED SIDEWALK WITH HANDRAILS 5

NOT TO SCALE



"t" = SPECIFIED PAVEMENT THICKNESS

CONCRETE JOINTING DETAILS 6

NOT TO SCALE

NOTE: ALL JOINT SPACING NOT TO EXCEED 15'-0" INTERVALS

BY | REVISION | DATE

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

03-10-2023

CONTENTS:
SITE DETAILS

PROJECT NO: 22140

DATE: MAR 2023

SHEET NO: C1.1

FND 1/2" RBR

FND 5/8" RBR

#6205
Ssmh 9.10 INV
RIM ELEV=397.59

#2389
SSMH FL ELEV: 385.46
RIM ELEV=390.28

#2388
SSMH FL ELEV: 390.36
RIM ELEV=394.62

25' SETBACK

20' SEWER / DRAINAGE EASEMENT

CUT-IN 8" X 6" WYE
EXTEND SEWER SERVICE
TO BUILDING

6" SCH 40 SEWER SERVICE

25' SETBACK - UTILITY - DRAINAGE EASEMENT

70' DETENTION AREA ESMT.

15' SETBACK / EASEMENT

HENRY AVENUE

15' SETBACK / EASEMENT

15' WATER LINE EASEMENT

8" X 6" MJ TEE WITH PLUG IN RUN & 6" GATE VALVE ON BRANCH (BEGIN PRIVATE FIRE MAIN)

3" SDR-21 PVC WATER SERVICE

8" D.I. PRIVATE FIRE MAIN

8" D.I. PRIVATE FIRE MAIN

PRIVATE FIRE HYDRANT

8" DR-18 PVC WATER LINE

SIDEWALK

BIKE/WALK PATH

15' SETBACK / EASEMENT

ELECTRIC BOX

PROPOSED 2" WATER METER

EXTEND EXISTING WATER LINE

#2350
sdmh rim 4.68 inv
RIM ELEV=389.02

#2351
sdmh rim 5.88 inv
RIM ELEV=388.79

#1571
7.02 Inv curb inlet rim
RIM ELEV=408.34

#1559
curb inlet rim 7.5 Inv
RIM ELEV=408.61

CHRISTY LANE

15' WATER LINE EASEMENT

NOTES:

1. ALL WATER AND SEWER WORK SHALL COMPLY WITH THE REQUIREMENTS OF CITY OF BRYANT STANDARD SPECIFICATIONS FOR DESIGN OF WATER AND SEWER AND THE ARKANSAS PLUMBING CODE. CITY OF BRYANT STANDARD SPECIFICATIONS ARE AVAILABLE FOR DOWNLOAD FROM WWW.CITYOFBRYANT.COM

2. ALL GAS WORK SHALL COMPLY WITH THE REQUIREMENTS OF SUMMIT UTILITIES AND ARKANSAS PLUMBING CODE.

20' 10' 0 20'

DATE	REVISION	BY

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GarNat Engineering, LLC
P.O. Box 116 3825 Mt Carmel Rd
Benton, AR 72018 Bryant, AR 72022
Ph (501) 408-4650 garnatengineering@gmail.com

A NEW ELITE VOLLEYBALL ACADEMY GYM FOR JOHN ECKART VERNIA OFFICE PARK 1601 CHRISTY LANE ALEXANDER, ARKANSAS 72002

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

03-13-2023

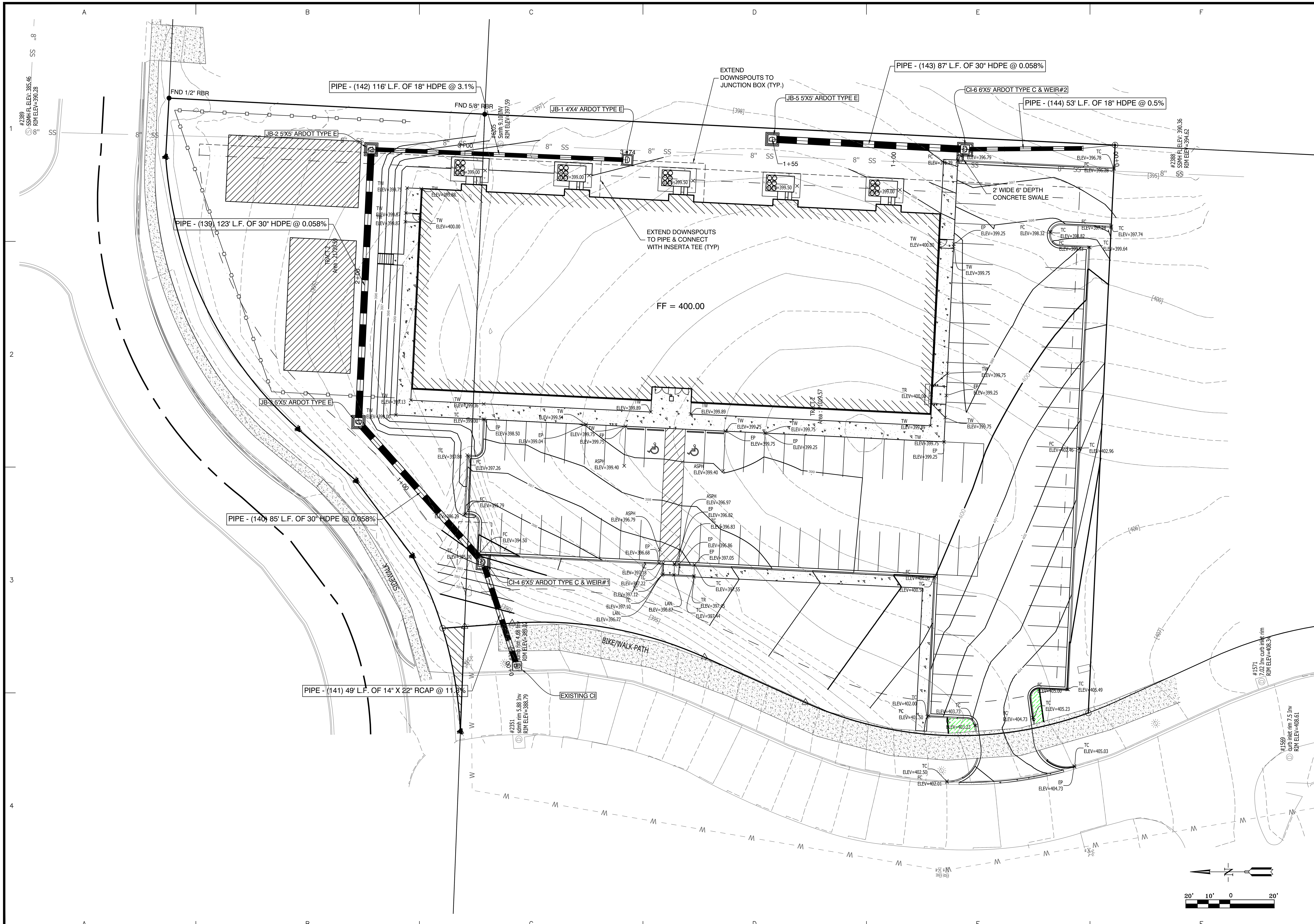
CONTENTS:

UTILITY PLAN

PROJECT NO: 22140

DATE: MARCH 13, 2023

SHEET NO: C2.0



PIPE - (142) 116' L.F. OF 18" HDPE @ 3.1%
FND 1/2" RBR
FND 5/8" RBR
JB-1 4'X4' ARDOT TYPE E
JB-2 5'X5' ARDOT TYPE E
EXTEND DOWNSPOUTS TO JUNCTION BOX (TYP.)
JB-5 5'X5' ARDOT TYPE E
PIPE - (143) 87' L.F. OF 30" HDPE @ 0.058%
CI-6 6'X5' ARDOT TYPE C & WEIR#2
PIPE - (144) 53' L.F. OF 18" HDPE @ 0.5%
2' WIDE 6" DEPTH CONCRETE SWALE
PIPE - (139) 123' L.F. OF 30" HDPE @ 0.058%
EXTEND DOWNSPOUTS TO PIPE & CONNECT WITH INSERTA TEE (TYP)
FF = 400.00
JB-3 5'X5' ARDOT TYPE E
PIPE - (140) 85' L.F. OF 30" HDPE @ 0.058%
CI-4 6'X5' ARDOT TYPE C & WEIR#1
SIDEWALK
BIKE/WALK PATH
PIPE - (141) 49' L.F. OF 14" X 22" RCAP @ 11.6%
EXISTING CI

A NEW ELITE VOLLEYBALL ACADEMY
GYM FOR JOHN ECKART
VERNIA OFFICE PARK
1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

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Benton, AR 72018
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DATE	REVISION	BY

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

03-10-2023

CONTENTS:

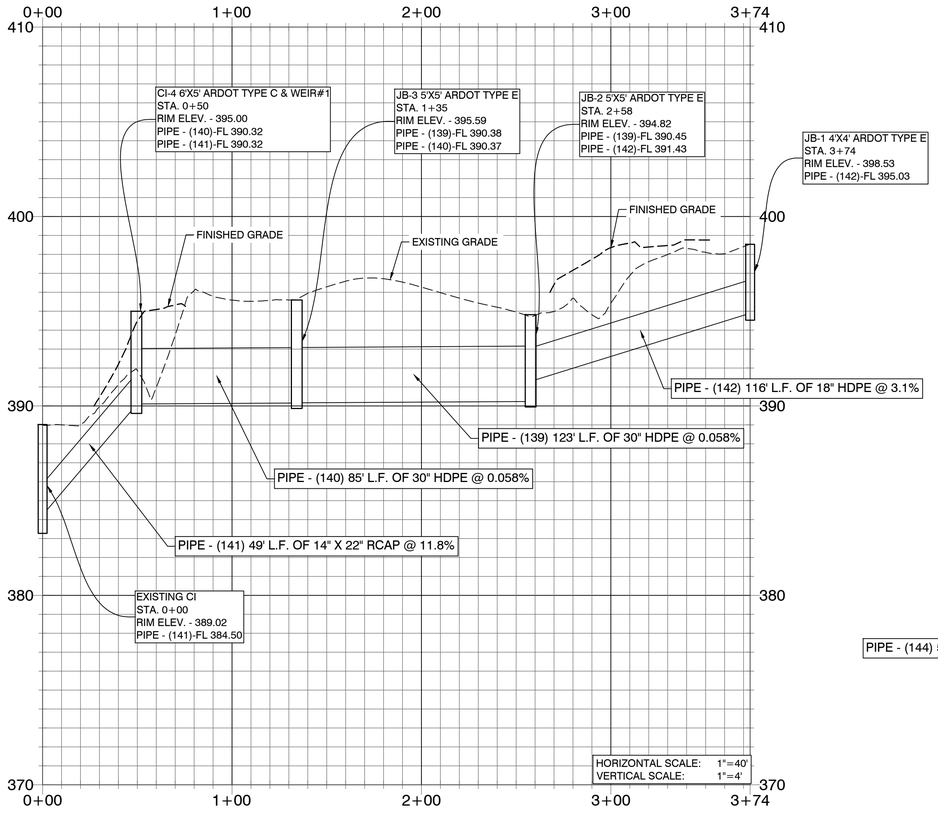
GRADING & DRAINAGE PLAN

PROJECT NO: 22140

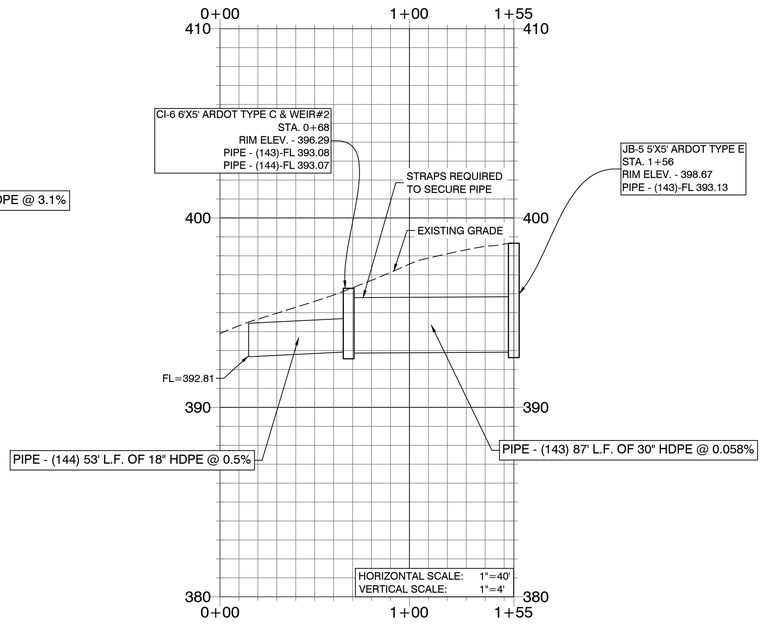
DATE: DATE

SHEET NO: C3.0

NORTH STORM DETENTION PROFILE



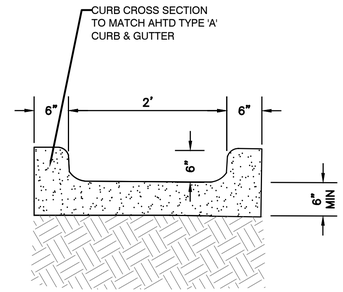
SOUTH STORM DETENTION PROFILE



HDPE PIPE MINIMUM
COVER REQUIREMENTS:

30" HDPE - 22" MIN. COVER

IF THERE IS NOT MINIMUM COVER
THEN THE PIPE NEEDS STRAPS
TO BE SECURED.**



CONCRETE SWALE

NOT TO SCALE

OUTLET STRUCTURE - WEIR PLAN VIEW

NOT TO SCALE

OUTLET STRUCTURE - WEIR SECTION B-B

NOT TO SCALE

OUTLET STRUCTURE - WEIR SECTION A-A

NOT TO SCALE

OUTLET STRUCTURE								
OUTLET STRUCTURE	L	W	H	ELEV 1	ELEV 2	S	A	D
WEIR#1	6'–0"	5'–0"	4'–8"	395.00	390.32	0'–8"	2'–6"	14"X22"
WEIR#2	6'–0"	5'–0"	3'–3"	396.30	393.08	0'–4"	2'–6"	18"

DETENTION OUTLET NOTES:

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

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1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

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

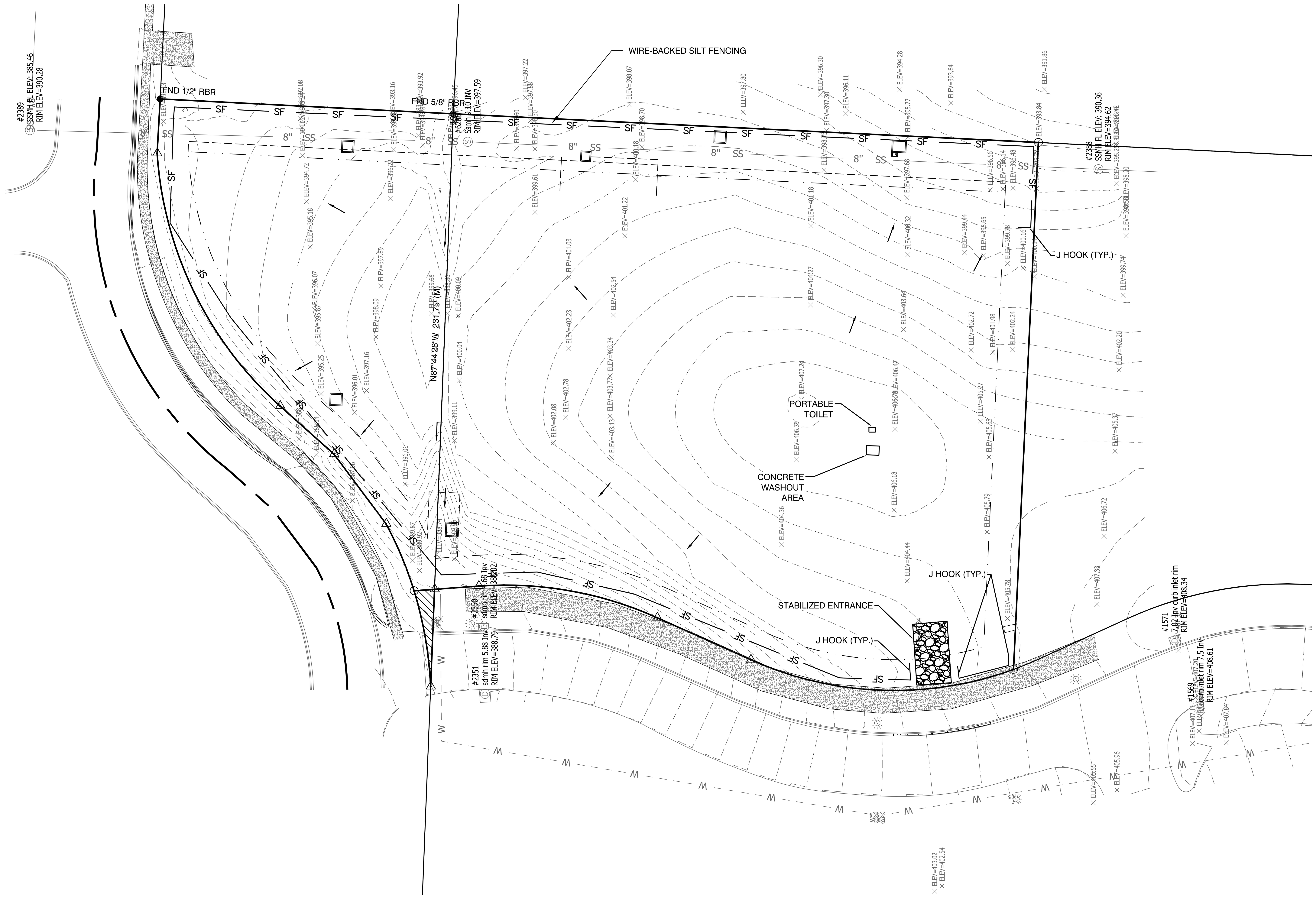
03-10-2023

CONTENTS:
DRAINAGE PROFILES & DRAINAGE DETAILS

PROJECT NO: 22140

DATE: DATE

SHEET NO: C3.1

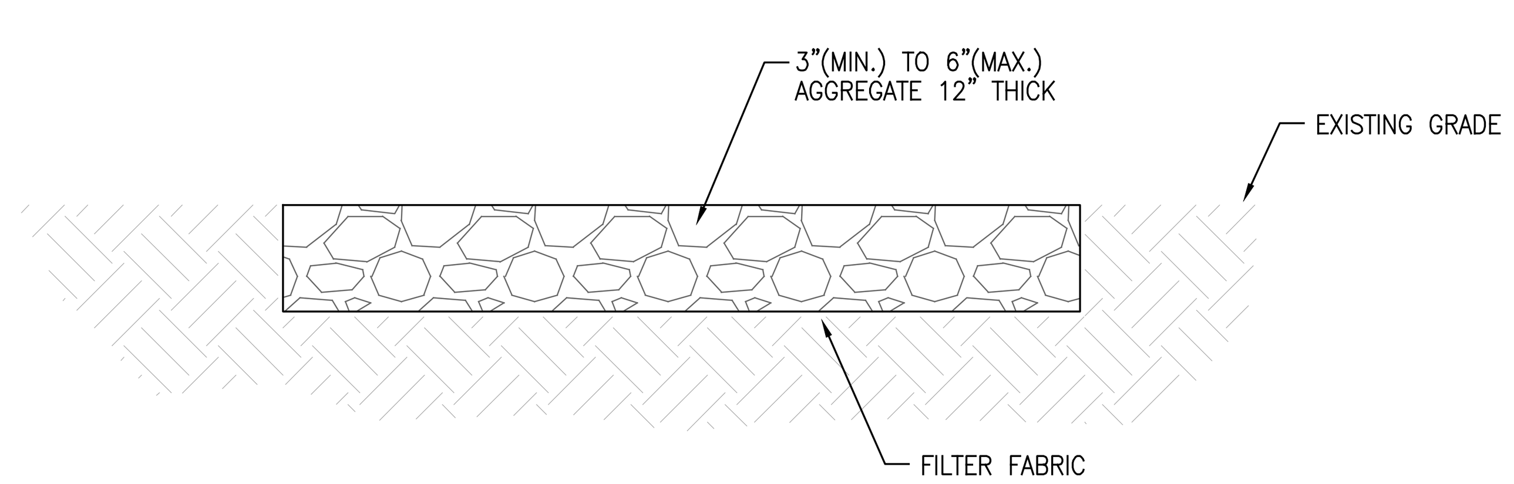


BMP NOTES:

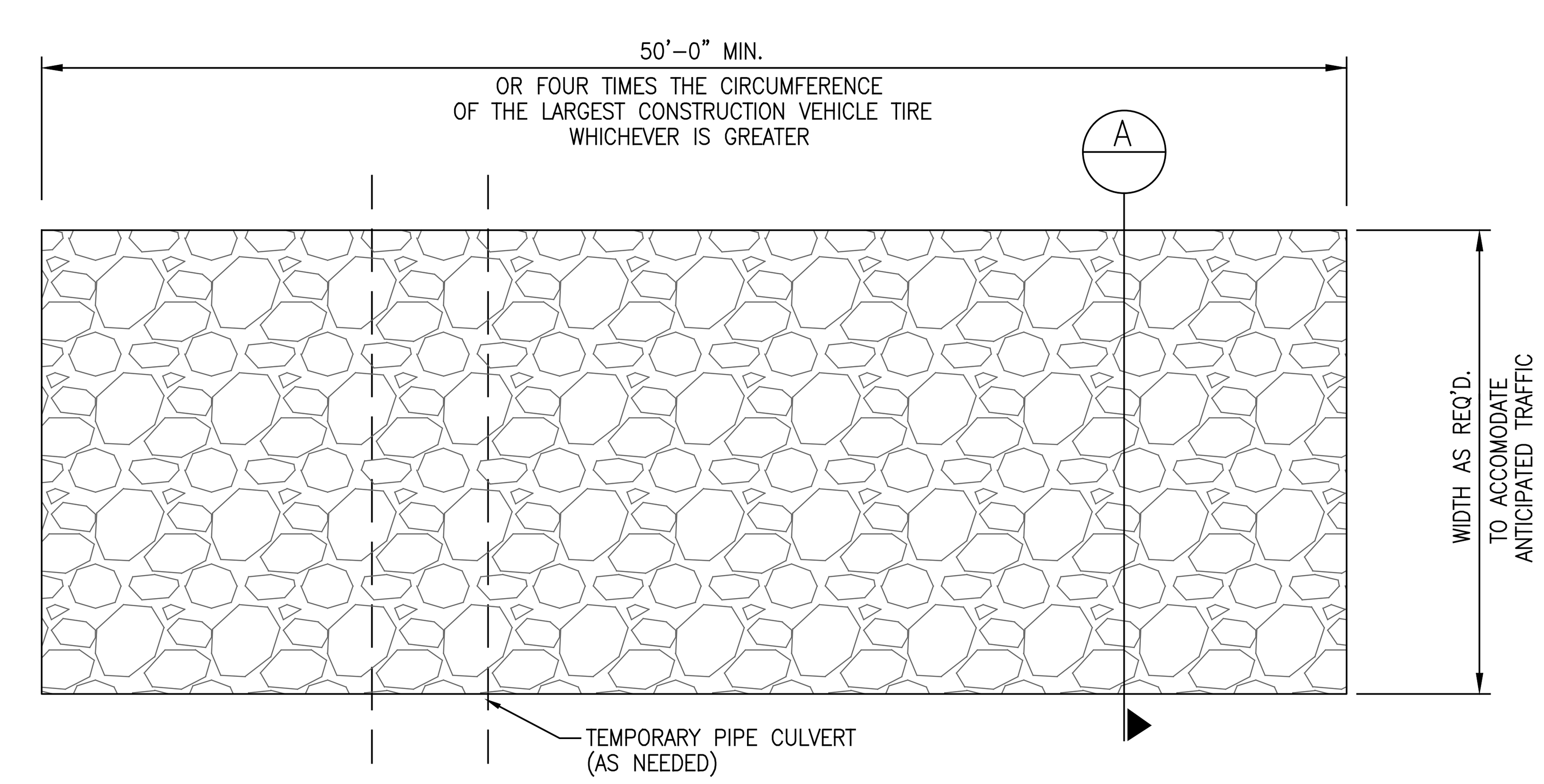
1. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
2. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
3. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIAL SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
4. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
5. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
6. IF THE ACTION OF VEHICLES TRAVELING OVER THE SITE IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF OF THE SITE.
7. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
9. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
10. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

TOTAL SITE: 2.13 ACRES (INCLUDES R-O-W)

TOTAL DISTURBED AREA: 2.13 ACRES (INCLUDES R-O-W)



SECTION A

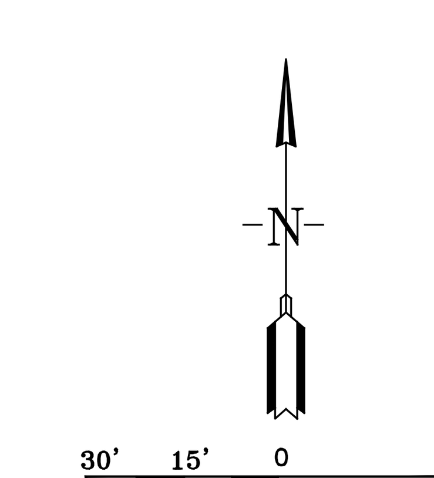


STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

LEGEND:

— 500 —	EXISTING CONTOURS
←	DIRECTION OF OVERLAND FLOW
— SF —	SILT FENCING



BY	REVISION	DATE

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GarNat Engineering, LLC
P.O. Box 116 Benton, AR 72018 Ph (501) 408-4650
3825 Mt Carmel Rd Bryant, AR 72022 garnatengineering@gmail.com

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VERNIA OFFICE PARK
1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

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

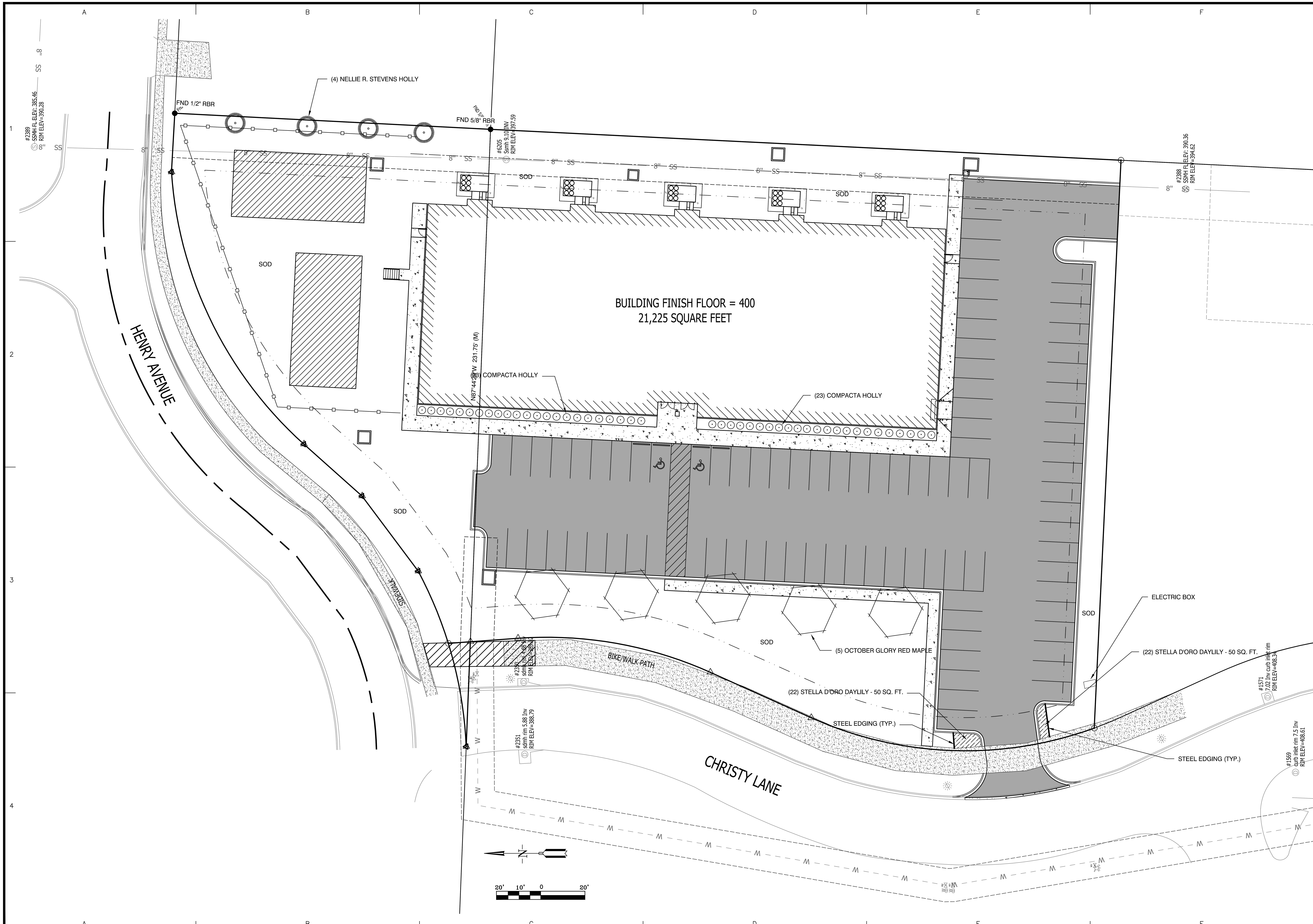
03-10-2023

CONTENTS: EROSION CONTROL PLAN

PROJECT NO: 22140

DATE: DATE

SHEET NO: C4.0



(4) NELLIE R. STEVENS HOLLY
FND 1/2" RBR
FND 5/8" RBR
SOD
BUILDING FINISH FLOOR = 400
21,225 SQUARE FEET
(23) COMPACTA HOLLY
(23) COMPACTA HOLLY
HENRY AVENUE
SIDEWALK
BIKE/WALK PATH
CHRISTY LANE
(5) OCTOBER GLORY RED MAPLE
(22) STELLA D'ORO DAYLILY - 50 SQ. FT.
(22) STELLA D'ORO DAYLILY - 50 SQ. FT.
STEEL EDGING (TYP.)
STEEL EDGING (TYP.)
ELECTRIC BOX
N87°44'38"W 231.75' (M)
#2389 SSMH FL ELEV: 385.46 RIM ELEV=390.28
#6205 Ssmh 9.10 INV RIM ELEV=397.59
#2388 SSMH FL ELEV: 390.36 RIM ELEV=394.62
#2351 sdmh rim 5.88 Inv RIM ELEV=388.79
#1571 7.02 Inv curb inlet rim RIM ELEV=408.34
#1569 curb inlet rim 7.5 Inv RIM ELEV=408.61
20' 10' 0 20'

BY	REVISION	DATE

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P.O. Box 116
Benton, AR 72018
Ph (501) 408-4650
3825 Mt Carmel Rd
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1601 CHRISTY LANE
ALEXANDER, ARKANSAS 72002

LICENSED LANDSCAPE ARCHITECT
CHAD M. OPPENHUIZEN
No. 5064
ARKANSAS

3/13/23

CONTENTS:

LANDSCAPE PLAN

PROJECT NO: 22140

DATE: MARCH 13, 2023

SHEET NO: L1.0

LANDSCAPING NOTES:

1. REPORT ANY DISCREPANCIES FOUND IN THE PLANS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE DESIGNER OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE DRAWINGS.

2. THE NUMBER OF PLANTS OR INTENDED COVERAGE AREAS SHOWN SHALL SUPERSEDE NOTED QUANTITIES. TREE LOCATIONS ARE DIAGRAMMATIC.

3. ALL PLANT MATERIALS MUST BE APPROVED PRIOR TO INSTALLATION. SUBSTITUTIONS OF SIZE OR TYPE OF MATERIAL ARE NOT PERMITTED WITHOUT WRITTEN APPROVAL PRIOR TO DELIVERY OR INSTALLATION.

4. ALL PLANT MATERIALS SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION. REPLACE ANY DAMAGED, DESTROYED, OR REMOVED PLANT MATERIALS WITH THE SAME VARIETY AND SIZE PRIOR TO FINAL ACCEPTANCE.

5. PLANT STORAGE TO BE LOCATED OUT OF VEHICULAR USE AREAS AND NEAR A WATERING SYSTEM TO OPTIMIZE SURVIVAL.

6. ALL PLANTING BEDS SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.

7. ALL PLANTING BEDS SHALL BE MULCHED WITH 3-INCHES SHREDDED HARDWOOD OR CYPRESS MUCH.

8. ALL SHRUBS AND TREES SHALL RECEIVE PLANTING BACKFILL OF 2/3 TOPSOIL AND 1/3 COMPOST BY VOLUME AND 2 POUNDS OF 14-14-14 TIMED-RELEASE FERTILIZER PER CUBIC YARD OF BACKFILL.

9. ALL BEDS INSIDE LAWN AREAS TO BE EDGED WITH 4" PAINTED STEEL EDGING.

10. ALL TREES AND SHRUBS SHALL BE THOROUGHLY WATERED IMMEDIATELY AFTER PLANTING.

11. TREES SHALL NOT BE TOPPED AT ANY TIME. PROPER TREE PRUNING TECHNIQUES AS ESTABLISHED BY THE LATEST EDITION OF ANSI A300 STANDARDS FOR TREE CARE SHALL BE UTILIZED FOR MAINTENANCE PURPOSES.

12. COORDINATE ALL INSTALLATION ACTIVITIES WITH IRRIGATION WORK AND IMMEDIATELY REPAIR DAMAGES TO FINISH GRADES, SOD, AND PLANT MATERIALS UNTIL FINAL ACCEPTANCE.

13. SEE GRADING AND DRAINAGE PLAN FOR PROPOSED SLOPES, SWALES, BERMS, AND WATER FEATURES. MAINTAIN PROPER FINISH GRADES IN ALL AREAS AS INDICATED.

14. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING, REMOVAL OF MISCELLANEOUS DEBRIS AND ANY ADDITIONAL FILL REQUIRED TO PROVIDE MINIMUM TOPSOIL DEPTHS AND CREATE A SMOOTH CONDITION PRIOR TO PLANTING IN ALL AREAS.

15. TOPSOIL SHALL BE FREE OF STONES, ROOTS, CLODS, AND ANY OTHER FOREIGN MATERIAL THAT IS NOT BENEFICIAL FROM PLANT GROWTH.

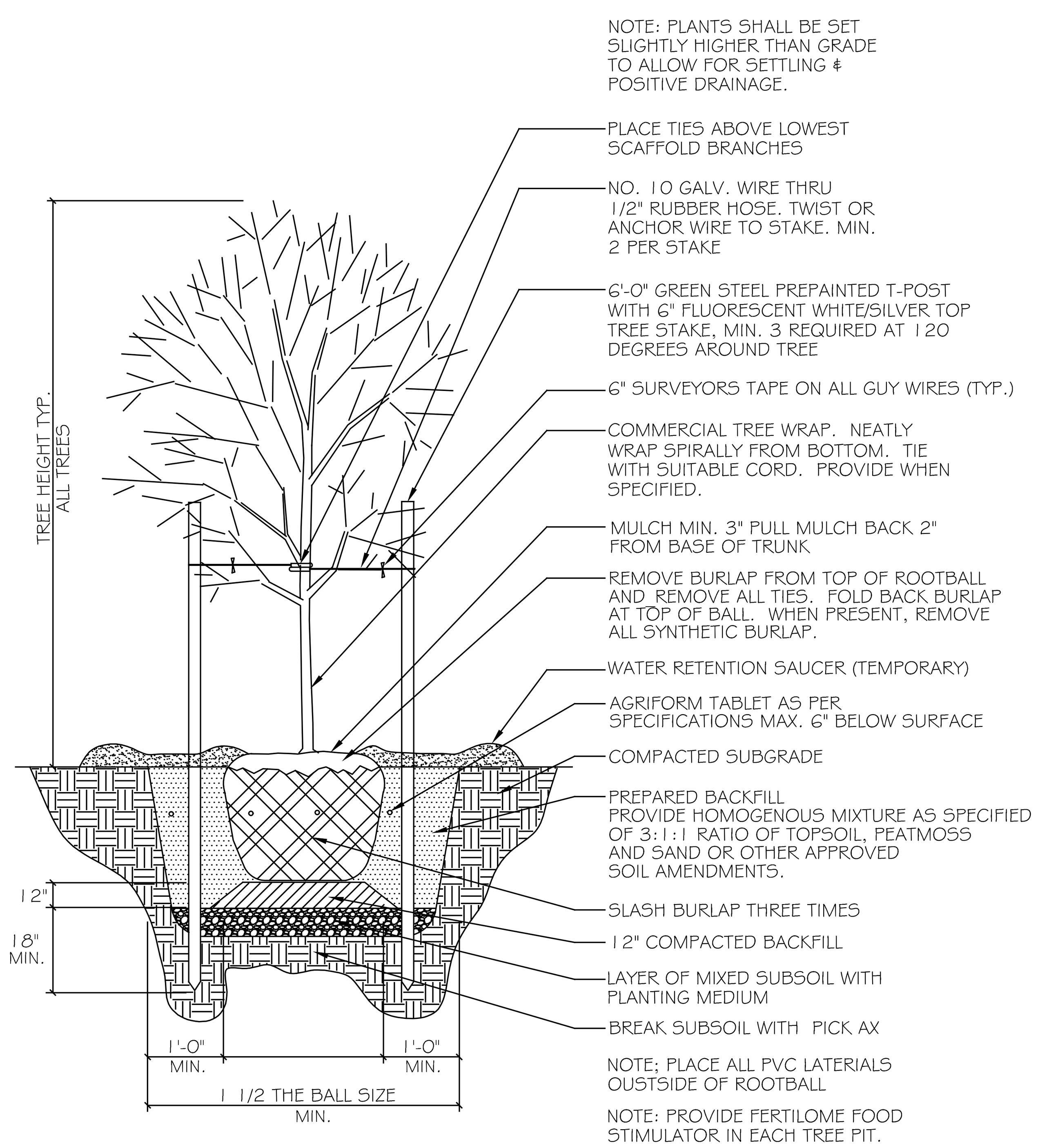
16. LANDSCAPE AND OPEN AREAS SHALL BE KEPT FREE OF TRASH, LITTER, AND WEEDS AT ALL TIMES DURING CONSTRUCTION.

17. IDENTIFICATION LABELS MUST BE ATTACHED TO ALL PLANT MATERIALS AND SHALL REMAIN INTACT UNTIL FINAL ACCEPTANCE OF THE WORK. REMOVE ALL TAGS AND LABELS FOLLOWING FINAL ACCEPTANCE.

18. CALIPER OF TREES TO BE MEASURED 6-INCHES ABOVE GROUND LEVEL FOR TREES UP TO 4-INCH CALIPER SIZE.

19. GENERAL CONTRACTOR SHALL PROVIDE 6-INCH DIAMETER MINIMUM SCHEDULE 40 PVC SLEEVING FOR IRRIGATION TO ALL CURB ISLANDS AND UNDER ALL DRIVE ISLE CROSSINGS.

20. CONTRACTOR TO REFER TO THE UTILITY PLAN SHEET FOR RECENT FIRE FLOW INFORMATION.



1 | L1 TREE PLANTING DETAIL

No Scale

SODDING OF DISTURBED AREAS

AREAS AND LIMITS OF SODDING ARE INDICATED BASED ON ANTICIPATED DISTURBANCE BY GRADING OPERATIONS. CONTRACTOR TO PROVIDE ADDITIONAL SODDING IN ANY OTHER AREAS DISTURBED BY WORK UNDER THIS CONTRACT. EXCAVATE AND REMOVE ANY REMAINING TURF AND SOIL TO A 4-INCH MINIMUM DEPTH WITHIN NEW SOD AREAS. HAND EXCAVATION REQUIRED WITHIN DRIP LINES OF TREE AREAS TO AVOID DAMAGE TO EXISTING ROOTS.CONTRACTOR TO INSTALL MINIMUM OF 3" OF TOPSOIL TO ALL AREAS TO BE SODDED OR SEEDED. FINE GRADE THE TOPSOIL TO ENSURE POSITIVE DRAINAGE AND A SMOOTH SURFACE FOR SOD INSTALLATION.

MAINTENANCE AND WARRANTY

CONTRACTOR TO PROVIDE FULL MAINTENANCE OF INSTALLED LANDSCAPE AND IRRIGATION UNTIL DATE OF FINAL ACCEPTANCE. ADDITIONALLY, CONTRACTOR TO PROVIDE ONE YEAR WARRANTY FOR ALL LANDSCAPE AND IRRIGATION WORK FROM THE DATE OF FINAL ACCEPTANCE.

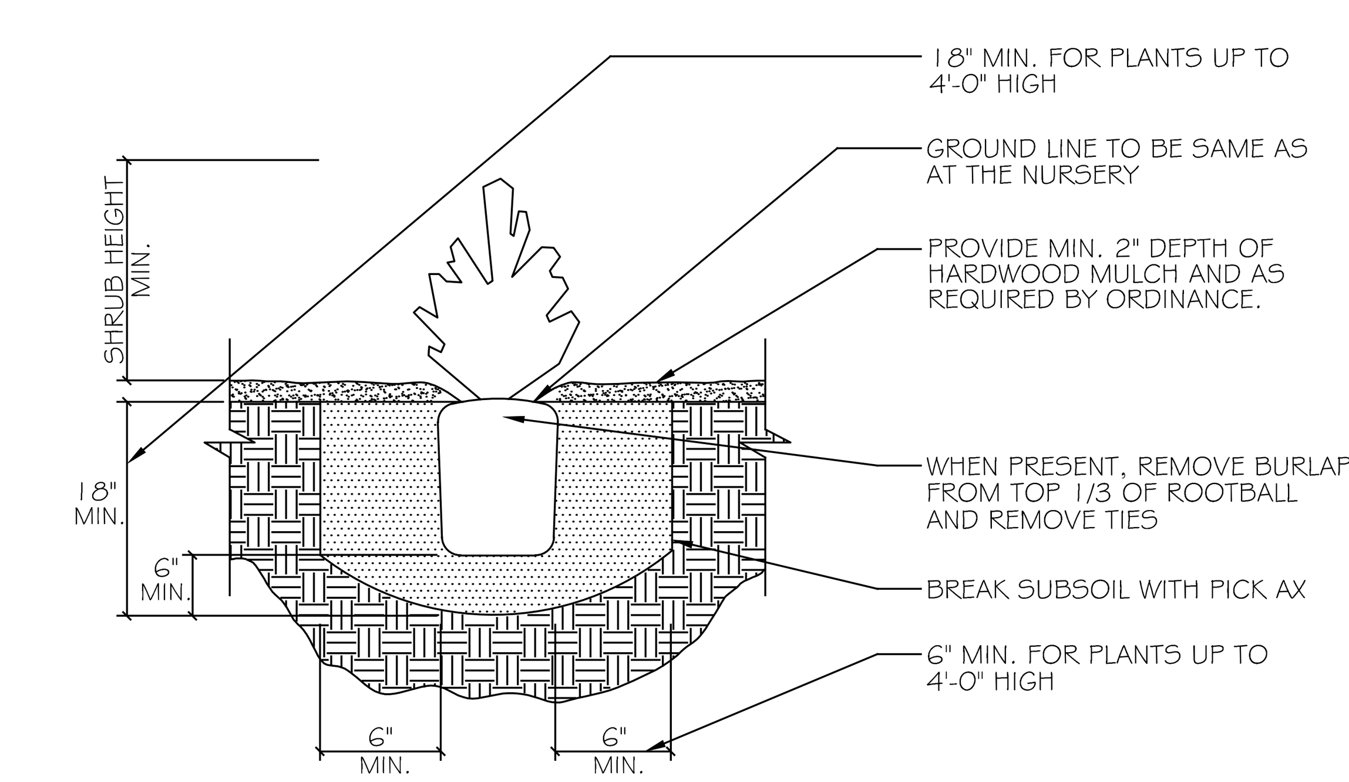
IRRIGATION SYSTEM

CONTRACTOR TO PROVIDE AUTOMATIC IRRIGATION SYSTEM FOR ALL NEW LANDSCAPE AND TURF AREAS SHOWN ON THE PLANS. SYSTEM WILL REQUIRE PROVIDING BACKFLOW PREVENTER, PERMITTING, POWER CONNECTION, CONTROLLER, AND ALL OTHER WORK REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM THAT PROVIDES 100% COVERAGE. COORDINATE LOCATION OF CONTROLLER WITH OWNER, GENERAL CONTRACTOR, AND ELECTRICAL CONTRACTOR. COORDINATE LOCATION OF IRRIGATION SLEEVES WITH GENERAL CONTRACTOR PRIOR TO FULLY MOBILIZING TO SITE. CONTRACTOR TO REFER TO THE UTILITY PLAN SHEET FOR CURRENT FIRE FLOW INFORMATION.

LEGEND:

PLAN QUANTITIES:

	QUANTITY:	COMMON NAME / BOTANICAL NAME:	SIZE:	REMARKS:
	5	October Glory Red Maple Acer rubrum ' October Glory'	2" caliper	Specimen with positive upright form and symmetrical. Well branched canopies.
	4	Nellie R. Stevens Holly Ilex x 'Nellie R. Stevens'	5-6' tall	Specimen with positive upright form and symmetrical. Well branched canopies.
	46	Compacta Holly Ilex crentata 'Compacta'	3 gallon	Full well branched shrub with uniform shape.
	44	Stella D'Oro Daylily Hemerocallis x Stella D'oro	1 gallon	Plant 18" o.c.
	CONTRACTOR TO MEASURE	Bermuda Tifway 419 Cynodon Dactylon var. Tifway 419	SOD	Solid sod, all areas indicated with close knit joints



NOTES:
1. PROVIDE WEED CONTROL AND/OR FERTILIZER AS SPECIFIED BELOW.
2. WEED CONTROL AND FERTILIZER MAY BE APPLIED AT A LATER DATE TO COMPLY WITH SEASONAL CONDITIONS AND THE GROWING PERIOD.
3. PROVIDE AGRIFORM TABLETS AS PER MANUFACTURERS RECOMMENDATIONS.
4. PROVIDE HOMOGENOUS BACKFILL PLANTING MIXTURE OF 3:1 RATIO TOPSOIL TO PEATMOSS AND/OR OTHER APPROVED SOIL AMENDMENTS.
5. PROVIDE FERTILOME ROOT STIMULATOR OR APPROVED EQUAL IN PITS.
6. APPLY BALAN PREEMERGENT WEED CONTROL OR APPROVED EQUAL TREATMENT ON ALL SHRUB AND GROUNDCOVER BEDS.

2 | L1 SHRUB PLANTING DETAIL

No Scale

BY

REVISION

DATE

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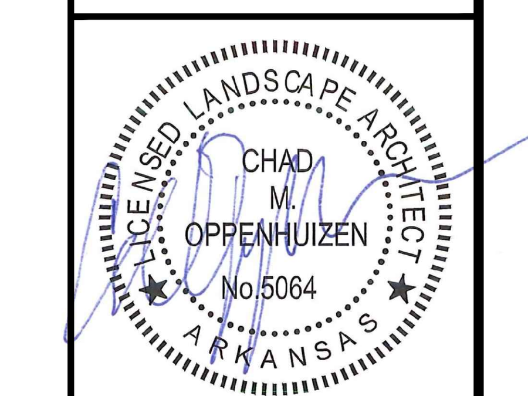


3/13/23

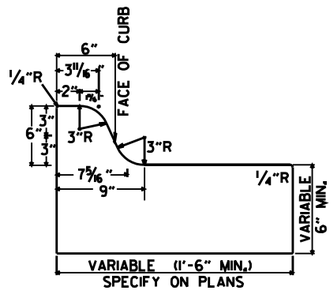
CONTENTS:

LANDSCAPING NOTES & DETAILS

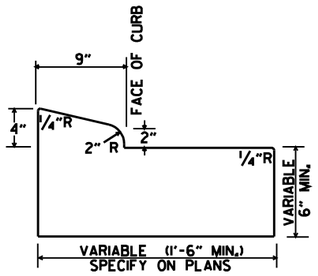
PROJECT NO: 22140

DATE: MARCH 13, 2023

SHEET NO: L1.1



TYPE A



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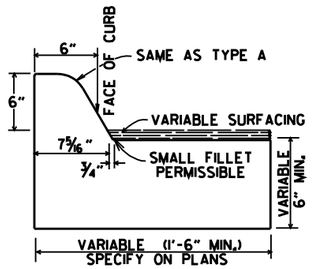

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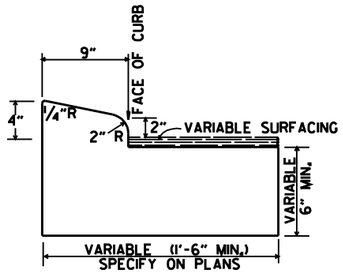

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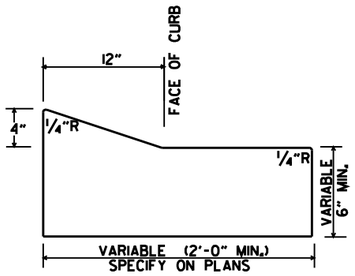
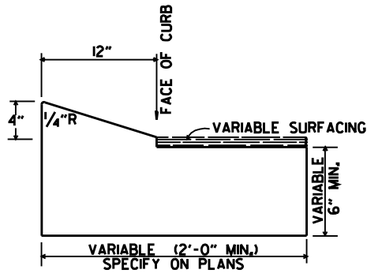
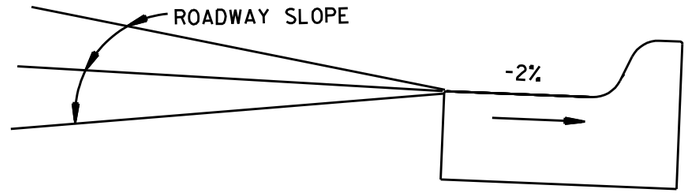


TYPE E-1



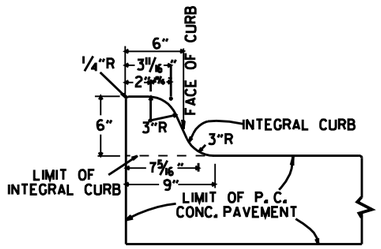
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

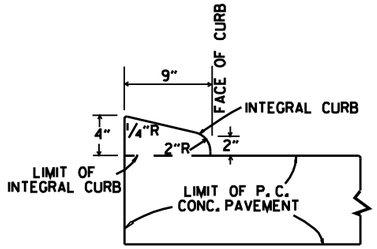


DETAIL OF GUTTER SLOPE

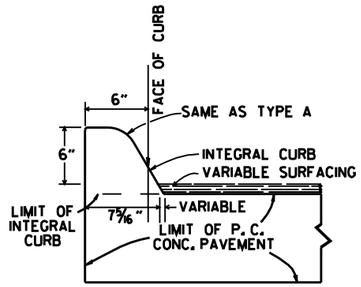
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

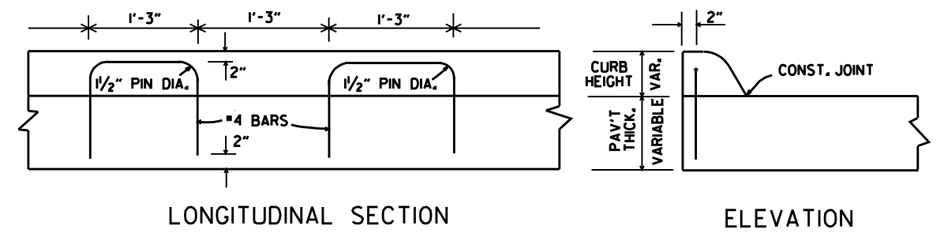


TYPE B

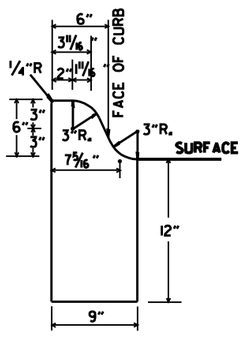


TYPE C

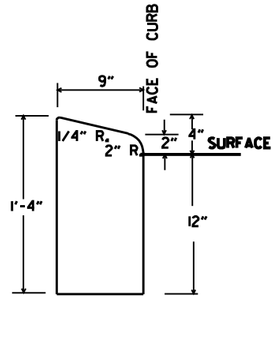
INTEGRAL CURB



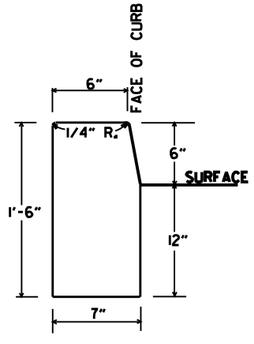
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



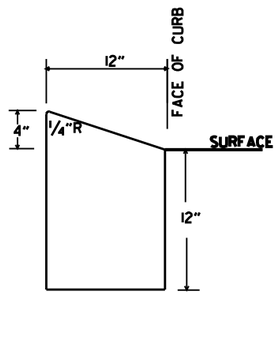
TYPE A



TYPE B

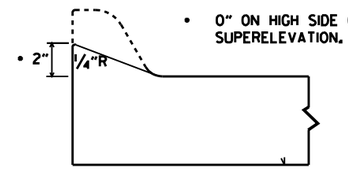


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

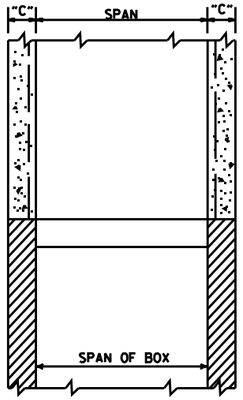
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	52-10-2-72

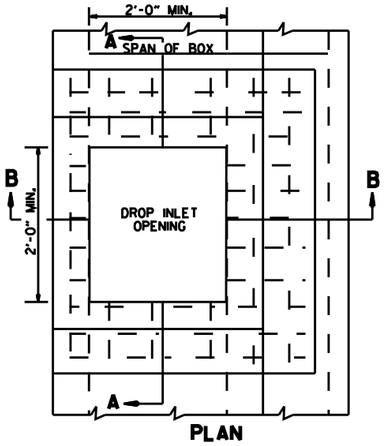
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

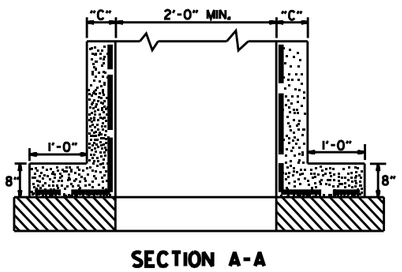
STANDARD DRAWING CG-1



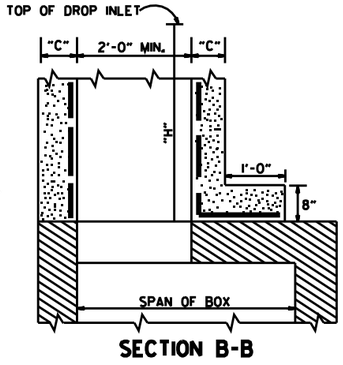
SECTION B-B



PLAN

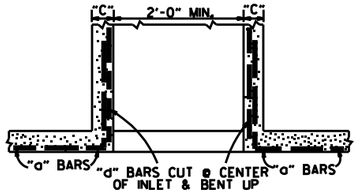


SECTION A-A

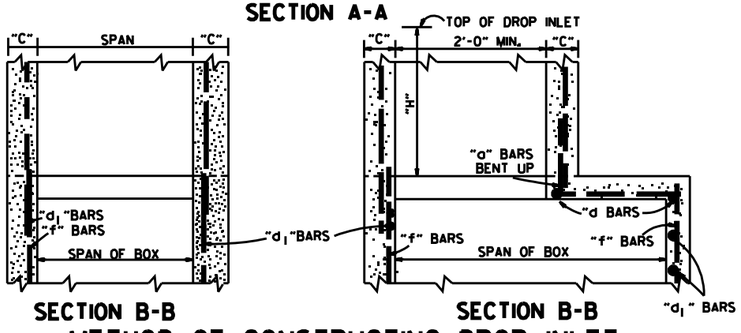


SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT



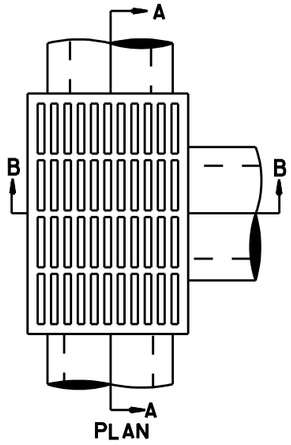
SECTION A-A



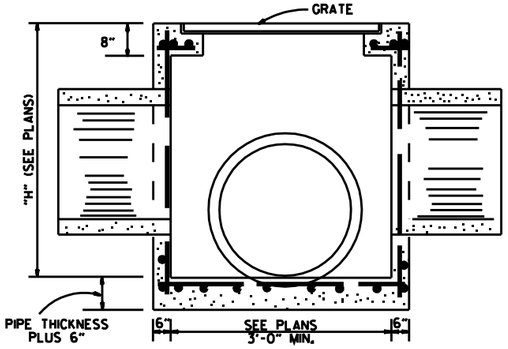
SECTION B-B SECTION B-B

METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.

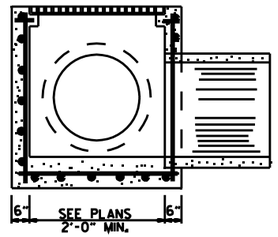


PLAN



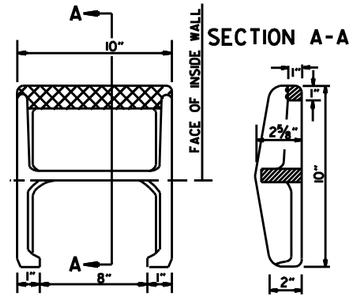
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE DROP INLET TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.



SECTION B-B

DROP INLET (TYPE E)



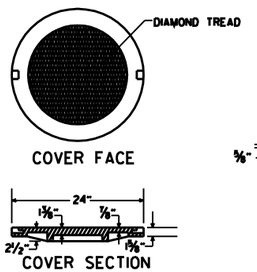
SECTION A-A

APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

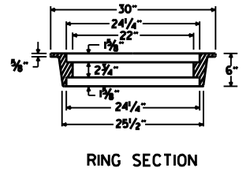
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



COVER FACE

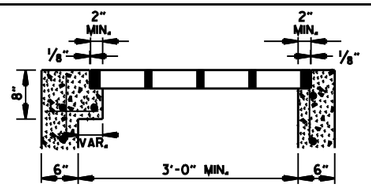
COVER SECTION



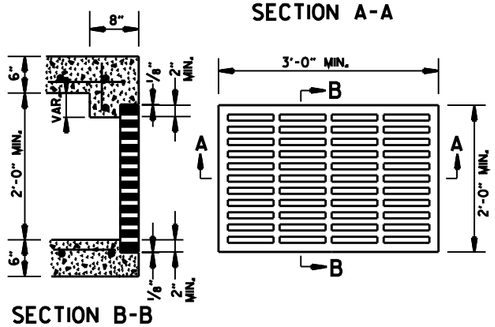
RING SECTION

APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



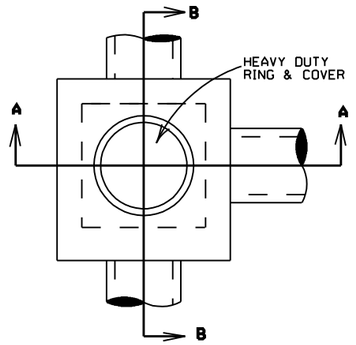
SECTION A-A



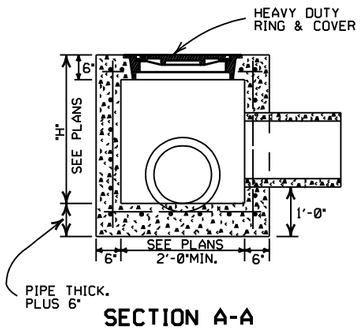
SECTION B-B

APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET

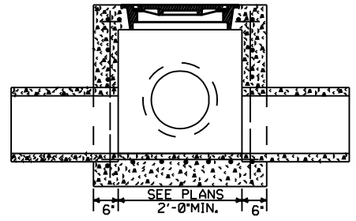


PLAN



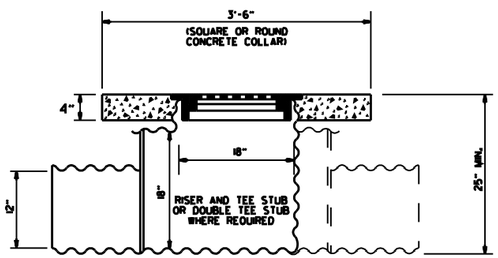
SECTION A-A

NOTE: REINF. BARS TO BE #4 BARS ON 6" CTRS. WITH 1½" MIN. COVER. THIS TYPE JUNCTION BOX TO BE USED WHERE NOT SUBJECTED TO TRAFFIC.

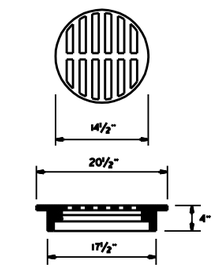


SECTION B-B

JUNCTION BOX (TYPE E)



NOTE: CONCRETE COLLAR TO BE CAST IN PLACE. 12" PIPE CULVERTS TO BE MEASURED AND PAID FOR AS " 12" SIDE DRAIN ".



USE NEENAH R-5901-C OR EQUIVALENT BICYCLE SAFE FRAME AND GRATE

DETAIL OF YARD DRAIN

GENERAL NOTES:

1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

STANDARD DRAWING FPC-9

4'-0" LENGTH DROP INLET

PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. CU. YDS.	HEIGHT 5'-0" REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22
24"	2'-6"	1.79	156	0.28	22
30"	3'-2"	2.39	205	0.30	26
36"	3'-8"	2.63	236	0.32	28
42"	4'-4"	2.95	250	0.34	30
48"	4'-10"	3.21	265	0.36	32

NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

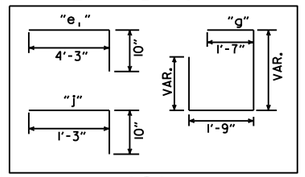
DROP INLET EXTENSION

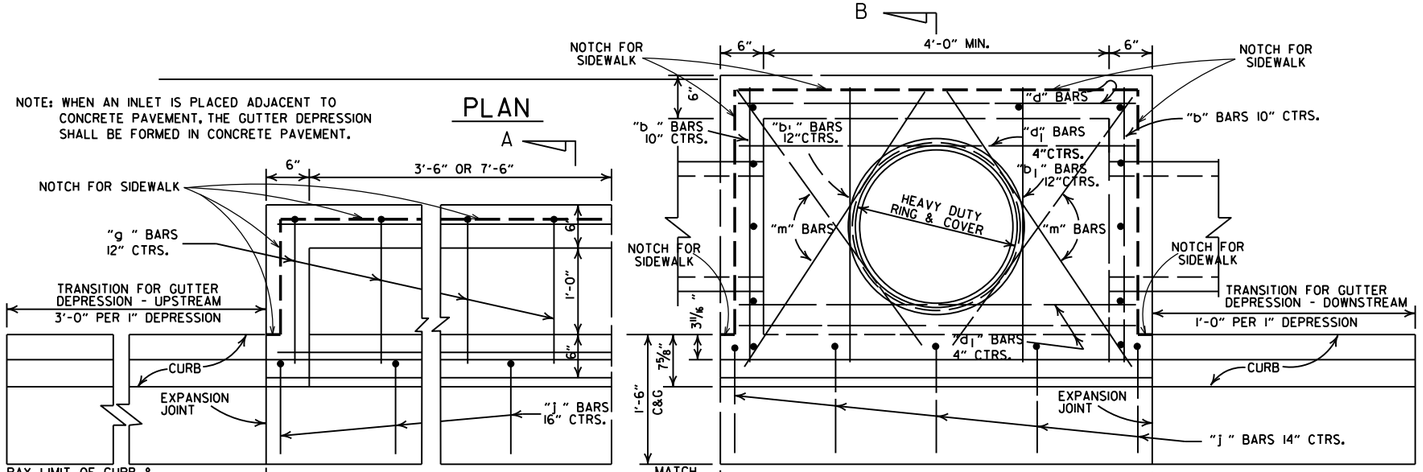
4'-0" CLASS A CONC. CU. YDS.	4'-0" REINF. STEEL POUNDS	8'-0" CLASS A CONC. CU. YDS.	8'-0" REINF. STEEL POUNDS
0.58	38	0.87	72
DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
0.04	3		

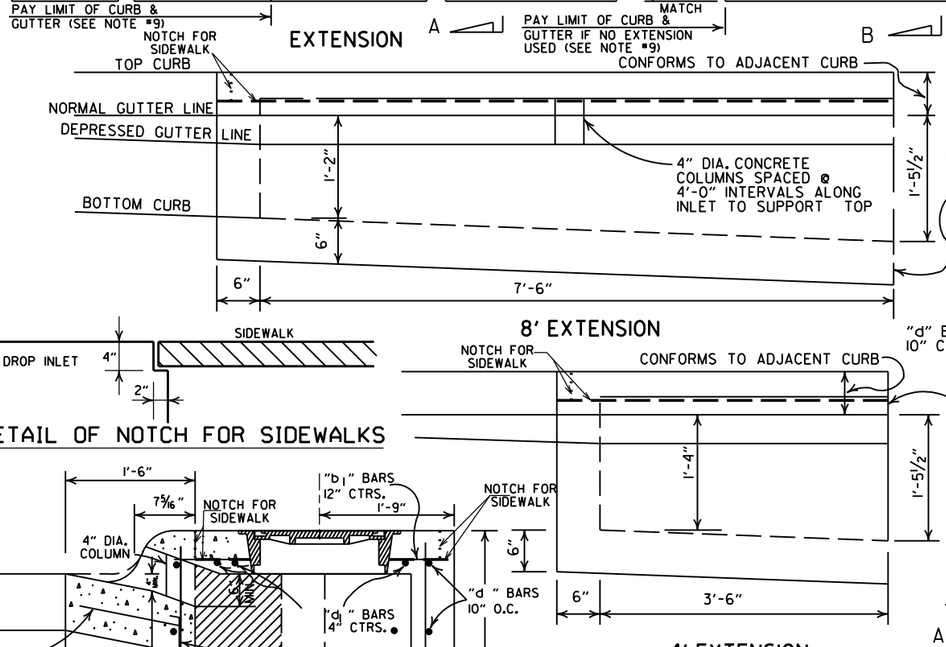
DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET

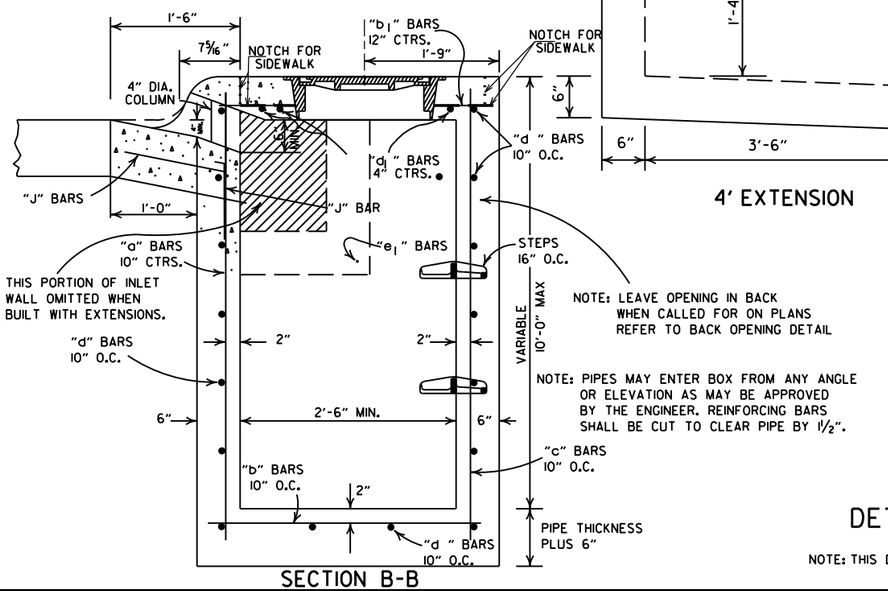
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

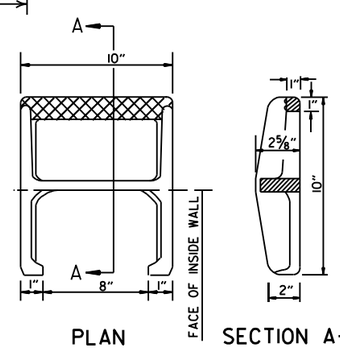
BAR DIAMETER

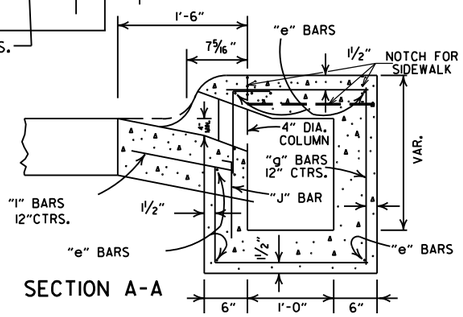


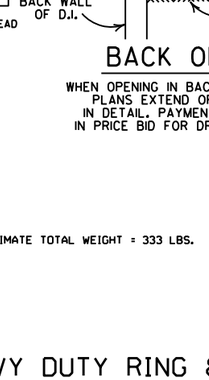






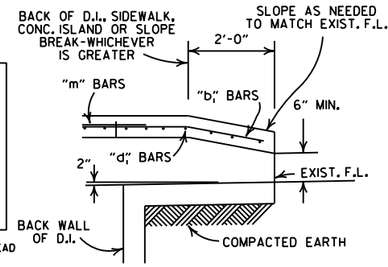






APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER



BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (FPC-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"×2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS (TYPE C)

STANDARD DRAWING FPC-9E

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅜	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

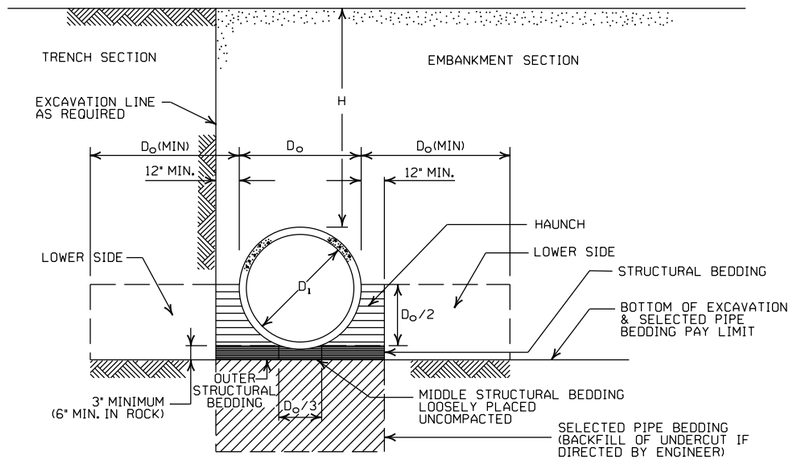
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_O = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
▨ = UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

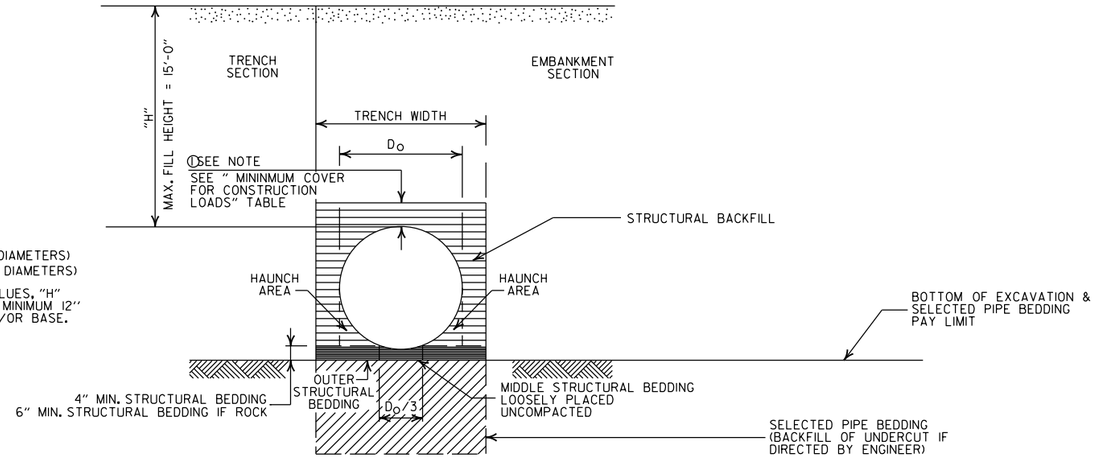
PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)
MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

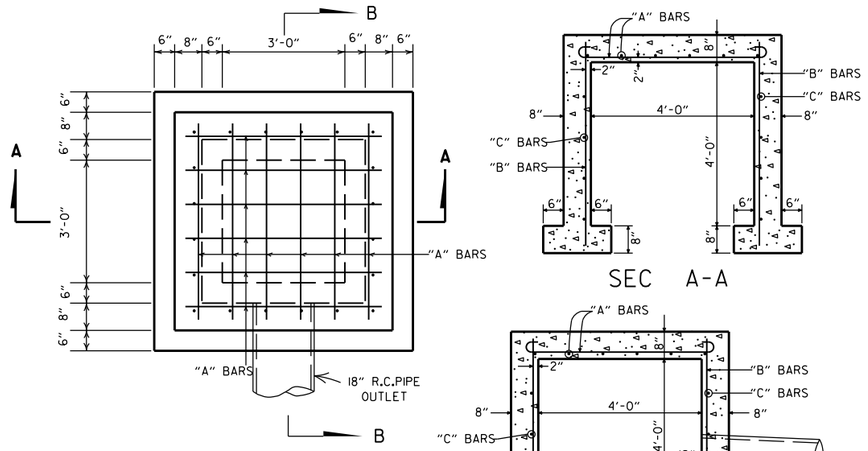
= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

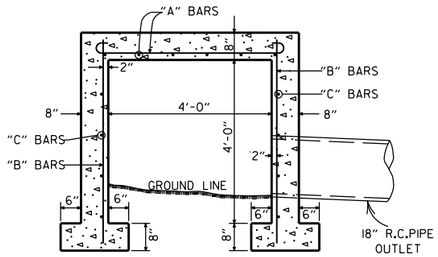
ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1



SEC A-A



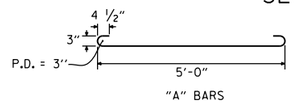
SEC B-B

NOTE: MAX FILL HEIGHT ABOVE TOP OF BOX = 13'-0".

STEEL SCHEDULE

BARS	NUMBER	LENGTH	SPACING
"A"	12	6'-0"	10"
"B"	20	5'-0"	10 ½"
"C"	16	5'-0"	12"

ALL STEEL TO BE #4 BARS



"A" BARS

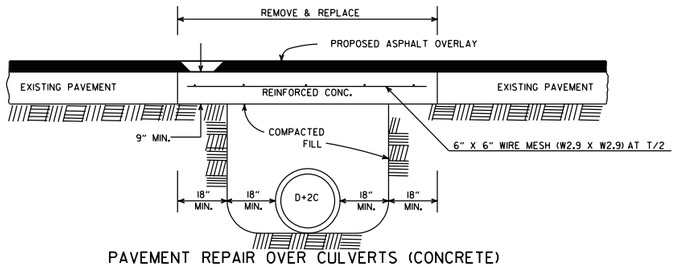
QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

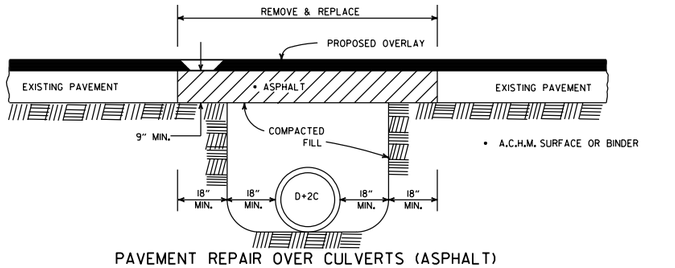
GENERAL NOTE:

THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX



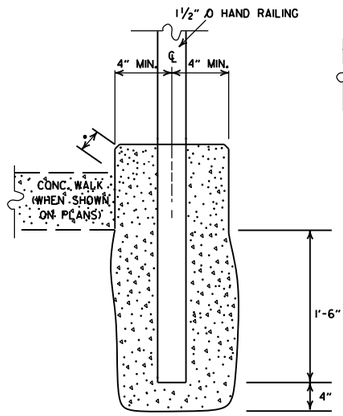
PAVEMENT REPAIR OVER CULVERTS (CONCRETE)



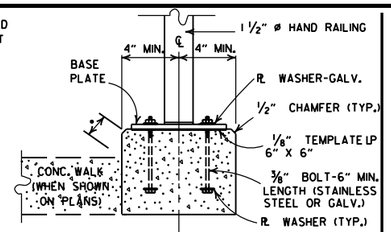
PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

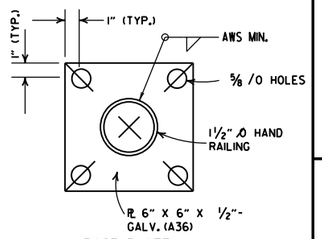
• A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

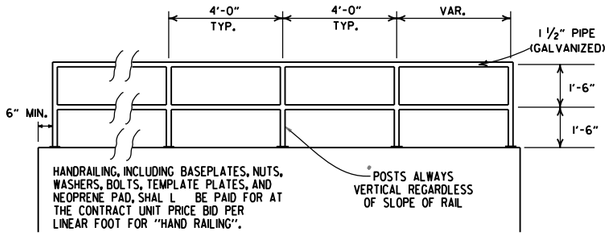


POST CONNECTION TO WALL

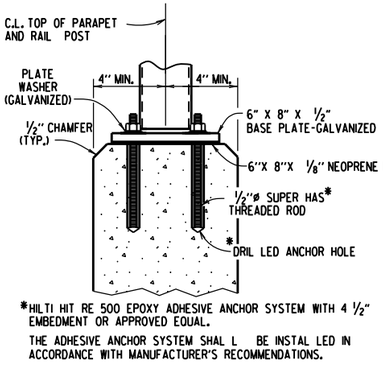


BASE PLATE

POST CONNECTION DETAILS



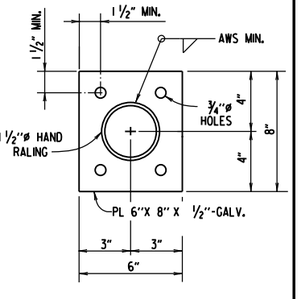
HAND RAILING SHALL CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 ½" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

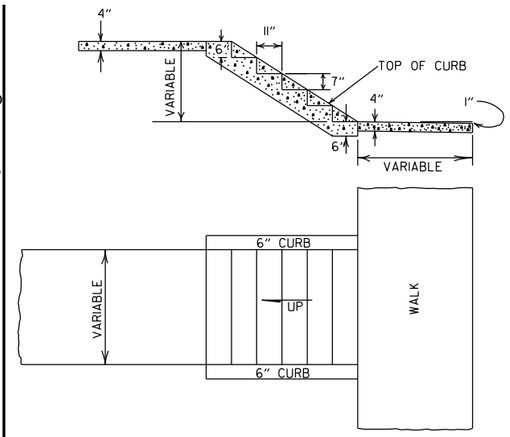
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

1. RISE AND TREAD DIMENSIONS OF STEPS MAY BE VARIED AS DIRECTED BY THE ENGINEER, HOWEVER, TREAD WIDTHS SHALL BE 11" MIN. ALL STEPS IN A FLIGHT SHALL HAVE CONSISTENT TREAD & RISER DIMENSIONS.
2. 1" TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE WALKS AT 45' INTERVALS.

DETAILS OF CONCRETE STEPS & WALKS

DATE	REVISION	DATE FILMED
9-12-13	REVISED REINFORCED CONCRETE SPRING BOX	
7-26-12	REMOVED RETAINING WALL DETAILS & REVISED HAND RAILING DETAILS	
4-17-08	REV. JOINT & FOOTING STEP DETAILS	
11-29-07	REVISED RETAINING WALL DRAINAGE	
5-25-06	REVISED PVMT REPAIR OVER CULVERTS (CONC); REVISED REINFORCED CONC SPRING BOX	
10-9-03	REVISED PIPE RAILING DETAILS TO HAND RAILING DETAILS	
4-10-03	REVISED RETAINING WALL DRAWING	
8-22-02	ADDED HAND RAILING DETAIL	
11-16-01	REVISED PVMT REPAIR OVER CULVERTS (CONC); CORRECTED SPELLING IN GENERAL NOTES	
11-18-98	ADDED GENERAL NOTES TO CONCRETE STEPS & WALKS	
7-02-98	ENLARGED PIPE	
4-03-97	ADDED NOTE TO STEEL BAR SCHED.	
10-18-96	CORRECTED SPELLING	
4-26-94	ADD WEEP HOLE;REV. JOINT SPACING IN RET. WALL	
6-2-94	CHANGED CONST. TO CONTRACTION JOINT	
10-1-92	CHANGED MESH FABRIC TO WIRE MESH	10-1-92
8-15-91	DELETED HDWL MODIFICATION DETAIL	8-15-91
11-8-90	DELETED COLD MIX FROM CULV'T. REPAIR	11-8-90
11-30-89	REV. RETAINING WALL STEEL SCHEDULE	11-30-89
11-17-88	V. BARS BEHIND ARROW	665-11-17-88
7-15-88	REV. PAVEMENT REPAIR ADDED HDWL. MODS, DEL. PIPE UNDERDRAINS	649-7-15-88
11-1-84	REV. TRENCH FOR PIPE UNDERDRAIN	510-11-1-84
1-4-83	ELIMINATED CONC. CLASS & ADDED CHAMFER NOTE	682-1-4-83
3-2-81	SPELLING OF "UNDERDRAIN"	721-3-2-81
4-20-79	REV. UNDERDRAIN DET& PAVEMENT REPAIR	674-4-20-79
2-2-76	12"MIN. GRAN. MAT'L. OVER PIPE	919-2-2-76
4-10-75	REM. SPECS. FOR GRAN. MAT'L.	568-4-10-75-853
5-22-74	GRANULAR MAT'L. TO BE SB-3	567-5-22-74-740
10-2-72	REVISED AND REDRAWN	564-10-16-72

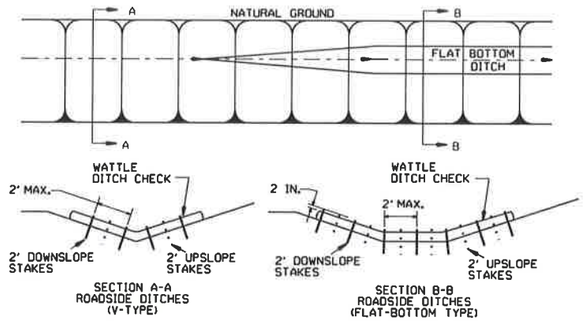
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF SPECIAL ITEMS

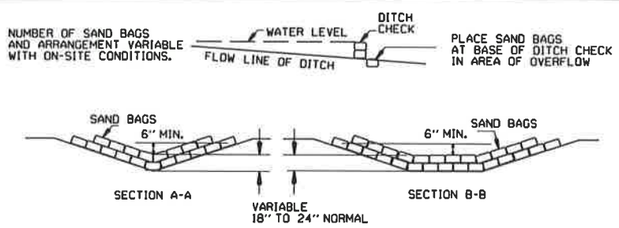
STANDARD DRAWING SI - 1

GENERAL NOTES

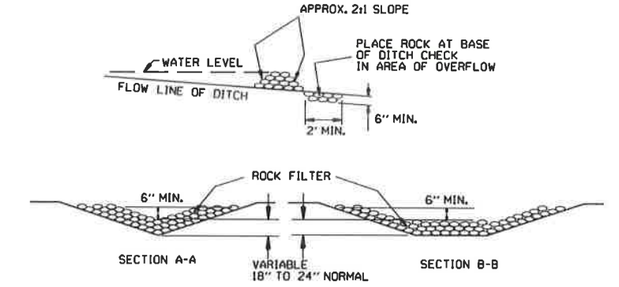
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

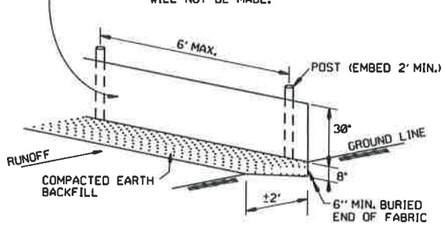


ROCK DITCH CHECK (E-6)

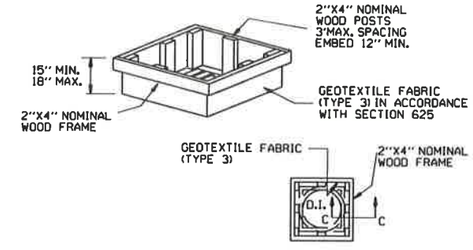
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

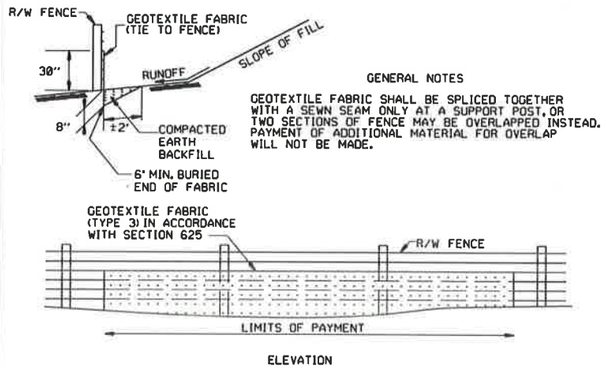
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



SILT FENCE (E-11)



DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

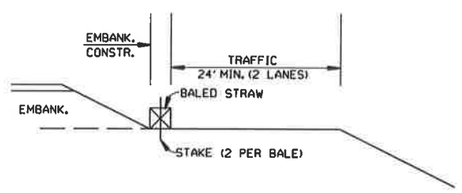
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

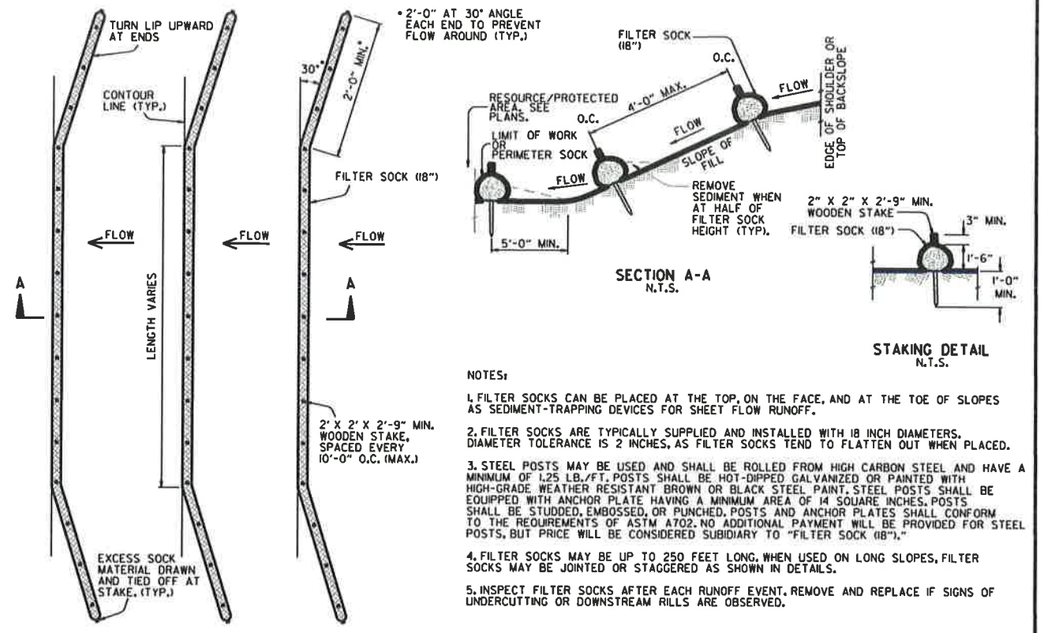
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

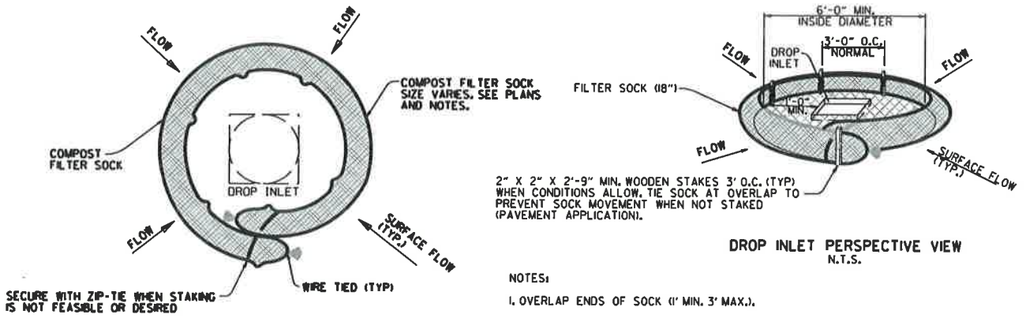
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

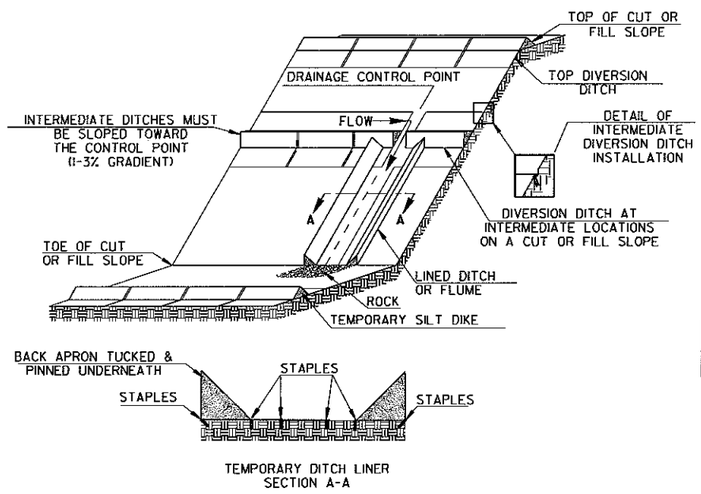
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

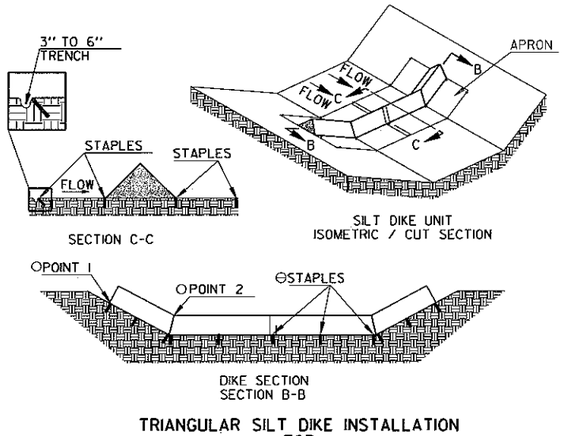
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



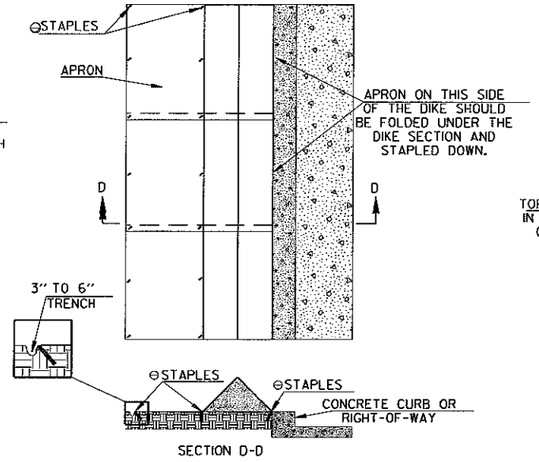
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



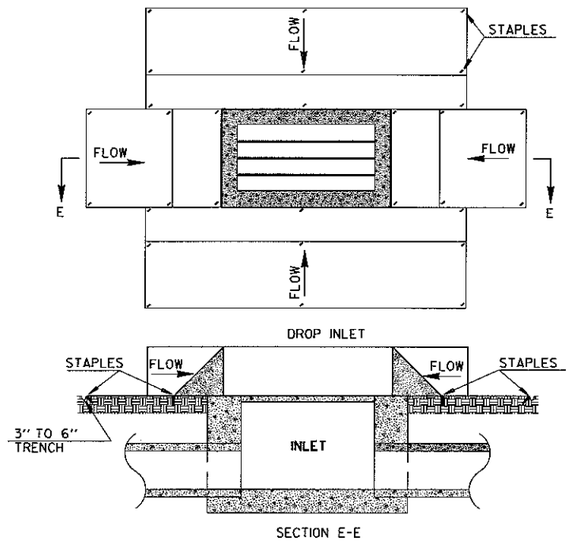
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

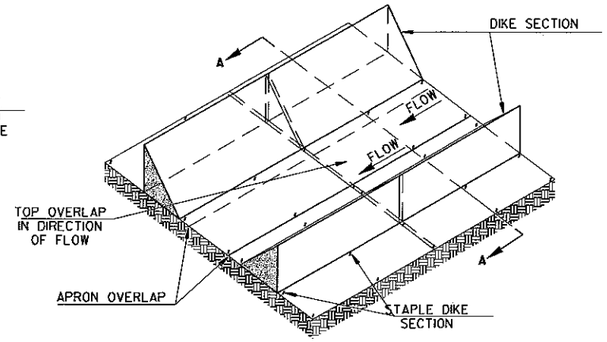
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

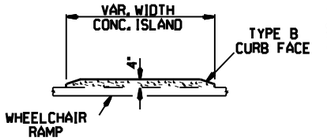
NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

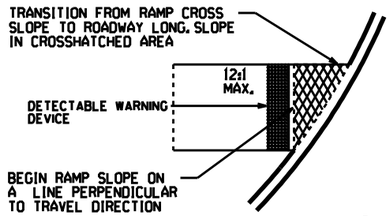
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



CONCRETE ISLAND DETAIL



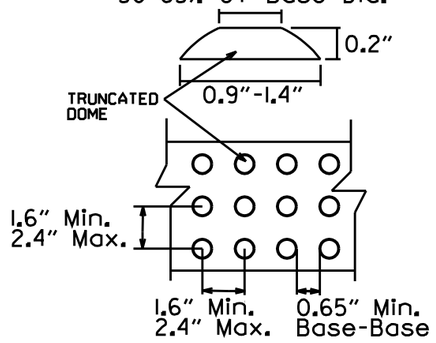
SLOPE TRANSITION DETAILS

TYPE 1 RAMP DIMENSIONS AND QUANTITIES

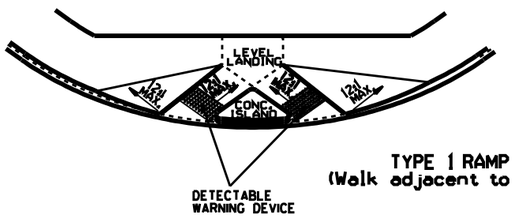
RADIUS "R" FEET	DISTANCE "X" FEET	DISTANCE "Y" FEET	LENGTH "L" FEET	RAMP AREA "A" SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80

GENERAL NOTES FOR DETECTABLE WARNING DEVICES

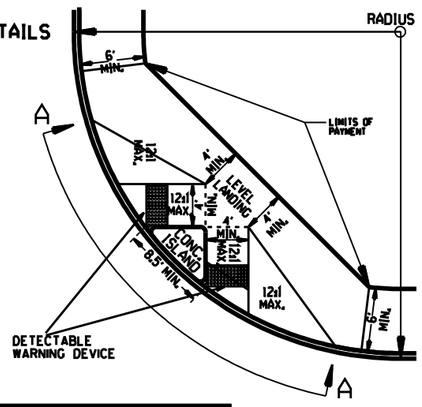
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.
TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.
DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.
DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

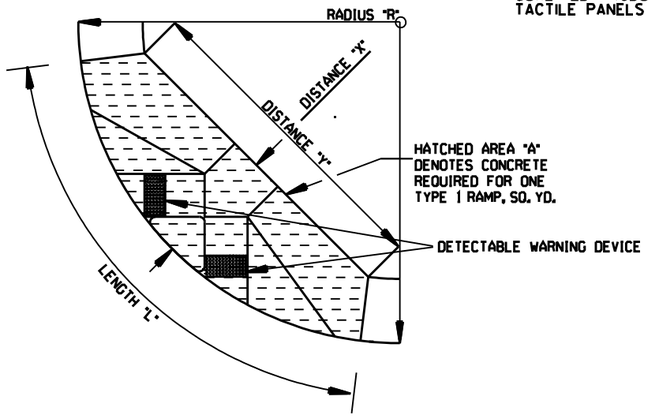


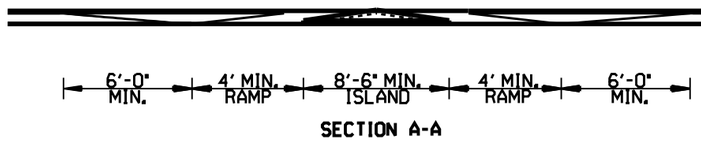
DETECTABLE WARNING DEVICE DETAIL



TYPE 1 RAMP
(Walk adjacent to curb)



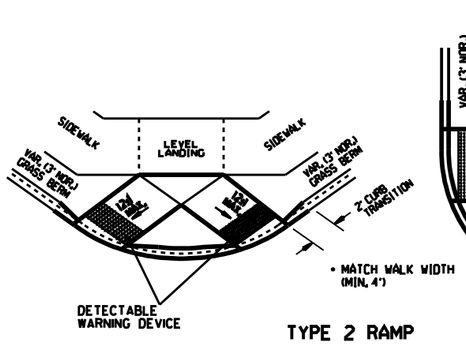




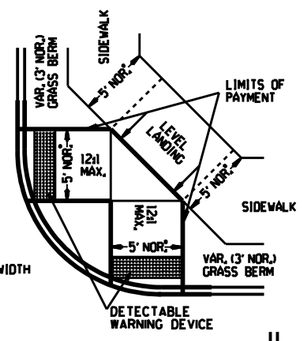
SECTION A-A

GENERAL NOTES:

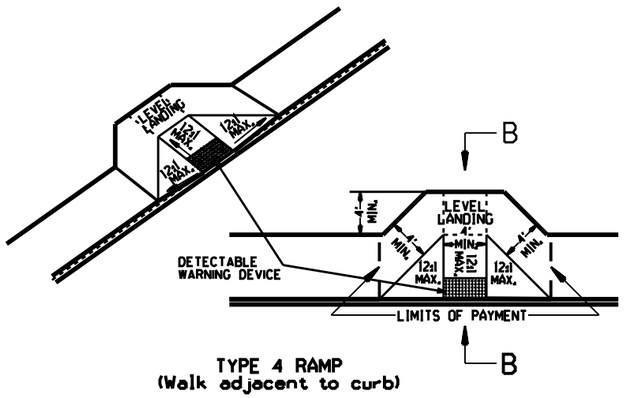
IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".
THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.



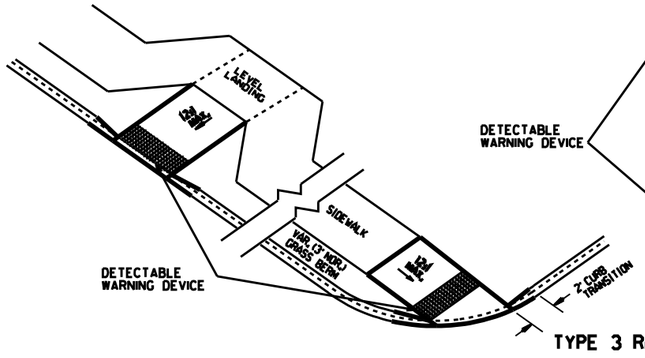
TYPE 2 RAMP

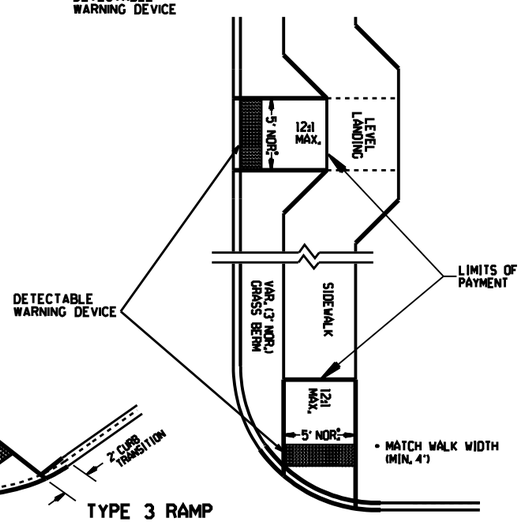


NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGTITUDINAL GRADE.

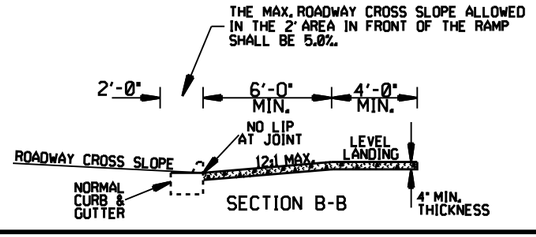


TYPE 4 RAMP
(Walk adjacent to curb)





TYPE 3 RAMP



SECTION B-B

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD. SLOPE TRANS. & REV. ISL. DIMS.	
11-18-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD. "CONC. ISLD." IN PAY ITEM	------
6-02-76	ISSUED-P.M.D.	299-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS

STANDARD DRAWING WR-1

New Facility For:
Elite Voleyball
NE Lot of Vernia
Bryant, AR 72022

STORM WATER MAINTENANCE PLAN

The NE Lot of Vernia owner will be responsible for the inspection and maintenance of the stormwater detention pond located on its.

Inspections are to be scheduled as directed in this document. All documentation on scheduled inspections, dates of inspections, and maintenance completed shall be retained by the NE Lot of Vernia owner for a period of three years.

DETENTION PIPES

Annual Maintenance (as applicable):

[ ] Check pipes for sediment in-fill, clean when necessary

[ ] Check outlets for clogging with trash or dead vegetation, clean when necessary

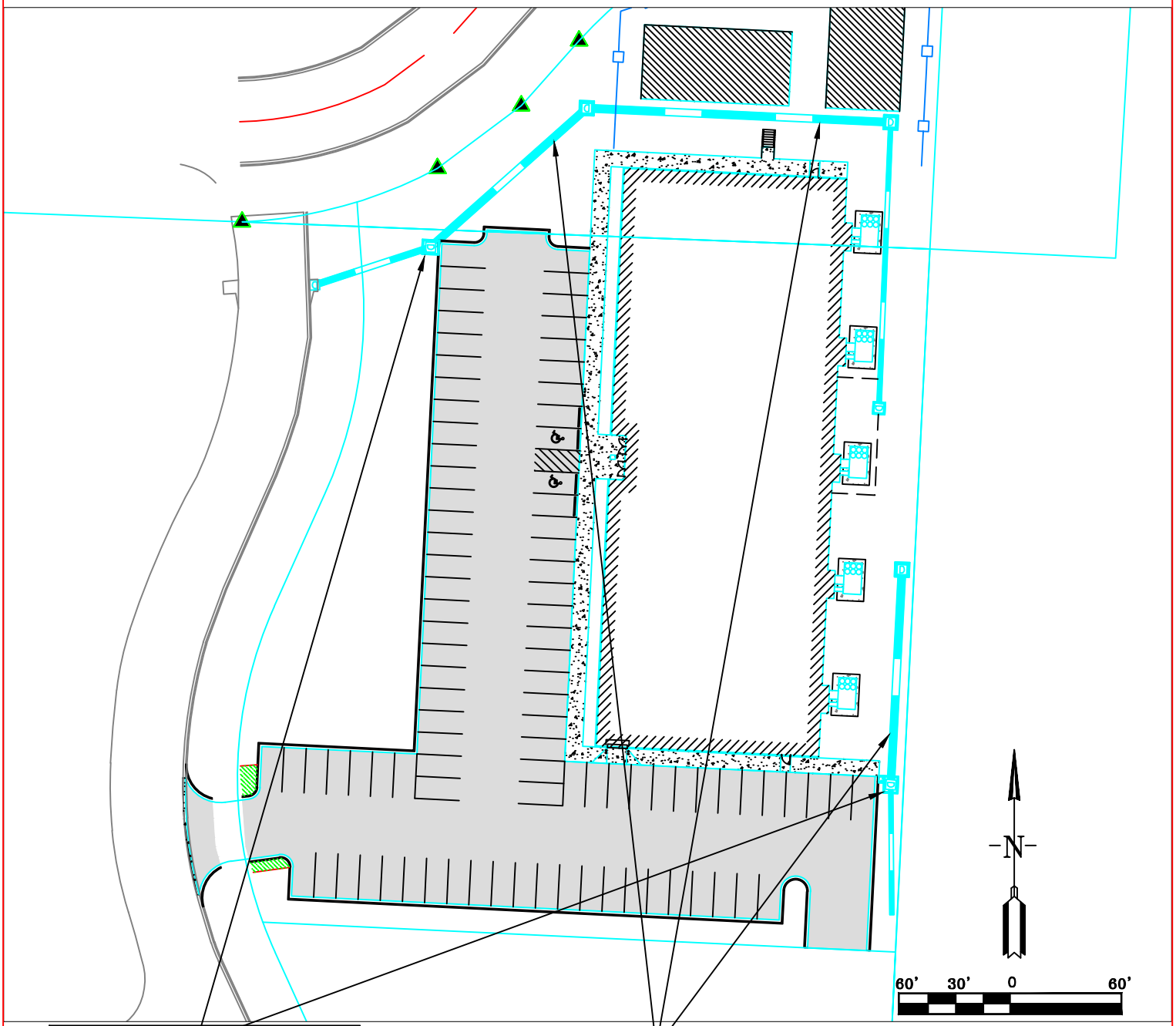
John Eckart
EVA Real Estate

3/17/2023
Date

INSPECTION REPORT

DATE: / /

ELITE VOLLEYBALL ACADEMY



OUTLET

DETENTION PIPE

COMMENT

SITE WITH AUTOMATIC COVERAGE (LESS THAN 5 ACRES) CONSTRUCTION SITE NOTICE

FOR THE
Arkansas Department of Environmental Quality (ADEQ)
Storm Water Program

NPDES GENERAL PERMIT NO. ARR150000

The following information is posted in compliance with **Part I.B.8.A** of the ADEQ General Permit Number **ARR150000** for discharges of stormwater runoff from sites with automatic coverage. Additional information regarding the ADEQ stormwater program may be found on the internet at:

www.adeq.state.ar.us/water/branch_npdes/stormwater

Permit Number	ARR150000
Contact Name: Phone Number:	John Eckart (786) 256-0080
Project Description (Name, Location, etc.): Start Date: End Date: Total Acres:	Elite Volleyball Academy Gym Alexander, AR 72002 2.13
Location of Stormwater Pollution Prevention Plan:	Mailbox on Site

For Construction Sites Authorized under **Part I.B.6.A** (Automatic Coverage) the following certification must be completed:

I _____ (Typed or Printed Name of Person Completing this Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part I.B.2. of the ADEQ General Permit Number ARR150000. A stormwater pollution prevention plan has been developed and implemented according to the requirements contained in Part II.A.2.B & D of the permit. I am aware there are significant penalties for providing false information or for conducted unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Signature and Title Date

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

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

Prepared for:

Elite Volleyball Academy Gym
For John Eckert

Date:

03/17/2023

Prepared by:

GarNat Engineering, LLC

Revised date: 10/20/2016

Table of Contents
Elite Volleyball Academy Gym
Alexander, Arkansas 72002

SWPPP for Construction Activity for Small Construction Sites

Appendix A- ARR150000 Inspection Form

SWPPP Figures

Elite Volleyball Academy Gym Erosion Control Plan

AHTD Standard Drawings:

TEC-1 – Temporary Erosion Control Devices

TEC-4 – Temporary Erosion Control Devices

NPDES ARR150000

Project Name and Location: Elite Volleyball Academy Gym, 1601 Christy Lane, Alexander, Arkansas 72002

Property Parcel Number (*Optional*): _____

Operator Name and Address: _____

A. Site Description

a. Project description, intended use after NOI is filed: Development of a Volleyball Gym

b. Sequence of major activities which disturb soils: Earthwork, Drainage Structures, Utilities

c. Total Area: 2.13 Ac Disturbed Area: 2.13 Ac

B. Responsible Parties

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

Individual/Company	Phone Number	Service Provided for SWPPP (i.e., Inspector, SWPPP revisions, Stabilization Activities, BMP Maintenance, etc.)
John Eckart	786-256-0080	

C. Receiving Waters

a. The following waterbody (or waterbodies) receives stormwater from this construction site: Unnamed tributaries of Owen Creek

b. Is the project located within the jurisdiction of an MS4? ☒ Yes ☐ No

i. If yes, Name of MS4: Bryant

c. Ultimate Receiving Water:

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

D. Site Map Requirements (Attach Site Map):

a. Pre-construction topographic view;

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

E. Stormwater Controls

a. Initial Site Stabilization, Erosion and Sediment Controls, and Best Management Practices:

i. Initial Site Stabilization: Prior to starting clearing activities, the BMP's shown on the Erosion Control Plan will be installed.

ii. Erosion and Sediment Controls: Erosion and sediment controls are shown on the erosion control plan. They will be constructed per AHTD standard details

iii. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the operator will replace or modify the control for site situations: ☒ Yes ☐ No

If No, explain: _____

_____

iv. Off-site accumulations of sediment will be removed at a frequency sufficient to minimize off-site impacts: ☒ Yes ☐ No

If No, explain: _____

_____

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

If No, explain: _____

_____

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

If No, explain: _____

_____

vii. Off-site material storage areas used solely by the permitted project are being covered by this SWPPP: [ ] Yes [X] No (there are no such sites)

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

_____

b. Stabilization Practices

i. Description and Schedule: As soon as practical, the contractor will spread topsoil and seed the disturbed area with a perennial vegetation. Vegetation will be reseeded as required to establish the 80% coverage of perennial vegetation.

ii. Are buffer areas required? [ ] Yes [X] No

If Yes, are buffer areas being used? [ ] Yes [ ] No

If No, explain why not: _____

_____

If Yes, describe natural buffer areas: _____

_____

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

If No, explain: _____

_____

iv. Deadlines for stabilization:

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

c. Structural Practices

i. Describe any structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site: BMPs shown on the erosion control plan will be used to limit sediment from leaving the site

ii. Describe Velocity Dissipation Devices: _____

iii. Sediment Basins:

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

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

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

☐ 3600 cubic feet per acre = : _____

or

☐ 10 year, 24 hour storm = : _____

☐ Other criteria were used to design basin: _____

If No, explain why no sedimentation basin was included and describe required natural buffer areas and other controls implemented instead: Not appropriate for this project.

F. Other Controls

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

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

☒ A stabilized construction entrance and exit

☐ Vehicle tire washing

☒ Other controls, describe: * see below

c. Temporary Sanitary Facilities: A portable toilet will be provided. The location is shown on the Erosion Control Plan.

* The road adjacent to the property will be swept to remove offside vehicle tracks. Disturbed areas will be watered during construction.

d. Concrete Waste Area Provided:
☒ Yes
☐ No. Concrete is used on the site, but no concrete washout is provided.
Explain why: _____
_____
☐ N/A, no concrete will be used with this project

e. Fuel Storage Areas, Hazardous Waste Storage, and Truck Wash Areas: _____
_____

G. Non-Stormwater Discharges

a. The following allowable non-stormwater discharges comingled with stormwater are present or anticipated at the site:
☒ Fire-fighting activities;
☒ Fire hydrant flushings;
☒ Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2;
☒ Potable water sources including uncontaminated waterline flushings;
☒ Landscape Irrigation;
☒ Routine external building wash down which does not use detergents or other chemicals;
☒ Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;
☒ Uncontaminated air conditioning, compressor condensate (See Part I.B.12.C of the permit);,
☒ Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.13.C of the permit);
☒ Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.13.C of the permit);

b. Describe any controls associated with non-stormwater discharges present at the site: BMP's shown on the Erosion Control plan will also be utilized to prevent sedimentation from leaving site during construction.

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

I. Inspections

a. Inspection frequency:
☒ Every 7 calendar days
or
☐ At least once every 14 calendar days and within 24 hours of the end of a storm even 0.25 inches or greater (a rain gauge must be maintained on-site)

b. Inspections:

Completed inspection forms will be kept with the SWPPP.

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

or

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

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

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

i. Winter Conditions (Part II.A.4.L.4)

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

J. Maintenance:

The following procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition will be followed: See below*

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

K. Employee Training:

The following is a description of the training plan for personnel (including contractors and subcontractors) on this project: Operators will submit proof of training to engineer. Engineer will provide additional training as required to ensure that SWPPP is properly implemented.

**Note, Formal training classes given by Universities or other third-party organizations are not required, but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

* Built up sediment will be removed from silt fencing when it has reached 1/3 of the height of the fence. Silt fences will be inspected for the depth of sediment, tears, fabric attachment to the fence posts, and to see that the fence posts are firmly in the ground. Temporary and permanent seeding will be inspected for bare spots, washouts, and healthy growth. Entrance will be inspected for sediment tracked on roads.

Certification

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

Signature of Responsible or Cognizant Official: _____

Title: _____ Date: _____

ARR150000 Inspection Form

Appendix A

Inspector Name: _____ Date of Inspection: _____

Inspector Title: _____

Date of Rainfall: _____ Duration of Rainfall: _____

Days Since Last Rain Event: _____ days Rainfall Since Last Rain Event: _____ inches

Description of any Discharges During Inspection: _____

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

_____

Locations in Need of Additional BMPs: _____

Information on Location of Construction Activities

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

Information on BMPs in Need of Maintenance

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

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

_____ _____

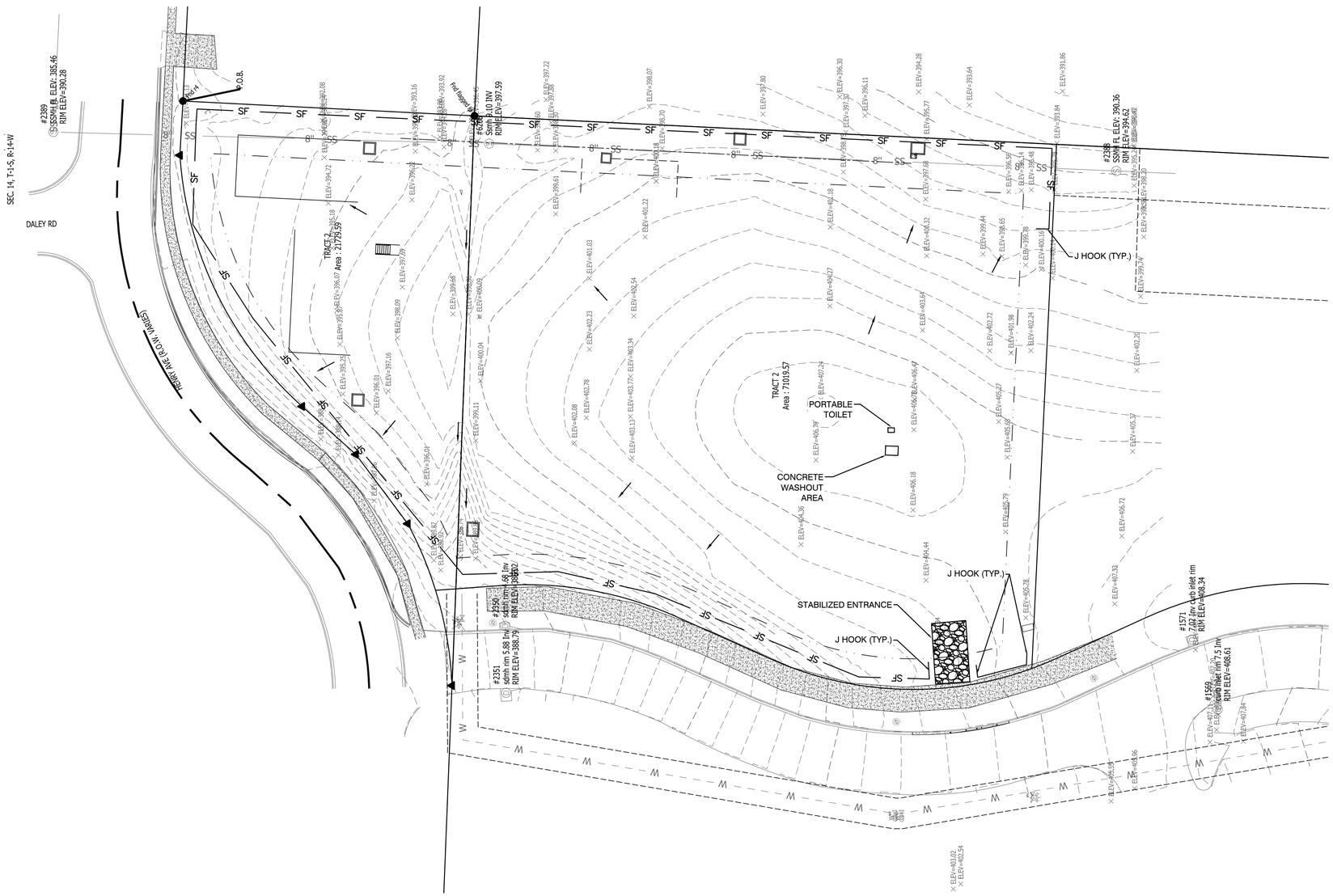
_____ _____

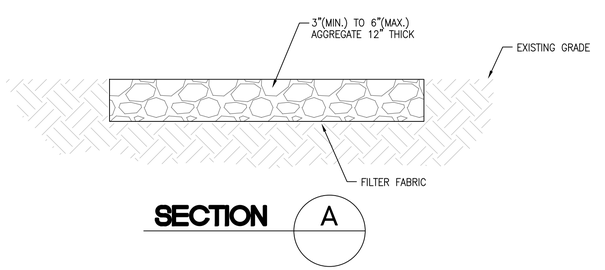
SWPPP changes completed (date): _____

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

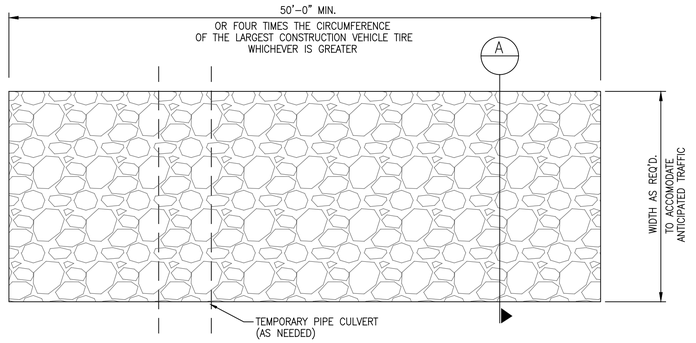
Signature of Responsible or Cognizant Official: _____ Date: _____

Title: _____





SECTION A



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

BMP NOTES:

1. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

2. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.

3. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIAL SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.

4. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.

5. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

6. IF THE ACTION OF VEHICLES TRAVELING OVER THE SITE IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF OF THE SITE.

7. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.

8. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

9. ON-SITE & OFF SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

10. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY, THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

TOTAL SITE: 2.13 ACRES (INCLUDES R-0-W)

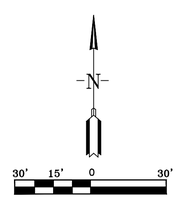
TOTAL DISTURBED AREA: 2.13 ACRES (INCLUDES R-O-W)

LEGEND:

500 EXISTING CONTOURS

DIRECTION OF OVERLAND FLOW

SF SILT FENCING



DATE	REVISION	BY

GNE Designing our client's success
GarNat Engineering, LLC
P.O. Box 116
Benton, AR 72018
3825 Mt Carmel Rd
Bryant, AR 72022
Ph (501) 408-4650
garnatengineering@gmail.com

A NEW ELITE VOLLEYBALL ACADEMY GYM FOR JOHN ECKART VERNIA OFFICE PARK 1601 CHRISTY LANE ALEXANDER, ARKANSAS 72002

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

03-10-2023

CONTENTS:

EROSION CONTROL PLAN

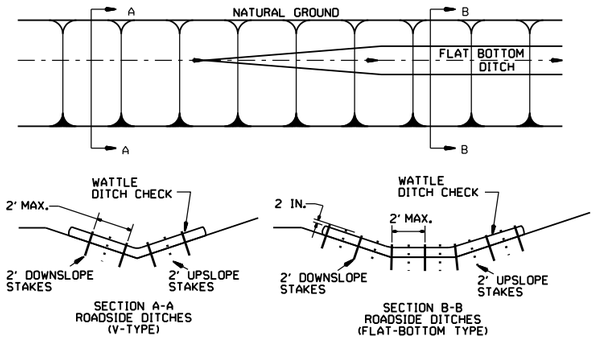
PROJECT NO: 22140

DATE: DATE

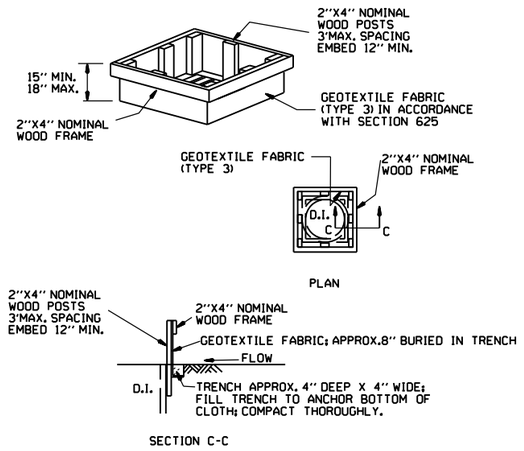
SHEET NO: C4.0

GENERAL NOTES

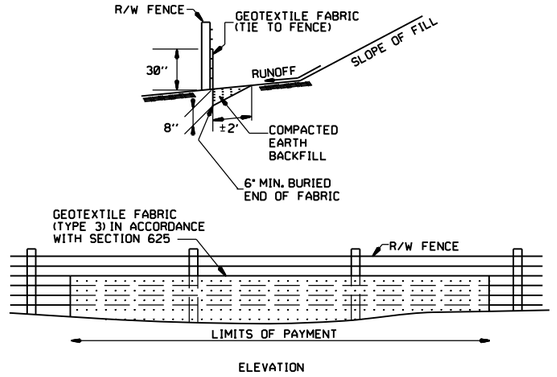
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



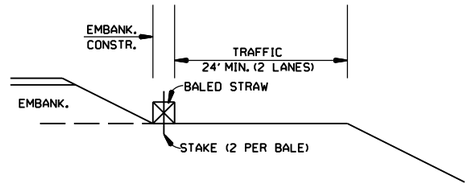
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

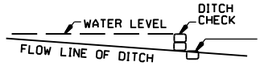
GENERAL NOTES

1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.

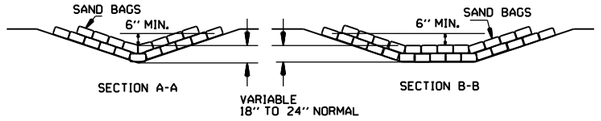


BALED STRAW FILTER BARRIER (E-2)

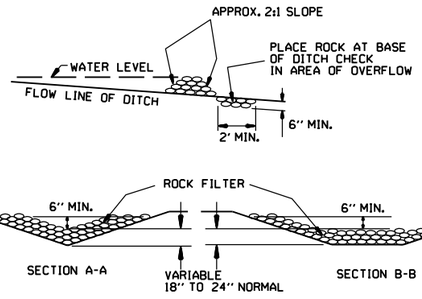
NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS.



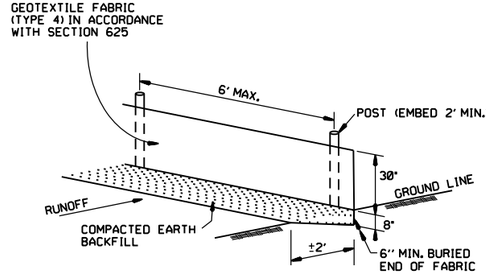
PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

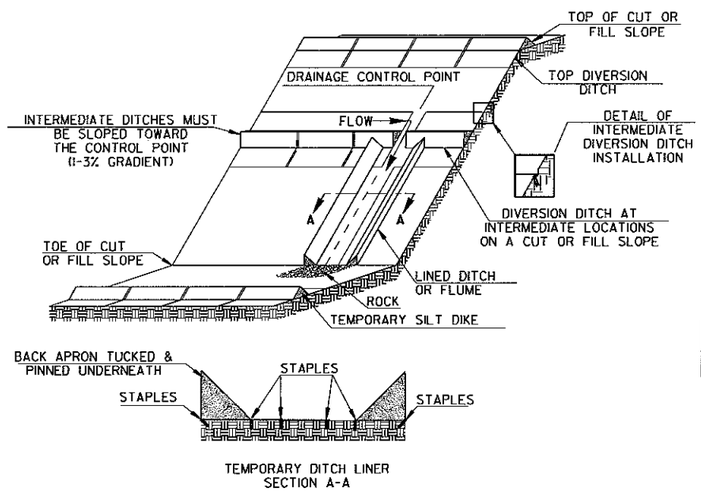
PER CITY OF BRYANT REQUIREMENTS, REQUIRES WIRED BACK FENCE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

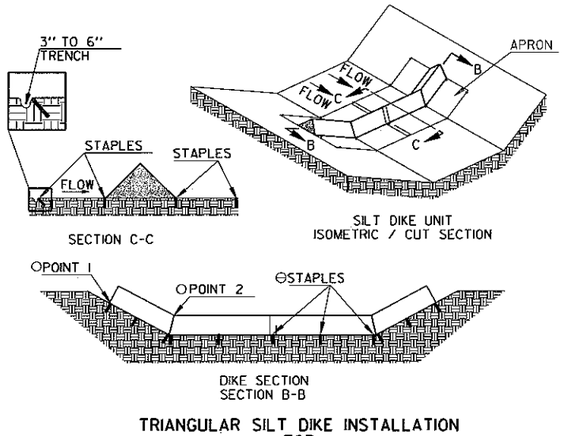
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



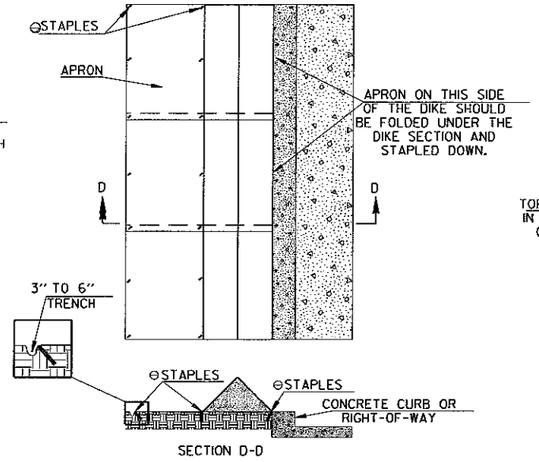
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



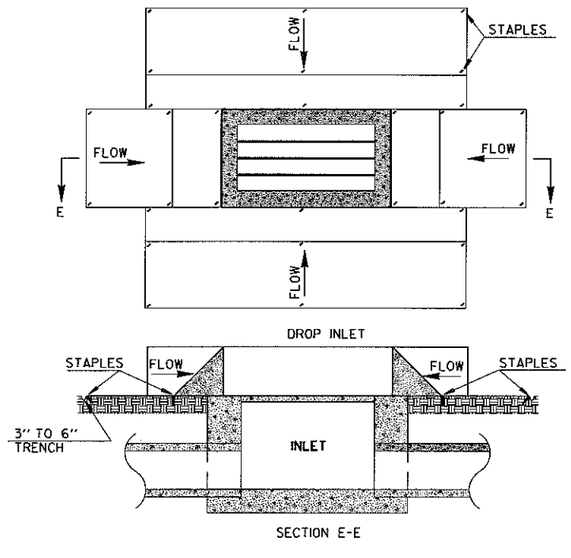
TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

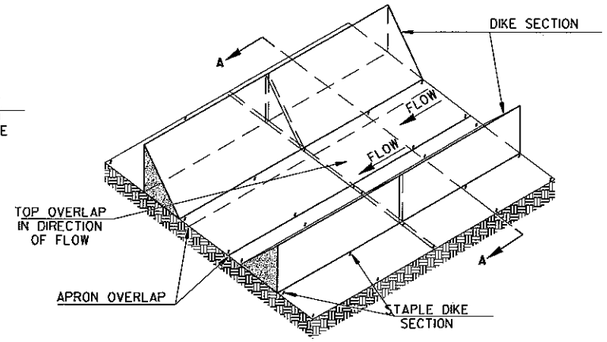
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS



TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

SYMBOLOGY
SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS

NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4

AUTHORIZATION TO DISCHARGE STORMWATER UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.), and the Clean Water Act (33 U.S.C. 1251 et seq.), an

Operator of Facilities with Stormwater Discharges Associated with Construction Activity

is authorized to discharge to all receiving waters except as stated in Part I.B.11 (Exclusions).

For large construction sites that are eligible for coverage under this General Permit (GP), the Arkansas Department of Energy and Environment - Division of Environmental Quality (DEQ), Office of Water Quality will provide a Notice of Coverage (NOC) with tracking permit number which starts with ARR15 and a copy of the permit to the facility. The cover letter includes the DEQ's determination that a facility is covered under the GP and may specify alternate requirements outlined in the permit.

Small construction sites that are eligible for coverage under this GP will be considered to have automatic coverage under this GP and must follow the permit requirements outlined in Condition 6 of Part I.

Effective Date: November 1, 2021

Expiration Date: October 31, 2026

Digitally signed by Alan J. York
DN: cn=Alan J. York, o, ou, email=alan.york@adeq.state.ar.us, c=US
Date: 2021.05.04 09:13:53 -05'00'

Alan J. York
Associate Director, Office of Water Quality
Division of Environmental Quality

05/04/2021
Issue Date

PART I
PERMIT REQUIREMENTS

Information in **Part I** is organized as follows:

Section A: Definitions with Included Commentary
Section B: Coverage Under this Permit:

1. Permitted Area
2. Eligibility
3. Responsibilities of the Operator
4. Where to Submit
5. Requirements for Qualifying Local Program (QLP)
6. Requirements for Coverage
7. Notice of Intent (NOI) Requirements
8. Posting Notice of Coverage (NOC)
9. Applicable Federal, State or Local Requirements
10. Allowable Non-Stormwater Discharges
11. Limitations on Coverage (Exclusions)
12. Short Term Activity Authorization (STAA)
13. Effluent Limitation Guidelines (ELG)
14. Natural Buffer Zones
15. Waivers from Permit Coverage
16. Notice of Termination (NOT)
17. Responsibilities of the Operator of a Larger Common Plan of Development for a Subdivision
18. Change in Operator
19. Late Notifications
20. Failure to Notify
21. Maintenance
22. Releases in Excess of Reportable Quantities
23. Attainment of Water Quality Standards
24. Requiring an Individual Permit

SECTION A: DEFINITIONS WITH INCLUDED COMMENTARY

1. **"Arkansas Pollution Control and Ecology Commission"** shall be referred to as APC&EC throughout this permit.

2. **"Automatic Coverage"** is a term used to define the method of coverage for a small construction site.

3. **"Best Management Practices (BMPs)"** schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the State. BMPs also include treatment requirements, operating procedures, and practices to control construction site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. According to the EPA BMP manual, the use of hay-bales in concentrated flow areas is not recommended as a BMP.

4. **"Cognizant Official" is** a duly authorized representative, as defined in Part II.B.9.B.

5. **"Commencement of Construction"** is the initial disturbance of soils (or breaking ground) associated with clearing, grading, or excavating activities or other construction-related activities (e.g., stockpiling of fill material; placement of raw materials at the site).

6. **"Contaminated"** is a substance the entry of which into the MS4, waters of the State, or Waters of the United States may cause or contribute to a violation of Arkansas water quality standards.

7. **"Control Measure"** as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the State.

8. **"Construction Activity"** earth-disturbing activities, such as the clearing, grading, and excavation of land, and other construction–related activities (e.g., stockpiling of fill material; placement of raw materials at the site) that could lead to the generation of pollutants.

9. **"Construction Site"** is an area upon which one or more land disturbing construction activities occur that in total will disturb one acre or more of land, including areas that are part of a larger common plan of development or sale that may be less than one acre where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan such that the total disturbed area is one acre or more.

10. **"Construction Support Activity"** a construction-related activity that specifically supports the construction activity and involves earth disturbance of pollutant-generating activities of its own, and can include, but not limited to, activities associated with concrete or asphalt batch plants, equipment staging yards, materials storage areas, excavated material disposal areas, and burrow areas.

11. **"CWA"** is the Clean Water Act or the Federal Water Pollution Control Act.

12. **"Department"** is referencing the Department of Energy and Environment.

13. **"DEQ"** or **"Division"** is referencing the Division of Environmental Quality. The Division is the governing authority for the National Pollutant Discharge Elimination System program in the state of Arkansas.

14. **"Detention Basin"** is an area where excess stormwater is stored or held temporarily and then slowly drains when water levels in the receiving channel recede. In essence, the water in a detention basin is temporarily detained until additional room becomes available in the receiving channel.

15. **"Director"** is the Director of the Division of Environmental Quality, or a designated representative.

16. **"Discharge"** is when used without qualification means the "discharge of a pollutant".

17. **"Disturbed area"** is the total area of the site where any construction activity is expected to disturb the ground surface. This includes any activity that could increase the rate of erosion, including, but not limited to, clearing, grubbing, grading, excavation, demolition activities, haul roads, and areas used for staging. Also included are stockpiles of topsoil, fill material and any other stockpiles with a potential to create additional runoff.

18. **"Drainageway"** is an open linear depression, whether constructed or natural, that functions for the collection and drainage of surface water.

19. **"Duly Authorized Representative"** is a representative of the Responsible Official meeting the requirements specified in Part II.B.9.B.

20. **"Eligible"** refers to being qualified for authorization to discharge stormwater under this general permit.

21. **"Erosion"** is the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

22. **"ERW"** Extraordinary Resource Water, in accordance with Rule 2.

23. **"ESW"** Ecologically Sensitive Waterbodies, in accordance with Rule 2.

24. **"Facility" or "Activity"** is any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

25. **"Final Stabilization"**:

A. All soil disturbing activities at the site have been completed and either of the two following criteria are met:

   1) A uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 80% or more of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or
   2) Equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

B. When background native vegetation will cover less than 100% of the ground (e.g., arid areas, beaches), the 80% coverage criteria is adjusted as follows: if the native vegetation covers 50% of the ground, 80% of 50% (0.80 x 0.50 = 0.40) would require 40% total cover for final stabilization. On a beach with no natural vegetation, no stabilization is required.

C. For individual lots in residential construction, final stabilization means that either:

   1) The homebuilder has completed final stabilization as specified above, or

2) The homebuilder has established temporary stabilization including perimeter controls for an individual lot prior to occupation of the home by the homeowner and informing the homeowner of the need for, and benefits of, final stabilization.

D. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land, staging areas for highway construction, etc.), final stabilization may be accomplished by returning the disturbed land to its pre-construction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to "waters of the State", and areas which are not being returned to their pre-construction agricultural use shall meet the final stabilization criteria in A, B**,** or C above.

26. "Grading Activities" as used in this permit are those actions that disturb the surface layer of the ground to change the contouring, surface drainage pattern, or any other slope characteristics of the land without significantly adding or removing on-site rock, soil, and other materials. This can include demolition, excavation, and filling.

27. "Impaired Water" is a waterbody listed in the current, approved Arkansas 303(d) list.

28. "Infrastructure" refers to streets, drainage, curbs, utilities, etc.

29. "Landscaping" is improving the natural beauty of a piece of land (i.e. entrance of subdivision) through plantings or altering the contours of the ground.

30. "Large Construction Site" is a construction site in which construction activity including clearing, grading and excavation. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or greater. (Please see Part I.B.15 for partial waivers.)

31. "Larger Common Plan of Development or Sale" is a contiguous (sharing a boundary or edge; adjacent; touching) area where multiple and distinct construction activities may be taking place at different times on different schedules under one plan. Such a plan might consist of many small projects (e.g. a common plan of development for a residential subdivision might lay out the streets, house lots, and areas for parks, schools and commercial development that the developer plans to build or sell to others for development). All these areas would remain part of the common plan of development or sale. The following items can be used as guidance for deciding what might or might not be considered a "Common Plan of Development or Sale." The ''plan'' in a common plan of development or sale is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. The applicant shall still meet the definition of operator in order to be required to get permit coverage, regardless of the acreage that is personally disturbed.

If a smaller project (i.e., less than 1 acre) is part of a larger common plan of development or sale (e.g., you are building a residential home on a ½ acre lot in a 40 acre subdivision or are putting in a fast food restaurant on a ¾ acre pad that is part of a 20 acre retail center), permit coverage is required.

32. "Losing Stream Segment" a stream segment which, beginning at the point of existing or proposed discharge and extending two (2) miles downstream, contribute thirty percent (30%) or more of its flow at a 7Q10 flow or one (1) cfs, whichever is greater, through natural processes such as permeable subsoil or cavernous bedrock into an aquifer.

33. "Natural Buffer" for purposes of this permit, an area of undisturbed natural cover surrounding waters of the State. Natural cover includes vegetation, exposed rock, or barren ground that exists prior to commencement of construction activities

at the site.

34. **"NOC"** Notice of Coverage.

35. **"NOI"** Notice of Intent to be covered by this permit.

36. **"NOT"** Notice of Termination.

37. **"NSW"** Natural and Scenic Waterways, in accordance with Rule 2.

38. **"Operator"/"Permittee"** for the purpose of this permit and in the context of stormwater associated with construction activity, means any person(s),an individual, association, partnership, corporation, municipality, state or federal agency, associated with a construction project that has financial and operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; additionally, the Division may require any person(s), an individual, association, partnership, corporation, municipality, state or federal agency, associated with a construction project that has day-to-day operational control of those activities at a project that are necessary to ensure compliance with the permit conditions can be named as a co-permittee.

In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline or a landowner who allows a mining company to remove dirt, shale, clay, sand, gravel, etc. from a portion of his property). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g., having a house built by a residential homebuilder).

39. **"Outfall"** a point source where stormwater leaves the construction site.

40. **"Owner"** refers to the owner or operator of any "facility or activity" subject to regulation under the NPDES program. In addition, for purposes of this permit and determining who is an operator, ''owner'' refers to the party that owns the structure being built. Ownership of the land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline). Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after construction, the would-be owner may not be considered an operator (e.g. having a house built by a residential homebuilder).

41. **"Physically Interconnected"** means that one municipal separate storm sewer system is connected to a second municipal separate storm sewer system in such a way that it allows for direct discharges into the second system.

42. **"Point Source"** is any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

43. **"Qualified Local Program"** is a municipal program for stormwater discharges associated with construction sites that has been formally approved by DEQ.

44. **"Qualified personnel"** a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the

construction activity.

45. **"Regulated Small Municipal Separate Storm Sewer System"** are all municipal separate storm sewer systems that are either:

A. Located within the boundaries of an "urbanized area" with a population of 50,000 or more as determined by the latest Decennial Census by the Bureau of Census; or
B. Owned or operated by a municipality other than those described in paragraph A and that serve a jurisdiction with a population of at least 10,000 and a population density of at least 1,000 people per square mile; or
C. Owned or operated by a municipality other than those described in paragraphs A and B and that contributes substantially to the pollutant loadings of a "physically interconnected" municipal separate storm sewer system.

46. **"Responsible Official"** is the authorized representative, as defined in Part II.B.9.A.

47. **"Retention Basin"** a basin that is designed to hold the stormwater from a rain event and allow the water to infiltrate through the bottom of the basin. A retention basin also stores stormwater, but the storage of the stormwater would be on a more permanent basis. In fact, water often remains in a retention basin indefinitely, with the exception of the volume lost to evaporation and the volume absorbed into the soils. This differs greatly from a detention basin, which typically drains after the peak of the storm flow has passed, sometimes while it is still raining.

48. **"Runoff Coefficient"** is the fraction of total rainfall that will appear at the conveyance as runoff.

49. **"Sediment"** is material that settles to the bottom of a liquid.

50. **"Sediment Basin"** is a basin that is designed to maintain a 10 year-24 hour storm event for a minimum of 24-hours in order to allow sediment to settle out of the water.

51. **"Small Construction Site"** is a construction site in which construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

52. **"Stormwater"** is stormwater runoff from rainfall, snow melt runoff, and surface runoff and drainage.

53. **"Stormwater Discharge Associated with Construction Activity"** refers to the discharge of runoff from any conveyance which is used for collecting and conveying stormwater and which is directly related to construction activity.

54. **"Stormwater Pollution Prevention Plan (SWPPP or SWP3)"** is a plan that includes site map(s), an identification of construction/contractor, activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants.

55. **"Temporary Sediment Controls"** are controls that are installed to control sediment runoff from the site during construction activity. These could be silt fencing, rock check dams, etc.

56. **"Total Maximum Daily Load" or "TMDL"** is the sum of the individual wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources and natural background. If the receiving water has only one point

source discharger, the TMDL is the sum of that point source WLA plus the LAs for any non-point sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of mass per time, toxicity, or other appropriate measure.

57. "Uncontaminated" means that the water will not exceed the water quality standards as set forth in APC&EC Rule 2; also not containing a harmful quantity of any substance.

58. "Urbanized Area" means the areas of urban population density delineated by the Bureau of the Census for statistical purposes and generally consisting of the land area comprising one or more central place(s) and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile as determined by the latest Decennial Census by the Bureau of Census.

59. "Waters of the State" waters of the State means all streams, lakes, marshes, ponds, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private, which are contained within, flow through, or border upon this state or any portion of the state.

SECTION B: COVERAGE UNDER THIS PERMIT

Introduction

This Construction General Permit (CGP) authorizes stormwater discharges from large and small construction activities that result in a total land disturbance of equal to or greater than one acre or less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one acre. This permit also authorizes stormwater discharges from any other construction activity designated by DEQ where DEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the State. This permit replaces the permit issued in 2016. The goal of this permit is to minimize the discharge of stormwater pollutants from construction activity into waters of the State. The operator shall read and understand the conditions of the permit. A copy of the CGP is available on the DEQ web site at https://www.adeq.state.ar.us/water/permits/npdes/stormwater/. A hard copy may be obtained by contacting the DEQ's General Permits Section at (501) 682-0623.

1. **Permitted Area.** If a large or small construction activity is located within the State of Arkansas, the operator may be eligible to obtain coverage under this permit.

2. **Eligibility.** Permit eligibility is limited to discharges from "large" and "small" construction activity, or as otherwise designated by DEQ. This general permit contains eligibility restrictions, as well as permit conditions and requirements. Operators shall meet the requirements of Part I.B.6.A or Part I.B.6.B to be eligible for coverage under this permit. In such cases, operators shall continue to satisfy those eligibility provisions to maintain permit authorization. If operators do not meet the requirements that are a pre-condition to eligibility, then resulting discharges constitute unpermitted discharges. By contrast, if operators are eligible for coverage under this permit and do not comply with the requirements of the general permit, they may be in violation of the general permit for otherwise eligible discharges.

   A. This general permit authorizes discharges from construction activities as defined in 40 C.F.R. §122.26(a), 40 C.F.R. §122.26(b)(14)(x), 40 C.F.R. §122.26(b)(15)(i)-(ii) and 40 C.F.R. §450.

   B. This permit also authorizes stormwater discharges from support activities (e.g., concrete or asphalt batch plants, concrete truck washout, fueling, equipment staging yards, materials storage areas, excavated material disposal areas, stockpiles of top soil, borrow areas) provided:

      1) The support activity is directly related to a specific construction site that is required to have NPDES permit coverage for discharges of stormwater associated with the construction activity;
      2) The support activity is not a commercial operation, nor does it serve multiple unrelated construction projects; and does not continue to operate beyond the completion of the construction activity at the project it supports;
      3) Pollutant discharges from support activity areas are minimized in compliance with conditions of this permit; and
      4) Discharges from the support activity areas shall be identified in a Stormwater Pollution Prevention Plan (SWPPP) stating appropriate controls and measures for the areas off the construction site.

   C. Other activities may be considered for this permit at the discretion of the Director as defined in 40 C.F.R. §122.26(b)(15)(ii).

3. **Responsibilities of the Operator.** Permittees with operational control are responsible for compliance with all applicable terms and conditions of this permit as it relates to their activities on the construction site including construction support activities off site, including protection of endangered species and implementation of BMPs and other controls required by the SWPPP. Receipt of this general permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance or regulation.

4. **Where to Submit.** The operator shall submit a complete and signed Notice of Intent (NOI) and SWPPP to DEQ through ePortal, unless the operator receives a waiver from DEQ, which can be found on the following website:

   https://eportal.adeq.state.ar.us/

   A. The operator shall submit the application fee to DEQ through ePortal (when available), submit an email requesting an invoice to be created to pay online, or mail in invoice from ePortal with a check (listing the invoice number on the check) to the follow address:

      Division of Environmental Quality
      ATTN: Fiscal
      5301 Northshore Drive
      North Little Rock, AR 72118-5317

   NOTE: Notice of Coverage (NOC) will **NOT** be issued until payment has been received by DEQ.

   B. Waivers from electronic reporting may be granted based on one of the following conditions:

      1) If the operational headquarters is physically located in a geographic area (i.e. Zip code or census tract) that is identified as under-served for broadcast internet access in the most recent report from the Federal Communications Commission;
      2) If available computer access or computer capability is limited; or
      3) If the operator is a religious community that choose not to use certain modern technologies pursuant to 40 C.F.R. §127.15(c)(1).

   C. In order to apply for a waiver from the electronic reporting, the operator must submit the required information outlined in 40 C.F.R. §127.15(b)(2).

   D. If DEQ grants a waiver approval to use a paper NOI, and operator elects to use it, the operator **must** use the approved form developed by DEQ.

5. **Requirements for Qualifying Local Program (QLP).** DEQ reviews and approves the QLPs to ensure that they meet or supersede both state and federal requirements outlined in this permit and 40 C.F.R. §122.44(s). DEQ will review the QLP at least every 5 years for recertification. If DEQ approves a QLP, then the QLP requirements shall at the minimum meet the DEQ's requirements. This includes all templates and forms. This permit may be modified to add new QLPs or modify existing QLPs at DEQ's discretion. All public notice and other applicable costs incurred by the modification of the permit for the addition or modification of a QLP will be paid by the QLP.

   If a small construction site is within the jurisdiction of a QLP, the operator of the small construction site is authorized to discharge stormwater associated with construction activity under QLP permit requirements only.

   At the time of issuance of this permit, only the City of Hot Springs is meeting the DEQ minimum requirements.

6. Requirements for Coverage.

A. *Small Construction Sites*. An operator of a small construction site will be considered to have automatic coverage under this general permit and may discharge without submitting a NOI, SWPPP or fee if the following conditions are met:

1) A completed Notice of Coverage (NOC) must be posted at the site prior to commencing construction and remain posted until final stabilization is completed;
2) A Stormwater Pollution Prevention Plan must be prepared in accordance with good engineering practice as described in Rule 6.203(B), completed prior to posting the NOC, implemented upon commencement of construction activities, and the latest copy must be maintained at the construction site;
3) All permit conditions set forth in this general permit must be followed; and
4) The operator is responsible for ensuring that the site is in compliance with any changes or updates of this general permit, by either contacting DEQ or reviewing the DEQ website:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

B. *Large Construction Sites.* An operator of a large construction site discharging under this general permit shall submit the following items at least ten (10) business days prior to the commencement of construction activities:

1) A complete NOI in accordance with the requirements of Part I.B.7 of this permit.
2) A complete SWPPP in accordance with the requirements of Part II.A of this permit.
3) An initial permit fee shall accompany the NOI under the provisions of APC&EC Rule 9. Subsequent annual fees will be billed by DEQ until the operator has requested a termination of coverage by submitting a Notice of Termination (NOT). Failure to remit the required initial permit fee shall be grounds for the Director to deny coverage under this general permit. Failure to remit the required annual fees shall be grounds for the Director to revoke coverage under this permit.

C. Modification of Permit Coverage to Include Additional Acreage. Any request to increase the total acreage of a construction site shall be accompanied by a $200 permit modification fee and an updated SWPPP. Any request to only increase the disturbed acreage without changing the total acreage shall be accompanied by an updated SWPPP. A $200 permit modification fee is not required with an increase in disturbed acreage. The operator shall submit a complete and signed Additional Acreage Request Form to DEQ through ePortal, which can be found on the following website:

https://eportal.adeq.state.ar.us/

7. Notice of Intent (NOI) Requirements.

A. *NOI Form*. Large construction site operators who intend to seek coverage for a stormwater discharge under this general permit shall submit a complete and accurate DEQ NOI form through the ePortal system (at https://eportal.adeq.state.ar.us/) at least ten (10) business days prior to the date coverage under this permit is desired, unless granted a waiver in accordance with Part I.B.4.D. The NOI form completed **must** be the current version obtained from ePortal.

If the NOI is deemed incomplete, DEQ will notify the applicant with regard to the deficiencies by a letter, email, or phone within ten (10) business days of the receipt of the NOI. If the operator does not receive a notification of deficiencies from DEQ's receipt of the NOI, the NOI is deemed complete. If the applicant does not provide DEQ with the requested deficiencies within the deadline set by DEQ, then DEQ will return the NOI, fee and SWPPP back to the

applicant.

B. *Contents of the NOI*. The NOI form contains, at a minimum, the following information:

1) Operator (Permittee) information (name, mailing address, telephone, and E-mail address)
2) Whether the operator is a federal, state, private, public, corporation, or other entity
3) Invoice mailing information (name, address, and telephone and fax numbers)
4) Project Construction site information (name, county, address, contact person, directions to the site, latitude and longitude for the entrance of the site or the endpoints for linear project (in degrees, minutes, and seconds), estimated construction start date and completion date through site final stabilization, the total project acreage and the acreage to be disturbed by the operator submitting the NOI, type of the project (subdivision, school, etc), whether the project is part of a larger common plan of development or sale.)
5) Discharge information (name of the receiving stream, ultimate receiving stream, name of municipal storm sewer system)
6) List of current permits
7) The Certification statement and signature of a qualified signatory person in accordance with 40 CFR 122.22, as adopted by reference in APC&EC Rule 6
8) The certification of the facility corporation
9) Other information (location of the SWPPP)
10) And the SIC Code.

C. *Notice of Coverage (NOC)*. Unless notified by the Director to the contrary, operators who submit a complete NOI and SWPPP in accordance with the requirements of this permit are authorized to discharge stormwater from the construction sites under the terms and conditions of this permit ten (10) business days after the date the NOI is deemed complete (which may not be the original submission date if revisions or additions were necessary) by DEQ. If the NOC has not been received by the permittee ten (10) business days after the date the NOI is deemed complete by DEQ, the NOI may be posted until the NOC is received. Upon review of the NOI and other available information, the Director may deny coverage under this permit and require submittal of an application for an individual NPDES permit.

8. Posting Notice of Coverage (NOC).

A. *Automatic Coverage Sites*. The NOC for small sites, as defined in Part I.A.51, shall be obtained from the DEQ's Stormwater website:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/ .

The NOC must be posted at the site prior to commencing construction. In addition, a copy of the latest signed and certified SWPPP must be available at the construction site in accordance with Part II.A.2.B and D prior to commencing construction.

B. *Large Sites: NOC Posting for Large Construction Sites*. The posting for large construction sites shall be obtained from DEQ only after the permittee has submitted the required NOI, permit fee and complete SWPPP to DEQ for the coverage.

C. *Linear Projects*. If the construction project is a linear construction project (e.g., pipeline, highway, etc.), the notice shall be placed in a publicly accessible location near where construction is actively underway and moved as necessary.

Please note, this permit does not provide the public with any right to trespass on a construction site for any reason, including inspection of a site; nor does this permit require that the permittee allow members of the public access to a construction site.

9. Applicable Federal, State or Local Requirements. The operator shall ensure that the stormwater controls implemented at the site are consistent with all applicable federal, state, or local requirements. Additionally, an operator who is operating under approved local erosion and sediment plans, grading plans, local stormwater permits, or stormwater management plans shall submit signed copies of the NOI to the local agency (or authority) upon the local agency's request.

10. Allowable Non-Stormwater Discharges.

A. The following non-stormwater discharges as part of the construction activity may be authorized by this permit through appropriate controls. Non-stormwater discharges shall be addressed in the stormwater pollution prevention plan and measures to minimize or eliminate non-stormwater discharge should be taken if reasonably possible.
   1) Fire-fighting activities;
   2) Fire hydrant flushings;
   3) Water used to wash vehicles and equipment (where detergents, soaps, solvents or other chemicals are not used) or to control dust in accordance with Part II.A.4.J.2;
   4) Potable water sources including uncontaminated waterline flushings;
   5) Uncontaminated landscape irrigation;
   6) Uncontaminated routine external building wash down which does not use detergents, soaps, solvents or other chemicals;
   7) Uncontaminated pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents, soaps. solvents or other chemicals are not used);
   8) Uncontaminated air conditioning compressor condensate (See Part I.B.13.C of this permit);
   9) Uncontaminated springs, excavation dewatering and uncontaminated groundwater (See Part I.B.13.C of this permit);
   10) Foundation or footing drains where flows are not contaminated with process materials such as solvents or contaminated groundwater (See Part I.B.13.C of this permit).

11. Limitations on Coverage (Exclusions). The following stormwater discharges associated with construction activity are not covered by this permit:

A. *Post Construction Discharge.* Stormwater discharges associated with construction activities that originate from the site, as well as construction support activities located off site, after construction activities have been completed, the site has undergone final stabilization, and the permit has been terminated.

B. *Discharges Mixed with Non-Stormwater.* Stormwater discharges that are mixed with sources of non-stormwater other than those identified in Part I.B.10.

C. *Discharges Covered by another Permit.* Stormwater discharges associated with construction activity that are covered under an individual or an alternative general permit may be authorized by this permit after an existing permit expires, provided the expired permit did not establish numeric effluent limitations for such discharges.

D. *Discharges into Receiving Waters with an Approved TMDL.* Discharges from a site into receiving waters for which there is an established total maximum daily load (TMDL) allocation (https://www.adeq.state.ar.us/water/planning/integrated/tmdl/) are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that is consistent with the assumptions and requirements in the EPA approved TMDL. To be eligible for coverage under this general permit, operators shall incorporate into their SWPPP all conditions applicable to their discharges necessary for consistency with the assumptions and requirements of the TMDL within the timeframes established in the TMDL. If a specific numeric allocation has been established that

applies to the project's discharges, the operator shall incorporate that allocation into its SWPPP and implement necessary steps to meet that allocation. If a numeric limit has been assigned to the facility, quarterly monitoring shall be submitted to DEQ demonstrating compliance with the assigned Waste Load Allocation established in the TMDL. Please note that DEQ will be reviewing this information. If it is determined that the project will discharge into a receiving stream with a TMDL, then DEQ may require additional BMPs.

E. *Discharges into Impaired Receiving Waters (303(d) List).* If stormwater discharges from a construction site enters the receiving water listed as impaired under Section 303(d) of the Clean Water Act (https://www.adeq.state.ar.us/water/planning/integrated/), the permittee shall incorporate into the SWPPP the additional BMPs needed to sufficiently protect water quality. Please note that DEQ will be reviewing this information. If it is determined that the project will discharge to an impaired water body, then DEQ may require additional BMPs.

F. *Discharges into an Extraordinary Resource Water (ERW), Natural and Scenic Waterway (NSW), or Ecologically Sensitive Waterbody (ESW).* Discharges from a construction site located within the watershed of any water body or waterway designated as an Outstanding Resource Water as defined in the APC&EC Rule 2.203, including ERWs, NSWs, or ESWs are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent possible exposure to precipitation and to stormwater of pollutants that could potentially impact water quality. For the purposes of this permit, the watershed of an Outstanding Resource Water will be identified by the United States Geological Survey's twelve (12) digit Hydrological Unit Code (HUC). Please note that DEQ will be reviewing this information. If the site will discharge to an ERW, NSW, or ESW, then DEQ may determine that additional requirements are necessary.

G. *Discharges into an area of the state which includes potential losing stream and/or sensitive aquatic species native to these areas.* Discharges from a construction site located within the watershed of any potential losing stream and/or sensitive aquatic species native to the area are not eligible for coverage under this permit unless the permittee develops and certifies a SWPPP that includes additional BMPs needed to prevent to the maximum extent possible exposure to precipitation and to stormwater of pollutants that could potentially impact water quality. In accordance with Part I.B.3, it is the responsibility of the permittee to prevent activity which may take or otherwise risk harm to endangered species. Please note that DEQ will be reviewing this information. If the site will discharge to an area of the state which includes potential losing stream and/or sensitive aquatic species native to these areas, then DEQ may determine that additional requirements are necessary.

12. Short Term Activity Authorization (STAA). Any work being conducted in waters of the State will require a STAA from DEQ in accordance with Rule 2.305. An STAA is necessary for any in-stream activity that has the potential to exceed the water quality standards, including, but not limited to: gravel removal, bridge or crossing repair/maintenance, bank stabilization, debris removal, culvert replacement, flood control projects, and stream relocation. Any work being conducted in Waters of the United States may require a Section 404 permit from the U.S. Army Corps of Engineers. This permit does not authorize any activity under an STAA, Individual 401 Certification, or Section 404 permit. The necessary forms to apply for coverage under an STAA or Individual 401 Certification can be found on the following website:

https://www.adeq.state.ar.us/water/planning/instream/

The SWPPP shall be updated to include a copy of the STAA letter (and Individual 401 Certification if needed) upon receipt. Re-submittal of the SWPPP is not required unless specifically requested by DEQ.

13. Effluent Limitation Guidelines (ELG). All permittees shall comply with the following effluent limits:

A. *Erosion and Sediment Controls.* Design, install, and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, such controls shall be designed, installed and maintained to:

1) Control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges;
2) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
3) Minimize the amount of soil exposed during construction activity;
4) Minimize the disturbance of steep slopes;
5) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls shall address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
6) Provide and maintain natural buffers around waters of the State, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
7) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
8) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

B. *Soil Stabilization.* Stabilization of disturbed areas must, at a minimum, be initiated immediately (unless weather conditions do not allow immediate initiation) whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding fourteen (14) calendar days. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the permitting authority. Stabilization must be completed within fourteen (14) calendar days. In limited circumstances, stabilization may not be required if the intended function of a specific area of the site necessitates that it remain disturbed.

C. *Dewatering.* Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, are prohibited unless managed by appropriate controls. There shall be no turbid discharges to waters of the State resulting from dewatering activities. If trench or ground waters contain sediment, it shall pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care shall be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

D. *Pollution Prevention Measures.* Design, install, implement, and maintain effective pollution prevention measures to minimize the discharge of pollutants. At a minimum, such measures shall be designed, installed, implemented and maintained to:

1) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters shall be treated in a sediment basin or BMP control that provides equivalent or better treatment prior to discharge;
2) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater. Minimization of exposure is not required in cases where the exposure to precipitation and to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use); and
3) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures.

E. *Prohibited discharges.* The following discharges are prohibited:

1) Wastewater from washout of concrete, unless managed by an appropriate control;
2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
3) Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; and
4) Soaps, solvents, or detergents used in vehicle, equipment washing, or external building washdown.
5) Toxic or hazardous substances from a spill or release.

F. *Surface Outlets.* When discharging from basins and impoundments, utilize outlet structures that withdraw water from the surface, unless infeasible.

14. Natural Buffer Zones. A natural buffer zone as stated below shall be maintained at all times and direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law.

A. For construction projects where construction activities or construction support activities occur, the SWPPP shall provide at least twenty-five (25) feet of natural buffer zone, as measured horizontally from the top of the bank to the disturbed area, from any waters of the State.

B. DEQ will require at least fifty (50) feet of natural buffer zone, as measured horizontally from the top of the bank to the disturbed area, from established TMDL water bodies, streams listed on the 303(d) list, an Extraordinary Resource Water (ERW), Ecologically Sensitive Waterbody (ESW), Natural and Scenic Waterway (NSW), or any other uses at the discretion of the Director.

C. Linear projects will be evaluated individually by DEQ to determine natural buffer zone setbacks.

15. Waivers from Permit Coverage. The Director may waive the otherwise applicable requirements of this general permit for stormwater discharges from construction activities under the terms and conditions described in this section.

A. *Waiver Applicability and Coverage*. Based upon 40 C.F.R. §122.26.b.15.i.A, operators of small construction activities may apply for and receive a waiver from the requirements to obtain this permit.

B. *No Stormwater Leaving the Site.* If all of the stormwater from the construction activity is captured on-site under any size storm event and allowed to evaporate, soak into the ground on-site, or is used for irrigation, a permit is not needed.

C. *TMDL Waivers.* This waiver is available for sites with automatic coverage if the DEQ has established or approved a TMDL that addresses the pollutant(s) of concern and has determined that controls on stormwater discharges from small construction activity are not needed to protect water quality. The pollutant(s) of concern include sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that construction activity will take place, and storm water discharges will occur within the drainage area addressed by the TMDL or equivalent analysis. Information on approved TMDLs is available on DEQ's website:

https://www.adeq.state.ar.us/water/planning/integrated/tmdl/.

16. Notice of Termination (NOT). When all construction activities that disturbed soil are complete, the site has reached final stabilization (100% stabilization with 80% density or greater, or as defined in Part I.A.25.B for sites where background native vegetation will cover less than 100% of the ground), all stormwater discharges from construction activities authorized by this permit are eliminated and all temporary sediment controls are removed and properly disposed, the operator of the facility may submit a complete Notice of Termination (NOT) to the Director. Along with the NOT, pictures that represent the entire site shall be submitted for review. Final stabilization is not required if the land is returned to its pre-construction agriculture use. Operators of small construction sites are not required to submit NOTs for their construction sites. However, final stabilization is required on all sites. If a NOT is not submitted when the project is completed, the operator will be responsible for annual fees.

17. Responsibilities of the Operator of a Larger Common Plan of Development or Sale.

A. The operator is ultimately responsible for the runoff from the perimeter of the entire development. Regardless of the reason for the runoff, the operator is responsible for ensuring sufficient overall controls of the development.

B. The operator shall not terminate the permit coverage until the following conditions have been met:

1) After all construction activities including landscaping and lot development has been completed; and
2) All lots are sold and developed.

The following exceptions to this requirement may apply:

a. Less than 100% sold and developed at the discretion of the Director, or
b. Separation of the larger common plan if twenty-four (24) months have passed with no construction activity, or
c. All lots are developed and there are no temporary common controls for subdivision outfalls, i.e. sediment basins, large sediment traps, check dams, etc.

3) If lots are sold and then re-sold to a third party, permit coverage shall be obtained by each of the operators while they have ownership of the lots. The second owner is responsible for obtaining the same certification from the third owner (i.e. the certification shall pass from owner to owner).

C. The operator shall not terminate permit coverage until the operators of all of the individual lots within the larger common plan of development or sale are notified of their permitting requirements under this general permit. In this case, the signed certification statements from each operator of individual lots shall be maintained in the stormwater pollution prevention plan for the larger common plan of development or sale. A copy of the signed certifications shall be submitted to DEQ with the NOT. The certification shall be as follows:

"I, _____, operator of an individual lot #_____, block #_____ of _____ subdivision, certify under penalty of law that I was notified by the operator of the larger common plan of the stormwater permitting requirements for my construction site(s). I understand prior to commencement of any construction activity I have to prepare and comply with a SWPPP and post the Construction Site Notice . I understand that prior to the sale of this lot to another party; I must notify the new owner of DEQ requirements and obtain this certification from the new owner."

Signature _____

D. The following examples are provided as clarification:

1) If a small portion of the original common plan of development remains undeveloped and there has been a period of time (i.e., more than 24 months) where there are no ongoing construction activities (i.e., all areas are either undisturbed or have been finally stabilized), operators may re-evaluate the original project based on the acreage remaining from the original "larger common plan of development or sale." If less than five (5) but more than one (1) acre remains to build out the original "common plan", coverage under the large permit may not be required. However, operators will need to comply with the terms and conditions for Small Construction Sites in the Construction General Permit. If less than one acre remains of the original common plan, the individual project may be treated as a part of a less than one acre development and no permit would be required.
2) If operators have a long-range master plan of development or sale where some portions of the master plan are conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended period of time (i.e., more than 24 months), operators may consider the "conceptual" phases of development to be separate "common plans" provided the periods of construction for the physically interconnected phases will not overlap.
3) Where discrete construction projects within a larger common plan of development or sale are located ¼ mile or more apart and the area between the projects is not being disturbed, each individual project can be treated as a separate plan of development or sale provided any interconnecting road, pipeline or utility project that is part of the same "common plan" is not concurrently being disturbed. For example, if an interconnecting access road or pipeline were under construction at the same time, they would generally be considered as a part of a single "common plan" for permitting purposes.
4) If the operator sells all the lots in the subdivision to one or more multi-lot homebuilder(s), provisions shall be made to obtain stormwater permit coverage by one of the following options:
   a. The permit may be transferred from the first "operator" to the new/second "operator".
   b. A new, separate permit coverage may be obtained by the second "operator".
   NOTE: If a new permit coverage is to be obtained, then it shall be obtained before the first/original permit is terminated.
5) If the operator retains ownership of any lots in the subdivision, the operator shall maintain permit coverage for those lots under the original permit coverage. The operator shall modify the SWPPP by stating which lots are owned and marking the lots on the site map. If there are one (1) or two (2) lots remaining and the total acreage is less than five (5) acres, the original permit coverage could be terminated and those lots could be covered as a small site.

18. <u>Change in Operator</u>. For stormwater discharges from large construction sites where the operator changes, including instances where an operator is added after the initial NOI has been submitted, the new operator shall ensure that a permit transfer form is received by DEQ at least two (2) weeks prior to the new operator beginning work at the site.

19. <u>Late Notifications</u>. A discharger is not precluded from submitting an NOI in accordance with the requirements of this part after the dates provided in Part I.B.7 of this permit. In such instances, the Director may bring an enforcement action for failure to submit an NOI in a timely manner or for any unauthorized discharges of stormwater associated with construction activity that have occurred on or after the dates specified in this permit.

20. <u>Failure to Notify</u>. The operator of a construction site who fails to notify the Director of their intent to be covered under this permit, and who potentially discharges pollutants (sediment, debris, etc.) to waters of the State without an NPDES permit, is in violation of the Arkansas Water and Air Pollution Control Act.

21. <u>Maintenance</u>. Determination of the acreage of disturbance does not typically include disturbance for routine maintenance activities on existing roads where the original line and grade, hydraulic capacity, or original purpose of the road is not being altered, nor does it include the paving of existing roads. Maintenance activities (returning to original conditions) are not

regulated under this permit unless one or more acres of underlying or surrounding soil are cleared, graded, or excavated as part of the operation.

22. Releases in Excess of Reportable Quantities.

A. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility. This permit does not relieve the operator of the reporting requirements of 40 C.F.R. §110, §117 and §302. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reporting quantity established under either 40 C.F.R. §110, 40 C.F.R. §117, or 40 C.F.R. §302, occurs during a twenty-four (24) hour period, the following action shall be taken:

1) Any person in charge of the facility is required to notify the National Response Center (NRC) (800-424-8802) in accordance with the requirements of 40 C.F.R. §110, 40 C.F.R. §117, or 40 C.F.R. §302 as soon as he/she has knowledge of the discharge;
2) The operator shall submit within five (5) calendar days of knowledge of the release a written description of the release (including the type and estimate of the amount of material released), the date that such release occurred, and the circumstances leading to the release, and steps to be taken in accordance with Part II.B.17 of this permit to the DEQ.
3) The SWPPP described in Part II.A of this permit shall be modified within fourteen (14) calendar days of knowledge of the release to:

    a. Provide a description of the release and the circumstances leading to the release; and
    b. The date of the release;

4) Additionally, the SWPPP shall be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan shall be modified where appropriate.

B. *Spills*. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

23. Attainment of Water Quality Standards.

The operator shall select, install, implement, and maintain control measures at the construction site and construction support activities off site that minimize the discharge of pollutants for which a stream is impaired at the discretion of the Director as necessary to protect water quality. In general, except in situations explained below, the stormwater controls developed, implemented, and updated to be considered stringent enough to ensure that discharges do not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

At any time after authorization, DEQ may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEQ will require the permittee to:

A. Develop a supplemental BMP action plan describing SWPPP modifications to address adequately the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

B. Cease discharges of pollutants from construction activity and submit an individual permit application.

All written responses required under this part shall include a signed certification consistent with Part II.B.9.

24. Requiring an Individual Permit

The Director may require any person eligible for coverage under the general permit to apply for and obtain an individual permit. In addition, any interested person(s) may submit an application for an individual permit. The Director may consider the issuance of individual permits according to the criteria in 40 C.F.R. §122.28(b)(3).

Coverage of the facility under this general permit is may be terminated by DEQ if the operator fails to submit or respond to the permitting process or requests for information in a timely manner.

Any operator covered under this general permit may request to be excluded from the coverage of this permit by applying for an APC&EC Rule 6 individual permit. The operator shall submit an application for an individual permit with the reasons supporting the application to DEQ. If a final, individual NPDES permit is issued to an operator otherwise subject to this general permit, the operator is required to submit a NOT. Coverage under this general permit will then be terminated no earlier than the effective date of the individual NPDES permit. Otherwise, the applicability of this general permit to the facility remains in full force and effect.

PART II
STANDARD CONDITIONS

Information in **Part II** is organized as follows:

Section A: Stormwater Pollution Prevention Plans (SWPPP):

1. Deadlines for Plan Preparation and Compliance
2. Signature, SWPPP, Inspection Reports, and Notice of Coverage (NOC)
3. Keeping SWPPP Current
4. Contents of the Stormwater Pollution Prevention Plan
5. Plan Certification

Section B: Standard Permit Conditions:

1. Retention of Records
2. Duty to Comply
3. Penalties for Violations of Permit Conditions
4. Continuance of the General Permit
5. Need to Halt or Reduce Activity Not a Defense
6. Duty to Mitigate
7. Duty to Provide Information
8. Other Information
9. Signatory Requirements
10. Certification
11. Penalties for Falsification of Reports
12. Penalties for Tampering
13. Oil and Hazardous Substance Liability
14. Property Rights
15. Severability
16. Transfers
17. Proper Operation and Maintenance
18. Inspection and Entry
19. Permit Actions
20. Re-Opener Clause
21. Local Requirements
22. Applicable Federal, State Requirements

SECTION A: STORMWATER POLLUTION PREVENTION PLANS (SWPPP)

The operator shall prepare a SWPPP before permit coverage. The SWPPP shall follow the order outlined in Part II.A.4 & 5 below. This basic DEQ format is available through DEQ's website https://www.adeq.state.ar.us/water/permits/npdes/stormwater/. Other formats may be used at the discretion of the Director if the format has been approved by DEQ prior to use. The operator shall implement the SWPPP as written from initial commencement of construction activity until final stabilization is complete, with changes being made as deemed necessary by the permittee, local, state or federal officials. The plan shall be prepared in accordance with good engineering practices, by qualified personnel and shall:

- Identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site and construction support activities off site;
- Identify, describe and ensure the implementation of BMPs, with emphasis on initial site stabilization, which are to be used to reduce pollutants in stormwater discharges from the construction site and construction support activities off site;
- Be site specific to what is taking place on a particular construction site;
- Ensure compliance with the terms and conditions of this permit; and
- Identify the responsible party for on-site SWPPP implementation.

1. Deadlines for Plan Preparation and Compliance.

A. *Automatic Coverage Sites.*

The plan shall be completed prior to obtaining permit coverage and commencement of construction activities and updated as appropriate. Submittal of the NOI, permit fee and SWPPP is not required. All conditions set forth in Part II.A must be followed, and the NOC must be posted at the site prior to commencing construction activities. In addition, a copy of the SWPPP must be available at the construction site in accordance with Part II.A.2.B and D prior to commencing construction.

B. *Large Construction Sites.*

The plan shall be completed and submitted for review, along with an NOI and initial permit fee ten (10) business days prior to the commencement of construction activities. Submittals of updates to the plan during the construction process are required in accordance with Part I.B.6.C or if requested by the Director.

C. *Existing Permittees.*

Existing permittees that were permitted prior to the issuance of this renewal permit are required to update their plan as appropriate to come into compliance with the requirements contained in Part II.A.4 by the effective date of this permit.

2. Signature, SWPPP, Inspection Reports and Notice of Coverage (NOC).

A. The SWPPP and inspection reports shall be signed by the operator (or cognizant official) in accordance with Part II.B.9 and be retained at the construction site during normal business hours (8:00 A.M. – 5:00 P.M.). The inspections frequency shall be conducted in accordance with Part II.A.4.N.1.

B. The operator shall make SWPPP and inspection reports available, upon request, to the Director, the EPA, or a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or, in the case of a stormwater discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the municipal operator of the system.

C. The Director, or authorized representative, may notify the operator at any time that the plan does not meet one or more of the minimum requirements of this Part. Within seven (7) business days of such notification from the Director (or as otherwise provided by the Director) or authorized representative, the operator shall make the required changes to the plan and submit to the Director a written certification that the requested changes have been made. DEQ may request re-submittal of the SWPPP to confirm that all deficiencies have been adequately addressed. DEQ may also take appropriate enforcement action for the period of time the operator was operating under SWPPP that did not meet the minimum requirements of this permit.

D. The operator shall post the NOC near the main entrance of the construction site and visible to the public. The NOC shall indicate the location of the SWPPP. If the SWPPP location is changed from the initial location, the NOC shall be updated to reflect the correct location of the SWPPP.

3. Keeping SWPPP Current. The operator shall amend the SWPPP within seven (7) business days or whenever there is a change in design, construction, operation, or maintenance at the construction site which has or could have a significant effect on the potential for the discharge of pollutants to the waters of the State that has not been previously addressed in the SWPPP. The SWPPP shall also be modified if a determination has been made through inspections, monitoring (if required), ***or*** investigation by the operator, local, state, or federal officials that the discharges are causing or contributing to water quality violation or the plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in stormwater discharges from the construction site.

4. Contents of the SWPPP. The SWPPP shall include the following items:

A. *Site Description*. SWPPP shall provide a description of the following:

1) A description of the nature of the construction activity and its intended use after the NOI is filed (i.e., residential subdivision, shopping mall, etc.);
2) A description of the intended sequence of major activities which disturb soils for major portions of the site (e.g. grubbing, excavation, grading, infrastructure installation, etc.);
3) Estimates of the total area of the site including off-site borrow and fill areas and the total area of the site that is expected to be disturbed by excavation, grading or other activities; and
4) An estimate of the runoff coefficient of the site for pre- and post-construction activities and existing data describing the soil or the quality of any discharge from the site.

B. *Responsible Parties*. The SWPPP shall identify (as soon as this information is known) all parties (i.e., General Contractors, Landscapers, Project Designers, and Inspectors) responsible for particular construction activities and services they provide to the operator to comply with the requirements of the SWPPP for the project site and construction support activities off site, and areas over which each party has control. If these parties change over the life of the permit, or new parties are added, the SWPPP shall be updated to reflect these changes.

C. *Receiving Waters*. The SWPPP shall include a clear description of the nearest receiving water(s), or if the discharge is to a MS4, the name of the operator of the municipal system, and the ultimate receiving water(s).

D. *Documentation of Permit Eligibility Related to the 303(d) list and Total Maximum Daily Loads (TMDL)*. The SWPPP shall include information on whether or not the stormwater discharges from the site enter a waterbody that is on the most recent 303(d) list or with an approved TMDL. If the stormwater discharge does enter a waterbody that is on the most recent 303(d) list or with an approved TMDL, then the SWPPP shall address the following items:

1) Identification of the pollutants that the 303(d) list or TMDL addresses, specifically whether the 303(d) list or TMDL addresses sediment or a parameter that addresses sediment (such as total suspended solids, turbidity, or siltation);
2) Identification of whether the operator's discharge is identified, either specifically or generally, on the 303(d) list or

any associated assumptions and allocations identified in the TMDL for the discharge; and

3) Measures taken by the operator to ensure that its discharge of pollutants from the site is consistent with the assumptions and allocations of the TMDL.

If DEQ determines during the review process that the proposed project will be discharging to a receiving water that is on the most recent 303(d) list or with an approved TMDL, then DEQ may notify the applicant to include additional Best Management Practices in the SWPPP.

E. *Documentation of Permit Eligibility Related to Discharges into an ERW, NSW, or ESW*. The SWPPP shall include information whether or not the construction site located within a watershed of an ERW, ESW, or NSW. If the construction site is located within a watershed of an ERW, ESW, or NSW, then the SWPPP should consider using additional BMPs for these areas. The practices shall be considered during the progression of site activities and updates to the construction site SWPPP for continued protection of underground water resources.

F. *Documentation of Permit Eligibility related to potential losing stream and/or sensitive aquatic species native to these areas.* The SWPPP shall include information whether or not the construction site located within a watershed of a potential losing stream, and/or sensitive aquatic species native to these areas. If the construction site is located within a watershed of a potential losing stream and/or sensitive aquatic species native to these areas, then the SWPPP shall consider using BMPs for losing stream areas. The practices should be considered during the progression of site activities and updates to the facility SWPPP for continued protection of underground water resources.

G. *Attainment of Water Quality Standards After Authorization*.

1) The permittee shall select, install, implement, and maintain BMPs at the construction site and at the construction support activities off site that minimize pollutants in the discharge as necessary to meet applicable water quality standards. In general, except in situations explained below, the SWPPP shall be developed, implemented, and updated to be considered as stringent as necessary to ensure that the discharges do not cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard.

2) At any time after authorization, DEQ may determine that the stormwater discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEQ will require the permittee to:

   a. Develop a supplemental BMP action plan describing SWPPP modifications to adequately address the identified water quality concerns and submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or

   b. Cease discharges of pollutants from construction activity and submit an individual permit application.

3) All written responses required under this part shall include a signed certification (Part II.B.9).

H. *Site Map*. The SWPPP shall contain a legible site map (or multiple maps, if necessary) complete to scale, showing the entire site, that identifies, at a minimum, the following:

1) Pre-construction topographic view;
2) Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
3) Delineate on the site map areas of soil disturbance and areas that will not be disturbed with regards to the construction activities and construction support activities off site under the coverage of this permit;
4) Location of major structural and nonstructural controls identified in the plan;
5) Location of main construction entrance and exit;

6) Location where stabilization practices are expected to occur;
7) Locations of all construction support activities off-site (i.e. materials, waste, borrow area, or equipment storage areas);
8) Location of areas used for concrete wash-out;
9) Location of all waters of the State with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
10) Locations where stormwater is discharged to waters of the State or a municipal separate storm sewer system if applicable,
11) Locations where stormwater is discharged off-site (shall be continuously updated);
12) Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
13) A legend that clearly specifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
14) Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

I. *Stormwater Controls*. Each plan shall include a description of appropriate controls and measures that will be installed and implemented at the construction site. The plan shall clearly describe each construction activity identified in the project description control measures associated with the construction activity and the schedule during the construction process that the measures will be implemented. Perimeter controls for the site shall be installed after the clearing and grubbing necessary for installation of the measure, but before the clearing and grubbing for the remaining portions of the site. Perimeter controls shall be actively maintained until final stabilization of those portions of the site upward of the perimeter control. Temporary controls shall be removed and properly disposed of after final stabilization. The description and implementation of controls shall address the following minimum components:

1) Initial Site Stabilization, Erosion, and Sediment Controls and Best Management Practices. Design, install, implement, and maintain effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum the following controls and BMPs shall be designed, installed, implemented, and maintained. Therefore, the SWPPP shall address, at a minimum, the following:

   a. For larger common plans of development or sale, only streets, drainage, utility areas, areas needed for initial construction of streets (e.g., borrow pits, parking areas, etc.) and areas needed for stormwater structures may be disturbed initially. Upon stabilization of the initial areas, additional areas may be disturbed.
   b. The construction-phase erosion (such as site stabilization) and sediment controls (such as check dams) shall be designed to retain sediment on-site to the extent practicable.
   c. All control measures shall be properly selected, installed, and maintained in accordance with the manufacturer's specifications, good engineering, and construction practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site situations.
   d. If sediment escapes the construction site, off site accumulations of sediment shall be removed before the next business day to minimize off-site impacts (e.g., to prevent fugitive sediment in a street could be washed into storm sewers by the next rain or pose a safety hazard to users of public streets). This permit does not give the authority to trespass onto other property; therefore this condition should be carried out along with the permission of neighboring land owners to remove sediment.
   e. Sediment shall be removed from sediment traps (if used, please specify what type) or sedimentation ponds when design capacity has been reduced by 50%.
   f. Litter, construction debris, and construction chemicals exposed to precipitation and to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls picked up daily).
   g. Construction support activities off site (i.e. material storage areas, overburden and stockpiles of dirt, borrow areas, etc.) used solely by the permitted project are considered a part of the project and shall be addressed in the SWPPP.

2) Stabilization practices. The SWPPP shall include, at a minimum, the following information:

a. Description and Schedule: A description of initial, interim, and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed areas are stabilized. Stabilization practices may include, but not limited to: mulching, temporary seeding, permanent seeding, geotextiles, sod stabilization, natural buffer strips, protection of trees, and preservation of mature vegetation and other appropriate measures.

b. Description of natural buffer areas: DEQ requires that a natural buffer zone be established between the top of stream bank and the disturbed area. The SWPPP shall contain a description of how the site will maintain natural buffer zones. For construction projects where clearing and grading activities will occur, SWPPP shall provide at least twenty-five (25) feet of natural buffer zone from any named or unnamed streams, creeks, rivers, lakes or other water bodies. The plan shall also provide at least fifty (50) feet of natural buffer zone from established TMDL waterbodies, waterbodies listed on the 303(d) list, an ERW, ESW, NSW, or other uses at the discretion of the Director. If the site will be disturbed within the recommended buffer zone, then the buffer zone area shall be stabilized as soon as possible. Exceptions from this requirement for areas such as water crossings, limited water access, and restoration of the buffer are allowed if the permittee fully documents in the SWPPP the circumstances and reasons for the buffer zone encroachment. Additionally, this requirement is not intended to interfere with any other ordinance, rule or regulation, statute or other provision of law. Please note that above-grade clearing that does not disturb the soil in the buffer zone area does not have to comply with buffer zone requirements.

c. Records of Stabilization: A record of the dates when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included in the plan.

d. Deadlines for Stabilization After Construction Activity Temporarily Ceases: Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily ceased, but in no case more than fourteen (14) calendar days after the construction activity in that portion of the site has temporarily ceased, except:

(1) Where the initiation of stabilization measures by the fourteenth (14^{th}) calendar day after construction activity temporarily ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

e. Deadline for Stabilization After Construction Activity Permanently Ceases: Stabilization measures shall be initiated immediately in portions of the site where construction activities have permanently ceased, except:

(1) Where the initiation of stabilization measures immediately after construction activity permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.

(2) In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures shall be employed as specified by the permitting authority.

3) Structural Practices. A description of structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable. Structural practices should be placed on upland soils to the degree attainable. The installation of these devices may

be subject to Section 404 of the Clean Water Act. Such practices may include but are not limited to:

- silt fences (installed and maintained);
- earthen dikes to prevent run-on;
- drainage swales to prevent run-on;
- check dams;
- subsurface drains;
- pipe slope drains;
- storm drain inlet protection;
- rock outlet protection;
- sediment traps;
- reinforced soil retaining systems;
- gabions;
- temporary or permanent sediment basins.

A combination of erosion and sediment control measures is encouraged to achieve maximum pollutant removal. Adequate spillway cross-sectional area and re-enforcement shall be provided for check dams, sediment traps, and sediment basins.

a. Sediment Basins:

(1) For common drainage locations that serve an area with ten (10) or more acres (including run-on from other areas) draining to a common point, a temporary or permanent sediment basin that provides storage based on either the smaller of 3600 cubic feet per acre, or a size based on the runoff volume of a 10 year, 24 hour storm, shall be provided where attainable (so as not to adversely impact water quality) until final stabilization of the site. In determining whether installing a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on site, etc. Proper hydraulic design of the outlet is critical to achieving the desired performance of the basin. The outlet should be designed to drain the basin within twenty-four (24) to seventy-two (72) hours. (A rule of thumb is one square foot per acre for a spillway design.) The 24-hour limit is specified to provide adequate settling time; the seventy-two (72) hour limit is specified to mitigate vector control concerns. If a pipe outlet design is chosen for the outfall, then an emergency spillway is required. If "non-attainability" is claimed, then an explanation of non-attainability shall be included in the SWPPP**.** Where a sediment basin is not attainable, smaller sediment basins or sediment traps shall be used. Where a sediment basin is un-attainable, natural buffer strips or other suitable controls which are effective are required for all side slopes and down slope boundaries of the construction area. The plans for removal or final usage of the sediment basin shall be included with the description of the basin in the SWPPP.

(2) For drainage locations serving an area less than ten (10) acres, sediment traps, silt fences, or equivalent sediment controls are required for all side slope and down slope boundaries of the construction area unless a sediment basin providing storage based on either the smaller of 3600 cubic feet per acre, or a size based on the run off volume of a 10 year, 24 hour storm is provided. The outlet should be designed to drain the basin within twenty-four (24) to seventy-two (72) hours. (A rule of thumb is one square foot per acre for a spillway design.) The 24-hour limit is specified to provide adequate settling time; the seventy-two (72) hour limit is specified to mitigate vector control concerns. If a pipe outlet design is chosen for the outfall, then an emergency spillway is required. However, in order to protect the waters of the State, the Director, at their discretion, may require a sediment basin for any drainage areas draining to a common point.

b. Velocity Dissipation Devices:

Velocity dissipation devices shall be placed at discharge locations, within concentrated flow areas serving two

or more acres, and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (i.e., no significant changes in the hydrological regime of the receiving water). Please note that the use of hay-bales is not recommended in areas of concentrated flow.

J. *Other Controls*.

1) No solid materials identified in Part I.B.13.D shall be discharged to waters of the State or offsite.
2) Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of a stabilized construction entrance and exit or vehicle tire washing.
3) For lots that are less than one (1) acre in size an alternative method may be used in addition to a stabilized construction entrance. An example of an alternative method could be daily street sweeping. This could allow for the shortening of the construction entrance.
4) The plan shall ensure and demonstrate compliance with applicable State or local waste disposal, temporary and permanent sanitary sewer or septic system regulations.
5) No liquid concrete waste shall be discharged to waters of the State. Appropriate controls to prevent the discharge of concrete washout waters shall be implemented if concrete washout will occur on-site.
6) No contaminants from fuel storage areas, hazardous waste storage and truck wash areas shall be discharged to waters of the State or offsite. Methods for protecting these areas shall be identified and implemented. These areas shall not be located near a waterbody, if there is a water body on or near the project.

K. *Non-stormwater discharges*. Sources of non-stormwater listed in Part I.B.10 of this permit that are combined with stormwater discharges associated with construction activity shall be identified in the plan. This list shall be site specific non-stormwater discharges.

L. *Post-Construction Stormwater Management*. The operator is required to provide a description of measures that will be installed during the construction process to control pollutants in stormwater discharges that will occur after construction operations have been completed. Structural measures shall be placed on upland soils to the degree attainable. The installation of these devices may be subject to Section 404 (Corps of Engineers) of the Clean Water Act. This permit only addresses the installation of stormwater management measures, and not the ultimate operation and maintenance of such structures after the construction activities have been completed and the site has undergone final stabilization. However, post-construction stormwater BMPs that discharge pollutants from a point source once construction is completed may need authorization under a separate DEQ NPDES permit. Such practices may include but are not limited to:

- infiltration of runoff onsite;
- flow attenuation by use of open vegetated swales and natural depressions;
- stormwater retention structures;
- stormwater detention structures (including wet ponds);
- sequential systems, which combine several practices.

A goal of at least eighty percent 80 % removal of total suspended solids from these flows which exceed predevelopment levels should be used in designing and installing stormwater management controls (where practicable). Where this goal is not met, the operator shall provide justification for rejecting each practice listed above based on site conditions.

M. *Applicable State or Local Programs*. The SWPPP shall be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site.

N. *Inspections*. Inspections shall be conducted by qualified personnel (provided by the operator). Inspections shall include all areas of the site disturbed by construction activity and construction support activities located off site that are exposed to precipitation and to stormwater. Inspectors shall look for evidence of, or the potential for, pollutants entering

the stormwater conveyance system. All stormwater control measures shall be observed to ensure proper installation, operation, and maintenance. Discharge locations shall be inspected to determine whether all stormwater control measures are effective in preventing significant impacts to waters of the State or offsite, where accessible. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking. Inspections may not be required if the remaining lot(s) within a larger common plan of development or sale disturb less than one acre of land In addition, inspections may not be required on a completed section of a linear project if final stabilization has been completed for that section. Stabilized areas of the project shall be indicated in the SWPPP and site map and show what date they were stabilized. The operator shall ensure that no sediment will leave the lot(s) that are stabilized. These lots shall be identified within the SWPPP and show what date they were stabilized. If the operator is unable to ensure this, then inspections shall continue.

1) Inspection Frequency. Inspections shall be conducted in accordance with one of the following schedules listed below. The schedule **must be specified** in the SWPPP.

   a. At least once every seven (7) calendar days, or
   b. At least once every fourteen (14) calendar days and within twenty-four (24) hours of the end of a storm event of 0.25 inches or greater (a rain gauge must be maintained on-site).

2) Inspection Form. The DEQ inspection form should be used for all inspections. The inspection form shall include all stormwater controls that are being used on site as well as at construction support activities off site. The form is available on DEQ's website www.adeq.state.ar.us. If a different form is used, it shall at a minimum contain the following information:

   a. Inspector name and title;
   b. Date of Inspection;
   c. Amount of rainfall and days since last rain event (only applicable to Part II.A.4.N.1.b);
   d. Approximate beginning and duration of the storm event;
   e. Description of any discharges during inspection;
   f. Locations of discharges of sediment/other pollutants;
   g. Locations of BMPs in need of maintenance or where maintenance was performed;
   h. If the BMPs are in working order and if maintenance is required (including when scheduled and completed);
   i. Locations that are in need of additional controls;
   j. Location and dates when major construction activities begin, occur or cease;
   k. Signature of qualified signatory official, in accordance with Part II.B.9.

   Additional information may be added to the inspection report at the permittee's discretion.

3) Inspection Records. Each report shall be retained as part of the SWPPP for at least three (3) years from the date the site is finally stabilized. Each report shall be signed and have a certification statement in accordance with Parts II.B.9 and 10 of this permit.

4) Winter Conditions. Inspections will not be required at construction sites nor the construction support activities located off site where snow cover exists over the entire site for an extended period, and melting conditions do not exist. If there is any runoff from the site at any time during snow cover, melting conditions are considered to be existent at the site and this inspection waiver does not apply. Regular inspections, as required by this permit, are required at all other times as specified in this permit. If winter conditions prevent compliance with the permit, documentation of the beginning and ending date of winter conditions shall be included in the SWPPP.

5) Adverse Weather Conditions. Adverse conditions are those that are dangerous or create inaccessibility for personnel, such as local flooding, high winds, or electrical storms, or situations that otherwise make inspections

impractical, such as extended frozen conditions. When adverse weather conditions prevent the inspection of the site, an inspection shall be completed as soon as is safe and feasible. If adverse weather conditions prevent compliance with the permit, documentation of the beginning and ending date of adverse weather conditions shall be included in the SWPPP.

O. *Maintenance*. A description of procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition shall be outlined in the plan. Any repairs that are needed based on an inspection shall be completed, when practicable, before the next storm event, but not to exceed a period of three (3) business days of discovery, or as otherwise directed by state or local officials. However, if conditions do not permit large equipment to be used, a longer time frame is allowed if the condition is thoroughly documented on the inspection form. Maintenance for manufactured controls shall be done at a minimum of the manufacturer's specifications. Maintenance for non-manufactured controls, i.e. check dams and sediment traps, shall be done when 50% of treatment capacity remains.

P. *Employee Training*. The permittee/operator is responsible for training personnel, who are responsible for implementing activities identified in the SWPPP, on the components and requirements of the SWPPP and the requirements of the general permit. This includes contractors and subcontractors. Training shall be given by a knowledgeable and qualified trainer. The SWPPP shall identify periodic dates for such training for all personnel and records of training shall be maintained with the SWPPP. Training records that are maintained electronically (i.e. database, etc.) do not need to be maintained with the SWPPP, but shall be accessible upon request. Formal training classes given by Universities or other third-party organizations are not required but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

5. Plan Certification. The SWPPP Certification shall be signed by either the operator or the cognizant official identified on the NOI. All documents required by the permit and other information requested by the Director shall be signed by operator or by a duly authorized representative of the operator (Please see Part II.B.10 below for certification).

SECTION B: STANDARD PERMIT CONDITIONS

1. **Retention of Records.**

   A. The operator shall retain records of all Stormwater Pollution Prevention Plans, all inspection reports required by this permit, and records of all data used to complete the NOI to be covered by this permit for a period of at least three (3) years from the date the NOT letter is signed by DEQ. This period may be extended by request of the Director at any time.

   B. The operator shall retain a signed copy of the SWPPP and inspection reports required by this permit at the construction site from the date of project initiation to the date of final stabilization.

2. **Duty to Comply.** The operator shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Water Act and the Arkansas Water and Air Pollution Control Act and is grounds for: enforcement action; permit termination, revocation and re-issuance, or modification; or denial of a permit renewal application.

3. **Penalties for Violations of Permit Conditions.** The Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a criminal penalty of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars ($10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action. Any person that purposely, knowingly, or recklessly causes pollution of the water of the state in a manner not otherwise permitted by law and thereby places another person in imminent danger of death or serious bodily injury shall be guilty of a felony and shall be subject to imprisonment, a fine not more than two hundred fifty thousand dollars ($250,000), or both such fine and imprisonment.

4. **Continuance of the General Permit.** Permittees wishing to continue coverage under this general permit shall submit a Renewal NOI (see Part I.B.4 for where to submit documentation) up to 180 days prior to the expiration date, but no later than thirty (30) days prior to the expiration date. No additional fee is required to be submitted along with the Renewal NOI.

   An expired general permit continues in force and effect until a new general permit is issued. If this permit is not re-issued or replaced prior to the expiration date, it will be administratively continued in accordance with Ark. Code Ann. § 8-4-203(m) and remain in force and effect. If a permittee was granted permit coverage prior to the expiration date, the permittee will remain covered by the continued permit until the earliest of:

   A. The effective date of the re-issuance or replacement of this permit and a timely submittal of a renewal NOI by the operator; or

   B. The operator's submittal and DEQ approval of a NOT; or

   C. Issuance and effectiveness of an individual permit for the project's discharges and completion of item B of this section (see Part I.B.24); or

   D. A formal permit decision by DEQ to not re-issue this general permit, at which time operators must seek coverage under an alternative permit (see Part I.B.24).

   Small site operators are responsible for ensuring that the site is in compliance with any changes or updates of this general permit by reviewing DEQ's website at:

https://www.adeq.state.ar.us/water/permits/npdes/stormwater/

5. **Need to Halt or Reduce Activity Not a Defense.** It shall not be a defense for an operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. **Duty to Mitigate.** The operator shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has reasonable likelihood of adversely affecting human health or the environment.

7. **Duty to Provide Information.** The operator shall furnish to the Director, an authorized representative of the Director, the EPA, a State or local agency reviewing sediment and erosion plans, grading plans, or stormwater management plans, or in the case of a stormwater discharge associated with industrial activity which discharges through a MS4 with an NPDES permit, to the municipal operator of the system, within a reasonable time, any information which is requested to determine compliance with this permit.

8. **Other Information.** When the operator becomes aware that he or she failed to submit any relevant facts or submitted incorrect information in the NOI or in any other report to the Director, he or she shall promptly submit such facts or information.

9. **Signatory Requirements.** All NOIs, reports, or information submitted to the Director shall be signed and certified by the operator.

   A. All NOI shall be signed as follows:

      1) For a corporation: by a responsible corporate officer. For purposes of this section, a responsible corporate officer means:

         a. A president, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

         b. The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to ensure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

      2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively;

      3) For a municipality, State, Federal or other public agency: by either a principal executive or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

         a. The chief executive officer of the agency; or

         b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

   B. All reports required by the permit and other information requested by the Director shall be signed by a person described

above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1) The authorization is made in writing by a person described above and submitted to the Director;

2) The authorization specifies either an individual or a person having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility, or position of equivalent responsibility for environmental matters for the company (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

3) Changes to authorization. If an authorization under this Part is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the above requirements shall be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

10. Certification. Any person signing a document under this section shall make the following certification:

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

Note: For this permit only, “this document” refers to the Stormwater Pollution Prevention Plan, “attachments” refers to the site map and inspection forms, and “system” is referencing the project site.

11. Penalties for Falsification of Reports. The Arkansas Water and Air Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties specified in Part II.B.3 of this permit and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 et seq.).

12. Penalties for Tampering. The Arkansas Water and Air Pollution Control act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than twenty five thousand dollars ($25,000) or by both such fine and imprisonment.

13. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties to which the operator is or may be subject under Section 311 of the Clean Water Act or Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

14. Property Rights. The issuance of this permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of Federal, State, or local laws or regulations.

15. Severability. The provisions of this permit are severable. If any provisions of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provisions to other circumstances and the remainder of this permit shall not be affected thereby.

16. Transfers. This permit is not transferable to any person except after notice to the Director. A transfer form shall be submitted to DEQ as required by this permit.

17. Proper Operation and Maintenance. The operator shall at all times:

A. Properly operate and maintain all systems of treatment and control (and related appurtenances) which are installed or used by the operator to achieve compliance with the conditions of this permit. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by an operator only when the operation is necessary to achieve compliance with the conditions of the permit.
B. Provide an adequate operating staff which is duly qualified to carry out operation, inspection, maintenance, and testing functions required to ensure compliance with the conditions of this permit.

18. Inspection and Entry. The operator shall allow the Director, the EPA, or an authorized representative, or, in the case of a construction site which discharges to a municipal separate storm sewer, an authorized representative of the municipal operator of the separate sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

A. Enter upon the operator's premises where a regulated facility or activity is located or conducted, or where records shall be kept under the conditions of this permit;
B. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this permit;
C. Inspect at reasonable times any facilities or equipment, including monitoring and control equipment and practices or operations regulated or required by the permit;
D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location on the permitted property.

19. Permit Actions. This permit may be modified, revoked and reissued, or terminated for any cause including, but not limited to, the following;

A. Violation of any terms or conditions of this permit;
B. Obtaining this permit by misrepresentation or failure to fully disclose all relevant facts;
C. A change in any conditions that requires either a temporary or permanent reduction or elimination of the authorized discharge;
D. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
E. Failure of the operator to comply with the provisions of DEQ Rule 9 (Fee Rule). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to terminate this permit under the provisions of 40 C.F.R. §122.64 and §124.5(d), as adopted by reference in DEQ Rule 6, and the provisions of DEQ Rule 8.

20. Re-Opener Clause.

A. If there is evidence indicating potential or realized impacts on water quality due to any stormwater discharge associated with industrial activity covered by this permit, the operator of such discharge may be required to obtain an individual permit or an alternative general permit in accordance with Part I.B.24 of this permit, or the permit may be modified to include different limitations and/or requirements.

B. Permit modification or revocation will be conducted in accordance with the provisions of 40 C.F.R. §122.62, §122.63, §122.64 and §124.5, as adopted by reference in DEQ Rule 6.

21. Local Requirements. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding any discharges of stormwater to storm drain systems or other water sources under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to

comply with the DEQ permits. Dischargers shall comply with local stormwater management requirements, policies, or guidelines including erosion and sediment control.

22. **Applicable Federal, State, or local Requirements.** Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance policy, or regulation. Nothing in this permit shall be construed to preclude the institution of any legal action or enforcement actions or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable local state, or federal law or regulation.

Gmail **George Wooden <georgewooden98@gmail.com>**

Fwd: DRC Staff Comments 3/16/2023

1 message

Tariq Morshed <tariqgarnat@gmail.com> Wed, Mar 22, 2023 at 1:57 PM
To: George Wooden <GEORGEWOODEN98@gmail.com>

---------- Forwarded message ---------
From: **Vernon Williams** <garnatengineering@gmail.com>
Date: Thu, Mar 16, 2023 at 8:57 AM
Subject: Fwd: DRC Staff Comments 3/16/2023
To: Tariq Morshed <tariqgarnat@gmail.com>

Vernon J. Williams, P.E.
GarNat Engineering, LLC
Mailing Address: Physical Address:
P.O. Box 116 3825 Mt Carmel Road
Benton, AR 72018 Bryant, AR 72022
Ph: (501) 408-4650 Cell: (501) 425-2771
Fax: (888) 900-3068 www.garnatengineering.com

---------- Forwarded message ---------
From: **Colton Leonard** <cleonard@cityofbryant.com>
Date: Thu, Mar 16, 2023 at 8:46 AM
Subject: DRC Staff Comments 3/16/2023
To: Vernon Williams <Garnatengineering@gmail.com>

Vernon,

Here are the comments for this morning's meeting.

Best,

Colton

1. Butler Center - Site Plan/Rezoning/Variance

Public Works

1. Site will require a ADEQ Small Scale Development Permit.
2. Developer will be required to submit signed and notarized Stormwater Infrastructure Warranty Bond SOP per Ordinance 2019-32.
3. Plans show that only top banks and slopes of v-bottom ditch shall be stabilized to with solid sod stabilization, this shall be updated to show bottom of ditch being solid sod stabilization as well.
4. Erosion control plan does not show specific specs for silt fencing and installation. (detail needs to be shown on plans)

Engineering

Water:

1. Site plan only indicates 7 water meters however request is for 8.
2. Bryant W/WW Specification 1100-1.22 B Fire hydrants for apartments, commercial and industrial sites shall exceed 400 feet spacing. Confirm with Bryant Fire Marshal Fire Hydrant Placement.
3. Discuss provision of extended water main to adjoining property to the west.

Wastewater:

4. Bryant W/WW Specification 3100-312 E Connection to existing manhole shall be Cored and Booted. Indicate on Utility Drawings. See Manholes 4578.
5. Provide documentation as to use of structure for Sanitary Sewer needs. Food preparation may be subject to an appropriate grease trap installation.

Stormwater:

6. Discuss discharge off site onto adjacent property and downstream choke points .
7. Discuss the use of Storage Facility Personnel to maintain the onsite Drainage detention system.

Streets:

8. A Designed driveway will be required in accordance with ArDOT.

Planning

1. Provide building Elevations showing facades/materials.
2. One lot commercial subdivision Plat?
3. Building setbacks not shown on plans. For C-2: 15ft Front Min, 15ft Side, 25ft Rear. 3X Multiplier for commercial abutting residential zoned lot.
4. Cross-access agreement in place for property owners to the West? Should probably be shown on plat.
5. Pedestrian access from building sidewalks to Reynolds Road sidewalk.

Fire

1. None

1. Elite Volleyball Academy

Public Works

1. Site will require ADEQ Small Scale Development permit. Will comply
2. Site will require a Stormwater Detention Maintenance Plan. Added
3. Developer will be required to submit signed and notarized Stormwater Infrastructure Warranty Bond SOP per Ordinance 2019-32.
4. Erosion control plan will be required to be updated to show use of wire-backed silt fencing. Updated.

Engineering

1. Fire line shall be 8” Ductile Iron per section 1100-2-1.05-B. Will comply.
2. Show 15’ easement on water main extension 1100-4-1.11-A, water main easements on Plat. Added to Plat.
3. Discuss water main extension to extend to the east property line.

4. Existing gravity sewer running north and south must have dedicated easement of 20'. Show on Plat Added to Plat.
5. Provide stormwater calculations. **PROVIDED - UNDER REVIEW**
6. Discuss extension of Water line to edge of development.

Planning

1. Elevations - Commercial Design Standards
2. Sidewalk Access to building Added
3. Discuss building setbacks as it relates to variance requests. Can electrical/mechanical equipment be placed in the Building setback area? Planning Dept. said yes.
4. Provide landscape plan Added

Fire

1. Building shall be sprinkled with 5" Storz FDC connection Will comply.
2. Knox Box required for facility
3. Fire hydrant shall be within 100' of FDC. Will comply.

--

Colton Leonard
City Planner
501-943-0301
cleonard@cityofbryant.com
www.cityofbryant.com
210 SW 3rd St, Bryant, AR 72022

--

M M Tariq Morshed, E. I.
GarNat Engineering, LLC
Mailing Address: *Physical Address:*
P.O. Box 116 *3825 Mt Carmel Road*
Benton, AR 72018 *Bryant, AR 72022*
Ph: (501) 408-4650 *Cell: (870) 273-9256*
Fax: (888) 900-3068 *www.garnatengineering.com*


CHRISTY LN
CITY OF BRYANT
HEARING
NOTICE

GNE

GarNat Engineering, LLC

Designing our client's success

P.O. Box 116 (72018)
3825 Mt Carmel Road
Bryant, Arkansas 72022
PH: (501) 408-4650
FX: (888) 900-3068
garnatengineering@gmail.com

March 10, 2023

Mr. Truett Smith
Bryant Planning Coordinator/Planning Commission Secretary
210 SW 3rd Street
Bryant, AR 72022

Re: Variance Request for A New Elite Volleyball Academy Gym
Parcel Number 840-11661-034

Dear Mr. Smith:

Please allow this letter and following list of variances and enclosures to serve as my application for variance approval of the referenced project.

List of Variances

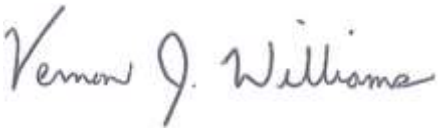
- The rear tract (east of our property) owned by the Whitley James Matthew & Melania is zoned R-1.S. We request a variance of 25' setback from this property.

List of Enclosures

- Variance Application.
- Draft of Completed Public Notice.
- Draft of the Newspaper Advertising.

If you have questions or need any additional information, please do not hesitate to contact me.

Sincerely,
GarNat Engineering, LLC



Vernon J. Williams, P.E., President

1. 25300 I-30 - CUP for Self Storage

Public Works

1. Discuss Stormwater Design (Stormwater Design shall be in accordance with Ordinance 2019-32 & 2019-31.

We understand the concern shared at DRC regarding downstream flooding to the east of this property. If the Conditional Use Permit is approved we agree to follow Stormwater Ordinance.

2. Site will require a Stormwater Detention Maintenance Plan.

If the Conditional Use Permit is approved we agree to complete a Stormwater Detention Maintenance Plan.

3. Developer will be required to submit signed and notarized Stormwater Infrastructure Warranty Bond SOP per Ordinance 2019-32.

If the Conditional Use Permit is approved we agree to complete a Stormwater Infrastructure Maintenance Plan.

We agree to provide a
Site will require basin study in accordance with parameters set by the City Engineer. We understand the concern shared at DRC regarding dowstream flooding to the east of this property. If the Conditional Use Permit is approved we agree to complete basin study of this area.

Discuss proximity of four buildings in proximity to detention/retention pond . Our layout is very preliminary and we have not completed civil drawings of this site. These buildings may prove to be too close to the future detention pond location. If the Conditional Use Permit is approved we agree to take all comments regarding the proximity of the buildings into consideration with respect to the detention pond.

4. Site will be required to submit wetlands study to ensure the existing pond is not a federally protected wetland. If the Conditional Use Permit is approved we agree to complete Jurisdictional Determination of the are in proximity to the existing detention pond.

Engineering

1. Water main Easement with Access will be required for final design.

Sanitary Sewer Easement with Access will be required for final design. We understand the concern shared at DRC regarding downstream existing sewer force main along the west side of this property. If the Conditional Use Permit is approved we agree to protect this sewer force main in an sewer and ingress/egress easement.

2. Discuss Storm water Design.

We understand the concern shared at DRC regarding downstream flooding to the east of this property. If the Conditional Use Permit is approved we agree to follow Stormwater Ordinance.

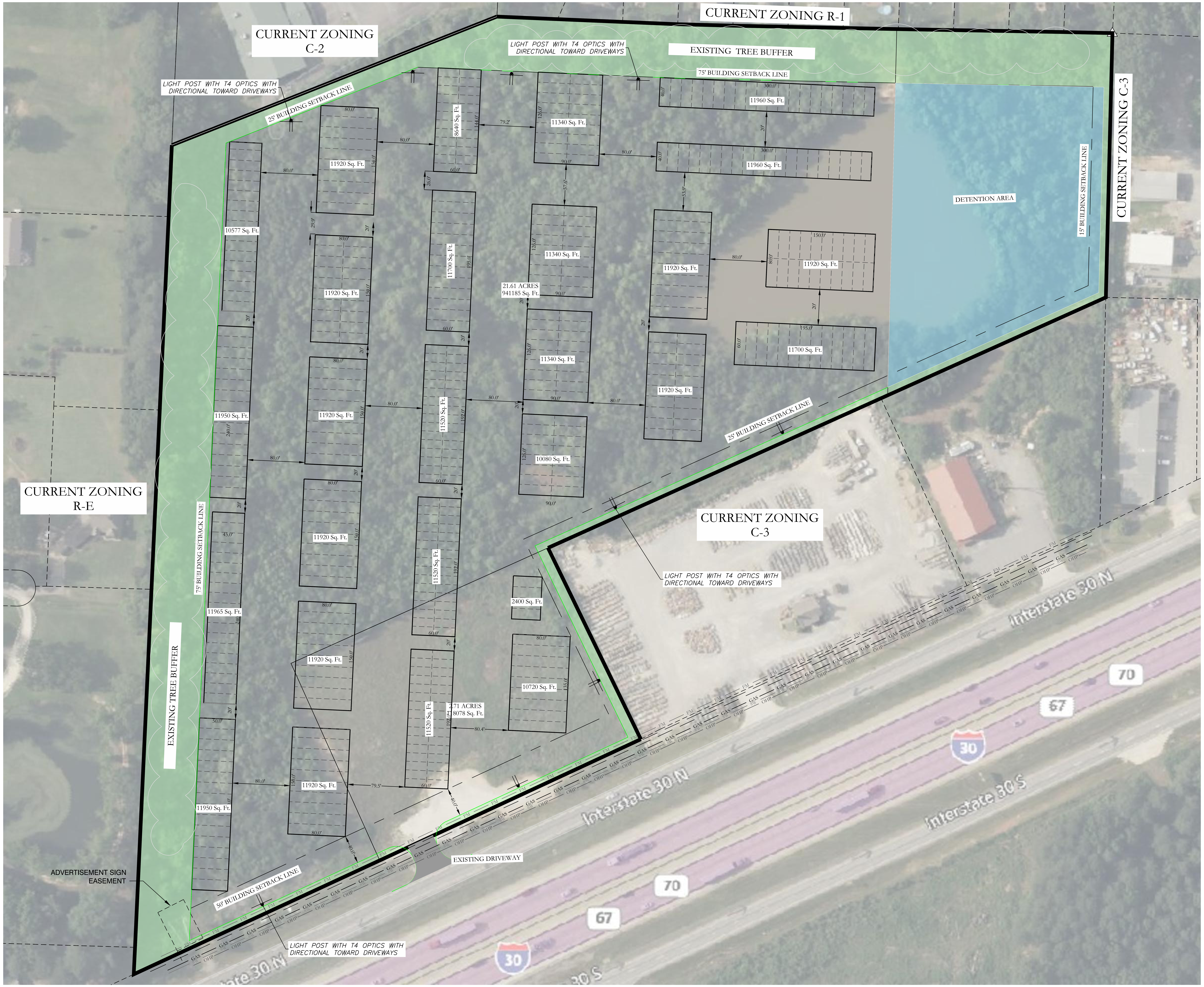
3. Setback violations on the North West corner Corrected
4. Discuss plat division. Will follow Subdivision Requirements if CUP is Approved
5. Discuss access locations. We agree to incorporate input from ArDOT and Bryant Fire Department if the CUP is Approved

Planning

1. Building Setbacks for C-3 Zoning are 50' min. Front, 25' Side, and 25' Rear. Where it abuts residentially zoned property the setback is 3X. Updated Drawing
2. More detailed Development Plan is needed: Show proposed lighting; landscape and screening; Location, size, and arrangement of driveways and parking and loading areas as well as any vehicular maneuvering areas Lighting and landscaping have been added. This project has an existing driveway on frontage road.
3. Property needs to be posted with signs and public hearing notice in paper by March 26th. Signs and notices will be conducted.

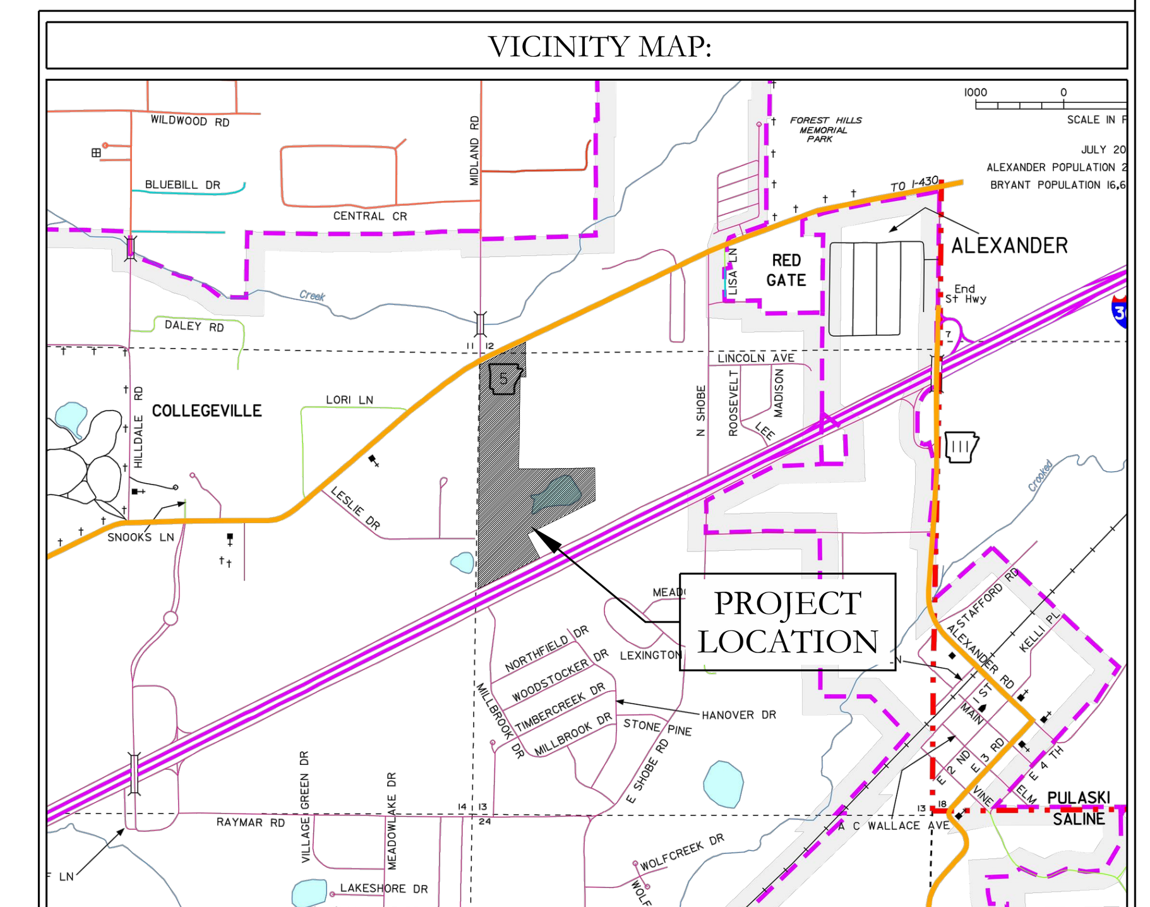
Fire

1. Buildings 12,000 sqft or > shall be sprinkled with 5” Storz FDC connection We have revised our building sizes and. Building sq footage has been added.
2. Knox Box required for facility We agree to the required Knox Box as mentioned if the CUP is approved
3. Fire hydrant shall be within 100’ of FDC. We agree with comment if CUP is Approved.
4. Need road dimensions to determine Fire Dept. Access Roads. Dimensions between buildings have been added.



TOTAL BUILDING SQ.FT. = 291,302 SQ. FT.

VICINITY MAP:



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:
STUART FINLEY

I-30 SELF STORAGE

DATE: 02-08-2023		C.A.D. BY: B.JOHNSON			DRAWING NUMBER:		
REVISED:		CHECKED BY:			22-0800		
SHEET:		SCALE: 1" = 60'					
500	01S	14W	0	21	300	62	1762

Saline County Road Department
5500 Cynamide Road
Benton, Arkansas 72015
(501) 303-5690

March 22, 2023

Jonathan Hope
Hope Consulting
Engineers-Surveyors
129 N Main Street
Benton, Arkansas 72015

Ref: Road and Drainage Improvements to a part of Rudolph Road

Dear Mr. Hope:

Based on inspections of the work to improve Rudolph Road including drainage facilities and the satisfactory results of a observations to determine final in place base gravel (minimum of 8") and observing the laying of the asphalt (minimum of 2.5") thicknesses and the satisfactory results of a representative sample of subgrade density test (minimum of 95% modified) and base gravel density test (minimum 98% modified), the road and drainage structures are deemed to be complete and constructed to County standards. But based on an inspection today the following things need to be done; 1. Rework shoulders and make sure back fill soil is placed along edge of shoulders, 2. Re-shape and maybe use smaller rip rap, the existing stones stick up too high may even cause sight problems, 3. Remove or rework and clean out rock checks.

John Wofford PE, PLS

Saline County Engineer

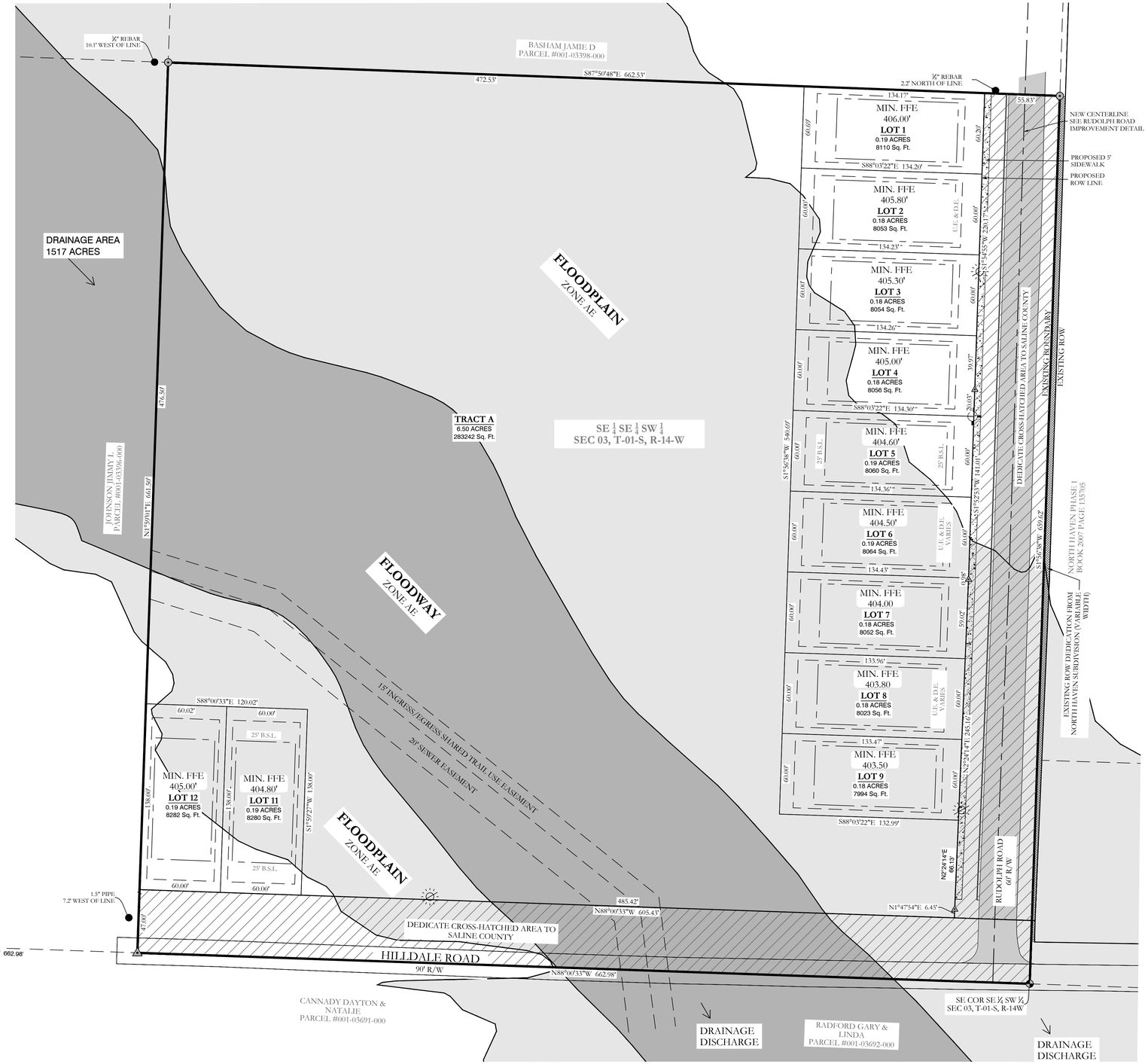
Know what's **below.** **Call** before you dig.

LEGAL DESCRIPTION:

THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER SECTION 03, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY ARKANSAS.

CONTAINING 437,787.7 SQUARE FEET, OR 10.05 ACRES, MORE ORE LESS.

SUBJECT TO BUILDING LINES, EASEMENTS, MINERAL RESERVATIONS AND/OR CONVEYANCES, AND RESTRICTIONS OF RECORD, IF ANY.



REGISTERED — STATE OF ARKANSAS — NO. 1762 — SIGNATURE — JONATHAN L. HOPE — PROFESSIONAL LAND SURVEYOR

STATE OF ARKANSAS — LICENSED PROFESSIONAL ENGINEER — NO. 20876 — KAZI FAMIZUL ISLAM

CERTIFICATE OF AUTHORIZATION — HOPE CONSULTING, INC. — No. 1931 — ARKANSAS

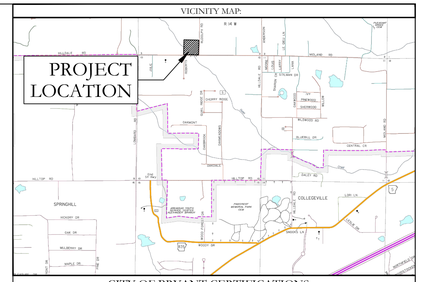
LEGEND
- Found Aliquot Corner
- Found monument
- Set ½" Rebar
- Computed point
(M)- Measured
(P) - Plat/Deed
- Fence
- Light Pole
- Fire Hydrant

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

40' 20' 0 40'

FINAL PLAT OF
JACOB'S CORNER
A SUBDIVISION IN SALINE COUNTY, ARKANSAS

VICINITY MAP:



CITY OF BRYANT CERTIFICATIONS:

OWNER:
Name: GIRON BUILDERS INC.
Address: 3420 HILLDALE ROAD
ALEXANDER, AR 72002

DEVELOPER:
Name: GIRON BUILDERS INC.
Address: 3420 HILLDALE ROAD
ALEXANDER, AR 72002

CERTIFICATE OF OWNER:

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

Date of Execution _____ Name: _____

Source of Tile: D.R. BOOK 2020 PAGE 006574

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 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 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

Rick Johnson,
Bryant Planning Commission Chairman

FLOODPLAIN CERTIFICATION:

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 the the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Saline County unincorporated areas, panel # 05125C0240E, dated 06/05/2020, Most of the property described hereon does lie within the 100 year flood hazard boundary.

PROPERTY SPECIFICATIONS:

OWNER: GIRON BUILDERS INC.
3420 HILLDALE ROAD
ALEXANDER, AR 72002

DEVELOPER/: SUBDIVIDER: GIRON BUILDERS INC.
3420 HILLDALE ROAD
ALEXANDER, AR 72002

ENGINEERS: HOPE CONSULTING INC.
129 N. MAIN STREET
BENTON, AR 72015

NAME OF SUBDIVISION: JACOB'S CORNER

ZONING CLASSIFICATION: PROPOSED R-1.5

SOURCE OF TITLE: SALINE COUNTY DOCUMENT BOOK 2020 PAGE 006574

MIN. LOT SIZE: 8,400 S.F.
NUMBER OF LOTS: 11
SOURCE OF WATER: SALEM WATER USERS
SOURCE OF SEWER: CITY OF BRYANT
SOURCE OF ELECTRIC: FIRST ELECTRIC COOP
SOURCE OF GAS: CENTERPOINT ENERGY

BUILDING SETBACKS:
FRONT - 25' OR AS SHOWN
REAR - 25' OR AS SHOWN
SIDE - 8' OR AS SHOWN

EASEMENTS: UTILITY & DRAINAGE (D.E. & U.E.)
FRONT - 10' OR AS SHOWN
REAR - 10' OR AS SHOWN
SIDE - 5' OR AS SHOWN

LOT CORNERS: SET 1/2" REBAR WITH CAP

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

FOR USE AND BENEFIT OF:
GIRON BUILDERS INC.

FINAL PLAT
JACOB'S CORNER
A SUBDIVISION IN SALINE COUNTY, ARKANSAS

DATE:	03/08/2023	C.A.D. BY:	JPP	DRAWING NUMBER:
REVISED:		CHECKED BY:		20-0722
		SCALE: 1"= 40'		

500	01S	14W	0	03	320	62	1762

K:\LAND PROJECTS 2020\SUBDIVISIONS\2020\20-0722 GIRON SUBDIVISION\DWG\20-0722 JACOBS CORNER FINAL PLAT.DWG

MIDLAND ROAD SUBDIVISION

BRYANT, AR

DRAINAGE REPORT

FOR
City of Bryant, Saline County, AR

MARCH 2023

Owner & Developer: HAVEN'S DEVELOPMENT, LLC
Address: 2615 N. Prickett Road, Suite 5, Bryant AR 72022

By:

HOPE
CONSULTING
ENGINEERS • SURVEYORS

TABLE OF CONTENTS

ITEM DESCRIPTION

1. Narrative & Summary
2. Hydrograph Report
3. Drainage Map

Narrative & Summary

PROJECT TITLE

Midland Road Subdivision

PROJECT PROPERTY OWNER

Havens Development, LLC

Address: 2615 N. Prickett Road, Suite 5, Bryant AR 72022

PROJECT LOCATION

Midland Road, Bryant, AR

PROJECT DESCRIPTION

The proposed sub divisional development is on Midland Road, Bryant, AR 72002. Total development site area is 49.13 acres.

DRAINAGE ANALYSIS

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

North-West Detention Pond

- Pond is situated on the north-west side of the property.
- Pre-development area 23.93 acres.
- Post-development area 29.93 acres.
- Pre-development runoff coefficient Area-1 0.47.
- Post-development runoff coefficient Area- 0.67.
- Pond has a bottom area of 0.24 acres with bottom elevation of 359.00'.
- One 36'' RCP with 0.5% slope is proposed for outflow culverts.

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

	Pre-development	Post-dev. Without detention	Post-dev. With detention
	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	35.74	46.73	26.85
5-Year	39.44	51.66	31.74
10-Year	47.72	63.08	41.09
25-Year	55.05	72.96	47.98
50-Year	62.73	82.99	54.26
100-Year	67.26	89.41	58.01

South-West Detention Pond

- Pond is situated on the north-east side of the property.
- Pre-development area 15.44 acres.
- Post-development area 15.44 acres.
- Pre-development runoff coefficient 0.47.
- Post-development runoff coefficient 0.67.
- Pond has a bottom area of 0.27 acres with bottom elevation of 351.00'.
- One 24'' RCP with 0.5% slope is proposed for outflow culverts.

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

	Pre-development	Post-dev. Without detention	Post-dev. With detention
	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	15.82	26.41	13.66
5-Year	17.75	29.36	15.58
10-Year	22.22	36.29	19.59
25-Year	25.92	42.14	22.47
50-Year	29.18	47.74	24.67
100-Year	32.08	51.88	25.88

South-East Detention Pond

- Pond is situated on the south-east side of the property.
- Pre-development area 23.57 acres.
- Post-development area 23.57 acres.
- Pre-development runoff coefficient 0.47.
- Post-development runoff coefficient 0.53.
- Pond has a bottom area of 0.17 acres with bottom elevation of 348.00'.
- One 30'' RCP with 0.5% slope is proposed for outflow culverts.

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

	Pre-development	Post-dev. Without detention	Post-dev. With detention
	Peak Flow (cfs)	Peak Flow (cfs)	Peak Flow (cfs)
2-Year	22.25	26.84	21.47
5-Year	25.11	30.15	24.51
10-Year	31.62	37.79	30.67
25-Year	36.97	44.09	35.26
50-Year	41.46	49.61	39.04
100-Year	45.90	54.61	41.80

CONCLUSION

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

Hydrograph Summary Report

NORTHWEST POND

Multi-Hydrograph Plot

Hyd. No. 1

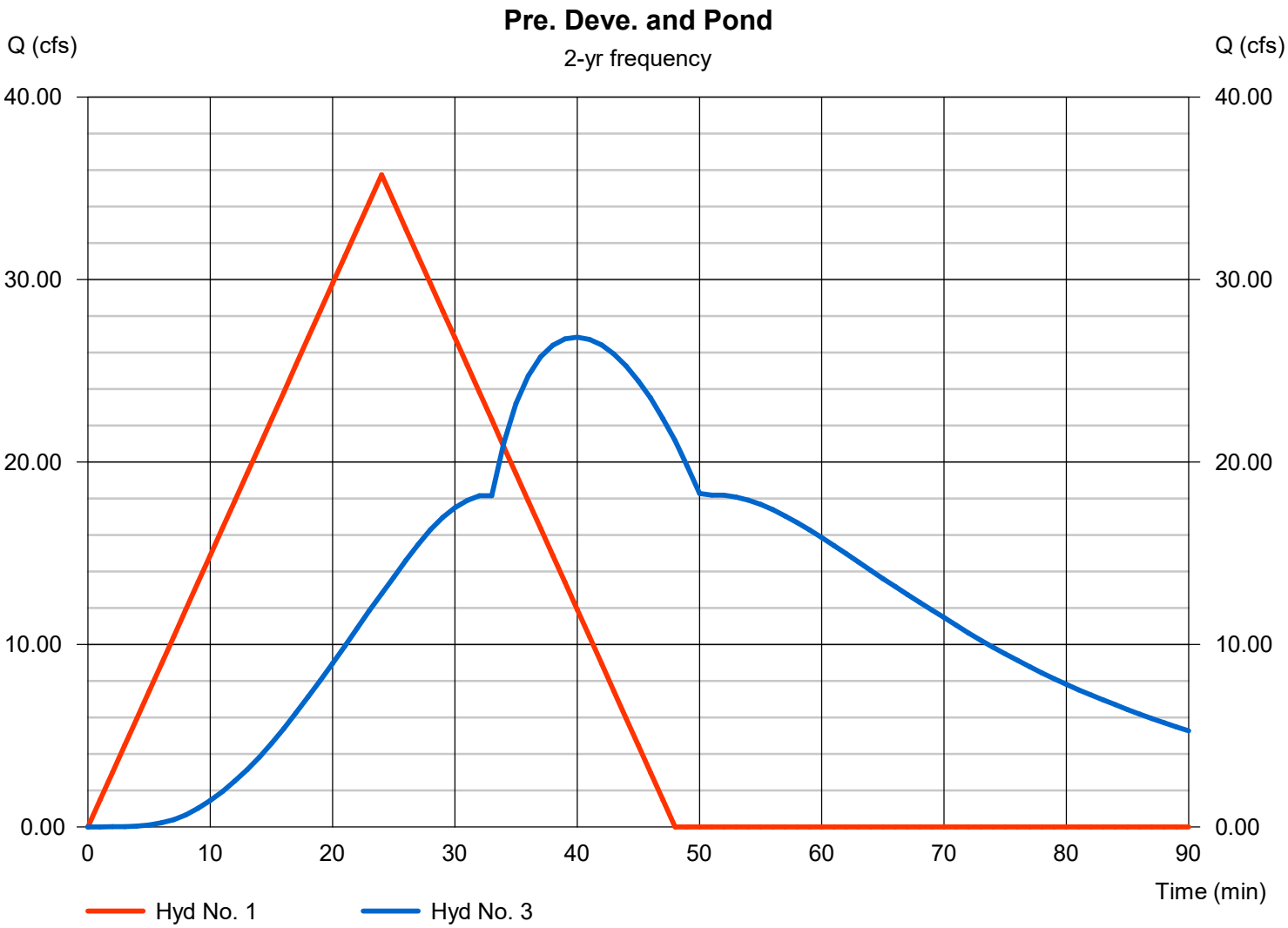
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	35.74 cfs
Time to peak	=	24 min
Hyd. Volume	=	51,466 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	26.85 cfs
Time to peak	=	40 min
Hyd. Volume	=	78,478 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

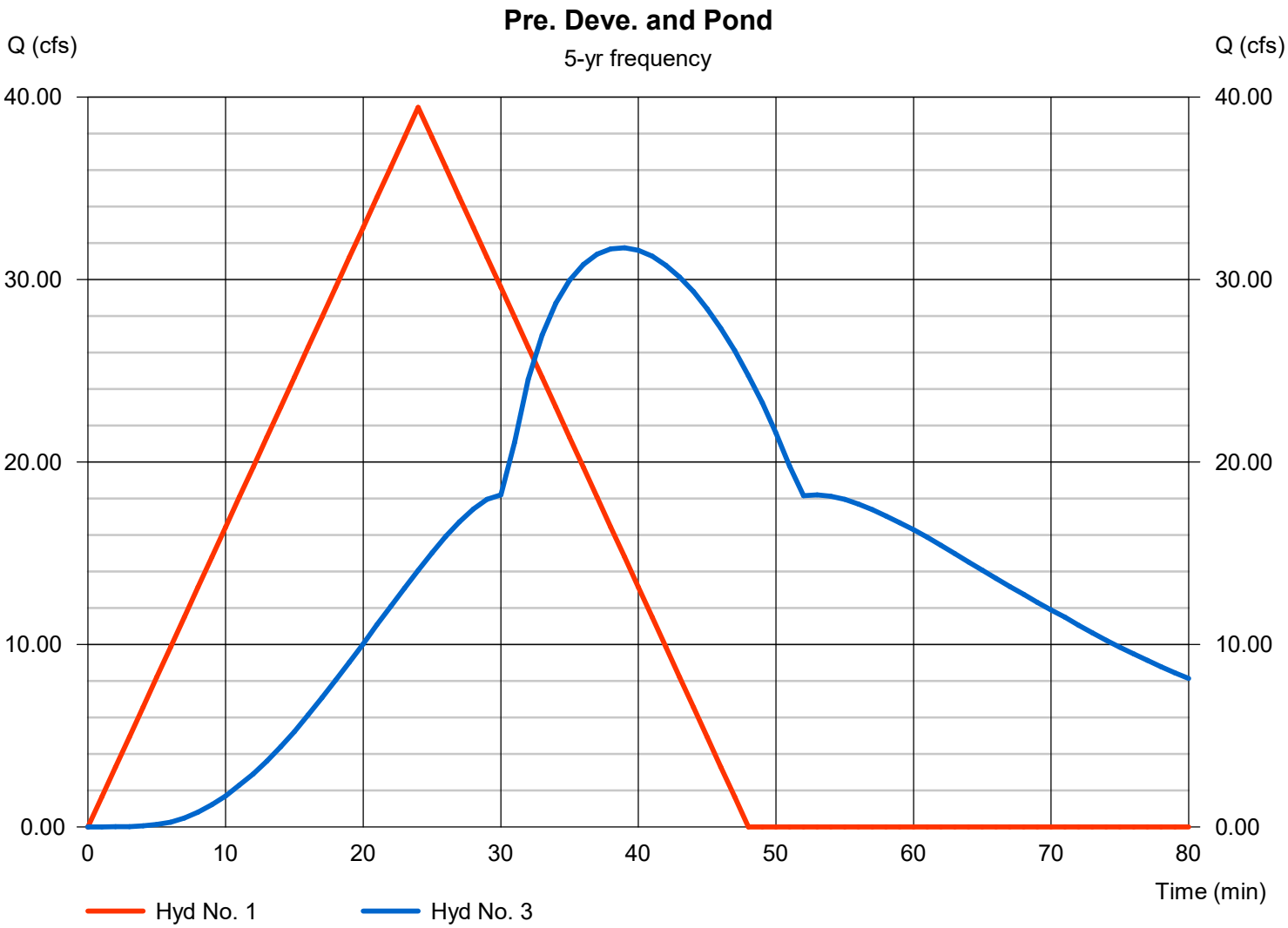
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	39.44 cfs
Time to peak	=	24 min
Hyd. Volume	=	56,792 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	31.74 cfs
Time to peak	=	39 min
Hyd. Volume	=	86,773 cuft



Multi-Hydrograph Plot

Hyd. No. 1

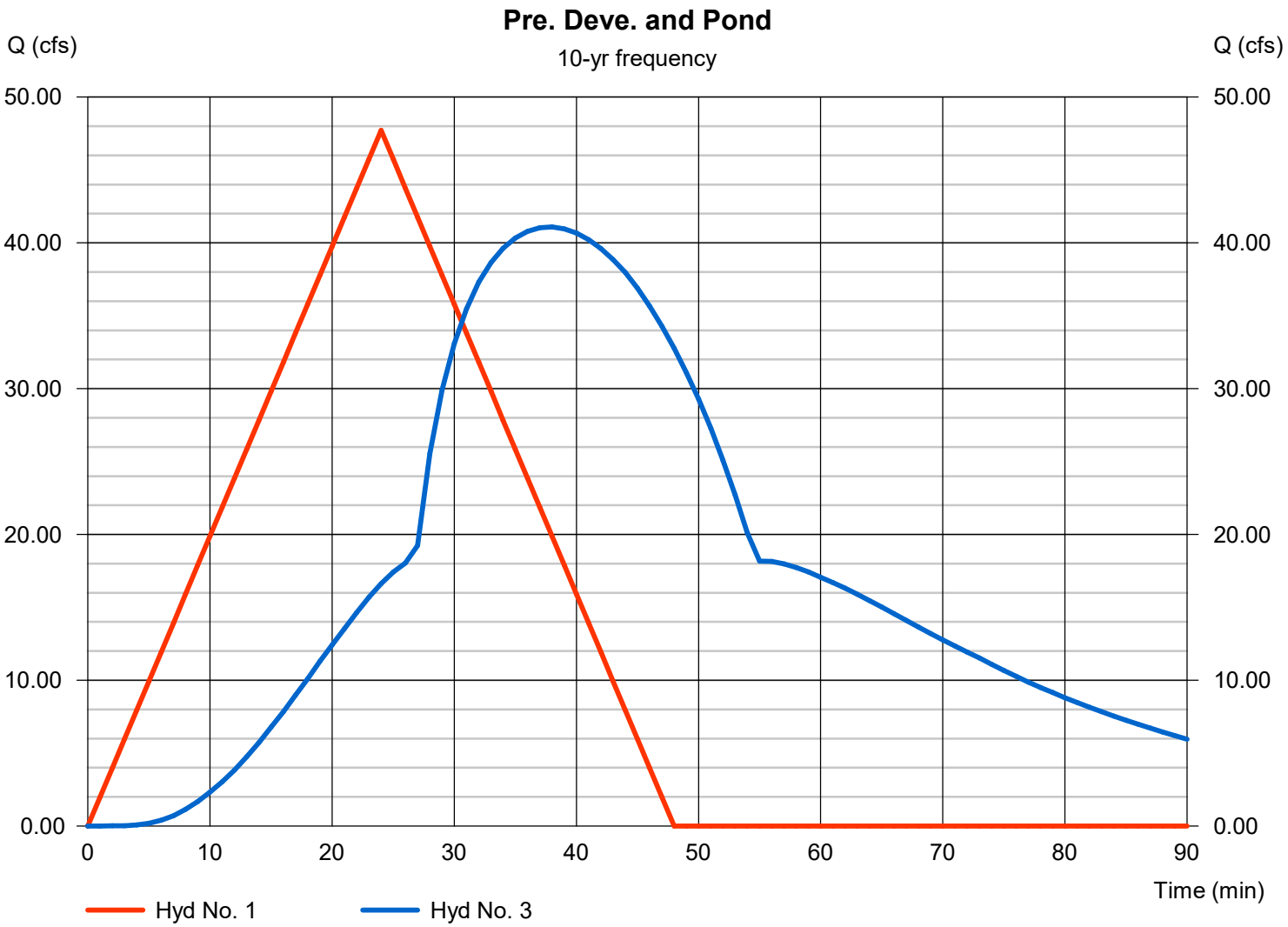
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	47.72 cfs
Time to peak	=	24 min
Hyd. Volume	=	68,715 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	41.09 cfs
Time to peak	=	38 min
Hyd. Volume	=	105,956 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

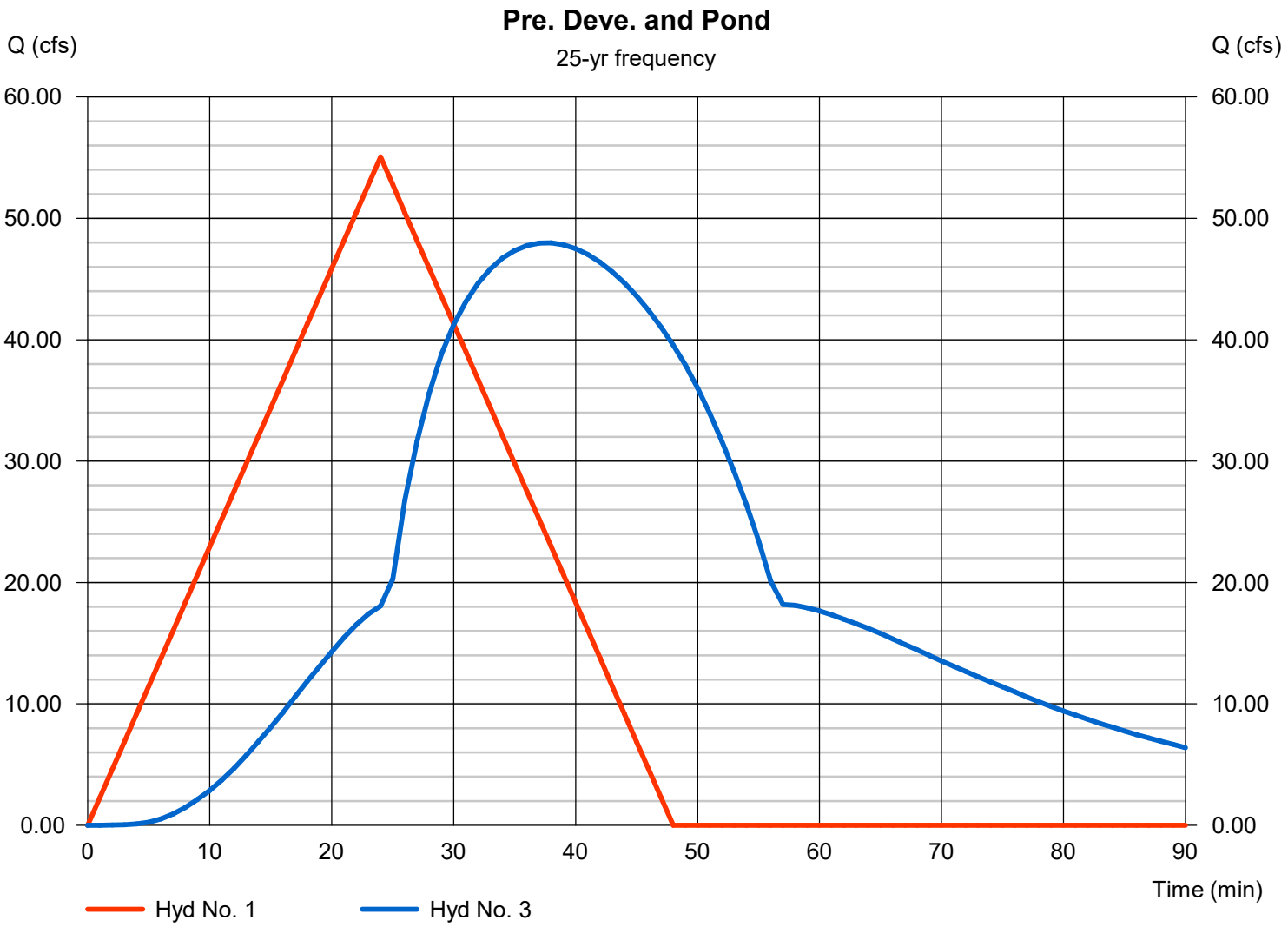
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	55.05 cfs
Time to peak	=	24 min
Hyd. Volume	=	79,278 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	47.98 cfs
Time to peak	=	38 min
Hyd. Volume	=	122,548 cuft



Multi-Hydrograph Plot

Hyd. No. 1

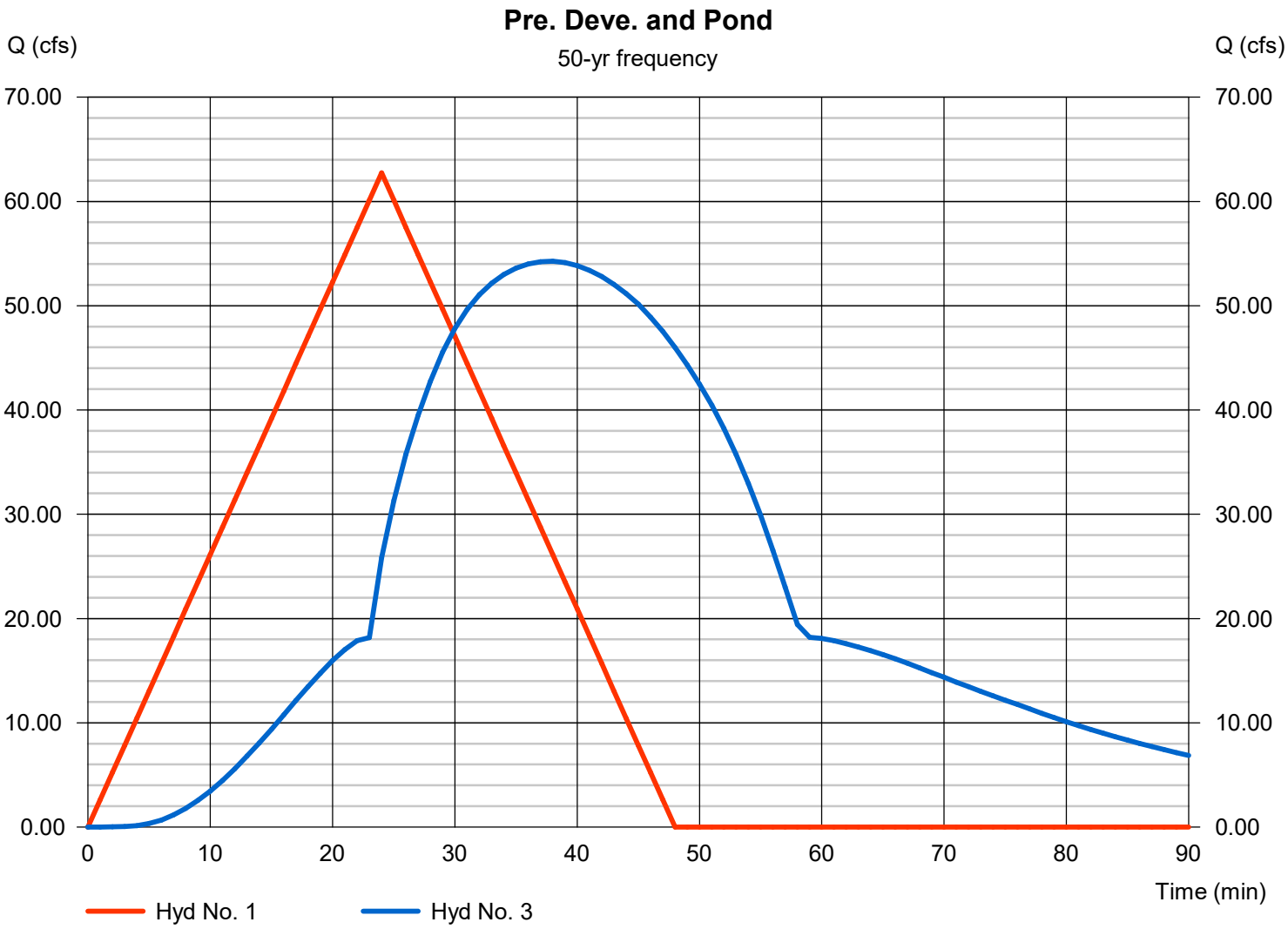
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	62.73 cfs
Time to peak	=	24 min
Hyd. Volume	=	90,330 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	54.26 cfs
Time to peak	=	38 min
Hyd. Volume	=	139,403 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

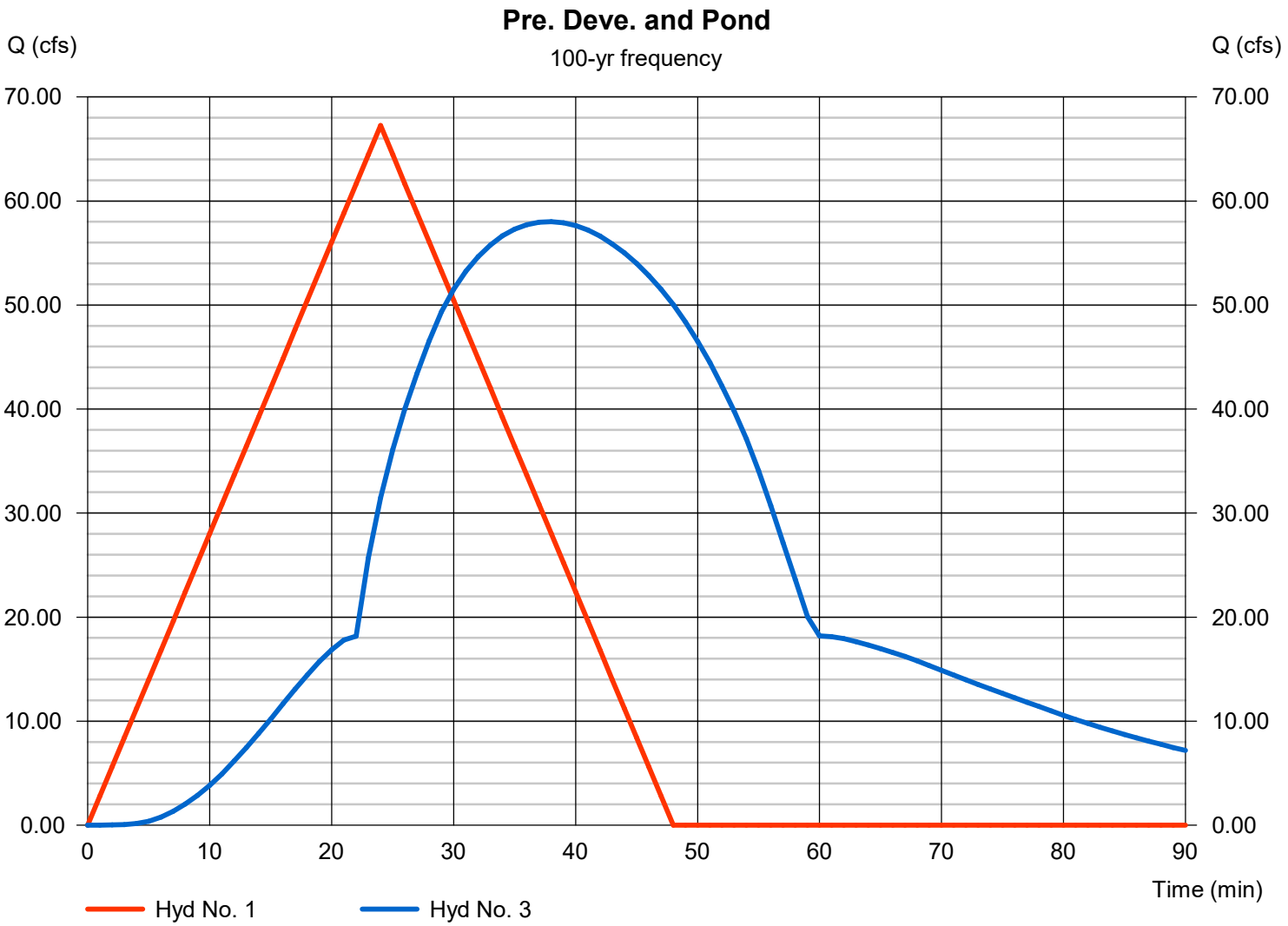
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	67.26 cfs
Time to peak	=	24 min
Hyd. Volume	=	96,854 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	58.01 cfs
Time to peak	=	38 min
Hyd. Volume	=	150,191 cuft



Watershed Model Schematic

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

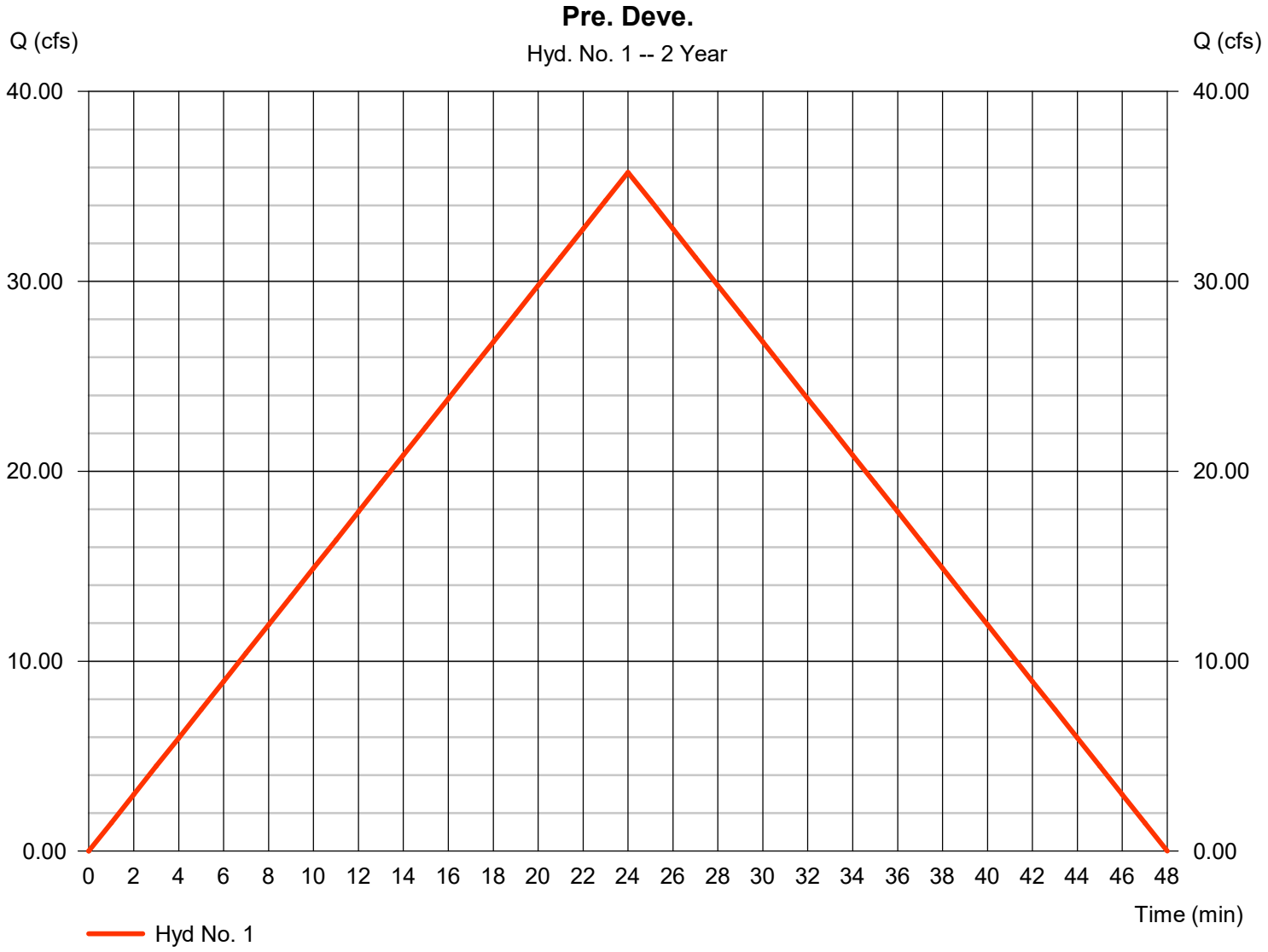
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	35.74	1	24	51,466	------	------	------	Pre. Deve.
2	Rational	46.73	1	28	78,501	------	------	------	Post Deve.
3	Reservoir	26.85	1	40	78,478	2	362.21	41,015	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	35.74 cfs
Storm frequency	=	2 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	51,466 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	3.178 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

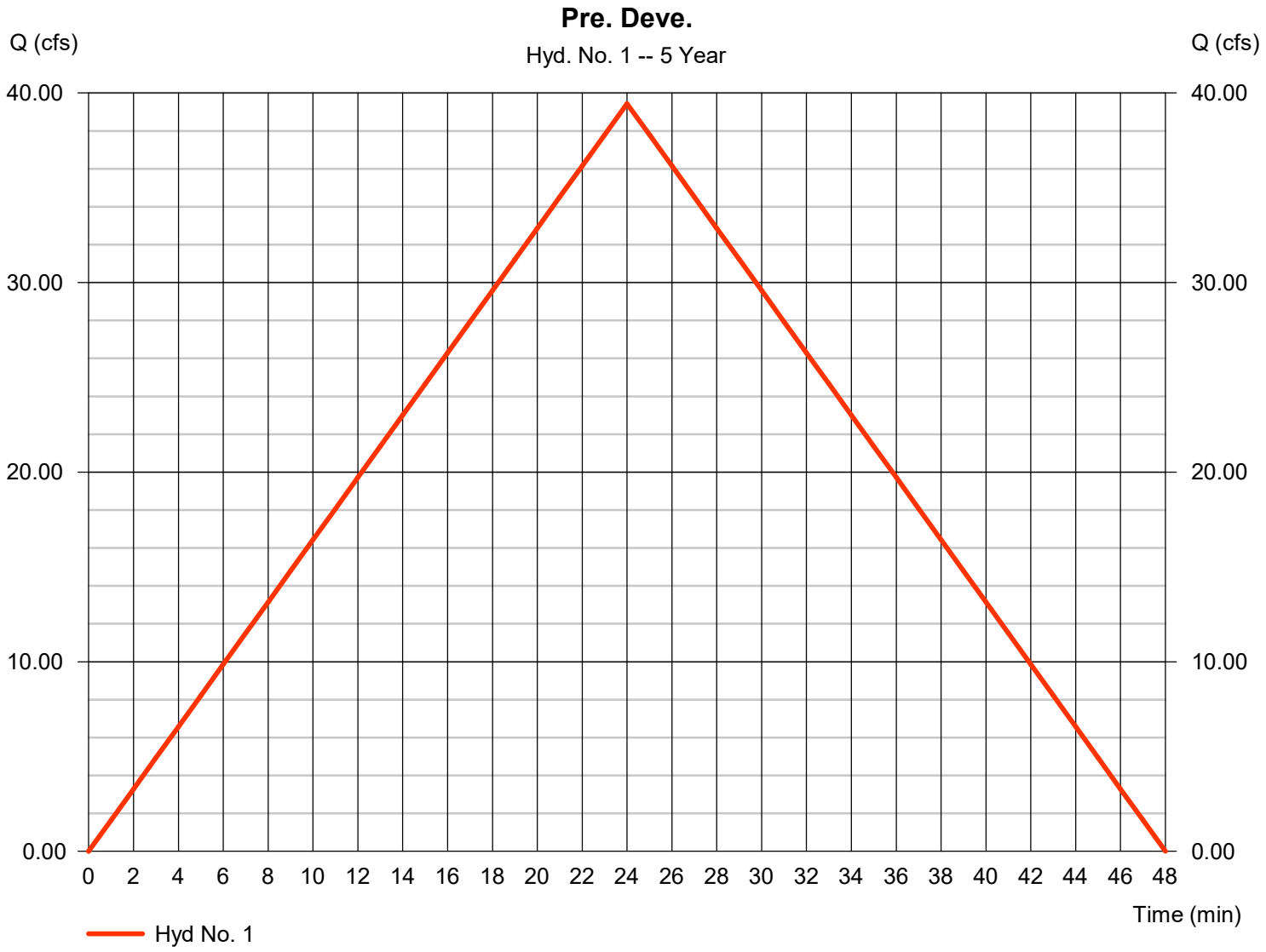
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	39.44	1	24	56,792	------	------	------	Pre. Deve.
2	Rational	51.66	1	28	86,796	------	------	------	Post Deve.
3	Reservoir	31.74	1	39	86,773	2	362.37	43,438	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	39.44 cfs
Storm frequency	=	5 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	56,792 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	3.507 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

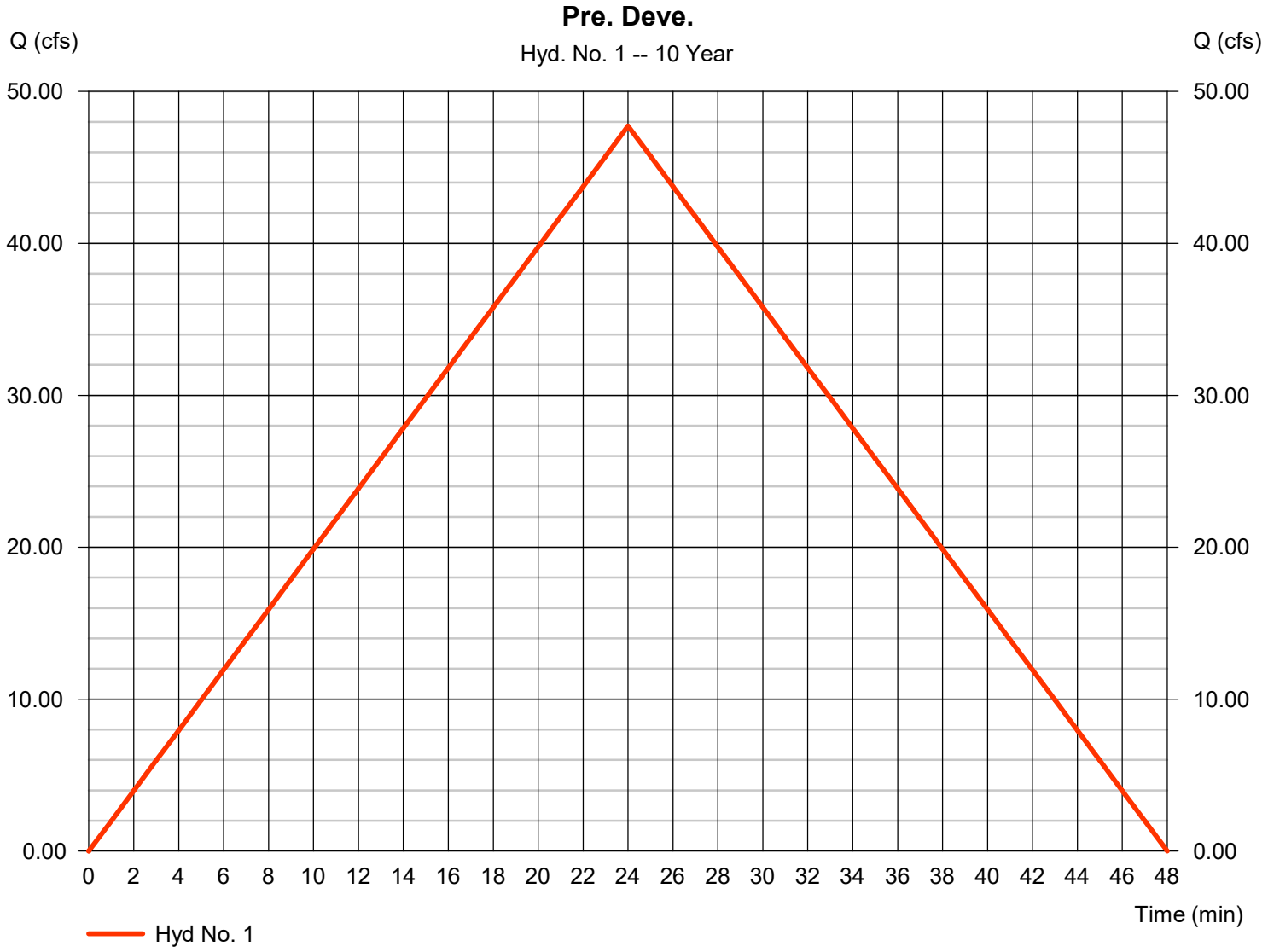
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	47.72	1	24	68,715	------	------	------	Pre. Deve.
2	Rational	63.08	1	28	105,978	------	------	------	Post Deve.
3	Reservoir	41.09	1	38	105,956	2	362.74	49,347	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	47.72 cfs
Storm frequency	=	10 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	68,715 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	4.243 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

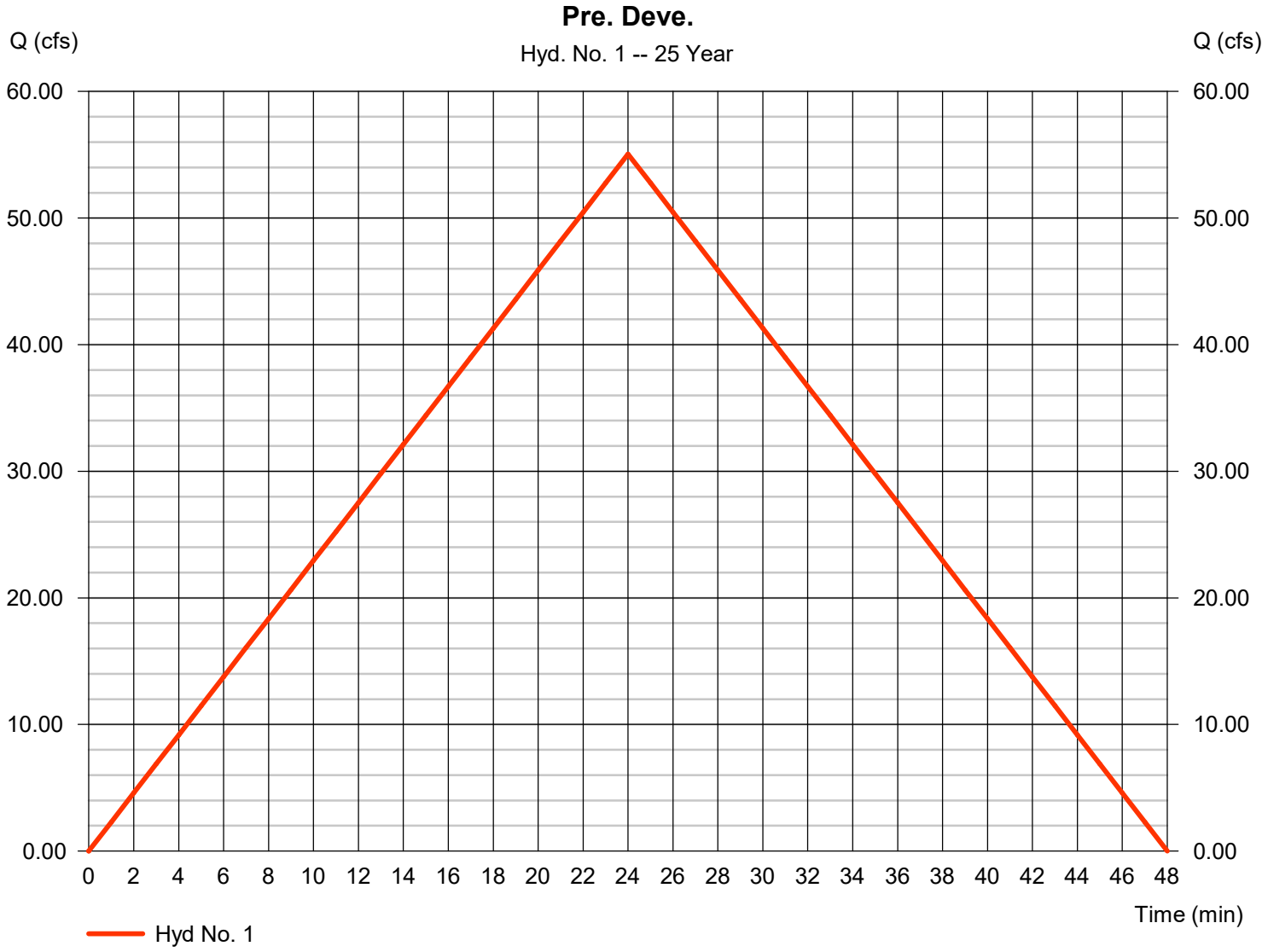
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	55.05	1	24	79,278	------	------	------	Pre. Deve.
2	Rational	72.96	1	28	122,571	------	------	------	Post Deve.
3	Reservoir	47.98	1	38	122,548	2	363.08	54,892	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	55.05 cfs
Storm frequency	=	25 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	79,278 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	4.895 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

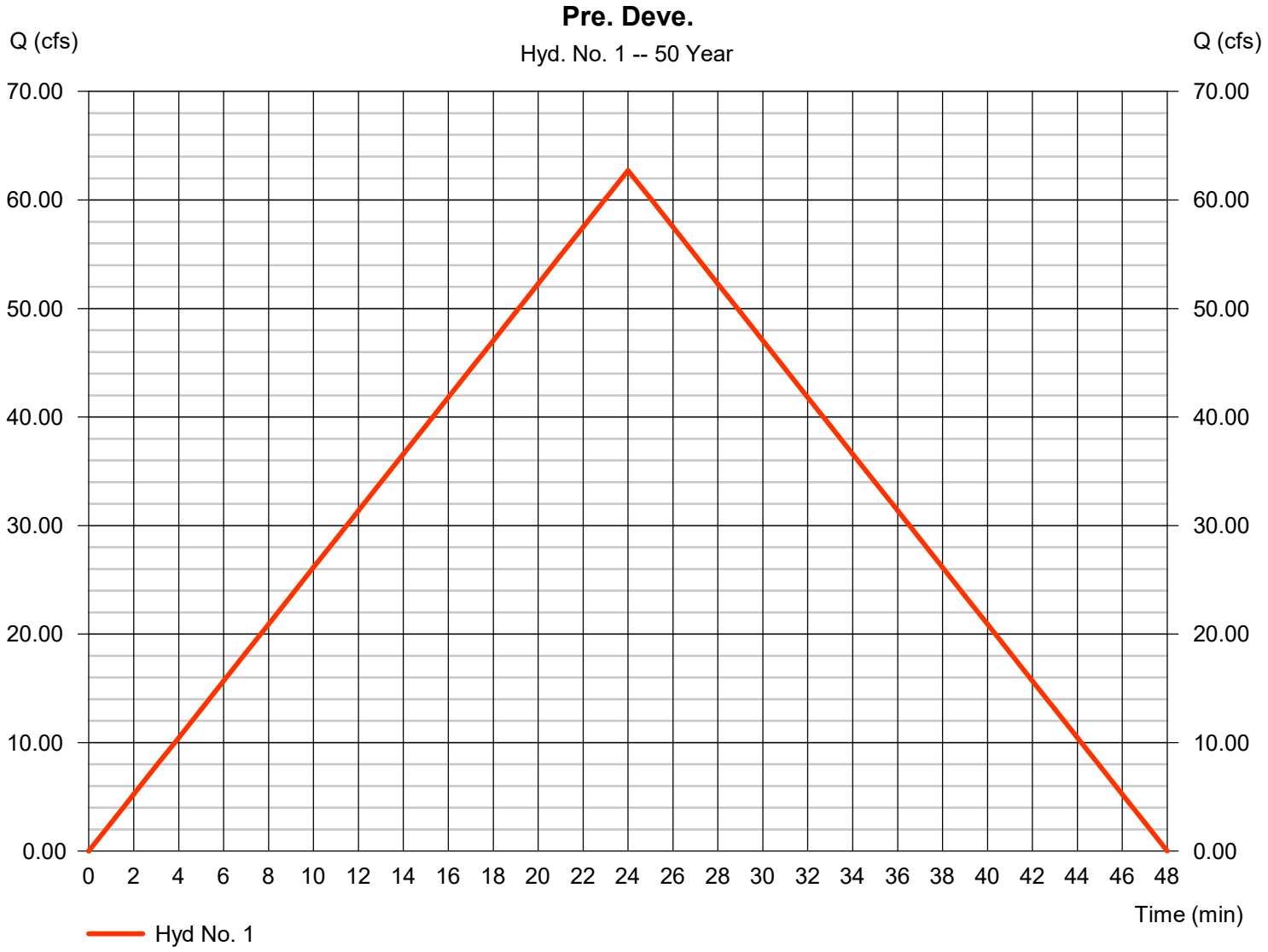
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	62.73	1	24	90,330	------	------	------	Pre. Deve.
2	Rational	82.99	1	28	139,426	------	------	------	Post Deve.
3	Reservoir	54.26	1	38	139,403	2	363.43	60,931	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	62.73 cfs
Storm frequency	=	50 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	90,330 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	5.577 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

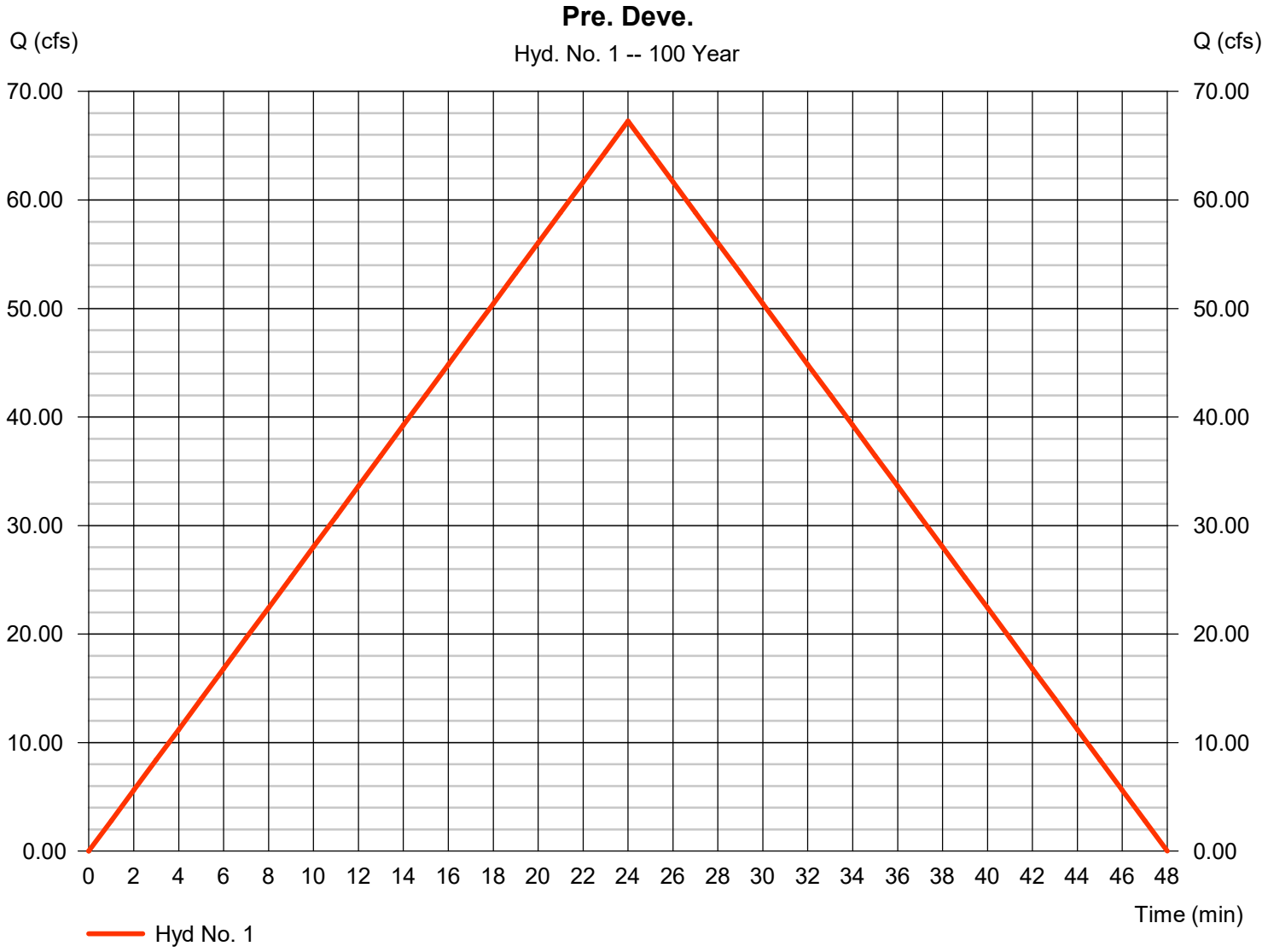
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	67.26	1	24	96,854	------	------	------	Pre. Deve.
2	Rational	89.41	1	28	150,213	------	------	------	Post Deve.
3	Reservoir	58.01	1	38	150,191	2	363.66	64,981	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	67.26 cfs
Storm frequency	=	100 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	96,854 cuft
Drainage area	=	23.930 ac	Runoff coeff.	=	0.47
Intensity	=	5.980 in/hr	Tc by User	=	24.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	59.0468	11.8000	0.8167	--------
3	0.0000	0.0000	0.0000	--------
5	38.3363	7.0000	0.6965	--------
10	46.3641	10.0000	0.6781	--------
25	48.6541	9.8000	0.6523	--------
50	79.0516	13.3000	0.7326	--------
100	54.7483	10.0000	0.6279	--------

File name: Bryant 50.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.89	4.76	4.03	3.50	3.11	2.80	2.55	2.35	2.18	2.03	1.91	1.80
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.79	5.33	4.45	3.86	3.43	3.10	2.84	2.62	2.45	2.29	2.16	2.05
10	7.39	6.08	5.23	4.62	4.16	3.80	3.51	3.27	3.06	2.89	2.73	2.60
25	8.39	6.94	5.99	5.31	4.80	4.40	4.07	3.80	3.57	3.37	3.20	3.05
50	9.40	7.87	6.83	6.06	5.47	5.00	4.62	4.29	4.02	3.79	3.58	3.40
100	10.00	8.34	7.25	6.47	5.87	5.40	5.02	4.69	4.42	4.19	3.98	3.80

Tc = time in minutes. Values may exceed 60.

Precip. file name: C:\Documents and Settings\Will\Desktop\Fleming\fleming.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	3.50	0.00	0.00	4.80	5.40	0.00	6.70

SOUTHWEST POND

Multi-Hydrograph Plot

Hyd. No. 1

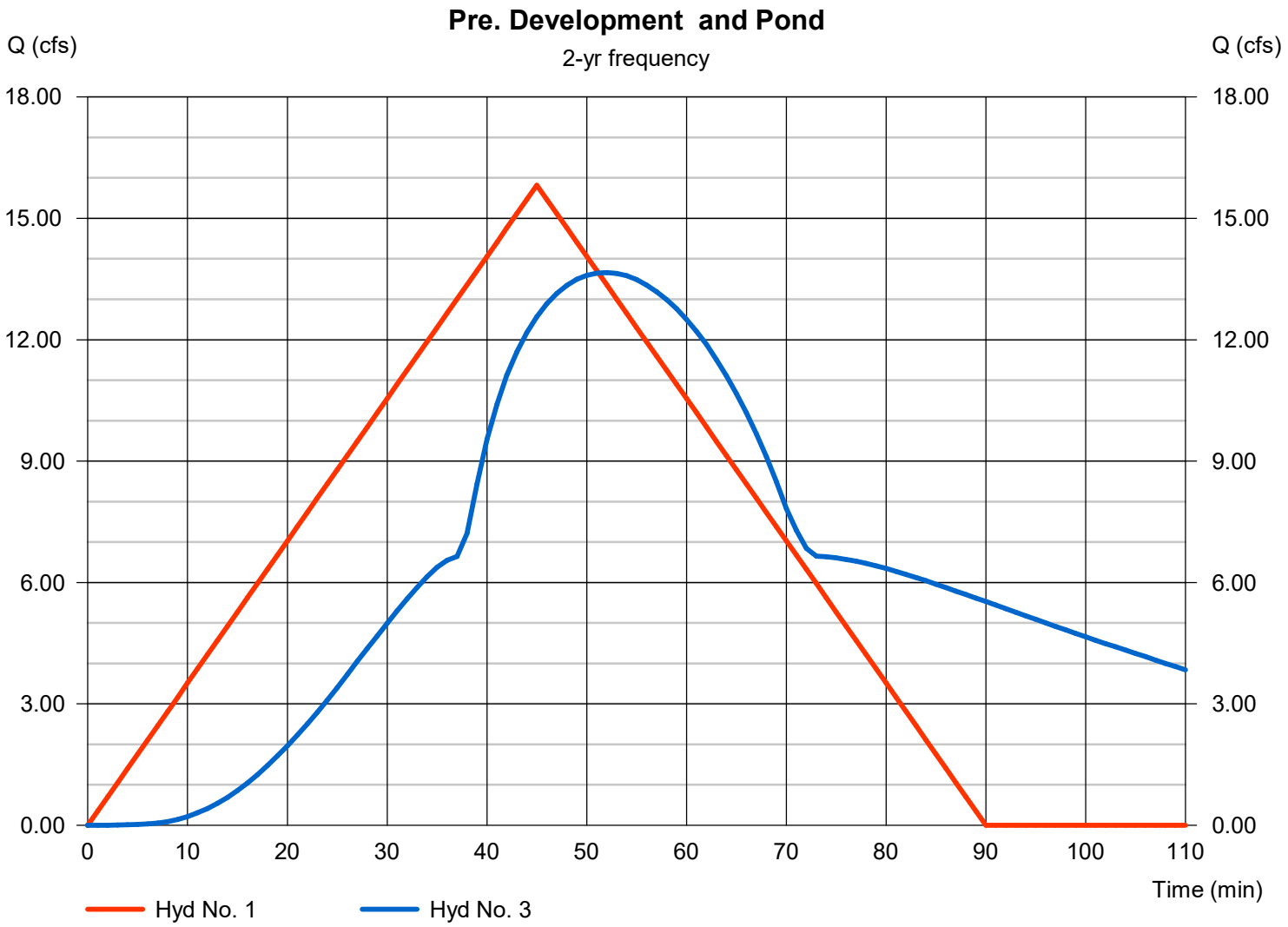
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	15.82 cfs
Time to peak	=	45 min
Hyd. Volume	=	42,707 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	13.66 cfs
Time to peak	=	52 min
Hyd. Volume	=	55,434 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

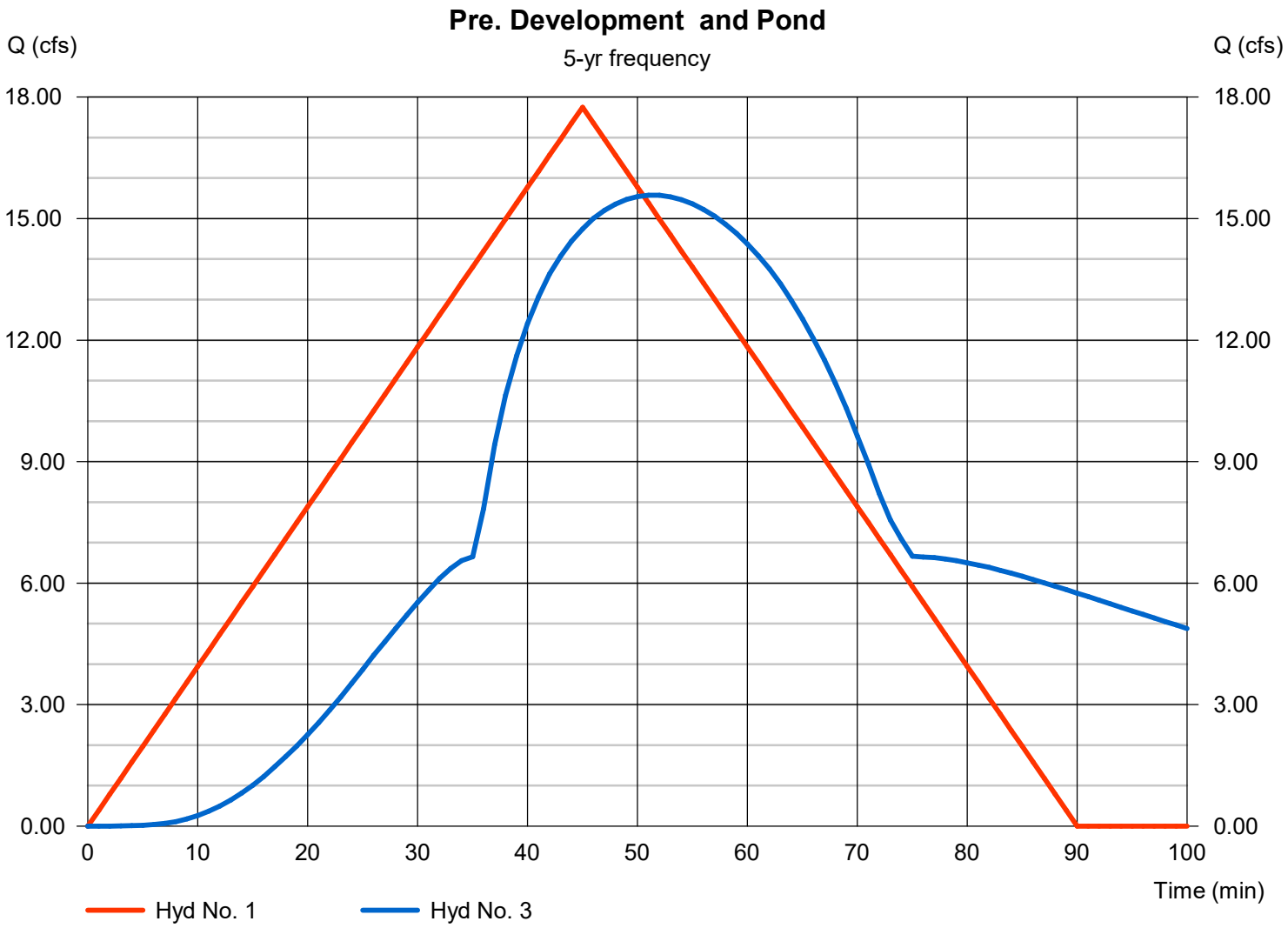
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	17.75 cfs
Time to peak	=	45 min
Hyd. Volume	=	47,921 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	15.58 cfs
Time to peak	=	51 min
Hyd. Volume	=	61,623 cuft



Multi-Hydrograph Plot

Hyd. No. 1

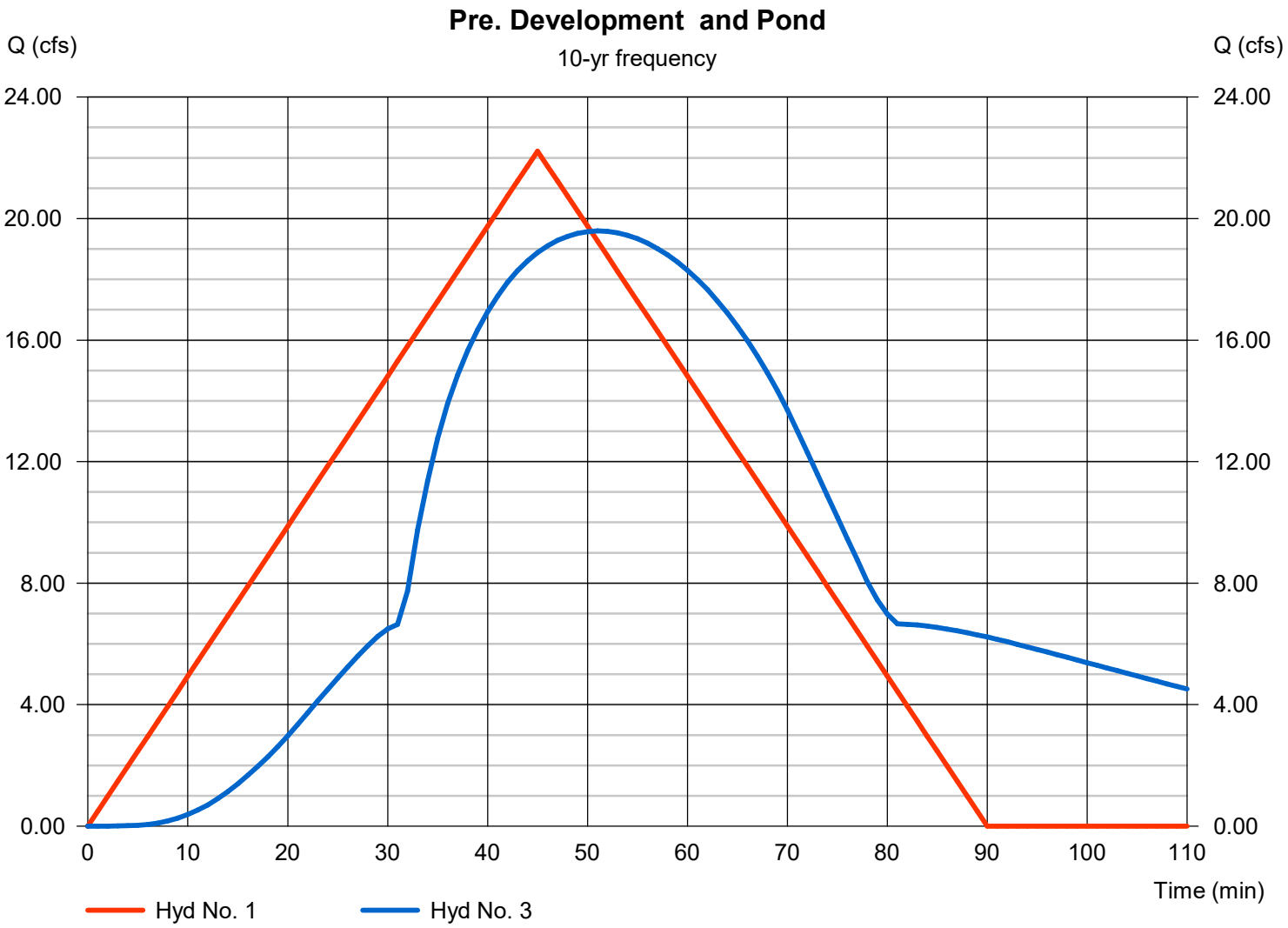
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	22.22 cfs
Time to peak	=	45 min
Hyd. Volume	=	59,994 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	19.59 cfs
Time to peak	=	51 min
Hyd. Volume	=	76,183 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

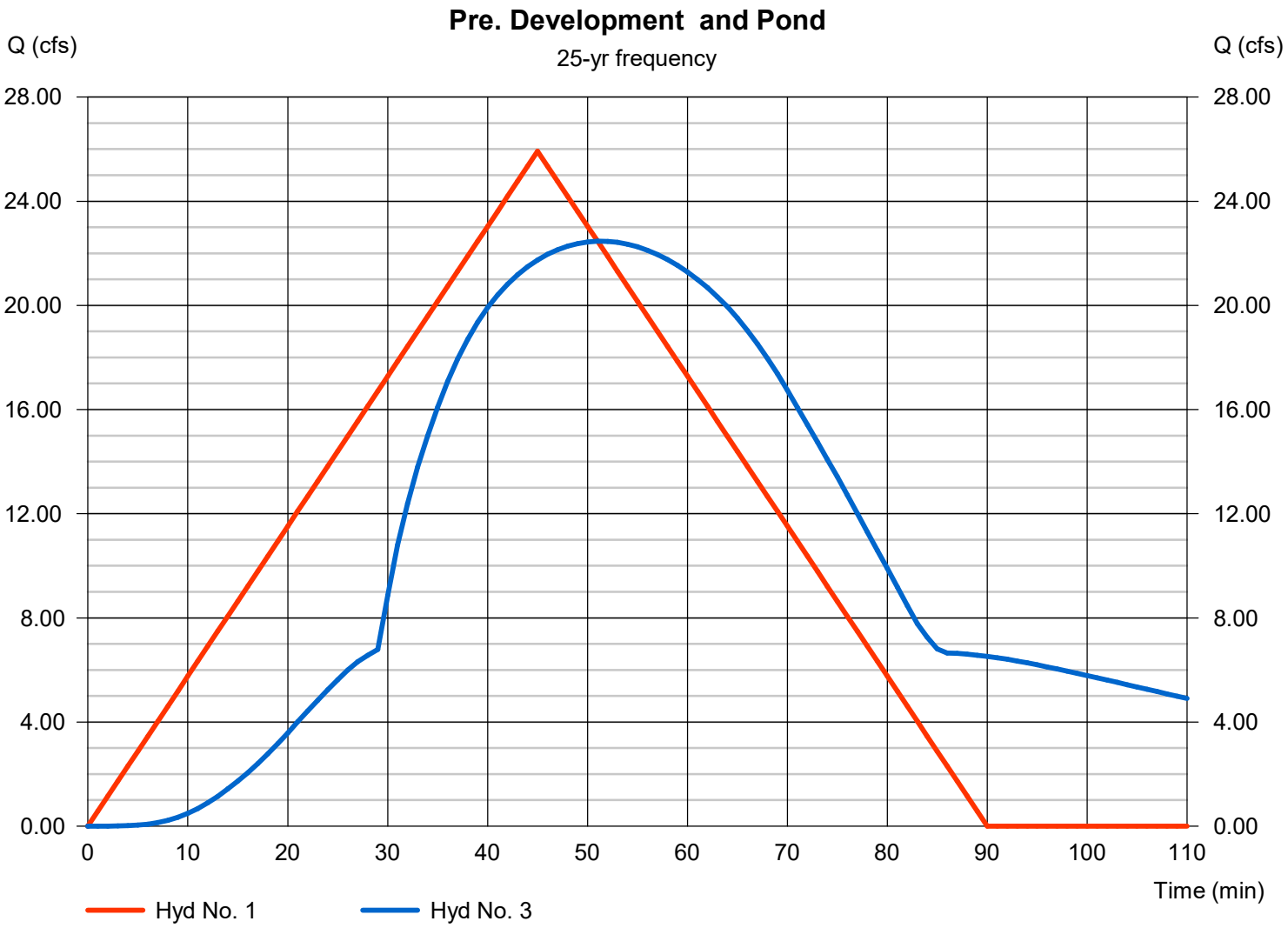
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	25.92 cfs
Time to peak	=	45 min
Hyd. Volume	=	69,977 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	22.47 cfs
Time to peak	=	51 min
Hyd. Volume	=	88,453 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

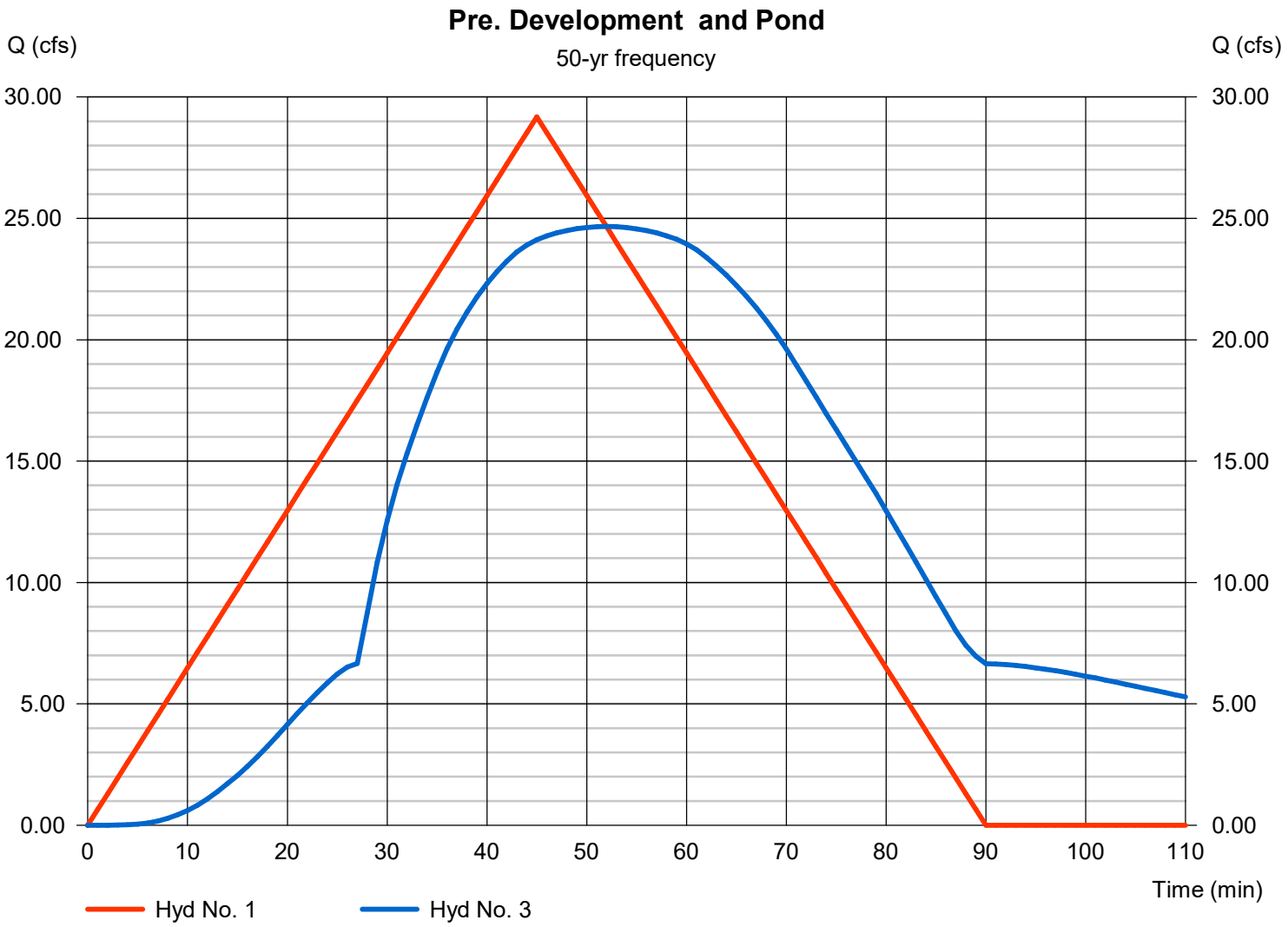
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	29.18 cfs
Time to peak	=	45 min
Hyd. Volume	=	78,784 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	24.67 cfs
Time to peak	=	52 min
Hyd. Volume	=	100,232 cuft



Multi-Hydrograph Plot

Hyd. No. 1

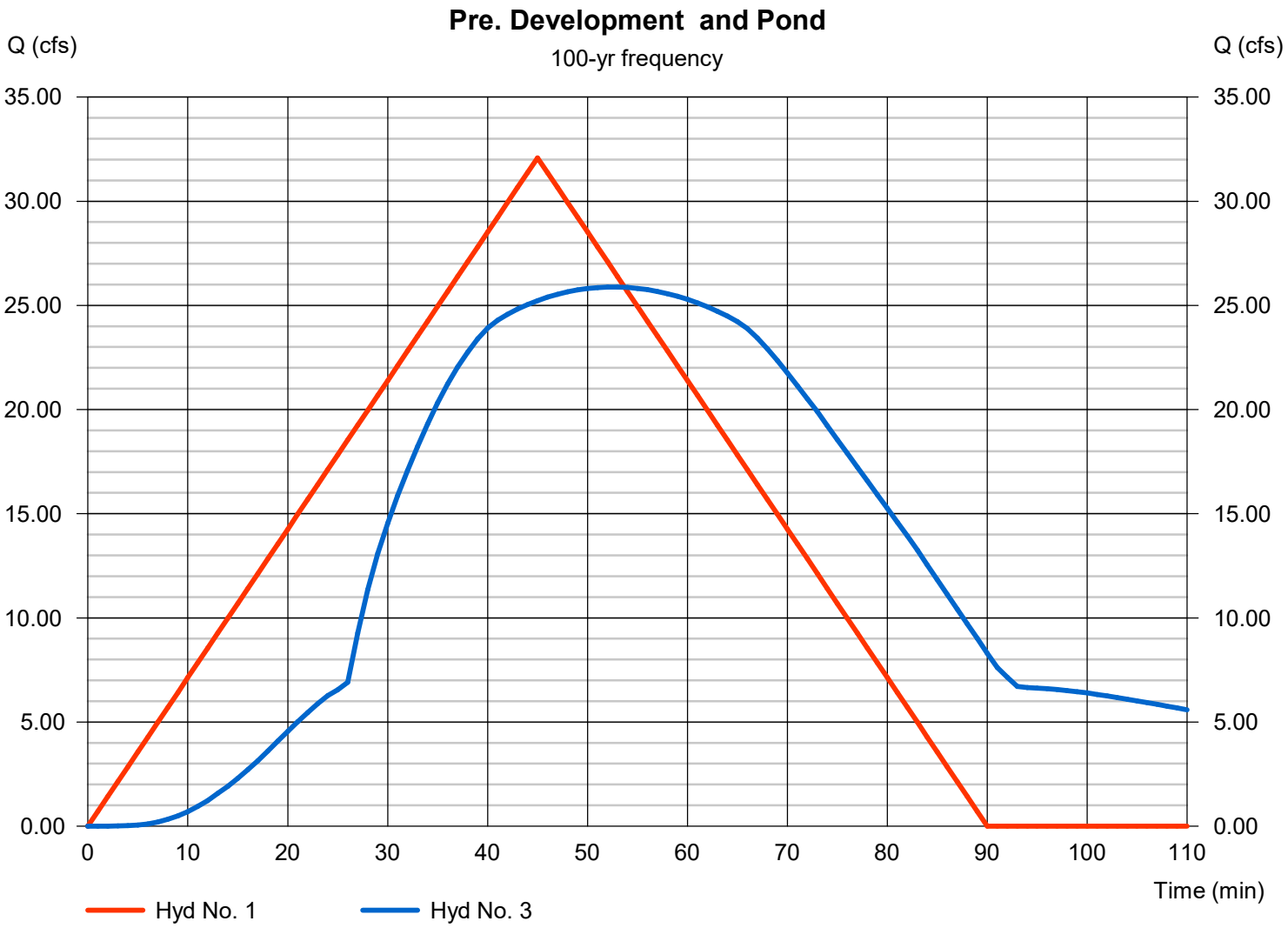
Pre. Development

Hydrograph type	=	Rational
Peak discharge	=	32.08 cfs
Time to peak	=	45 min
Hyd. Volume	=	86,628 cuft

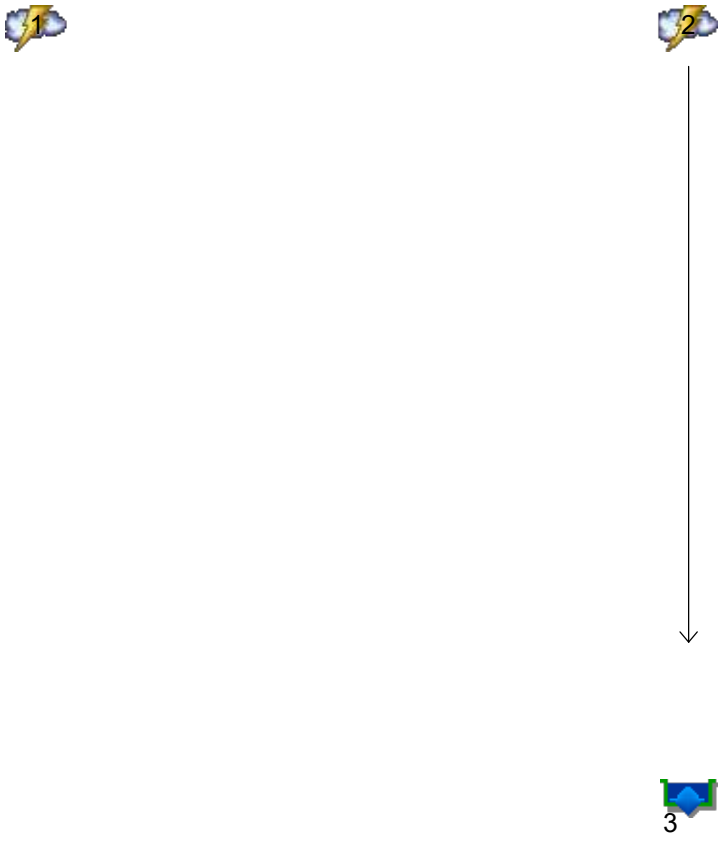
Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	25.88 cfs
Time to peak	=	53 min
Hyd. Volume	=	108,915 cuft



Watershed Model Schematic



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

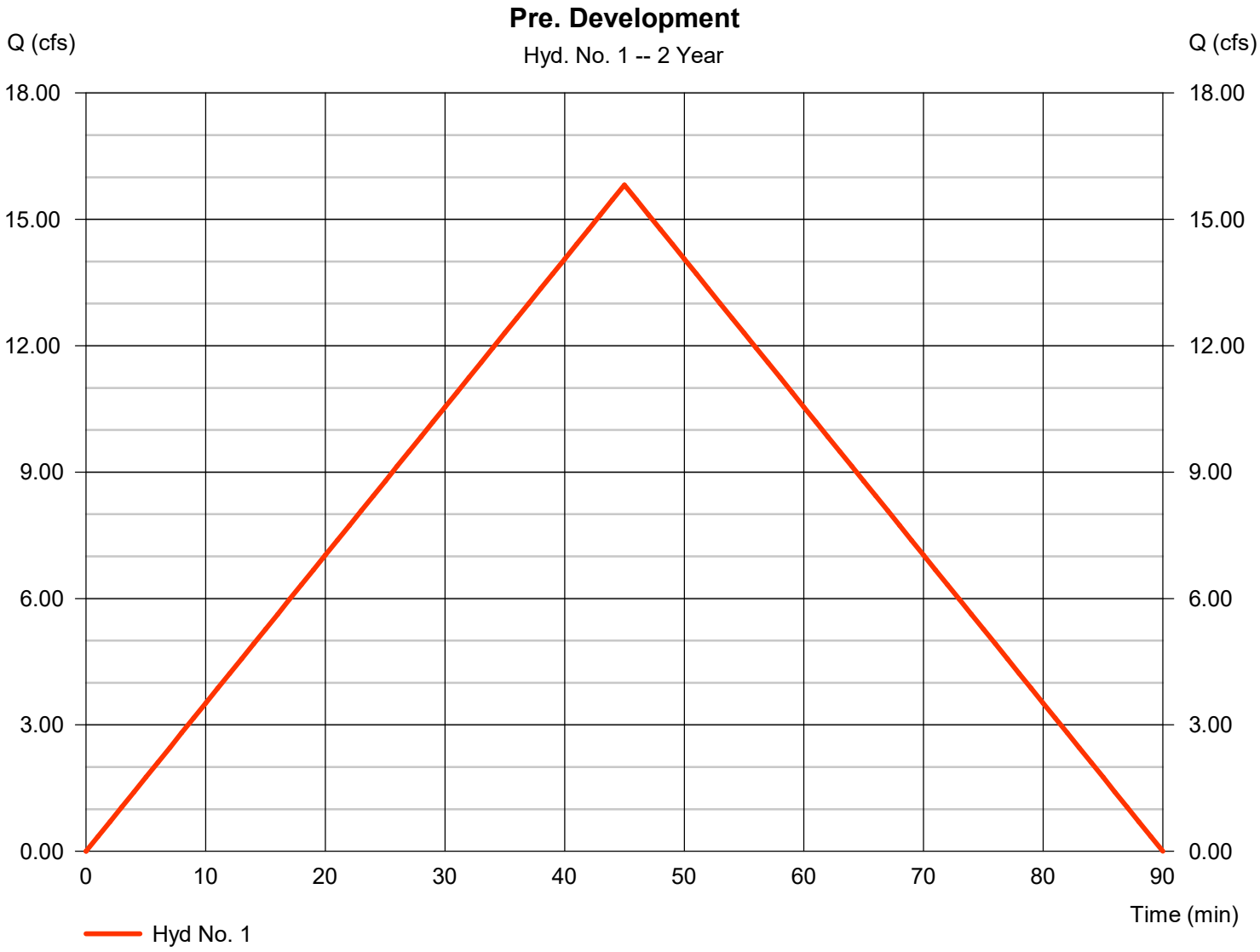
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	15.82	1	45	42,707	------	------	------	Pre. Development
2	Rational	26.41	1	35	55,466	------	------	------	Post Development
3	Reservoir	13.66	1	52	55,434	2	353.41	32,577	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	=	Rational	Peak discharge	=	15.82 cfs
Storm frequency	=	2 yrs	Time to peak	=	45 min
Time interval	=	1 min	Hyd. volume	=	42,707 cuft
Drainage area	=	15.440 ac	Runoff coeff.	=	0.47
Intensity	=	2.180 in/hr	Tc by User	=	45.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	17.75	1	45	47,921	------	------	------	Pre. Development
2	Rational	29.36	1	35	61,654	------	------	------	Post Development
3	Reservoir	15.58	1	51	61,623	2	353.57	35,120	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	= Rational	Peak discharge	= 17.75 cfs
Storm frequency	= 5 yrs	Time to peak	= 45 min
Time interval	= 1 min	Hyd. volume	= 47,921 cuft
Drainage area	= 15.440 ac	Runoff coeff.	= 0.47
Intensity	= 2.446 in/hr	Tc by User	= 45.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

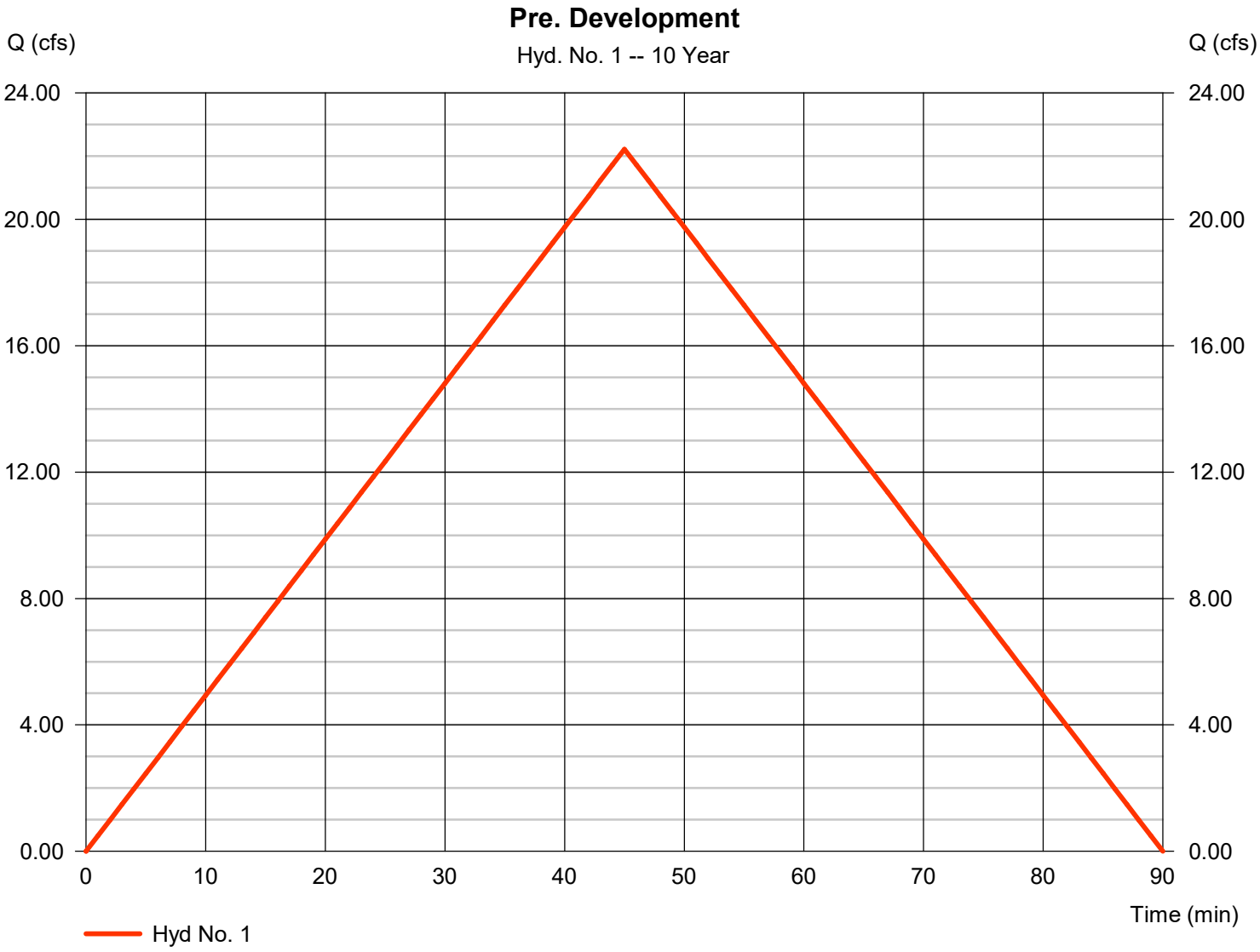
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	22.22	1	45	59,994	------	------	------	Pre. Development
2	Rational	36.29	1	35	76,214	------	------	------	Post Development
3	Reservoir	19.59	1	51	76,183	2	353.97	41,520	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	=	Rational	Peak discharge	=	22.22 cfs
Storm frequency	=	10 yrs	Time to peak	=	45 min
Time interval	=	1 min	Hyd. volume	=	59,994 cuft
Drainage area	=	15.440 ac	Runoff coeff.	=	0.47
Intensity	=	3.062 in/hr	Tc by User	=	45.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

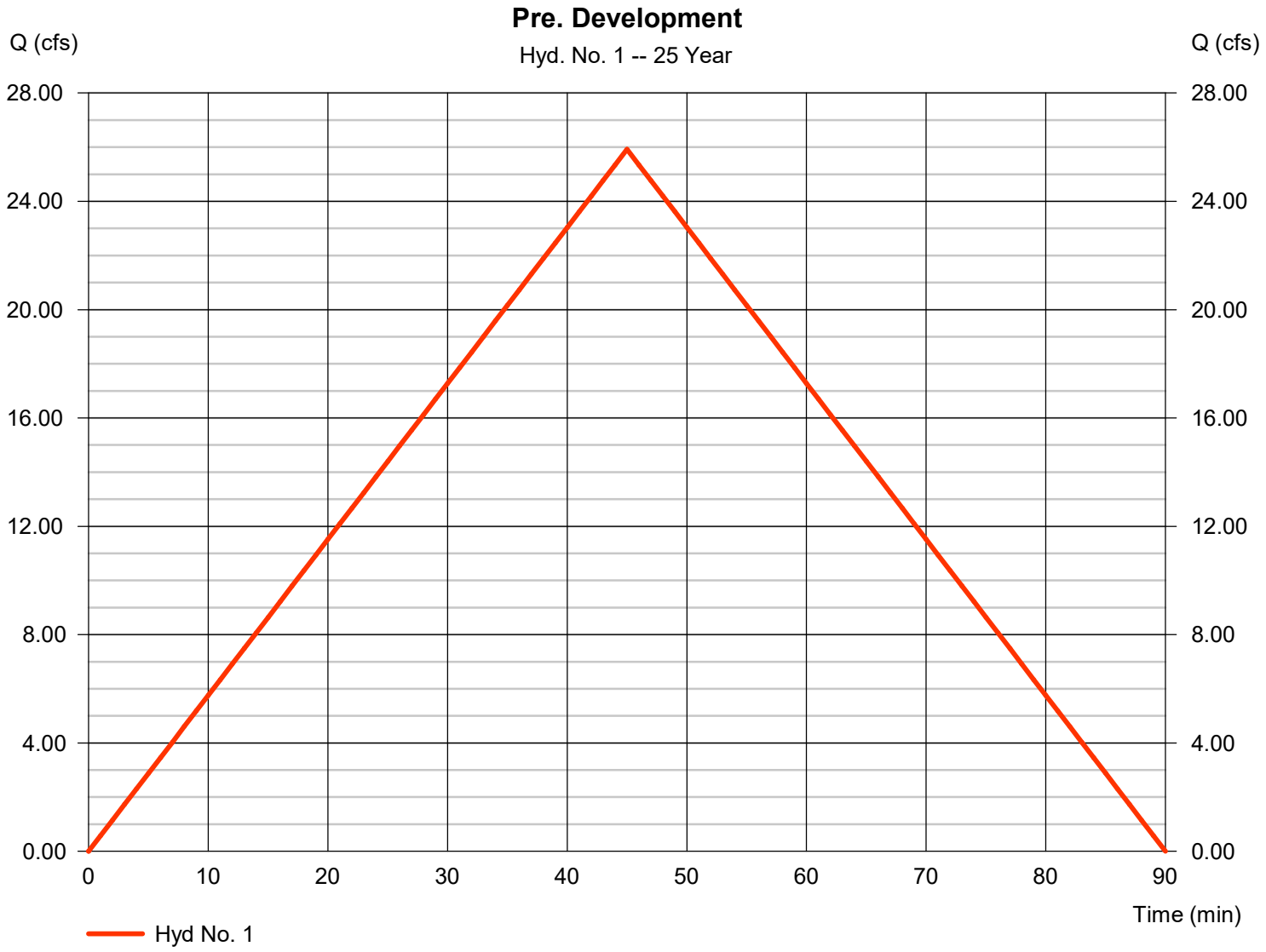
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	25.92	1	45	69,977	------	------	------	Pre. Development
2	Rational	42.14	1	35	88,484	------	------	------	Post Development
3	Reservoir	22.47	1	51	88,453	2	354.31	47,311	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	=	Rational	Peak discharge	=	25.92 cfs
Storm frequency	=	25 yrs	Time to peak	=	45 min
Time interval	=	1 min	Hyd. volume	=	69,977 cuft
Drainage area	=	15.440 ac	Runoff coeff.	=	0.47
Intensity	=	3.571 in/hr	Tc by User	=	45.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

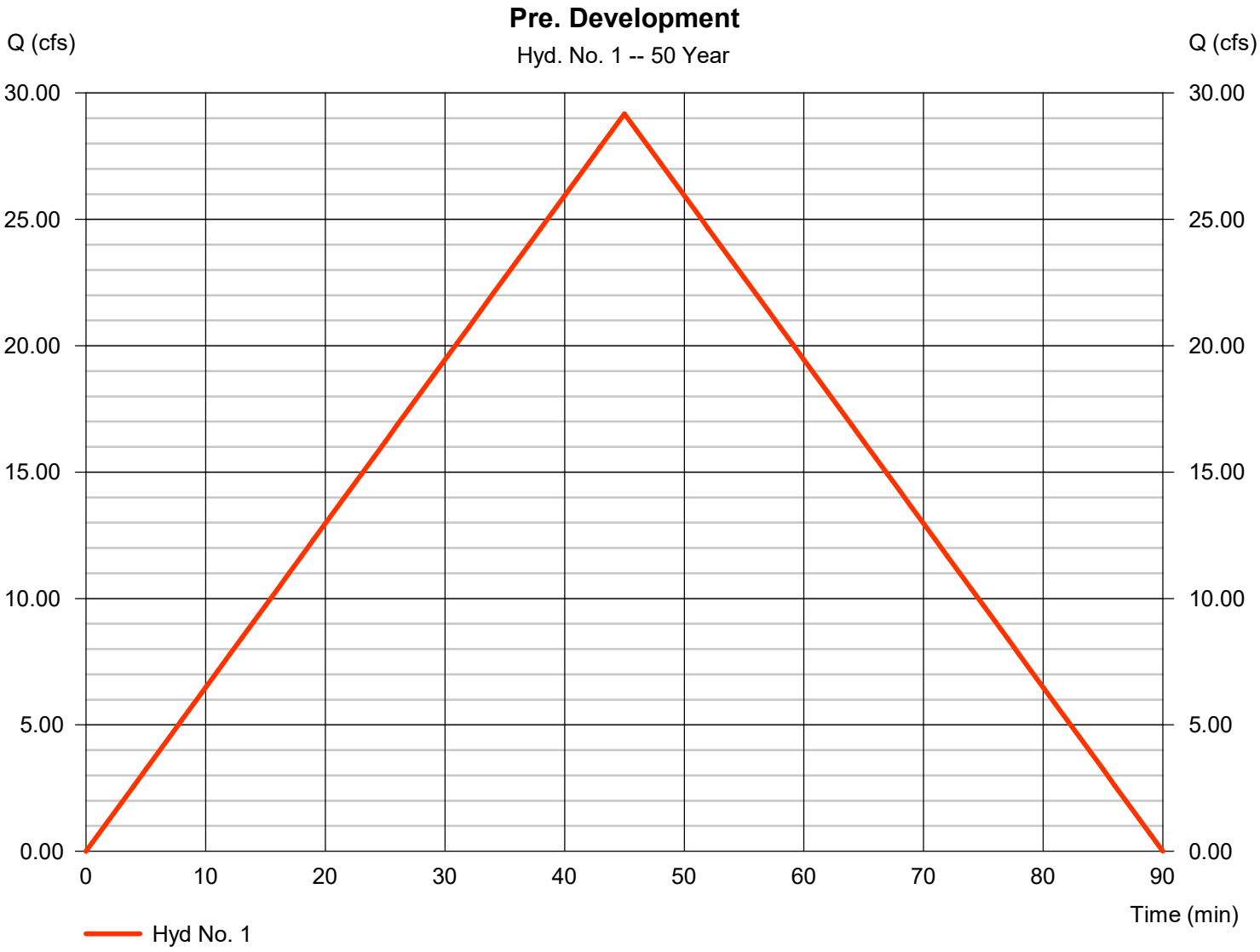
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	29.18	1	45	78,784	------	------	------	Pre. Development
2	Rational	47.74	1	35	100,263	------	------	------	Post Development
3	Reservoir	24.67	1	52	100,232	2	354.66	53,278	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	=	Rational	Peak discharge	=	29.18 cfs
Storm frequency	=	50 yrs	Time to peak	=	45 min
Time interval	=	1 min	Hyd. volume	=	78,784 cuft
Drainage area	=	15.440 ac	Runoff coeff.	=	0.47
Intensity	=	4.021 in/hr	Tc by User	=	45.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	32.08	1	45	86,628	------	------	------	Pre. Development
2	Rational	51.88	1	35	108,947	------	------	------	Post Development
3	Reservoir	25.88	1	53	108,915	2	354.93	58,104	Pond

Hydrograph Report

Hyd. No. 1

Pre. Development

Hydrograph type	= Rational	Peak discharge	= 32.08 cfs
Storm frequency	= 100 yrs	Time to peak	= 45 min
Time interval	= 1 min	Hyd. volume	= 86,628 cuft
Drainage area	= 15.440 ac	Runoff coeff.	= 0.47
Intensity	= 4.421 in/hr	Tc by User	= 45.00 min
IDF Curve	= Bryant 50.IDF	Asc/Rec limb fact	= 1/1

Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	59.0468	11.8000	0.8167	--------
3	0.0000	0.0000	0.0000	--------
5	38.3363	7.0000	0.6965	--------
10	46.3641	10.0000	0.6781	--------
25	48.6541	9.8000	0.6523	--------
50	79.0516	13.3000	0.7326	--------
100	54.7483	10.0000	0.6279	--------

File name: Bryant 50.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.89	4.76	4.03	3.50	3.11	2.80	2.55	2.35	2.18	2.03	1.91	1.80
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.79	5.33	4.45	3.86	3.43	3.10	2.84	2.62	2.45	2.29	2.16	2.05
10	7.39	6.08	5.23	4.62	4.16	3.80	3.51	3.27	3.06	2.89	2.73	2.60
25	8.39	6.94	5.99	5.31	4.80	4.40	4.07	3.80	3.57	3.37	3.20	3.05
50	9.40	7.87	6.83	6.06	5.47	5.00	4.62	4.29	4.02	3.79	3.58	3.40
100	10.00	8.34	7.25	6.47	5.87	5.40	5.02	4.69	4.42	4.19	3.98	3.80

Tc = time in minutes. Values may exceed 60.

Precip. file name: C:\Documents and Settings\Will\Desktop\Fleming\fleming.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	3.50	0.00	0.00	4.80	5.40	0.00	6.70

SOUTHEAST POND

Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

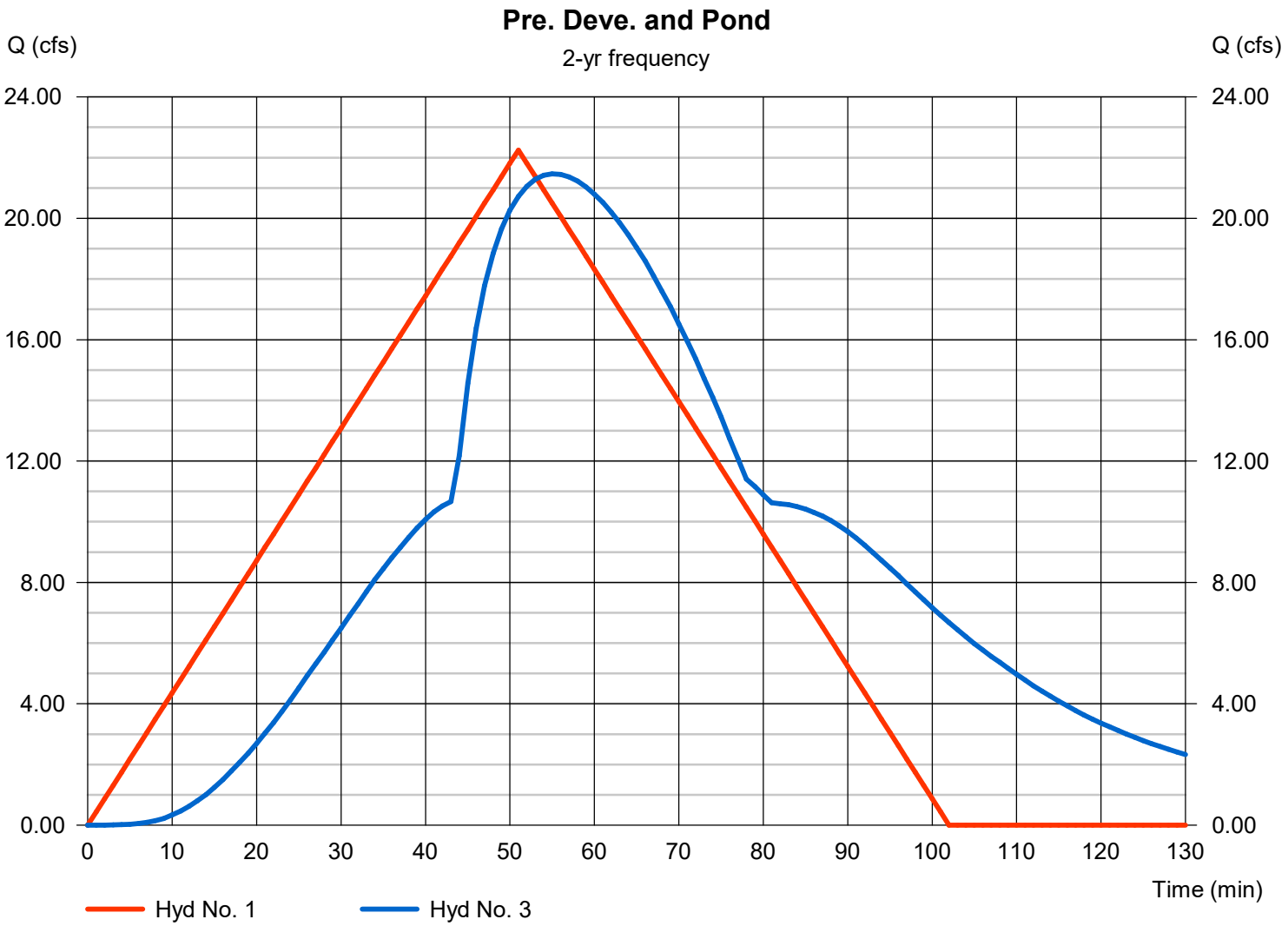
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	22.25 cfs
Time to peak	=	51 min
Hyd. Volume	=	68,070 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	21.47 cfs
Time to peak	=	55 min
Hyd. Volume	=	74,070 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

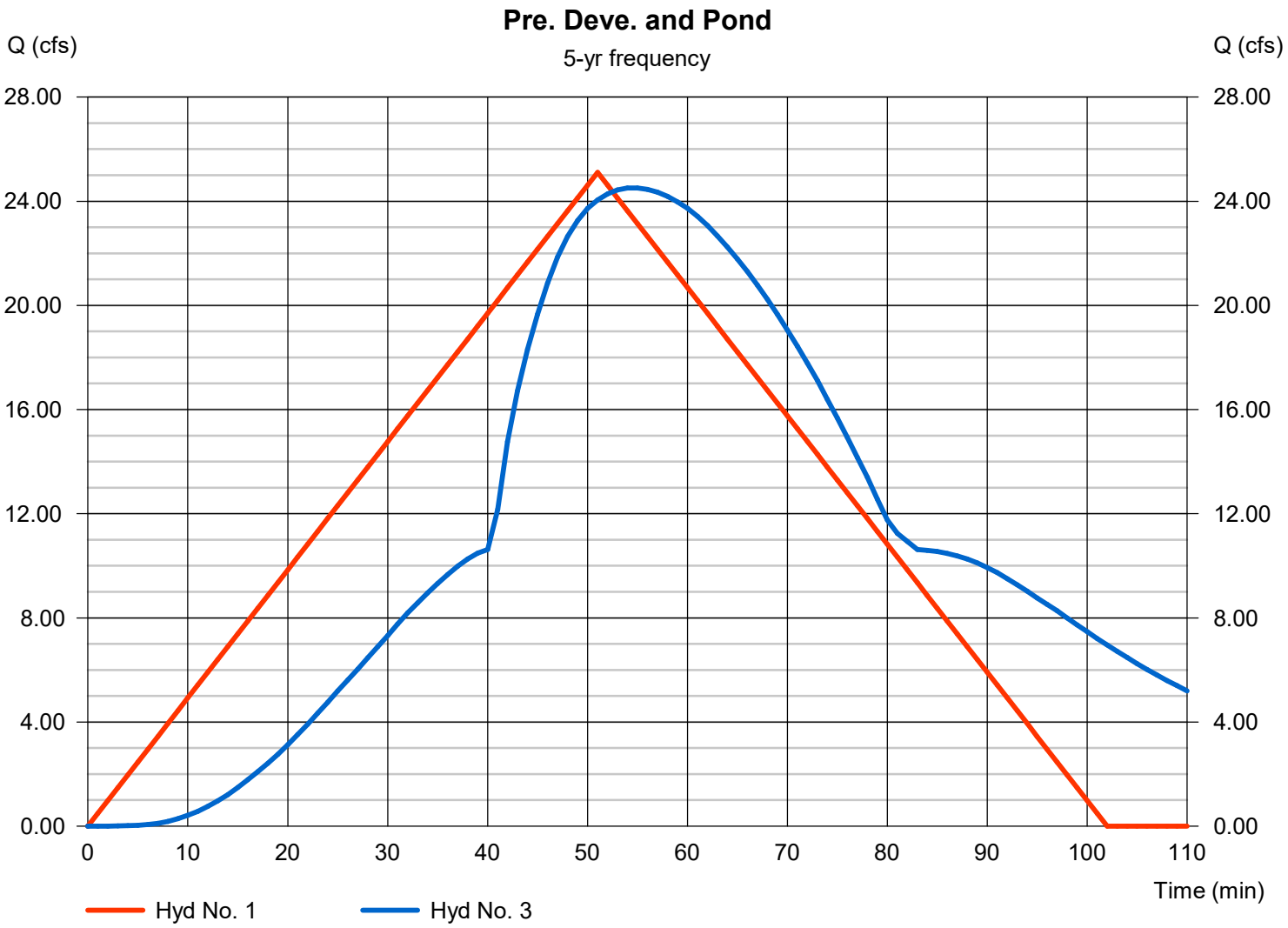
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	25.11 cfs
Time to peak	=	51 min
Hyd. Volume	=	76,836 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	24.51 cfs
Time to peak	=	55 min
Hyd. Volume	=	83,197 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

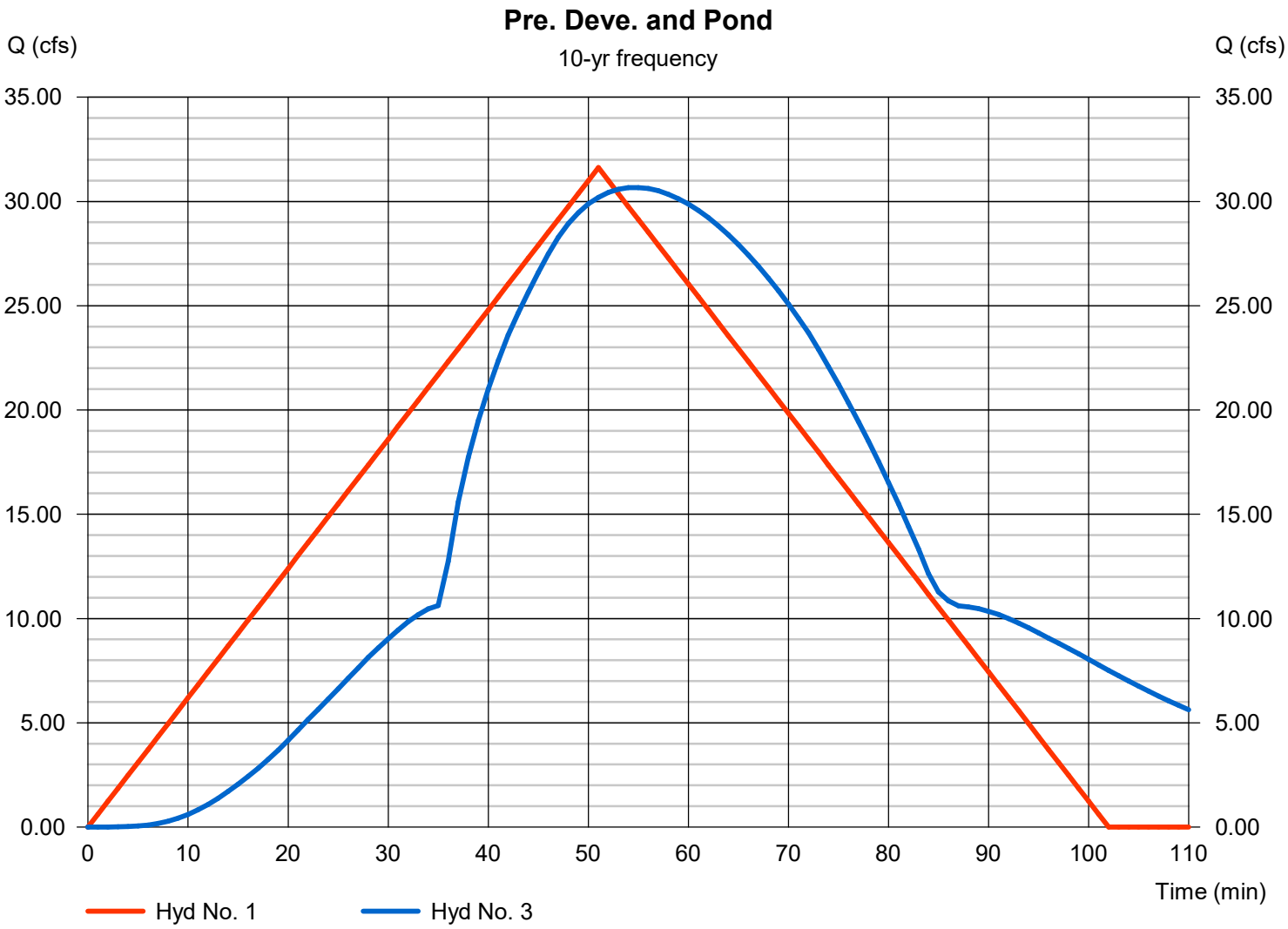
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	31.62 cfs
Time to peak	=	51 min
Hyd. Volume	=	96,757 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	30.67 cfs
Time to peak	=	55 min
Hyd. Volume	=	104,270 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

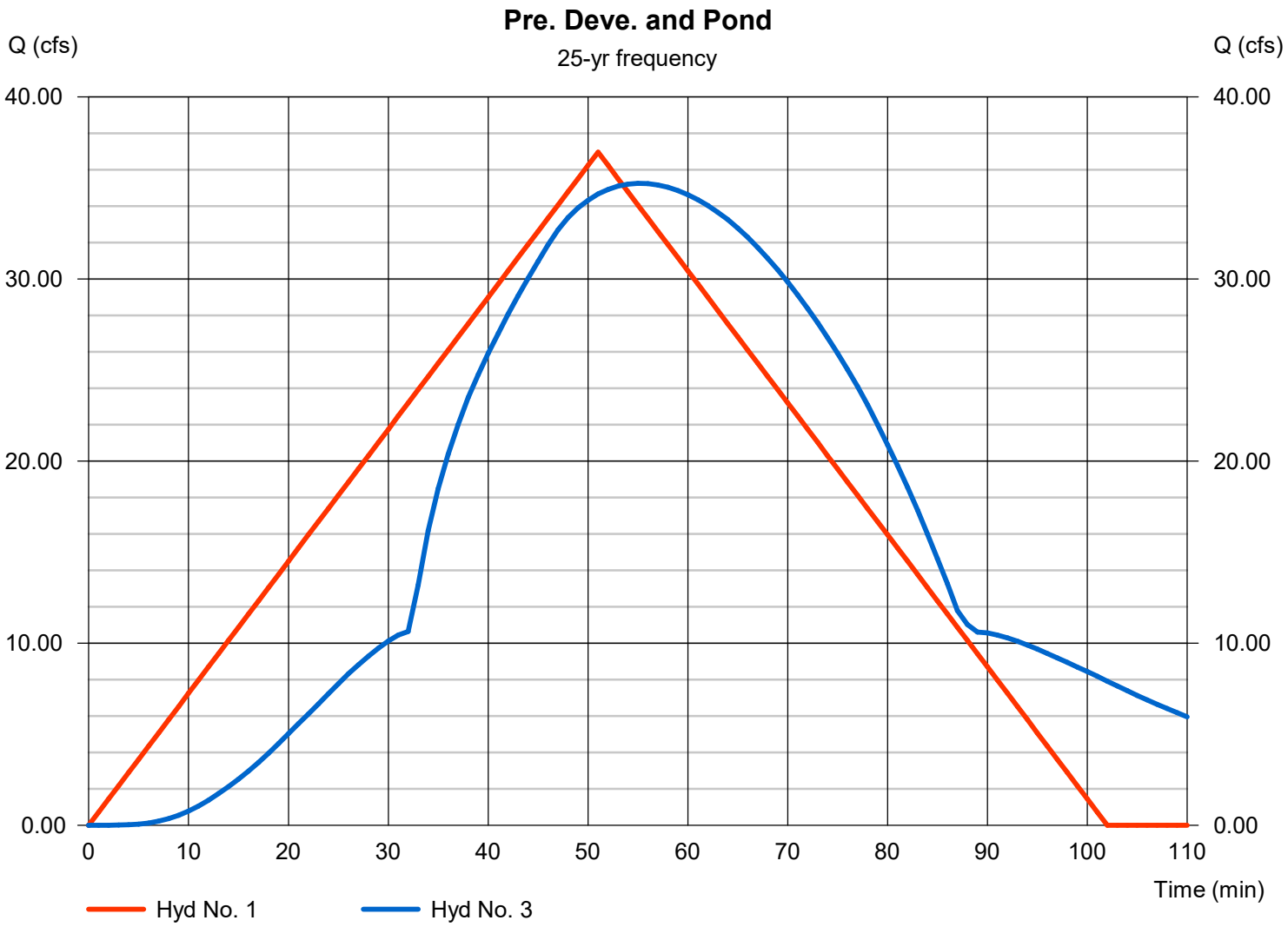
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	36.97 cfs
Time to peak	=	51 min
Hyd. Volume	=	113,133 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	35.26 cfs
Time to peak	=	55 min
Hyd. Volume	=	121,675 cuft



Multi-Hydrograph Plot

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

Hyd. No. 1

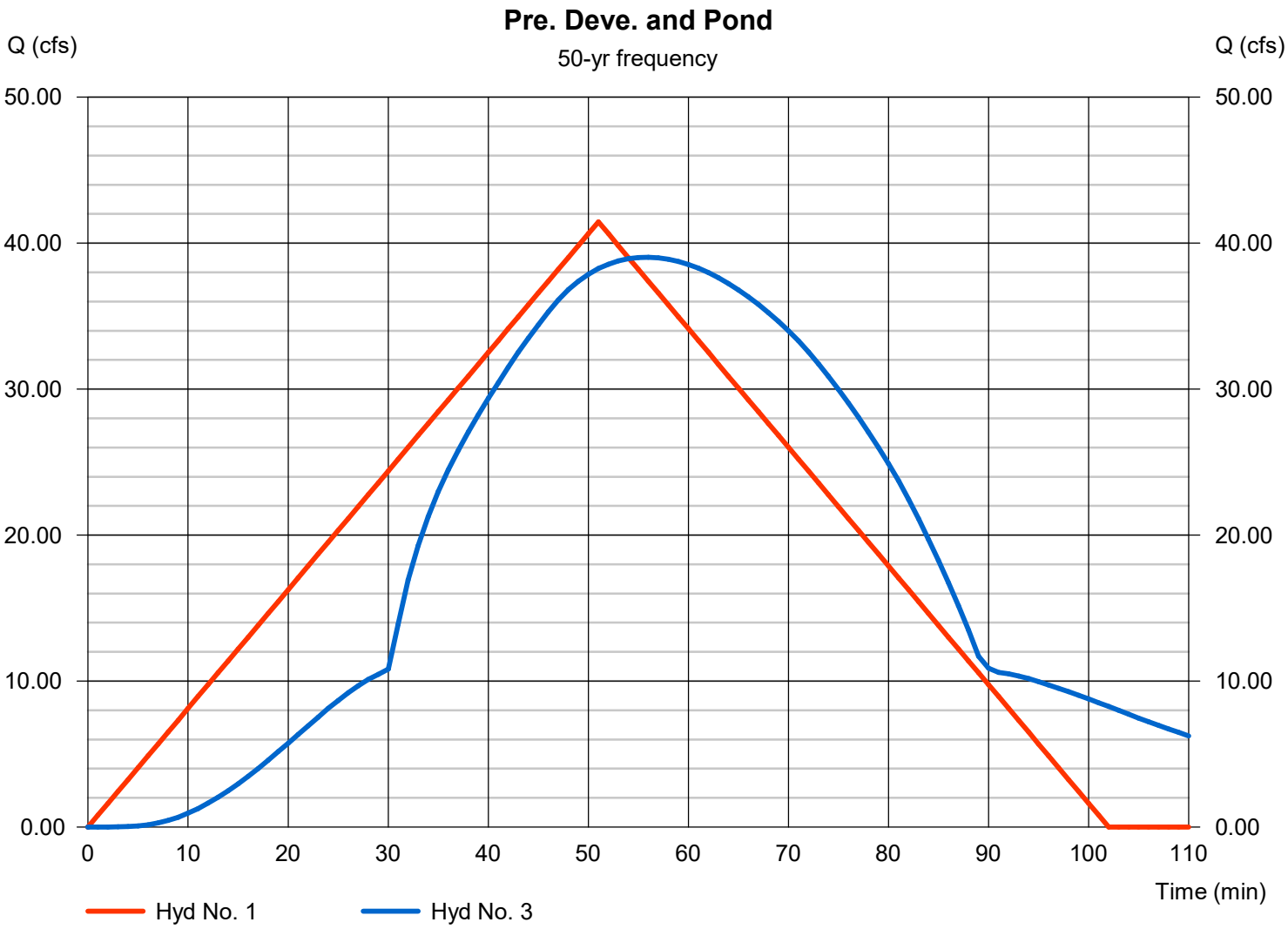
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	41.46 cfs
Time to peak	=	51 min
Hyd. Volume	=	126,864 cuft

Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	39.04 cfs
Time to peak	=	56 min
Hyd. Volume	=	136,900 cuft



Multi-Hydrograph Plot

Hyd. No. 1

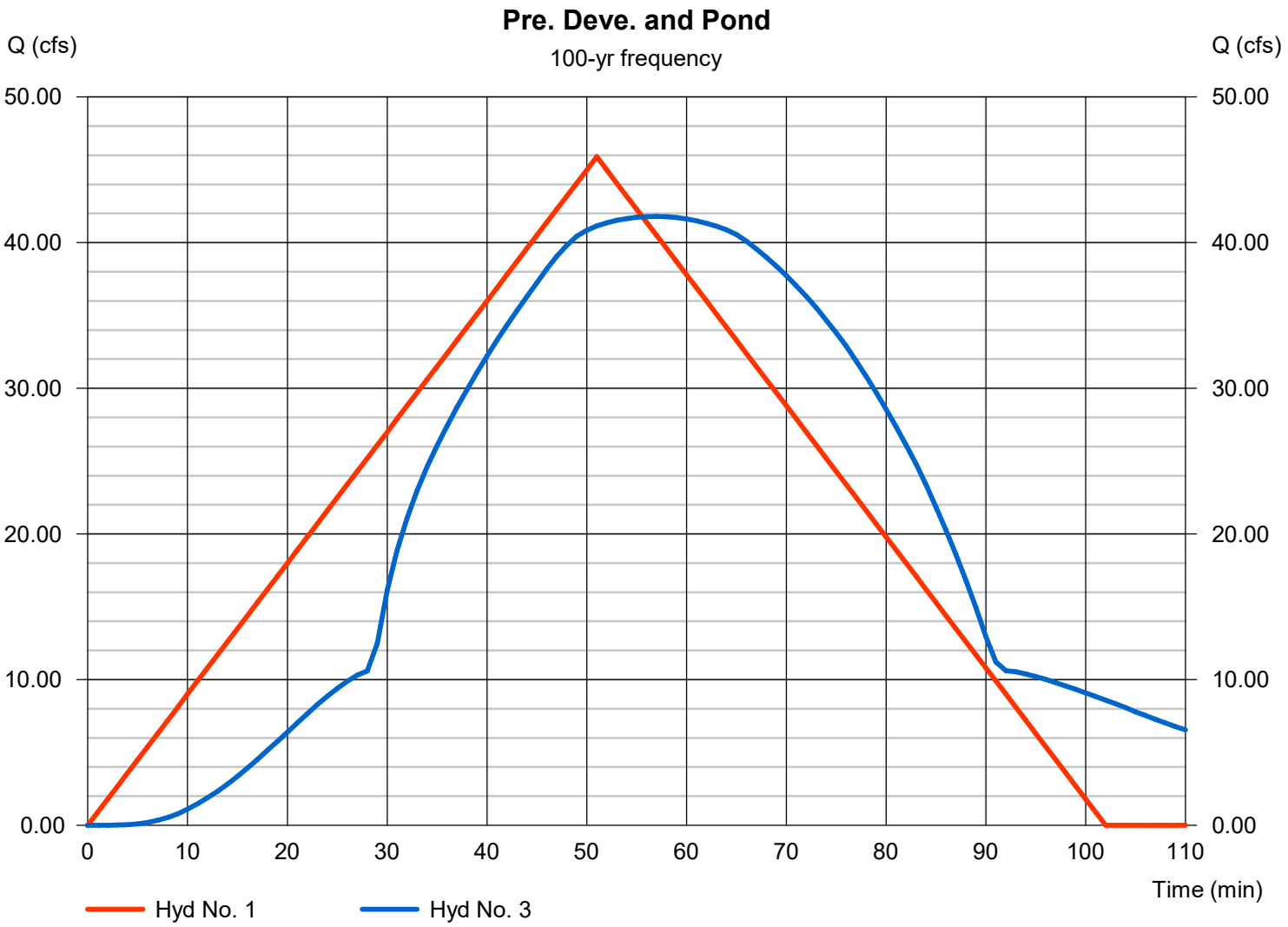
Pre. Deve.

Hydrograph type	=	Rational
Peak discharge	=	45.90 cfs
Time to peak	=	51 min
Hyd. Volume	=	140,441 cuft

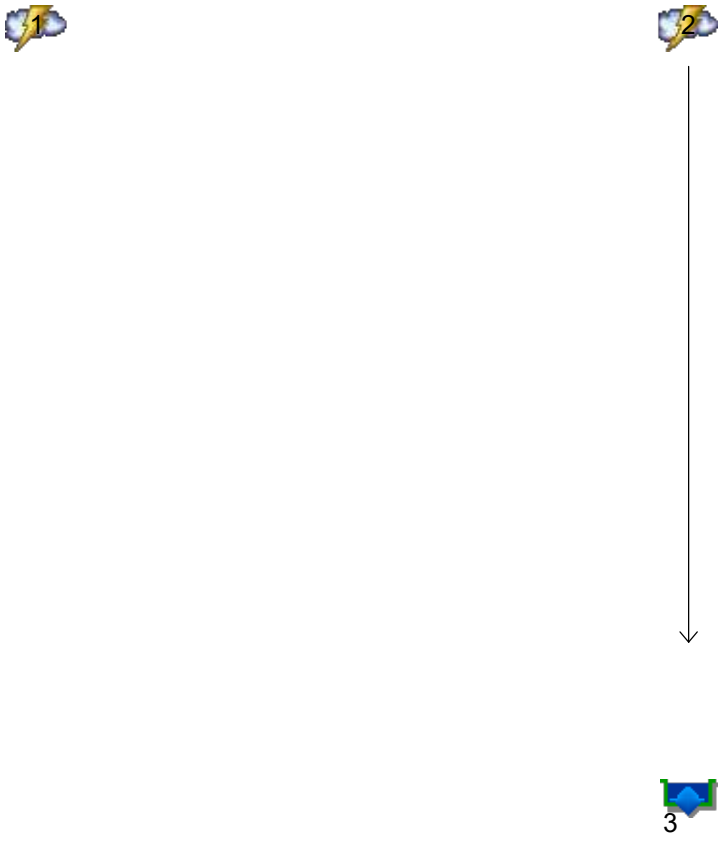
Hyd. No. 3

Pond

Hydrograph type	=	Reservoir
Peak discharge	=	41.80 cfs
Time to peak	=	57 min
Hyd. Volume	=	150,705 cuft



Watershed Model Schematic



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

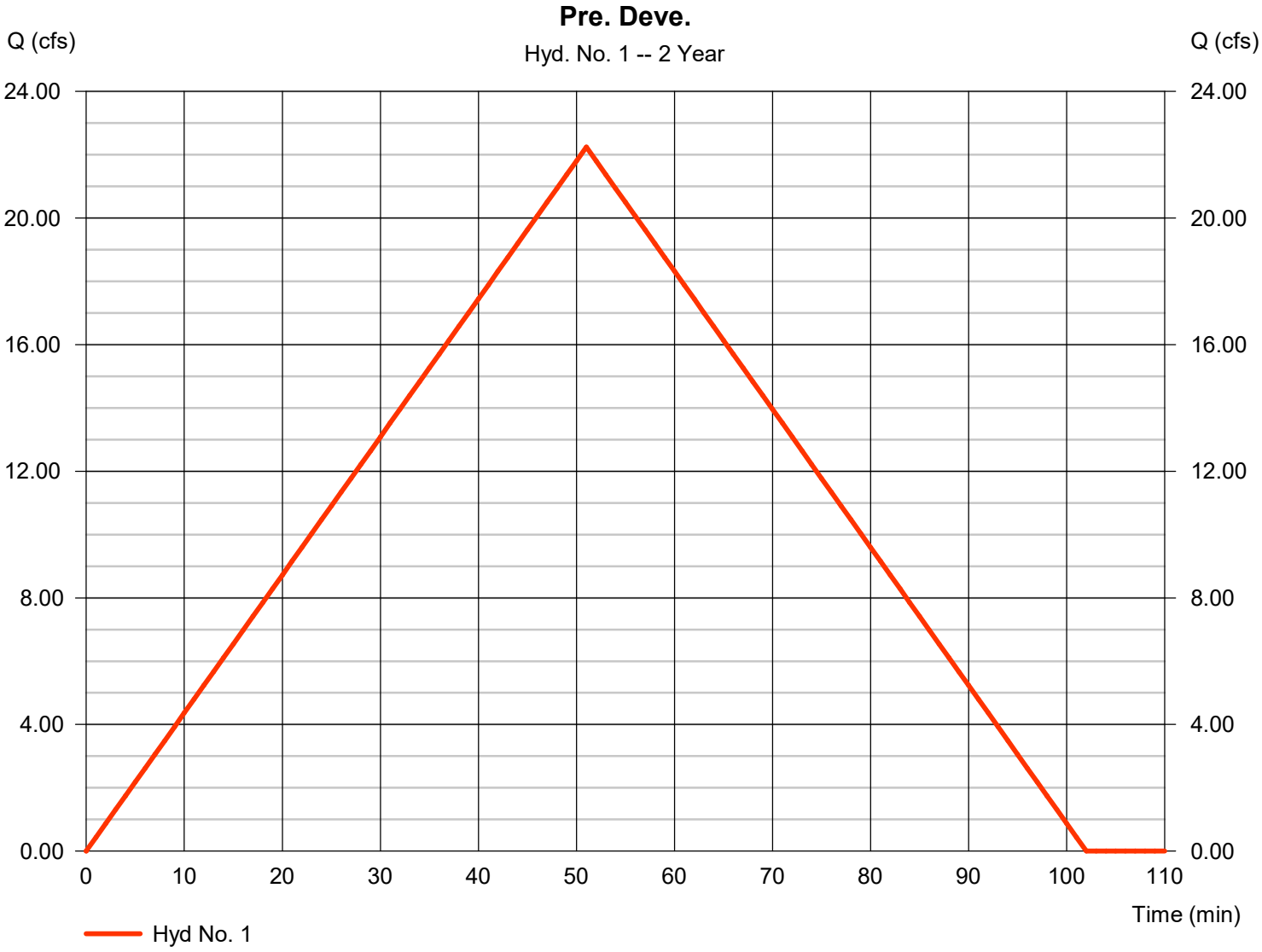
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	22.25	1	51	68,070	------	------	------	Pre. Deve.
2	Rational	26.84	1	46	74,088	------	------	------	Post Deve.
3	Reservoir	21.47	1	55	74,070	2	350.89	26,424	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	22.25 cfs
Storm frequency	=	2 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	68,070 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	2.008 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	25.11	1	51	76,836	------	------	------	Pre. Deve.
2	Rational	30.15	1	46	83,215	------	------	------	Post Deve.
3	Reservoir	24.51	1	55	83,197	2	351.04	28,121	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	25.11 cfs
Storm frequency	=	5 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	76,836 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	2.267 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

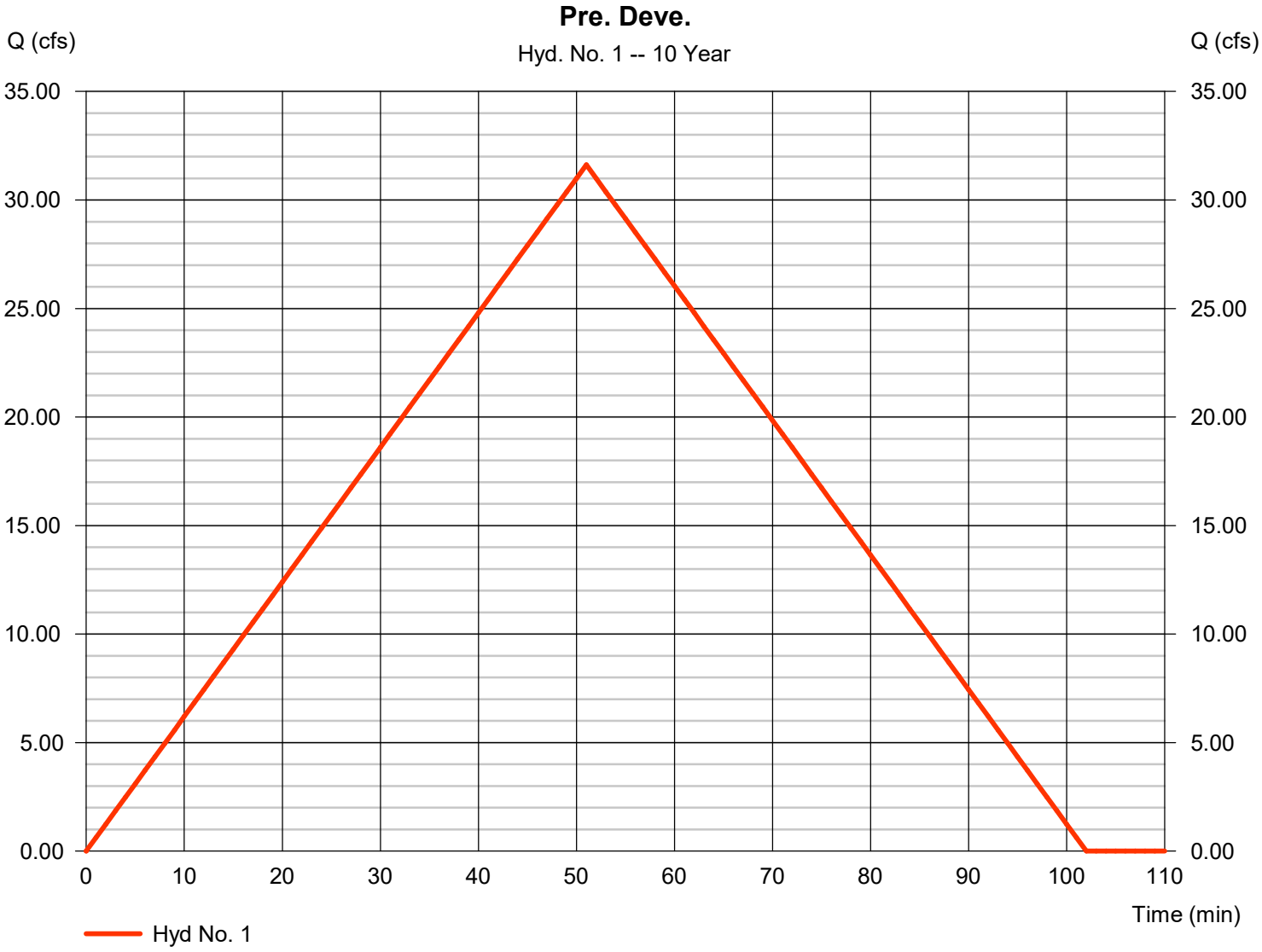
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	31.62	1	51	96,757	------	------	------	Pre. Deve.
2	Rational	37.79	1	46	104,288	------	------	------	Post Deve.
3	Reservoir	30.67	1	55	104,270	2	351.42	32,448	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	31.62 cfs
Storm frequency	=	10 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	96,757 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	2.854 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

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	36.97	1	51	113,133	------	------	------	Pre. Deve.
2	Rational	44.09	1	46	121,693	------	------	------	Post Deve.
3	Reservoir	35.26	1	55	121,675	2	351.76	36,431	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	36.97 cfs
Storm frequency	=	25 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	113,133 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	3.337 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

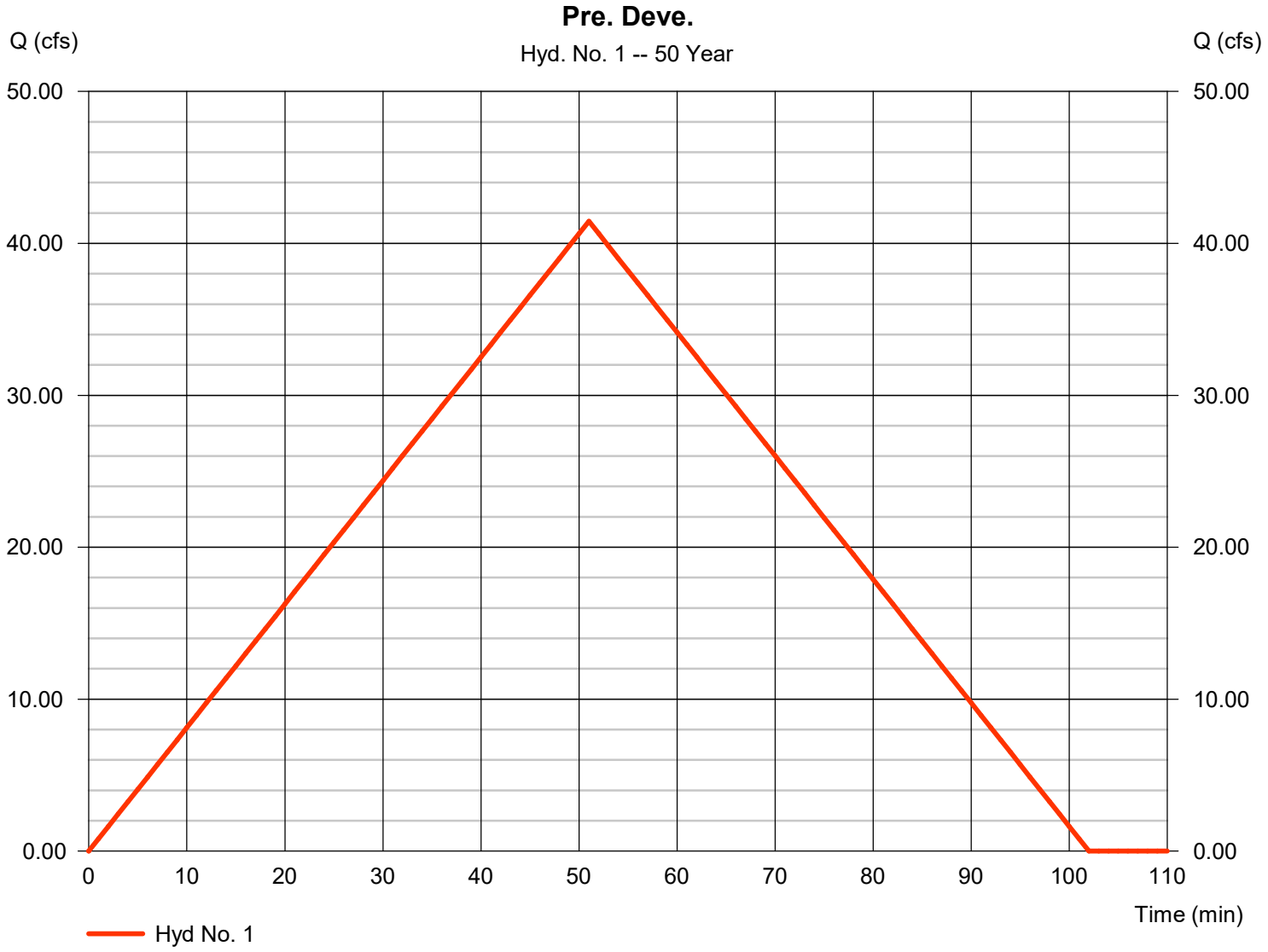
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	41.46	1	51	126,864	------	------	------	Pre. Deve.
2	Rational	49.61	1	46	136,918	------	------	------	Post Deve.
3	Reservoir	39.04	1	56	136,900	2	352.07	40,262	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	41.46 cfs
Storm frequency	=	50 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	126,864 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	3.742 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2023

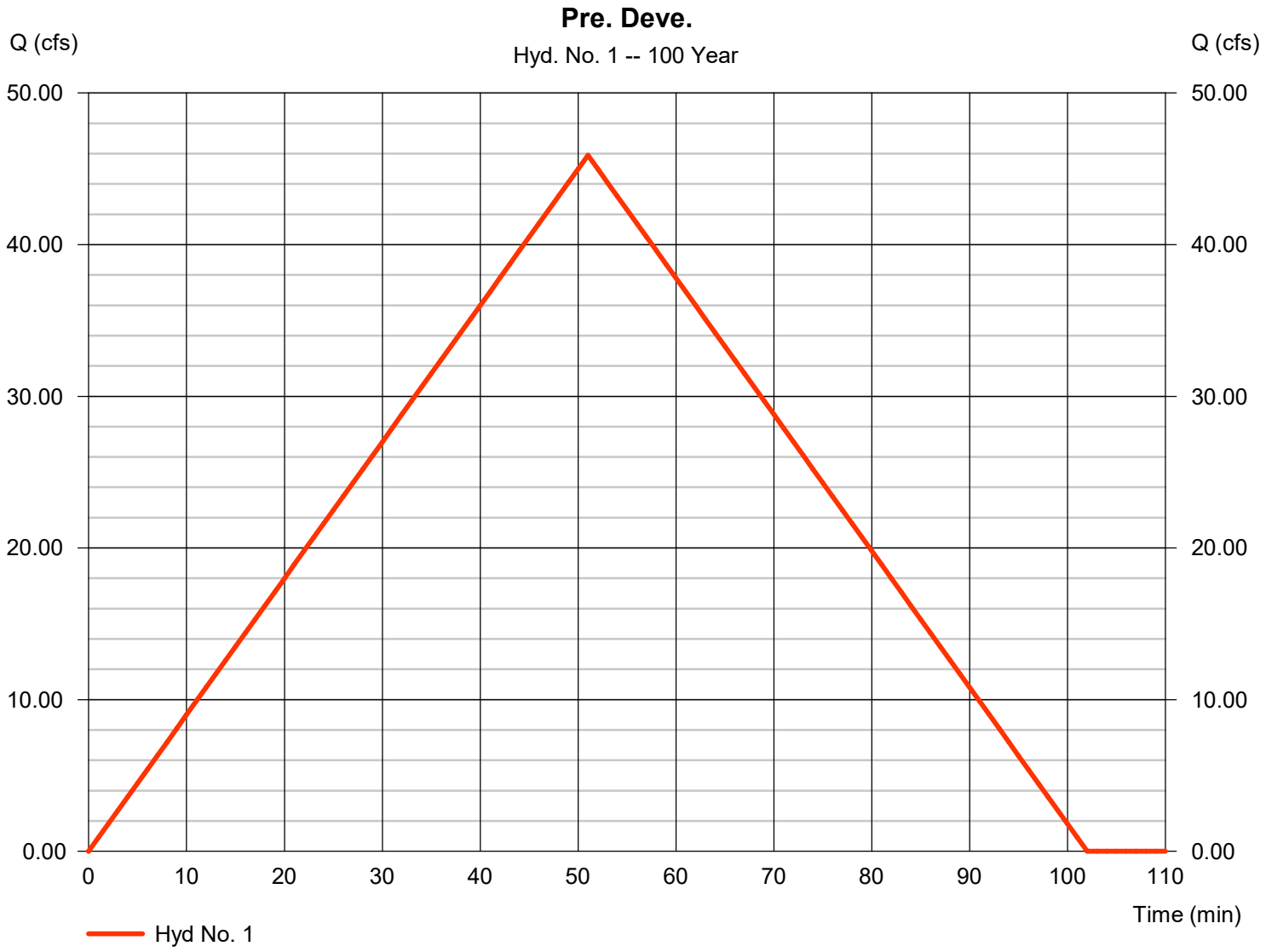
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	45.90	1	51	140,441	------	------	------	Pre. Deve.
2	Rational	54.61	1	46	150,723	------	------	------	Post Deve.
3	Reservoir	41.80	1	57	150,705	2	352.38	44,142	Pond

Hydrograph Report

Hyd. No. 1

Pre. Deve.

Hydrograph type	=	Rational	Peak discharge	=	45.90 cfs
Storm frequency	=	100 yrs	Time to peak	=	51 min
Time interval	=	1 min	Hyd. volume	=	140,441 cuft
Drainage area	=	23.570 ac	Runoff coeff.	=	0.47
Intensity	=	4.143 in/hr	Tc by User	=	51.00 min
IDF Curve	=	Bryant 50.IDF	Asc/Rec limb fact	=	1/1



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	59.0468	11.8000	0.8167	--------
3	0.0000	0.0000	0.0000	--------
5	38.3363	7.0000	0.6965	--------
10	46.3641	10.0000	0.6781	--------
25	48.6541	9.8000	0.6523	--------
50	79.0516	13.3000	0.7326	--------
100	54.7483	10.0000	0.6279	--------

File name: Bryant 50.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.89	4.76	4.03	3.50	3.11	2.80	2.55	2.35	2.18	2.03	1.91	1.80
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.79	5.33	4.45	3.86	3.43	3.10	2.84	2.62	2.45	2.29	2.16	2.05
10	7.39	6.08	5.23	4.62	4.16	3.80	3.51	3.27	3.06	2.89	2.73	2.60
25	8.39	6.94	5.99	5.31	4.80	4.40	4.07	3.80	3.57	3.37	3.20	3.05
50	9.40	7.87	6.83	6.06	5.47	5.00	4.62	4.29	4.02	3.79	3.58	3.40
100	10.00	8.34	7.25	6.47	5.87	5.40	5.02	4.69	4.42	4.19	3.98	3.80

Tc = time in minutes. Values may exceed 60.

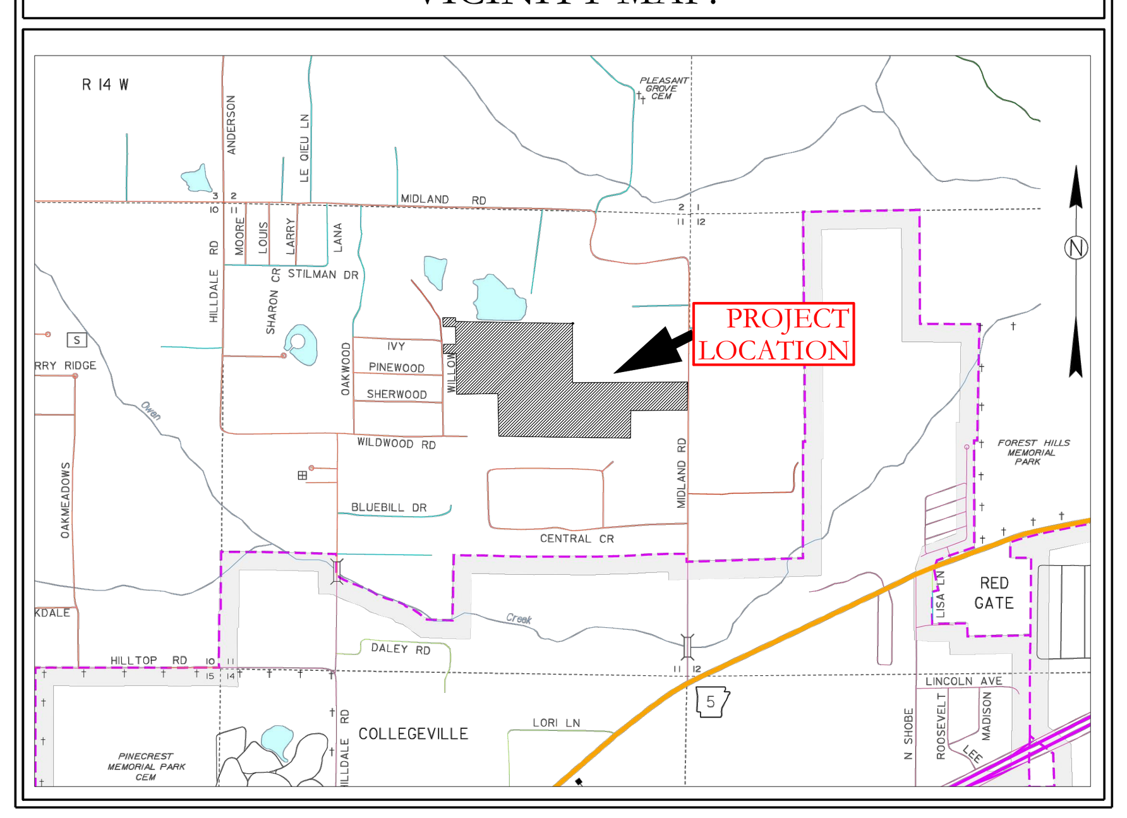
Precip. file name: C:\Documents and Settings\Will\Desktop\Fleming\fleming.pcp

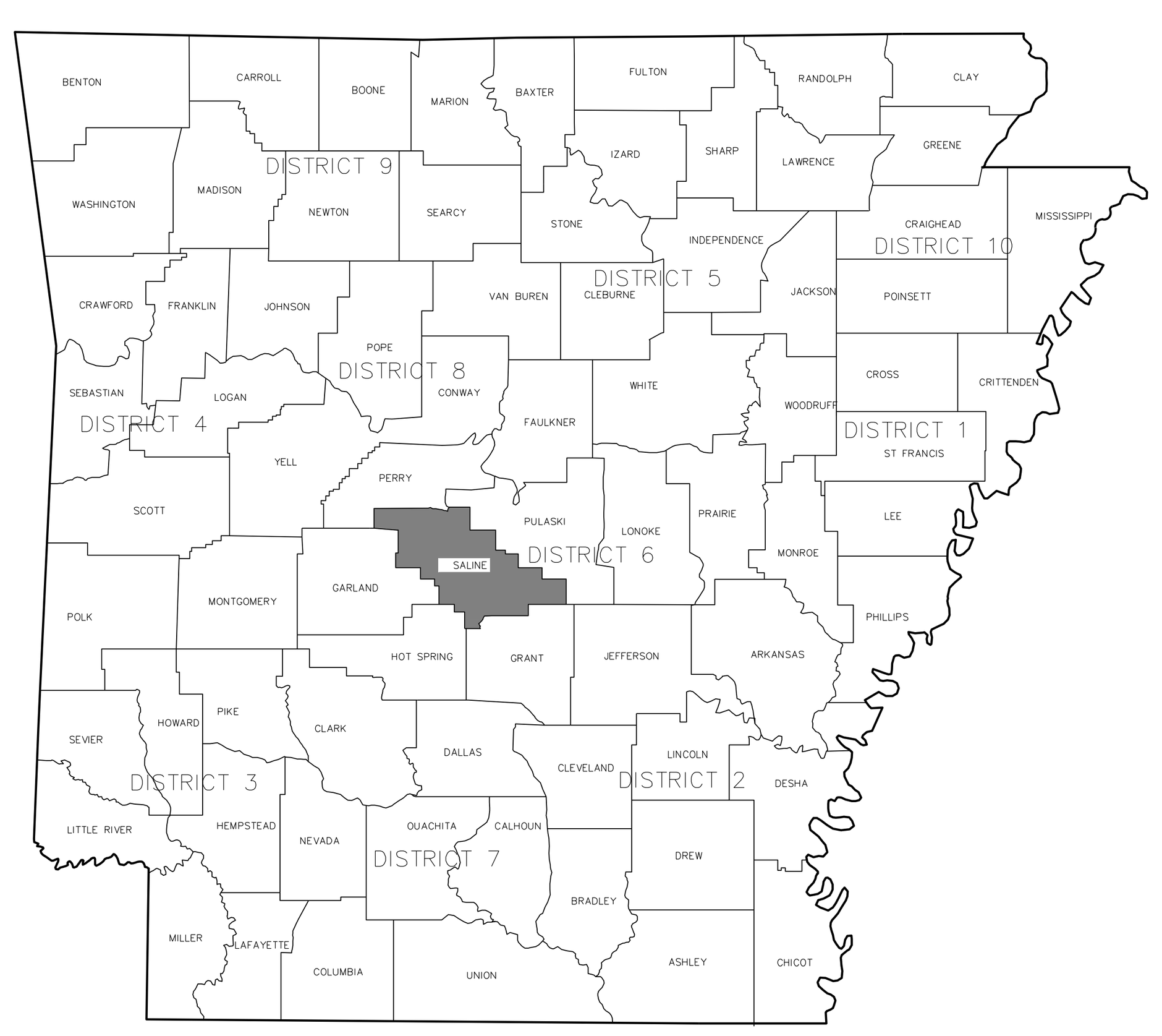
Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	3.50	0.00	0.00	4.80	5.40	0.00	6.70

CONSTRUCTION PLANS
MIDLAND ROAD

BRYANT, AR

VICINITY MAP:





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HOPE CONSULTING INC
129 NORTH MAIN STREET
BENTON, AR 72015

GEOTECHNICAL ENGINEER
MATERIALS TESTING OF ARKANSAS
8001 NATIONAL DRIVE
LITTLE ROCK , AR 72209

DRAWING INDEX

SHEET NO.	TITLE
	PLAT
C-1.0	STREET PLAN
C-2.0	STREET PLAN & PROFILE
C-2.1	STREET PLAN & PROFILE
C-2.2	STREET PLAN & PROFILE
C-2.3	STREET PLAN & PROFILE
C-2.4	STREET PLAN & PROFILE
C-2.5	STREET PLAN & PROFILE
C-3.0	UTILITY PLAN
C-3.1	UTILITY PLAN
C-3.2	SEWER PLAN & PROFILE
C-3.3	SEWER PLAN & PROFILE
C-3.4	SEWER PLAN & PROFILE
C-3.5	SEWER PLAN & PROFILE
C-3.6	SEWER PLAN & PROFILE
C-3.7	SEWER PLAN & PROFILE
C-3.8	SEWER PLAN & PROFILE
C-3.9	SEWER PLAN & PROFILE
C-4.0	TRENCH DETAILS
C-5.0	CIVIL SPECS
C-6.0	DRAINAGE PLAN
C-6.1	DRAINAGE PLAN
C-6.2	DRAINAGE PLAN
C-6.3	DRAINAGE PLAN & PROFILE
C-6.4	DRAINAGE PLAN & PROFILE
C-6.5	DRAINAGE PLAN & PROFILE
C-6.6	DRAINAGE PLAN & PROFILE
C-6.7	DRAINAGE PLAN & PROFILE
C-6.8	DRAINAGE PLAN & PROFILE
C-6.9	DRAINAGE PLAN & PROFILE
C-6.10	DRAINAGE PLAN & PROFILE
C-6.11	DRAINAGE PLAN & PROFILE
C-6.12	DRAINAGE PLAN & PROFILE
C-6.13	DRAINAGE PLAN & PROFILE
C-6.14	DRAINAGE PLAN & PROFILE
C-6.15	DRAINAGE PLAN & PROFILE
C-6.16	DETENTION
C-7.0	EROSION CONTROL PLAN

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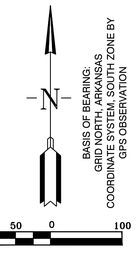

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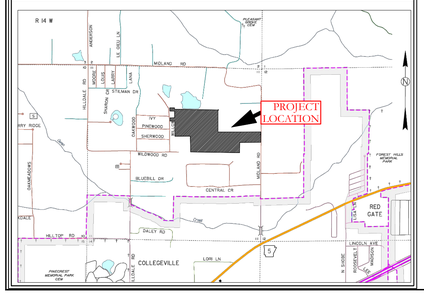

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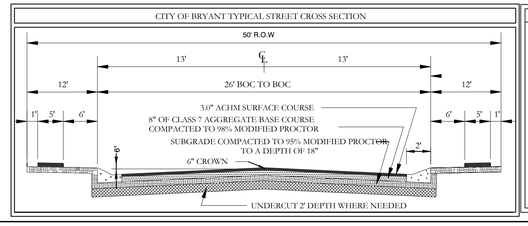

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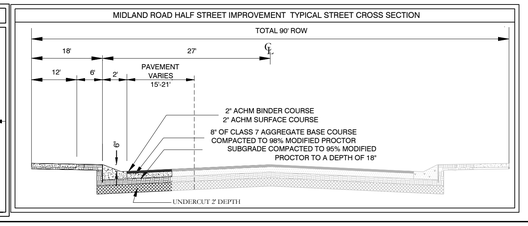

MIDLAND ROAD SUBDIVISION
STREET PLAN

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MIDLAND ROAD
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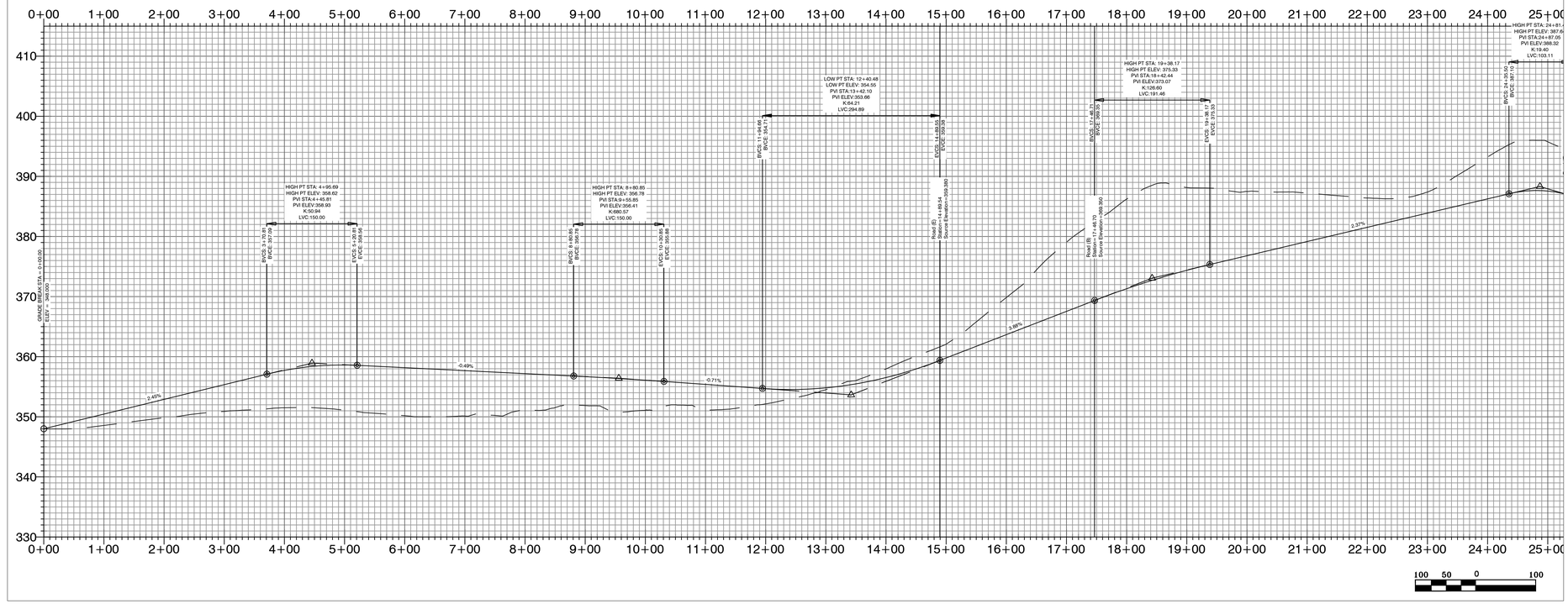
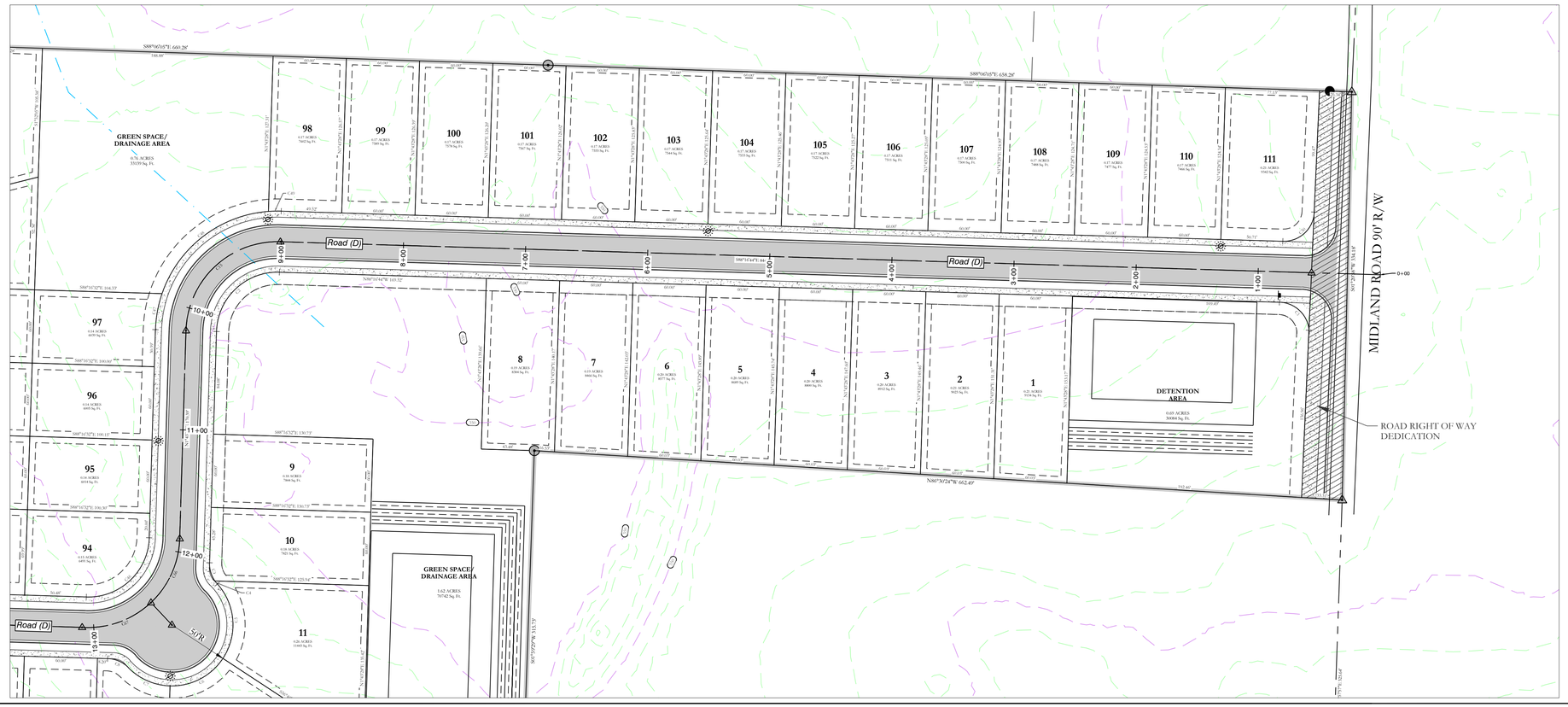
Road (D) PROFILE





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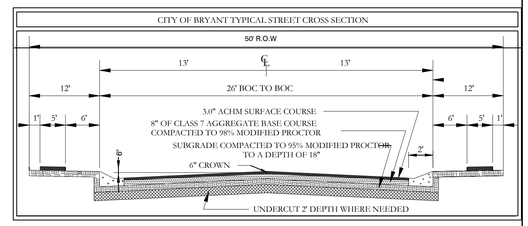

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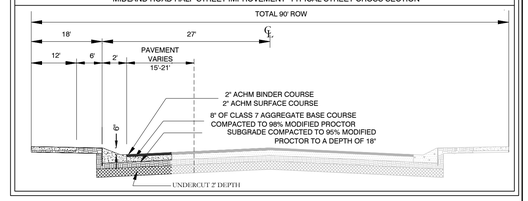

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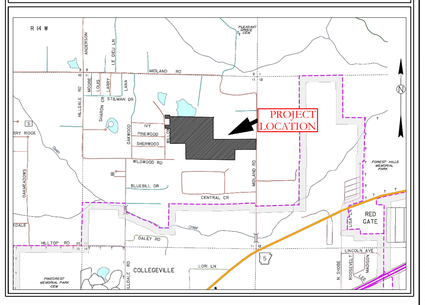

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BASIS OF BEARING:
GRID NORTH, ARKANSAS
COORDINATE SYSTEM, SOUTH ZONE BY
GPS OBSERVATION

50 25 0 50

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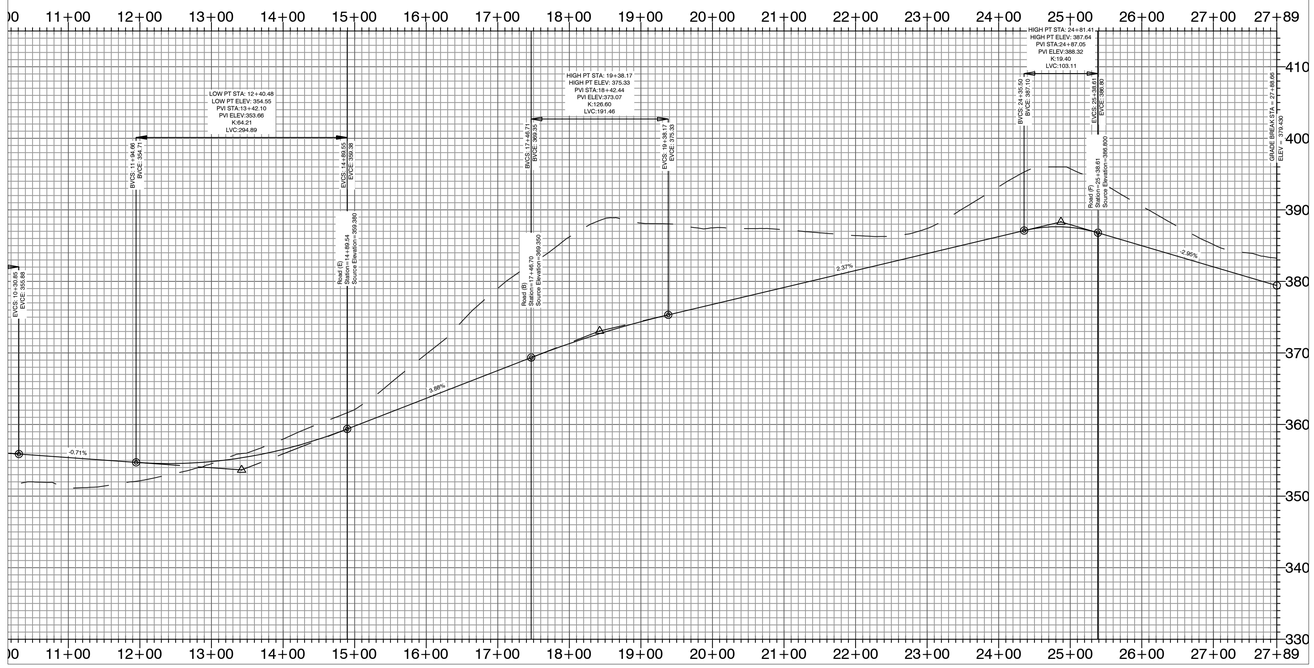
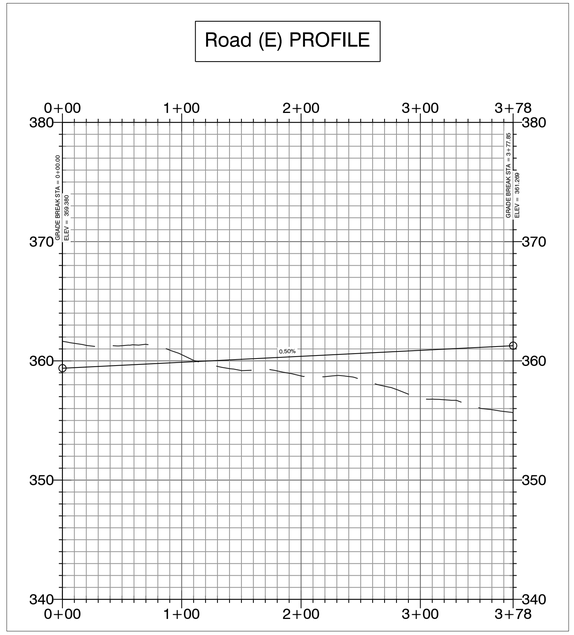
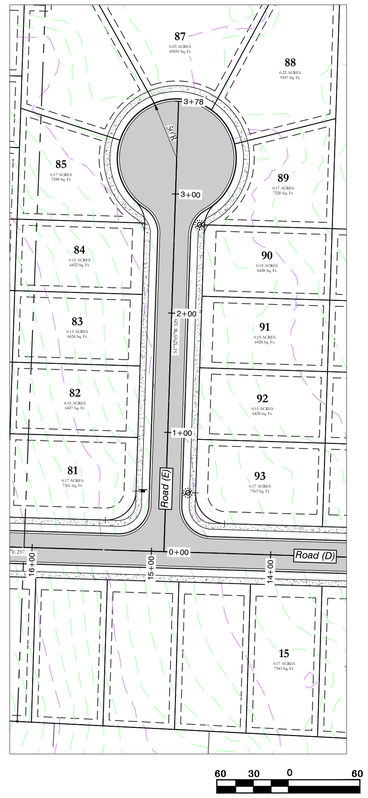
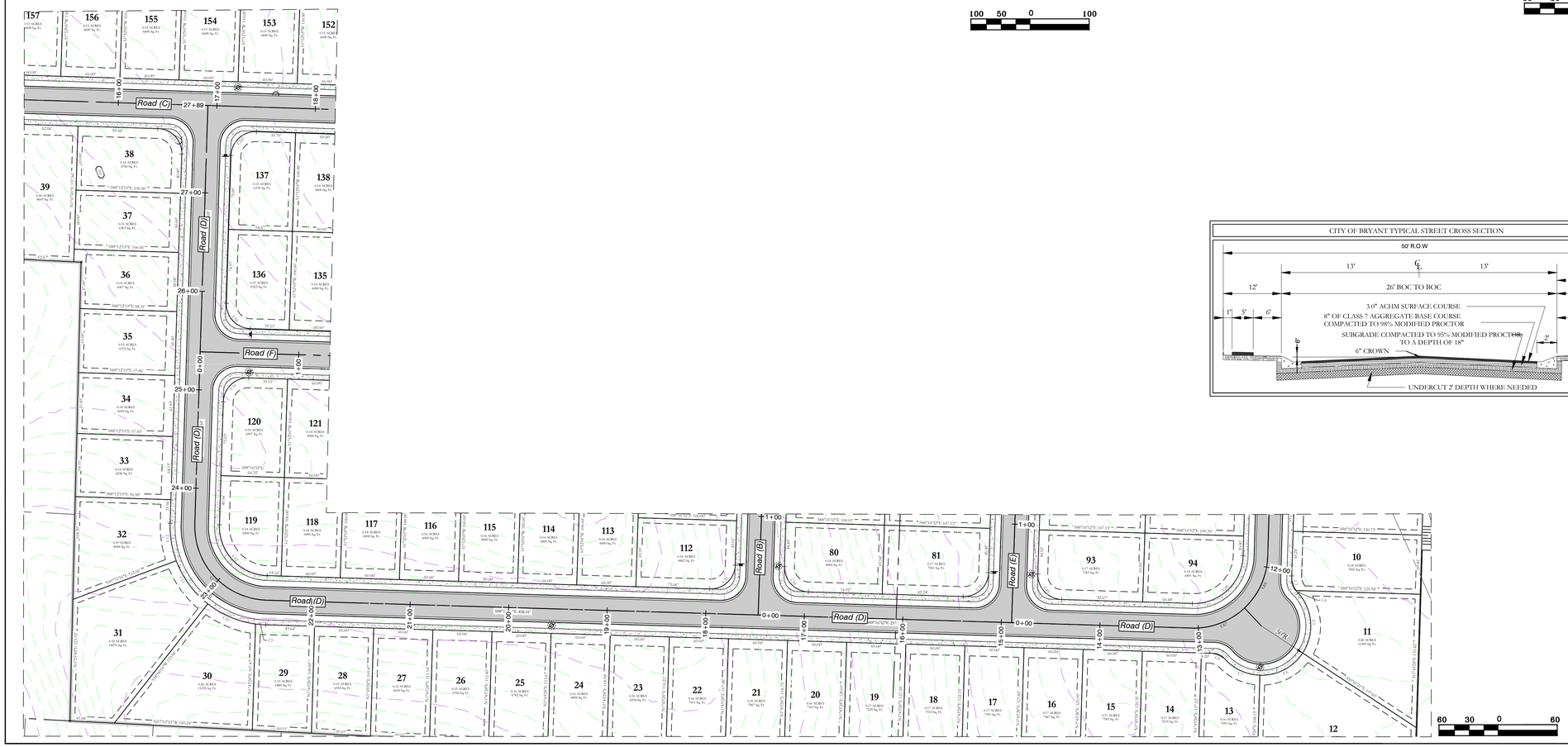
Road (D) PROFILE



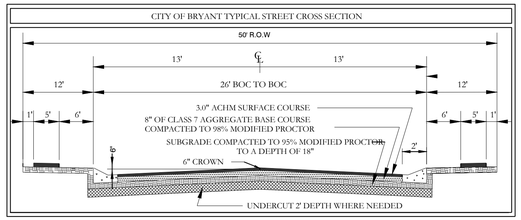
Road (E) PROFILE



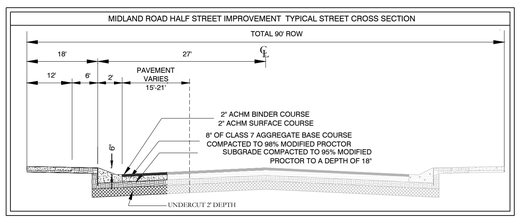




CITY OF BRYANT TYPICAL STREET CROSS SECTION



MIDLAND ROAD HALF STREET IMPROVEMENT TYPICAL STREET CROSS SECTION



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

FOR USE AND BENEFIT OF:
HAVEN'S DEVELOPMENT, LLC

MIDLAND ROAD
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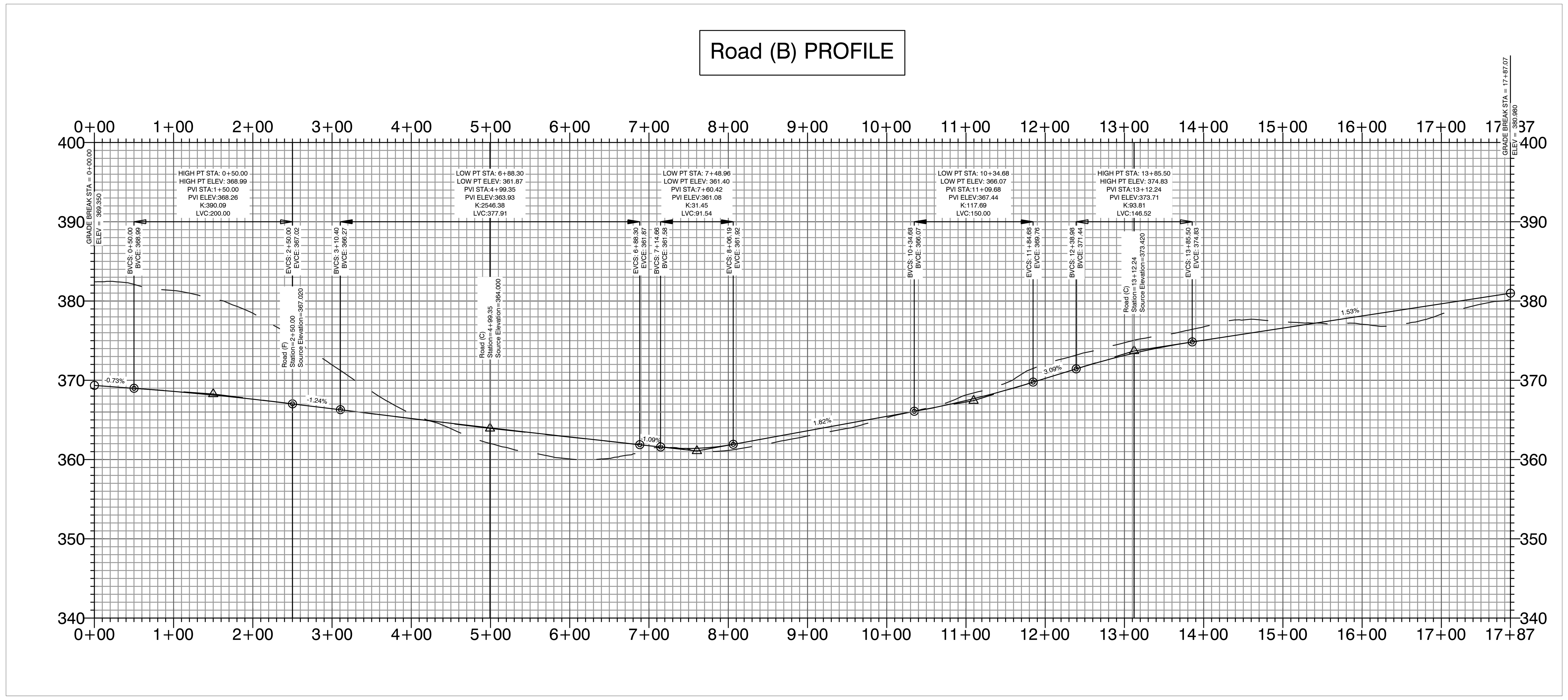

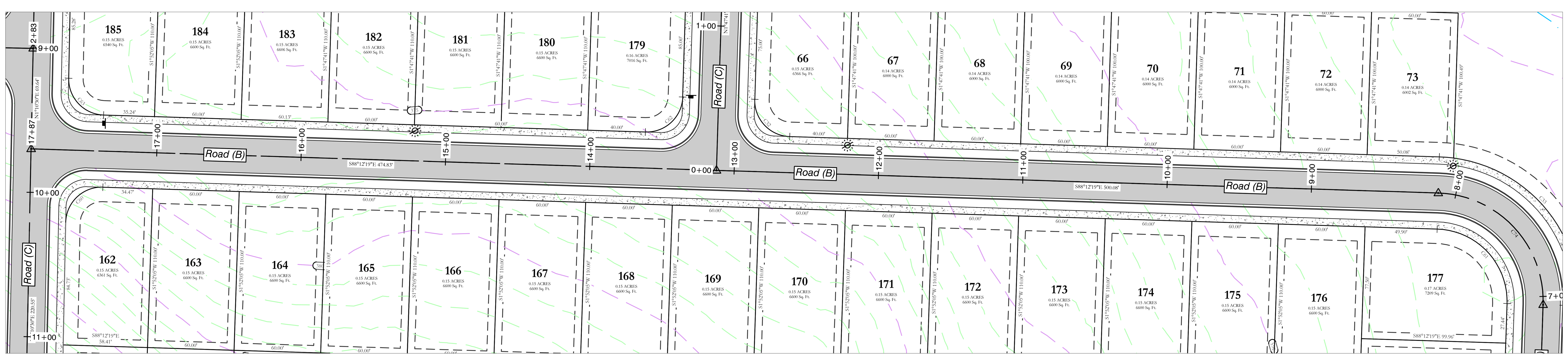

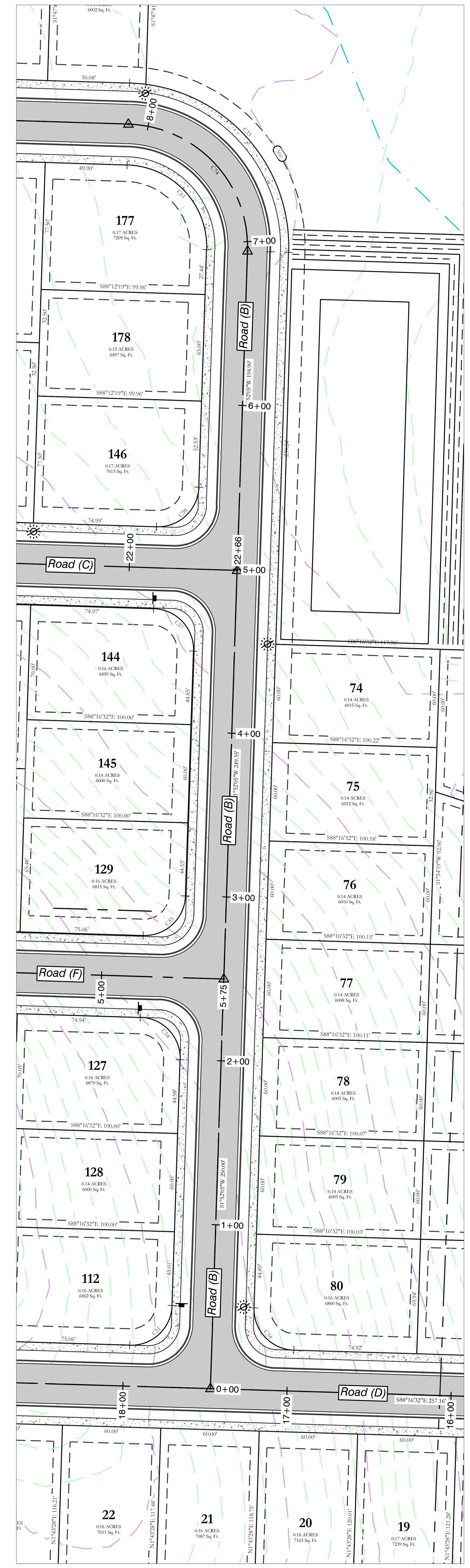

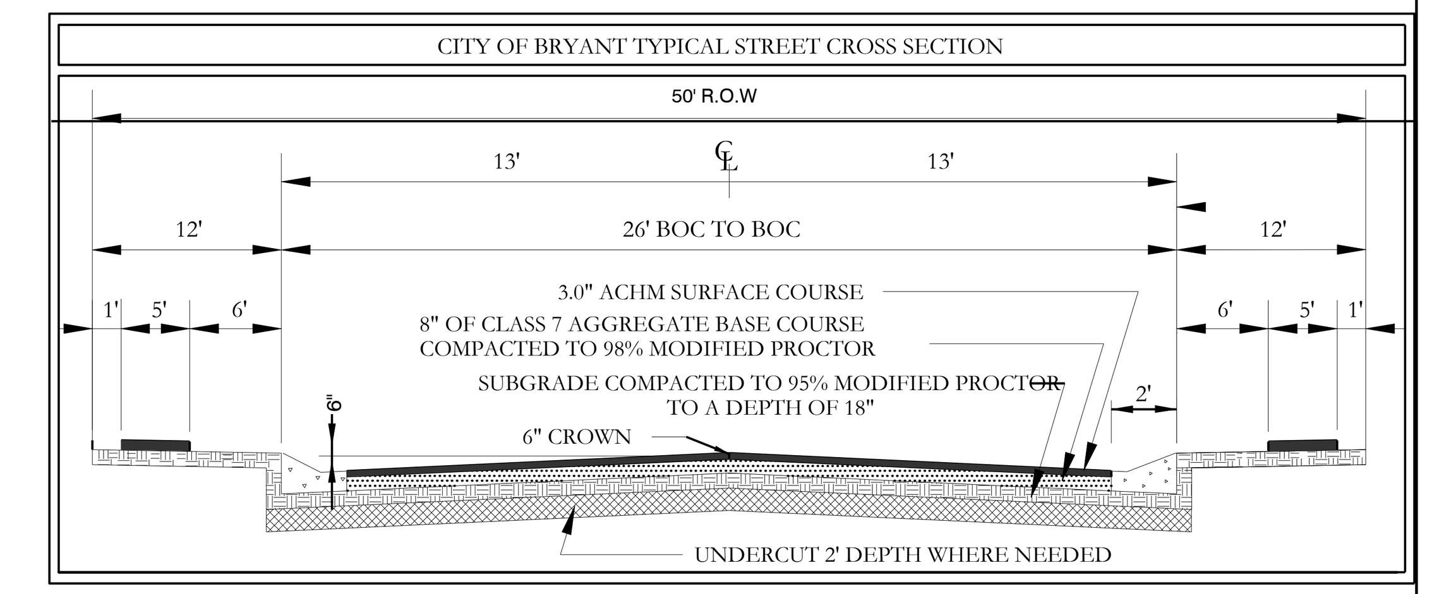

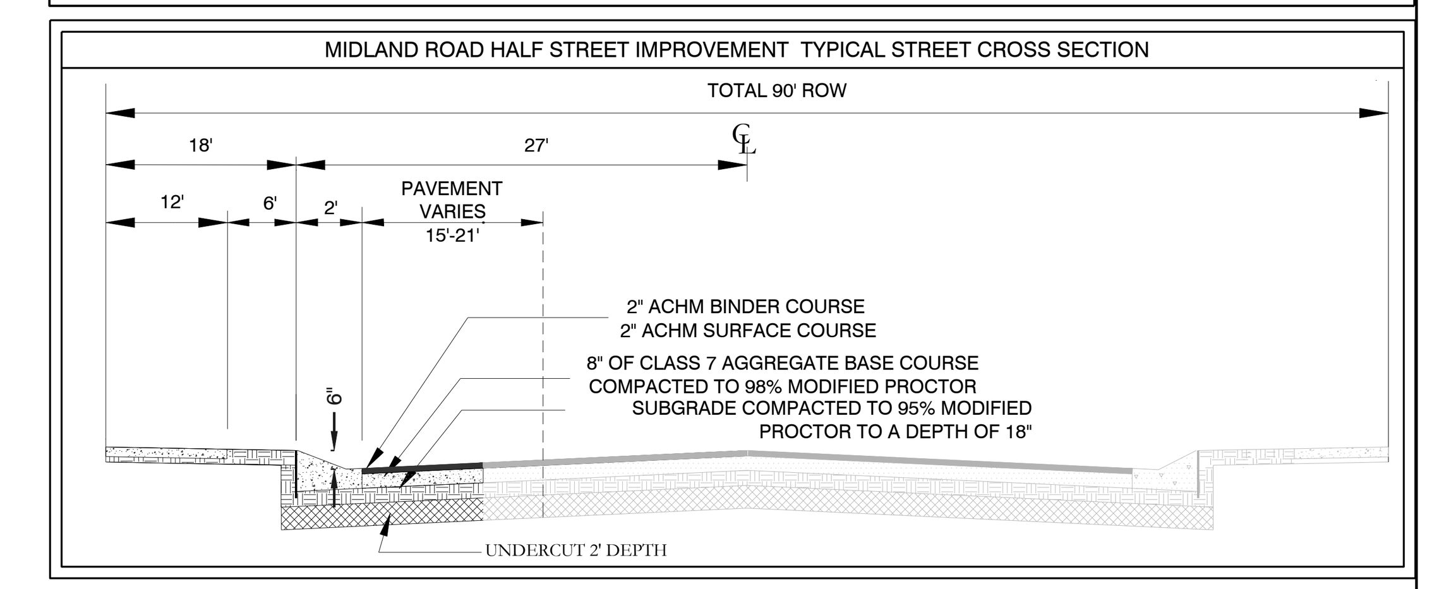

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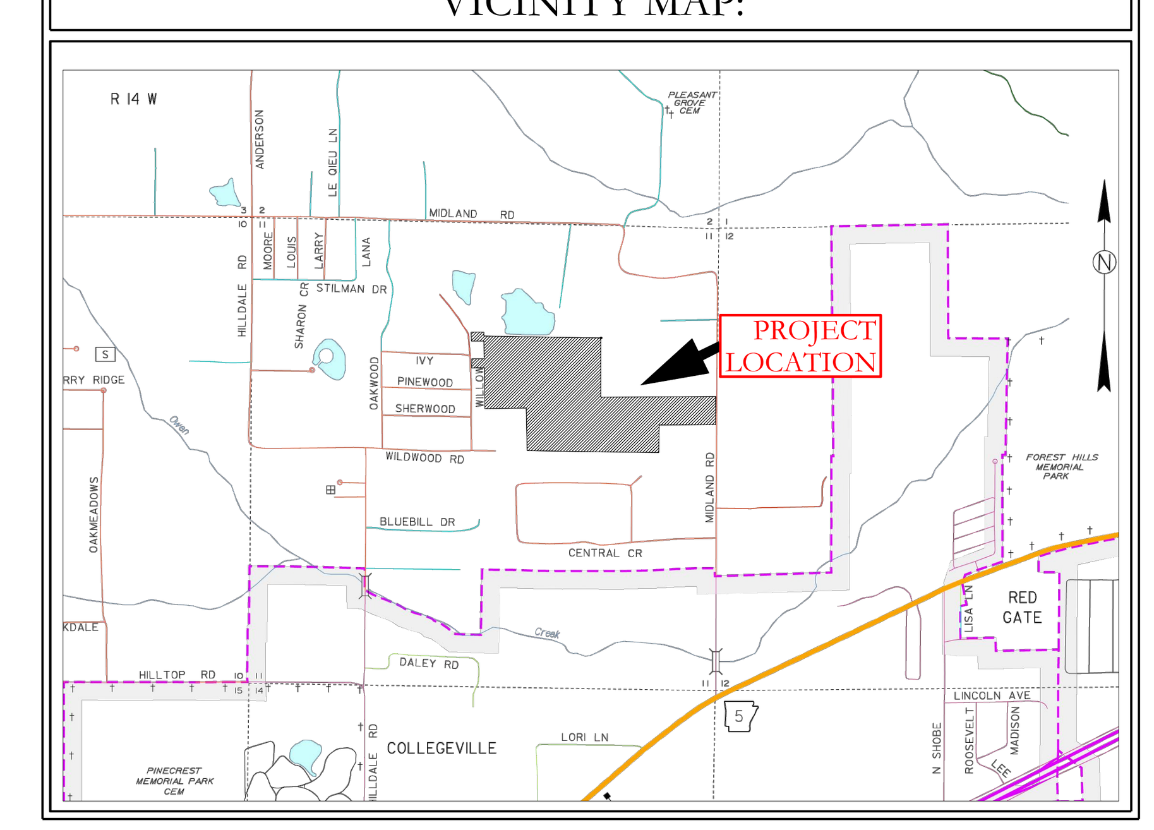

BASIS OF BEARING:
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COORDINATE SYSTEM, SOUTH ZONE BY
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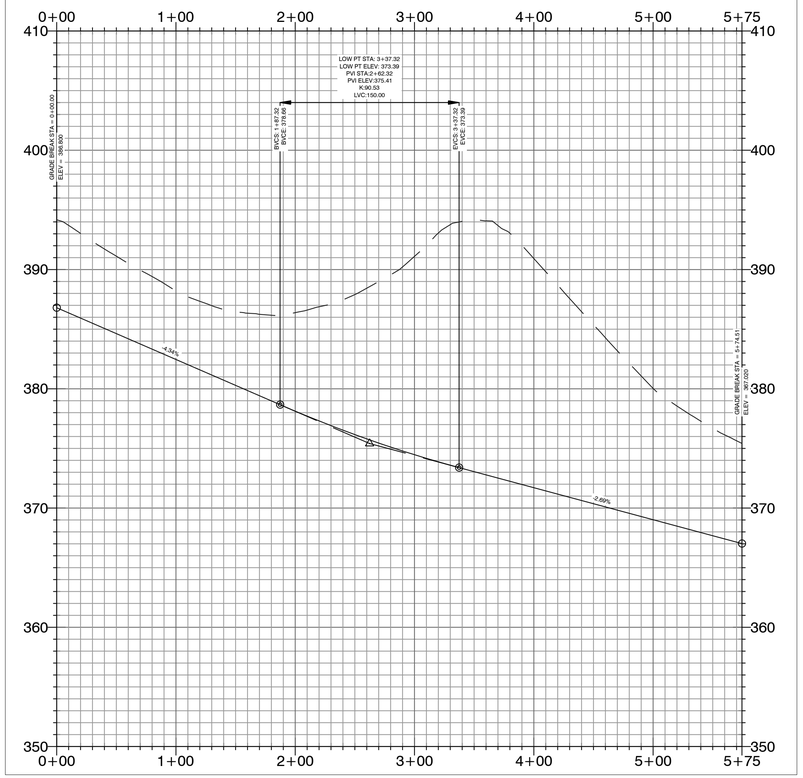
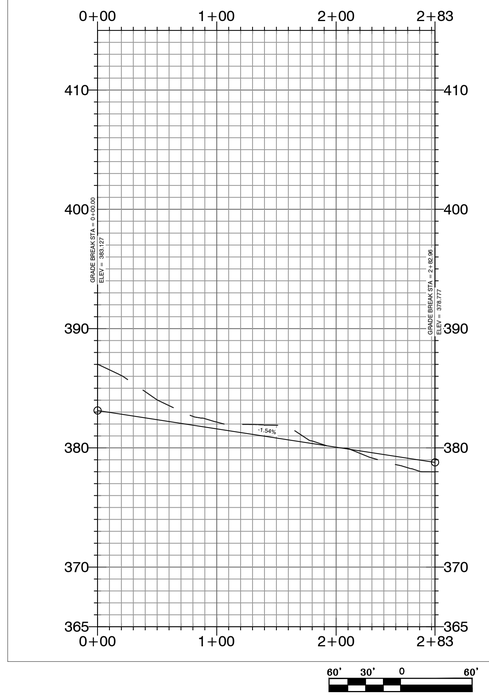
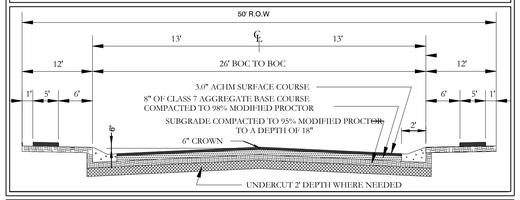
Road (F) PROFILE



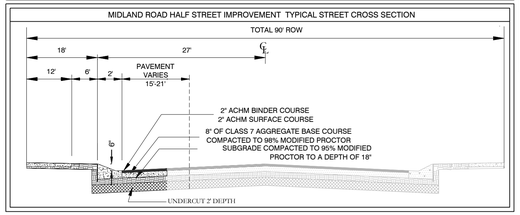
Road (A) PROFILE



CITY OF BRYANT TYPICAL STREET CROSS SECTION



MIDLAND ROAD HALF STREET IMPROVEMENT TYPICAL STREET CROSS SECTION



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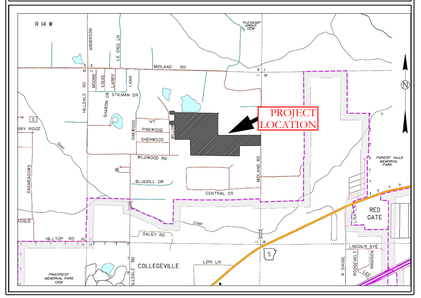

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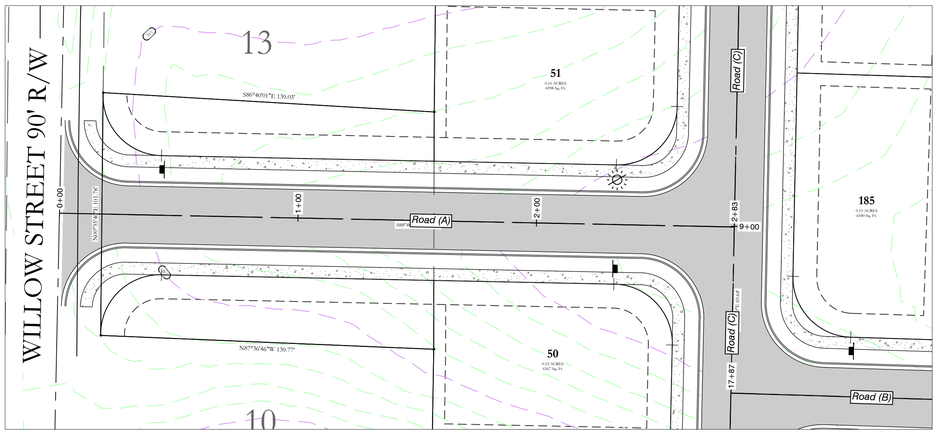

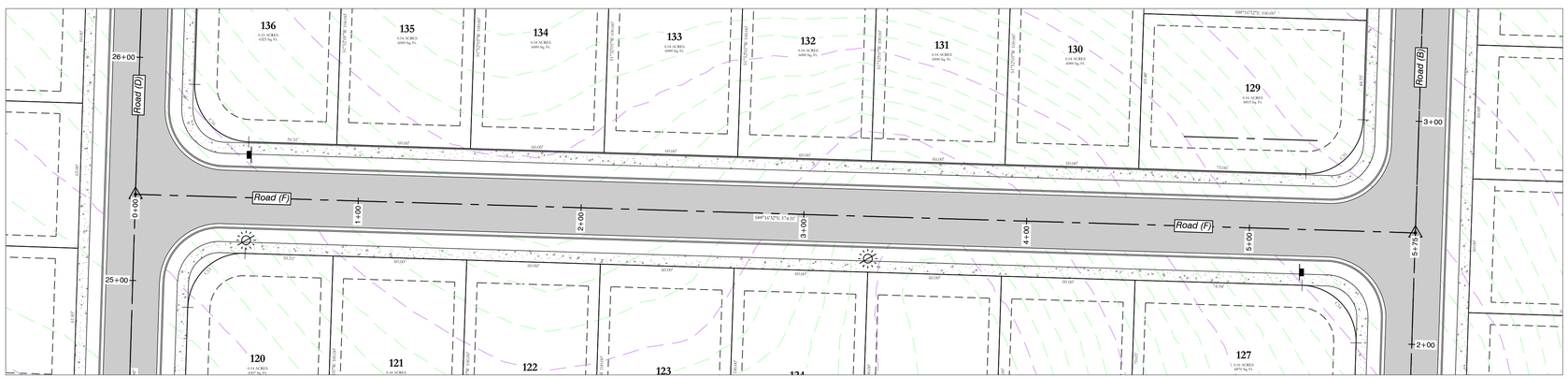

MIDLAND ROAD SUBDIVISION
STREET PLAN & PROFILES

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

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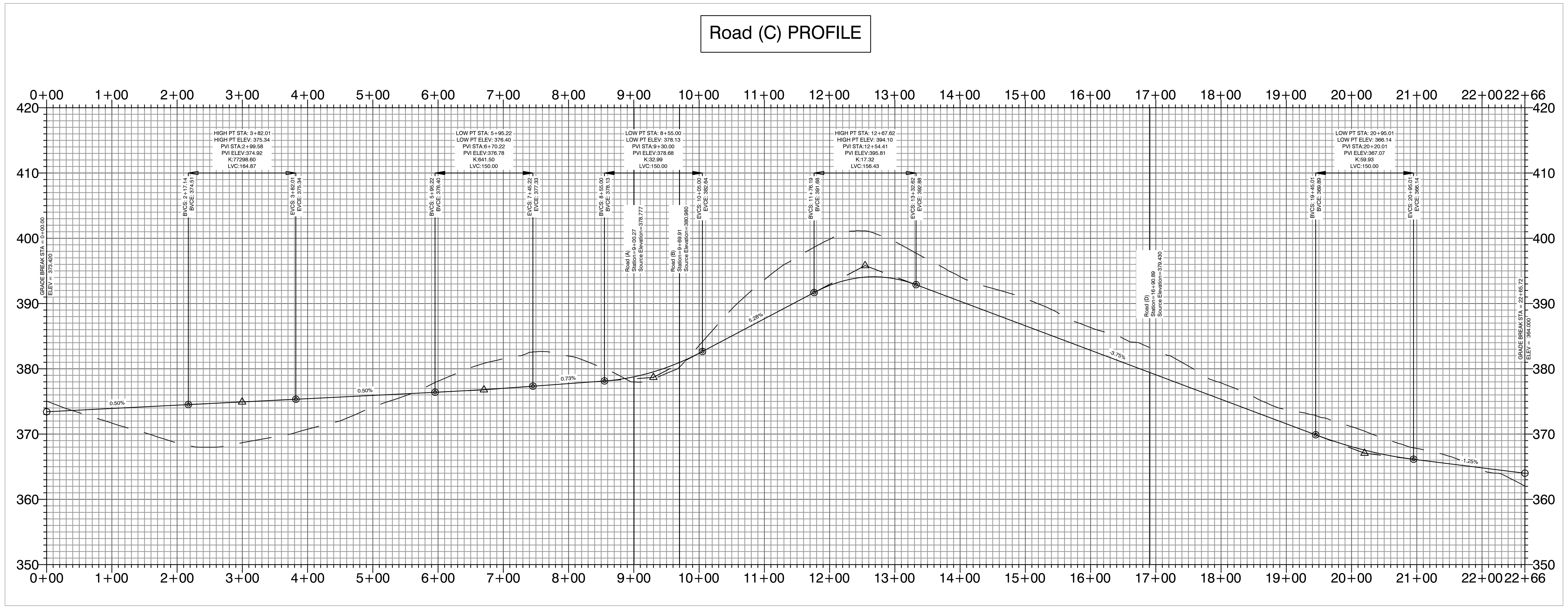

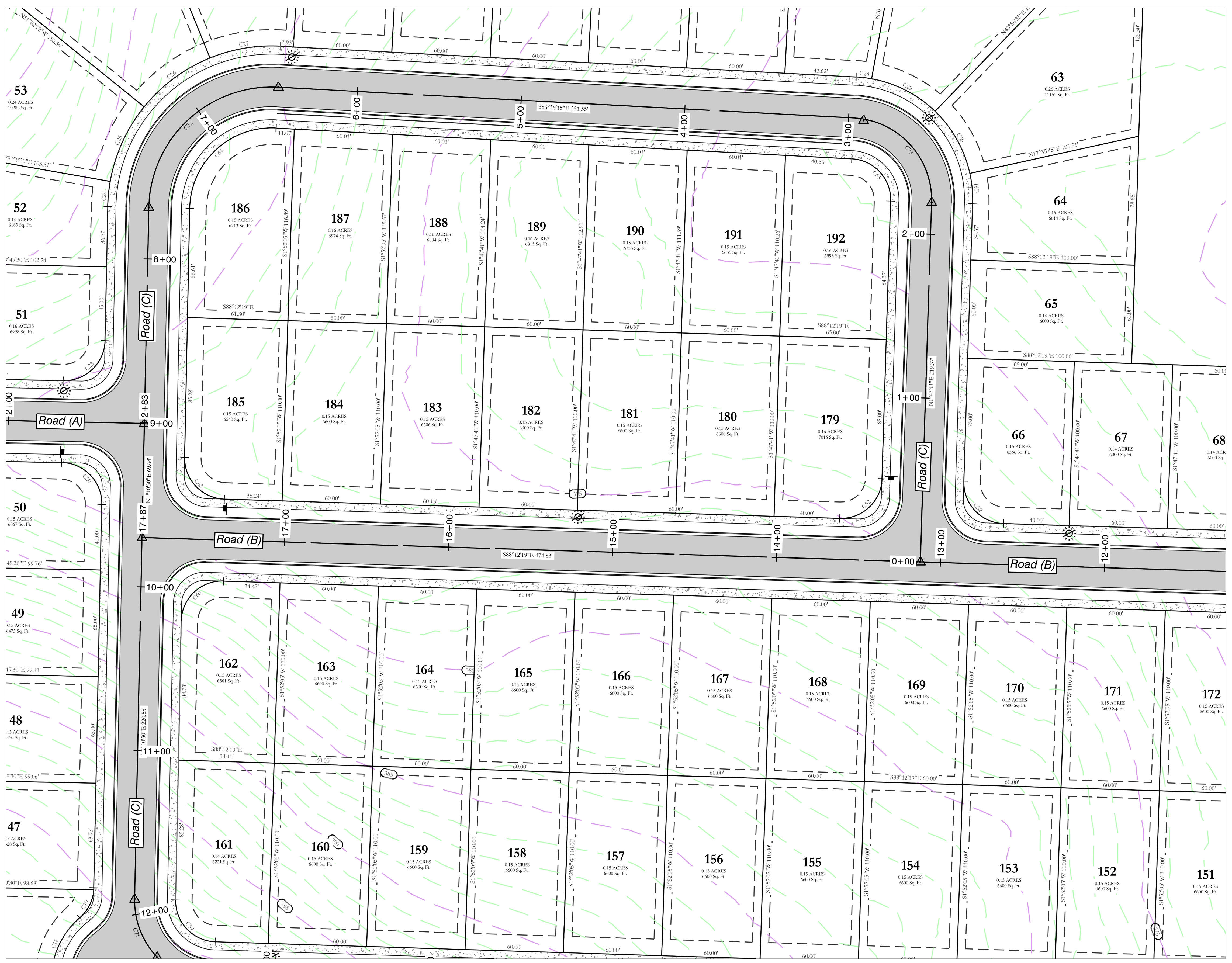

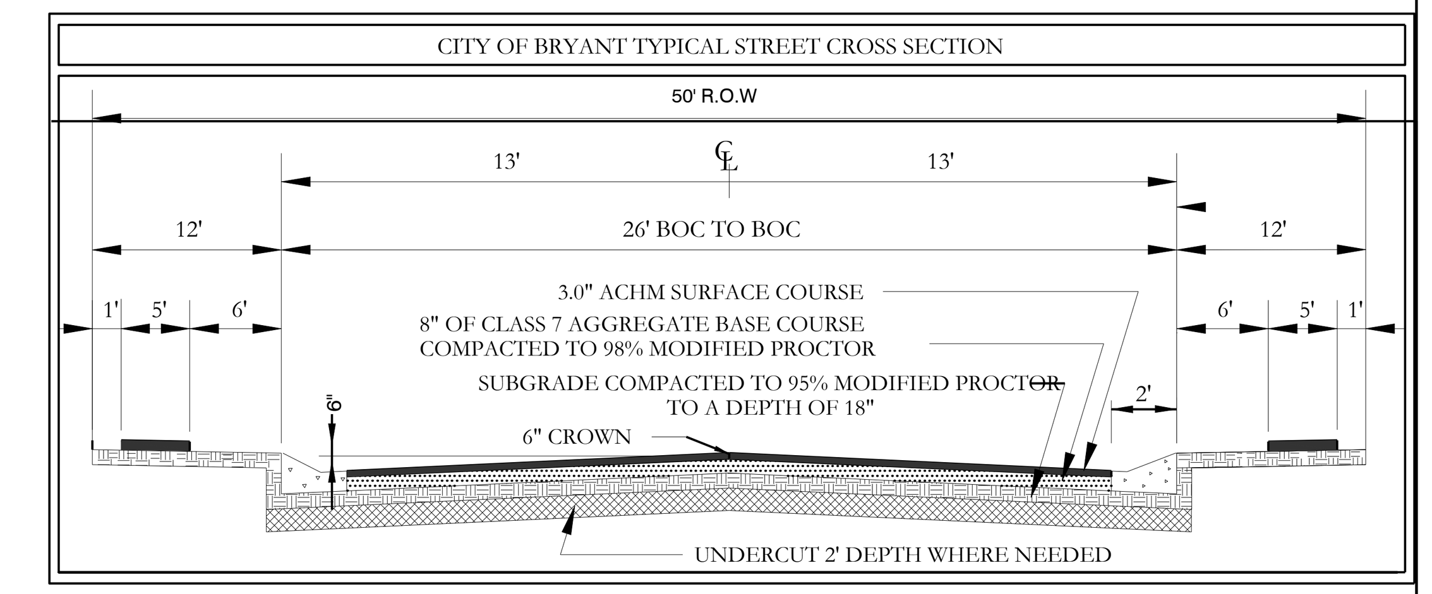

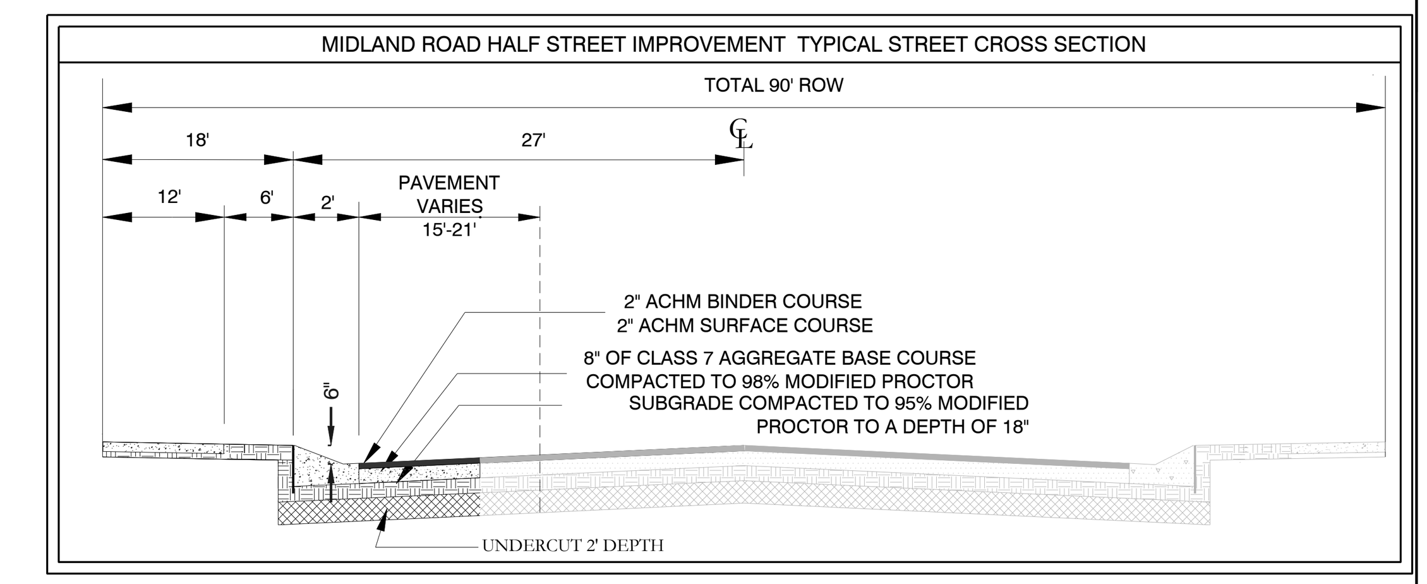

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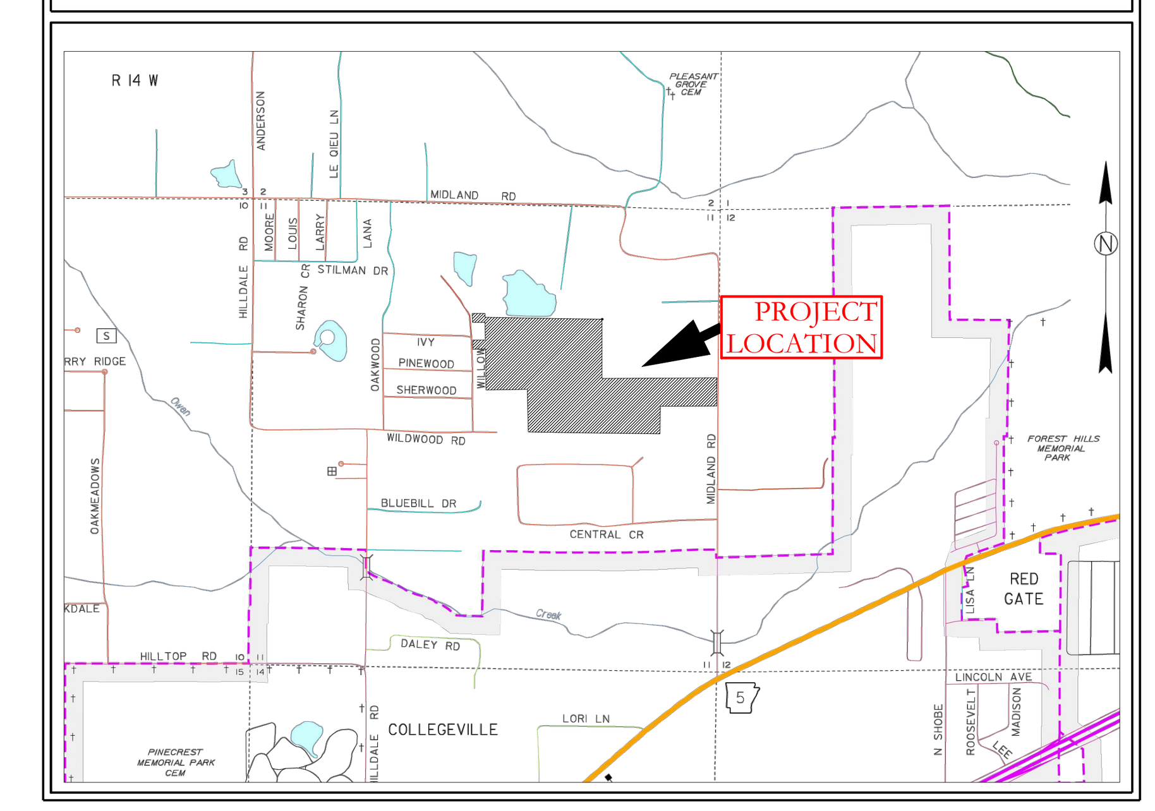

MIDLAND ROAD SUBDIVISION
STREET PLAN & PROFILES

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

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500	01S	15W	0	34	230	62	1807

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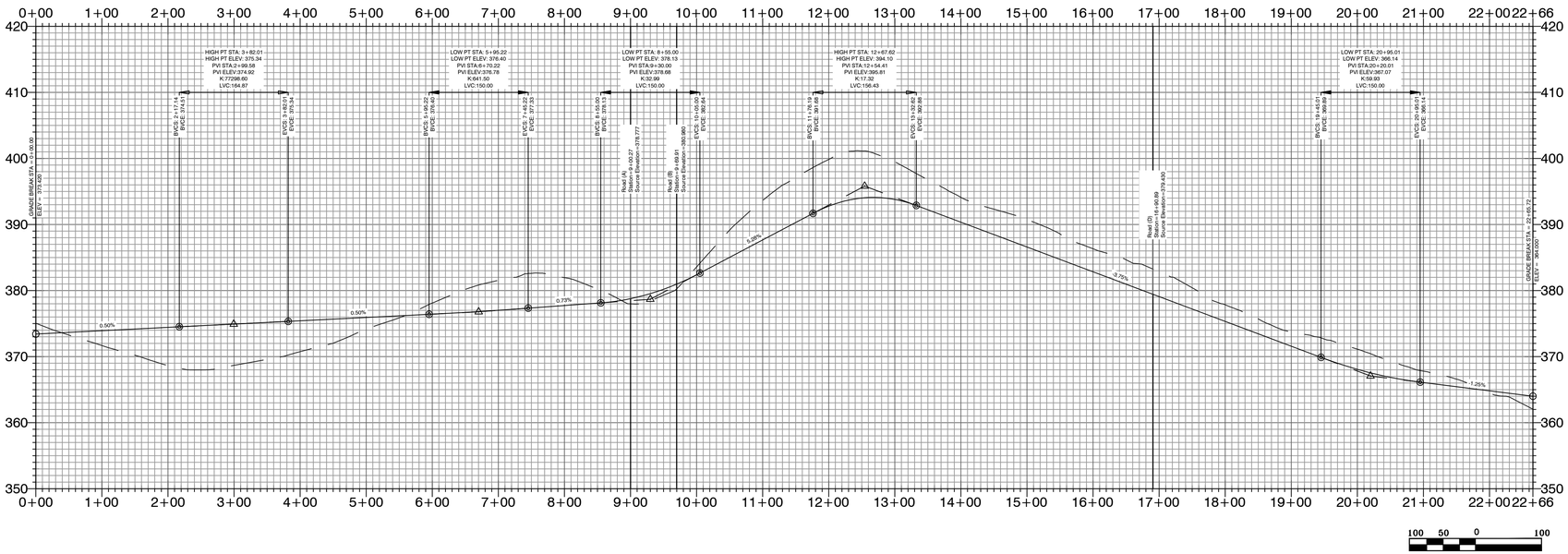
Road (C) PROFILE



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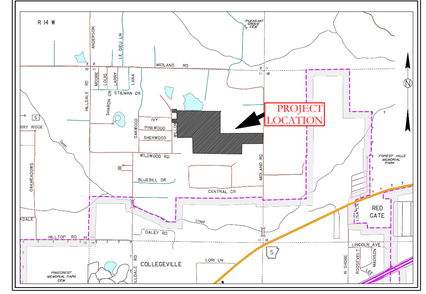
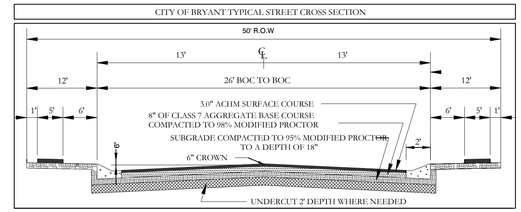
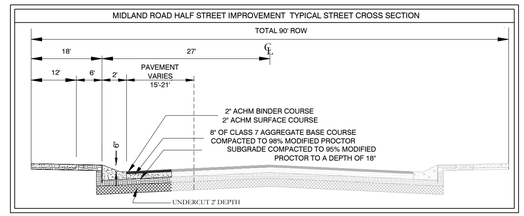


CITY OF BRYANT TYPICAL STREET CROSS SECTION



MIDLAND ROAD HALF STREET IMPROVEMENT TYPICAL STREET CROSS SECTION



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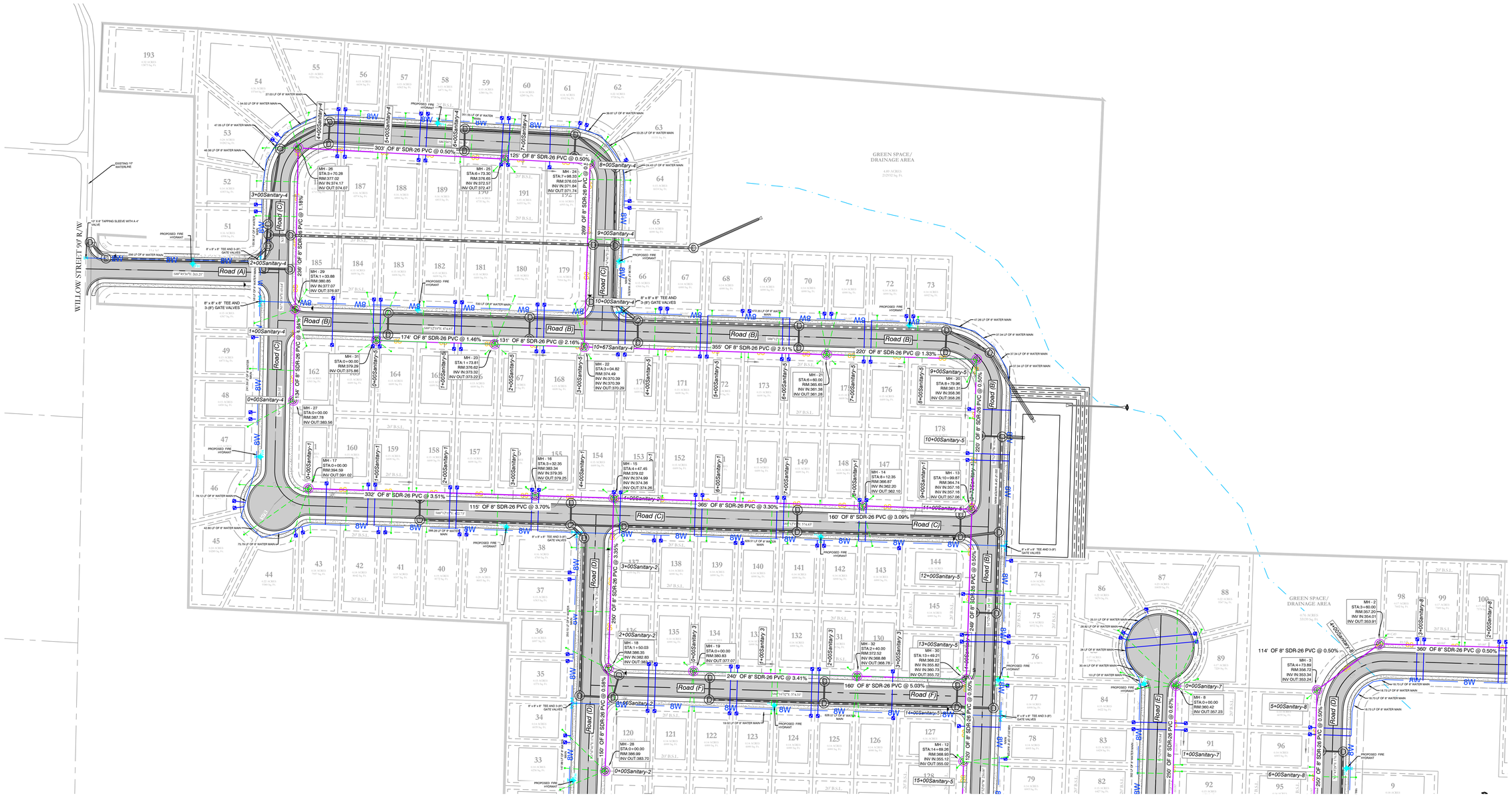
STREET PLAN AND PROFILES
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 3/22/2023		C.A.D. BY:	DRAWING NUMBER:
REVISED:		CHECKED BY:	23-0024
SHEET: C-2.5		SCALE:	

500	01S	15W	0	34	230	62	1807

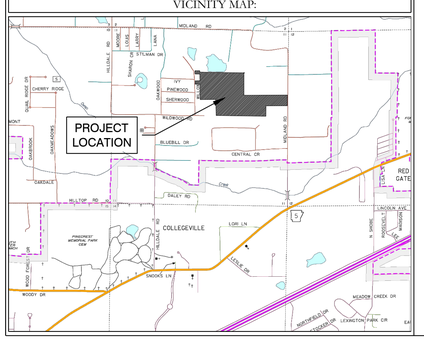
BASIS OF BEARING:
GRID NORTH, ARKANSAS
COORDINATE SYSTEM, SOUTH ZONE BY
GPS OBSERVATION

K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION\15 TECH\REVIT\CIVIL\DWG\23-0024 CONSTRUCTION PLAN (PLOT).DWG



MIDLAND ROAD SUBDIVISION
UTILITY PLAN

VICINITY MAP:



N

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

70 35 0 70

WATER & SEWER UTILITY NOTES:

1. ALL NEW 8-INCH WATER MAINS TO BE CLASS 900.
2. ALL WATER MAINS LARGER THAN 8" DIAMETER SHALL BE DUCTILE IRON (250 PSI PRESSURE CLASS).
3. ALL WATER AND SEWER INSTALLATION TO BE IN ACCORDANCE WITH THE CITY OF BRYANT "STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATER LINES AND SEWER LINES, 2015 EDITION.
4. WATER LINES UNDER CULVERTS, CREEKS, CONCRETE CHANNELS, RETAINING WALLS, OR OTHER DIFFICULT AND /OR DANGEROUS TO MAINTAIN AREAS SHALL BE ENCASED IN A SMOOTH STEEL ENCASEMENT PIPE. THE STEEL ENCASEMENT SHALL EXTEND FIVE FEET EITHER SIDE OF THE AREA.
5. EACH WATER SERVICE METER MUST HAVE ITS OWN SERVICE LINE CONNECTION TO THE MAIN (INCLUDES DOUBLE METERS DISPLAYED AS ONE SERVICE LINE ON THE PLAT.
6. WATER MAIN CONNECTION TO THE NORTH WILL BE CONSTRUCTED IN PHASE 2, CONNECTION TO THE SOUTH WILL BE IN THE FINAL PHASE.
7. CASING SPACERS SHALL BE STAINLESS STEEL, CASCADE MODEL CCS AS MANUFACTURED BY CASCADE WATER MFG. CO., OR APPROVED EQUAL.

SEWER CONSTRUCTION NOTES:

1. ALL SEWER INSTALLATION TO BE IN ACCORDANCE WITH THE CITY OF BRYANT " STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION OF WATER LINES AND SEWER LINES, 2015 EDITION"
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HDPE
RCP

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE	DUAL WATER METERS
SEWER MAIN — S — SEWER MANHOLE	SINGLE WATER METER
	GATE VALVE
	45º FITTING
	90º FITTING
	TEE FITTING
	CROSS FITTING
	FIRE HYDRANT

NOTE:
USE SDR-26 PVC SEWER PIPE EXCEPT WHERE DUCTILE IRON PIPE REQUIRED FOR COVER. USE DUCTILE IRON PIPE WHERE 3' MINIMUM COVE CANNOT BE MAINTAINED.

CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL BURIED UTILITIES PRIOR TO CONSTRUCTION.

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:
HAVEN'S DEVELOPMENT, LLC

UTILITY PLAN
MIDLAND ROAD
IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/17/2023	C.A.D. BY:	DRAWING NUMBER:
REVISED:		CHECKED BY:	23-0024
SHEET:	C-3.0	SCALE:	1" = 70'
500		0	

VICINITY MAP:

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HDPE
RCP

SEWER LEGEND:	
SEWER SERVICE	
SEWER MAIN	SEWER MANHOLE

NOTE:
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WATER LEGEND:	
	DUAL WATER METERS
	SINGLE WATER METER
	GATE VALVE
	45º FITTING
	90º FITTING
	TEE FITTING
	CROSS FITTING
FH	FIRE HYDRANT

MIDLAND ROAD SUBDIVISION
UTILITY PLAN

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MIDLAND ROAD
IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

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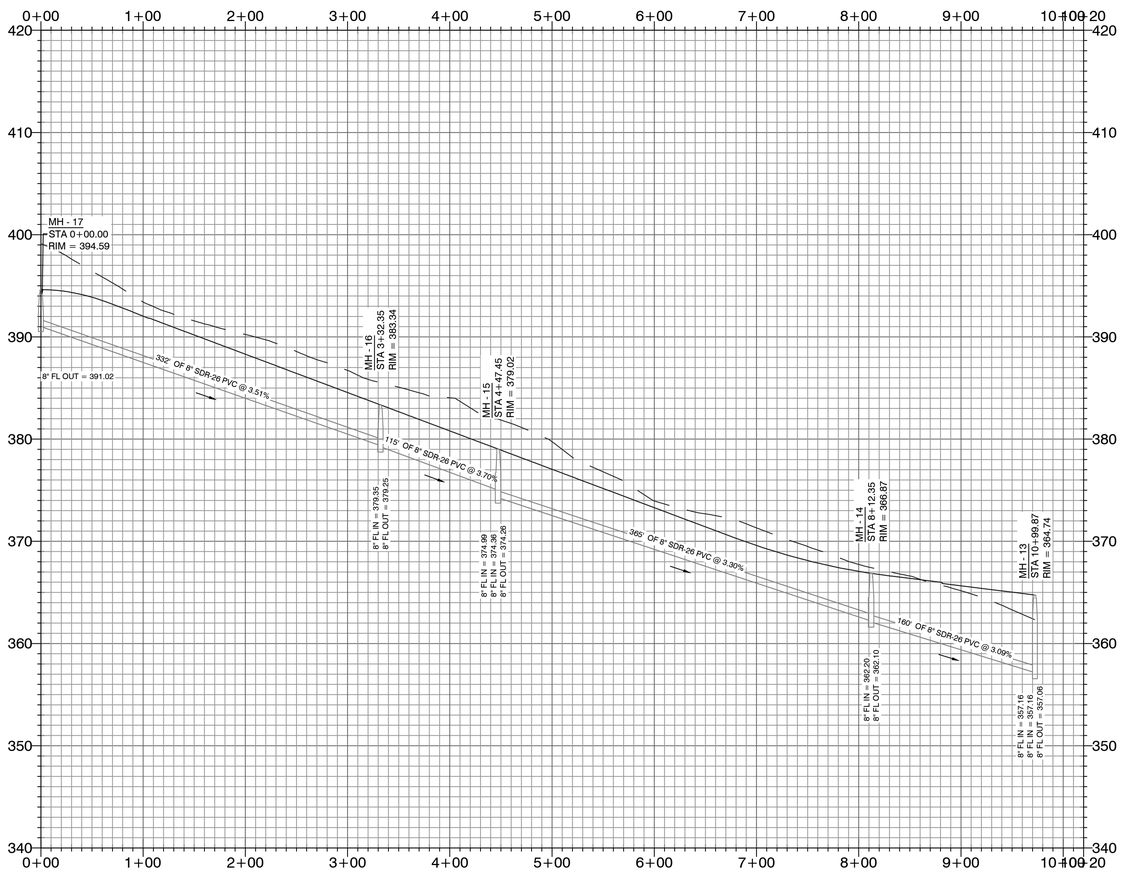
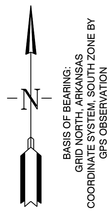
REVISED:		CHECKED BY:	23-0024
SHEET:	C-3.1	SCALE: 1" = 70'	

Sanitary-1 PROFILE





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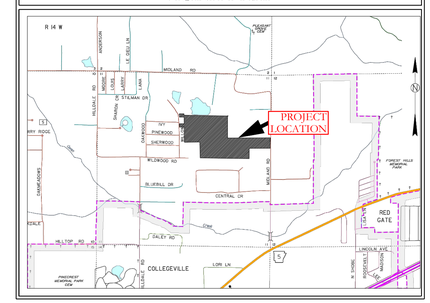
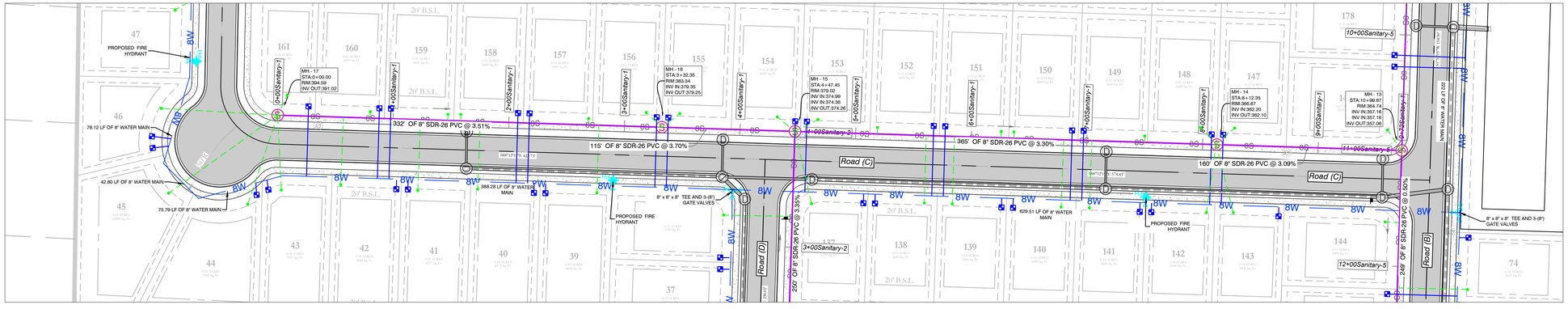
HDPE

RCP

VICINITY MAP:



SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE, SEWER MAIN, SEWER MANHOLE	DUAL WATER METERS
NOTE: USE SDR-26 PVC SEWER PIPE EXCEPT WHERE DUCTILE IRON PIPE REQUIRED FOR COVER. USE DUCTILE IRON PIPE WHERE 3' MINIMUM COVE CANNOT BE MAINTAINED.	SINGLE WATER METER
CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL BURIED UTILITIES PRIOR TO CONSTRUCTION.	GATE VALVE
	45º FITTING
	90º FITTING
	TEE FITTING
	CROSS FITTING
	FIRE HYDRANT



MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

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FOR USE AND BENEFIT OF:
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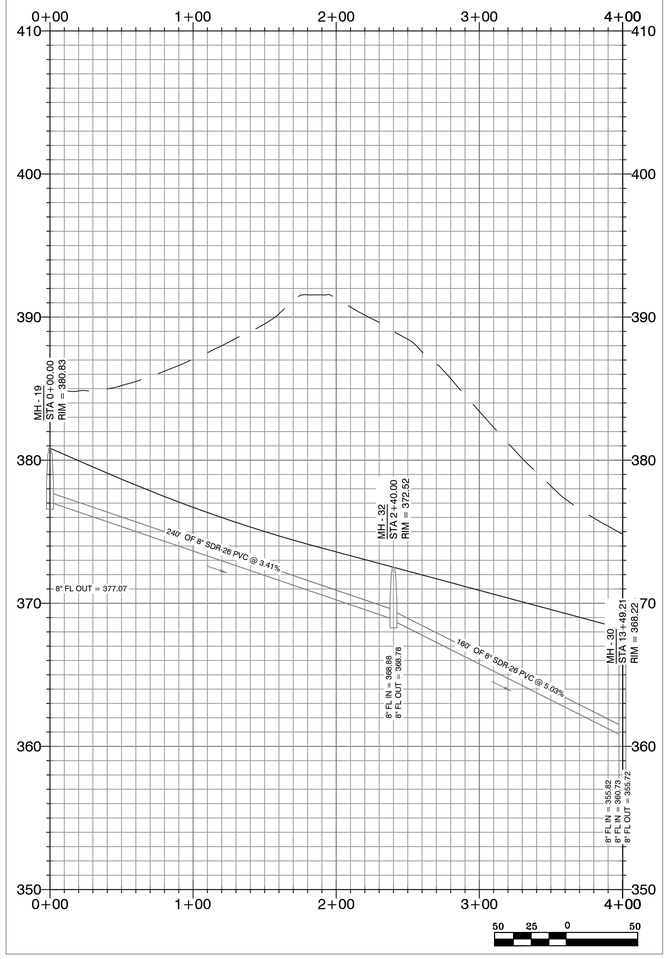
MIDLAND ROAD
SEWER PROFILES
BRYANT, SALINE COUNTY, ARKANSAS

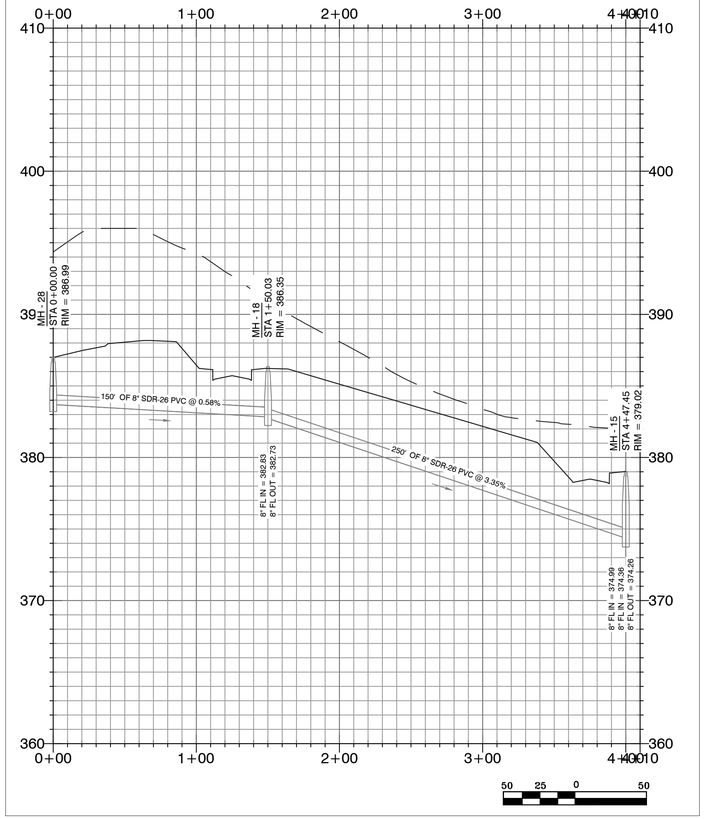
DATE:	3/17/2023	C.A.D. BY:		DRAWING NUMBER:			
REVISED:		CHECKED BY:		23-0024			
SHEET:	C-3.2	SCALE:					
500	1S	15W	0	34	230	62	1807

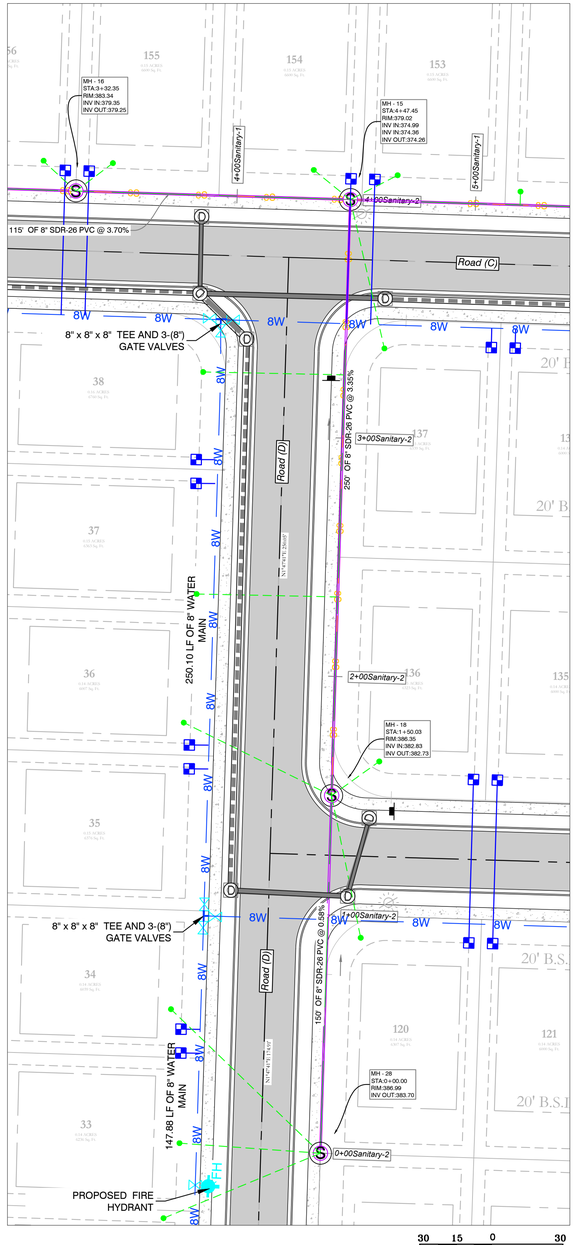
K:\LAND PROJECTS 2019\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S1 15 T1S R14W\DWG\DWG\23-0024 CONSTRUCTION PLAN (SEWER).DWG

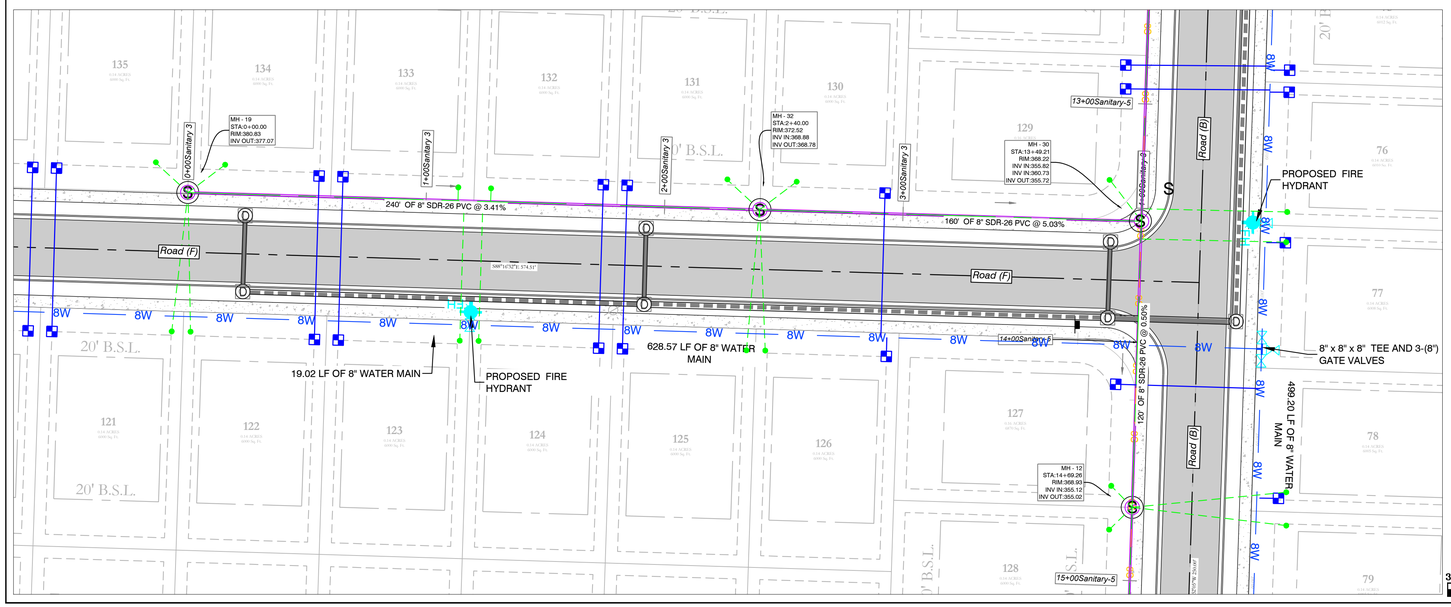
Sanitary 3 PROFILE



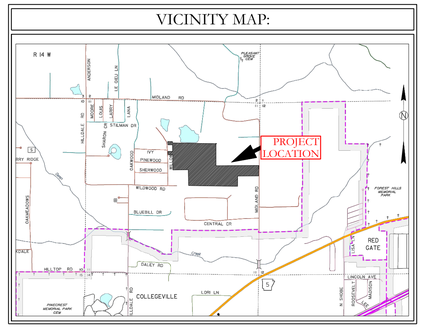
Sanitary-2 PROFILE







VICINITY MAP:



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HDPE

RCP

N

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

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE	DUAL WATER METERS
SEWER MAIN — S — SEWER MANHOLE	SINGLE WATER METER
	GATE VALVE
	45º FITTING
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MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

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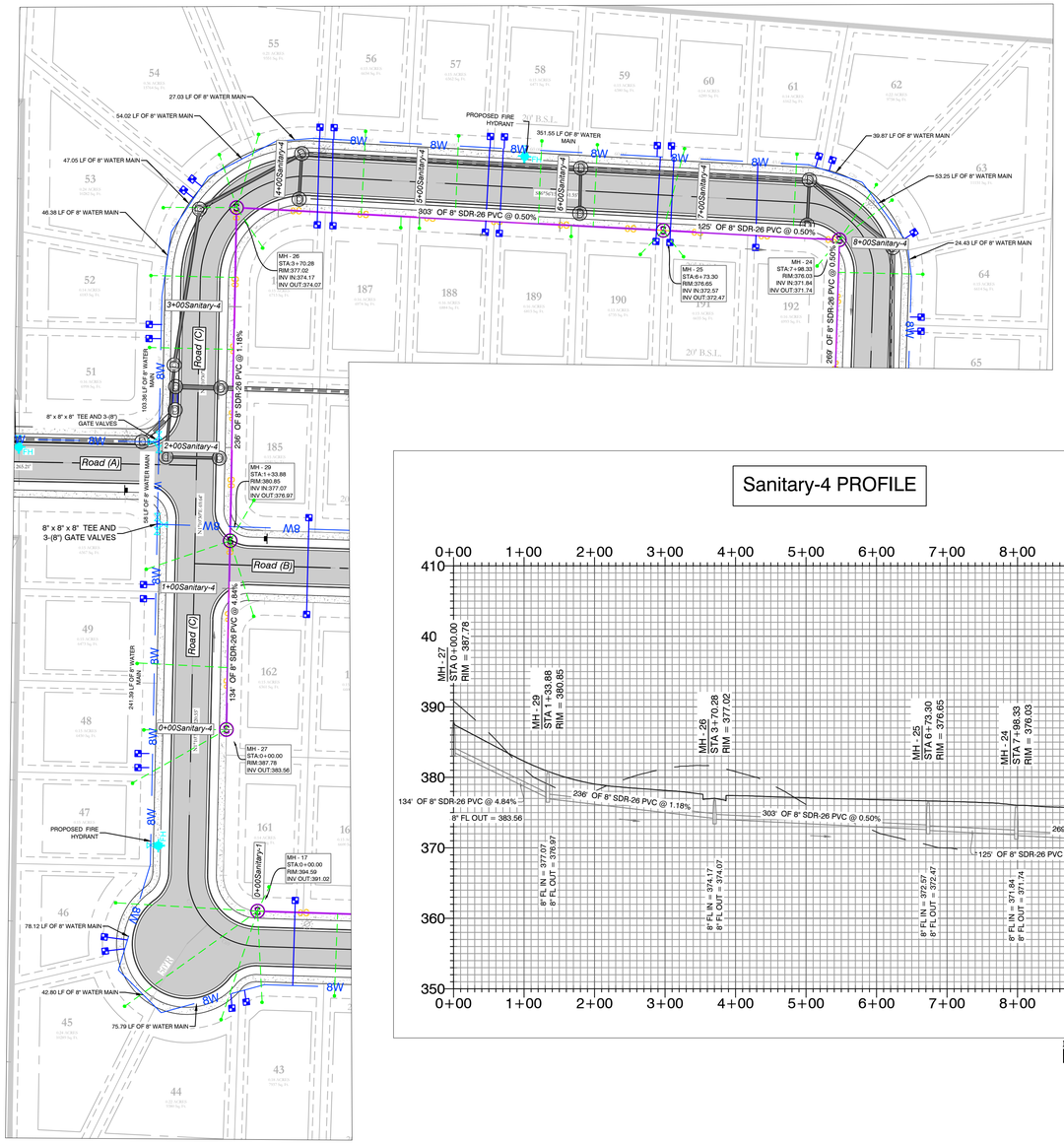
MIDLAND ROAD
SEWER PROFILES
BRYANT, SALINE COUNTY, ARKANSAS

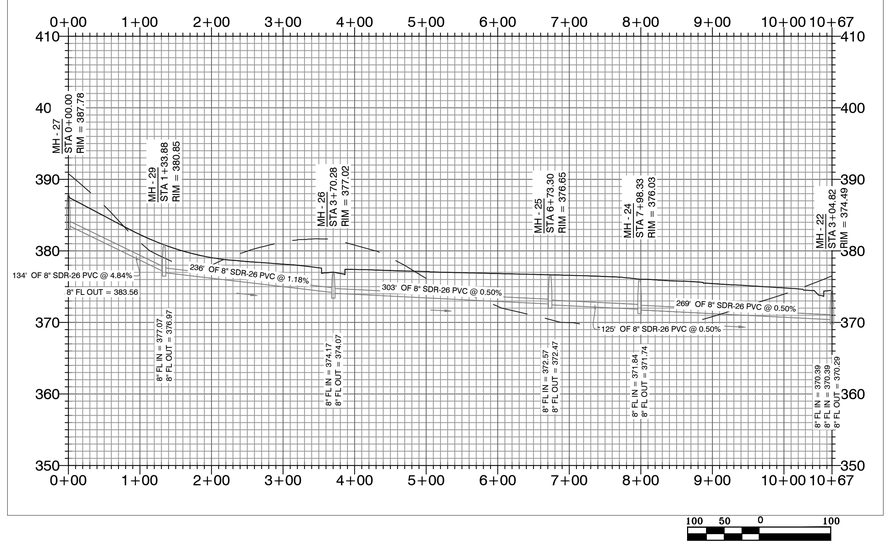
DATE:	3/17/2023	C.A.D. BY:	DRAWING NUMBER:
REVISED:		CHECKED BY:	23-0024
SHEET:	C-3.3	SCALE:	

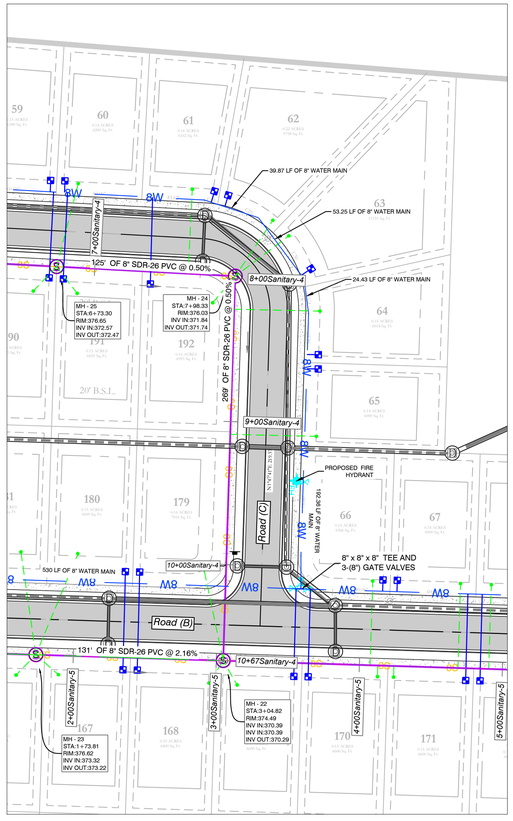
500	1S	15W	0	34	230	62	1807

K:\LAND PROJECTS 2004 SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S11 T1S R14W\CIVIL\DWG\23-0024 CONSTRUCTION PLAN (FINAL).DWG



Sanitary-4 PROFILE





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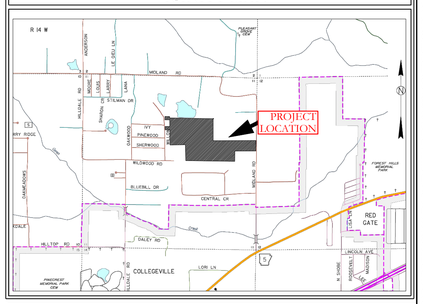
HDPE

RCP

VICINITY MAP:



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500	1S	15W	0	34	230	62	1807

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

N

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE; SEWER MAIN; SEWER MANHOLE	DUAL WATER METERS
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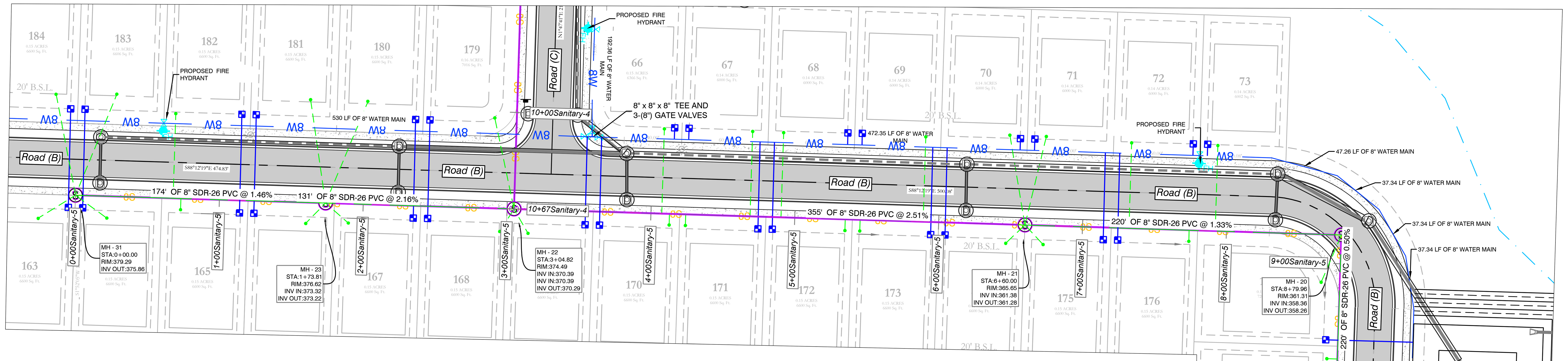
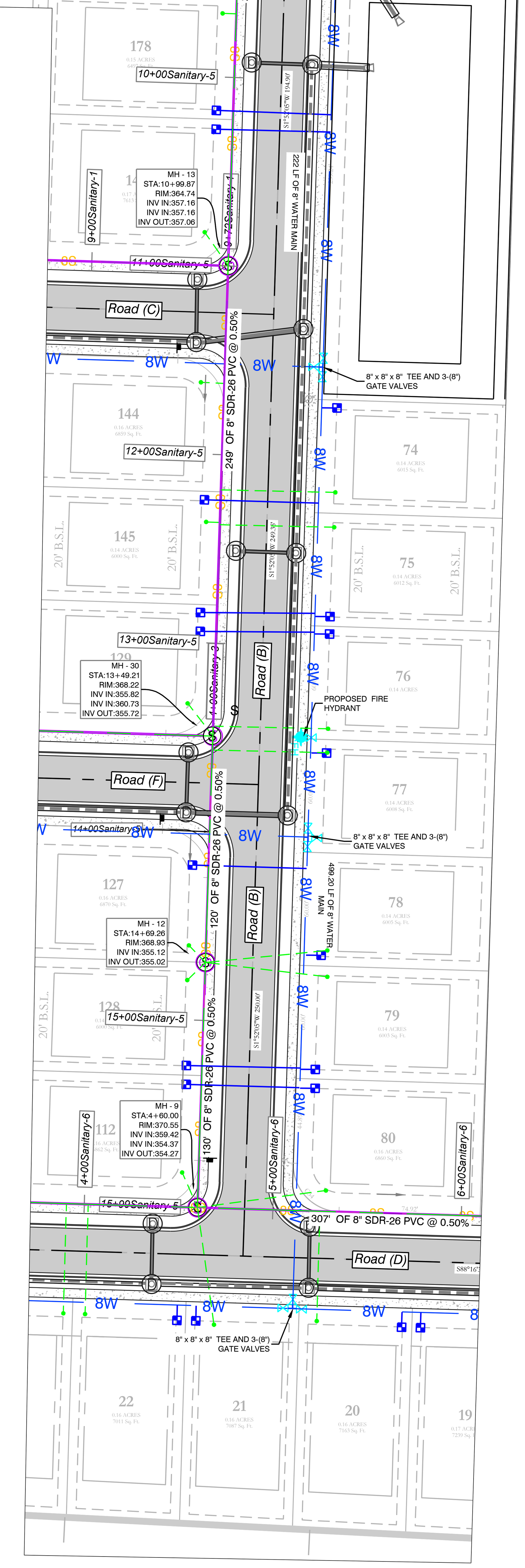
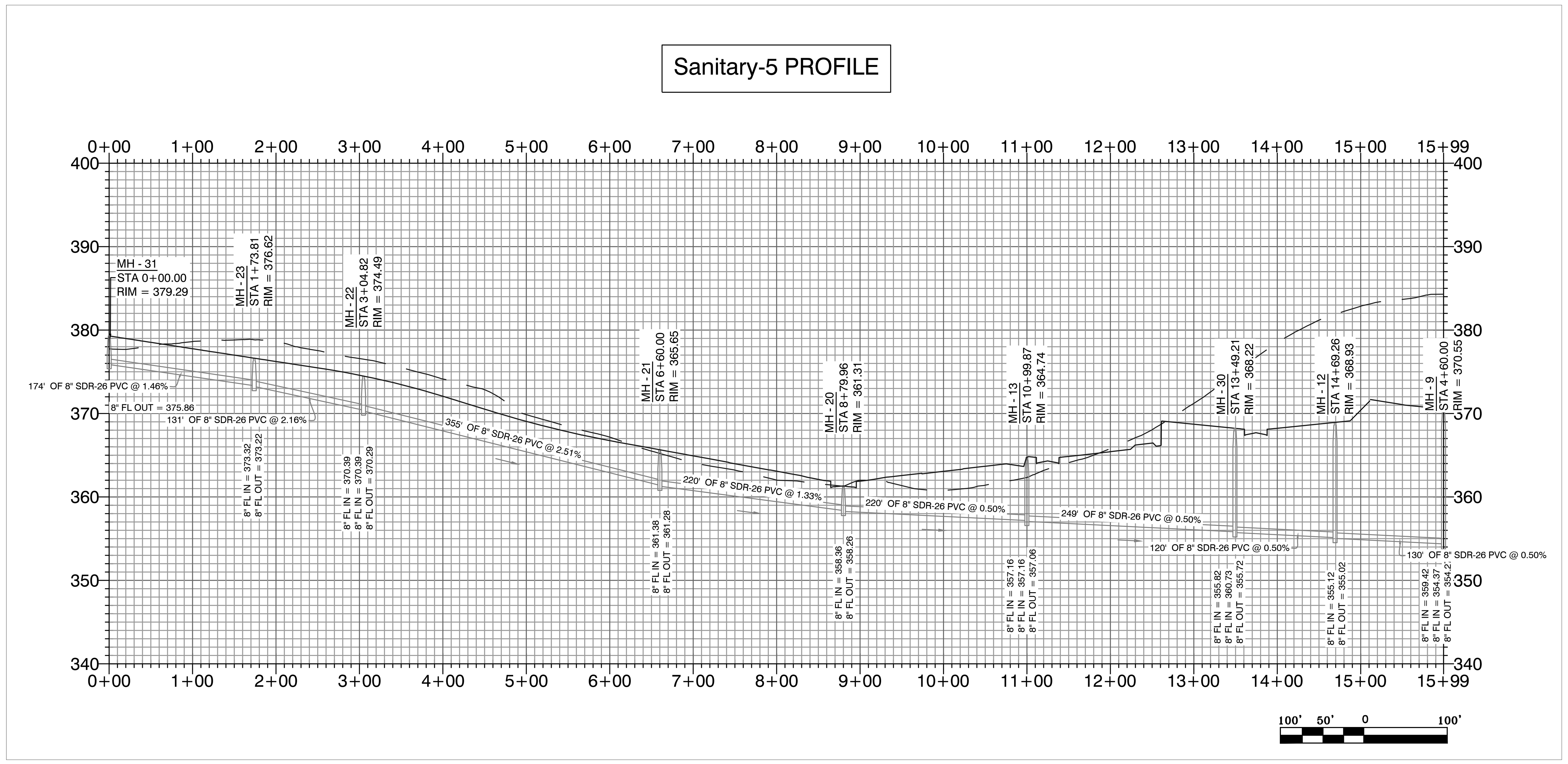
MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

K:\LAND PROJECTS 2045\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION\SHT FILES\R14W\CIVIL\DWG\23-0024 CONSTRUCTION PLAN (FINAL MAP).dwg







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SEWER CONSTRUCTION NOTES:

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HDPE

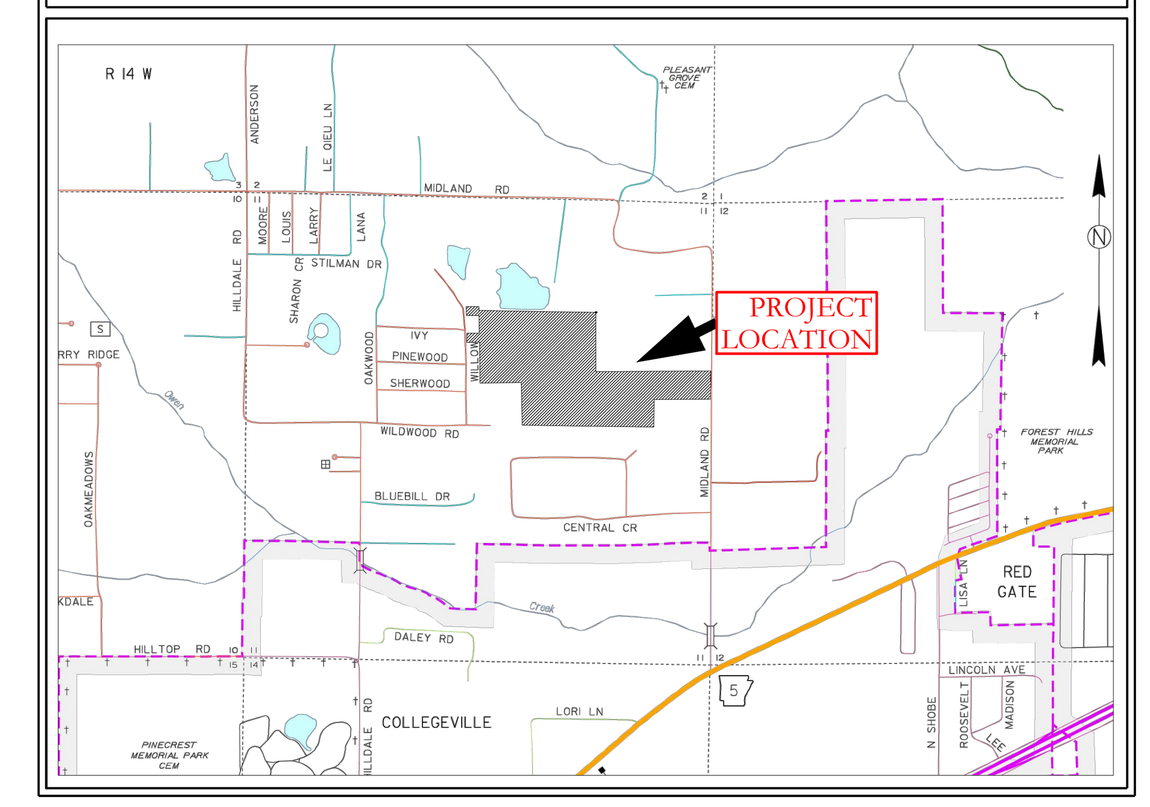
RCP

N

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

50 25 0 50

VICINITY MAP:



MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

SEWER LEGEND:

SEWER SERVICE
SEWER MAIN
SEWER MANHOLE

NOTE:
USE SDR-26 PVC SEWER PIPE EXCEPT WHERE DUCTILE IRON PIPE REQUIRED FOR COVER. USE DUCTILE IRON PIPE WHERE 3' MINIMUM COVE CANNOT BE MAINTAINED.

CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL BURIED UTILITIES PRIOR TO CONSTRUCTION.

WATER LEGEND:

- DUAL WATER METERS
- SINGLE WATER METER
- GATE VALVE
- 45º FITTING
- 90º FITTING
- TEE FITTING
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- FIRE HYDRANT

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FOR USE AND BENEFIT OF:
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MIDLAND ROAD
SEWER PROFILES
BRYANT, SALINE COUNTY, ARKANSAS

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SHEET:	C-3.5	SCALE:					
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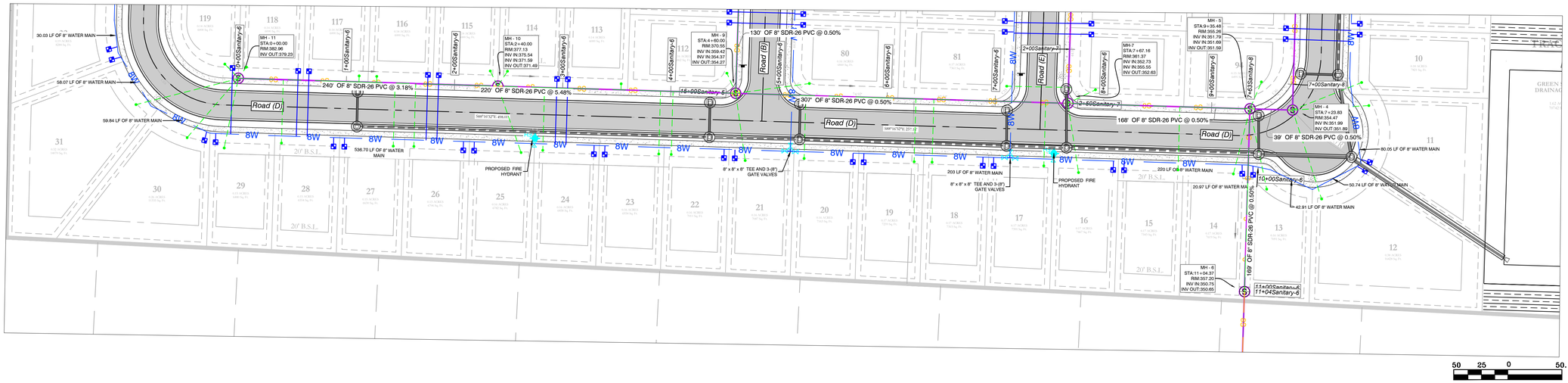
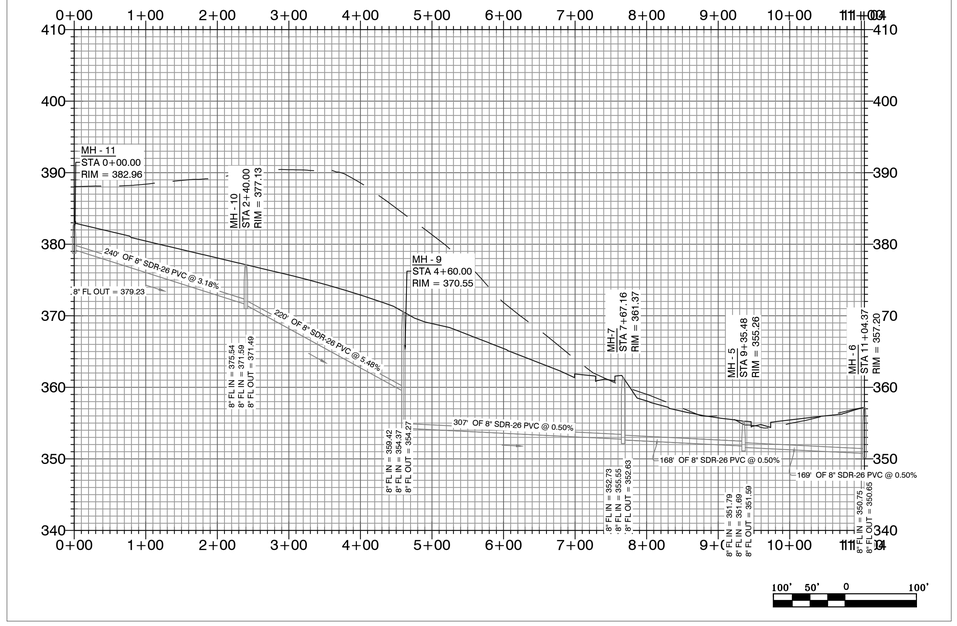
K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S11 T1S R14W\CIVIL\DWG\23-0024 CONTRUCTION PLAN (FINAL DRAFT).DWG



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

Sanitary-6 PROFILE



WATER & SEWER UTILITY NOTES:

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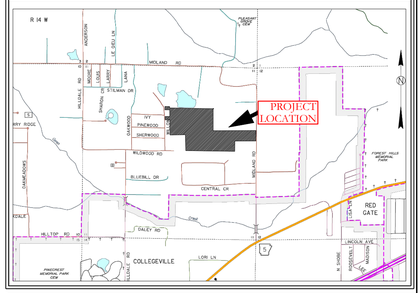
HDPE

RCP

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE; SEWER MAIN; SEWER MANHOLE	DUAL WATER METERS
NOTE: USE SDR-26 PVC SEWER PIPE EXCEPT WHERE DUCTILE IRON PIPE REQUIRED FOR COVER. USE DUCTILE IRON PIPE WHERE 3' MINIMUM COVE CANNOT BE MAINTAINED.	SINGLE WATER METER
CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL BURIED UTILITIES PRIOR TO CONSTRUCTION.	GATE VALVE
	45º FITTING
	90º FITTING
	TEE FITTING
	CROSS FITTING
	FIRE HYDRANT

MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

VICINITY MAP:



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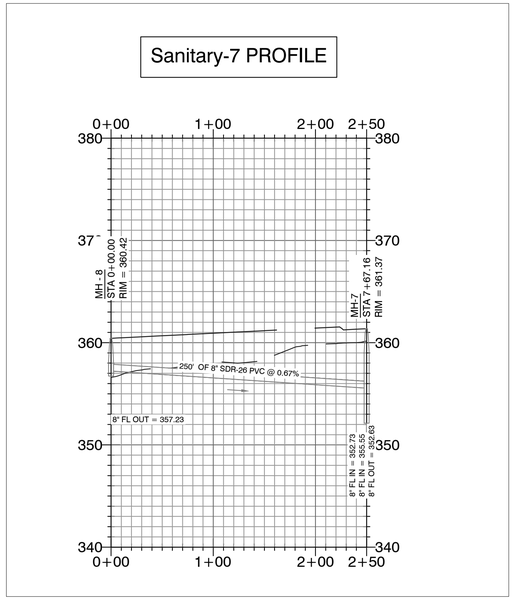
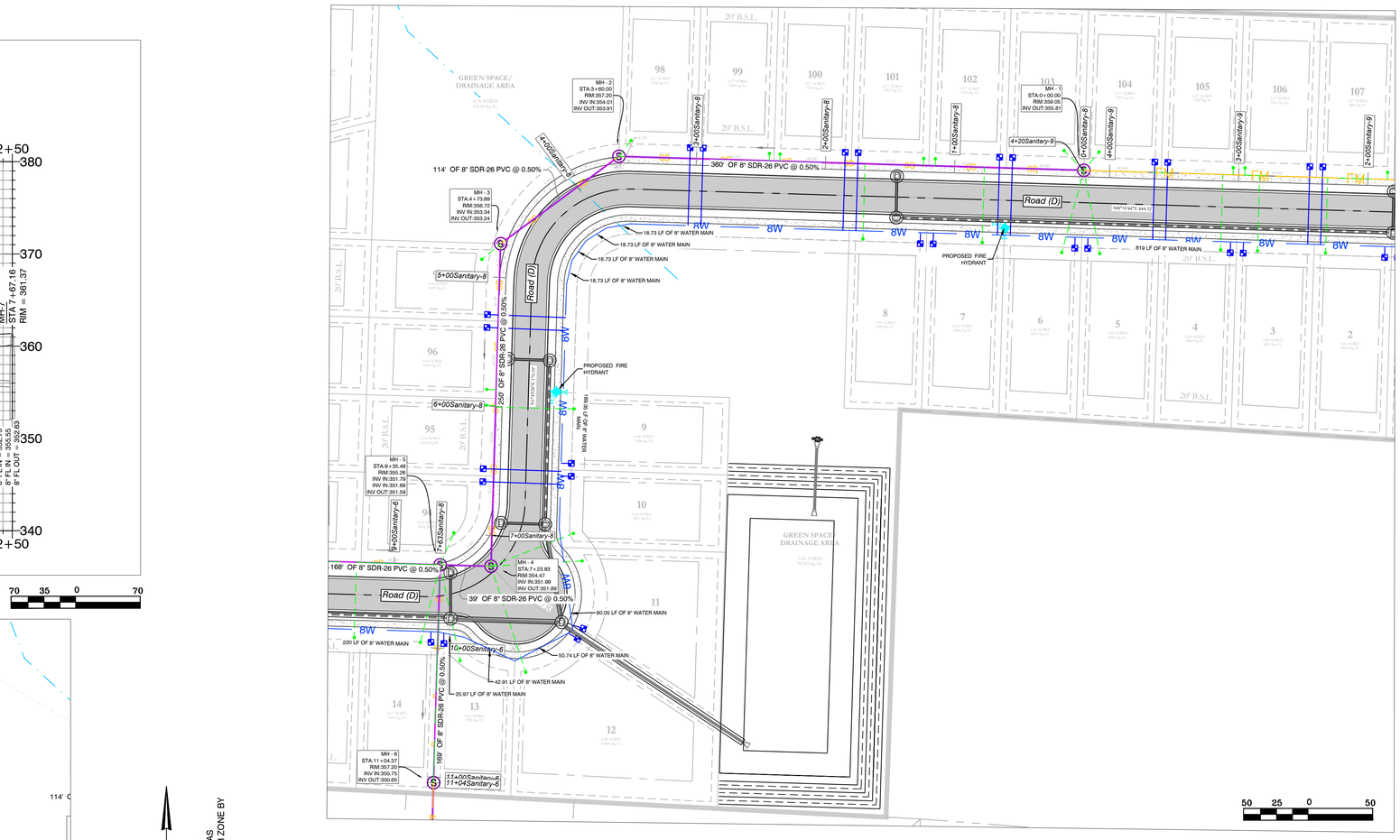
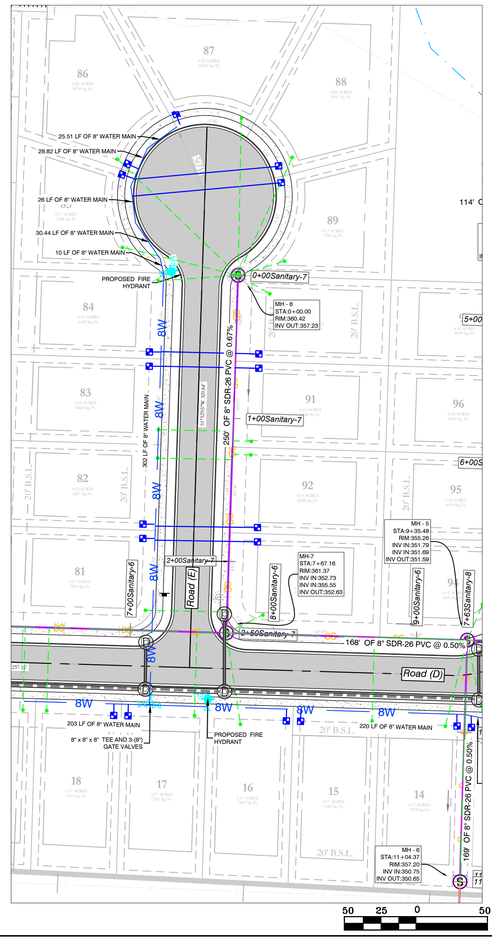
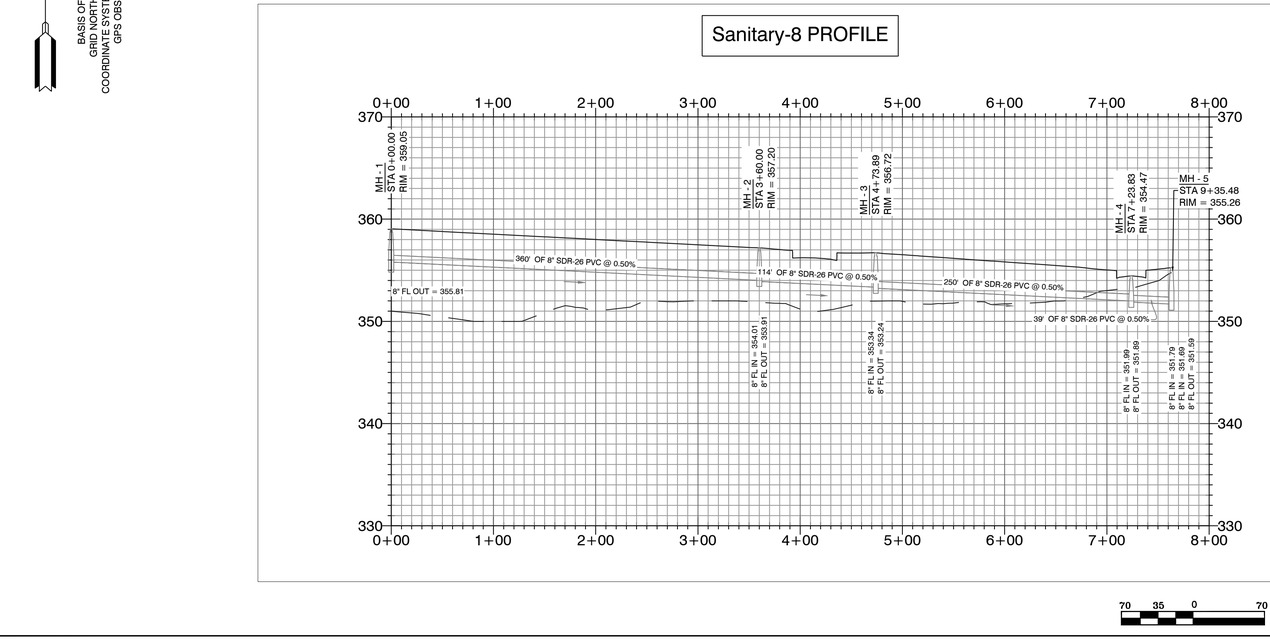
K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S1 T1S R14W (CIVIL\DWG\23-0024 CONSTRUCTION PLAN (FINAL DRAFT).DWG



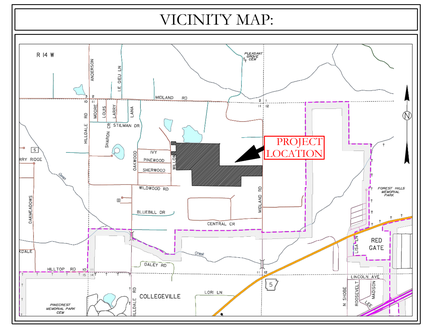






BASIS OF BEARING:
GRID NORTH, ARKANSAS
COORDINATE SYSTEM, SOUTH ZONE BY
GPS OBSERVATION

VICINITY MAP:



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HDPE

RCP

MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE, SEWER MAIN, SEWER MANHOLE	DUAL WATER METERS
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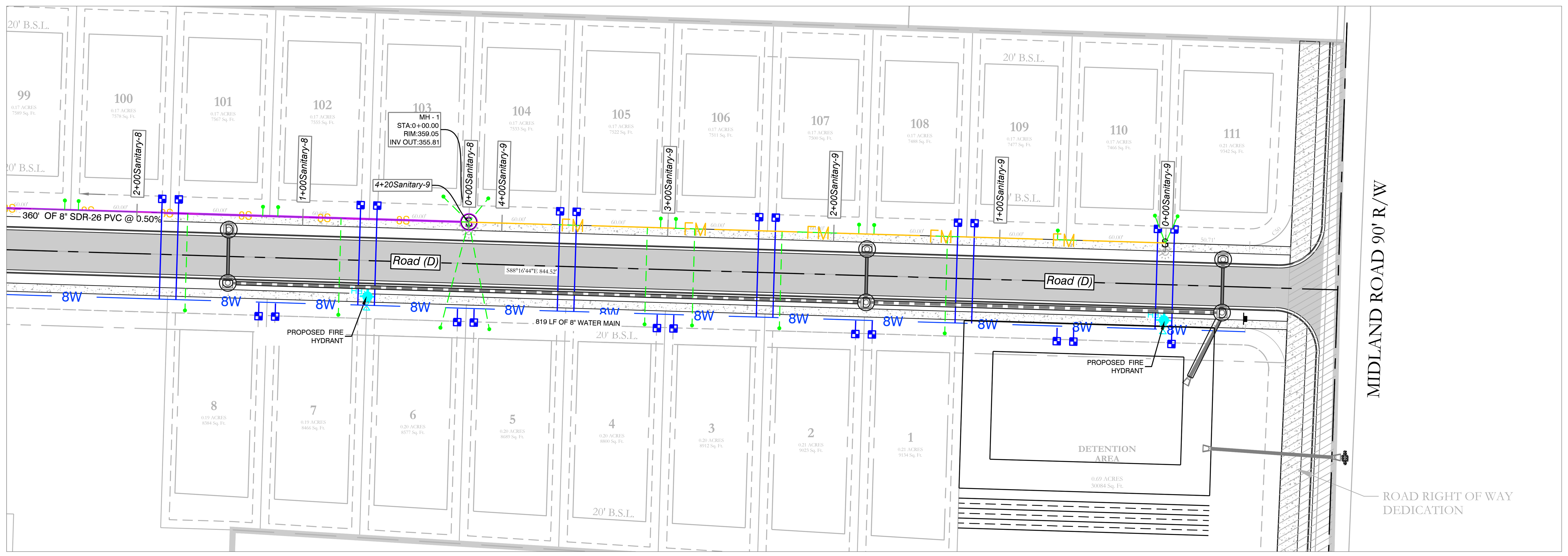
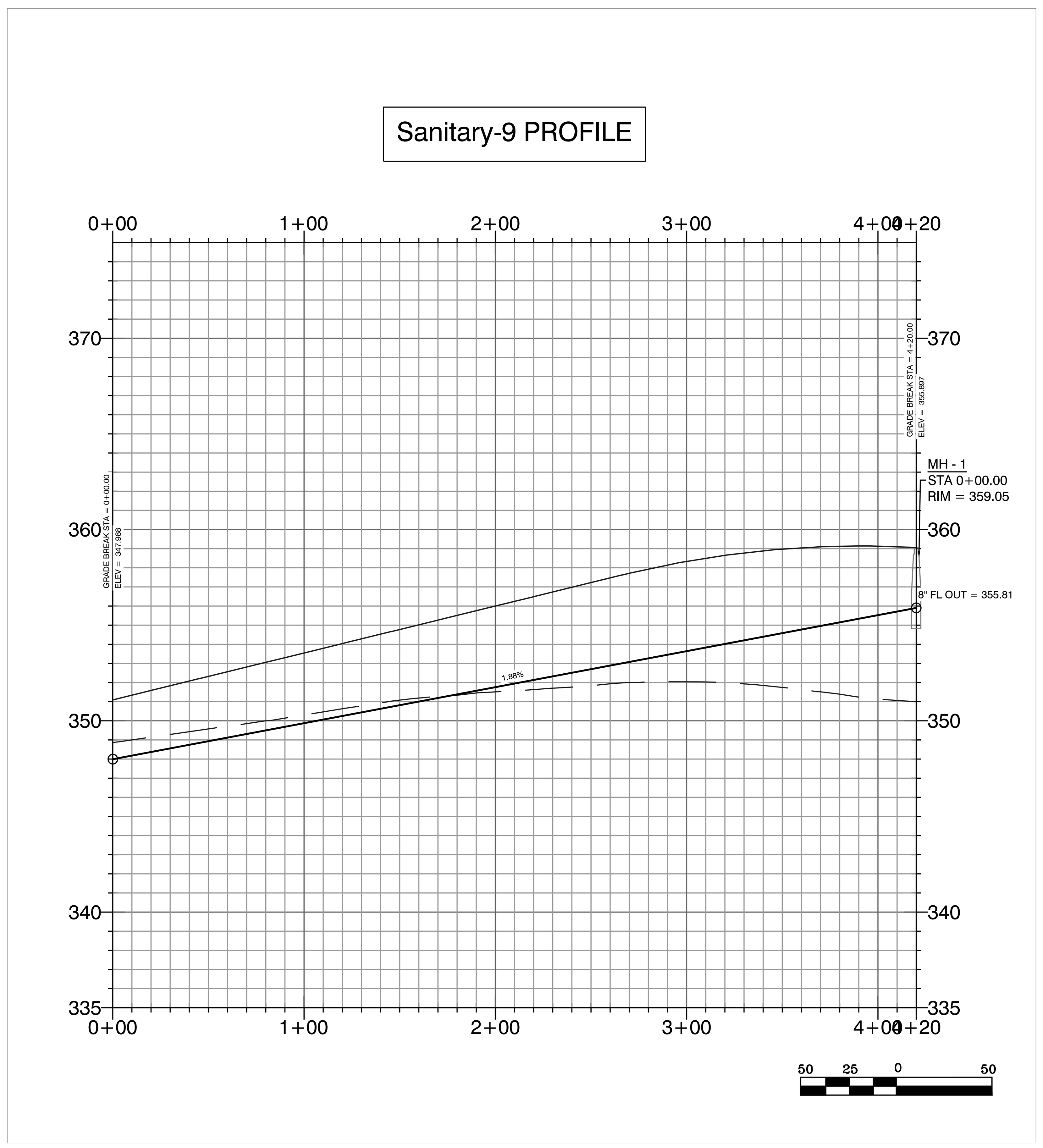
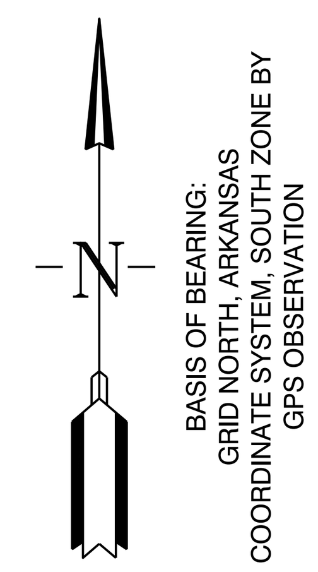
K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION 511 TIS R14W\CIVIL\DWGS\23-0024 CONSTRUCTION PLAN FINAL\MAP.DWG





Sanitary-9 Profile Note:

1. Sanitary-9 pipe network is operated by 2" SDR-21pipe force main.



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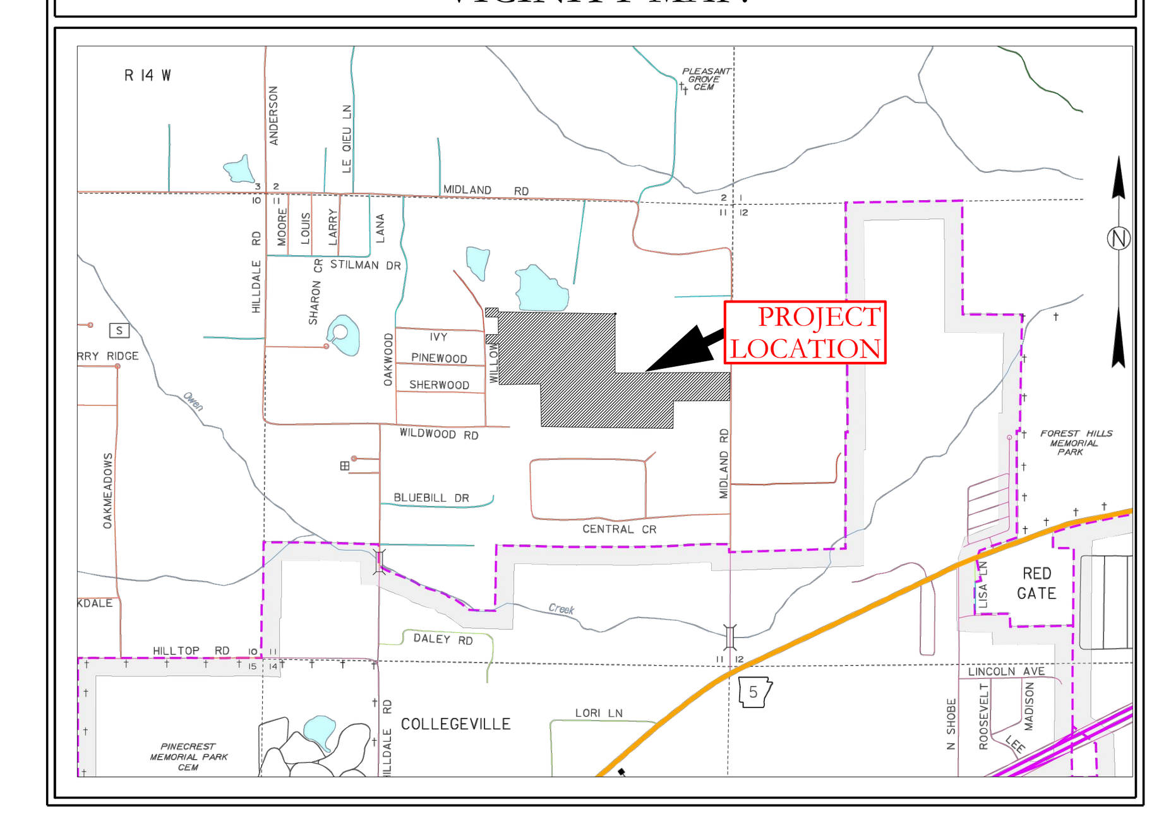
HDPE

RCP

VICINITY MAP:



SEWER LEGEND:

SEWER SERVICE

SEWER MAIN — SEWER MANHOLE

NOTE:
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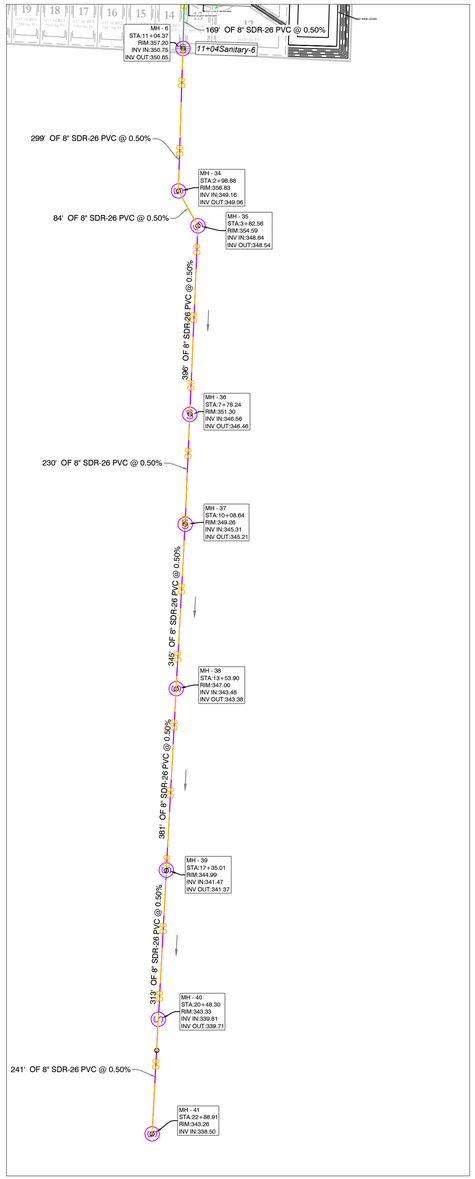
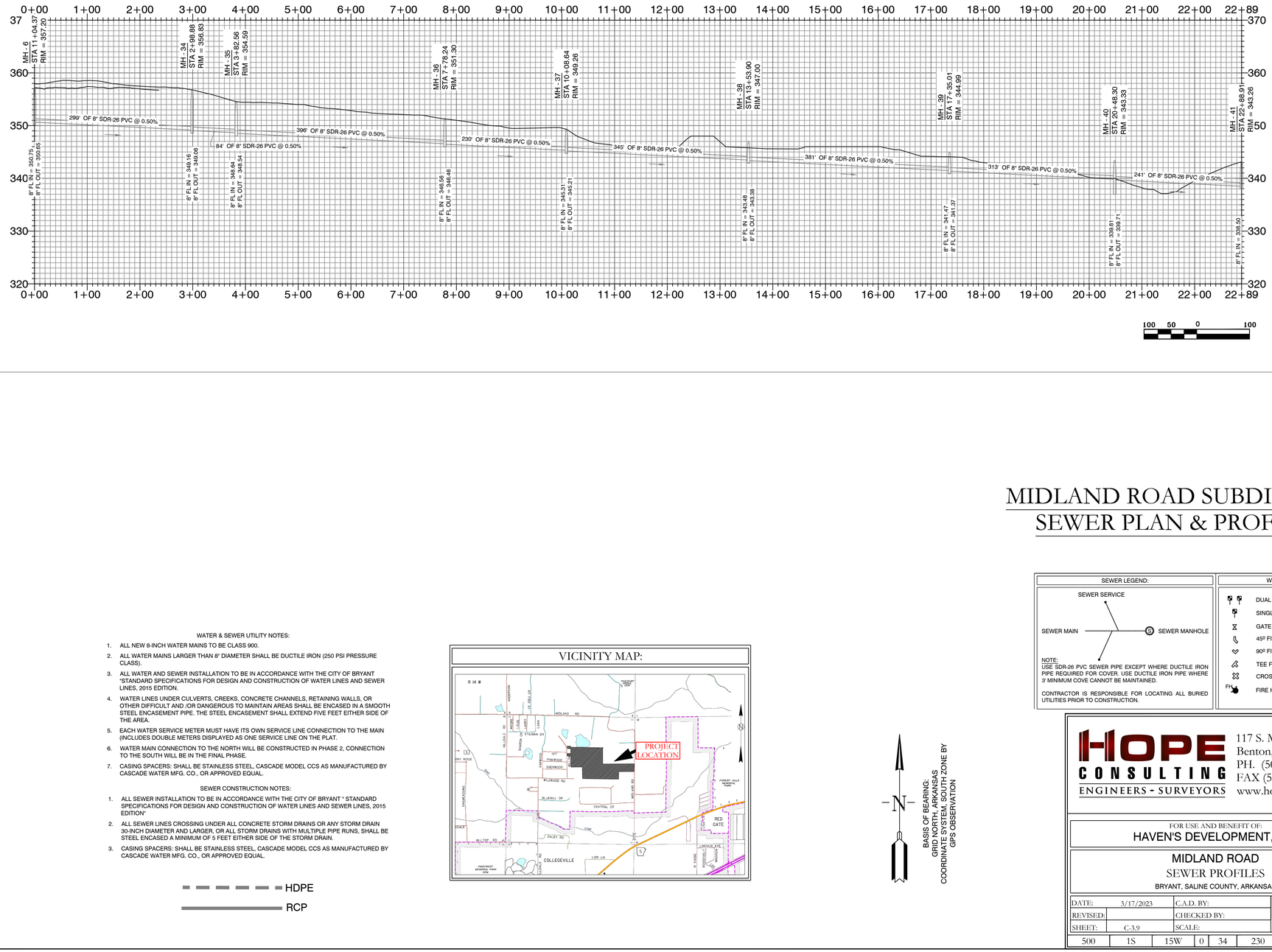
K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S11 T1S R14W (CIVIL)\DWG\23-0024 CONTRUCTION PLAN (FINAL DRAFT).DWG



Offsite Sanitary Sewer PROFILE



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HDPE

RCP

VICINITY MAP:

MIDLAND ROAD SUBDIVISION
SEWER PLAN & PROFILES

SEWER LEGEND:	WATER LEGEND:
SEWER SERVICE; SEWER MAIN; SEWER MANHOLE	DUAL WATER METERS
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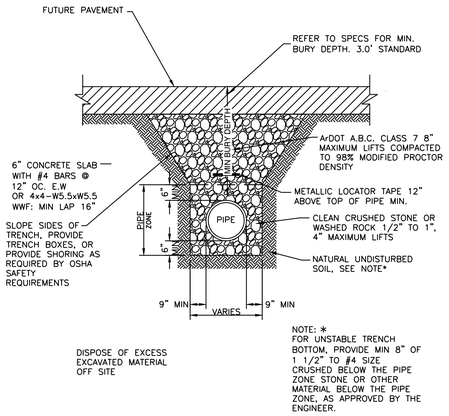
K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION SI TIS R14W\CIVIL\DWG\23-0024 CONSTRUCTION PLAN (FINAL PLAT).DWG



PVC SEWER TRENCH UNDER FUTURE ASPHALT STREET

N.T.S.

SOIL STABILIZATION REQUIREMENTS:

1. IN LAWN AREAS, DISTURBED SOIL SHALL BE STABILIZED BY PLACEMENT OF SOD TO MATCH EXISTING.
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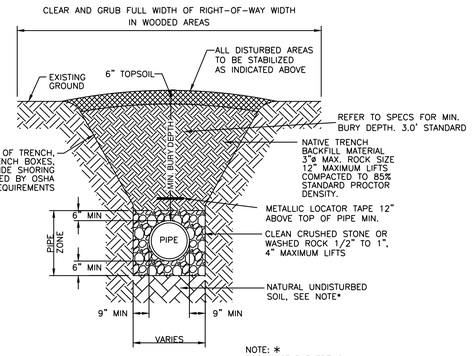
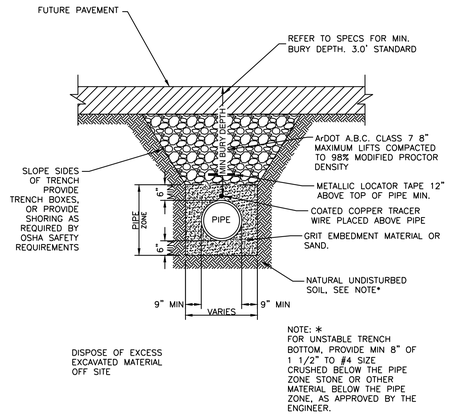


PVC SEWER TRENCH IN UNPAVED AREAS

N.T.S.



PVC WATER LINE TRENCH UNDER FUTURE ASPHALT STREET

N.T.S.

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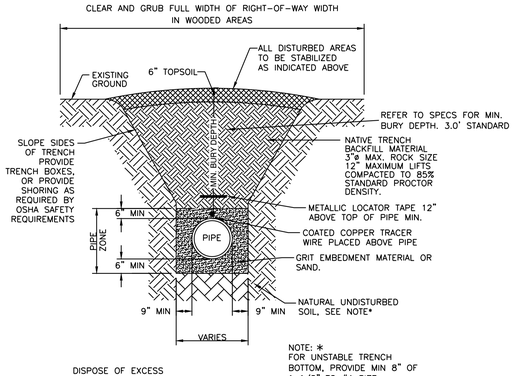
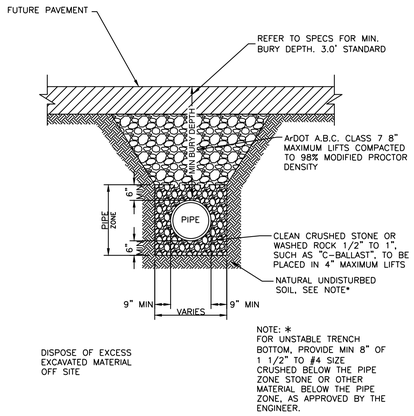


PVC WATER LINE TRENCH IN UNPAVED AREAS

N.T.S.



DRAINAGE PIPE TRENCH UNDER FUTURE ASPHALT STREET

N.T.S.

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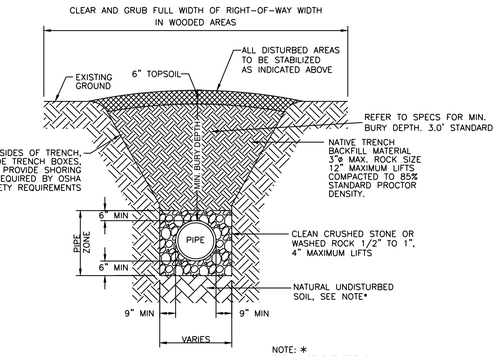
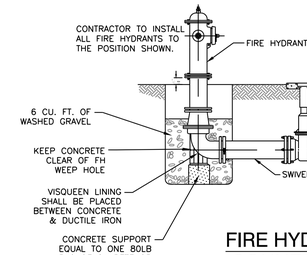
1. IN LAWN AREAS, DISTURBED SOIL SHALL BE STABILIZED BY PLACEMENT OF SOD TO MATCH EXISTING.
2. IN FIELDS OR WOODED AREAS, DISTURBED SOIL SHALL BE STABILIZED BY SEEDING.



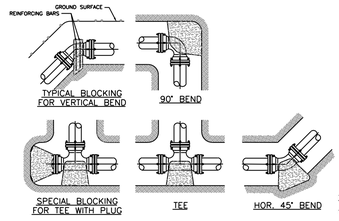
DRAINAGE PIPES IN UNPAVED AREAS

N.T.S.



FIRE HYDRANT CONNECTION

NTS



TYPICAL BLOCKING DETAILS

N.T.S.

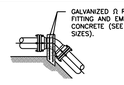
VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS) FOR 150 P.S.I. TEST PRESSURE			
FITTING SIZE	BEND ANGLE		
	45°	22 1/2°	11 1/4
4	0.4	0.2	0.1
6	0.8	0.4	0.2
8	1.4	0.7	0.4
10	2.2	1.1	0.6
12	3.2	1.6	0.8
14	4.4	2.2	1.1
16	5.7	2.9	1.5
18	7.2	3.7	1.8
20	8.9	4.5	2.3
24	12.8	6.5	3.3

THRUST BLOCK NOTES:

1. KEEP CONCRETE CLEAR OF JOINT ACCESSORIES.
2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. REQUIRED VOLUMES OF BEARING AREAS AT FITTINGS SHALL BE AS INDICATED IN THE TABLES PROVIDED AND ADJUSTED, IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) STATED IN THE SPECIFICATIONS, AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIFICATIONS.
4. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 PSIG AND THE WEIGHT OF CONCRETE (4,050 LB/CY). TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION: VOLUME = (TEST PRESSURE / 150) X (TABLE VALUE).
5. BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS ARE BASED ON TEST PRESSURE OF 150 PSIG AND AN ALLOWABLE SOIL BEARING STRESS OF 2,000 LB/SF TO COMPUTE BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE / 150) X (2,000 / SOIL BEARING STRESS) X (TABLE VALUE).
6. THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUST SHALL BE THE SAME AS FOR HORIZONTAL BENDS.
7. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD.
8. BEARING AREA OF THRUST BLOCK SHALL NOT BE LESS THAN 1.0 SF.
9. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CY REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS.

BEARING AREA OF THRUST BLOCKS IN SQ. FT (HORIZONTAL BENDS) FOR 150 P.S.I. TEST PRESSURE						
FITTING SIZE	TEE, WYE, PLUG OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		BEND ANGLE	
			A1	A2	45°	22 1/2° 11 1/4
4	1.0	1.4	1.0	1.4	1.0	– –
6	2.1	3.0	2.1	3.0	1.6	1.0 –
8	3.8	5.3	3.8	5.4	2.9	1.5 1.0
10	5.9	8.4	5.9	8.4	4.6	2.4 1.2
12	8.5	12.0	8.5	12.0	6.6	3.4 1.7
14	11.5	16.3	11.5	16.3	8.9	4.6 2.3
16	15.0	21.3	15.0	21.3	11.6	6.0 3.0
18	19.0	27.0	19.0	27.0	14.6	7.6 3.8
20	23.5	33.3	23.5	33.3	18.1	9.4 4.7
24	34.0	48.0	34.0	48.0	26.2	13.6 6.8

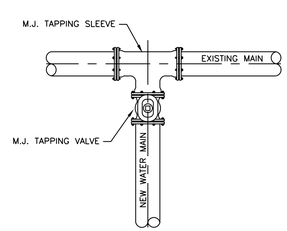
VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS) FOR 150 P.S.I. TEST PRESSURE			
FITTING SIZE	BEND ANGLE		
	45°	22 1/2°	11 1/4
4	0.4	0.2	0.1
6	0.8	0.4	0.2
8	1.4	0.7	0.4
10	2.2	1.1	0.6
12	3.2	1.6	0.8
14	4.4	2.2	1.1
16	5.7	2.9	1.5
18	7.2	3.7	1.8
20	8.9	4.5	2.3
24	12.8	6.5	3.3



FITTING SIZES	ROD SIZES	EMBEDMENT
12" AND LESS	#6's	30"
14" – 24"	#8's	36"

TYPICAL BLOCKING DETAILS

N.T.S.



WATER MAIN CONNECTION DETAIL

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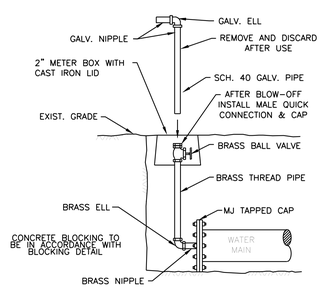

2" BLOW-OFF RISER

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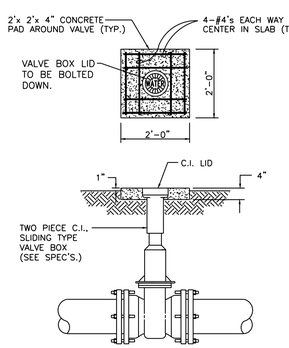

DETAIL-VALVE BOX

N.T.S.

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117 S. Market Street,
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PH. (501)315-2626
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FOR USE AND BENEFIT OF:
HAVEN'S DEVELOPMENT, LLC

MIDLAND ROAD
TRENCH DETAILS
BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/17/2023	C.A.D. BY:		DRAWING NUMBER:
REVISED:		CHECKED BY:		23-0024
SHEET:	C-4.0	SCALE:		

500	1S	15W	0	34	230	62	1807

K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION\SET THS\R4W\CIVIL\DWGS\23-0024 CONSTRUCTION PLAN (FINAL DRG).DWG

SUBGRADE MATERIAL

A. Subgrade soils shall be all materials used for subgrade including in-situ materials and fill materials.
B. Subrades for pavement shall be stabilized by mechanical compaction. Stabilization methods such as fabrics and chemical stabilization may be submitted for approval when supported by engineering data and calculations to substantiate the adequacy of the stabilized procedure.
C. Subgrade shall be compacted to 95 percent modified proctor density minimum. Moisture content shall be +/- 3% of optimum moisture unless otherwise supported by the site specific geotechnical data and approved by City.
D. Subgrade shall be prepared in such a manner that the base course shall be placed on a firm foundation that is stable and free from soft spots, pumping, dust pockets, wheel ruts, or other defects.
E. The top 24 inches of the subgrade shall be a material not susceptible to frost action unless modified with cement, lime or another method approved specifically by the City to resist frost action. Soils classified as A-4 and A-5 including sandy silts, fine silty sand or lean clays are highly susceptible to frost action.
F. In-situ soils meeting the requirements outlined in these specifications may be utilized as subgrade material. In-situ soils used as subgrade shall be scarified to a minimum depth of 8-inches below finish subgrade, recompacted and tested as described below. Fill material for subgrade shall be placed in lifts not to exceed 8-inches compacted depth.
G. Methods and procedures for establishing the total depth of soil replacement and/or modification shall be as specified by the design engineer and geotechnical investigations. The adequacy of in-situ soils and fill materials as pavement subgrade shall be evaluated based upon the soils classification, liquid limit, and plasticity index.
H. Soils with a liquid limit greater than 40, or a plasticity index greater than 15 shall be undercut and removed from the street section or improved by a design method of stabilization approved by the City.
I. Quality control testing shall be as specified below.
J. Undercut 24" of soil below finished street base course. Proof roll to verify stability.
K. Backfill the undercut subgrade with Class 7 aggregate or soil meeting the requirements of this section and compact in lifts not exceeding 8".

BASE COURSE

A. Base course material shall be crushed stone meeting the requirements of ArDOT Class 7 aggregate base course as specified in the latest edition of ArDOT Standard Specifications.
B. Base course shall be compacted to 98 percent modified proctor density minimum. Moisture content shall be +/- 3% of optimum moisture.

SURFACE COURSE

A. Surface course for flexible pavement designs shall utilize plant mix bituminous base and binder courses conforming to ArDOT Standard Specifications.

CURB AND GUTTER

A. Curb and gutter shall be Portland Cement Concrete with a minimum 28-day compressive strength of 4,000 psi. Concrete shall be air-entrained with a maximum of 4-inch slump.
B. Compaction requirements under curb and gutter shall conform to the requirements for street subgrade materials. Compaction requirements shall extend to a minimum of 1 foot behond the back of curb and gutter removing all soft spots and replacing with suitable material.
C. Curb and gutter shall conform to the typical detail within these specifications or ArDOT Standard Roadway Drawing Details for curbing.
D. Expansion joints shall be made with 1/2-inch preformed expansion joint filler of a non-extruding type. Expansion joints shall be placed at intervals not exceeding 195 feet, intersection radii, driveways, stationary structures, and sidewalks.
E. Contraction joints shall be sawed or fromed at intervals not greater than 20 feet. Depth of saw-cut hall be 1 1/2-inch and have a width of 1/4-inch. Contraction joints shall be sealed in accordance with ArDOT Standard Specifications.
F. Forms shall be made of metal or wood and shall be properly braced. The minimum length of each section of form used shall be 10 feet. Each section of form shall be uniform and free from undesirable bends or warps. Forms shall be of such cross section and strength and so secured as to resist the pressure of the impact and vibration on any equipment which they support without springing or settlement.
G. Curb and gutter placed with slip form or extruding equipment will be acceptable providing it complies with all of the above requirements.
H. After curing, the curb shall be immediately backfilled to within 4 inches of the top curb to eliminatethe possibility of washing beneath the curb. The remaining 4 inches shall be topsoil.
I. Cold weather protection shall meet the requirements of the latest edition of ArDOT Standard Specifications.

SIDEWALKS

General

A. Sidewalks shall be Portland Cement Concrete with a minimum 28-day compressive strength of 4,000 psi.
B. Sidewalks shall be on both sides of streets in line with sidewalks on opposite corners of roads.
C. All sidewalks including ramps shall meet all current Federal Americans with Disabilities (ADA) design guidelines or requirements.
D. Traverse slopes shall not exceed 2 percent.
E. Subgrade under sidewalks shall be compacted to 90 percent modified proctor density minimum.
F. Sidewalks shall not be placed upon grassy or organic materials.
G. Sidewalks which extend or link existing sidewalks shall adjoin the existing sidewalks to form a continuous, even pathway.
H. Utility poles, utility boxes, mailboxes, fire hydrants, and other similar obstructions shall not be located in sidewalks Sidewalk location may vary at the discretion of the City to avoid such obstacles.

Minimum thickness and reinforcement

A. Sidewalks shall have a minimum thickness of 4 inches.
B. Sidewalks shall be reinforced, at a minimum, with woven wire fabric reinforcement.

Contraction and expansion joints

A. Contraction joints shall be provided perpendicular to the sidewalk at intervals equal to the sidewalk width.
B. Expansion joints shall be constructed perpendicular to the sidewalk at intervals equal to five times the sidewalk width. Expansion joints shall be made with 1/2-inch preformed expansion joint filler of a non-extruding type. Expansion joints shall be placed at driveways, drop inlets, and curbs.

Quality control testing and inspection by the City

A. Subgrade and formwork for sidewalks shall be inspected by the City prior to pouring of the sidewalk.
B. All testing of materials and construction shall be provided and paid for by the Developer/Owner.
C. All field tests required for a project shall be witnessed by the City, contractor, or their authorized representatives.
D. All testing shall be accomplished by a testing firm approved by the City and shall be performed under the supervision of a licensed Professional Engineer.
E. Sampling and testing locations shall be subject to approval by the City.
F. Density tests on subgrades shall be taken every 300 feet or portion thereof.
G. The City shall be notified at least one day in advance of the need to inspect subgrade and formwork of sidewalks.

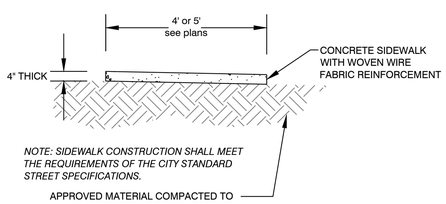
Subgrade

A. Subgrade soils shall be all materials used for subgrade including in-situ materials and fill materials.
B. Subgrade shall be compacted to 90 percent modified proctor desnity minimum. Moisture content shall be +/- 3% of optimum moisture unless otherwise supported by the site specific geotechnical data and approved by City.
C. Subgrade shall be prepared in such a manner that the base course shall be placed on a firm foundation that is stable and free from soft spots, pumping, dust pockets, wheel ruts, or other defects.
D. The top 24 inches of the subgrade shall be a material not susceptible to frost action unless modified with cement, lime or another method approved specifically by the City to resist frost action. Soils classified as A-4 and A-5 including sandy silts, fine silty sand or lean clays are highly susceptible to frost action.

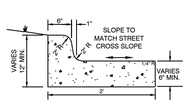
QUALITY CONTROL TESTING AND INSPECTIONS

General

A. Materials and construction employed in street improvements shall be subject to inspection and quality control testing. All testing of materials and construction shall be provided and paid for by the Developer/Owner.
B. The Developer/Owner shall provide for inspections of street improvements during construction. The inspections shall be accomplished under the supervision of the Engineer of Record. The Engineer of Record shall provide certification that all materials and construction conform to the approved plans and specifications and with these minimum street standards.
C. The Engineer of Record shall furnish inspection whenever a critical construction activity is taking place. This means that a representative of the Engineer of Record must be on-site whenever a critical construction activity is taking place.
D. All field tests required for a project shall be witnessed by the City, Engineer of Record, contractor, or other authorized representatives.
E. The City shall be notified at least one day in advance of any test(s). It is the responsibility of the contractor to coordinated the scheduling of all tests with the City.



Typical Sidewalk Detail



STANDARD CURB & GUTTER
NOT TO SCALE

TYPICAL CURB DETAILS & NOTES
NOT TO SCALE

Typical Curb & Gutter Detail

4,000 psi concrete

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FOR USE AND BENEFIT OF:
HAVEN'S DEVELOPMENT, LLC

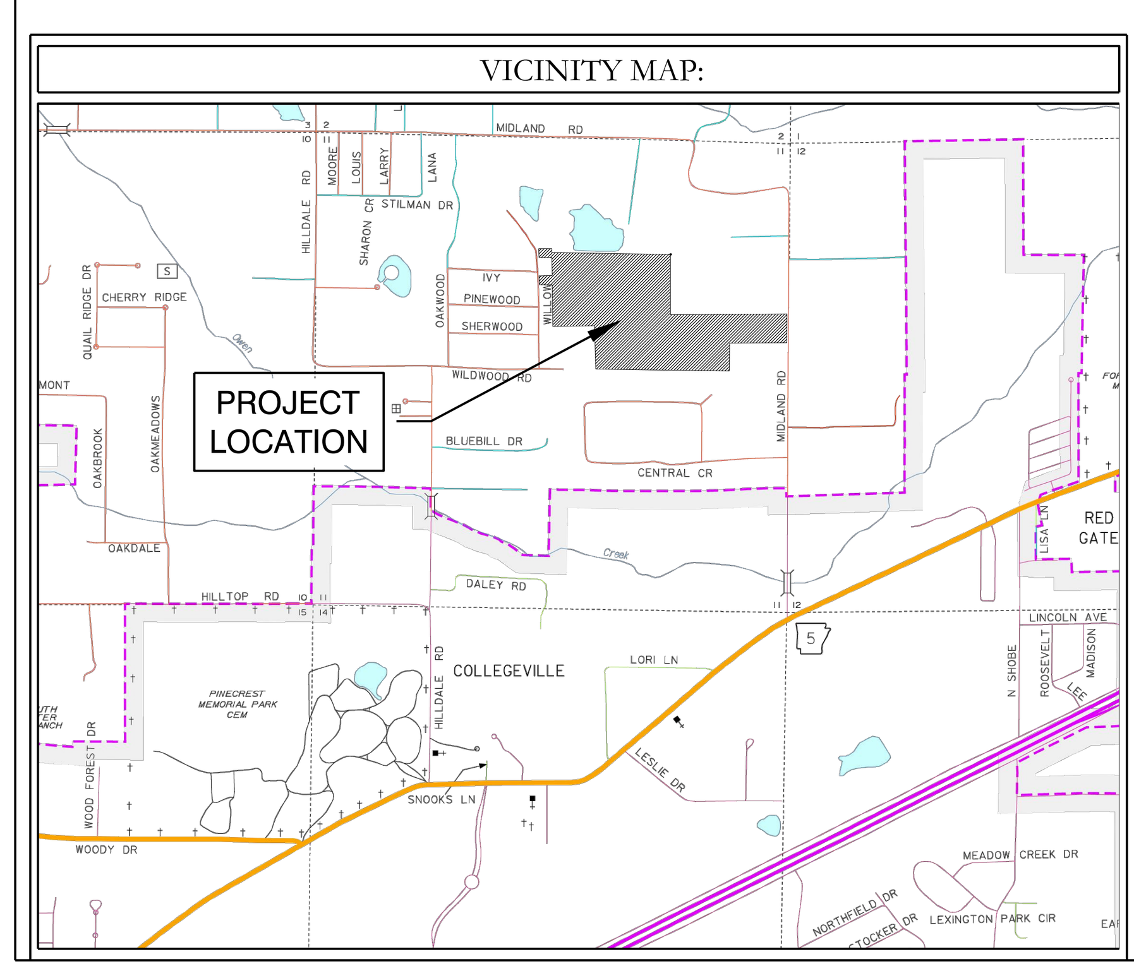
MIDLAND ROAD
CIVIL SPECS
BRYANT, SALINE COUNTY, ARKANSAS

DATE: 3/17/2023	C.A.D. BY:	DRAWING NUMBER:	
REVISED:	CHECKED BY:	23-0024	
SHEET: C-5.0	SCALE:		

500	1S	15W	0	34	230	62	1807

MIDLAND ROAD SUBDIVISION DRAINAGE PLAN

VICINITY MAP:



DRAINAGE NOTES

No fences, pools or permanent obstructions may be placed in any access or drainage easements.

Dead Storage of pond will be used as a sediment pond at the time of construction later it will remain as a water feature.

Filter fabric shall be placed under all riprap areas.

All drainage ditches and swales that are not concreted will be required to be stabilized with solid sod stabilization per the Stormwater Management Manual.

Any new drainage ditches or swales, new or that have been disturbed during construction are required to have solid sod stabilization per Section 500.7.2 of the Stormwater management Manual. (This is required to be show in detail on the plans).

HDPE
RCP

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

N

50 25 0 50

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FOR USE AND BENEFIT OF:
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MIDLAND ROAD
DRAINAGE PLAN
IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE:	03/20/2023	C.A.D. BY:		DRAWING NUMBER:
REVISED:		CHECKED BY:		23-0024
SHEET:	C-6.0	SCALE:	1" = 50'	
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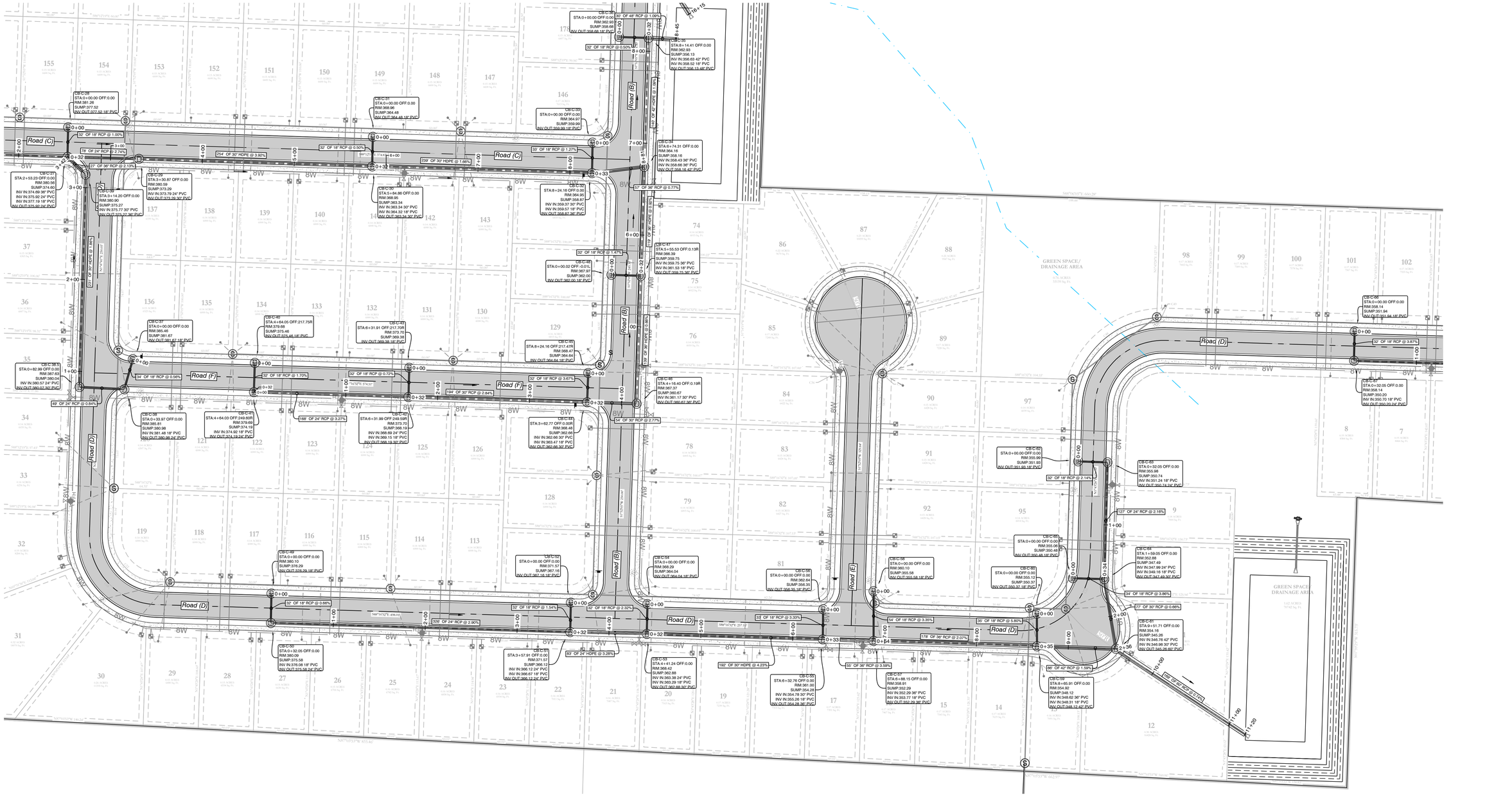
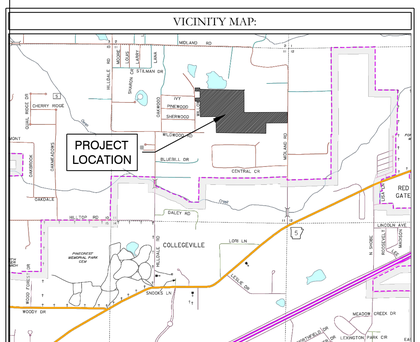


VICINITY MAP:



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HDPE

RCP

MIDLAND ROAD SUBDIVISION
DRAINAGE PLAN

N

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

50 25 0 50

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MIDLAND ROAD
DRAINAGE PLAN
IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE: 03/20/2023	C.A.D. BY:		DRAWING NUMBER:
REVISED:	CHECKED BY:		23-0024
SHEET: C-6.1	SCALE: 1" = 50'		
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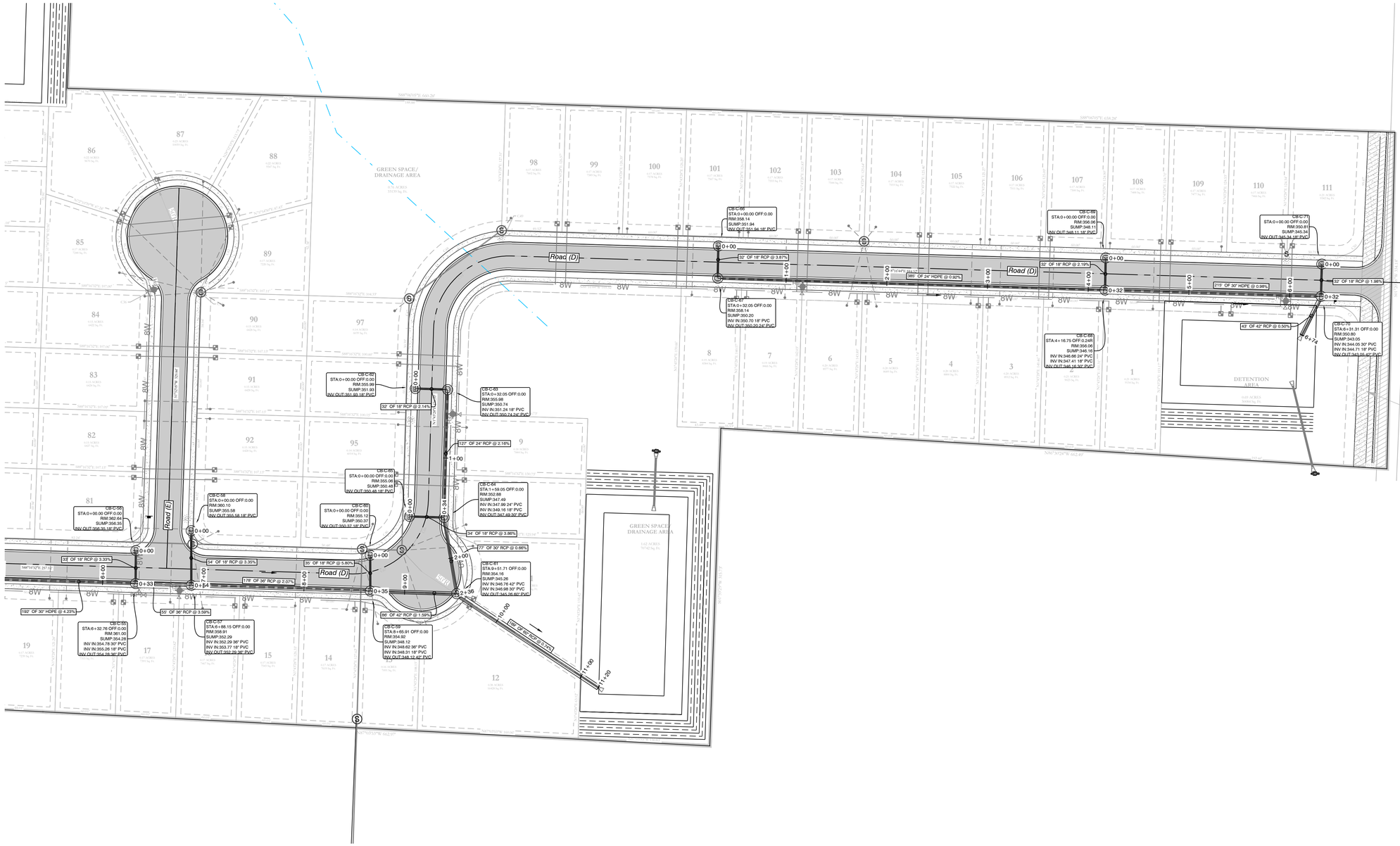

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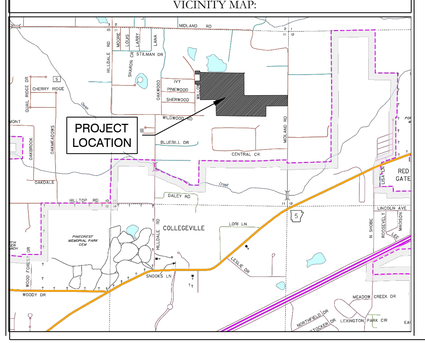

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HDPE

RCP

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

50 25 0 50

MIDLAND ROAD SUBDIVISION
DRAINAGE PLAN

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129 North Main Street,
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FOR USE AND BENEFIT OF:
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MIDLAND ROAD
DRAINAGE PLAN
IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

DATE: 03/20/2023	C.A.D. BY:		DRAWING NUMBER:
REVISED:	CHECKED BY:		23-0024
SHEET: C-6.2	SCALE: 1" = 50'		

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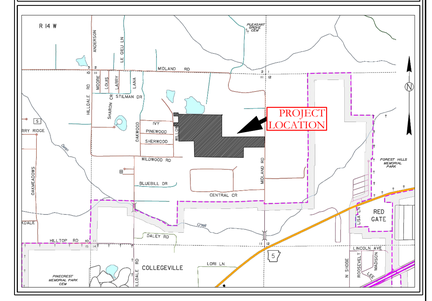
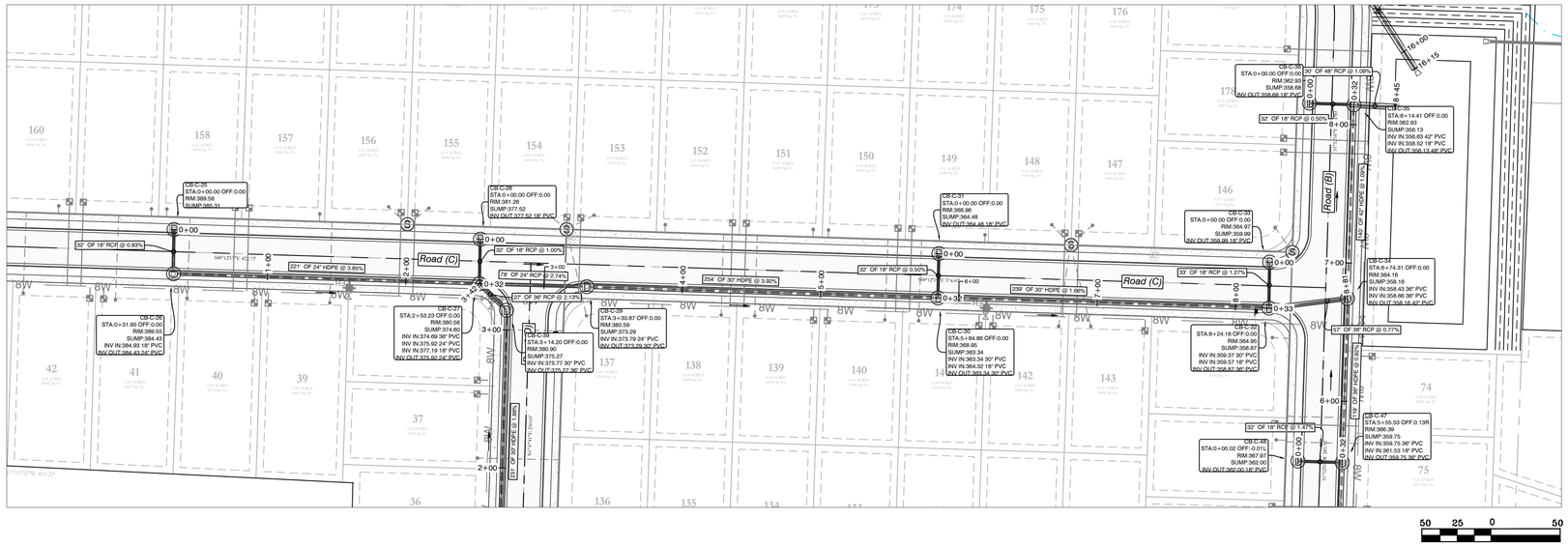
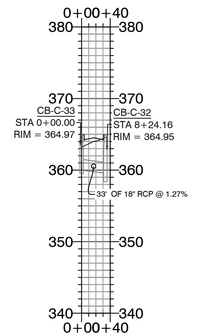


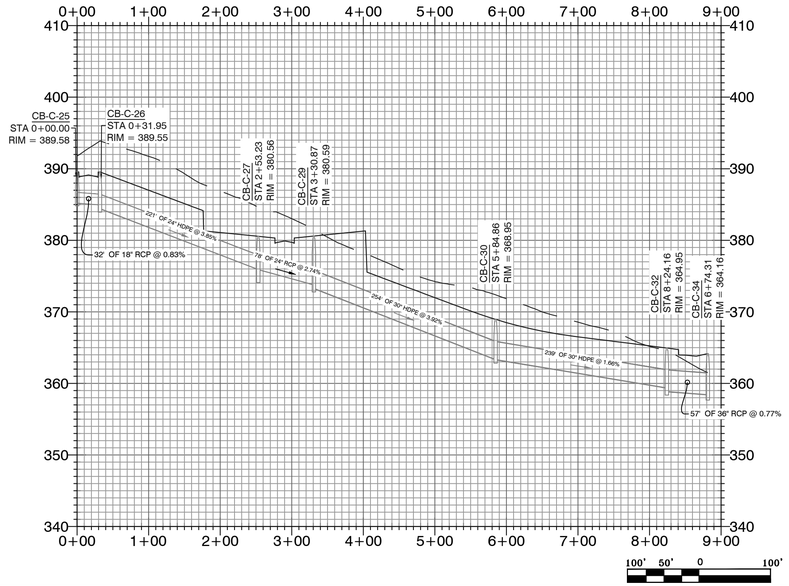


Storm Water Line 4 PROFILE

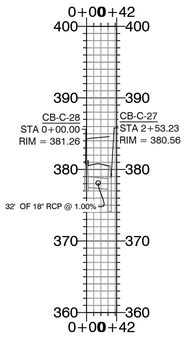


100' 50' 0 100'

Storm Water Line 1 PROFILE



Storm Water Line 2 PROFILE



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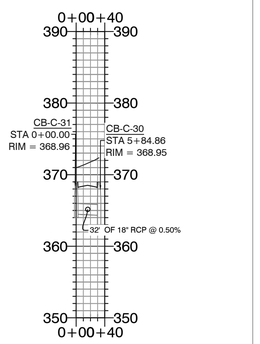
Storm Water Line 3 PROFILE



100' 50' 0 100'

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

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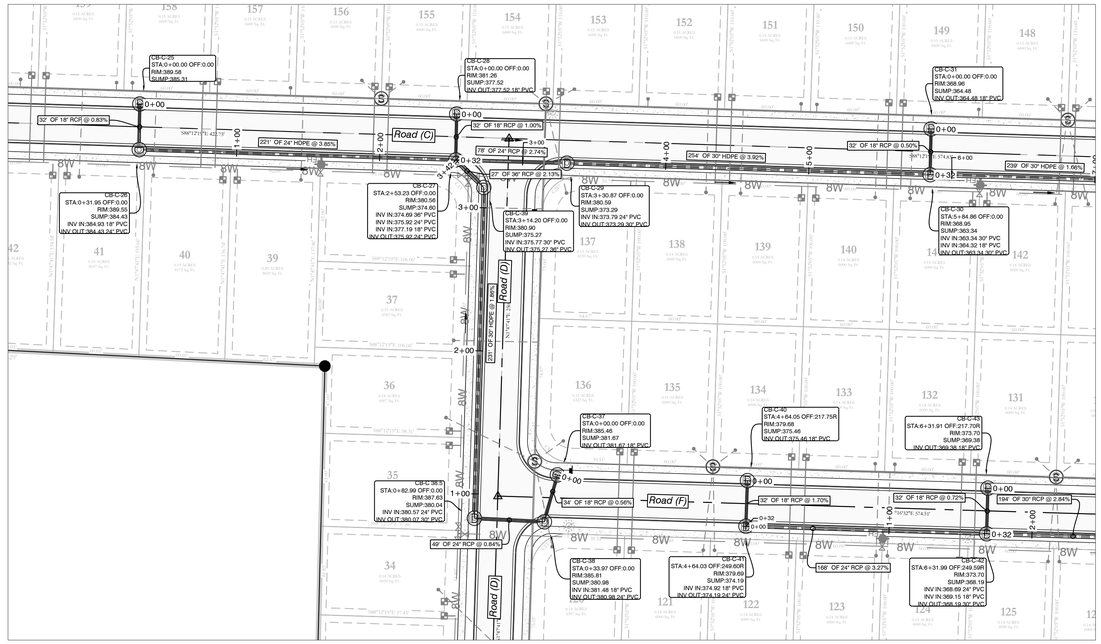
FOR USE AND BENEFIT OF:
HAVEN'S DEVELOPMENT, LLC

DRAINAGE PROFILES
MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/20/2023	C.A.D. BY: xxxx	DRAWING NUMBER:
REVISED:		CHECKED BY:	23-0024
SHEET:	C-6.3	SCALE: as shown	

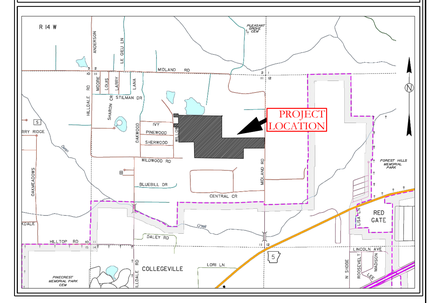
K:\LAND PROJECTS 2004\SUBDIVISIONS 2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION S11 T15 R14W\CIVIL\DWG\ 23-0024 CONSTRUCTION PLAN (FINAL DRAFT).DWG



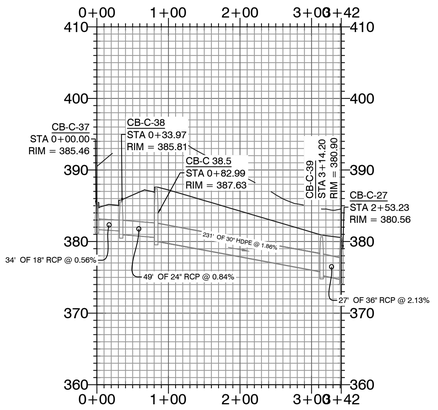
HDPE

RCP

VICINITY MAP:



Storm Water Line 5 PROFILE



100 50 0 100

DRAINAGE NOTES

No fences, pools or permanent obstructions may be placed in any access or drainage easements.

Dead Storage of pond will be used as a sediment pond at the time of construction later it will remain as a water feature.

Filter fabric shall be placed under all riprap areas.

All drainage ditches and swales that are not concreted will be required to be stabilized with solid sod stabilization per the Stormwater Management Manual.

Any new drainage ditches or swales, new or that have been disturbed during construction are required to have solid sod stabilization per Section 500.7.2 of the Stormwater management Manual. (This is required to be show in detail on the plans).

N

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

HOPE CONSULTING
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129 North Main Street,
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PH. (501)315-2626
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MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

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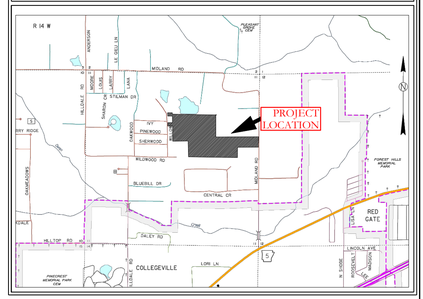
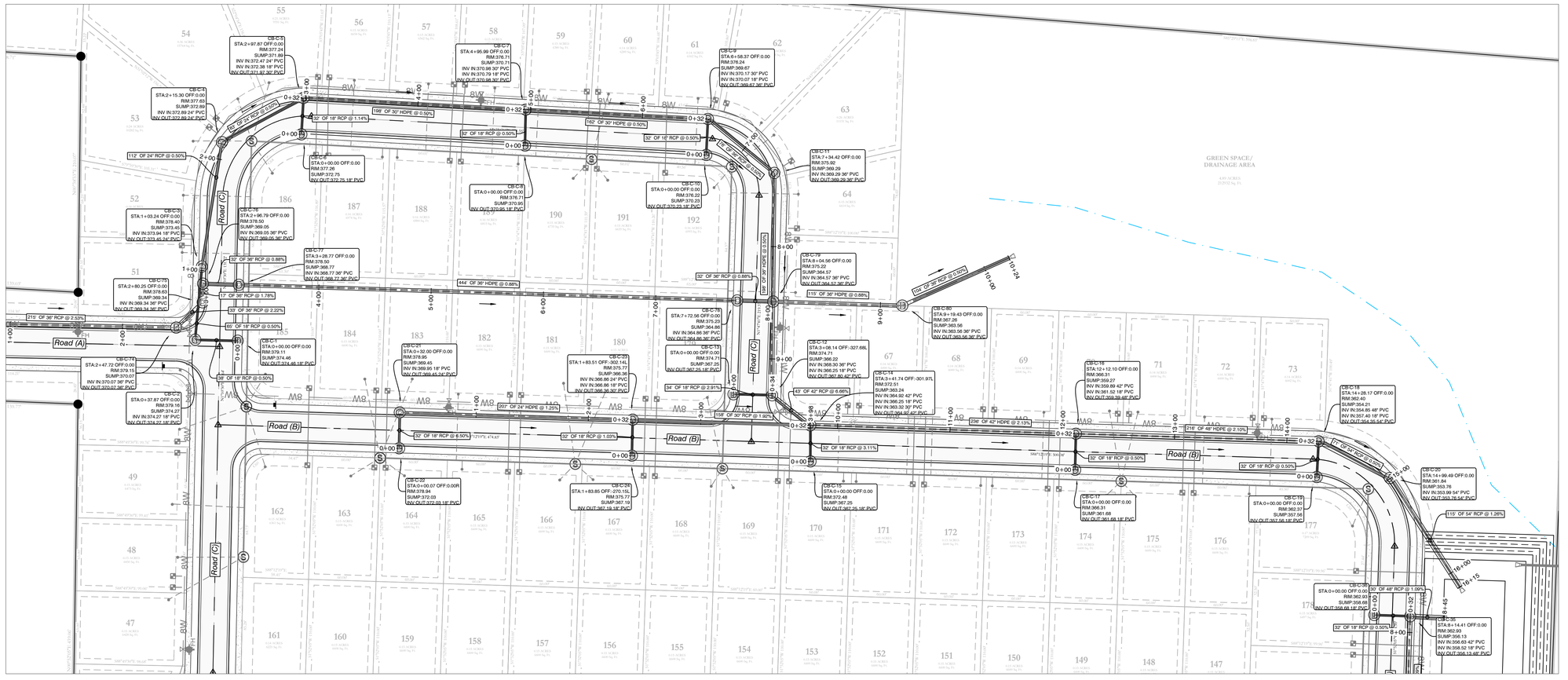
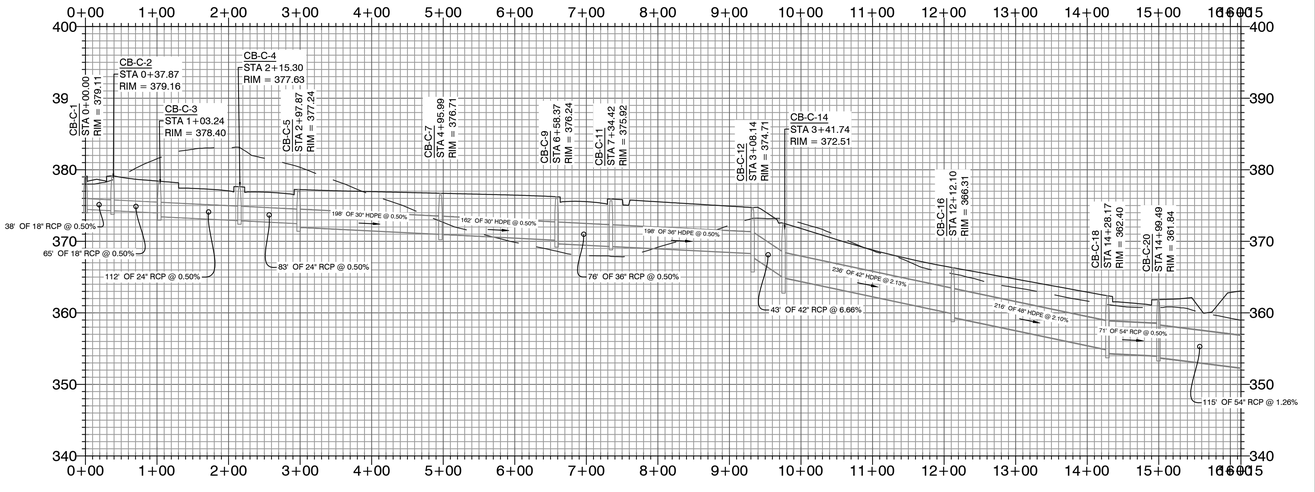
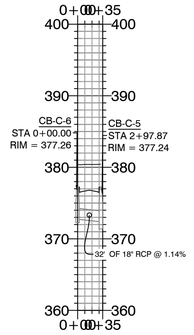


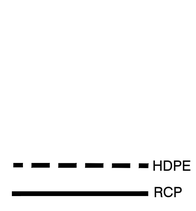


Storm Water Line 6 PROFILE



Storm Water Line 7 PROFILE





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MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

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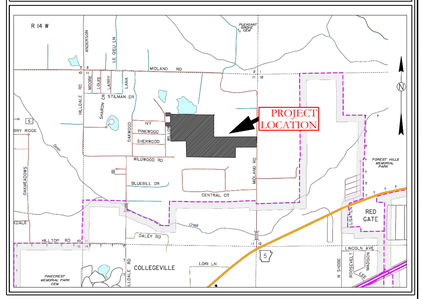

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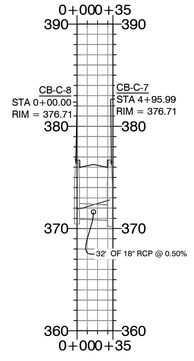
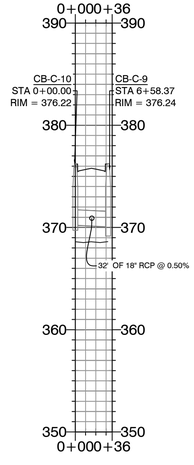
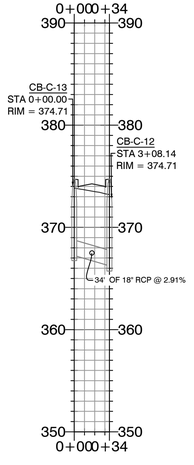


Storm Water Line 9 PROFILE



Storm Water Line 10 PROFILE



HDPE

RCP

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

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BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/20/2023	C.A.D. BY:	xxxx	DRAWING NUMBER:
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K:\LAND PROJECTS 2004\SUBDIVISIONS\2023\23-0024 HAVENS MIDLAND ROAD SUBDIVISION\S31 T5S R14W\CIVIL\DWG\23-0024 CONSTRUCTION PLAN (FINAL DRAFT).DWG

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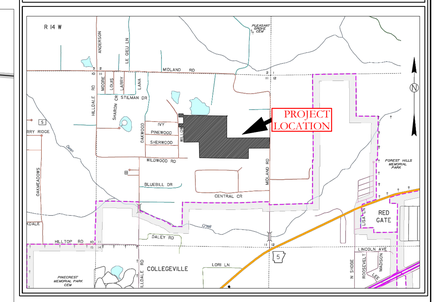

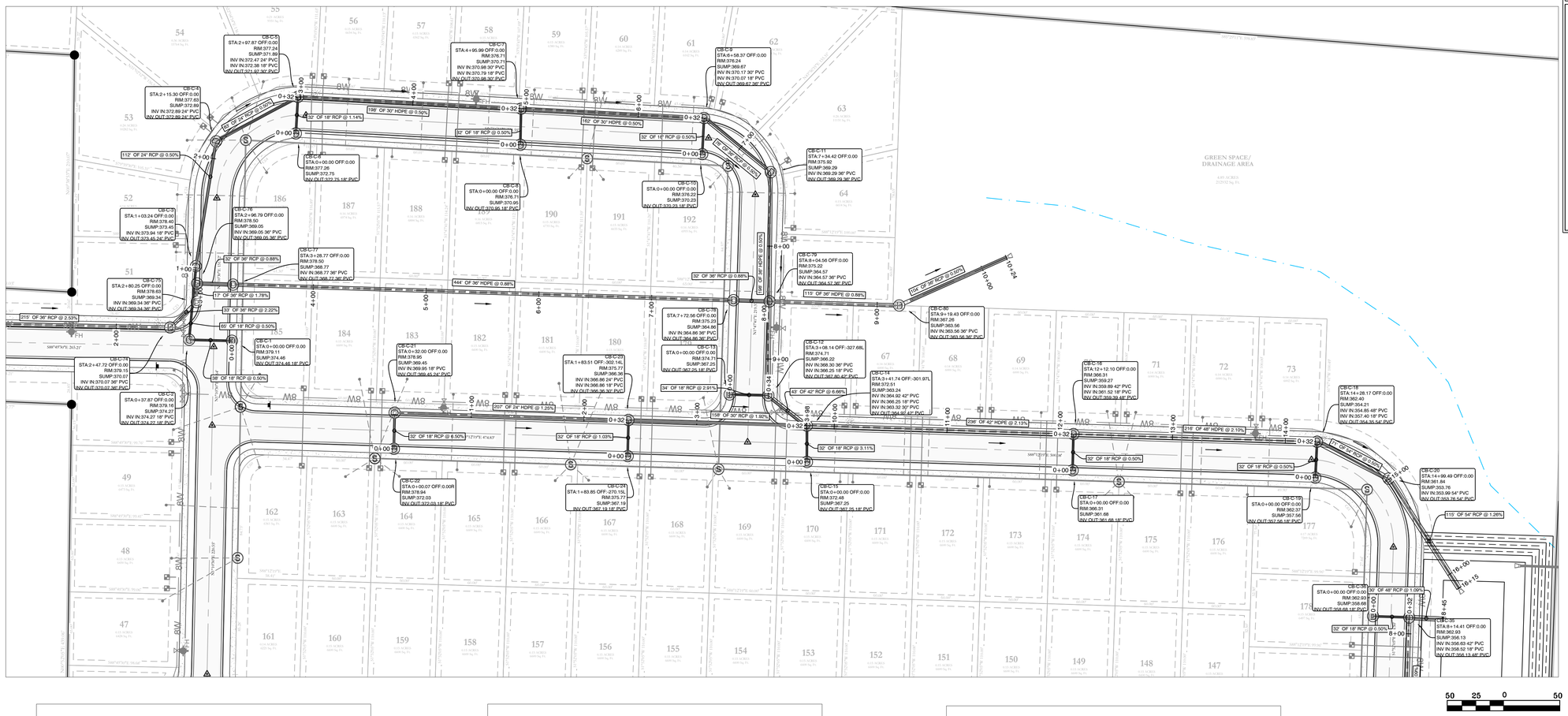

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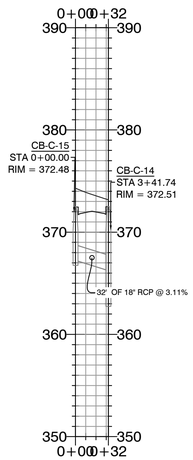

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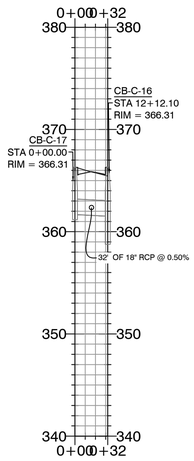

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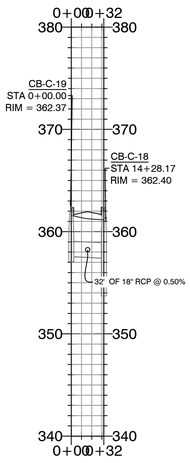

70 35 0 70

HDPE

RCP

N

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

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FOR USE AND BENEFIT OF:
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DRAINAGE PROFILES
MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

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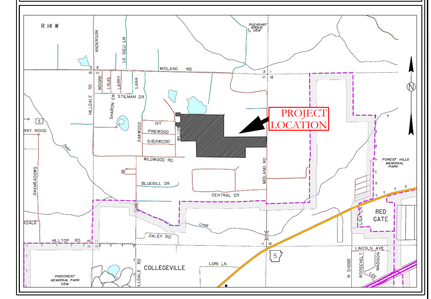
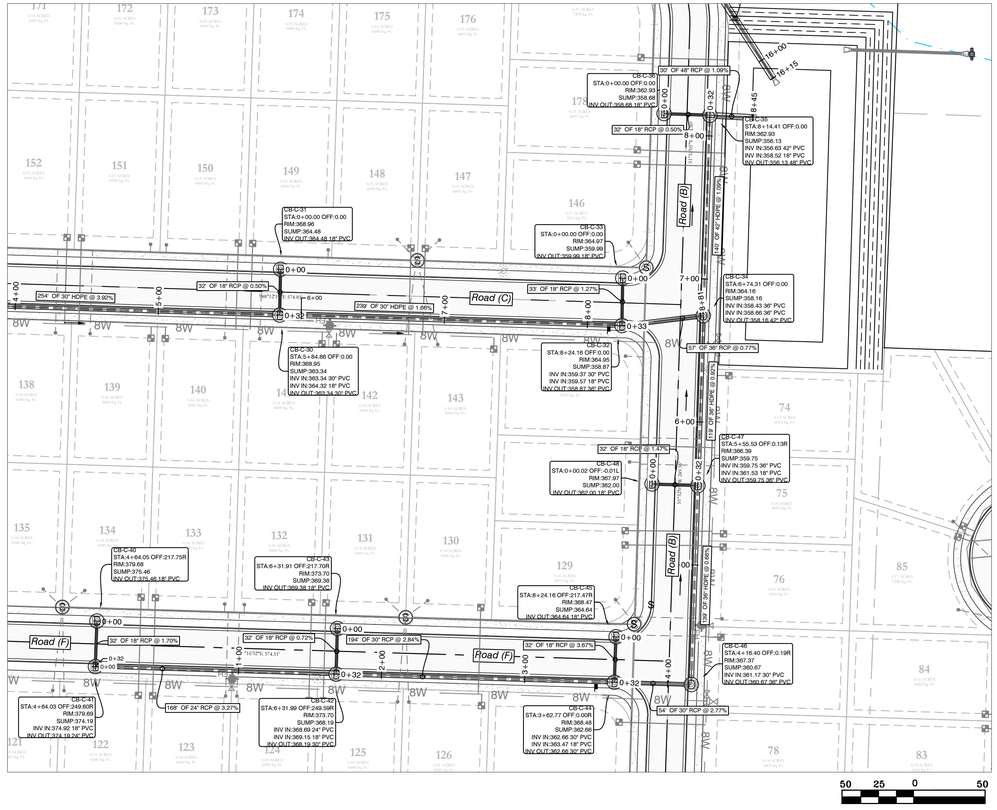
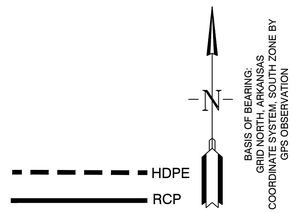
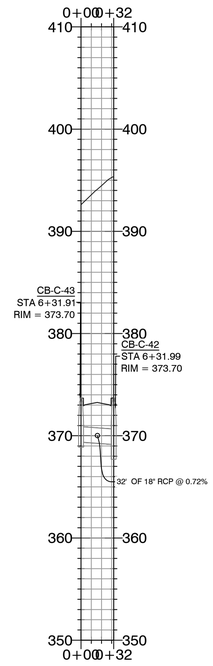






Storm Water Line 28 PROFILE



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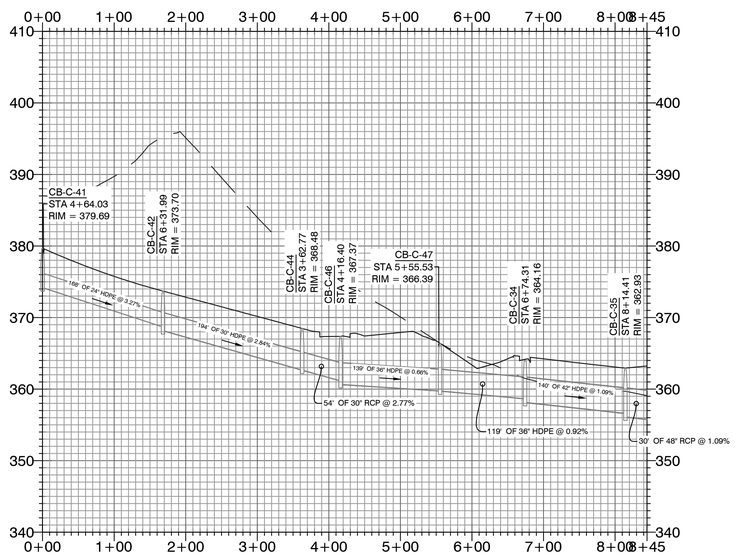

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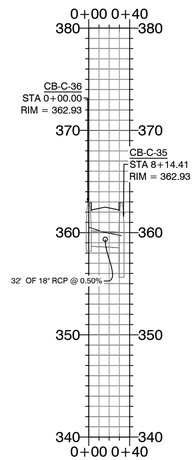

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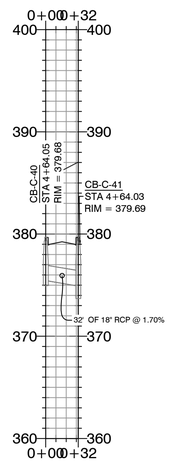

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BRYANT, SALINE COUNTY, ARKANSAS

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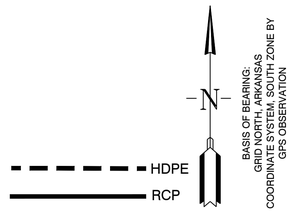

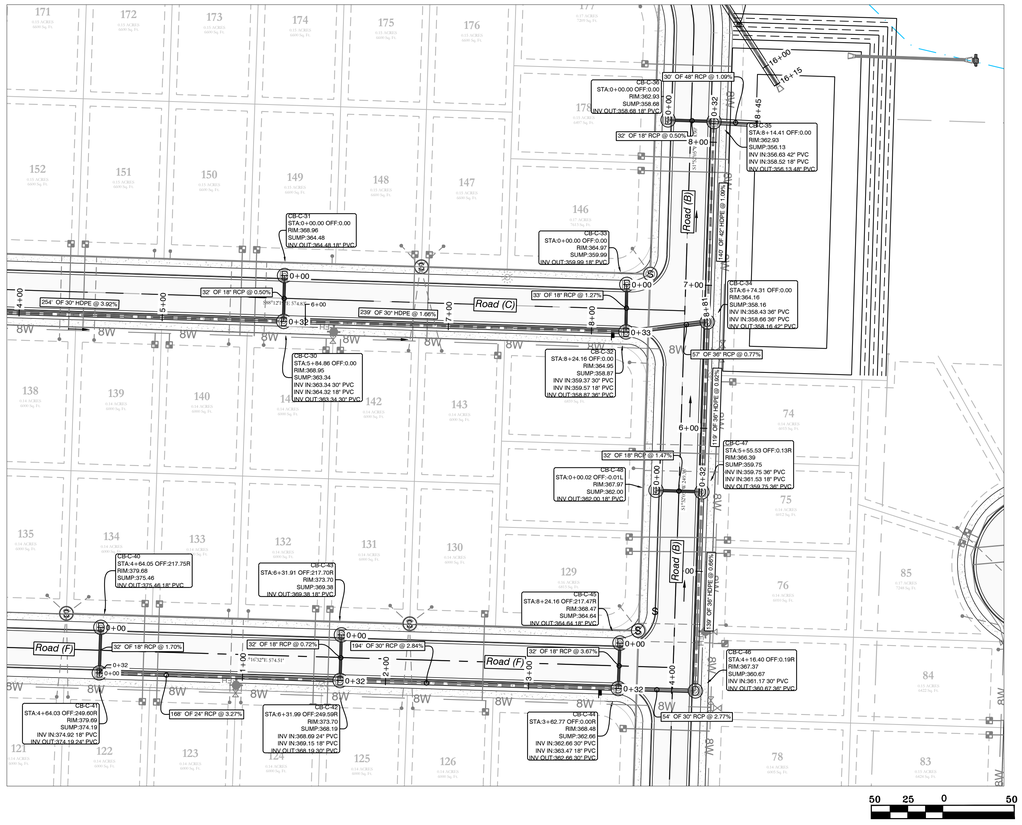

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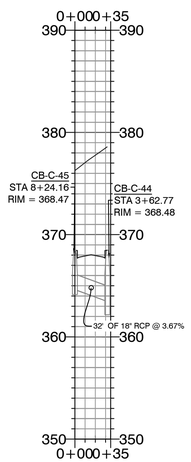
Storm Water Line 29 PROFILE



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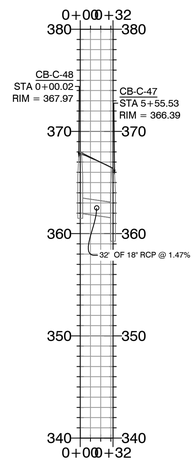
Storm Water Line 30 PROFILE



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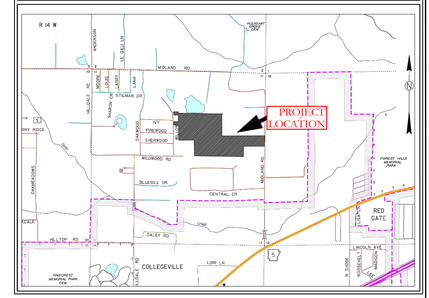

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MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

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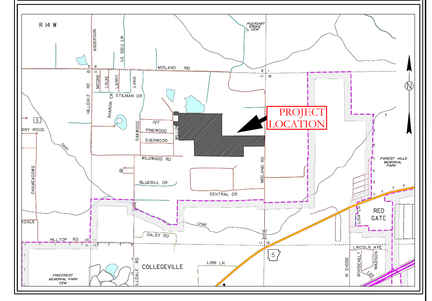
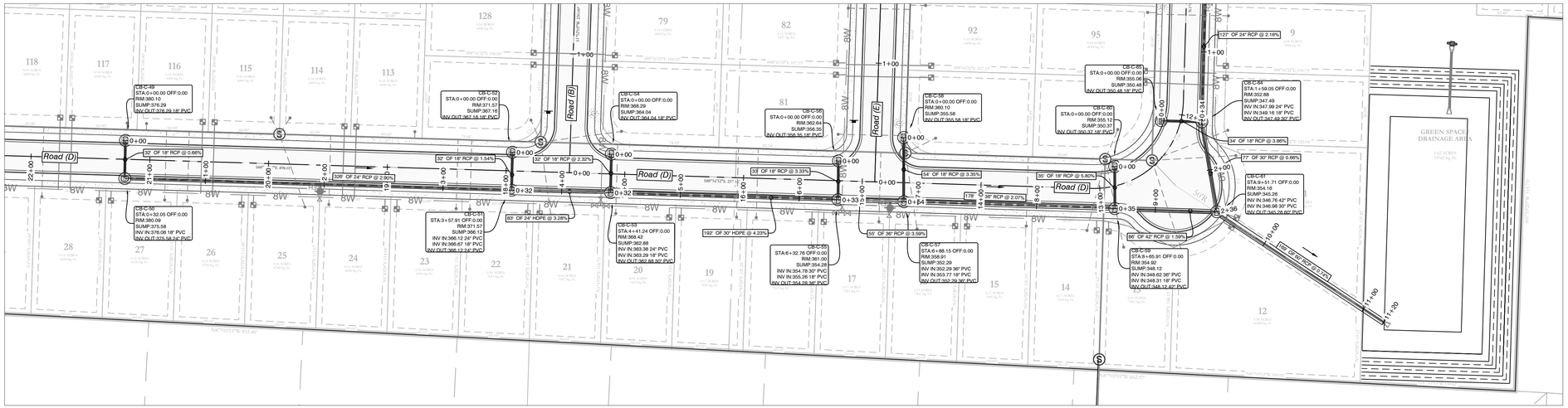
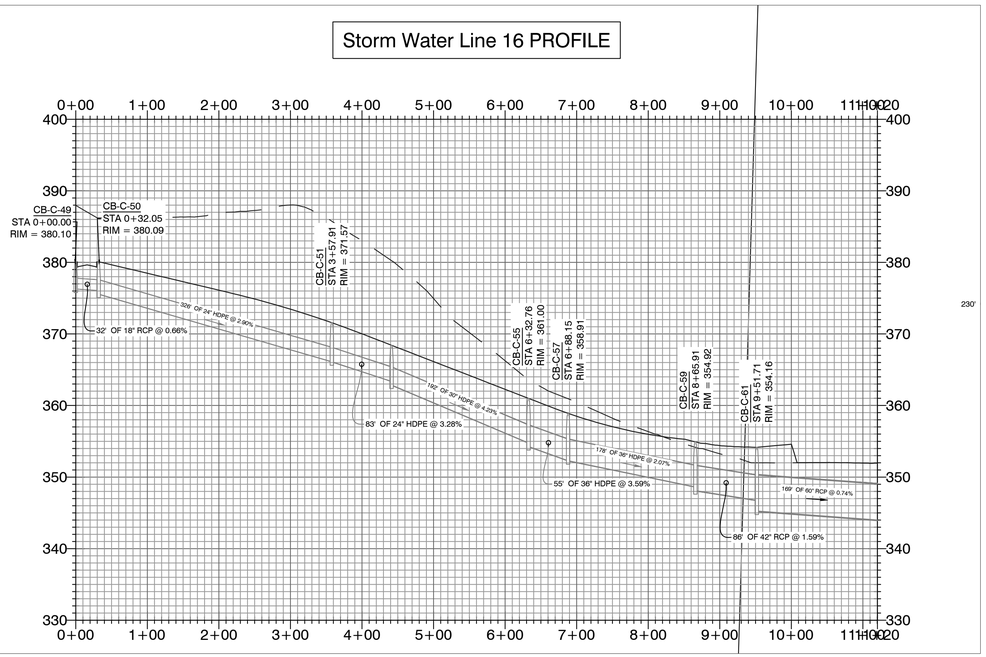
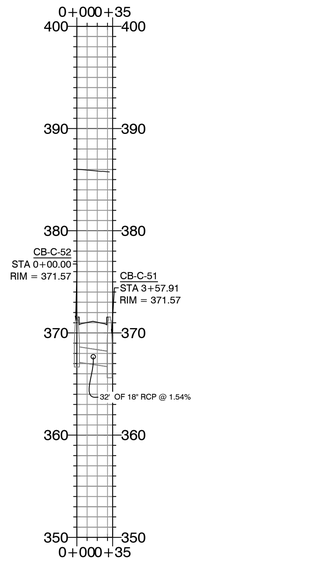




Storm Water Line 16 PROFILE



Storm Water Line 17 PROFILE



HDPE

RCP

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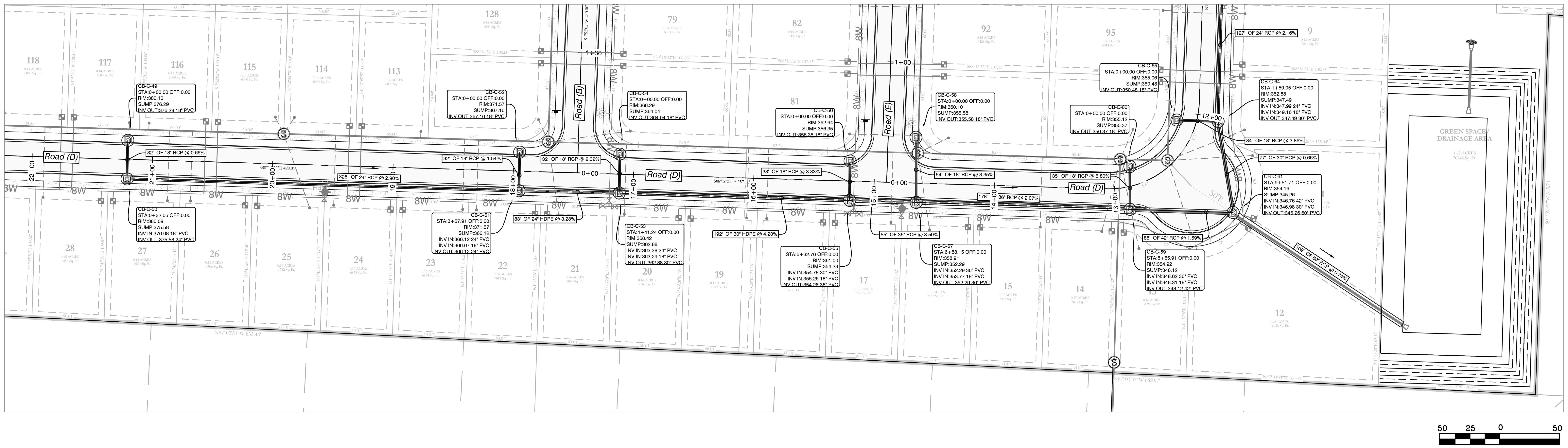

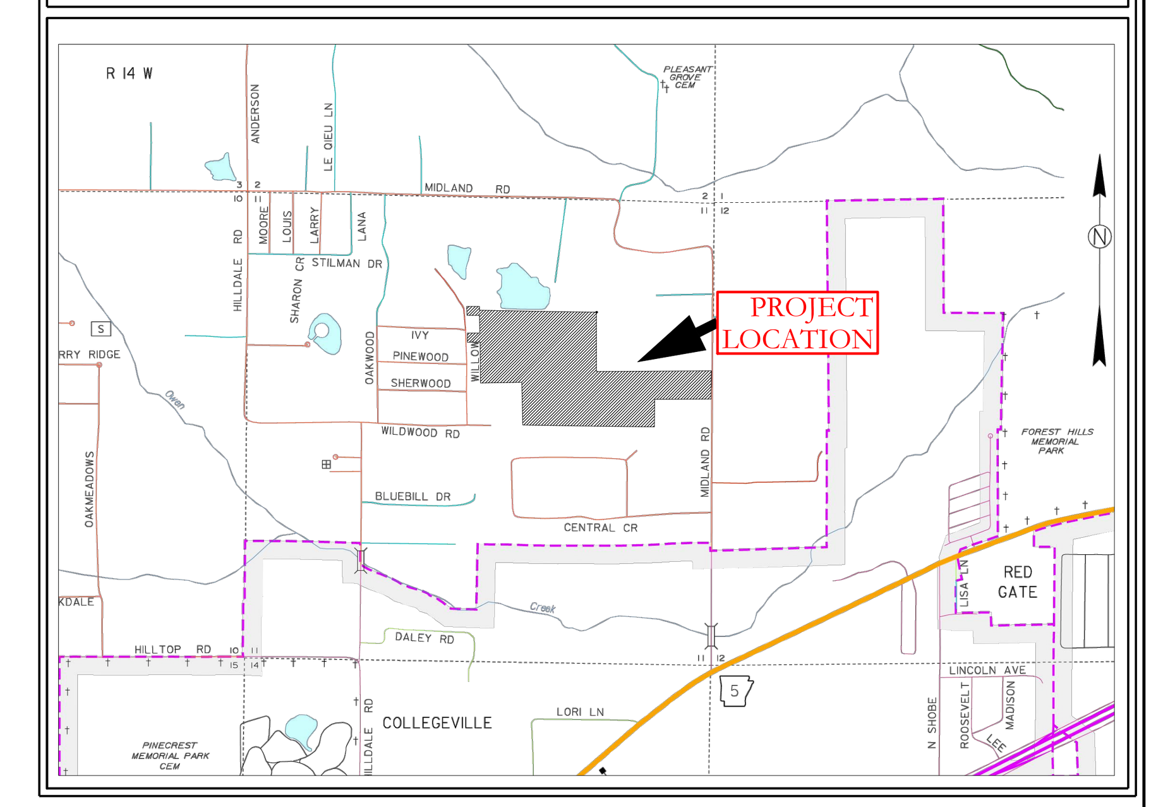

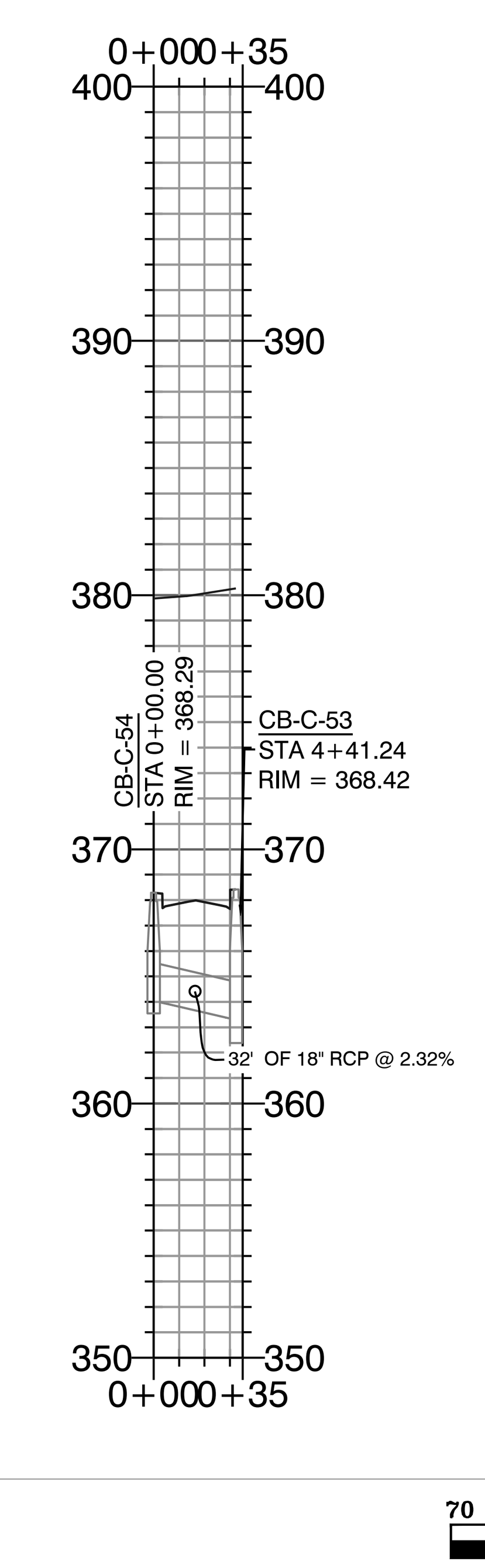

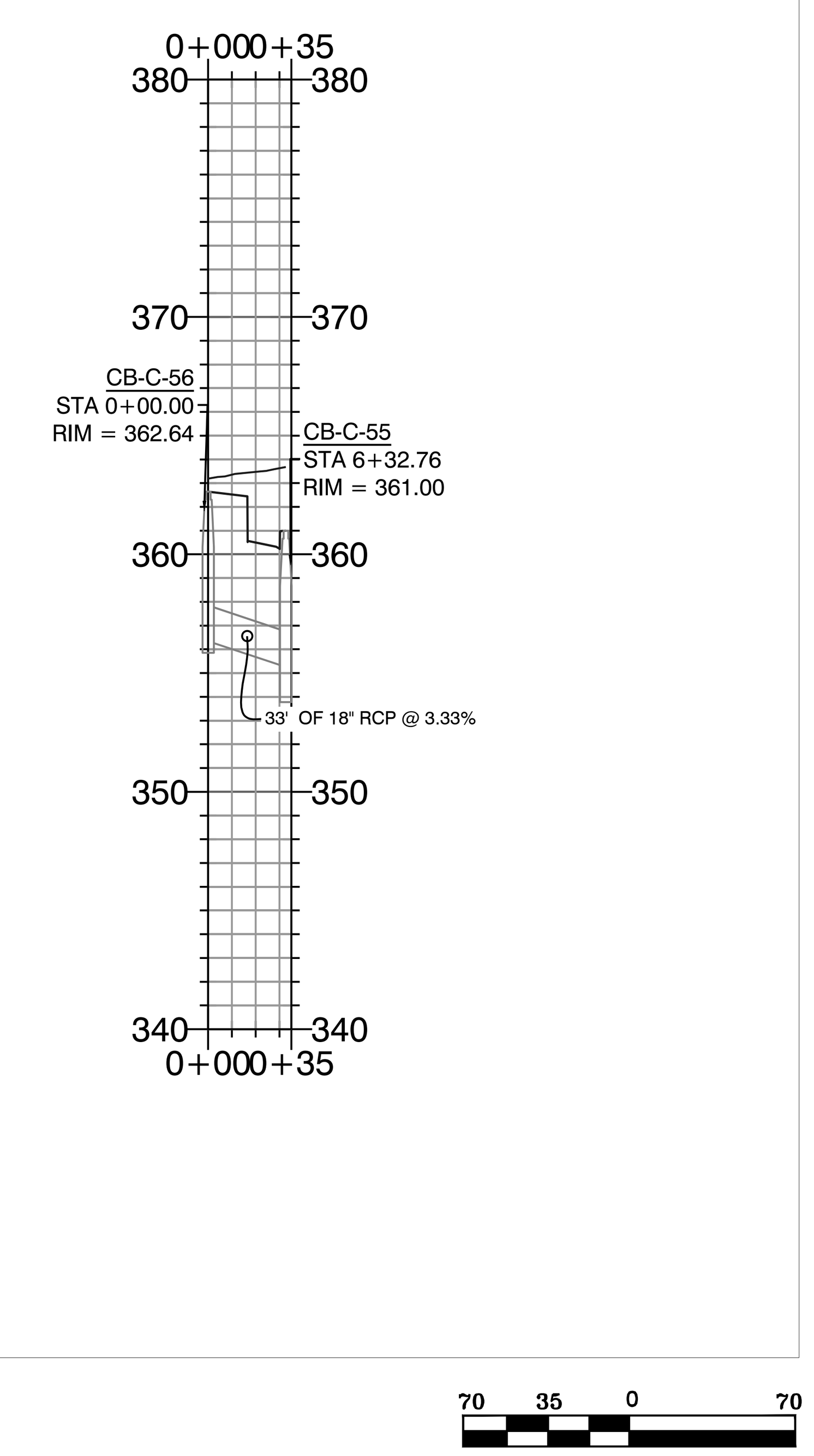

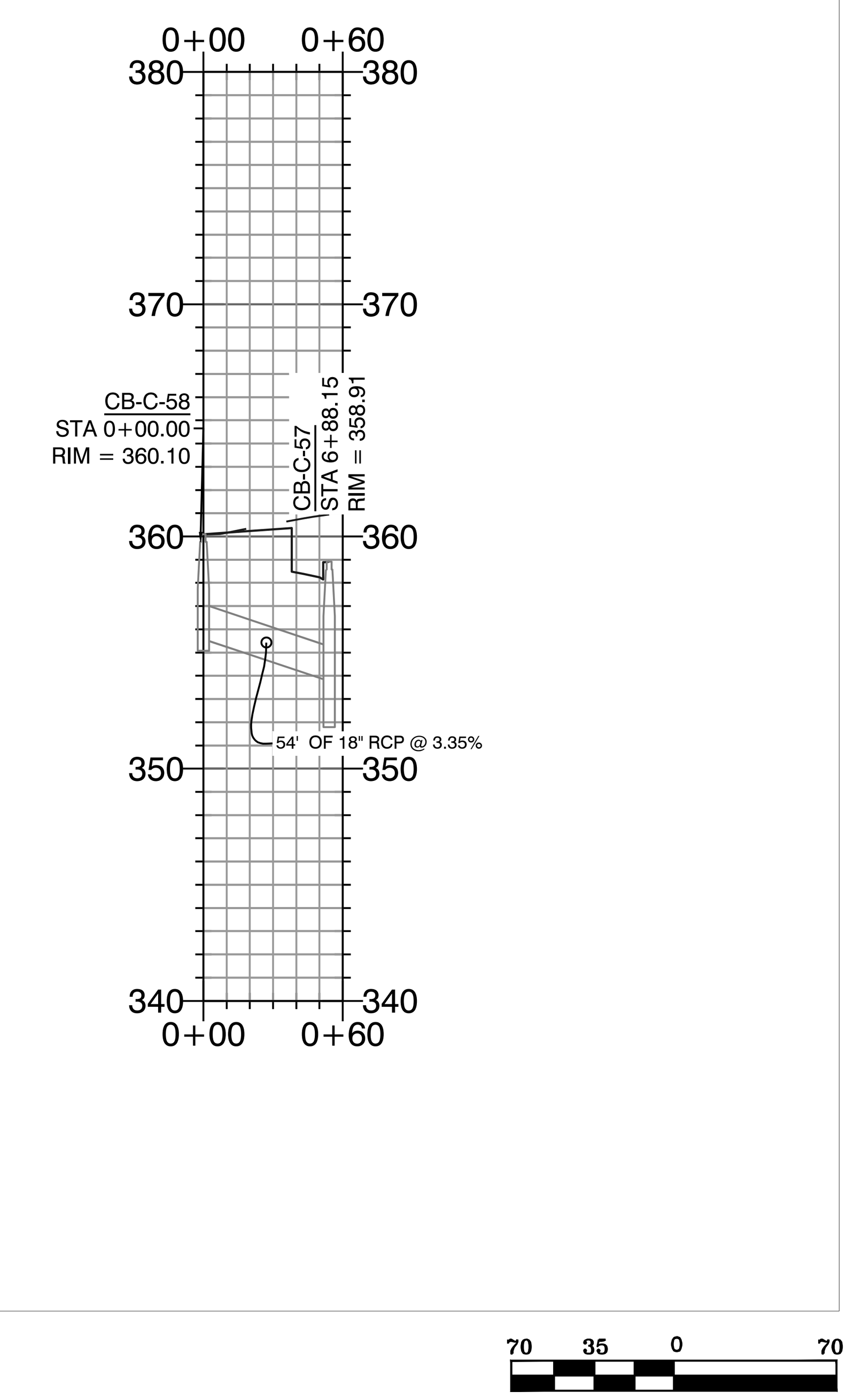

HDPE
RCP

N

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

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MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/20/2023	C.A.D. BY:	xxxx	DRAWING NUMBER:
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SHEET:	C-6.11	SCALE:	as shown	

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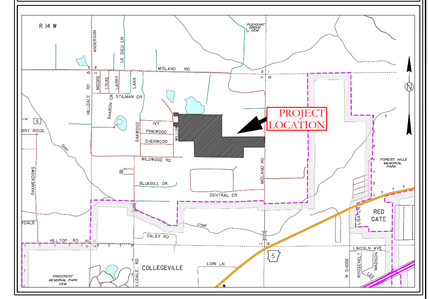
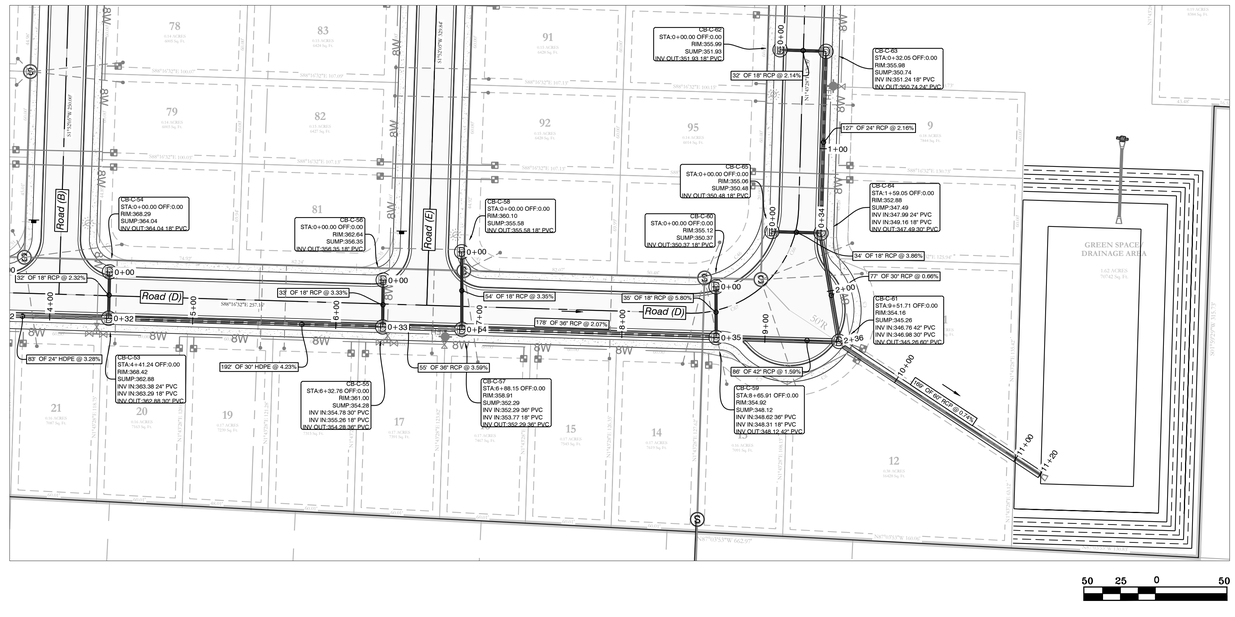
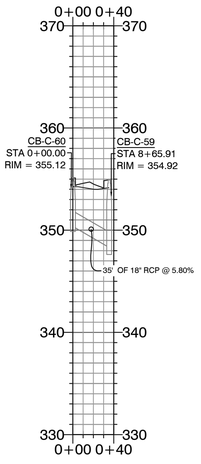
VICINITY MAP:



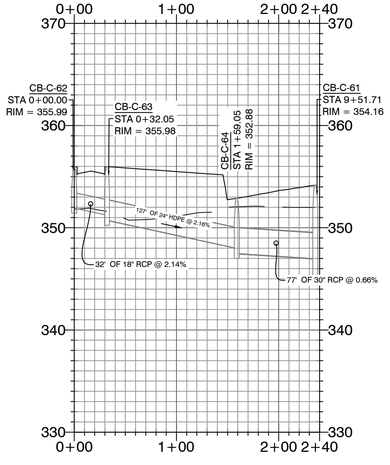


Storm Water Line 21 PROFILE



70 35 0 70

Storm Water Line 22 PROFILE



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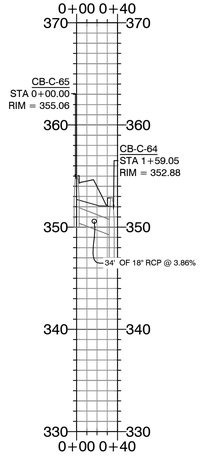

70 35 0 70

HDPE

RCP

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

HOPE CONSULTING
ENGINEERS - SURVEYORS
129 North Main Street,
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FOR USE AND BENEFIT OF:
HAVEN'S DEVELOPMENT, LLC

DRAINAGE PROFILES
MIDLAND ROAD
BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/20/2023	C.A.D. BY: xxxx	DRAWING NUMBER:
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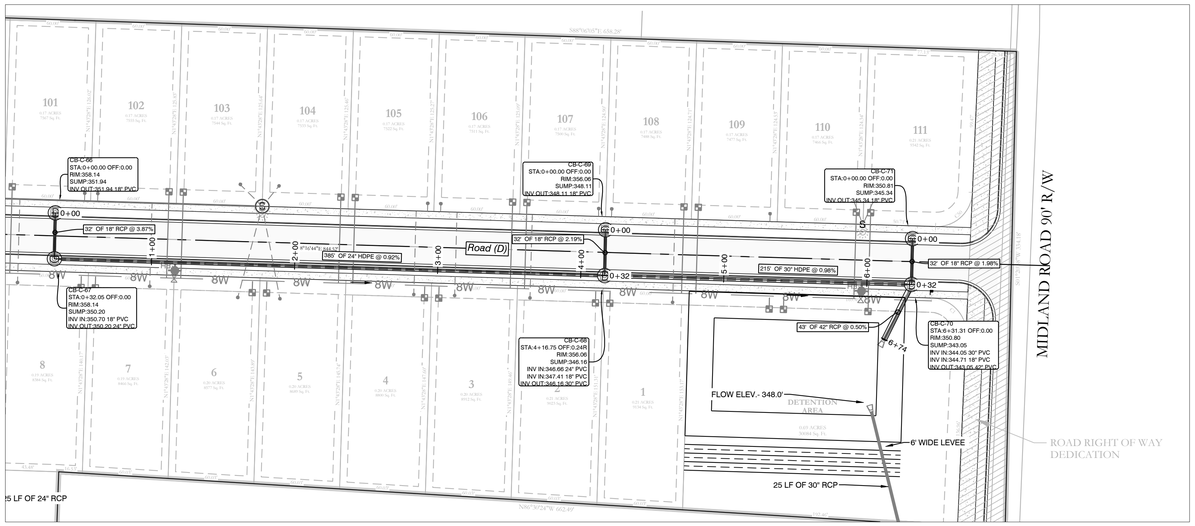

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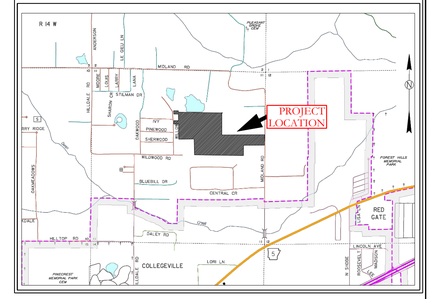
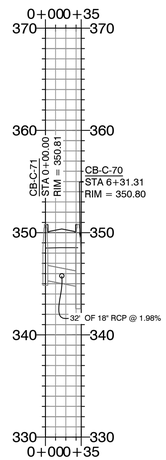


Storm Water Line 26 PROFILE



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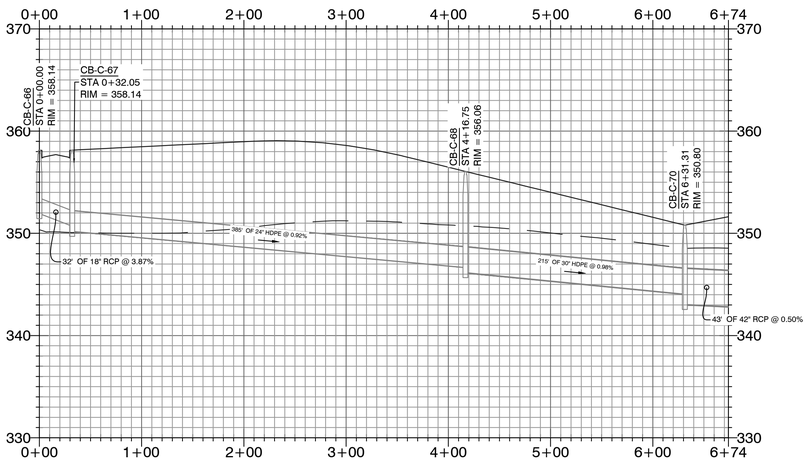
Storm Water Line 24 PROFILE



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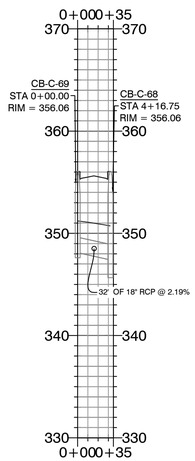
Storm Water Line 25 PROFILE



70 35 0 70

HDPE
RCP

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

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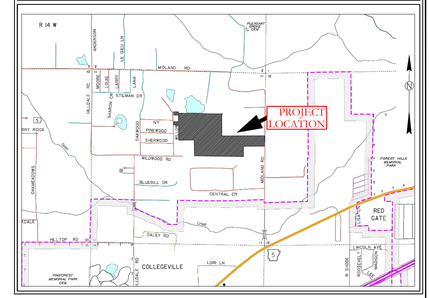

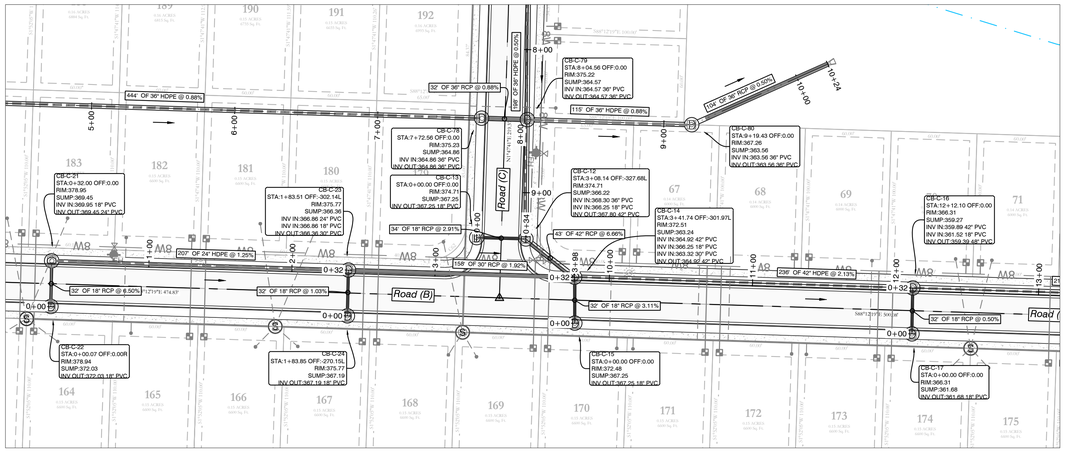

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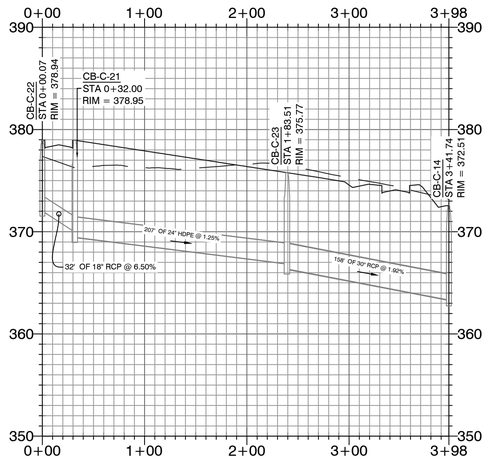
Storm Water Line 31 PROFILE



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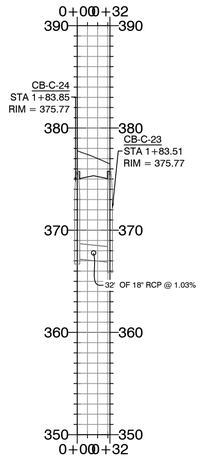

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COORDINATE SYSTEM OF 1927 ZONE BY
GPS OBSERVATION

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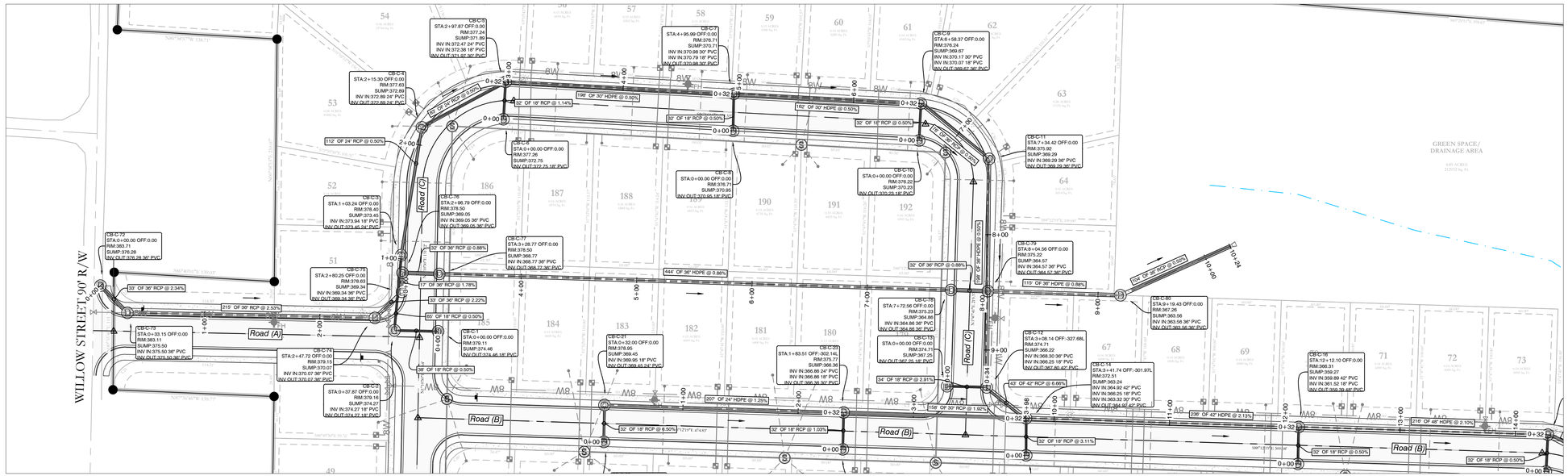

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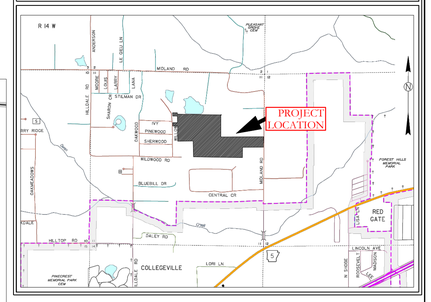
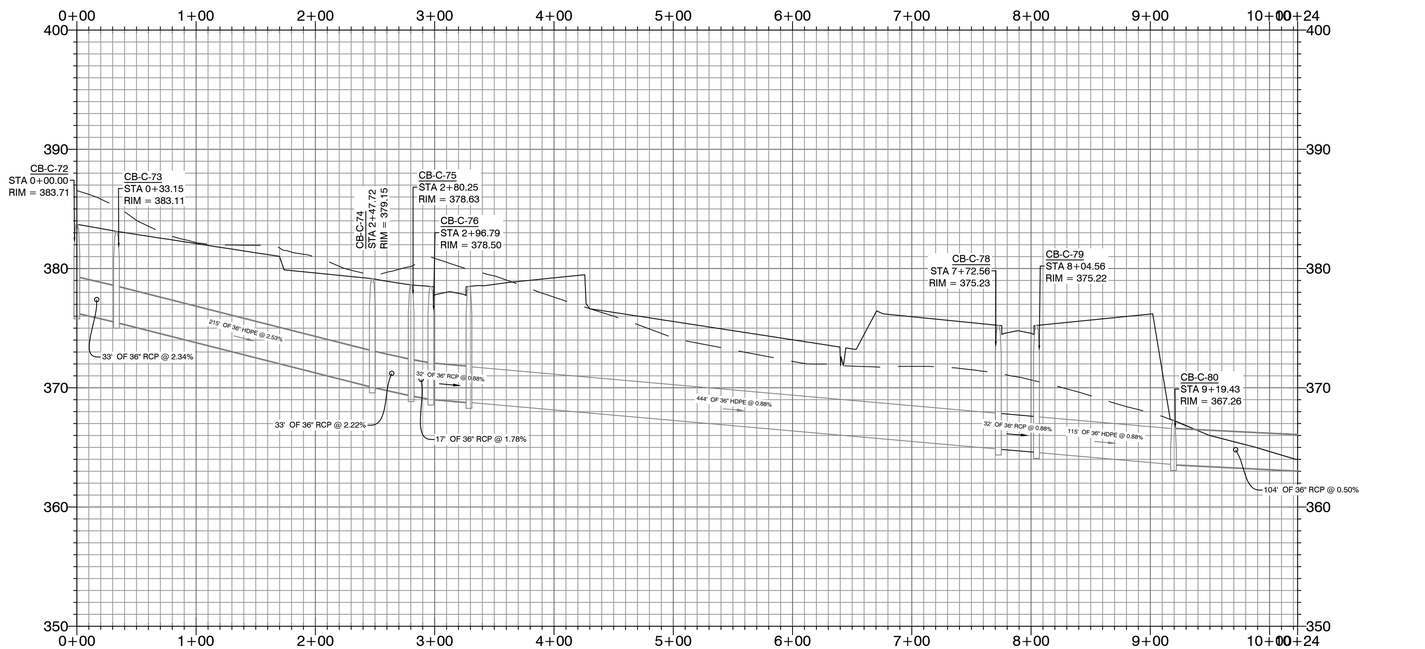


External Discharge (Storm Water) PROFILE



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RCP

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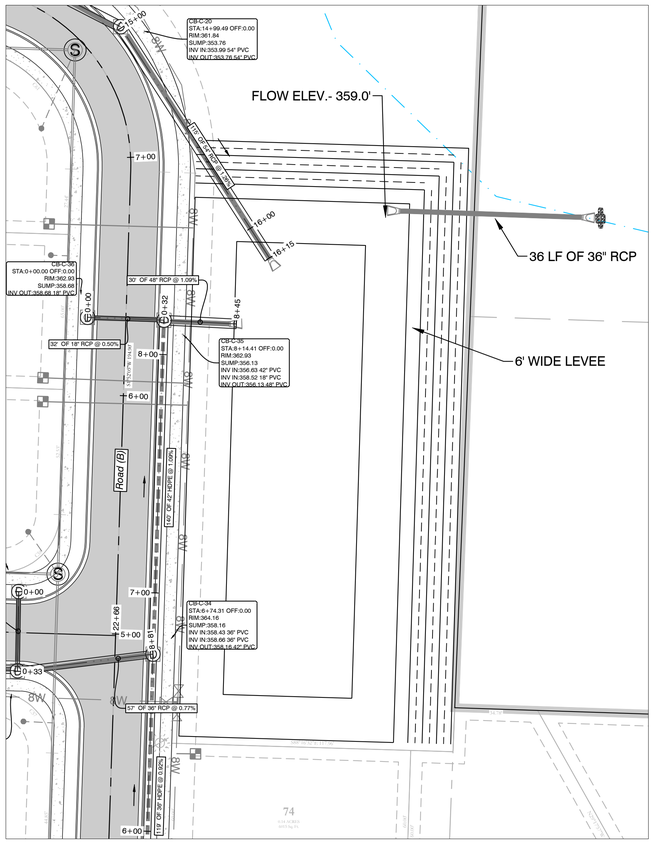
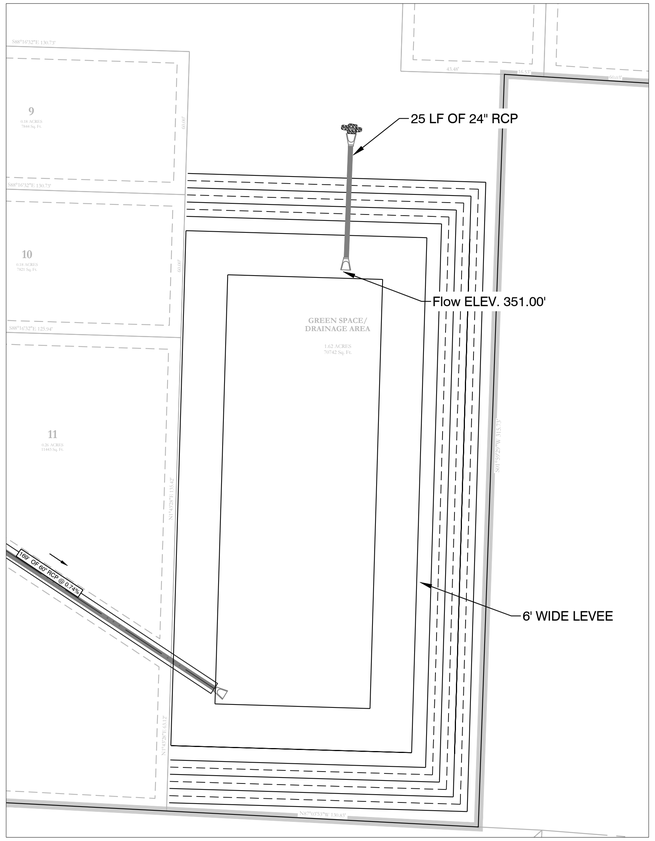
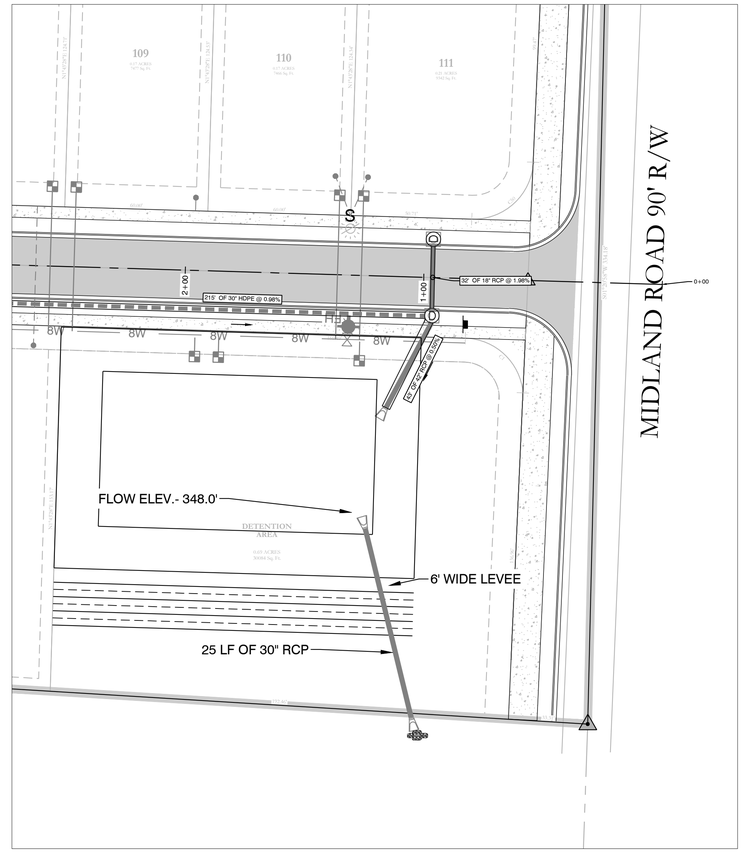
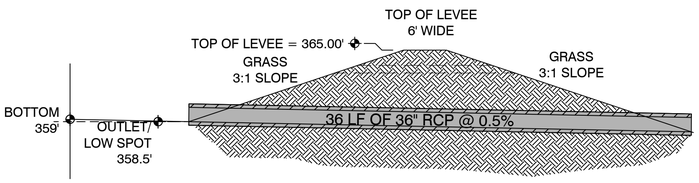
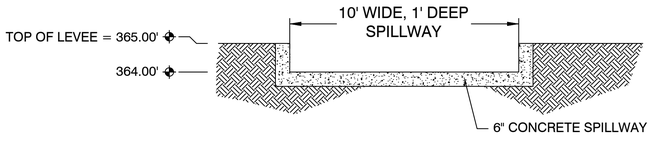




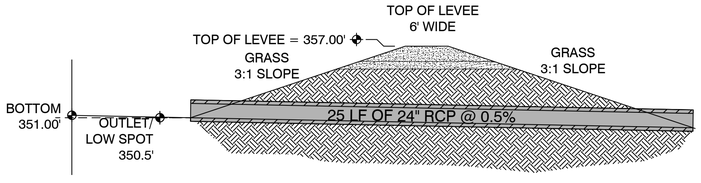




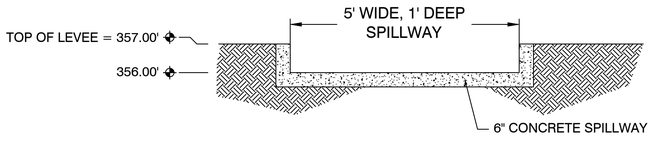
OUTLET PROFILE
NTS



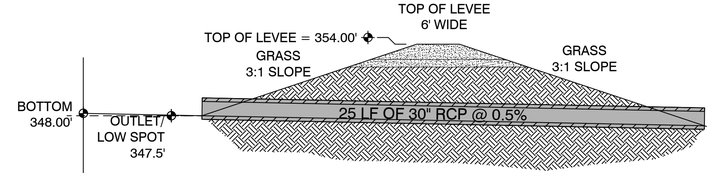
SPILLWAY END VIEW
NTS



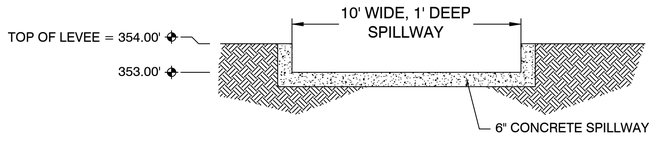
OUTLET SECTION
NTS



SPILLWAY END VIEW
NTS



OUTLET SECTION
NTS



SPILLWAY END VIEW
NTS

DETENTION POND MAINTENANCE PLAN

Background
The detention pond is located at the NW Corner of the subject property. It is 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 located in Tract "A". 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 pond area and discharge pipe 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.

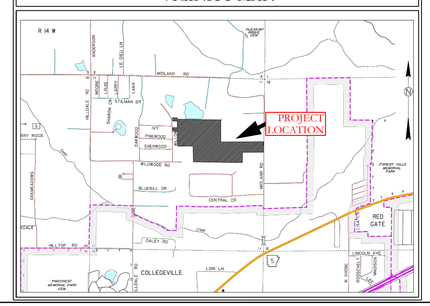
-Any other maintenance or repairs which would minimize other maintenance to the pond or outfall structures.

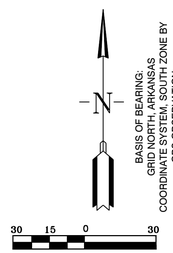
For questions or concerns about Tract "A", contact at 501-.

HDPE

RCP

VICINITY MAP:





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

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MIDLAND ROAD
DETENTION PLAN
BRYANT, SALINE COUNTY, ARKANSAS

DATE:	3/21/2023	C.A.D. BY:	DRAWING NUMBER:
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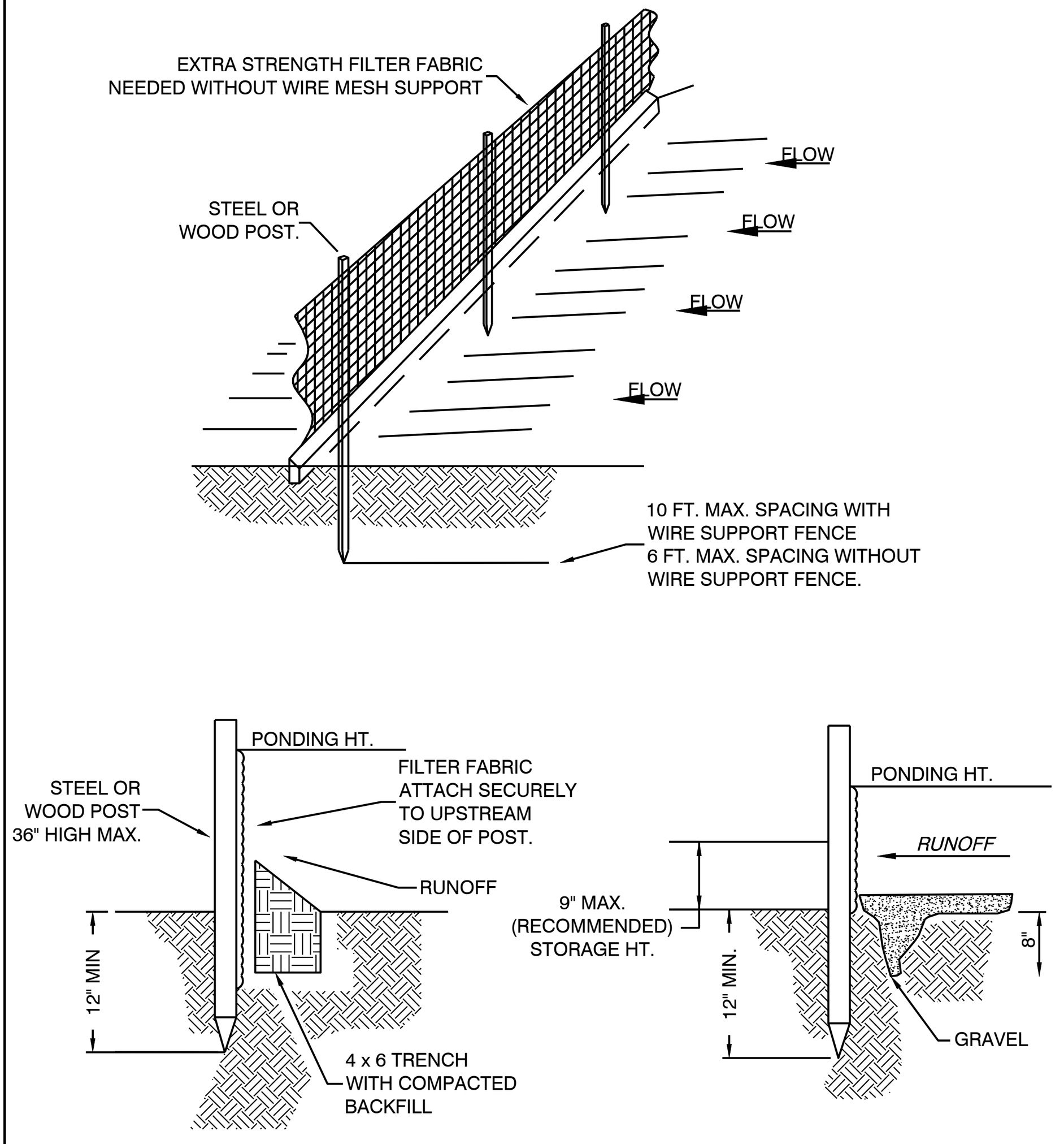


STANDARD DETAIL
TRENCH WITH NATIVE BACKFILL

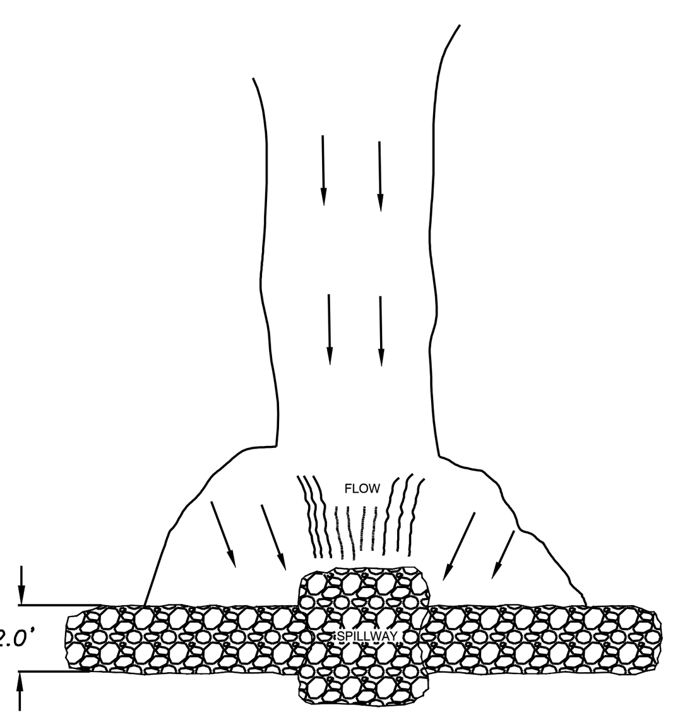
ALTERNATE DETAIL
TRENCH WITH GRAVEL

NOTE:
1.) INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.

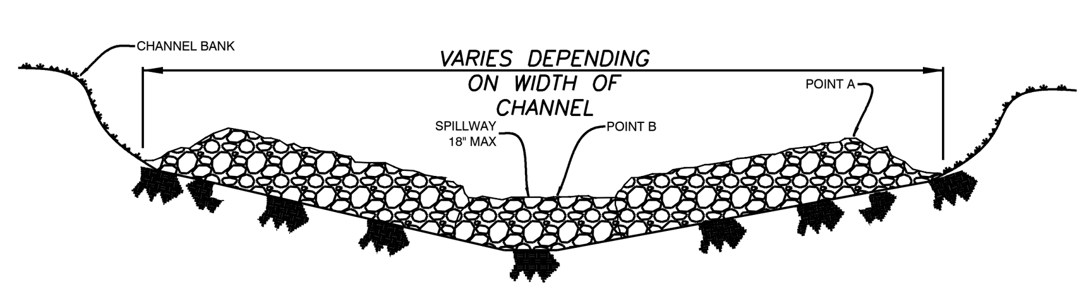
2.) REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.

3.) SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SILT FENCE



PLAN

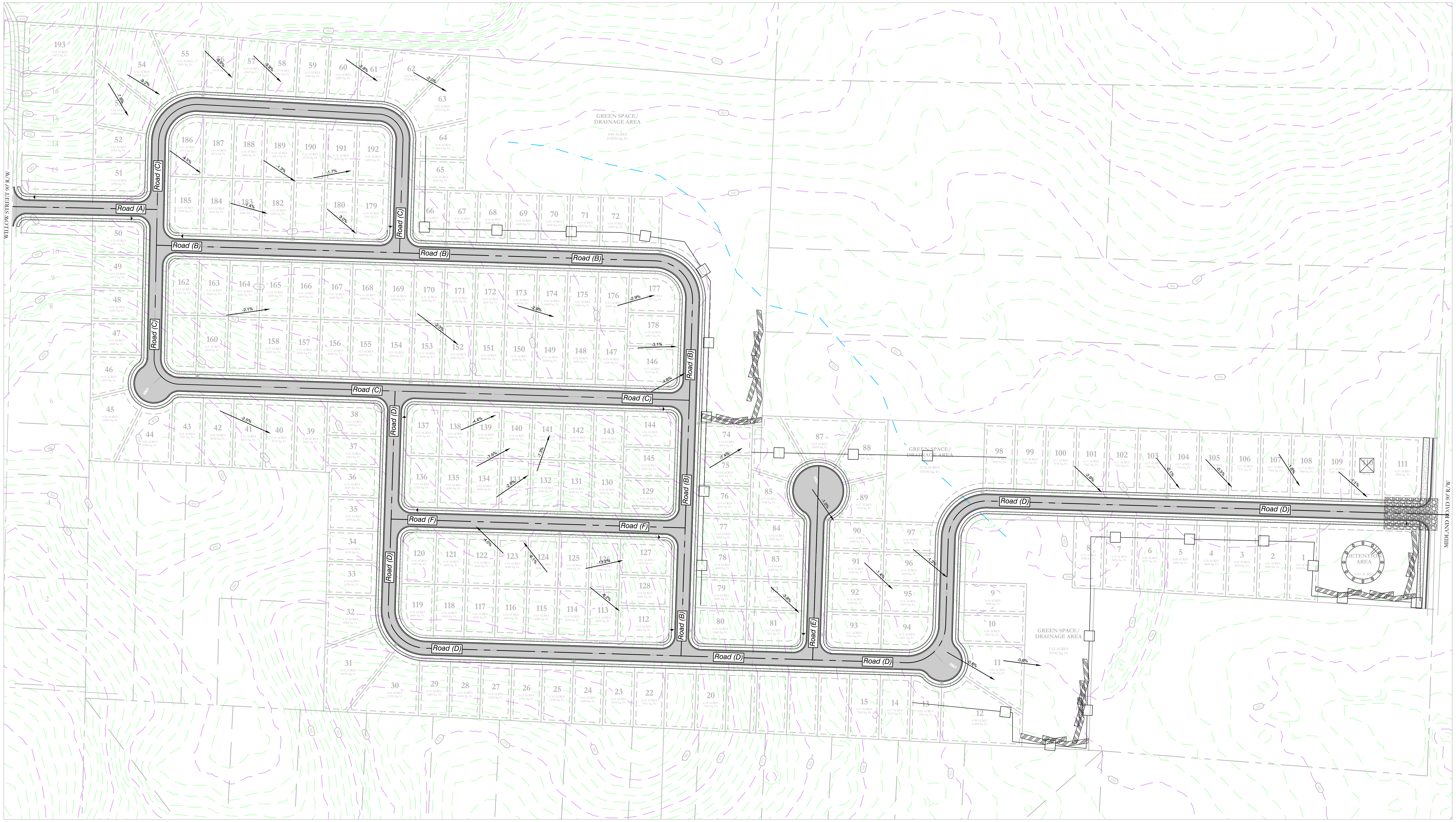


VIEW LOOKING UPSTREAM

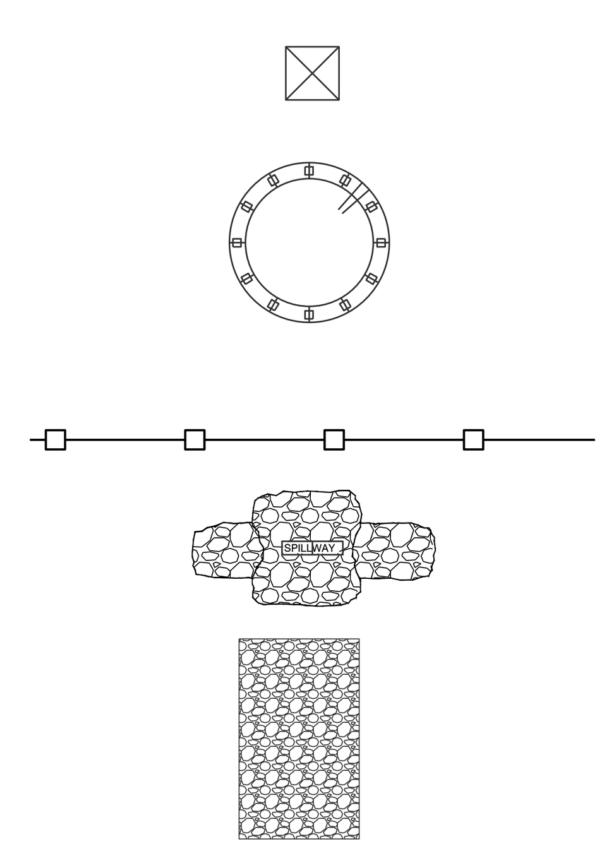
NOTES:

1.) POINT 'A' MUST BE HIGHER THAN POINT 'B' (SPILLWAY HEIGHT)
2.) PLACE RIP-RAP BARRIER PERPENDICULAR TO THE FLOW WITH TIGHT GROUPING. USE STRAW, ROCKS, OR FILTER FABRIC TO FILL ANY GAPS AND TAMP BACKFILL MATERIAL TO PREVENT EROSION OR FLOW AROUND THE DAM.
3.) SPILLWAY HEIGHT SHALL NOT EXEED 18"-24".
4.) INSPECT AFTER EACH SIGNIFICANT STORM, MAINTAIN AND REPAIR PROMPTLY.

RIP-RAP CHECK DAM



ERC LEGEND



SITE POSTING

CONC. WASHOUT DETENTION AREA

SILT FENCE

RIP RAP CHECK DAM

CONSTRUCTION ENTRANCE

DISTURBED AREA

EROSION CONTROL NOTES

SOD OR SEED DETENTION AREA POST–CONSTRUCTION (IF APPLICABLE)

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

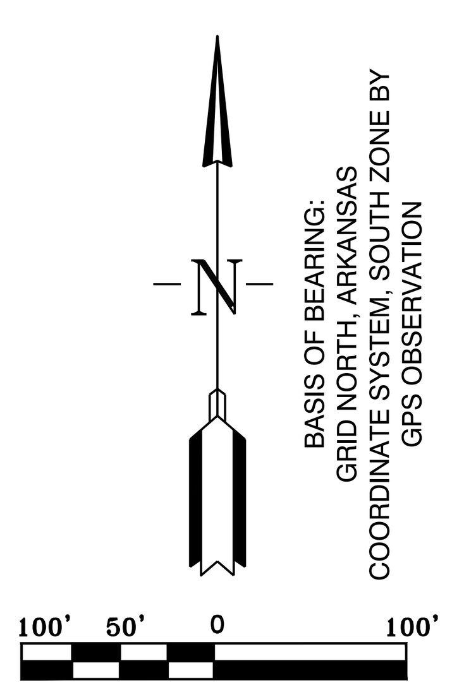
CONTRACTOR MUST HAVE INLET PROTECTION MEASURES INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF DRAINAGE INLETS/STRUCTURES IS COMPLETE. SEDIMENT BARRIERS SHALL BE MAINTAINED THROUGHOUT AND INSPECTED THROUGHOUT CONSTRUCTION PROCESS UNTIL PROJECT IS COMPLETE

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

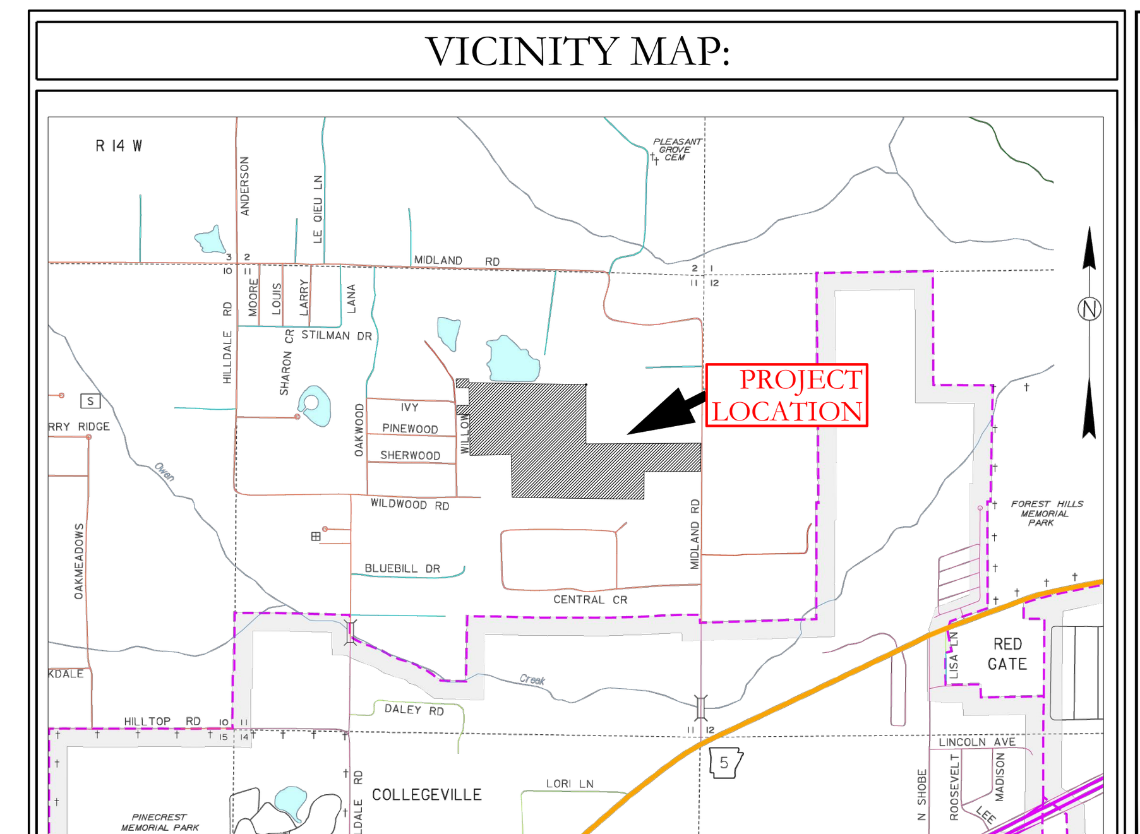
SOME EROSION CONTROL MEASURES, SILT FENCING, OR CHECK DAMS MAY NOT BE NECESSARY DURING INITIAL ROW CLEARING BUT MAY BE NEEDED ONCE LOT CLEARING AND HOME BUILDING BEGINS

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.



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

VICINITY MAP:



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MIDLAND ROAD
EROSION CONTROL PLAN
BRYANT, SALINE COUNTY, ARKANSAS

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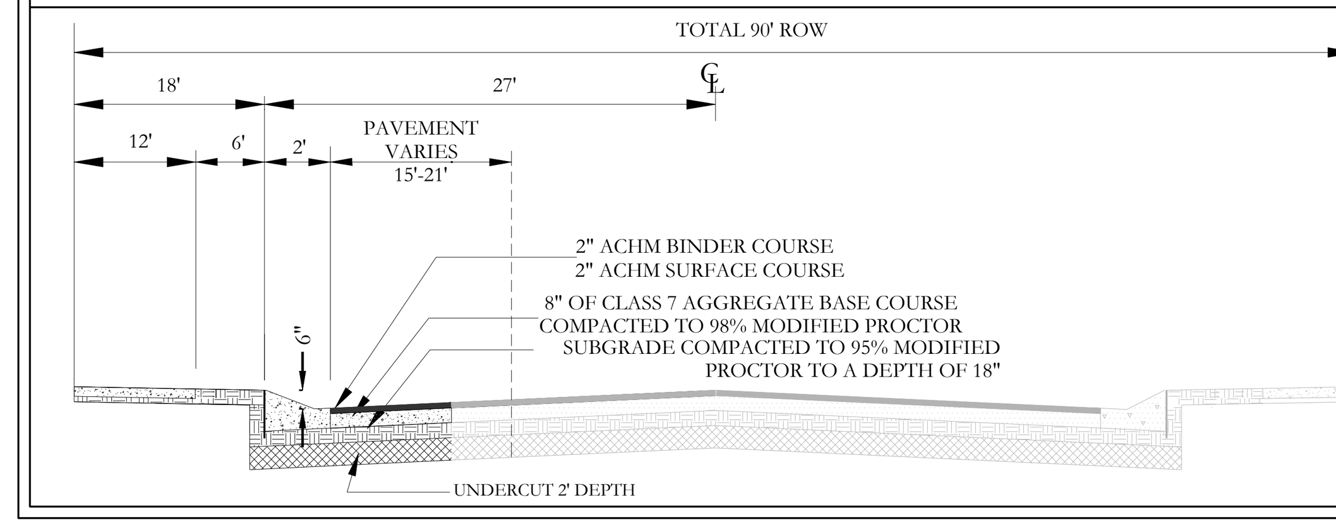
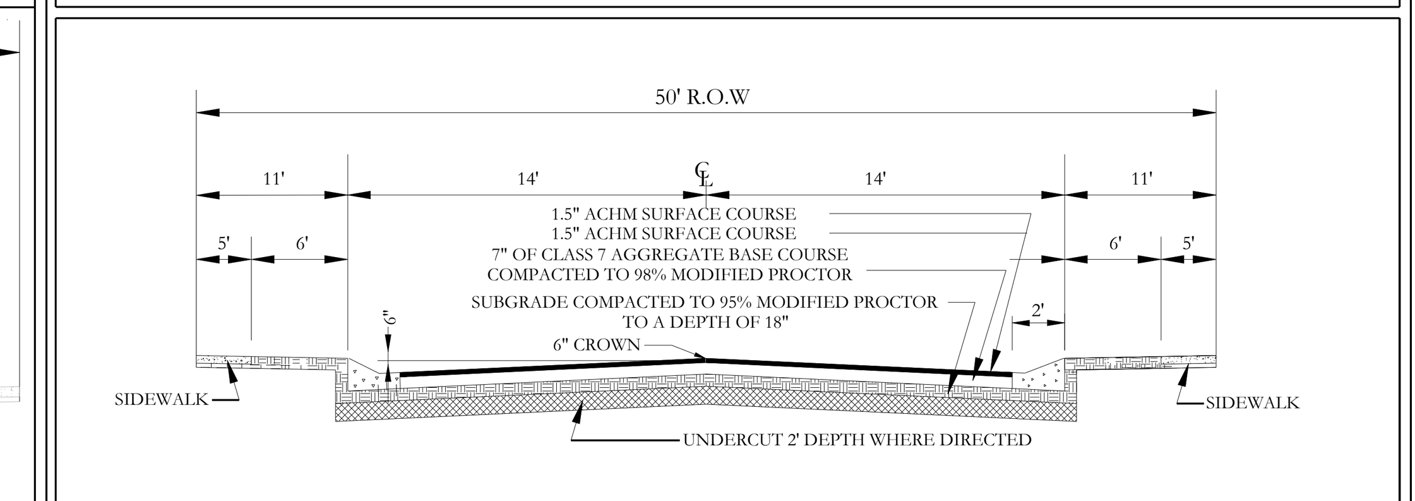




SURVEY DESCRIPTION:

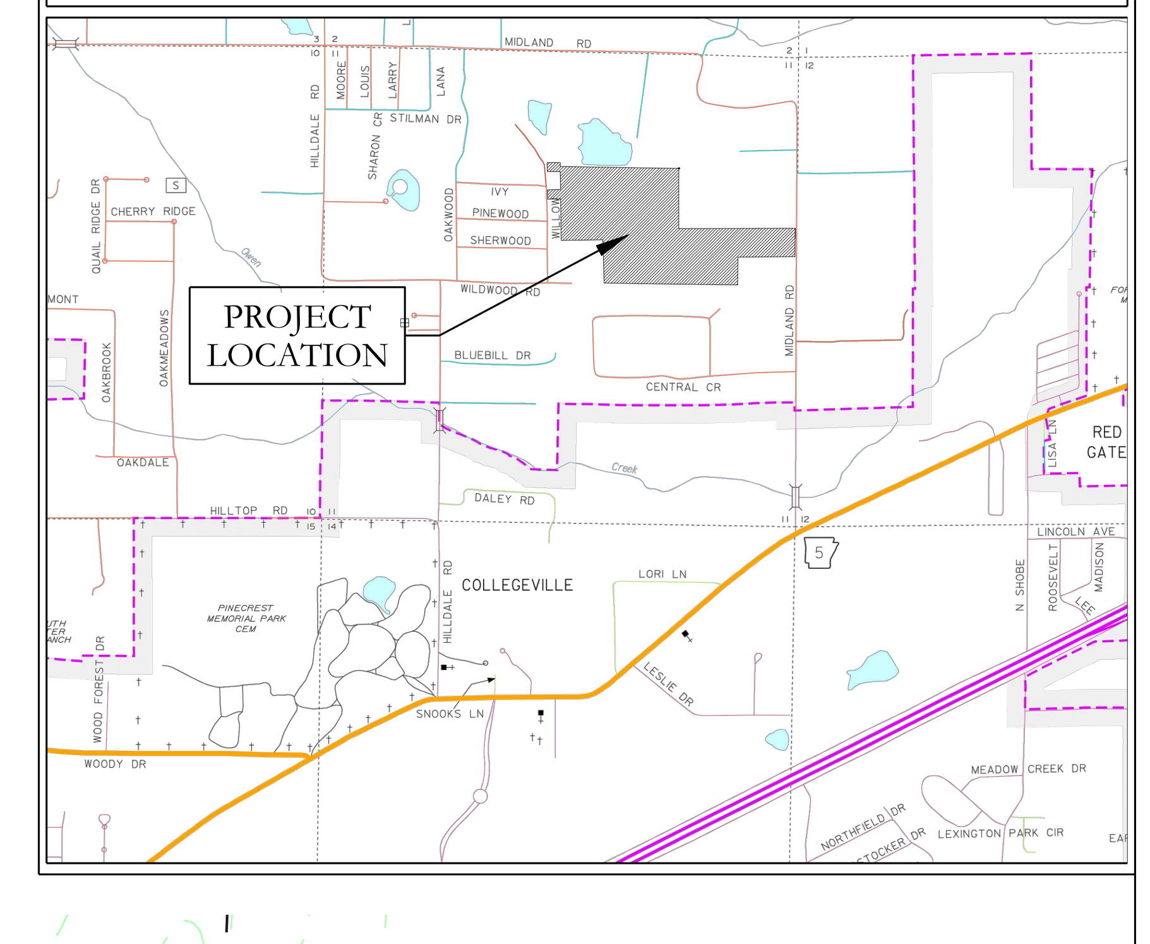
A PART OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER, AND THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 11, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS; AND LOTS 11, 12, 17, AND 18, OF WILDWOOD TERRACE SUBDIVISION TO SALINE COUNTY, ARKANSAS AS SHOWN AND RECOREDED IN SALINE COUNTY BOOK 108, PAGE 272; ALL MORE PARTICULARLY DESCRIBED AS FOLLOWS:

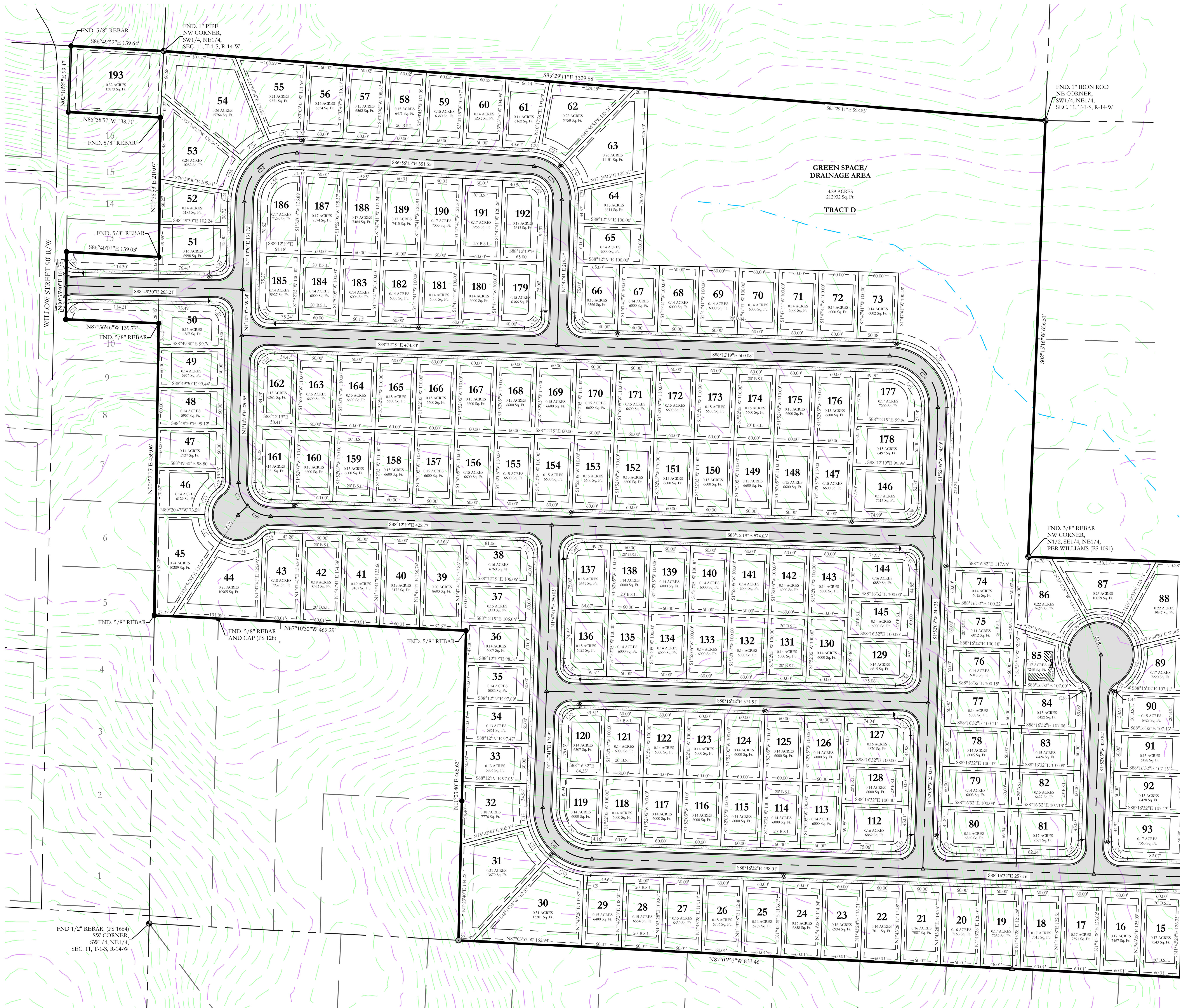
BEGINNING AT A 1" PIPE MARKING THE NORTHWEST CORNER OF SAID SW1/4, NE1/4, OF SECTION 11; THENCE ALONG THE NORTH LINE THEREOF S 85°29'11" E A DISTANCE OF 1,329.88 FEET TO A 1" IRON ROD MARKING THE NORTHEAST CORNER OF SAID SW1/4, NE1/4; THENCE ALONG THE EAST LINE THEREOF S 02°15'16" W A DISTANCE OF 656.51 FEET TO A 3/8" REBAR MARKING THE NW CORNER OF THE N1/2, SE1/4, NE1/4, OF SECTION 11 (REF: SURVEY BY WILLIAMS PS #1091); THENCE LEAVING SAID EAST LINE S 88°06'05" E A DISTANCE OF 660.28 FEET TO A 1/2" REBAR & CAP (PS #1664); THENCE CONTINUE S 88°06'05" E A DISTANCE OF 658.28 FEET TO THE COMPUTED LOCATION OF THE NE CORNER OF SAID S1/2, SE1/4, NE1/4 OF SECTION 11 (REF: SURVEY BY WILLIAMS PS #1091; THENCE ALONG THE EAST LINE THEREOF S 01°20'58" W A DISTANCE OF 334.18 FEET TO A IRON SPIKE IN MIDLAND ROAD; THENCE LEAVING SAID EAST LINE N 86°30'24" W A DISTANCE OF 662.49 FEET TO A 1/2" REBAR AND CAP (PS #1664); THENCE S 01°59'29" W A DISTANCE OF 315.73 FEET TO A 1/2" REBAR AND CAP (PS #1664) ON THE SOUTH LINE OF SAID SE1/4, NE1/4, OF SECTION 11; THENCE ALONG SAID SOUTH LINE N 87°03'53" W A DISTANCE OF 662.97 FEET TO THE COMPUTED LOCATION OF THE SE CORNER OF SAID SW1/4, NE1/4 OF SECTION 11; THENCE ALONG THE SOUTH LINE THEREOF N 87°03'53" W A DISTANCE OF 833.46 FEET TO A 1/2" REBAR; THENCE LEAVING SAID SOUTH LINE N 01°23'40" E A DISTANCE OF 465.63 FEET TO A 1/2" REBAR; THENCE N 87°10'32" W A DISTANCE OF 469.29 FEET TO A 1/2" REBAR AND CAP (PS #1664) ON THE WEST LINE OF SAID SW1/4, NE1/4; THENCE ALONG SAID WEST LINE N 00°52'05" E A DISTANCE OF 439.06 FEET TO A 1/2" REBAR MARKING THE SW CORNER OF LOT 11, WILDWOOD TERRACE SUBDIVISION; THENCE ALONG THE SOUTH LINE OF SAID LOT 11 N 87°36'46" W A DISTANCE OF 139.77 FEET TO A 5/8" REBAR MARKING THE SW CORNER OF SAID LOT 11; THENCE ALONG THE WEST LINE OF LOTS 11 AND 12, OF SAID WILDWOOD TERRACE N 00°35'40" E A DISTANCE OF 101.78 FEET TO A 5/8" REBAR MARKING THE NW CORNER OF SAID LOT 12; THENCE ALONG THE NORTH LINE OF SAID LOT 12 S 86°40'01" E A DISTANCE OF 139.03 FEET TO A 5/8" REBAR MARKING THE NE CORNER OF SAID LOT 12; THENCE ALONG THE WEST LINE OF SAID SW1/4, NE1/4, OF SECTION 11 N 00°38'53" E A DISTANCE OF 210.07 FEET TO A 1/2" REBAR MARKING THE SE CORNER OF LOT 17 OF SAID WILDWOOD TERRACE SUBDIVISION; THENCE LEAVING THE SOUTH LINE OF SAID LOT 17 N 86°38'57" W A DISTANCE OF 138.71 FEET TO A 1/2" IRON PIPE MARKING THE SW CORNER OF SAID LOT 17; THENCE ALONG THE WEST LINES OF LOTS 17 AND 18 OF SAID WILDWOOD TERRACE N 02°18'25" E A DISTANCE OF 99.47 FEET TO A 5/8" REBAR MARKING THE NW CORNER OF SAID LOT 18; THENCE ALONG THE NORTH LINE OF SAID LOT 18 S 86°49'52" E A DISTANCE OF 139.64 FEET TO THE POINT OF BEGINNING; CONTAINING 2,140,251.37 SQUARE FEET, OR 49.133 ACRES, MORE OR LESS.

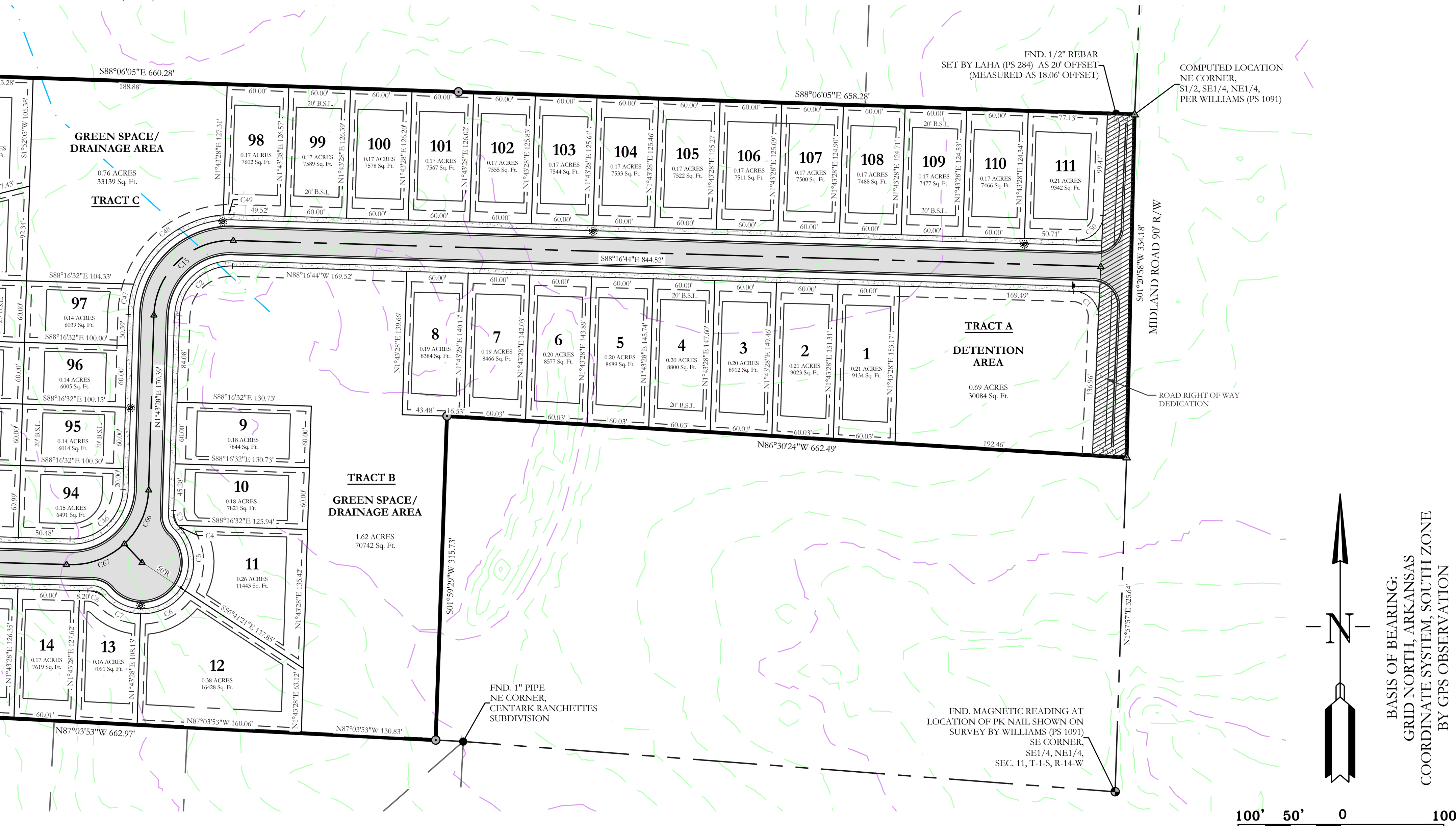
NOTE:

TRACTS A,B, C, D AND E WILL BE UTILIZED FOR DRAINAGE AND UTILITIES PURPOSES AND WILL MAINTAINED BY THE PROPERTY OWNERS ASSOCIATION (POA) OR IMPROVEMENT DISTRICT.

VICINITY MAP:







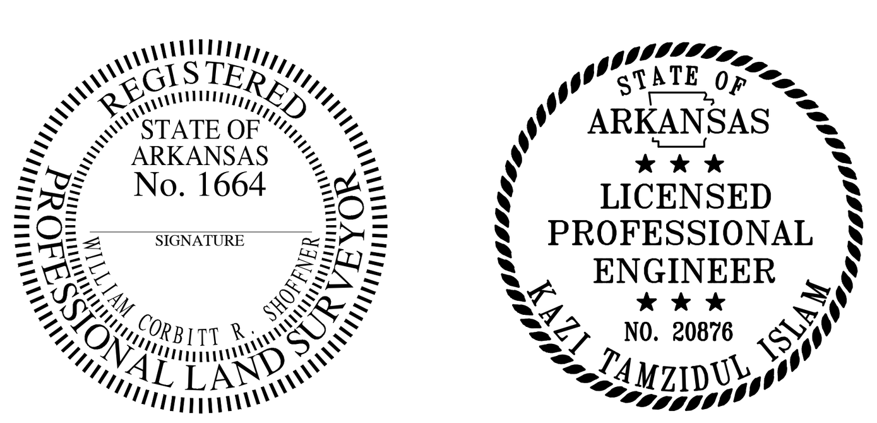
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C1	36.44	25.00	83.51	N46° 31' 18"W	33.30
C2	78.54	50.00	90.00	S46° 43' 28"W	70.71
C3	15.74	25.00	36.08	S16° 19' 00"E	15.48
C4	3.29	25.00	7.54	S38° 07' 47"E	3.29
C5	65.64	50.00	75.21	S4° 17' 44"E	61.02
C6	50.98	50.00	58.41	S62° 31' 03"W	48.80
C7	38.12	50.00	43.68	N66° 26' 09"W	37.20
C8	19.06	25.00	43.68	N66° 26' 09"W	18.60
C10	59.54	100.00	34.12	N65° 16' 17"W	58.67
C11	57.73	100.00	33.08	N31° 40' 27"W	56.93
C12	29.55	100.00	16.93	N6° 40' 12"W	29.44
C13	39.27	25.00	90.00	N43° 12' 19"W	35.36
C14	19.69	25.00	45.13	S69° 13' 41"W	19.19
C15	117.81	75.00	90.00	S46° 43' 28"W	106.07
C16	69.10	50.00	79.18	S83° 21' 33"W	63.73
C17	50.36	50.00	57.70	N28° 11' 54"W	48.26
C18	42.37	50.00	48.55	N24° 55' 38"E	41.11
C19	20.96	25.00	48.03	N25° 11' 17"E	20.35
C20	39.27	25.00	90.00	N43° 49' 30"W	35.36
C21	39.40	25.00	90.29	S46° 01' 44"W	35.45
C22	39.02	25.00	89.42	S44° 06' 55"E	35.18
C23	39.27	25.00	90.00	N46° 10' 30"E	35.36
C24	15.42	100.00	8.83	N5° 35' 30"E	15.40
C25	50.54	100.00	28.96	N24° 29' 09"E	50.00
C26	50.54	100.00	28.96	N53° 26' 27"E	50.00

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C27	43.88	100.00	25.14	N80° 29' 25"E	43.53
C28	9.46	75.00	7.23	S83° 19' 25"E	9.45
C29	44.05	75.00	33.65	S62° 53' 00"E	43.42
C30	44.05	75.00	33.65	S29° 13' 50"E	43.42
C31	18.59	75.00	14.20	S5° 18' 17"E	18.54
C32	39.27	25.00	90.00	S43° 12' 19"E	35.36
C33	147.27	100.00	84.38	S40° 19' 16"E	134.32
C34	39.33	25.00	90.14	S43° 12' 13"E	35.40
C35	39.21	25.00	89.86	N46° 47' 47"E	35.31
C36	0.94	25.00	2.15	N0° 47' 36"E	0.94
C37	20.09	25.00	46.04	N23° 18' 05"W	19.55
C38	55.98	50.00	64.14	N14° 14' 58"W	53.10
C39	43.73	50.00	50.11	N42° 52' 47"E	42.35
C40	50.36	50.00	57.71	S83° 12' 24"E	48.26
C41	35.14	50.00	40.26	S34° 13' 06"E	34.42
C42	55.98	50.00	64.14	S17° 59' 09"W	53.10
C43	19.96	25.00	45.75	S27° 10' 54"W	19.44
C44	1.06	25.00	2.44	S3° 05' 13"W	1.06
C45	39.33	25.00	90.14	S43° 12' 13"E	35.40
C46	78.54	50.00	90.00	N46° 43' 28"E	70.71
C47	30.06	100.00	17.22	N10° 20' 12"E	29.95
C48	116.52	100.00	66.76	N52° 19' 49"E	110.04
C49	10.49	100.00	6.01	N88° 43' 05"E	10.49
C50	38.91	25.00	89.18	N47° 08' 03"E	35.10
C51	39.21	25.00	89.86	N46° 47' 47"E	35.31

Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C52	78.60	50.00	90.07	S43° 14' 26"E	70.75
C53	39.24	25.00	89.93	S46° 45' 34"W	35.33
C54	39.33	25.00	90.14	N43° 12' 13"W	35.40
C55	39.21	25.00	89.86	N46° 47' 47"E	35.31
C56	39.30	25.00	90.07	S43° 14' 26"E	35.38
C57	39.30	25.00	90.07	N43° 10' 07"W	35.38
C58	39.24	25.00	89.93	N46° 49' 53"E	35.33
C59	39.00	25.00	89.38	S43° 30' 55"E	35.16
C60	39.54	25.00	90.62	S46° 29' 05"W	35.55
C61	78.60	50.00	90.07	N43° 10' 07"W	70.76
C62	39.27	25.00	90.00	N46° 47' 41"E	35.36
C63	39.00	25.00	89.38	S43° 30' 55"E	35.16
C64	80.19	50.00	91.89	S47° 07' 07"W	71.87
C65	38.72	25.00	88.73	N42° 34' 17"W	34.96
C66	58.90	75.00	45.00	N24° 13' 28"E	57.40
C67	61.60	75.00	47.06	N70° 15' 11"E	59.88
C68	117.90	75.00	90.07	S43° 14' 26"E	106.13
C69	39.00	50.00	44.69	S65° 51' 37"E	38.02
C71	39.00	50.00	44.69	S21° 10' 12"E	38.02
C72	120.28	75.00	91.89	S47° 07' 07"W	107.80
C73	77.43	50.00	88.73	N42° 34' 17"W	69.92
C74	117.91	75.00	90.07	N43° 10' 07"W	106.13
C247	39.27	25.00	90.00	S46° 47' 41"W	35.36

PRELIMINARY PLAT
MIDLAND ROAD ESTATES

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



By affixing my seal and signature, I Wiillaim Cobitt R. Shoffner 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.

No portion of the property described hereon lies within the 100 year floodplain, according to the Federal Insurance Rate Map, panel #05125C0365e, Dated: 06/05/2020 .

CERTIFICATIONS:

OWNER:

Name: HAVEN'S DEVELOPMENT, LLC
Address: 2615 N. PRICKETT ROAD, SUITE 5
BRYANT, AR 72022

DEVELOPER:

Name: HAVEN'S DEVELOPMENT, LLC
Address: 2615 N. PRICKETT ROAD, SUITE 5
BRYANT, AR 72022

CERTIFICATE OF OWNER:

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

Source of Tile: 2021-009870

Date of Execution ______________ Name: ______________

CERTIFICATE OF PRELIMINARY SURVEYING ACCURACY:

I, Corbitt R. Shoffner, hereby certify that this proposed preliminary plat correctly represents a survey completed by me, or under my supervision on ______________, 2023; that the boundary lines shown hereon correspond with the description in the deeds cited in the above Source Title; and that all monuments which were found or placed on the property are correctly described and located..

Date of Execution ______________ Signed: ______________
Jonathan L. Hope
Registered Professional
Land Surveyor No. 1762 Arkansas

CERTIFICATE OF PRELIMINARY ENGINEERING ACCURACY:

I, Kazi Tamzidul Islam, 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 requirements of the City of Bryant Subdivision Rules and Regulations have been fully complied with.

Date of Execution ______________
Kazi Tamzidual Islam
Registered Professional
Engineer, No. 20876 Arkansas

CERTIFICATE OF PRELIMINARY PLAT APPROVAL:

All requirements of the City of Bryant Subdivision Rules and Regulations relative to the preparation and submittal of a Preliminary Plat having been fulfilled, approval of this plat is hereby granted, subject of further provisions of said Rules and Regulations.

Date of Execution ______________ Signed: ______________
Rick Johnson, Chairman
Bryant Planning Commission

PROPERTY SPECIFICATIONS:

OWNER: HAVEN'S DEVELOPMENT, LLC
2615 N. PRICKETT ROAD, SUITE 5
BRYANT, AR 72022

DEVELOPER/: HAVEN'S DEVELOPMENT, LLC
SUBDIVIDER 2615 N. PRICKETT ROAD, SUITE 5
BRYANT, AR 72022

ENGINEERS: HOPE CONSULTING INC.
129 N. MAIN STREET
BENTON, AR 72015

NAME OF SUBDIVISION: MIDLAND ROAD ESTATES

ZONING CLASSIFICATION: R-1S

SOURCE OF TITLE: SALINE COUNTY DOCUMENT
BOOK PAGE

MIN. LOT SIZE: 6,000 S.F.
NUMBER OF LOTS: 198
SOURCE OF WATER: CITY OF BRYANT
SOURCE OF SEWER: CITY OF BRYANT
SOURCE OF ELECTRIC: FIRST ELECTRIC COOP
SOURCE OF GAS: CENTERPOINT ENERGY

BUILDING SETBACKS:
FRONT - 20' OR AS SHOWN
REAR - 20' OR AS SHOWN
SIDE - 8' OR AS SHOWN

EASEMENTS: UTILITY & DRAINAGE (D.E. & U.E.)
FRONT - 10' OR AS SHOWN
REAR - 10' OR AS SHOWN
SIDE - 5' OR AS SHOWN

STREET RIGHT OF WAYS: 50' OR AS SHOWN
STREET WIDTH: 28' BOC TO BOC
LOT CORNERS: SET 1/2" REBAR WITH CAP

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:

HAVEN'S DEVELOPMENT, LLC

PRELIMINARY PLAT
MIDLAND ROAD ESTATES
A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

DATE: 03/08/2023	C.A.D. BY: B.JOHNSON	DRAWING NUMBER:	
REVISED:	CHECKED BY:	23-0024	
SHEET:	SCALE: 1" = 100'		
500	0		

K:\Land Projects 2004\Havens Midland Road Subdivision S11 T1S R14W\Subdivisions\2023\23-0024\23-0024-Preliminary Plat.dwg

HOPE
CONSULTING
ENGINEERS • SURVEYORS

March 6, 2022

Truett Smith
City of Bryant
210 Southwest Third St., Bryant, AR 72022

RE: Request for Residential Subdivision Plat and CD Approval
Parcel #: 001-03734-000, 001-03744-000, 370-00105-000, and 370-00106-000

Dear Mr. Truett Smith,

I represent Havens Development LLC, in the above-captioned development. This 50 acre piece of property is located adjacent to the City of Bryant. We are proposing a off site sewer main extension to the south to access to Bryant sewer. Salem Water Users is available on the east side of Midland Road for water. This development will be for single family neighborhood and be proposed into the R-1.S Zoning District. I am requesting a modification from the Walk Bike Drive Code to remove the east/ west collector street through this property. Our client does not own the property on Midland or Wildwood where the maps shows the connection. Creekside Subdivsion to the east also had this collector removed from their plat at this location.

It is our goal to be included on the April 10th, 2023 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.

117 South Market St. Benton, Arkansas 72015
501-315-2626
www.hopeconsulting.com

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.citvofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 28 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 28
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.
Phone
Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 28, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACK TO 8'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 28, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 8'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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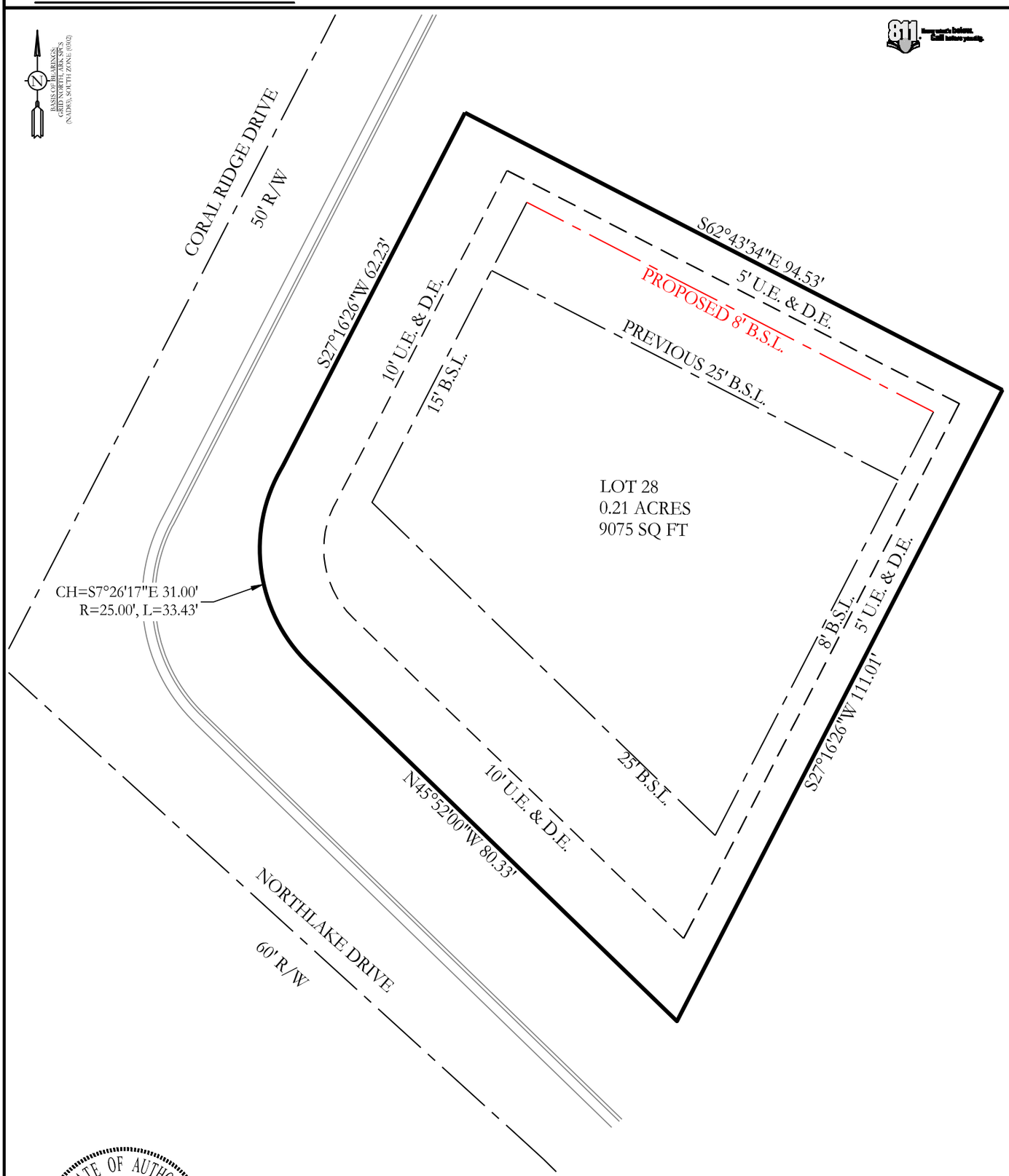
LOT28 CR
Drawing No.



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 28, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

By affixing my seal and signature, I, Jonathan Hope, PS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
This survey is for the exclusive use and benefit of parties shown hereon. Use or duplication of this document by any other parties is prohibited and voids said document.
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 flood plain, according to the Flood Insurance Rate Map,
panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
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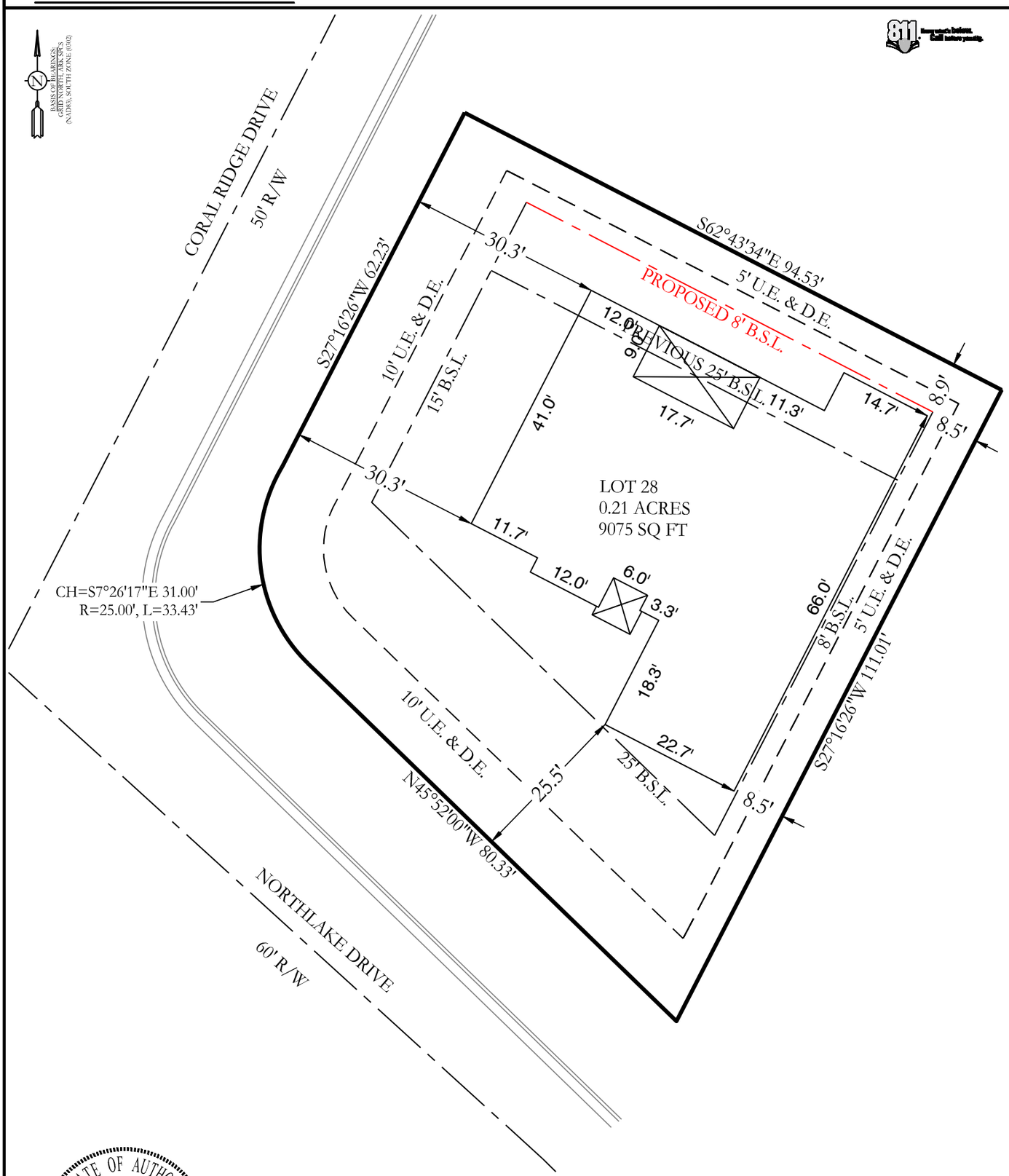
LOT28 CR
Drawing No.



RECORD DESCRIPTION

LOT 28, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 24 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 24
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC
Phone
Address 1930 N. REYNOLD'S RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 24, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACK TO 9.5'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 24, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 9.5'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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ENGINEERS - SURVEYORS

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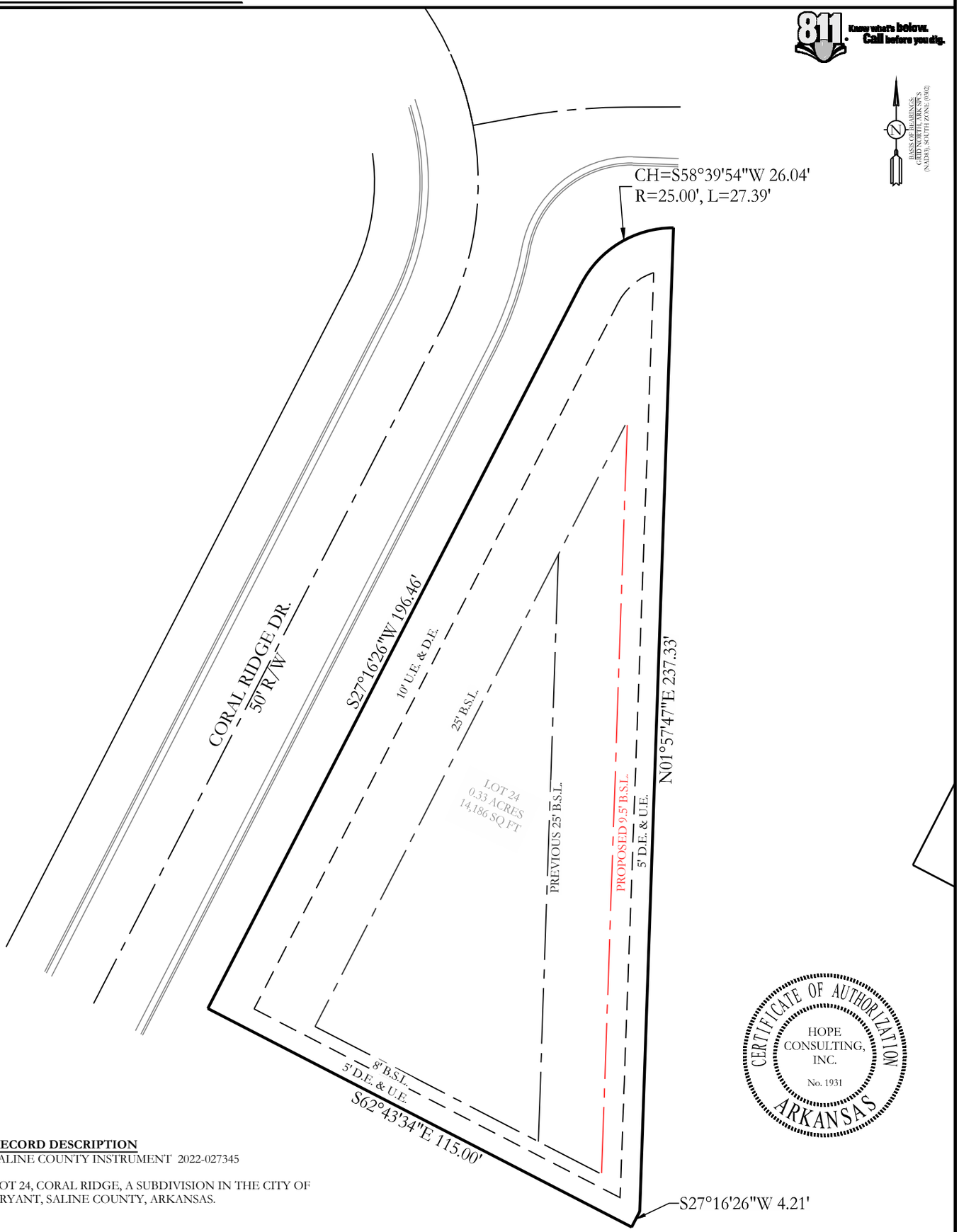
Ph. (501)315-2626 Fax (501)315-0024
www.HopeConsulting.com

22-LOT24RE
Drawing No.

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

BASIS OF BEARINGS:
GRID NORTH, ARKANSAS
(NAD83), SOUTH ZONE (0302)



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION
SALINE COUNTY INSTRUMENT 2022-027345

LOT 24, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

30' 15' 0 30'

REGISTERED
STATE OF ARKANSAS
No. 1664
SIGNATURE
WILLIAM CORBITT R SHOFFNER
PROFESSIONAL LAND SURVEYOR

ORIGINAL SIGNATURE ON FILE

By affixing my seal and signature, I, Corbitt Shoffner, PS No. 1664, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
This survey is for the exclusive use and benefit of parties shown hereon. Use or duplication of this document by any other parties is prohibited and voids said document.
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 flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2022.

For the Exclusive Use and Benefit of:

Oltman's Development, Inc.
Address Lot 24 Coral Ridge Dr.
Bryant, AR
Date 12/21/2022

500	01S	14W	0	07	130	62	1664

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 16 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 16
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.
Phone
Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 16, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACK TO 5'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 16, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 5'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

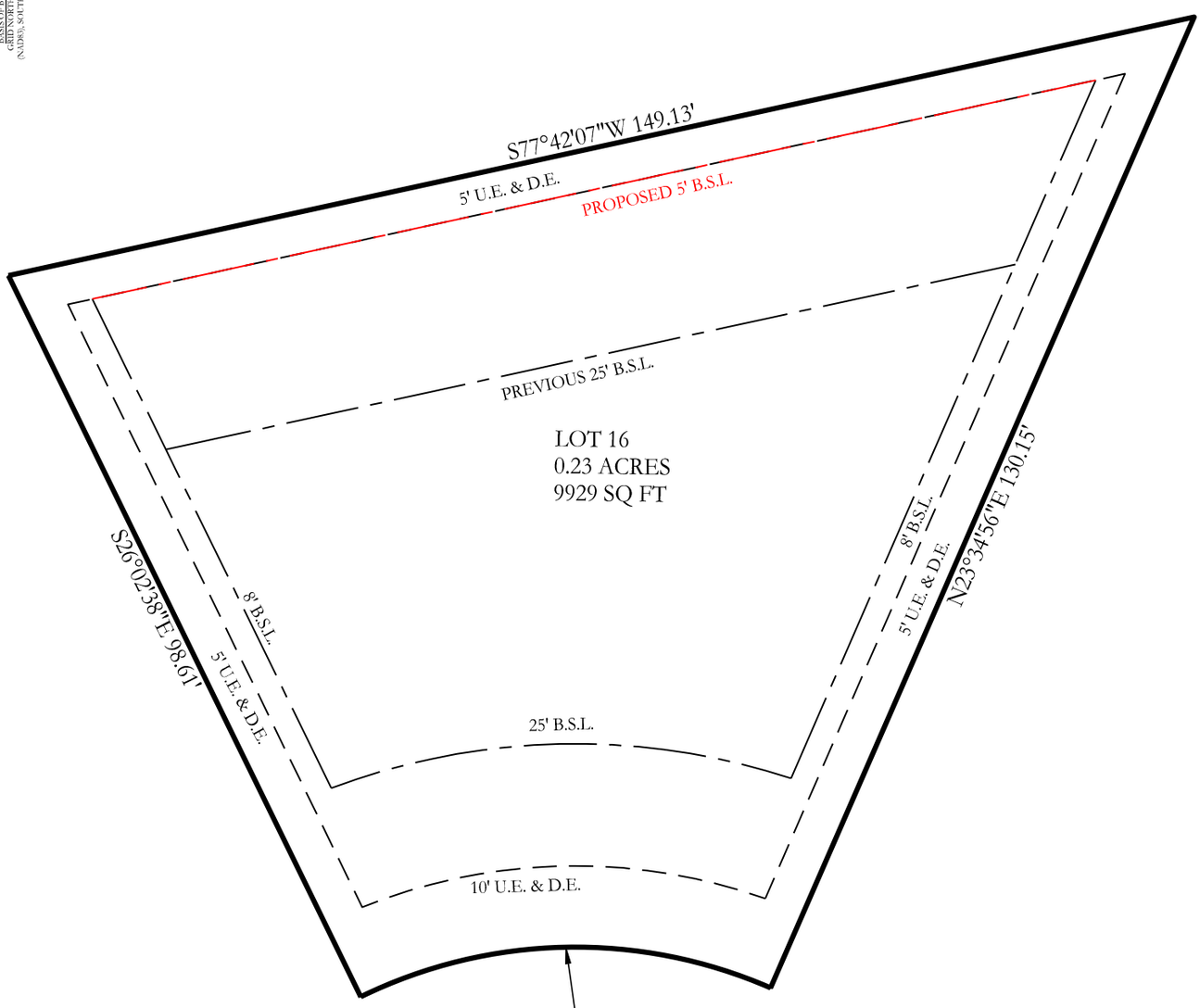
129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

LOT 16CR
Drawing No.

BASIS OF BEARINGS:
GRID NORTH, ARK. SP'S
(NAD83), SOUTH ZONE (0302)



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 16, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

By affixing my seal and signature, I, Jonathan Hope, PS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
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No portion of the property described hereon lies within the 100 year flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

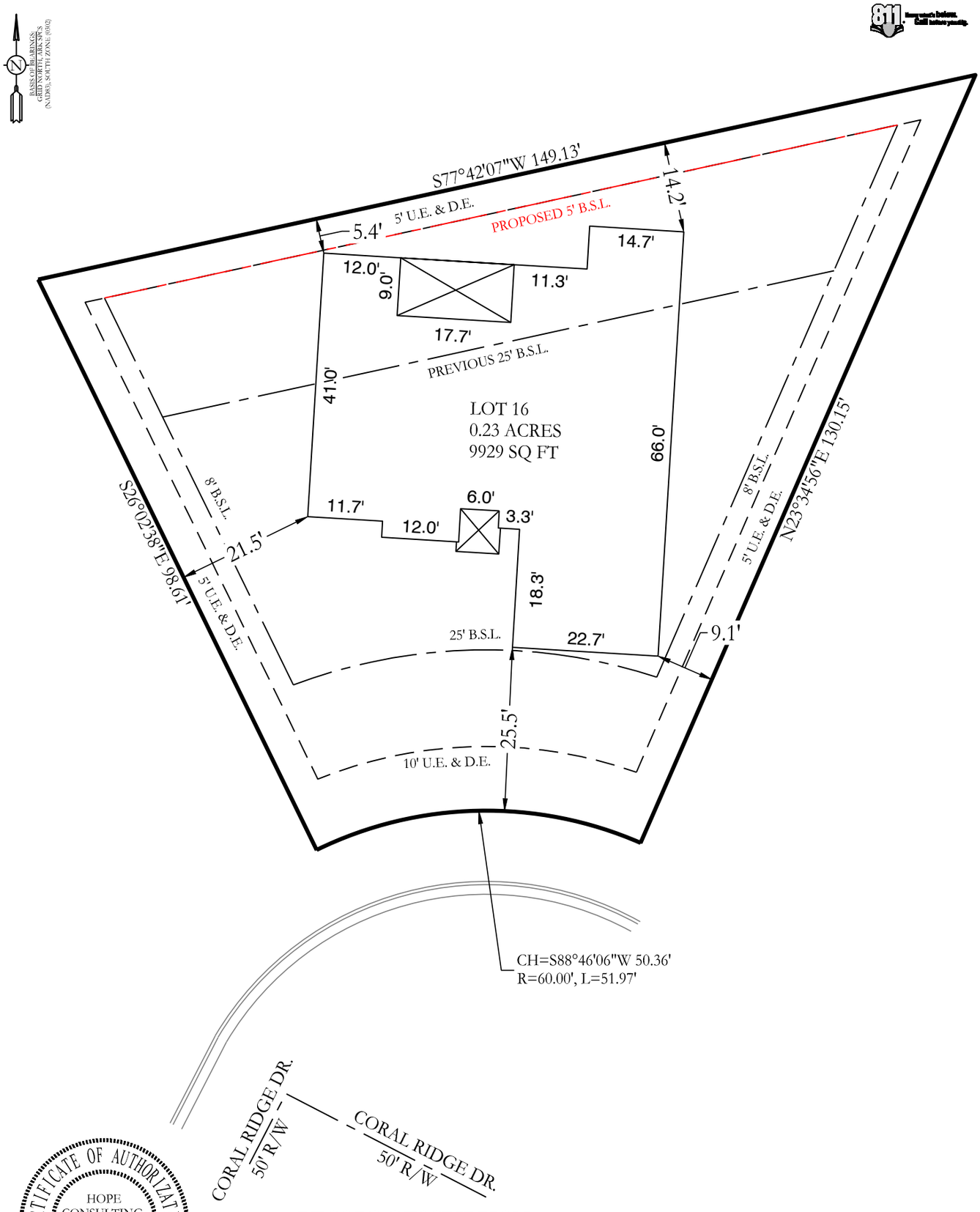
LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

LOT 16CR
Drawing No.



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 16, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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No portion of the property described hereon lies within the 100 year flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE

Address 129 N. MAIN ST., BENTON

Phone 501-315-2626

Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 15 CORAL RIDGE DR. BRYANT, AR.

Parcel Number LOT 15

Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.

Phone

Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT

Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 15, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACKS TO 23' AND 13'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 15, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setbacks be reduced to 23' and 13'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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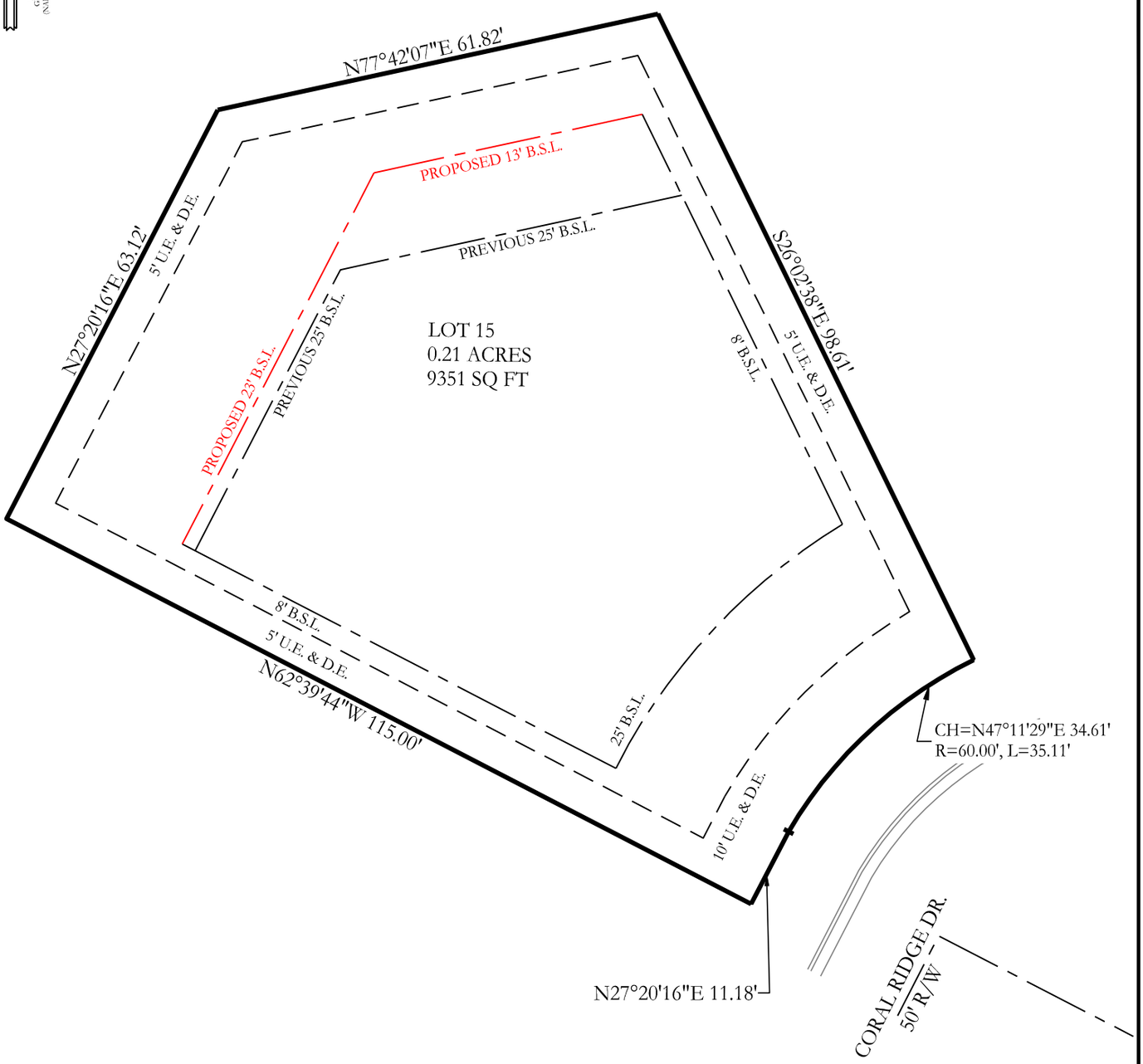
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0245
Drawing No.

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



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 15, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

By affixing my seal and signature, I, Jonathan Hope, PS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
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No portion of the property described hereon lies within the 100 year flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

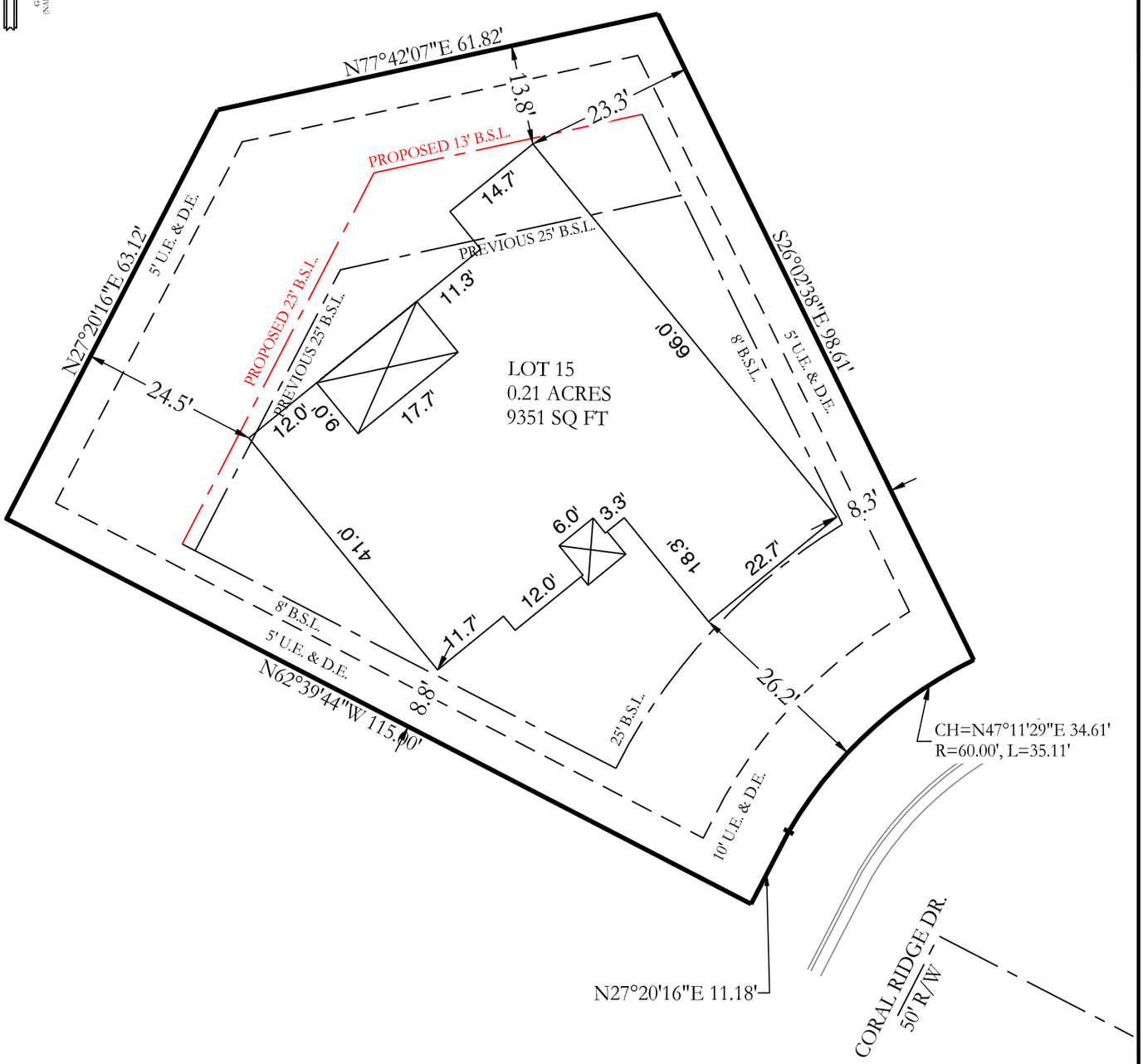
HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0245
Drawing No.

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

BASIS OF BEARINGS:
GRID NORTH, ARK. SPCS
(NAD83), SOUTH ZONE (0302)



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 15, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

By affixing my seal and signature, I, Jonathan Hope, PS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
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No portion of the property described hereon lies within the 100 year flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 11 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 11
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.
Phone
Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 11, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REARSET BACK TO 7',

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 11, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 7'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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ENGINEERS • SURVEYORS

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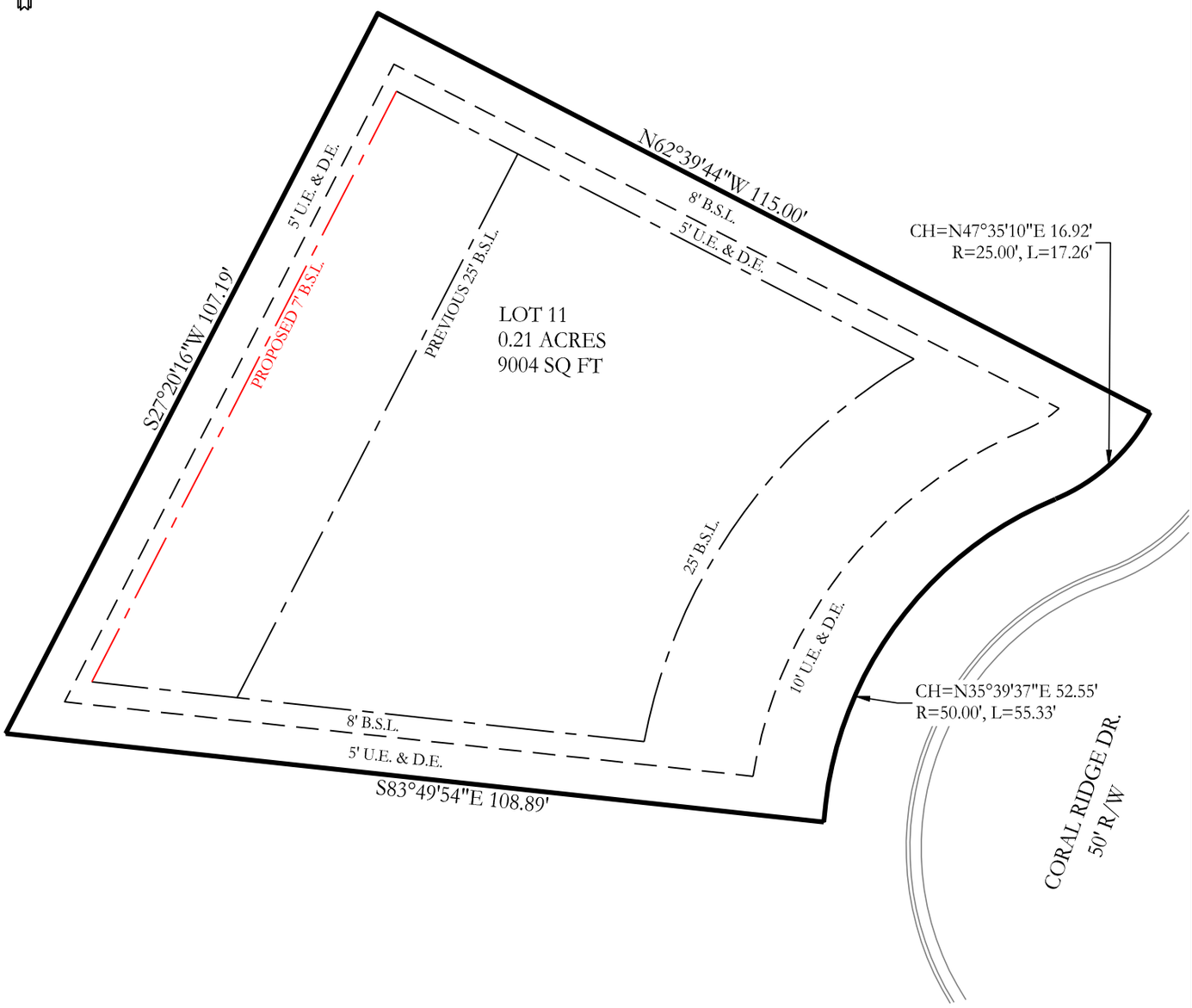
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

LOT 11CR
Drawing No.



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 11, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

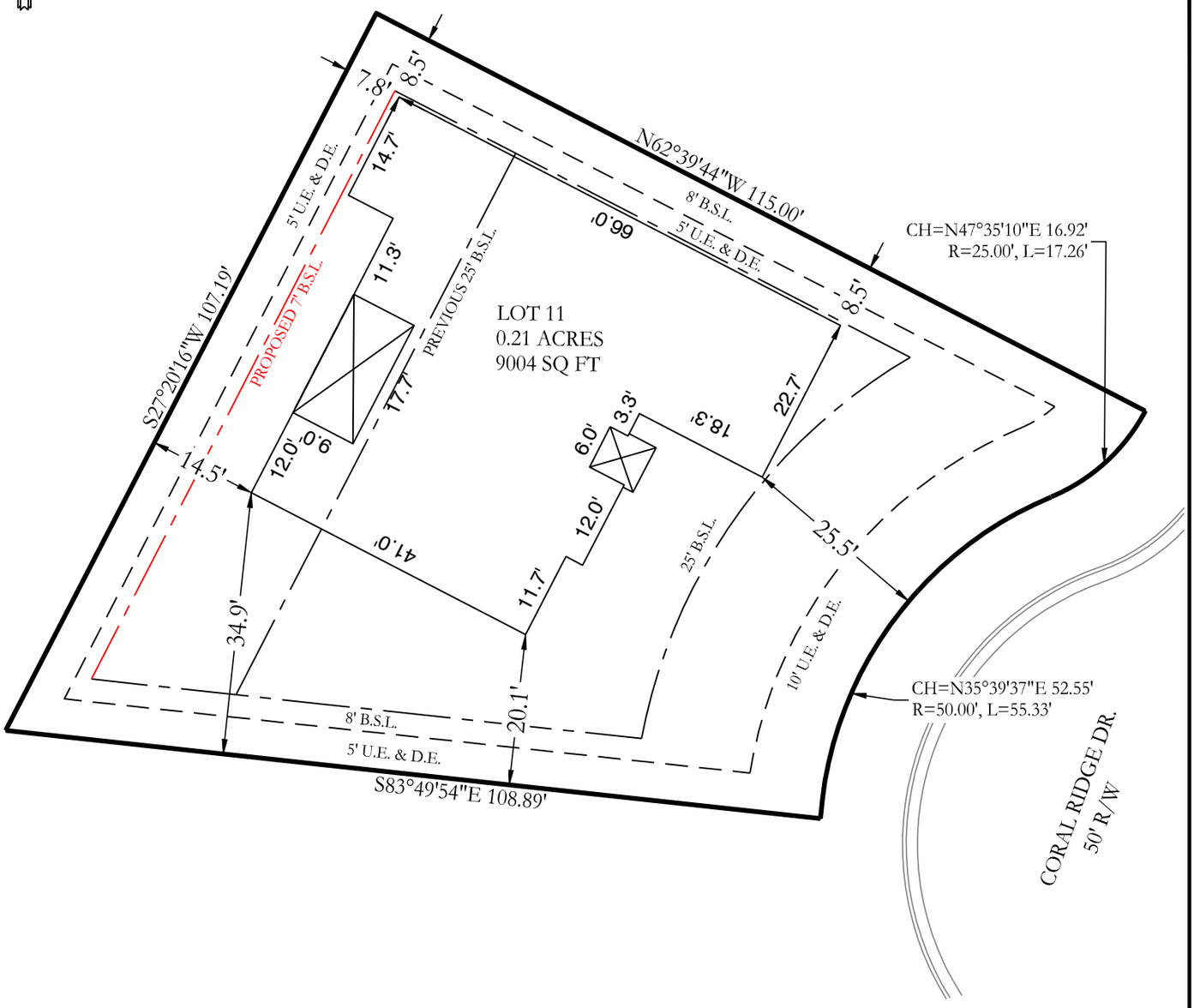
LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

LOT 11CR
Drawing No.



RECORD DESCRIPTION

LOT 11, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 7 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 7
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.
Phone
Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 7, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACK TO 23'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 7, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 23'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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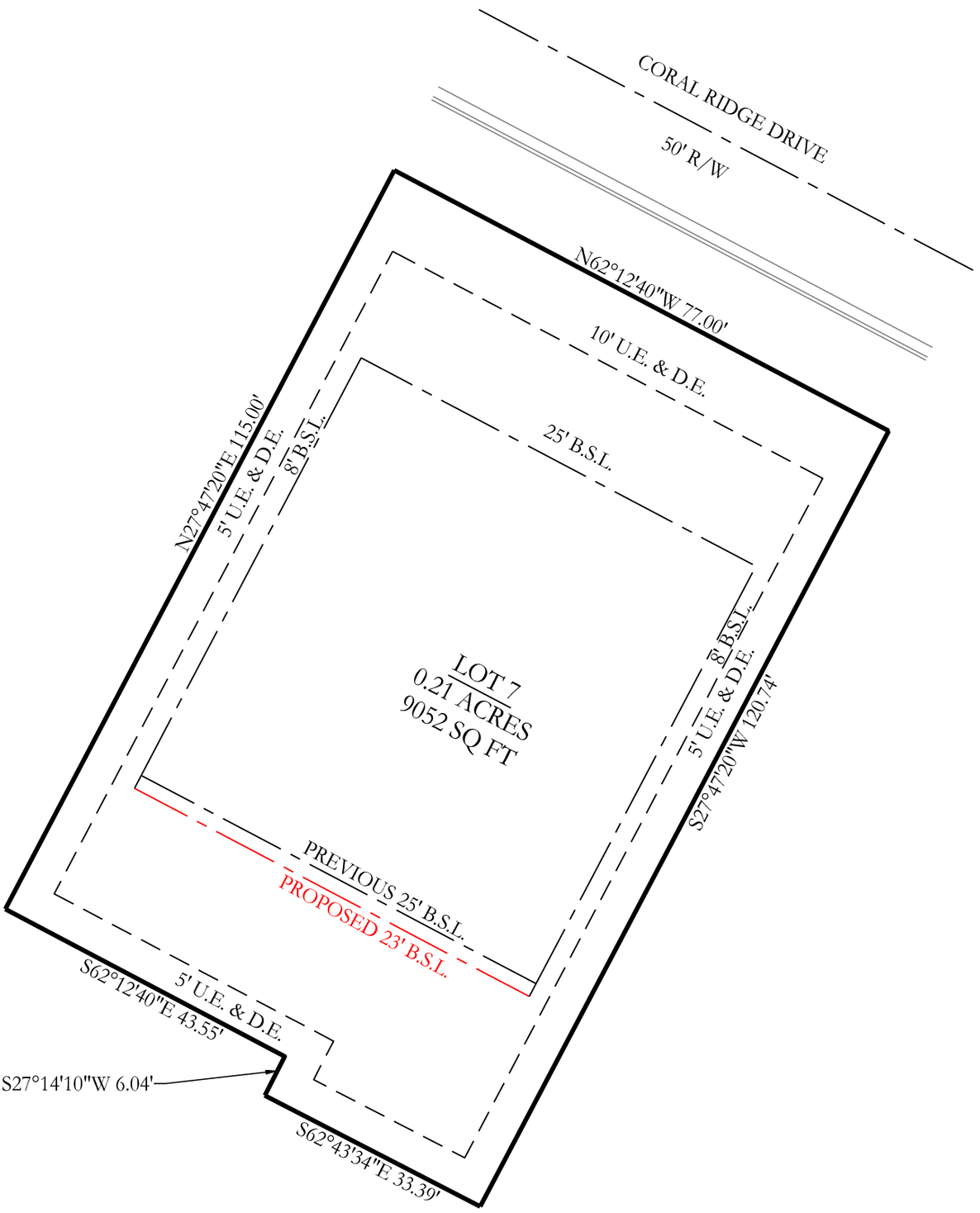
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0220
Drawing No.

BASIS OF BEARINGS:
GRID NORTH, ARK. SPCS
(NAD83), SOUTH ZONE (0302)



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 7, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

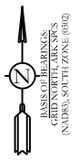
Drawn By MD
Checked By WCS

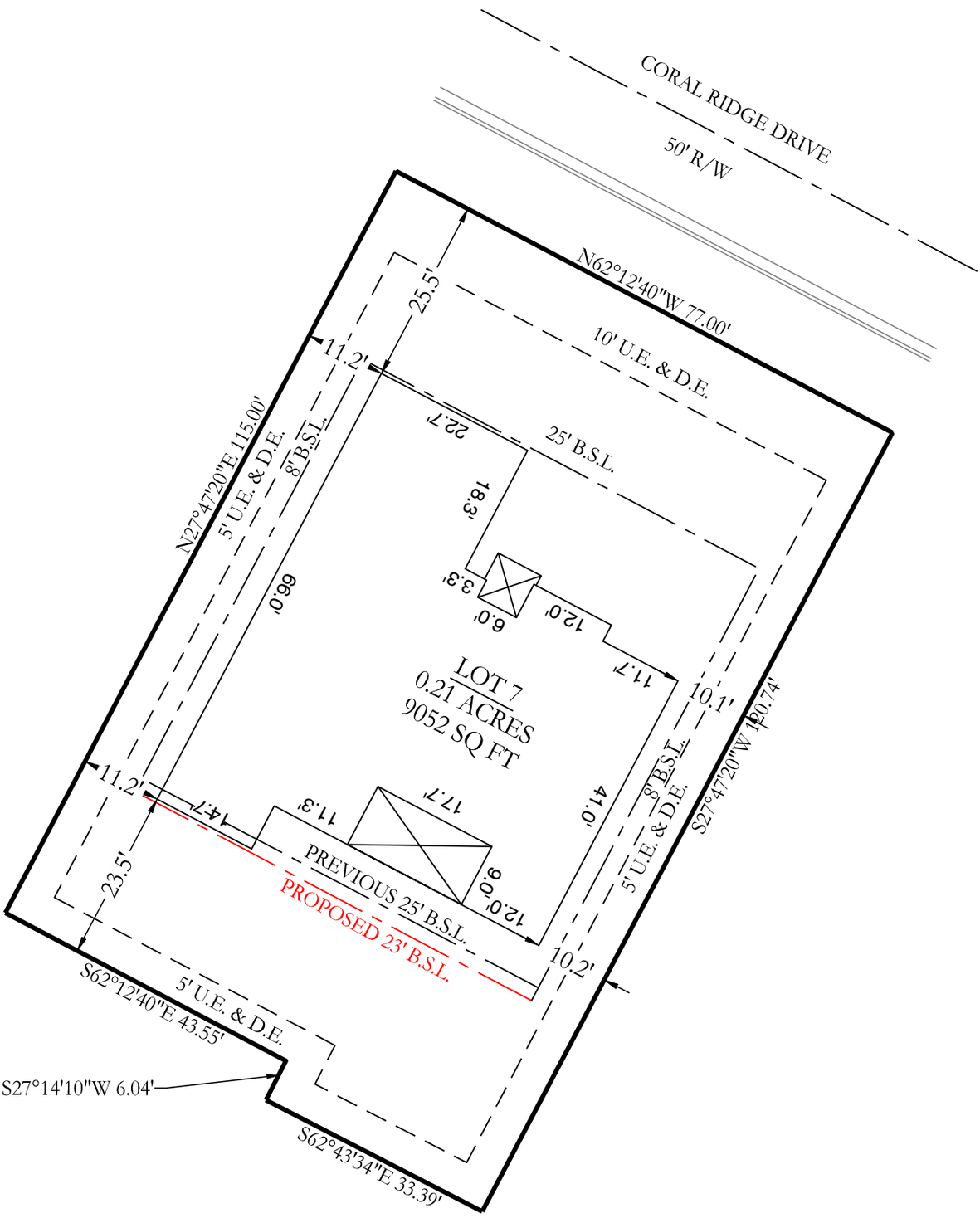
HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0220
Drawing No.

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





CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 7, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

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For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

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

Variance Application

Applicants are advised to read the Board of Adjustment and Variances section of Bryant Zoning Code prior to completing and signing this form. The Zoning Code is available at www.cityofbryant.com under the Planning and Community Development tab.

Date: 3/21/23

Applicant or Designee:

Name JONATHAN HOPE
Address 129 N. MAIN ST., BENTON
Phone 501-315-2626
Email Address: JONATHAN@HOPECONSULTING.COM

Project Location:

Property Address LOT 1 CORAL RIDGE DR. BRYANT, AR.
Parcel Number LOT 1
Zoning Classification R-2

Property Owner (If different from Applicant):

Name OLTMAN'S DEVELOPMENT, INC.
Phone
Address 1930 N. REYNOLDS RD., UNIT 1P, BRYANT
Email Address JEREMIAH.OLTMANS@CRYE-LEIKE.COM

Additional Information:

Legal Description (Attach description if necessary)

LOT 1, CORAL RIDGE, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS

Description of Variance Request (Attach any necessary drawings or images)

REDUCTION OF REAR SETBACK TO 22' AND SIDE SETBACK TO 7'.

Proposed Use of Property R-2

HOPE
CONSULTING
ENGINEERS - SURVEYORS

March 20, 2023

City of Bryant Board of Zoning Adjustments
210 Southwest Third St., Bryant, AR 72022

Dear Board Members,

We would like to request a variance for Lot 1, Coral Ridge Subdivision in Bryant, on behalf of the owner Oltman's Development, Inc. We would like to request that the rear setback be reduced to 22' and the sideset back be reduced to 7'.

Thank you for your consideration in this matter.

Sincerely,

Jonathan Hope

129 North Main St. Benton, Arkansas 72015
www.hopeconsulting.com
(P) 501-315-2626
(F) 501-315-0024

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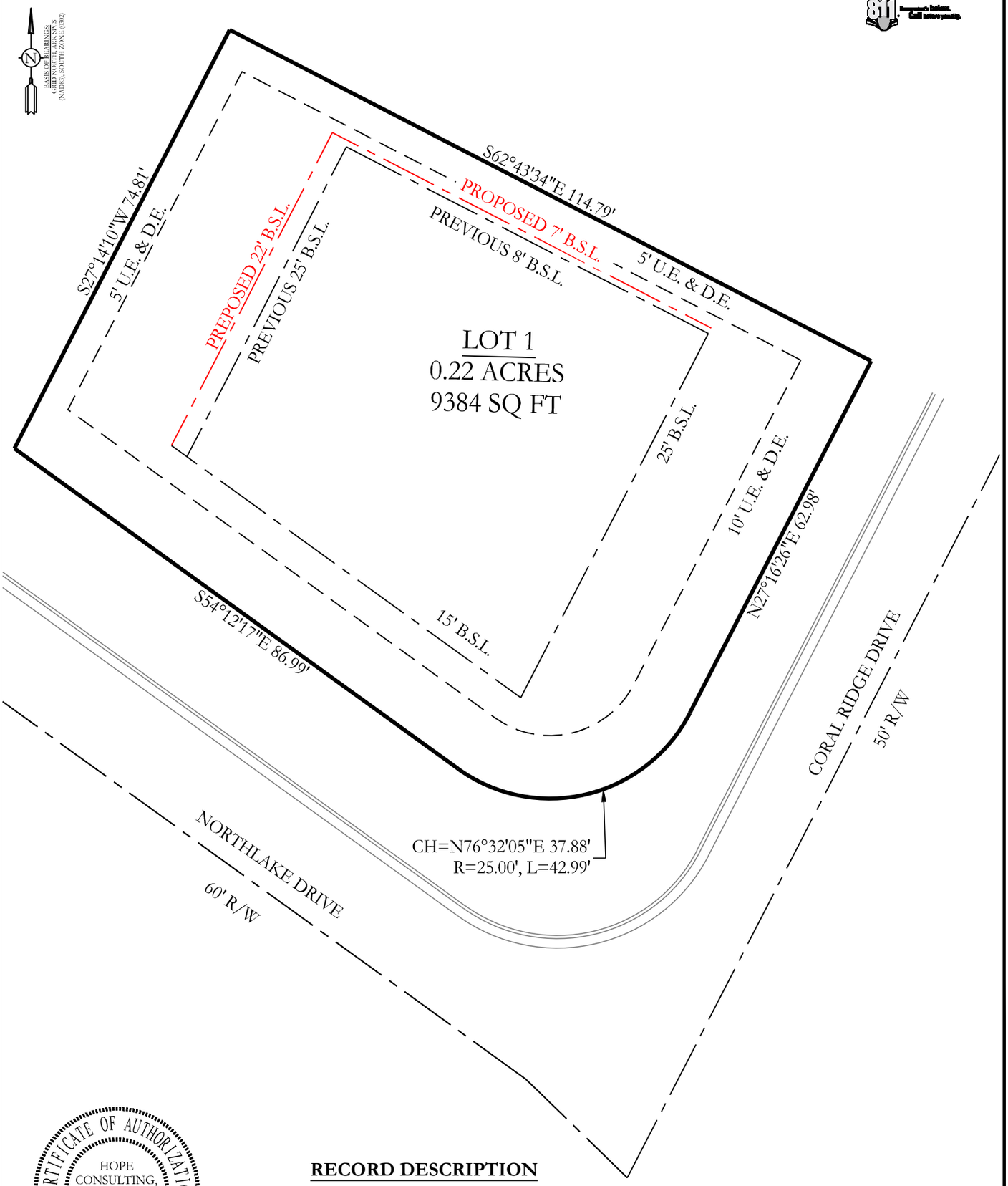
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0221
Drawing No.

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



CERTIFICATE OF AUTHORIZATION
HOPE CONSULTING, INC.
No. 1931
ARKANSAS

RECORD DESCRIPTION

LOT 1, CORAL RIDGE SUBDIVISION, A SUBDIVISION IN THE CITY OF BRYANT, SALINE COUNTY, ARKANSAS.

REGISTERED
STATE OF ARKANSAS
NO. 1762
SIGNATURE
JONATHAN L. HOPE
PROFESSIONAL LAND SURVEYOR

By affixing my seal and signature, I, Jonathan Hope, PS No. 1762, hereby certify that this drawing correctly depicts a survey compiled under my supervision.
This survey is for the exclusive use and benefit of parties shown hereon. Use or duplication of this document by any other parties is prohibited and voids said document.
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 flood plain, according to the Flood Insurance Rate Map, panel # 05125C0225E , dated: 06/05/2020.

For the Exclusive Use and Benefit of:
Oltman's Development Inc.

Address Coral Ridge Dr.
Bryant, AR
Date DATE

500	01S	14W	0	07	130	62	1664

20' 10' 0 20'

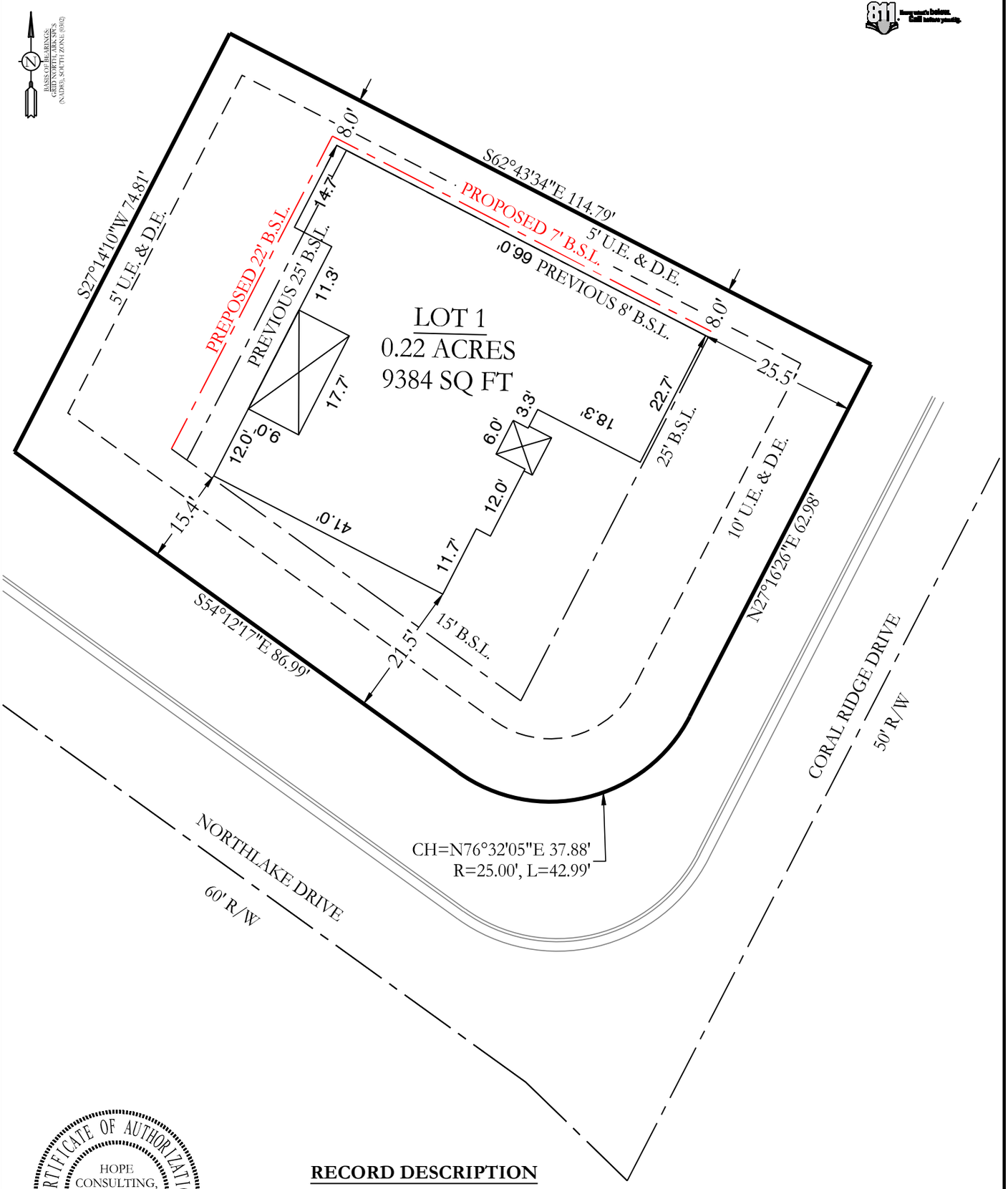
LEGEND
- Computed Point
- Found monument
- Set 1/2" Rebar #1664
(M) - Measured
(D/P) - Record

Drawn By MD
Checked By WCS

HOPE CONSULTING
ENGINEERS • SURVEYORS

129 N. Main Street, Benton, Arkansas 72015
Ph. (501) 315-2626 Fax (501)315-0024
www.HopeConsulting.com

23-0221
Drawing No.



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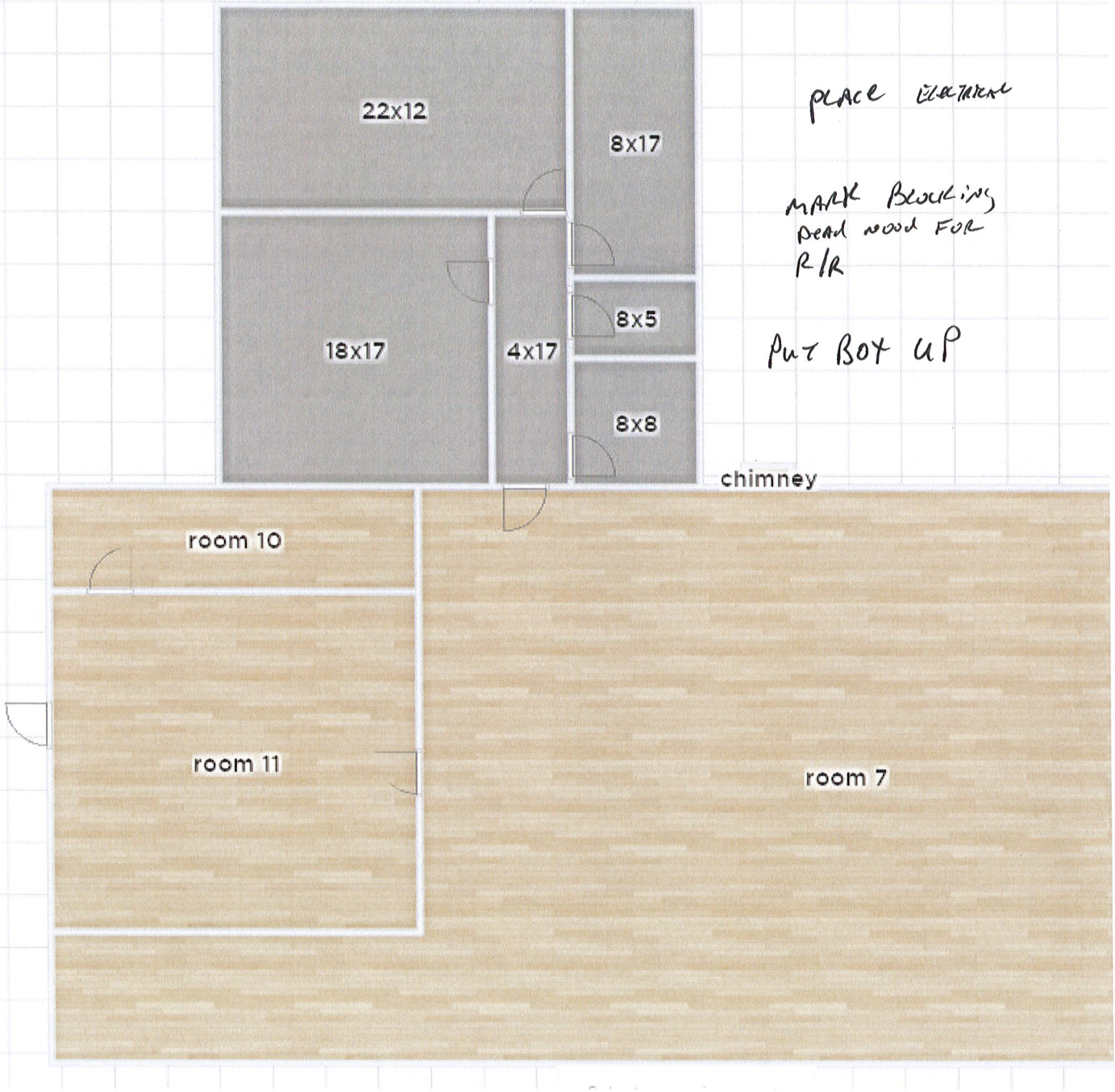

PLACE ELECTRICAL

MARK BLOCKING
DEAD WOOD FOR
R/R

PUT BOX UP

2 1/2 months


School Dr
School Dr