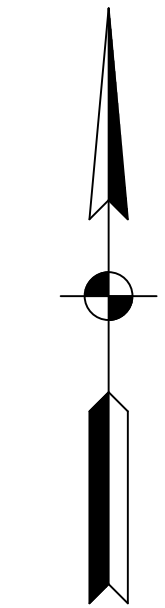
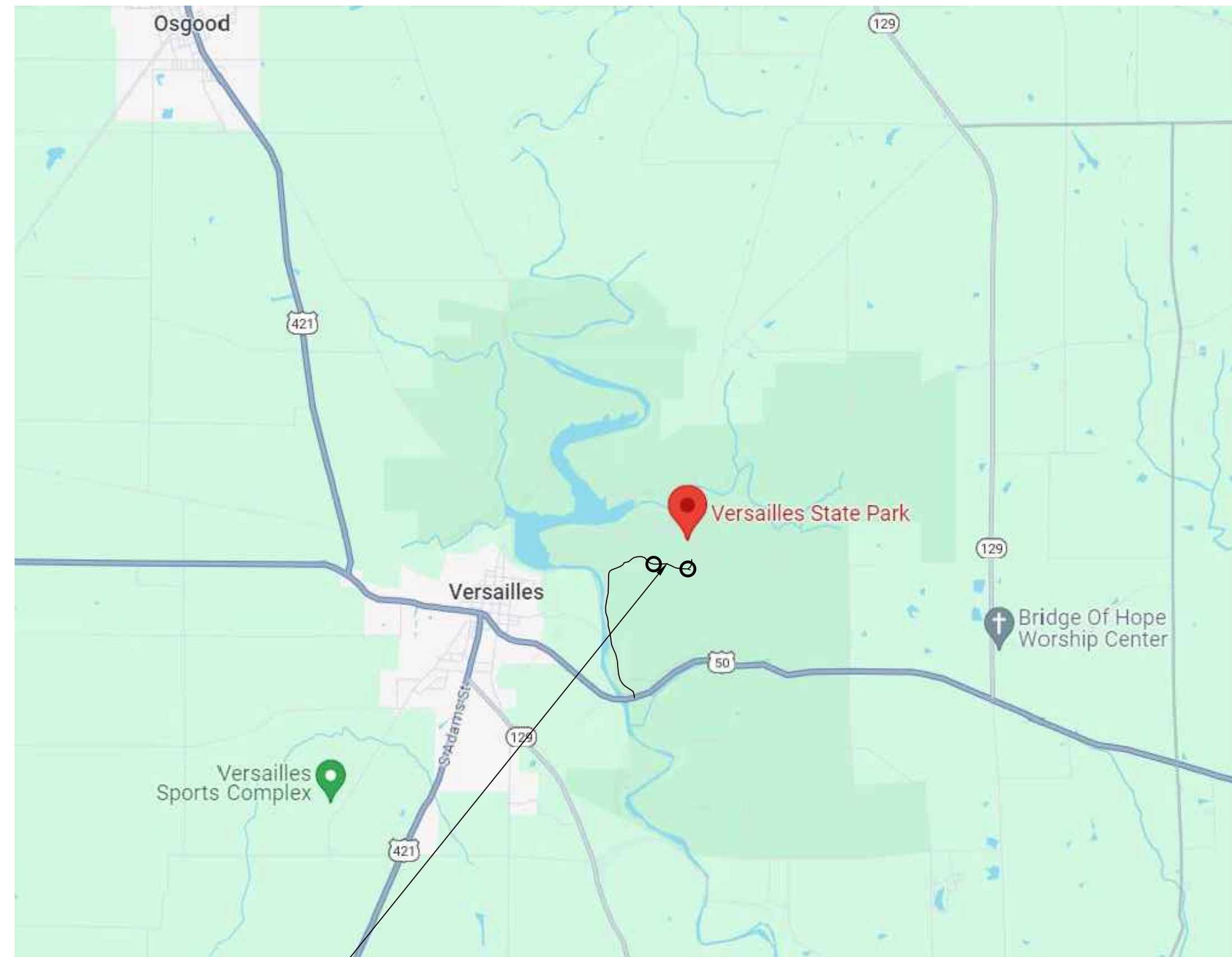
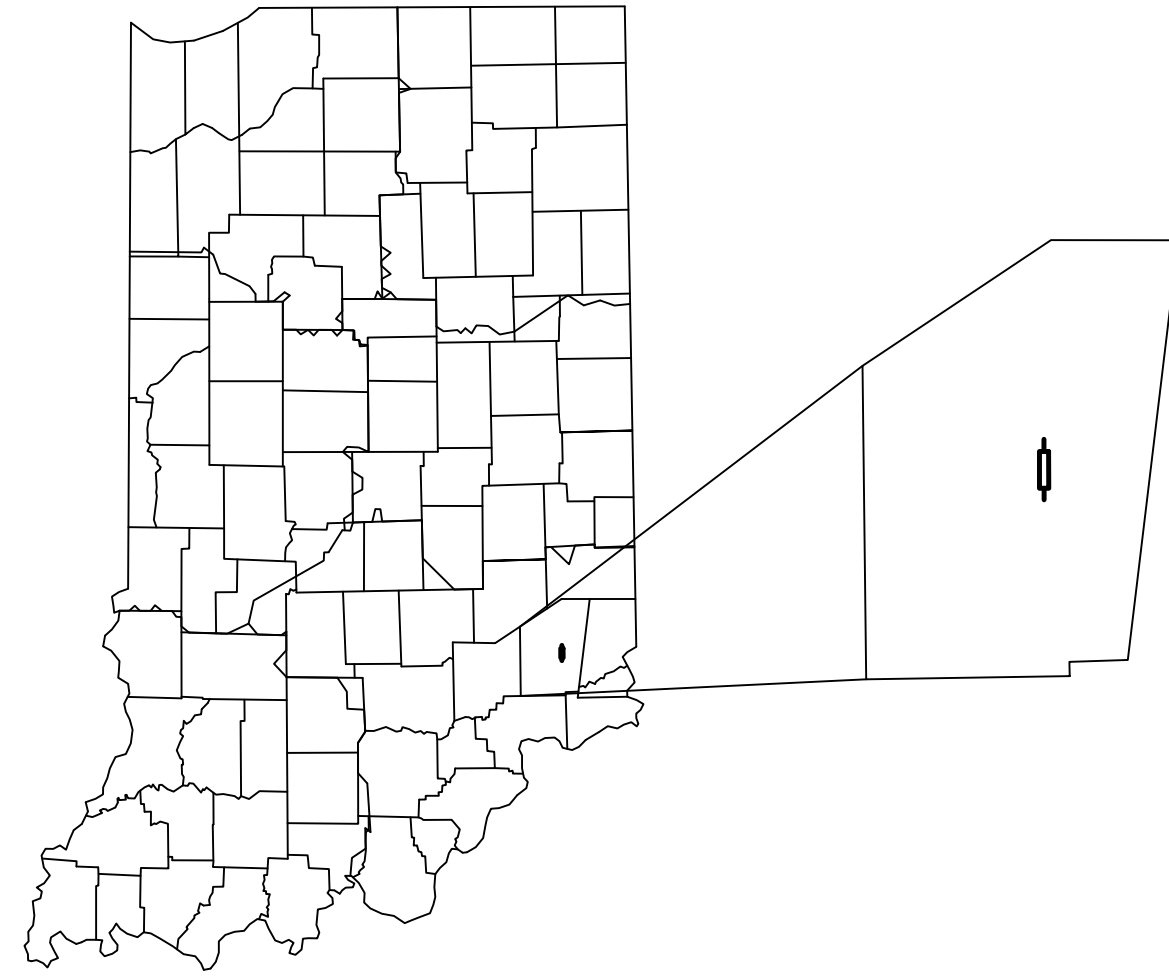


INDIANA DEPARTMENT OF ADMINISTRATION PUBLIC WORKS DIVISION

PUBLIC WORKS PROJECT NO. ENG2603744009 DNR - VERSAILLES STATE PARK DRAINAGE IMPROVEMENTS



Scale: NTS



Sheet List Table	
Sheet Number	Sheet Title
1	TITLE SHEET
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3	SITE 1 - EXISTING CONDITIONS
4	SITE 1 - OVERALL PLAN
5	SITE 1 - GENERAL PLAN
6	SITE 1 - ABI STAIR DETAIL
7	SITE 1 - (STREAM CROSS-SECTIONS 1 OF 3)
8	SITE 1 - (STREAM CROSS-SECTIONS 2 OF 3)
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14	SITE 2 - CONSTRUCTION DETAILS
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16	SITE 2 - GENERAL PLAN (2 OF 2)
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18	SITE 2 - (STREAM CROSS-SECTIONS 2 OF 2)
19	EROSION CONTROL DETAILS

UTILITY NOTES

NOTE 1: All utilities depicted are at "Quality Level B" and "Quality Level C".

NOTE 2: "Quality Level B" utility locates are based on markings provided by others. There is no guarantee as to the accuracy or completeness of these markings. Existing utility depths shown on profiles and cross sections are shown for reference purposes only and are based on what may be considered standard bury depths. The exact depth of existing utilities is uncertain and should be field verified by the contractor as needed.

NOTE 3: "Quality Level C" utility locates are based on visible surface features which have been surveyed such as hydrants, valve boxes, meter boxes or other items related to a utility.

NOTE 4: Utility quality level designations are based on ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data).

PROJECT LOCATION

This project is located in Versailles State Park approximately 1.5 mi North of the Park Entrance and US 50, in Ripley County, Indiana

PLANS PREPARED BY:

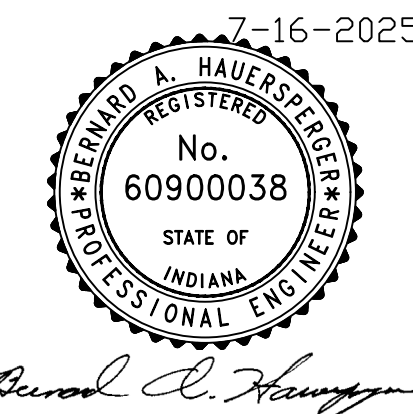


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North Vernon, IN 47265

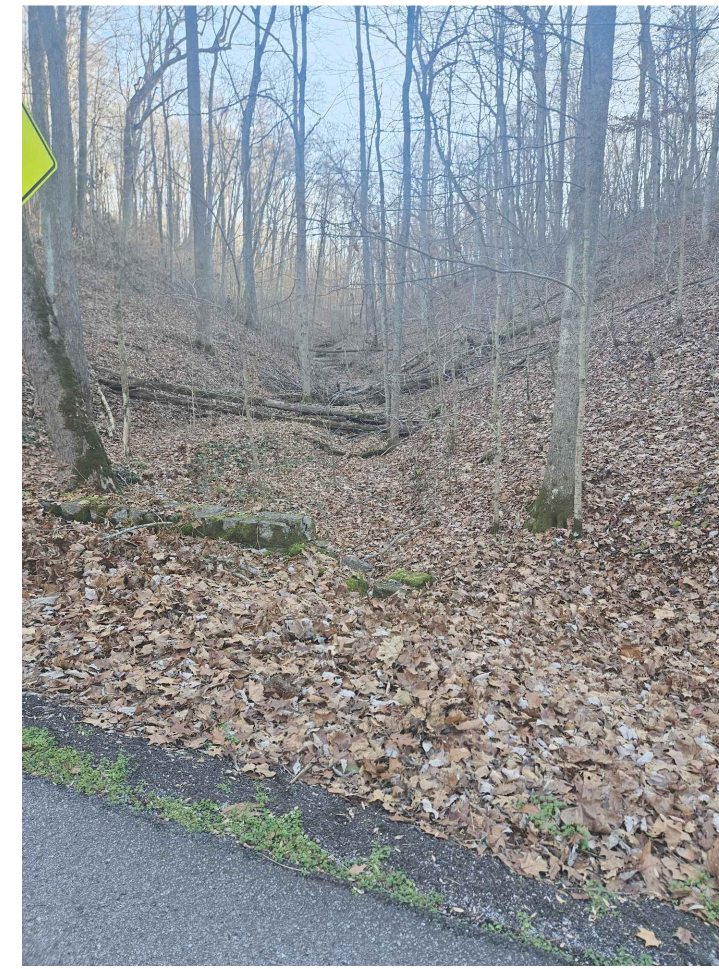
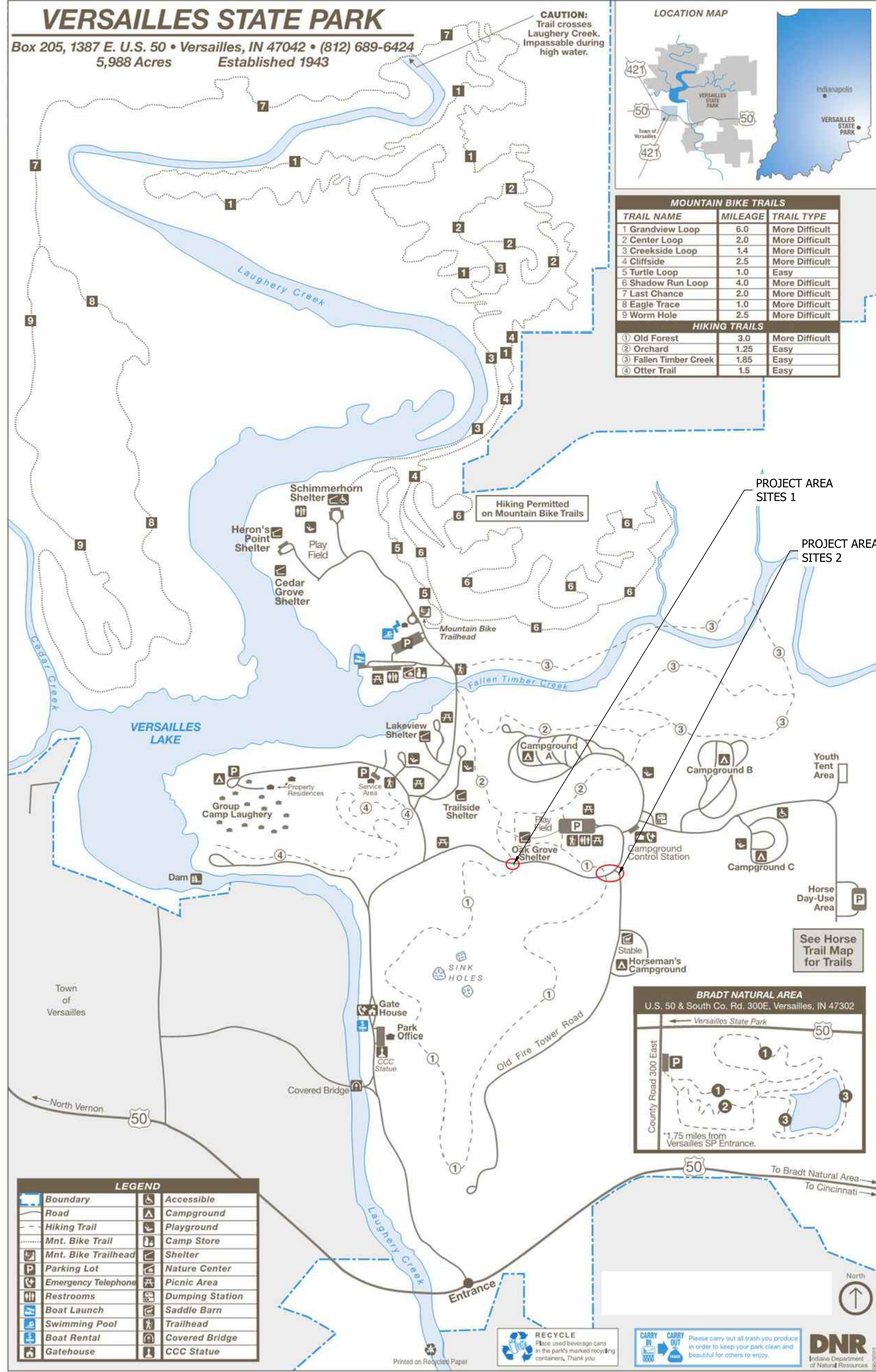
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www.fpbhonline.com



Bernard A. Hauer

PREPARED FOR: INDIANA DEPARTMENT OF NATURAL RESOURCES
PROJECT DESCRIPTION: VERSAILLES SP
FILE NUMBER: 2313067
DATE: JULY 16, 2025
DESIGN PHASE: BIDDING PLANS
PAPER SIZE: PLOT SHEETS TO SCALE ON ANSI D 22" X 34"



SITE 1 - US END OF 48" CULVERT
(LOOKING SOUTH)



SITE 1 - DS END OF 48" CULVERT
(LOOKING EAST)



SITE 1 - EXISTING CHANNEL
(LOOKING WEST)



SITE 1 - EXISTING BANK
(LOOKING WEST)



SITE 2 - US END OF 24" CULVERT
(LOOKING NORTH)



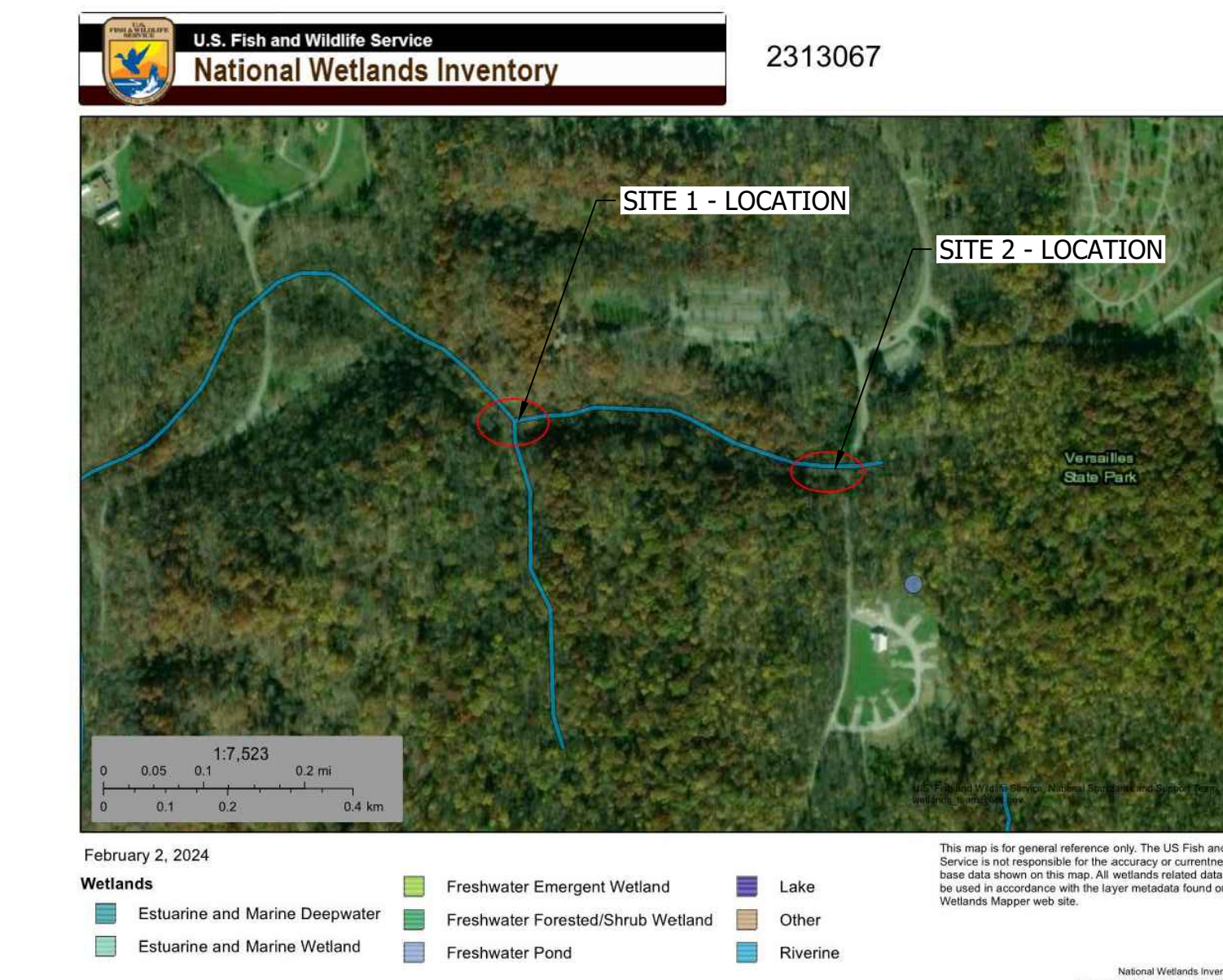
SITE 2 - US END OF BOX CULVERT
(LOOKING NORTH)



SITE 2 - DS END OF CULVERTS
(LOOKING EAST)



SITE 2 - DS END OF BOX CULVERT
(LOOKING SOUTHEAST)



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7-16-2025

REGISTERED PROFESSIONAL ENGINEER
No. 60900038
STATE OF INDIANA

Arnold C. Heunggen

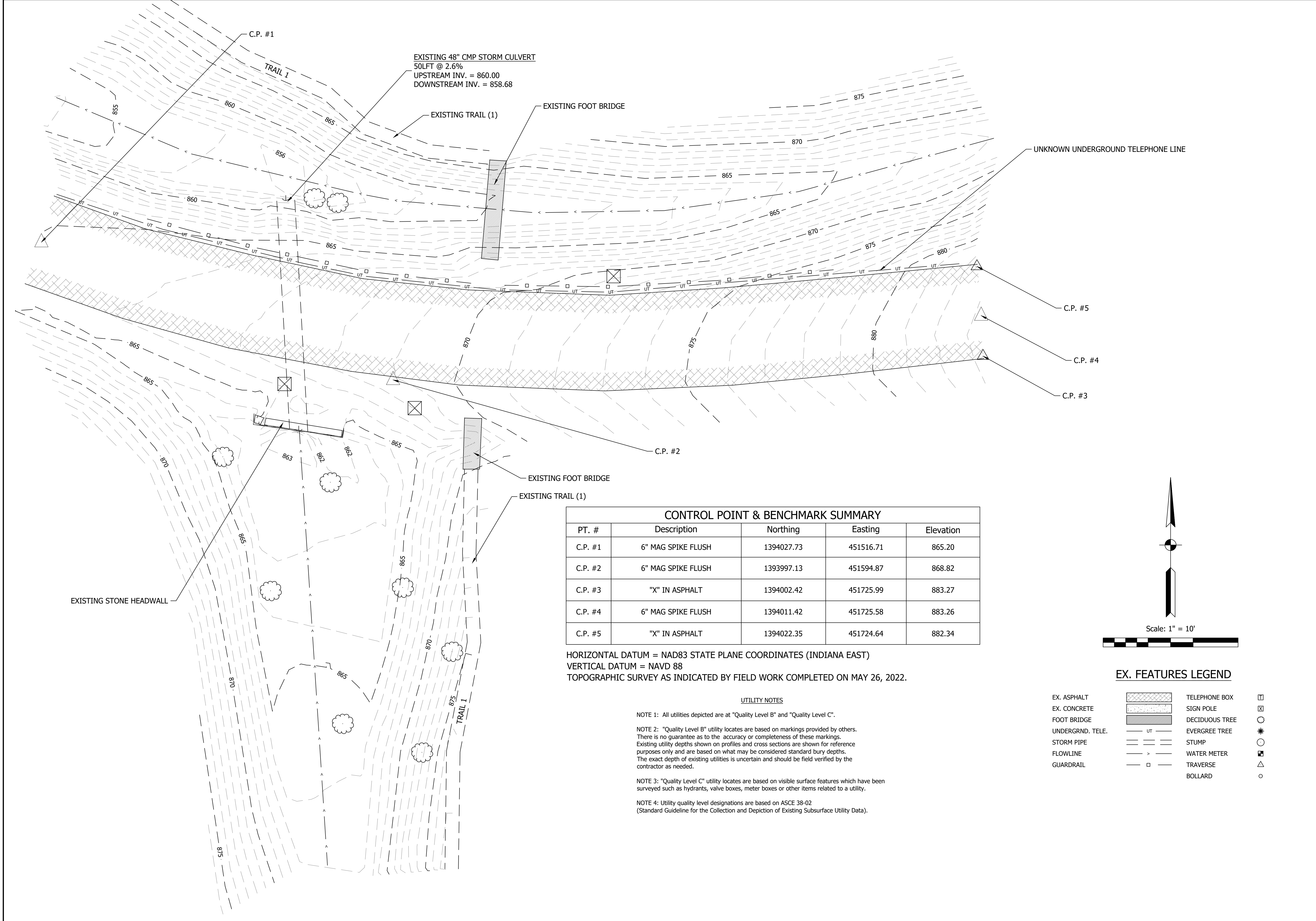
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DRAWN BY: ARC
CHECKED BY: CLK,BAH
DATE: JULY 16, 2025

Revision	Drawn By	Date

FILE NO: 2313067
CLIENT NAME: INDIANA DEPARTMENT OF NATURAL RESOURCES
PROJECT DESCRIPTION: VERSAILLES SP

SHEET TITLE: OVERVIEW
DESIGN PHASE: BIDDING PLANS

SHEET NUMBER:
2



EXISTING 48" CMP STORM CULVERT
 50LFT @ 2.6%
 UPSTREAM INV. = 860.00
 DOWNSTREAM INV. = 858.68

EXISTING TRAIL (1)

EXISTING FOOT BRIDGE

UNKNOWN UNDERGROUND TELEPHONE LINE

C.P. #5

C.P. #4

C.P. #3

C.P. #2

EXISTING FOOT BRIDGE

EXISTING TRAIL (1)

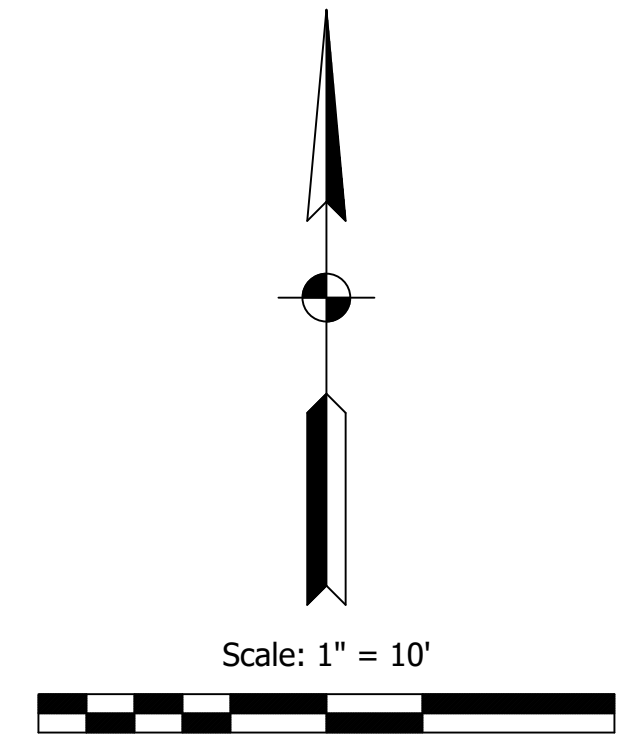
EXISTING STONE HEADWALL

CONTROL POINT & BENCHMARK SUMMARY				
PT. #	Description	Northing	Easting	Elevation
C.P. #1	6" MAG SPIKE FLUSH	1394027.73	451516.71	865.20
C.P. #2	6" MAG SPIKE FLUSH	1393997.13	451594.87	868.82
C.P. #3	"X" IN ASPHALT	1394002.42	451725.99	883.27
C.P. #4	6" MAG SPIKE FLUSH	1394011.42	451725.58	883.26
C.P. #5	"X" IN ASPHALT	1394022.35	451724.64	882.34

HORIZONTAL DATUM = NAD83 STATE PLANE COORDINATES (INDIANA EAST)
 VERTICAL DATUM = NAVD 88
 TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON MAY 26, 2022.

UTILITY NOTES

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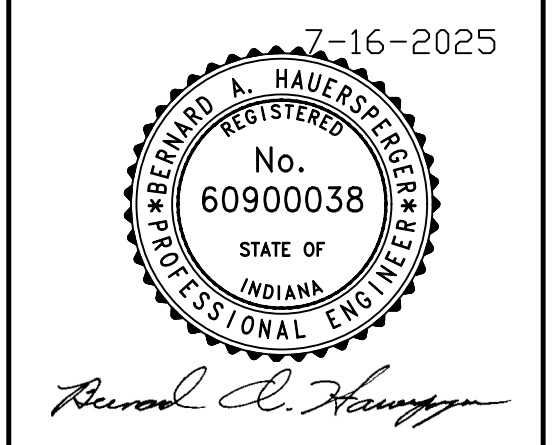
EX. FEATURES LEGEND

- | | | | |
|------------------|--|----------------|--|
| EX. ASPHALT | | TELEPHONE BOX | |
| EX. CONCRETE | | SIGN POLE | |
| FOOT BRIDGE | | DECIDUOUS TREE | |
| UNDERGRND. TELE. | | EVERGREE TREE | |
| STORM PIPE | | STUMP | |
| FLOWLINE | | WATER METER | |
| GUARDRAIL | | TRAVERSE | |
| | | BOLLARD | |

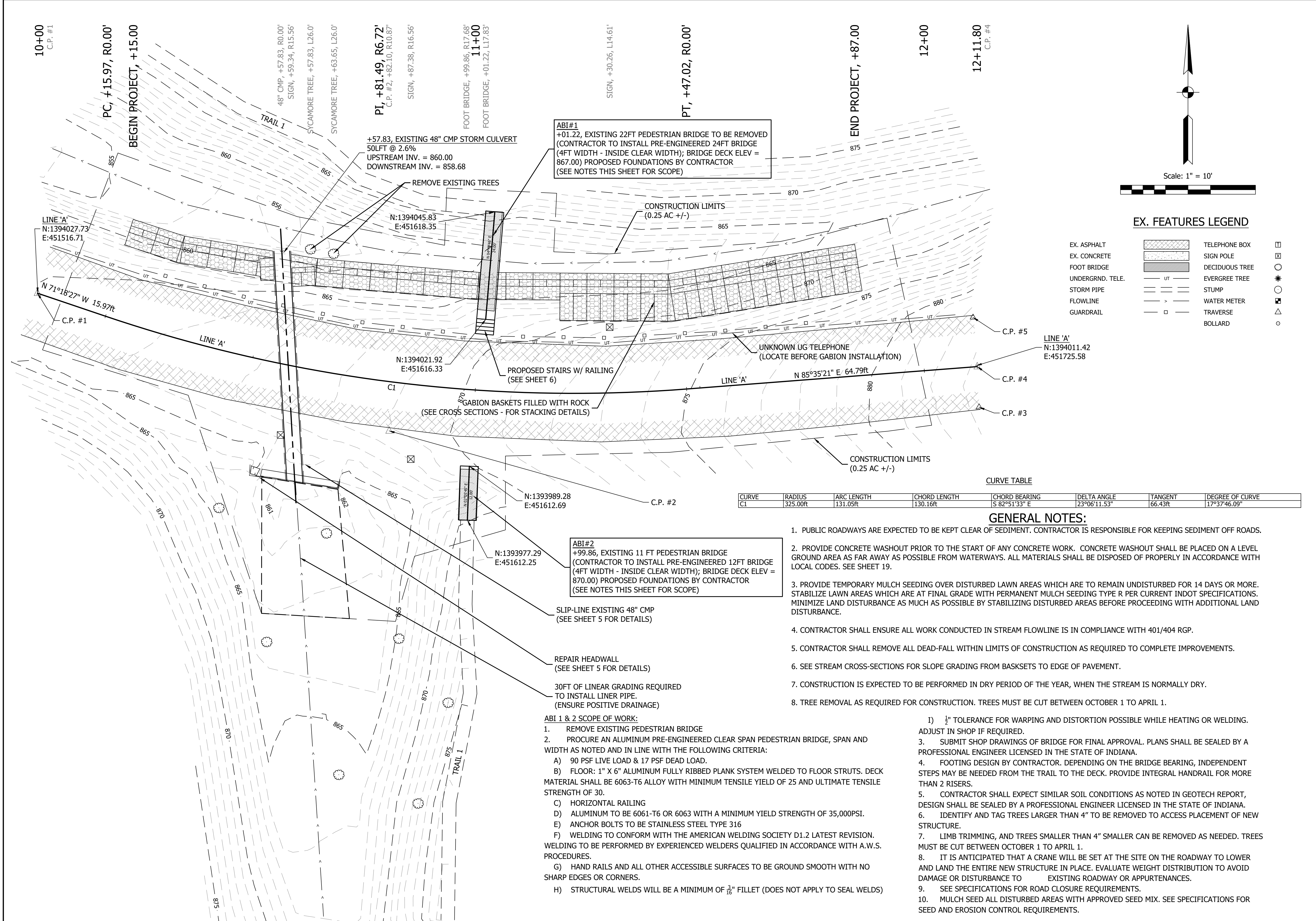
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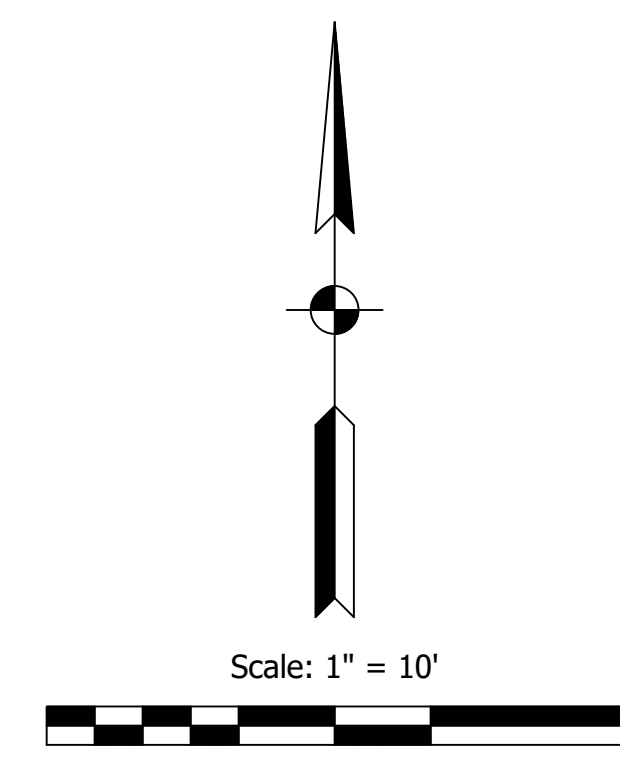


SCALE: 1" = 10'		
DRAWN BY: ARC		
CHECKED BY: CLK,BAH		
DATE: JULY 16, 2025		
Revision	Drawn By	Date
FILE NO: 2313067		
CLIENT NAME: INDIANA DEPARTMENT OF NATURAL RESOURCES		
PROJECT DESCRIPTION: VERSAILLES SP		
SHEET TITLE: SITE 1 - EXISTING CONDITIONS		
DESIGN PHASE: BIDDING PLANS		
SHEET NUMBER: 3		



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EX. FEATURES LEGEND

EX. ASPHALT		TELEPHONE BOX	
EX. CONCRETE		SIGN POLE	
FOOT BRIDGE		DECIDUOUS TREE	
UNDERGRND. TELE.		EVERGREE TREE	
STORM PIPE		STUMP	
FLOWLINE		WATER METER	
GUARDRAIL		TRAVERSE	
		BOLLARD	

CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE	TANGENT	DEGREE OF CURVE
C1	325.00ft	131.05ft	130.16ft	S 82°51'33" E	23°06'11.53"	66.43ft	17°37'46.09"

GENERAL NOTES:

- PUBLIC ROADWAYS ARE EXPECTED TO BE KEPT CLEAR OF SEDIMENT. CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT OFF ROADS.
- PROVIDE CONCRETE WASHOUT PRIOR TO THE START OF ANY CONCRETE WORK. CONCRETE WASHOUT SHALL BE PLACED ON A LEVEL GROUND AREA AS FAR AWAY AS POSSIBLE FROM WATERWAYS. ALL MATERIALS SHALL BE DISPOSED OF PROPERLY IN ACCORDANCE WITH LOCAL CODES. SEE SHEET 19.
- PROVIDE TEMPORARY MULCH SEEDING OVER DISTURBED LAWN AREAS WHICH ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR MORE. STABILIZE LAWN AREAS WHICH ARE AT FINAL GRADE WITH PERMANENT MULCH SEEDING TYPE R PER CURRENT INDOT SPECIFICATIONS. MINIMIZE LAND DISTURBANCE AS MUCH AS POSSIBLE BY STABILIZING DISTURBED AREAS BEFORE PROCEEDING WITH ADDITIONAL LAND DISTURBANCE.
- CONTRACTOR SHALL ENSURE ALL WORK CONDUCTED IN STREAM FLOWLINE IS IN COMPLIANCE WITH 401/404 RGP.
- CONTRACTOR SHALL REMOVE ALL DEAD-FALL WITHIN LIMITS OF CONSTRUCTION AS REQUIRED TO COMPLETE IMPROVEMENTS.
- SEE STREAM CROSS-SECTIONS FOR SLOPE GRADING FROM BASKSETS TO EDGE OF PAVEMENT.
- CONSTRUCTION IS EXPECTED TO BE PERFORMED IN DRY PERIOD OF THE YEAR, WHEN THE STREAM IS NORMALLY DRY.
- TREE REMOVAL AS REQUIRED FOR CONSTRUCTION. TREES MUST BE CUT BETWEEN OCTOBER 1 TO APRIL 1.

ABI #1 & 2 SCOPE OF WORK:

- REMOVE EXISTING PEDESTRIAN BRIDGE
- PROCURE AN ALUMINUM PRE-ENGINEERED CLEAR SPAN PEDESTRIAN BRIDGE, SPAN AND WIDTH AS NOTED AND IN LINE WITH THE FOLLOWING CRITERIA:
 - 90 PSF LIVE LOAD & 17 PSF DEAD LOAD.
 - FLOOR: 1" X 6" ALUMINUM FULLY RIBBED PLANK SYSTEM WELDED TO FLOOR STRUTS. DECK MATERIAL SHALL BE 6063-T6 ALLOY WITH MINIMUM TENSILE YIELD OF 25 AND ULTIMATE TENSILE STRENGTH OF 30.
 - HORIZONTAL RAILING
 - ALUMINUM TO BE 6061-T6 OR 6063 WITH A MINIMUM YIELD STRENGTH OF 35,000PSI.
 - ANCHOR BOLTS TO BE STAINLESS STEEL TYPE 316
 - WELDING TO CONFORM WITH THE AMERICAN WELDING SOCIETY D1.2 LATEST REVISION. WELDING TO BE PERFORMED BY EXPERIENCED WELDERS QUALIFIED IN ACCORDANCE WITH A.W.S. PROCEDURES.
 - HAND RAILS AND ALL OTHER ACCESSIBLE SURFACES TO BE GROUND SMOOTH WITH NO SHARP EDGES OR CORNERS.
 - STRUCTURAL WELDS WILL BE A MINIMUM OF 3/16" FILLET (DOES NOT APPLY TO SEAL WELDS)

- 1/2" TOLERANCE FOR WARPING AND DISTORTION POSSIBLE WHILE HEATING OR WELDING. ADJUST IN SHOP IF REQUIRED.
- SUBMIT SHOP DRAWINGS OF BRIDGE FOR FINAL APPROVAL. PLANS SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF INDIANA.
- FOOTING DESIGN BY CONTRACTOR. DEPENDING ON THE BRIDGE BEARING, INDEPENDENT STEPS MAY BE NEEDED FROM THE TRAIL TO THE DECK. PROVIDE INTEGRAL HANDRAIL FOR MORE THAN 2 RISERS.
- CONTRACTOR SHALL EXPECT SIMILAR SOIL CONDITIONS AS NOTED IN GEOTECH REPORT, DESIGN SHALL BE SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF INDIANA.
- IDENTIFY AND TAG TREES LARGER THAN 4" TO BE REMOVED TO ACCESS PLACEMENT OF NEW STRUCTURE.
- LIMB TRIMMING, AND TREES SMALLER THAN 4" SMALLER CAN BE REMOVED AS NEEDED. TREES MUST BE CUT BETWEEN OCTOBER 1 TO APRIL 1.
- IT IS ANTICIPATED THAT A CRANE WILL BE SET AT THE SITE ON THE ROADWAY TO LOWER AND LAND THE ENTIRE NEW STRUCTURE IN PLACE. EVALUATE WEIGHT DISTRIBUTION TO AVOID DAMAGE OR DISTURBANCE TO EXISTING ROADWAY OR APPURTENANCES.
- SEE SPECIFICATIONS FOR ROAD CLOSURE REQUIREMENTS.
- MULCH SEED ALL DISTURBED AREAS WITH APPROVED SEED MIX. SEE SPECIFICATIONS FOR SEED AND EROSION CONTROL REQUIREMENTS.

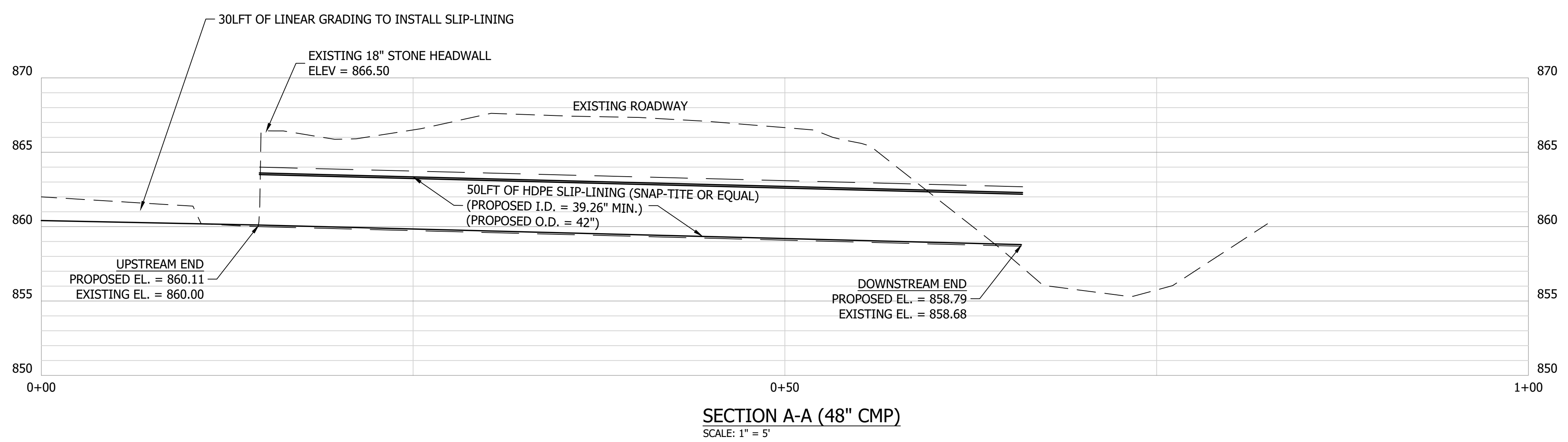
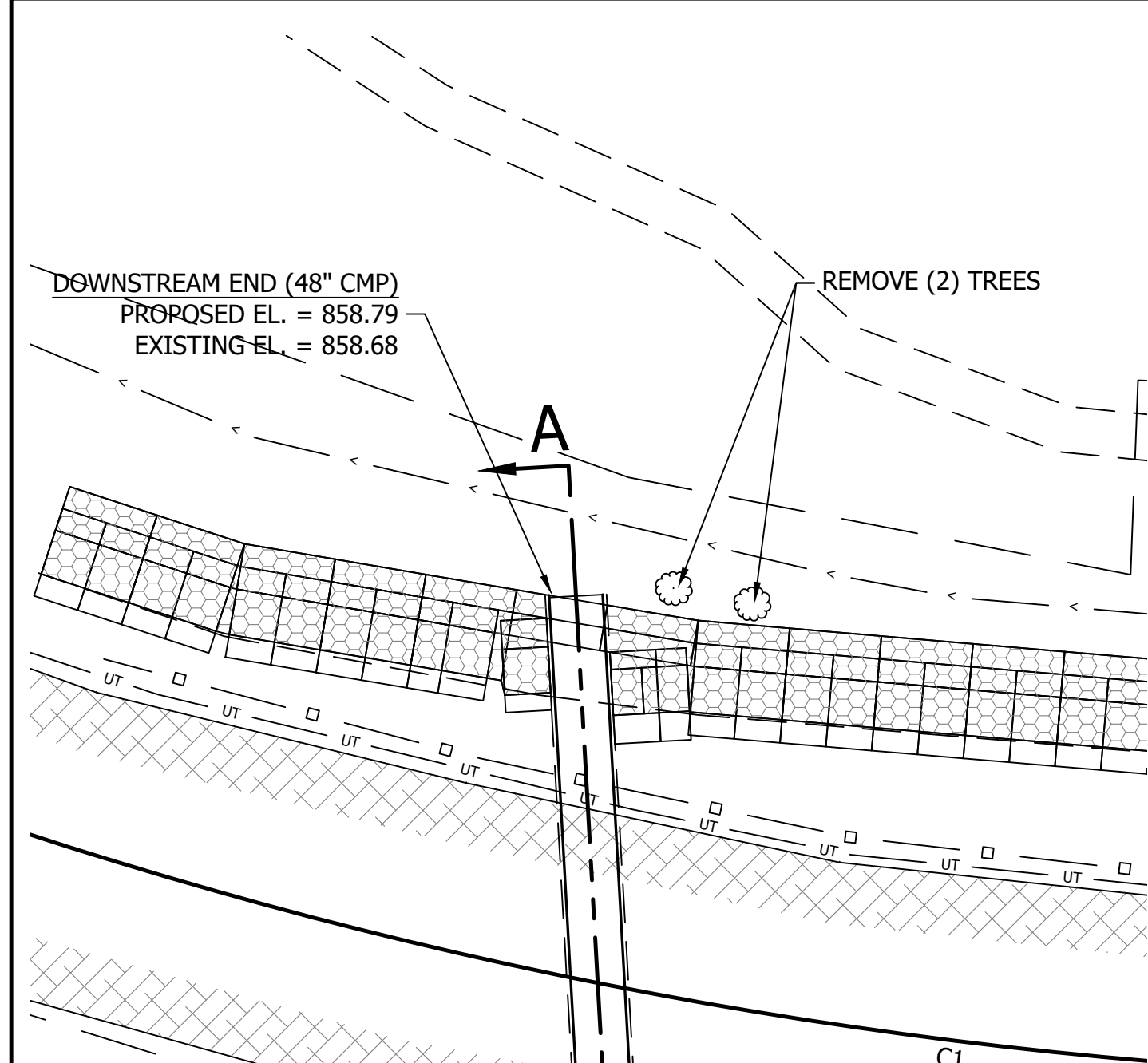
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 DATE: JULY 16, 2025

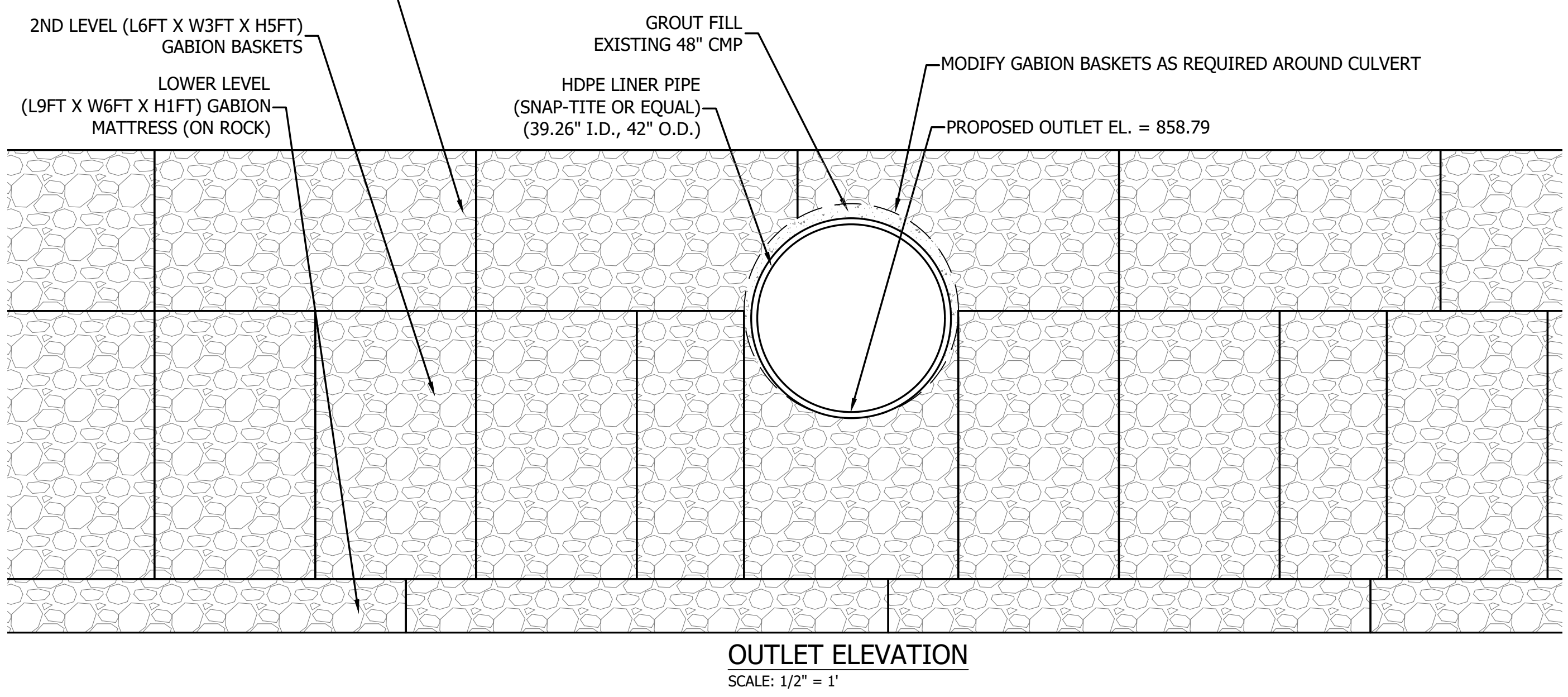
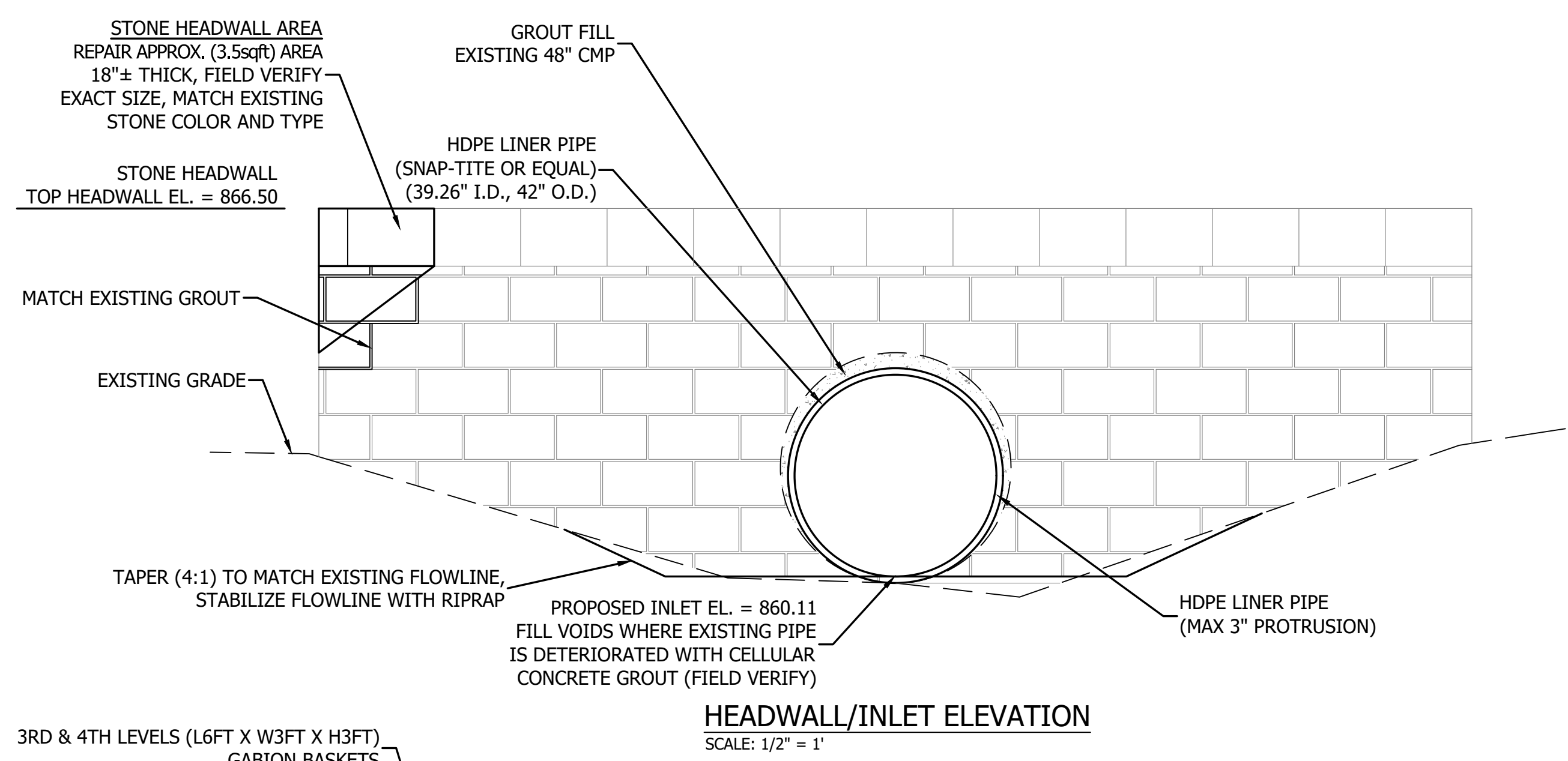
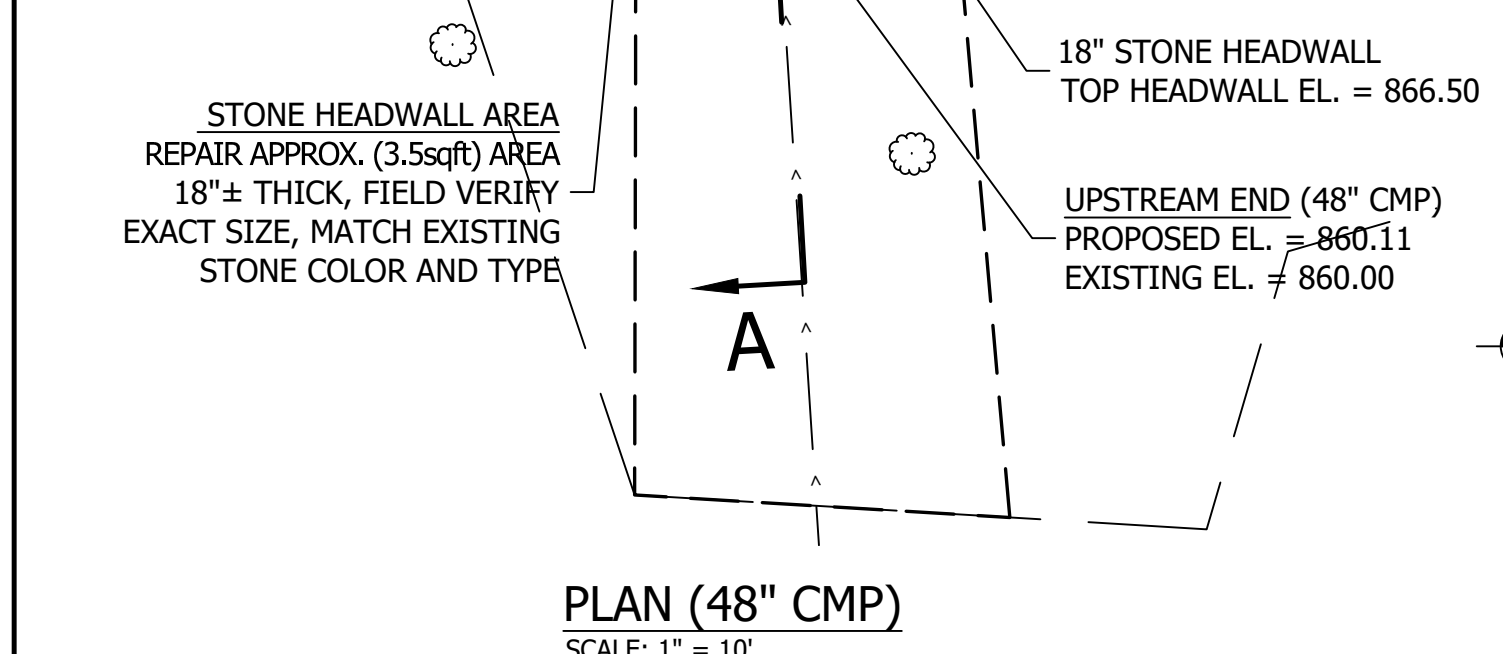
Revision	Drawn By	Date

FILE NO: 2313067
 CLIENT NAME: INDIANA DEPARTMENT OF NATURAL RESOURCES
 PROJECT DESCRIPTION: VERSAILLES SP
 SHEET TITLE: SITE 1 - OVERALL PLAN
 DESIGN PHASE: BIDDING PLANS
 SHEET NUMBER: **4**



48" CMP SLIP-LINING DESIGN SUMMARY - FULL FLOW COMPARATIVE FLOW RATES
 EXISTING 48" CMP: 24.6 CFS
 COMPARATIVE FLOW RATES (SNAP-TITE)
 OD: 42", ID: 39.26" 37.8 CFS

NOTES:
 1. ANY TUBES USED FOR GROUT FILLING SHALL BE CUT AND GROUTED UPON COMPLETION.
 2. SLIP-LINING SHALL BE CUT UPON COMPLETION TO ALLOW FOR A MAX PROTRUSION OF 3".



EXISTING 48" CMP HEADWALL/INLET



EXISTING 48" CMP OFFFALL

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7-16-2025
 REGISTERED PROFESSIONAL ENGINEER
 No. 60900038
 STATE OF INDIANA
Reverend C. Heung

SCALE: AS SHOWN
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Revision	Drawn By	Date

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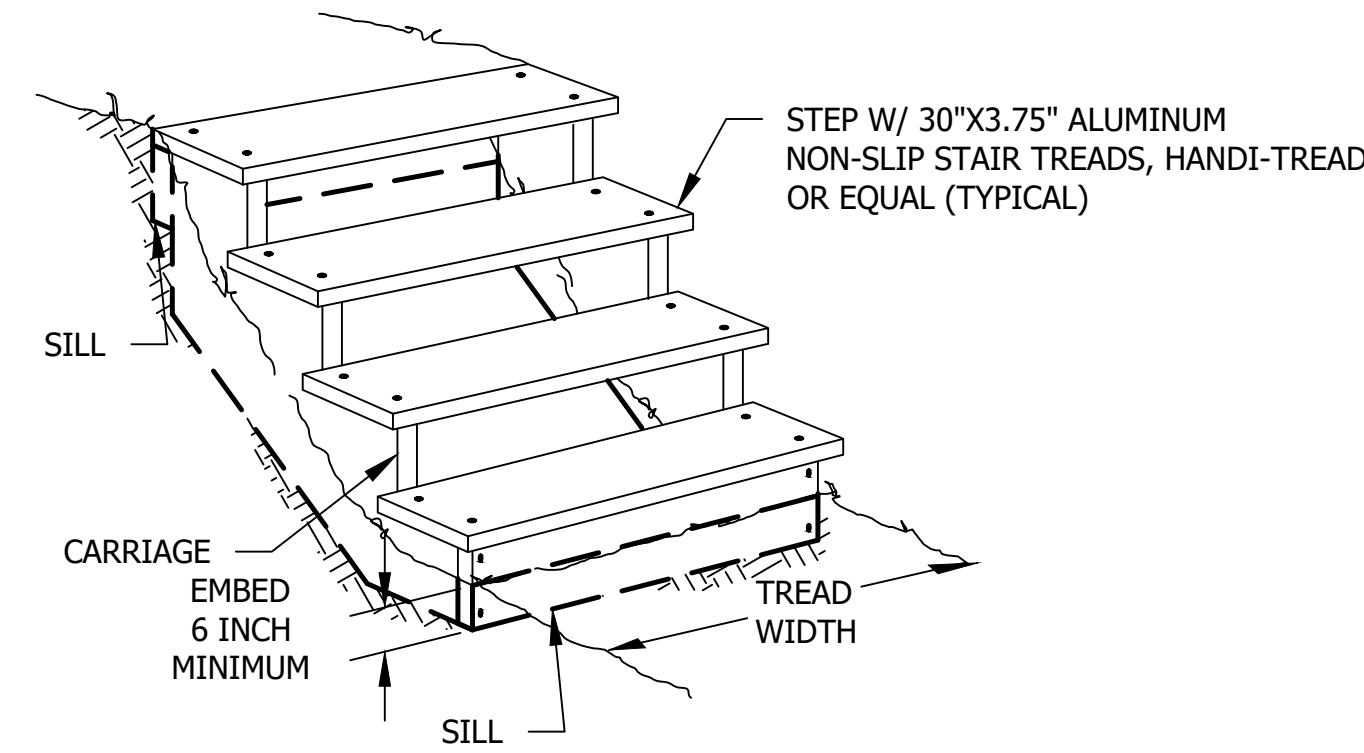
SHEET TITLE:
 SITE 1 - GENERAL PLAN

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
5

ABI - STAIRCASE

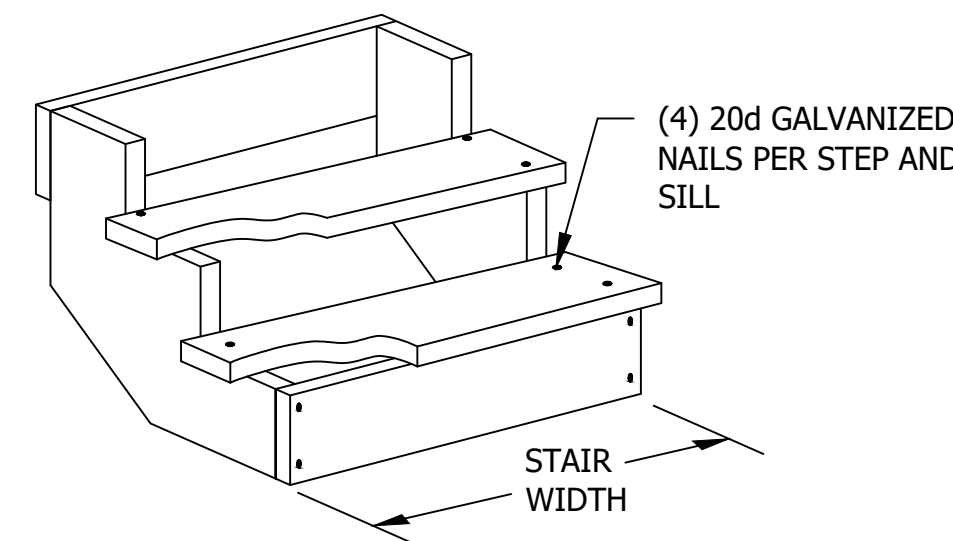
TYPICAL ID	SPAN	CARRIAGE		SILL	STEP			SPECIES	PRESERV. TYPE	COMMENTS		
		NO. OF CARRIAGES	MATERIAL DIMENSION	MATERIAL DIMENSION	WIDTH	MATERIAL DIMENSION	RUN				RISE	
							4'	10"	7"	*	P 3	DIMENSIONS REQUIRED SHALL BE FIELD VERIFIED
												*SHALL BE DOUGLAS FIR OR SOUTHERN PINE NO.2 OR BETTER



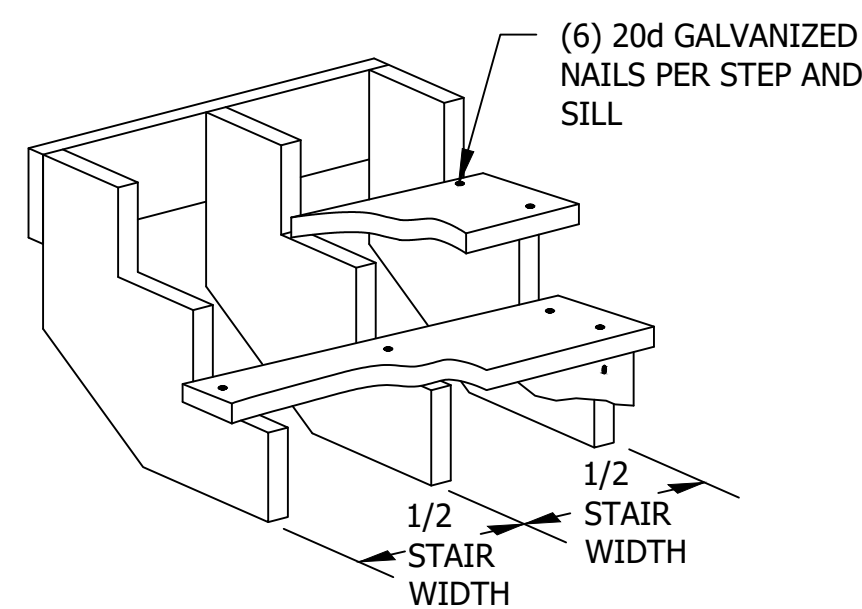
PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC4A	
P2	WB	UC3B	
P3	WB OR OT	UC4B	ALL TREATED WOOD USED ON STAIRS SHALL BE P3

TREATMENT TYPE
 WB = WATERBORNE
 OT = OIL-BORNE

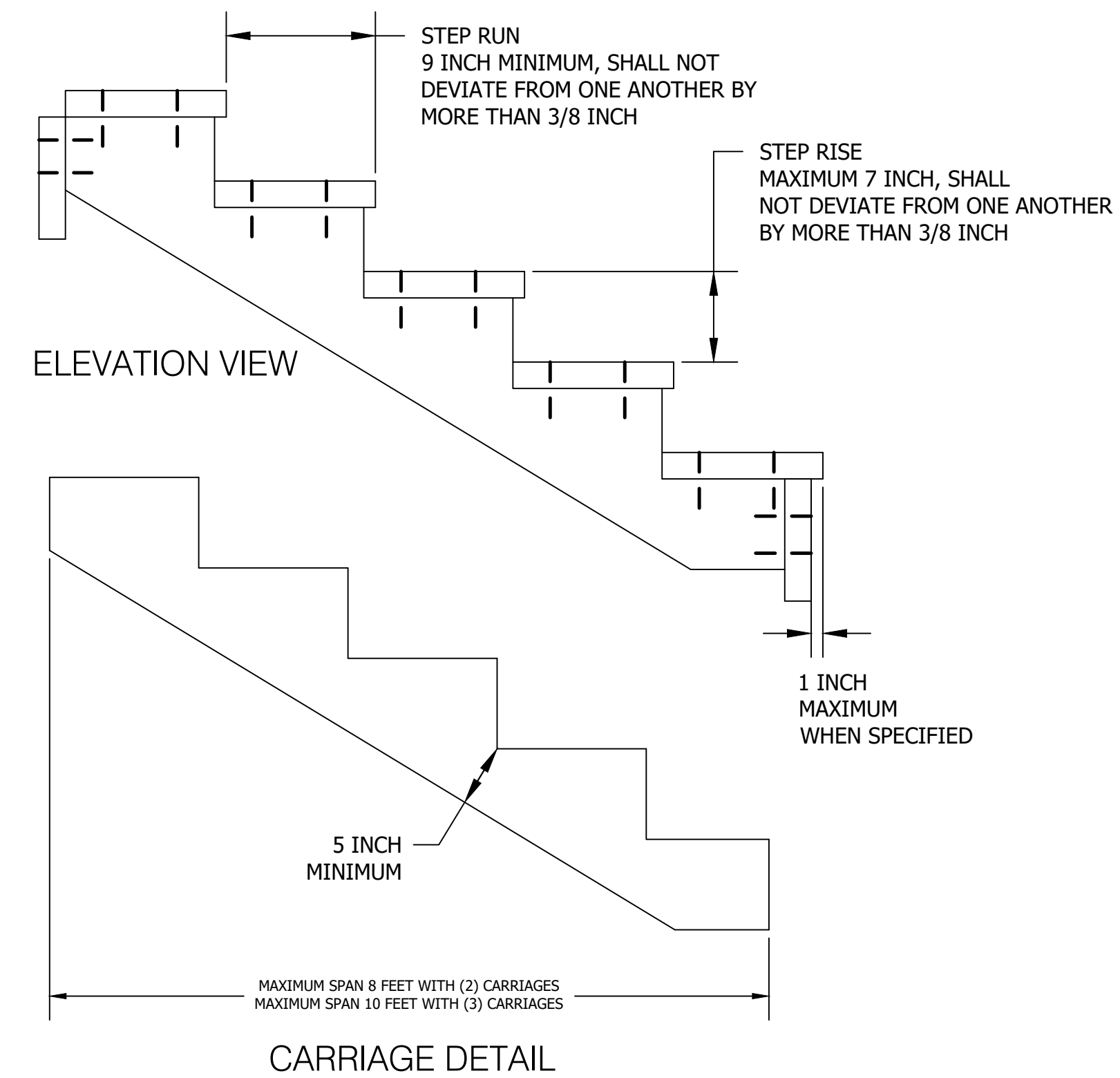
USE CATEGORY
 UC3B = ABOVE GROUND - EXPOSED
 UC4A = GROUND CONTACT - GENERAL USE
 UC4B = GROUND CONTACT - HEAVY DUTY



TWO CARRIAGE OPTION
 FOR 3 FOOT OR LESS STEP WIDTH



THREE CARRIAGE OPTION
 FOR 3 TO 6 FOOT STEP WIDTH



- NOTES:
1. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
 2. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.

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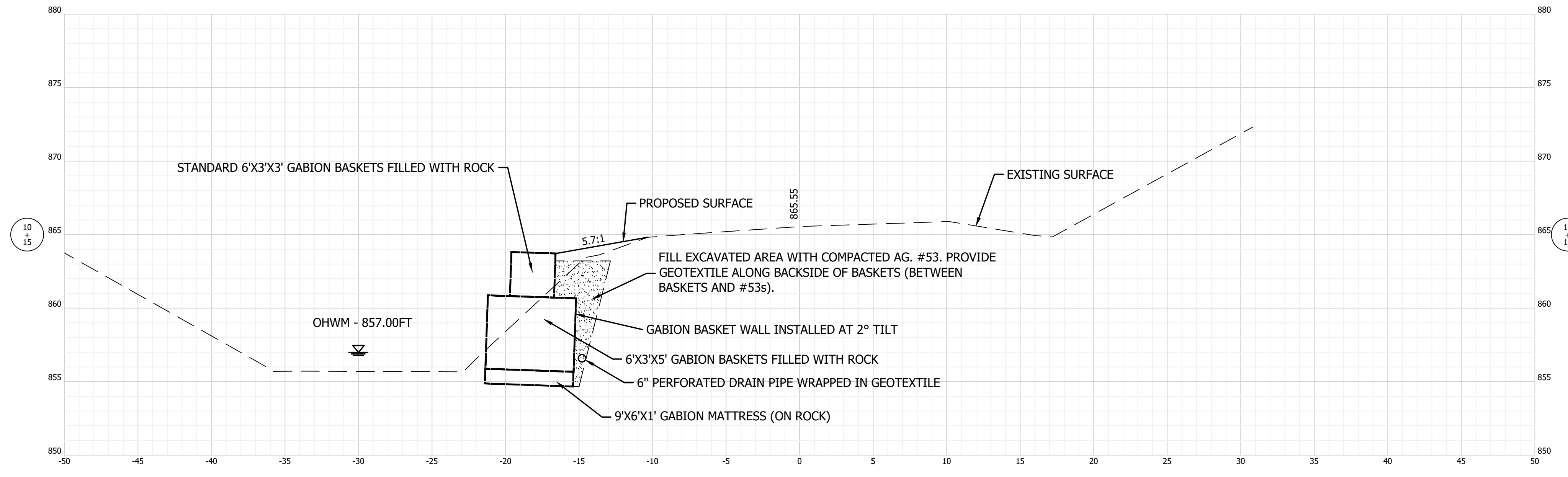
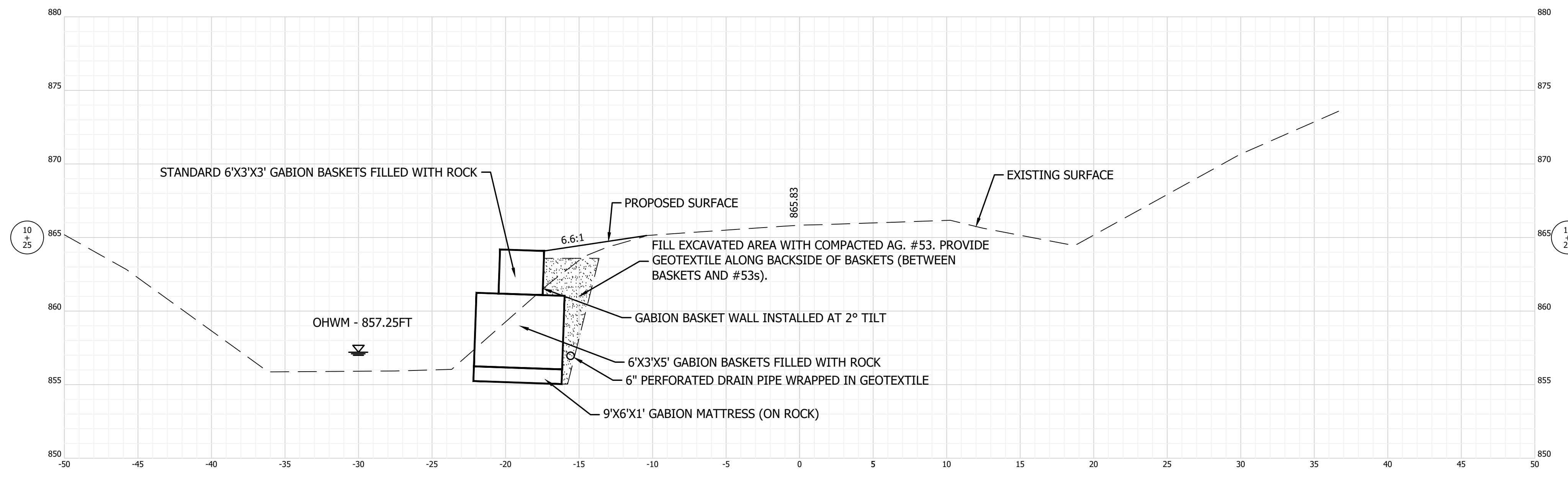
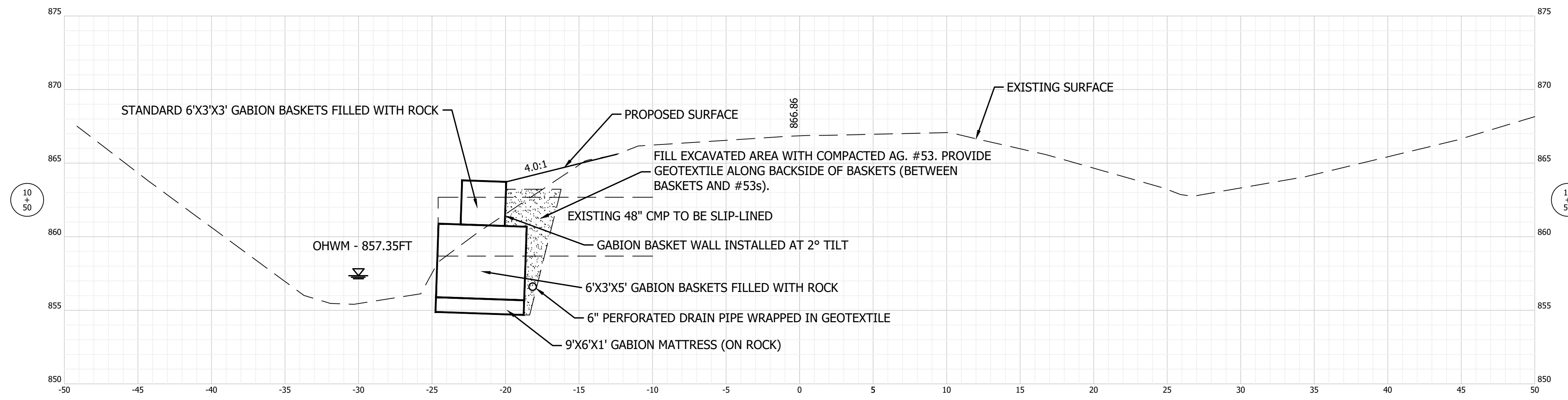
FILE NO: 2313067
 CLIENT NAME:
 INDIANA DEPARTMENT OF NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 1 - ABI STAIR DETAIL

DESIGN PHASE:
 BIDDING PLANS

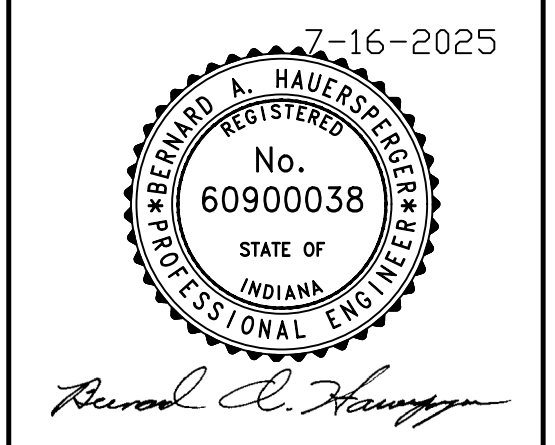
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 DATE: JULY 16, 2025

Revision	Drawn By	Date

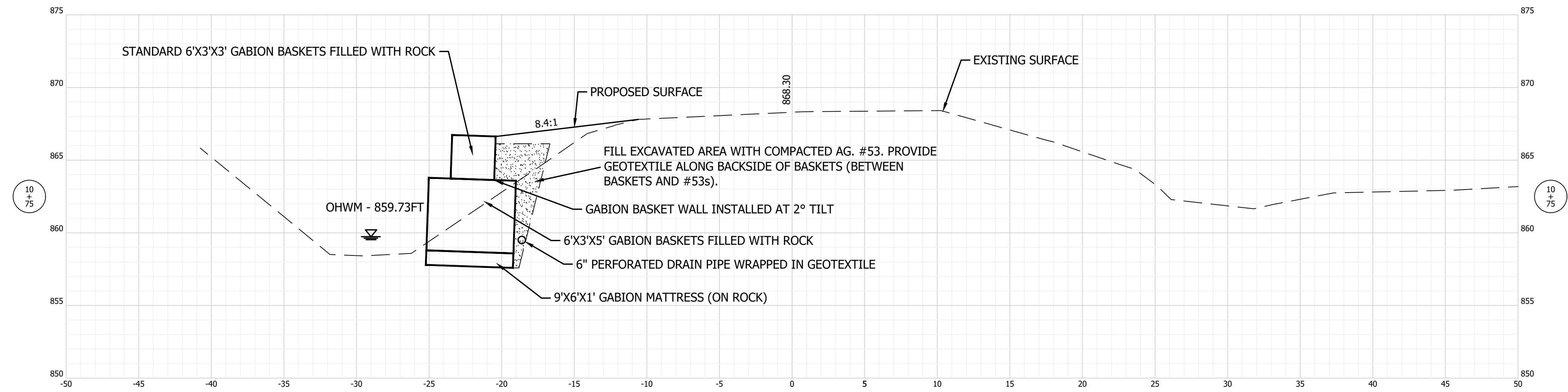
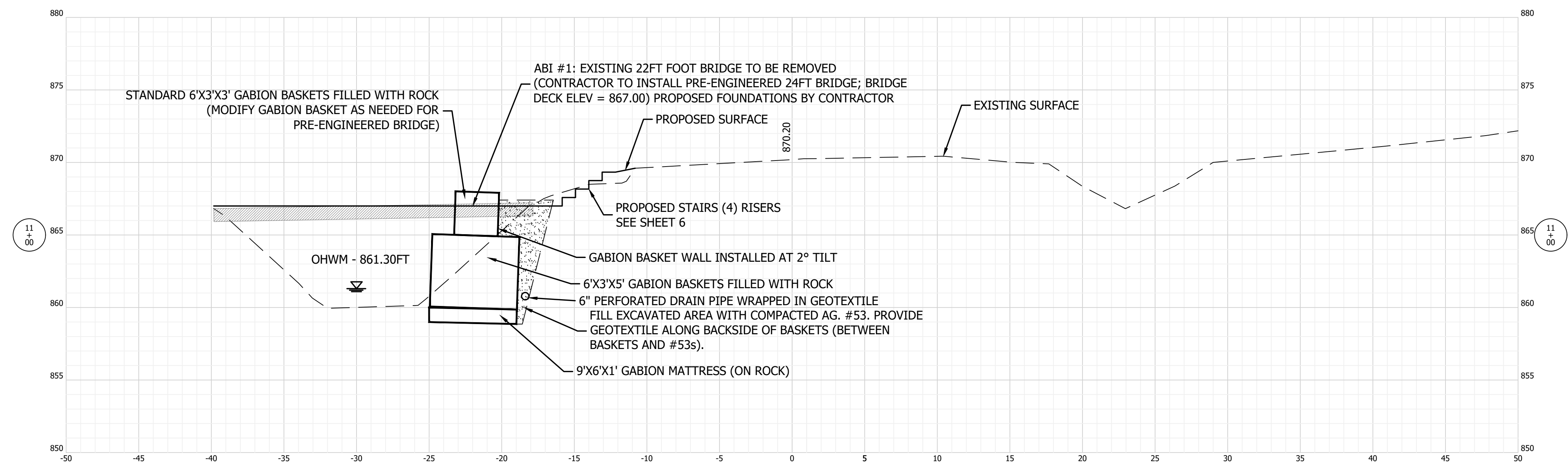
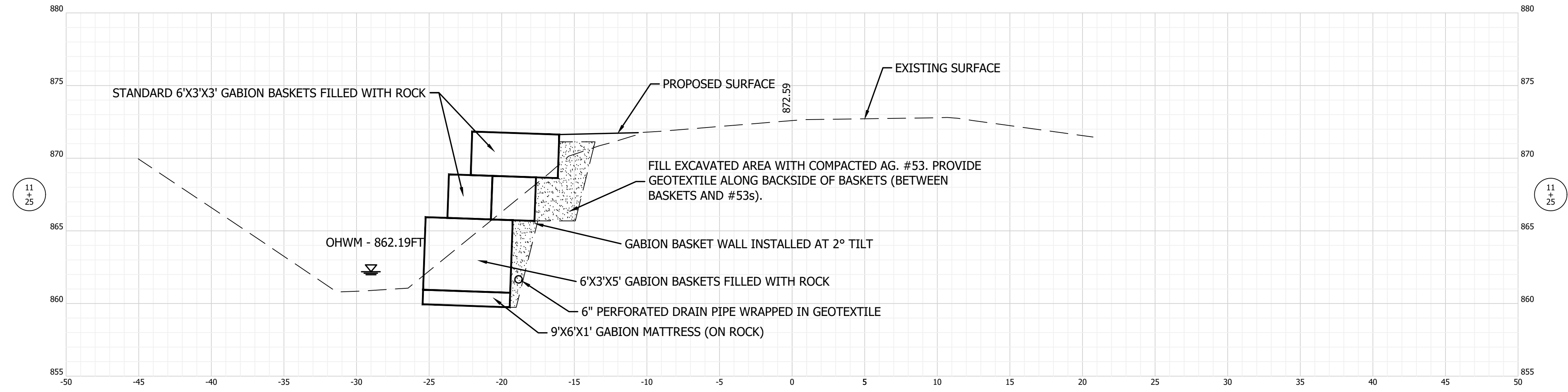
FILE NO: 2313067
 CLIENT NAME:
 INDIANA DEPARTMENT OF
 NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 1 - (STREAM
 CROSS-SECTIONS 1 OF 3)

DESIGN PHASE:
 BIDDING PLANS

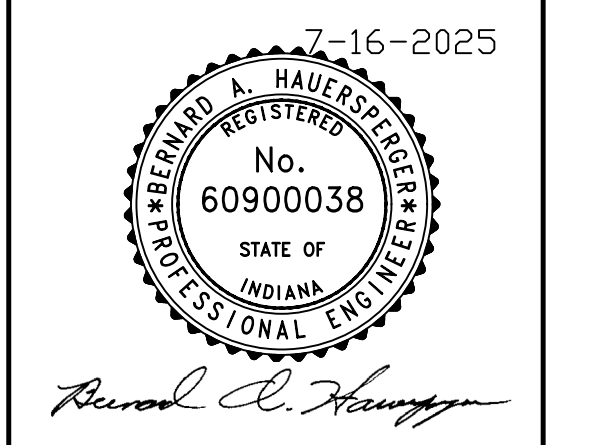
SHEET NUMBER:
7



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SCALE: 1" = 5'

DRAWN BY: ARC

CHECKED BY: CLK,BAH

DATE: JULY 16, 2025

Revision	Drawn By	Date

FILE NO: 2313067

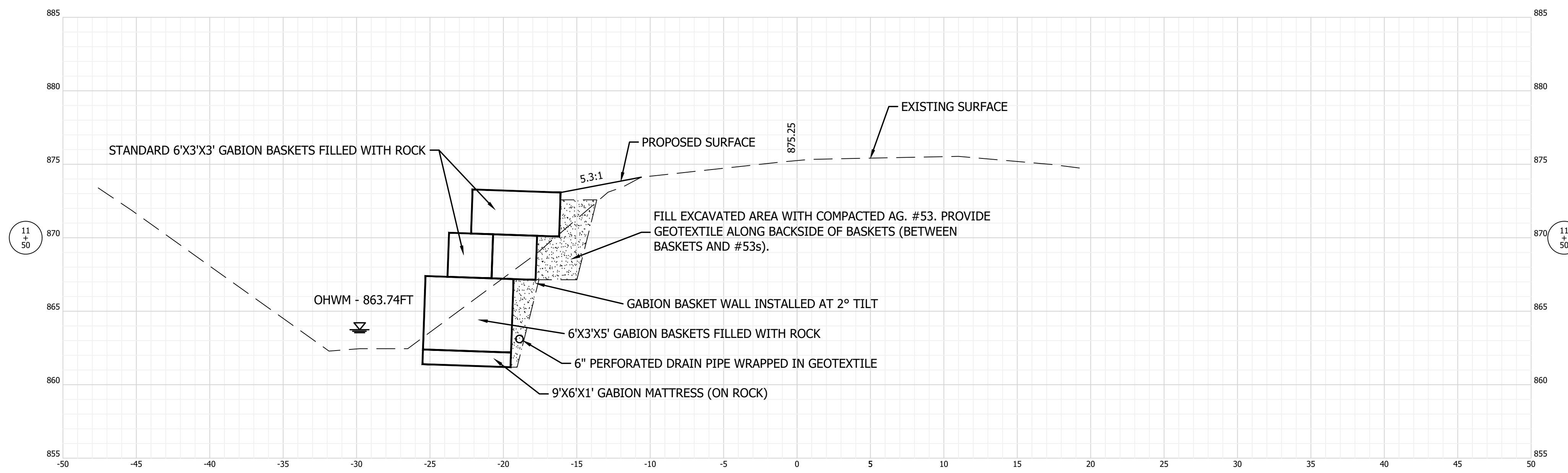
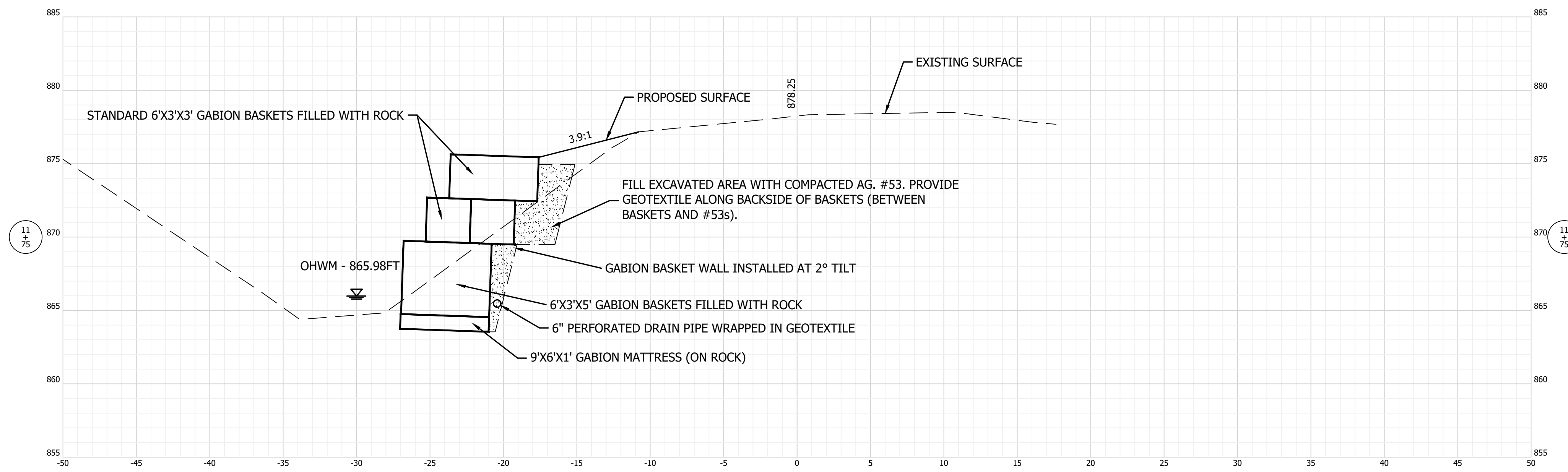
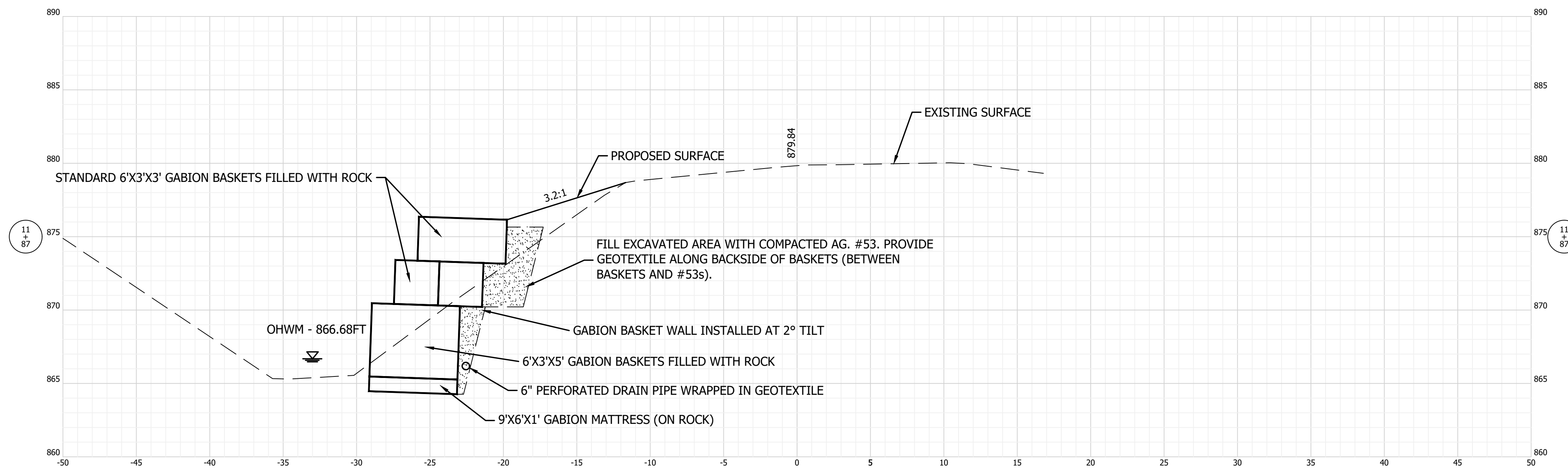
CLIENT NAME:
 INDIANA DEPARTMENT OF
 NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 1 - (STREAM
 CROSS-SECTIONS 2 OF 3)

DESIGN PHASE:
 BIDDING PLANS

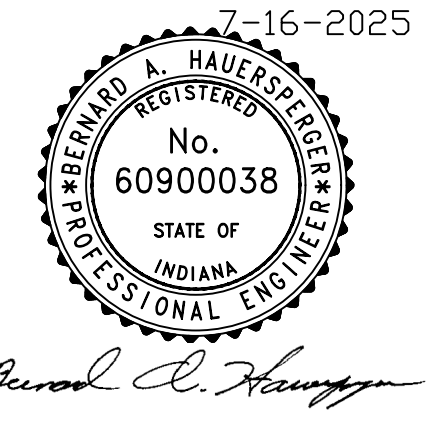
SHEET NUMBER:
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SCALE: 1" = 5'
 DRAWN BY: ARC
 CHECKED BY: CLK,BAH
 DATE: JULY 16, 2025

Revision	Drawn By	Date

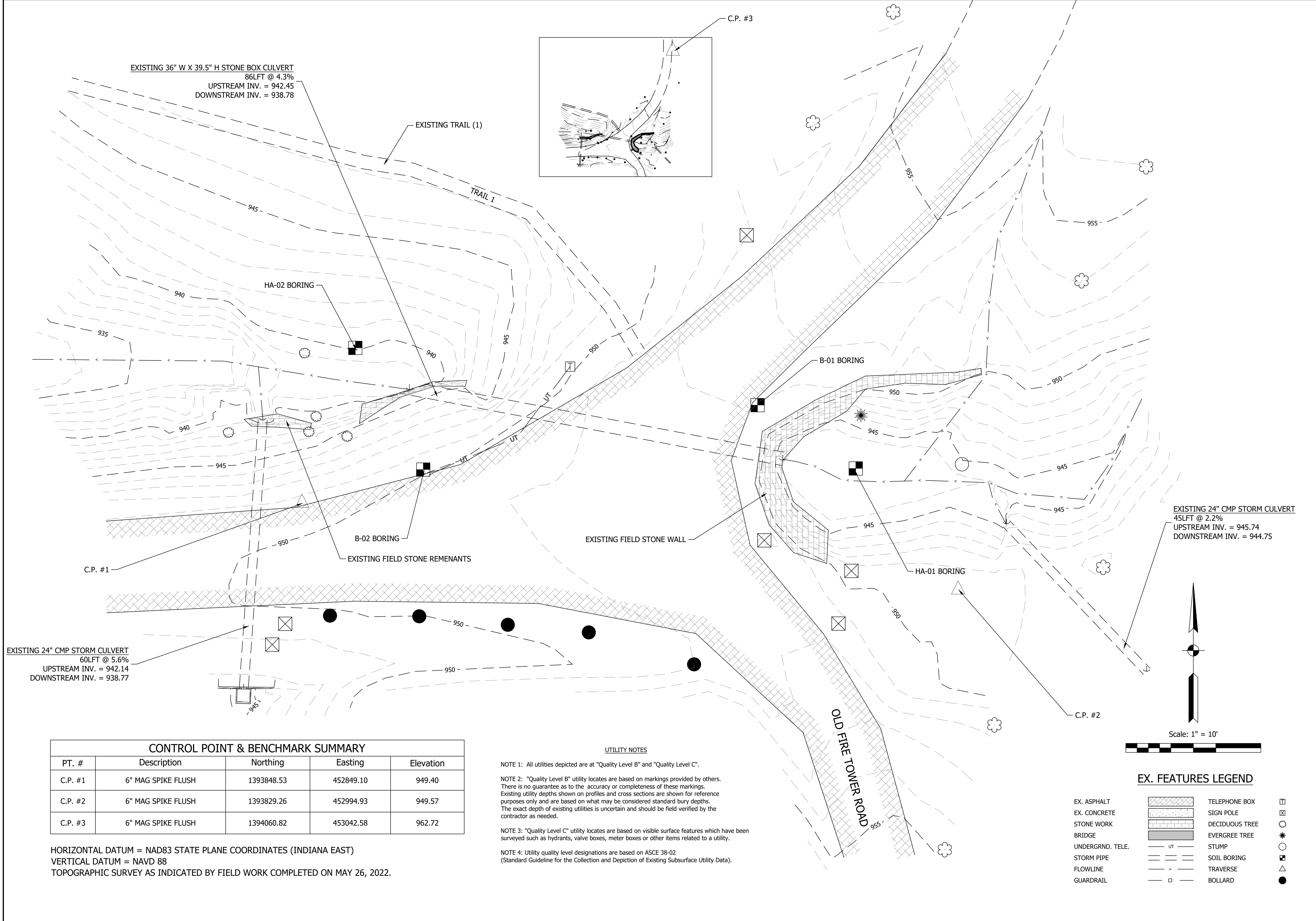
FILE NO: 2313067
 CLIENT NAME:
 INDIANA DEPARTMENT OF
 NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 1 - (STREAM
 CROSS-SECTIONS 3 OF 3)

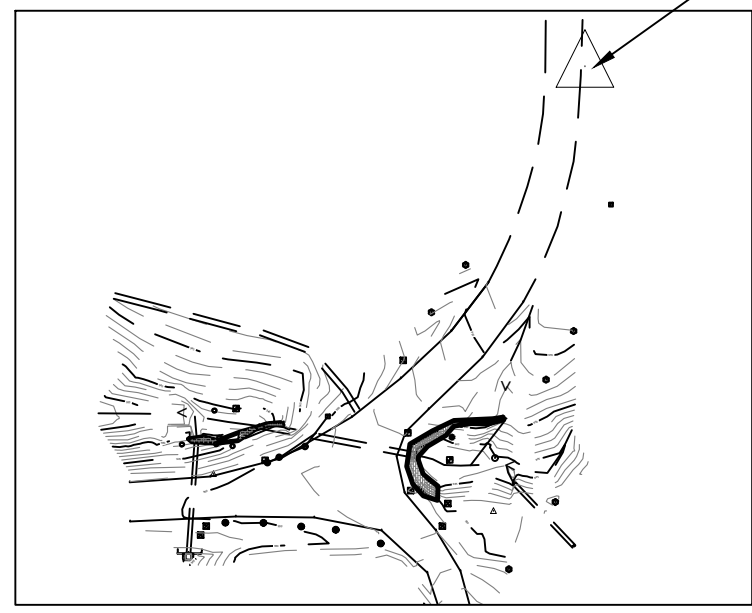
DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
9



EXISTING 36" W X 39.5" H STONE BOX CULVERT
86LFT @ 4.3%
UPSTREAM INV. = 942.45
DOWNSTREAM INV. = 938.78

EXISTING TRAIL (1)



C.P. #3

HA-02 BORING

B-01 BORING

B-02 BORING

EXISTING FIELD STONE WALL

EXISTING FIELD STONE REMENANTS

EXISTING 24" CMP STORM CULVERT
45LFT @ 2.2%
UPSTREAM INV. = 945.74
DOWNSTREAM INV. = 944.75

C.P. #1

HA-01 BORING

EXISTING 24" CMP STORM CULVERT
60LFT @ 5.6%
UPSTREAM INV. = 942.14
DOWNSTREAM INV. = 938.77

C.P. #2

Scale: 1" = 10'

EX. FEATURES LEGEND

- EX. ASPHALT
- EX. CONCRETE
- STONE WORK
- BRIDGE
- UNDERGRND. TELE.
- STORM PIPE
- FLOWLINE
- GUARDRAIL
- TELEPHONE BOX
- SIGN POLE
- DECIDUOUS TREE
- EVERGREE TREE
- STUMP
- SOIL BORING
- TRAVERSE
- BOLLARD

CONTROL POINT & BENCHMARK SUMMARY				
PT. #	Description	Northing	Easting	Elevation
C.P. #1	6" MAG SPIKE FLUSH	1393848.53	452849.10	949.40
C.P. #2	6" MAG SPIKE FLUSH	1393829.26	452994.93	949.57
C.P. #3	6" MAG SPIKE FLUSH	1394060.82	453042.58	962.72

UTILITY NOTES

- NOTE 1: All utilities depicted are at "Quality Level B" and "Quality Level C".
- NOTE 2: "Quality Level B" utility locates are based on markings provided by others. There is no guarantee as to the accuracy or completeness of these markings. Existing utility depths shown on profiles and cross sections are shown for reference purposes only and are based on what may be considered standard bury depths. The exact depth of existing utilities is uncertain and should be field verified by the contractor as needed.
- NOTE 3: "Quality Level C" utility locates are based on visible surface features which have been surveyed such as hydrants, valve boxes, meter boxes or other items related to a utility.
- NOTE 4: Utility quality level designations are based on ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data).

HORIZONTAL DATUM = NAD83 STATE PLANE COORDINATES (INDIANA EAST)
VERTICAL DATUM = NAVD 88
TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON MAY 26, 2022.

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7-16-2025
REGISTERED PROFESSIONAL ENGINEER
No. 60900038
STATE OF INDIANA
Arnold C. Heung

SCALE: 1" = 10'
DRAWN BY: ARC
CHECKED BY: CLK,BAH
DATE: JULY 16, 2025

Revision	Drawn By	Date

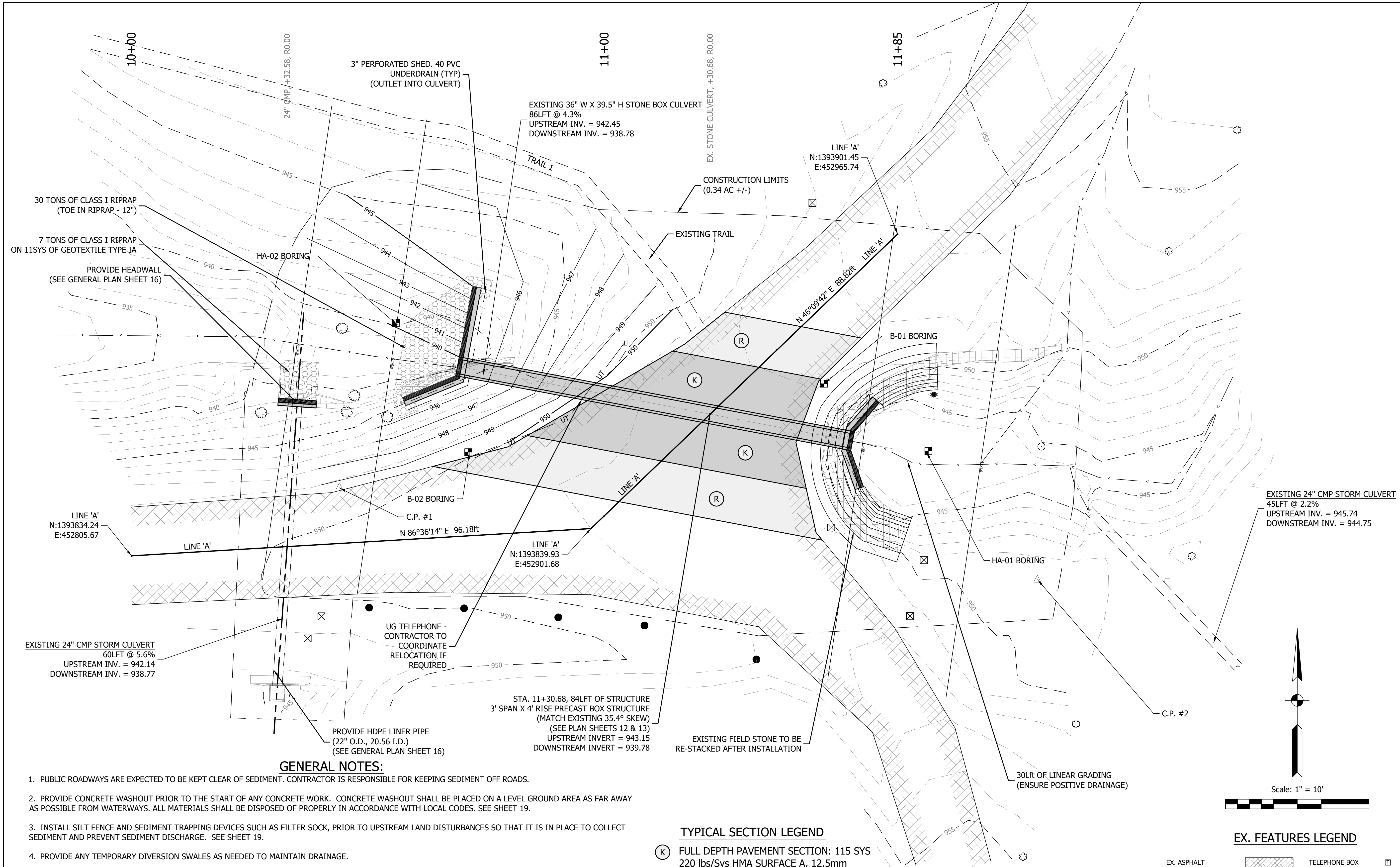
FILE NO: 2313067
CLIENT NAME:
INDIANA DEPARTMENT OF NATURAL RESOURCES

PROJECT DESCRIPTION:
VERSAILLES SP

SHEET TITLE:
SITE 2 - EXISTING CONDITIONS

DESIGN PHASE:
BIDDING PLANS

SHEET NUMBER:
10



GENERAL NOTES:

- PUBLIC ROADWAYS ARE EXPECTED TO BE KEPT CLEAR OF SEDIMENT. CONTRACTOR IS RESPONSIBLE FOR KEEPING SEDIMENT OFF ROADS.
- PROVIDE CONCRETE WASHOUT PRIOR TO THE START OF ANY CONCRETE WORK. CONCRETE WASHOUT SHALL BE PLACED ON A LEVEL GROUND AREA AS FAR AWAY AS POSSIBLE FROM WATERWAYS. ALL MATERIALS SHALL BE DISPOSED OF PROPERLY IN ACCORDANCE WITH LOCAL CODES. SEE SHEET 19.
- INSTALL SILT FENCE AND SEDIMENT TRAPPING DEVICES SUCH AS FILTER SOCK, PRIOR TO UPSTREAM LAND DISTURBANCES SO THAT IT IS IN PLACE TO COLLECT SEDIMENT AND PREVENT SEDIMENT DISCHARGE. SEE SHEET 19.
- PROVIDE ANY TEMPORARY DIVERSION SWALES AS NEEDED TO MAINTAIN DRAINAGE.
- PROVIDE TEMPORARY MULCH SEEDING OVER DISTURBED LAWN AREAS WHICH ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR MORE. STABILIZE LAWN AREAS WHICH ARE AT FINAL GRADE WITH PERMANENT MULCH SEEDING TYPE R PER CURRENT INDOT SPECIFICATIONS. MINIMIZE LAND DISTURBANCE AS MUCH AS POSSIBLE BY STABILIZING DISTURBED AREAS BEFORE PROCEEDING WITH ADDITIONAL LAND DISTURBANCE.
- TEMPORARY STOCKPILES SHALL NOT BLOCK DRAINAGE WAY AND SHALL BE TEMPORARILY SEEDDED IF THEY ARE TO REMAIN UNDISTURBED FOR 14 DAYS OR MORE.
- REMOVE TEMPORARY EROSION CONTROL ITEMS ONCE CONSTRUCTION IS COMPLETED AND AREA IS STABILIZED.
- CONTRACTOR SHALL ENSURE ALL WORK CONDUCTED IN STREAM FLOWLINE IS IN COMPLIANCE WITH 401/404 RGP.
- TREE REMOVAL AS REQUIRED FOR CONSTRUCTION. TREES MUST BE CUT BETWEEN OCTOBER 1 TO APRIL 1.

TYPICAL SECTION LEGEND

- (K) FULL DEPTH PAVEMENT SECTION: 115 SYS
220 lbs/Sys HMA SURFACE A, 12.5mm
330 lbs/Sys HMA BASE A, 25.0mm
12" COMP. AG. #53 BASE ON
WELL COMPACTED SUBGRADE
- (R) MILL & RESURFACE: 114 SYS
220 lbs/Sys HMA SURFACE A, 12.5mm
ON 2" MILLING, ASPHALT

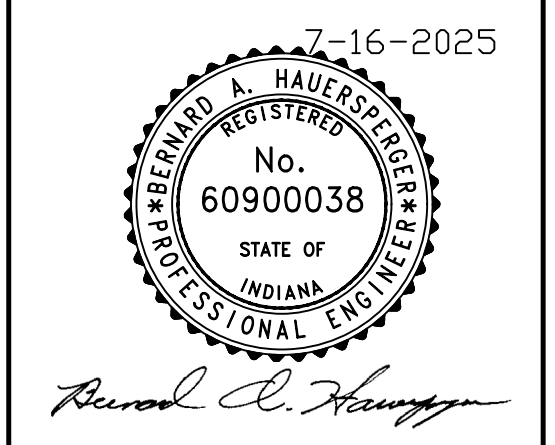
EX. FEATURES LEGEND

- | | | | |
|------------------|--|----------------|--|
| EX. ASPHALT | | TELEPHONE BOX | |
| EX. CONCRETE | | SIGN POLE | |
| FOOT BRIDGE | | DECIDUOUS TREE | |
| UNDERGRND. TELE. | | EVERGREE TREE | |
| STORM PIPE | | STUMP | |
| FLOWLINE | | WATER METER | |
| GUARDRAIL | | TRAVERSE | |
| | | BOLLARD | |

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SCALE: 1" = 10'		
DRAWN BY: ARC		
CHECKED BY: CLK,BAH		
DATE: JULY 16, 2025		
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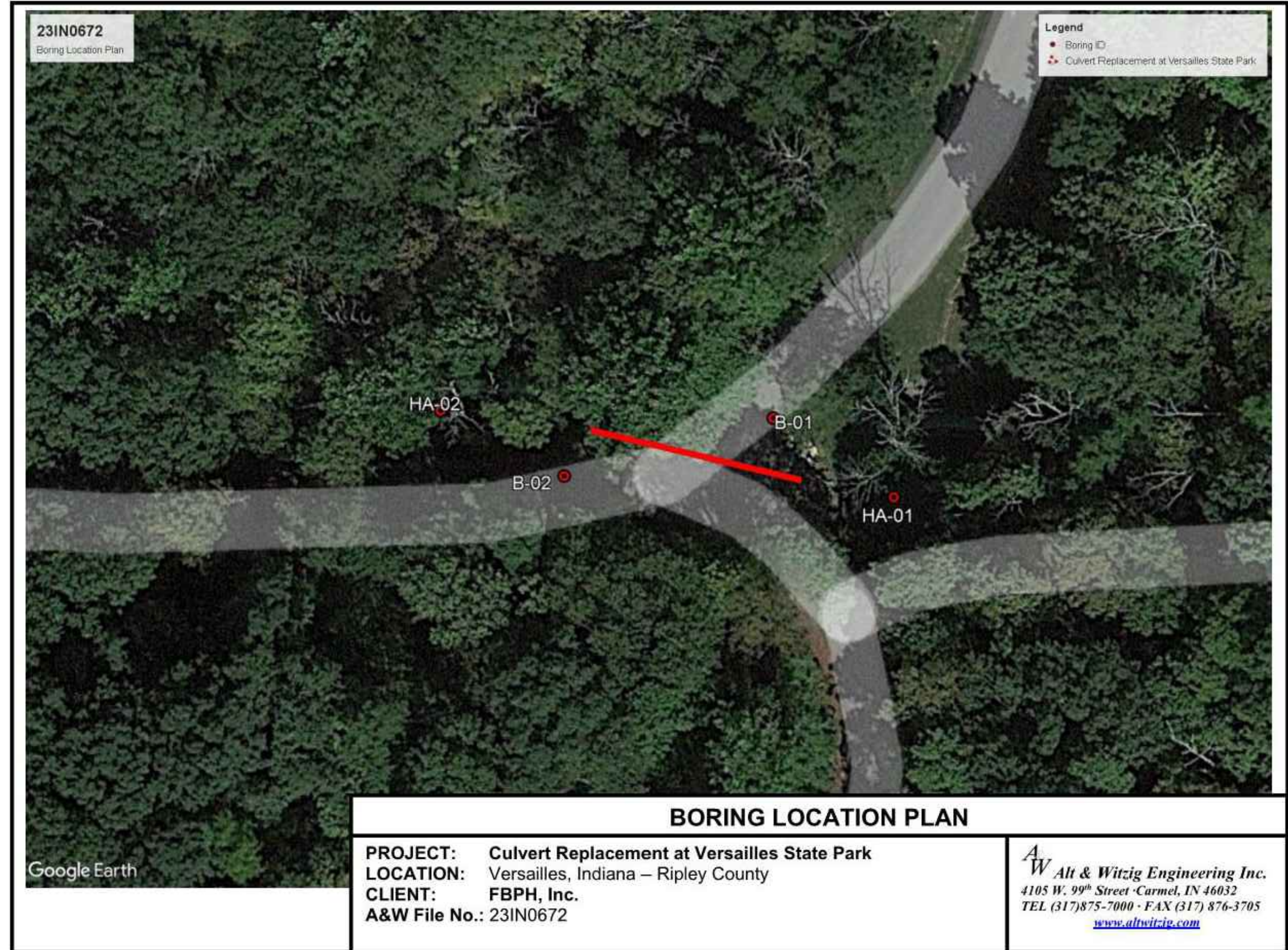
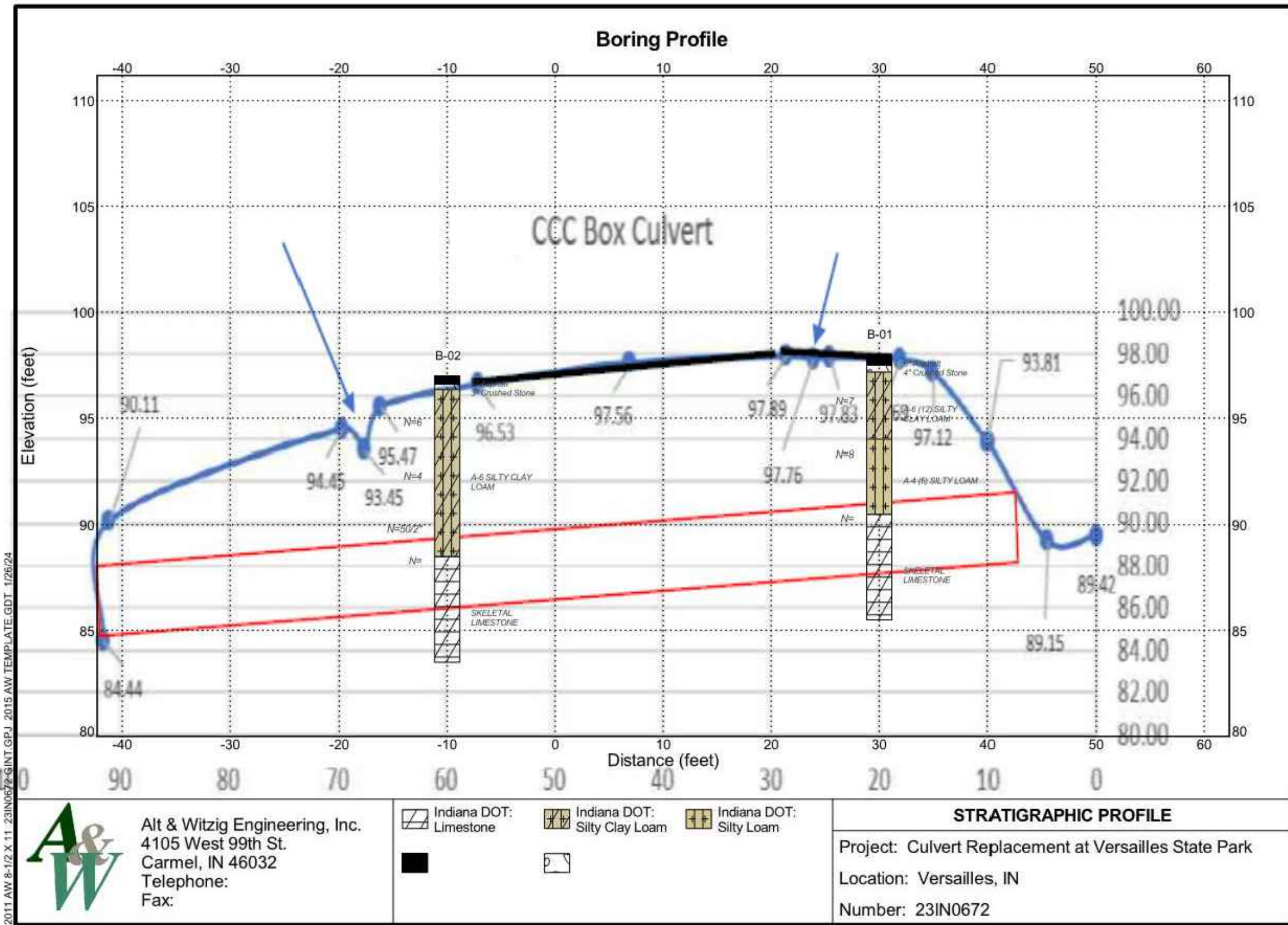
FILE NO: 2313067
 CLIENT NAME:
 INDIANA DEPARTMENT OF
 NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 2 - OVERALL PLAN

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
11



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BORING LOG
Alt & Witzig Engineering, Inc.

CLIENT: FPBH, Inc. BORING #: B-01
PROJECT NAME: Culvert Replacement at Versailles State Park ALT & WITZIG FILE #: 23IN0672
PROJECT LOCATION: Versailles, IN

DRILLING and SAMPLING INFORMATION
Date Started: 1/10/24 Hammer Wt.: 140 lbs.
Date Completed: 1/10/24 Hammer Drop: 30 in.
Boring Method: HSA Spoon Sampler OD: 2 in.
Driller: D. McWherter Rig Type: CME 55 ATV

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth	Sample No.	Sample Type	Standard Penetration Test, N - blow/foot	Moisture Content %	Proctor Compaction	Remarks
0.5	4" Crushed Stone	0.5	0.8	1	SS	7	2.0	28.6	
4.0	Brown A-6 (12) SILTY CLAY LOAM (Test #1)	4.0	5.0	2	SS	8	2.0	14.0	
7.5	Brown A-4 (8) SILTY LOAM (Test #2)	7.5	10.0	RC					Auger refusal at 7.5'
12.5	Gray SKELETAL LIMESTONE	12.5							Recovery = 57% (85%), ROD = 48" (80%)

End of Boring at 12.5 feet

BORING LOG
Alt & Witzig Engineering, Inc.

CLIENT: FPBH, Inc. BORING #: B-02
PROJECT NAME: Culvert Replacement at Versailles State Park ALT & WITZIG FILE #: 23IN0672
PROJECT LOCATION: Versailles, IN

DRILLING and SAMPLING INFORMATION
Date Started: 1/8/24 Hammer Wt.: 140 lbs.
Date Completed: 1/8/24 Hammer Drop: 30 in.
Boring Method: HSA Spoon Sampler OD: 2 in.
Driller: D. McWherter Rig Type: CME 55 ATV

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth	Sample No.	Sample Type	Standard Penetration Test, N - blow/foot	Moisture Content %	Proctor Compaction	Remarks
0.4	5" Asphalt	0.4	0.7	1	SS	6	1.0	17.2	
5.0	3" Crushed Stone	5.0	5.2	2	SS	4	0.5	22.7	
8.5	Brown A-6 SILTY CLAY LOAM (Test #1)	8.5	10.0	3	SS	50/2'			Auger refusal at 8.5'
13.5	Gray SKELETAL LIMESTONE	13.5							Recovery = 53% (88%), ROD = 42" (70%)

End of Boring at 13.5 feet

BORING LOG
Alt & Witzig Engineering, Inc.

CLIENT: FPBH, Inc. BORING #: HA-01
PROJECT NAME: Culvert Replacement at Versailles State Park ALT & WITZIG FILE #: 23IN0672
PROJECT LOCATION: Versailles, IN

DRILLING and SAMPLING INFORMATION
Date Started: 1/3/24 Hammer Wt.: lbs.
Date Completed: 1/3/24 Hammer Drop: in.
Boring Method: HA Spoon Sampler OD: in.
Driller: C. Peterman Rig Type: Hand Auger

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth	Sample No.	Sample Type	Standard Penetration Test, N - blow/foot	Moisture Content %	Proctor Compaction	Remarks
1.0	12" Topsoil	1.0	1.0	1	HA				
2.0	Brown A-6 SILTY CLAY LOAM (Test #1)	2.0	2.0	2	HA				Auger refusal at 2'

End of Boring at 2 feet

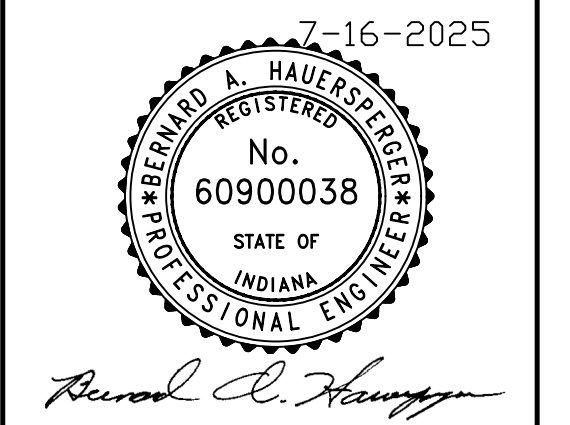
BORING LOG
Alt & Witzig Engineering, Inc.

CLIENT: FPBH, Inc. BORING #: HA-02
PROJECT NAME: Culvert Replacement at Versailles State Park ALT & WITZIG FILE #: 23IN0672
PROJECT LOCATION: Versailles, IN

DRILLING and SAMPLING INFORMATION
Date Started: 1/3/24 Hammer Wt.: lbs.
Date Completed: 1/3/24 Hammer Drop: in.
Boring Method: HA Spoon Sampler OD: in.
Driller: C. Peterman Rig Type: Hand Auger

STRATA ELEV.	SOIL CLASSIFICATION	Strata Depth	Depth	Sample No.	Sample Type	Standard Penetration Test, N - blow/foot	Moisture Content %	Proctor Compaction	Remarks
1.0	12" Topsoil	1.0	1.0	1	HA				Auger refusal at 1'

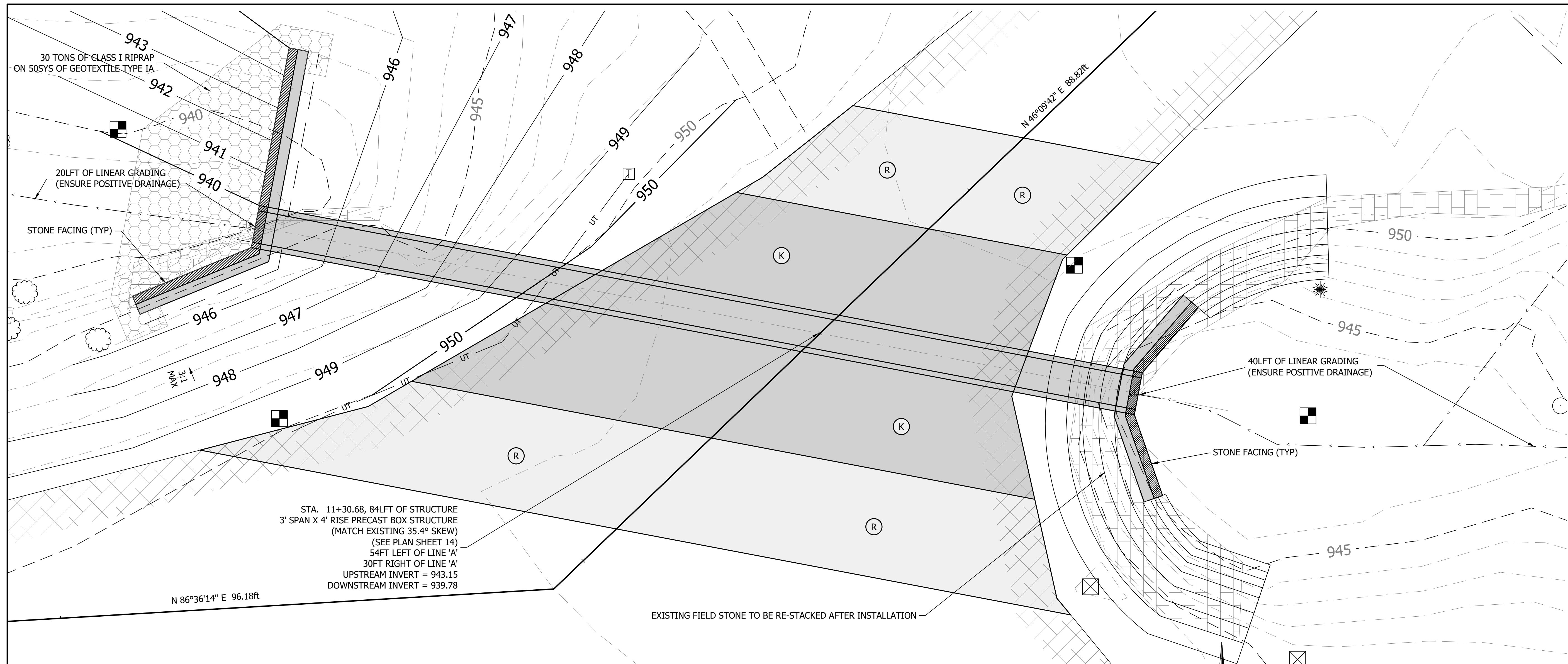
End of Boring at 1 feet



SCALE: NTS
DRAWN BY: ARC
CHECKED BY: CLK,BAH
DATE: JULY 16, 2025

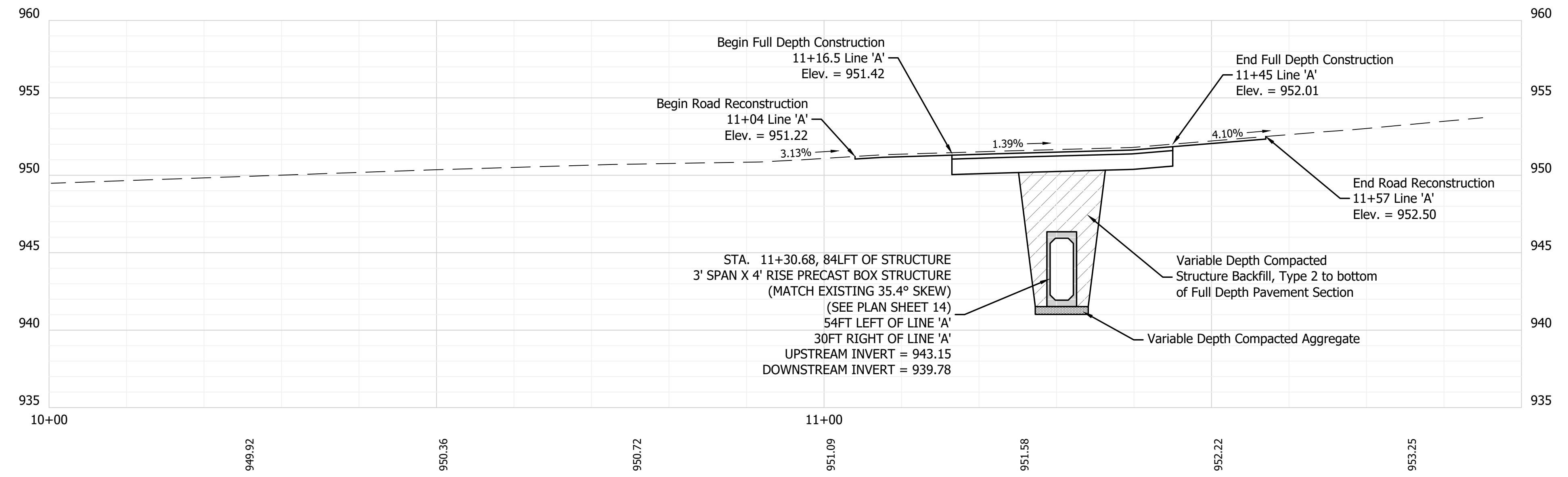
Revision	Drawn By	Date

FILE NO: 2313067
CLIENT NAME: INDIANA DEPARTMENT OF NATURAL RESOURCES
PROJECT DESCRIPTION: VERSAILLES SP
SHEET TITLE: SITE 2 - SOIL BORINGS
DESIGN PHASE: BIDDING PLANS
SHEET NUMBER: 12



PLAN VIEW OF BOX CULVERT

SCALE: 1" = 5'

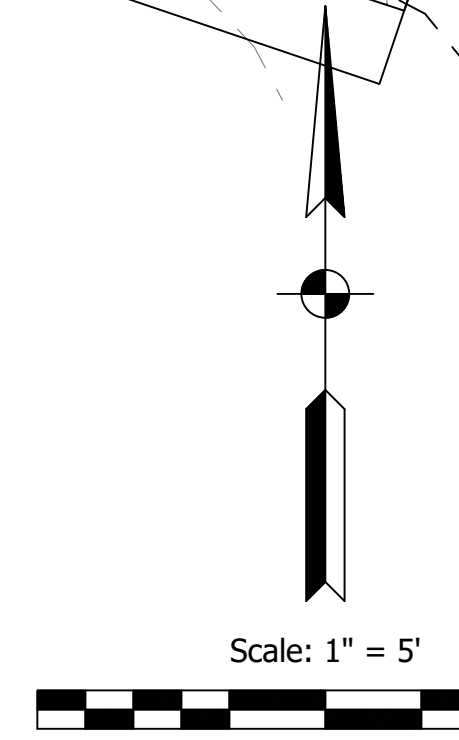


PROFILE LINE 'A'

SCALE: 1" = 5'

TYPICAL SECTION LEGEND

- (K) FULL DEPTH PAVEMENT SECTION: 115 SYS
220 lbs/Sys HMA SURFACE A, 12.5mm
330 lbs/Sys HMA BASE A, 25.0mm
12" COMP. AG. #53 BASE ON
WELL COMPACTED SUBGRADE
- (R) MILL & RESURFACE: 114 SYS
220 lbs/Sys HMA SURFACE A, 12.5mm
ON 2" MILLING, ASPHALT



EX. UPSTREAM END



EX. DOWNSTREAM END

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7-16-2025
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STATE OF INDIANA
Arnold C. Hennig

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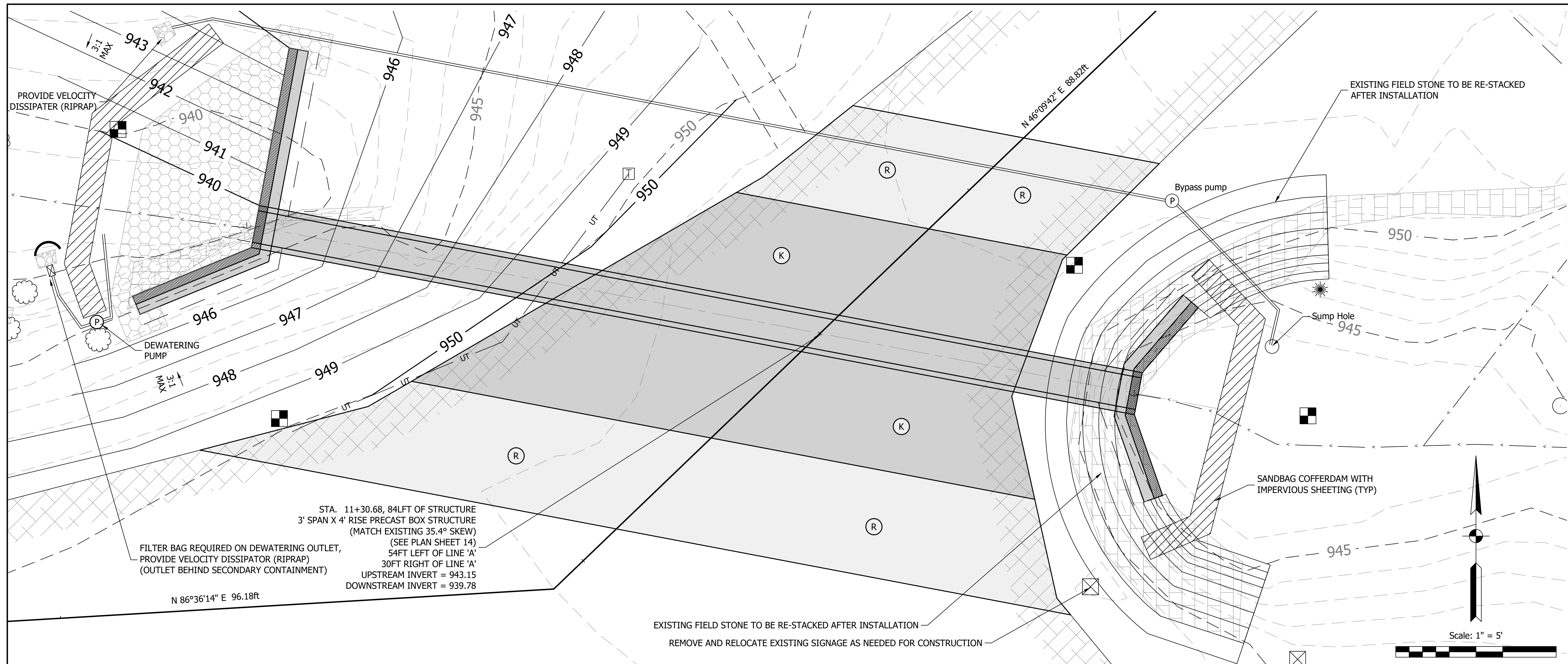
FILE NO: 2313067
CLIENT NAME:
INDIANA DEPARTMENT OF
NATURAL RESOURCES

PROJECT DESCRIPTION:
VERSAILLES SP

SHEET TITLE:
SITE 2 - STRUCTURE PLAN &
PROFILE

DESIGN PHASE:
BIDDING PLANS

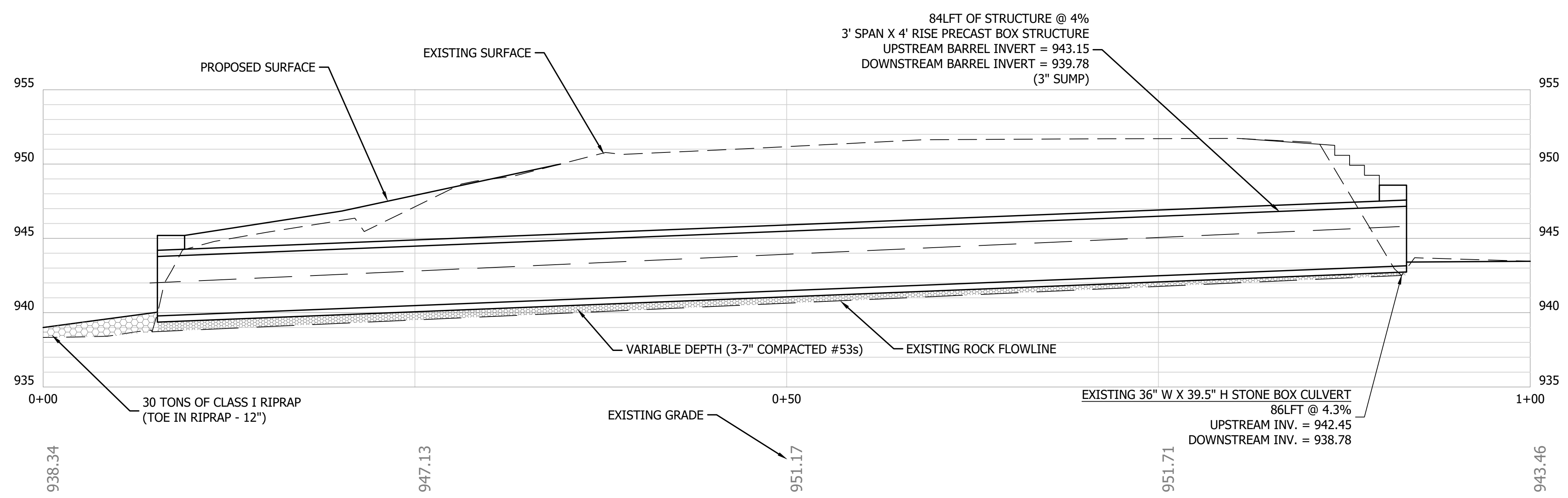
SHEET NUMBER:
13



STA. 11+30.68, 84LFT OF STRUCTURE
 3' SPAN X 4' RISE PRECAST BOX STRUCTURE
 (MATCH EXISTING 35.4° SKEW)
 (SEE PLAN SHEET 14)
 FILTER BAG REQUIRED ON DEWATERING OUTLET,
 PROVIDE VELOCITY DISSIPATOR (RIPRAP)
 (OUTLET BEHIND SECONDARY CONTAINMENT)
 54FT LEFT OF LINE 'A'
 30FT RIGHT OF LINE 'A'
 UPSTREAM INVERT = 943.15
 DOWNSTREAM INVERT = 939.78

PLAN VIEW OF BOX CULVERT

SCALE: 1" = 5'



SECTION ALONG CL OF BOX CULVERT

SCALE: 1" = 5'

TYPICAL SECTION LEGEND

- (K) FULL DEPTH PAVEMENT SECTION: 115 SYS
 220 lbs/Sys HMA SURFACE A, 12.5mm
 330 lbs/Sys HMA BASE A, 25.0mm
 12" COMP. AG. #53 BASE ON
 WELL COMPACTED SUBGRADE
- (R) MILL & RESURFACE: 114 SYS
 220 lbs/Sys HMA SURFACE A, 12.5mm
 ON 2" MILLING, ASPHALT

GRADING/EROSION CONTROL NOTES

1. CONTRACTOR SHALL INSTALL SILT FENCE WHERE NEEDED TO PREVENT SEDIMENTS FROM ENTERING WATERWAYS PRIOR TO UPSTREAM GRADING.
2. CHANNEL SHALL BE DEWATERED PRIOR TO WORKING IN CHANNEL. DEWATERING DETAIL IS ON EROSION CONTROL DETAIL SHEET 19.
3. PROVIDE PERMANENT STABILIZATION PER PLANS AND TEMPORARY STABILIZATION (SEEDING) PER NOTES ON SHEET 19.
4. FINAL ROADWAY SURFACE LAYER SHALL BE PUT DOWN AFTER ALL CONSTRUCTION IS COMPLETE AS NEEDED TO ENSURE A CONTINUOUS FINAL PAVEMENT SURFACE THROUGHOUT THE PROJECT LIMITS. PAVEMENT JOINTS SHALL BE CLEAN STRAIGHT SAWCUT JOINTS. PROVIDE JOINT SEALANT AND TACK COAT IN ACCORDANCE WITH CURRENT INDOT SPECIFICATIONS. PAYMENT OF JOINT SEALANT AND TACK COAT SHALL BE INCLUDED IN THE HMA ITEMS. ALL MAX HMA LIFTS SHALL BE IN ACCORDANCE WITH CURRENT INDOT SPECIFICATIONS.
5. EXISTING SIGNAGE SHALL BE REMOVED AND RESET AS NEED FOR CONSTRUCTION.
6. FIELD VERIFY LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO ORDERING MATERIALS.

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7-16-2025
 REGISTERED PROFESSIONAL ENGINEER
 No. 60900038
 STATE OF INDIANA
Arnold C. Heung

SCALE: 1" = 5'
 DRAWN BY: ARC
 CHECKED BY: CLK,BAH
 DATE: JULY 16, 2025

Revision	Drawn By	Date

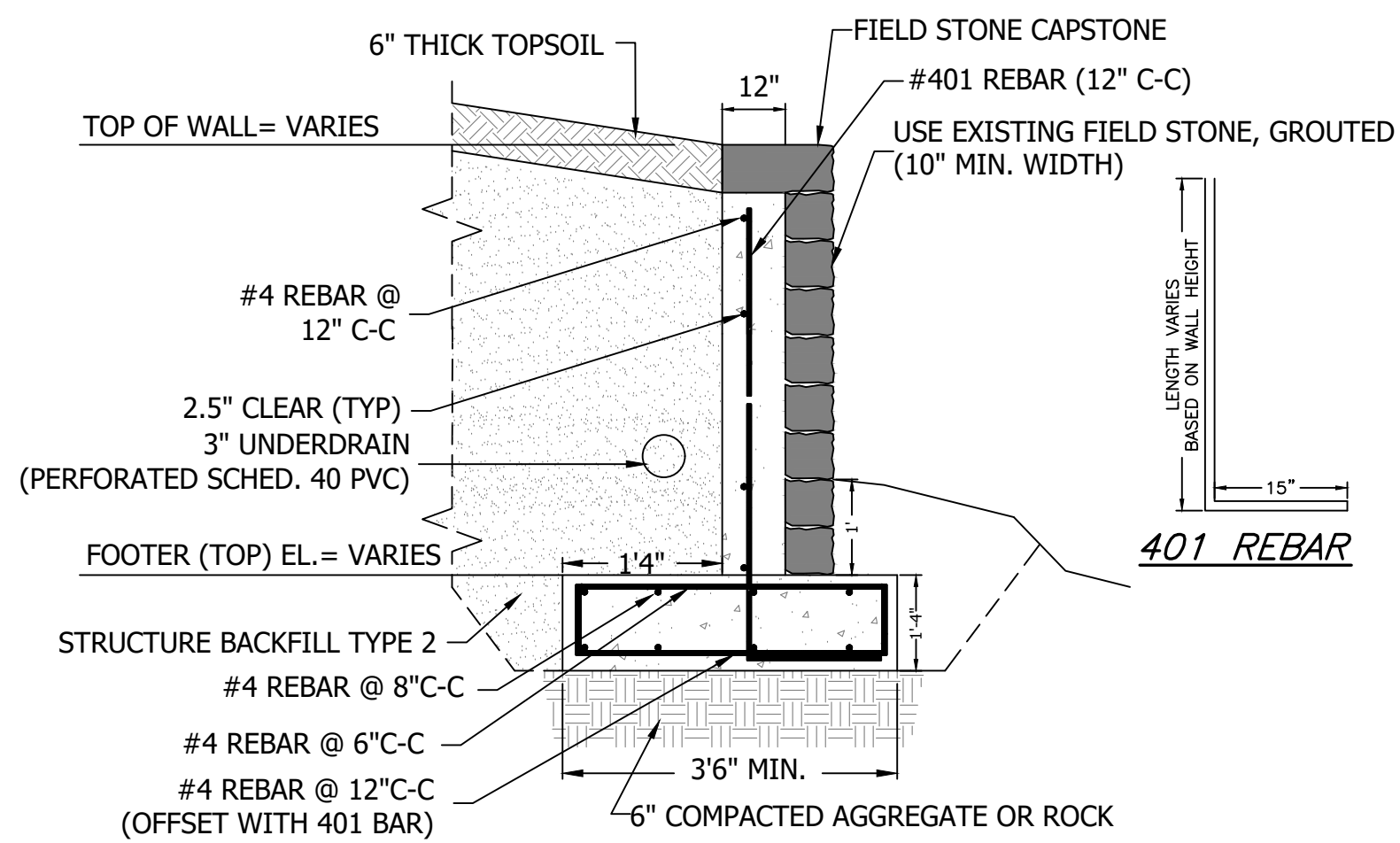
FILE NO: 2313067
 CLIENT NAME:
 INDIANA DEPARTMENT OF
 NATURAL RESOURCES

PROJECT DESCRIPTION:
 VERSAILLES SP

SHEET TITLE:
 SITE 2 - CONSTRUCTION DETAILS

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
14

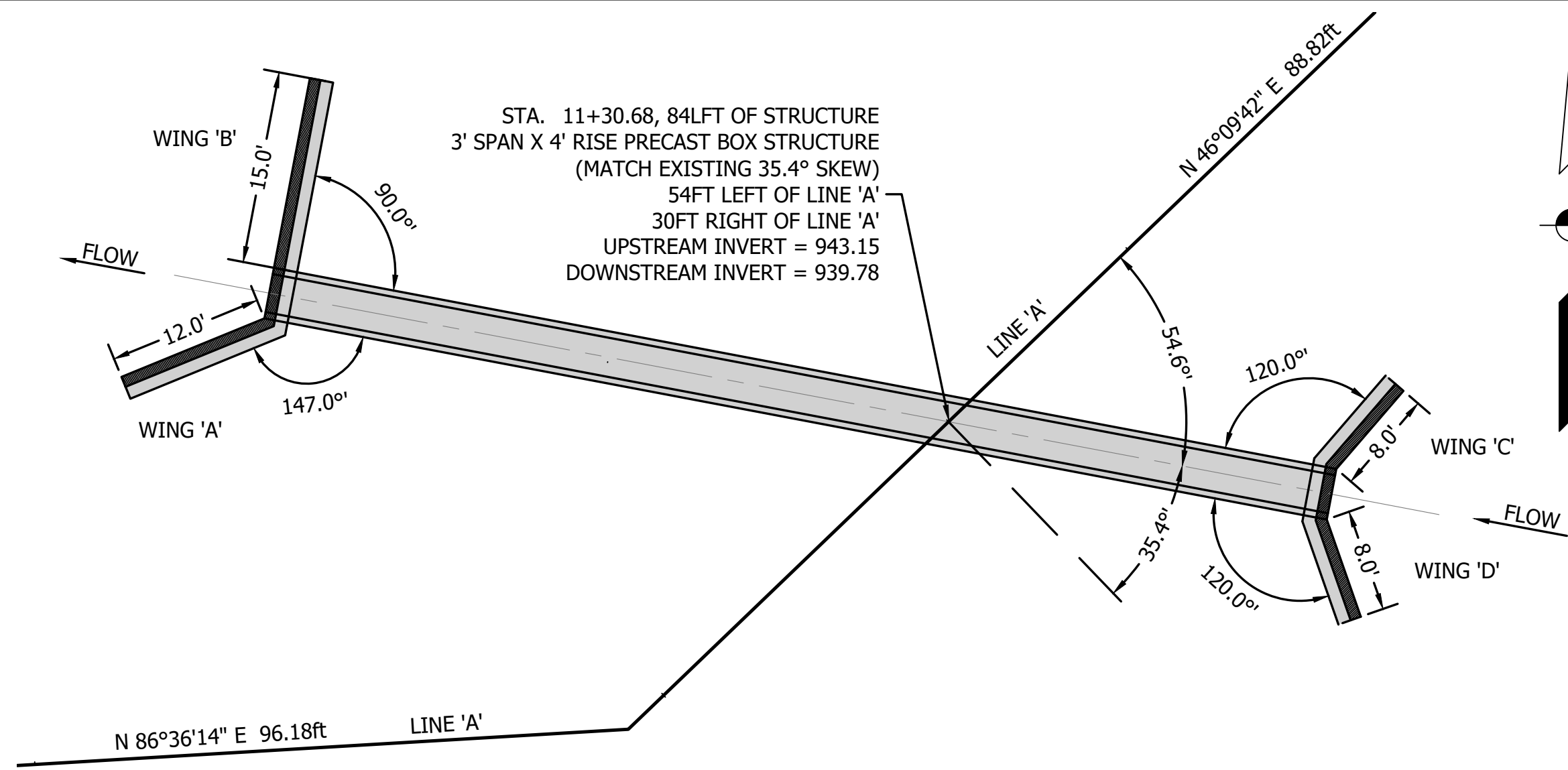


STONE FACED WINGWALL/HEADWALL DETAIL

SCALE: NTS

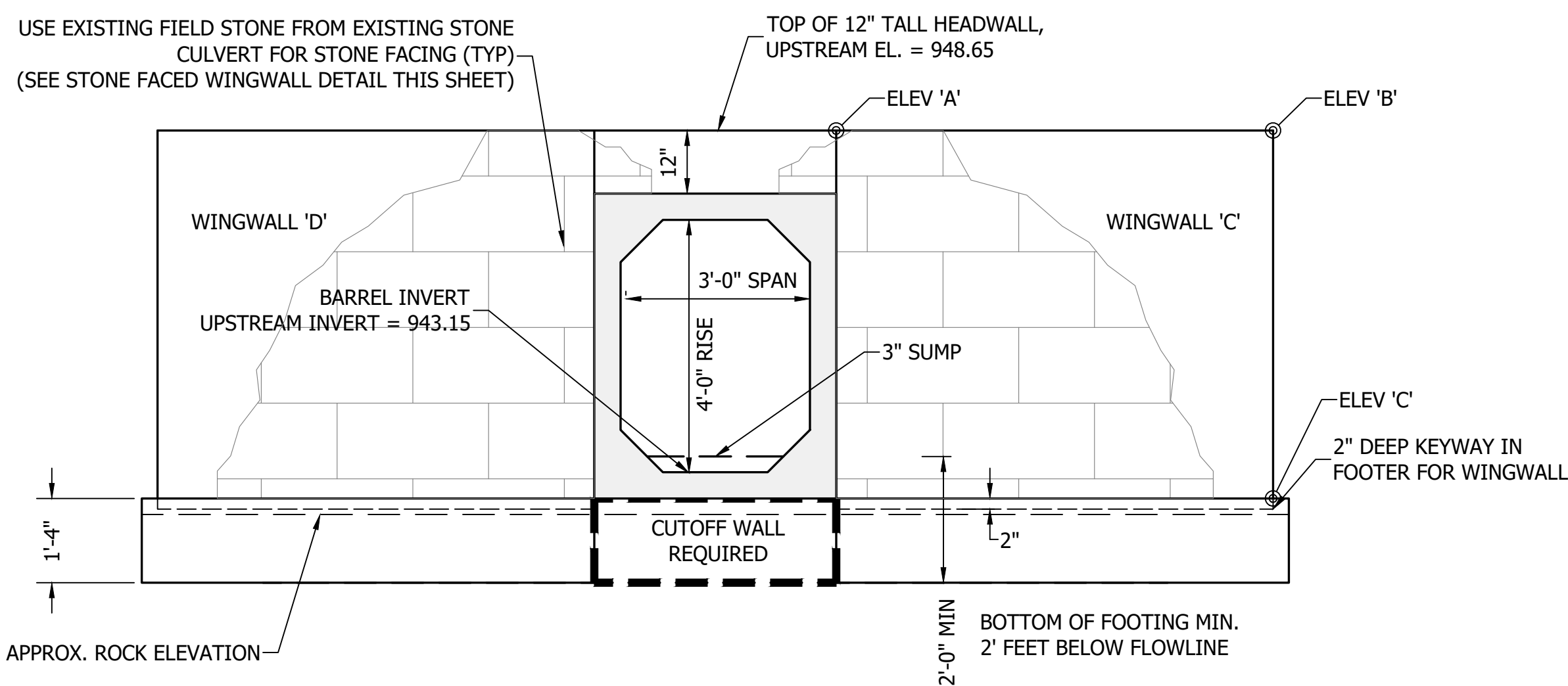
GENERAL NOTES:

- EXISTING 36" WIDE X 39.5" TALL STONE CULVERT WITH STONE HEADWALLS AND WINGWALLS TO BE REPLACED WITH CONCRETE BOX CULVERT. STONE FOR NEW HEADWALL AND WINGWALLS TO BE SALVAGED FROM EXISTING STONE CULVERT.
- PERFORM RECONSTRUCTION PER PLAN NOTES ON THIS SHEET.



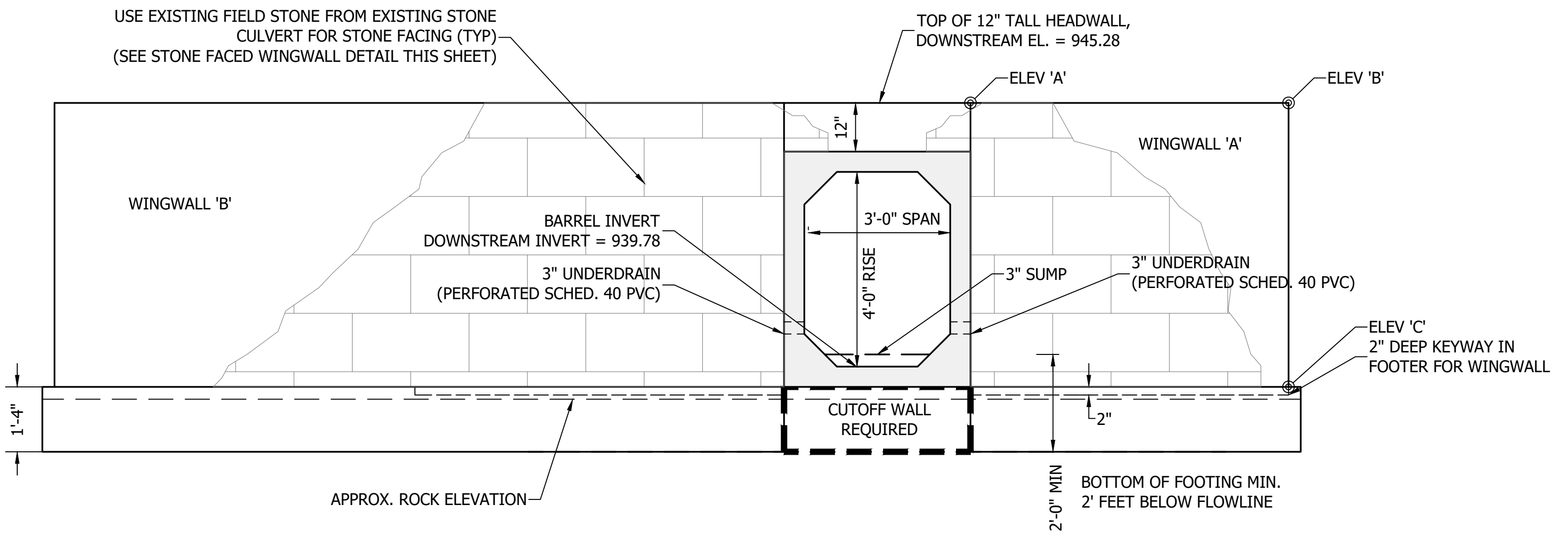
GENERAL PLAN VIEW

SCALE: 1" = 10'-0"



STRUCTURE ELEVATION DETAIL - UPSTREAM

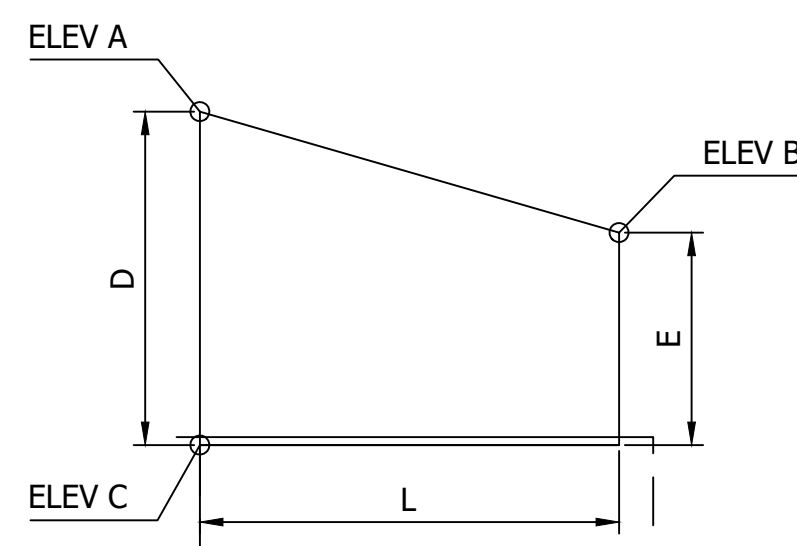
SCALE: 1" = 2'-0"



STRUCTURE ELEVATION DETAIL - DOWNSTREAM

SCALE: 1" = 2'-0"

Bearing Material	Skeletal Limestone
Backfill Friction Angle, δ	29°
Coefficient of Lateral Earth Pressure, K	0.5
Foundation Limestone Internal Friction Angle, ϕ	35°
Friction Factor between the Limestone and Concrete	0.7
Adhesion Between the Limestone and Concrete, C_a (psf)	0
Cohesion (psf)	0
Nominal Bearing Resistance, Q_u (psf)	30,000
Bearing Resistance Factor, ϕ_b (psf)	0.45
Factored Bearing Resistance, q_u (psf)	13,500

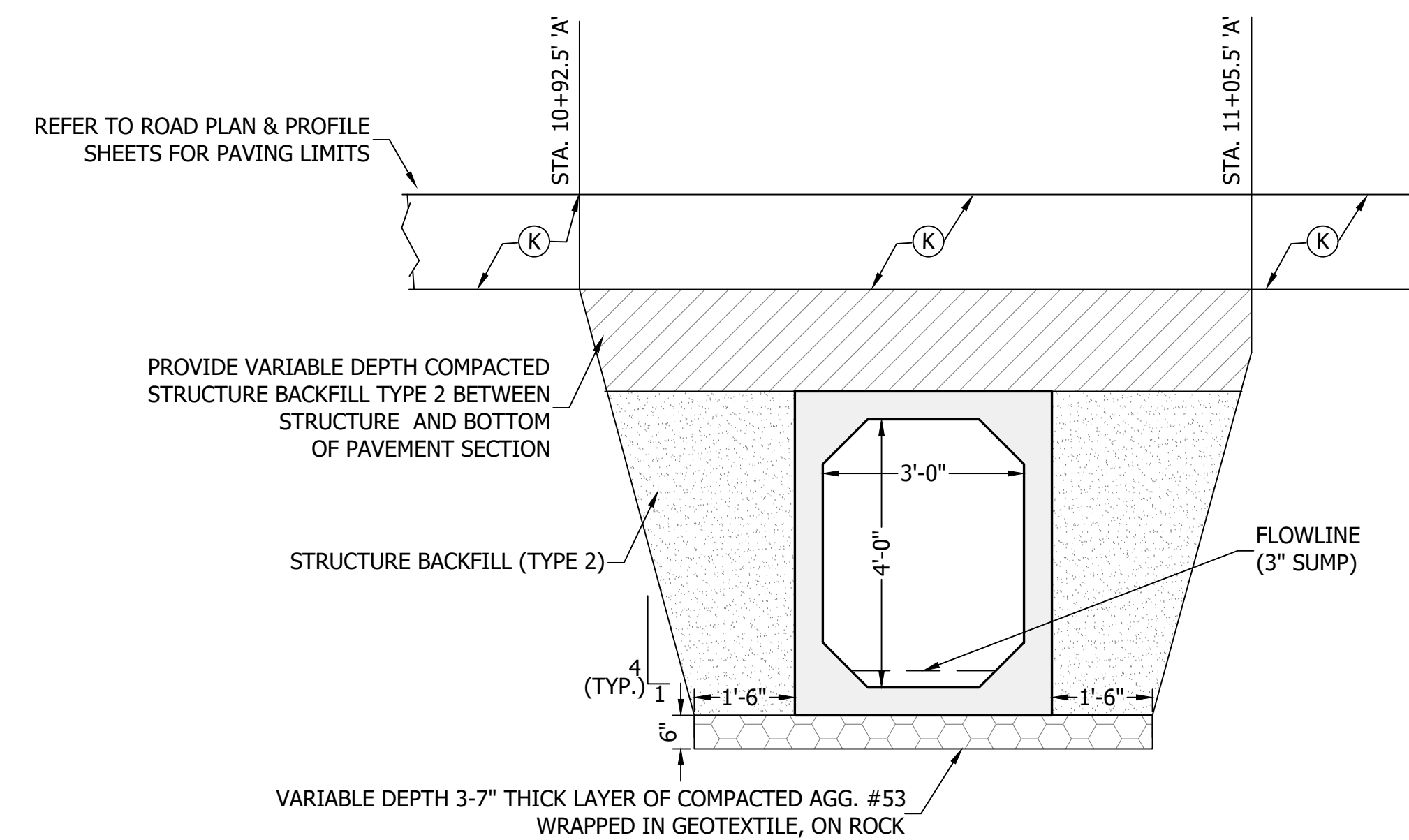


WINGWALL DETAIL

NOT TO SCALE

LOCATION	WINGWALL TABLE				TOTAL
	WING A	WING B	WING C	WING D	
ELEVATION A	945.28	945.28	948.65	948.65	
ELEVATION B	945.28	945.28	948.65	948.65	
ELEVATION C*	939.28	939.28	942.65	942.65	
DIMENSION D	6.00	6.00	6.00	6.00	
DIMENSION E	6.00	6.00	6.00	6.00	
DIMENSION L	12.5	18.5	8.0	8.0	
AREA (SFT.) *	75.0	111.0	48.0	48.0	282.0

* NOTE ELEVATION "C" CAN BE MODIFIED BASED ON CONTRACTORS DESIRED TOP OF FOOTING ELEVATION. MINIMUM FOOTING THICKNESS SHALL BE 2 FEET HOWEVER. TOP OF FOOTING SHALL NOT BE HIGHER THAN BOX CULVERT INVERT ELEVATION. BOTTOM OF FOOTING ELEVATION SHALL MEET DEPTH REQUIREMENTS ON ELEVATION VIEW. WINGWALLS ARE DESIGN/BUILD AND CONTRACTOR SHALL PROVIDE STAMPED ENGINEER DRAWINGS FOR WINGWALLS USING THE SOIL PARAMETERS PROVIDED. WINGWALLS SHALL BE ATTACHED TO BOX SECTIONS AS SHOWN (RECESSED) TO PROVIDE A STABLE BASE OVER THE BOX FOR THE STONE FACING HEADWALL. AREAS PROVIDED DO NOT TAKE INTO ACCOUNT ANY BUMP OUTS IN THE CONCRETE WINGWALLS FROM THE BOX STRUCTURE REQUIRED FOR THE STONE FACING.



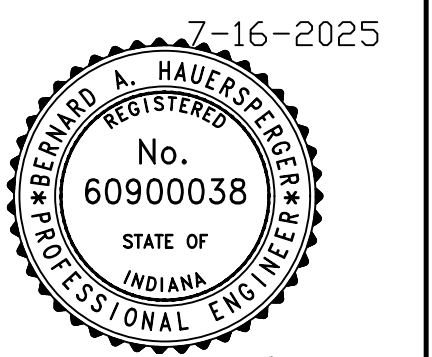
STRUCTURE BACKFILL DETAIL

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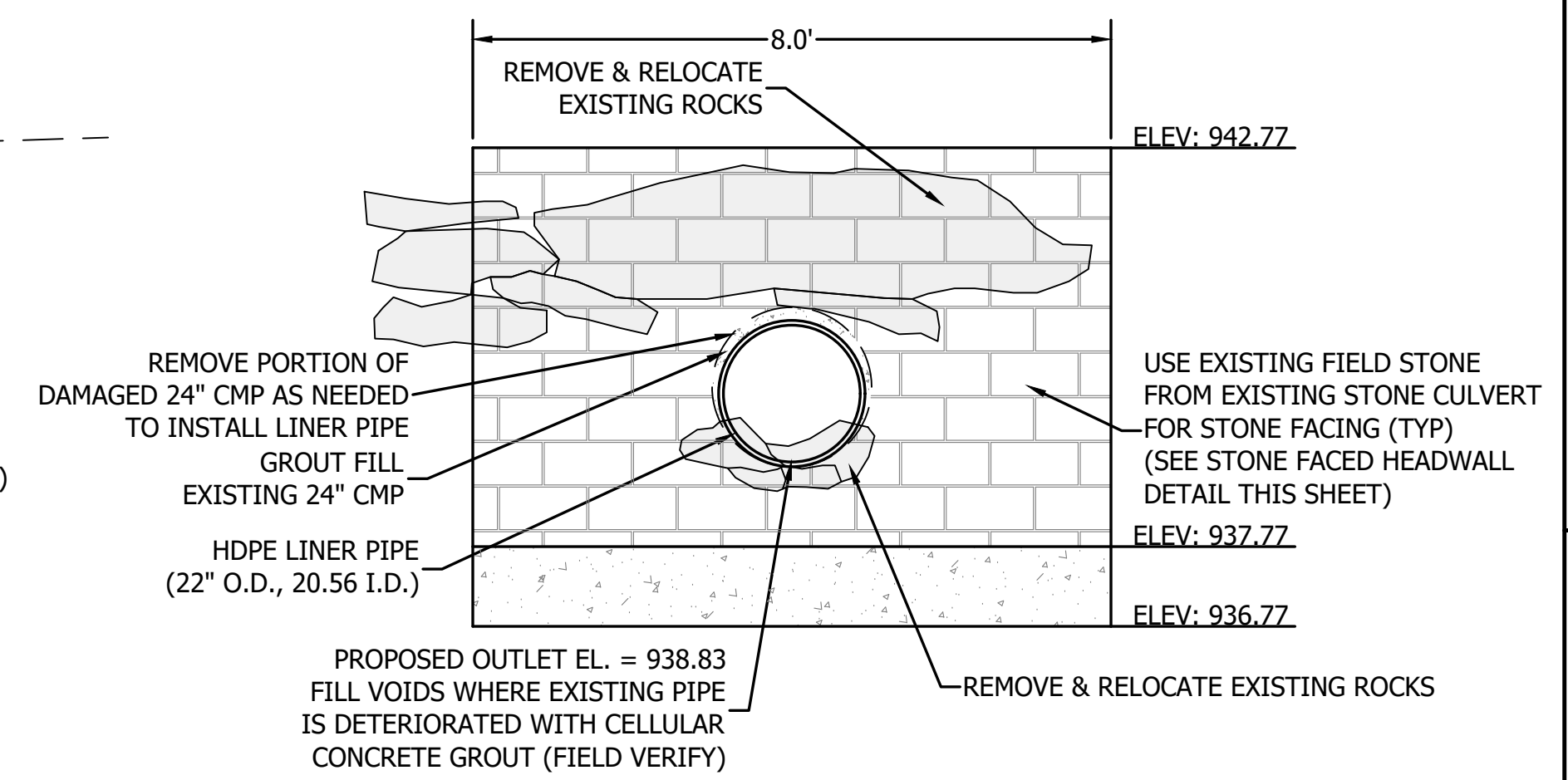
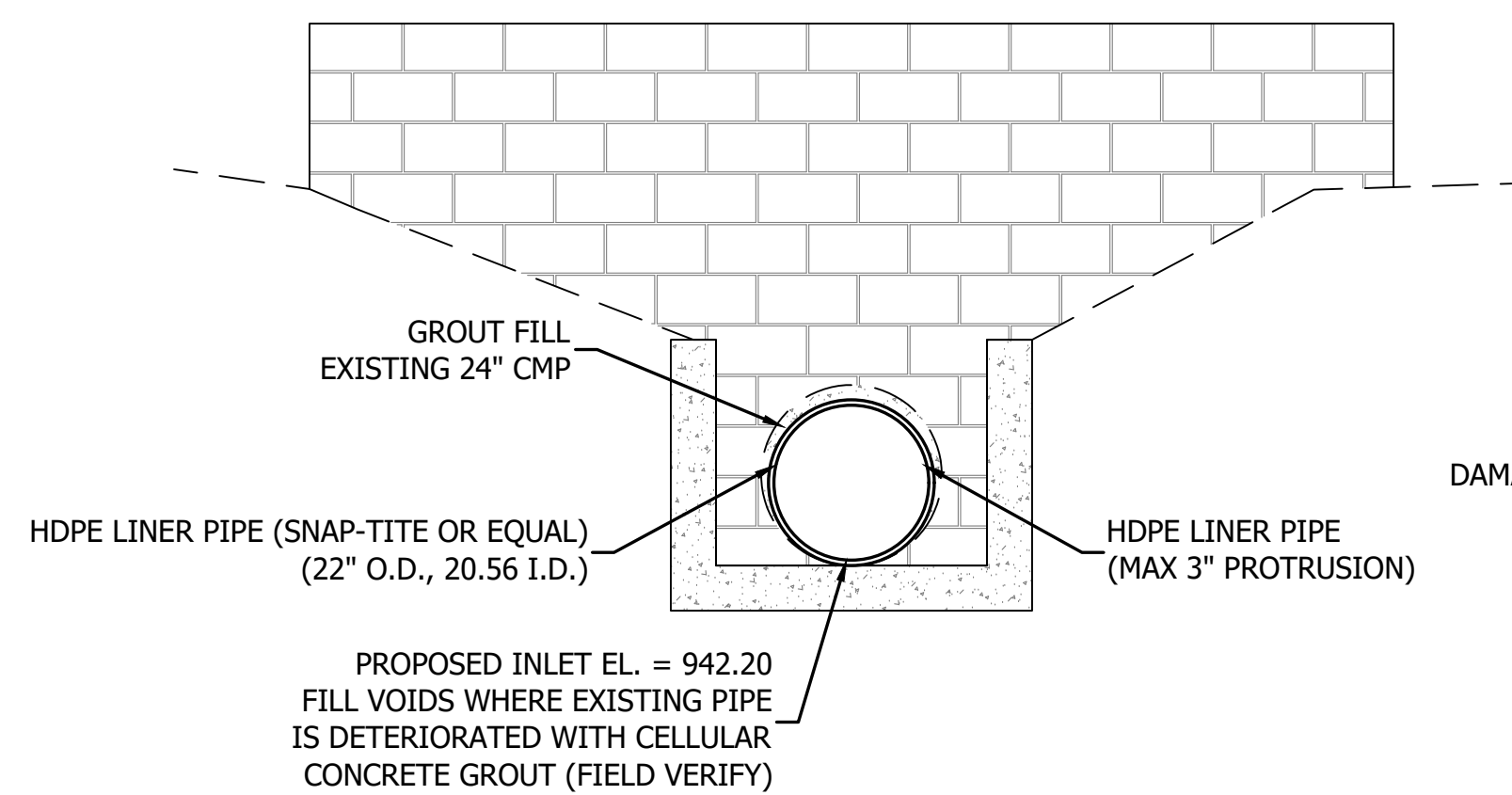
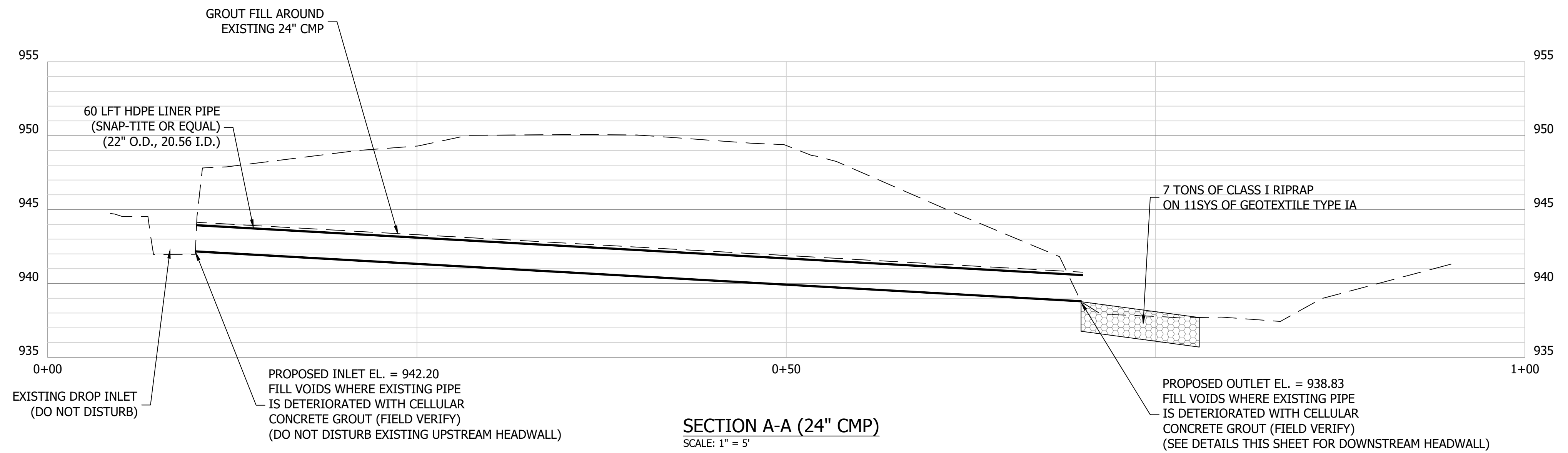
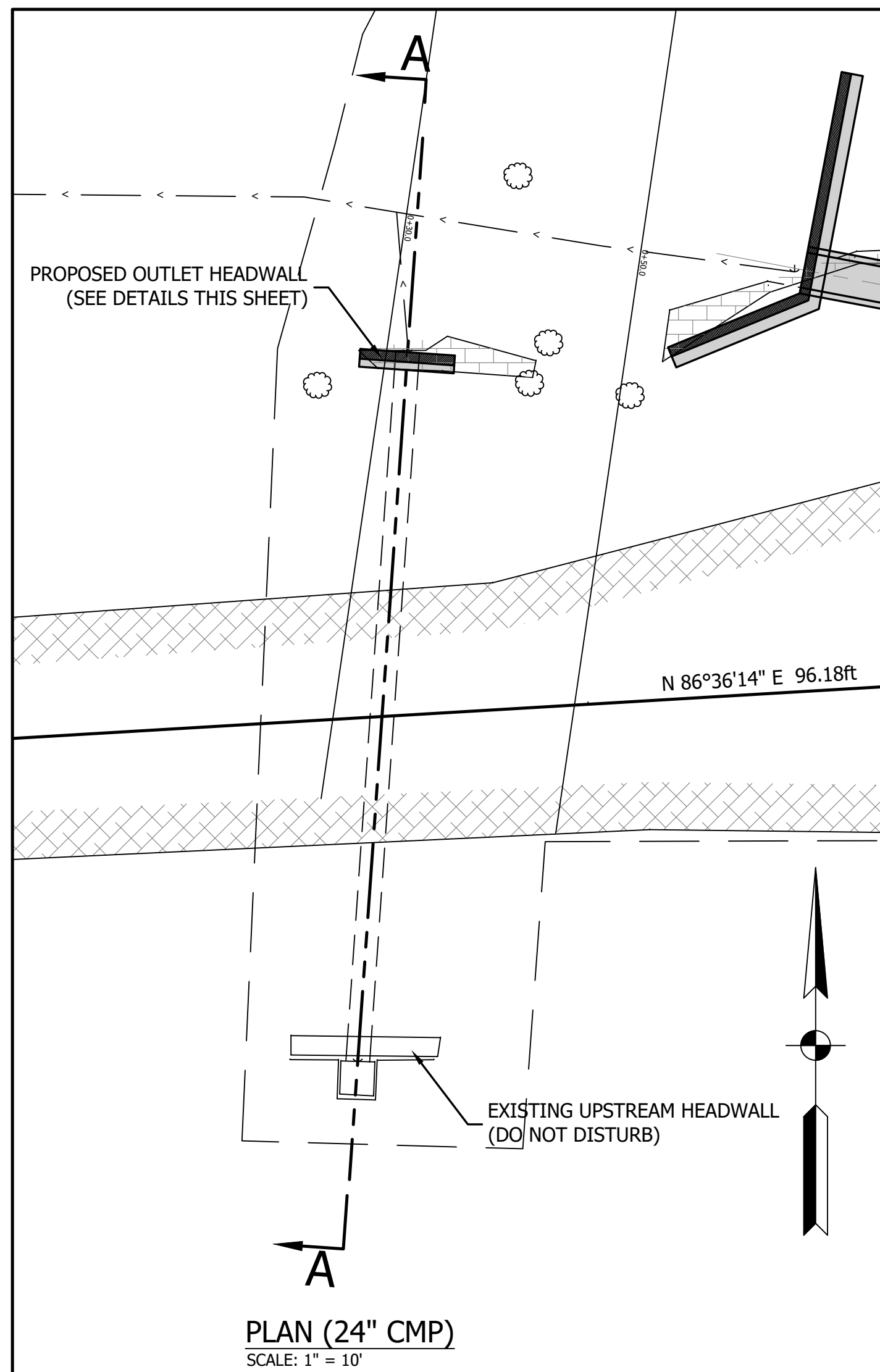
FILE NO: 2313067
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PROJECT DESCRIPTION: VERSAILLES SP

SHEET TITLE: SITE 2 - GENERAL PLAN (1 OF 2)

DESIGN PHASE: BIDDING PLANS

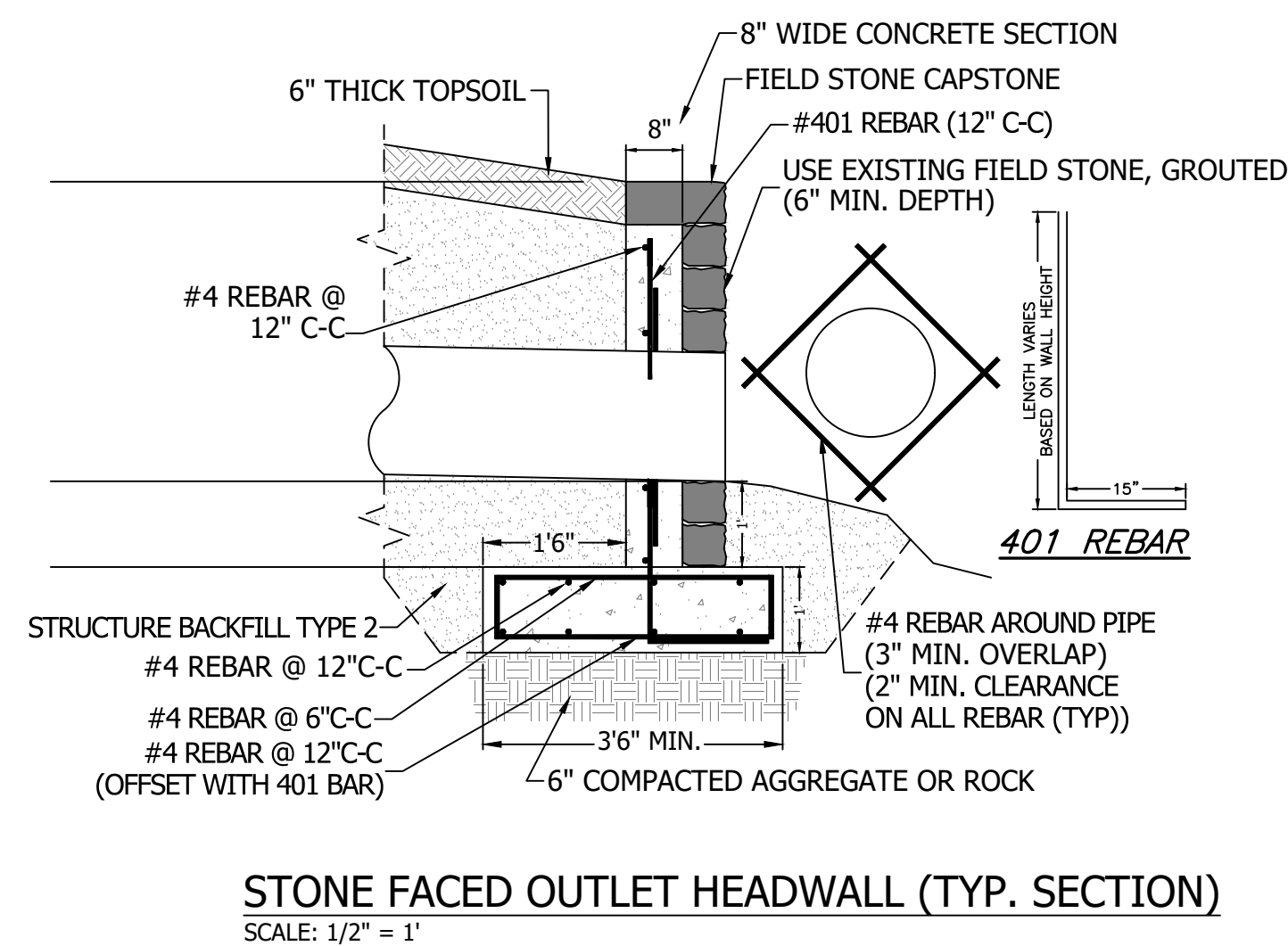
SHEET NUMBER:



24" CMP SLIP-LINING DESIGN SUMMARY - FULL FLOW COMPARATIVE FLOW RATES
EXISTING 24" CMP: 3.9 CFS

COMPARATIVE FLOW RATES (SNAP-TITE)
OD: 22", ID: 20.56" 6.7 CFS

- NOTES:
1. ANY TUBES USED FOR GROUT FILLING SHALL BE CUT AND GROUTED UPON COMPLETION.
2. SLIP-LINING SHALL BE CUT UPON COMPLETION TO ALLOW FOR A MAX PROTRUSION OF 3".



EXISTING 24" CMP HEADWALL/INLET

EXISTING ROCKS TO BE REMOVED & RELOCATED



EXISTING 24" CMP OUTFALL

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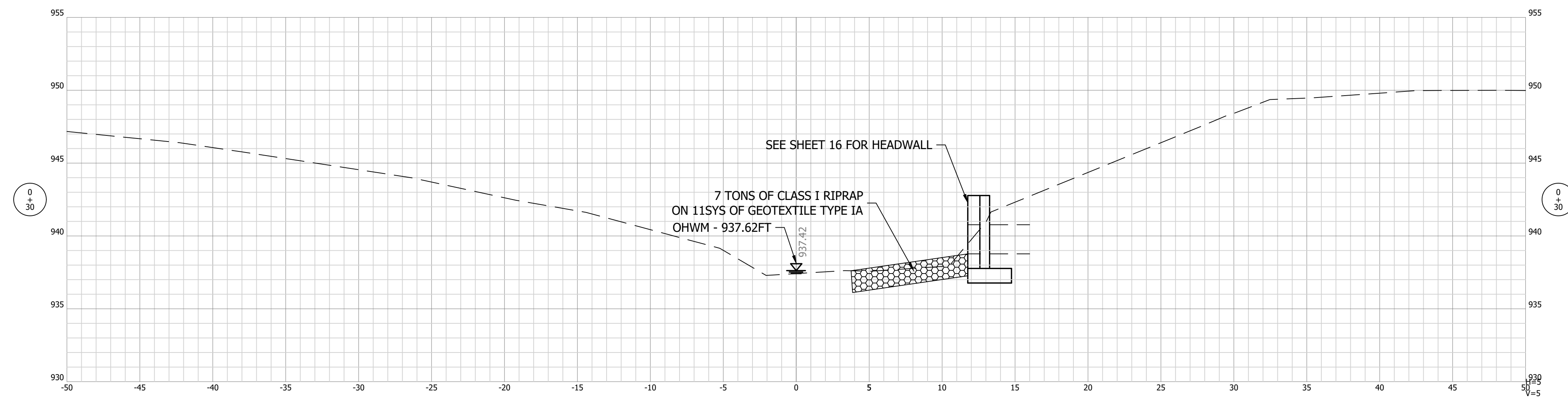
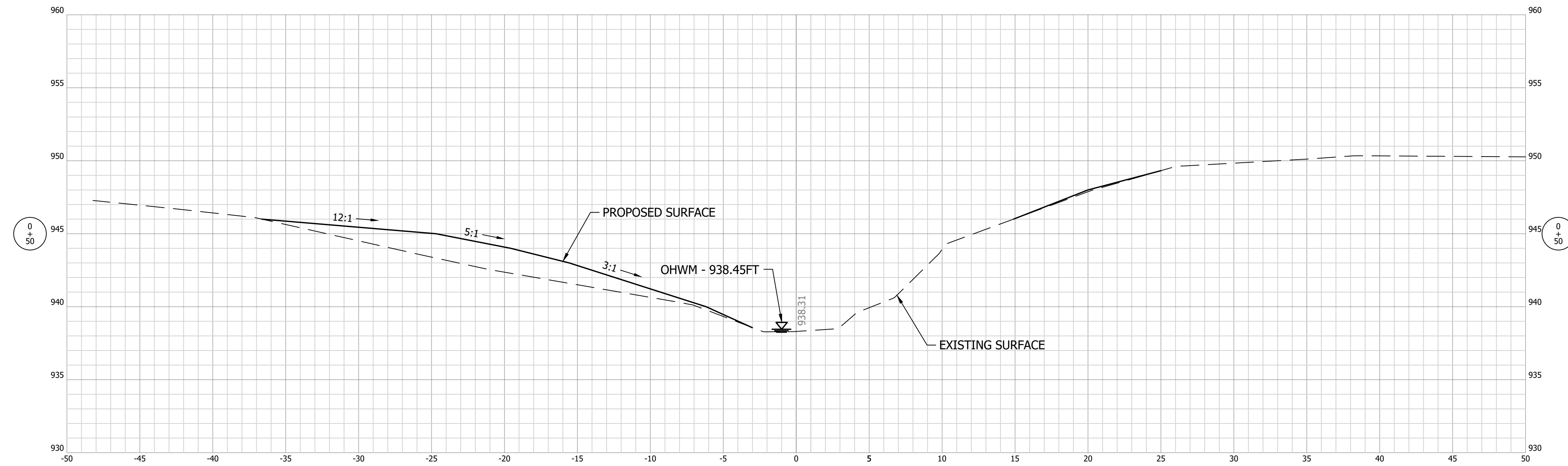
SHEET TITLE: SITE 2 - GENERAL PLAN (2 OF 2)

DESIGN PHASE: BIDDING PLANS

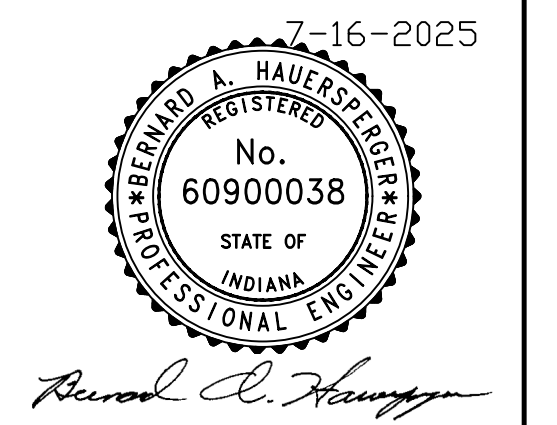
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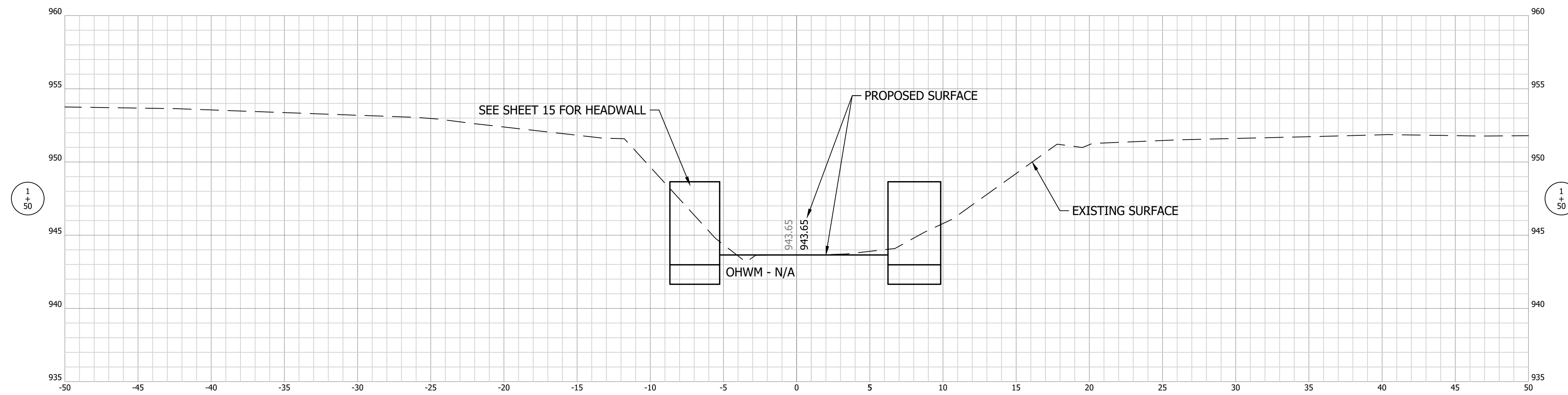
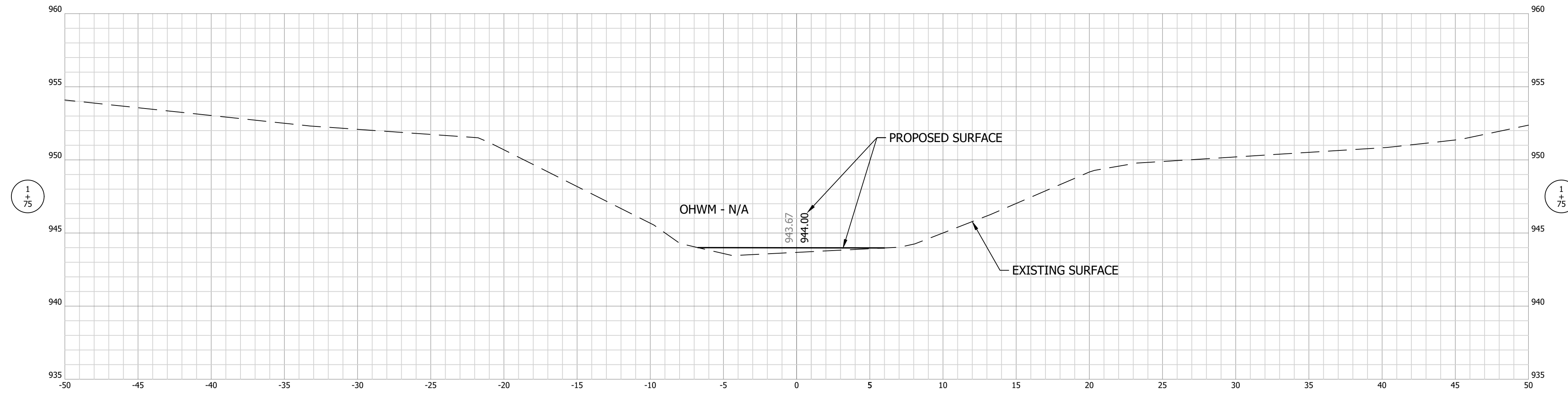
SHEET TITLE:
 SITE 2 - (STREAM
 CROSS-SECTIONS 1 OF 2)

DESIGN PHASE:
 BIDDING PLANS

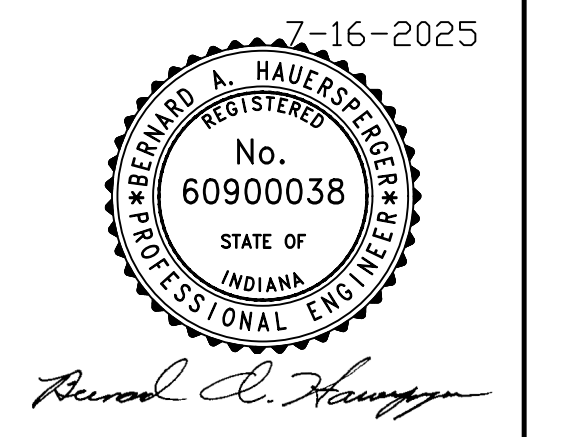
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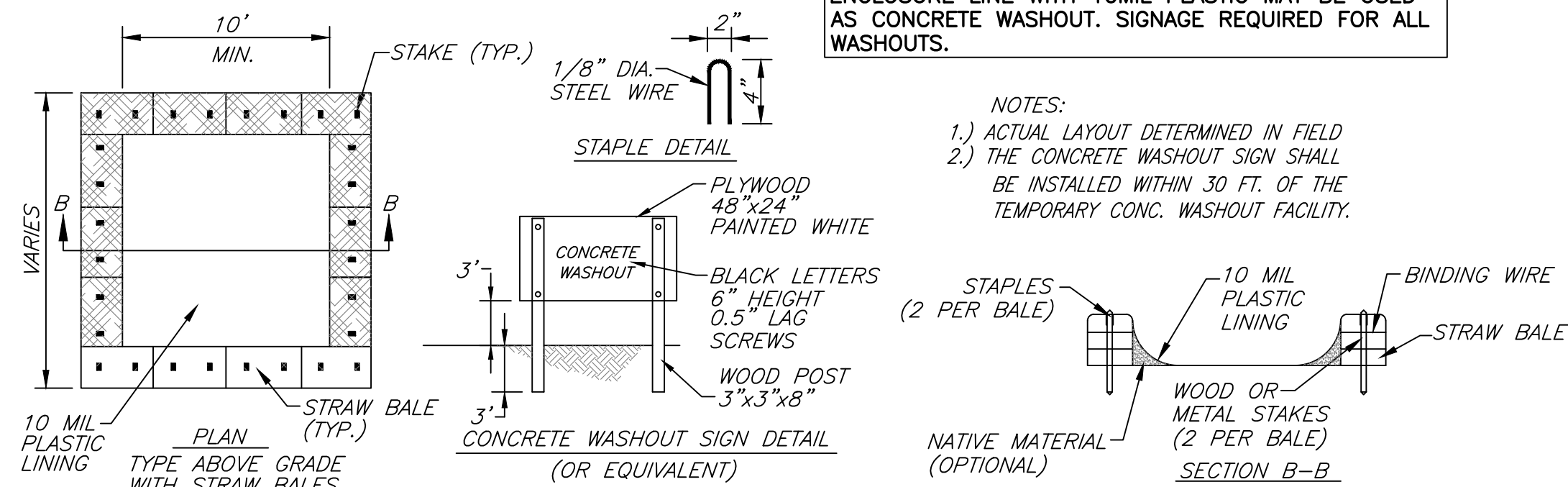
PROJECT DESCRIPTION:
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SHEET TITLE:
 SITE 2 - (STREAM
 CROSS-SECTIONS 2 OF 2)

DESIGN PHASE:
 BIDDING PLANS

SHEET NUMBER:
18

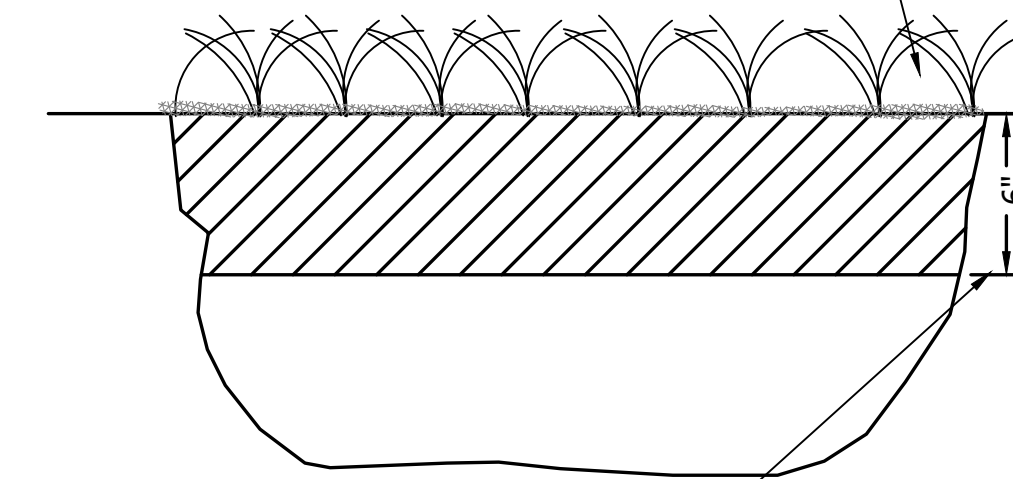
CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF WASHOUT. WASHOUT SHALL BE KEPT AS FAR AWAY FROM WATERWAYS AND STORM SEWERS AS POSSIBLE. A ROLL OFF DUMPSTER OR OTHER 3 CYD OR LARGER ENCLOSURE LINE WITH 10MIL PLASTIC MAY BE USED AS CONCRETE WASHOUT. SIGNAGE REQUIRED FOR ALL WASHOUTS.



NOTES:
 1.) ACTUAL LAYOUT DETERMINED IN FIELD
 2.) THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONC. WASHOUT FACILITY.

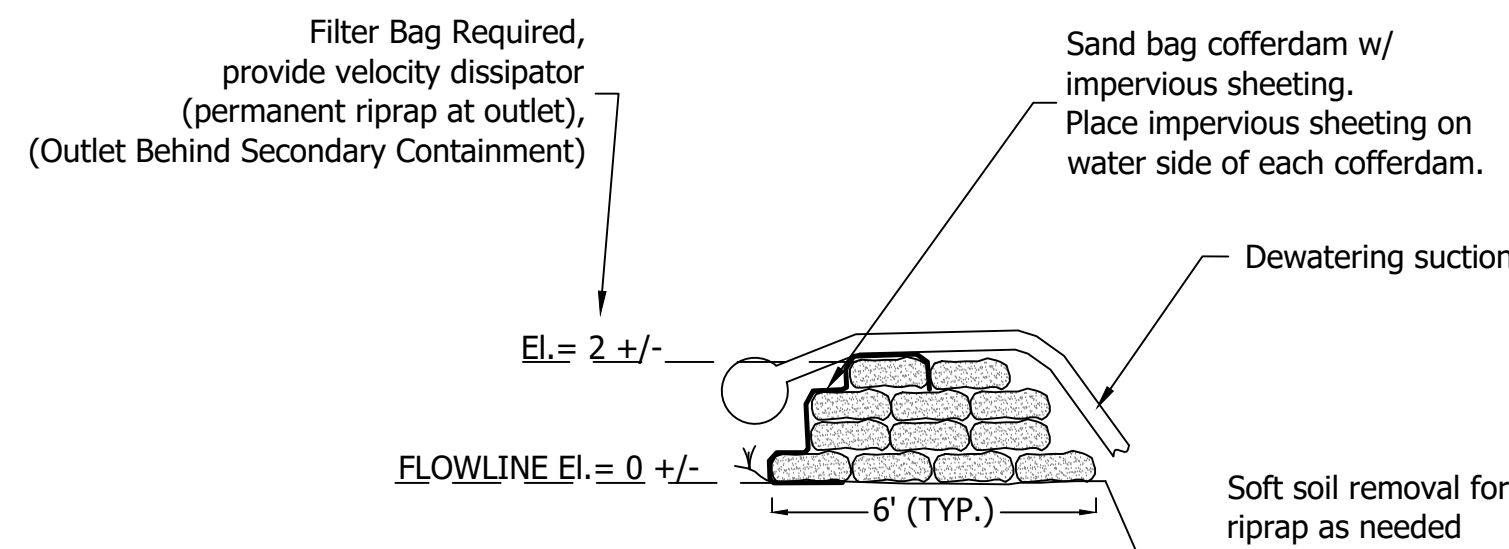
CONCRETE WASHOUT DETAIL
 NOT TO SCALE

MULCH SEED URBAN TYPE REQUIRED PER CURRENT SPECS. SEE NOTE 2 THIS SHEET FOR MULCHING, FERTILIZER AND OTHER REQUIREMENTS.



TOP 6" OF DIRT IN LAWN AREAS SHALL BE CLEAN LOOSE TOPSOIL

GRASSED AREA
 NOT TO SCALE



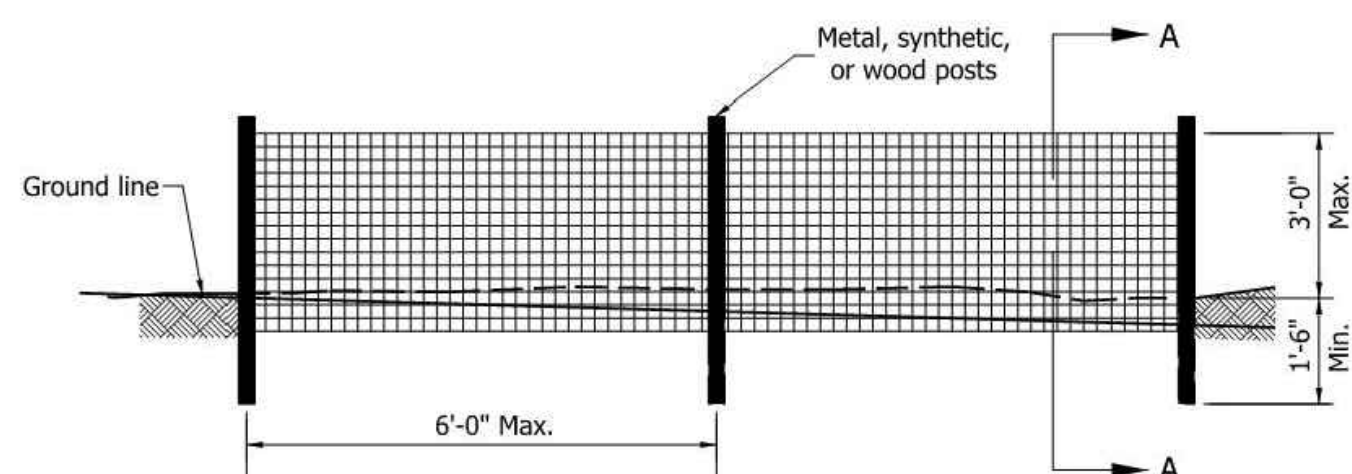
DEWATERING AREA
 NOT TO SCALE

PUMP AROUND NOTES

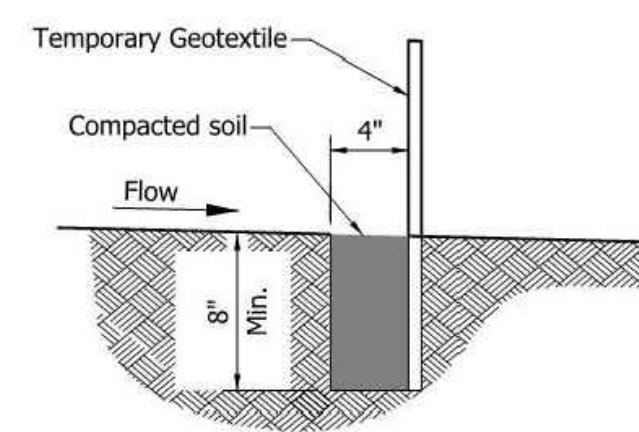
1. Pump around required if channel not completely dry during working operations. Block off flow thru pipe to be replaced with sandbag cofferdam (2 foot height) with impervious sheeting.
2. Ensure pump around discharge outlets onto riprap (velocity dissipator). Pump discharge hose/pipe routing shall be determined by Contractor.
3. Block off channel at downstream end with cofferdam to allow dewatering within construction area. Dewatering outlet pipe to have filter bag and discharge behind modified riprap check dam.

EROSION CONTROL NOTES

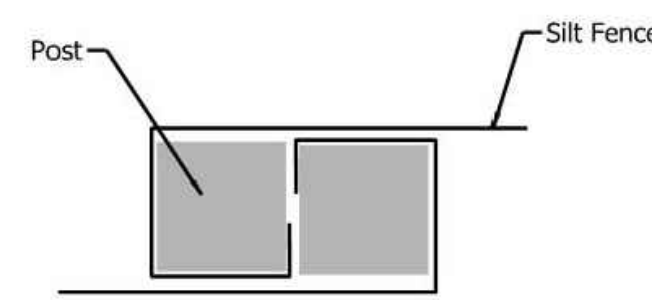
1. INSTALL CONCRETE WASHOUT PRIOR TO POURING ANY CONCRETE. WASHOUT SHALL BE WATERTIGHT PER WASHOUT DETAIL OR DUMPSTER (3 CYD OR LARGER) LINED WITH PLASTIC. CONTRACTOR SHALL MONITOR WASHOUT AND ENSURE MINIMUM OF 12" OF FREEBOARD IS PROVIDED AT ALL TIMES IN WASHOUT. CONTRACTOR SHALL ALLOW WASH WATER TO EVAPORATE/HARDEN AND THEN DISPOSE OF HARDENED CONCRETE. IF DISPOSED OF ONSITE, CONCRETE SHALL BE COMPLETELY BURIED AND COVERED WITH 2 FEET OR MORE OF FILL DIRT.
2. PERFORM FINAL GRADING AND COORDINATE WITH OWNER ON PERMANENT SEED STABILIZATION MIX. IF NO DIRECTION IS PROVIDED STABILIZE WITH PERMANENT SEED MIXTURE TYPE 'U' IN ACCORDANCE WITH CURRENT INDOT SPECIFICATION SECTION 621.06. APPLY FERTILIZER AND MULCH PER INDOT SPECIFICATION 621.05. SEEDING SHALL BE IN ACCORDANCE WITH INDOT SPEC SECTION 621.12 SEASONAL LIMITATIONS: WARRANTY BOND REQUIRED FOR SEEDING DONE BETWEEN OCTOBER 16 AND JANUARY 31. SEEDING WITHOUT MULCH SHALL NOT BE DONE BETWEEN MAY 1 AND AUGUST 15. AS PART OF FINAL GRADING AND STABILIZATION, CONTRACTOR SHALL REMOVE ANY SEDIMENT ACCUMULATED IN TRAPPING DEVICES. IMMEDIATELY SEED SLOPES WITH MULCH SEEDING TYPE U OR EROSION CONTROL BLANKET WITH SEEDING. TYPE U SEED MIX SHALL BE APPLIED AT 196.5LB/ACRE CONSISTING OF 100LB/ACRE 4-WAY BLEND OF TURF TYPE TALL FESCUE, 50LB/ACRE CREEPING RED FESCUE, 45 LB/ACRE OF PERENNIAL RYE GRASS AND 1.5 LB/ACRE WHITE DUTCH CLOVER. REFER TO INDOT SPEC SECTION 621 FOR ADDITIONAL DETAILS. IF SLOPES EXCEED 4:1, EROSION CONTROL BLANKET IS REQUIRED. SEE SPECS FOR REQUIREMENTS.
3. EROSION CONTROL BLANKET SHALL BE CURLEX NETFREE OR EQUAL. ALL FIBERS SHALL BE MADE INTO THE BLANKET FORM WITHOUT THE AID OF ANY NETTING. THIS ALSO EXCLUDES THE USE OF JUTE NETTINGS. PRODUCT SHALL BE APPROVED FOR SLOPES 3H:1V AND FLATTER. CONTRACTOR SHALL COORDINATE ALL EROSION CONTROL BLANKET WITH ENGINEER AND/OR OWNER BEFORE INSTALLATION. INSTALL EROSION CONTROL BLANKET PER MANUFACTURERS INSTRUCTIONS.
4. ALL FLOWLINE STABILIZATION AND SLOPES 4:1 AND STEEPER SHALL REQUIRE EROSION CONTROL BLANKET AS SPECIFIED ABOVE.



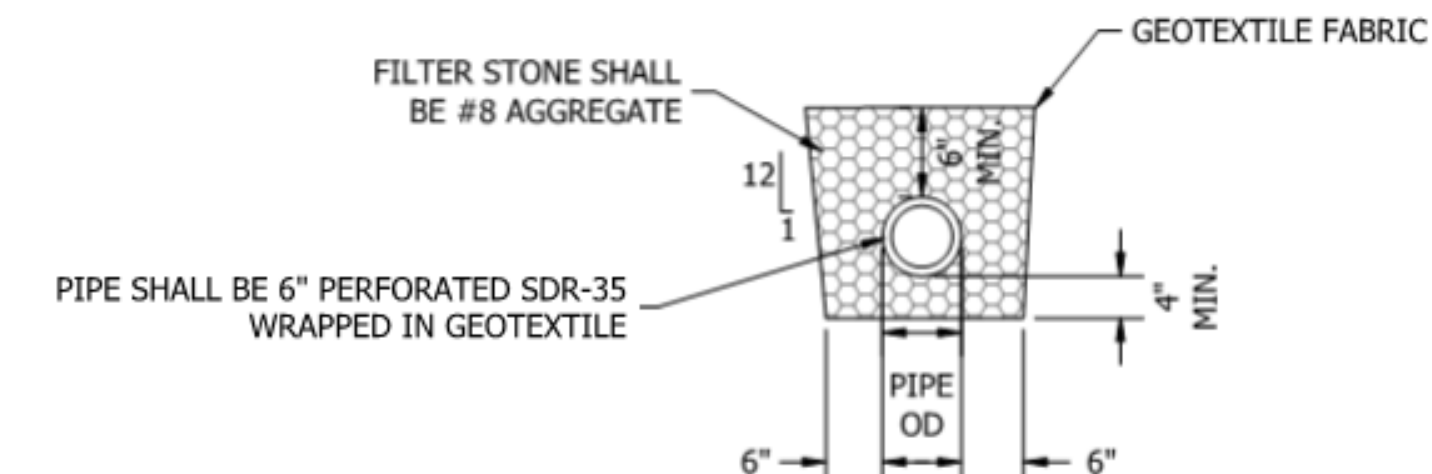
SILT FENCE ELEVATION



SECTION A-A



JOINT DETAIL PLAN VIEW



TYPICAL 6" UNDERDRAIN DETAIL
 NOT TO SCALE

****TEMPORARY SILT FENCE (PER INDOT STD. DWG E205-TECP-11)**
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