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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

C. I. P. PROJECT NO. 509753

RELATED REQUIRED PERMITS					
IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT					
TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District	X				
WATERWAYS/WETLAND(S):					
a. Corps of Engineers	X				
b. MDE	X				
c. MDE Water Quality Certification		X			
MDE Dam Safety		X			
* DPS Roadside Trees Protection Plan	X		MCDOT BLANKET PERMIT NO. 361405	Approval Date	DATE FILED
* N.P.D.E.S. NOTICE OF INTENT		X			
TOW WORK (Required Post Construction)		X			
OTHERS:					
DPS Erosion and Sediment Control	X				
MNCPPC Permit	X				
* A copy of the Roadside Trees Protection Plan must be delivered to the sediment control inspector at the preconstruction meeting.					

OWNER/PERMIT APPLICANT INFORMATION

NAME: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
ADDRESS: 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878
PHONE NUMBER: (240) 777-7227
CONTACT PERSON: BRIAN E. COFFEY, P.E.

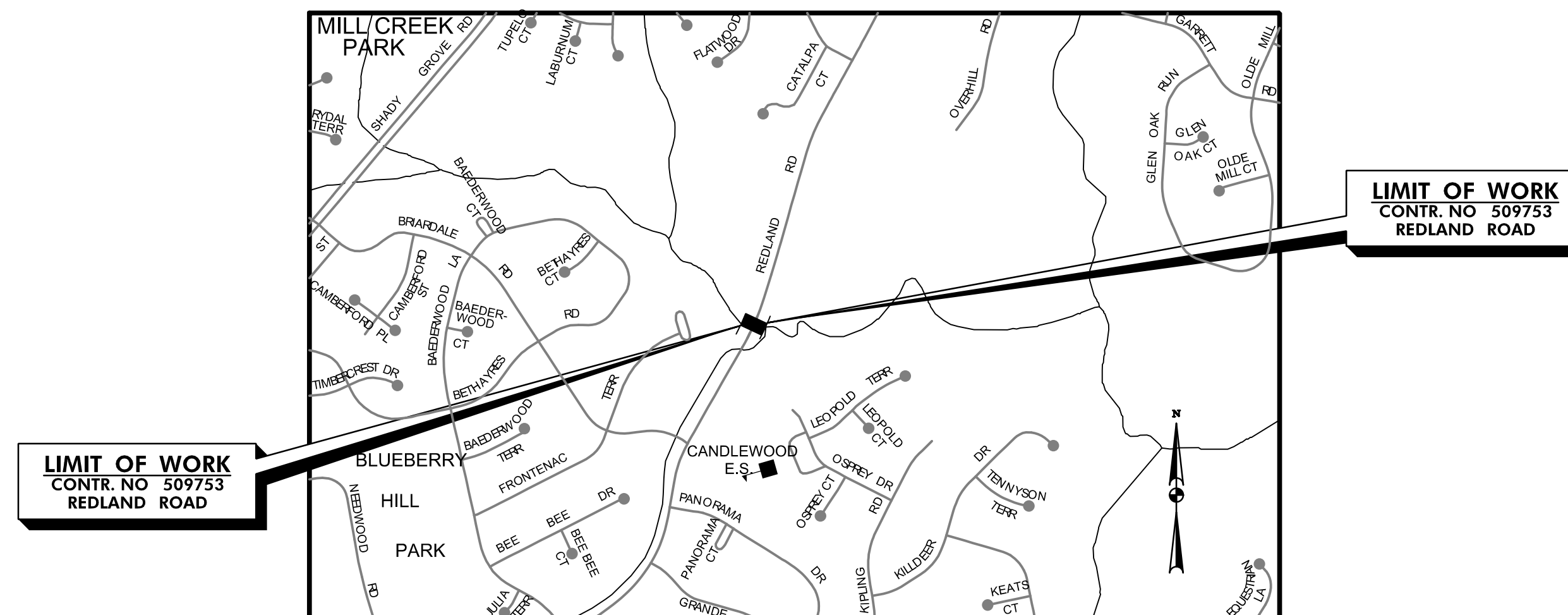
DRAINAGE STATEMENT

I understand that DPS approval of this sediment control/stormwater management plan is for demonstrated compliance with required environmental runoff treatment standards. This DPS sediment control/stormwater management plan approval does not relieve me of professional responsibility. I have analyzed the proposed design for sediment control permit no. _____ and hereby certify that, based upon my background, training and experience, I have determined that the proposed improvements shown on this plan meet relevant laws and regulations. I further acknowledge that I have analyzed the post development drainage patterns for this project from the standpoint of my responsibilities under current Maryland Law and have determined that if permission is required from adjacent property owners, I have obtained it and have made copies of those permissions available to DPS.

Engineer's Signature _____

Date _____

Printed Name _____



VICINITY MAP
MONTGOMERY COUNTY
LENGTH OF PROJECT
REDLAND ROAD = 0.03 MILES
SCALE : 1" = 2000'

SEQUENCE OF CONSTRUCTION

I. SEE SHEET SC000X FOR SEQUENCE OF CONSTRUCTION.

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION JULY 2022, AND MONTGOMERY COUNTY.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
- REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
- CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
- CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
- ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
- ALL DISTURBED AREAS TO BE SEEDED AND MULCHED UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
- THE PERMITTEE SHALL REFER TO THE ATTACHED TEMPORARY TRAFFIC CONTROL PLAN (TTCP) DRAWINGS TO SELECT THE APPROPRIATE WORK ZONE TEMPORARY TRAFFIC CONTROLS FOR EACH PHASE OF CONSTRUCTION. WORK ZONE SITUATIONS WHICH ARE NOT ADDRESSED IN THE ATTACHED TTCP SHALL CONFORM TO THE GUIDELINES SET FORTH IN SECTION 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD), MOST RECENT EDITION.
- FOR CONSTRUCTION, ALL HORIZONTAL AND VERTICAL CONTROLS SHALL BE NAD 83 (2007) AND NAVD 88 DATUM.

OWNER'S/DEVELOPER'S CERTIFICATION

I/We hereby certify that all clearing, grading, construction, and or development will be done pursuant to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project.

DATE _____

TIMOTHY H. CUPPLES, P.E.
CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I hereby certify that this plan has been prepared in accordance with the "2011 Maryland Standards and Specification for Soil Erosion and Sediment Control," Montgomery County Department of Permitting Services Executive Regulations 5-90, 7-02AM and 36-90, and Montgomery County Department of Public Works and Transportation "Storm Drain Design Criteria" dated August 1988.

DATE _____

MICHAEL MERCADO, P.E.
MERCADO CONSULTANTS, INC.

CERTIFICATION OF THE QUANTITIES

I hereby certify that the estimated total yards of excavation and fill as shown on this plan has been computed to X cubic yards of excavation, X cubic yards of fill and the total area to be disturbed as shown on these plans has been determined to be 37,131 square feet.

SIGNATURE _____

DATE _____

MICHAEL MERCADO, P.E.

38931

PRINTED NAME AND TITLE

REGISTRATION NUMBER

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW	DPS APPROVAL OF A SEDIMENT CONTROL OR STORMWATER MANAGEMENT PLAN IS FOR DEMONSTRATED COMPLIANCE WITH MINIMUM ENVIRONMENTAL RUNOFF TREATMENT STANDARDS AND DOES NOT CREATE OR IMPLY ANY RIGHT TO DIVERT OR CONCENTRATE RUNOFF ONTO ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	SMALL LOT DRAINAGE APPROVAL	N/A: <input checked="" type="checkbox"/> OR
REVIEWED _____ DATE _____	REVIEWED _____ DATE _____	NO SWM SM. FILE NO. STORMWATER MANAGEMENT
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.	
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND		REPLACEMENT OF BRIDGE NO. M-0056 REDLAND ROAD OVER MILL CREEK
RECOMMENDED FOR APPROVAL		TITLE SHEET
Chief, Design Section APPROVED _____	Date _____	SCALE : AS SHOWN DATE : JUNE, 2023
Chief, Division of Transportation Engineering APPROVED _____	Date _____	Project No. : 509753 SHEET 1 of 17
Designed by : MMW Drawn by : NL Checked by : MMW		

TREE CANOPY REQUIREMENTS TABLE		
To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects.		
Exempt: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If exempt under Section 55-5 of the Code, please check the applicable exemption category below.		
Total Property Area xxx square feet	Total Disturbed Area xxx square feet	
Shade Trees Required x	Shade Trees Proposed to be Planted x	
Fee in Lieu (Trees Required - Trees Planted) x \$250	\$ xxxxx	
Required Number of Shade Trees		
Area (sq. ft.) of the Limits of Disturbance	Number of Shade Trees Required	
FROM 1	TO 6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15
If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula: (Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15		
EXEMPTION CATEGORIES:		
<input type="checkbox"/> 55-5(a) any activity that is subject to Article II of Chapter 22A;	maintenance has obtained all required permits;	
<input type="checkbox"/> 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;	<input type="checkbox"/> 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;	
<input type="checkbox"/> 55-5(f) any activity conducted by the County Parks Department;	<input type="checkbox"/> 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;	
<input type="checkbox"/> 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the	<input type="checkbox"/> OTHER: Specify per Section 55-5 of the Code.	



NO.	REVISION	DATE	BY

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

ABBREVIATIONS

AASHTO..... American Association of State Highway Transportation Officials	HDWL..... Headwall	RW or RW... Right of Way
ADT..... Average Daily Traffic	HERCP..... Horizontal Elliptical Reinforced Concrete Pipe	RCP..... Reinforced Concrete Pipe
AHD..... Ahead	HP..... High Point	RCPP..... Reinforced Concrete Pressure Pipe
APPROX..... Approximate	IN..... Inch	R.Q.D..... Rock Quality Designation
BL or BL..... Baseline	I.S.T..... Inlet Sediment Trap	R.M..... Rootmat
BK..... Back /Book	INV..... Invert	S..... South
BIT..... Bituminous	J.B..... Junction Box	SAN..... Sanitary Sewer
B.C..... Bituminous Concrete	K..... Rate of Vertical Curvature	SB or SB..... Southbound
B.M..... Bench Mark	L..... Length	S.D..... Storm Drain
BOT..... Bottom	LF..... Linear Feet	S.D.D..... Surface Drain Ditch
C.C..... Center of Curve	L.L..... Liquid Limit	S.E..... Super Elevation
CAP..... Corrugated Aluminum Pipe	LP..... Low Point	SF..... Silt Fence
CAPA..... Corrugated Aluminum Pipe Arch	L.P..... Light Pole	SF..... Square Feet
CATV..... Cable Television	LT..... Left	SHT..... Sheet
C.B.R..... California Bearing Ratio	MAC..... Macadam	SPP..... Structural Steel Plate Pipe
CL or CL..... Centerline	M.C..... Moisture Content	SPPA..... Structural Steel Plate Pipe Arch
CL..... Class	MAX..... Maximum	S.P.T..... Standard Penetration Testing
CLF..... Chainlink Fence	M.D.D..... Maximum Dry Content	SRP..... Steel Spiral Rib Pipe - Aluminized Type 2
CMP..... Corrugated Metal Pipe	MOD..... Modified	SRPA..... Steel Spiral Rib Pipe Arch - Aluminized Type 2
C.O..... Cleanout	MIN..... Minimum	SSD..... Stopping Sight Distance
COMB..... Combination	N..... North	SSF..... Super Silt Fence
CONC..... Concrete	NB..... Northbound	STD..... Standard
CONSTR..... Construction	NE..... Northeast	STA..... Station
COR..... Corner	N.P..... Non-Plastic	SO..... Single Opening
CORR..... Correction	O.C..... On Center	SY..... Square Yards
CPP-S..... Corrugated Polyethylene Pipe - Type 'S'	OHE..... Overhead Electric	SWM..... Stormwater Management
CSP..... Corrugated Steel Pipe - Aluminized Type 2	O.M..... Optimum Moisture	T..... Tangent
CSPA..... Corrugated Steel Pipe Arch - Aluminized Type 2	PAV T..... Pavement	T..... Telephone
DC..... Degree of Curve	PC..... Point of Curvature	T.C..... Top of Cover
D.H.V..... Design Hourly Volume	PCC..... Point of Compound Curvature	T.C.E..... Temporary Construction Easement
D.I..... Drop Inlet	PC..... Point of Crown	T.G..... Top of Gate
DIA..... Diameter	PGE..... Profile Grade Elevation	T or TL..... Traverse Line
D.O..... Double Opening	P.G.E..... Profile Ground Elevation	T.M..... Top of Manhole
E..... East	P.G.L..... Profile Ground Line	TRAV..... Traverse
E..... Electric	PR..... Point of Rotation	TS..... Temporary Sware
E..... External Distance	P.I..... Plasticity Index	T.S..... Top of Slab
EA..... Each	PI..... Point of Intersection	T.S..... Topsoil
EB..... Eastbound	POC..... Point On Curve	TYP..... Typical
ELEV..... Elevation	POT..... Point On Tangent	U.D..... Under Drain
ES..... End Section	PPWP..... Polyvinyl Chloride Profile Wall Pipe	U.G..... Underground
EX or EXIST..... Existing	PROP..... Proposed	U.P..... Utility Pole
FT..... Feet	PRC..... Point of Reverse Curve	USDA..... United States Department of Agriculture
F or FL..... Flowline	PT..... Point	VCL..... Vertical Clearance
F.B.D..... Flat Bottom Ditch	PT..... Point of Tangency	V.C.L..... Vertical Curve Length
F.H..... Fire Hydrant	PVC..... Point of Vertical Curve	W..... Water
FWD..... Forward	PVC..... Polyvinyl Chloride	W..... West
G..... Gas	PVI..... Point of Vertical Intersection	WB..... Westbound
G.V..... Gas Valve	PVRC..... Point of Vertical Reverse Curve	WB..... Wetland Buffer
H.B..... Handbox	PVT..... Point of Vertical Tangency	W.M..... Water Meter
HDPE..... High Density Polyethylene	R..... Radius	W.S..... Wrapped Steel
	R.F..... Rock Fragments	WUS..... Waters of the United States
	RT..... Right	W.V..... Water Valve

SOILS LEGEND

A-3 SAND	A-2-7 CLAYEY SAND	A-7-4 SILTY CLAY
A-2 SAND & FINES	A-7-2 SANDY CLAY	A-7 CLAY
A-2-4 SILTY SAND	A-4 SILT	A-6 COLLOIDAL CLAY
A-4-2 SANDY SILT	A-4-7 CLAYEY SILT	A-5 MICA, DIATOMS

PLAN LOCATION OF SOIL BORINGS

BORING TARGETS AND PROFILES SCALE:
HORIZONTAL - NONE
VERTICAL - SEE PROFILE SHEETS

AO-ABOVE OPTIMUM
SAT-SATURATED
LIQ-LIQUEFIED

LL-LIQUID LIMIT (%)
PI-PLASTICITY INDEX (%)
NP-NON-PLASTIC
OMC-OPTIMUM MOISTURE CONTENT (%)
USC-UNIFIED SOIL CLASSIFICATION
USDA-UNITED STATES DEPARTMENT OF AGRICULTURE CLASSIFICATION

TS-TOPSOIL
RM-ROOT MAT
BC-BITUMINOUS CONCRETE
SB-STONE BASE
PCC-PORTLAND CEMENT CONCRETE

W/GR-WITH GRAVEL
W/RF-WITH ROCK FRAGMENTS

NOTES: SOIL SYMBOLS DENOTE MSMT CLASSIFICATIONS

ALL DIMENSIONS, DEPTHS AND ELEVATIONS ARE NOTED IN FEET

AN ASTERISK AT THE TOP DEPTH OF STRATA INDICATES THAT STRATA WAS VISUALLY CLASSIFIED BY DRILLER

MDD & OMC PER A.A.S.H.T.O. DESIGNATION T-180

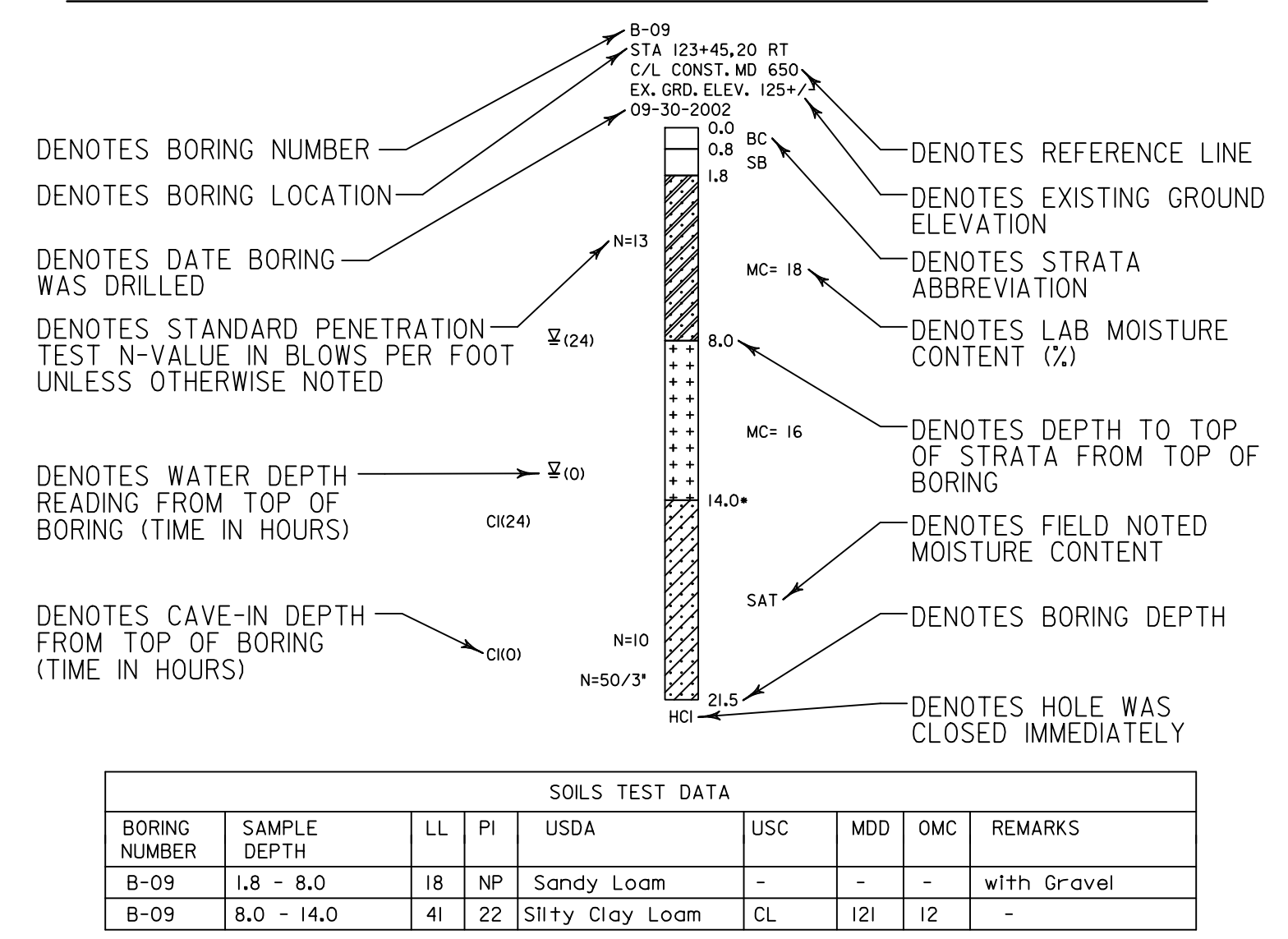
N PER A.A.S.H.T.O. DESIGNATION T-206

UNLESS OTHERWISE NOTED ON PLANS, ALL SOIL SURVEY BORINGS FOR ROADWAY CONSTRUCTION WERE LEFT OPEN FOR 24 HOURS WITH NO EXCESS MOISTURE OR FREE WATER ENCOUNTERED DURING TIME OF SOIL SURVEY (09/2000 TO 06/2002)

CONVENTIONAL SIGNS (SAMPLES)

PROPOSED MEDIAN BARRIER		EXISTING 100 YEAR FLOODPLAIN BOUNDARY	
ELECTRICAL HAND BOX - SIGNALS		PROPOSED 100 YEAR FLOODPLAIN BOUNDARY	
FLOW LINE		WETLAND BOUNDARY	
STATE, COUNTY OR CITY LINES		PROPOSED PIPE /CULVERT	
PROPOSED TRAFFIC BARRIER W-BEAM		EXISTING PIPE /CULVERT	
EXISTING TRAFFIC BARRIER W-BEAM		EXISTING DROP INLET	
PROPOSED FENCE LINE		UTILITY POLE	
EXISTING FENCE LINE		EXISTING WATER	
PROPOSED CURB AND GUTTER		EXISTING SANITARY SEWER	
R/W LINE		EXISTING ELECTRIC	
TEMPORARY CONSTRUCTION EASEMENT		EXISTING OVERHEAD ELECTRIC	
EXISTING ROADWAY		EXISTING FIBER OPTIC	
BASE LINE OR SURVEY LINE		EXISTING TELEPHONE	
FIRE HYDRANT		WETLAND	
HISTORIC BOUNDARY		WETLAND BUFFER	
PARK BOUNDARY		WATERS OF THE U.S.	
		HEDGE /TREE LINE	
		BUSH /TREE	
		CONIFEROUS TREE	
		GROUND ELEVATION	
		GRADE ELEVATION	
		PIPE TO BE REMOVED	
		PIPE TO BE ABANDONED	
		DIRECTION OF TRAFFIC FLOW	

SOIL BORING PROFILE EXAMPLE

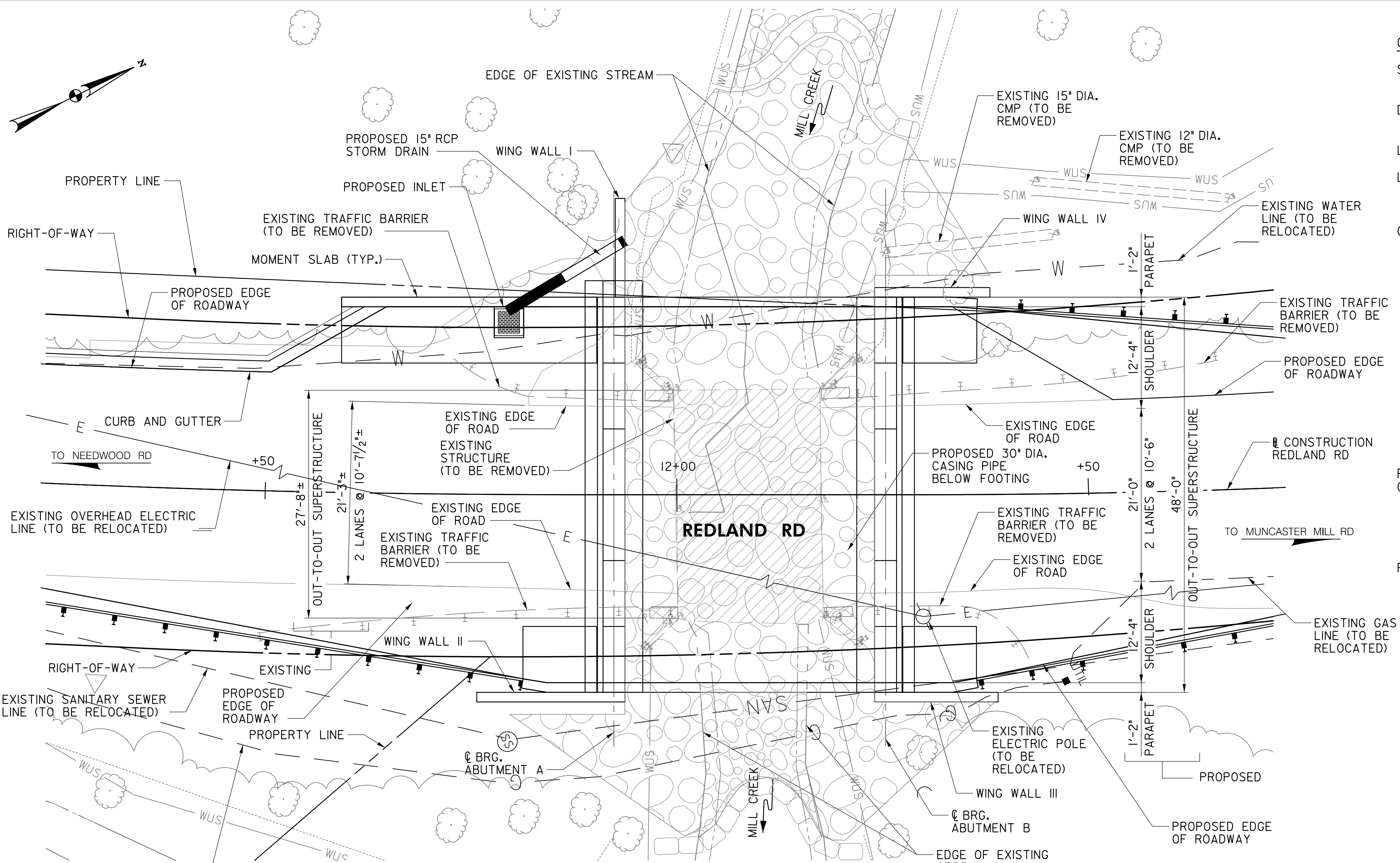


MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND			
RECOMMENDED FOR APPROVAL			
Chief, Design Section	Date		
APPROVED			
Chief, Division of Transportation Engineering	Date		
Designed by : ZK	Drawn by : NL	Checked by : MM	

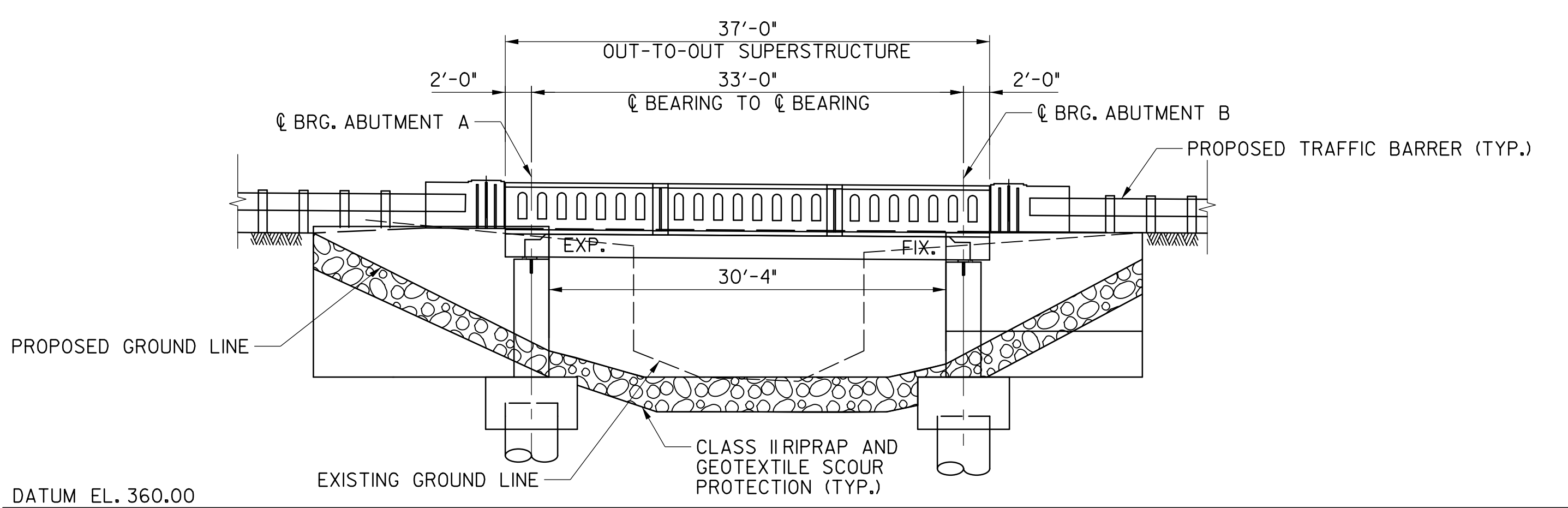
REPLACEMENT OF BRIDGE NO. M-0056 REDLAND ROAD OVER MILL CREEK	
NOTES AND ABBREVIATIONS	
SCALE : NONE	DATE : JUNE, 2023
Project No. : 509753	SHEET 2 of 17



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PLAN
SCALE: 1" = 1'-0"



ELEVATION
SCALE: 1" = 1'-0"

- NOTES:**
- EXISTING STRUCTURE TO BE REMOVED TO A MINIMUM OF 1'-0" BELOW FINISHED GRADE.
 - ABUTMENT OPTION 1 (48" DIA. DRILLED SHAFTS) SHOWN IN ELEVATION VIEW.

- GENERAL NOTES:**
- SPECIFICATIONS:** MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2022.
- DESIGN:** AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION, DATED 2020
- LOADING:** HL-93 WITH PROVISIONS FOR FUTURE 2" WEARING SURFACE
- LOAD RESTRICTIONS:** THERE ARE RESTRICTIONS FOR PLACING EQUIPMENT AND MATERIALS ON EXISTING AND NEW STRUCTURES. REFER TO SECTION TC 6.14.
- CONCRETE:** CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE:
 $f'_c = 3000$ psi FOR ELEMENTS USING MIX NO. 3 AND MIX NO. 4
 $f'_c = 4000$ psi FOR ELEMENTS USING MIX NO. 6
- ALL CONCRETE FOR BRIDGE PARAPETS AND, MOMENT SLABS SHALL BE MIX NO. 6 (4500 PSI) CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15).
- ALL CONCRETE FOR DRILLED SHAFTS SHALL BE MIX NO. 4 (3500 PSI).
- ALL CONCRETE FOR SUPERSTRUCTURE OVERLAYS SHALL BE MIX NO. 8 CONCRETE (4000 PSI) CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15).
- ALL OTHER CONCRETE EXCEPT PRESTRESSED CONCRETE SHALL BE MIX NO. 3 (3500 psi)
- PRESTRESSED CONCRETE:** CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE $f'_c = 7000$ psi. WHILE THE MINIMUM COMPRESSIVE STRENGTH AT TRANSFER SHALL BE $f'_{ci} = 5950$ psi
- ALL PRESTRESSED CONCRETE SHALL BE SELF-CONSOLIDATING WITH A 28-DAY COMPRESSIVE STRENGTH OF $f'_c = 8000$ psi.
- REINFORCING STEEL:** REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60, WITH A YIELD STRENGTH FOR DESIGN OF $f_y = 60,000$ psi
- ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS.
- REINFORCING STEEL SHALL BE EPOXY COATED WHEN NOTED WITH EP IN THE PLANS.
- MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2" EXCEPT FOR THE FOLLOWING LOCATIONS:

LOCATION	CLEAR COVER
FOOTING - BOTTOM AND SIDES BOTTOM OF PRESTRESSED CONCRETE SLABS	3 IN
TOP OF SUPERSTRUCTURE OVERLAY	2 1/2 IN

- PRETENSIONING STEEL:** FOR TIES AND STIRRUPS, STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.
- PRETENSIONING STEEL SHALL CONSIST OF 1/2" DIAMETER 7-WIRE BRIGHT LOW RELAXATION STRANDS CONFORMING TO THE REQUIREMENTS OF M 203 GRADE 270. EACH STRAND SHALL BE PRESTRESSED TO 31,000 lb (0.75 fpu), HAVE AN ULTIMATE STRENGTH OF 41,300 lb (fpu) AND A YIELD STRENGTH OF 37,200 lb (0.90 fpu).
- EXISTING STRUCTURES:** ALL DIMENSIONS AFFECTED BY THE GEOMETRY AND/OR LOCATION OF THE STRUCTURES: EXISTING STRUCTURE SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE ANY MATERIAL IS ORDERED OR FABRICATED OR CONSTRUCTION BEGINS.

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
 DIVISION OF TRANSPORTATION ENGINEERING
 GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____
 APPROVED

Chief, Division of Transportation Engineering _____ Date _____

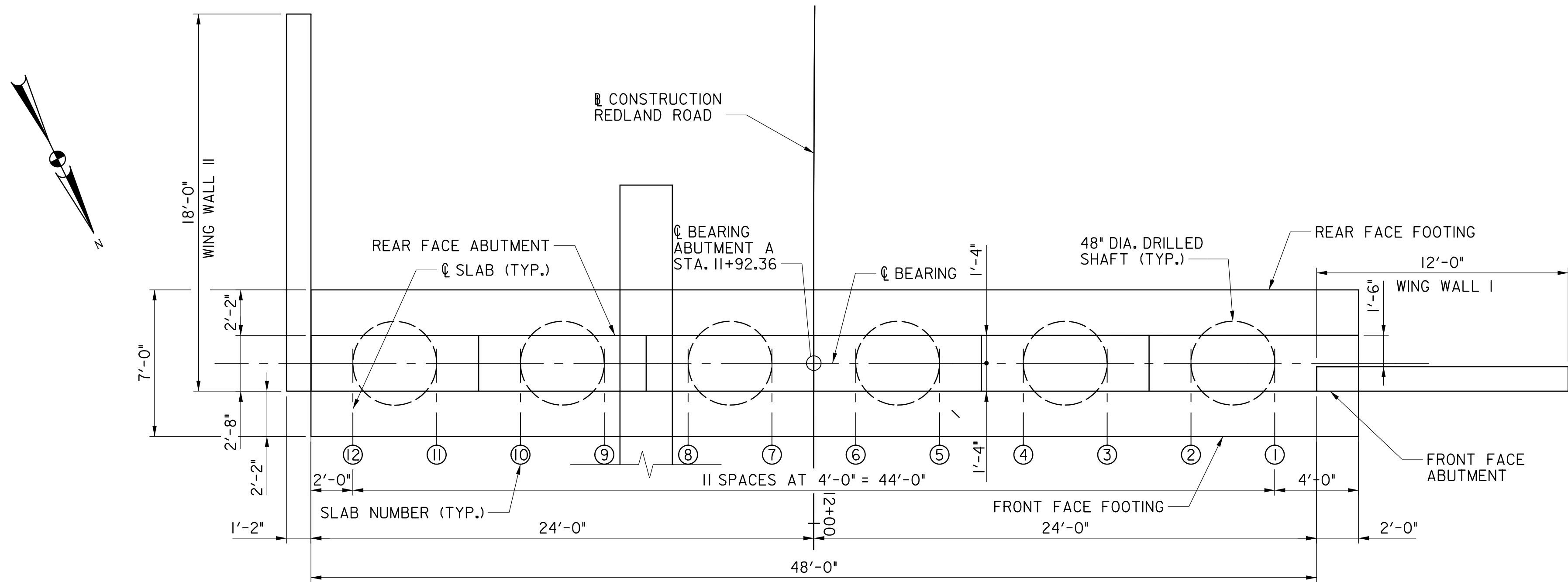
Designed by : KW Drawn by : KW Checked by : MM

REPLACEMENT OF BRIDGE NO. M-0056
 REDLAND ROAD OVER MILL CREEK

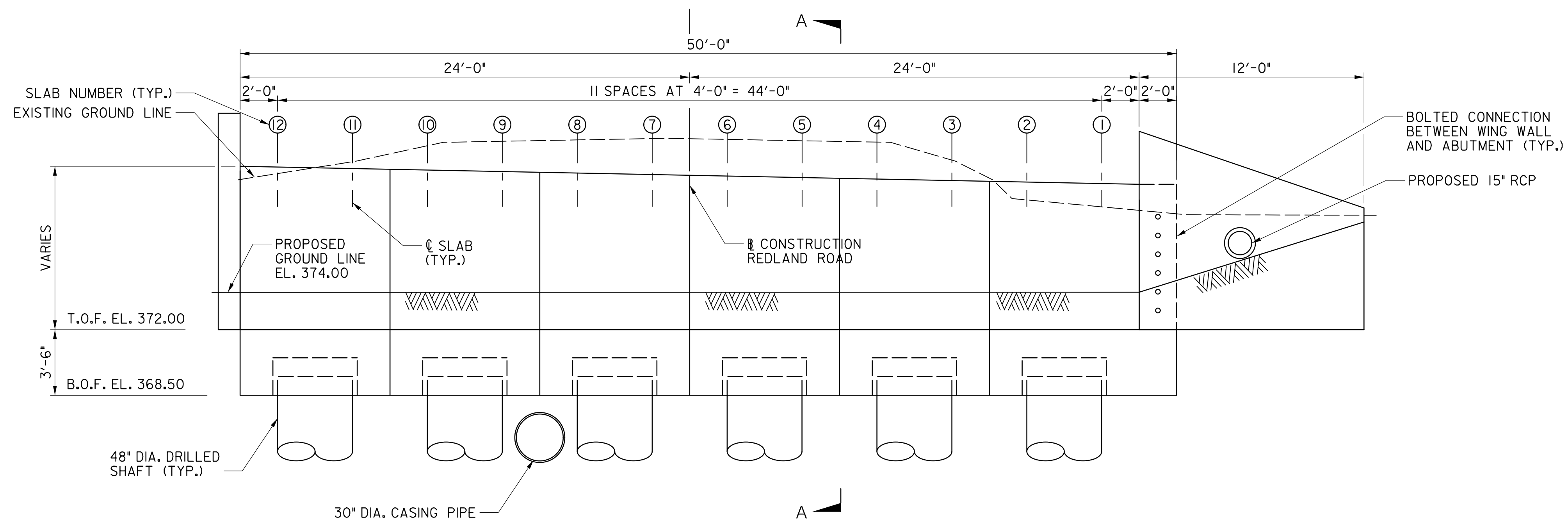
GENERAL PLAN AND ELEVATION

SCALE : 1/8" = 1'-0" DATE : JUNE, 2023

Project No. : 509753 SHEET 3 of 17



ABUTMENT A PLAN
SCALE: 1/4" = 1'-0"



ABUTMENT A ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:
1. ABUTMENT TO BE PRECAST IN SECTIONS AS SHOWN.

DATUM EL. 360.00



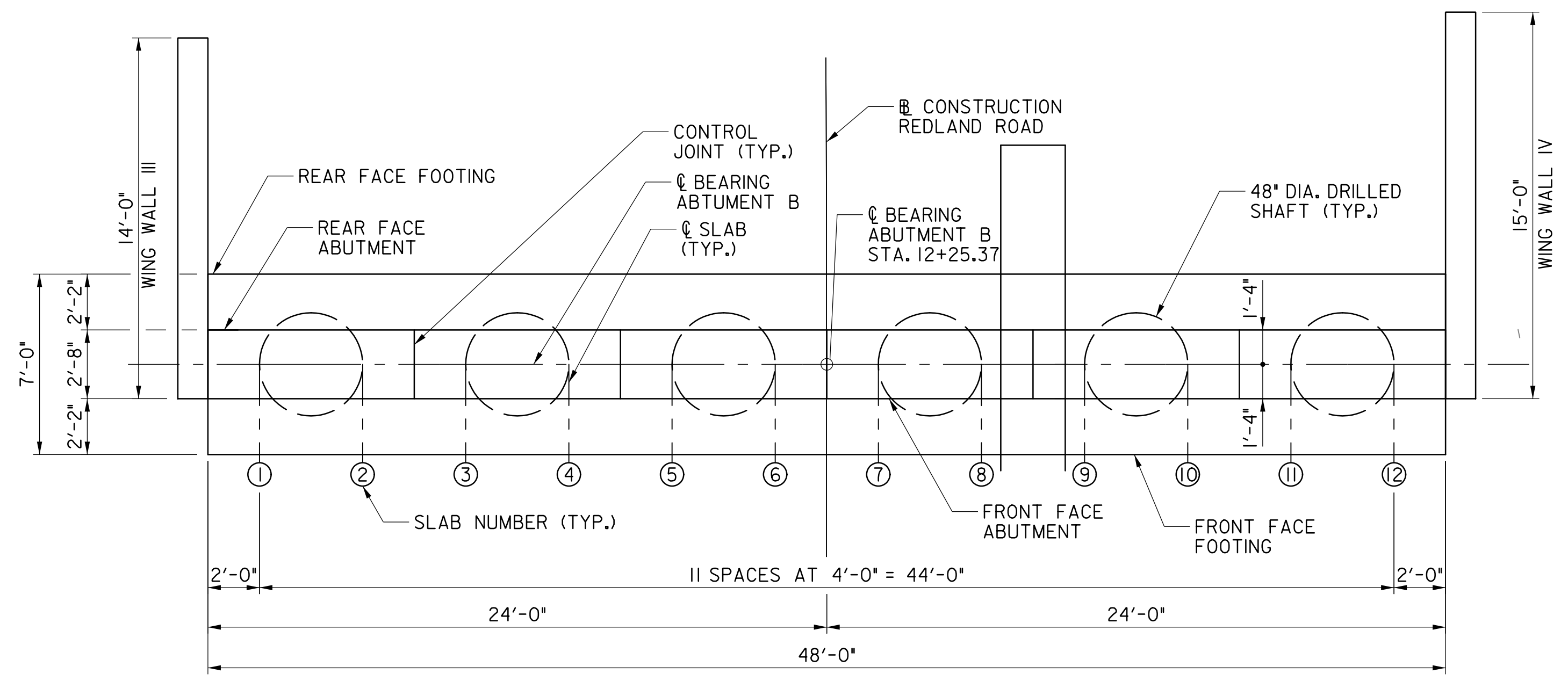
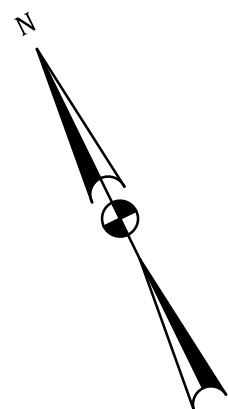
NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : ZK	Drawn by : KW
Checked by : MM	

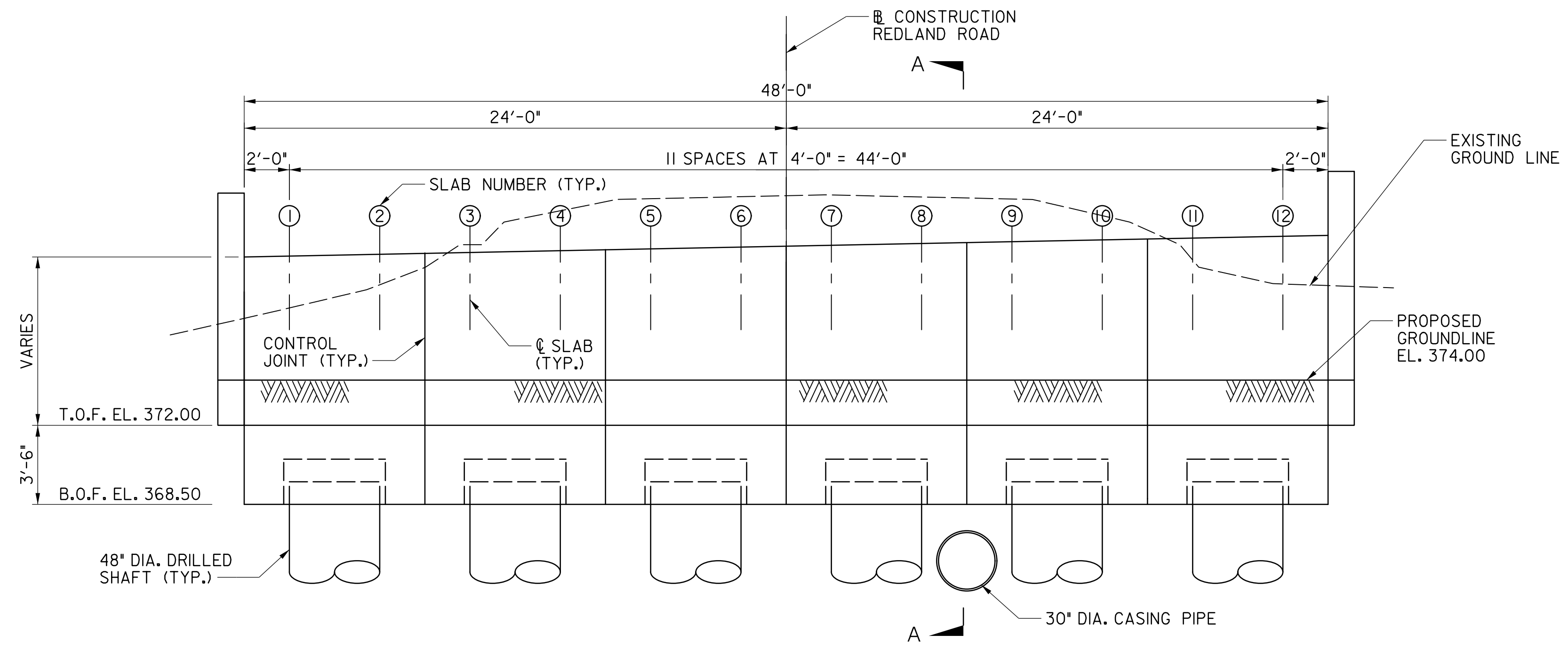
REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK
ABUTMENT A PLAN, ELEVATION,
AND TYPICAL SECTION

SCALE : AS SHOWN DATE : JUNE, 2023
Project No. : 509753 SHEET 4 of 17

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ABUTMENT B PLAN
SCALE: 1/4" = 1'-0"



ABUTMENT B ELEVATION
SCALE: 1/4" = 1'-0"

DATUM EL. 360.00

NOTES:

1. PRECAST ABUTMENTS TO BE MANUFACTURED IN SECTIONS AS DEPICTED.



NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : ZK	Drawn by : KW
Checked by : MM	

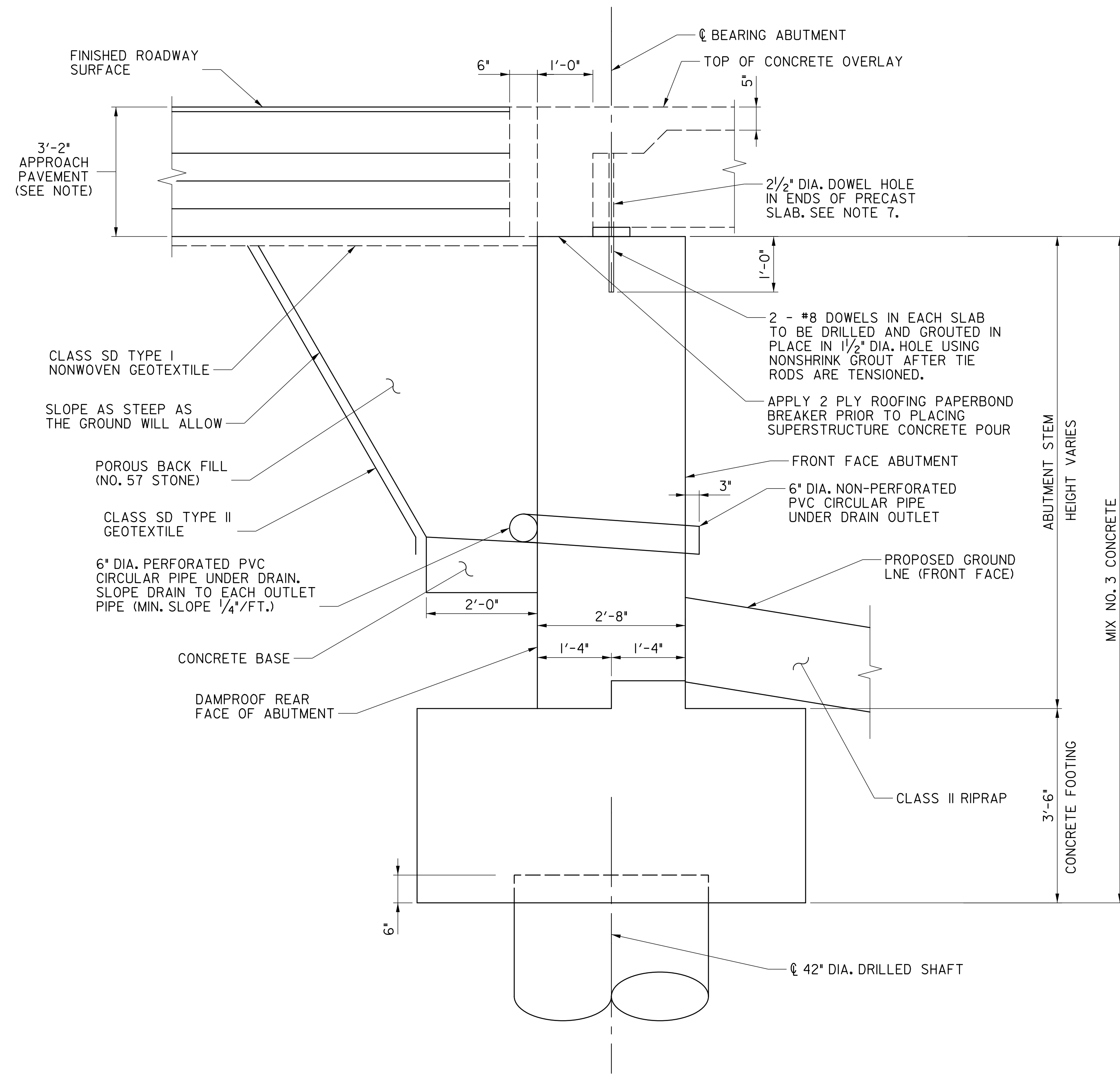
REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

ABUTMENT B PLAN, ELEVATION
AND TYPICAL SECTION

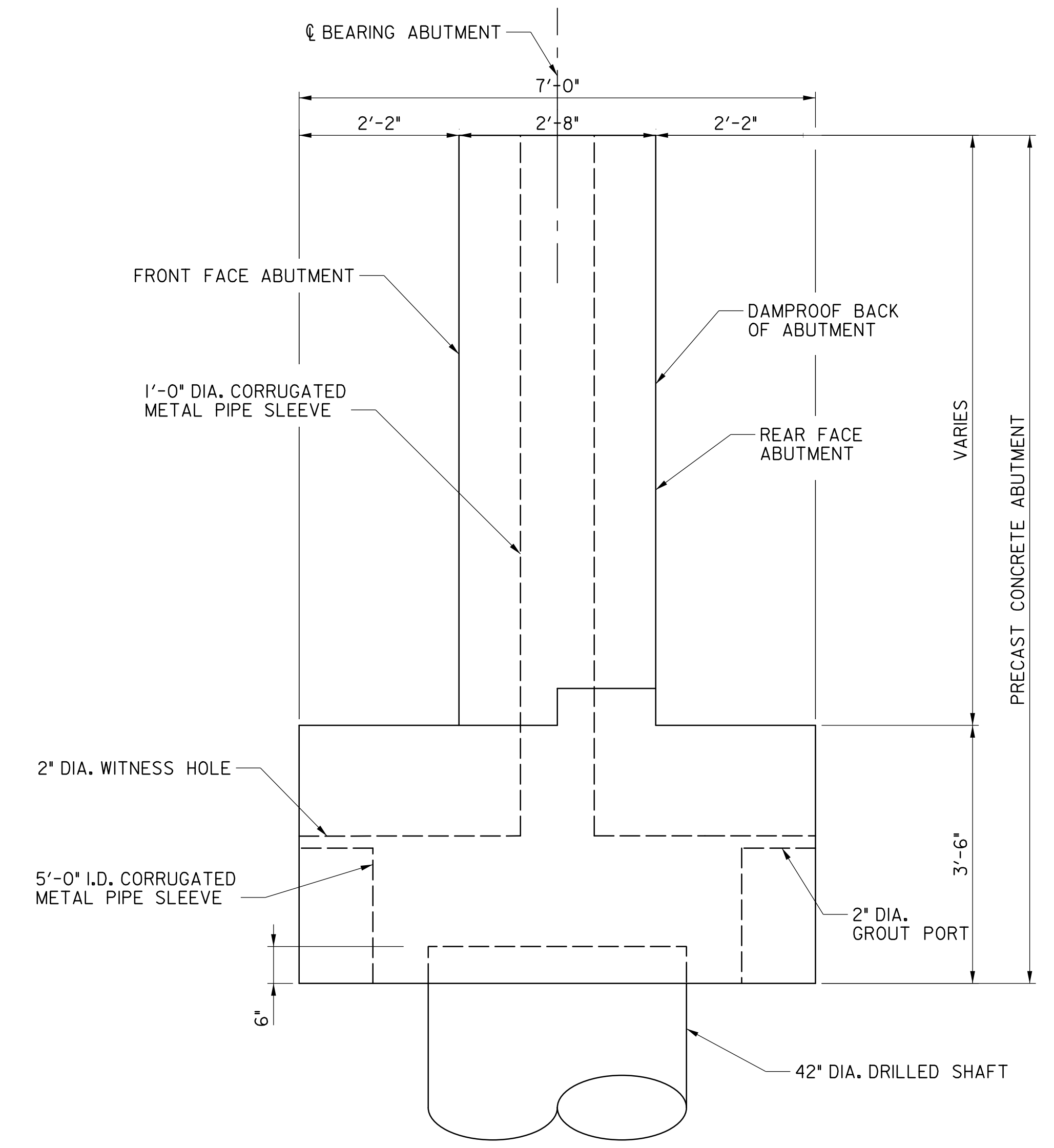
SCALE : AS SHOWN DATE : JUNE, 2023

Project No. : 509753 SHEET 5 of 17

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SECTION A-A
SCALE: 3/4" = 1'-0"



SECTION A-A
PRECAST DETAILS
SCALE: 1/2" = 1'-0"

NOTES:

- FOR ADDITIONAL DETAILS OF DRAINAGE SYSTEM, SEE DETAIL NO. SUB-DR-201 ON DRAWING NO.
- ALL ELASTOMERIC BEARING PADS SHALL BE PLACED WITH AN EPOXY ADHESIVE IN ACCORDANCE WITH 432.03.04. ADHESIVE SHALL BE ON THE BOTTOM OF THE PAD.
- END DIAPHRAGM AND OVERLAY ARE TO BE PLACED IN CONTINUOUS POUR.
- LIMITS OF ROADWAY ANGLE SHALL EXTEND TO 1' BEYOND THE FLOWLINE AT EACH END TO BE EMBEDDED BELOW THE CONCRETE PARAPET.
- APPROACH PAVEMENT SHALL BE IN CONFORMANCE WITH STANDARD NO. 580.09 FOR HEAVY TRAFFIC EXCEPT SURFACE COURSE SHALL BE 2" GAP-GRADED ASPHALT 12.5 MM FOR SURFACE, PG 64E-SS, LEVEL 5.

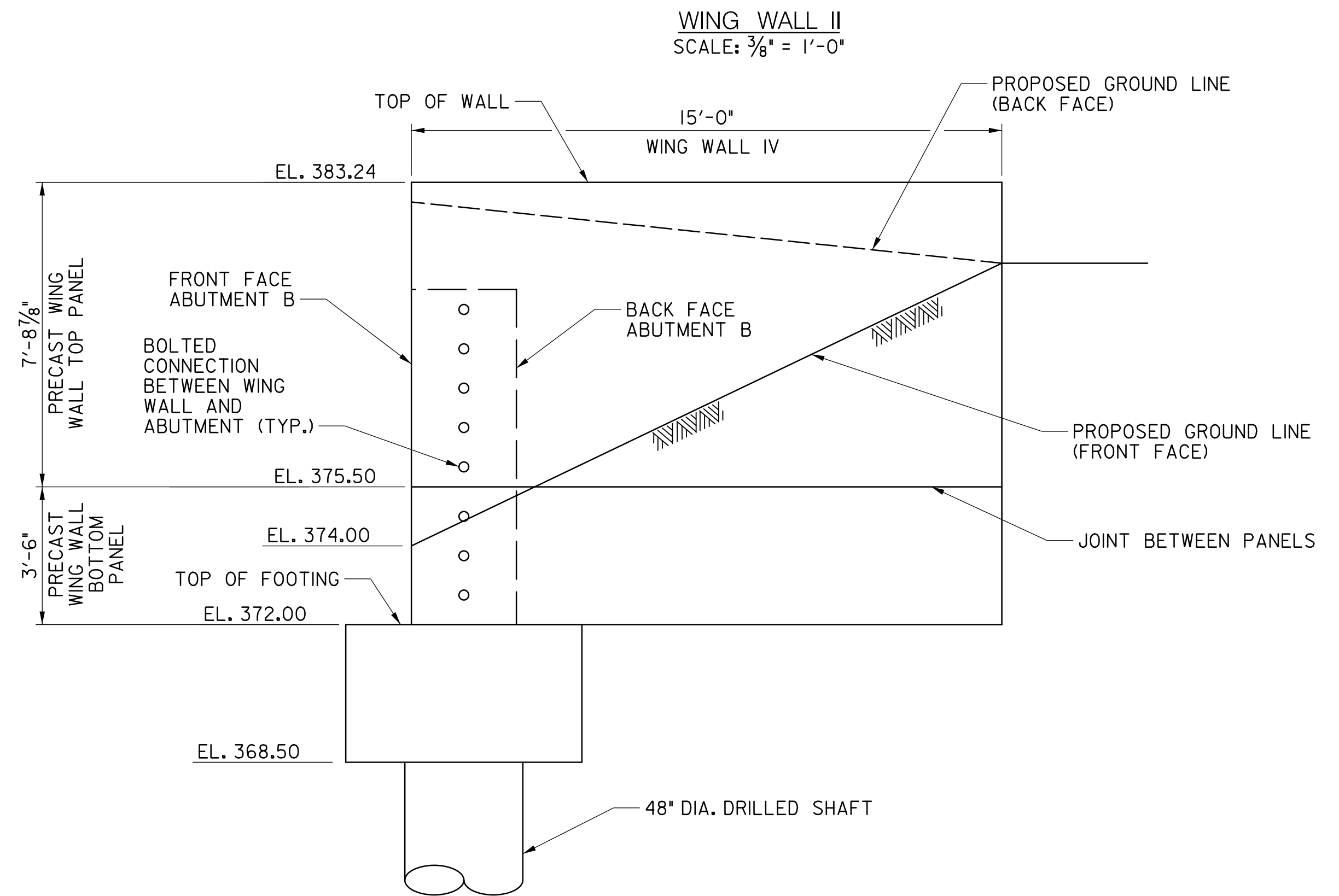
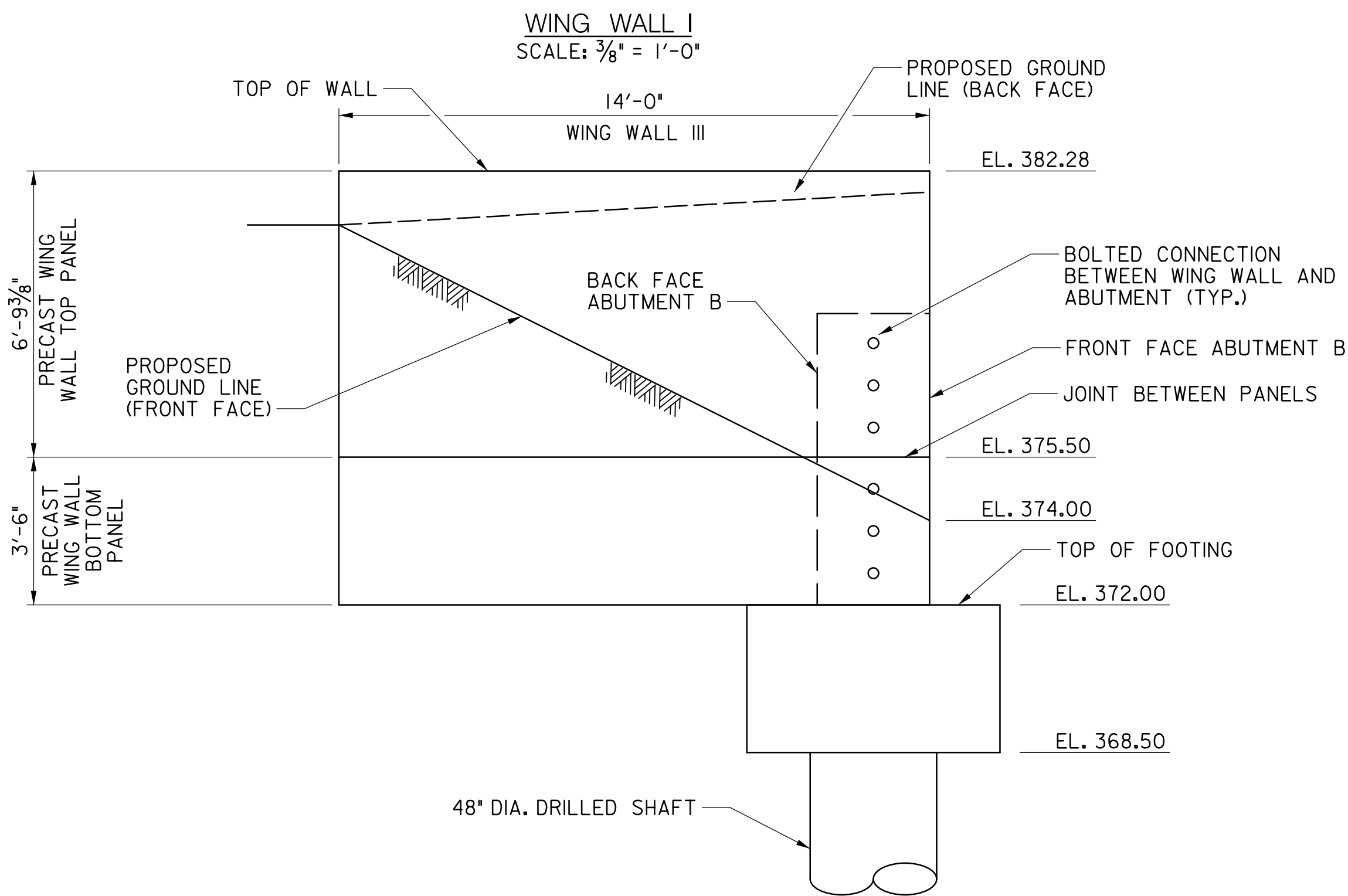
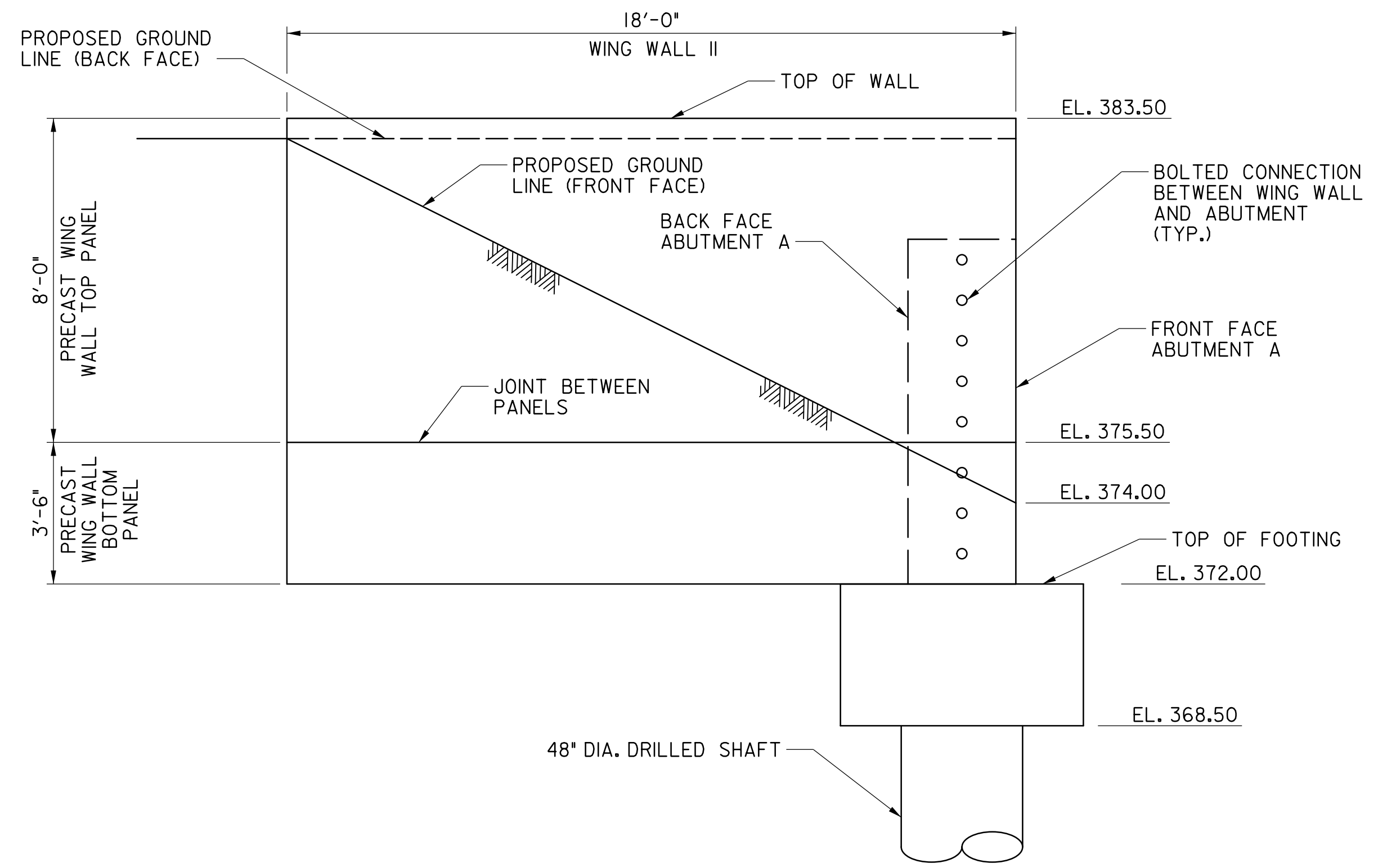
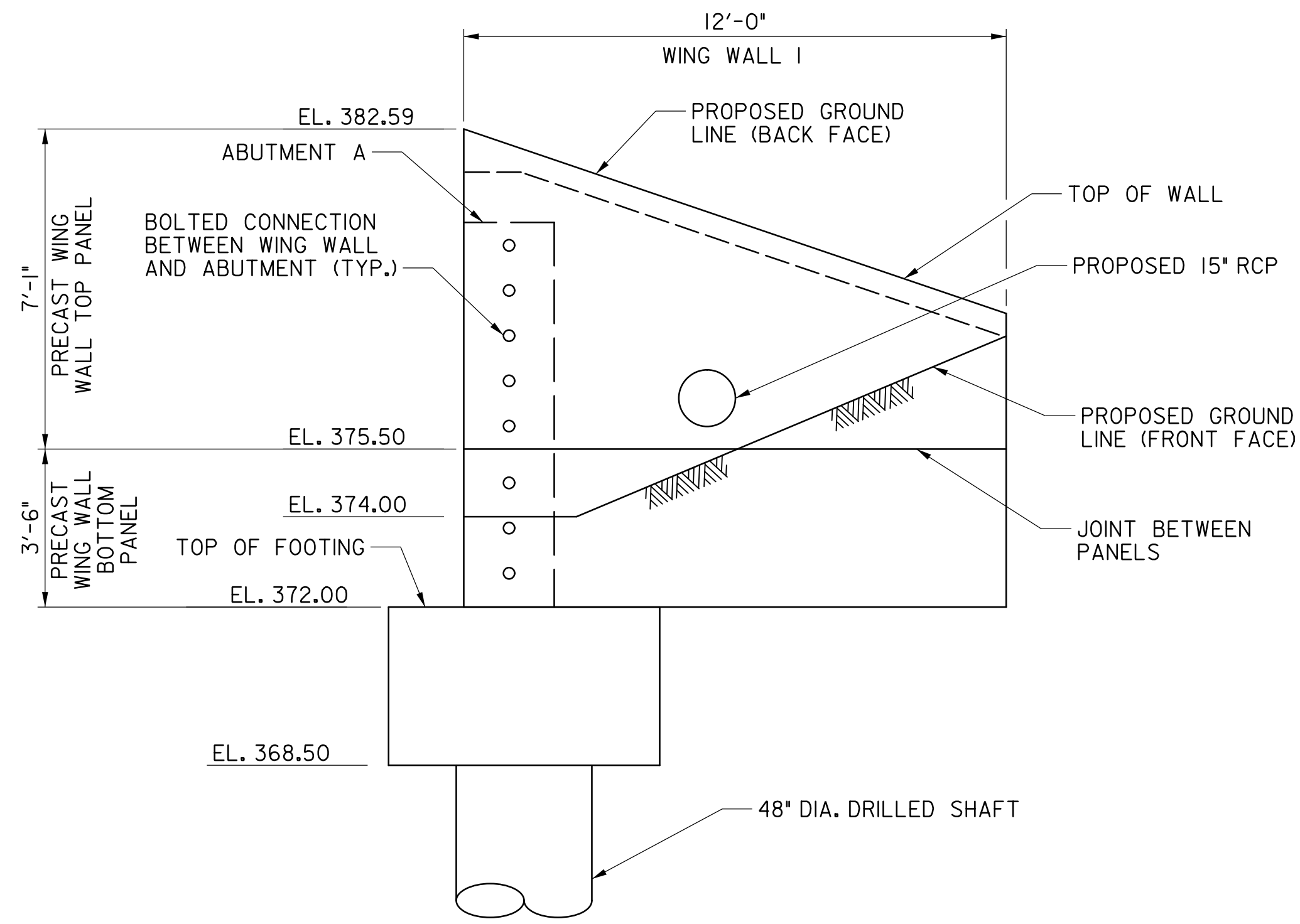


NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date
Designed by: <u> KW </u>	Drawn by: <u> KW </u> Checked by: <u> </u>

REPLACEMENT OF BRIDGE NO. M-0056 REDLAND ROAD OVER MILL CREEK	
ABUTMENT TYPICAL SECTION	
SCALE : AS SHOWN	DATE : JUNE, 2023
Project No. : <u>509753</u>	SHEET <u>6</u> of <u>17</u>

6/2/2023 5:05:47 PM P:\Projects\1908\1908.18 Redland Road\10_CADD\Structures\BBR-AB02_Redland Rd.dgn



WING WALL III
SCALE: 3/8" = 1'-0"

WING WALL IV
SCALE: 3/8" = 1'-0"

NOTES:
I. XXXX

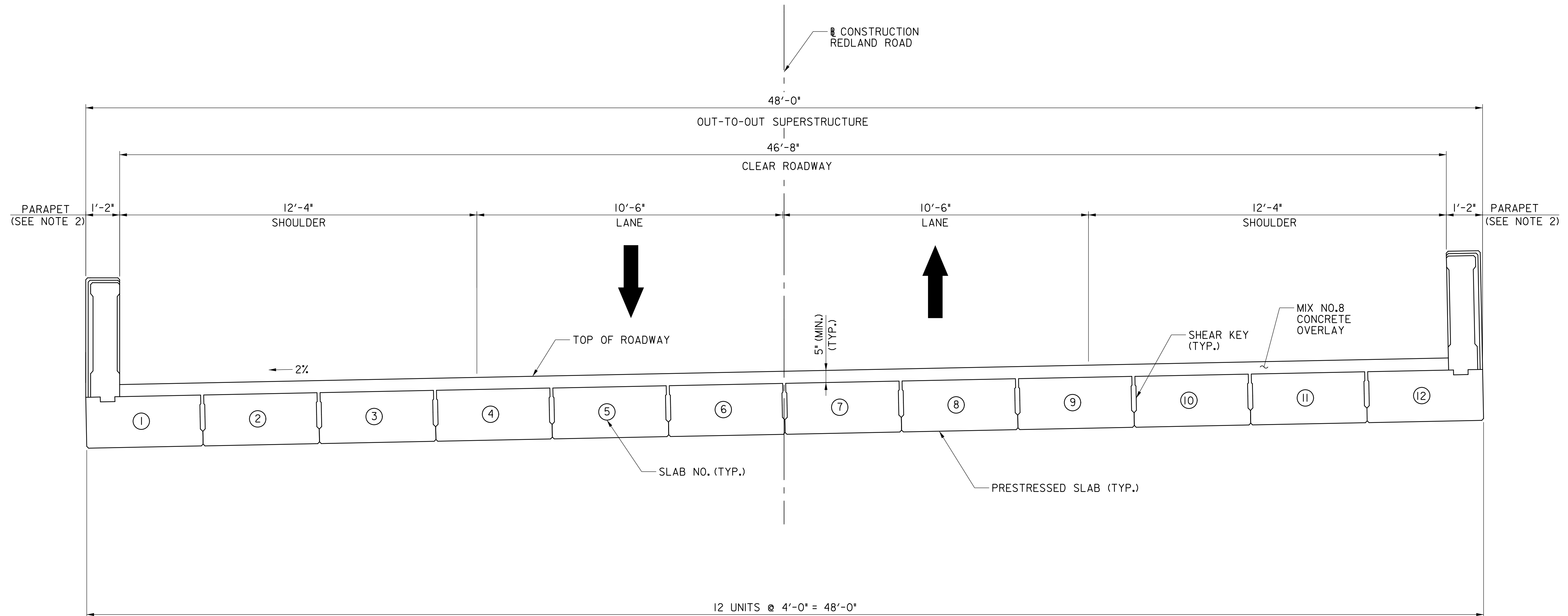


NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : <u>KW</u>	Drawn by : <u>KW</u> Checked by : <u>MM</u>

REPLACEMENT OF BRIDGE NO. M-0056 REDLAND ROAD OVER MILL CREEK	
WING WALL ELEVATIONS	
SCALE : AS SHOWN	DATE : JUNE, 2023
Project No. : <u>509753</u>	SHEET <u>7</u> of <u>17</u>

6/2/2023 5:05:48 PM P:\Projects\1908\1908.8 Redland Road\1908.8 Redland Road\1908.8 Redland Road\1908.8 Redland Road.dgn



TYPICAL SECTION
SCALE: 1/2" = 1'-0"

NOTES:

1. THE CONCRETE OVERLAY SHALL BE PLACED IN A CONTINUOUS POUR.
2. PARAPET SHALL FOLLOW TXDOT RAILING TYPE C4II (TL-2).

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NO.	REVISION	DATE	BY

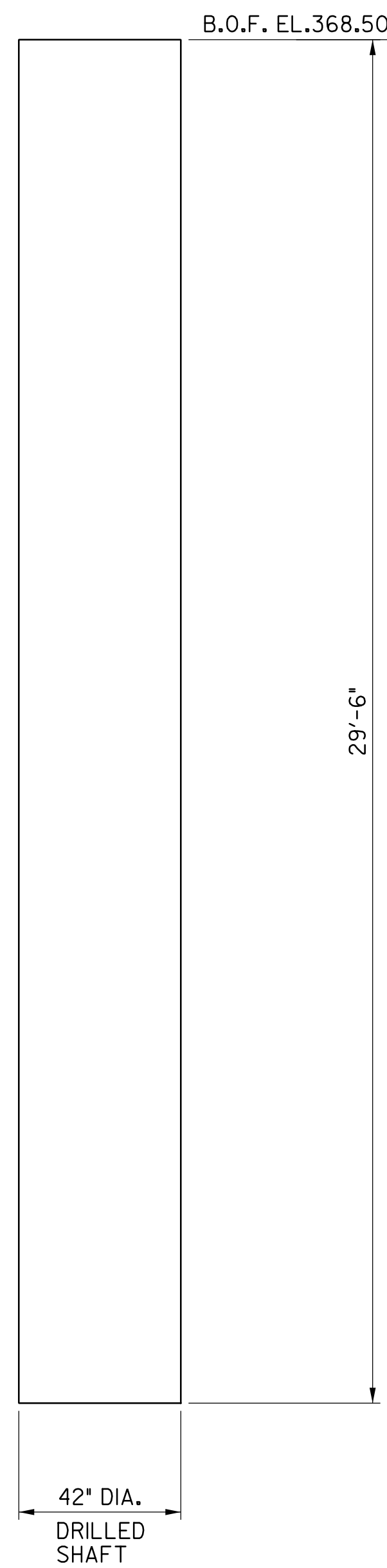
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : ZK	Drawn by : ZK Checked by : MM

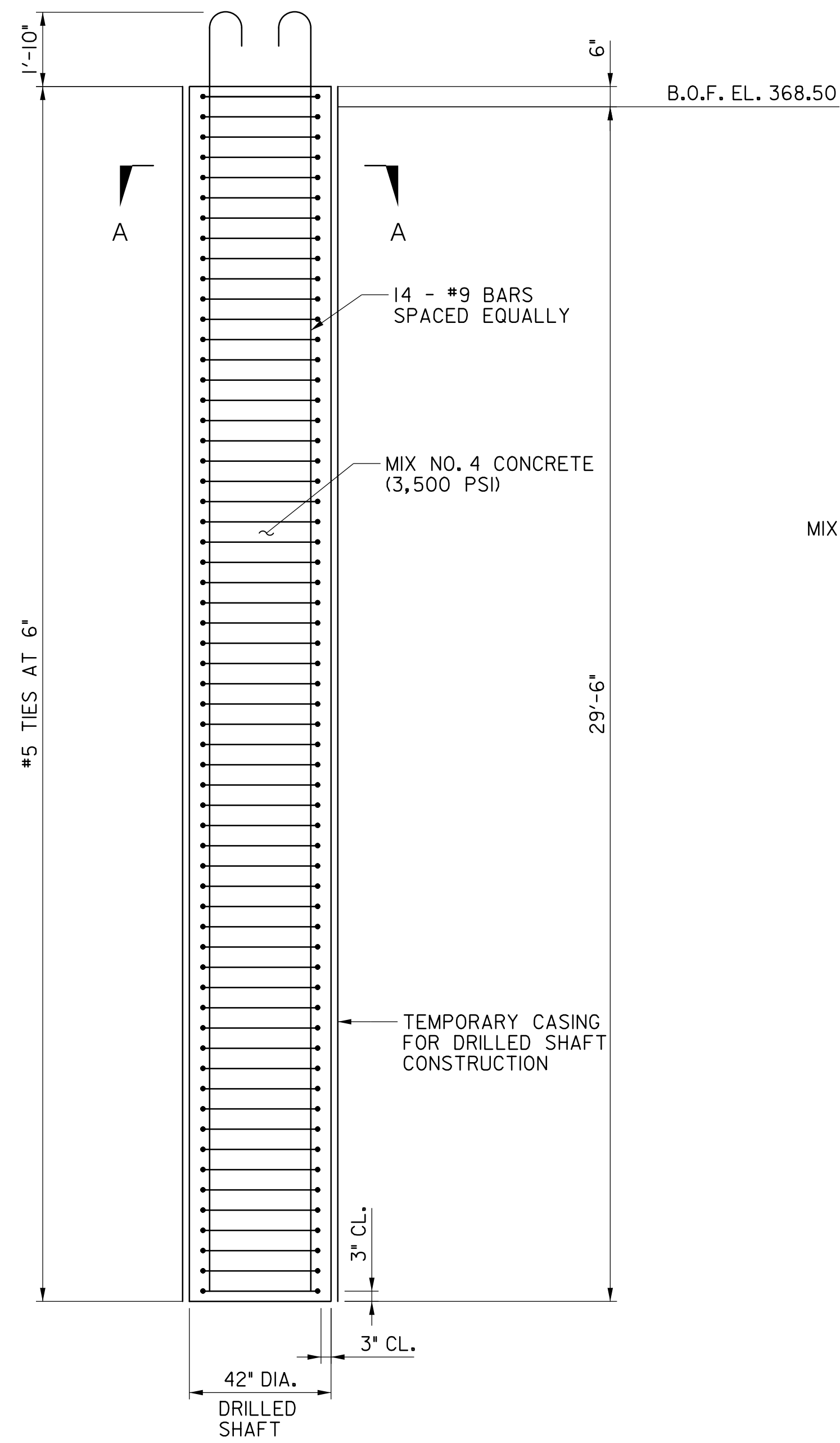
REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

SUPERSTRUCTURE TYPICAL SECTION

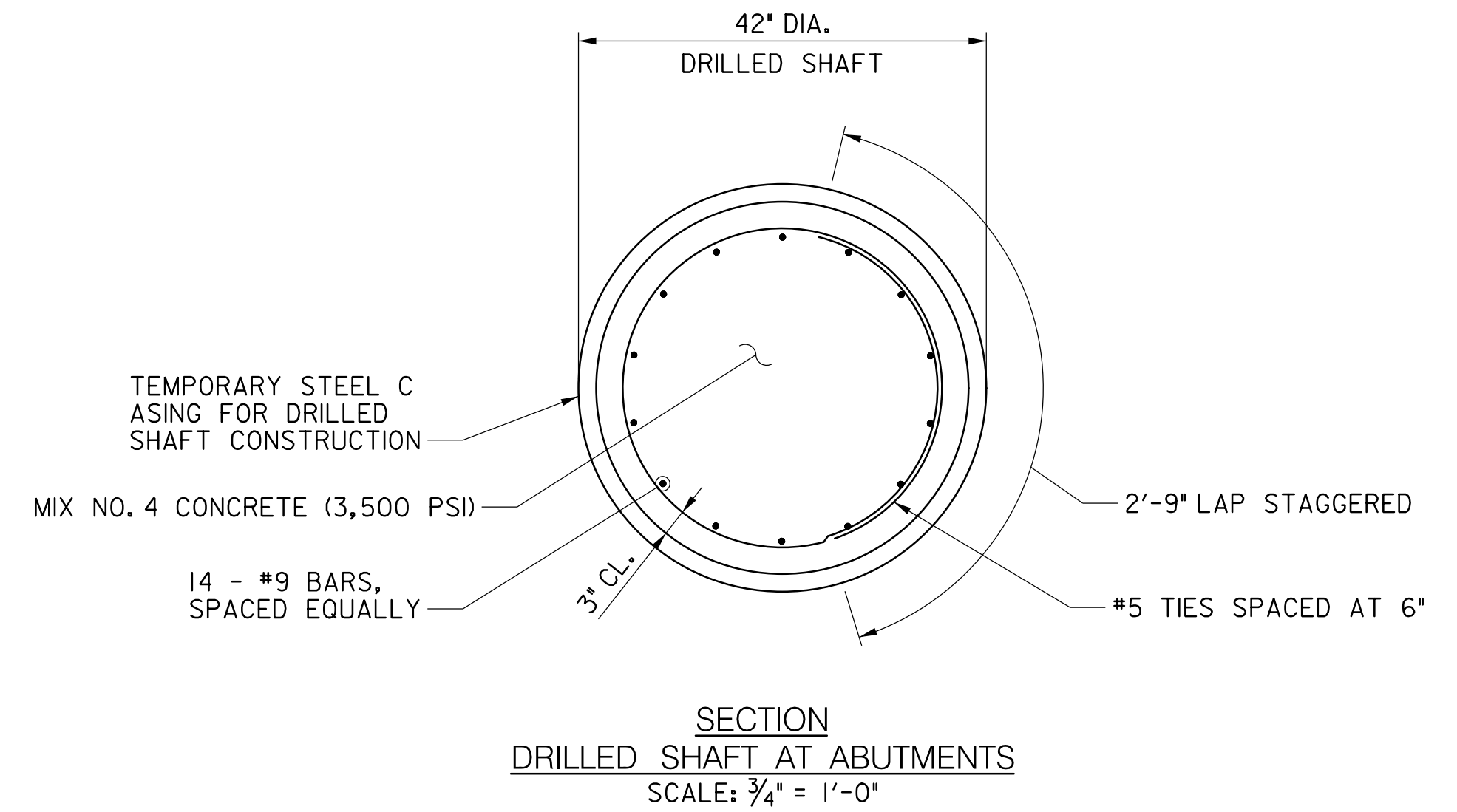
SCALE : AS SHOWN DATE : JUNE, 2023
Project No. : 509753 SHEET 8 of 17



DRILLED SHAFT ELEVATION
SCALE: 3/8" = 1'-0"



DRILLED SHAFT DETAIL
SCALE: 3/8" = 1'-0"



NOTES:

- FOR DRILLED SHAFT REINFORCING CAGE CLEARANCE SPACING DEVICES, SEE DETAIL NO. FND-PF-504 ON DRAWING NO.

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NO.	REVISION	DATE	BY

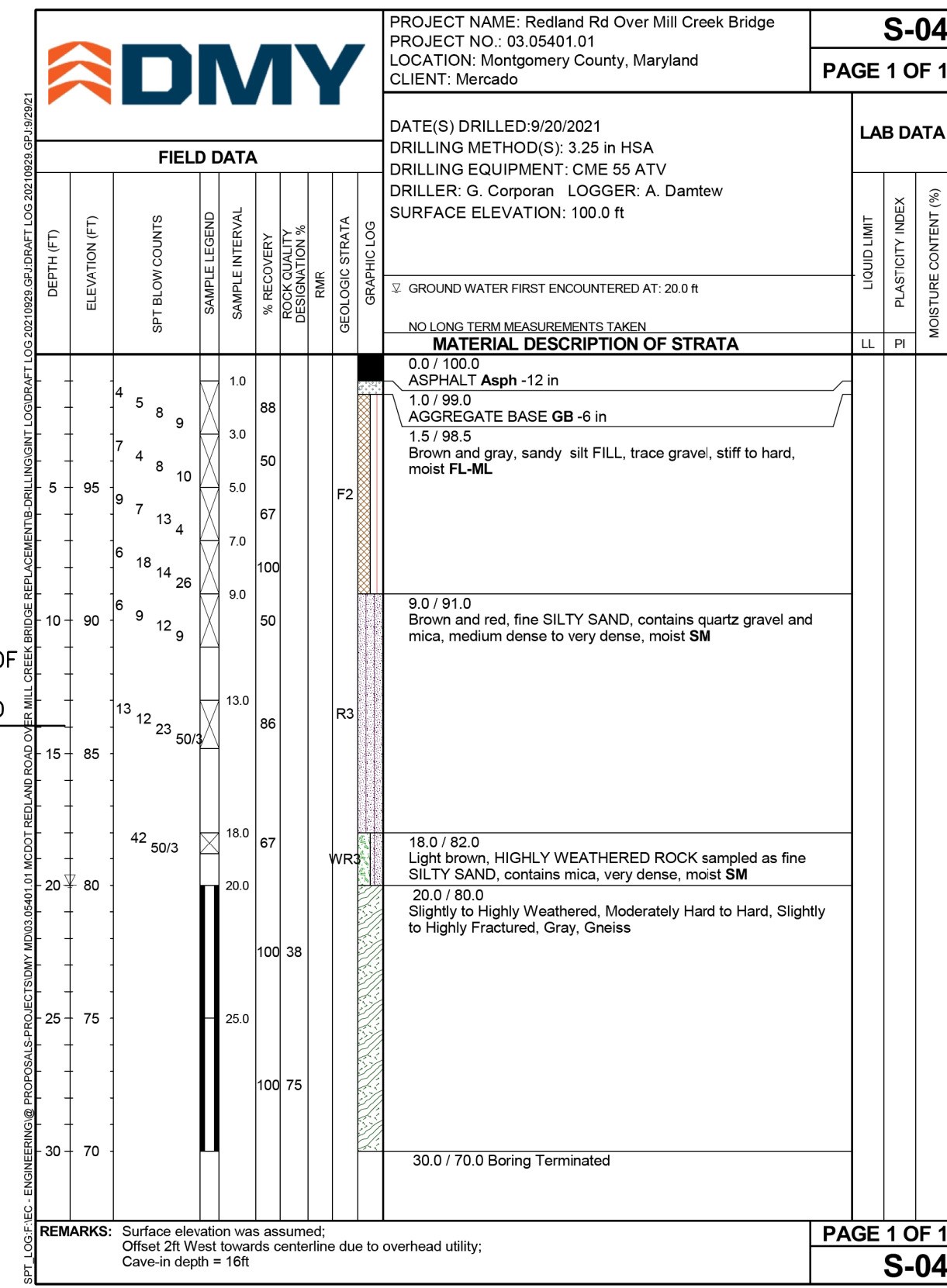
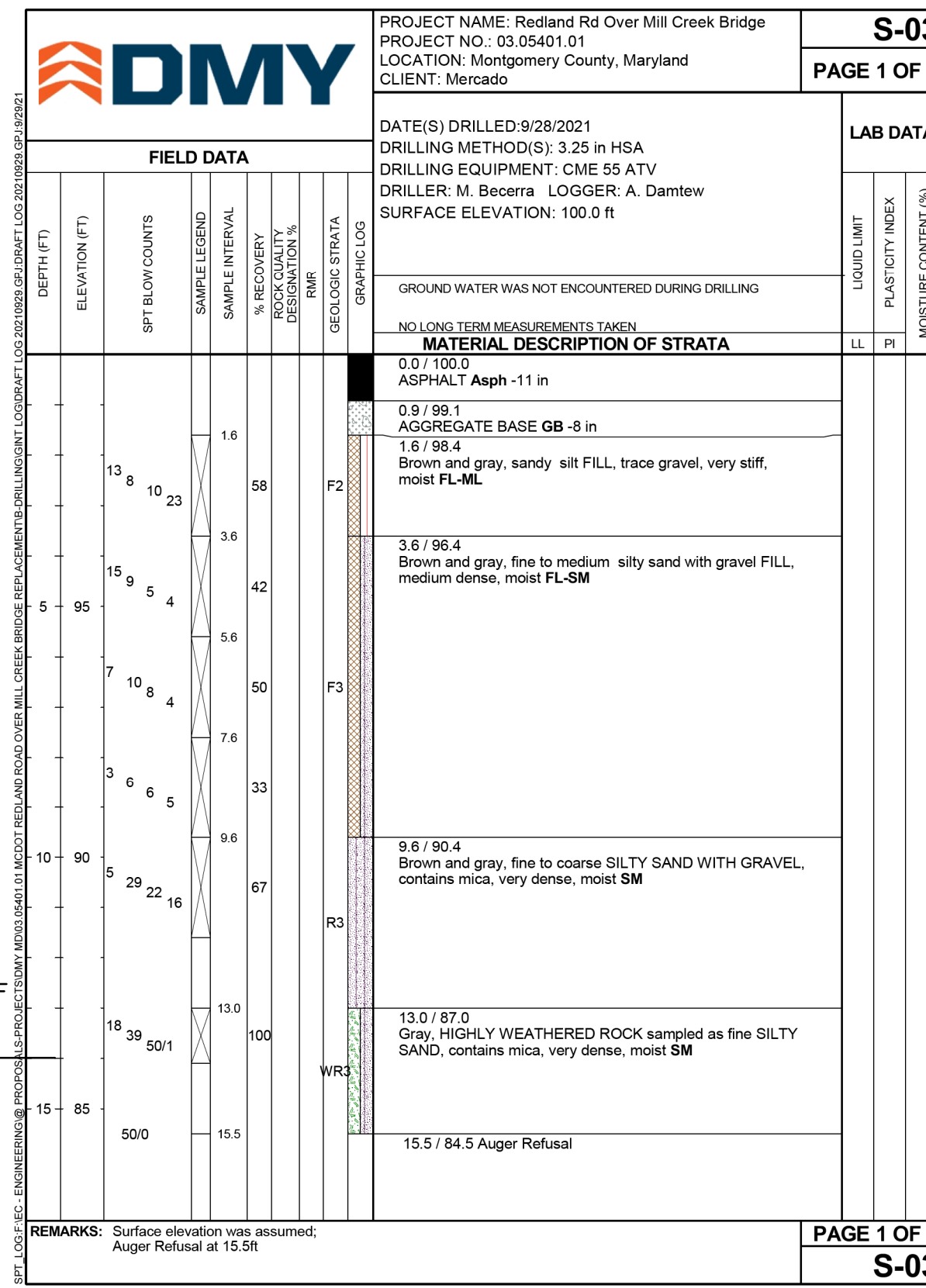
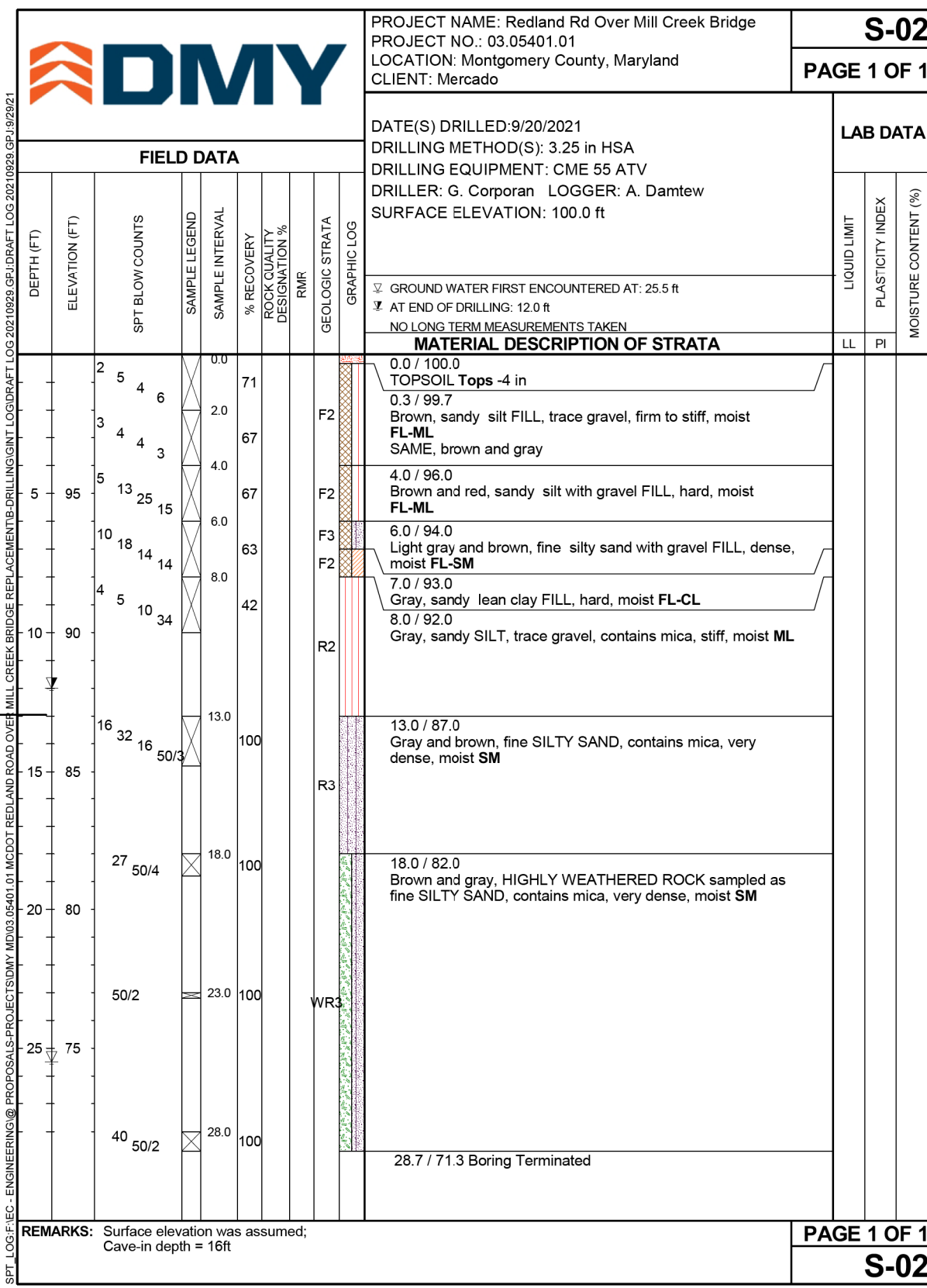
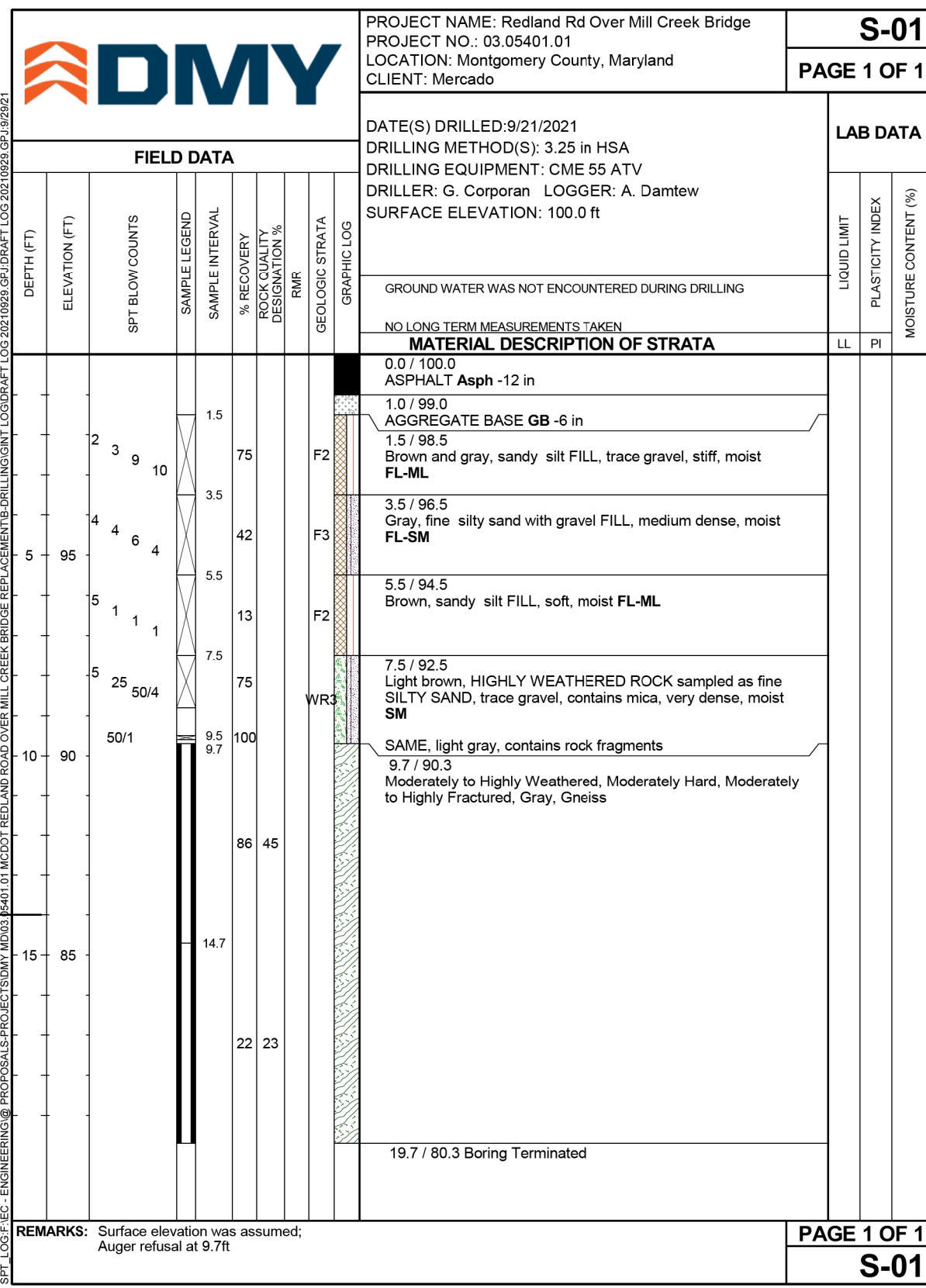
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RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : <u>KW</u>	Drawn by : <u>KW</u> Checked by : <u>MM</u>

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

DRILLED SHAFT DETAILS

SCALE : AS SHOWN DATE : JUNE, 2023

Project No. : 509753 SHEET 9 of 17

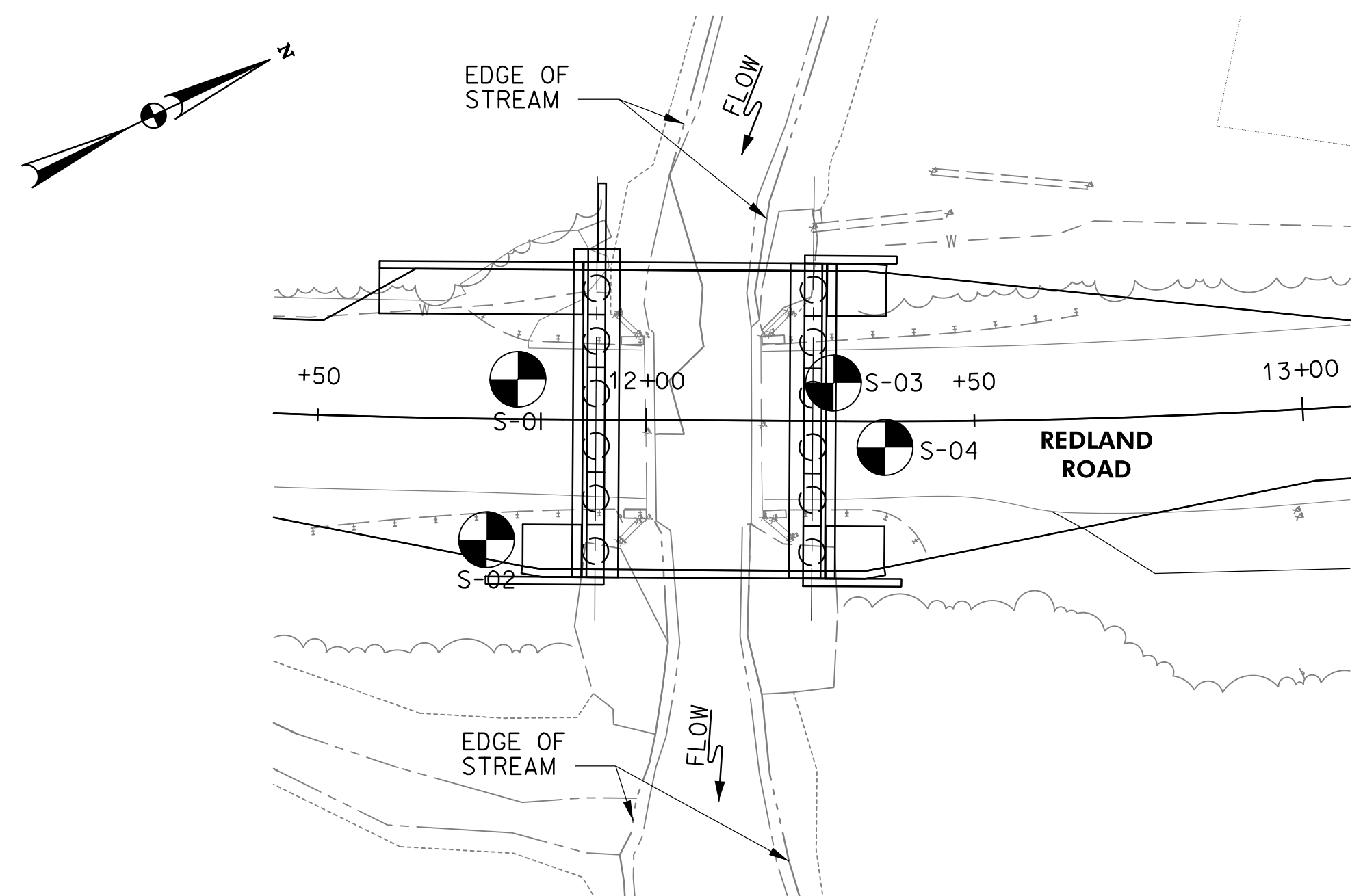


BOTTOM OF FOOTING EL. 368.00

BOTTOM OF FOOTING EL. 368.00

BOTTOM OF FOOTING EL. 368.00

BOTTOM OF FOOTING EL. 368.00



BORING AND DRIVE TEST LOCATION PLAN
SCALE: 1" = 20'-0"

NOTES:

1. THE BORINGS AND DRIVE TESTS WERE TAKEN BETWEEN SEPTEMBER 20, 2021 AND SEPTEMBER 28, 2021 BY DMY ENGINEERING CONSULTANTS, INC.
2. THE BORING LOG SOIL SYMBOLS REFLECT ONLY MAJOR CONSTITUENTS, FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO SOIL DESCRIPTIVE TEXT.
3. N= BLOWS ON A 2 INCH OD SPLIT BARREL SAMPLING SPOON BY 140 LB. DRIVE-WEIGHT FALLING 30 INCHES INDICATING SUCCESSIVE 6 INCH INCREMENTS OF PENETRATION. IN LIEU OF BLOWS PER FOOT, PENETRATION LESS THAN 6 INCHES ARE INDICATED BY 50 BLOWS OVER THE NEAREST INCH.
4. BORING AND SAMPLING CONFORM TO AASHTO DESIGNATIONS T-206, T-225 AND T-306.
5. SOIL HAS BEEN CLASSIFIED VISUALLY BY THE DRILLER.
6. THE INFORMATION PROVIDED IN THE BORING LOGS IS TRUE AND ACCURATE SOLELY FOR THE SPECIFIC LOCATIONS FOR WHICH BORINGS WERE DRILLED AND SOIL PROPERTIES WERE ANALYZED. THE BORING LOGS ARE PRESENTED FOR INFORMATIONAL PURPOSES ONLY.

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND			
RECOMMENDED FOR APPROVAL			
Chief, Design Section	Date		
APPROVED			
Chief, Division of Transportation Engineering	Date		
Designed by: ZK	Drawn by: NL	Checked by: MM	

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

BORING LOGS AND DRIVE TEST

SCALE: 1" = 20'-0" DATE: JUNE, 2023

Project No.: 509753 SHEET 10 of 17



NO.	REVISION	DATE	BY

09-00790642
MIKE MCCULLOUGH &
TRACY MCCULLOUGH
L. 39305 F. 231
BLOCK 6, LOT 10
PLAT 7585

09-00789767
ANTHONY P. DWYER &
VIRGINIA L. DOWNES
L. 6183 F. 436
BLOCK 6, LOT 11
PLAT 7585

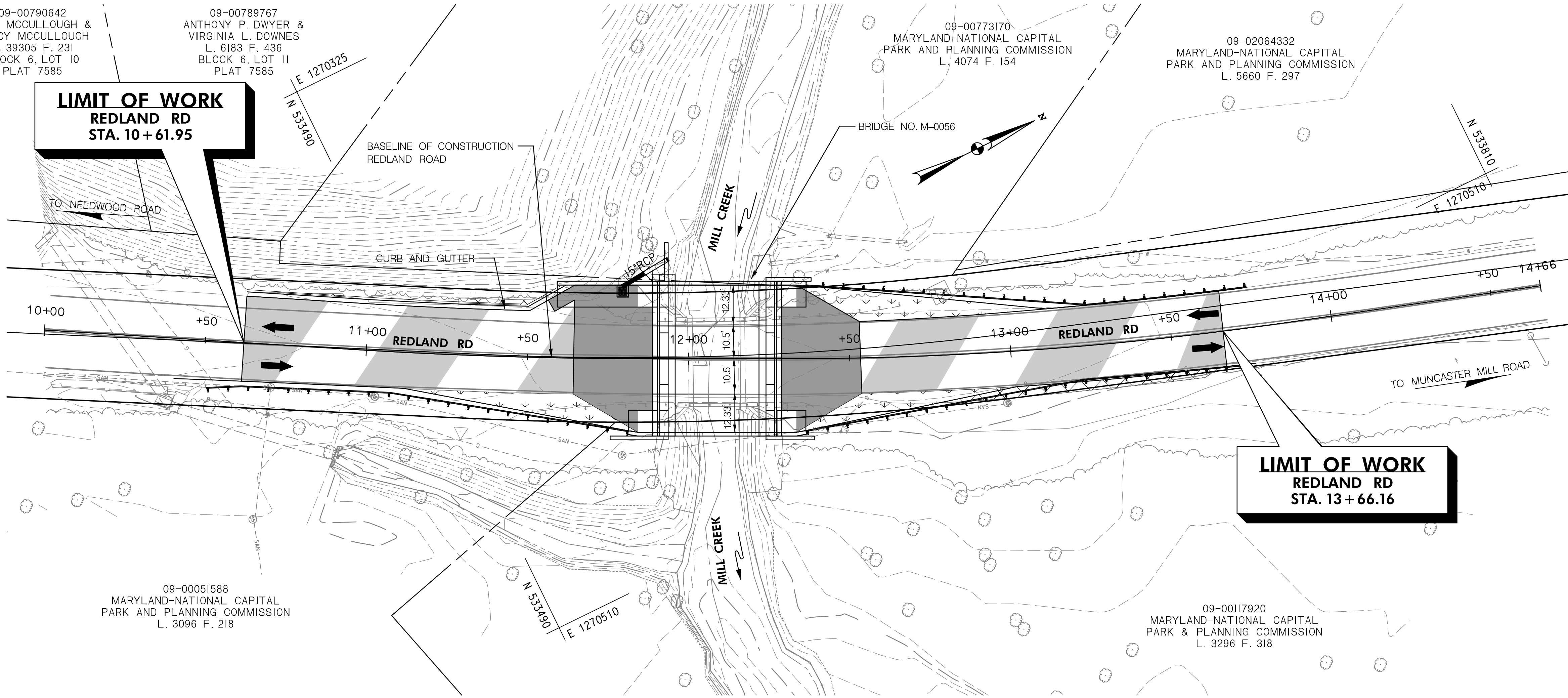
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MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 4074 F. 154

09-02064332
MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 5660 F. 297

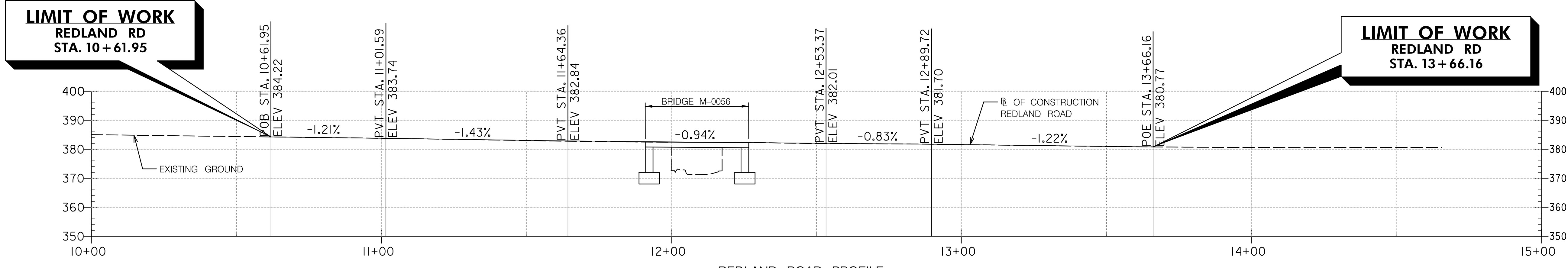
09-00051588
MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 3096 F. 218

09-00117920
MARYLAND-NATIONAL CAPITAL
PARK & PLANNING COMMISSION
L. 3296 F. 318

- ROADWAY LEGEND**
- FULL DEPTH
 - FINE MILL AND RESURFACE
 - REMOVAL
 - GRASS SHOULDER
 - PROPERTY LINE



REDLAND ROAD PLAN
SCALE: 1" = 20'



REDLAND ROAD PROFILE
SCALE: H: 1" = 20'
V: 1" = 20'

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____
APPROVED

Chief, Division of Transportation Engineering _____ Date _____

Designed by: EL Drawn by: EL Checked by: MM

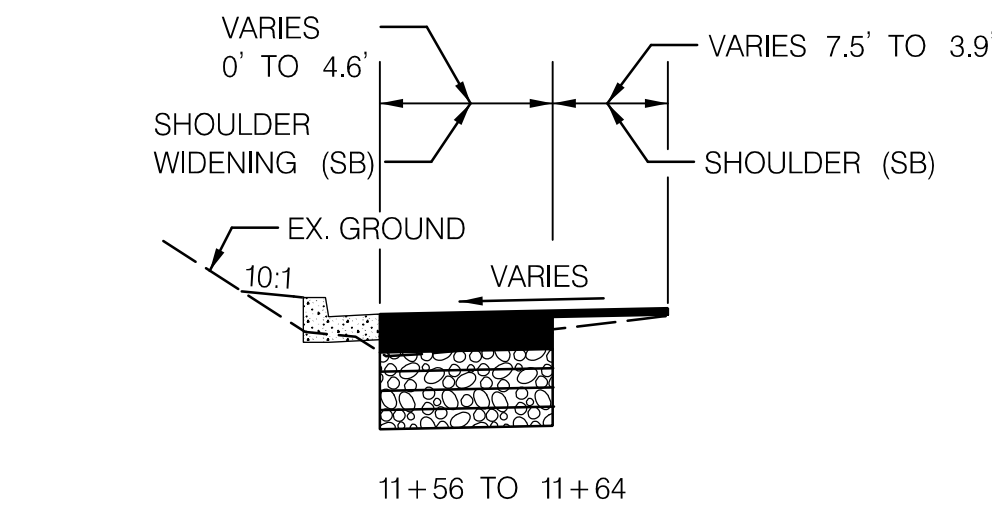
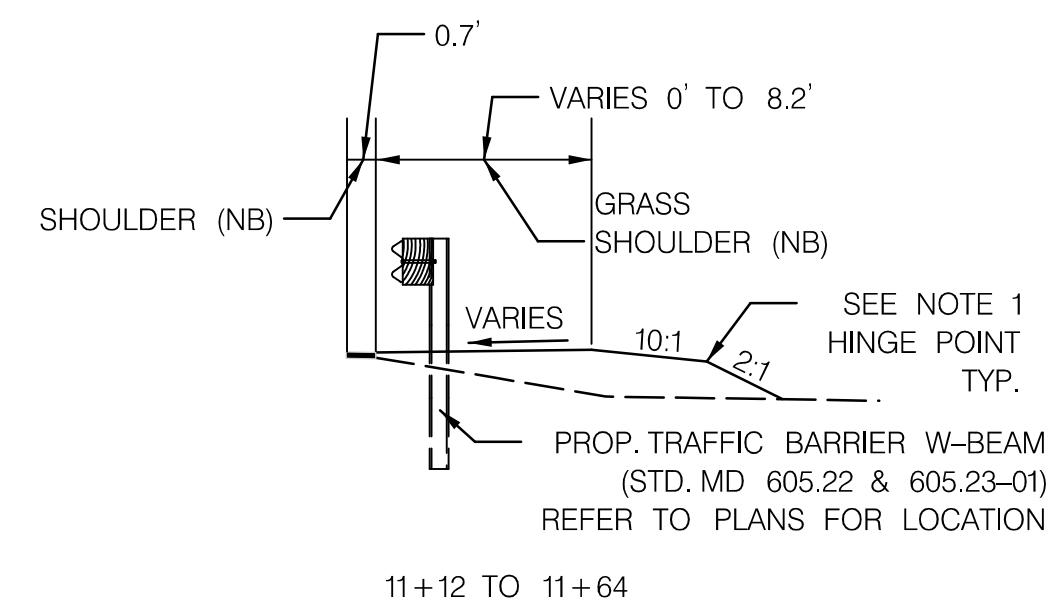
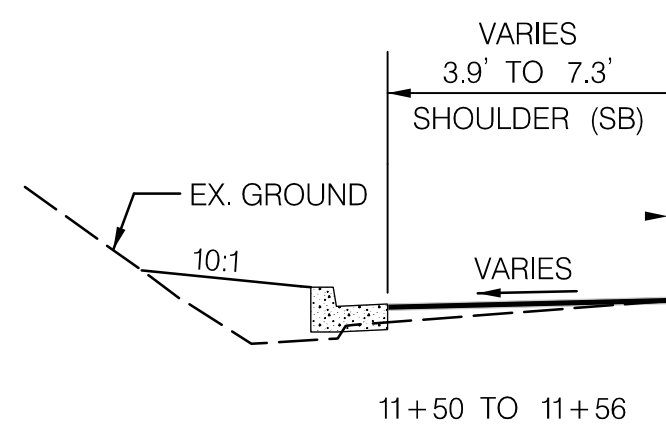
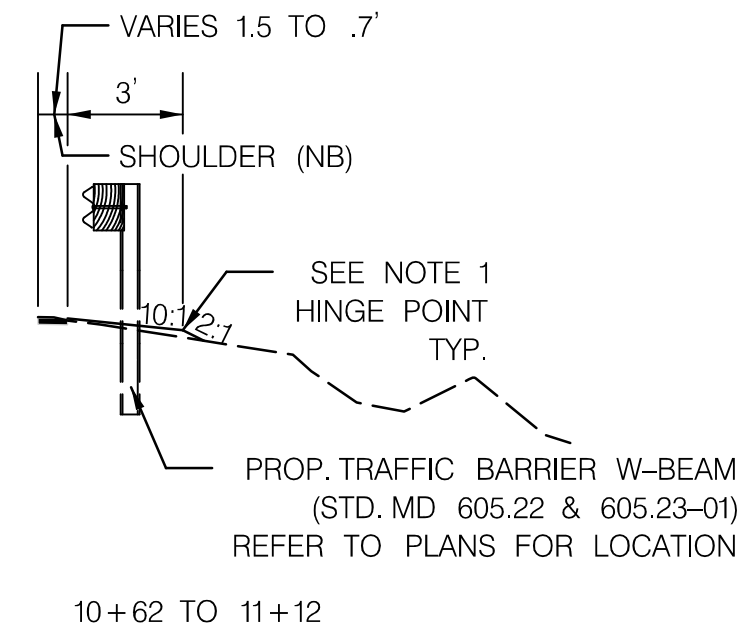
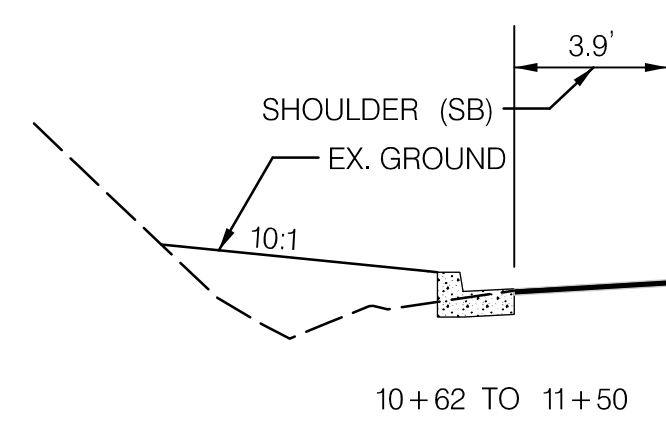
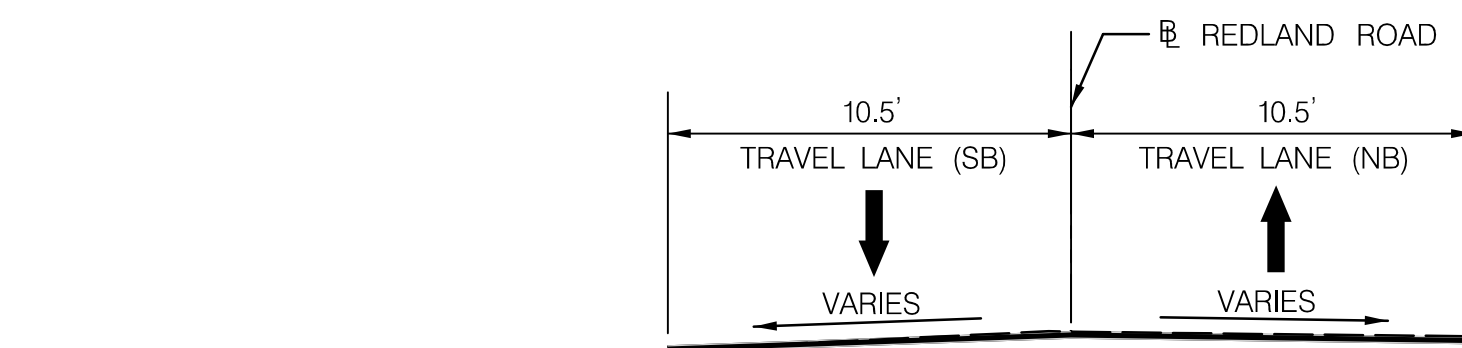
REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

ROADWAY PLAN AND PROFILE

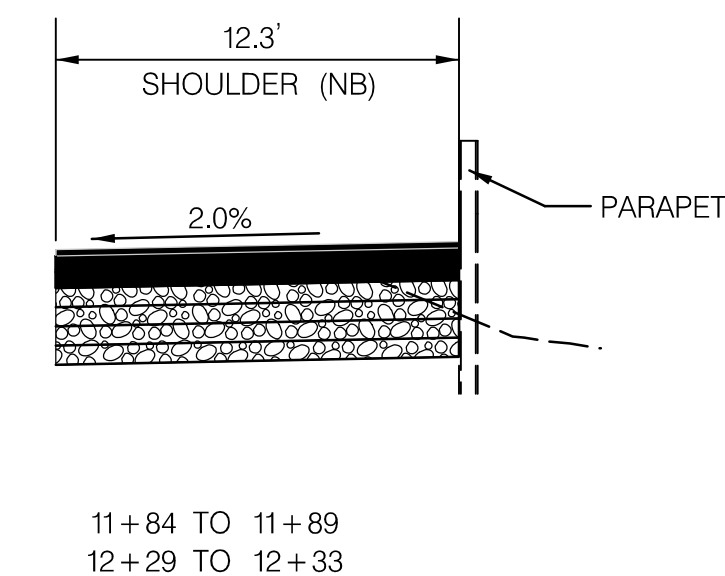
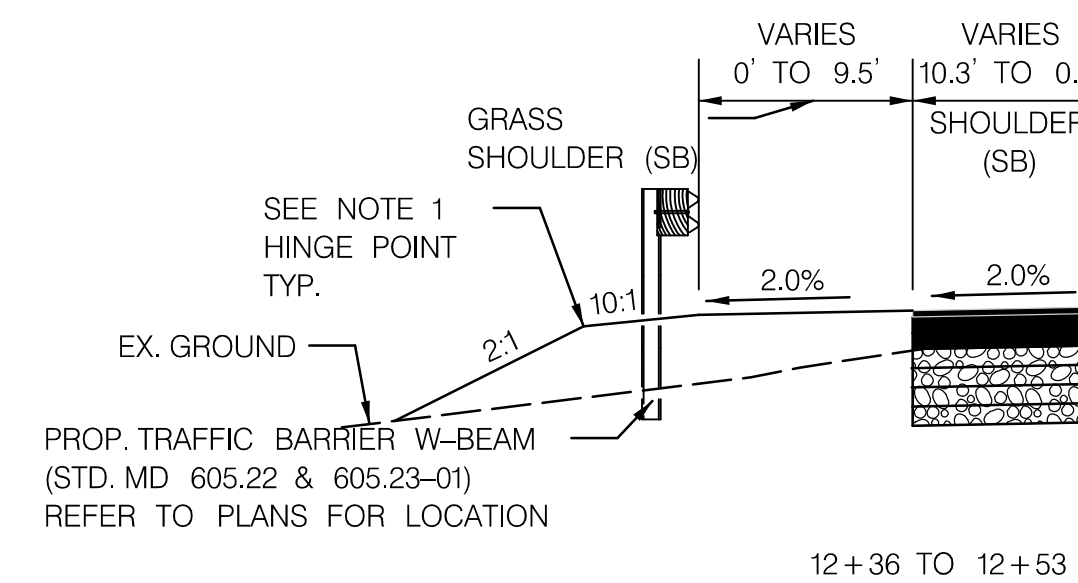
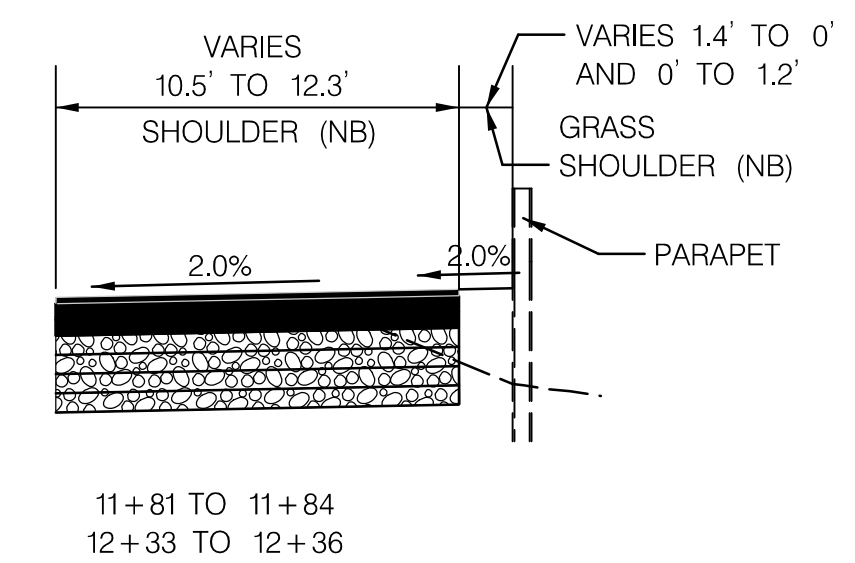
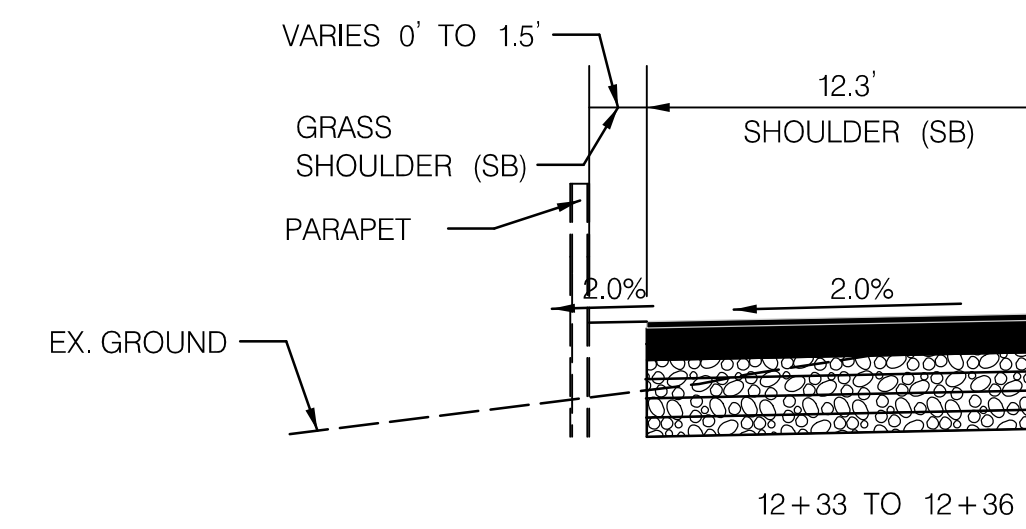
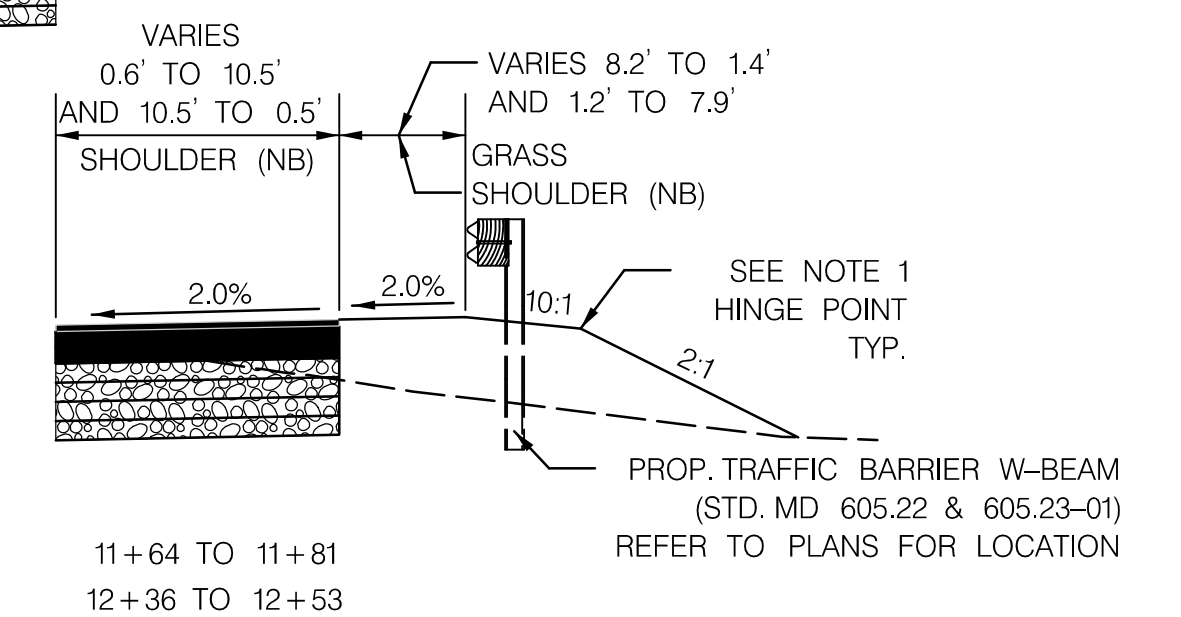
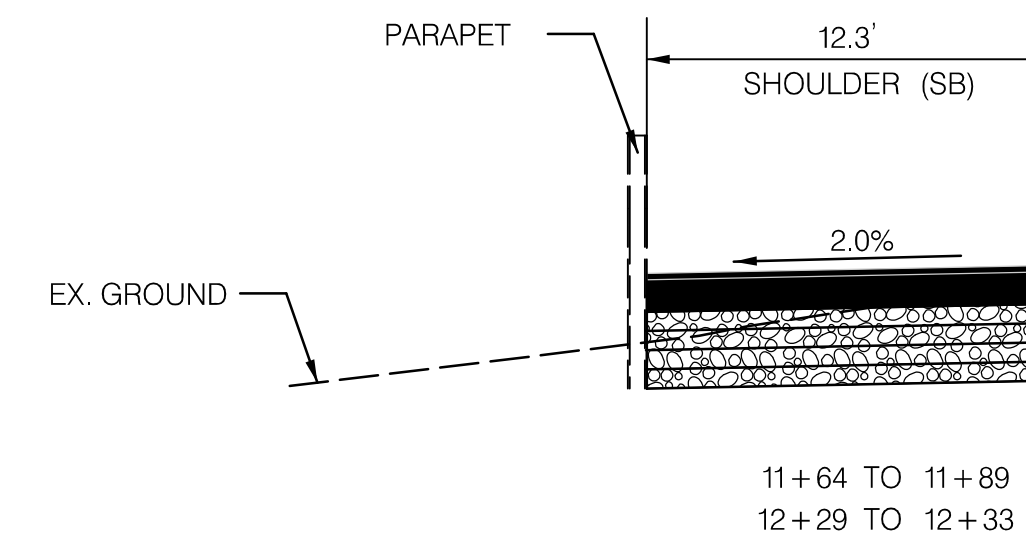
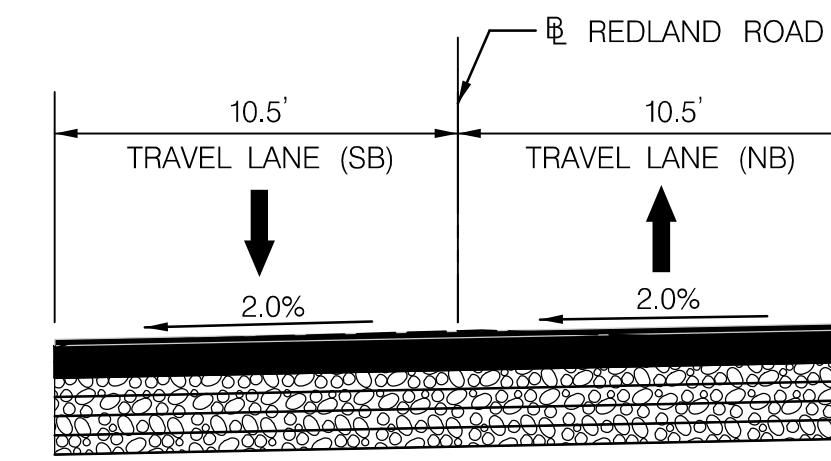
SCALE: 1" = 20' DATE: JUNE, 2023

Project No.: 509753 SHEET 11 of 17

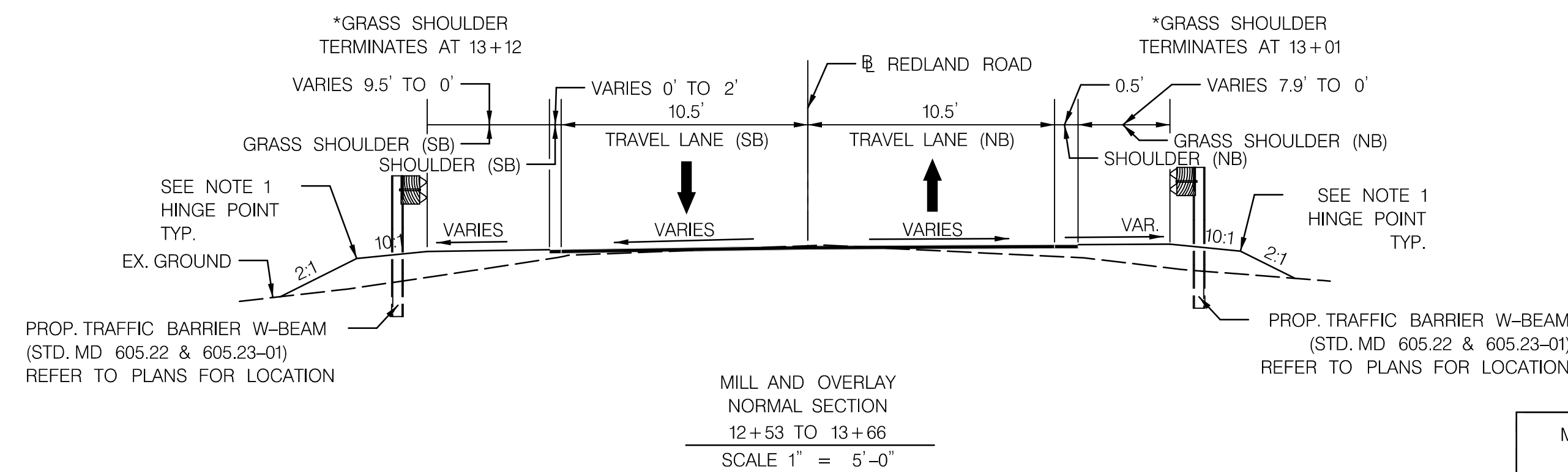
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MILL AND OVERLAY
NORMAL TYPICAL SECTION
10+62 TO 11+64
SCALE 1" = 5'-0"



FULL DEPTH
SUPERELEVATION SECTION
11+64 TO 11+89
12+29 TO 12+53
SCALE 1" = 5'-0"



MILL AND OVERLAY
NORMAL SECTION
12+53 TO 13+66
SCALE 1" = 5'-0"

NOTES:

- I. FULL DEPTH SAWCUT WILL NOT BE MEASURED BUT WILL BE INCIDENTAL TO CLASS I EXCAVATION PAY ITEM.



NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section _____ Date _____
APPROVED
Chief, Division of Transportation Engineering _____ Date _____
Designed by: EL Drawn by: EL Checked by: MM

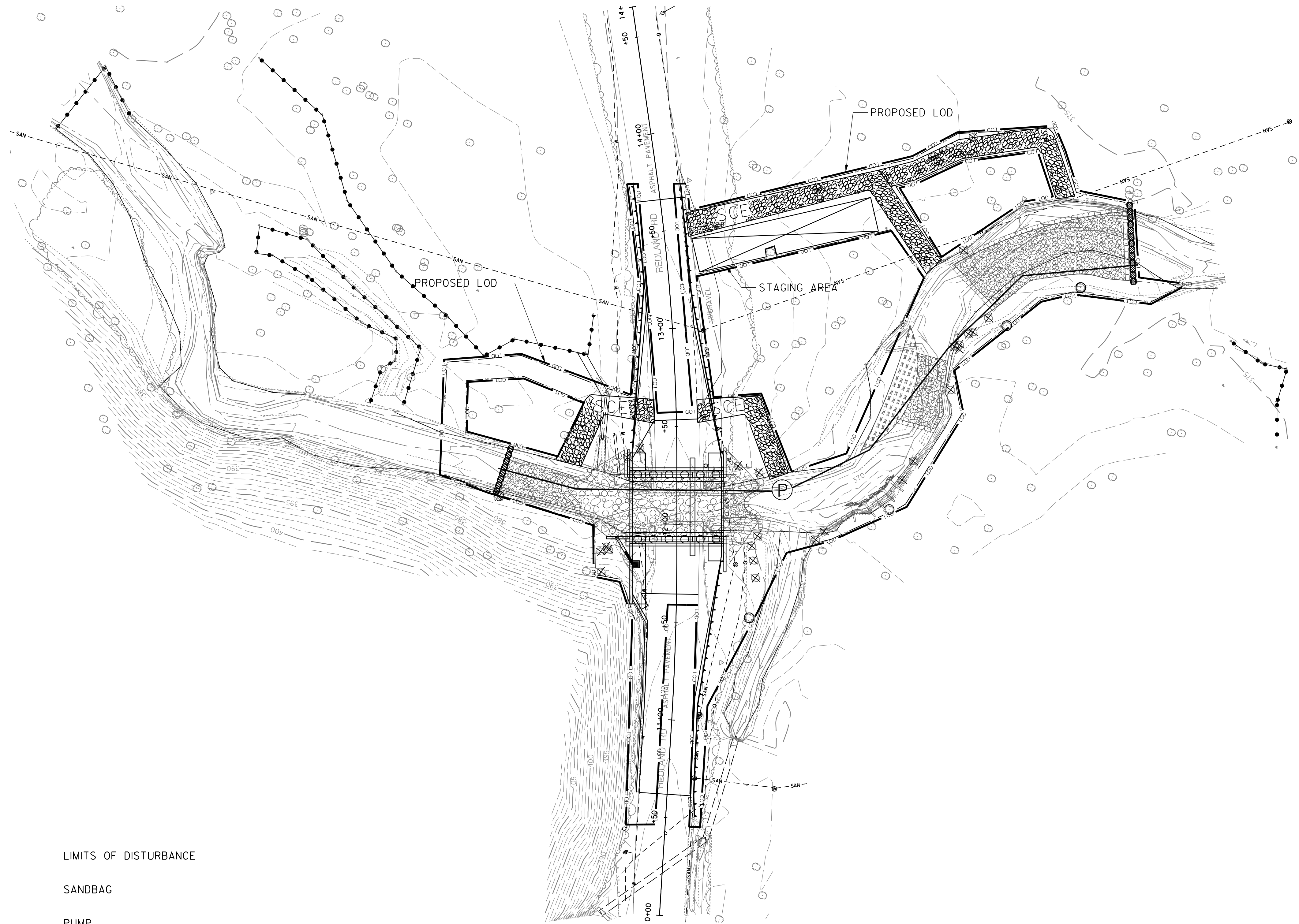
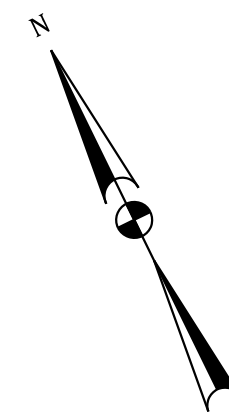
REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

ROADWAY TYPICAL SECTIONS

SCALE : 1" = 5'-0" DATE : JUNE, 2023

Project No. : 509753 SHEET 12 of 17

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LEGEND:

- LOD LIMITS OF DISTURBANCE
- SANDBAG
- PUMP
- STABILIZED CONSTRUCTION ENTRANCE
- TREE REMOVAL

PLAN
SCALE: 1" = 30'

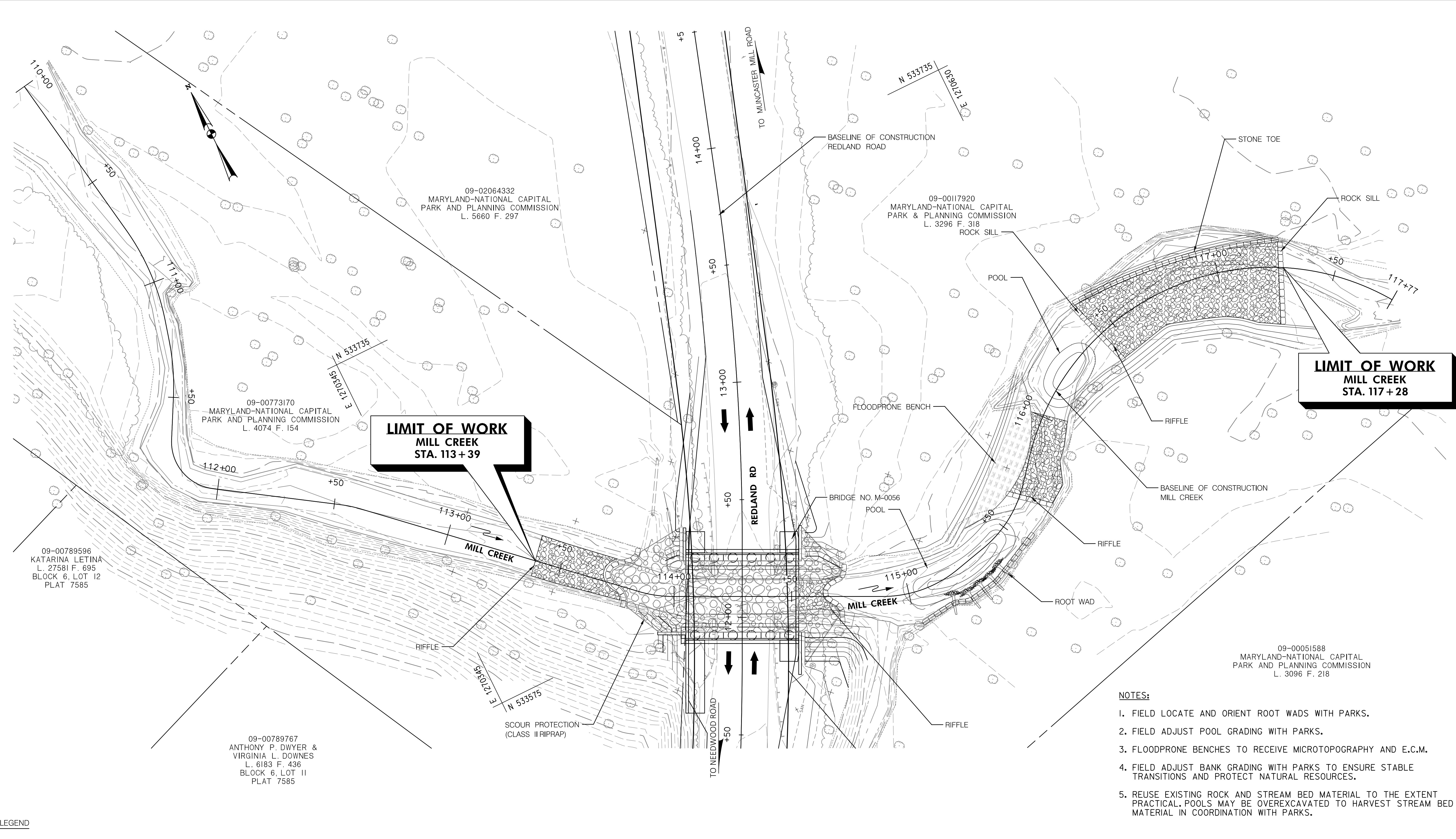


NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : <u>KW</u>	Drawn by : <u>NM</u> Checked by : <u>MWM</u>

REPLACEMENT OF BRIDGE NO. M-0056 REDLAND ROAD OVER MILL CREEK PRELIMINARY EROSION AND SEDIMENT CONTROL PLAN	
SCALE : 1" = 30'	DATE : JUNE, 2023
Project No. : <u>509753</u>	SHEET <u>13</u> of <u>17</u>

6/2/2023 5:06:05 PM P:\Projects\1908\1908.8_Redland_Road\ES-CADD\ES-CADD_P000_Redland.Rd - Stream.dgn



LIMIT OF WORK
MILL CREEK
STA. 113+39

LIMIT OF WORK
MILL CREEK
STA. 117+28

- NOTES:**
1. FIELD LOCATE AND ORIENT ROOT WADS WITH PARKS.
 2. FIELD ADJUST POOL GRADING WITH PARKS.
 3. FLOODPRONE BENCHES TO RECEIVE MICROTOPOGRAPHY AND E.C.M.
 4. FIELD ADJUST BANK GRADING WITH PARKS TO ENSURE STABLE TRANSITIONS AND PROTECT NATURAL RESOURCES.
 5. REUSE EXISTING ROCK AND STREAM BED MATERIAL TO THE EXTENT PRACTICAL. POOLS MAY BE OVEREXCAVATED TO HARVEST STREAM BED MATERIAL IN COORDINATION WITH PARKS.

LEGEND

	FLOODPRONE BENCH		TRAFFIC BARRIER W-BEAM
	EX. TREE (TO BE PROTECTED)		EX. TRAFFIC BARRIER
	EX. TREE (TO BE PROTECTED WITH TREE PLANKING)		PROPERTY LINE
	EX. TREE (FLUSH CUT)		TREE PROTECTION FENCE
	EX. TREE (TO BE REMOVED AND USED AS ROOT WAD)		PROPOSED CONTOUR
			SPOT ELEVATION



NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____
APPROVED

Chief, Division of Transportation Engineering _____ Date _____

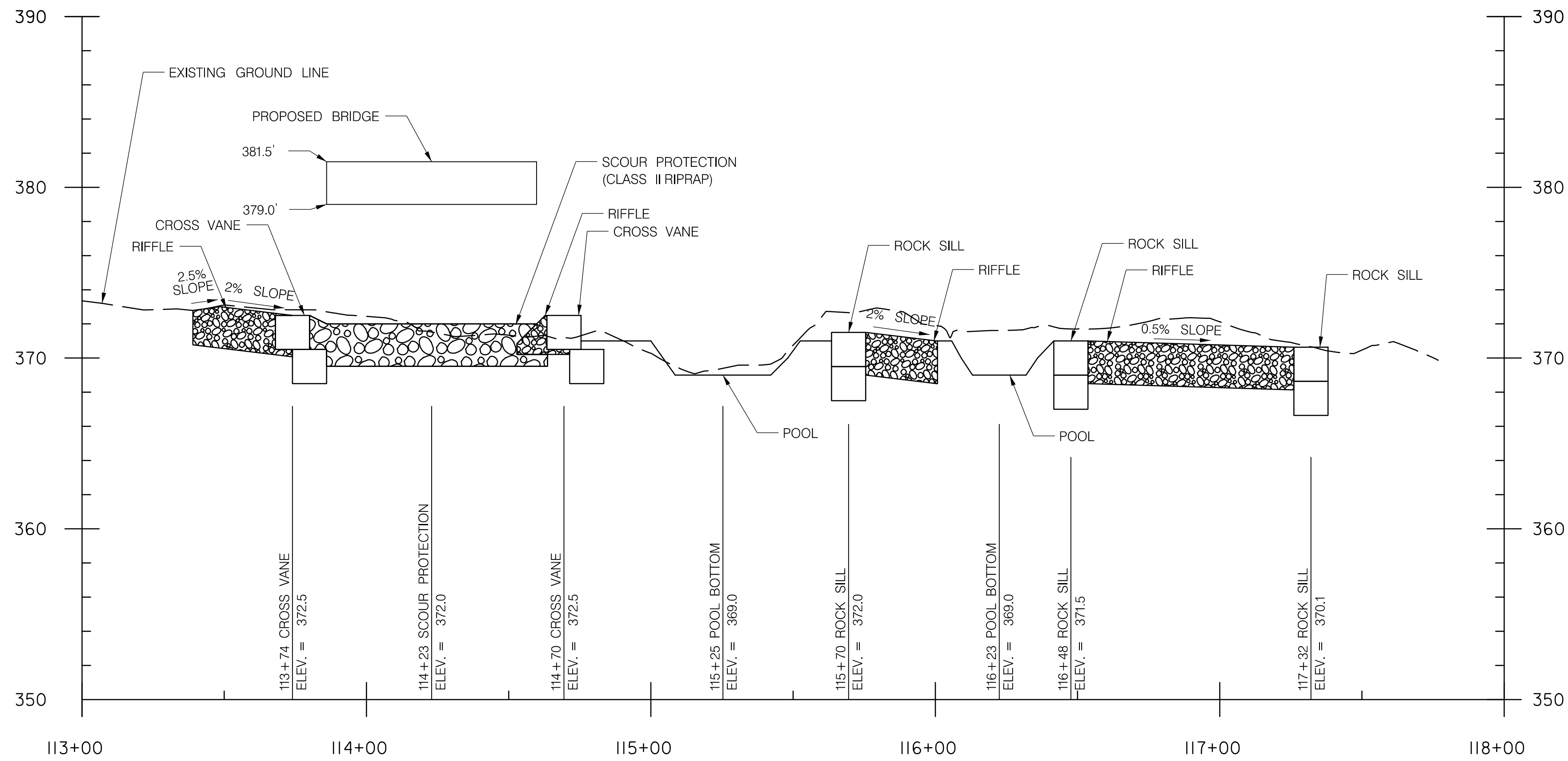
Designed by : EL Drawn by : EL Checked by : MM

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

STREAM RESTORATION PLAN

SCALE : 1" = 20' DATE : JUNE, 2023

Project No. : 509753 SHEET 14 of 17



STREAM PROFILE
 SCALE: H: 1" = 30'-0"
 V: 1" = 5'-0"

- NOTES:
1. ROOTWADS AND AQUATIC HABITAT NOT SHOWN FOR CLARITY.
 2. FIELD ADJUST POOL GRADING WITH M-NCPPC.

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date
Designed by : <u>EL</u>	Drawn by : <u>EL</u> Checked by : <u>KW</u>

REPLACEMENT OF BRIDGE NO. M-0056
 REDLAND ROAD OVER MILL CREEK

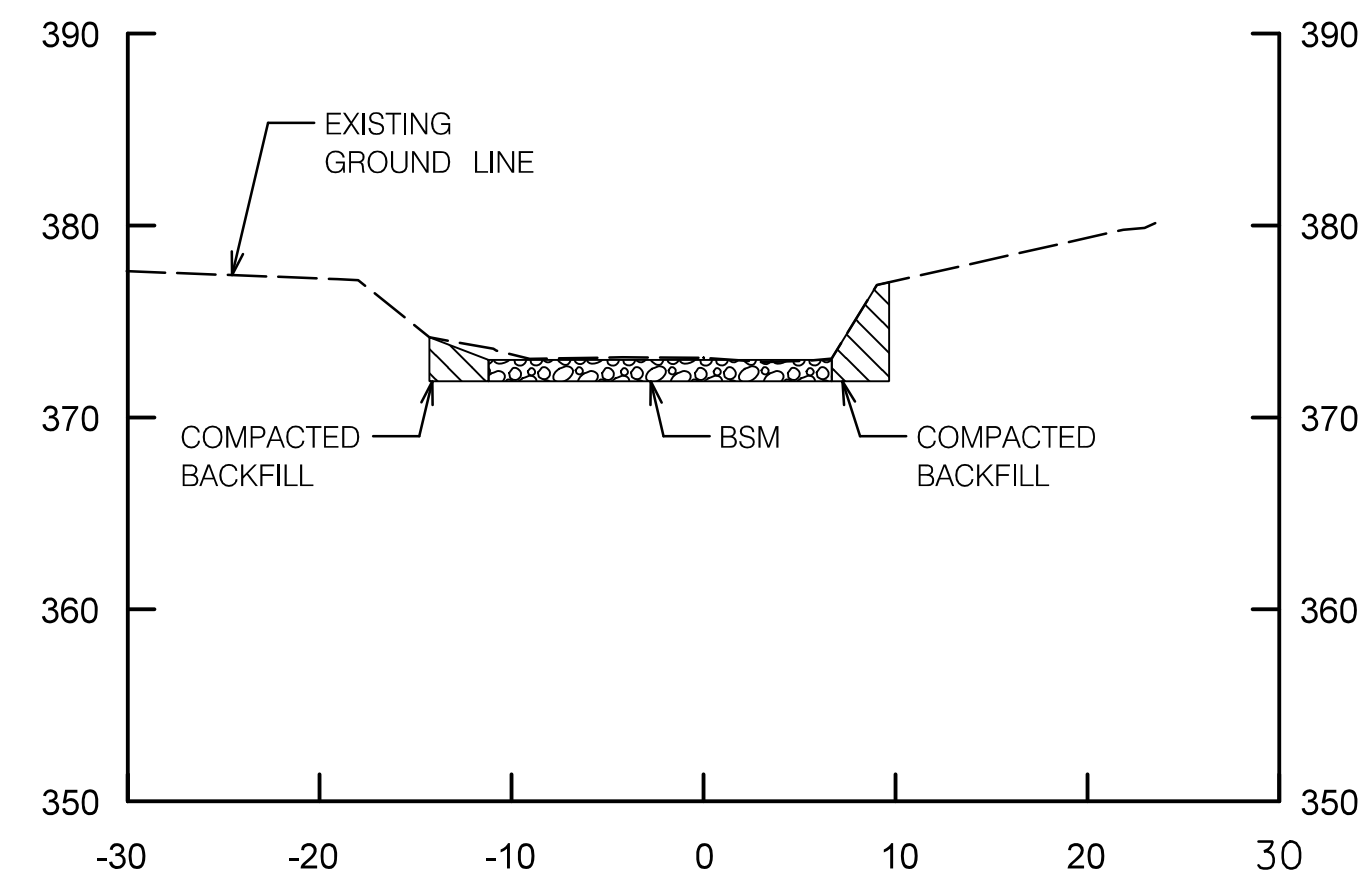
STREAM PROFILE

SCALE : AS SHOWN DATE : JUNE, 2023

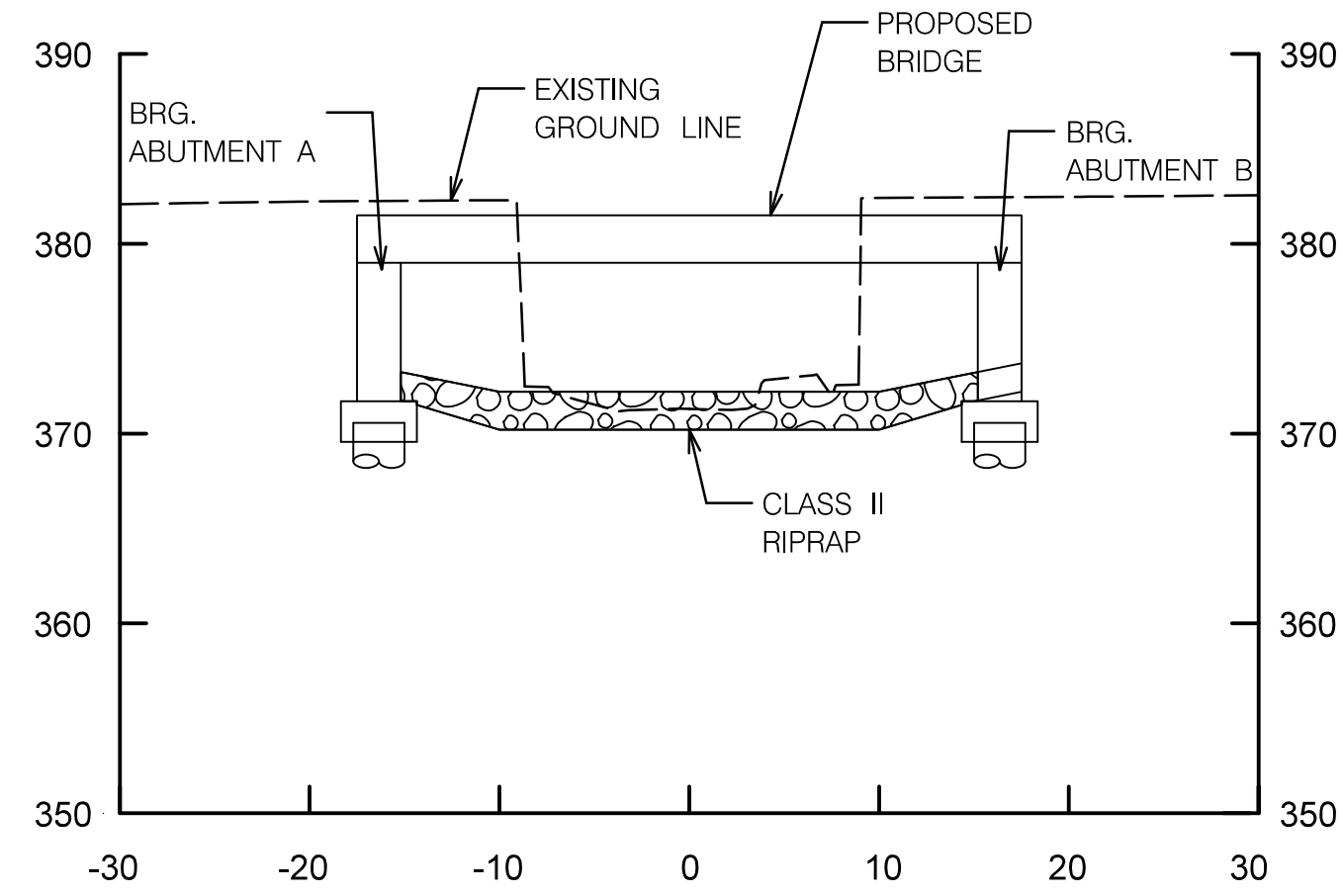
Project No. : 509753 SHEET 15 of 17



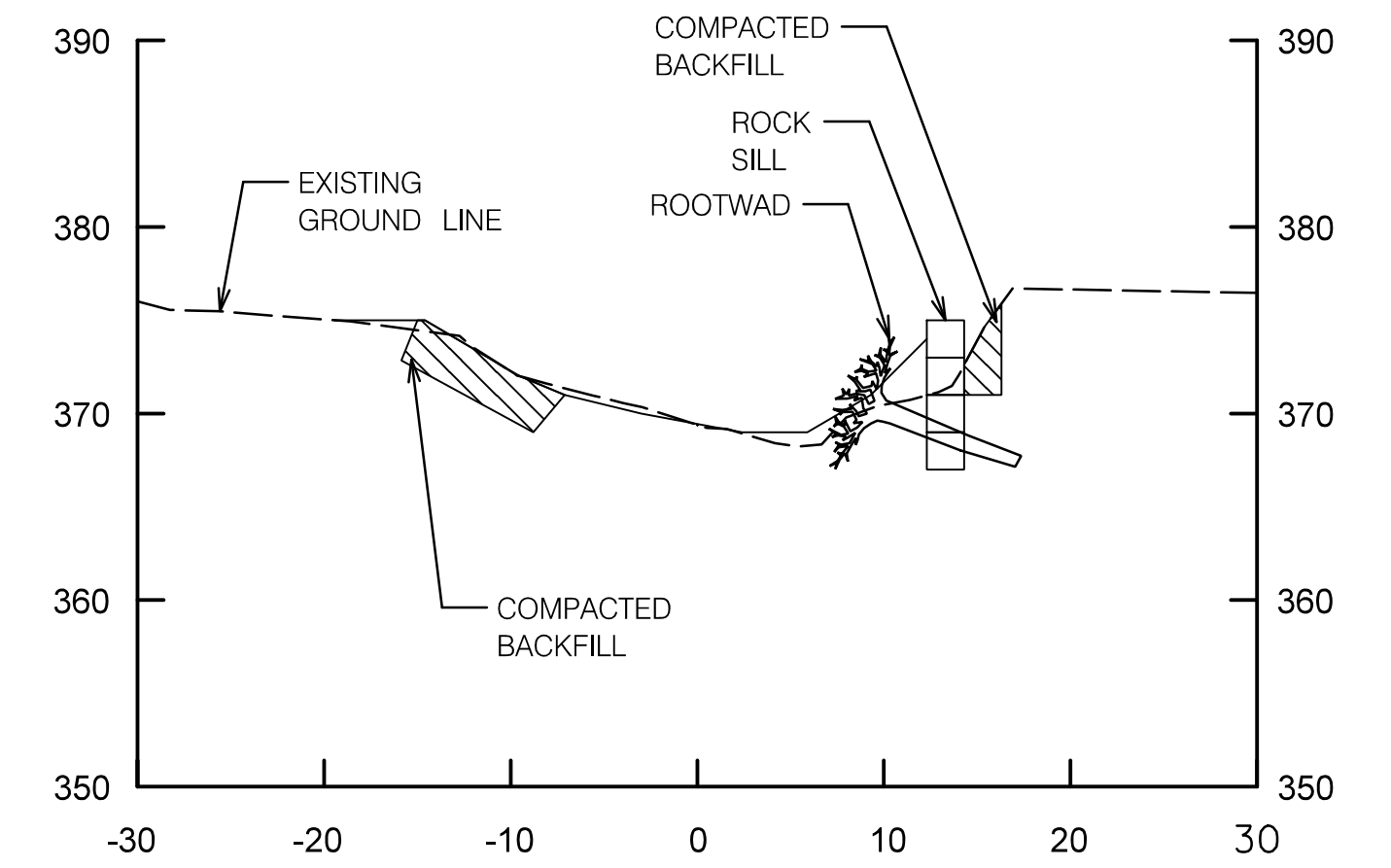
NO.	REVISION	DATE	BY



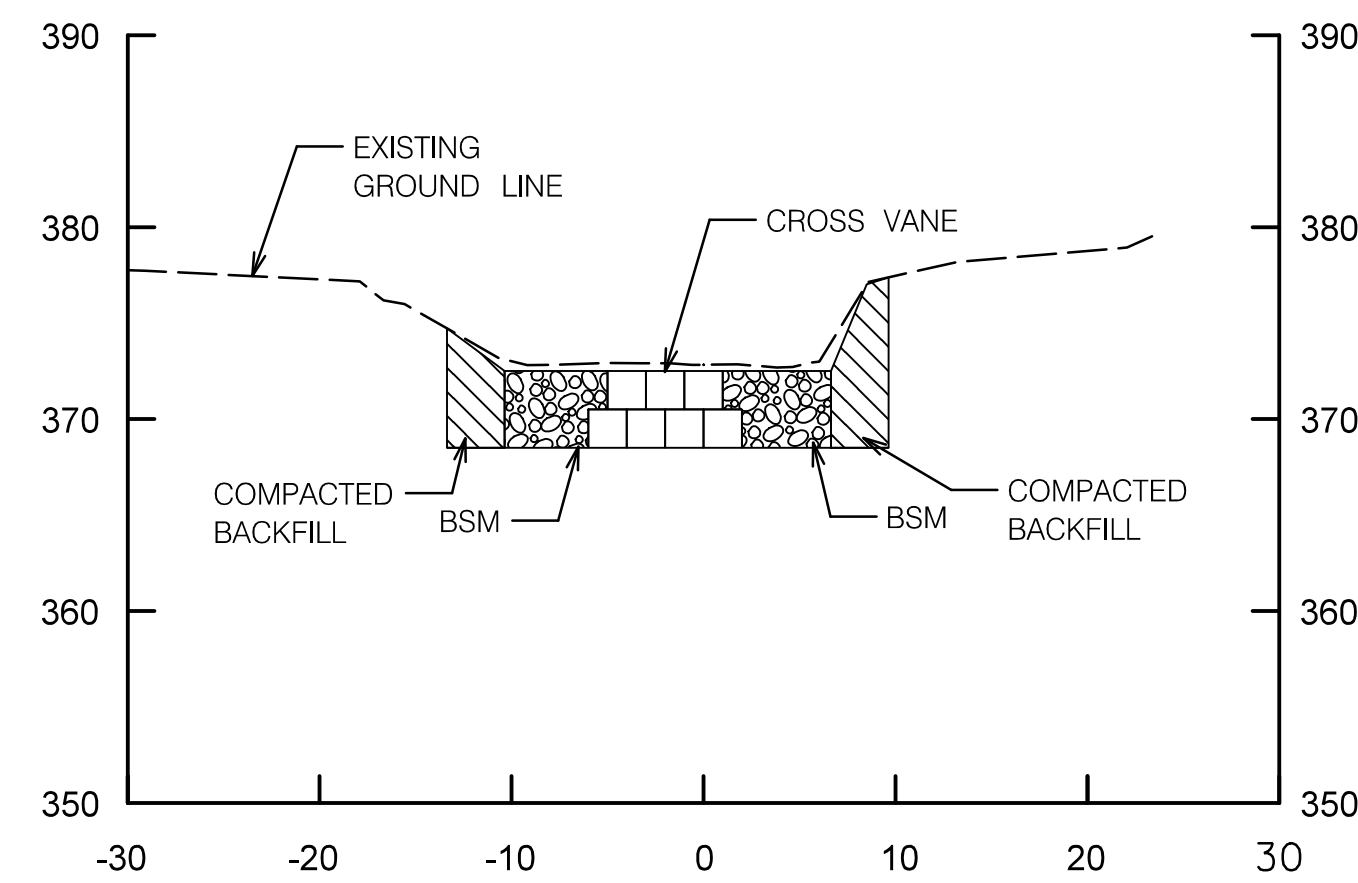
113+50
RIFFLE



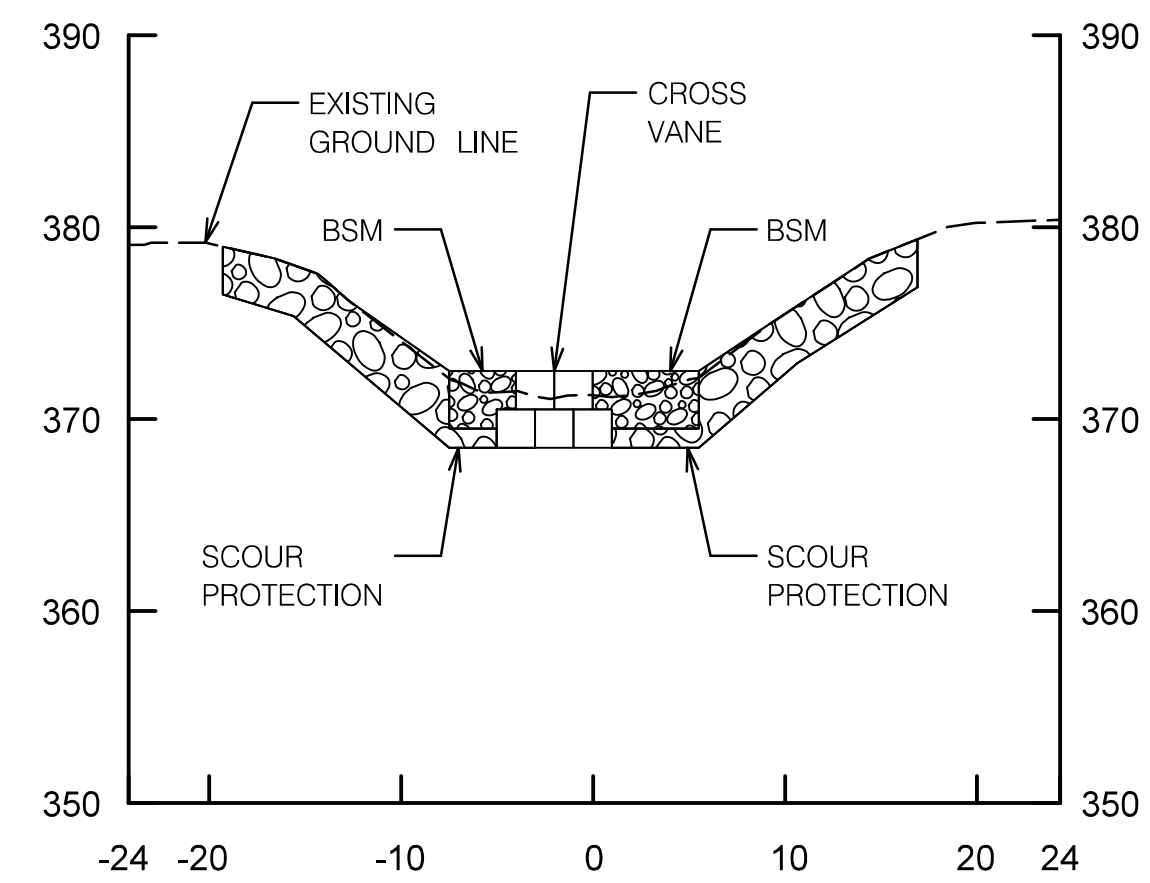
114+30
CLASS II RIPRAP



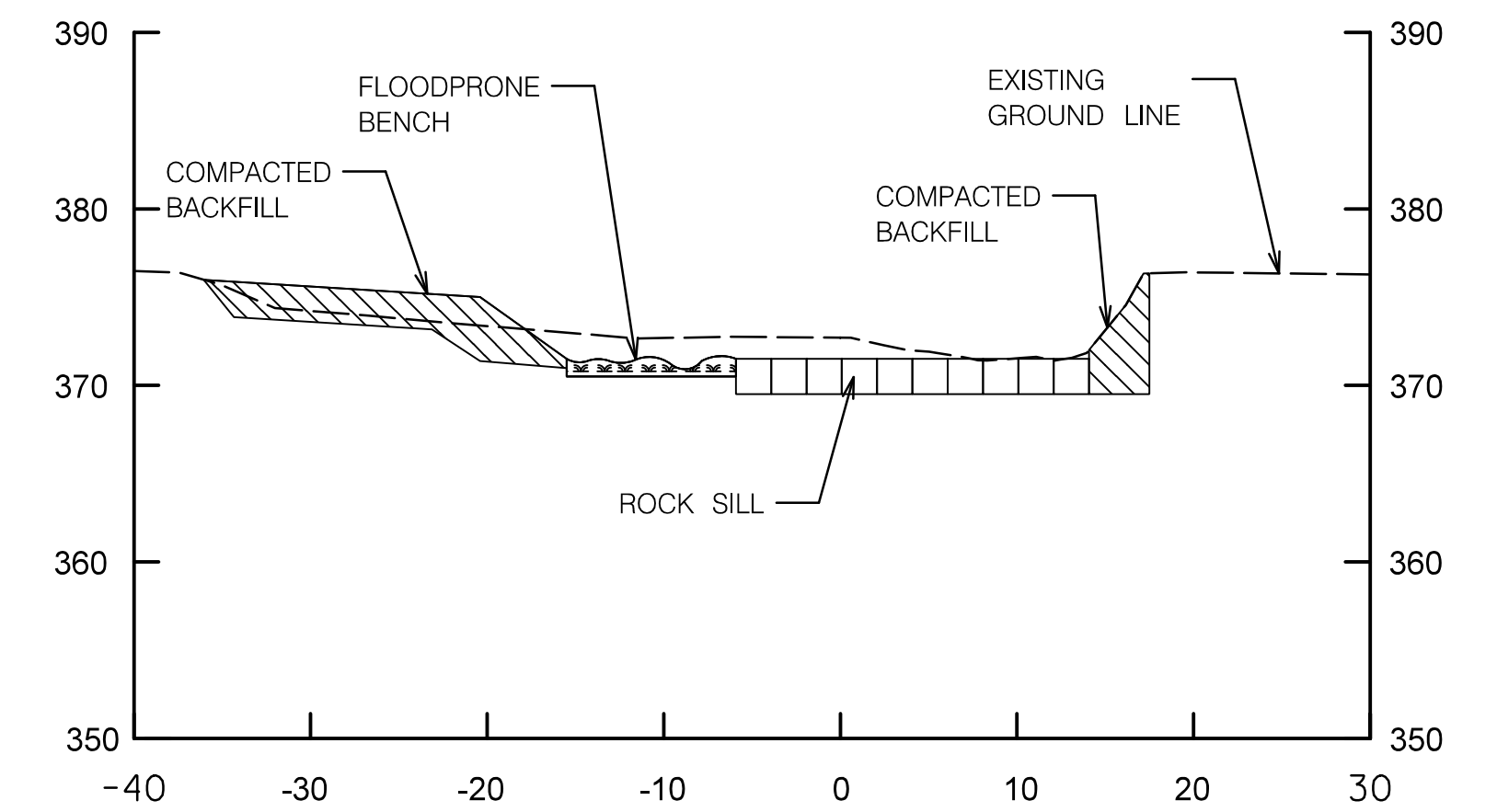
115+25
PLUNGE POOL/ROOT WAD



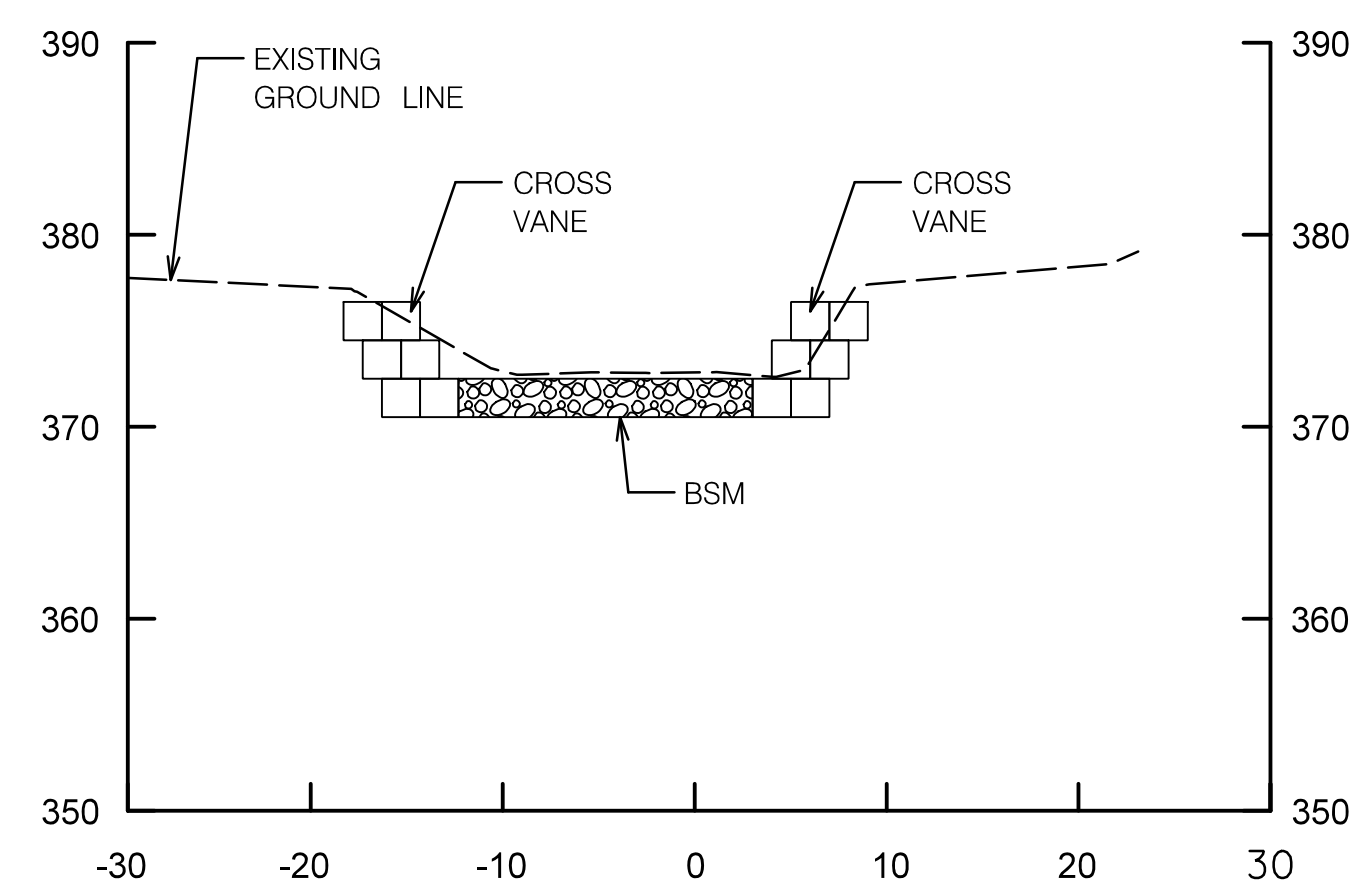
113+70
CROSS VANE



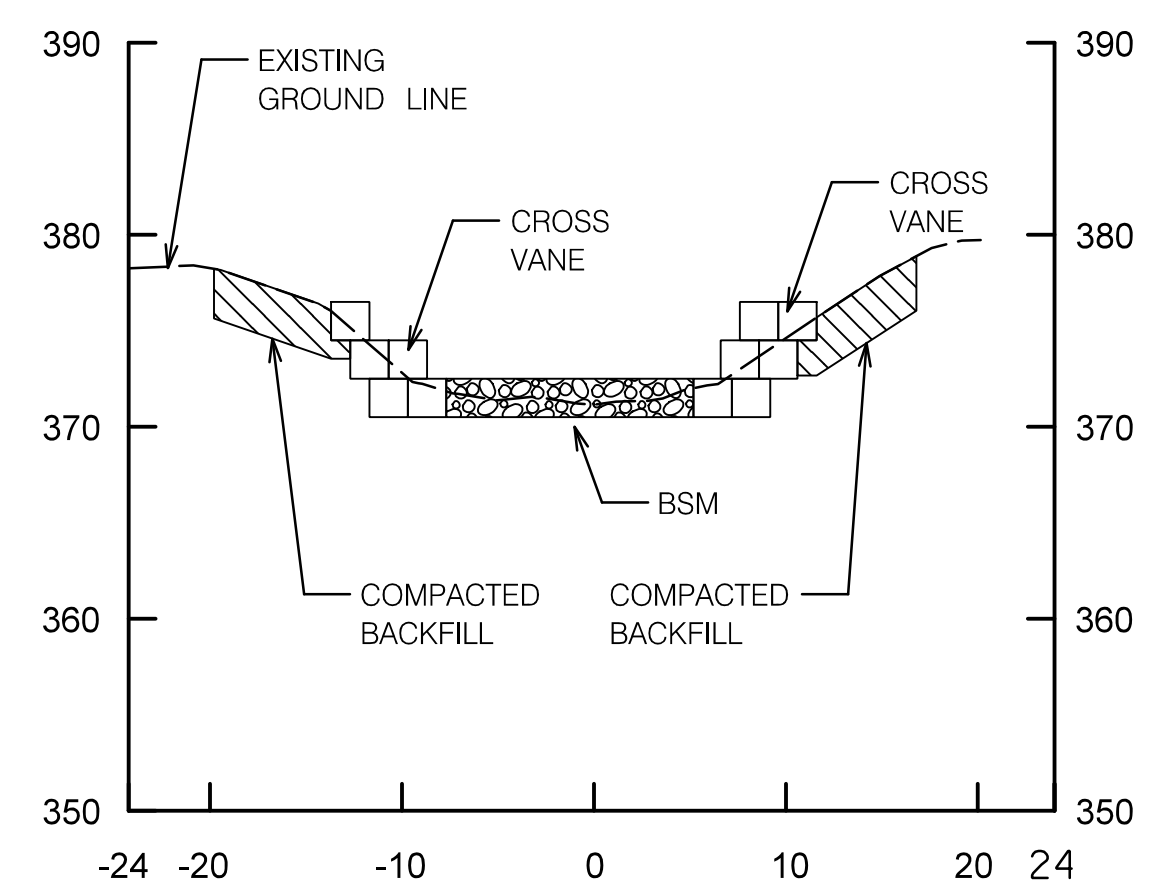
114+64
CROSS VANE



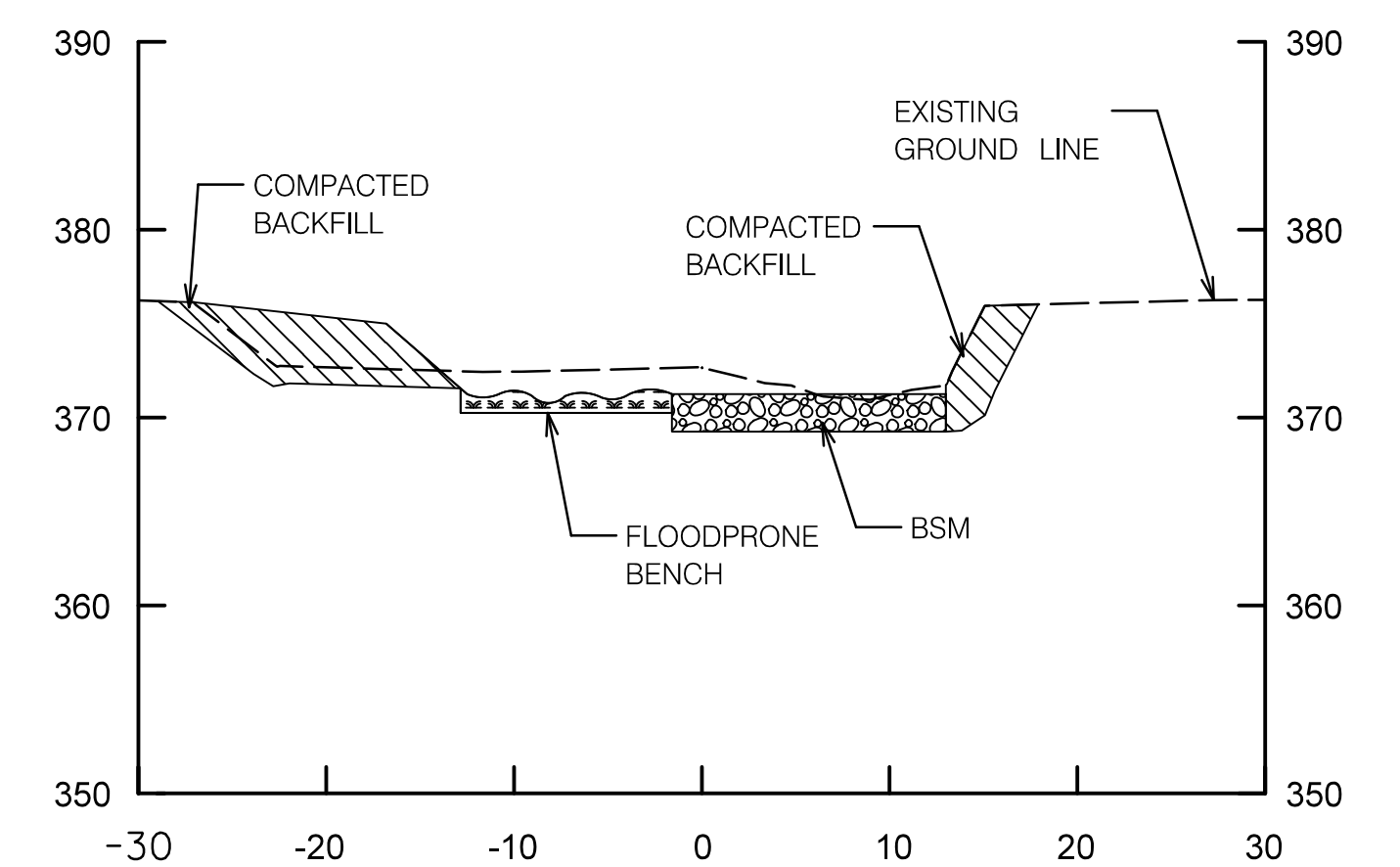
115+65
FLOODPRONE BENCH/ROCK SILL



113+80
CROSS VANE



114+72
CROSS VANE



115+89
FLOODPRONE BENCH/RIFFLE

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NO.	REVISION	DATE	BY

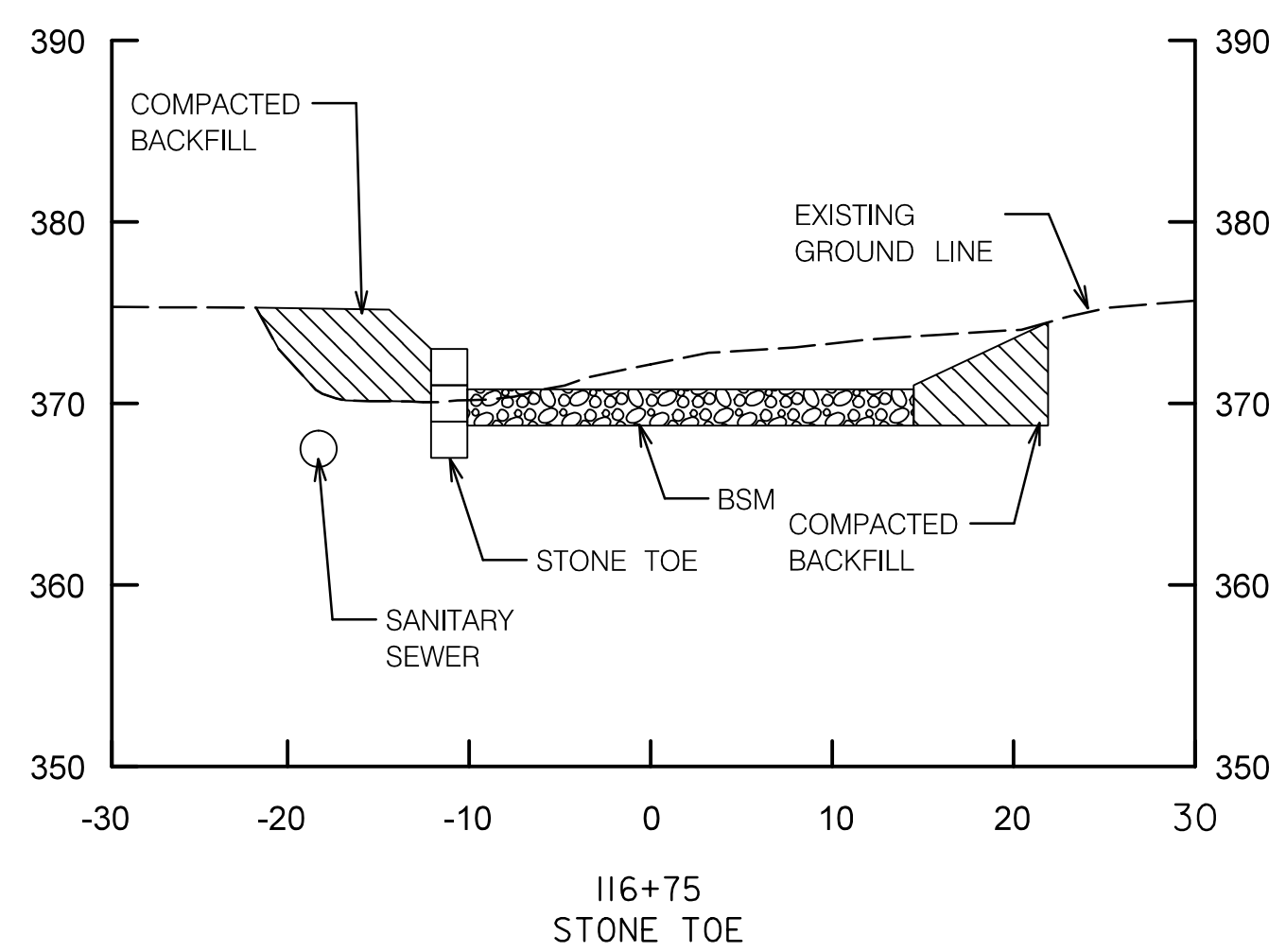
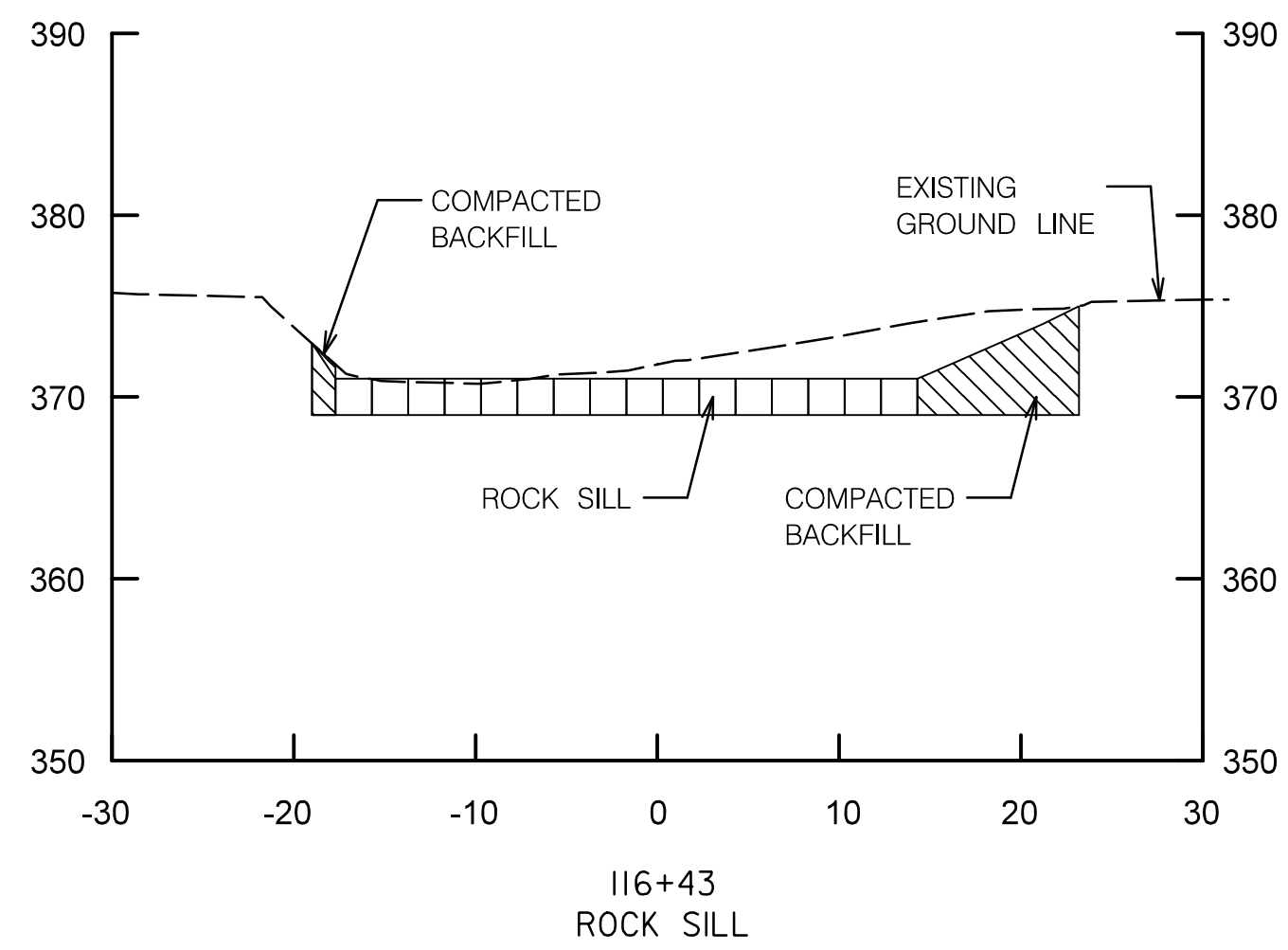
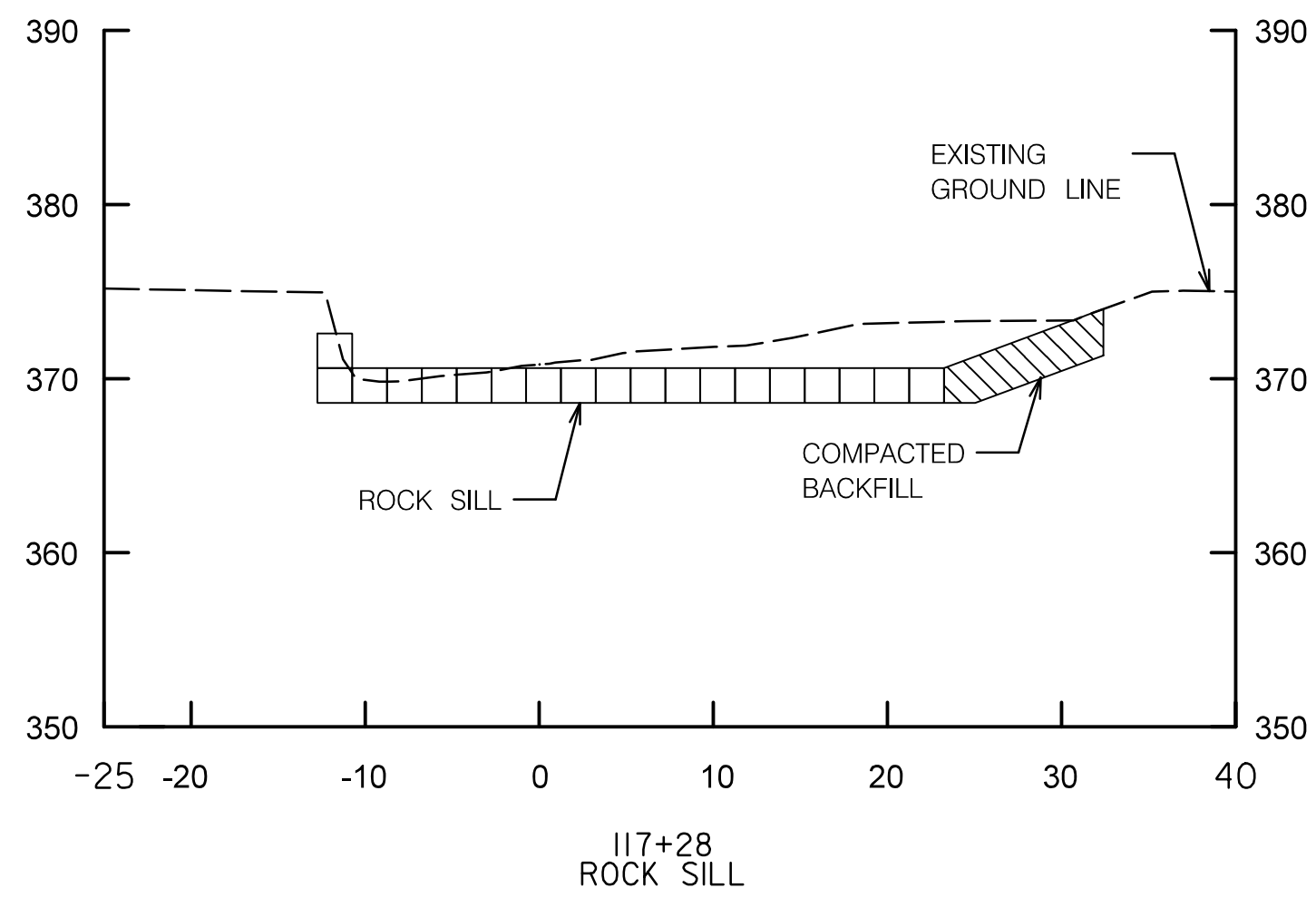
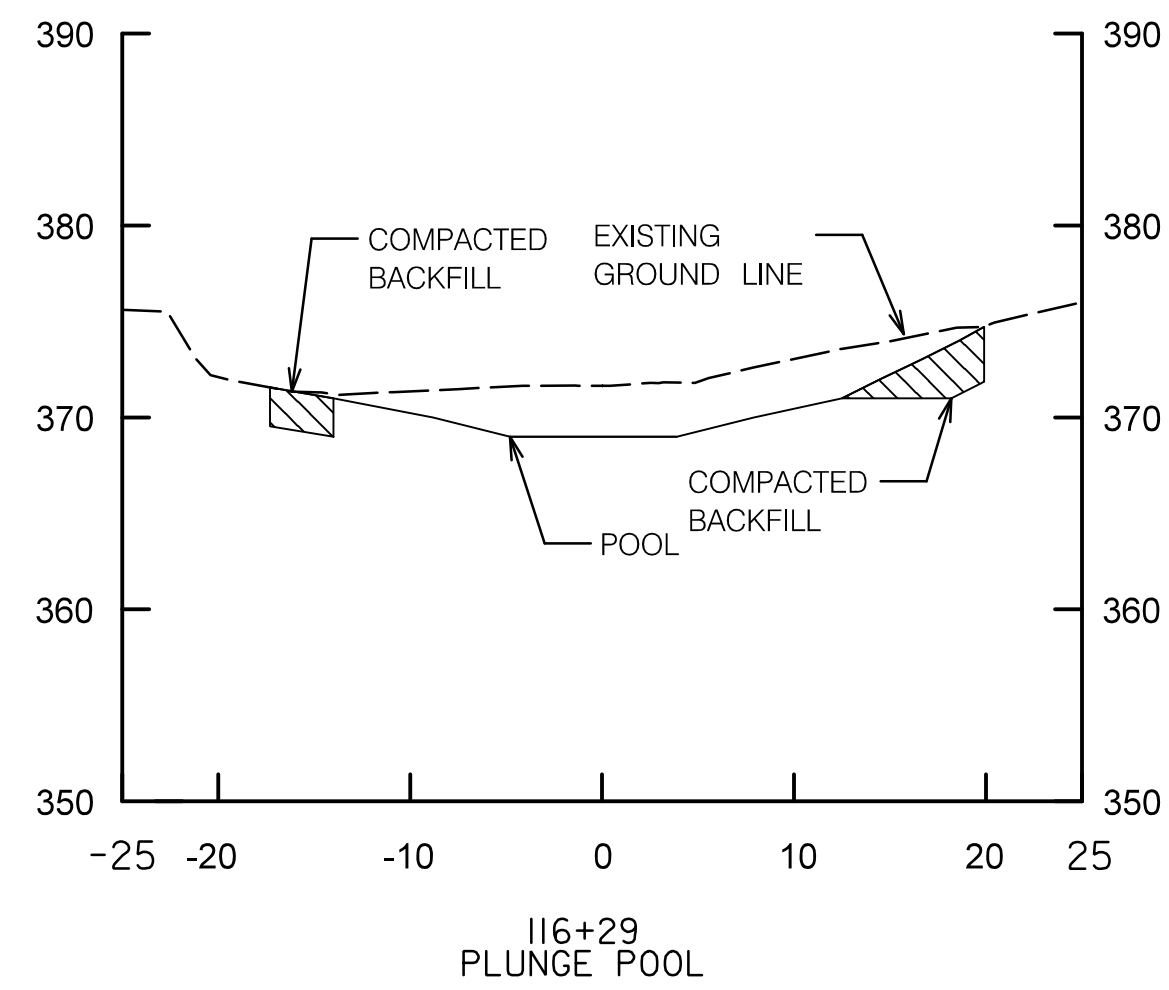
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section	
APPROVED	
Chief, Division of Transportation Engineering	
Designed by: EL	Drawn by: EL
Checked by: KW	

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

STREAM RESTORATION
CROSS SECTIONS

SCALE : 1" = 10' DATE : JUNE, 2023

Project No. : 509753 SHEET 16 of 17



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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
RECOMMENDED FOR APPROVAL	
Chief, Design Section APPROVED	Date
Chief, Division of Transportation Engineering	Date
Designed by : <u>EL</u>	Drawn by : <u>EL</u> Checked by : <u>KW</u>

REPLACEMENT OF BRIDGE NO. M-0056
REDLAND ROAD OVER MILL CREEK

STREAM RESTORATION
CROSS SECTIONS - 2

SCALE : 1" = 10' DATE : JUNE, 2023

Project No. : 509753 SHEET 17 of 17