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MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

REPLACEMENT OF BRIDGE NO® M-0043 ON MOUTH OF MONOCACY ROAD OVER LITTLE MONOCACY RIVER

C. I. P. NO. 502103 AND F.A.P. NO.

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 I No Dx exempt under Section 55-5 of the Code, please check the applicable exemption category below.

Total Property Area	Total Disturbed Area
300,296 square feet	20,259 square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
15	12
Fee in Lieu (Trees Required - Trees Planted) x $250	$ 750

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance		Number of Shade Trees Required
FROM	TO	
1	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) x 15

EXEMPTION CATEGORIES:

D 55-5(a) any activity that is subject to Article II of Chapter 22A;

Il 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;

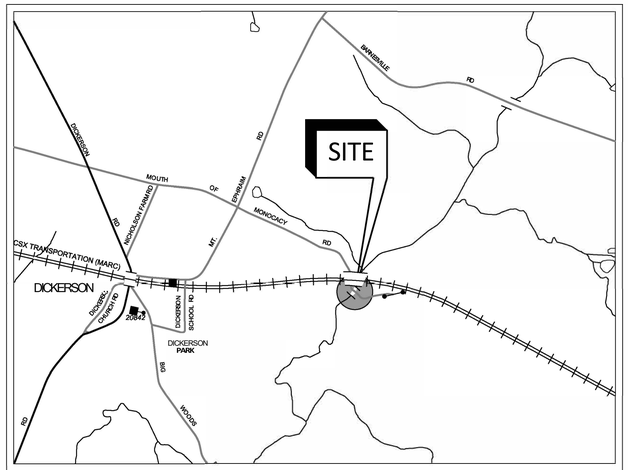
D 55-5(1) any activity conducted by the County Parks Department;

Il 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;

L 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;

I 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;

L OTHER: Specify per Section 55-5 of the Code.



VICINITY MAP
SCALE : 1"= 7000'

DESIGN DATA		
YEAR	2019	2039
DESIGN SPEED	< 25	< 25
24 HR A.D.T.	75	97
% HEAVY TRUCKS A.D.T.	3%	3%
D.H.V.		
% HEAVY TRUCKS D.H.V.		
D.D.		
FUNCTIONAL CLASSIFICATION	RURAL/LOCAL	

DEVELOPER'S /BUILDER'S CERTIFICATION

I 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 OF A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE

TIMOTHY H. CUPPLES
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY PERMITTING SERVICES EXECUTIVE **REGULATIONS** 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

DATE

TYLER **SWIFT**
MD. REGISTRATION NO. 54587

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE XXX CUBIC YARDS OF EXCAVATION, AND XXX CUBIC YARDS OF FILL AND **THAT** THE **TOTAL** AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED **TO** BE XX,XXX SQUARE FEET OR X.XX ACRES.

DATE

TYLER SWIFT
MD. REGISTRATION NO. 54587

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT **THESE** DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 54587 EXPIRATION DATE 06/20/2027

TYLER SWIFT, P.E.

DATE

GPI www.gpinet.com
E11g1neering › Design › Planning › Construction Management
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

NO.	REVISION	DATE	BY

OWNER CONTACT/ADDRESS:
MONTGOMERY COUNTY DEPARTMENT
OF TRANSPORTATION - TIMOTHY H. CUPPLES
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND 20878
240-777-7221

RELATED REQUIRED **PERMITS**
To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT:

IYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District	x				
MCDPS Sediment Control	x				
MCDPS Stormwater Management	x				
WATERWAYS/WETLAND(S)	x				
a. Corps of Engineers	x				
b. **MDE**	x				
c. MDE Water Quality Certification	x				
MDE Dam Safety		x			
DNR Roadside Tree Core Permit	x			Approval Date	
DPS Roadside Tree Protection Plan	x			Approval Date	
NPDES NOTICE OF INTENT		x			DATE FILED
OTHERS (Please List):					
a. MNCPPC ~ Parks Department		x			
b. MNCPPC ~ Planning Department		x			

GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2026, ALL ERRATA AND ADDENDA THERETO. THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE NAD 83 (83/91) AND VERTICAL CONTROL NAVD 88 DATUM. ENGINEERING PLANS HAVE BEEN DEVELOPED BASED ON EXISTING TOPOGRAPHIC FIELD SURVEY COMPLETED BY MERCADO CONSULTANTS IN SEPTEMBER 2018.
3. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
4. 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.
5. 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.
6. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
7. CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
8. LITTLE MONOCACY RIVER IS A USE I STREAM AND INSTREAM WORK IS PROHIBITED FROM MARCH 1ST THROUGH JUNE 15TH, INCLUSIVE.
9. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
10. DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
11. 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.
12. PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED.

LEGEND

EXISTING CURB	PROPERTY LINE
EXISTING CONCRETE CURB @ GUTTER	BASELINE OF CONSTRUCTION
EXISTING EDGE OF PAVING	PROPOSED CONCRETE WALK
EXISTING SIGN	PROPOSED CURB @ GUTTER
EXISTING CONCRETE WALK	PROPOSED SIDEWALK RAMP
EXISTING SANITARY SEWER MANHOLES	PROPOSED STORMDRAIN PIPE
EXISTING GUARDRAIL	PROPOSED FULL DEPTH PAVING
EXISTING STORMDRAIN PIPE	EXISTING SANITARY SEWER LINE
EXISTING GAS VALVE	EXISTING GAS LINE
EXISTING WATER METER	EXISTING WATER LINE
EXISTING WATER VALVE	EXISTING TELEPHONE LINE
EXISTING TREE	EXISTING OVERHEAD ELECTRIC
EXISTING BUSH	EXISTING PEPCO POLE
TRAVERSE CONTROL POINT	EXISTING GUY WIRE
CROSS VANE	PROPOSED BRIDGE
PROPOSED MANHOLE	PROPOSED GUARDRAIL
PROPOSED **LIGHT POLE**	PROPOSED VEGETATED RIPRAP
PROPOSED GRAVEL	PROPOSED INLET
	PAVEMENT REMOVAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Dote

Designed By: PS Drawn By: AWW Checked By: SSW

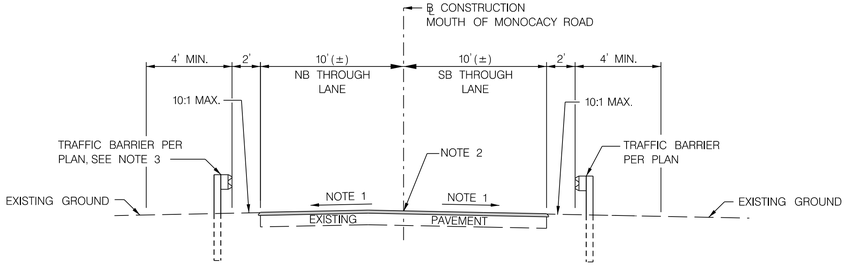
TITLE SHEET

REPLACEMENT OF BRIDGE NO, M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RNER

SCALE: AS SHOWN DATE: NOVEMBER 2025

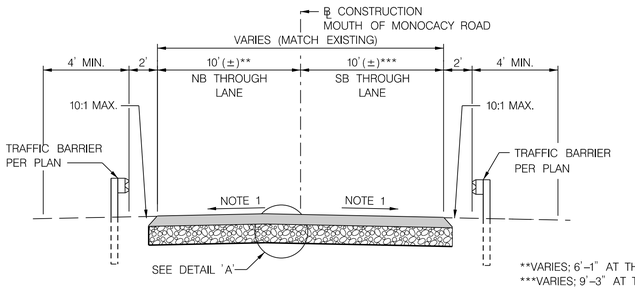
Project No. : XXXXX _____ SHEET 1 OF 40

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: P:\1001_MrMonocacy.dgn



RESURFACING TYPICAL ROADWAY SECTION

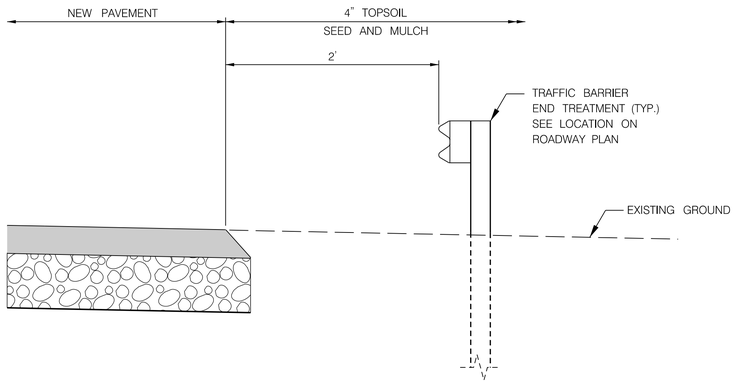
STA 0+90.76 TO STA 1+35.00
STA 2+85.00 TO STA 3+35.00
NOT TO SCALE



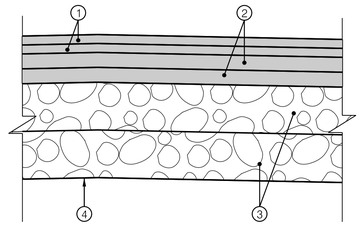
**VARIES; 6'-1" AT THE WEST APPROACH TRANSITION
***VARIES; 9'-3" AT THE WEST APPROACH TRANSITION

FULL DEPTH TYPICAL ROADWAY SECTION

STA 1+35.00 TO STA 1+79.64
STA 2+41.75 TO STA 2+85.00
NOT TO SCALE

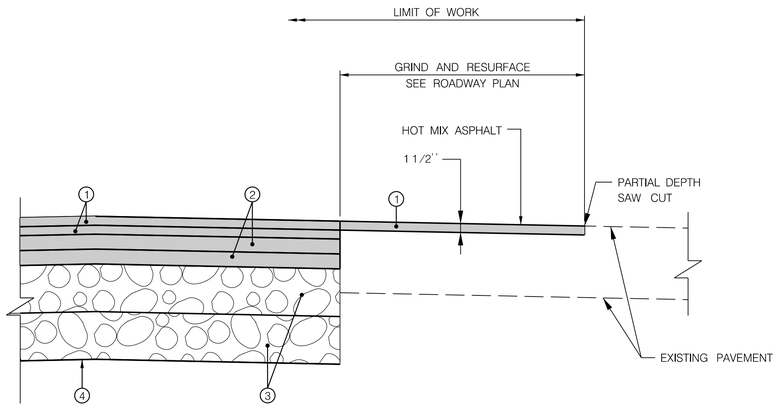


DETAIL 'B'
NOT TO SCALE



DETAIL 'A'
NOT TO SCALE

1. 3" HOT MIX ASPHALT SUPERPAVE SURFACE, 9.5MM, PG64-22, LEVEL 2 (TWO – 1 1/2'' LAYERS)
2. 5" HOT MIX ASPHALT SUPERPAVE BASE, 19.0MM, PG64-22, LEVEL 2 (TWO – 2 1/2'' LAYERS)
3. 8" GRADED AGGREGATE BASE (PLACED IN TWO – 4" LIFTS)
4. TOP OF SUBGRADE AND LIMIT OF CLASS I EXCAVATION



TIE-IN DETAIL
NOT TO SCALE

NOTES:
1. CONTRACTOR TO TRANSITION FROM 2% CROSS SLOPE AT BRIDGE TO MATCH EXISTING CROSS SLOPES AT LIMIT OF WORK.
2. GRIND AND RESURFACE.
3. SEE MARYLAND STANDARD MD 605.03 FOR TYPE C TRAFFIC BARRIER END TREATMENT GRADING.

TOPSOIL AND PERMANENT VEGETATION NOTES:
1. SLOPES 2:1 AND STEEPER: PLACE FURNISHED TOPSOIL, 2 IN. DEPTH, TURFGRASS ESTABLISHMENT AND TYPE A SSM, UNLESS OTHERWISE NOTED.
2. SLOPES 4:1 AND FLATTER THAN 2:1: PLACE FURNISHED TOPSOIL, 4 IN. DEPTH, TURFGRASS ESTABLISHMENT AND TYPE A SSM, UNLESS OTHERWISE NOTED.
3. SLOPES FLATTER THAN 4:1: PLACE FURNISHED TOPSOIL, 4 IN. DEPTH, TURFGRASS ESTABLISHMENT, UNLESS OTHERWISE NOTED.

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GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed By: AW Drawn By: AW Checked By: TCS

TYPICAL SECTIONS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 2 OF 40

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
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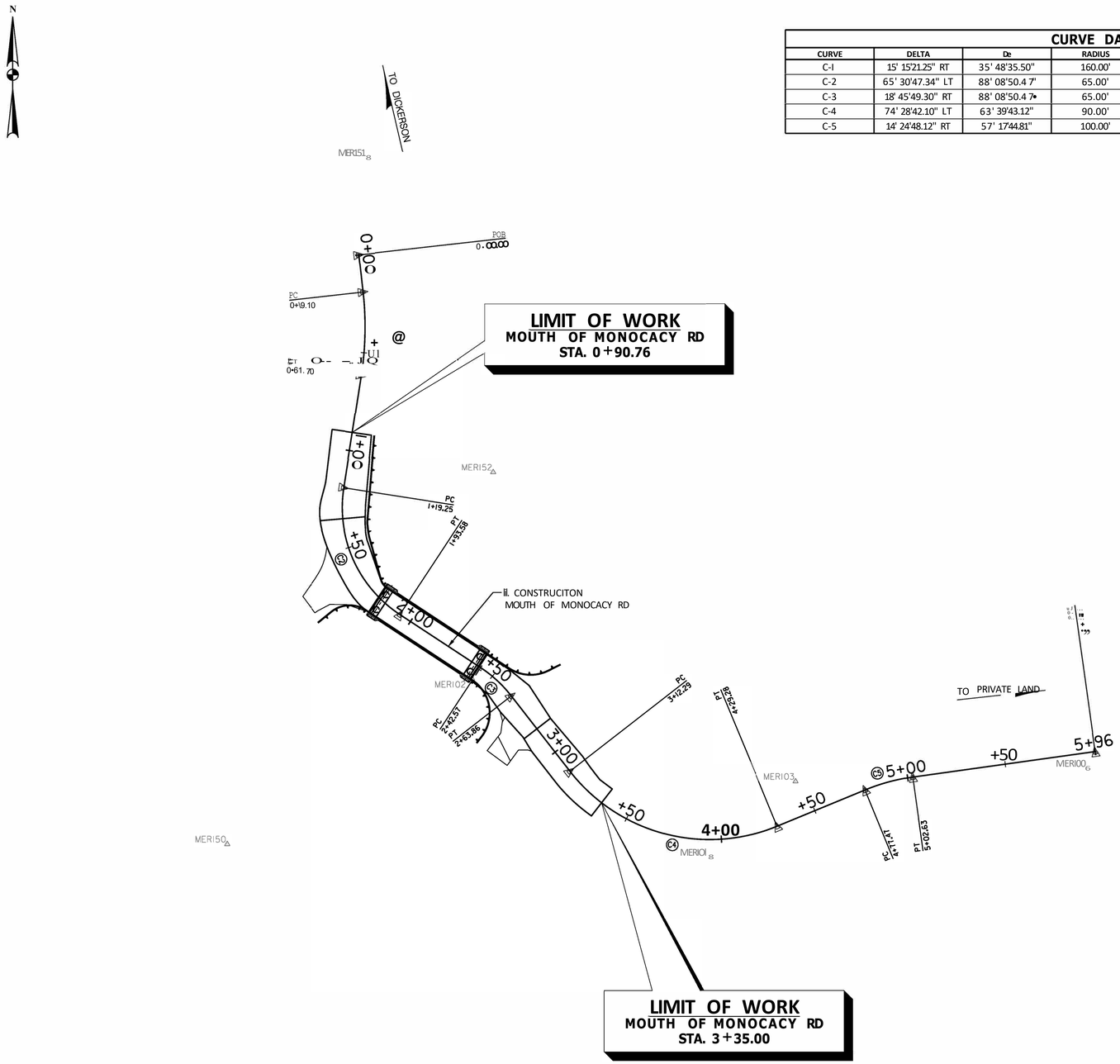

CURVE DATA						
CURVE	DELTA	De	RADIUS	TANGENT	LENGTH	EXTERNAL
C-I	15' 15'21.25" RT	35' 48'35.50"	160.00'	21.43'	42.60'	1.43'
C-2	65' 30'47.34" LT	88' 08'50.4 7'	65.00'	41.82'	74.32'	12.29'
C-3	18' 45'49.30" RT	88' 08'50.4 7•	65.00'	10.74'	21.29'	0.88'
C-4	74' 28'42.10" LT	63' 39'43.12"	90.00'	68.41'	116.99'	23.05'
C-5	14' 24'48.12" RT	57' 17'44.81"	100.00'	12.64'	25.16'	0.80'

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
100	565. 848.8027	I, 195, 585.3033	334.84
101	565,803.7264	I, 195,394.0385	324.58
102	565,894.3642	I, 195,272.6862	321.35
103	565,842.1556	1,195,436.9838	332.42
150	565,810.4682	1,195,148.3532	316.01
151	566,158.8324	1,195,220.1350	327.40
152	565, 999.3032	I, 195,283.2776	316.00

BASELINE CONSTRUCTION CONTROL COORDINATES			
BASELINE	STATION	NORTH	EAST
MOUTH OF MONOCACY RD.	POB STA. 0+00.00	566,109.5249	1,195,215.1951
	PC STA. 0+19.10	566,090.5437	1,195,217.3245
	PI STA. 0+40.53	566,069.2493	1,195,219.7134
	PT STA. 0+61.70	566,048.0767	1,195,216.4149
	PC STA. 1+19.25	565,991.2111	1,195,207.5558
	PI STA. 1+61.07	565,949.8896	I, 195,201.1183
	PT STA. 1+93.58	565,926.9040	I, 195,236.0549
	PC STA. 2+42.57	565,899.9751	I, 195,276.9850
	PI STA. 2+53.31	565,894.0723	1,195,285.9569
	PT STA. 2+63.86	565,885.5973	I, 195,292.5532
	PC STA. 3+12.29	565,847.3770	1,195,322.3011
	PI STA. 3+80. 70	565, 793.391 I	1,195,364.3196
	PT STA. **4+29.28**	565,819.4305	1,195,427.5809
	PC STA. 4+ 77.47	565,837.7731	1,195,472.1433
	PI STA. 4+90.12	565,842.5861	1,195,483.8363
	PT STA. 5+02.63	**565,844.3371**	1,195,496.3593
	POE STA. 5+96.16	565,857.2884	1,195,588.9876

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAO 8391)
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD88.

30' 0 30' 60'
SCALE: 1'' 30'

GPI
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CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777- 7210
TRANSPORTATION PLANNING & DESIGN
240-777- 7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief. Design Section — Dote
APPROVED
Chief, Division of Tronsp0ttolion Engineering — Dote

Des;gned By. AW Drawn By. AW Checked By. TCS

GEOMETRY PLAN

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ~xxxx_____ SHEET 3 OF 4.0

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: pG8-P001_MoMonocacy.dgn

NOTES:

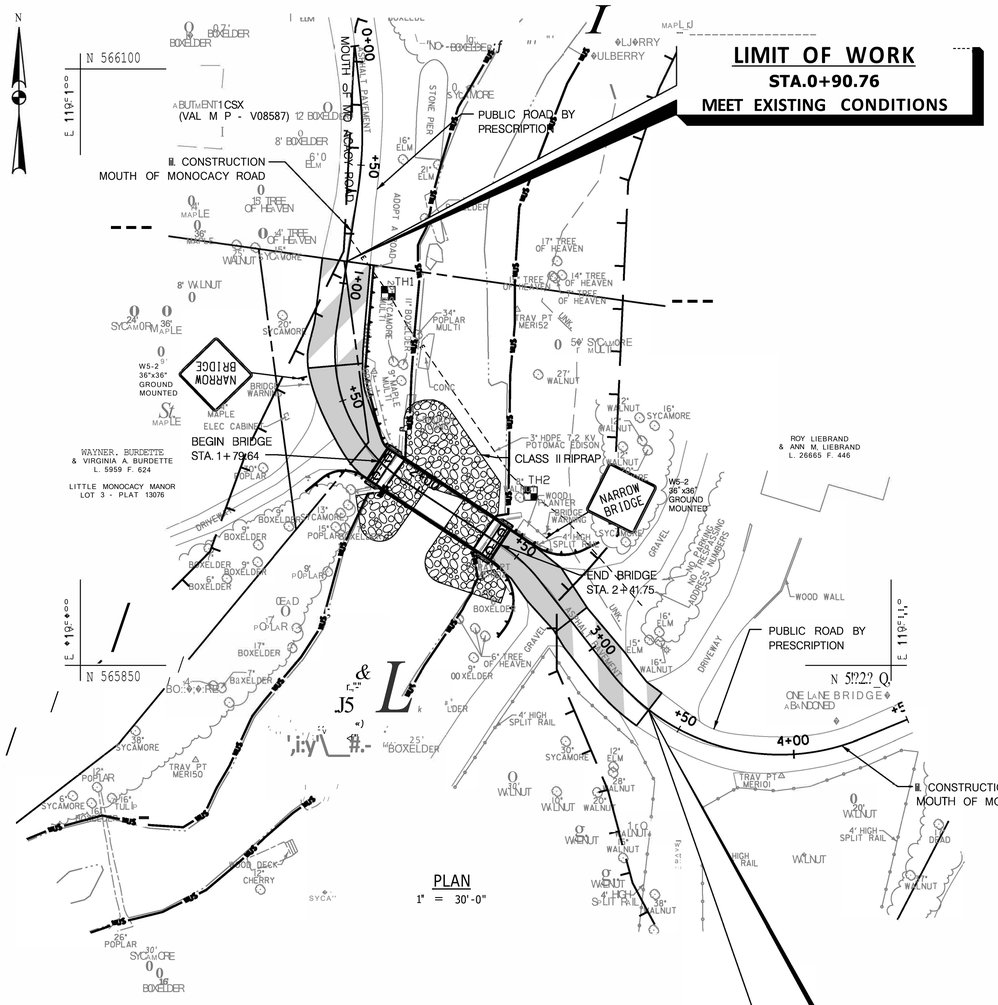
1. PRIOR TO STARTING CONSTRUCTION, CONTACT MISS UTILITY TO CLEAR ALL EXISTING UTILITIES WITHIN THE WORK AREA. PLEASE NOTE THAT A PRIVATE UTILITY LOCATION FIRM MAY BE REQUIRED TO LOCATE PRIVATE UTILITIES NOT MARKED BY MISS UTILITY. COORDINATE ANY UTILITY DISCONNECTIONS ANOOR ABANDONMENTS WITH APPROPRIATE UTILITY COMPANY.

2. CONDUCT A PRE-CONSTRUCTION MEETING WITH APPROPRIATE PERSONNEL FROM THE CONTRACTING COMPANY, OWNER AND AGENCY HAVING JURISDICTION OVER THE PROPOSED CONSTRUCTION ACTIVITIES. THE LIMIT OF DISTURBANCE (LOO) AND ACCESS ROUTES SHOULD BE IDENTIFIED AND A FINAL SET OF PLANS SHOULD BE AVAILABLE FOR REVIEW AND DISCUSSION. THE LOO SHOULD BE FIELD ADJUSTED TO MINIMIZE IMPACTS TO ADJACENT NATURAL RESOURCES. ALSO SEE ,SEQUENCE OF CONSTRUCTION" NOTES ON SHEET 11.

3. FIELD LOCATE AND INSTALL TREE PROTECTION MEASURES AND PERIMETER SEDIMENT CONTROLS AROUND WORK AREA. SCHEDULE THE WORK OF INSTALLING SEDIMENT CONTROLS OR THE ROADWAY AND BRIDGE WORK WHEN FAVORABLE WEATHER CONDITIONS ARE FORECASTED OVER ANTICIPATED PERIOD OF CONSTRUCTION. IN THE EVENT THAT POOR WEATHER CONDITIONS DEVELOP OR IF WORK IS SUSPENDED FOR MORE THAN 2-3 DAYS, THE WORK AREA SHALL BE COVERED OR OTHERWISE STABILIZED WITH TEMPORARY SEED AND STRAW MULCH.

4. CONTRACTOR SHALL EXERCISE SPECIAL CARE AND EXTREME CAUTION TO PROTECT AND AVOID DAMAGE TO EXISTING OVERHEAD LINE AND BURIED POTOMAC EDISON ELECTRIC LINE.

5. FOR STREAM RESTORATION PLAN AND DETAIL SEE SHEETS 7 - 8.



LEGEND

- FULL DEPTH RECONSTRUCTION
- MILL AND OVERLAY
- CLASS I RIPRAP
- PROPOSED TRAFFIC BARRIER
- EXISTING RIGHT-OF-WAY LINE
- EXISTING UNDERGROUND ELECTRIC LINE
- UNKNOWN UTILITY

TEST PIT SCHEDULE						
TEST PIT NO.	℄ STA.	OFFSET	TYPE	UTILITY	APPROX. GR. ELEV.	COVER
TH-1	1+01.18	19.10' ±LT.	3" HOPE	ELECTRIC	321.42	7.27
TH-2	2+40.34	24.82' ± LT.	3" HOPE	ELECTRIC	319.06	2.68

EARTHWORK SUMMARY

EXCAVATION	
EXCAVATION FROM CROSS SECTIONS	105 C.Y.
ROCK EXCAVATION FOR ROADWAY AND TRENCHES	0C.Y.
TOPSOIL STRIPPING	0C.Y.
TOTAL EXCAVATION	105C.Y.
EXCAVATION AVAILABLE FOR EMBANKMENT	
EXCAVATION MEETING SELECT BORROW	0C.Y.
EXCAVATION MEETING COMMON BORROW	0C.Y.
EXCAVATION MEETING TOPSOIL	0C.Y.
EMBANKMENT REQUIREMENTS	
SELECT BORROW REQUIRED (INCLUDING UNDERCUT)	20C.Y.
COMMON BORROW REQUIRED	20C.Y.
TOPSOIL REQUIRED	0C.Y.
MATERIAL BALANCE ("+"= EXCESS, "-"= NEED)	
SELECT BORROW	0C.Y.
COMMON BORROW	0C.Y.
TOPSOIL	0C.Y.
UNSUITABLE MATERIAL	0C.Y.

NOTES:

1) THE VALUES LISTED IN THE EARTHWORK SUMMARY ARE APPROXIMATE AND ARE NOT TO BE USED AS A BASIS OF PAYMENT. THE EARTHWORK SUMMARY IS CONSIDERED FOR INFORMATIONAL PURPOSES ONLY,

2) OTHER SOURCES OF EXCAVATION MAY INCLUDE PIPE TRENCH EXCAVATION, STRUCTURE EXCAVATION, UNDERCUT EXCAVATION, STORMWATER MANAGEMENT POND EXCAVATION, ENVIRONMENTAL SITE EXCAVATION, MAINTENANCE OF TRAFFIC EXCAVATION, ETC.

3) UNSUITABLE MATERIALS INCLUDE UNDERCUT SOILS, BITUMINOUS PAVEMENT, ETC.

MILL EXISTING PAVEMENT

STA 0+90.76 TO STA 1+35.00 105 SY
STA 2+85.00 TO STA 3+35.00 100 SY

INSTALL W-BEAM TRAFFIC BARRIER

STA. 1+35.00 TO 1+ 78.93, LT. - 35 LF
STA 2+41.25 TO 2+53.52, LT. - 14 LF

REMOVE EXISTING TRAFFIC BARRIER

STA.1 +41.86 TO 1+87.66, LT. - 38 LF
STA. 2+35.83 TO 2+58.14, LT. - 25 LF
STA 1+81.68 TO 1+87.48, RT. - 11 LF
STA 2+35.48 TO 2+61.30, RT. - 23 LF

INSTALL TYPE 'C' END TREATMENT MD 605.03

STA. 0+90.76, LT. - 1 EA

INSTALL TRAFFIC BARRIER W-BEAM, SHORT RADIUS MD 605.52

STA. 1+ 71.29 TO STA. 1+81.49 RT. - 30 LF
STA. 2+53.52 TO STA 2+66.75 LT. - 21 LF
STA 2+41.25 TO STA. 2+ 72.04 RT. - 39 LF

WOOD SIGN SUPPORT 4 INCH X 4 INCH

STA. 1+ 36.00 15 LF
STA. 2+55.00 15 LF

REMOVE SIGN

STA. 1+39.00 25 SF
STA. 2+53.00 25 SF

CLASS II RIPRAP FOR SCOUR AND SLOPE PROTECTION

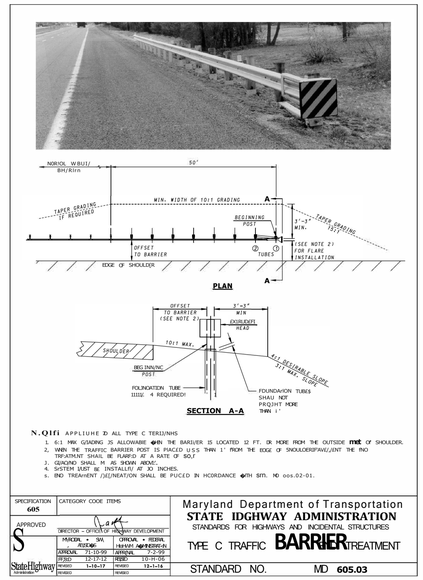
STA. 1+62 TO STA. 2+04 - 135 SY
STA. 2+18 TO STA. 2+60 - 100 SY

ALUMINUM SIGN

STA. 1+36.00 9 SF
STA. 2+55.00 9 SF

RELOCATE MAIL BOX

STA.1 +17 TO STA.1 +26 - 7 EA



SPECIFICATION 605	CATEGORY CODE ITEMS –
APPROVED S.H.A. DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT	

Maryland Department of Transportation
STATE IDGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
TYPE C TRAFFIC BARRIER TREATMENT
STANDARD NO. MD 605.03

SPECIFICATION –	CATEGORY CODE ITEMS –
APPROVED S.H.A. DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT	

Maryland Department of Transportation
STATE IDGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
TYPE C TRAFFIC BARRIER W-BEAM, SHORT RADIUS
STANDARD NO. MD 605.52

GPI
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www.gpinet.com
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

30' 0 30' 60'
SCALE: 1" =30'

OWNER/ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief. Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed By: A.W. Drawn By: A.W. Checked By: T.C.S.

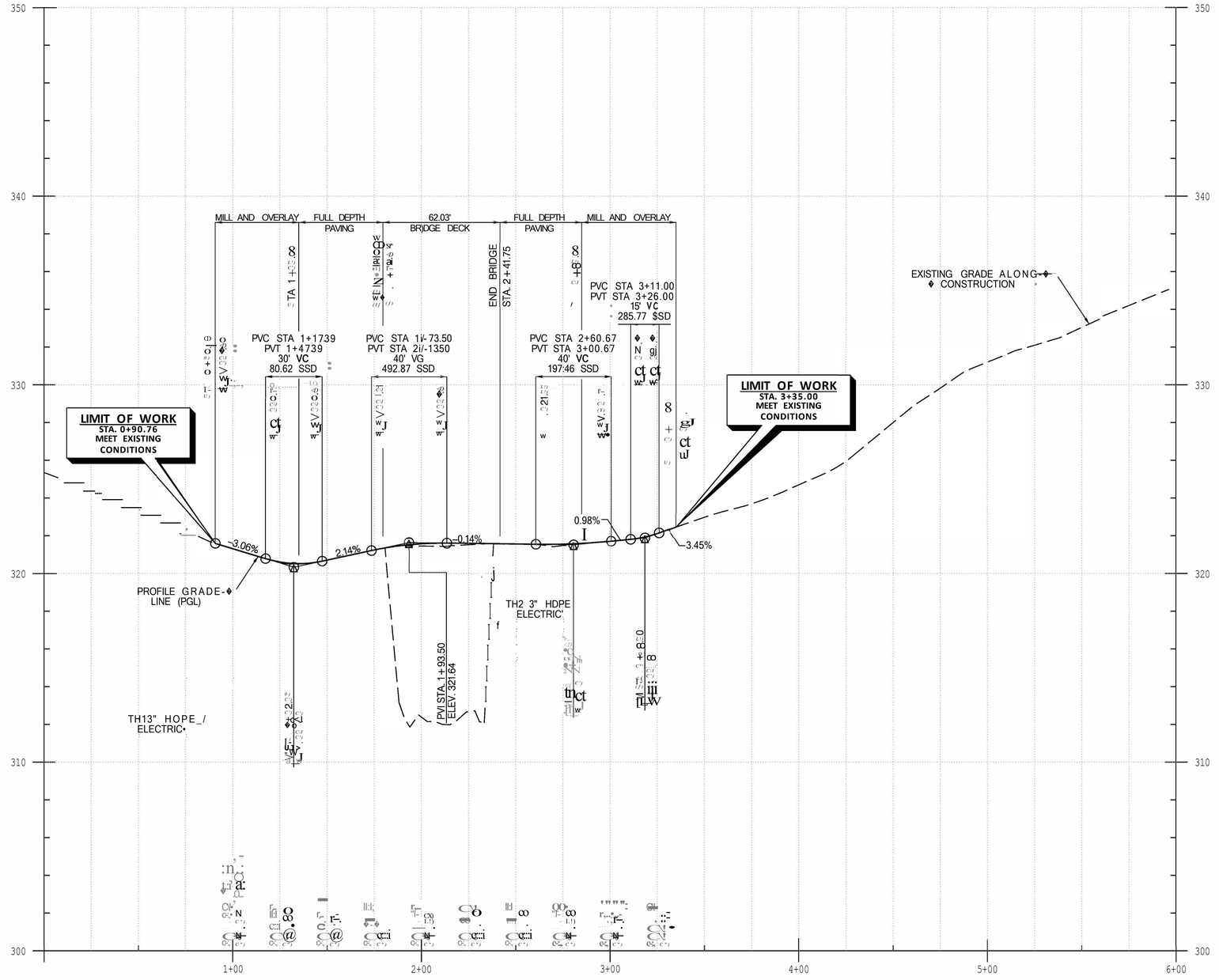
ROADWAY PLAN

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025
Project No. : XXXXX SHEET 4 OF 40

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: pHD-P001_MoMonocacy.dgn



ROADWAY PROFILE

3' 0 3' 6'
VERT. SCALE: 1" ♦3·

30' 0 30' 60'
HOR SCALE: 1" ♦30'

1

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Eng111eer1ng IDesign IPlanning IConstruction Management

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Columbia, MD 21044
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section — Dote

APPROVED

Chief, Division of Transp0tlolion Engineering — Dote

Des;gned By. AW Drawn By. AW Checked By. GNS

ROADWAY PROFILE

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : XXXXX _ _ _ _ SHEET 5 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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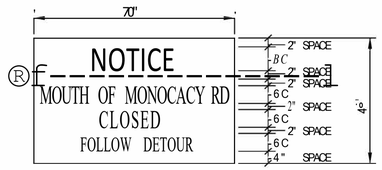
FILE: gHP-V001_MoMonocacy.dgn

TEMPORARY TRAFFIC CONTROL SIGN TABLE

SYMBOL	M.U.T.C.D. DESIGNATION	MESSAGE	SIZE	QUANTITY	COLOR	
					BACKGROUND	CHARACTERS
CD	R11-2	ROAD CLOSED	48" X 30"	2	WHITE	BLACK
Ⓡ	R4-9	DETOUR	30" X 24"	1	ORANGE	BLACK
G)	R4-9R	IDET.UR	30" X 24"	5	ORANGE	BLACK
G)	R4-9L	IDE..URI	30" X 24"	5	ORANGE	BLACK
⑤	R11-2A (MODIFIED) SEE DETAIL THIS SHEET	NOTICE MOUTHOF MONOCACRD CLOSED FOLLOW DETOUR	70" X 40" (SEE DETAIL 1)	3	ORANGE / WHITE	BLACK / BLACK
Ⓡ	R11-3A	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	60" X 30"	2	WHITE	BLACK
G)	M4-8A(1)		24" X 36"	1	ORANGE	BLACK



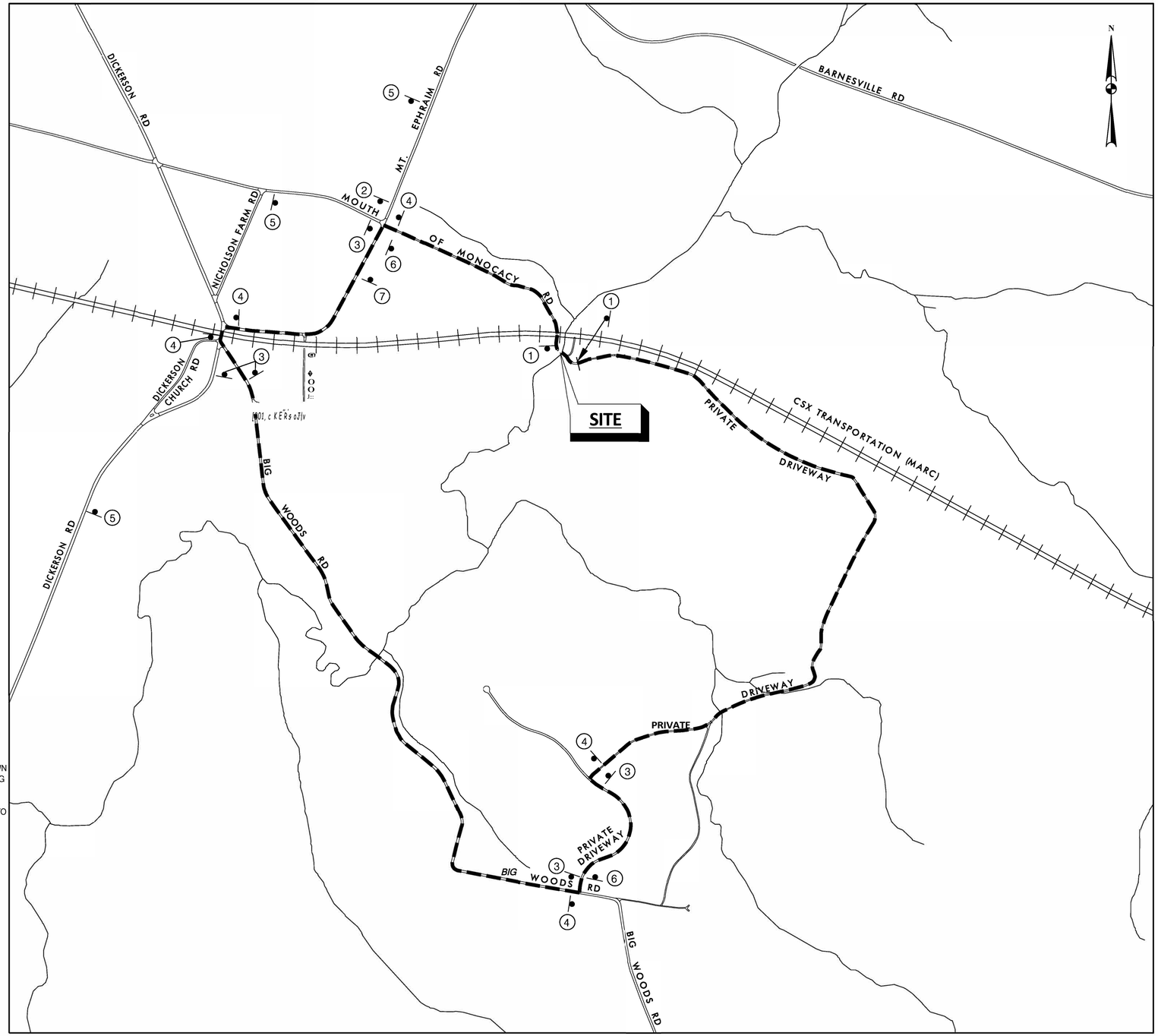
DETAIL 1

GENERAL NOTES FOR DETOUR AND MAINTENANCE OF TRAFFIC

1. ALL MAINTENANCE OF TRAFFIC AND TRAFFIC CONTROL DEVICES SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE MARYLAND SHA TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS.
2. NO WORK SHALL BEGIN UNTIL ALL ADVANCE WARNING AND DETOUR SIGNS AND BARRICADES REQUIRED FOR THE PHASE OF WORK ARE IN PLACE AND OPERATIONAL.
3. ACCESS SHALL BE MAINTAINED AT ALL TIMES TO ADJACENT ROADWAYS, DRIVEWAYS AND ENTRANCES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL COORDINATE ACCESS FOR THE WORK AT DRIVEWAYS AND ENTRANCES WITH THE PROPERTY OWNERS AND THE ENGINEER IN ADVANCE TO MINIMIZE INCONVENIENCE TO THE OWNERS.
4. THE CONTRACTOR SHALL UTILIZE FLAGGING OPERATIONS AS REQUIRED DURING CONSTRUCTION TO ENSURE SAFE VEHICULAR TRAFFIC OUTSIDE OF THE CLOSURE AREA AND TO ALLOW CONSTRUCTION VEHICLE ACCESS TO AND FROM THE CONSTRUCTION SITE.
5. ALL DETOUR SIGN LOCATIONS SHALL BE MARKED IN ADVANCE BY THE CONTRACTOR FOR APPROVAL BY MONTGOMERY COUNTY DOT.
6. FB=TYPE III BARRICADES. FIXED BARRICADES SHALL BLOCK THE FULL WIDTH OF THE ROADWAY AT CLOSURE POINTS AND SHALL HAVE FLASHING WARNING LIGHTS. THE CONTRACTOR SHALL PROTECT THE WORK AREA ANOOR EXCAVATION(S) AT ALL TIMES.
7. VARIABLE MESSAGE SIGNS (#10 SIGNS) ALERTING THE PUBLIC OF THE FUTURE ROAD CLOSURE SHALL BE PLACED A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE ROAD CLOSURE. THE EXACT LOCATIONS AND MESSAGES SHALL BE APPROVED BY MONTGOMERY COUNTY DOT.
8. THE CONTRACTOR SHALL ADJUST THE LOCATION OF THE PVMS SIGNS FOR MAXIMUM VISIBILITY AS APPROVED BY THE ENGINEER. IN ADDITION, WHERE PVMS IMPEDE PEDESTRIAN OR BICYCLE PATHS, INSTALL CHANNELIZING DRUMS OR CONES AROUND THE PVMS TO ENSURE SAFETY.
9. DETOUR THROUGH PRIVATE DRIVEWAY SHALL BE COORDINATED WITH OWNER(S) PRIOR TO ROAD CLOSURE/ASSIGNING DETOUR ROUTE.
10. IN ORDER TO AVOID CONFLICTS, THIS ROAD CLOSURE SHALL BE COORDINATED WITH CURRENT MONOCACY BRIDGE RECONSTRUCTION ALONG MD 28 IN FREDERICK, MARYLAND.

SEQUENCE OF CLOSURE

1. PLACE VARIABLE MESSAGE SIGNS (#10 SIGNS) ALERTING THE PUBLIC OF THE FUTURE ROAD CLOSURE OF MOUTH OF MONOCACY ROAD A MINIMUM FOURTEEN (14) DAYS PRIOR TO THE ROAD CLOSURE.
2. PLACE TEMPORARY TRAFFIC CONTROL SIGNS FOR THE MOUTH OF MONOCACY ROAD DETOUR IN ACCORDANCE WITH THE DETOUR PLAN ANOOR AS DIRECTED BY THE ENGINEER.
3. COORDINATE WITH OWNER(S) ALONG PRIVATE DRIVEWAY SHOWN IN DETOUR PLAN, AND VERIFY CONDITION OF ROADWAY ALONG PROPOSED DETOUR ROUTE. ANY AREAS OF EROSION THAT IMPACT THE ROADWAY SHALL BE REPAIRED BY THE CONTRACTOR IN ORDER TO KEEP THE ROADWAY PASSABLE TO PASSENGER VEHICLES. CONTRACTOR SHALL MAINTAIN THROUGHOUT DURATION OF DETOUR AND PROVIDE REPAIRS AT COMPLETION OF THE PROJECT IF NECESSARY.
4. PROCEED WITH CONSTRUCTION OF ALL PROPOSED WORK.
5. AT THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY SIGNS, BARRICADES AND BARRIERS AND OPEN MOUTH OF MONOCACY ROAD TO TRAFFIC.



DETOUR PLAN
SCALE: 1" =500'

1
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240-777-7210
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240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief. Design Section — Dote
APPROVED
Chief. Division of Transportolion Engineering — Dote

Designed By. AW Drawn By. AW Checked By. TCS

DETOUR PLAN

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : =XX=X=XX ------ SHEET 6 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
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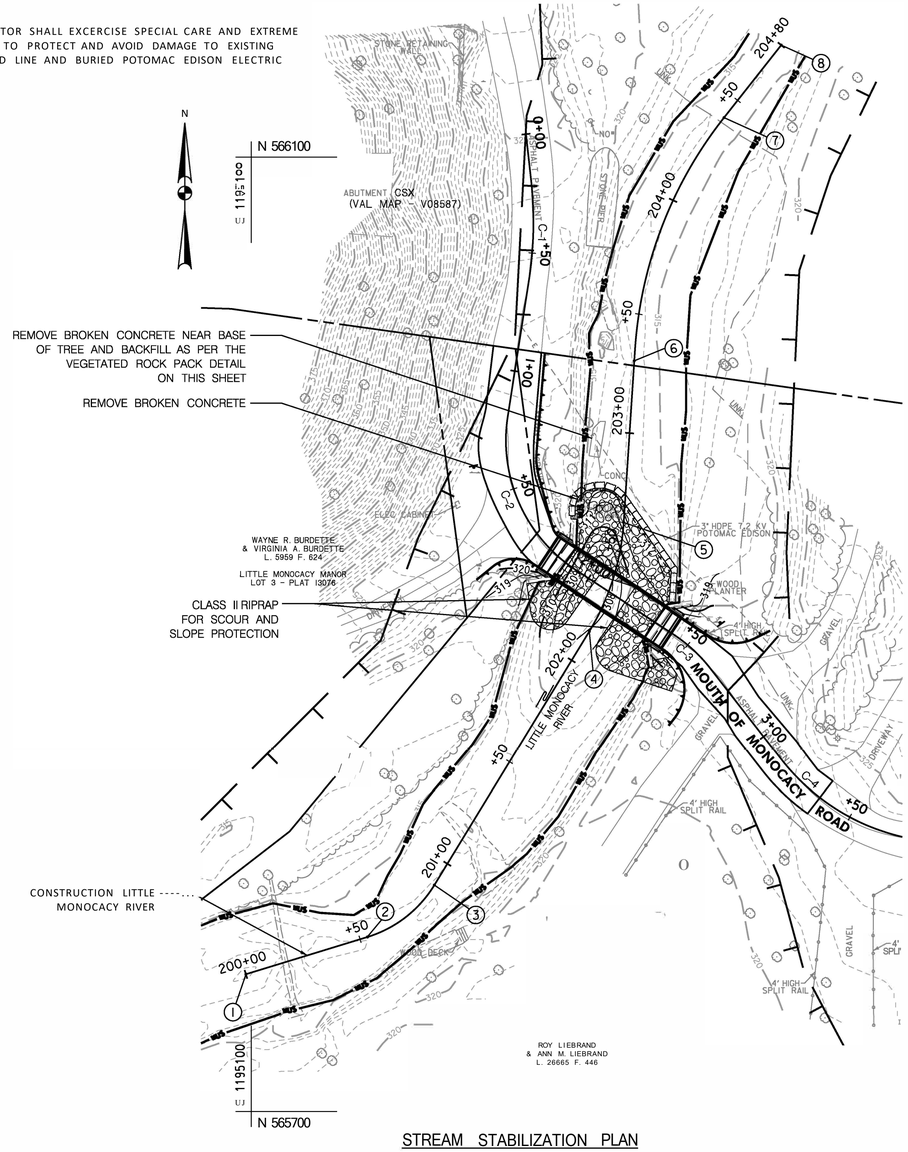
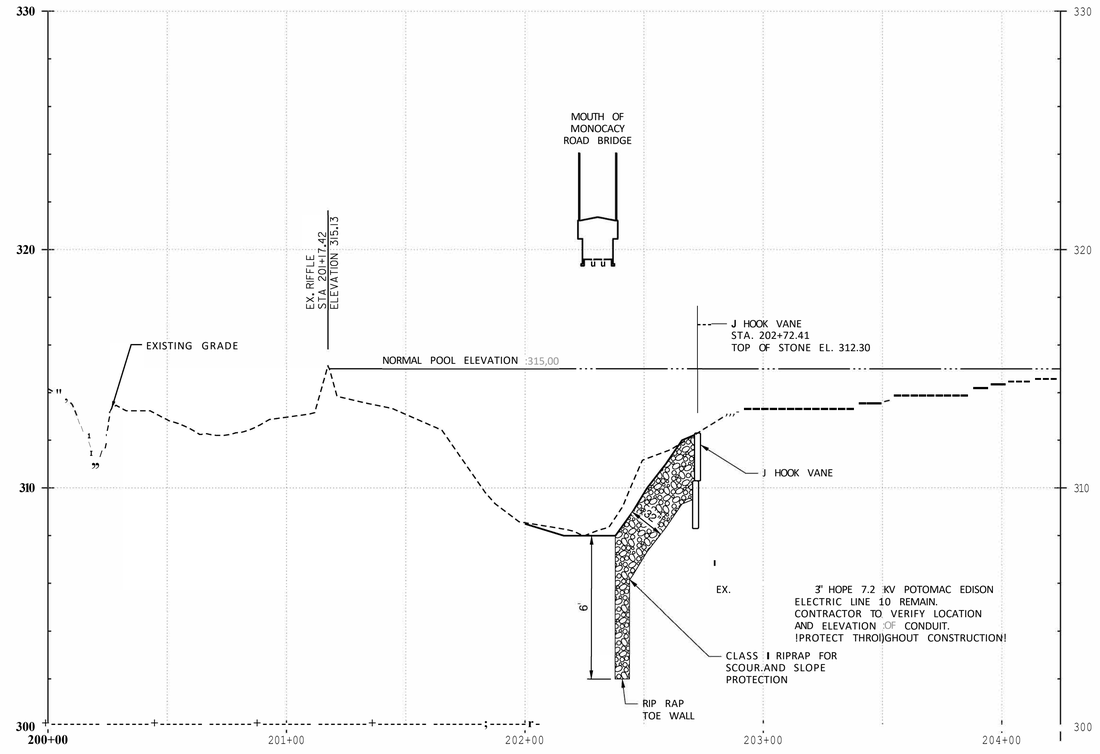
Attachment A Bridge Design Plans

NOTES:
1. TRANSITION PROPOSED CHANNEL GRADING TO TIE INTO DOWNSTREAM CHANNEL AS DIRECTED IN THE FIELD. BED STABILITY MIX SHALL BE APPLIED TO STABILIZE CHANNEL WHERE TRANSITION GRADING OCCURS. FIELD ADJUST POOL DEPTH AND LENGTH AS DIRECTED TO MAXIMIZE IN-STREAM HABITAT.

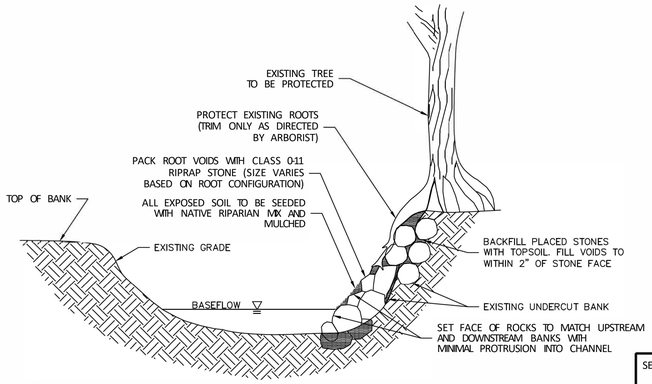
2. CONTRACTOR SHALL EXCERCISE SPECIAL CARE AND EXTREME CAUTION TO PROTECT AND AVOID DAMAGE TO EXISTING OVERHEAD LINE AND BURIED POTOMAC EDISON ELECTRIC LINE.



STREAM STABILIZATION PLAN
SCALE: 1" = 30'

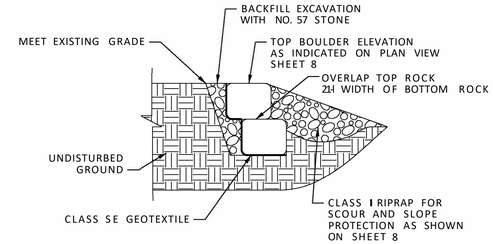


PROFILE ALONG ℄ CONSTRUCTION OF STREAM
SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



NOTES:
1. PRIOR TO ROCK PLACEMENT, TRIM/PRUNE EXISTING ROOTS AS DIRECTED BY PARKS ARBORIST.
2. PROTECT EXISTING TREE TRUNK AS DIRECTED BY PARKS ARBORIST.
3. USE EXTREME CAUTION WHEN PLACING ROCKS IN AND AROUND ROOTS.
4. DO NOT USE FILTER FABRIC.

621 VEGETATED ROCK PACK DETAIL



IMBRICATED ROCK MINIMUM DIMENSIONS FOR J-HOOK:

LENGTH:	4.00'
WIDTH:	2.50'
HEIGHT:	2.00'
WEIGHT:	3,000 LB.

IMBRICATED ROCK J-HOOK - TYPICAL SECTION
NTS

CURVE DATA

CURVE	DELTA	De	RADIUS	TANGENT	LENGTH	EXTERNAL
C-1	15° 15'21,25" RT	35° 48'35.50"	160,00'	21.43'	42.60'	1.43'
C-2	65° 30'47.34" LT	88° 08'50.47"	65.00'	41.82'	74.32'	12.29'
C-3	18° 45'49.0" RT	88° 08'50.47"	65.00'	10,74'	21.29'	0.88'
C-4	74° 28'42,10" LT	63° 39'43,12"	90.00'	68,41'	116,99'	23.05'

LEGEND

IMBRICATED ROCK FOR J-HOOK
CLASS I RIPRAP
100 YEAR FLOODPLAIN
WATERS OF THE US

CENTERLINE OF STREAM COORDINATE TABLE

NO.	STATION	NORTHING	EASTING
CD	200+00.00	565757.44	1195097 .85
(2)	200+53.25	565 773.04	1195148. 76
GJ	200+89.53	565 794.80	1195176.79
(4)	202+14.19	565901.26	1195241.73
(5)	202+62.45	565946. 78	1195256.16
(6)	203+35.25	566019.42	1195260.91
(7)	204+40.81	566116.47	1195298.21
(R)	204+ 79.50	566146.83	1195322.19

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwoter Management: Reviewed Dote; Approved Dote 285831 SU FILE I

Sediment Control Technical Requirements: Reviewed Dote; Approved Dote

Administrative Requirements: Reviewed Date; SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF TIHS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL Ir THE PRo.ECT HAS "101 STARTED.

MQIE; MCDPS APPROVAL DOES NOT NEGATE THE NEED F A MCDPS ACCESS-PERMIT.

SEAL:

DPS approvol of o NdiTiSit control or stormwoter rnc1101111rt pJCt Is for demonstrated compliance with mhimum 1f1-dromental runoff treotm..t stonclrcll Cltd does **not create or imply any** r"9't **to** clwrl **or conc.nlrole rlA'loff onlo ony odpd9t11 prop.-ly wilhoul lhol properly own••• ,..-minion. It does not relieve** the **design** engineer or other rnponlible person ol professlonol liability or ethlcol responsibility for the adequacy ol the ol'ohoge **design** as it affects upCt or dolthnlt prop.-iles.

OWNER /ADDRESS:
UE.PARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
24D-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOijIENDED FOR APPROVAL
Chief. Design Section — Dote
APPROVED
Chief, Division of Transportation Engineering — Dote

Des;gned By. WJP Drawn By: AWW Checked By. · M M R_

STREAM RESTORATION PLAN AND PROFILE

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. :,X X X XX -------- SHEET♦7♦_OF 40

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Attachment A Bridge Design Plans

LEGEND

EXISTING ELECTRIC LINE - - E - - -

WATERS OF THE US ----tuS----

CLASS II RIPRAP AT DEPTH OF 32 INCHES

CLASS II RIPRAP AT DEPTH OF 6 FEET

CLASS II RIPRAP DEPTH TRANSITION AREA, REFER TO GENERAL PLAN AND ELEVATION SHEET 14

E 1195275

STA. 202+37.05, 27' RT.
TOP OF STONE ELEV. 314

STA. 202+47.60, 24' RT.
TOP OF STONE ELEV. 314.00

STA. 202+42.97,
ELEV. 311.56

STA 202.:-3-1.9Q,
IO'RT
ELEV 3i0

:r A.?02+-37. 90-
ELEV.308.00

STA. 202+(i3.18, i' RT.,
TOP OF STONE liLEV. 312.50

-5IA-202-+LZ.41-
TOP OF STONE ELEV. 312.30

EXISTING AND PROPOS.12-11,
EDGE 0 RoA.OWAY

EXISTING
SUBSTRUCTURE
nO REMAIN)

PROPOSED
k BEARING
STA. 2+39.25

PROPOSED
ABUTMENT B

STA. 202+19.58,
33-RT.
EV. 319.50

STA. 202+16.86,
41' RT.
ELEV. 320.30

STA. 202+ 19.75,
43' RT.
ELEV. 32.0.30

E 1195275

STA. 202+16.88,
29' RT.
ELEV. 318.38

STA. 202+31.06, 8' RT.
STA. 2+18.25, 0' LT.
ELEV. 308.86

STA. 202+04.73,
16' RT.
ELEV. 311.24

STA. 202+04.5i,
14' RT.
ELEV. 310.80

8.5' R."

STA. 202+05.14,
11' RT.
ELEV. 310.00

STA. IIQ2+I3.8I,
5'RT:-"
ELEV. 3'"8.93

STA. 202+13.02,
IO' LT.
ELEV. 308.00

8.5' R.

STA. 202+05.37,
17' RT.
ELEV. 309.35

STA. 202+05.28,
2o tr-:-
ELEV. 3T1.0Q

STA. 202+44.59,
10' LT.
ELEV. 308.00

S:rA. 202+34.39, 7L T-
STA 2+02.90, O' Lf:.,,
ELEV. 308.00

STA. 202+77.20, 12' LT.
TOP OF STONE ELEV. 313.00

STA.202+63.77, 2I'LT.
TOP OF STONE ELEV. 318.00 --

EXISTING
SUBSTRUCTURE
IIO REMAIN) -

STA. 202.+37.90,
6' LT.
ELEy. 308.00

PROPOSED
k BEARING
STA. 1+82.11

PROPOSED
ABUTMENT–A -

STA. 202+19.12,
33' LT.
ELEV. 318.65

-STA. 202+08.20,
25' LT.
ELEY- 313.00

EXISTING AND PROPOSED
EDGE OF ROADWAY

liL CONSTRUCTION
MOUTH OF MONOCACY RD

liL CONSTRUCTION LITTLE
MONOCACY RIVER

203+00

2+00

202+00

1+50

1+00

1195200

NOTES:

I CONTRACTOR TO CONFIRM LOCATION OF POTOMAC EDISON CONDUIT AND ENSURE A MINIMUM OF 2.5' CLEARANCE BETWEEN THE CONDUIT AND ANY PLACED ROCK.

2. FOR SECTION OF SCOUR PROTECTION, SEE GENERAL PLAN AND ELEVATION, SHEET 14 OF 41. ELEVATIONS AND STATION PROVIDED ALONG THE TOP OF IMBRICATED STONE ARE ASSUMED TO BE ALONG THE CENTERLINE OF THE STRUCTURE.

5' 0 5' 10'
SCALE: 1" 5'

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CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777- 7210
TRANSPORTATION PLANNING & DESIGN
240-777- 7221

NO.	REVISION	DATE	BY

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

SEAL:

Stormwoter Monogement:
Reviewed Date
Reviewed Date
Approved Date
285831
SU FILE f

Sediment Control Technicol Requirements:
Reviewed Date
Approved Date

NOIE CDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Administrative Requirements
Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN NLL EXPIRE TVO YEARS FROM THE DATE Of APPROVAL IF JHE PRO.JCT HAS NOT STARTED.

DPS approval of a sediment control or 'Stormwater man0991ll1 plon is lor cillmanstraled compliancr11 •lih mlnlfium environmental runoff lreolment standards and d o n not create or a'lfply any right lo cl_.t or cancentrole runoff anlo any adjacent properly without lhal properly owner's permission. It does not rllievll 9ht dnl9" an9 or alt." r'l1ports1ll1 ,,-son al pl"alnsfonal lkibility or 'l1hkal raponslbility for 'ht od ocey of the dralnoga d'91 m lk oflacls uphll or dolmhOt propstln.

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section Dote
APPROVED
Chief, Division of Tronsp0ttolion Engineering Dote

Designed By. MMR Drawn By. BSB Checked By. WJP

SCOUR AND SLOPE PROTECTION LAYOUT

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : -XXX-XX_____ SHEET 8 OF 40

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
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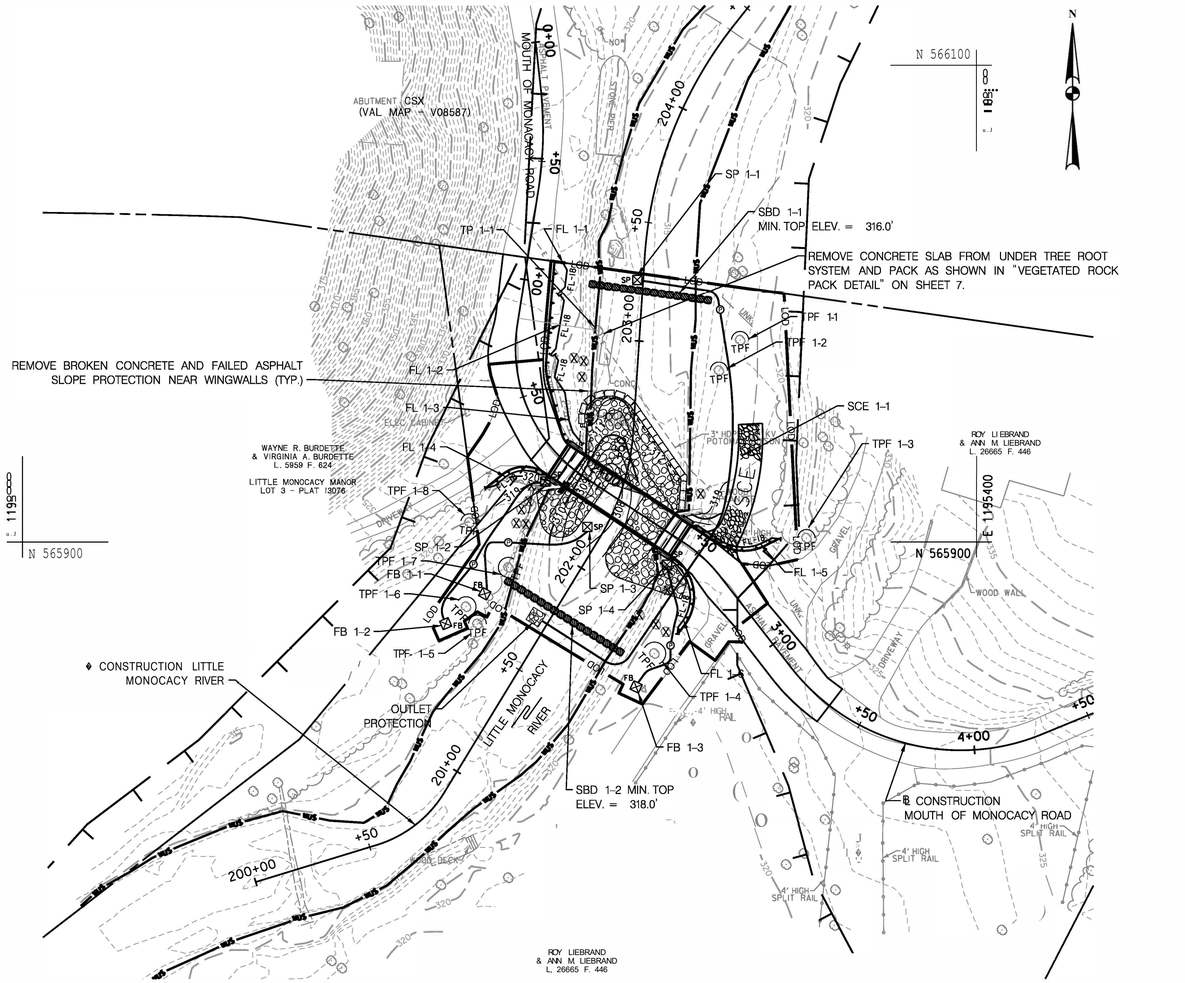
LEGEND

- PROPOSED TRAFFIC BARRIER
- EXIST. TRAFFIC BARRIER
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- SANDBAG DIKE
- -Loo- LIMIT OF DISTURBANCE
- SP ♦ SUMP PIT
- FB ♦ FILTER BAG
- Ⓡ PUMP
- HOSE
- -TPF- TREE PROTECTION FENCE
- FL-18 FILTER LOG
- -310 - EXISTING CONTOURS
- -310- PROPOSED CONTOURS
- O EXISTING TREE
- © EXISTING TREE TO BE REMOVED



PLAN
1" = 30'-0"

STREAM DIVERSION NOTES:

1. THE CONTRACTOR SHALL INSTALL A TEMPORARY STREAM DIVERSION FOR MAINTENANCE AND CONVEYANCE OF STREAM FLOW IN THE APPROXIMATE LOCATION SHOWN ON THE PLANS. SEE "SEQUENCE OF CONSTRUCTION"' NOTES ON SHEET 10.

2. THE DIVERSION DETAILS PROVIDED ON THE PLANS ARE FOR INFORMATION AND REFERENCE ONLY. THE CONTRACTOR SHALL SUBMIT THE STREAM DIVERSION DESIGN AND DETAILS WITH SUPPORTING COMPUTATIONS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MARYLAND FOR APPROVAL BY THE MONTGOMERY COUNTY SEDIMENT CONTROL REVIEWER AND THE MONTGOMERY COUNTY SOIL CONSERVATION DISTRICT. THE SUBMISSION SHALL INCLUDE A DESCRIPTIVE NARRATIVE, DETAILS, CATALOG CUTS, IF APPLICABLE, AND A DESCRIPTION OF THE METHOD OF CONSTRUCTION. THE PROPOSED STREAM DIVERSION SHALL NOT EXTEND BEYOND THE LIMITS OF DISTURBANCE SPECIFIED IN THE APPROVED PLANS. THE DESIGN SHALL ALSO BE SUBMITTED TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE ARMY CORP OF ENGINEERS FOR APPROVAL IF REQUIRED BY THE MONTGOMERY COUNTY SEDIMENT CONTROL REVIEWER.

3. THE CONTRACTOR SHALL SUBMIT THE STREAM DIVERSION DESIGN AT THE PRE-CONSTRUCTION MEETING. IN NO CASE SHALL INSTALLATION OF THE STREAM DIVERSION BE STARTED PRIOR TO APPROVAL OF THE SUBMISSION. IF THE INSTALLATION OF THE TEMPORARY STREAM DIVERSION IS STARTED WITHOUT THE APPROVAL, THE PROJECT SHALL BE ISSUED A STOP WORK ORDER UNTIL THE APPROVAL IS OBTAINED. LOST TIME DUE TO STOP WORK ORDERS DOES NOT CONSTITUTE REASON FOR EXTENDING THE CONTRACT TIME. THE CONTRACTOR SHALL REMOVE THE STREAM DIVERSION WITH THE AUTHORIZATION OF THE SEDIMENT CONTROL INSPECTOR WHEN NO LONGER NEEDED.

4. FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS, SEE SHEETS 10 - 14.

FILTER LOG		
15	LF	FL 1-1, STA 0+91 TO 1+04 LT
27	LF	FL 1-2, STA 1+04 TO 1+33 LT
41	LF	FL 1-3, STA 1+33 TO 1+83 LT
27	LF	FL 1-4, STA 1+72 TO 1+85 RT
39	LF	FL 1-5, STA 2+42 TO 2+65 LT
35	LF	FL 1-6, STA 2+42 TO 2+70 RT

SANDBAG DIKE		
15	CY	SBD 1-1, STA 0+93 TO 0+93 LT
24	CY	SBD 1-2, STA 1+93 TO 2+48 RT

NOTE: SBD 1-1 AND SBD 1-2 WILL NOT BE MEASURED FOR PAYMENT AND WILL BE INCIDENTAL TO MAINTENANCE OF STREAM FLOW ITEM.

FILTER BAG		
1	EA	FB 1-1, STA 1+89 RT
1	EA	FB 1-2, STA 1+87 RT
1	EA	FB 1-3, STA 2+79 RT

NOTE: FB 1-1 WILL NOT BE MEASURED FOR PAYMENT AND WILL BE INCIDENTAL TO MAINTENANCE OF STREAM FLOW ITEM.

SUMP PIT		
1	EA	SP 1-1, STA. 0+93 LT
1	EA	SP 1-2, STA 1+82 RT
1	EA	SP 1-3, STA 2+06 RT
1	EA	SP 1-4, STA 2+42 RT

NOTE: SP 1-1 AND SP 1-3 WILL NOT BE MEASURED FOR PAYMENT AND WILL BE INCIDENTAL TO MAINTENANCE OF STREAM FLOW ITEM.

STABLIZED CONSTRUCTION ENTRANCE		
1	EA	SCE 1-1, STA 2+60 LT

TREE PROTECTION FENCE		
28	LF	TPF 1-1, STA 2+16 LT
28	LF	TPF 1-2, STA 2+16 LT
28	LF	TPF 1-3, STA 2+73 LT
28	LF	TPF 1-4, STA 2+72 RT
28	LF	TPF 1-5, STA 1+92 RT
28	LF	TPF 1-6, STA 1+88 RT
28	LF	TPF 1-7, STA 1+90 LT
28	LF	TPF 1-8, STA 1+76 RT

TREE PLANKING		
1	EA	TP 1-1, STA 1+17 LT

UNLESS OTHERWISE APPROVED, THE CONTRACTOR SHALL STOCKPILE MATERIAL OFFSITE. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT THE SITE WHERE MATERIAL IS STOCKPILED SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN, PROPER PERMITS AND REQUIRED SEDIMENT CONTROL DEVICES INSTALLED PRIOR TO START OF MATERIAL BEING HAULED TO THE STOCKPILE SITE.

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL USE ONLY

NO IN STREAM WORK IS PERMITTED BETWEEN MARCH 1 AND JUNE 15, INCLUSIVE.

MDE TRACKING NO.20-NT-3081Y.I02060572
STREAM USE CLASS: 1

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwoter Monogement:	Sediment Control Technicol Requirements:	Administrative Requirements
Reviewed Date	Reviewed Date	Reviewed Date
Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
Approved Date 285831 SU FILE f		MCDPS APPROVAL OF THIS PLAN N.LL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF INU PROJECT HAS NOT STARTED.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or 'Stormwater manOOSIIIII plan is lor cllimanstraled compliancl1 •lih mlnlfium environmental runofl lrealment standards and d on not create or aTlply any right to cl ,.t or concentrole runoff onlo any odjacenl properly without that property owner's permission. Il does nal rllievll 9ht desil9" an9 or alt." rYtportiBll1 ,,-son al profissfonal fiability or ethkal raponsibility for the od ocay of the drainoge dr9t DB Il offects upbll or dolmhOt propsttn.

GPI
www.gpinet.com
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Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

O'MIER /ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Dote
APPROVED
Chief, Division of Tronsp0tlolion Engineering — Dote

Designed By. M M R Drawn By. A WW Checked By: W J P

EROSION AND SEDIMENT CONTROL PLAN

REPLACEMENT OF BRIDGE NO. M-0043 MOUTH OF MONOCACY ROAD OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : xxx x>x<x - - - - - - - SHEET 9 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: pE&-P001_MoMonocacy.dgn

STANDARD EROSION AND SEDIMENT CONTROL NOTES

I. The permittee shall notify the Deportment of Permitting Services mPSI forty-eight (48) hours before commencing any land disturbing activity and, unless waived by the Department. shall be required to hold o pre-construction meeting between them or their representative, their engineer and an authorized representative of the Department.

2. The permittee must obtain inspection and approval by DPS at the following points:

A. At the required pre-construction meeting.

B. Following installation of sediment contr-ol measures and prior to any other land disturbing activity.

C. Dur-ing the fnstallation of a sediment basin or stormwater management structure at the required inspection points (see Inspection Checklist on planl. Notification prior to commencing construction is mandatory.

D. Prior to removal or modification of any sediment control structure(sl.

E. Prior to final acceptance.

3. The permittee shall construct all erosion and sediment control measures per the approved pion and construction sequence, shall hove them inspected and approved by the Department prior to beginning any other land disturbances, shall ensure that all runoff from disturbed areas is directed to the sediment control devices, and shall not remove any erosion or sediment control measure without prior permission from the Department.

4. The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfare(sl. All materials deposited onto public thoroughfore(s) shall be removed immediately.

5. The permittee shall inspect periodically and maintain continuously in effective operating condition, all erosion and sediment control measures until such times as they ore removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person.

6. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization must be completed within:

A. Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to I vertical (3:1l; and

B. Seven calendar days as to all other disturbed or graded areas on the project site not under active grading.

All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization.

7. The permittee shall apply sod, seed, and anchored straw mulch, or other approved stabilization measures to all disturbed areas within seven (7) calendar days ofter stripping and grading activities hove ceased on that area. Maintenance shall be performed as necessary to ensure continued stabilization. Active construction areas, such as borrow or stockpile areas, roadway improvements, and areas within fifty (50) feet of a building under construction may be exempt from this requirement, provided that erosion and sediment control measures are installed and maintained to protect those areas.

8. Prior to removal of sediment control measures, the permittee shall stabilize all contributory disturbed areas with required soil amendments and topsoil, using sod or on approved permanent seed mixture and an approved anchored mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 10%. and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized within seven (7) calendar days of establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, an approved temporary seed and straw anchored mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the following April 15.

9. The site permit, work, materials, approved SCSM plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County.

10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope without causing erosion. Dikes shall be installed and maintained at the top of cut or fill slopes until the slope and drainage area to it ore fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.

II. Permanent swoles or other points of concentrated water flow shall be stabllized within 3 calendar days of establishment with sod or seed with on approved erosion control matting or by other approved stabilization measures.

12. Sediment control devices shall be removed, with permission of the Department, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13. No permanent cut or fill slope with a gradient steeper than 3I will be permitted in lawn maintenance areas or on residential lots. A slope gradient of up to 2I will be permitted in non-maintenance areas provided that those areas are Indlcoted on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2I will not be permitted with vegetative stabilization.

14. The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet.

15. For finished grading, the permittee shall provide adequate gradients so as to prevent water from standing on the surface of lawns more than twenty-four (24) hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty-eight (48) hours ofter the end of a rainfall,

16. Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sedfment trap or basin.

17. All inlets in non-sump areas shall have asphalt berms installed at the time of base pavng estoblishment.

18. The sediment control inspector has the option of requiring oddltional sediment control measures, as deemed necessary.

19. All trap elevations are relative to the outlet elevation, which must be on exlstlng undisturbed ground.

20. Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control.

21. Sediment trap(s!/basln(s! shall be cleaned out and restored to the original dimensions when sediment hos accumulated to the point of one-half (1/2) the wet volume of the trap/basin Cl/4 the wet storage depth for ST-llll or when required by the sediment control inspector.

22. Sediment removed from traps/basins shall be placed and stabilized in approved areas, but not withfn a floodplain.

23. All sediment basins and traps must be surrounded with a welded wire safety fence. The fence must be at least 42 inches high, have posts spaced no farther apart than 8 feet. have mesh openings no greater the two inches in width and four inches in height, with a minimum of 14 gauge wire. Safety fence must be maintained In good condition at all times.

24. No excavation in the areas of existing utilities is permitted unless their locatlon has been determined. Call 'Miss Utility' at 1-800-257-7777, 48 hours prior to the start of work.

25. Off-site spoil or borrow areas must hove prior approval by DPS.

26. Sediment trap/basin dewotering for cleanout or repair may only be done with the DPS Inspector's permission. The inspector must approve the dewatering method for each application. The following methods may be considered:

A. Pump discharge may be dlrected to another on-site sediment trap or basin, provided it is of sufficient volume and the pump intake is floated to prevent agitation or suction of deposited sediments; or

B. the pump intake may utilize a Removable Pumping Station and must discharge into on undisturbed area through a non-erosive outlet; or

C. the pump intake may be floated and discharge into a Dirt Bag (12 oz. non-woven fabric), or approved equivalent, located in on undisturbed buffer area.

Remember: Dewotering operation and method must have prior approval by the DPS Inspector.

27. The permittee must notify the Department of all utility construction octivltres withln the permitted llmlts of disturbance prior to the commencement of those activities.

28. Topsoil must be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with MCE "Standards and Specifications for Soil Preparation, Topsollfng, and Soil Amendments'.

B.4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

Definition: Using vegetation as cover to protect exposed soil from erosion.

Purpose: To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies: On all disturbed areas not stabilized by other methods . This specification is divided into sections on Incrementol stabfllzation ; sofl preparation, sofl amendments and topsoiling; seeding and mulching ; temporary stabilization ; and permanent stabilization.

Effects on Water Quality and Quantity:
Stabilization practices are used to promote the establishment of vegetation on exposed soll. When sari ls stoblllzed wlth vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rotes of runoff, Infiltrotlon, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the sorl and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemlcols carried by runoff to recelvlng waters. Plants wlll also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment.

Adequate Vegetative Establishment:
Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fellllizer, seedbed preparation, and seeding.

3. If on area hos between 40 and 94 percent groundcover, over-seed and fertlllze using half of the rates orlgrnolly specified.

4. Maintenance fertilizer rotes for permanent seeding ore shown in Tobie 8.6.

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND AMENDMENTS

Definition: The process of preparing the soils to sustain adequate vegetative stobllizotion.

Purpose: To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies: Where vegetative stabilization is to be established.

Criteria:
A. Soil Preparation

1. Temporary Stabilization

a. Seedbed preparation consists of loosenlng soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil ls loosened, rt must not be rolled or dragged smooth but left in the roughened condition. Slopes 3.1 or flatter ore to be tracked with ridges runnlng parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soll test ls required for any earth disturbance of 5 acres or more. The mlnlmum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0.
ii. Soluble salts less than 500 ports per million (ppm).
IIi. Soil contains less than 40 percent cloy but enough fine grained material (greater than 30 percent silt plus cloy) to provide the capacity to hold a moderate amount of morsture. An exception: If lovegross will be planted, then a sandy soil (less than 30 percent silt plus cloy) would be acceptable.
Iv. Soil contains 15 percent mlnlmum orgonlc matter by weight.
v. Soil contains sufficient pore space to pelmit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even grade as specified on the approved pion, then scarified or otherwise loosened to a depth of 3 to 5 Inches.

d. Apply soil amendments as specified on the approved pion or as Indlcoted by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy choln or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3I or flatter with tracked equipment leaving the soil in an lrregular condltlon with ridges running parallel to the contour of the slope. Leave the top I to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

I. Topsoll Is placed over prepared subsoil prior to estoblishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrlent levels. low pH, moterrols toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from on existing srte may be used provided It meets the standards as set forth in these specifications. Typically, the depth of topsoil to be solvaged for a given soil type con be found In the representative soll profile section m the Soil Survey published by USDA-NRCS.

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND AMENDMENTS CONT.

3. Topsoiling is limited to areas having 2: I or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2: I require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loom, sandy loom, clay loom, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be o mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders. stones, slag, coarse fragments. gravel, sticks, roots, trash, or other materials larger than IY2 inches in diameter.

b. Topsoil must be free of noxious plants or plant ports such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when opplylng topsoll.

b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a mfnlmum thickness of 4 Inches. Spreading ls to be performed in such a manner that sodding or seeding con proceed with a minimum of additional soil preparation and tillage. Any lrregularltles In the surface resulting from topsoilng or other operations must be corrected in order to prevent the formation of depressions or water pockets.

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or In o condition that may otherwise be detrlmental to proper grading and seedbed preparation.

C. Soil Amendments <Fertlllzer and Lime Specifications!

I. Soil tests must be performed to determine the exact r-atios and application rotes for both lime and fertllizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples token for engfneering purposes may also be used for chemlcal analyses.

2. Fertilizers must be unifor-m in composition, fr-ee flowing and suitable for accurate oppllcatron by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled occordfng to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground llmestone (hydrated or burnt lime may be substituted except when hydroseeding! which contains at least 50 percent total oxides (calcium oxide plus magnesium oxidel. Limestone must be ground to such fineness that at least 50 percent will pass through a 1100 mesh sieve and 98 to 100 percent will poss through a "20 mesh sieve.

4. Lime and fertilizer are to be evenly distributed and incorporated

5. Where the subsoll ls either highly acldlc or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feetl prior to the placement of topsoil. Into the top 3 to 5 Inches of soil by disking or other suitoble means.

B.4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definition: The application of seed and mulch to establish vegetative cover.

Purpose: To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies: To the surface of all perimeter controls. slopes, and any disturbed area not under active grading.

Criteria:
A. Seeding

I. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the dote of sowing such material on any project. Refer to Table BA regarding the Quality of seed. Seed togs must be available upon request to the Inspector to verify type of seed and seeding rate.
b. Mulch alone may be applied between the foll and spring seeding dotes only If the ground ls frozen. The appropriate seeding mixture must be applied when the ground thaws.

c. Inoculants: The rnoculant for treating legume seed m the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date Indicated on the container. Add fresh inoculonts as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculont as cool as possfble until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculont less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilonts or chemicals used for weed control until sufficient time has elapsed (14 days mln.l to permit dissipation of phyto-toxic materials.

2. Applfcation

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

i. Incorporate seed into the subsoil ot the rotes prescribed on Temporary Seeding Table B.1. Permanent Seeding Tobie B.3, or site-specific seeding summaries.
ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate m each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

B.4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING CONT.

b. Drill or Cultipocker Seeding: Mechanized seeders that apply and cover seed with soll.

i. Cultipocking seeders ore required to bury the seed in such a foshron as to provide at least 1/4 Inch of soil covering. Seedbed must be firm after planting.
ii. Apply seed in two directions. perpendicular to each other. Apply half the seeding rote In each direction.

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizerl.

i. If fertilizer is being applied at the time of seeding, the application rotes should not exceed the following: nitrogen. 100 pounds per acre total of soluble nitrogen; P205 (phosphorous), 200 pounds per acre; K2 D (potassium), 200 pounds per acre.
II. Lime: Use only ground agricultural limestone Cup to 3 tons per acre may be applied by hydroseedingl. Normally, not more than 2 tons ore applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseedlng.
iii. Mix seed and fertilizer on site and seed immediately and without interruption.
Iv. When hydroseedlng do not Incorporate seed Into the soll.

B. Mulching

I. Mulch Materials (in order of preference)

a. Straw conslstrng of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Marylond Seed Low and not musty, moldy. coked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired.

b. Wood Cellulose Fiber Mulch (WCFM consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

i. WCFM is to be dyed green or contain o green dye in the package that will provide on appropriate color to facllftate visual Inspection of the uniformly spread slurry.
ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
III. WCFM moterlals ore to be manufactured and processed In such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed; fertlllzer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absrption and percolation properties and must cover and hold gross seed in contact with the soil without inhibiting the growth of the grass seedlings.
Iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
v. WCFM must conform to the following physical requirements: fiber length of approximately IO millimeters, diameter approximately I millimeter, pH range of 4.0 to 8.5. ash content of 16 percent maximum and water holding capacity of 90 percent minimum.

2. Application

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch ls used, spread It over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of I to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchoring

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:

i. A mulch anchoring tool is a tractor drown implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land. this practice should follow the contour.
ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dly weight of 750 pounds per acr-e. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
iii. Synthetic binder-s such as Acrylic DLR CAgr-o-Tack), DCA-70, Petroset, Terra Tax II, Terra Tock AR or other approved equal may be used. Follow application rotes as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in volleys and on crests of banks. Use of asphalt binders is strictly prohibited.
Iv. Lightweight piastre netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B.4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

Definition: To stabilize disturbed soils with vegetation for up to 6 months.

Purpose: To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for a period ofG months or less. For longer duration of time, permanent stabllizotron practices ore required.

Criteria:
I. Select one or more of the specres or seed mixtures llsted In Table Bl for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with oppllcotion rotes, seeding dotes and seedlng depths. If this Summary is not put on the pion and completed, then Tobie B.1 plus fertilizer and lime rotes must be put on the plan.

B.4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION CONT.

2. For sites having soil tests performed, use and show the recommended rotes by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season. apply seed and mulch or straw mulch alone as prescr-lbed m Section B-4-3.A.1.b and maintain untll the next seeding season.

TEMPORARY SEEDING SUMMARY

HARDINESS ZONE IFROM FIGURE B.3): 6B SEED MIXTURE IFROM TABLE B.11: N/A				FERTILIZER RATE 110-10-201	LIME RATE
SPECIES	APPLICATION RATE ILB/ACI	SEEDING DATES	SEEDING DEPTHS		
ANNUAL RYE GRASS	40	3/1 - 5/15 AND 8/1 - 10/15	0.5 IN	436 LBS/AC 110LB/1000 SFI	2 TONS/AC 190LB/1000 SFJ
FOXTAIL MILLET	30	5/16 - 7/31	0.5 IN		

B.4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

Definition: To stabiize disturbed soils with permanent vegetation.

Purpose: To use long-lived perennial grosses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies: Exposed soils where ground cover is needed for 6 months or more.

Criteria:
A Seed Mixtures

I. General Use

a. Select one or more of the species or mixtures listed in Tobie B.3 for the appropriate Plant Hardiness Zone <from Figure B.3) and based on the site condition or purpose found on Tobie B.2. Enter selected mixture(s), application rotes, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the pion.

b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wlldlife or aesthetic treatment may be found In USDA-NRCS Technical Field Office Gulde, Section 342 - Crltrcol Area Plontlng.

c. For sites having disturbed area over 5 acres. use and show the rates recommended by the soil testing agency.

d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0J at 3.5 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

2. Turfgross Mixtures

a. Areas where turfgross may be desired include lawns, porks,ploygrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plon.

i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 15 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivors with each ranging from 10 to 35 percent of the total mixture by weight.
ii. Kentucky Bluegrass/Perennial Rye: Full Sun mix: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose o minimum of three Kentucky bluegrass cultivors with each ranging from 10 to 35 percent of the total mixture by weight.
iii. Toll Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified .Toll Fescue Cultivors 95 to 100 percent, Certified Kentucky Bluegrass Cultivors O to 5 percent. Seeding Rote: 5 to 8 pounds per 1000 square feet. One o r more cultivars may be blended.
iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: Certified Kentucky Bluegross Cultivors 30 to 40 percent and Certified Fine Fescue and GO to 70 percent. Seeding Rate: 15 to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo .1177, "Turfgross Cultivar Recommendations for Maryland'.

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

c. Ideal Times of Seeding for Turf Grass Mixtures
Western MD. Morch 15 to June I, August I to October I(Hardiness Zones: 5b, Gal
Central MD. Morch I to May 15, August 15 to October 15 (Hardiness Zone: 6b
Southern MD, Eastern Shore: Morch I to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 15 inches in diameter-. The resulting seedbed must be in such condition that future mowing of grosses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are mode late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Monogement:	Sediment Control Technicol Requirements:	Administrative Requirements
Reviewed Date	Reviewed Date	Reviewed Date
Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
Approved 285831 Date		
SUREf		

111QE MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN NLL EXPIRE: TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

DPS approval ol o sediment control or Stormwater mon09llll plq. h lor dlmensloted complonc11 •lth mlnlmum environmental runoff lr'1l0lnent standards, ord_don not create or ltfply any right lo cl...t or concentrate runoff onto any odjocent property without that property owner's permission. Il does not rllievll 1rl1lotes9 ... n 9 • or olt." lrlsponslll1l ...son of profinsfonal llobility o 1Trlhol rapansibllity for lrrl1ocl•ocy of the drolnov- dr91 m t oltects uphl or dolrnOl prapstlin.

O'MIER /ADDRESS:	NO.	REVISION	DATE	BY
DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND				
CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240-777- 7210 TRANSPORTATION PLANNING & DESIGN 240-777- 7221				

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Eng111eerlng IDesign IPlanning IConstruction Management
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia. MD 21044
Tel: 410.880.3055

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG. MARYLAND

RECOMMENDED FOR APPROVAL
Chief. Design Section — Dote
APPROVED
Chief, Division of Tronsp0tlolion Engineering — Dote

Desrgned By. MMR Drawn By. A.WW Checked By. WJP

EROSION AND SEDIMENT CONTROL NOTES - 1

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : 5555 SHEET 10 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: pEsN001_MdMonocacy.dgn

B.4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION CONT.

PERMANENT SEEDING SUMMARY

HARDINESS ZONE (FROM FIGURE 8.31: 6B SEED MIXTURE FROM TABLE 8.31: 3 & 5					FERTILIZER RATE (10-10-201			LIME RATE
NO.	SPECIES	APPLICATION RATE ILB/ACI	SEEDING DATES	SEEDING DEPTHS	\	p"'·	K4	
3	DEER TONGUE	20	3/1 - 6/15	1/4 TO 1/2 IN.	45 LB PER ACRE 110 LB/ 1000 SFI	90 LB PER ACRE 12 LB/ 1000 SFI	90 LB PER ACRE 12 LB/ 1000 SFI	2 TONS PER ACRE 100 LB/ 1000 SFI
	SHEEP FESCUE	20						
	REDTOP	1						
	KOREAN LESPEDEZA	10						
5	CREEPING RED FESCUE	20	3/1 - 5/15 AND 8/1 - 10/15					
	REDTOP	1						
	FLATPEA	15						

FOR MORE DETAILS ON PERMANENT SEEDING SEE SPECIFICATIONS.

B. Sod:

I. General Specifications

a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made availobie to the job foreman and inspector.

b. Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/4 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptoble.

c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation

a. During periods of excessively high temperature or in areas having dry subsoil. lightly irrigate the subsoil immediately prior to laying the sod.

b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints ta promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints ore butted tight in order to prevent voids which would cause air drying of the roots.

c. Wherever possible. lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Campiete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

3. Sod Maintenance

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.

b. After the first week, sod watering is required as necessary to maintain adequate moisture content.

c. Do not mow until the sod is firmly rooted. No more than 1/3 of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

MISS UTILITY

CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

I. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILES OR STORED IN NONTIOAL WETLANDS. NONTIDAL WETLAND BUFFERS. WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS. WATERWAYS, OR THE 100-YEAR FLOODPLAIN.

3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED. USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS. UNSIGHTLY DEBRIS, TOXIC MATERIAL. OR ANY OTHER DELETERIOUS SUBSTANCE.

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS. OR THE 100-YEAR FLOODPLAIN.

5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR PERMANENT MOOIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6. RECTIFY ANY NONTIDAL WETLANDS. WETLAND BUFFERS. WATERWAYS. OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIOAL WETLAND BUFFER SHALL CONSIST OF FOLLOWING SPECIES: ANNUAL RYEGRASS !Loiurn multiflarum), MILLET ISetoria italicol. BARLEY IHordeum sp.l. OATS IUniolo sp.l, AND/OR RYE ISecale cereaiel. THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES. IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15 INCLUSIVE. DURING ANY YEAR.

USE II WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.

USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

II. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

CONCRETE WASHING NOTES

I. LOOSE PIECES OF DRIED GROUT AND DUST SHALL BE REMOVED FROM THE WORK AREA AFTER CEMENTITIOUS MATERIALS ARE CURED.

2. WASH CURED CEMENTITIOUS SURFACES AND PUMP WASH WATER TO A FILTER BAG SET ON BURLAP BAGS OF WETTED PEAT. FILL BURLAP BAGS WITH PEAT WETTED WITH WATER AT A VOLUMETRIC RATIO THREE PARTS PEAT TO ONE PART WATER. BURLAP BAGS SHALL BE PLACED TO FORM A 4 INCH MINIMUM THICK LAYER OF PEAT.

GENERAL RESPONSIBILITY NOTES

I. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL REQUIRED EASEMENTS. RIGHT. AND/OR RIGHT-OF-WAY PURSUANT TO THE DISCHARGE FROM THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORM WATER ONTO OR ACROSS AND GRADING OR OTHER WORK TO BE PERFORMED ON ADJACENT OR DOWNSTREAM PROPERTIES AFFECTED BY THIS PLAN.

2. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:

A.I THREE CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS. DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO I VERTICAL 13 II AND

B.I SEVEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE INPLACE SEDIMENT CONTROL MEASURES WILL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS PERMANENTLY STABILIZED AND ALL PERMIT REQUIREMENTS ARE MET.

3. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS. BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE, AND

4. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES BEFORE REMOVAL OF CONTROLS.

5. DISTURBED SURFACE AREA = 0.35 AC
VOLUME OF SPOIL MATERIAL = 115 CY• IEX. BITUMINOUS PAVEMENT)
VOLUME OF BORROW MATERIAL = 20 CY•

6. SOIL TYPES:
BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS. 15 TO 25%. SLOPES. HSG B
BLOCKTOWN CHANNERY SILT LOAM, 25% TO 45% SLOPES, HSG C
HATBORO SILT LOAM, 0 TO 3% SLOPES, FREQUENTLY FLOODED, HSG D

• THE COMPUTED VALUES SHOULD NOT BE USED FOR BIDDING PURPOSES.

EROSION & SEDIMENT CONTROL PROJECT NOTES

I. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED AND FIELD ADJUSTED TO REDUCE NATURAL RESOURCE IMPACTS PRIOR TO INSTALLATION OF TREE PROTECTION MEASURES. SEDIMENT CONTROL MEASURES. CONSTRUCTION, CLEARING OF TREES, OR OTHER LAND DISTURBING ACTIVITIES.

2. THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE M-NCPPC INSPECTOR. CERTIFYING THAT THE LIMITS OF DISTURBANCE AND TREE PROTECTION MEASURES ARE CORRECTLY MARKED AND INSTALLED PRIOR TO COMMENCING ANY CLEARING. SEDIMENT CONTROL MEASURES ARE TO BE FIELD LOCATED WITH M-NCPPC PARKS INSPECTOR TO REDUCE IMPACTS TO NATURAL RESOURCES.

3. PER JOINT PERMIT, FOLLOW BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS. WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS AS SHOWN ON THIS SHEET.

4. AFTER PERIMETER CONTROLS HAVE BEEN INSTALLED. THE CONTRACTOR MAY PERFORM INSTREAM WORK. BRIDGE WORK AND ROADWAY WORK CONCURRENTLY. FINAL SITE CONSTRUCTION MAY NOT BEGIN UNTIL ALL OTHER WORK HAS BEEN COMPLETED.

EROSION & SEDIMENT SEQUENCE OF CONSTRUCTION

I. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTEMENT OF PERMITTING SERVICES IMCDPSI SEDIMENT CONTROL INSPECTOR 240-777-6210 148-HOUR NOTICE! AND THE MNCPPC. PLANNING DEPARTMENT. PLANS ENFORCEMENT INSPECTOR AT 301-495-4571 (48-HOUR NOTICE!. THE OWNERS REPRESENTATIVE AND THE SITE ENGINEER.
2. DELINEATE THE LIMITS OF DISTURBANCE AS INDICATED IN THE EROSION AND SEDIMENT CONTROL PLAN.
3. INSTALL TREE PROTECTION FENCES TPF-1 THROUGH TPF-8 AND TP 1-1.
4. UPON CLOSING THE ROADWAY TO ALL TRAFFIC, THE CONTRACTOR SHALL REMOVE EXISTING DECK AND SUPERSTRUCTURE. CONTRACTOR TO ENSURE THE DECK AND SUPERSTRUCTURE REMOVAL PROCESS DOES NOT ALLOW ANY DEBRIS OR DUST TO FALL INTO THE WATERWAY. ALL DEBRIS SHALL BE TRANSPORTED TO AN APPROVED DISPOSAL SITE. DURING THE REMOVAL PROCESS. IF ANY EARTH DISTURBANCE OCCURS, THE AREA SHALL BE STABILIZED AT THE END OF EACH WORKDAY.
5. CLEAR AND GRUB AS DETERMINED BY THE MNCPPC PLANNING DEPARTMENT REPRESENTATIVE AT THE PRECONSTRUCTION MEETING AND PER MCE APPROVAL, DURING A 3-DAY CLEAR WEATHER FORECAST FROM THE NATIONAL WEATHER SERVICE. INSTALL SCE 1-1, MAINTENANCE OF STREAM FLOW SBD 1-1, SBD 1-2, SP 1-1, SP 1-2, SP 1-3 AND FB 1-1, FB 1-2, FB 1-3. UPSTREAM SBD SHALL BE INSTALLED PRIOR TO THE DOWNSTREAM SBD. CONTRACTOR WILL REMOVE A PORTION OF THE SANDBAG DIKE TO ALLOW STREAM FLOW AT THE END OF THE WORK DAY. THE CONTRACTOR SHALL SCHEDULE WORK IN AND ABOVE THE STREAM SO THAT THE SECTION OF SANDBAGS FOR THE PUMP AROUND CAN BE REMOVED AT THE END OF EACH DAY. IF RAINFALL IS FORECAST WITHIN A 24-HOUR PERIOD, NO WORK CAUSING ISNTREAM DISTURBANCES WILL BE PERMITTED. IF RAINFALL GREATER THAN 3.2 INCHES IN A 24-HOUR PERIOD IS PREDICTED, SANBAG DIKES ARE TO BE REMOVED IN THEIR ENTIRETY PRIOR TO THE STORM. ANY AREAS DISTURBED WITHIN THE STREAM SHALL BE STABILIZED BEFORE THE END OF EACH DAY PRIOR TO RESTORING STREAM FLOW.
6. CONSTRUCT IMPROVEMENTS AS SHOWN ON THE STREAM RESTORATION PLAN. CONTRACTOR MAY ALSO COMMENCE WORK ON BRIDGE AND ROADWAY IMPROVEMENTS PROVIDING ALL WORK AREAS ARE CONTAINED WITHIN THE LIMITS OF THE STREAM DIVERSION AND ANY DISTURBED AREAS ARE STABILIZED AT THE END OF THE WORKDAY,
7. PERMANENTLY STABILIZE ALL INSTREAM DISTURBANCES
8. UPON COMPLETION OF THE IN-STREAM IMPROVEMENTS INCLUDING BRIDGE SUBSTRUCTURE. AND WITH WRITTEN APPROVAL FROM THE MCDPS INSPECTOR AND WORKING FROM DOWNSTREAM TO UP, REMOVE ALL MAINTENANCE OF STREAM FLOW ITEMS INCLUDING SBD 1-1, SBD 1-2, SP 1-1, SP 1-2, SP 1-3 AND FB 1-1, FB 1-2, FB 1-3. REMOVE SCE 1-1 AND PERMANENTLY STABILIZE ALL DISTURBED AREAS OUTSIDE THE FOOTPRINT OF THE ROADWAY.
9. INSTALL REMAINING E&S CONTROLS INCLUDING: FL 1-1, FL 1-2, FL 1-3. FL 1-4, FL 1-5 AND FL 1-6. NO WORK OR DISTURBANCE IS PERMITTED OFF THE PAVEMENT BEYOND THE LIMITS DEFINED BY THE FILTER LOGS.
10. CONTINUE BRIDGE AND ROADWAY CONSTRUCTION.
11. PERFORM FINAL GRADING. PAVING AND STABILIZATION.
12. INSTALL PLANTS AND TREES IN ACCORDANCE WITH LANDSCAPE PLAN SHOWN ON SHEET XX
13. UPON COMPLETION OF ALL WORK AND PERMANENT STABILIZATION, AND WITH WRITTEN APPROVAL OF THE MCDPS INSPECTOR. REMOVE ALL E&S CONTROLS AND PERMANENTLY STABILIZE REMAINING DISTURBED AREAS.
14. SUBMIT AS-BUilT PLANS TO MCDPS.

TEMPORARY STOCKPILES

IF ONSITE STOCKPILING IS APPROVED BY THE ENGINEER, TEMPORARY STOCKPILES SHALL:

I. BE LOCATED WITHIN THE LIMIT OF DISTURBANCE ILOD).

2. DRAIN TO A FUNCTIONING SEDIMENT CONTROL DEVICE.

3. BE POSITIONED NOT TO IMPEDE UPON OR IMPAIR THE FUNCTION OF SAID DEVICE.

4. BE POSITIONED TO NOT ALTER DRAINAGE DIVIDES.

5. BE NO MORE THAN 3' HIGHER THAN EXISTING GRADE.

ALTERNATE SEQUENCES OF CONSTRUCTION

THE CONTRACTOR HAS THE OPTION OF PROPOSING AN ALTERNATE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE APPROPRIATE PLANS AND REQUEST IN WRITING FOR A CHANGE TO THESE PLANS. ALL CHANGES SHALL BE SUBMITTED THROUGH THE ENGINEER FOR REVIEW AND APPROVAL BY THE APPLICABLE PERMITTING AGENCIES. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS CAUSED BY THE REVIEW AND APPROVAL PROCESS NOR WILL ADDITIONAL COMPENSATION BE ALLOWED IF ANY PROPOSED CHANGE IS REJECTED. THE ENGINEER AND PERMITTING AGENCIES SHALL DETERMINE WHETHER ANY PROPOSED ALTERNATE SEQUENCE IS ACCEPTABLE. IF NO ALTERNATE IS FOUND ACCEPTABLE. THEN THE SEQUENCE SHOWN ON THESE PLANS SHALL BE FOLLOWED.

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwoter Monogement:

Reviewed Date

Approved Date
285831
SU FILE f

Sediment Control Technicol Requirements:

Reviewed Date

Approved Date

Administrative Requirements

Reviewed Dote

SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF JHI PRD.CCT HAS NOT STARTED.

111IQIE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or 'Iormwater man099fff11 pion is lar cillmanstraied compliancf1 •ilh minffium environmental runoff lreatment standards and don not create or a'ftply any right to c(...t or cancontrols runoff onto any oiLiacent property without lhal property owner's permission. It does not rllieve fhff dn10" an9 or ath." r1fsponsibfe-...son of pf'olesfonal lkibilfy for lh• od ocey of lh• drainoga DFSfl m fl offacfl uphll or dsinnOf prop.-lln.

NO.	REVISION	DATE	BY

OWNER /ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
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Tel: 410.880.3055

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief. Design Section — Dote
APPROVED
Chief, Division of Tronsp0ttolion Engineering — Dote

Designed By: MMR Drawn By: AWW Checked By: WJP

EROSION AND SEDIMENT CONTROL NOTES - 2

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

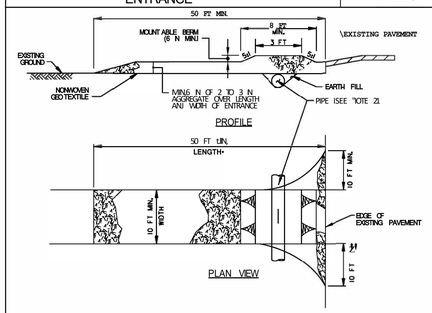
Project No. : xxxxx SHEET 11 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: pEs-N002_MoMonocacy.dgn

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: mscE



CONSTRUCTION SPECIFICATIONS

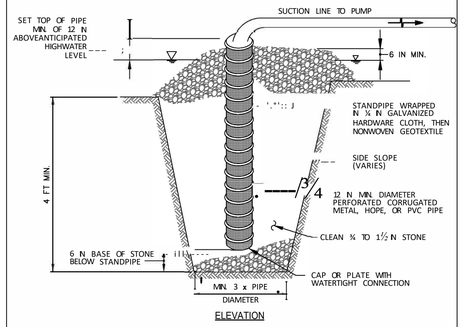
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE m1MUM LENGTH OF 50 FEET (•30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE. AS SPECIFIED IN SECTION H1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-2 SUMP PIT

STANDARD SYMBOL: jgJSP



CONSTRUCTION SPECIFICATIONS

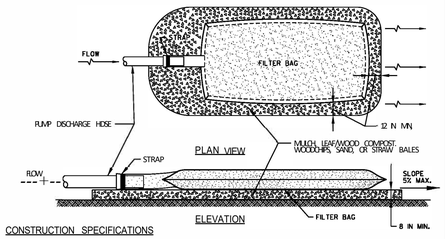
1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER. BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
2. WRAP PIPE WITH ½ INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. BACKFILL PIT AROUND THE PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
6. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ☒FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA, EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

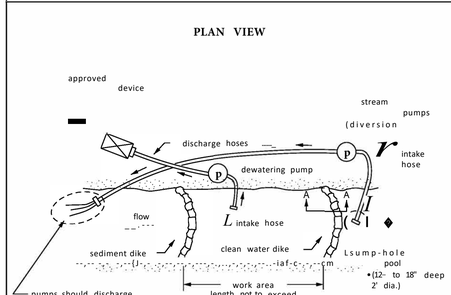
GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT2	ASHA D-4491
PERMITTIVITY (SEC"1)	1.2 SEC"1	ASHA D-4491
UV RESISTANCE	70% STRENGTH D 500 HOURS	ASHA D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

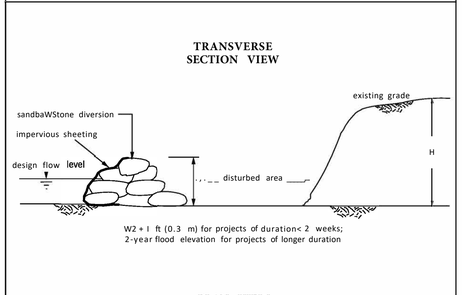
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.2 - 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

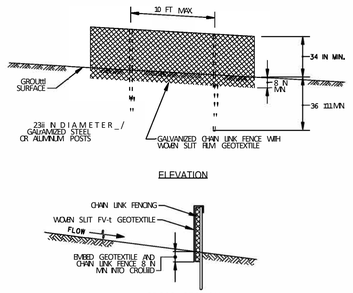
Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAGSTONE DIVERSION



TEMPORARY INSTREAM CONSTRUCTION MEASURES	REVISED NOVEMBER 2000 PAGE 1.5 - 3	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: 1---SSF-



CONSTRUCTION SPECIFICATIONS

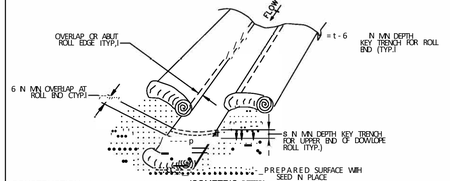
1. INSTALL 2¼ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¼ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-4-6-A TEMPORARY SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL: TSTMC (VAT.) (►INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN IF PRESENT. NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE (MARYLAND). A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 11/2 TO 2 INCHES WIDE AND BE 6" MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 4 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 1" TO 2" INCHES IN LENGTH, 1"x3" INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING. PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END.
7. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM) WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwoter Monogement:	Sediment Control Technicol Requirements:	Administrative Requirements
Reviewed Date	Reviewed Dote	Reviewed Dole
Approved Date 285831 SU FILE T	Approved Dote	SEDIMENT CONTROL PERMIT NO.

111OE MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

MCDPS APPROVAL OF THIS PLAN NLL EXPIRE: two YEARS FROM THE DATE or APPROVAL Ir THE PROJECT HAS NOT STARTED.

DPS approval of a sediment control or 'Iormwater manD99ffffff plan ½ lor cllimanslrated compliancr11 •lih minlffium environmental runafl treatment standards and don nal create or ffiply any right 1a cl ,.t or cancentrate runoff anla any adjacent properly withaul that property owner's permission. Il does nal rlllievll frtl desi9" an9 or alt." rYlportabH1 pssan al prafinsfanal liability or 11Hkal rapansibility lar th• ad acey of the drainov- dn91 m lt affects upbll or dolnhOt prCJPP11n.

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Greenman-Pedersen, Inc.
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O'MIER /ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Dote
APPROVED
Chief, Division of Transportation Engineering — Dote

Designed By: MMR Drawn By: AWW Checked By: WJP

EROSION AND SEDIMENT CONTROL DETAILS -1

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ?????? SHEET 12 OF 40

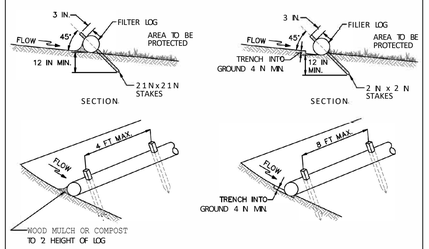
!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:50 AM
FILE: P:\<oo1_MoMonocacy.dgn

Attachment A Bridge Design Plans

DETAIL E-6 FILTER LOG

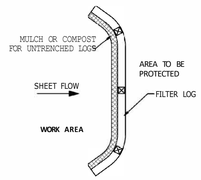
STANDARD SYMBOL
i--------fi-18------1
DESIGNATION FI-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



UNTRENCHED INSTALLATION OR TRENCHED INSTALLATION*

*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.

ISOMETRIC_VIEW



PLAN

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.15

DETAIL E-6 FILTER LOG

STANDARD SYMBOL
t------fl.-18-----1
DESIGNATION FI-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

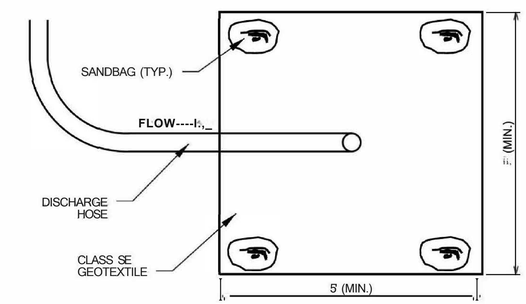
1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCWDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTIOfI H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHIU. SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EvERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY a FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILIER LOG IF TORN. REINSTALL FILIER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHLAENT IN ACCORDANCE INITH SECTION 8-4 VEGETATIVE STABILIZATION.

2 OF 2

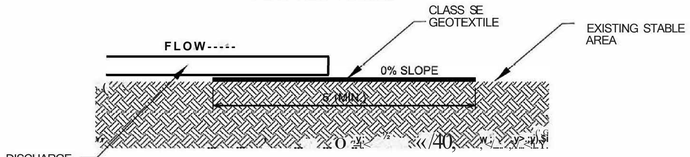
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.16



PLAN VIEW-TYPICAL



PROFILE-TYPICAL

NOTES:
1.PLACE DISCHARGE HOSE IN CENTER OF OUTLET PROTECTION.
2. STANDARD ROCK OUTLET PROTECTION MAY BE USED IN PLACE AT DIRECTION OF MOE INSPECTOR.

STANDARD SYMBOL

OUTLET PROTECTION

NOTTO SCALE

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwcter Management:	Sediment Control Technical Requirements:	Administrative Requirements
Reviewed Dote	Reviewed Dote	Reviewed Dote
Approved Dote	Approved Dote	SEDIMENT CONTROL PERMIT NO.
285831 SM FILE #		MCDPS APPROVAL OF THIS PLAN NLL EXPIRE AND YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

tiOJE_ MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or stormwat• monl plor, is for demonstrated compliance •ith minimum enwlronm,tal runoll lreolm•t standards and does not etsoite a, ahply any right to dwwt or concentrate runoff onto any adjoonl p,op•rty without 1111t p,op•rty own••• p•rmiuion. It does not relilhe lite design engineer or otller responsible person of profnaionol liob•ity or ethicol responeibiliy for lite od oce, of lite drainage design as a ll offects uphl or dolnilhl prop-ties.

CiPI
www.gpinet.com
EngIneerIng IDsign IPlanning IConstnict1011 -1anagement
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWER /ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section Dote

APPROVED

Chief. Division of Transportolion Engineering Dote

Designed By. MVR Drown By. BJD Checked By. AWHP

EROSION AND SEDIMENT CONTROL DETAILS - 2

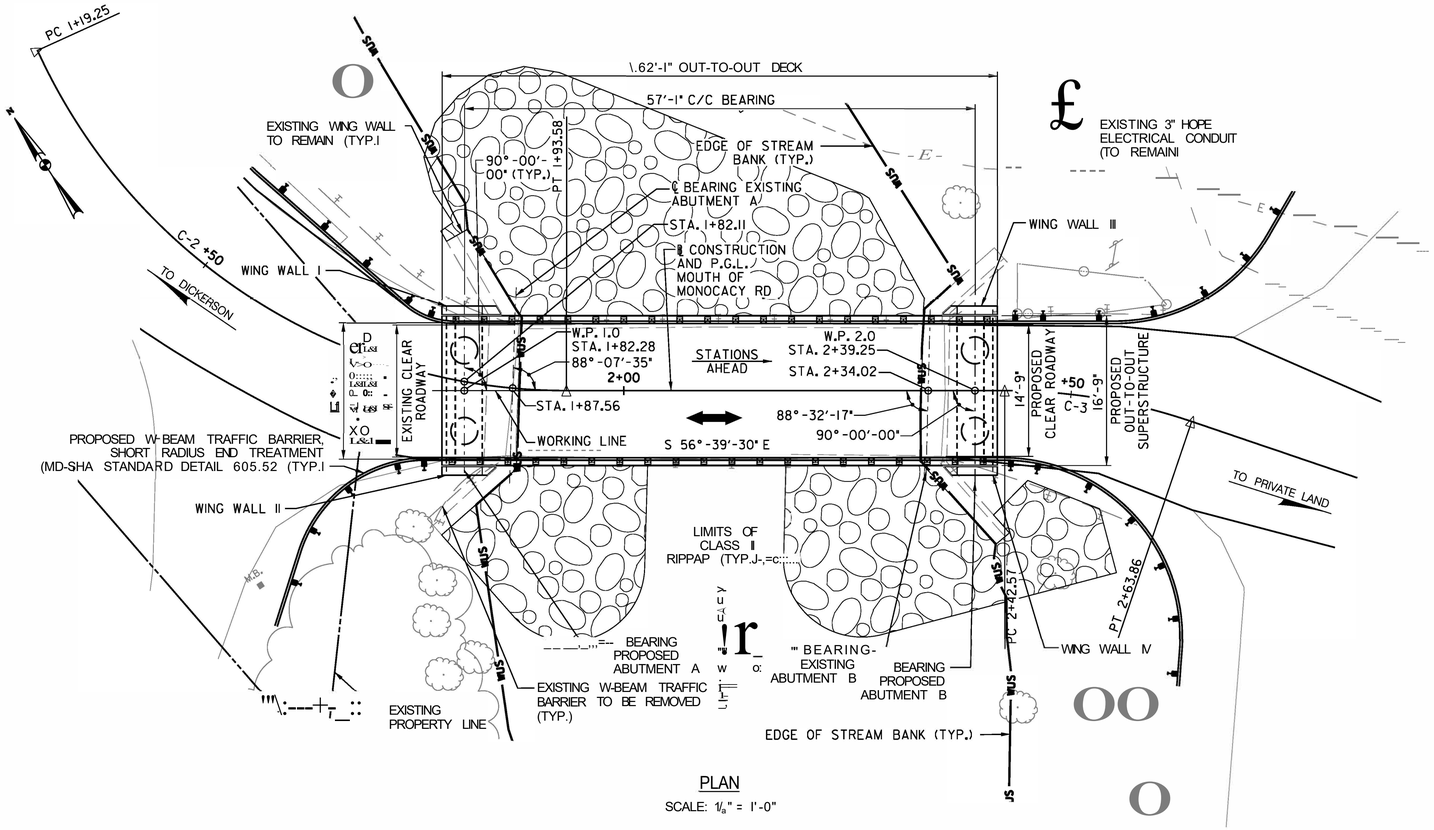
REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : X=X=XX=X -------- SHEET 13 OF 40

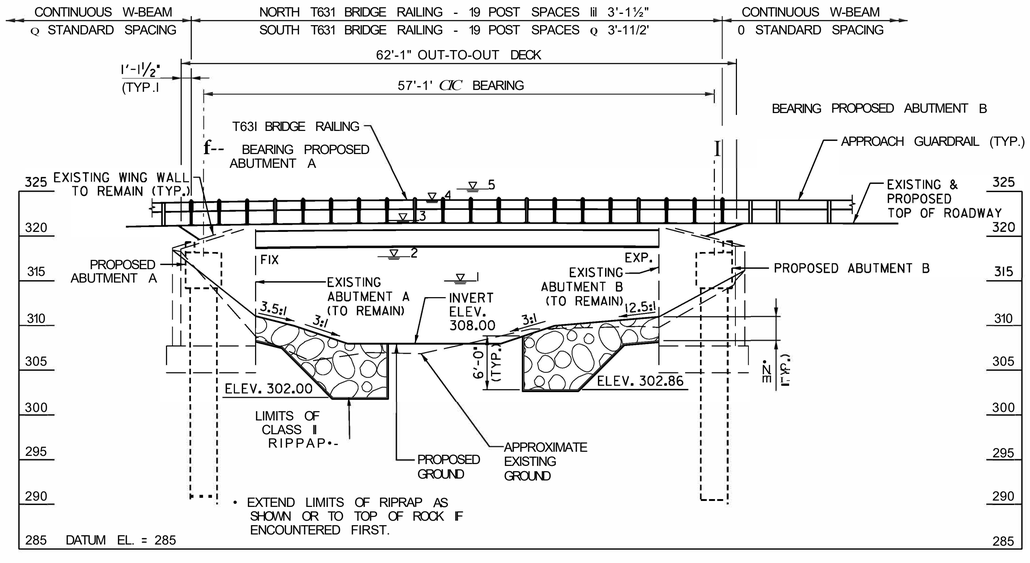
PLOTTED: Friday, November 21 2025 AT 1150 AM
FILE: N:\2017\2017102.00 BCS 2014-21E SHA Hwy Sir Eng Services\Task 04 Mouth ofMoriocacy Bridge\CADD\pES-0002_MoMonocacy.dgn

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!



PLAN

SCALE: 1/8" = I'-0"

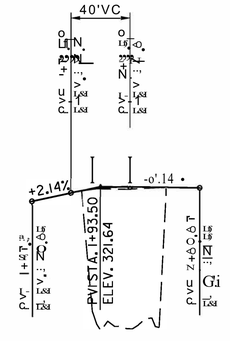


ELEVATION

SCALE: 1/8" = 1'-0'

8' 0 8' 15'

SCALE: 1/8"=I-O"



ROADWAY PROFILE
MOUTH OF MONOCACY RD.
NOT TO SCALE

GENERAL NOTES

SPECIFICATIONS:	MCOT SHA STANDARD SPECIFICATION FOR CONSTRUCTION AND MATERIALS, DATED JULY 2024.
DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION, DATED 2020.
LOADING:	HL-93 WITH PROVISIONS FOR FUTURE 2' WEARING SURFACE AND 15 lbs/sq. ft. FOR USE OF STEEL BRIDGE DECK FORMS WHICH REMAIN IN PLACE.
LOAD RESTRICTIONS:	THERE ARE RESTRICTIONS FOR EQUIPMENT AND MATERIALS ON EXISTING AND NEW STRUCTURE(SI. REFER TO SECTION TC 6.14.
CONCRETE:	CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE: f'c = 3,000 psi FOR ELEMENTS USING MIX NO. 4. f'c = 4,000 psi FOR ELEMENTS USING MIX NO. 6. FOR DRILLED SHAFTS, USE MIX NO. 4 (3500 psiI CONCRETE. FOR SURFACE CONCRETE REPAIRS TO ADDRESS SPALLING, USE MIX NO. 5 (3500 psi) CONCRETE OR EQUAL. ALL OTHER CONCRETE SHALL BE MIX NO. 6 (4500 psiI CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15.0II.
REINFORCING STEEL:	REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60, WITH A YIELD STRENGTH FOR DESIGN OF fy = 60,000 psi. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED PER BAR LAP CHARTS. ALL REINFORCING STEEL SHALL BE EPOXY COATED. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2' EXCEPT FOR THE FOLLOWING LOCATIONS: TOP OF BRIDGE DECK SLABS 2½". BOTTOM OF BRIDGE DECK SLABS I'.
COATING:	ALL STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED IN CONFORMANCE WITH ASTM AI23, AI53, AND SECTION 465.03.05(CI. A BROWN POLYESTER COATING WILL BE APPLIED TO THE T631 BRIDGE RAILING, APPROACH GUARDRAIL, AND STRUCTURAL STEEL. REFER TO SECTION 465.
STRUCTURAL STEEL:	NEW STRUCTURAL STEEL SHALL CONFORM TO A 709, GRADE 50. INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF M 270, FOR PRIMARY LOAD CARRYING MEMBERS. REFER TO SECTION 909.01.
MAINTENANCE OF TRAFFIC:	REFER TO DETOUR ON SHEET 6.
EXISTING STRUCTURE:	ALL DIMENSIONS AFFECTED BY THE GEOMETRY AND/OR LOCATION OF THE STRUCTURE(SI: EXISTING STRUCTURE<SI SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE ANY MATERIAL IS ORDERED OR FABRICATED OR CONSTRUCTION BEGINS.

LEGEND

I	NORMAL WATER SURFACE ELEVATION	= 315.00
2	2 YR. DESIGN STORM ELEVATION	= 318.37
3	10 YR. DESIGN STORM ELEVATION	= 321.02
4	50 YR. DESIGN STORM ELEVATION	= 324.26
5	100 YR. DESIGN STORM ELEVATION	= 325.41

CURVE DATA

CURVE	DELTA	De	RADIUS	TANGENT	LENGTH	EXTERNAL
C-2	65" 30'47.34" LT	88•08'50.4 7•	65.00'	41.82'	74.32'	12.29'
C-3	18'45'49.30" RT	88•08'50.4 7•	65.00'	10.74'	21.29'	0.88'

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CONTACT:
DIVISION OF TRANSPORTATIONENGINEERING
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TRANSPORTATIONPLANNING & DESIGN
240-777- 7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section — Dote

APPROVED

Chief, Division of TronspOttolion Engineering — Dote

Designed By. _A_L_ Drawn By: AWW Checked By: BSW

GENERAL PLAN AND ELEVATION

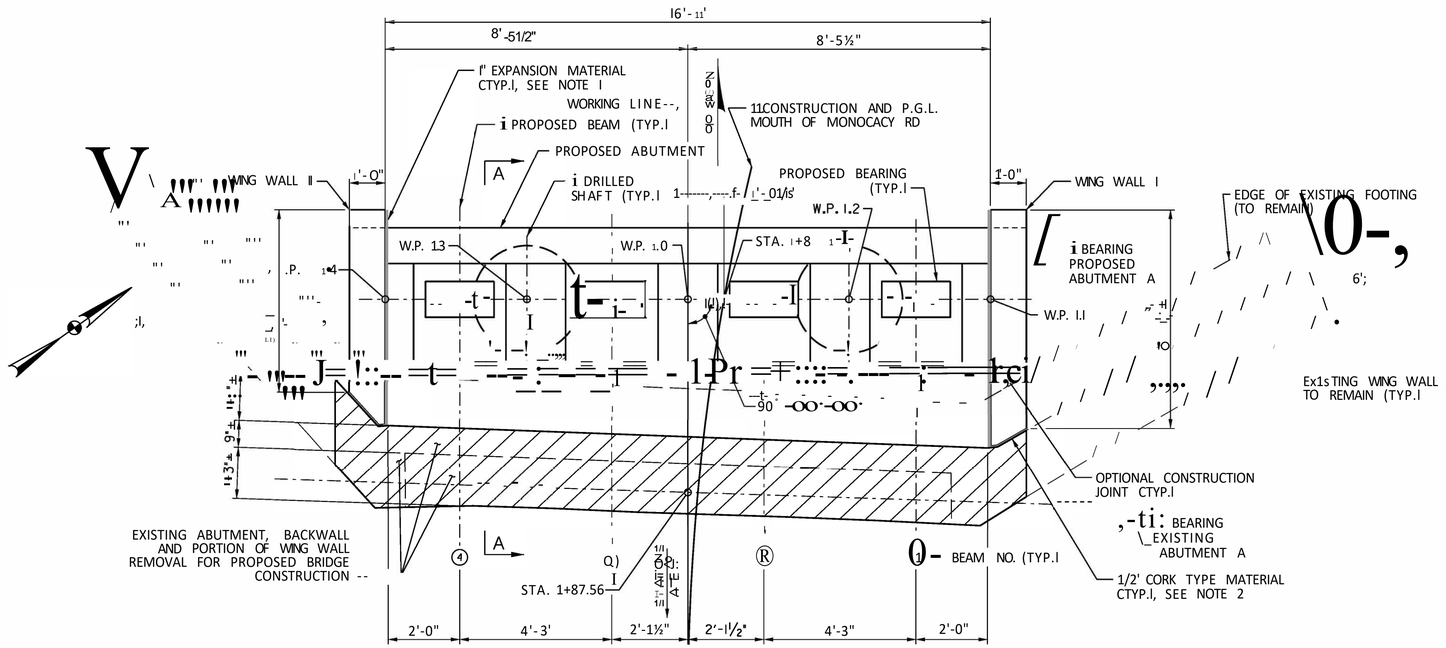
REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. :-XX X XX ------ SHEET 14 OF 40

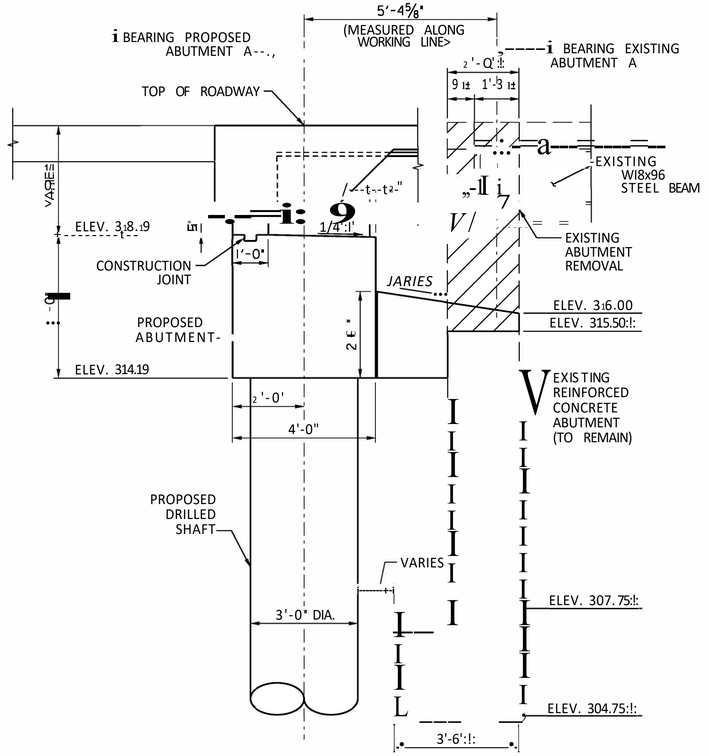
!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 1151 /Wi
FILE: pBR-GP01_MoMonocacy.dgn

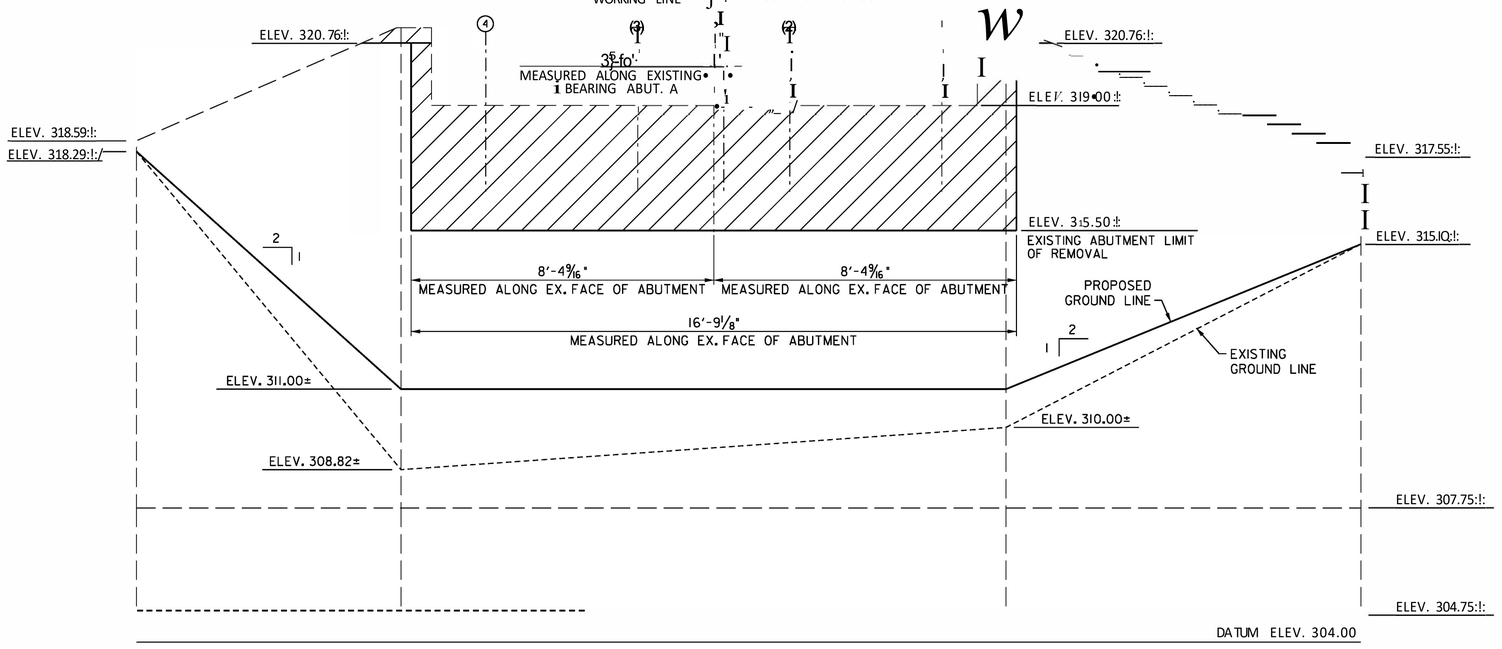


PLAN - ABUTMENT A
SCALE:½" = I'-0'

WORKING POINT TABLE		
WORKING POINT	STATION	OFFSET
W.P.I.0	STA. I+82.28	0.99' RT.
W.P.I.1	STA. I+80.63	7.32' LT.
W.P.1.2	STA. 1+81.46	3.43' LT.
W.P.1.3	STA. I+83.00	5.43' RT.
W.P.1.4	STA. I+83.56	9.34' RT.



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



PARTIAL REMOVAL ELEVATION - EXISTING ABUTMENT A
SCALE:½"= 1'-0"

NOTE:PROPOSED STRUCTURE NOT SHOWN FOR CLARITY IN THIS PARTIAL ELEVATION VIEW.

LEGEND

u2 CONCRETE REMOVAL

2' 0 2' 4'
SCALE: 1//=I'-O"

NOTE:
I. I' EXPANSION MATERIAL INSTALLED AT THE INTERFACE WITH SUPERSTRUCTURE CONCRETE BEFORE SUPERSTRUCTURE CONCRETE IS POURED. TYPICAL AT BOTH SIDES OF SUPERSTRUCTURE. EXPANSION MATERIAL SHALL CONFORM TO 911.02.

2. 1/2' CORK TYPE MATERIAL INSTALLED AT THE PROPOSED WING WALL ALONG THE INTERFACE WITH THE EXISTING WING WALL. TYPICAL AT THE END OF BOTH PROPOSED WING WALLS. CORK MATERIAL SHALL CONFORM TO 9XX.XX.

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GAITHERSBURG, MARYLAND

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Chief. Design Section — Dote

APPROVED

Chief, Division of TronspOttolion Engineering — Dote

Designed By. AL Drawn By: AWW Checked By: BSW

ABUTMENT A PLAN AND ELEVATION

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : 'XXXX SHEET 15 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 1151 /Wi
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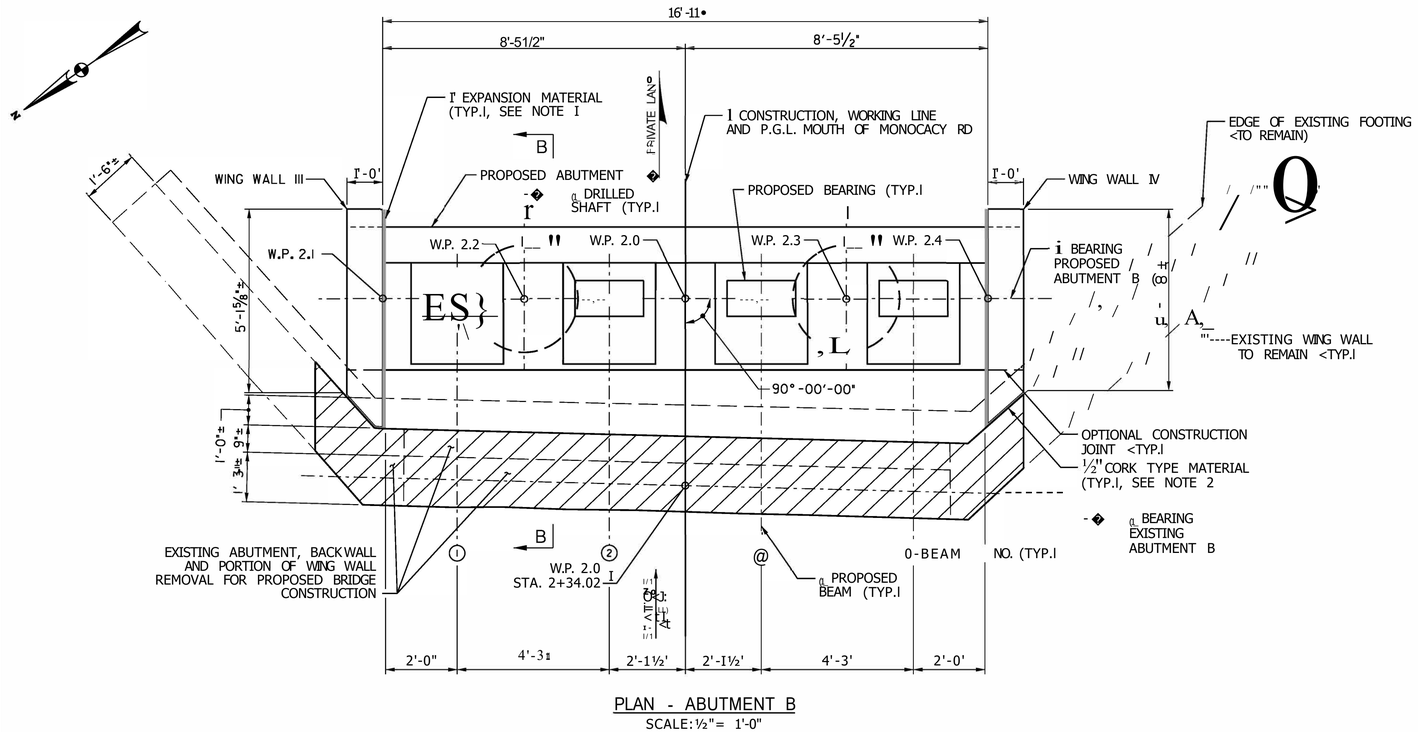
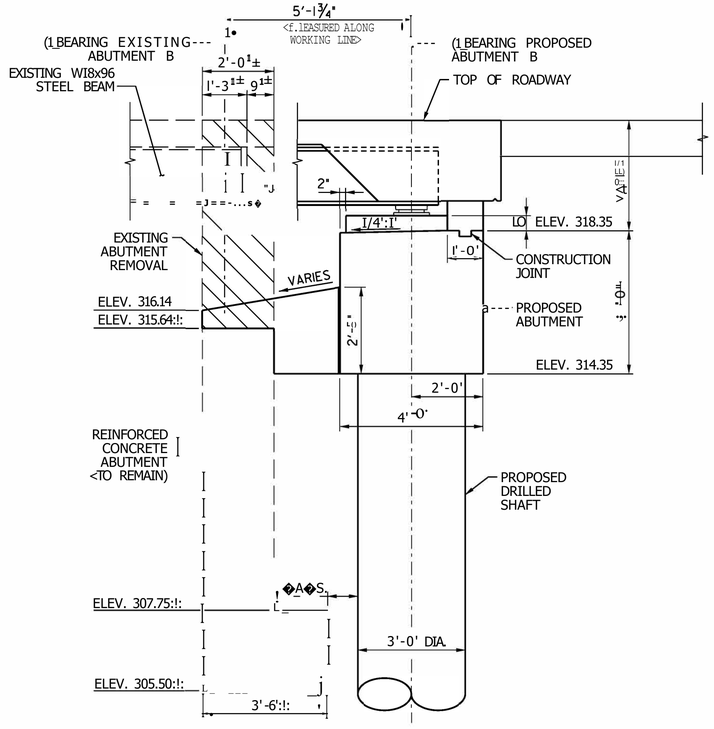
Attachment A Bridge Design Plans

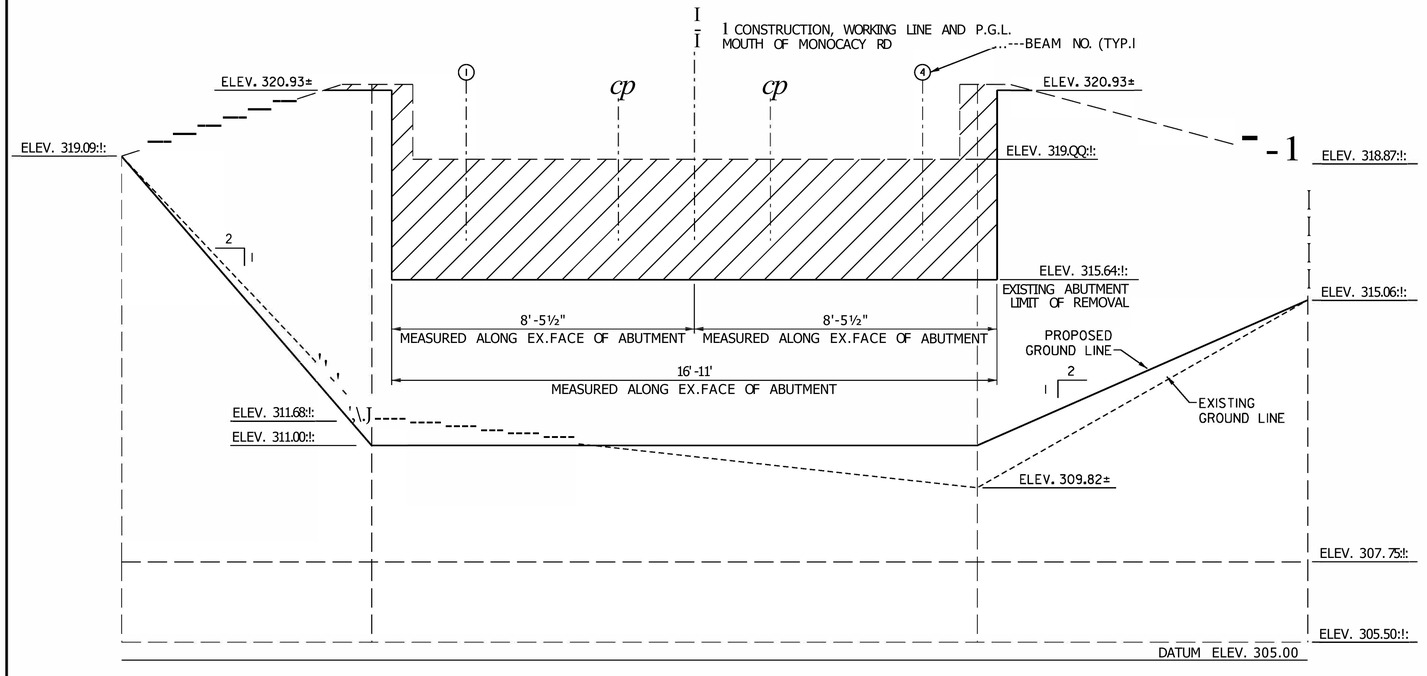


PLAN - ABUTMENT B
SCALE:½"= 1'-0"

WORKING POINT TABLE		
WORKING POINT	STATION	OFFSET
W.P.2.0	STA. 2+39.25	0.00'
W.P.2.I	STA. 2+39.25	8.46' LT.
W.P.2.2	STA. 2+39.25	4.50' LT.
W.P.2.3	STA. 2+39.25	4.50' RT.
W.P.2.4	STA. 2+39.25	8.46' RT.



SECTION B-B
SCALE:½"= I'-0'



NOTE:
I. I' EXPANSION MATERIAL INSTALLED AT THE INTERFACE WITH SUPERSTRUCTURE CONCRETE BEFORE SUPERSTRUCTURE CONCRETE IS POURED. TYPICAL AT BOTH SIDES OF SUPERSTRUCTURE. EXPANSION MATERIAL SHALL CONFORM TO 911.02.

2. 1/2" CORK TYPE MATERIAL INSTALLED AT THE PROPOSED WING WALL ALONG THE INTERFACE WITH THE EXISTING WING WALL. TYPICAL AT THE END OF BOTH PROPOSED WING WALLS. CORK MATERIAL SHALL CONFORM TO 9XX.XX.

NOTE:PROPOSED STRUCTURE NOT SHOWN FOR CLARITY IN THIS PARTIAL ELEVATION VIEW.

PARTIAL REMOVAL ELEVATION - EXISTING ABUTMENT B
SCALE: ½" = 1'-0"

LEGEND

V7ZJ CONCRETE REMOVAL

2' 0 2' 4'
SCALE: 1//='-0"

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Chief. Design Section — Dote

APPROVED

Chief, Division of Tronsp0ttolion Engineering — Dote

Designed By. A L_ Drawn By: AWW Checked By: BSW

ABUTMENT B PLAN AND ELEVATION

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 16 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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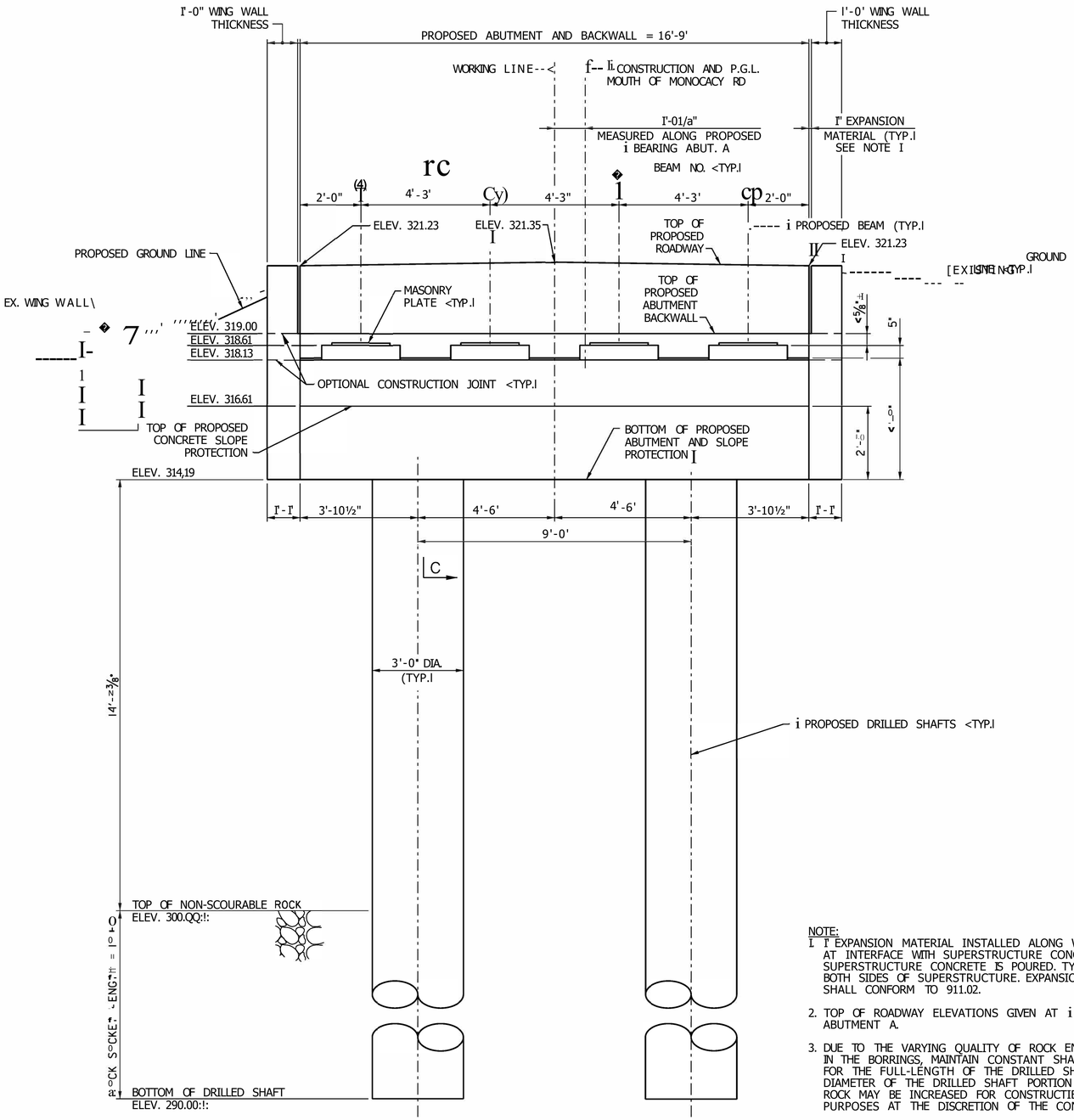
FILE: pBR-AB02_McMonocacy.dgn



ELEVATION - PROPOSED ABUTMENT A

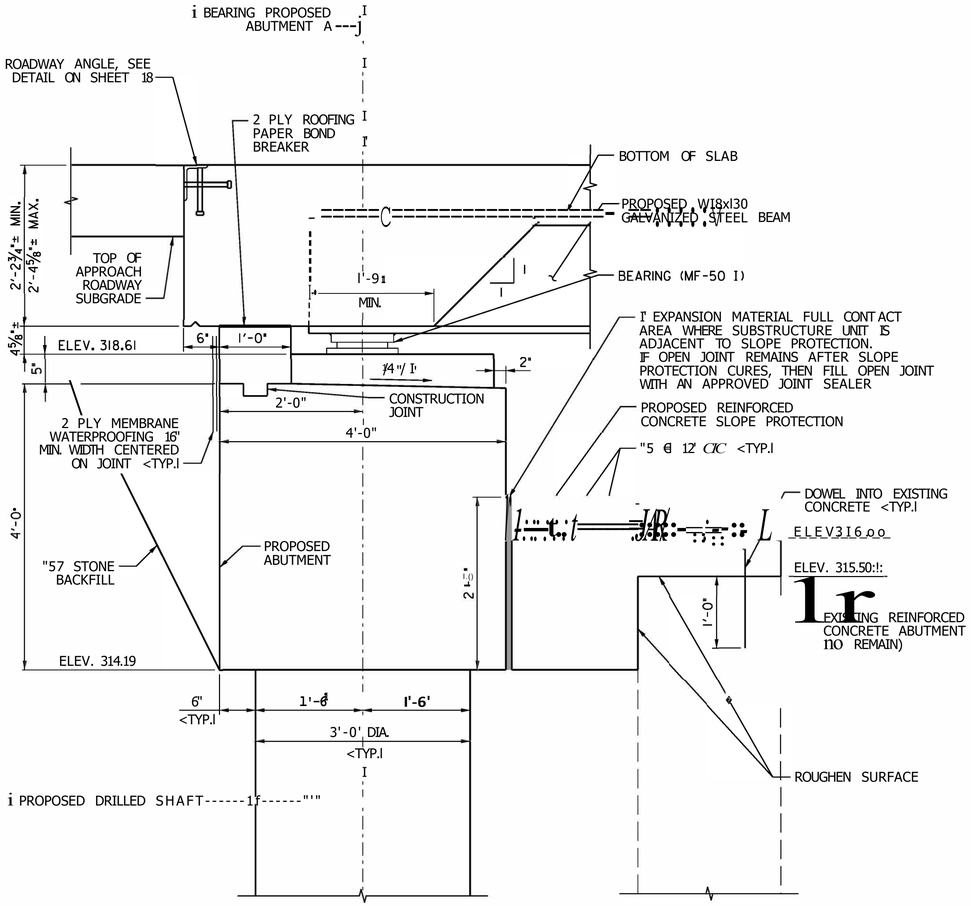
SCALE: ½" = I'-0'

NOTE:

I. I' EXPANSION MATERIAL INSTALLED ALONG WING WALLS AT INTERFACE WITH SUPERSTRUCTURE CONCRETE BEFORE SUPERSTRUCTURE CONCRETE IS POURED. TYPICAL AT BOTH SIDES OF SUPERSTRUCTURE. EXPANSION MATERIAL SHALL CONFORM TO 911.02.

2. TOP OF ROADWAY ELEVATIONS GIVEN AT i BRG. ABUTMENT A.

3. DUE TO THE VARYING QUALITY OF ROCK ENCOUNTERED IN THE BORRINGS, MAINTAIN CONSTANT SHAFT DIAMETER FOR THE FULL-LENGTH OF THE DRILLED SHAFT. THE DIAMETER OF THE DRILLED SHAFT PORTION ABOVE THE ROCK MAY BE INCREASED FOR CONSTRUCTIBILITY PURPOSES AT THE DISCRETION OF THE CONTRACTOR.



SECTION C-C

SCALE: I= I'-0'

2' 0 2' 4'
SCALE: 1/2"=1'-0"

I' 0 I' 2'
SCALE: I"=I'-0'

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Chief. Design Section — Dote

APPROVED

Chief, Division of TronspOttolion Engineering — Dote

Designed By. _A_L_ Drawn By: AWW Checked By: BSW

PROPOSED ABUTMENT A DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. :-XX X-XX ----- SHEET 17 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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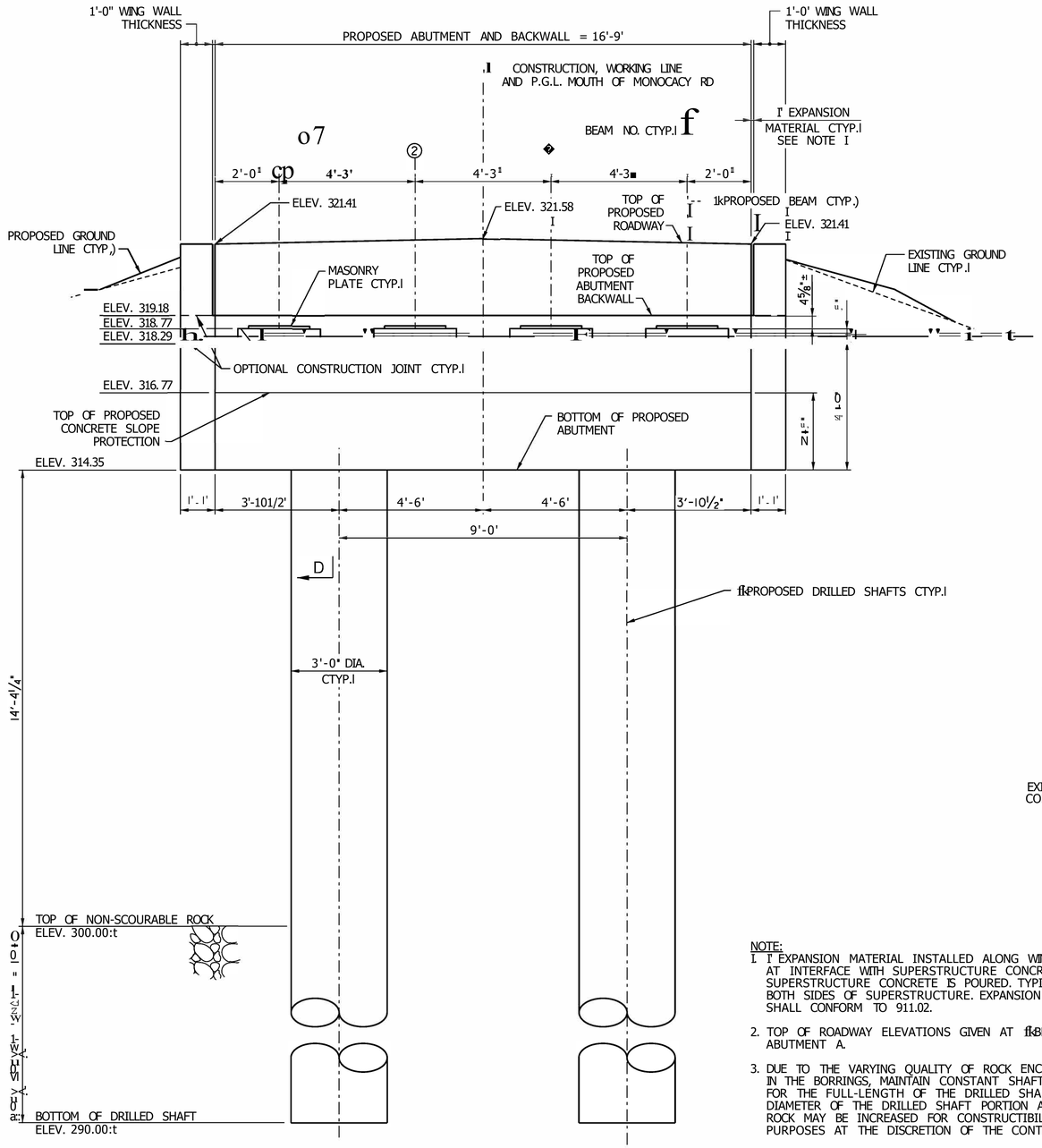
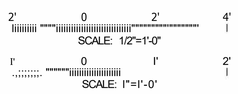
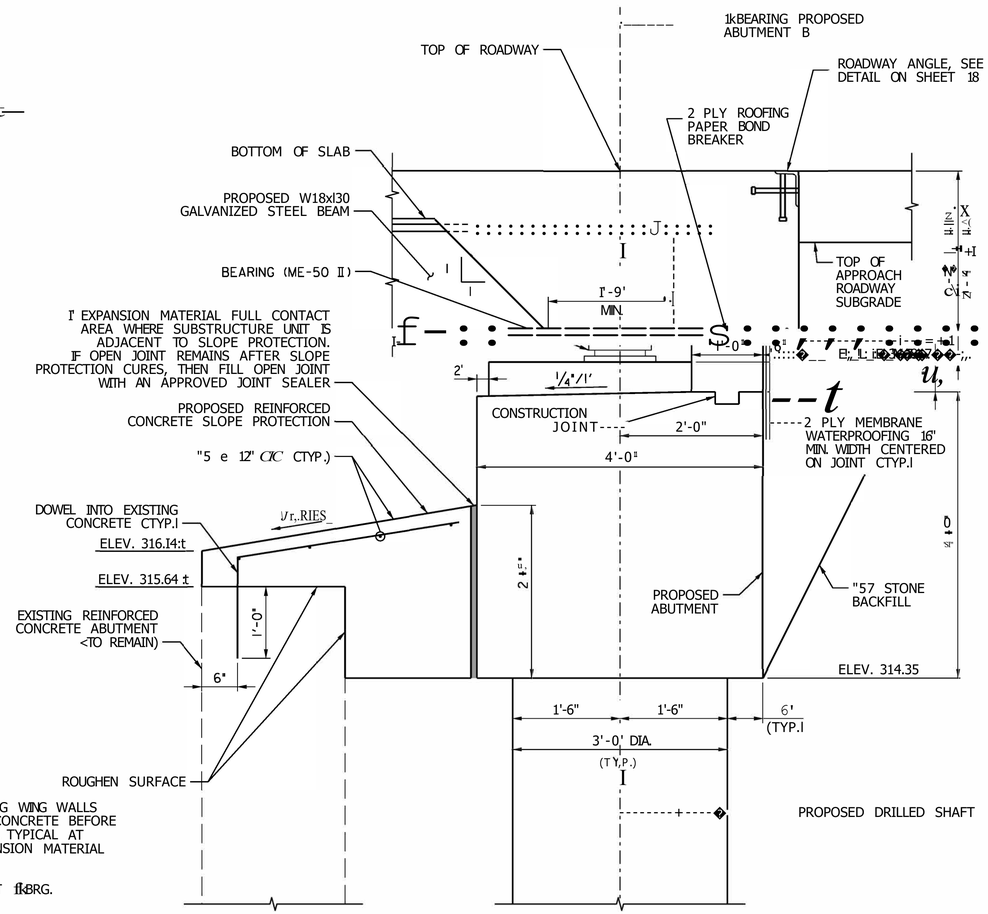
FILE: pBR-AB03_MoMonocacy.dgn



ELEVATION - PROPOSED ABUTMENT B

SCALE: ½" = 1'-0'





NOTE:

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2. TOP OF ROADWAY ELEVATIONS GIVEN AT ℄BRG. ABUTMENT A.
3. DUE TO THE VARYING QUALITY OF ROCK ENCOUNTERED IN THE BORRINGS, MAINTAIN CONSTANT SHAFT DIAMETER FOR THE FULL-LENGTH OF THE DRILLED SHAFT. THE DIAMETER OF THE DRILLED SHAFT PORTION ABOVE THE ROCK MAY BE INCREASED FOR CONSTRUCTIBILITY PURPOSES AT THE DISCRETION OF THE CONTRACTOR.

SECTION D-D

SCALE: I'= I'-0"

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GAITHERSBURG, MARYLAND

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Chief. Design Section — Dote

APPROVED

Chief, Division of TronspOttolion Engineering — Dote

Designed By. _AL_ Drawn By: AWW Checked By: BSW

PROPOSED ABUTMENT B DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ẍẍxxx SHEET 18 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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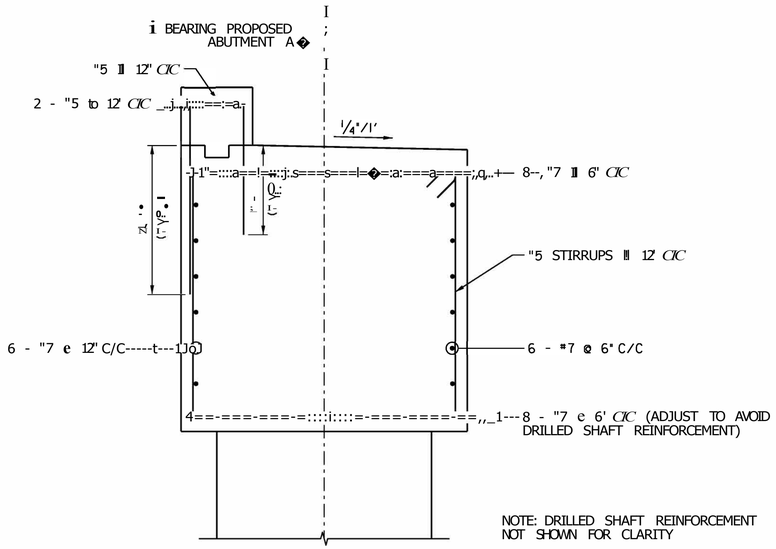
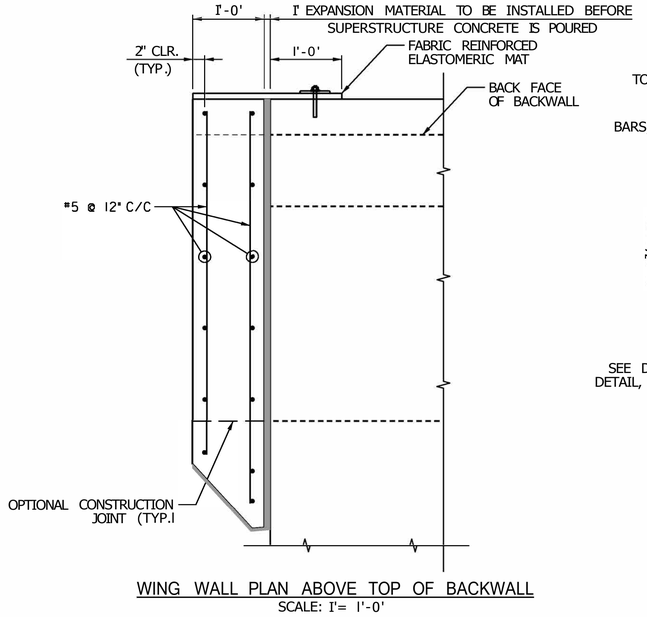
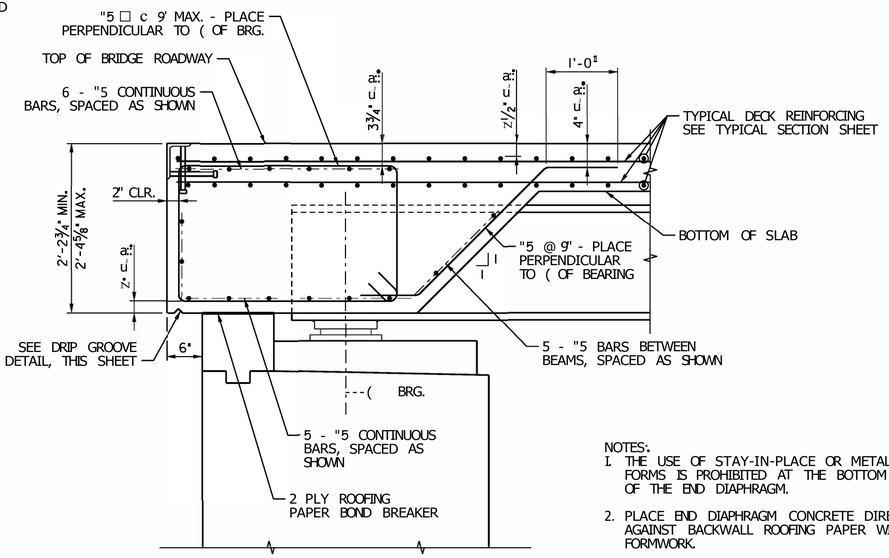


SECTION A-A
SCALE: 1"= 1'-0"

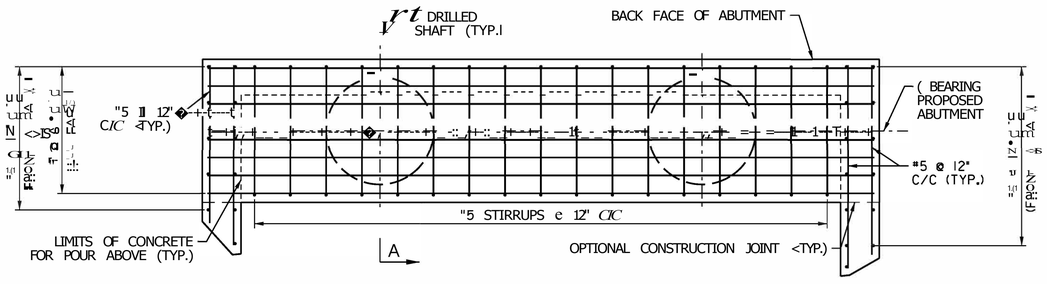


WING WALL PLAN ABOVE TOP OF BACKWALL
SCALE: 1"= 1'-0"



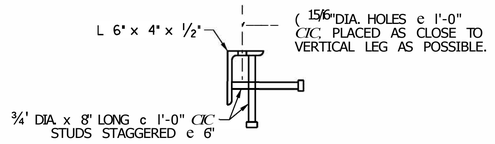
TYPICAL END DIAPHRAGM REINFORCEMENT
SCALE: 1"= 1'-0"

NOTES:
1. THE USE OF STAY-IN-PLACE OR METAL FORMS IS PROHIBITED AT THE BOTTOM OF THE END DIAPHRAGM.
2. PLACE END DIAPHRAGM CONCRETE DIRECTLY AGAINST BACKWALL ROOFING PAPER WITH NO FORMWORK.

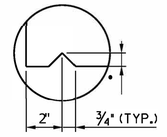


NOTE: END DIAPHRAGM NOT SHOWN FOR CLARITY.

ABUTMENT PLAN BELOW BEAM SEAT
SCALE: 1/2" = 1'-0"



ROADWAY ANGLE DETAIL
SCALE: 1 1/2" = 1'-0"



DRIP GROOVE DETAIL
SCALE: 3" = 1'-0"

NOTES:
1. ROADWAY ANGLES SHALL CONFORM TO A709, GRADE 36 AND SHALL BE GALVANIZED AFTER FABRICATION
2. ROADWAY ANGLES SHALL BE INSTALLED TO PROVIDE 2' MINIMUM CLEARANCE FROM BOTH ENDS OF THE CONCRETE DECK.
3. CONTRACTOR AND ENGINEER OR ENGINEER'S REPRESENTATIVE SHALL VERIFY DURING DECK PLACEMENT THAT ALL VENT HOLES ARE FILLED WITH CONCRETE FORCED FROM UNDER THE ANGLE.
4. ROADWAY ANGLE SHALL BE INCIDENTAL TO ITEM 4005 - SUPERSTRUCTURE CONCRETE FOR BRIDGE PAY ITEM.

SEAL:

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

Stormwater Monogement:	Sediment Control Technicol Requirements:	Administrative Requirements
Reviewed Date	Reviewed Date	Reviewed Date
Approved 285831 Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
SU FILE f		MCDPS APPROVAL OF THIS PLAN NLL EXPIRE I\YXDEARS FROM THE DATE <I'APPROVAL IF JHI PRD.ECT HAS NOT STARTED.

DPS approval oi a sediment control or 'Nonwater msn0998TII pion is lor cilimanstrsied compliancf1 -ith mimfium environental runoff lreolmeni sloondards and don not creole or aTlply ony right lo c1,1 or cnancentrole runoff onlo any adjacent properly without lhal properly owner's permission. It does nol rlliovll 5tll desil" an9 or olt." r1tsportsRtll ,,-son of prolnsfanal liability or ethical rapansibility for the od occay of the drolnage dn91 Dll II offects uphll or dolmnOl prop.-lln.

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APPROVED
Chief, Division of Tronsp0ttolion Engineering Dote

Desgned By. AL Drawn By. A WW Checked By. TCS

PROPOSED REINFORCING DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : -XX◆X◆XX◆------ SHEET 19 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

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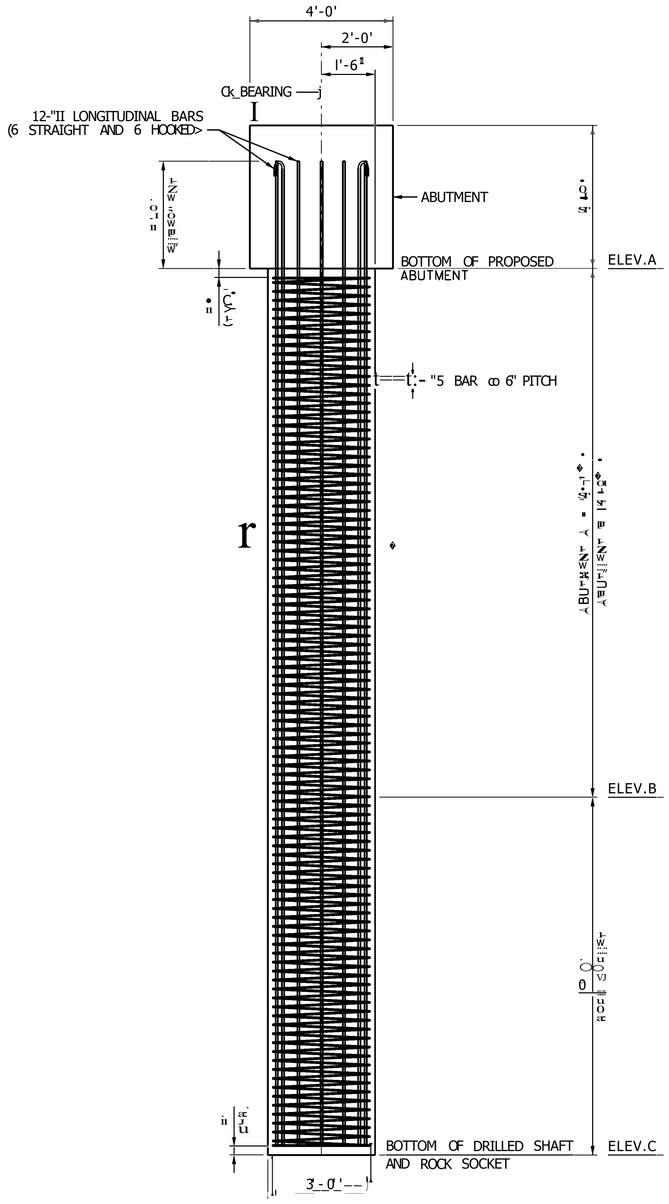
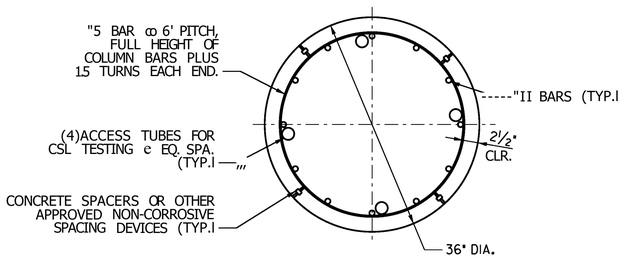
FILE: pBR-RD01_MaMonocacy.dgn

Attachment A Bridge Design Plans



ELEVATION
SCALE: 1/2" = 1'-0"

DRILLED SHAFT DETAIL



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

DRILLED SHAFT INSTALLATION DATA					
SUBSTRUCTURE UNIT	DESIGN DATA			ACTUAL FIELD DATA	
	ELEV.A	ESTIMATED ELEV. B	ESTIMATED ELEV.C	ACTUAL ELEV. B	ACTUAL ELEV.C
ABUT.A	314.61'	300.00'	290.00'		
ABUT.B	314.77'	300.00'	290.00'		

NOTE:
1. THE LONGITUDINAL BARS WILL BE "I I BARS AND WILL NOT BE BUNDLED. THE TRANSVERSE BARS WILL BE "5 BARS SPIRAL SPACED AT 6" PITCH AND WILL NOT BE BUNDLED.

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APPROVED
Chief, Division of TransptOttolion Engineering — Dote

Designed By. ~~AHL~~ Drawn By: AWW Checked By: BSW

DRILLED SHAFT DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : xxxxx SHEET 20 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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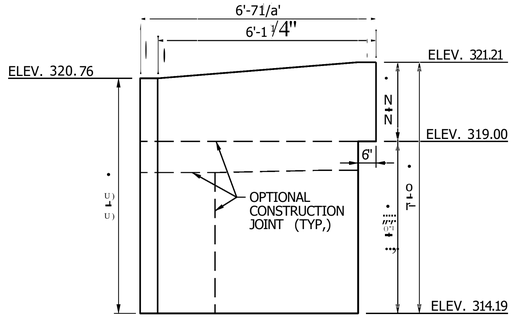
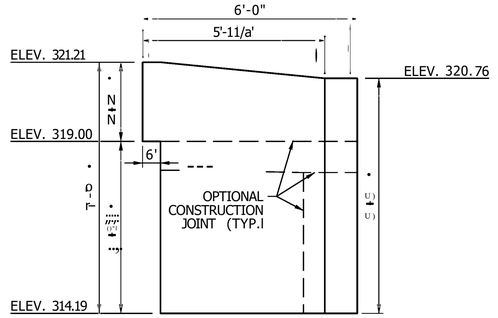


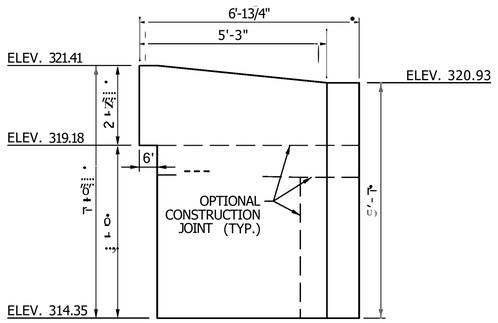
DATUM 310.00

WING WALL I ELEVATION
SCALE: ½'= 1'-0'



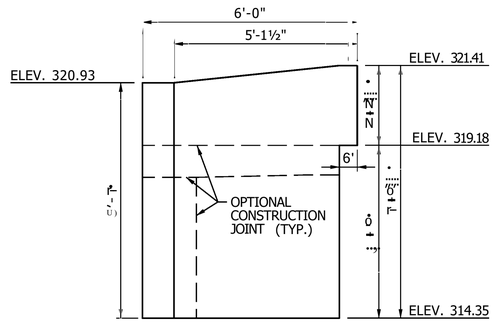
DATUM 310.00

WING WALL II ELEVATION
SCALE: ½'= 1'-0"



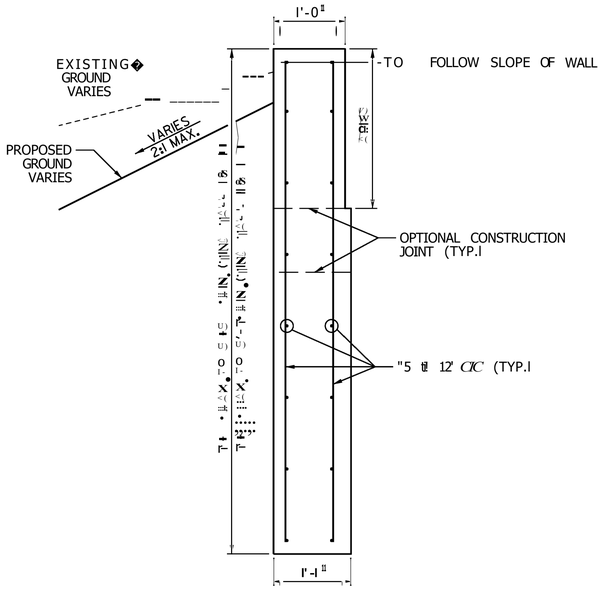
DATUM 310.00

WING WALL III ELEVATION
SCALE: ½"= I'-0'



DATUM 310.00

WING WALL IV ELEVATION
SCALE: ½" = I'-0'



TYPICAL WING WALL REINFORCING
SCALE: I'= 1'-0'

NOTES:
I, WING WALLS POURED MONOLITHIC WITH ABUTMENTS AT ABUTMENT STEM AND BACKWALL. I' EXPANSION MATERIAL ALONG INTERFACE BETWEEN WING WALL AND SUPERSTRUCTRE AT EACH WING WALL.

SCALE: 1/2" 1'-0"

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GAITHERSBURG, MARYLAND

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Chief. Design Section — Dote

APPROVED

Chief, Division of Transp0ttolion Engineering — Dote

Designed By. AL Drawn By: AWN Checked By: BSW

PROPOSED WING WALL DETAILS

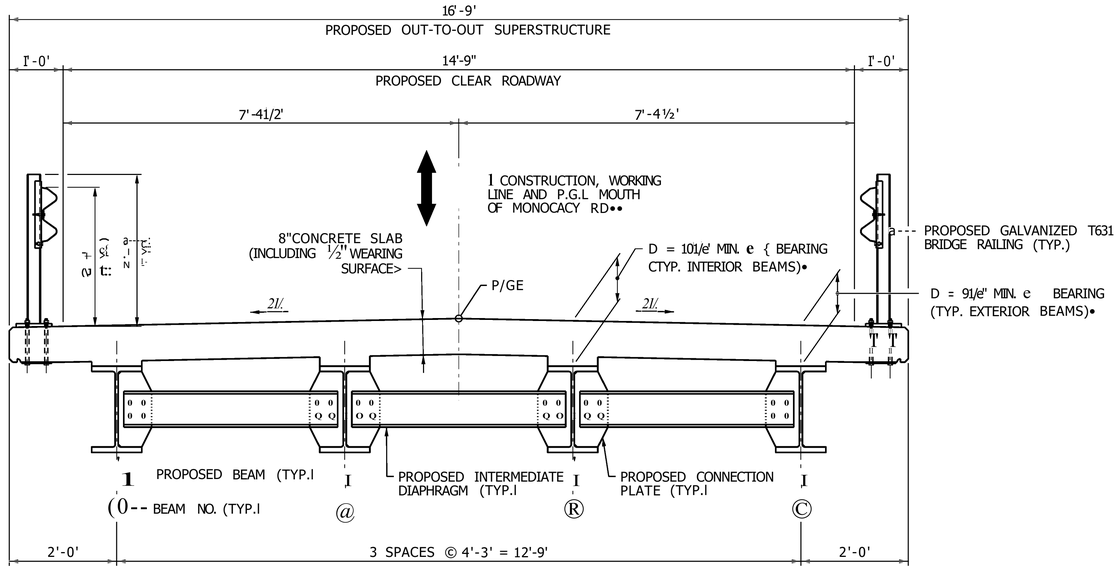
REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

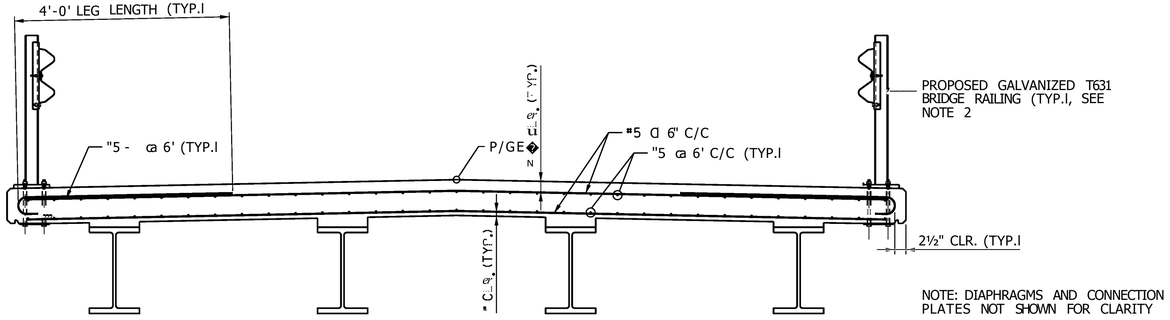
Project No. :-XX◆X◆XX◆------ SHEET 21 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 1151 /Wi
FILE: N:\2017\20171102.00 BCS 2014-21E SHA Hwy Str Eng Services\Task 04 Mouth of Monocacy Bridge\CADD\pBR-WW01_MoMonacacy.dgn



TYPICAL SECTION
SCALE: ¾ = 1'-0'



TYPICAL DECK REINFORCEMENT
SCALE: ¾ = 1'-0'

ROUNDED DRIP GROOVE DETAIL
SCALE: 3' = 1'-0'

NOJES:
1. SECTION SHOWN LOOKING STATIONS AHEAD.
2. BROWN POLYESTER COATING WILL BE APPLIED <SPECIFICATIONS TBDI.

- 'D'IS MEASURED FROM TOP OF PROPOSED CONCRETE DECK TO TOP OF BEAM AT THE CENTERLINE OF BEARING AND CENTERLINE OF BEAM AT ABUTMENT.
- •• BASELINE CONSTRUCTION IS APPROX. 1'-0" OFFSET FROM CENTERLINE ROADWAY AT ABUTMENT A. THIS EQUATES TO A 1/4' DIFFERENCE IN ELEVATION. CROWN OF BRIDGE SHOULD BE MAINTAINED ALONG { BRIDGE. ROADWAY APPROACH PAVEMENT SHOULD BE TAPERED ACCORDINGLY.

2' 0 2' 4'
SCALE: 3/."=I'-O'

4' 0 4' 8'
SCALE: 3"=1'-0"

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Chief. Design Section — Dote
APPROVED
Chief, Division of Transp0ttolion Engineering — Dote

Designed By. _A_L_ Drawn By: __AWN__ Checked By: __BSW__

SUPERSTRUCTURE
TYPICAL SECTION

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. :-XX X XX ------ SHEET 22 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

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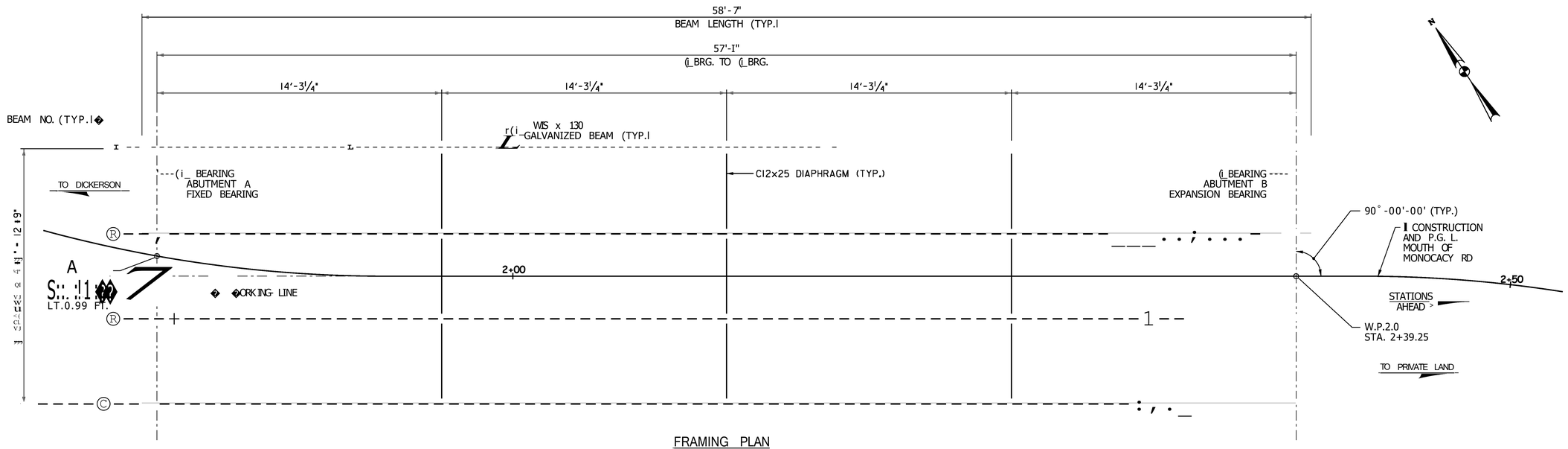
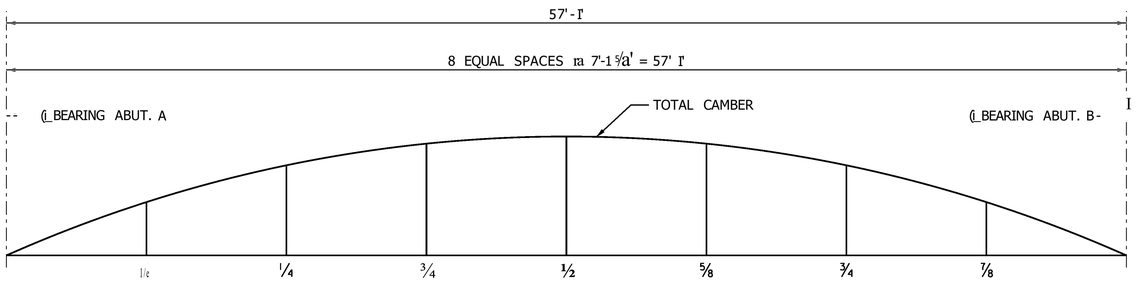
FILE: pBR-TP01_MoMonocacy.dgn



FRAMING PLAN
SCALE: ¾" = 1'-0'

CAMBER / DEFLECTION NOTES:

1. A POSITIVE ORDINATE INDICATES A DOWNWARD DEFLECTION OR UPWARD REQUIRED CAMBER.
2. L>STEEL: DENOTES DEFLECTION DUE TO STRUCTURAL STEEL ONLY.
3. L>CONCRETE & FORM: DENOTES DEFLECTION DUE TO CONCRETE DECK INCLUDING ½" INTEGRAL WEARING SURFACE, AND 15 P.S.F. FOR STAY-IN-PLACE FORMS.
4. L>BRIDGE RAILING: DENOTES DEFLECTION DUE TO BRIDGE RAILING.
5. L>TOTAL DEFLECTION: DENOTES DEFLECTION DUE TO TOTAL DEAD LOADS, SUMMATION OF L>STEEL + L>CONCRETE & FORM + L>BRIDGE RAILING.
6. L>V.C.O.: DENOTES CAMBER DUE TO VERTICAL CURVE ORDINATE CORRECTION.
7. L>CAMBER: DENOTES TOTAL REQUIRED CAMBER FOR THE BEAM, SUMMATION OF L>TOTAL DEFLECTION + L>V.C.O.
8. ALL BEAMS SHALL BE CAMBERED FOR DEAD LOAD DEFLECTION AND VERTICAL CURVE ORDINATES TO THE DIMENSIONS SHOWN ON THESE PLANS. THE CAMBER TOLERANCE IS NOTHING UNDER TO ¾' OVER.



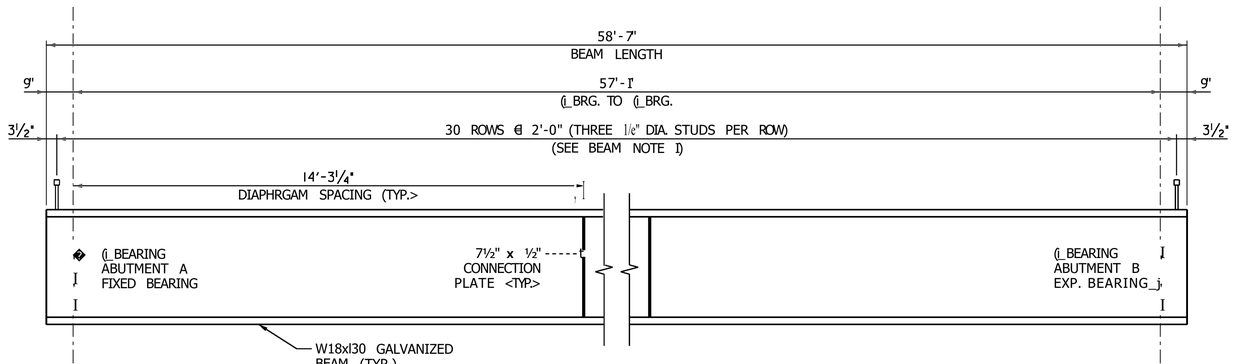
SCHEMATIC CAMBER /DEFLECTION DIAGRAM
NOT TO SCALE

CAMBER / DEFLECTION SCHEDULE (INCHES)

		SPAN 1								
		1 BRG. ABUT A	1/8	1/4	3/4	1/2	5/8	3/4	1/8	1 BRG. ABUT B
W35x130	L>STEEL	0	0.184	0.338	0.440	0.479	0.440	0.338	0.184	0
	L>CONCRETE & FORM	0	0.583	1.069	1.394	1.520	1.394	1.069	0.583	0
	L>BRIDGE RAILING	0	0.011	0.021	0.027	0.029	0.027	0.021	0.011	0
	L>TOTAL DEFLECTION	0	0.777	1.427	1.861	2.028	1.861	1.427	0.777	0
	L>V.C.O.	0	0.764	1.343	1.608	1.525	1.181	0.788	0.394	0
	L>CAMBER	0	1.541	2.770	3.469	3.553	3.042	2.214	1.171	0
W18x130	L>STEEL	0	0.184	0.338	0.440	0.479	0.440	0.338	0.184	0
	L>CONCRETE & FORM	0	0.655	1.200	1.565	1.706	1.565	1.200	0.655	0
	L>BRIDGE RAILING	0	0.004	0.007	0.009	0.010	0.009	0.007	0.004	0
	L>TOTAL DEFLECTION	0	0.842	1.545	2.013	2.195	2.013	1.545	0.842	0
	L>V.C.O.	0	0.764	1.343	1.608	1.525	1.181	0.788	0.394	0
	L>CAMBER	0	1.606	2.888	3.621	3.720	3.194	2.332	1.236	0

BEAM NOTES:

1. FOR STEEL STUD SHEAR DEVELOPER DETAILS, SEE MOOT SHA STD. NO. SUP-SS(GENI-101. THE TOTAL ESTIMATED NUMBER OF STEEL STUD DEVELOPERS IS 90 PER BEAM AND 360 FOR THE BRIDGE.
2. FOR INTERMEDIATE DIAPHRAGM DETAILS, SEE MOOT SHA STD. SUP-SS(CFJ-101. INTERMEDIATE DIAPHRAGMS WILL BE SPACED AS SHOWN ON THE FRAMING PLAN, THIS SHEET.



BEAM ELEVATION
SCALE: HOR. ½" = 1'-0"
VERT. 1"= 1'-0"

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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By. AL Drawn By. AWW Checked By. TCS

FRAMING PLAN AND BEAM DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : =XX=XX=X ----- SHEET 23 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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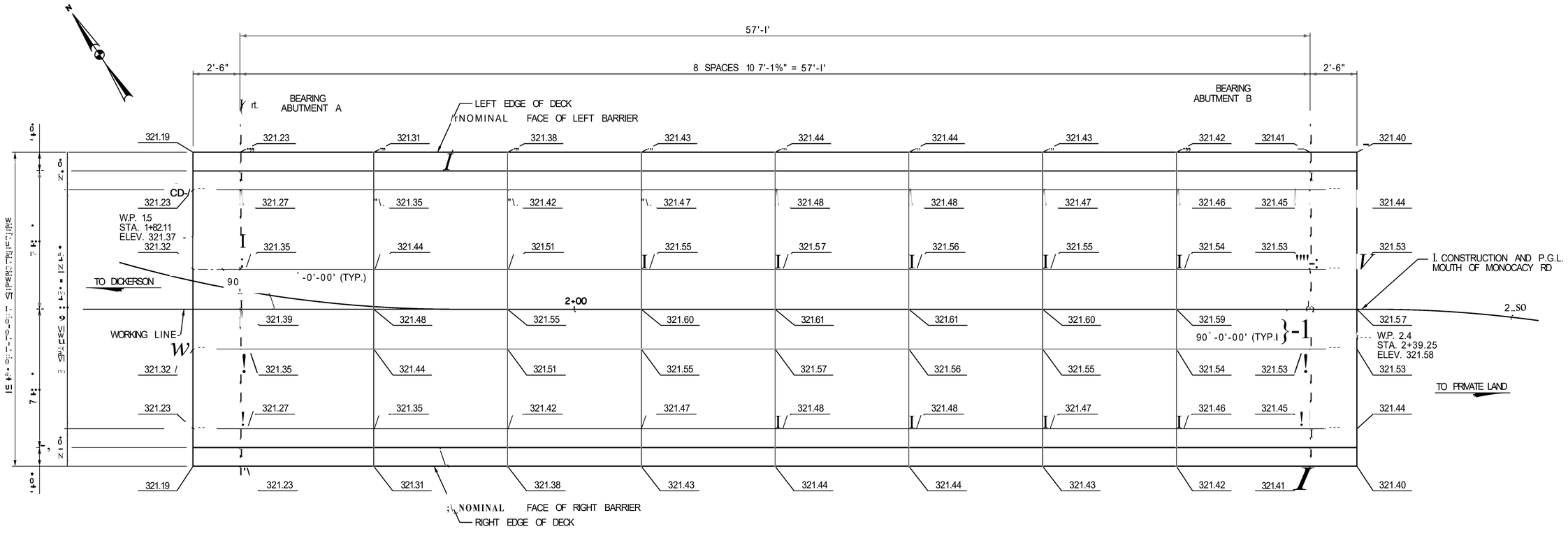
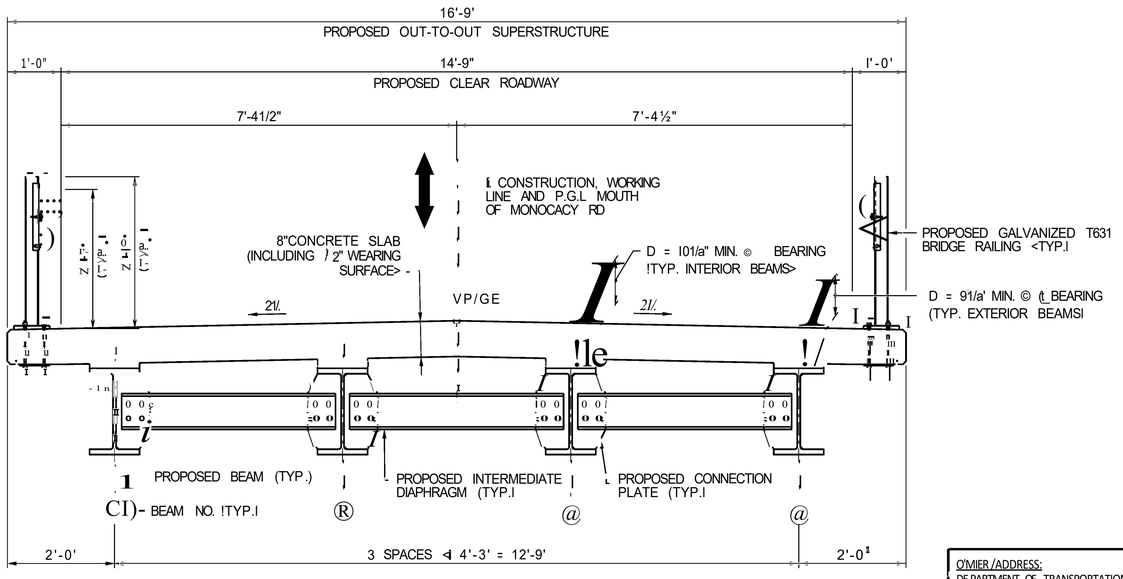


FINISHED ROADWAY ELEVATIONS

SCALE: 3/8" = 1'-0"



TYPICAL SECTION

SCALE:¾ = 1'-0'

NOTES:

1. FINISHED ROADWAY ELEVATIONS SHOWN ARE TOP OF PROPOSED CONCRETE DECK.
2. THE CROWN OF THE ROADWAY ON THE BRIDGE IS AT THE WORKING LINE, NOT THE BASELINE.
3. FOR VERTICAL CURVE DATA, SEE SHEET 5.

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Chief, Division of Transp0tlolion Engineering — Dote

Des;gned By. A.L. Drawn By. A.W.W. Checked By. TCS

FINISHED ROADWAY ELEVATIONS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. :-XX X XX ------ SHEET 23 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

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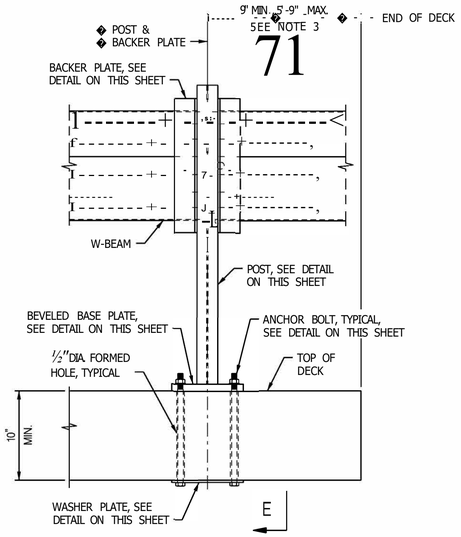
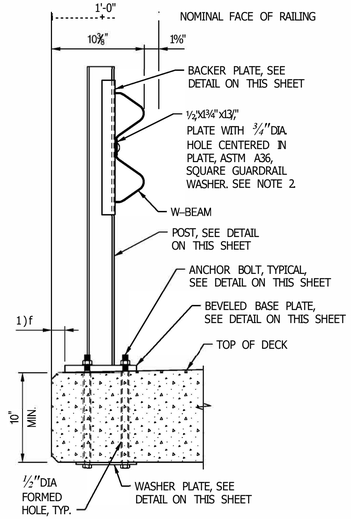


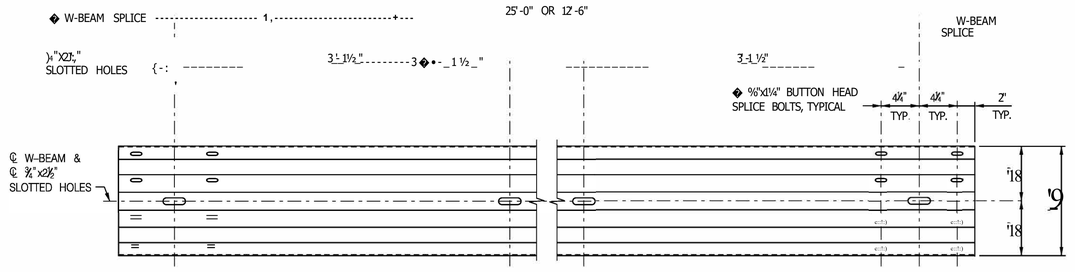
ELEVATION



SECTION E-E

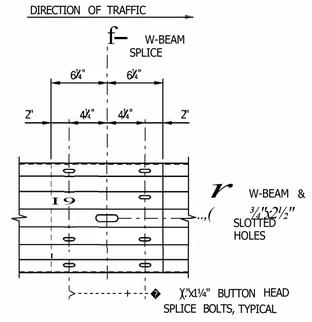
TYPICAL BRIDGE RAIL DETAILS

SCALE: 1½" = 1'-0"



TYPICAL W-BEAM ELEVATION

SCALE: 1½" = 1'-0"

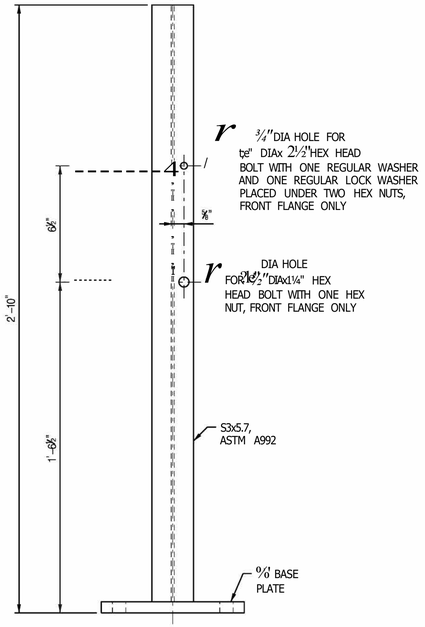


TYPICAL W-BEAM SPLICE ELEVATION

SCALE: 1½" = 1'-0"

TEXAS T-631 GENERAL NOTES:

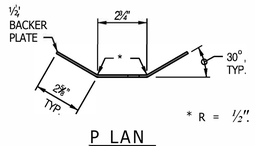
1. FACE OF RAIL POST MUST BE PLUMB UNLESS OTHERWISE APPROVED BY THE ENGINEER. POST MUST BE PERPENDICULAR TO ADJACENT ROADWAY GRADE. USE EPOXY MORTAR UNDER POST BASE PLATES IF GAPS LARGER THAN lie" EXIST.
2. TIGHTEN THE FIRST HEX NUT BY HAND UNTIL THE TOP AND BOTTOM EDGES OF THE W-BEAM ENGAGE THE BACKER PLATE (BACKER PLATE SHOULD BE SNUG AGAINST THE POST). THEN TIGHTEN HEX NUT ONE REVOLUTION WITH WRENCH AND SECURE WITH THE SECOND HEX NUT.
3. THE POST NEAREST TO A SLAB JOINT OR END OF STRUCTURE MAY BE SHIFTED UP TO 9" IN ORDER TO SATISFY THE MINIMUM OFFSET DIMENSION. DRILL A NEW 3" DIA HOLE ON THE CENTERLINE OF W-BEAM FOR SHIFTED POST. PAINT HOLE WITH TWO COATS OF ZINC-RICH PAINT. ALL OTHER POSTS MUST REMAIN ON THE TYPICAL SPACING.
4. CONTRACTOR MUST SUBMIT ERECTION DRAWINGS TO THE ENGINEER FOR APPROVAL.
5. CHAMFER EXPOSED EDGES OF RAIL POST AND BACKER PLATE TO APPROXIMATELY lie" BY GRINDING.
6. ANCHOR BOLTS FOR BASE PLATE MUST BE ⅝" DIA ASTM F3125 GRADE A325 BOLTS WITH ONE HARDENED STEEL WASHER (ASTM F436) AND ONE REGULAR LOCK WASHER PLACED UNDER EACH HEAVY HEX NUT. NUTS MUST CONFORM TO ASTM A563 REQUIREMENTS.
7. HEX HEAD BOLTS SHALL BE ASTM A307, WASHERS AND NUTS SHALL BE ASTM A563 UNLESS OTHERWISE NOTED.
8. BASE PLATE SHALL BE BEVELED TO MATCH DECK SLOPE.
9. W-BEAM SHALL CONFORM TO AASHTO M180.
10. THE BRIDGE RAIL INCLUDING ALL OF ITS METAL (STEEL) COMPONENTS SHALL BE COATED USING THE FUSION BONDED POLYESTER COATING SYSTEM, COLOR BROWN, COLOR NUMBER 20040 AS SPECIFIED IN SECTION 465 OF THE STANDARD SPECIFICATIONS.
11. THIS RAILING HAS BEEN SUCCESSFULLY EVALUATED BY FULL-SCALE CRASH TESTS TO MEET MASH TL-3 CRITERIA THIS RAILING CAN BE USED FOR SPEEDS OF 50 MPH OR GREATER.
12. GALVANIZE ALL STEEL COMPONENTS.
13. AVERAGE WEIGHT OF RAILING WITH NO OVERLAY: 20 plfTOTAL.



ELEVATION

TYPICAL POST DETAIL

SCALE: 3" = 1'-0"



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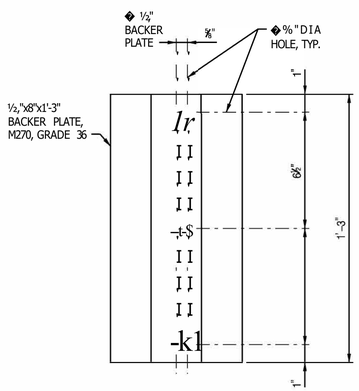
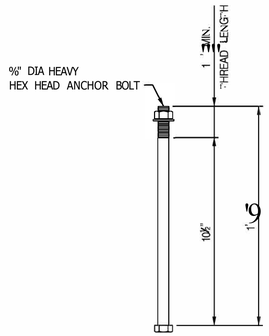


ELEVATION

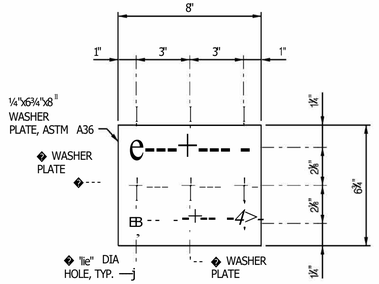
BACKER PLATE DETAILS

SCALE: 3" = 1'-0"



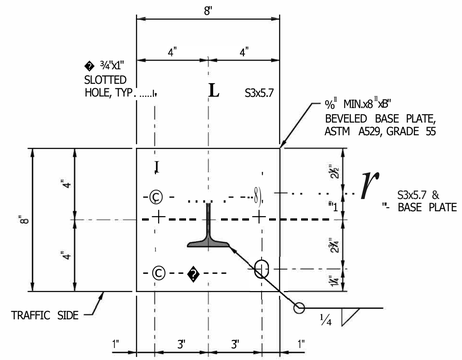
ANCHOR BOLT DETAIL

SCALE: 3" = 1'-0"



WASHER PLATE DETAIL

SCALE: 3" = 1'-0"



BEVELED BASE PATE DETAIL

SCALE: 3" = 1'-0"

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwoter Monogement: Reviewed Dote / Approved Date 285831 SUBJECT

Sediment Control Technicol Requirements: Reviewed Dote / Approved Date

Administrative Requirements: Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS APPROVAL OF THIS PLAN NLL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PRD.ECT HAS NOT STARTED.

fIQIE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.

DPS approval oi o sediment control or 'Ilormwater man099ffllll plan hi lor cillmansirated camplkancr11 •1lh minffium environmental runofl br110lment stondards oncl dalill nal create or ffiply ony right to ct .t or cnancentrole runoff anlo any od,lacent properly withoul that property owner's permissian. Il does nol rllillVll 9ft desi9". an9 or olt." r1Sportldt11 ...son of profnsfanal liability or 11Bkal rapansibilty lor 9ft od ocey of the dralnage CI'DT m lt offects uphil or dolnnOI prapstlo.

SEAL:

GPI — Engineering Design Planning Construction Management — www.gpinet.com

Greenman-Pedersen, Inc. 10440 Little Patuxent Parkway, Suite 900 Columbia, MD 21044 Tel: 410.880.3055

OMIER /ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND

CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240-777-7210 TRANSPORTATION PLANNING & DESIGN 240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Dote

APPROVED

Chief, Division of Tronsp0tlolion Engineering — Dote

Desgned By. AL Drawn By. AWW Checked By. TCS

RAILING DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ~xxxxx_____ SHEET 25 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 1151 /Wi
FILE: pBR-S502_McMonocacy.dgn

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 5 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. SB-1 Station _____ Bil _____

N: 565926.641 E: 1195214.83 Relocated? D

Surface Elevation 320.4 Boring By E2CR, Inc.

Date Started 2i16i21 Date Completed 2i16i21

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1i4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 13.6 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (fl)	Depth (ft)	Elev (fl)		
I		I	t		
▽		↵1			

DEPTH IN FEET	ELEV. IN FEET	J K ::	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOW151 ROD	SPOON DEPTH	RECOVERY	REMARKS
n.s	ooo.o		Asphalt Debris					
3.0	317.00		Moist, loose, reddish brown, orange, gray, Silty SAND, trace Gravel and Organics (SM) (FILL)	S-1	2-3-3	1.0-2.5	100.0%	
5.5	314.50		Moist, medium stiff, greenish gray, olive brown, Sandy SILT, trace Organics and Gravel (ML) (FILL)	S-2	2-3-3	3.5-5.0	100.0%	
8.0	312.00		Moist, medium stiff, greenish brown, olive brown, Lean CLAY with Sand, trace Organics and Gravel (CL) (FILL)	S-3	2-2-2	6.0-7.5	100.0%	
12.0	308.00		Moist, medium stiff, greenish gray, green, Silty CLAY with Sand (CL-ML) (Residual)	8-4	3-2-4	8.5-10.0	100.0%	LBOTTOM OF ABUT A ELEV. 314.67
13.8	306.17		Moist, very dense, brown, gray, Silty SAND (SM) (Decomposed Rock)	S-5	10-50/1"	13.0-13.6	56.9%	Auger Refusal @ 13.8'
15.1	304.90		Slightly weathered, slightly fractured, hard, gray, SCHIST	R-1	RQD=83%	13.6-15.1	93.6%	h R-2 had i.ieoes of Quartz from 15.8' to 15.9' and 19.9' to 20.1'
20.1	299.90		Moderately to slightly weathered, extremely to slightly fractured, hard, gray, SCHIST	R-2	RQD=42%	15.1-20.1	96.6%	ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00
25.1	294.90		Moderately to slightly weathered, extremely fractured to sound, hard, gray, SCHIST	R-3	RQD=38%	20.1-25.1	98.4%	R-3 had Pieces of Quartz in top 1.0' and bottom 6" of the run
30.1	289.92		Moderately weathered to fresh, extremely fractured to sound, hard, gray, SCHIST	R-4	RQD=62%	25.1-30.1	97.4%	R-4 had 2.5" of Quartz on top R-4 bottom 2' Quartzite SCHIST Tremie grouted upon completion
			BORING TERMINATED AT 30.1'					LBOTTOM OF DRILLED SHAFT ELEV. 290.00

FOUNDATIONS BORING LOG 18539-04.GPJ MOUTH OF MONOCACY RIVER BRIDGE.GPJ SHA_DF_US STD.GDT 3/10/21

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 1 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. SB-2 Station _____ Bil _____

N: 565935.689 E: 1195227.463 Relocated? D

Surface Elevation 321.4 Boring By E2CR, Inc.

Date Started 2i16i21 Date Completed __ 2i16i21 __

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1i4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 18.9 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (fl)	Elev (fl)	Depth (fl)	Elev (fl)		
I'. 7.0	314.0	I|t.		0	
▽		↵1			

DEPTH IN FEET	ELEV. IN FEET	J K ::	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWSJ ROD	SPOON DEPTH	RECOVERY	REMARKS
n"	nnon		5' Asphalt					Boring drilled 5.0' from the stream side of abutment Abutment was 2.0' thick
n.7	000..0		1' Gravel Base					
3.0	318.00		Moist, medium dense, gray, green, poorly graded GRAVEL with Silt and Sand (GP-GM) (FILL)	S-1	6-8-6	1.0-2.5	100.0%	
5.5	315.50		Moist, soft, brown, gray, Sandy Silty CLAY, trace Gravel (CL-ML) (FILL)	S-2	1-2-2	3.5-5.0	66.7%	
12.0	309.00		Moist, very soft, olive brown, greenish gray, Sandy Lean CLAY, trace Gravel (CL) (FILL)	S-3	2-1-1	6.0-7.5	22.0%	BOTTOM OF ABUT A ELEV. 314.67 S-3 first attempt no recovery; second attempt 4" recovery
18.0	303.00		Moist, medium dense, green, olive brown, Silty SAND, trace Gravel and Decomposed Rock (SM) (FILL)	S-4	1-1-1	8.5-10.0	100.0%	
18.9	302.10		Wet, very dense, white, orange, poorly graded GRAVEL with Silt, Sand, and large pieces of Quartz Fragments (GP-GM) BORING TERMINATED AT 18.9'	S-5	4-17-8	13.5-15.0	100.0%	Chattering from 13.0' S-5 the spoon was wet Hard drilling from 18.0' Tremie grouted upon completion
				S-6	50/3"	18.5-♦	100.0%	L ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00 LBOTTOM OF DRILLED SHAFT ELEV. 290.00

FOUNDATIONS BORING LOG 18539-04.GPJ MOUTH OF MONOCACY RIVER BRIDGE.GPJ SHA_DF_US STD.GDT 3/10/21

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 2 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. SB-2A Station _____ Bil _____

N: 565933.655 E: 1195229.814 Relocated? D

Surface Elevation 321.4 Boring By E2CR, Inc.

Date Started 2i16i21 Date Completed __ 2i16i21 __

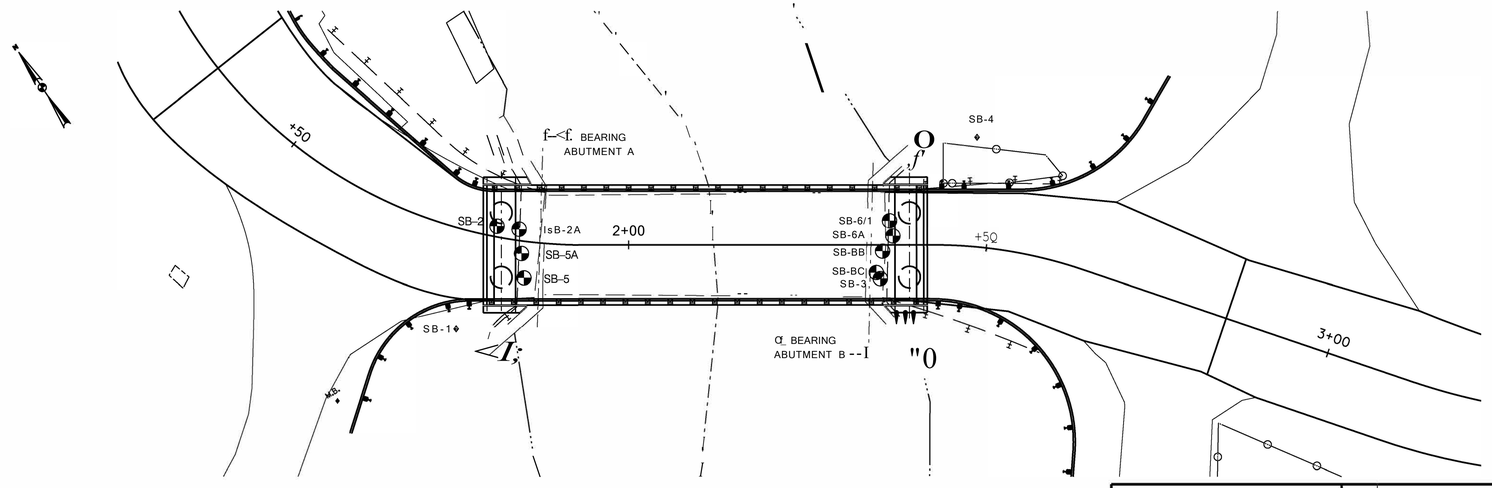
Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1i4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 13.6 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (fl)	Elev (fl)	Depth (fl)	Elev (fl)		
I'.		I	t.		
▽		↵1			

DEPTH IN FEET	ELEV. IN FEET	J K ::	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ ROD	SPOON DEPTH	RECOVERY	REMARKS
			Blank Auger to 13.6'					Boring was drilled 3.0' from stream side of abutment Auger Refusal @ 13.6" on top of the footing
13.6	307.42		Concrete Core 34.0"	R-1	RQD=94%	13.6-16.4	99.6%	LBOTTOM OF ABUT A ELEV. 314.67
16.4	304.58		Soft material drilleded through with Core Barrell	S-1	50/0"	17.5-17.5	00.0%	Used 1" Spoon to obtain S-1 Spoon refusal @ 17.5'
17.5	303.50		Unweathered, slightly fractured to sound, extremely hard, gray, SCHIST	R-2	RQD=94%	17.5-19.5	100.0%	Tremie grouted upon completion
19.5	301.50		BORING TERMINATED AT 19.5'					L ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00 LBOTTOM OF DRILLED SHAFT ELEV. 290.00

FOUNDATIONS BORING LOG 18539-04.GPJ MOUTH OF MONOCACY RIVER BRIDGE.GPJ SHA_DF_US STD.GDT 3/10/21

BORING LOGS
SCALE: 1" = 5'



BORING LOCATION PLAN
SCALE: 1" = 10'

GPI
www.gpinet.com
Engineering I Design I Planning I Construction Management

Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWNER /ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By: MAL Drawn By: MW Checked By: BSW

BORINGS AND DRIVE TESTS - 1

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ♦x♦xx♦x♦x♦------- SHEET 26 OF 40

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
FILE: pBR--BL01_McMonocacy.dgn

SHA 730-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 10 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. S B-5 Station _____ B/L _____

N: 565927.599 E: 1195226.639 Relocated? D

Surface Elevation 321.4 Boring By E2CR, Inc.

Date Started 2/24/21 Date Completed 2/24/21

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 12.3 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		
I -		x			
III		▼			

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
		Blank Auger to 12.5'					Bulk bag obtained 2.0'-8.0'
12.5	308.50						LBOTTOM OF ABUT A ELEV. 314.67
		Concrete Core 44.0"	R-1	RQD=92%	12.5-15.6	98.8%	
16.2	304.83		R-2	RQD=93%	15.6-16.2	100.0%	
		Soft Material (No recovery)	S-1	2-1-1	16.4-17.9	00.0%	S-1 and S-2 were 1" spoons
18.1	302.92		S-2	5.0.2"	17.9-J 11 J	00.0%	Bedrock @ 18.1' Tremie grouted upon oompletion
		BORING TERMINATED AT 18.1'					ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00
							LBOTTOM OF DRILLED SHAFT ELEV 290.00

SHA 730-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 11 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. SB-5A Station _____ B/L _____

N: 565930.627 E: 1195228.227 Relocated? D

Surface Elevation 321.4 Boring By E2CR, Inc.

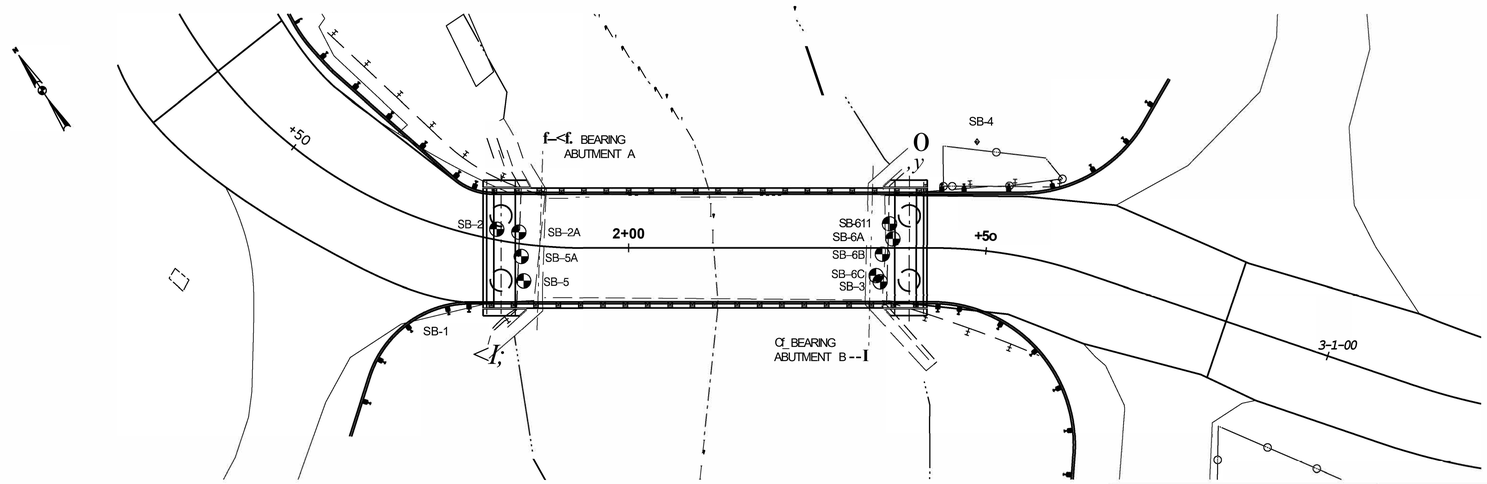
Date Started 2/24/21 Date Completed 2/24/21

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 13.2 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		
II		x			
IV		▼			

DEPTH IN FEET	ELEV. IN FEET	MAT'L	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
			Blank Auger to 13.4'					
13.4	307.58							LBOTTOM OF ABUT A ELEV. 314.67
			Concrete Core 32.0"	R-1	RQD=92%	13.4-15.3	100.0%	
16.1	304.92			R-2	RQD=94%	15.3-16.1	94.7%	
			Wet, very loose, orange brown, reddish brown, Silty SAND with Gravel (SM)	S-1	1-2-50/5.5"	16.3-17.8	22.0%	Tremie grouted upon completion
18.2	302.83		Bedrock @ 18.2'					
			Slightly weathered to fresh, slightly fractured to sound.	R-3	RQD=91%	18.2-20.5	94.8%	
20.5	300.50		BORING TERMINATED AT 20.5'					ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00
								BOTTOM OF DRILLED SHAFT ELEV 290.00

BORING LOGS
SCALE: 1" = 5'



BORING LOCATION PLAN
SCALE: 1" = 10'

GPI
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www.gpinet.com
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWNER/ADDRESS:
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed By: AL Drawn By: AWW Checked By: BSW

BORINGS AND DRIVE TESTS - 2

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 27 OF 40

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
FILE: pBR-BL02_MoMonocacy.dgn

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 3 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ___=S=B--3-- Station ---------- B/L

N: 565900.094 E: 1195268.225 Relocated? D

Surface Elevation 321.5 Boring By E2CR, Inc.

Date Started -2/16/21 Date Completed -2/1=6=/21 __

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 22.1 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		
I'.		It.			
./.					

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
0.4	320.60	5" Asphalt					
no	320.25	4" Gravel Base	S-1	6-5-4	1.0-2.5	100.0%	
3.0	318.00	Moist, loose, orange, yellow, reddish brown, Silty SAND with Gravel, trace Asphalt debris (SM) (FILL)	S-2	3-2-2	3.5-5.0	100.0%	
6.5	314.50	Moist, soft, red, reddish brown, Sandy Silty CLAY, trace Gravel (CL-ML) (FILL)	S-3	2-1-1	6.0-7.5	28.0%	Spoon wet @ 6.5'
		Wet, very loose, gray, grayish brown, greenish gray, Silty SAND (SM) (FILL)	S-4	1-1-1	8.5-10.0	33.3%	
13.1	307.92	Pieces of Gravel					Cobbles and large pieces of Gravel from 12.0'
		Concrete core 26.0"	R-1	RQD=24%	13.1-15.7	90.0%	Auger refusal @ 13.1' due to the abutment
15.7	305.33	Moist, very dense, olive brown, green, Silty Clayey SAND (SC-SM) (Decomposed Rock)	S-5	21-34-33	16.0-17.5	100.0%	S-5 and S-6 used 1" Spoon
19.5	301.50		S-6	40-50/5"	18.5-19.4	91.3%	Auger refusal @ 19.5' in bedrock
22.2	298.83	Slightly weathered, moderately to slightly fractured, hard, gray, green, SCHIST	R-2	RQD=66%	19.5-22.2	93.6%	Tremie grouted upon completion
		BORING TERMINATED AT 22.2'					ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00

BOTTOM OF ABUT B ELEV. 314.78

BOTTOM OF DRILLED SHAFT ELEV. 290.00

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 4 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ___=S=B--4-- Station ---------- B/L

N: 565909.096 E: 1195291.089 Relocated? D

Surface Elevation 320.3 Boring By E2CR, Inc.

Date Started -2/16/21 Date Completed -2/1=6=/21 __

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 17.5 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		
I'.		III.			
\:.					

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
n.a	320.60	5" Topsoil and Rootmat					Bulk Bag 1.0'-6.0'
3.0	317.00	Moist, loose, dark gray, dark brown, Silty SAND, trace Roots, Organics and Gravel (SM) (FILL)	S-1	2-4-4	1.0-2.5	100.0%	
5.5	314.50	Moist, medium stiff, orange, yellowish brown, gray, Sandy SILT, trace Gravel (ML) (FILL)	S-2	2-3-2	3.5-5.0	22.0%	
8.0	312.00	Moist, very loose, yellow, orange brown, Silty SAND (SM) (FILL)	S_3	2-1-1	6.0-7.5	44.7%	S-3 tip of spoon was wet
12.0	308.00	Wet, soft, green, greenish gray, Sandy SILT, trace Gravel and Organics (ML) (possible FILL)	S-4	WOH-1-2	8.5-10.0	100.0%	
17.6	302.40	Moist, very dense, green, olive brown, Silty SAND (SM) (Decomposed Rock)	S-5	7-36-50/1"	13.5-14.6	77.8%	Hard drilling from 14.5'
20.5	299.50	Slightly weathered, slightly fractured, hard, gray, SCHIST	R-1	RQD=37%	17.6-20.5	98.6%	Auger Refusal @ 17.5'
25.5	294.50	Slightly weathered to fresh, slightly fractured to sound, hard, gray, SCHIST	R-2	RQD=95%	20.5-25.5	99.2%	R-1 had 3" of gravel on top from 17.6'-17.8'
30.5	289.50	Slightly weathered to fresh, moderately fractured to sound, hard, gray, SCHIST	R-3	RQD=83%	25.5-30.5	98.4%	
		BORING TERMINATED AT 30.5'					Tremie grouted upon Completion

BOTTOM OF ABUT B ELEV. 314.78

ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00

BOTTOM OF DRILLED SHAFT ELEV. 290.00

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 6 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ___=S=B--6-- Station ---------- B/L

N: 565906.139 E: 1195273.762 Relocated? D

Surface Elevation 321.5 Boring By E2CR, Inc.

Date Started -2/23/21 Date Completed -2/=2=3/=2 1_

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 18.5 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		
I'.		III.			
I:.					

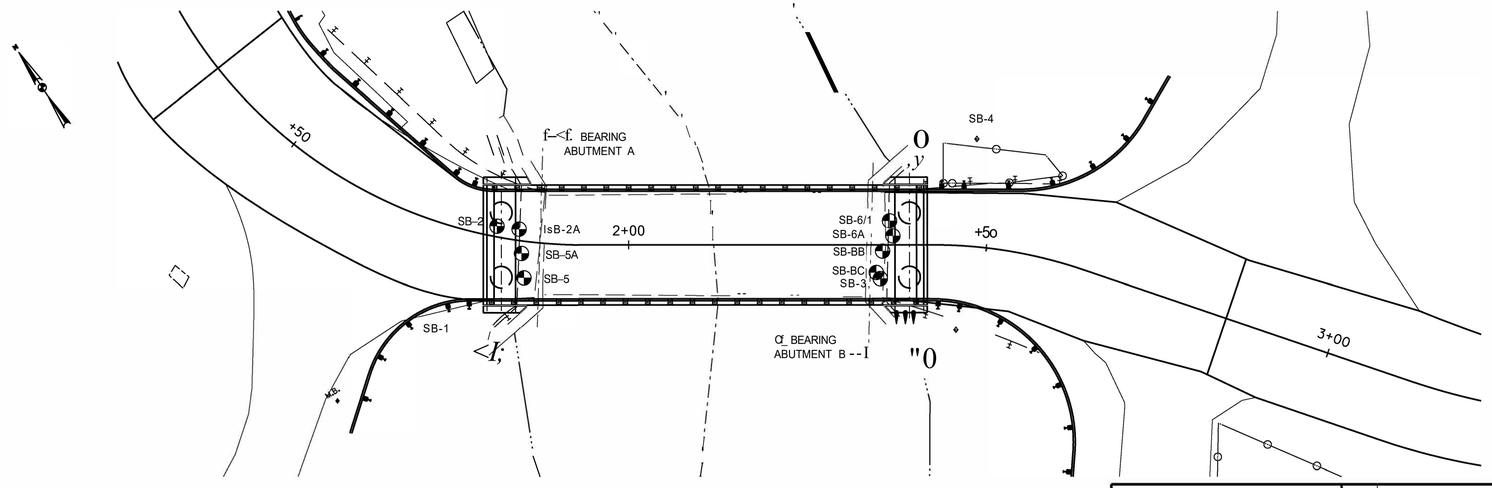
DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
		Blank Auger to 18.5'					Bulk bag obtained 3.0'-8.0'
18.5	302.50	BORING TERMINATED AT 18.5'					The footing was not encountered so the boring was abandoned and an offset performed.
							Tremie grouted upon completion

BOTTOM OF ABUT B ELEV. 314.78

ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00

BOTTOM OF DRILLED SHAFT ELEV 290.00

BORING LOGS
SCALE: 1" = 5'



BORING LOCATION PLAN
SCALE: 1" = 10'

GPI
Engineering IDesign IPlanning IConstruction Management
www.gpinet.com

Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWNER/ADDRESS:
UEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section Dote

APPROVED

Chief, Division of Transportation Engineering Dote

Designed By: AL __ Drawn By: AWW Checked By: RSW

BORINGS AND DRIVE TESTS - 3

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : x xx x x ------- SHEET 28 OF 40

IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
FILE: pBR--BL03_MoMonocacy.dgn

FOUNDATIONS BORING LOG 18539-04 GPI MOUTH OF MONOCACY RIVER BRIDGE.GPJ SHA_DF_US_STD.GDT 3/10/21

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 7 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ____ S=B - 6 A __ Station ---------- B/L

N: 565904.119 E: 1195272.965 Relocated? D

Surface Elevation 321.5 Boring By E2CR, Inc.

Date Started - =2/23/21 Date Completed - 2/=2=3=/2 1_

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 1.3 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
13	319.70	Blank Auger to 1.3' BORING TERMINATED AT 1.3					The top of abutment was encountered and the boring was abandoned; An offset will be performed. Patched upon completion BOTTOM OF ABUT B ELEV. 314.78 ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00 BOTTOM OF DRILLED SHAFT ELEV. 290.00

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 8 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ____ S=B-6=B ____ Station ---------- B/L

N: 565903.118 E: 1195270.6 Relocated? D

Surface Elevation 321.6 Boring By E2CR, Inc.

Date Started - =2/23/21 Date Completed - 2/=2=3=/2 1_

Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 18 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
18.0	303.00 302.42	Blank Auger to 18.0' Moist, very dense, gray, greenish gray, Silty SAND (SM) (decomposed Rock) BORING TERMINATED AT 18.6'					BOTTOM OF ABUT B ELEV. 314.78 The footing was not encountered so the boring was abandoned and an offset performed. Tremie groutea upon completion ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00 BOTTOM OF DRILLED SHAFT ELEV. 290.00

SHA 73.0-46

MARYLAND STATE HIGHWAY ADMINISTRATION
BORING LOG

Boring and Sampling Conforms to AASHTO:

Sheet 1 of 1
Boring 9 of 11

Contract No. 18539-04 Project Description Mouth of Monocacy River Bridge

Boring No. ____ S=B - 6C -- Station ---------- B/L

N: 565901.105 E: 1195268.23 Relocated? D

Surface Elevation 321.5 Boring By E2CR, Inc.

Date Started - =2/23/21 Date Completed - 2/=2=3=/2 1_

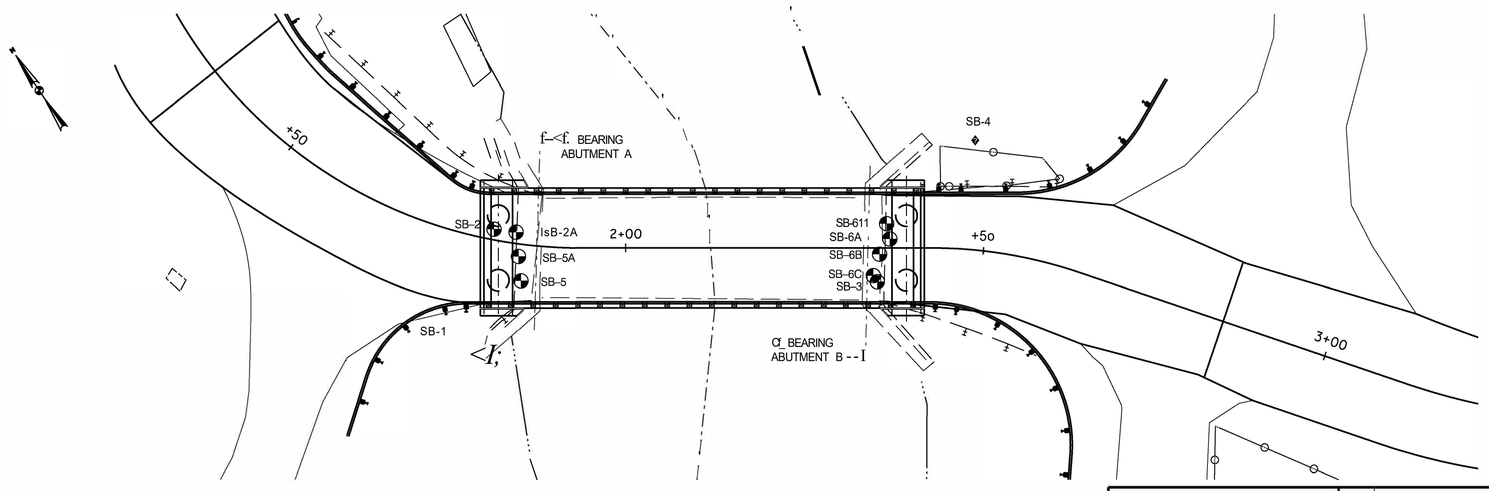
Driller S. Lyons
Rig Type CME-75
Rig No. 1FVACWDC76HV64925
Drive Hammer 30 LB
Casing Auger Size 3 1/4 IN
Size of Core 2 IN
Size of Bit OD 3 IN
Core Barrel Type NQ-2
Auger Depth 13.3 FT

WATER TABLE		CAVE-IN		Time (hours)	Date
Depth (ft)	Elev (ft)	Depth (ft)	Elev (ft)		

DEPTH IN FEET	ELEV. IN FEET	MATERIAL DESCRIPTION	SPOON SAMPLE NO.	SPOON BLOWS/ RQD	SPOON DEPTH	RECOVERY	REMARKS
13.3	307.70	Blank Auger to 13.3'					BOTTOM OF ABUT B ELEV. 314.78 ANTICIPATED TOP OF NON-SCOURABLE ROCK ELEV. 300.00
15.2	305.83	Concrete Core 22.0"	R1	RQD=95%	13.3-15.2	100.0%	
20.2	300.83	Highly weathered, extremely to moderately fractured, moderately hard, brown, black, gray, green, SCHIST	R2	RQD=7%	15.2-20.2	42.5%	
		BORING TERMINATED AT 20.2'					Tremie grouted upon completion BOTTOM OF DRILLED SHAFT ELEV. 290.00

FOUNDATIONS BORING LOG 18539-04 GPI MOUTH OF MONOCACY RIVER BRIDGE.GPJ SHA_DF_US_STD.GDT 3/10/21

BORING LOGS
SCALE: 1" = 5'



BORING LOCATION PLAN
SCALE: 1" = 10'

GPI
www.gpinet.com
Engineering I Design I Planning I Construction Management
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
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CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOijjENDED FOR APPROVAL
Chief. Design Section Dote
APPROVED
Chief. Division of Transportation Engineering Dote

Designed By: ***** Drown By: AWW Checked By: BSW

BORINGS AND DRIVE TESTS - 4

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

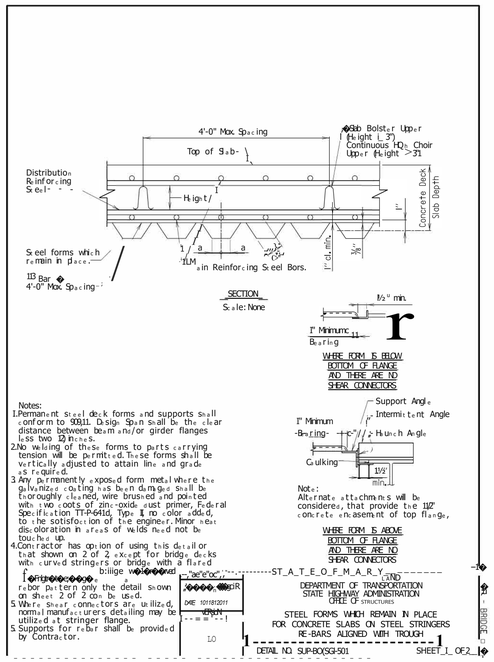
SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : ********** SHEET 29 OF 40

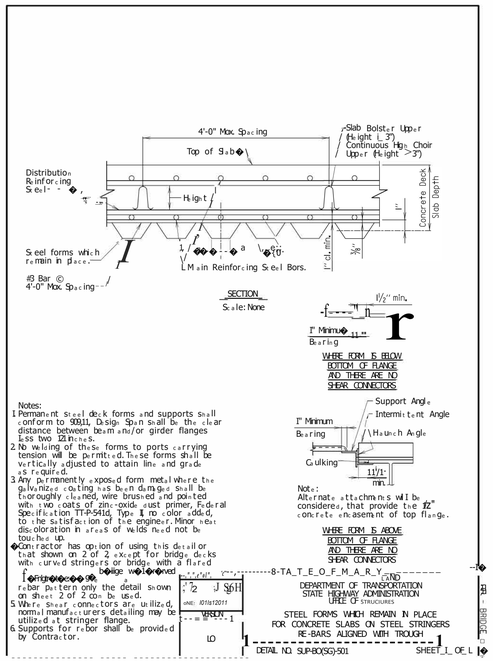
IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
FILE: pBR-BL04_MoMonocacy.dgn

Attachment A Bridge Design Plans



Notes:
1. Permanent steel deck forms and supports shall conform to 903.11. Design Span shall be the clear distance between beam ends or girder flanges less two 12 inches.
2. No welding of these forms to parts carrying tension will be permitted. These forms shall be vertically adjusted to attain line and grade as required.
3. Any permanently exposed form metal where the galvanized coating has been damaged shall be thoroughly cleaned, wire brushed and painted with two coats of zinc-oxide rust primer, Federal Specification TT-P-641d, Type II, no color added, to the satisfaction of the engineer. Minor heat discoloration in areas of welds need not be touched up.
4. Contractor has option of using this detail or that shown on 2 of 2 except for bridge decks with curved stringers or bridge with a flared bridge width.
5. Where shear connectors are utilized, rebar pattern only the detail shown on sheet 2 of 2 can be used.
6. Where shear connectors are utilized, normal manufacturers detailing may be utilized at stringer flange.
7. Supports for rebar shall be provided by Contractor.



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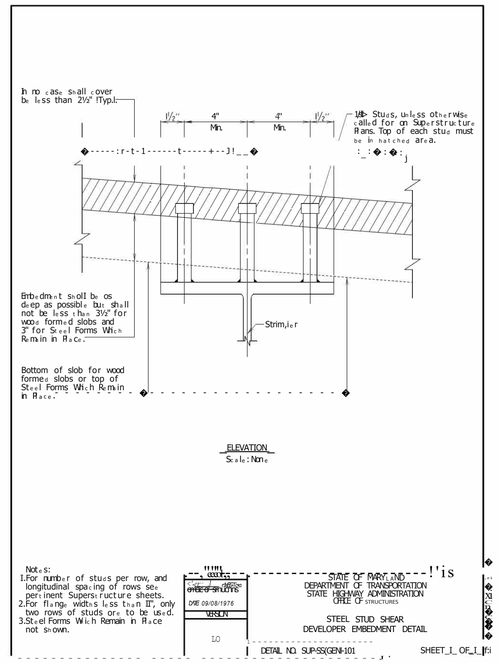
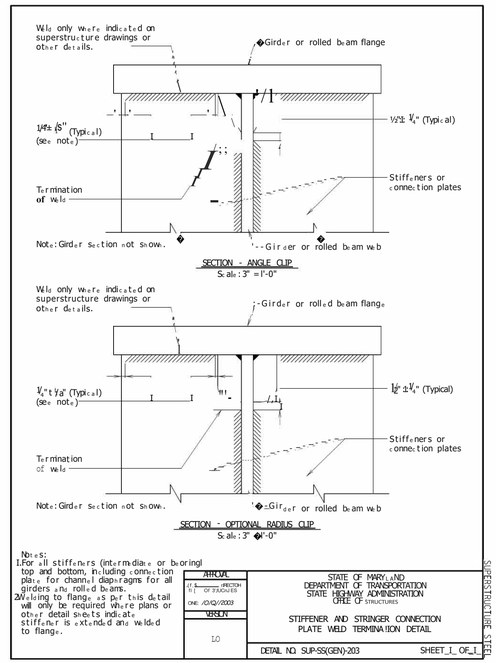
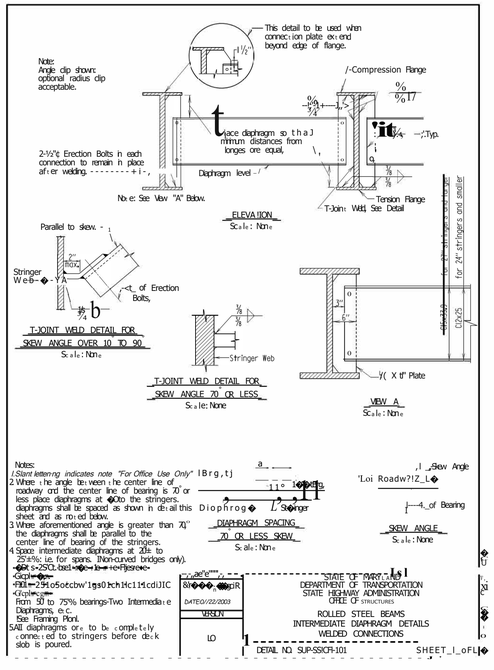


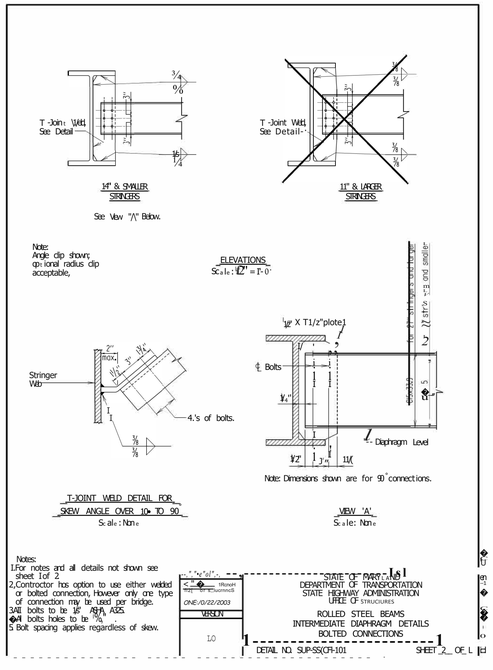
Notes:
1. For number of studs per row, and longitudinal spacing of rows see pertinent Superstructure sheets.
2. For flange widths less than 11", only two rows of studs are to be used.
3. Steel Forms Which Remain in Place not shown.



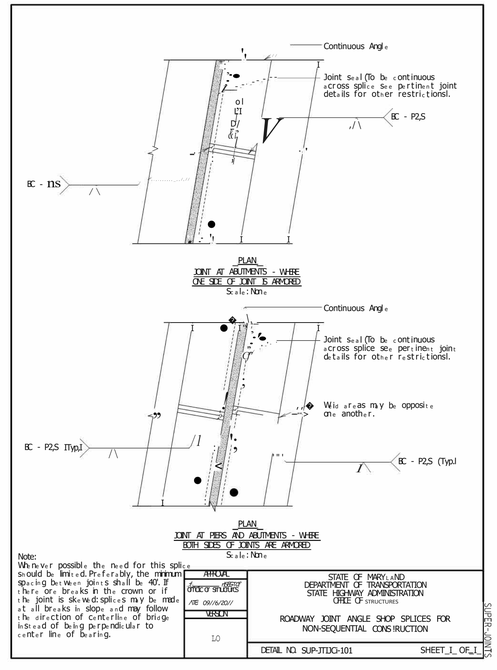
Notes:
1. For all stiffeners (intermediate or bearing) top and bottom, including connection plates for channel diaphragms for all girders and rolled beams.
2. Welding to flange as per this detail will only be required where plans or other detail sheets indicate stiffener is extended and welded to flange.



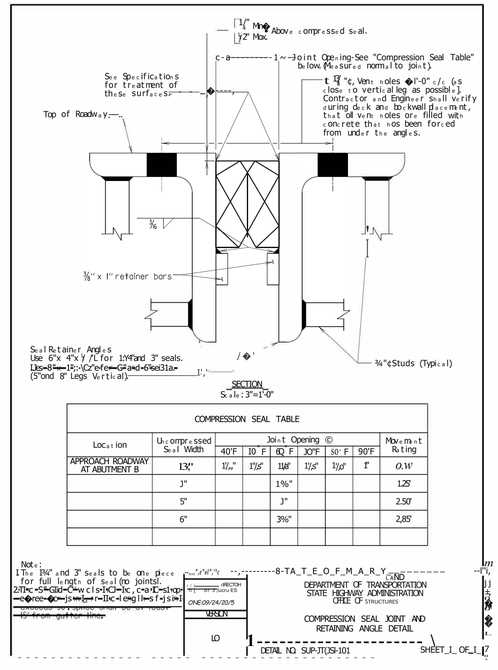
Notes:
1. Slant lettering indicates note "For Office Use Only"
2. Where the angle between the center line of roadway and the center line of bearing is 70 or less place diaphragms at 90 to the stringers. diaphragms shall be spaced as shown in detail this sheet and as noted below.
3. Where aforementioned angle is greater than 70 the diaphragms shall be parallel to the center line of bearing of the stringers.
4. Space intermediate diaphragms at 20 to 25 ft for spans. (Non-curved bridges only).
5. All diaphragms or ends to be completely connected to stringers before deck slab is poured.



Notes:
1. For notes and all details not shown see sheet 1 of 2.
2. Contractor has option to use either welded or bolted connection. However only one type of connection may be used per bridge.
3. All bolts to be 1" A325, ASD.
4. All bolts holes to be 15/16" dia.
5. Bolt spacing applies regardless of skew.



Note:
Wherever possible the need for this splice should be limited. Preferably, the minimum spacing between joints shall be 40'. If there are breaks in the crown or if the joint is skewed splices may be made at all breaks is slope and may follow the direction of centerline of bridge instead of being perpendicular to center line of bearing.



COMPRESSION SEAL TABLE

Location	Uncompressed Seal Width	Joint Opening © 40°F	10°F	60°F	30°F	50°F	90°F	Movement Rating
APPROACH ROADWAY AT ABUTMENT B	1 3/4"	1 7/16"	1 7/16"	1 1/8"	1 1/16"	1 1/16"	1"	0.1"
	3"			1 9/16"				1.25"
	5"			3"				2.50"
	6"			3 3/16"				2.85"

Notes:
1. For all 1 3/4" and 3" seals to be one piece for full length of seal (no joints).
2. The 6" seal shall be used for all skews greater than 45 from perpendicular.

GPI
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Engineering | Design | Planning | Construction Management
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWNER/ADDRESS:
DEPARTMENT OF TRANSPORTATION
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GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By: AL Drawn By: AWW Checked By: TCS

MDOT SHA DETAILS - 1

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No.: 20000 SHEET 30 OF 40

FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
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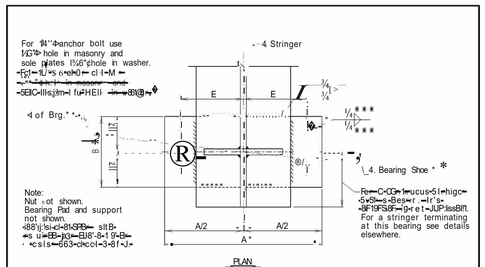


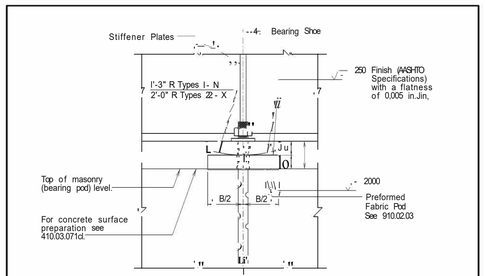
* EdQes may be left as cut or cost.

*Where bridge is not skewed, 4 Brg. and 4 shoe ore coincident.

***Minimums shown. Engineer Sholl Design.

APHOJAL
Chief, Division of Structures
DATE: 04/03/2.018
VERSION
2.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
FIXED BEARING
MEDIUM LENGTH SPANS
IGRADE 50 STEELI
DETAIL NO. SUP-BRSSB-103
SHEET_I_OF_I_

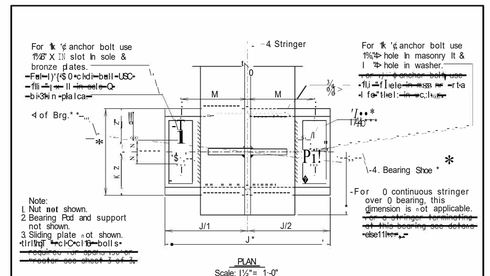


ABUTMENT A

Type	Sole Plate A	Sole Plate B	Sole Plate C	Masonry It A	Masonry It B	Hdb D	Loa	Hgt F	Max Bg[W]s/s	Strength Limit State Loads	Service Limit State Loads
MF80 - I	20	9	8¼	10	9	1¾	8	JJ/,	11	1COk	65 K
MF80 - II	22	11	11/8	12	11	1½	9	3¼	14	4COk	250k
MF80 - III	24	11	1	24	12	2	10	4	16	1COk	310k
MF0 - I1"	25	13	11/,	25	U	2¼	I	4½	18	500k	375k
MF80 - Y	30	15	1½	30	15	2½	13	5	12	70Ck	44Qk
MF80 - ZI	32	15	2¼	34	16	2¼	14	5½	24	8COk	505k
MF80 - 'III	36	18	2¼	34	18	2½	15	5¼	15	900k	570k
MF80 - I'II	15	20	3	35	20	3	15	6	28	1COOk	535k
MF80 -]]]	38	21	3¼	42	21	3	17	6¾	30	1COk	700k
MF80 • X	40	14	3¾	40	24	3¼	18	7	32	12COk	76Ok

Note: All dimensions ore in inches.

Note:
I. Sole and masonry plates to be ASTM A 709 Grade 5D steel pointed to match finished bridge color.
2. Fill slots and holes around anchor bolts with nonhardenin(J caulking compound or elastic joint sealer.
3. CDD RMS (Finish all overl except where otherwise noted.
4. Compressive strength of concrete bearing area shall be 3.5 ksi or greater.
5. Top of sole plate must be beveled to fit grade of bottom flange.
6. Unless otherwise noted, bearings shall be placed normal to 4. of stringer.
7. Plates ore to be shipped as units.
8. If more than one size bearing is called for, Contractor may furnish all bearings of the larger size provided the bearing pods ore altered to accommodate some. No increase in any prices bid will be allowed if this option is selected.
9. All anchor bolts and washers shall be unpainted ASTM F 155 Grode 55 galvanized steel. All nuts shall be unpainted ASTM A 563 galvanized steel. All washers shall be unpainted ASTM F 436 galvanized steel.
10. The maximum design rotation due to strength load combinations (0ul = 0.75".



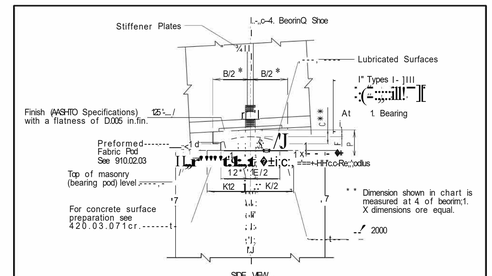
* EdQes may be left 05 cut or cost.

*Where bridge is not skewed, 4 Brg. a:d 4 shoe are coincident.

***Minimums shown. Engineer Sholl Design.

APHOJAL
Chief, Division of Structures
Date: 04/03/2.018
VERSION
2.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BRONZE EXPANSION BEARING
MEDIUM LENGTH SPANS
IGRADE 50 STEELI
DETAIL NO. SUP-BRISBHO
SHEET_I_OF_I_



ABUTMENT B

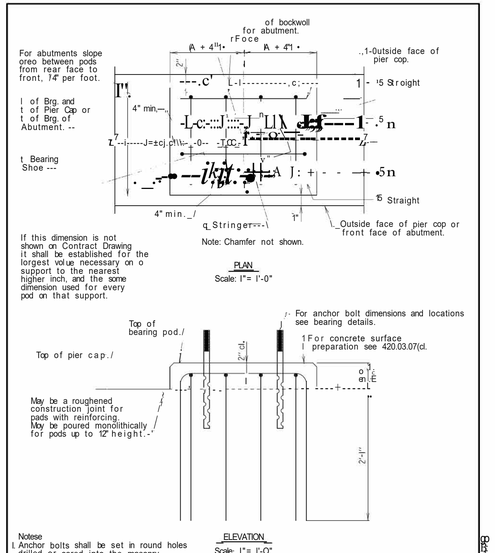
Type	Sole Plate A	Sole Plate B	Sole Plate C	Sliding Plate D	Sliding Plate E	Sliding Plate F	Sliding Plate G	Radius H	Masonry J	Elhde K	Loa L	Hgt M	Max Bot tom FI. W	Strength Limit State Loads	Service Limit State Loads	Allow Exp. In(Note 1)
MEB0 - I	21	9¼	I"•	20	1¼	13	I±	I	21	II	I	8½	11½	200 k	90 k	
MEB0 - II	13	10½	11/8	11	8½	1¾	I±	11	23	11	I	9½	1¾	300 k	165 k	I
MEB0 - 11	25	12½	2	2	17½	1¼	I±	15	25	13	1¼	10½	2	4	15	400 k	250 k	f14
MEB0 - I1"	27	13½	2¼	26	II	1	I..	16	27	15	1½	11½	4½	18	500 k	310 k	1½
MEB0 - 11	29	15½	2¾	28	13	2¼	I±	18	29	17	1½	11½	2½	4¾	20	600 k	375 k	1¾
MEBO -] I	31	17	2¾	30	14½	23⁄8	I±	20	31	20	1½	13½	2⅝	4⅜	22	700 k	440 k	2
MEB0 -]11	33	18½	2¾	32	15½	23⁄8	I±	23	JJ	23	2	14½	J	5¼	24	800 k	505 k	2¼
MEB0 - I1I[	35	19	2¾	34	16½	2½	I•	23	35	14	1½	15½	J⅛	5	26	900 k	570 k	2½
MEB0 - IX	37	21	J	36	17½	1½	I½	25	37	25	2½	16½	3½	6½	28	1000 k	635 k	2¾
MEB0 - X	39	11	3	38	17½	2¾	I½	25	39	15	1¾	17½	4	6¾	20	1100 k	700 k	3¼
MEB0 - XI	41	22	3½	40	18	3	1½	28	41	27	I	18½	4½	7½	32	1100 k	760 k	3¾

Note: All dimensions ore in inches.

Note:
1. Sole and masonry plates to be ASTM A 709 Grade 50, steel pointed to match finished bridge color, convex plate shall be a self lubricating bronze bearing plate conforming to 910.01.
2. Fill slots and holes around anchor bolts with nonhardening caulking compound or elastic joint sealer.
3. 1000 RMS (Finish all overl except where otherwise noted.
4. Allowable expansion is based on a 50° F. temperature change from center slot setting at 60° F.
5. Compressive strength of concrete bearing area shall be 3.5 ksi or greater.
6. Top of sole plate must be beveled to fit grade of bottom flange.
7. Unless otherwise noted, bearings shall be placed normal to 4. of stringer.
8. Plates ore to be shipped
9. If more than one size bearing is called for, Contractor may furnish all bearings of the lan;ier size provided the bearing pods ore altered to accommodate some. No increase in any prices bid will be allowed if this option is selected.
10. All anchor bolts and shall be unpainted ASTM F 1554 Grode 55 galvanized steel. All nuts shall be unpainted ASTM A 563 galvanized steel. All washers shall be unpainted ASTM F 436 galvanized steel.
11. The maximum design rotation due to strength load

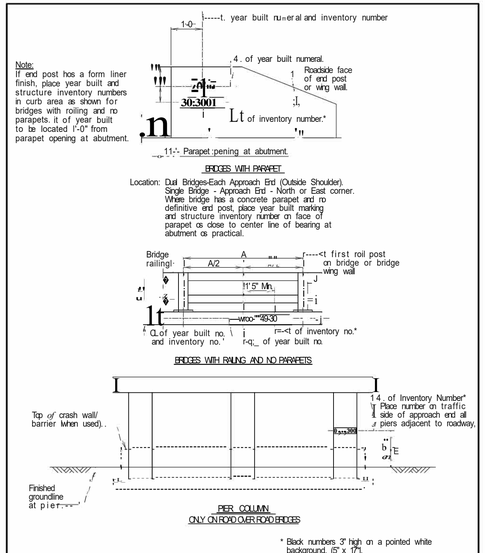
APHOJAL
Chief, Division of Structures
DATE: 04/03/2018
VERSION
2•0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BRONZE EXPANSION BEARING
MEDIUM LENGTH SPANS
(GRADE 50 STEEL)
DETAIL NO. SUP-BRSBPSHD4
SHEET 11 OF 1



Notese
1. Anchor bolts shall be set in round holes drilled or cored into the masonry.
2. The drilled or cored holes shall hove a diameter of at least 1" larger than the diameter of the bolts.
3. Holes shall be filled with nonshrink grout conforming to 902.l(c).
4. For size of pod see pertinent substructure sheets, If not available see note in plan above.
5. Space reinforcing steel to clear anchor bolts.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BEARING PAD WHERE ONLY A SINGLE SHOE IS REQUIRED ON A SUPPORT
DETAIL NO. SUBABP-101
SHEET_I_OF_I_

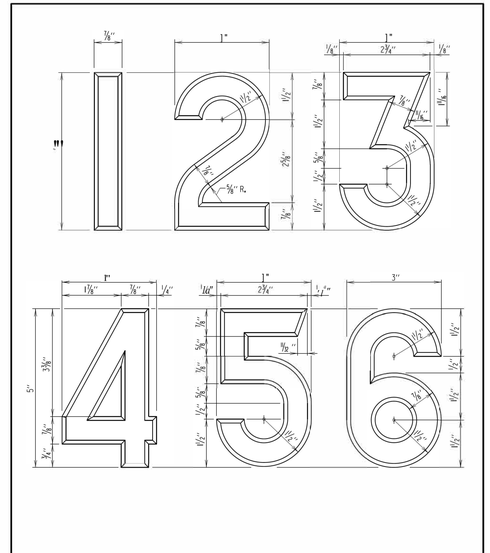


Note:
If end post has a form liner finish, place year built and structure inventory numbers in curb area as shown for bridges with roiling and no parapets. it of year built to be located 1'-0" from parapet opening at abutment.

Notes:
1. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 19-2-2000 (old year first - new yeorl.
2. For existing structures with no year built contact the Office of Structures for old year.
3. For Year Built Numerals refer to Detail No. SI-201.

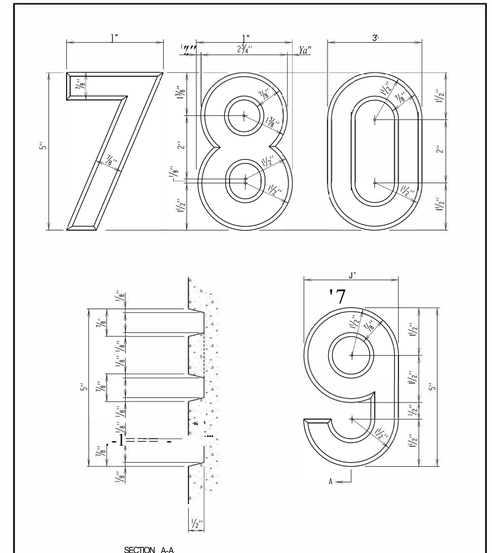
APHOJAL
Chief, Division of Structures
DATE: 10/17/2.0U
VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
LOCATION OF YEAR BUILT MARKING AND STRUCTURE INVENTORY NUMBER ON BRIDGES
DETAIL NO. SI-101
SHEET_I_OF_I_



Note:
Year built numerals to be indented into concrete (unpainted) - as indicated on Detail Nos. SHOI, SI-103 and SI-104.

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
DETAIL NO. SI-201
SHEET_I_OF_2



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
DETAIL NO. SI-201
SHEET 2 OF 2

GPI www.gpinet.com
Engineering | Design | Planning | Construction Management

Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
Columbia, MD 21044
Tel: 410.880.3055

OWNER/ADDRESS:
UE.PARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE
GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOijijENDED FOR APPROVAL
Chief, Design Section — Dote
APPROVED
Chief, Division of Transportation Engineering — Dote

Designed By: AL Drawn By: A WW Checked By: TCS

MDOT SHA DETAILS - 2

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No.: £x x-x - - - - - - - - - SHEET 31 OF 40

IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

PLOTTED: Friday, November 21, 2025 AT 11:51 AM
FILE: pBR-SD02_MoMt.nocacy.dgn

BAR SIZE	LOCATION CATEGORY A — CENTER TO CENTER SPACING							
	J"		4"		5"		≥ 6"	
#4	1'-1"	2'-8"	2'-1"	2'-6"	2'-1"	2'-6"	1'-1"	1'-6"
#5	2'-8"	3 1/5"	2'-7 1/2"	3'-4"	2'-1"	3'-1 1/2"	2'-7"	3'-1"
#6	3'-10"	5'-0"	3'-1"	4'-0"	3'-1"	4'-0"	3'-1"	4'-0"
#7	5 1/3"	6 1/10"	3'-11"	5'-1"	3'-7"	11'-8"	3'-7"	4'-8"
#8	6'-10"	8'-11"	5'-1"	6'-8"	4'-1"	5'-4"	4'-1"	5'-4"
#9	8 1/8"	11'-3"	5'-5 1/2"	8'-5 1/2"	5'-2"	11'-9"	5'-1"	5'-7"
#10	-	-	8'-3"	10'-9"	6'-7"	8'-7"	6'-3"	8'-2"
#11	-	-	10'-1"	13'-3"	8'-1"	10'-7"	7'-6"	9'-9"

Location Category A - Bors in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B — CENTER TO CENTER SPACING							
	J"		4"		5"		≥ 6"	
#4	1'-1"	2'-5"	1'-7"	1'-11"	1'-1"	1'-11"	1'-1"	1'-11"
#5	1'-1"	J'-1"	1'-0"	J'-0"	1'-0"	2'-5"	1'-0"	2'-5"
#6	3'-0"	4'-5"	2'-5"	3'-1"	2'-5"	3'-7"	1'-5"	3'-1"
#7	4'-0"	6'-0"	J'-0"	4'-6"	1'-9"	4'-2"	2'-9"	4'-2"
#8	5'-3"	1'-10"	J'-11"	5'-11"	3'-1"	4'-9"	3'-2"	4'-9"
#9	6'-8"	10'-0"	5'-0"	7'-6"	4'-0"	6'-0"	3'-11"	5'-10"
#10	-	-	6'-4"	9'-6"	5'-1"	7'-7"	4'-10"	7'-2"
#11	-	-	7'-10"	11'-8"	6'-3"	9'-4"	5'-9"	8'-8"

Location Category B - All bars not in Location Category A

= Non-epoxy coated = Epoxy coated

Note:
1. When bar lop is not specified on the Plans, the above dimensions shall be used.
2. These bor lops do not apply when bar is in lightweight concrete. Greater lengths ore required for this material.
3. These bor lops only apply where the General Notes indicate Reinforcing Steel Design, fy = CD ksi, and Concrete Design, f'c = 4000 psi.
- These bar lops assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-103. Class B splices ore 13 times the development length.
E, Class A splices may be used when (al the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (bl one-half or less of the total reinforcement is spliced within the required lop splice length. Class A splices ore 10 times the development length.

APPROVAL — CHIEF, DESIGN SECTION OFFICE OF STRUCTURES — DATE: 01/17/1997 — VERSION: LO

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 14500 P.S.1.1 CONCRETE
DETAIL NO. REBAR-BL-103 SHEET_1_OF_1_

REBAR BLAP

BAR SIZE	LOCATION CATEGORY A — CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-7"	2'-1"	1'-7"	1'-11"	1'-7"	1'-11"	1'-7"	1'-11"
#5	2'-1"	2'-8"	2'-0 11"	2 1/7"	2 1/0"	2 1/5 11"	2'-0"	2'-5"
#6	1'-0"	3'-10"	2'-5"	3'-1"	2'-5"	3'-1"	2'-5"	3'-1"
#7	4'-0 11"	5'-3 11"	3'-0 11"	3'-11"	2'-9"	3 1/7 11"	2'-9 11"	3'-7"
#8	5'-1"	6'-10"	3'-11"	5'-2"	3'-2"	4'-1"	1'-2"	4'-1"
#9	6'-8 11"	8 1/8 11"	5'-0 11"	6 1/6 11"	4'-0"	5 1/3 11"	3'-11"	5'-1"
#10	-	-	6'-4"	8'-3"	5'-1"	6'-7"	4'-10"	6'-3"
#11	-	-	1'-10"	10'-2"	5'-J"	8'-2"	5'-9"	1'-5"

Location Category A - Bors in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier cops, etc.

BAR SIZE	LOCATION CATEGORY B — CENTER TO CENTER SPACING							
	J"		4"		5"		≥ 6"	
#4	1'-3"	1'-10"	1'-3"	1'-5"	1'-3"	1'-6"	1'-3"	1'-5"
#5	1'-1"	2'-5"	1'-6"	1'-J"	1'-6"	1'-10"	1'-6"	1'-10"
#6	2'-3"	3'-5"	1'-10"	2'-9"	1'-10"	2'-9"	1'-10"	2'-9"
#7	J'-1"	4'-8"	2'-4"	3'-5"	2'-2"	J'-2"	1'-1"	3'-1"
#8	4'-0"	5'-0"	3'-0"	4'-6"	2'-5"	3'-8"	2'-5"	3'-8"
#9	5'-1"	1'-8"	3'-10"	5'-9"	J'-1"	4'-J"	3'-0"	4'-6"
#10	-	-	4'-11"	7'-4"	3'-11"	5'-10"	3'-9"	5'-7"
#11	-	-	5'-0"	9'-0"	4'-10"	7'-2"	4'-5"	5'-8"

Location Category B - All bars not in Location Category A

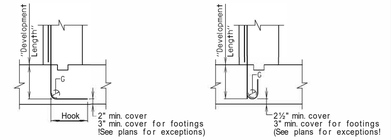
= Non-epoxy coated = Epoxy coated

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bor is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = DO ksi, and Concrete Design, f'c = 4000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 10 when calculating these dimensions.
6. A1r was assumed to be O when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B then hooks shall be added to all bars not conforming, as per D. E and F per Det. No. REBAR-DL-203.

APPROVAL — CHIEF, DESIGN SECTION OFFICE OF STRUCTURES — DATE: 03/01/2017 — VERSION: LO

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 14500 P.S.1.1 CONCRETE
DETAIL NO. REBAR-DL-103 SHEET_1_OF_1_

REBAR DLO3



STANDARD 90° HOOK STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	1"	10"	8"
#5	9"	1'-0"	10"
#6	10"	1'-3"	1'-0"
#7	1'-0"	1'-5"	1'-2"
#8	1'-2"	1'-7"	1'-4"
#9	1'-4"	1'-10"	1'-6."
#10	1'-5"	2'-1"	1'-8"
#11	1'-7"	2'-3"	1'-10"

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

- LOCATION CATEGORY:

D-All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½", and for 90°deg. hook cover on bar extension beyond hook not less than 2".
E- All bors a.Q1 In Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
If depth of member does not allow bar development length indicated in Categories A, B, and C Detail No. REBAR-DL-103; then hook shall be added to all bars not conforming, as per D,E & F.

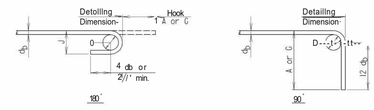
APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 05/01/2017 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 14500 P.S.1.1 CONCRETE NON-EPOXY COATED REINFORCING
DETAIL NO. REBAR-DL-203 SHEET_1_OF_1_

REBAR DLH

IIIIIIIIS TABLE REFERENCES

1. AO Types I thru 28
2. SHA Standard Prr Bending
3. SHA Radius Bending



BAR SIZE	RECOMMENDED END HOOKS, ALL GRADES — Finished bend diameter	180 - deg hook	90 - deg hook
	D, in.	A or G in	J, in.	A or G in
#3	2¼	5	3	6
#4	3	5	4	8
#5	3¾	I	5	10
#6	4½	8	6	1-0
#7	5¼	10	I	1-2
#8	6	II	8	1-4
#9	9½	II-3	11¾	I-7
#10	10¾	1-5	1-14	1-10
#11	12	1-1	1-2¾	2-0
1-14	18¼	2-1	1-8¾	2-1
118	24	3-0	2-4½	3-5

APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 02/12/1992 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
REINFORCING STEEL HOOK TABLES AND DIAGRAMS
DETAIL NO. REBAR-BB-102 SHEET_1_OF_1_

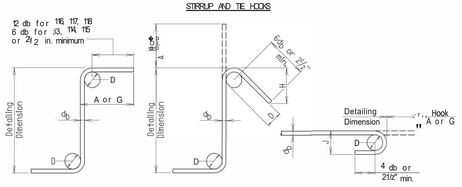
REBAR BB2

HOOKS TABLE REFERENCES

1. AO Types SI thru S8
2. AO Types TI thru T8
3. SHA Ties and Stirrups

(Note: Tie and stirrup types supplied in sizes #3-#8)

STIRRUP AND TIE HOOKS



BAR SIZE	STIRRUP AND TIE HOOK DIMENSIONS, in. — D, in.	90 - deg hook A or G	135 - deg hook A or G	135 - deg hook H, approx
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	4½	1-0	7¼	4½
#7	5¼	1-2	9	5¼
#8	6.	1-4	10¼	6

BAR SIZE	RECOMMENDED END HOOKS, ALL GRADES — Finished bend diameter	180 - deg hook	
	D, in.	A or G in	J, in.
#3	2¼	5	3
#4	3	5	4
#5	3¾	I	5
#6	4½	8	6
#7	5¼	10	7
#8	5	I	8

APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 11/17/1997 — VERSION: LO

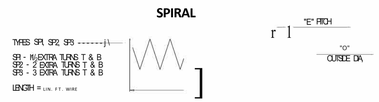
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
REINFORCING STEEL HOOK TABLES AND DIAGRAMS
DETAIL NO. REBAR-BB-102 SHEET_2_OF_2_

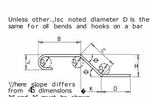
REBAR BB2

TYPICAL BAR BENDS

DETAILS AND NOTES

SPIRAL





ENLARGED VIEW SHOWING BAR BENDING DETAILS

Notes:
1.All dimensions ere out-To-out of bar or -to tangent points for 135 ° and 180 hooks.
2. /3 dimensions on 180°hooks to be shown only where necessary to restrict overall size. Semiho stirrupand hooks are to be used.
3. Where K is not shown, "J" will be kept equal to or lkss than 'H' on truss bars. Where, 'J' can exceed 'H' it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to -fit within concrete.
5. Where bors are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fobricction should have limits indicated.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE
TIES AND SPIRALS SHALL BE BENT WITH A PLUG ABOUT NO INCH (½") UNLESS OTHERWISE BENDING TOLERANCES

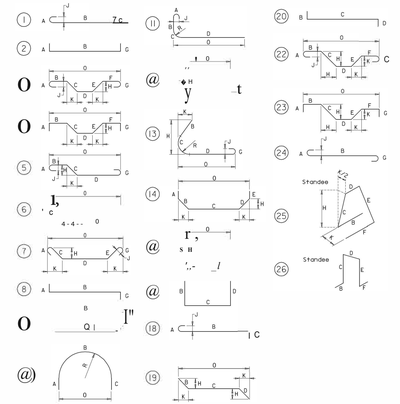
APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 12/11/1991 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BAR BEND TYPES GENERAL NOTES
DETAIL NO. REBAR-88-101 SHEET_1_OF_8_

REBAR B8

ACI TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCENCE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUG ABOUT NO INCH (½") UNLESS OTHERWISE BENDING TOLERANCES

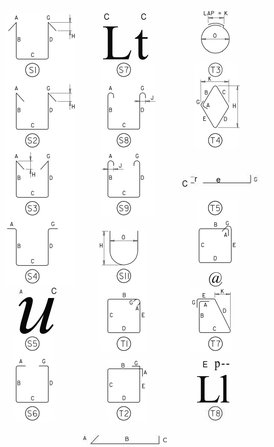
APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 02/12/1992 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BAR BEND TYPES ACI - STANDARD PIN BENDING
DETAIL NO. REBAR-88-101 SHEET_2_OF_8_

REBAR B8

ACI TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLE NOTE
TIES AND SWAPS SHALL BE BENE WITH A PLUG ABOU NOH (½") UNLESS OTHERWISE BENDING TOLERANCES

APPROVAL — CHIEF, DESIGN STRUCTURES — DATE: 02/12/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES
BAR BEND TYPES ACI - TIES A
DETAIL NO. REBAR-88-101 SHEET_3_OF_8_

REBAR B8

GPI www.gpinetcom
Engineering Design Planning Construction Management
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Columbia, MD 21044
Tel: 410.880.3055

OWNER/ADDRESS:
UE.PARTMENT OF TRANSPORTATION
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GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOijijENDED FOR APPROVAL

Chief. Design Section — Dote

APPROVED

Chief. Division of Transportation Engineering — Dote

Designed By: AL Drawn By: A WW Checked By: TCS

MDOT SHA DETAILS - 3

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No.: ●●●●● SHEET 32 OF 40

IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
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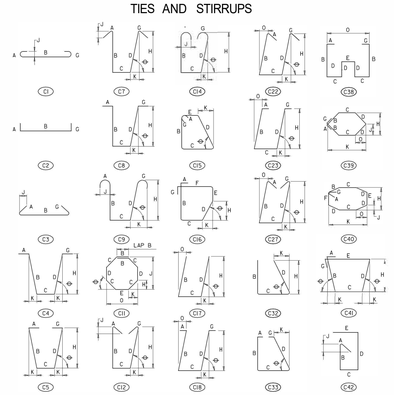
SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 02/01/1994 — VERSION 1.0

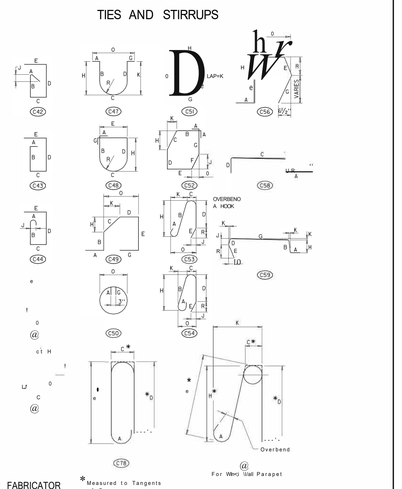
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
SHA - TIES AND STIRRUPS

DETAIL NO. REBAR-BB-101 — SHEET_4_ OF_8_

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

* Measured to Tangents of Curves.

Overbend

For Wing Wall Parapet

APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 02/01/1994 — VERSION 1.0

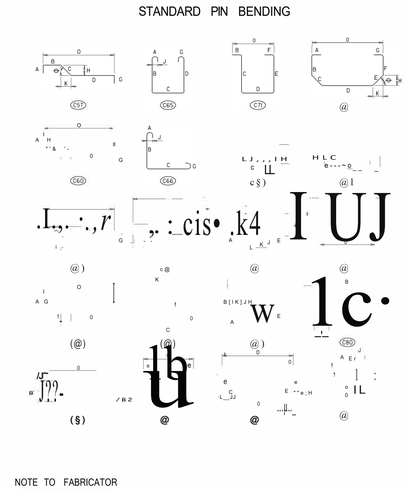
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
SHA - TIES AND STIRRUPS

DETAIL NO. REBAR-BB-101 — SHEET_5_ OF_8_

SHA TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

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APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 02/01/1994 — VERSION 1.0

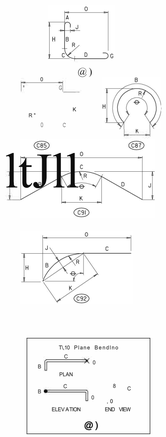
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
SHA - STANDARD PIN BENDING

DETAIL NO. REBAR-BB-101 — SHEET_6_ OF_8_

SHA TYPICAL BAR BENDS

RADIUS BENDING



NOTE TO FABRICATOR

BENDING TOLE NOTE

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APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 02/01/1994 — VERSION 1.0

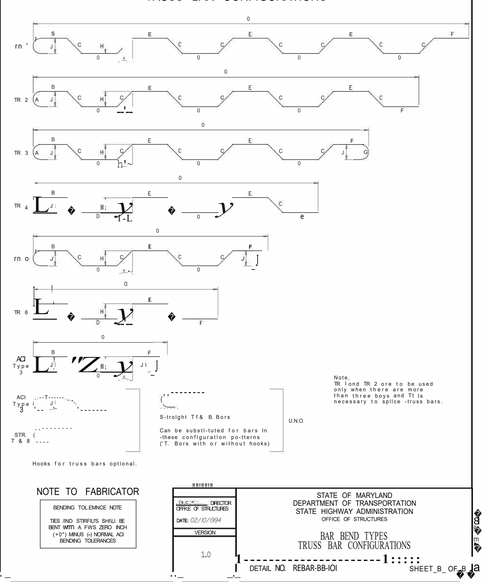
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
SHA - RADIUS BENDING

DETAIL NO. REBAR-BB-101 — SHEET_7_ OF_8_

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



Note,
TR load TR 2 are to be used only when there are more than three bays and TR is necessary to splice -truss bars.

S-traight T& B. Bars

Can be substituted for bars in these configuration po-tterns (T. Bars with or without hooks)

U.N.O.

Hooks for truss bars optional.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

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APPROVAL — DIRECTOR OFFICE OF STRUCTURES — DATE: 02/01/1994 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
TRUSS BAR CONFIGURATIONS

DETAIL NO. REBAR-BB-101 — SHEET_8_ OF_8_

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CONTACT:
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240-777-7210
TRANSPORTATION PLANNING & DESIGN
240-777-7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By: AL — Drawn By: A WW — Checked By: TCS

MDOT SHA DETAILS - 4

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN — DATE: NOVEMBER 2025

Project No.: [redacted] — SHEET 33 OF 40

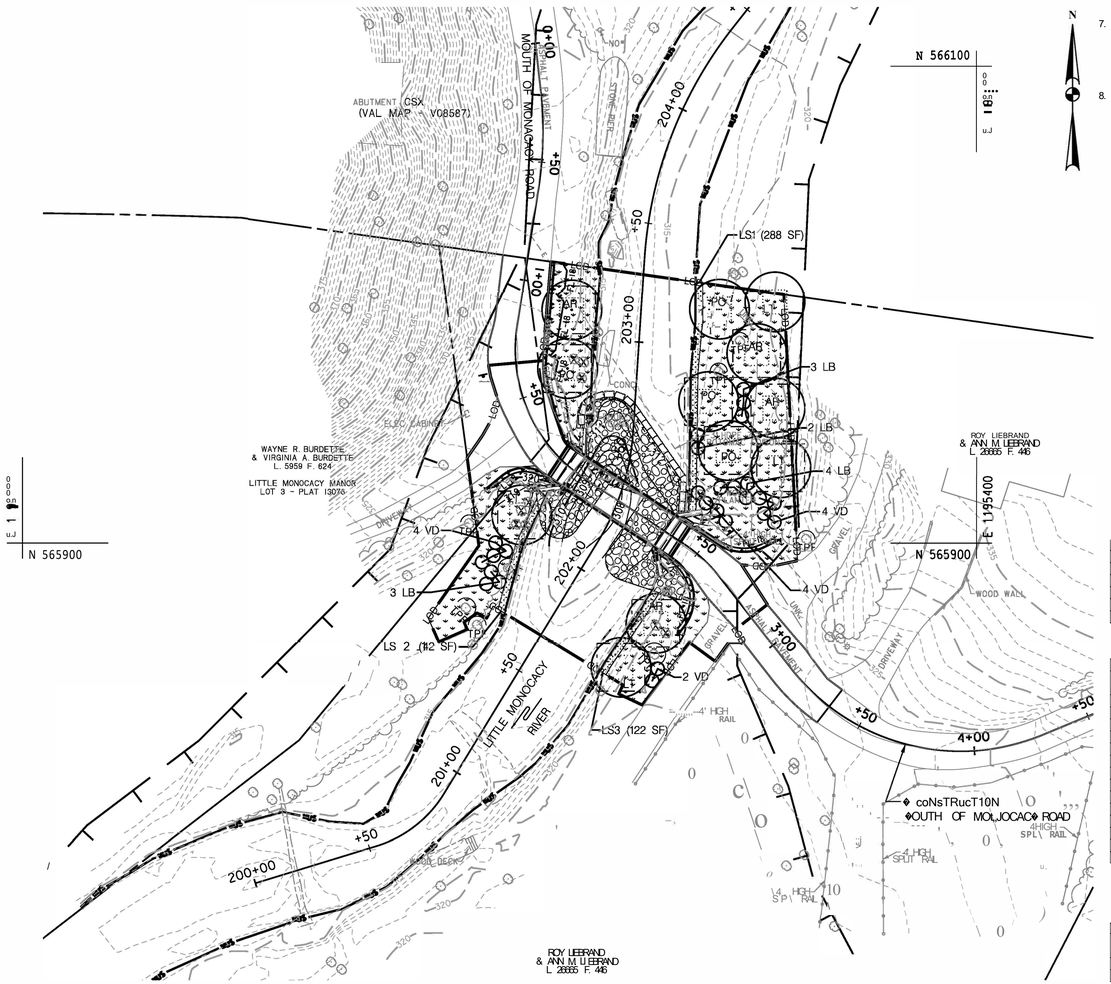
FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
FILE: pBR-SD04_MoMonocacy.dgn

Attachment A Bridge Design Plans

LEGEND

- ® TREE TO BE REMOVED
- - LOD - LIMIT OF DISTURBANCE
- UPLAND MEADOW SEED MIX
- LIVE STAKES
- GROWING AND PLANTING ZONE
- PROPOSED TREE
- O PROPOSED SHRUB
- -TPF- TREE PROTECTION FENCE



PLAN
1" = 30'-0"

SOIL PREPARATION

1. PRIOR TO ALL SOIL PREPARATION WORK, ALL CONSTRUCTION IN THE AREA SHALL HAVE BEEN COMPLETED.
2. CLEARING: PRIOR TO APPLICATION OF TOP DRESS MATERIAL, THE GROUND SURFACE SHALL BE WELL DRAINED AND CLEAR OF ALL DEBRIS OR ANY OTHER MATERIAL WHICH MAY HINDER THE PROPER APPLICATION OF SUBSEQUENT MAINTENANCE OPERATIONS.
3. PRECAUTIONS: DO NOT WORK SOIL WHILE FROZEN OR WET. DO NOT WORK SOIL IN A DUSTY CONDITION BUT MOISTEN TO PREVENT A DUST NUISANCE.
4. AERATE ALL TOP-DRESSED AREAS USING A CORE REMOVING AERATOR.
5. ANY BARE AREAS LARGER THAN 1 SQ.FT. SHOULD BE RESTORED TO FINSIHED GRADE WITH A SCREENED COMPOST OR FINE GRADE TOPSOIL (SUBMIT SAMPLE FOR APPROVAL). USE EQUIPMENT AND METHODS COMMON TO SUCH WORK AND TILL SOIL TO THOROUGHLY TO INCORPORATE THE SCREENED COMPOST INTO EXISTING SOIL.
6. FERTILIZER: FOLLOWING THE AERATION PROCESS, APPLY A STARTER FERTILIZER IN ACCORDANCE EVENLY AT THE RATE OF 7 CY/1 CCO SQ.FT. INTO THE TOP 2 INCHES OF SOIL BY CROSS DISKING OR OTHER APPROPRIATE METHOD.
7. SOW SEED ONLY AFTER THE SCREENED SOIL AMENDMENT AND FERTILIZER HAVE BEEN APPLIED AND THOROUGHLY SETTLED BY RAINFALL OR WATERING. OVERSEED EVENLY AT RATES SPECIFIED ON THE SEEDING TABLE WITH EQUIPMENT THAT PROVIDES A MULTI-DIRECTIONAL SEEDING PATTERN TO ENSURE PROPER SEEDING RATE AND UNIFORMITY OF SEEDING.
8. MULCHING: AFTER SEEDING, COVER BARE AREAS THAT HAVE BEEN PREPARED WITH CLEAN WHEAT STRAW. A MINIMUM OF 50% OF THE SOIL SURFACE SHALL BE COVERED UNTIL GERMINATION HAS OCCURRED.

GENERAL PLANTING NOTES

1. ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE "AMERICAN STANDARD FOR NURSERY STOCK" ANSI Z60.1. LATEST EDITION.
2. ALL PLANTINGS SHALL BE IN ACCORDNACE WITH STANDARD AMERICAN ASSOCIATION OF NURSERYMEN PROCEDURES AND SPECIFICATIONS.
3. CONTRACTOR AND OWNER'S REPESENTATIVE SHALL VERIFY THE CORRECT LOCATION OF ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO INSTALLATION OF ANY PLANT MATERIALS.
4. ALL PLANT BEDS AND PLANTING AREAS TO BE MULCHED TO A DEPTH OF 2" SHREDDED HARDWOOD BARK UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATIONS.
5. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE FINE GRADED AND SEEDED.
6. OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE BEFORE MAKING ANY SUBSTITUTIONS OR CHANGES.
7. QUANTITIES SHOWN ON PLANT LIST ARE FOR THE CONTRACTORS CONVENIENCE ONLY AND ARE NOT GUARANTEED TO BE ACCURATE. IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLAN AND THE QUANTITIES SHOWN ON THE PLANTING SCHEDULE, THE QUANTITIES ON THE PLAN SHALL APPLY.
8. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF MONTGOMERY COUNTY, MARYLAND.
9. CONTRACTOR IS TO PROVIDE ALL MATERIALS AND LABOR INCLUDING PLANTS, PLANTER FILL MATERIALS, MULCHES, SOIL PREARATION, DECORATIVE ITEMS, INSPECTIONS, AND TRANSPORTATION.
10. TOPSOIL AND/OR COMPOST SHALL MEET THE CRITERIA SET IN THE 2024 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS SECTIONS 701 AND 920 UNLESS OTHERWISE NOTED IN THE PLAN OR SPECIFICATIONS AND SHALL BE PLACED TO A DEPTH OF 4" IN ALL AREAS TO BE SEEDED OR SODDED.
11. SODDED AND SEEDED AREAS SHALL BE PROPERLY PREPARED, FINISH-GRADED, AND HAND ROLLED PRIOR TO SOD PLACEMENT OR SEEDING. SEEDED AREAS SHALL BE RE-SEEDED AS NECESSARY TO PROVIDE AN EVEN STAND OF SPECIFIED PLANTINGS.
12. LIVE STAKE PLANTING AREAS TO BE STABILIZED WITH TYPED STABILIZATION MATTI NG. UPLAND MEADOW SEED MIX AREAS TO BE STABILIZED WITH TYPE A STABILIZATION MATTING.
13. TEMPORARY SEEDING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 704 AND SECTION 920.06 OF THE 2024 MOOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS UNLESS OTHERWISE STATED IN THE PLAN AND SPECIFICATIONS.
14. MEADOW SEEDING SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS 707 AND 920 OF THE 2024 MOOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS UNLESS OTHERWISE STATED IN THE PLAN AND SPECIFICATIONS.
15. TREE BRANCH PRUNING TO OCCUR AT THE DISCRETION OF AN ARBORIST WHERE THE BRANCHES WILL CONFLICT WITH VEHICULAR TRAFFIC DURING CONSTRUCTION.

TREE AND SHRUB PLANTING SCHEDULE

Symbol	Quantity	Scientific Name	Common Name	Type	Size (Cal.)	Spacing
PO	4	*Platanus Occidentafis*	Sycamore	Tree (Canopy)	2"	As Shown
AR	4	*Acer rubrum*	Red Maple	Tree (Canopy)	2"	As Shown
LT	4	*Uriodendron tufipifera*	Tulip Poplar	Tree (Canopy)	2"	As Shown
LB	12	*Undera benzoin*	Northern Spicebush	Shrub	2 Gallon	As Shown
VD	14	*Viburnum dentatum*	Southern ArOWUCOd	Shrub	2 Gallon	As Shown

Note: Final plant locations may be field adjusted.

UPLAND MEADOW SEED MIX

PURELIVE SEED - LB/ACRE	COMMON NAME	SCIENTIFIC NAME
1	Broomsedge Bluestem	*Andropogon virginicus*
2	Deertongue	*Oichanthefium cfandestinum*
20	Hard Fescue	*Festuca brevip/a*
2	Little Bluestem	*Schizachyrium scoparium*
1	Purpletop	*Tridenss f/avus*
0.5	Virginia Wild Rye	*Efymus virginicus*
0.5	Blackeved Susen	*Rudbeckia hirta*
2.4	Eastern Purnle Coneflower	*Echinacea nurnurea*
2.4	Partridge Pea	*Chamacrista faciculata*
0.4	Smooth Blue Aster	*Symohyotrichum /aeve*
0.4	Wild Bergamot	*Monarda fistulosa*
1	Browneved Susan	*Rudbeckia triloba*
2.8	Lanceleaf Tickseed	*Coreopsis fanceolata*
0.4	Gray Goldenrod	*Solidago nemoralis*
	Total Upland Meadow Seeding Area =8,310 sf	

Notes:
1. Upland meadow seed mix areas shall directly abut live stake planting areas as designated.
2. Upland Meadow Seed Mix to be applied at a rate of 36.8 lbs/acre (0.84 lbs/1000 sq.ft) in designated areas.

SHA TEMPORARY SEED MIX

MIX%	SPECIES	
	COMMON NAME	SCIENTIFIC NAME
95	Common Wheat	*Triticum aestivum*
5	Foxtail Millet	*Setaria ita/ica*

Note: Temporary seed mix to be applied at a rate of 125 lbs/acre (0.026 lbs/sq.yd.)

LIVE STAKE (LS) PLANTING SCHEDULE

Scientific Name	Common Name	Size	Spacing	Plant Quantity		
				LS1 (288 s0	LS2 (142 sf)	LS3 (122 s0
Salix nigra	Black Willow	0.5-1" diameter, 3-4' long	2'0.C.	42	21	18
Camus amomum	Silky Dogwood	0.5-1" diameter, 3-4' long	2 0.C.	42	21	18

Notes:
1. Live stake planting areas to begin at waters edge and shall maintain a width of 3 feet in designated areas.
2. Live stake species subject to substitutions based on commercial availability.

30' 0 30' 60'
SCALE: 1"=30'

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GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
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240- 777- 7210
TRANSPORTATION PLANNING & DESIGN
240- 777- 7221

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section — Dote

APPROVED

Chief. Division of Transportotion Engineering — Dote

Designed By. A=P_ _ Drown By. AWW Checked By: _W=.I'◆_

LANDSCAPE PLAN

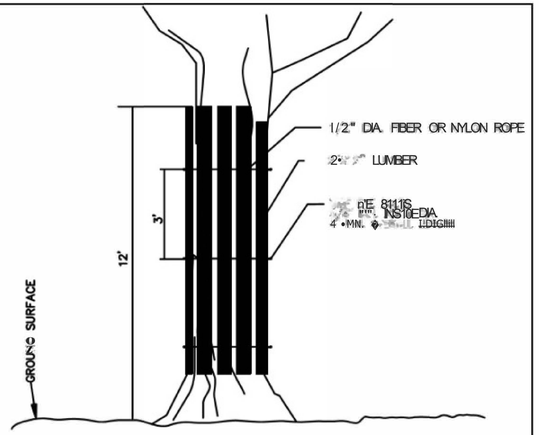
REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : IX=X=X=XX ..... SHEET 34 OF 40

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
FILE: N:\2017\2017102.00 BCS 2014-21E SHA Hwy Sir Eng Services\Task 04 Mouth ofMoriocacy Bridge\CADD\pLD-P0OI_MoMonocacy.dgn

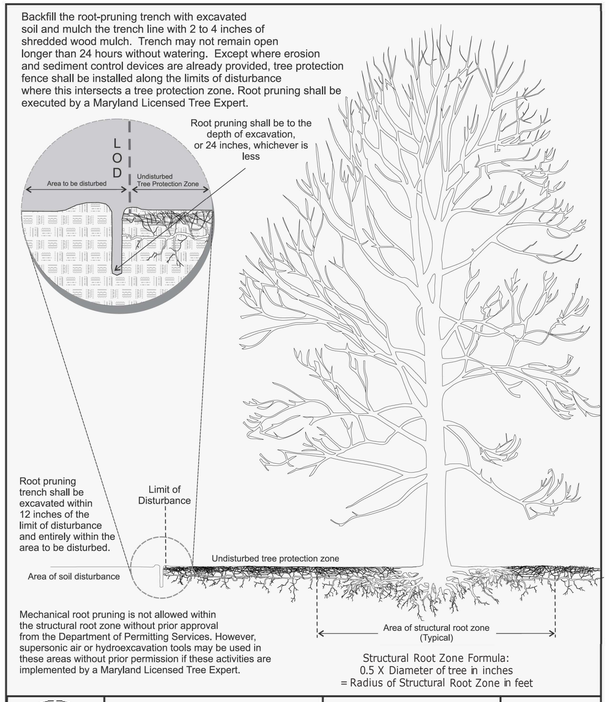
IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI



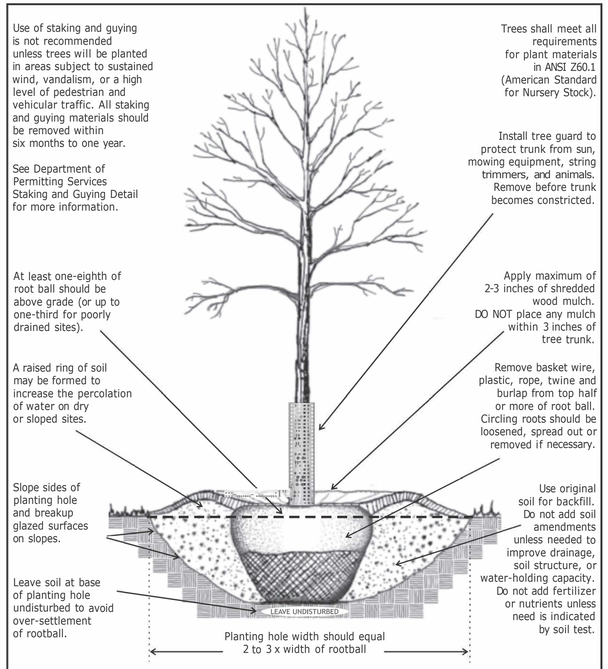
GENERAL NOIE:S

1. ... both ... and minimum ... tne ...
2. U... by ... planks, ... trunk ... to ...
3. Tie ... 1/X" ... rope ... or ...
4. Pl...
5. S...

TREE PLANKIING DETAIL

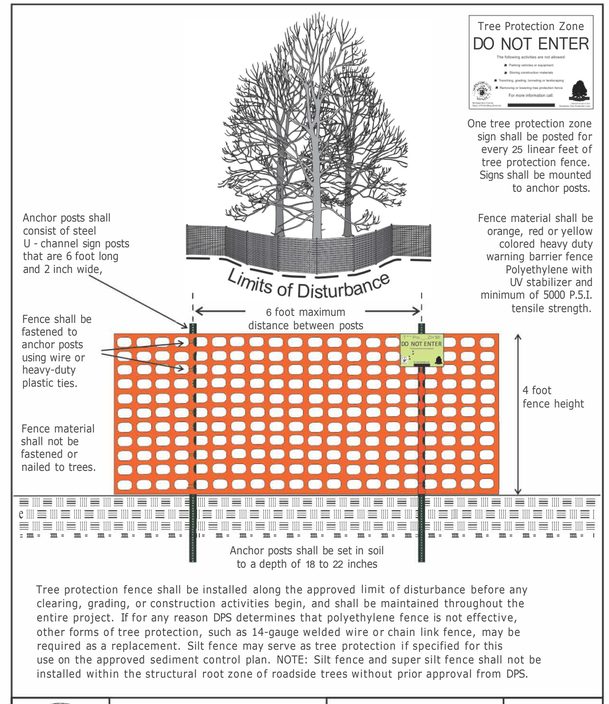


MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES		ROOT PRUNING AND STRUCTURAL ROOT ZONE FORMULA	DATE: 5/16 SCALE: NONE



This detail is based on *ANSI A300 (Part 6) 2012 Planting and Transplanting,* and its companion publication, *Best Management Practices: Tree Planting,* copyright 2005 by *the International Society of Arboriculture*

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES		TREE PLANTING DETAIL FOR BALLED AND BURLAP NURSERY STOCK	DATE: 5/16 SCALE: NONE



Tree protection fence shall be installed along the approved limit of disturbance before any clearing, grading, or construction activities begin, and shall be maintained throughout the entire project. If for any reason DPS determines that polyethylene fence is not effective, other forms of tree protection, such as 14-gauge welded wire or chain link fence, may be required as a replacement. Silt fence may serve as tree protection if specified for this use on the approved sediment control plan. NOTE: Silt fence and super silt fence shall not be installed within the structural root zone of roadside trees without prior approval from DPS.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES		TREE PROTECTION FENCING DETAIL	DATE: 5/16 SCALE: NONE

Tree Protection Zone

DO NOT ENTER

The following activities are not allowed:

X Parking vehicles or equipment

X Storing construction materials

X Trenching, grading, tunneling or landscaping

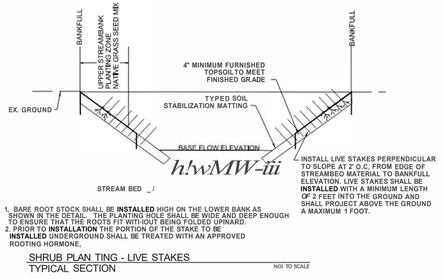
X Removing or lowering tree protection fence

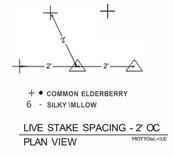
For more information call:

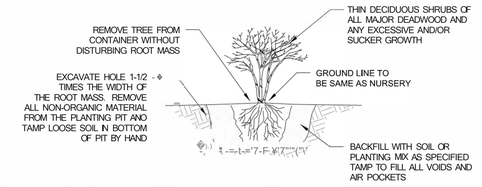
Montgomery County
Dept. of Permitting Services

COMCOR 49.36A.01 .50.K
Roadside Tree Protection Law

DPS TREE PROTECTION SIGN







SHRUB PLANTING - CONTAINER GROWN

NOT TO SCALE

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECQijijENDED FOR APPROVAL

Chief, Design Section — Dote

APPROVED

Chief, Division of Transportation Engineering — Dote

Designed By: AMP Drawn By: AWW Checked By: WOP

LANDSCAPE DETAILS

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

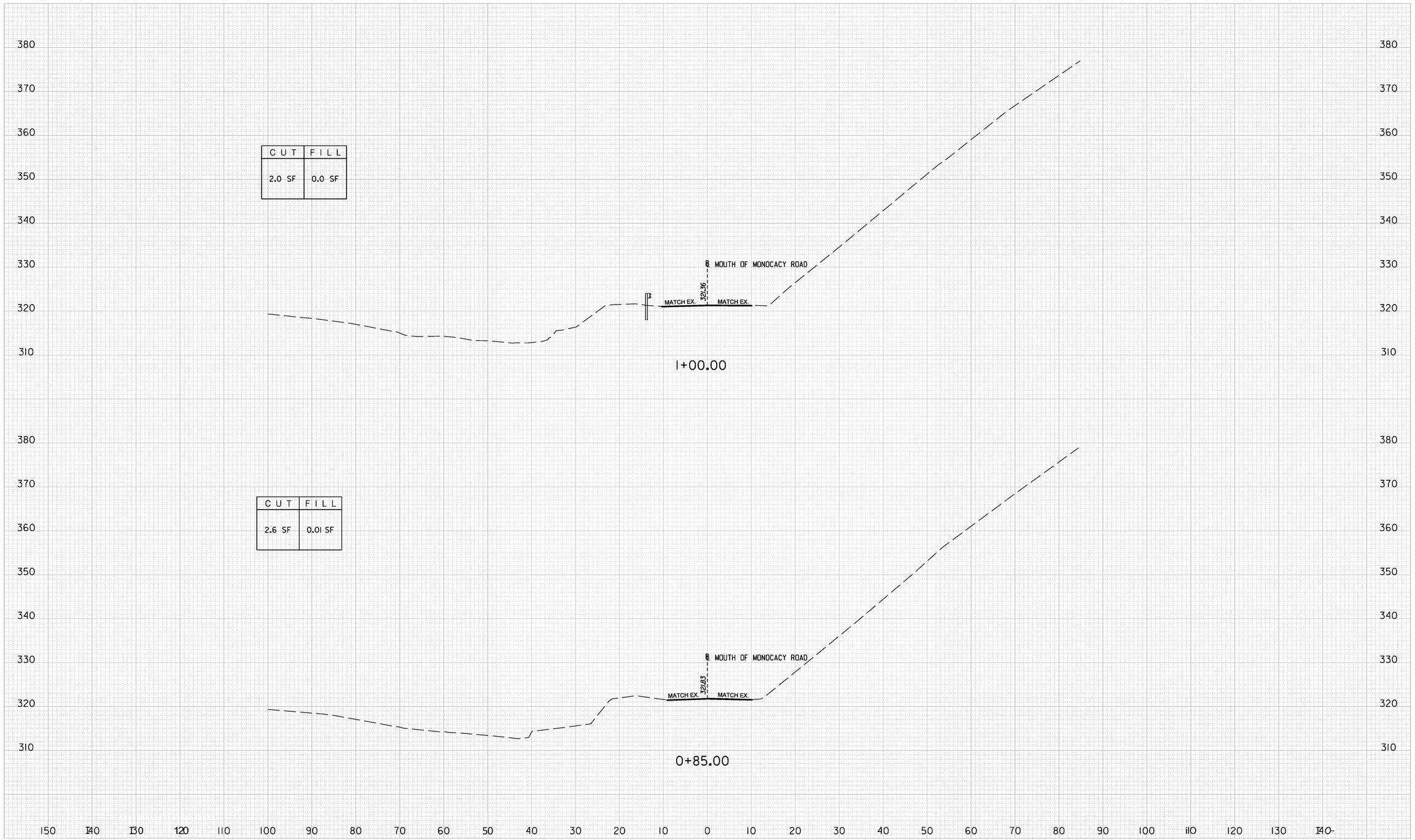
SCALE: AS SHOWN DATE: NOVEMBER 2025

Project No. : X XX X X ------- SHEET 35 OF 40

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
FILE: pLD-D001_MoMonocacy.dgn

IFOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEETI

CUT	FILL
2.0 SF	0.0 SF



CUT	FILL
2.6 SF	0.01 SF

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By: --S~N-- Drawn By: --S~N-- Checked By: --M~"--

CROSS SECTIONS – 1

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: 1" = 10' DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 36 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
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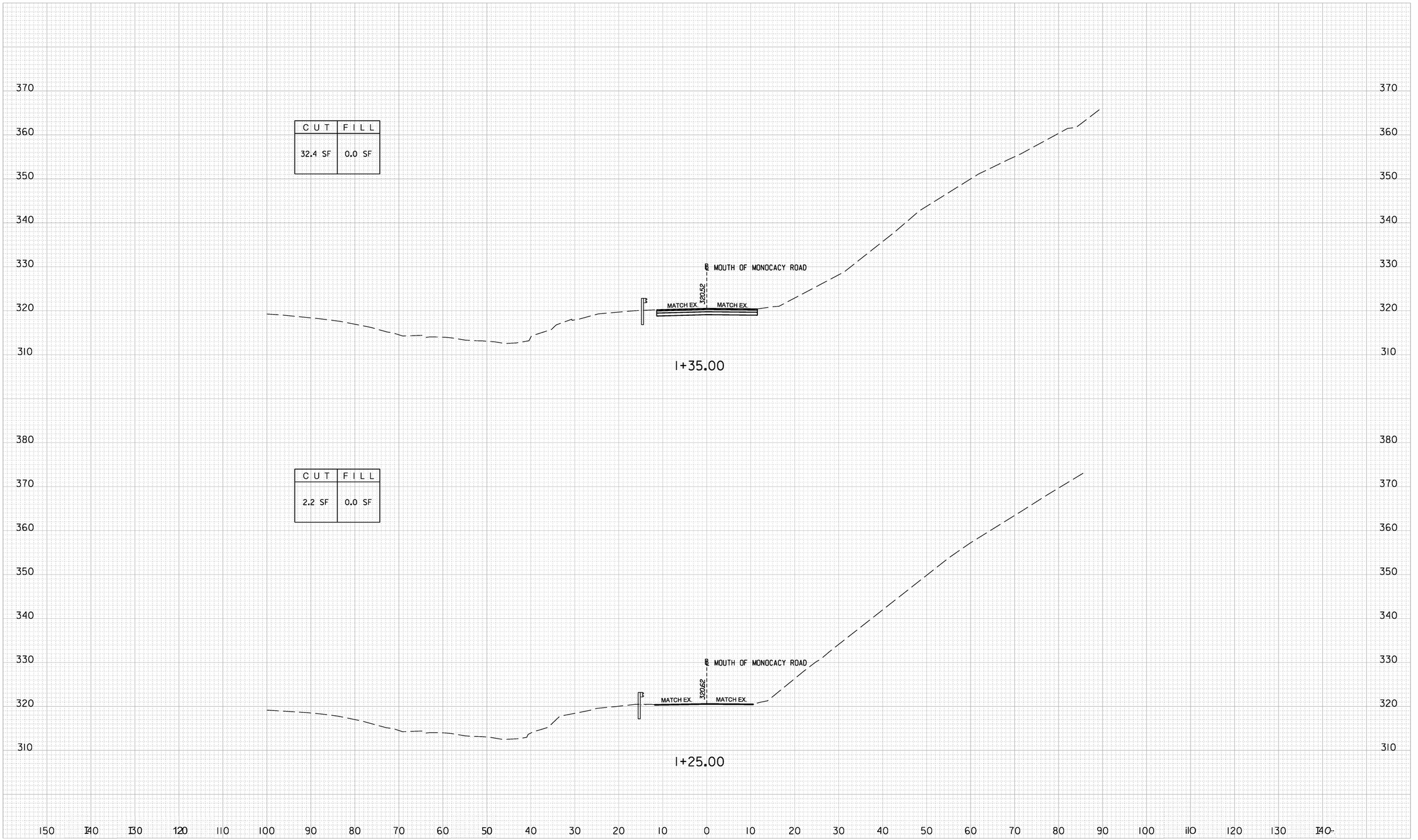
CUT	FILL
32.4 SF	0.0 SF



CUT	FILL
2.2 SF	0.0 SF

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By. --S~N♦_ Drawn By: --S~N♦_ Checked By: --M~"♦-

CROSS SECTIONS – 2

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: 1" = 10' DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 37 OF 40

PLOTTED: Friday, November 21, 2025 AT 11:52 AM
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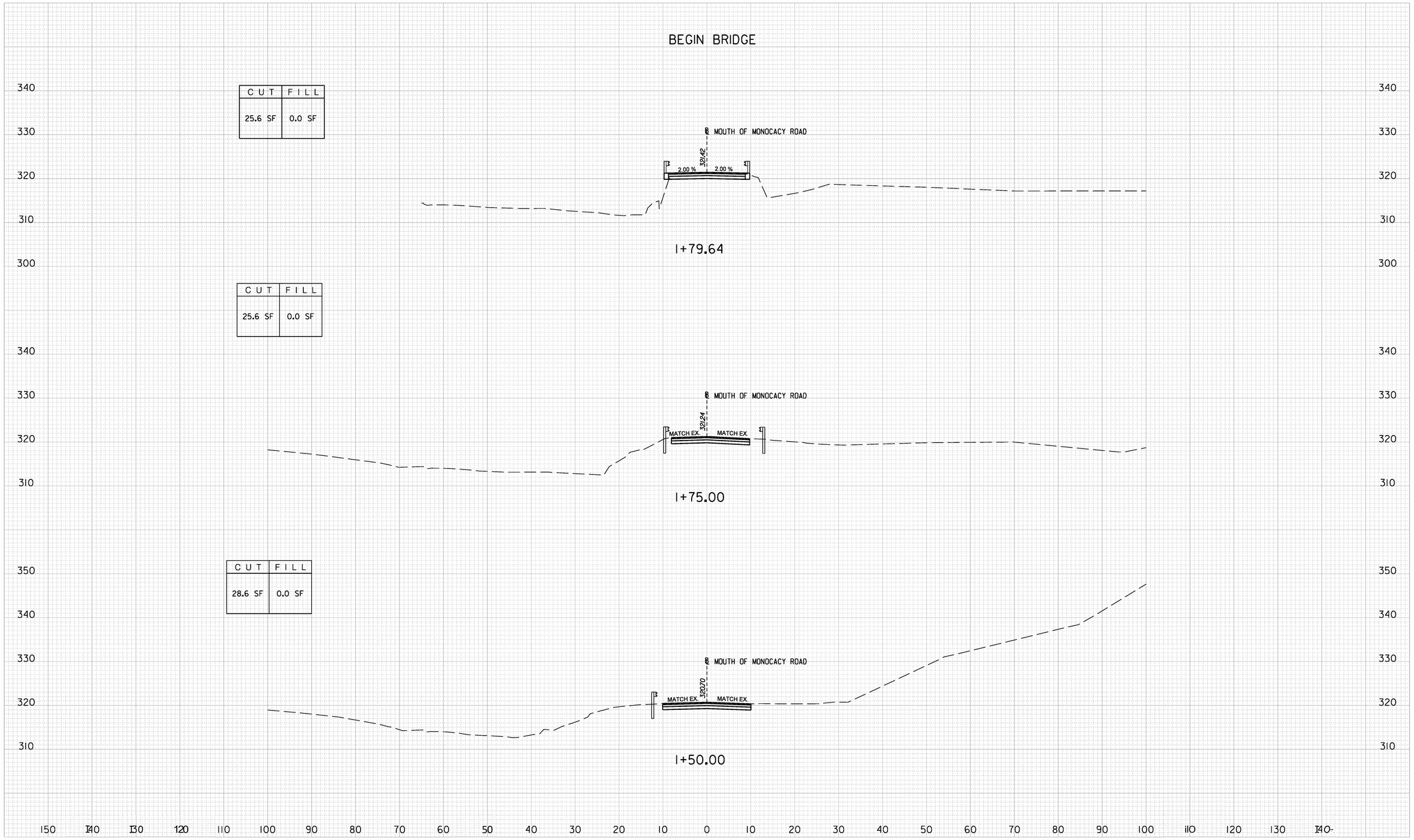
!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

Attachment A Bridge Design Plans



GPI www.gpinet.com
Eng111eer1ng IDesign IPlanning IConstruction Management
Greenman-Pedersen, Inc.
10440 Little Patuxent Parkway, Suite 900
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Tel: 410.880.3055

O'MIER /ADDRESS:
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GAITHERSBURG, MARYLAND

CONTACT:
DIVISION OF TRANSPORTATION ENGINEERING
TRANSPORTATION CONSTRUCTION
240-777- 7210
TRANSPORTATION PLANNING & DESIGN
240-777- 7221

NO.	RE◆SION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief. Design Section — Dote

APPROVED

Chief, Division of Transp0ttolion Engineering — Dote

Designed By. --S~N◆_ Drawn By: --S~N◆_ Checked By: --M~"◆-

CROSS SECTIONS – 3

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: 1" = 10· DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 38 OF 40

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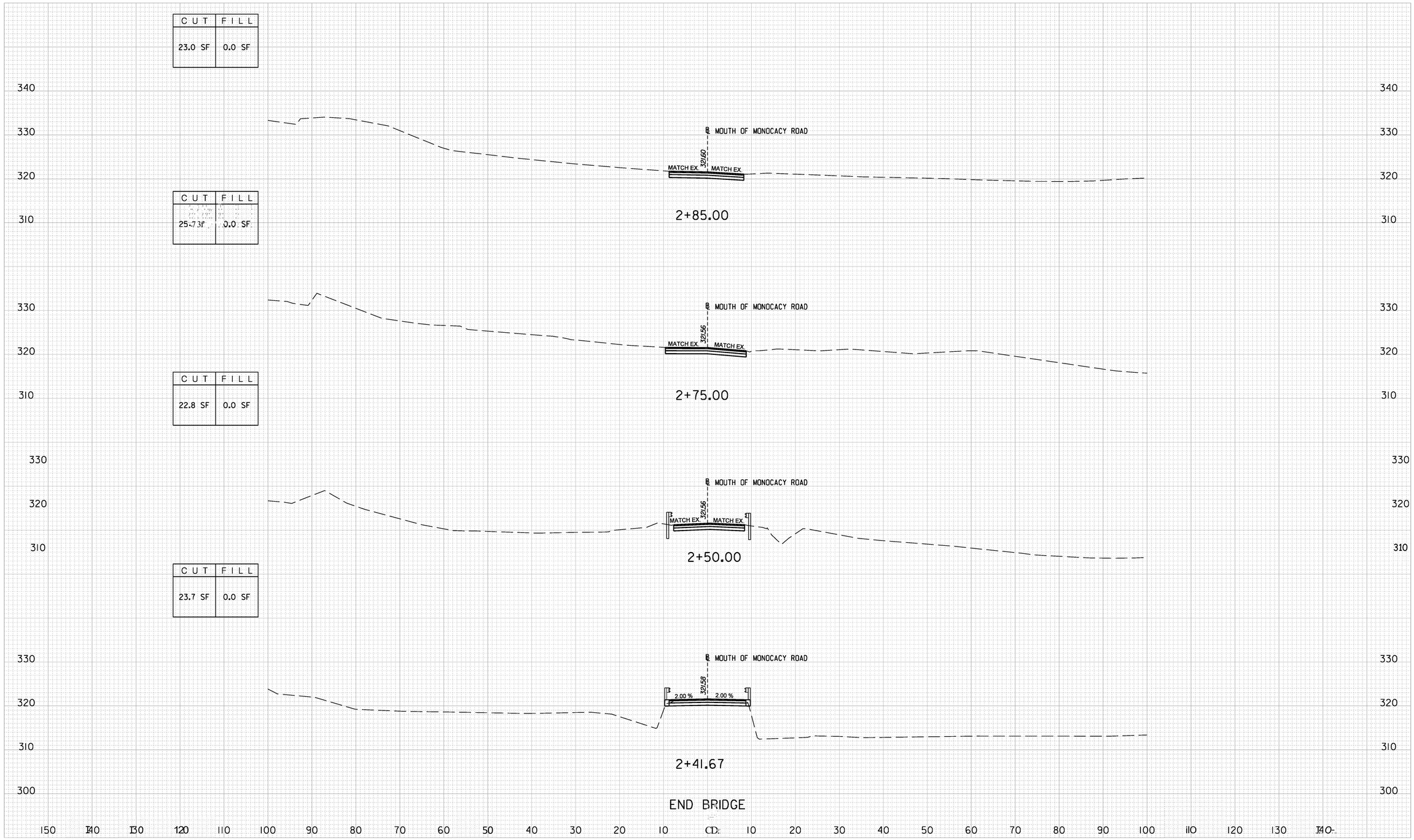

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MONTGOMERY COUNTY
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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed By: --S~N♦_ Drawn By: --S~N♦_ Checked By: --M~"♦-

CROSS SECTIONS – 4

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: 1" = 10' DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 39 OF 40

!FOR THE STATE AND FEDERAL AID CONTRACT NUMBERS SEE TITLE SHEET!

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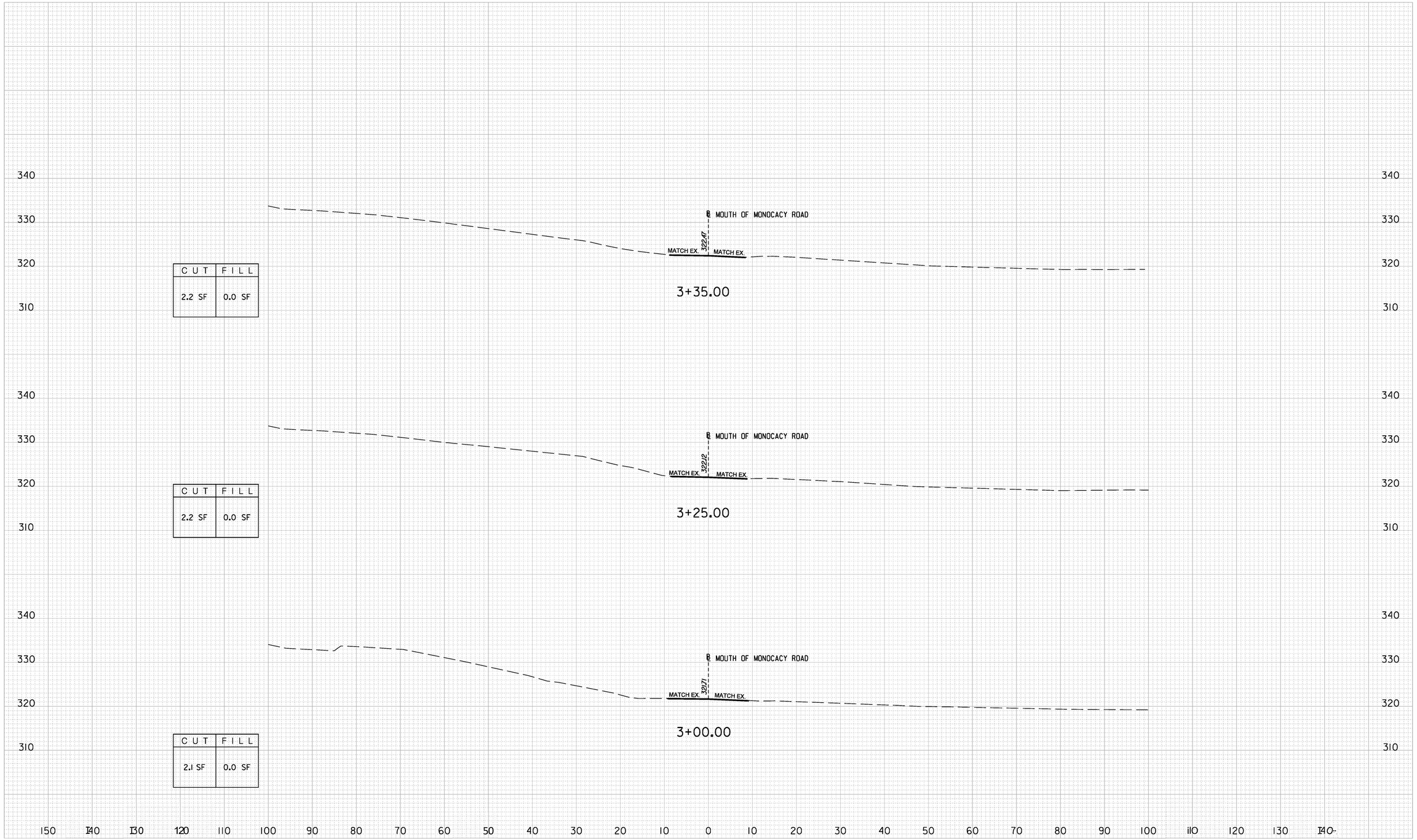

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NO.	RE◆SION	DATE	BY

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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Dote

APPROVED

Chief, Division of Transp0ttolion Engineering — Dote

Designed By. --S~N◆_ Drawn By: --S~N◆_ Checked By: --M~"◆-

CROSS SECTIONS – 5

REPLACEMENT OF BRIDGE NO. M-0043
MOUTH OF MONOCACY ROAD
OVER LITTLE MONOCACY RIVER

SCALE: 1" = 10· DATE: NOVEMBER 2025

Project No. : XXXXX SHEET 40 OF 40

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