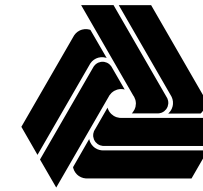


GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION



CONSTRUCTION AND RIGHT-OF-WAY PLANS FOR: BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT NUMBER: T201907103
FEDERAL AID PROJECT NUMBER: N/A

COUNTY: NEW CASTLE M.R. #: 234

U.S. CUSTOMARY
UNITS

DESIGN DESIGNATION			
MRD #: 234	ROAD NAME: TWADDELL MILL ROAD		
FUNCTIONAL CLASS: RURAL LOCAL ROAD	D.H.V. PROJECTED: 410	YEAR: 2050	
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT	DESIGN SPEED: 30 M.P.H.		
A.A.D.T. CURRENT: 1,600	YEAR: 2023	TRUCKS: 15.5 %	
A.A.D.T. PROJECTED: 2,900	YEAR: 2050	DIRECTION OF DISTRIBUTION: 58.9 %	
APPROVED DESIGN EXCEPTIONS			
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
TRAVEL LANE WIDTH	11 FT.	9 FT.	4/27/2026
OUTSIDE SHOULDER WIDTH	6 FT.	0 FT.	4/27/2026
STOPPING SIGHT DISTANCE	200 FT.	105.05 FT.	4/27/2026
ADDENDA/ REVISIONS			
ASSOCIATED CONTRACTS			
CONTRACT NO.	CONTRACT NAME		
BM84	BRIDGE 84 (1932 - CONCRETE SLAB RECONSTRUCTION)		

APPROVED FOR ADVERTISEMENT

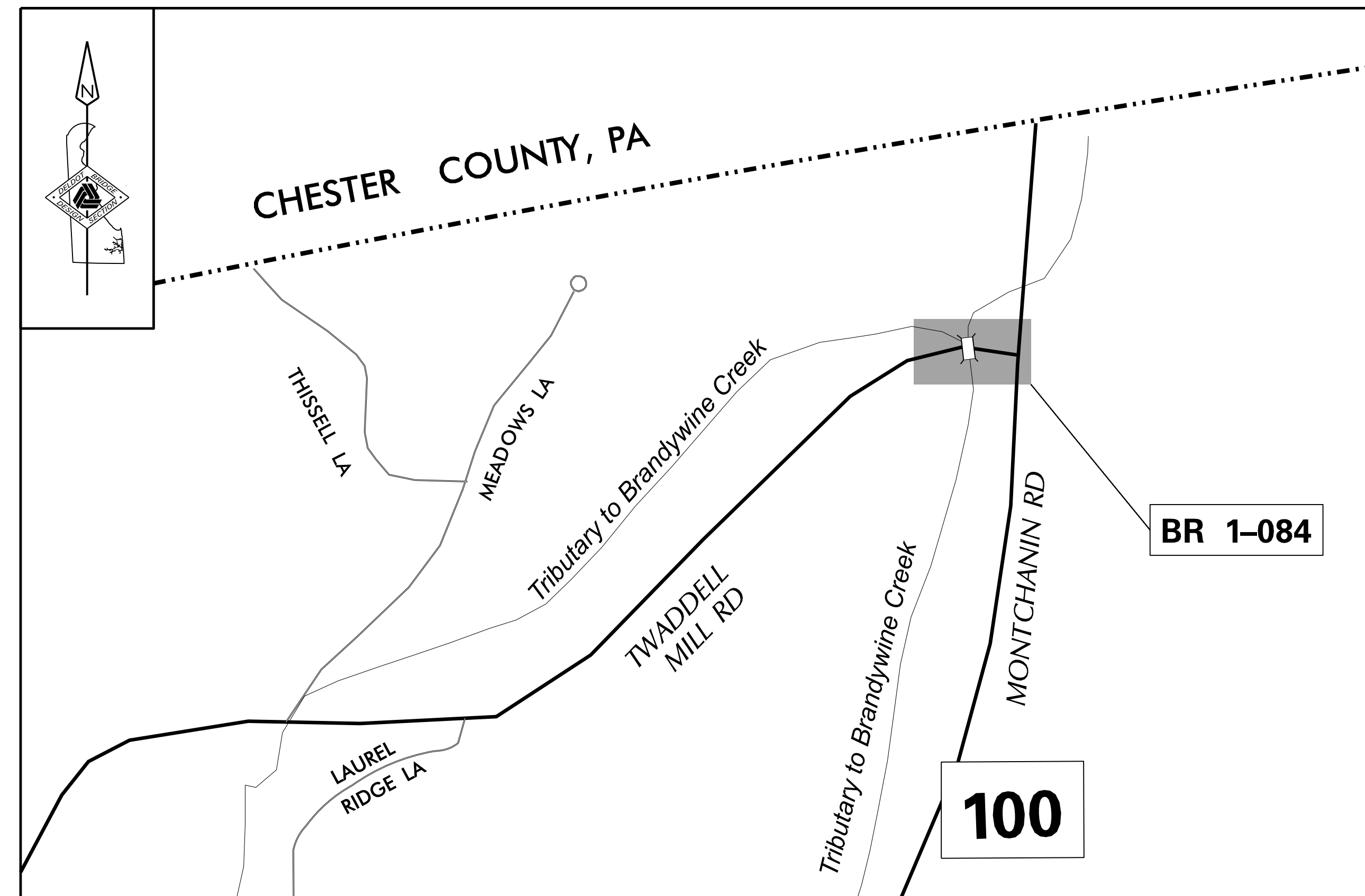
Matija Radovic
DIRECTOR OF TRANSPORTATION SOLUTIONS

05/06/2026
DATE

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
BRIDGE DESIGN

Matija 4/27/2026

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "BR" SECTION DESIGNATION. DATE SEAL



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS	
SHEET DESCRIPTION	SHEET NO(S)
TITLE	1
INDEX OF SHEETS & ADDENDA AND REVISIONS	2
LEGEND	3
NOTES	4
TYPICAL SECTIONS	5
HORIZONTAL AND VERTICAL CONTROL	6
CONSTRUCTION PLAN	7
PROFILE	8
GRADES AND GEOMETRICS	9
BRIDGE PLAN, SECTION, AND ELEVATION	10
BORING LOGS	11
ENVIRONMENTAL COMPLIANCE NOTES	12
ENVIRONMENTAL COMPLIANCE PLAN	13
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL NOTES	14
CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN	15
DETOUR PLAN - VEHICULAR BR 1-084 ON TWADDELL MILL RD	16
UTILITY RELOCATION PLAN	17
SIGNING, STRIPING, AND CONDUIT PLAN	18
RIGHT-OF-WAY PLAN	19
RIGHT-OF-WAY DATA SHEET	20

30-APR-2026
 22:34
 \\fs1-mdeleopwz11\CS_pof_work_dir\832138984_1511501_BRSE_T201907103_DOT.dgn

ADDENDA / REVISIONS		NOT TO SCALE	BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK	CONTRACT	BRIDGE NO.	1-084	INDEX OF SHEETS & ADDENDA AND REVISIONS	SECTION
				T201907103	DESIGNED BY: E. YODER			BR
		COUNTY	CHECKED BY: M. RADOVIC	SHEET NO.				
		NEW CASTLE		02				

MANMADE ROADSIDE FEATURES			
FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BARRIER - DOUBLE-FACED, PERMANENT			
BARRIER - SINGLE-FACED, PERMANENT, TEST LEVEL 4 / TEST LEVEL 5	BARRIER, TYPE "X"		B XXX
BARRIER - HIGH TENSION CABLE (HTCB)			
BARRIER - HTCB END TERMINAL			
BOLLARD - STEEL POLE			
BOLLARD - WOOD POST			
CURB, TYPE 1 AND TYPE 3			
CURB, TYPE 2	CURB, TYPE "X"		
CURB & GUTTER, TYPE 1			C XXX
CURB & GUTTER, TYPE 2			
CURB & GUTTER, TYPE 3	C&G, TYPE "X"		
CURB OPENING - SUMP / ON GRADE			C O
CURB/SW OPENING - ADJACENT CURB			CO SW
CURB/SW OPENING - NON-ADJACENT CURB			
FENCE - CHAINLINK OR STRANDED			F XXX
FENCE - STOCKADE OR SPLIT RAIL			
FLAG POLE	F.P.		
GUARDRAIL - STEEL BEAM, TYPE 1			
GUARDRAIL - STEEL BEAM, TYPE 2			
GUARDRAIL - STEEL BEAM, TYPE 3			
GUARDRAIL - WIRE ROPE			
GUARDRAIL - END ANCHORAGE			OR XXX
GUARDRAIL - END TREATMENT, TYPE 1			
GUARDRAIL - END TREATMENT, TYPE 2			
GUARDRAIL - END TREATMENT, TYPE 3			
IMPACT ATTENUATOR			
LAMP AND POST - RESIDENTIAL	LAMP 		
MAILBOX	MB 		
PARKING METER AND POST	P.M. 		
PAVEMENT - FLEXIBLE			
PAVEMENT - RIGID			
PILE - BRIDGE			
PILLAR OR MISCELLANEOUS POST			
TRAFFIC SIGN AND POST			
WALL - BRICK OR BLOCK			
WALL - STONE			

DRAINAGE FEATURES			
FEATURE DESCRIPTION	EXISTING	PROPOSED	ID
BIOFILTRATION SWALE			
DITCH OR STREAM (V-SHAPE / TRAPEZOIDAL)			
DIRECTIONAL STREAM FLOW ARROW			
DRAINAGE INLET	C.B. 	D.I. 	DI XXX
DRAINAGE JUNCTION BOX	J.B. 		JB XXX
DRAINAGE MANHOLE			RM XXX
DRAINAGE PIPE AND FLOW ARROW	SIZE/TYPE LABEL 		P XXX
FLARED END SECTION			FES XXX
RIPRAP - AREA FEATURE			RR XXX
RIPRAP - LINEAR FEATURE			
SAFETY END STRUCTURE			SES XXX
UNDERDRAIN			UD XXX
UNDERDRAIN OUTLET			UDO XXX

UTILITY FEATURES			
FEATURE DESCRIPTION	EXISTING	PROPOSED	
COMMUNICATIONS DISTRIBUTION BOX	CD 	TV 	
COMMUNICATIONS MANHOLE	C 	T 	C
COMMUNICATIONS TEST POINT	CT 	T 	
COMMUNICATIONS - UNDERGROUND	COMM(A) 	COMM 	
ELECTRIC - UNDERGROUND	E(A) 	E 	
ELECTRIC MANHOLE	E 	E 	E
ELECTRIC METER	EM 		
ELECTRIC TRANSFORMER	E 		
GAS - UNDERGROUND	G(A) 	G 	
GAS MANHOLE	G 	G 	G
GAS METER	G.M. 		
GAS VALVE	G.V. 		
GAS PUMP - SERVICE STATION	G.P. 		
IRRIGATION - UNDERGROUND	IR(A) 	IR 	
ITMS - UNDERGROUND	ITMS(A) 	ITMS 	
LIGHTING - UNDERGROUND	LI(A) 	LI 	
LUMINAIRE - POLE MOUNTED			
MANHOLE - UNDETERMINED OWNER	?		
RAILROAD TRACKS			
SANITARY - UNDERGROUND	S(A) 	S 	
SANITARY SEWER MANHOLE	S 	S 	S
SANITARY SEWER VALVE	S.V. 		
SANITARY SEWER CLEANOUT OR VENT	S.C.O. 		
SEPTIC DRAIN FIELD	S.D.F. 		
SIGNALIZATION - UNDERGROUND	SIG(A) 	SIG 	
SOIL BORING LOCATION			
TELEPHONE BOOTH	B 		
TRAFFIC - CONDUIT JUNCTION WELL	J.W. 		
TRAFFIC - LIGHT POLE AND BASE			
TRAFFIC - PEDESTRIAN POLE & BASE			
TRAFFIC - SIGNAL CABINET & BASE			
TRAFFIC - SIGNAL POLE AND BASE			
UTILITY BOX	U 		
UTILITY MARKER	UM 		
UTILITY POLE GUY WIRE ANCHOR			
UTILITY POLE			
UTILITY TEST HOLE LOCATION			
WATER - UNDERGROUND	W(A) 	W 	
WATER - FIRE HYDRANT	F.H. 	F.H. 	
WATER METER	W.M. 		
WATER VALVE	WV 	WV 	
WELL HEAD	WELL 		

PAVEMENT SECTION(S)	
OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS	
DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS	

NATURAL ROADSIDE FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
HEDGEROW OR THICKET		
MARSH BOUNDARY LINE		
TREE - CONIFEROUS		
TREE - DECIDUOUS		
TREE STUMP		
SHRUBBERY		
WETLAND BOUNDARY - DELINEATED	WL 	
WOODS LINE BOUNDARY		

RIGHT-OF-WAY FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
DENIAL OF ACCESS	DA 	DA
EASEMENT - OTHERS	EASEMENT TYPE 	
PERMANENT EASEMENT	PE 	PE
PROPERTY LINE		
PROPERTY MARKER - CONCRETE	C.M. 	
PROPERTY MARKER - IRON PIPE	I.P. 	
RIGHT-OF-WAY BASELINE	100+00 	100+00
RIGHT-OF-WAY LINE	R/W 	R/W
RIGHT-OF-WAY BY PE	R/W-PE 	
RIGHT-OF-WAY & DENIAL OF ACCESS	R/W-DA 	R/W-DA
RIGHT-TO-ENTER		RTE
TEMPORARY CONSTRUCTION EASEMENT		TCE

SURVEY CONTROL & MONUMENTATION	
FEATURE DESCRIPTION	EXISTING
POINT OF CURVATURE OR TANGENCY	
POINT OF INTERSECTING TANGENTS	
SURVEY BENCHMARK LOCATION	B.M.
SURVEY NGS POINT LOCATION	
SURVEY TIE POINT LOCATION	T.P.
SURVEY TRAVERSE POINT	

MISCELLANEOUS FEATURES	
FEATURE DESCRIPTION	PROPOSED
BRICK PATTERNED SURFACE	
BUTT JOINT	
CLEAR ZONE	CZ
CONSTRUCTION BASELINE	100+00
LATERAL OFFSET	LO
LIMIT OF CONSTRUCTION	LOC
PAVEMENT PATCH	
PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH	
P.C.C. SIDEWALK - 4"	
P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)	

IDENTIFIERS	
FEATURE DESCRIPTION	ID
ABANDON BY CONTRACTOR	AB C
ABANDON BY OTHERS	AB O
ADJUST BY CONTRACTOR	A C
ADJUST BY OTHERS	A O
BEST MANAGEMENT PRACTICE	BMP XXX
BUS STOP PAD / TYPE	BSP X
BUS STOP WITH SHELTER PAD / TYPE	BSP X
CONCRETE SAFETY BARRIER	B XXX
CONVERT TO JUNCTION BOX	CJB XXX
CONVERT TO DRAINAGE MANHOLE	CD XXX
DO NOT DISTURB	DND
ENERGY DISSIPATOR	ED XXX
FILL WITH FLOWABLE FILL	FF C
LANDSCAPE PLANTINGS	LS XXX
PEDESTRIAN CONNECTION / TYPE	PC X
PEDESTRIAN CONNECTION / TYPE WITHOUT DETECTABLE WARNING SYSTEM	PC-N XXX
RELOCATE BY CONTRACTOR	RL C
RELOCATE BY OTHERS	RL O
RELOCATE BY PROPERTY OWNER	RL PO
REMOVE BY CONTRACTOR	RM C
REMOVE BY OTHERS	RM O
REMOVE BY TRAFFIC CONTRACTOR	RM TC
RIGHT-OF-WAY MONUMENT	M XXX

ADDENDA / REVISIONS

NOT TO SCALE

**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

LEGEND

SECTION	
BR	
SHEET NO.	03

GENERAL NOTES

1. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED JANUARY 2026 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2026.

2. ELECTRONIC DESIGN DATA FILES THAT WILL BE MADE AVAILABLE TO THE BIDDERS INCLUDE:

()	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D TRIANGLES REPRESENTING THE EXISTING SURFACE.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D FEATURE LINES FOR THE PROPOSED DESIGN. 3D FEATURE LINES ARE FOR THE PROPOSED TOP SURFACE ELEVATION ONLY.

NOTE: THE DOCUMENT ENTITLED "ELECTRONIC FILE SHARING RELEASE" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

NOTE: THERE MAY BE SOME AREAS OF THE PROJECT NOT INCLUDED IN THE ELECTRONIC DESIGN DATA FILE(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DESIGN DATA FILE AND DETERMINE THE LIMITS OF THE PROJECT INCLUDED.

3. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

(X)	CROSS SECTIONS
(X)	RIGHT-OF-WAY PLANS

PROJECT NOTES

SECTION 100

1. ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

2. THE CONTRACTOR WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AERIAL VEHICLE (UAV) FLIGHTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION: THE REGISTRATION NUMBER OF THE UAV, THE FLIGHT TIME, LOCATION OF THE FLIGHT, THE PILOT'S NAME AND THE PILOT'S CONTACT NUMBER DURING THE FLIGHT.

3. NIGHT WORK IS NOT PERMITTED ON THIS PROJECT UNLESS THE CONTRACTOR OBTAINS: APPROVAL FROM THE ENGINEER, ACCEPTABLE RESPONSES ON NIGHT WORK SURVEYS, AND ACCEPTANCE FROM ALL APPLICABLE MUNICIPALITIES AND COUNTY GOVERNMENTS. METHOD AND FORMAT OF NIGHT WORK SURVEYS WILL BE PROVIDED BY THE ENGINEER UPON REQUEST. ENGINEER WILL OBTAIN ALL NECESSARY MUNICIPALITY AND COUNTY APPROVALS. NIGHT WORK, SURVEYS, AND COORDINATION WITH MUNICIPALITIES AND COUNTIES IS NOT COMPENSABLE AND THE TIME TO COMPLETE THE SURVEYS AND OBTAIN APPROVALS IS NOT EXCUSABLE.

SECTION 200

4. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- A. EXISTING 5.5' X 4.9' STONE AND CONCRETE CULVERT, AND UNDERLYING FOUNDATIONS
- B. EXISTING HEADWALLS

5. EXCAVATION FOR THE REINFORCED CONCRETE PIPE, ITEM 601022 WILL NOT BE INCIDENTAL TO THEIR INDIVIDUAL CONSTRUCTION ITEMS AND WILL BE QUANTIFIED AND PAID UNDER ITEM 207004 AND BACKFILLED UNDER ITEM 207003.

6. UNLESS OTHERWISE NOTED AS DO NOT DISTURB OR ADJUST BY CONTRACTOR/OTHERS, ALL EXISTING FEATURES, INCLUDING TREES, WITHIN THE PROPOSED LOC SHALL BE REMOVED BY THE CONTRACTOR AND PAID FOR UNDER THE RESPECTIVE BID ITEM. REMOVAL OF TREES AND SHRUBS SHALL BE PAID FOR UNDER 201000, AND REMOVAL OF ADDITIONAL EXISTING FEATURES SHALL BE PAID FOR UNDER ITEM 211000 AS NOTED IN SECTION 200 OF THE PROJECT NOTES.

7. HAZARDOUS MATERIALS - CREOSOTE TIMBERS OR PILINGS:

- A. WORKER PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS FOR HANDLING OF CREOSOTE COATED MATERIALS IS MODIFIED LEVEL D PERSONAL PROTECTIVE EQUIPMENT (HARD HATS, STEEL TOE BOOTS, NITRILE GLOVES, SAFETY VESTS).
- B. NO CREOSOTE MATERIAL (TIMBERS, PILINGS, ETC.) CAN BE TAKEN OFF SITE WITHOUT THE APPROVAL OF THE ENGINEER. CREOSOTE MATERIAL WILL BE DISPOSED OF BY THE DEPARTMENT'S ENVIRONMENTAL REPRESENTATIVE. ALL CREOSOTE MATERIAL REMOVED BY THE CONTRACTOR SHALL BE STOCKPILED IN A DESIGNATED STOCKPILE AREA ON 8 MIL PLASTIC SHEETING, OR DIRECTLOADED INTO THE ENVIRONMENTAL REPRESENTATIVE'S TRUCKS, AS DIRECTED IN ACCORDANCE WITH DELDOT SPECIFICATION 202560.
- C. FOR DISPOSAL PURPOSES, TIMBERS AND/OR PILINGS CANNOT EXCEED 14 FEET IN LENGTH.

8. THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE POSITIONED IN ACCORDANCE WITH THE LATEST VERSION OF THE UNITED STATES POSTAL SERVICE GUIDELINES. MAILBOXES LOCATED AT DRIVEWAY ENTRANCES SHALL BE PLACED ON THE FAR SIDE OF THE DRIVEWAY IN THE DIRECTION OF TRAVEL. POSTS BEING RESET IN CONCRETE SIDEWALK SHALL BE IN AN APPROPRIATE SIZE PVC SLEEVE. ACCEPTABLE POST SHALL BE 4 INCH X 4 INCH WOOD POST OR 4 INCH DIAMETER WOOD POST. FOR RELOCATING MULTIPLE MAILBOXES TOGETHER ALL POST SHALL BE SEPARATED BY A DISTANCE OF NO LESS THAN 3/4 OF THEIR FULL HEIGHT ABOVE THE GROUND. MULTIPLE MAILBOXES ATTACHED TO A SINGLE HORIZONTAL BOARD SHALL NOT BE LOCATED INSIDE THE CLEARZONE. EACH MAILBOX SHALL BE PLACED ON AN INDIVIDUAL POST MEETING THE CRITERIA ABOVE. ALL MAILBOXES SHALL BE SET NOT TO IMPED THE MINIMUM PAR (PEDESTRIAN ACCESS ROUTE) WIDTH AS DETERMINED BY THE CURRENT EDITION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY. IF MAILBOXES ARE NOT SET IN ACCORDANCE WITH THE ABOVE DIRECTIONS, RESETTING OF THE MAILBOXES WILL BE AT THE COST OF THE CONTRACTOR. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

SECTION 400

9. THE PAVEMENT SECTION FOR FLEXIBLE PAVEMENT RESIDENTIAL DRIVEWAYS SHALL BE 2" BITUMINOUS CONCRETE, TYPE 'C' OVER 8" GRADED AGGREGATE BASE COURSE, TYPE 'B', UNLESS OTHERWISE NOTED ON THE PLANS OR AS DETERMINED BY ENGINEER IN THE FIELD AS NEEDED TO MATCH EXISTING.

SECTION 700

10. ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.

SECTION 900

11. THIS PROJECT IS COVERED UNDER AN NPDES GENERAL PERMIT FOR CONSTRUCTION. UNDER THE GENERAL PERMIT, COMPLIANCE WITH DELDOT'S APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS WILL CONSTITUTE COMPLIANCE WITH THE NPDES INDUSTRIAL PERMITTING REQUIREMENTS FOR THIS CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NOI IS KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S STORMWATER SECTION. A COPY OF THE GENERAL PERMIT OR THE NOI CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

MISCELLANEOUS

12. DESIGN SPECIFICATIONS:
(A) DELDOT BRIDGE DESIGN MANUAL, 2024 EDITION
(B) AASHTO LRFD BRIDGE SPECIFICATIONS, 2020, 9TH EDITION, CUSTOMARY U.S. UNITS.

13. LOADING:
-DESIGN LIVE LOADS INCLUDE HL-93 LOADING.

14. HYDRAULIC DATA:
DRAINAGE AREA: 0.27 sq. miles DESIGN FREQ.: 25 YEARS
DESIGN DISCHARGE: 99.49 cfs 100-YEAR DISCHARGE: 132.65 cfs
EXISTING (DESIGN STORM) WSE: 165.48 ft PROPOSED (DESIGN STORM) WSE: 164.94 ft
EXISTING (DESIGN STORM) VELOCITY: 11.18 fps PROPOSED (DESIGN STORM) VELOCITY: 10.84 fps
EXISTING 100-YEAR WSE: 166.32 ft PROPOSED 100-YEAR WSE: 165.78 ft
EXISTING 100-YEAR VELOCITY: 12.24 fps PROPOSED 100-YEAR VELOCITY: 11.91 fps
EXISTING WATERWAY OPENING: 24.58 sq. ft PROPOSED WATERWAY OPENING: 19.64 sq. ft

15. SCOUR ANALYSIS:
SCOUR DESIGN FREQUENCY: 100 YEARS
SCOUR DESIGN FLOOD DISCHARGE: 132.65 cfs
SCOUR DESIGN FLOOD VELOCITY: 11.91 fps (AT BRIDGE OUTLET)
WATER SURFACE ELEVATION: 165.78 ft (IMMEDIATELY UPSTREAM OF BRIDGE)

SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE SCOUR DESIGN FLOOD IN ACCORDANCE WITH HEC 14 - HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS.

16. THE CONTRACTOR SHALL NOTIFY DART FIRST STATE AT DOT_DETOURS@DELAWARE.GOV AT LEAST 14 DAYS PRIOR TO THE START OF ANY DETOURS OR CONSTRUCTION, AND DOT_DTC_PROJECTDEVELOPMENT@DELAWARE.GOV AT SUCH TIME THE FACILITY IS COMPLETED AND OPERABLE FOR TRANSIT OPERATIONS. FOR EMERGENCY DETOUR INFORMATION ONLY, PLEASE CONTACT DTC'S CHIEF SCHEDULER AT 302-576-6019.

ADDENDA / REVISIONS

NOT TO SCALE

**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

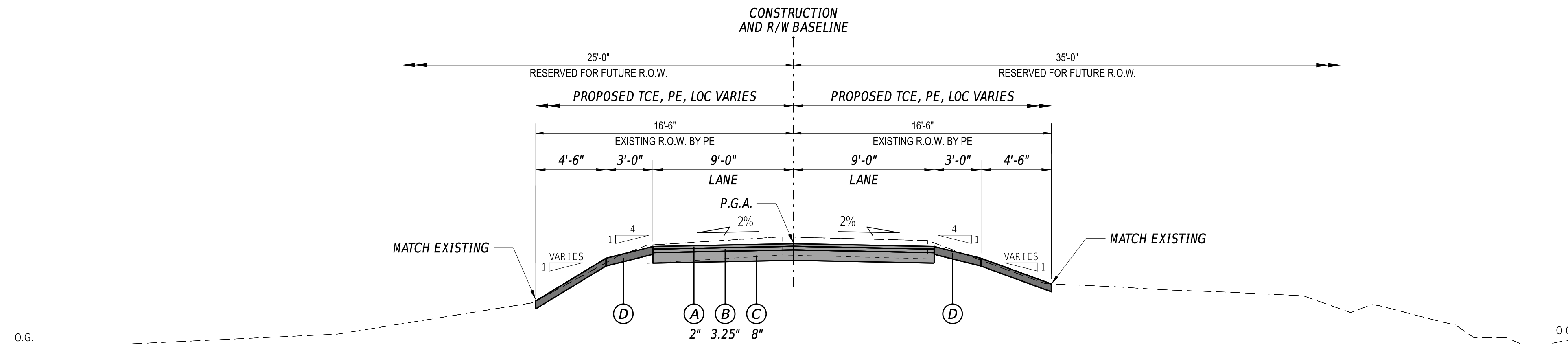
NOTES

SECTION
BR
SHEET NO.
04

LEGEND

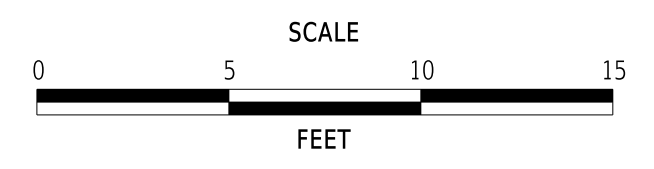
- (A) ITEM 401005 - SUPERPAVE, TYPE C, 9.5 MM, PG 64-22 (CARBONATE STONE)
- (B) ITEM 401014 - SUPERPAVE, TYPE B, PG 64-22
- (C) ITEM 301001 - GABC
- (D) ITEM 908004 - TOPSOIL, 6" DEPTH AND
ITEM 908019 - PERMANENT GRASS SEEDING, STREAMBANK AND
ITEM 908020 - BLANKET MULCH

MATERIAL TYPE	BINDER GRADE	LIFT THICKNESS (IN)	
		MINIMUM	MAXIMUM
TYPE C (4.75 MM MIX)	ALL	0.5	1.0
TYPE C (9.5 MM MIX)	ALL	1.25	2.0
TYPE C (12.5 MM MIX)	ALL	1.5	2.0
TYPE B (19 MM MIX)	76-22, 70-22	2.25	4.0
TYPE B (19 MM MIX)	64-22	2.25	6.0
TYPE BCBC (25 MM MIX)	64-22	3.0	6.0
GABC	-	4.0	8.0



TYPICAL PROPOSED ROADWAY SECTION
STATION 10+92.00 TO STATION 13+09.23

ADDENDA / REVISIONS



**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

TYPICAL SECTIONS

SECTION
BR
SHEET NO.
05

30-APR-2026 22:35 \\cs\m-deloop\p21\CS_pof_work_dir\832138984_37\T501_BRSF_T201907103_DOT.dgn

ELEMENT: CIRCULAR CURVE #1

PC(8001)	10+64.58	668469.3086	604858.0018
HP1(8100)	10+96.87	668485.7693	604885.7734
CC(8002)		667359.8767	605515.5832
PCC(8003)	11+29.14	668500.8200	604914.3358
RADIUS:	1289.67		
DELTA:	2.868 RIGHT		
DEGREE OF CURVE(ARC):	4.443		
LENGTH:	64.55		
TANGENT:	32.28		
CHORD:	64.55		
MIDDLE ORDINATE:	0.40		
EXTERNAL:	0.40		
TANGENT DIRECTION:	N59°20'38.29"E		
RADIAL DIRECTION:	S30°39'21.71"E		
CHORD DIRECTION:	N60°46'40.48"E		
RADIAL DIRECTION:	S27°47'17.32"E		
TANGENT DIRECTION:	N62°12'42.68"E		

ELEMENT: CIRCULAR CURVE #2

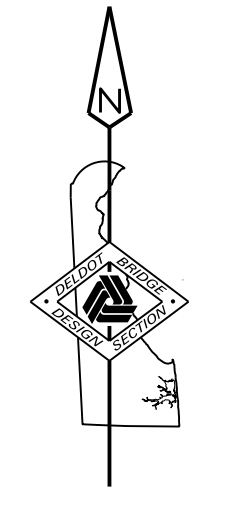
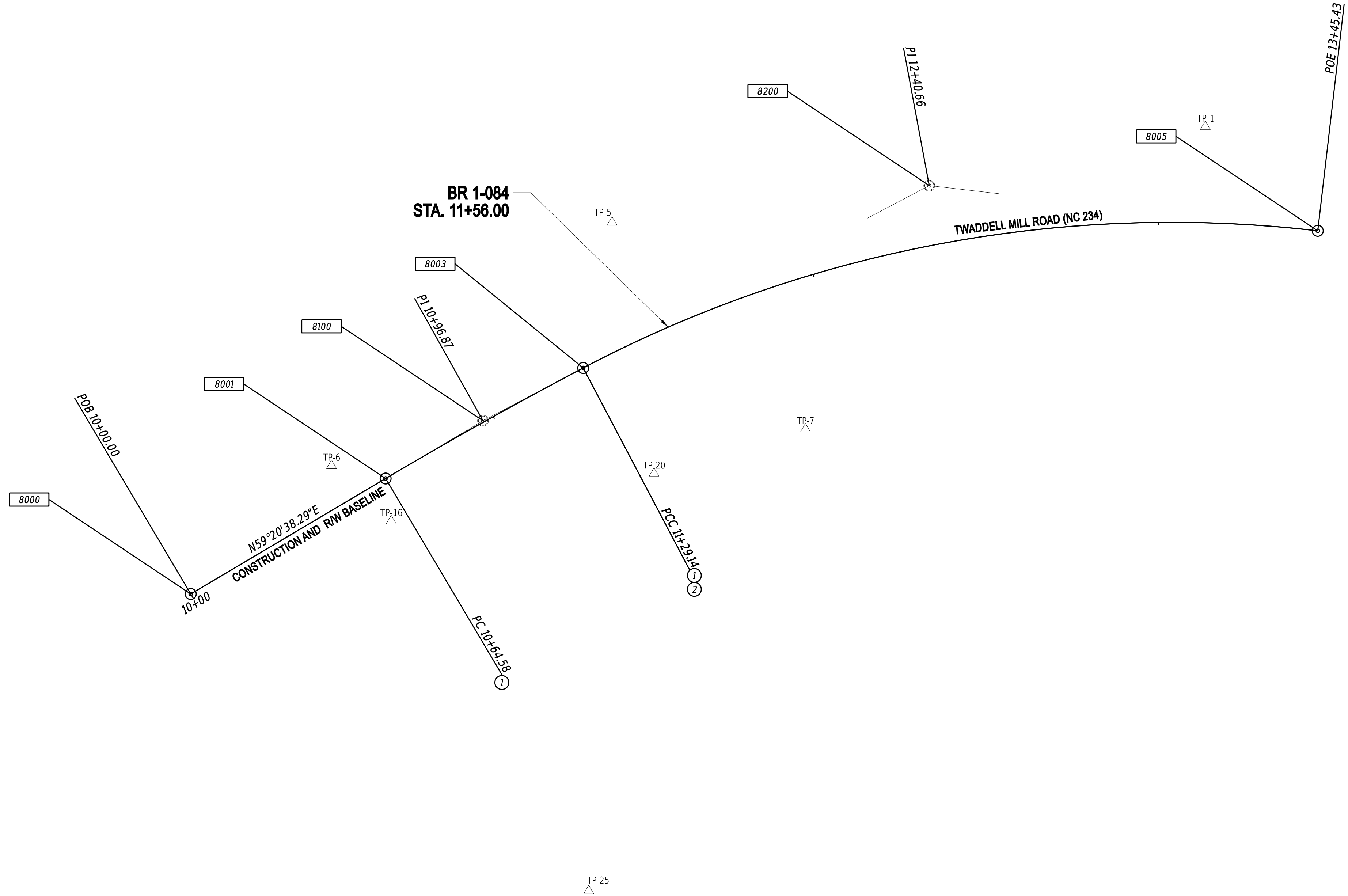
PCC(8003)	11+29.14	668500.8210	604914.3358
HP1(8200)	12+40.66	668552.8129	605012.9966
CC(8004)		668182.3375	605082.1689
POE(8005)	13+45.43	668539.9252	605123.7712
RADIUS:	360.00		
DELTA:	34.424 RIGHT		
DEGREE OF CURVE(ARC):	15.916		
LENGTH:	216.29		
TANGENT:	111.52		
CHORD:	213.05		
MIDDLE ORDINATE:	16.12		
EXTERNAL:	16.88		
TANGENT DIRECTION:	N62°12'42.68"E		
RADIAL DIRECTION:	S27°47'17.32"E		
CHORD DIRECTION:	N79°25'26.23"E		
RADIAL DIRECTION:	S06°38'09.79"W		
TANGENT DIRECTION:	S83°21'50.21"E		

CONSTRUCTION ALIGNMENT CONTROL

POINT NO.	STATION	OFFSET	NORTHING	EASTING
8000	10+00.00	0.00	668436.3792	604802.4453
8005	13+45.43	0.00	668539.9252	605123.7712

HORIZONTAL / VERTICAL CONTROL DATA

POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
TP-1	13+12.60	-27.36	668569.5840	605091.7090	168.67
TP-2	13+31.86	-134.44	668675.2700	605120.7610	160.93
TP-3	12+55.45	-115.41	668653.4767	605018.5966	157.91
TP-4	11+61.78	-143.23	668646.9548	604888.8436	159.39
TP-5	11+53.48	-33.79	668542.3190	604922.5442	161.86
TP-6	10+53.18	-10.99	668472.9487	604842.5874	172.38
TP-7	11+83.48	41.37	668483.3591	604977.7042	168.00
TP-16	10+59.77	11.27	668457.1606	604859.6077	173.01
TP-20	11+33.38	36.04	668470.7010	604934.5299	163.64
TP-25	10+54.43	130.72	668351.6854	604915.9207	170.72
TP-28	13+24.32	131.45	668410.5111	605095.2290	178.87



DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83 / 2011 / EPOCH 2010.00).
VERTICAL - THIS PROJECT IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88 BASED ON MODELED GEOID 12A).

30-APR-2026 22:34 \\s:\m-del\pdpw\1\CS_paf_work_dir\832138984_32\HV01_BRSE_T201907103_DOT.dgn

<p>ADDENDA / REVISIONS</p>	<p>SCALE</p> <p>FEET</p>	<p>BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>CONTRACT</td><td>T201907103</td></tr> <tr><td>COUNTY</td><td>NEW CASTLE</td></tr> </table>	CONTRACT	T201907103	COUNTY	NEW CASTLE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>BRIDGE NO.</td><td>1-084</td></tr> <tr><td>DESIGNED BY:</td><td>E. YODER</td></tr> <tr><td>CHECKED BY:</td><td>M. RADOVIC</td></tr> </table>	BRIDGE NO.	1-084	DESIGNED BY:	E. YODER	CHECKED BY:	M. RADOVIC	<p>HORIZONTAL AND VERTICAL CONTROL</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>SECTION</td><td>BR</td></tr> <tr><td>SHEET NO.</td><td>06</td></tr> </table>	SECTION	BR	SHEET NO.	06
CONTRACT	T201907103																			
COUNTY	NEW CASTLE																			
BRIDGE NO.	1-084																			
DESIGNED BY:	E. YODER																			
CHECKED BY:	M. RADOVIC																			
SECTION	BR																			
SHEET NO.	06																			

RIGHT-OF-WAY MONUMENT SCHEDULE						
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING	DELINEATOR
M1	CAPPED REBAR	11+42.03	-16.50	668521.4932	604918.6865	WOOD
M2	CAPPED REBAR	11+55.34	-35.00	668544.2503	604923.9166	WOOD
M3	CAPPED REBAR	11+75.60	-30.00	668547.8938	604946.2710	WOOD
M4	CAPPED REBAR	11+83.18	-16.50	668537.9230	604958.4317	WOOD
M5	CAPPED REBAR	13+13.24	-16.50	668558.7058	605092.1128	WOOD
M6	CAPPED REBAR	13+30.92	-37.16	668578.3616	605112.1284	WOOD
M7	CAPPED REBAR	11+33.41	18.34	668486.4703	604926.4881	WOOD
M8	CAPPED REBAR	11+61.01	28.38	668488.2317	604954.1146	WOOD
M9	CAPPED REBAR	11+78.24	18.34	668503.4446	604965.4689	WOOD

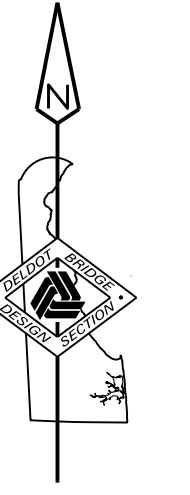
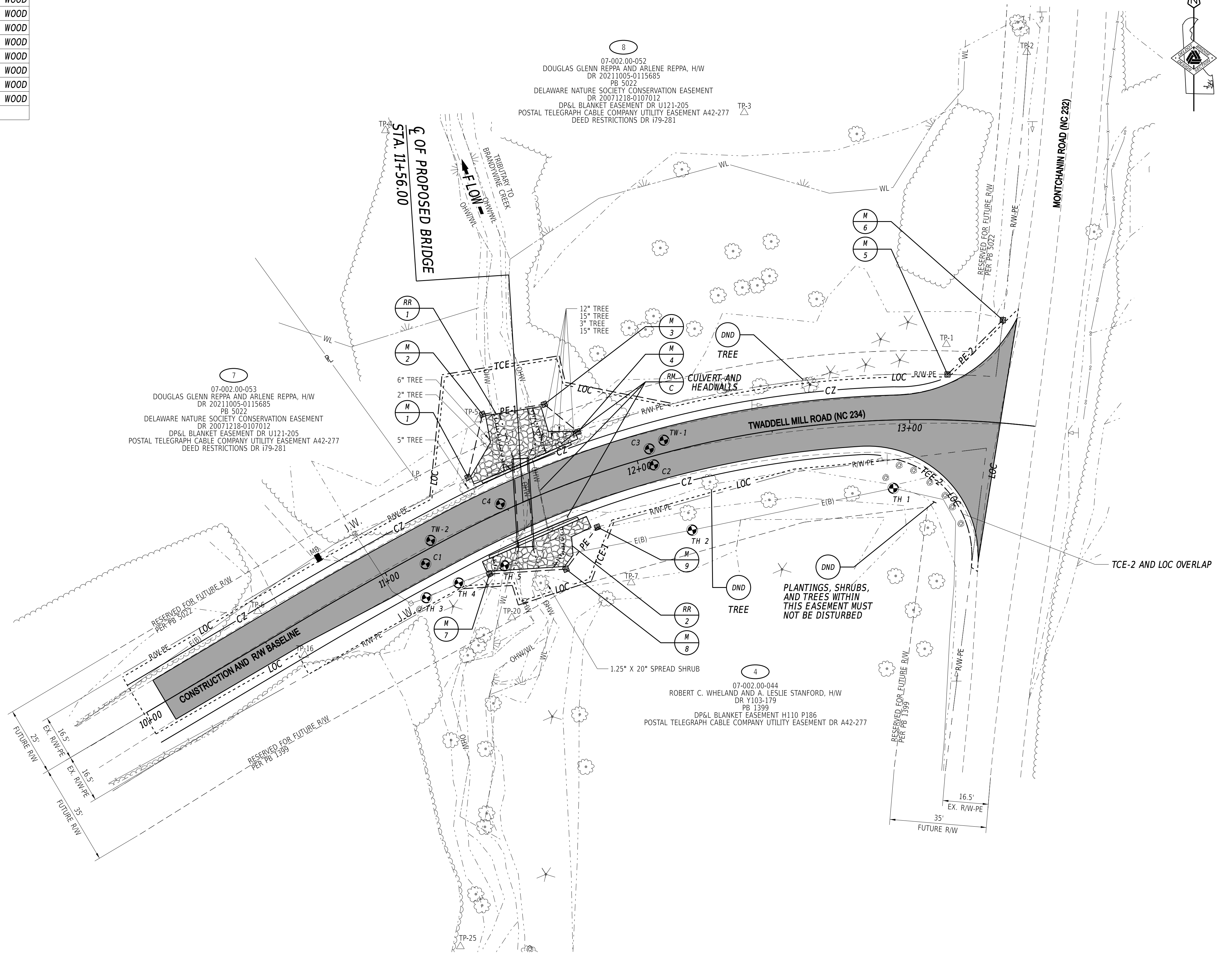
*DELINEATORS ARE INCIDENTAL TO THE MONUMENT BEING INSTALLED.

SOIL BORING SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
TW-1	12+11.19	-4.53	SEE BORING LOG
TW-2	11+20.02	-2.37	SEE BORING LOG

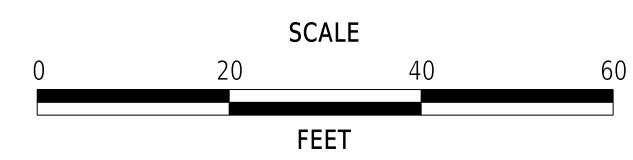
ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
C1	11+14.36	4.22	8" HMA, 5" ATB, 1" ST
C2	12+05.40	3.15	8" HMA, 5.5" ATB, 1" ST
C3	12+05.40	-2.85	8" HMA, 6" ATB, 1" ST
C4	11+48.37	-2.80	9" HMA, 5" ATB, 0.75" ST

HMA - HOT MIX ASPHALT
 ATB - ASPHALT TREATED BASE
 ST - SURFACE TREATMENT

RIPRAP SCHEDULE		
NO.	TYPE	AREA (SY)
RR1	R-5	55.86
RR2	R-5	36.35



ADDENDA / REVISIONS

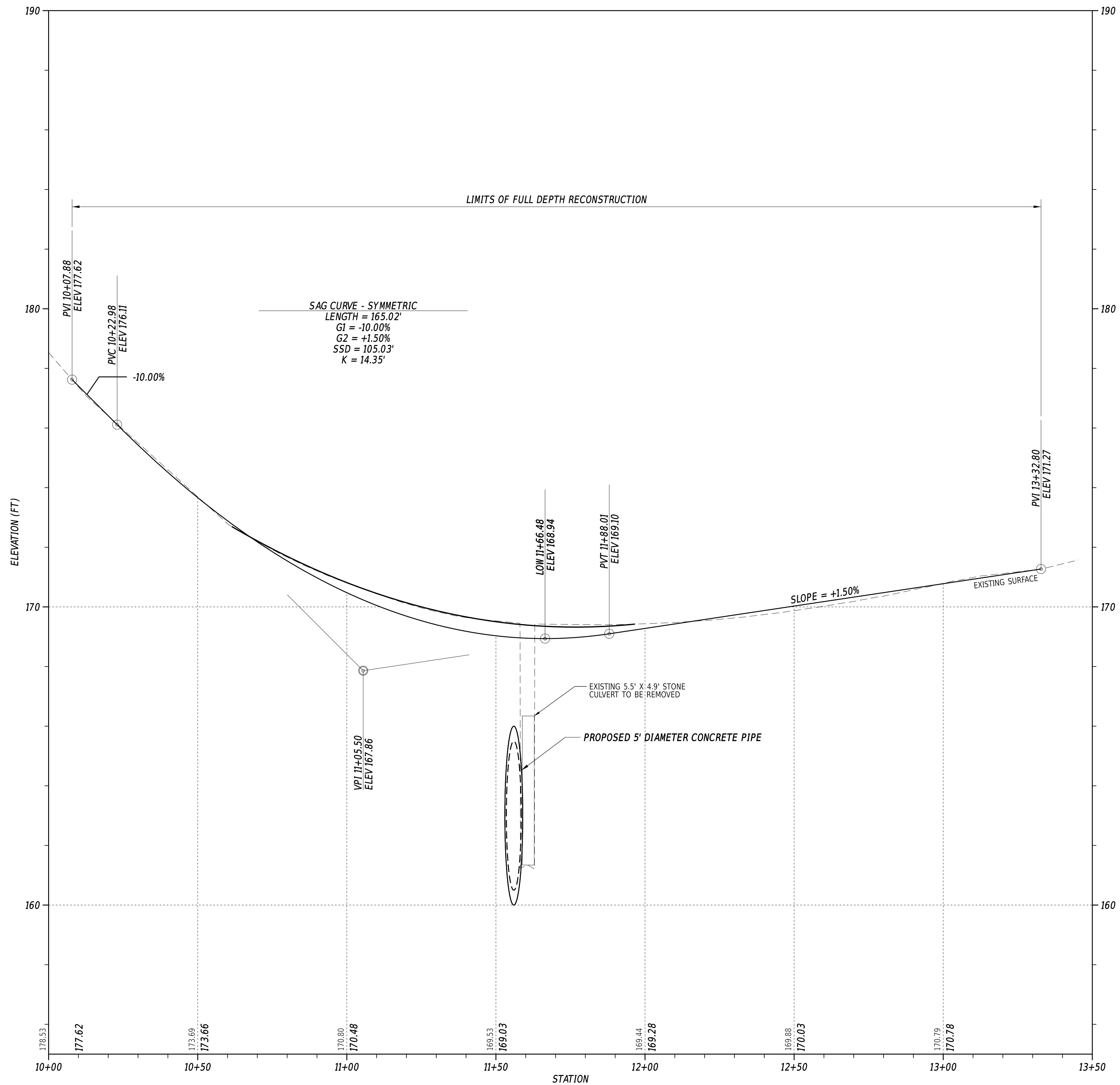


**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

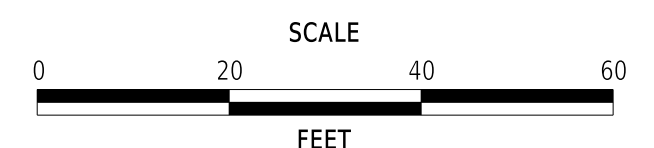
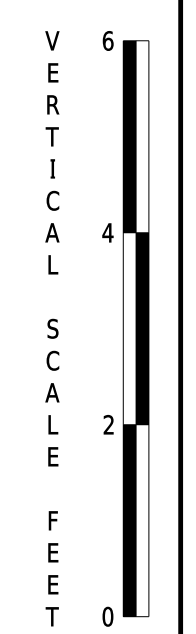
CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

CONSTRUCTION PLAN

SECTION	BR
SHEET NO.	07



N234 - TWADDELL MILL ROAD



30-APR-2026 22:35 \\scm-del002\p21\CS_pof_work_dir\832138984_39\PF01_BRBF_T201907103_DOT.dgn

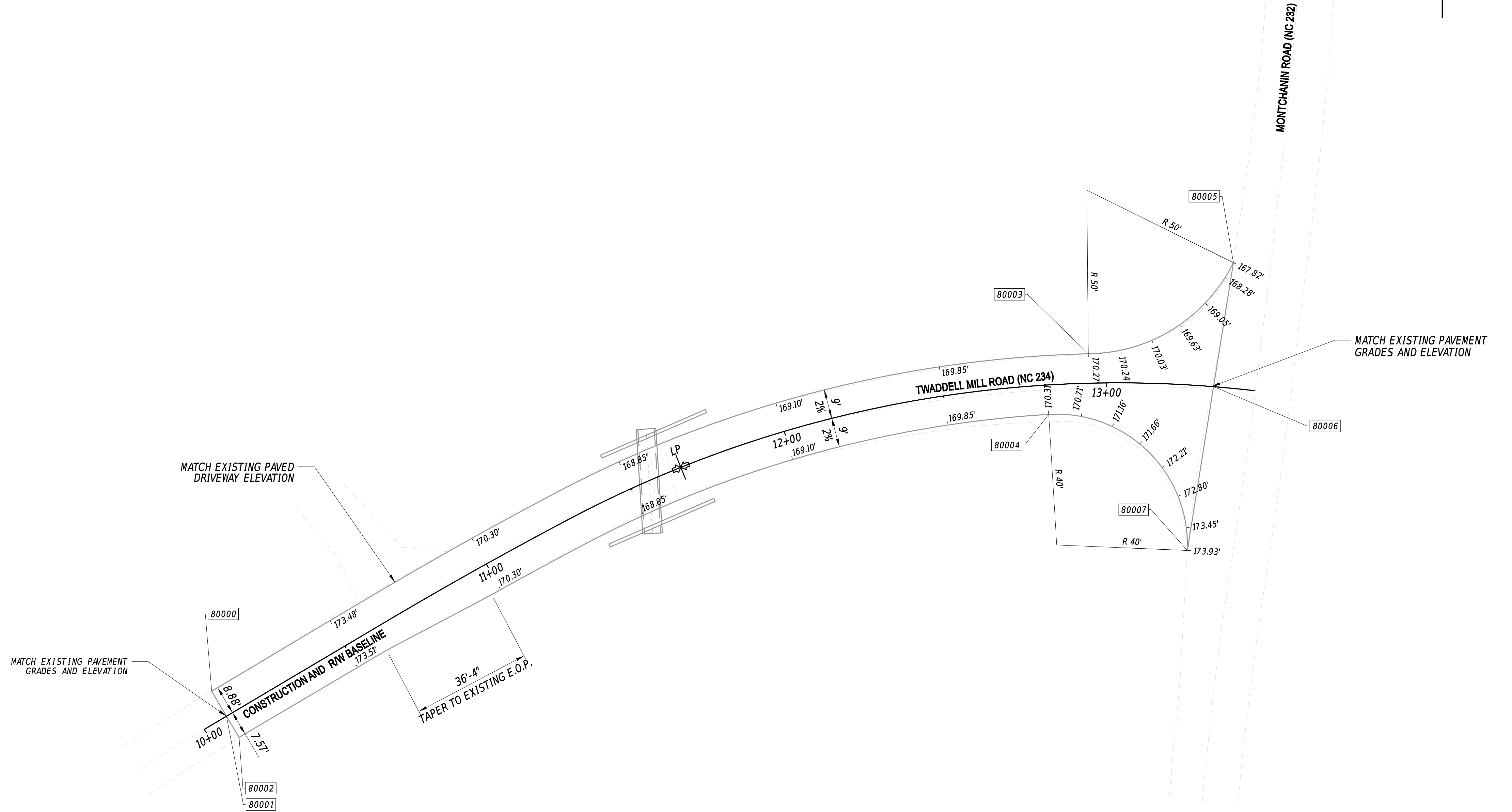
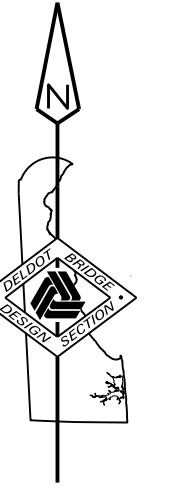
ADDENDA / REVISIONS	

BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

PROFILE	SECTION	BR
	SHEET NO.	08

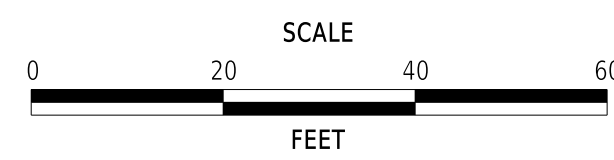
COORDINATE LIST				
NO.	STATION	OFFSET	NORTHING	EASTING
80000	10+07.88	-8.88'	668443.9945	604797.9316
80001	10+07.88	0.00'	668440.3971	604809.2241
80002	10+07.88	7.57'	668429.6855	604806.4128
80003	12+94.67	-9.00'	668551.2201	605072.8765
80004	12+81.78	9.00'	668532.6846	605060.7774
80005	13+35.51	-38.27'	668579.0587	605117.2727
80006	13+32.80	-0.00'	668541.1644	605111.2024
80007	13+28.19	50.54'	668491.0848	605103.1801



NOTES:

1. OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.
2. RADII ARE GIVEN TO THE EDGE OF PAVEMENT.
3. PROPOSED PAVEMENT THAT TIES INTO EXISTING PAVEMENT SHALL MATCH GRADES AND CROSS SLOPE OF EXISTING PAVEMENT.
4. ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.

ADDENDA / REVISIONS

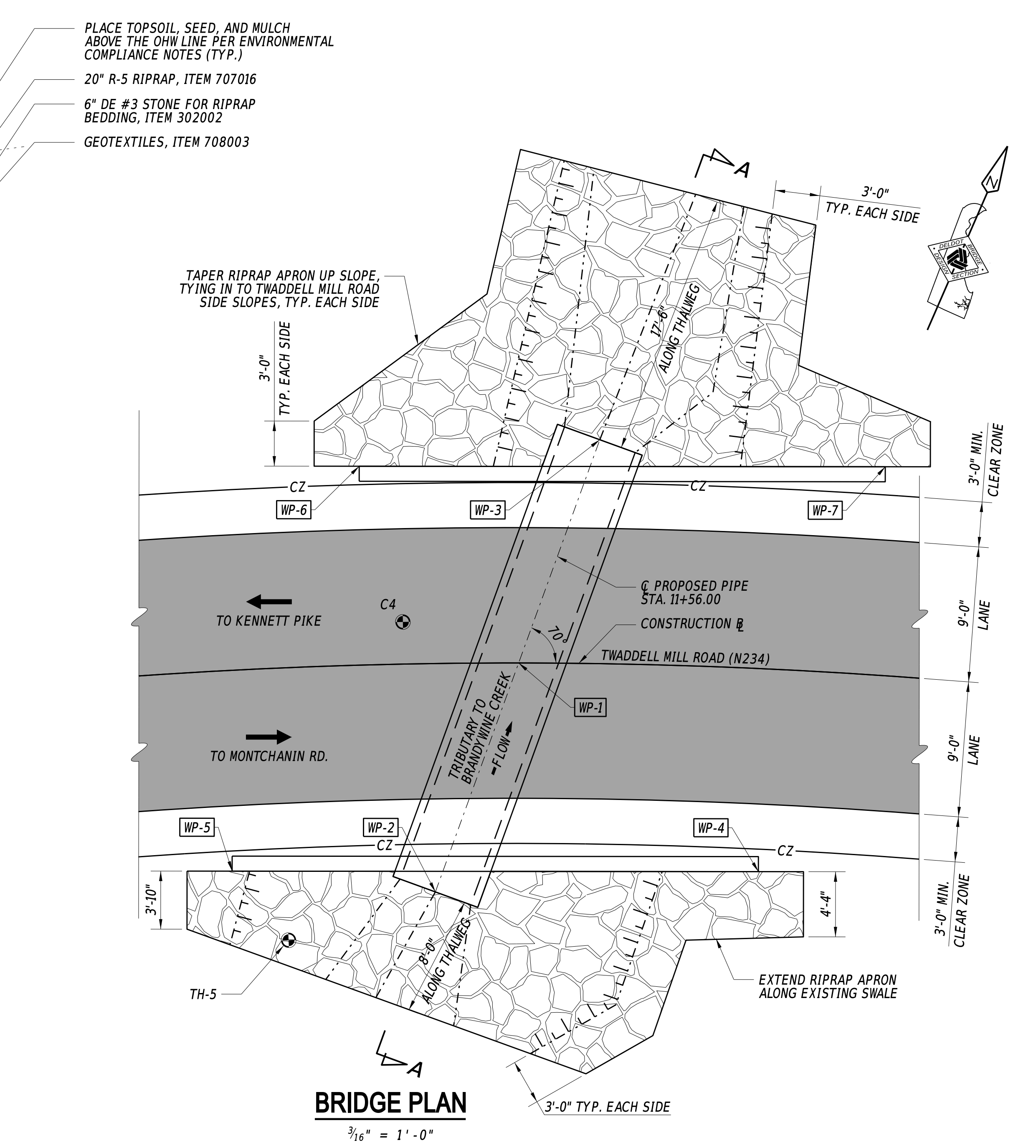
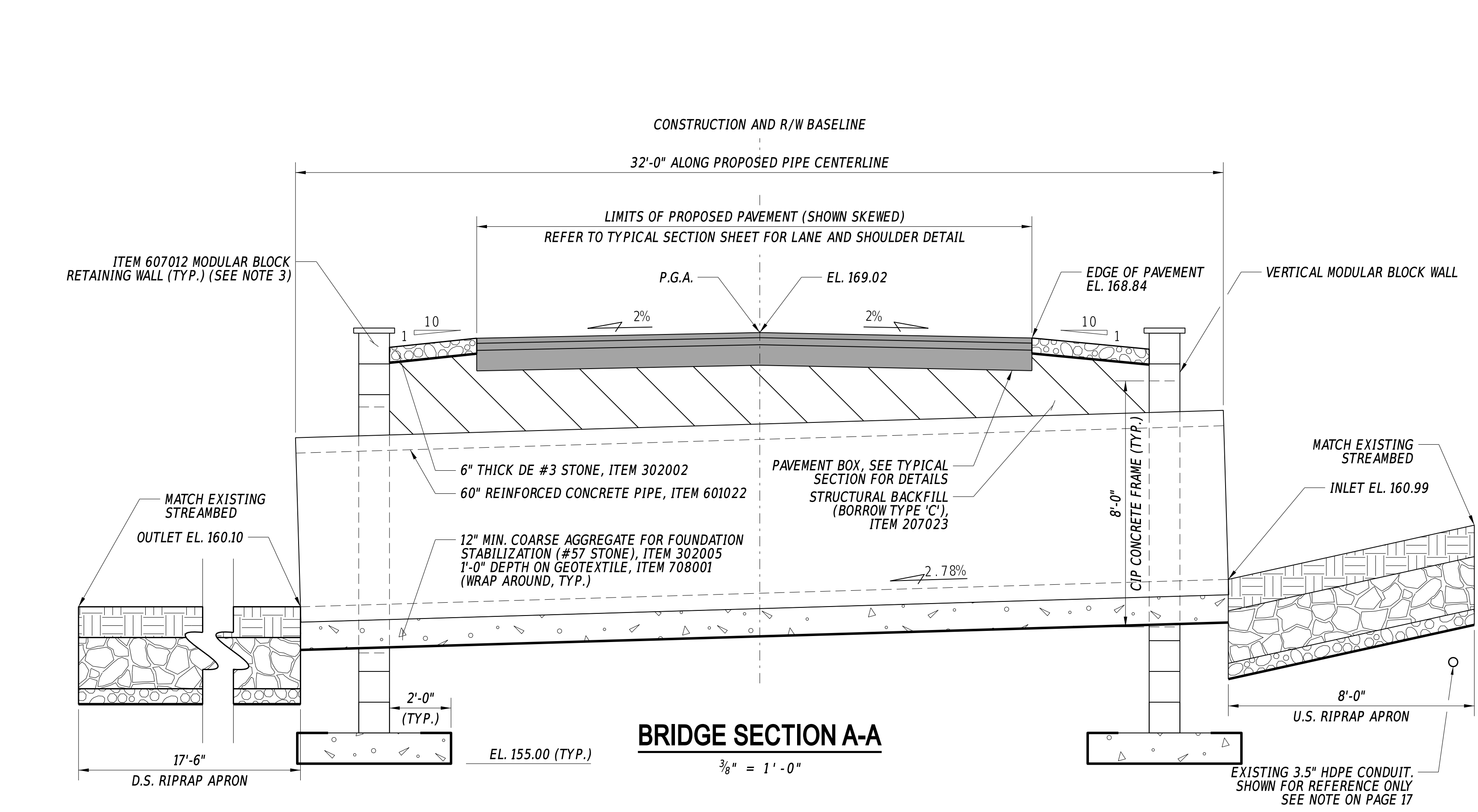
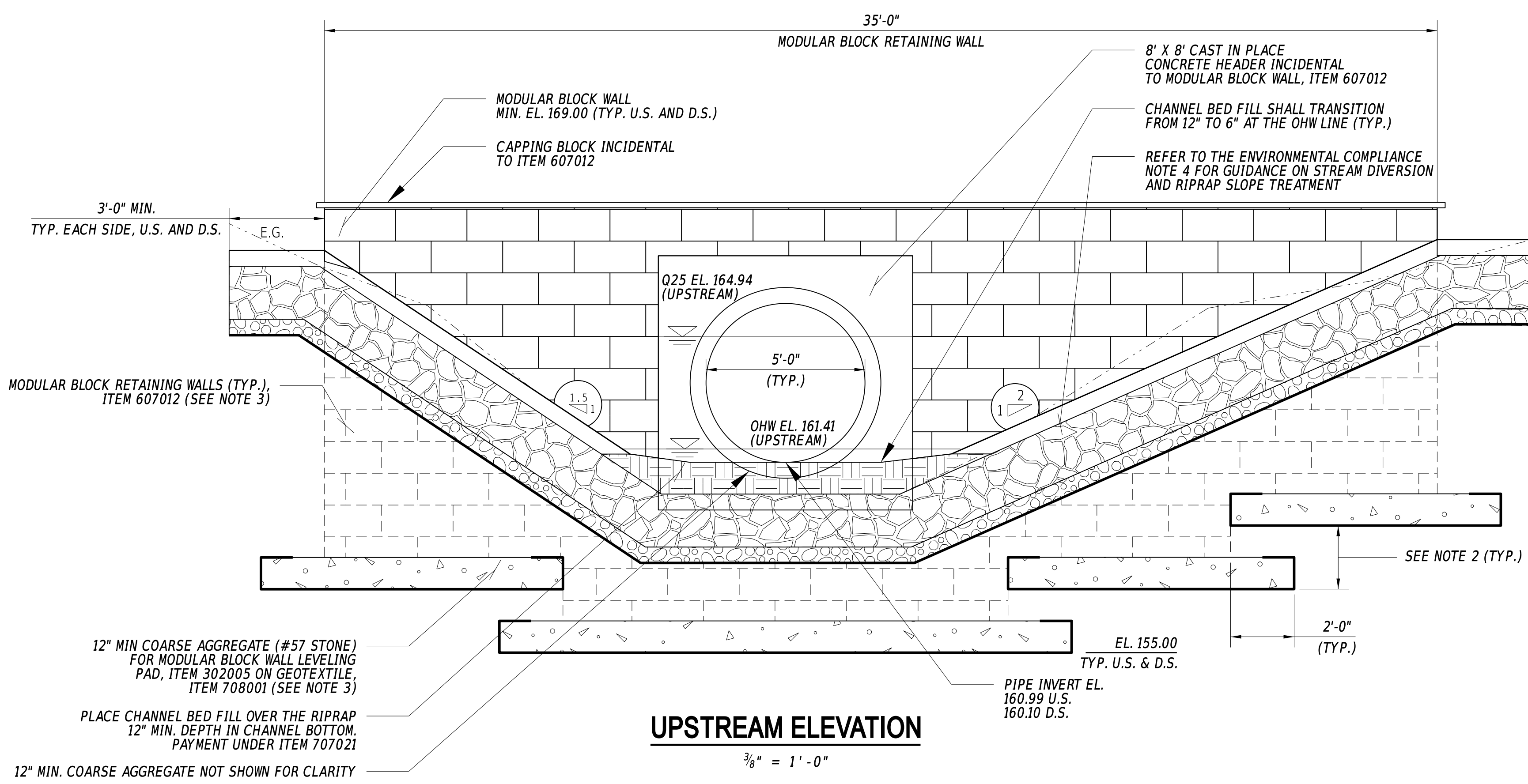


BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

GRADES AND GEOMETRICS

SECTION	BR
SHEET NO.	09



STRUCTURAL WORKING POINTS				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
WP-1	11+56.02	-0.00'	668512.4541	604938.5628
WP-2	11+50.25	15.19'	668496.2812	604939.5728
WP-3	11+61.19	-14.89'	668528.2190	604937.5782
WP-4	11+72.61	13.50'	668506.1091	604958.7320
WP-5	11+36.23	13.34'	668492.1423	604926.6255
WP-6	11+45.77	-13.22'	668520.2044	604923.6092
WP-7	11+79.51	-13.87'	668534.1661	604955.7040

- NOTES:**
- IN THE SUBMITTAL (STANDARD SPEC 607.3.1), INCLUDE SHAPE AND SETBACK OF BRICKS WHICH SHALL BE FLAT FACED, AND NEAR VERTICAL. THE COLOR OF THE BRICKS SHALL BE DELAWARE BLUE GRANITE OR SIMILAR, TO BE APPROVED BY ENGINEER.
 - DUE TO MODULAR BLOCK RETAINING WALL BEING DESIGNED BY MANUFACTURER AND VARIATION IN EXISTING CONDITIONS, CONTRACTOR AND ENGINEER WILL DETERMINE WHETHER OR NOT STEPPING OF MODULAR WALL IS NECESSARY. FOR QUANTITY ESTIMATION PURPOSES, IT WAS ASSUMED STEPS OF 2'-0" WERE USED.
 - FOR QUANTITY ESTIMATION OF ITEM 607012, THE DEPTH AND REQUIRED AMOUNT OF MODULAR BLOCK RETAINING WALLS WERE ESTIMATED BASED ON BORING LOGS AND STEPS MENTIONED IN NOTE 2. THE SIZE OF POSSIBLE LEVELING PAD/FOUNDATION FOR MODULAR BLOCK RETAINING WALLS WERE ESTIMATED TO BE 1'-0" DEEP AND 5'-0" WIDE FOR ITEM 708001 - DE #57 STONE.

30-APR-2026 22:35 \\scm-del00p021\CS_pdf_work_dir\832138984_22\PE01_BRSF_T201907103_DOT.dgn

BORING: TW-1		DATE DRILLED: 8/26/19	
STATION: 12+11.23		OFFSET: -4.67	ELEVATION: 169.49
COMMENTS: N/A		NORTHING: 668534.893	EASTING: 604989.492
SAMPLE INFORMATION			
NO.	DEPTH	BLOWS / 6"	DESCRIPTION
1	0.0		MOIST GRAY FINE GRAVEL W/SOME COARSE TO FINE SAND AND SILT.
	1.5		
2	1.5	7	MOIST VERY STIFF GRAY FINE SANDY FINE GRAVELLY SILT W/SOME COARSE SAND.
		9	
		11	
	2.0	5	
3	2.0	4	MOIST MEDIUM DENSE GRAY FINE GRAVEL W/SOME COARSE SAND, TRACE OF FINE SAND AND SILT.
		7	
		6	
	4.0	5	
4	4.0	4	MOIST MEDIUM DENSE GRAY FINE GRAVEL W/SOME FINE TO COARSE SAND AND SILT.
		7	
		19	
	6.0	13	
5	6.0	8	MOIST DENSE GRAY SILTY FINE SANDY FINE GRAVEL W/SOME COARSE SAND.
		15	
		16	
	8.0	8	
6	8.0	14	WET MEDIUM DENSE GRAY SILTY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND.
		12	
		9	
	10.0	13	
7	10.0	17	WET VERY DENSE GRAY SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.
		37	
		27	
	12.0	19	
8	12.0	10	WET VERY DENSE GRAY SILTY COARSE TO FINE SAND AND FINE GRAVEL.
		29	
		38	
	14.0	43	
9	14.0	37	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.
		39	
		40	
	16.0	31	
10	16.0	14	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.
		19	
		39	
	18.0	41	
11	18.0	50/2	WET VERY DENSE GRAY FINE TO COARSE SAND W/SOME SILT.
	24.0		
R-1	24.0		WISSAHICKON SCHIST
	26.8		
R-2	26.8		WISSAHICKON SCHIST
	31.8		
	31.8		END BORING
	36.8		

BORING: TW-2		DATE DRILLED: 8/26/19	
STATION: 11+20.09		OFFSET: -2.59	ELEVATION: 170.45
COMMENTS: N/A		NORTHING: 668498.637	EASTING: 604905.167
SAMPLE INFORMATION			
NO.	DEPTH	BLOWS / 6"	DESCRIPTION
1	0.0		MOIST GRAY COARSE TO FINE SANDY FINE GRAVEL W/SOME SILT.
	1.5		
2	1.5	4	MOIST LOOSE GRAY SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.
		4	
		6	
	2.0	8	
3	2.0	3	MOIST MEDIUM DENSE GRAY SILTY FINE SAND W/SOME COARSE SAND AND FINE GRAVEL.
		5	
		8	
	4.0	6	
4	4.0	9	MOIST MEDIUM DENSE GRAY SILTY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND.
		12	
		5	
	6.0	5	
5	6.0	6	MOIST MEDIUM DENSE GRAY SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.
		5	
		9	
	8.0	10	
6	8.0	19	MOIST DENSE GRAY COARSE TO FINE SAND AND FINE GRAVEL W/SOME SILT.
		21	
		21	
	10.0	25	
7	10.0	50/0	NO RECOVERY
	12.0		
8	12.0	50/2	MOIST DENSE GRAY FINE GRAVEL W/SOME FINE TO COARSE SAND AND SILT.
	14.0		
9	14.0	50/1	NO RECOVERY
	16.0		
10	16.0	13	MOIST DENSE GRAY SILTY FINE SAND W/SOME COARSE SAND AND FINE GRAVEL.
		18	
		21	
	18.0	50/2	
11	18.0	28	MOIST VERY DENSE GRAY SILTY FINE TO COARSE SAND AND FINE GRAVEL.
	24.0	50/2	
12	24.0	50/4	MOIST VERY DENSE GRAY SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.
	29.0		
13	29.0	50/1	NO SIEVE ANALYSIS - INDICATION OF MOIST VERY DENSE GRAY SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.
	34.0		
14	34.0	50/2	MOIST VERY DENSE GRAY FINE GRAVEL W/SOME FINE TO COARSE SAND AND SILT.
	39.0		
R-1	39.0		WISSAHICKON SCHIST
	40.0		
R-2	40.0		WISSAHICKON SCHIST
	45.0		
	45.0		END BORING
	50.0		

NOTE:

1. THE INFORMATION SHOWN ON THIS SHEET IS BASED ON LIMITED INVESTIGATIONS, AND IS IN NO WAY WARRANTED TO BE INDICATIVE OF ACTUAL CONDITIONS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION. SEE SECTION 102.5 OF THE STANDARD SPECIFICATIONS FOR MORE DETAIL.
2. BORING LOGS MADE BY DELAWARE DEPARTMENT OF TRANSPORTATION, SUBSURFACE EXPLORATION COMPLETED BY THE WALTON CORPORATION.
3. LOCATIONS OF BORINGS ARE REFERENCED TO THE CONSTRUCTION PLAN AND LABELED AS TW-1 AND TW-2.
4. BORING LOGS ARE COMPLETED BY SOIL SAMPLING USING A 3.25" DIAMETER HOLLOW STEM AUGER, DRIVEN WITH 140 LB HAMMER FALLING 30". ALL DEPTHS ARE GIVEN IN FEET.

ADDENDA / REVISIONS

NOT TO SCALE

**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

BORING LOGS

SECTION	BR
SHEET NO.	11

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, CONTACT THE ENVIRONMENTAL STUDIES SECTION AT (302-760-2264 OR DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV) TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

- A. PERMIT REQUIREMENTS/APPROVALS *: U.S. ARMY CORPS OF ENGINEERS (COE): NWP #3 (A) AND (C), NO PCN REQUIRED
DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT IS CONSISTENT WITH DELAWARE CODE CHAPTER 72, SECTION 7217, SPECIAL EXEMPTION (B)
DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED (PROJECT IS NOT LOCATED IN CRITICAL RESOURCE WATERS)
NCC DEPT. OF LAND USE (NCC): NCC FLOODPLAIN PERMIT
- * THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THESE APPROVALS.
- ** THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE THEY ARE DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

B. CONSTRUCTION RESTRICTIONS:

FISHERIES - NONE

ENDANGERED SPECIES:

- i. SOUTHERN REIN ORCHID: FOLLOW STRINGENT SEDIMENTATION AND EROSION CONTROL MEASURES TO AVOID INDIRECT IMPACTS
- ii. TRICOLORED BAT: ONLY CONDUCT TREE CLEARING AND TRIMMING ACTIVITIES FROM AUGUST 1 TO MAY 14, OUTSIDE THE PUP SEASON, AND ENSURE THAT ALL TREE REMOVAL AND TRIMMING OCCURS WITHIN 100 FT OF THE ROAD OR RAIL SURFACE

MIGRATORY BIRDS:

- IF BRIDGE WORK IS PROPOSED DURING THE BREEDING SEASON (APRIL 15 TO AUGUST 1), CONTACT DELDOT ENVIRONMENTAL STUDIES AT DOT_EnvironmentalStudies@delaware.gov NO MORE THAN 14 DAYS PRIOR TO THE START OF WORK FOR A SURVEY TO DETERMINE IF ACTIVE NESTS ARE PRESENT. IF THE SURVEY DETECTS NESTING ACTIVITY, THE FOLLOWING STEPS MUST BE TAKEN TO AVOID NEST DESTRUCTION AND TAKE, WHICH IS A VIOLATION OF STATE LAW:
 - i. ONLY PERFORM CONSTRUCTION ACTIVITIES FROM AUGUST 2 TO APRIL 14;
 - ii. OR IF CONSTRUCTION CANNOT BE PERFORMED FROM AUGUST 2 TO APRIL 14, A DETERRANT SUCH AS MESH NETTING MUST BE USED TO BLOCK ACCESS TO NESTING SITES ON THE UNDERSIDE OF THE BRIDGE(S) IN ACCORDANCE WITH SPECIAL ROVISION 763623 - NETTING MIGRATORY BIRD EXCLUSION. THE MATERIAL WOULD NEED TO BE IN PLACE NO LATER THAN PRIL 14, THE UNDERSIDE OF THE BRIDGE(S) WOULD NEED TO BE FULLY ENCAPSULATED, AND THE MATERIAL MUST BE LEFT IN PLACE UNTIL CONSTRUCTION BEGINS.

3. CULTURAL RESOURCE ISSUES:

- A. NONE

4. STREAM RESTORATION AND RIPRAP TREATMENT:

- A. FOLLOW THE SPECIAL PROVISION FOR ITEM 707021 - CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFFSITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL MUST CONFORM TO THE REQUIREMENTS OF ITEM 707021 - CHANNEL BED FILL. RECESS ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION AND CHOKE WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH SPECIFIED MATERIAL. PAYMENT UNDER ITEM 209002 - BORROW, TYPE B. COVER THE RIPRAP WITH A MINIMUM OF 12" CHANNEL BED FILL. MATCH THE FINAL CHANNEL ELEVATIONS WITH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS WILL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM 707021 - CHANNEL BED FILL.
- B. RESTORE OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) TO EXISTING CONDITIONS. FILL ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES WITH CHANNEL BED FILL. PAYMENT UNDER ITEM 707021 - CHANNEL BED FILL.
- C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.
- D. CHOKE ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, WITH DELAWARE #57 STONE. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF CHANNEL BED FILL OR TOPSOIL (DEPENDING ON LOCATION AS INDICATED BELOW) THROUGH THE RIPRAP.
 - 1. BENEATH THE BRIDGE: AFTER PLACING DELAWARE #57 STONE, PERFORM A FINAL CHOKE OF CHANNEL BED FILL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PAYMENT UNDER ITEM 707021 - CHANNEL BED FILL. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM.
 - 2. ALL OTHER LOCATIONS: FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PLACE AN ADDITIONAL 6-INCH TOPSOIL LAYER ON TOP OF THE RIPRAP. SLOPE SEEDING WILL BE DONE WITH ITEM 908019 - STREMBANK SEED MIX, SEEDING. FOLLOWING THE SEEDING OPERATION, INSTALL ITEM 908020 - EROSION CONTROL BLANKET (ECB) MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS. ECB AT TOE OF SLOPE CAN BE EITHER TRENCHED IN OR STAPLED AT 6" ON CENTER. COMPLETE ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING PRIOR TO ANY RAIN EVENT. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.
- E. THE TOPSOIL/SEED/MULCH CAN BE PLACED BEFORE OR AFTER THE REMOVAL OF THE STREAM DIVERSION. IF THE PLACEMENT OCCURS AFTER STREAM DIVERSION REMOVAL, USE A TURBIDITY CURTAIN TO MINIMIZE IN-STREAM SEDIMENTATION. PAYMENT WILL BE INCIDENTAL TO ITEM 909005 - STREAM DIVERSION.

5. PROTECTION OF RESOURCES:

- A. KEEP CLEARING IN WETLAND AREAS TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. SUPPORT ALL EQUIPMENT TRAVERSING WETLANDS AND SUBAQUEOUS LAND ON MATS. PAYMENT FOR MATS WILL BE MADE UNDER ITEM 621500 - TEMPORARY TIMBER MAT. IN WETLAND AREAS THAT ARE CLEARED, NO GRUBBING EXCEPT WHERE NECESSARY TO CONSTRUCT PROJECT COMPONENTS SUCH AS FOUNDATIONS AND RIPRAP PROTECTION IS PERMITTED. CUT VEGETATION FLUSH WITH THE GROUND (I.E. NO DISTURBANCE OF THE ROOT MAT). RESTORE TEMPORARILY DISTURBED WETLAND AREAS TO GRADE AND SEED WITH ITEM 908027 - TEMPORARY GRASS SEEDING, WET GROUND.
 - B. USE SILT FENCE OR CONSTRUCTION SAFETY FENCE ALONG THE LIMITS OF CONSTRUCTION IN ALL AREAS WHERE WATER WETLANDS ARE BEING IMPACTED (AS SHOWN ON ENVIRONMENTAL COMPLIANCE SHEETS), AND ALSO IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LIMIT OF CONSTRUCTION (AS SHOWN ON CONSTRUCTION PLAN SHEETS). ANY CONTRACTOR ACCESS BEYOND THE LIMIT OF CONSTRUCTION IS STRICTLY PROHIBITED.
 - C. USE SANDBAGS OR COMPOST FILTER LOG (CFL) TO SECURE SILT FENCE AT AREAS ADJACENT TO WOODED UPLANDS/ ALL WETLANDS IN LIEU OF TRENCHING UNLESS PROPER EROSION AND SEDIMENT CONTROL CANNOT BE MAINTAINED. REMOVE SANDBAGS AND CFLS (AND CONTENTS) IN THEIR ENTIRETY WHEN NO LONGER NEEDED. SANDBAGS/CFLS USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM 905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (302-760-2259 OR DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.
 - D. CLEARLY MARK ALL TREES TO BE REMOVED WITH PAINT PRIOR TO THE EROSION AND SEDIMENT CONTROL MEETING.
6. ANY STAGING AND/OR STOCKPILE AREA(S) OUTSIDE THE PROJECT'S LIMIT OF CONSTRUCTION (LOC) THAT INDIVIDUALLY OR CUMULATIVELY ARE LARGER THAN 10,000 SQUARE FEET, MUST BE APPROVED BY DELDOT'S ARCHAEOLOGIST. CONTACT THE CONSTRUCTION AREA ENGINEER WHO WILL COORDINATE WITH DELDOT'S ARCHAEOLOGIST.
- WITHIN 30 DAYS, DELDOT WILL:
- 1. APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S);
 - 2. REJECT THE REQUEST; OR
 - 3. PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
OT-1	UPSTREAM LOC AND E&S CONTROLS	63.49	0.0015	0.98	USACE/DNREC	N/A
OT-2	CULVERT TO FRAME OPEN WATER	51.95	0.0012	0.80	USACE/DNREC	N/A
OT-3	DOWNSTREAM LOC AND E&S CONTROLS	211.02	0.0048	3.26	USACE/DNREC	N/A
TOTAL TEMPORARY OPEN WATER IMPACTS		326.46	0.0075	5.04		

PERMANENT OPEN WATER IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
O-1	UPSTREAM RIPRAP	53.01	0.0012	0.82	USACE/DNREC	IMPACT
O-2	UPSTREAM RIPRAP LOSS	36.94	0.0008	0.57	USACE/DNREC	LOSS
O-3	STREAM TO FILL	100.82	0.0023	1.56	USACE/DNREC	LOSS
O-4	DOWNSTREAM RIPRAP LOSS	56.88	0.0013	0.88	USACE/DNREC	LOSS
O-5	DOWNSTREAM RIPRAP	188.38	0.0043	2.91	USACE/DNREC	IMPACT
TOTAL PERMANENT WATER IMPACTS		436.03	0.0100	6.73		

TEMPORARY WETLAND IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
WT-1	UPSTREAM LOC	28.96	0.0007	0.45	USACE	IMPACT
TOTAL TEMPORARY WETLAND IMPACT AREAS		28.96	0.0007	0.45		

PERMANENT WETLAND IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
W-1	WETLAND TO RIPRAP	16.63	0.0004	0.26	USACE	LOSS
TOTAL PERMANENT WETLAND IMPACTS		16.63	0.0004	0.26		

ORIGINAL SHEET PREPARED BY ERIC YODER ON 07-24-2023. SHEET LAST UPDATED ON 03-25-2026.

WETLANDS DELINEATED BY T.J. AUSTIN ON 06-14-2023 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987)".

ADDENDA / REVISIONS

NOT TO SCALE

**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

**ENVIRONMENTAL
COMPLIANCE NOTES**

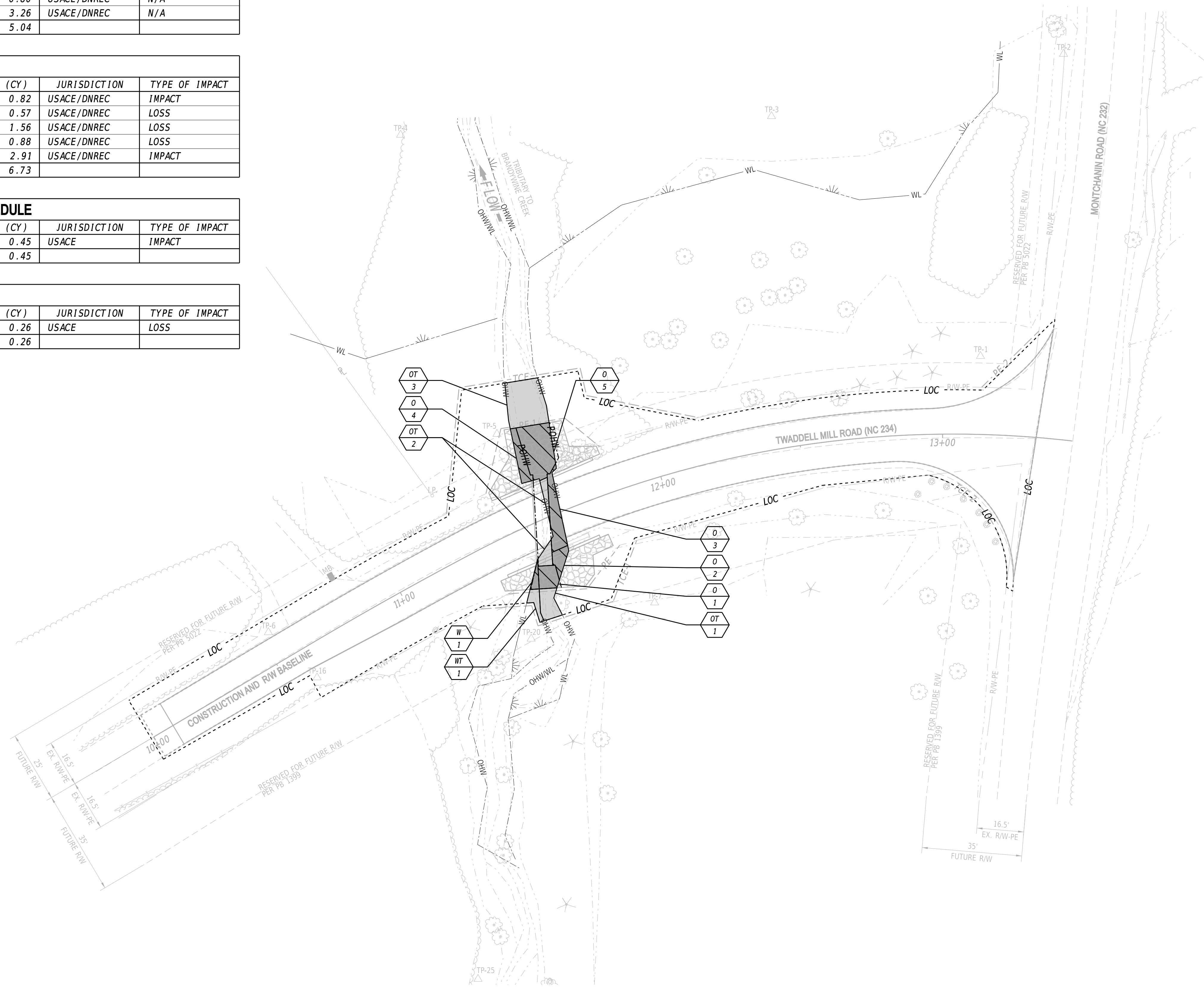
SECTION
BR
SHEET NO.
12

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
OT-1	UPSTREAM LOC AND E&S CONTROLS	63.49	0.0015	0.98	USACE/DNREC	N/A
OT-2	CULVERT TO FRAME OPEN WATER	51.95	0.0012	0.80	USACE/DNREC	N/A
OT-3	DOWNSTREAM LOC AND E&S CONTROLS	211.02	0.0048	3.26	USACE/DNREC	N/A
TOTAL TEMPORARY OPEN WATER IMPACTS		326.46	0.0075	5.04		

PERMANENT OPEN WATER IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
O-1	UPSTREAM RIPRAP	53.01	0.0012	0.82	USACE/DNREC	IMPACT
O-2	UPSTREAM RIPRAP LOSS	36.94	0.0008	0.57	USACE/DNREC	LOSS
O-3	STREAM TO FILL	100.82	0.0023	1.56	USACE/DNREC	LOSS
O-4	DOWNSTREAM RIPRAP LOSS	56.88	0.0013	0.88	USACE/DNREC	LOSS
O-5	DOWNSTREAM RIPRAP	188.38	0.0043	2.91	USACE/DNREC	IMPACT
TOTAL PERMANENT WATER IMPACTS		436.03	0.0100	6.73		

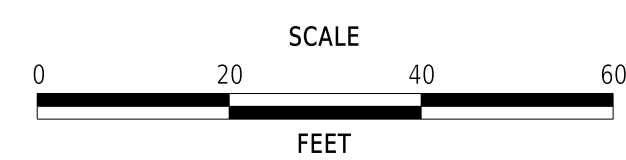
TEMPORARY WETLAND IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
WT-1	UPSTREAM LOC	28.96	0.0007	0.45	USACE	IMPACT
TOTAL TEMPORARY WETLAND IMPACT AREAS		28.96	0.0007	0.45		

PERMANENT WETLAND IMPACT AREA SCHEDULE						
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION	TYPE OF IMPACT
W-1	WETLAND TO RIPRAP	16.63	0.0004	0.26	USACE	LOSS
TOTAL PERMANENT WETLAND IMPACTS		16.63	0.0004	0.26		



LEGEND	
	PERMANENT IMPACT AREA
	TEMPORARY IMPACT AREA
	OHWWL - ORDINARY HIGH WATER / WETLAND
	OHW - ORDINARY HIGH WATER
	WL - WETLAND BOUNDARY
	POHW - PROPOSED ORDINARY HIGH WATER
	IMPACT AREA TYPE ID. (SEE BELOW) IMPACT AREA ID. AND/OR NUMBER
T = TEMPORARY IMPACT	O = OPEN WATER IMPACT
W = WETLAND IMPACT	

ADDENDA / REVISIONS



**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

**ENVIRONMENTAL
COMPLIANCE PLAN**

SECTION	BR
SHEET NO.	13

GENERAL MOT NOTES

- MAINTENANCE OF TRAFFIC DURING ROAD CLOSURES SHALL CONFORM TO DETOUR PLAN.
- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

(X)	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT AND THAT PERSON'S SOLE RESPONSIBILITY SHALL BE THE MANAGEMENT AND SUPERVISION OF THE PROJECT'S TEMPORARY TRAFFIC CONTROL ACTIVITIES. THIS PERSON SHALL NOT HAVE ANY OTHER ROLE ON THE PROJECT. RESPONSIBILITIES AND REQUIREMENTS OF THE ATSSA SUPERVISOR ARE DEFINED IN SECTION 812 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.

- THE USE OF MILLINGS AND GRADED AGGREGATE BASE COURSE (GABC) IN THE TRAVEL WAY, TEMPORARY TRAVEL WAY, HIGH VOLUME ENTRANCES AND ACCESS RAMP FOR THE PURPOSE OF PROVIDING A TEMPORARY ROADWAY SURFACE, POTHOLE REPAIR, TAPERED EDGE FOR UTILITIES, BUTT JOINTS, AND LONGITUDINAL DROP-OFFS (MILLING AND PAVING OPERATIONS) IS PROHIBITED UNLESS IT IS OTHERWISE DESIGNATED TO BE USED IN THE CONTRACT PLANS. USE COLD PATCH, BITUMINOUS CONCRETE, BITUMINOUS CONCRETE WEDGE, OR TAPER MILL, AS NOTED IN THE CONTRACT DOCUMENTS OR APPROVED BY THE ENGINEER. PAYMENT FOR COLD PATCH, BITUMINOUS CONCRETE OR BITUMINOUS CONCRETE WEDGE SHALL BE PAID AS NOTED IN THE CONTRACT DOCUMENTS. TAPER MILL BITUMINOUS CONCRETE SHALL BE PAID UNDER THE BITUMINOUS CONCRETE MILLING ITEM.

MILLINGS OR GABC SHALL BE USED AT THE FOLLOWING LOCATIONS WHERE ACCESS TO A BUSINESS, RESIDENCE, OR EDGE DROP OFF NEEDS TO BE MAINTAINED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER TO USE BITUMINOUS CONCRETE OR COLD PATCH. ALL MILLINGS AND GABC WILL BE ROLLED AND COMPACTED TO HELP PREVENT THE MATERIAL FROM UNRAVELLING:

- DRIVEWAYS
- ENTRANCES
- LOW VOLUME ACCESS RAMPS (IDENTIFIED IN THE CONTRACT DOCUMENTS)
- EDGE DROP-OFFS ADJACENT TO LIVE ROADWAY (LANES AND SHOULDER) AND THE PROPOSED ROAD CONSTRUCTION
- EDGE OF ROADWAY DROP-OFF

GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED FOR ROADWAY WEDGE/FILLET BETWEEN TRAVEL LANES AND PAVEMENT BOX, EDGE OF TRAVELWAY, DRIVEWAY OR ENTRANCE ACCESS SHALL BE INCIDENTAL TO ITEM NO. 801600 - MAINTENANCE OF TRAFFIC. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE PAY ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR MILLINGS OR GABC TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM.

VERTICAL DIFFERENCES SHALL BE CORRECTED IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.

- ALL NECESSARY SIGNS, PAVEMENT MARKINGS AND ROADSIDE APPURTENANCES SHALL BE INSTALLED PRIOR TO THE OPENING/REOPENING OF A ROADWAY OR RAMP. A WALKTHROUGH WITH THE ENGINEER, TRAFFIC SAFETY, TRAFFIC AND OTHER PERSONNEL SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE OPENING/REOPENING OF ANY ROAD OR RAMP.

CONSTRUCTION PHASING & M.O.T	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION SAFETY FENCE / LENGTH
	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE

GENERAL EROSION AND SEDIMENT CONTROL (E&S) NOTES

- THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. PLAN APPROVAL IS VALID FOR 5 YEARS. ANY DEVIATIONS TO THE SWPPP NEED APPROVAL FROM THE ENGINEER.
- ASSIGN A RESPONSIBLE PERSON TO BE ON SITE DURING ALL EARTH DISTURBING ACTIVITIES AND BE AN ACTIVE DNREC BLUE CARD HOLDER AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS (DSSR). BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT.
- FILE AS A CO-PERMITTEE IN ACCORDANCE WITH SECTION 901 OF THE STANDARD SPECIFICATIONS. POSTING AND MAINTENANCE OF THE NOI PERMIT COVERAGE IS INCIDENTAL TO THE CONTRACT.
- REVISIONS TO THE SWPPP OR ENVIRONMENTAL COMPLIANCE PLAN SHEET(S) SHALL BE APPROVED PRIOR TO INITIATION IN THE FIELD. THE ENGINEER IS RESPONSIBLE FOR APPROVING ALL REDLINES AND REVISIONS TO THE SWPPP.
- IMPLEMENTING AND MAINTAINING POLLUTION PREVENTION DEVICES AND PRACTICES IS REQUIRED UNDER THE DELAWARE CONSTRUCTION GENERAL PERMIT AND THE DSSR AND ARE INCIDENTAL TO THE CONTRACT.
- A SOIL STOCKPILE, AS DESCRIBED IN DELDOT STANDARD SPECIFICATIONS AND DEFINED IN THE DELAWARE EROSION & SEDIMENT CONTROL HANDBOOK, IS ANY LOCATION WITHIN THE LIMITS OF CONSTRUCTION WHERE A TEMPORARY DEPOSIT OF EXCAVATED SOIL IS BEING RESERVED FOR FUTURE USE. A SOIL STOCKPILE SHALL BE LOCATED A MINIMUM OF 50 FEET FROM A STORM DRAIN INLET, OPEN CHANNEL, WETLAND, OR WATERBODY. A REQUEST MAY BE MADE TO THE ENGINEER TO PERMIT LOCATING A SOIL STOCKPILE LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL. UPON APPROVAL, IF ANY PART OF A SOIL STOCKPILE IS LESS THAN 50 FEET FROM A STORM DRAIN INLET OR OPEN CHANNEL, INSTALL A SUPER SILT FENCE PERIMETER TO PROTECT THE SOIL STOCKPILE. THE SUPER SILT FENCE MUST BE CONSTRUCTED IN ACCORDANCE WITH 905.3.B.3 OF THE STANDARD SPECIFICATIONS. THE COST FOR INSTALLATION AND MAINTENANCE OF THE STOCKPILE SUPER SILT FENCE IS INCIDENTAL TO THE CONTRACT.
- PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF FROM LEAVING THE SITE. CHECK PERIMETER CONTROLS DAILY AND ADJUST OR REPAIR TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. REMOVE ACCUMULATED SEDIMENT BEFORE IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE ENGINEER.
- ANY SEDIMENT LADEN DISCHARGE LEAVING THE LIMIT OF CONSTRUCTION SHALL IMMEDIATELY BE ADDRESSED THROUGH BEST AVAILABLE TECHNOLOGIES TO CONTROL ANY FURTHER SEDIMENT LADEN DISCHARGE. REMEDIATION MAY INCLUDE STANDARD E&S PRACTICES OR OTHER METHODS AS APPROVED BY THE ENGINEER.
- ALL TEMPORARY CONCENTRATED FLOW AREAS INCLUDING CHANNEL SIDE SLOPES SHALL HAVE EROSION CONTROL BLANKET MULCH AS DIRECTED BY THE ENGINEER. INSTALL WITHIN SEVEN CALENDAR DAYS UPON CONSTRUCTION INITIATION. A TEMPORARY CONCENTRATED FLOW AREA MAY INCLUDE DITCHES, SWALES, BERMS, CONCENTRATED RUNOFF AREAS, ETC.
- PER MINOR BRIDGE AND CULVERT CONSTRUCTION STANDARD PLAN APPROVAL, THE TOTAL DISTURBED AREA FOR CONSTRUCTION OF THE IMPROVEMENTS IS NOT TO EXCEED 1.0 ACRE.
- MAINTAIN POSITIVE DRAINAGE IN EXISTING AND PROPOSED DRAINAGE SYSTEMS BY EXECUTING CONSTRUCTION, CLEANING EXISTING DRAINAGE SYSTEMS, AND PROPERLY DISPOSING OF SEDIMENT THROUGHOUT THE DURATION OF THE PROJECT.

	04/02/2026
DELDOT STORMWATER ENGINEER	DATE
*I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS. Expires 04/02/2031	

AMOUNT OF DISTURBED AREA FOR THE PROJECT	0.4 AC
ADDED IMPERVIOUS FOR THE PROJECT	0 SF
HUC-10 WATERSHED	BRANDYWINE CREEK

EROSION POTENTIAL FOR THIS PROJECT	CONTRACTOR EROSION AND SEDIMENT CONTROL SUPERVISOR REQUIREMENT
() INSIGNIFICANT	NONE
(X) MINOR	CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MAJOR	CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

EROSION & SEDIMENT CONTROL	
	COMPOST FILTER LOG
	COMPOST FILTER LOG / LENGTH
	DEWATERING BAG
	DEWATERING BASIN
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE / LENGTH
	SILT FENCE
	REINFORCED SILT FENCE / LENGTH
	REINFORCED SILT FENCE
	SUPER SILT FENCE / LENGTH
	SUPER SILT FENCE
	SUMP PIT
	SEDIMENT TRAP / NUMBER
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN
	TURBIDITY CURTAIN / LENGTH
	TURBIDITY CURTAIN

ADDENDA / REVISIONS

NOT TO SCALE

**BR 1-084 ON N234 TWADDELL
MILL ROAD OVER TRIBUTARY
TO BRANDYWINE CREEK**

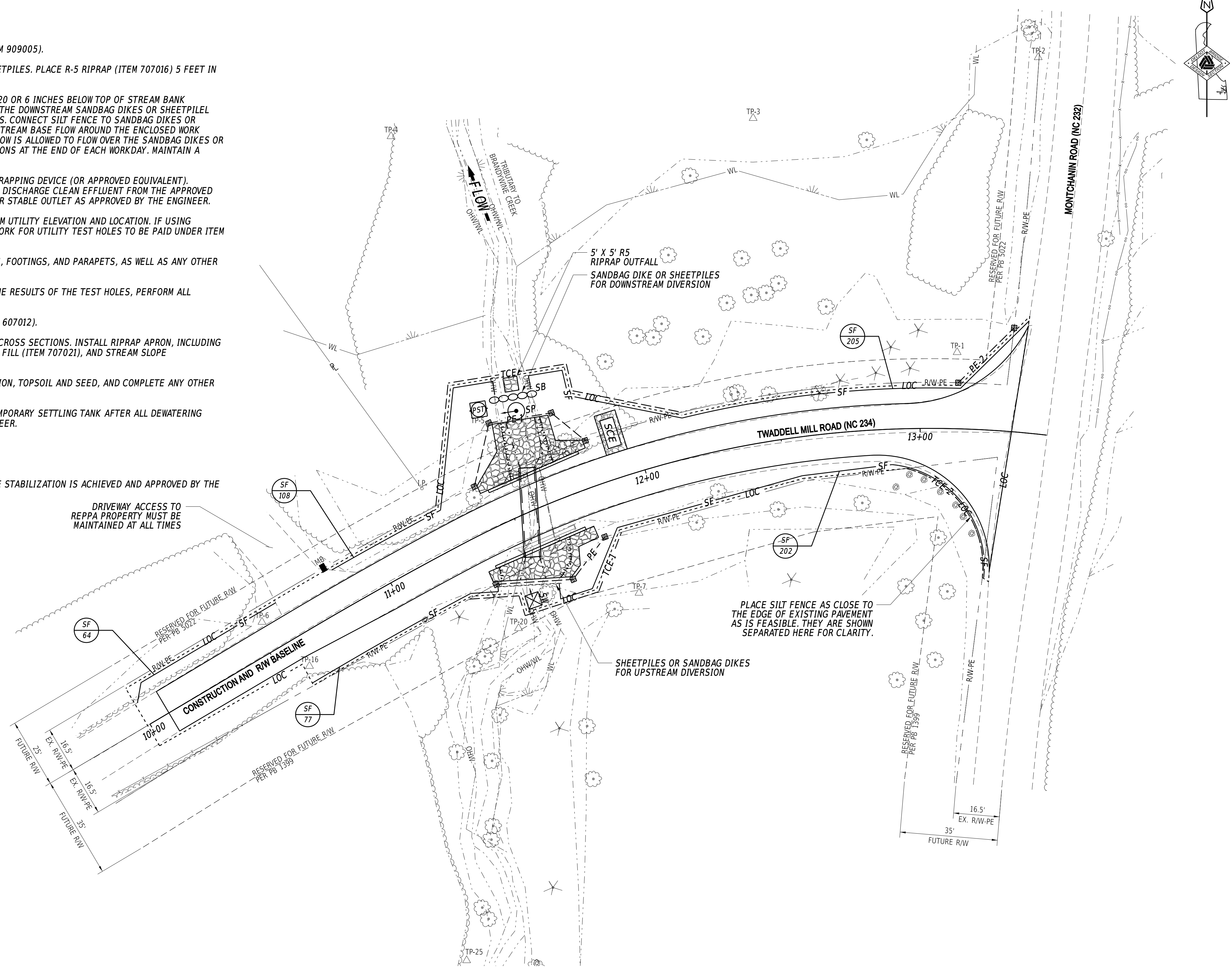
CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

**CONSTRUCTION PHASING,
M.O.T., AND EROSION
CONTROL NOTES**

SECTION
BR
SHEET NO.
14

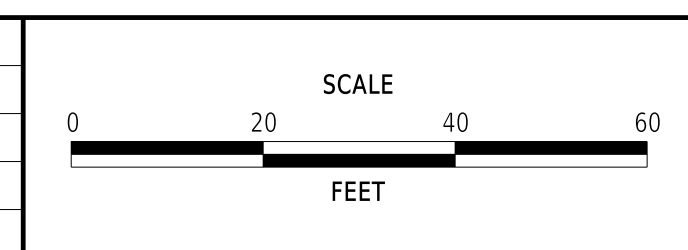
SEQUENCE OF CONSTRUCTION:

1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE DETOUR PLAN.
2. COMPLETE CLEARING AND GRUBBING (ITEM 201000).
3. INSTALL SILT FENCE (ITEM 905001) EXCEPT CONNECTION TO SANDBAG DIKES OR SHEETPILES (ITEM 909005).
4. INSTALL STILLING WELL (ITEM 909006) JUST UPSTREAM OF THE PROPOSED SANDBAG DIKE OR SHEETPILES. PLACE R-5 RIPRAP (ITEM 707016) 5 FEET IN DIRECTION OF FLOW BY 5 FEET WIDE AT THE PROPOSED DISCHARGE AREA.
5. CONSTRUCT THE SANDBAG DIKES OR SHEETPILES AT THE LOCATIONS SHOWN, WITH TOP EL. OF 164.20 OR 6 INCHES BELOW TOP OF STREAM BANK (WHICHEVER IS LOWER) WITH A 8' WIDE X 1' DEEP WEIR OPENING UPSTREAM. SET THE ELEVATION OF THE DOWNSTREAM SANDBAG DIKES OR SHEETPILE LESS THAN OR EQUAL TO THE LOWEST ELEVATION OF THE UPSTREAM SANDBAG DIKES OR SHEETPILES. CONNECT SILT FENCE TO SANDBAG DIKES OR SHEETPILES TO COMPLETELY ENCLOSE THE WORK AREA. USE PUMP (ITEM 909005) TO DIVERT THE STREAM BASE FLOW AROUND THE ENCLOSED WORK AREA. WHEN THE FLOW IS HIGHER THAN PUMP CAPACITY DURING RAINFALL EVENTS, THE STREAM FLOW IS ALLOWED TO FLOW OVER THE SANDBAG DIKES OR SHEETPILES. THEREFORE, THE ENCLOSED AREA SHALL BE KEPT CLEAR OF DEBRIS AND OBSTRUCTIONS AT THE END OF EACH WORKDAY. MAINTAIN A DIVERSION FLOW CAPACITY THROUGH THE PUMPS OF AT LEAST 14.5 C.F.S.
6. INSTALL SUMP PIT (ITEM 906003) AND PORTABLE SEDIMENT TANK (ITEM 906001) AS A SEDIMENT TRAPPING DEVICE (OR APPROVED EQUIVALENT). DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OF THE PUMPING OPERATION OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
7. PERFORM UTILITY TEST HOLES ON UTILITY SHOWN WITHIN FOOTPRINT OF RIPRAP APRON TO CONFIRM UTILITY ELEVATION AND LOCATION. IF USING SHEETPILES ON THE UPSTREAM SIDE, PERFORM TEST HOLES PRIOR TO DRIVING SHEETPILES. ALL WORK FOR UTILITY TEST HOLES TO BE PAID UNDER ITEM 204000 - TEST HOLE. PLEASE REFER TO UTILITY RELOCATION PLAN FOR FURTHER INFORMATION.
8. EXCAVATE EXISTING ROADWAY PAVEMENT BOX, REMOVE EXISTING BRIDGE, ASSOCIATED ABUTMENTS, FOOTINGS, AND PARAPETS, AS WELL AS ANY OTHER DEBRIS LOCATED WITHIN THE LIMITS OF CONSTRUCTION (ITEM 211000).
9. DP&L UNDERGROUND HDPE CONDUIT WILL REMAIN IN PLACE. IF A CONFLICT IS FOUND BASED ON THE RESULTS OF THE TEST HOLES, PERFORM ALL EXCAVATION AND MATERIAL PLACEMENT IN THE VICINITY OF THIS UTILITY BY HAND.
10. INSTALL PROPOSED PRECAST PIPE (ITEM 601022), INSTALL MODULAR BLOCK RETAINING WALL (ITEM 607012).
11. GRADE UPSTREAM AND DOWNSTREAM STREAM BANKS AS SHOWN ON ELEVATION VIEWS AND STREAM CROSS SECTIONS. INSTALL RIPRAP APRON, INCLUDING GEOTEXTILES (ITEM 708003), #3 STONE (ITEM 302002), R-5 RIPRAP (ITEM 707016), CHANNEL BED FILL (ITEM 707021), AND STREAM SLOPE STABILIZATION PER ENVIRONMENTAL COMPLIANCE NOTES.
12. INSTALL PROPOSED PAVEMENT, TEMPORARY STRIPING, SIGNS, ROAD SIDE SLOPES, SLOPE PROTECTION, TOPSOIL AND SEED, AND COMPLETE ANY OTHER REMAINING WORK.
13. REMOVE STILLING WELL, STABILIZED OUTFALL, SUMP PIT, SANDBAG DIKES OR SHEETPILES, AND TEMPORARY SETTLING TANK AFTER ALL DEWATERING WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER.
14. REMOVE ALL MOT DEVICES AND REOPEN THE ROADWAY.
15. AFTER THE HOTMIX HAS CURED 10-14 DAYS, INSTALL PERMANENT STRIPING.
16. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER VEGETATIVE STABILIZATION IS ACHIEVED AND APPROVED BY THE ENGINEER.



5-MAY-2026
 10:06
 \\fs1-m-dellopaw21\CS_pof_work_dir\8373138984_28\CS01_BRSE_T201907103_DOT.dgn

ADDENDA / REVISIONS	



**BR 1-084 ON N234 TWADDELL
 MILL ROAD OVER TRIBUTARY
 TO BRANDYWINE CREEK**

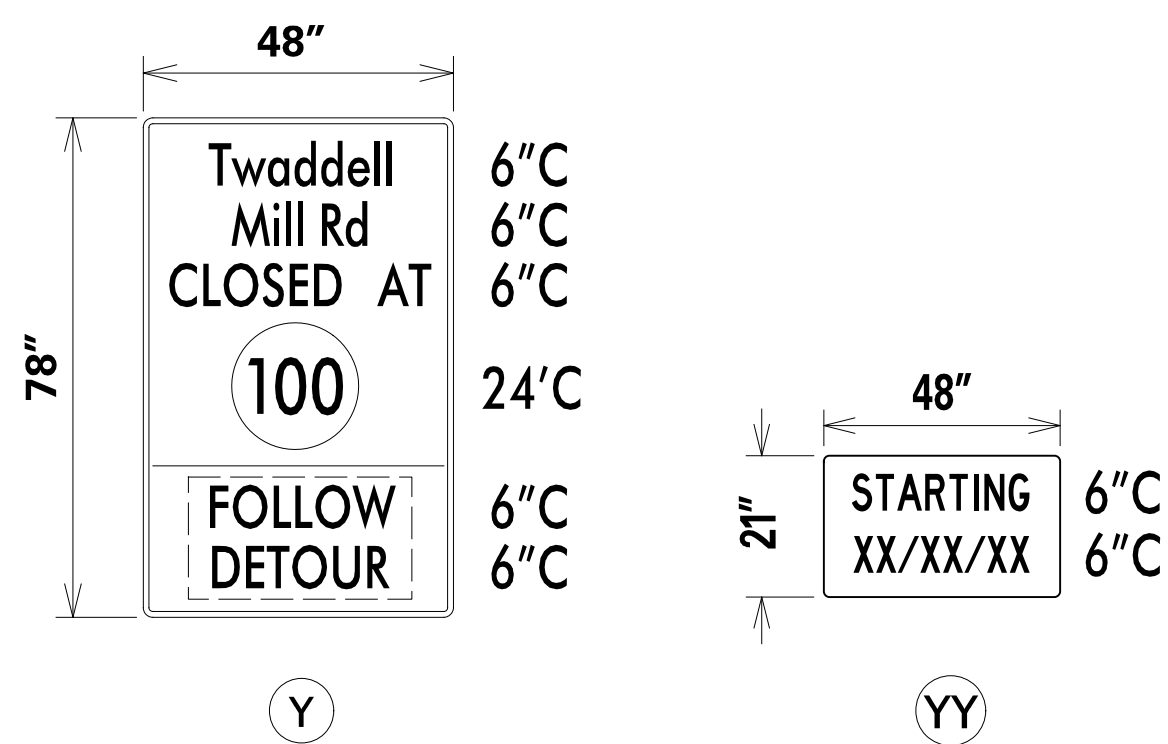
CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

**CONSTRUCTION PHASING,
 M.O.T., AND EROSION
 CONTROL PLAN**

SECTION	BR
SHEET NO.	15

PORTABLE CHANGEABLE MESSAGE SIGNS

SPECIAL SIGNS



* DISPLAY (Y), ALONG WITH (YY) PLAQUE, FOR 10 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR AT CLOSURE POINTS. (YY) PLAQUE TO COMPLETELY COVER "FOLLOW DETOUR" LEGEND ON (Y) SIGNS. UPON IMPLEMENTATION OF THE DETOUR, REMOVE (YY) PLAQUE FROM (Y) SIGNS AND RELOCATE (Y) TO LOCATIONS OUTSIDE OF THE CLOSURE AREA.

* RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND, BLACK LEGEND.

* STATE SHIELD - BLACK LEGEND, WHITE BACKGROUND

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

[Signature]
THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET

04/27/2021
DATE

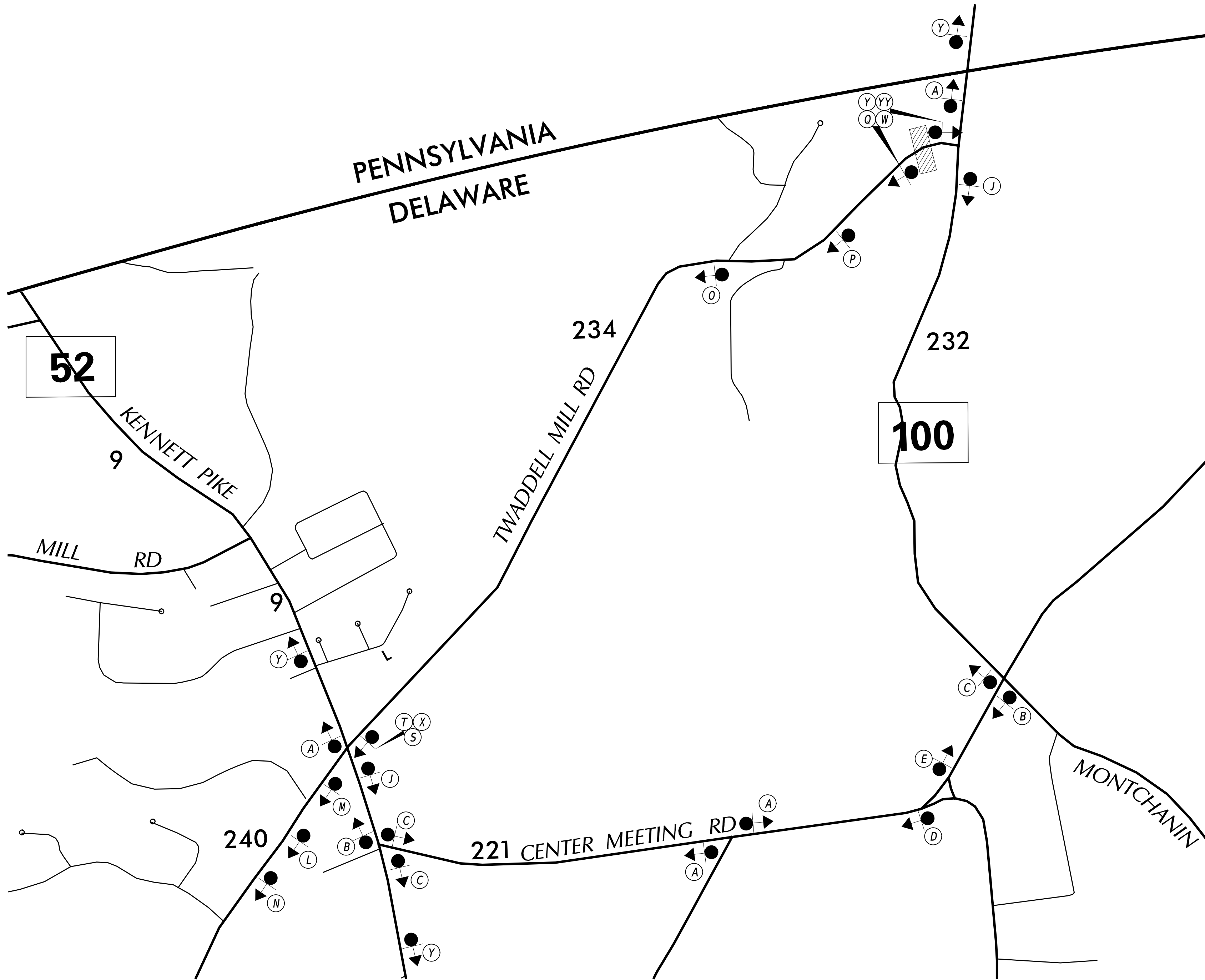


SEAL

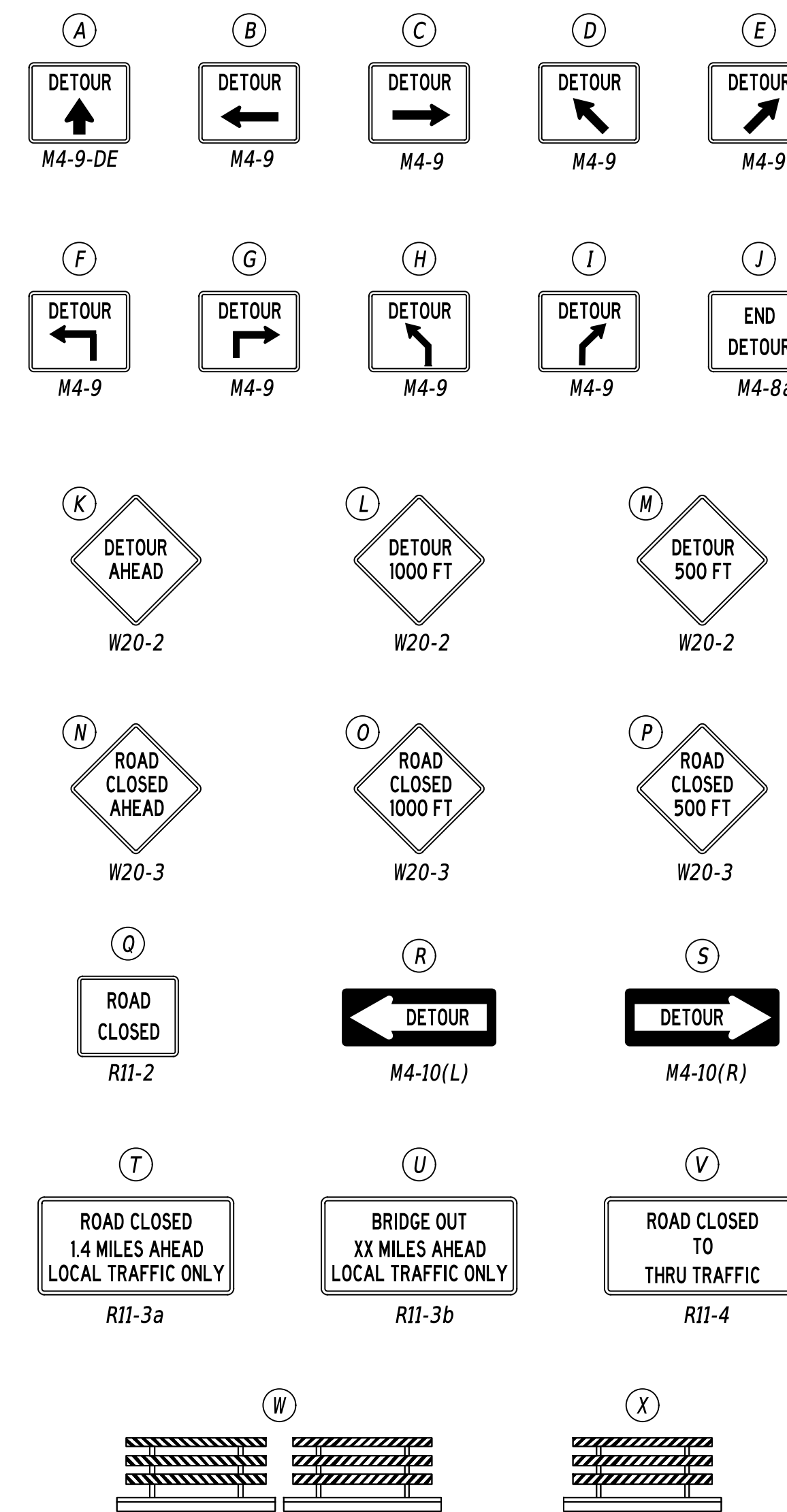
[Signature] 4/26/21
QA/QC DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

ADDENDA / REVISIONS



LEGEND



GENERAL NOTES

- ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
- SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.
- "W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

CONCURRENCE FOR IMPLEMENTATION

[Signature] 4/26/2021
TRAFFIC SAFETY DATE

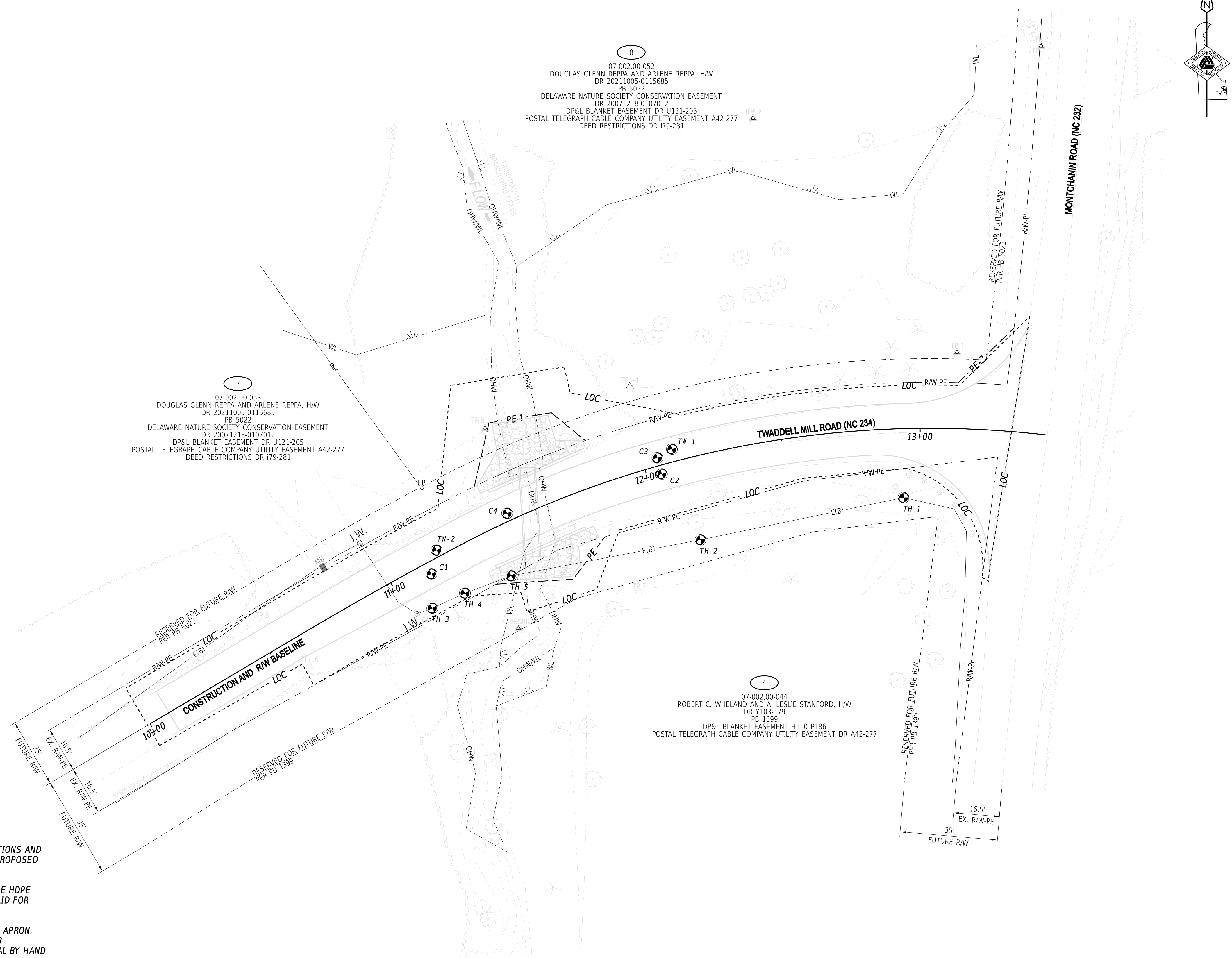
BR 1-084 ON TWADDELL MILL RD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	ROAD NO.	N234
T201907103	DESIGNED BY:	LX
COUNTY	CHECKED BY:	GAN
NEW CASTLE		

DETOUR PLAN - VEHICULAR
BR 1-084 ON TWADDELL MILL RD

SECTION	TS
SHEET NO.	16

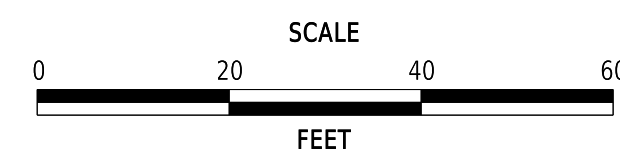
UTILITY TEST HOLE SCHEDULE						
NO.	UTILITY	STATION	OFFSET	GROUND EL.	COVER	O.D. & MATERIAL
1	DE-P	12+93.35	24.70	171.38	6.32	3.5" HDPE CONDUIT
2	DE-P	12+12.99	29.53	170.02	6.88	3.5" HDPE CONDUIT
3	DE-P	11+08.70	15.13	168.11	4.80	3.5" HDPE CONDUIT
4	DE-P	11+21.71	16.00	167.34	7.90	3.5" HDPE CONDUIT
5	DE-P	11+39.91	18.11	163.13	N/A	NO UTILITY FOUND



NOTES:

- ALL EXISTING UTILITY LOCATIONS SHOWN ARE FROM INFORMATION PROVIDED BY OTHERS. EXACT LOCATIONS AND DEPTHS SHALL BE CONFIRMED FOR ANY UTILITIES DETERMINED TO BE IN POTENTIAL CONFLICT WITH PROPOSED STRUCTURE AND ROAD WORK.
- PERFORM TEST HOLE(S) OR TRENCHES (ITEM 204000) TO DETERMINE THE DEPTH AND LOCATION OF THE HDPE CONDUIT IN THE CHANNEL ON THE UPSTREAM SIDE OF THE RIPRAP APRON. TEST HOLE(S) SHALL BE PAID FOR UNDER ITEM 204000 - TEST HOLE.
- 3.5" HDPE CONDUIT IS BURIED UNDER THE EXISTING SURFACE ON THE UPSTREAM END OF THE RIPRAP APRON. DELMARVA POWER DETERMINED TO LEAVE THE CONDUIT LINE IN PLACE. IF A CONFLICT IS FOUND AFTER PERFORMING TEST HOLE(S), CONTRACTOR WILL PERFORM ALL EXCAVATION AND PLACEMENT OF MATERIAL BY HAND IN THE VICINITY OF THE UNDERGROUND HDPE CONDUIT LINE.

ADDENDA / REVISIONS



BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

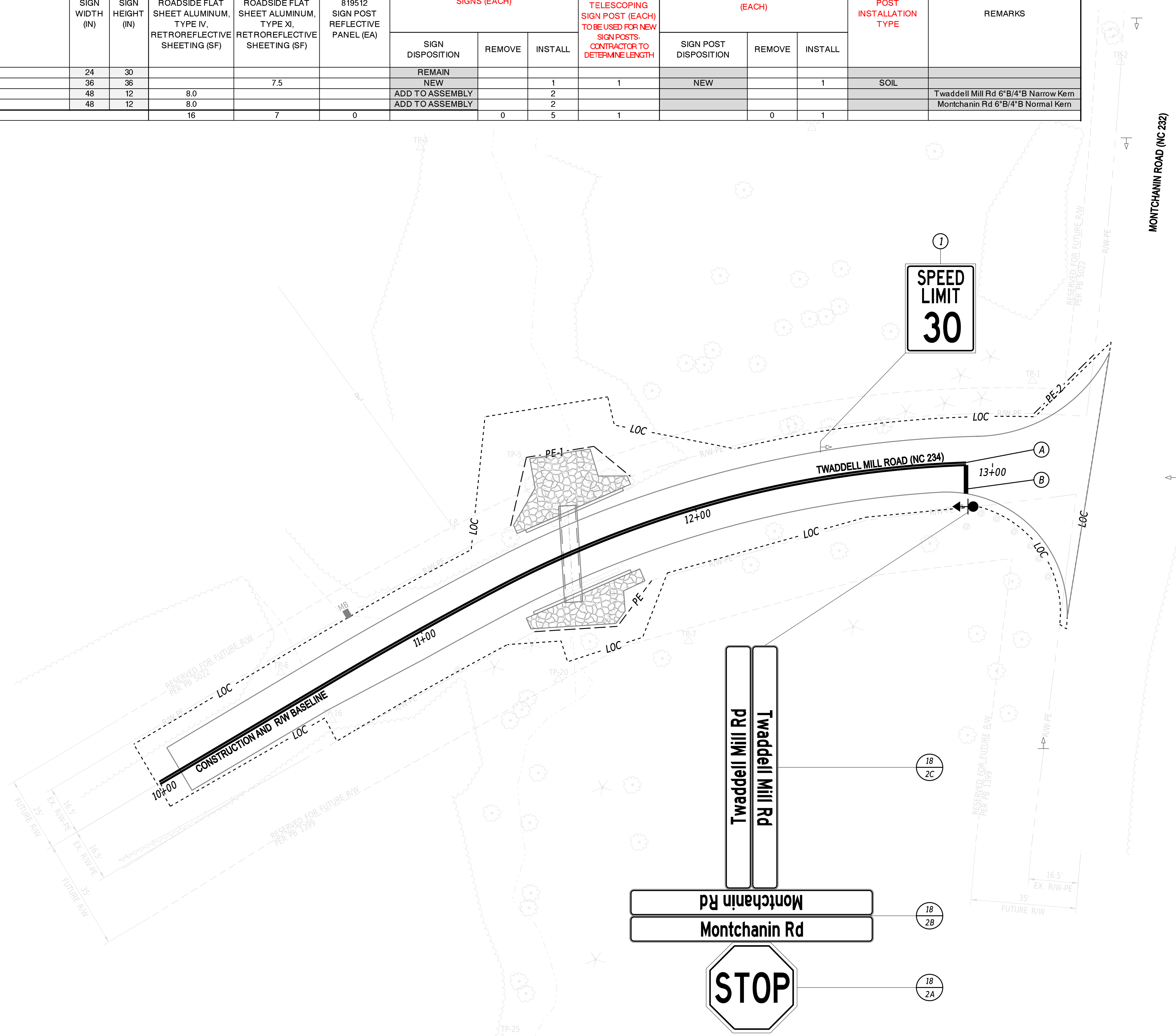
UTILITY RELOCATION PLAN

SECTION	BR
SHEET NO.	17

30-APR-2026 22:35 \\scm-deloopw\1\CS_pof_work_dir\832138984_44\UT01_BRSE_T201907103_DOT.dgn

PERMANENT SIGN SCHEDULE - ROADWAY

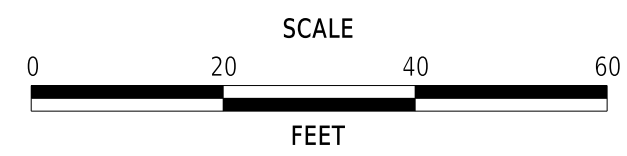
#	SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	X13 / ITEM 818001 SUPPLY OF ROADSIDE FLAT SHEET ALUMINUM, TYPE IV, RETROREFLECTIVE SHEETING (SF)	X14 / ITEM 818003 SUPPLY OF ROADSIDE FLAT SHEET ALUMINUM, TYPE XI, RETROREFLECTIVE SHEETING (SF)	X15 / ITEM 819512 SIGN POST REFLECTIVE PANEL (EA)	ITEM 819003 INSTALL OR REMOVE TRAFFIC SIGNS (EACH)			ITEM 819001 PROVIDE GALVANIZED TELESCOPING SIGN POST (EACH) TO BE USED FOR NEW SIGN POSTS. CONTRACTOR TO DETERMINE LENGTH	ITEM 819002 INSTALL OR REMOVE GALVANIZED TELESCOPING SIGN POST (EACH)			POST INSTALLATION TYPE	REMARKS
											SIGN DISPOSITION	REMOVE	INSTALL		SIGN POST DISPOSITION	REMOVE	INSTALL		
46	SS-01	1	R2-1-30(24)	1	SPEED LIMIT (30 MPH - 24x30)	24	30												
4	SS-01	2A	R1-1(36)	1	STOP	36	36		7.5			1		NEW		1	SOIL		
1674	SS-01	2B	D3-1(12)	2	STREET NAME (1 Line) Posted speed ≤ 40 MPH	48	12	8.0				2						Twaddell Mill Rd 6'B/4'B Narrow Kern	
1674	SS-01	2C	D3-1(12)	2	STREET NAME (1 Line) Posted speed ≤ 40 MPH	48	12	8.0				2						Montchanin Rd 6'B/4'B Normal Kern	
PAGE TOTALS								16	7	0		5	1		0	1			



SYM	ITEM	QUANTITY
(A)	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, 6" (YELLOW) (ITEM 861001)	* 615 LF
(B)	PERMANENT PAVEMENT STRIPING, ALKYD-THERMOPLASTIC, 16" (WHITE) (ITEM 862006)	13 SF

* 30 L.F. ADDITIONAL STRIPING QUANTITY INCLUDED TO REPAIR ANY DAMAGED STRIPING OUTSIDE LOC

ADDENDA / REVISIONS

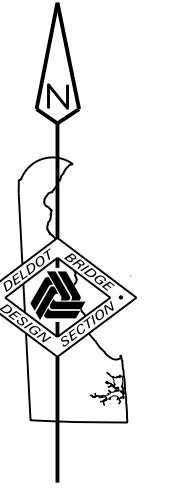


BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SECTION	BR
SHEET NO.	18



RIGHT-OF-WAY FEATURES		
FEATURE DESCRIPTION	EXISTING	PROPOSED
DENIAL OF ACCESS	— DA —	— DA —
EASEMENT - OTHERS	— EASEMENT TYPE —	
PERMANENT EASEMENT	— PE —	— PE —
PROPERTY LINE	— P.L. —	
PROPERTY MARKER - CONCRETE	C.M. B.	■
PROPERTY MARKER - IRON PIPE	I.P. S.	■
RIGHT-OF-WAY BASELINE	100+00	100+00
RIGHT-OF-WAY LINE	— R/W —	— R/W —
RIGHT-OF-WAY BY PE	— R/W-PE —	
RIGHT-OF-WAY & DENIAL OF ACCESS	— R/W-DA —	— R/W-DA —
RIGHT-TO-ENTER		— RTE —
TEMPORARY CONSTRUCTION EASEMENT		— TCE —

REVISION PREPARED BY
 DELDOT - TRANSPORTATION SOLUTIONS
 BRIDGE DESIGN

Matija 4/15/2026

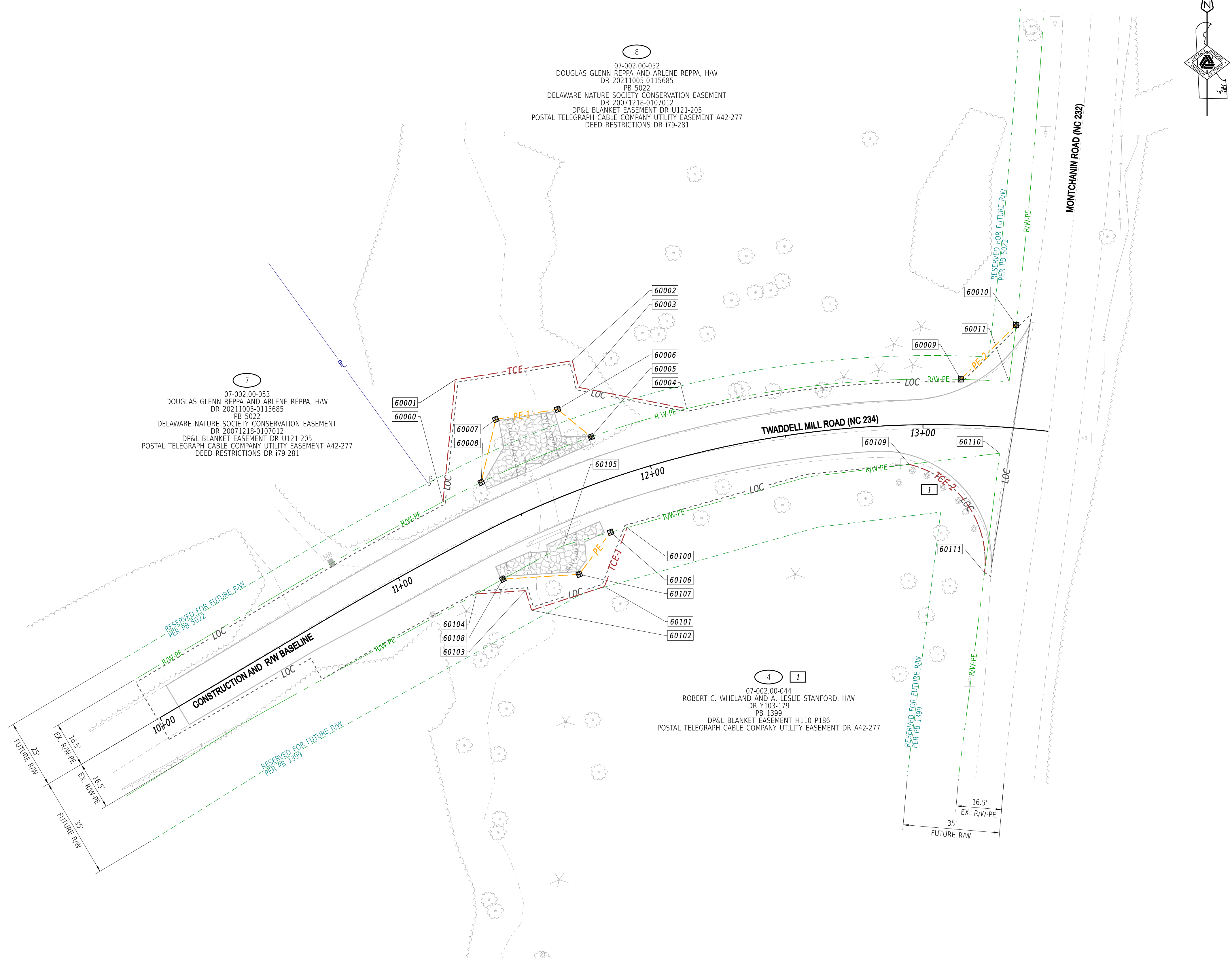
THIS SEAL APPLIES TO THE FOLLOWING SHEETS
 CHANGED UNDER REVISION #1:
 19-20

ORIGINAL SIGNATURE DATE: 12/18/2025
 RECOMMENDED AS TO PROCESS AS PER R/W REVISION #1

Shehnaz Chaudhri 04/15/2026

GROUP ENGINEER, ROW ENGINEERING

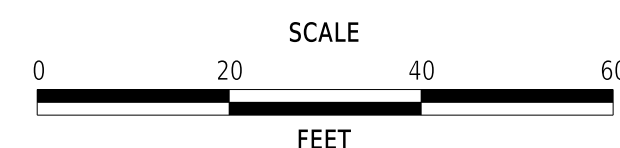
THE FOLLOWING PARCELS WERE CHANGED UNDER REVISION#1:
 4



- NOTES:**
- THE EXISTING AREAS SHOWN AS R/W-PE, AS WELL AS THE TCE-2 ACQUISITION IN PARCEL 4 AND THE PE-2 ACQUISITION IN PARCEL 8, HAVE NOT BEEN CONVEYED IN FEE SIMPLE TO THE STATE OF DELAWARE. HOWEVER, THE IDENTIFIED AREAS HAVE BEEN USED AS A PUBLIC ROAD, MAINTAINED AT THE PUBLIC CHARGE FOR 20 YEARS OR MORE AND, THEREFORE, SHALL BE DEEMED A COMMON HIGHWAY OR PUBLIC ROAD PURSUANT TO 17 DEL.C. §509

ADDENDA / REVISIONS

1 PARCEL 4: CONVERTED PE TO TCE AND ADJUSTED TCE LIMITS. 4/10/2026 EY



BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

RIGHT-OF-WAY PLAN

SECTION	BR
SHEET NO.	19

14-APR-2026 19:02 \\fcsM-deltocp21\CS_pof_work_dir\816138984_30\RW01_BRSF_T201907103_DOT.dgn

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-044	(4) ROBERT C. WHELAND AND A. LESLIE STANFORD, H/W							PE	Y103 179	D - 4.180	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60106	30000	11+78.24	18.344	668503.4446	604965.4689	S 36°44'10" W	18.983				
60107	30000	11+61.01	28.384	668488.2317	604954.1146	S 86°21'06" W	27.683				
60108	30000	11+33.41	18.337	668486.4703	604926.4881	N 60°57'58" E	25.139				
60105	30000	11+59.78	16.572	668498.6711	604948.4682	N 74°18'58" E	17.658				
60106	30000	11+78.24	18.344	668503.4446	604965.4689						

FIGURE 60100 AREA = 251.39 SQ. FT. (0.006 ACRES).

DEED RECORD OF ACQUISITION:

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-044	(4) ROBERT C. WHELAND AND A. LESLIE STANFORD, H/W							TCE - 1	Y103 179	D - 4.180	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60100	30000	11+84.74	18.750	668505.1135	604971.4126	S 21°01'03" W	22.826				
60101	30000	11+68.45	35.915	668483.8063	604963.2261	S 71°57'08" W	27.679				
60102	30000	11+37.99	33.064	668475.2311	604936.9091	N 17°21'53" W	7.447				
60103	30000	11+39.25	25.707	668482.3384	604934.6865	S 86°11'04" W	17.818				
60104	30000	11+22.14	18.581	668481.1527	604916.9084	N 60°57'58" E	10.957				
60108	30000	11+33.41	18.337	668486.4703	604926.4881	N 86°21'06" E	27.683				
60107	30000	11+61.01	28.384	668488.2317	604954.1146	N 36°44'10" E	18.983				
60106	30000	11+78.24	18.344	668503.4446	604965.4689	N 74°18'58" E	6.174				
60100	30000	11+84.74	18.750	668505.1135	604971.4126						

FIGURE 50100 AREA = 429.69 SQ. FT. (0.010 ACRES).

DEED RECORD OF ACQUISITION:

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-044	(4) ROBERT C. WHELAND AND A. LESLIE STANFORD, H/W							TCE - 2	Y103 179	D - 4.180	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60109	30000	12+94.70	14.254	668527.9738	605073.4953	N 82°57'28" E	32.967				
60110	30000	13+28.45	9.496	668532.0156	605106.2132	S 7°15'28" W	43.477				
60111	30000	13+25.49	52.889	668488.8871	605100.7207			N 34°51'31" W	47.634	52.007	- 36.137
60109	30000	12+94.70	14.254	668527.9738	605073.4953						

FIGURE 50101 AREA = 402.04 SQ. FT. (0.009 ACRES).

DEED RECORD OF ACQUISITION:

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-052	(8) DOUGLAS GLENN REPPA AND ARLENE REPPA, H/W							PE - 1	20211005-0115685	C - 2.132	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60008	30000	11+42.03	-16.501	668521.4932	604918.6865	N 12°56'35" E	23.350				
60007	30000	11+55.34	-35.000	668544.2503	604923.9166	N 80°44'34" E	22.649				
60006	30000	11+75.60	-30.000	668547.8938	604946.2710	S 50°39'04" E	15.726				
60005	30000	11+83.18	-16.500	668537.9230	604958.4317			S 67°32'27" W	43.007	43.031	- 376.500
60008	30000	11+42.03	-16.501	668521.4932	604918.6865						

FIGURE 60000 AREA = 525.25 SQ. FT. (0.012 ACRES).

DEED RECORD OF ACQUISITION:

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-052	(8) DOUGLAS GLENN REPPA AND ARLENE REPPA, H/W							PE - 2	20211005-0115685	C - 2.132	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60009	30000	13+13.24	-16.500	668558.7058	605092.1128	N 45°31'10" E	28.053				
60010	30000	13+30.92	-37.156	668578.3616	605112.1284			S 7°03'38" W	20.681	20.681	1905.600
60011	30000	13+29.97	-16.500	668557.8375	605109.5863			N 87°09'19" W	17.495	17.497	- 376.500
60009	30000	13+13.24	-16.500	668558.7058	605092.1128						

FIGURE 60001 AREA = 179.62 SQ. FT. (0.004 ACRES).

DEED RECORD OF ACQUISITION:

ASSESSMENT NUMBER	OWNERSHIP OF RECORD							TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)	PAGE NUMBER
07-002.00-052	(8) DOUGLAS GLENN REPPA AND ARLENE REPPA, H/W							TCE	20211005-0115685	C - 2.132	19
PT. NO.	ALIGN. NO.	STATION	OFFSET*	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS**
60000	30000	11+27.14	-16.500	668514.4722	604904.8516	N 5°44'28" E	44.326				
60001	30000	11+48.67	-54.058	668558.5760	604909.2856	N 80°47'04" E	42.906				
60002	30000	11+85.52	-44.737	668565.4474	604951.6382	S 13°10'35" E	9.883				
60003	30000	11+84.63	-34.903	668555.8245	604953.8910	S 78°50'40" E	39.832				
60004	30000	12+17.63	-16.500	668548.1182	604992.9701			S 73°33'15" W	36.012	36.025	- 376.500
60005	30000	11+83.18	-16.500	668537.9230	604958.4317	N 50°39'04" W	15.726				
60006	30000	11+75.60	-30.000	668547.8938	604946.2710	S 80°44'34" W	22.649				
60007	30000	11+55.34	-35.000	668544.2503	604923.9166	S 12°56'35" W	23.350				
60008	30000	11+42.03	-16.501	668521.4932	604918.6865			S 63°05'35" W	15.514	15.516	- 376.500
60000	30000	11+27.14	-16.500	668514.4722	604904.8516						

FIGURE 50000 AREA = 1486.44 SQ. FT. (0.034 ACRES).

DEED RECORD OF ACQUISITION:

LEGEND			
RW	AREA OF ACQUISITION	R/W-PE	RIGHT-OF-WAY BY PE
PE	PERMANENT EASEMENT	*	"-" OFFSET IS LEFT OF BASELINE
TCE	TEMPORARY CONSTRUCTION EASEMENT	**	"-" CURVE TURNS TO THE LEFT

REVISIONS
1 CONVERTED PE TO TCE AND ADJUSTED TCE LIMITS IN PARCEL 4. 4/10/2026 EY

NOT TO SCALE

BR 1-084 ON N234 TWADDELL MILL ROAD OVER TRIBUTARY TO BRANDYWINE CREEK

CONTRACT	BRIDGE NO.	BR 1-084
T201907103	DESIGNED BY:	E. YODER
COUNTY	CHECKED BY:	M. RADOVIC
NEW CASTLE		

RIGHT-OF-WAY DATA SHEET		SECTION
		BR
		SHEET NO.
		20