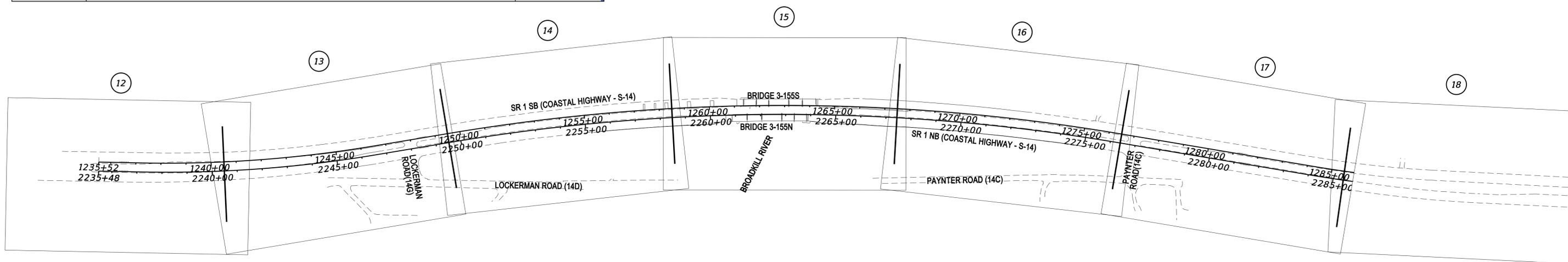
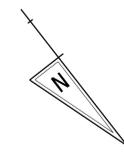
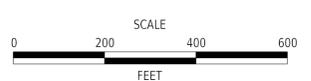


INDEX OF SHEETS		
SECTION	SHEET DESCRIPTION	SHEET NO(S)
W RA	TITLE	1
W RA	INDEX OF SHEETS	2
W RA	ADDENDA AND REVISIONS	3
W RA	LEGEND	4
W RA	NOTES	5
W RA	TYPICAL SECTIONS	6 - 8
W RA	HORIZONTAL AND VERTICAL CONTROL	9 - 11
W RA	CONSTRUCTION PLANS	12 - 18
W RA	PROFILES	19 - 24
W RA	GRADES AND GEOMETRICS	25 - 31
W RA/RJM/TCS	BRIDGE PLANS - SEE BRIDGE PLANS FOR TABLE OF CONTENTS	32 - 161
W RA	ENVIRONMENTAL COMPLIANCE PLANS	162 - 163
W RA	CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLANS	164 - 194
W RA	DETOUR PLANS	195 - 197
W RA	TEMPORARY LIGHTING PLANS	198 - 199
W RA	SIGNING, STRIPING AND CONDUIT PLANS	200 - 209



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	S. BEALL
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

INDEX OF SHEETS	IS-01
	SECTION
	WRA
	SHEET NO.
	2

ADDENDUM PREPARED BY  Whitman, Requardt and Associates, LLP <small>Engineers • Architects • Environmental Planners Est. 1915</small>		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "WRA" SECTION DESIGNATION.	DATE	SEAL

ADDENDUM PREPARED BY  RJM ENGINEERING <small>6031 University Blvd, Ellicott City, Maryland 21043</small>		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "RJM" SECTION DESIGNATION.	DATE	SEAL

ADDENDUM PREPARED BY  TOTAL CONTROL SYSTEMS		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "TCS" SECTION DESIGNATION.	DATE	SEAL

REVISION PREPARED BY  Whitman, Requardt and Associates, LLP <small>Engineers • Architects • Environmental Planners Est. 1915</small>		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "WRA" SECTION DESIGNATION.	DATE	SEAL

REVISION PREPARED BY  RJM ENGINEERING <small>6031 University Blvd, Ellicott City, Maryland 21043</small>		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "RJM" SECTION DESIGNATION.	DATE	SEAL

REVISION PREPARED BY  TOTAL CONTROL SYSTEMS		
THIS SEAL APPLIES TO ALL SHEETS BEARING THE "TCS" SECTION DESIGNATION.	DATE	SEAL

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ADDENDA / REVISIONS				NOT TO SCALE	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	BR-155N&S	ADDENDA AND REVISIONS	AR-01
		T201907601	DESIGNED BY: S. BEALL			SECTION	WRA			
		COUNTY	CHECKED BY: T. OLIVER			SHEET NO.	3			
		SUSSEX								

EXISTING SYMBOLS

DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
	DRAINAGE INLET
	DRAINAGE JUNCTION BOX
	DRAINAGE MANHOLE
	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES	
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	CURB
	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
	LAMP AND POST - RESIDENTIAL
	MAILBOX
	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES	
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

RIGHT-OF-WAY SYMBOLS	
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE
	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING DENIAL OF ACCESS
	EXISTING R/W & DENIAL OF ACCESS

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY NGS POINT LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC METER
	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
	GAS MANHOLE
	GAS METER
	GAS VALVE
	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
	SANITARY SEWER MANHOLE
	SANITARY SEWER VALVE
	SANITARY SEWER CLEANOUT OR VENT
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD
	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES	
	DELAWARE ELECTRIC COOPERATIVE

(X) REPRESENTS ASCE DEFINED SUE QUALITY LEVEL

PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
	CLEAR ZONE
	CONSTRUCTION BASELINE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CURB OPENING - SUMP / ON GRADE
	CURB OPENING WITH SIDEWALK
	DRAINAGE INLET
	DITCH
	FENCE - METAL / FENCE - WOOD
	FLARED END / SAFETY END SECTION
	GUARDRAIL, TYPE 1
	GUARDRAIL, TYPE 2
	GUARDRAIL, TYPE 3
	GUARDRAIL END ANCHORAGE
	GUARDRAIL END TREATMENT, TYPE 1
	GUARDRAIL END TREATMENT, TYPE 2
	GUARDRAIL END TREATMENT, TYPE 3
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
	LATERAL OFFSET
	LIMIT OF CONSTRUCTION
	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	PROPOSED DENIAL OF ACCESS
	PROPOSED PERMANENT EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED R/W & DENIAL OF ACCESS
	RIGHT-TO-ENTER
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED RIGHT-OF-WAY BASELINE

IDENTIFIERS	
	ABANDON BY CONTRACTOR
	ABANDON BY OTHERS
	ADJUST BY CONTRACTOR
	ADJUST BY OTHERS
	BEST MANAGEMENT PRACTICE
	BUS STOP PAD / TYPE
	BUS STOP WITH SHELTER PAD / TYPE
	CONCRETE SAFETY BARRIER
	CURB OR CURB & GUTTER
	CONVERT TO JUNCTION BOX
	CONVERT TO DRAINAGE MANHOLE
	CURB OPENING - SUMP / ON GRADE
	CURB OPENING WITH SIDEWALK
	DRAINAGE INLET
	DO NOT DISTURB
	ENERGY DISSIPATOR
	FENCE
	FLARED END SECTION
	FILL WITH FLOWABLE FILL
	GUARDRAIL
	JUNCTION BOX
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PEDESTRIAN CONNECTION / TYPE
	PEDESTRIAN CONNECTION / TYPE WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	RELOCATE BY PROPERTY OWNER
	REMOVE BY CONTRACTOR
	REMOVE BY TRAFFIC CONTRACTOR
	REMOVE BY OTHERS
	SAFETY END SECTION
	UNDERDRAIN / LENGTH
	UNDERDRAIN OUTLET PIPE

LANDSCAPING	
	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC	
	ITMS CONDUIT
	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

PAVEMENT SECTION(S)	
	OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	CONCRETE PATCH WITH ASPHALT OVERLAY - SEE TYPICAL SECTIONS

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO.
BR-155N&S
DESIGNED BY: S. BEALL
CHECKED BY: T. OLIVER

LEGEND

LG-01
SECTION
WRA
SHEET NO.
4

GENERAL NOTES

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2018, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

()	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	ALL PLAN SHEETS, IN PDF FORMAT.
(X)	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

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

(X)	CROSS SECTIONS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)
()	RIGHT-OF-WAY PLANS

PROJECT NOTES

SECTION 100

- 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.
- THE CONTRACTOR WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AIRCRAFT 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.

SECTION 200

- ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - CONCRETE SUPPORT FOUNDATIONS FOR MISCELLANEOUS SMALL STRUCTURES NOT COVERED UNDER OTHER PAY ITEMS

SECTION 600

- DRAINAGE INLET GRATES ADJACENT TO THE ROAD, WITHIN THE PROJECT LIMITS, WHICH ARE NOT TYPE 1 OR TYPE 4, SHALL BE REPLACED. THE ACTUAL LOCATIONS, THE NEED FOR ANY GRATE MODIFICATIONS OR FOR NEW FRAMES SHALL BE DETERMINED BY THE ENGINEER. ALL REPLACED GRATES/FRAMES SHALL BE DELIVERED TO THE NEAREST DISTRICT MAINTENANCE YARD WITH THE COST OF DELIVERY INCIDENTAL TO ITEM 602100 - REPLACING DRAINAGE INLET GRATE(S). FINAL PAYMENT FOR REPLACED GRATES/FRAMES SHALL NOT BE MADE UNTIL RECEIPT OF DELIVERED MATERIALS IS PRODUCED, SIGNED BY A DELDOT MAINTENANCE YARD SUPERVISOR.
- STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE FOR INLETS AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.

SECTION 700

- IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITION IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.
- 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

- 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

- RAISED PAVEMENT MARKERS (RPM) SHALL BE INSTALLED ON THE FINAL PAVEMENT SURFACE IN ACCORDANCE WITH THE FIGURES IN SECTION 3B.II OF THE DE MUTCD. ALL WORK SHALL BE PAID UNDER ITEM 817027 - RAISED/RECESSED PAVEMENT MARKER.
- 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 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO.
BR-155N&S
DESIGNED BY: S. BEALL
CHECKED BY: T. OLIVER

NOTES

PN-01

SECTION
WRA
SHEET NO.
5

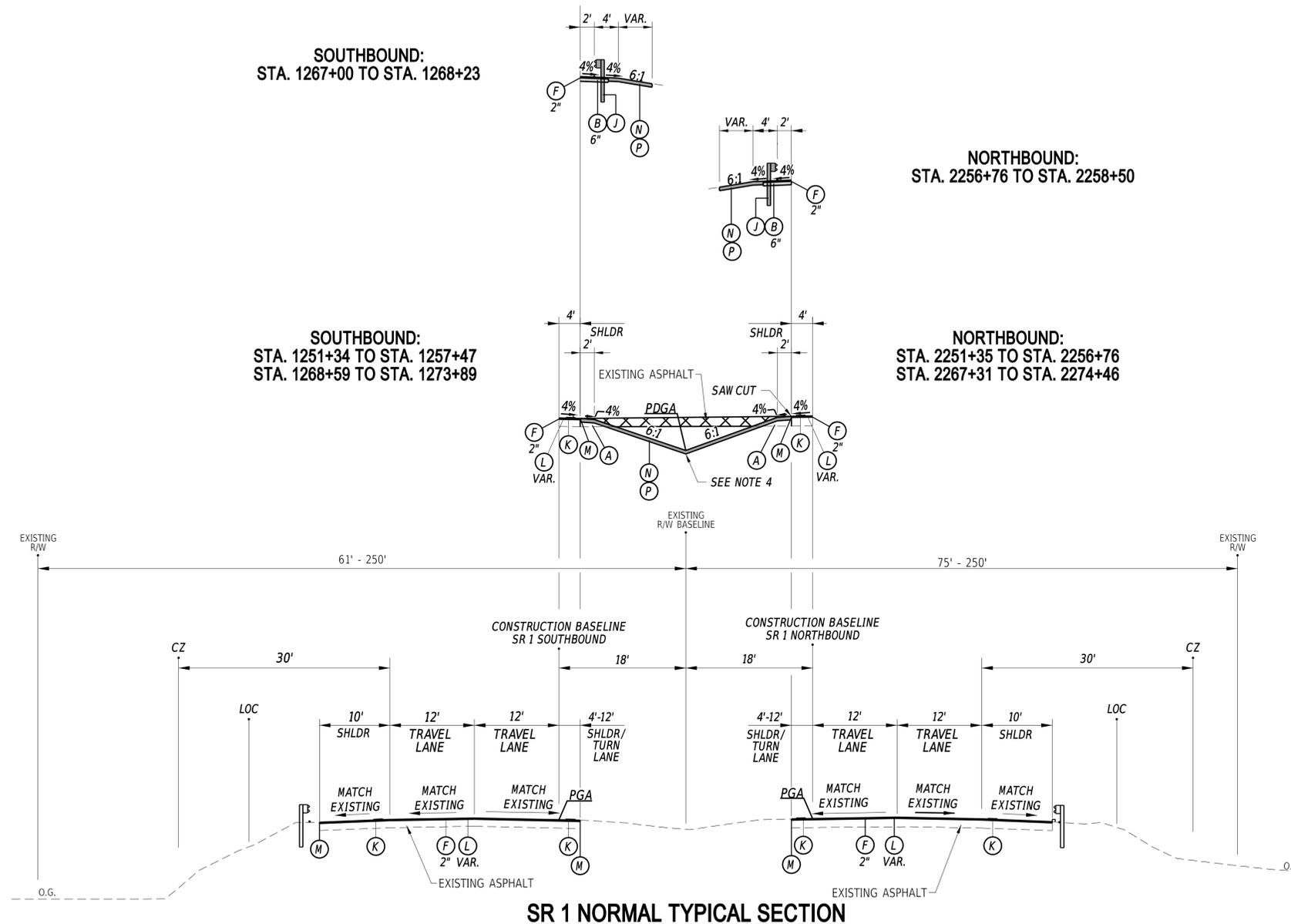
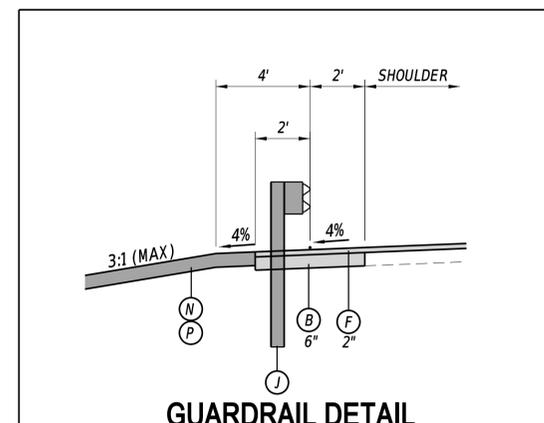
LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (D) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22 PATCHING
- (E) ITEM 401037 SUPERPAVE TYPE B, PG 64-22, WEDGE
- (F) ITEM 401045 - SUPERPAVE, TYPE C, PG 70-22 (NON-CARBONATE STONE)
- (G) ITEM 503001 - PATCHING P.C.C. PAVEMENT, 6' TO 15', TYPE A
- (H) ITEM 701011 - P.C.C. CURB, TYPE 1-4, OVER 4" GABC, TYPE B
- (J) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (K) ITEM 760006 - RUMBLE STRIPS, BIUMINOUS PAVEMENT
- (L) ITEM 760012 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH
- (M) SAFETY EDGE (INCIDENTAL TO RESPECTIVE SUPERPAVE ITEMS)
- (N) ITEM 908004 - TOPSOIL, 6" DEPTH
ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (P) ITEM 908020 - EROSION CONTROL BLANKET MULCH

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

NOTES:

1. PGA - POINT OF GRADE APPLICATION
PDGA - POINT OF DITCH GRADE APPLICATION
P/R - POINT OF ROTATION
2. IN AREAS OF EXISTING CONCRETE PATCH, PAVEMENT MILLING SHALL BE PAID FOR UNDER ITEM 760013 - PAVEMENT MILLING, P.C.C. PAVEMENT.
3. SEE ROADWAY PROFILE FOR LIMITS AND DEPTH OF PAVEMENT WEDGE.
4. SEE GRADES AND GEOMETRICS SHEETS FOR LOCATION AND ELEVATION OF PROPOSED DITCH. ALL OTHER AREAS, SLOPE SHALL TIE INTO EXISTING DITCH SLOPES.



SR 1 NORMAL TYPICAL SECTION

SOUTHBOUND:
STA. 1247+63 TO STA. 1258+50
STA. 1267+00 TO STA. 294+25 (R/W BL)

NORTHBOUND:
STA. 2236+00 TO STA. 2258+50
STA. 2265+75 TO STA. 2277+27

ADDENDA / REVISIONS

NOT TO SCALE

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	V. KOWALSKI
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

TYPICAL SECTIONS

TS-01
SECTION
WRA
SHEET NO.
6

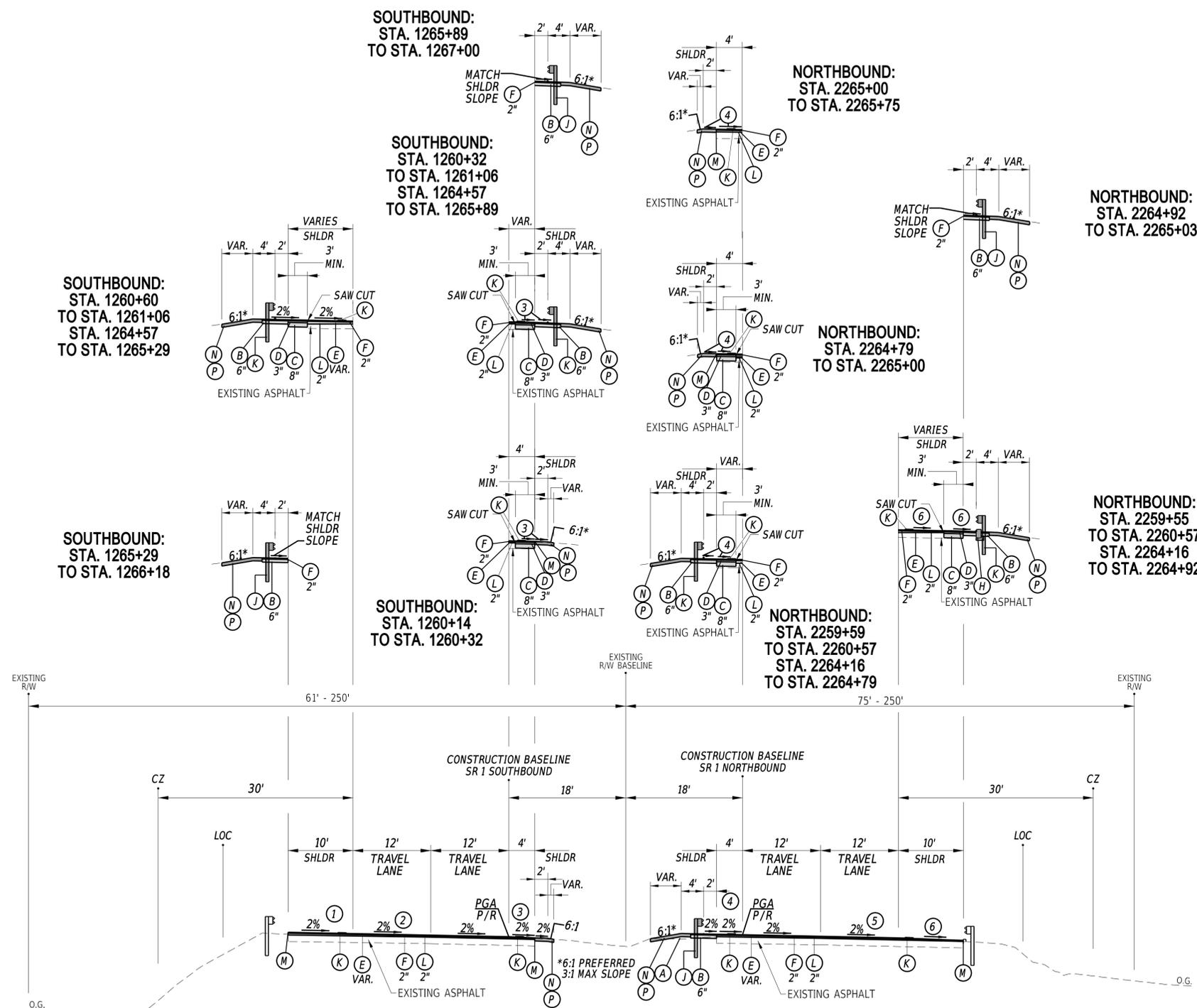
LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
- (B) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 301002 - GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING
- (D) ITEM 401030 - SUPERPAVE, TYPE B, PG 64-22 PATCHING
- (E) ITEM 401037 SUPERPAVE TYPE B, PG 64-22, WEDGE
- (F) ITEM 401045 - SUPERPAVE, TYPE C, PG 70-22 (NON-CARBONATE STONE)
- (G) ITEM 503001 - PATCHING P.C.C. PAVEMENT, 6' TO 15', TYPE A
- (H) ITEM 701011 - P.C.C. CURB, TYPE 1-4, OVER 4" GABC, TYPE B
- (J) ITEM 720021 - GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31
- (K) ITEM 760006 - RUMBLE STRIPS, BIUMINOUS PAVEMENT
- (L) ITEM 760012 - PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT, VARIABLE DEPTH
- (M) SAFETY EDGE (INCIDENTAL TO RESPECTIVE SUPERPAVE ITEMS)
- (N) ITEM 908004 - TOPSOIL, 6" DEPTH
ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (P) ITEM 908020 - EROSION CONTROL BLANKET MULCH

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

NOTES:

1. PGA - POINT OF GRADE APPLICATION
PDGA - POINT OF DITCH GRADE APPLICATION
P/R - POINT OF ROTATION
2. IN AREAS OF EXISTING CONCRETE PATCH, PAVEMENT MILLING SHALL BE PAID FOR UNDER ITEM 760013 - PAVEMENT MILLING, P.C.C. PAVEMENT.
3. SEE ROADWAY PROFILE FOR LIMITS AND DEPTH OF PAVEMENT WEDGE.
4. SEE GRADES AND GEOMETRICS SHEETS FOR LOCATION AND ELEVATION OF PROPOSED DITCH. ALL OTHER AREAS, SLOPE SHALL TIE INTO EXISTING DITCH SLOPES.



SR 1 PAVEMENT WEDGE TYPICAL SECTION

- ① TRANSITION CROSS SLOPE FROM EX. TO 2% FROM STA. 1258+50 TO STA. 1259+78. TRANSITION CROSS SLOPE FROM 2% TO EX. FROM STA. 1265+50 TO STA. 1267+00.
- ② TRANSITION CROSS SLOPE FROM EX. TO 2% FROM STA. 1258+50 TO STA. 1259+78.
- ③ HOLD 4% CROSS SLOPE FROM STA. 1258+50 TO STA. 1260+16. TRANSITION CROSS SLOPE FROM 4% TO 2% FROM STA. 1260+16 TO STA. 1261+06.

SOUTHBOUND:
STA. 1258+50 TO STA. 1261+06
STA. 1264+57 TO STA. 1267+00

NORTHBOUND:
STA. 2258+50 TO STA. 2260+57
STA. 2264+16 TO STA. 2265+75

- ④ TRANSITION CROSS SLOPE FROM 2% TO EX. FROM STA. 2264+16 TO STA. 2265+75.
- ⑤ TRANSITION CROSS SLOPE FROM 2% TO EX. FROM STA. 2264+75 TO STA. 2265+75.
- ⑥ TRANSITION CROSS SLOPE FROM EX. TO 2% FROM STA. 2258+50 TO STA. 2260+57. TRANSITION CROSS SLOPE FROM 2% TO EX. FROM STA. 2264+16 TO STA. 2265+75.

ADDENDA / REVISIONS

NOT TO SCALE

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	V. KOWALSKI
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

TYPICAL SECTIONS

TS-02

SECTION

WRA

SHEET NO.

7

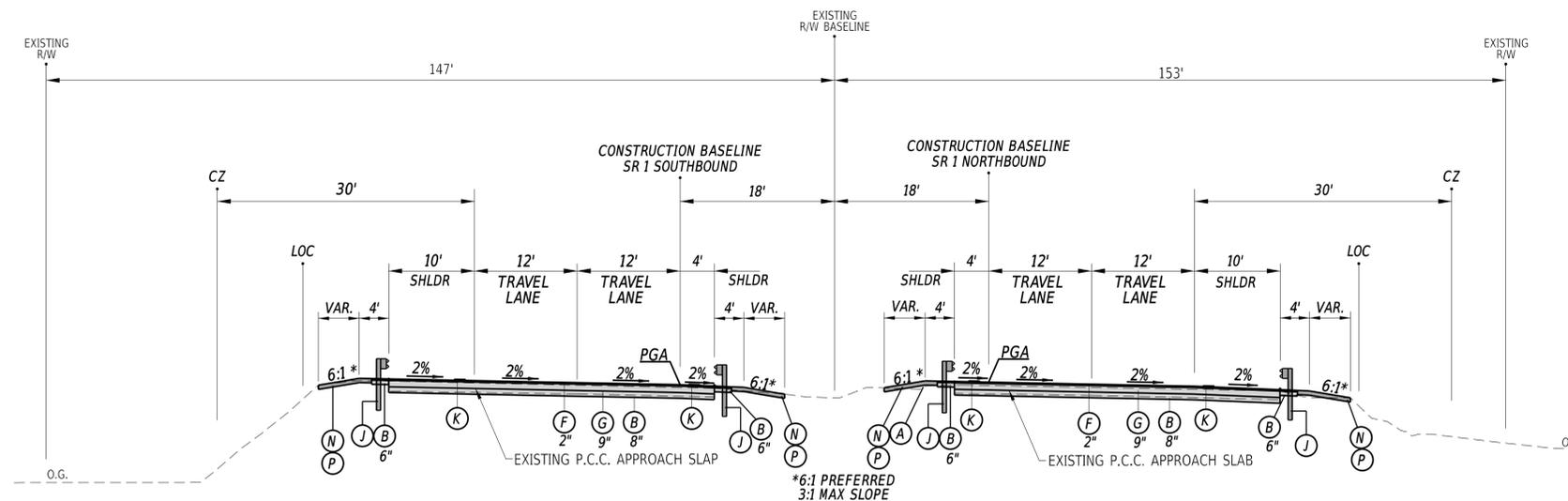
LEGEND

- (A) ITEM 209006 - BORROW, TYPE F
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- (M) SAFETY EDGE (INCIDENTAL TO RESPECTIVE SUPERPAVE ITEMS)
- (N) ITEM 908004 - TOPSOIL, 6" DEPTH
ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (P) ITEM 908020 - EROSION CONTROL BLANKET MULCH

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	-	8"

NOTES:

1. PGA - POINT OF GRADE APPLICATION
PDGA - POINT OF DITCH GRADE APPLICATION
P/R - POINT OF ROTATION
2. IN AREAS OF EXISTING CONCRETE PATCH, PAVEMENT MILLING SHALL BE PAID FOR UNDER ITEM 760013 - PAVEMENT MILLING, P.C.C. PAVEMENT.
3. SEE ROADWAY PROFILE FOR LIMITS AND DEPTH OF PAVEMENT WEDGE.
4. SEE GRADES AND GEOMETRICS SHEETS FOR LOCATION AND ELEVATION OF PROPOSED DITCH. ALL OTHER AREAS, SLOPE SHALL TIE INTO EXISTING DITCH SLOPES.



SR 1 FULL DEPTH TYPICAL SECTION

SOUTHBOUND:
STA. 1261+06 TO STA. 1261+16
STA. 1264+46 TO STA. 1264+57

NORTHBOUND:
STA. 2260+57 TO STA. 2260+67
STA. 2264+06 TO STA. 2264+16

ADDENDA / REVISIONS

NOT TO SCALE

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	V. KOWALSKI
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

TYPICAL SECTIONS

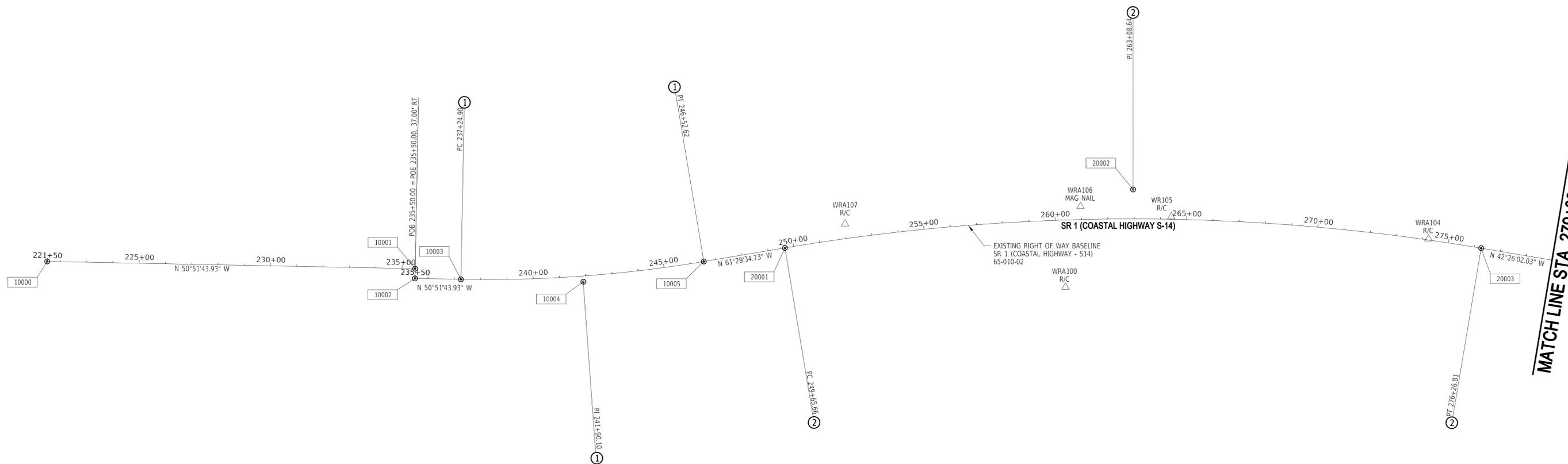
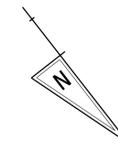
TS-03

SECTION
WRA
SHEET NO.
8

HORIZONTAL / VERTICAL CONTROL DATA					
POINT NO.	STATION	OFFSET*	NORTHING	EASTING	ELEV.
WRA100	260+30.17	254.85'	288051.2479	703487.6821	5.71'
WRA104	274+23.14	-4.48'	288757.2083	702286.1270	8.79'
WRA105	264+41.63	-9.61'	288089.0082	703005.4107	22.90'
WRA106	260+97.18	-49.70'	287845.2601	703253.8161	22.67'
WRA107	252+04.59	-55.64'	287345.7857	704000.1213	13.54'

* OFFSETS SHOWN IN THE ALIGNMENT CONTROL TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

CONSTRUCTION ALIGNMENT CONTROL				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
10000	221+50.00	0.00'	285588.9103	706479.2364
10001	235+50.00	0.00'	286472.5730	705393.3542
10002	235+50.00	0.00'	286501.2713	705416.7081



CIRCULAR CURVE NO. ①			
Element:	STATION	NORTHING	EASTING
Element: Circular			
PC (10003)	237+24.90	286611.6691	705281.0466
PI (10004)	241+90.10	286905.2915	704920.2308
CC (180001)	282733.5181	702125.1085	
PT (10005)	246+52.62	287127.3114	704511.4407
Radius:	5000.00		
Delta:	10°37'50.80" Left		
Degree of Curvature(Arc):	1°08'45.29"		
Length:	927.71		
Tangent:	465.19		
Chord:	926.38		
Middle Ordinate:	21.50		
External:	21.59		
Tangent Direction:	N 50°51'43.92" W		
Radial Direction:	N 39°08'16.07" E		
Chord Direction:	N 56°10'39.32" W		
Radial Direction:	N 28°30'25.27" E		
Tangent Direction:	N 61°29'34.72" W		

CIRCULAR CURVE NO. ②			
Element:	STATION	NORTHING	EASTING
Element: Circular			
PC (20001)	249+65.66	287276.7148	704236.3542
PI (20002)	263+08.64	287917.6748	703056.1976
CC (180002)	294306.7839	708054.4857	
PT (20003)	276+26.81	288908.8708	702150.0353
Radius:	8000.00		
Delta:	19°03'32.70" Right		
Degree of Curvature(Arc):	0°42'58.31"		
Length:	2661.15		
Tangent:	1342.98		
Chord:	2648.90		
Middle Ordinate:	110.40		
External:	111.94		
Tangent Direction:	N 61°29'34.72" W		
Radial Direction:	N 28°30'25.27" E		
Chord Direction:	N 51°57'48.37" W		
Radial Direction:	N 47°33'57.97" E		
Tangent Direction:	N 42°26'02.02" W		

DATUM REFERENCE:
 HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).
 VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

ADDENDA / REVISIONS



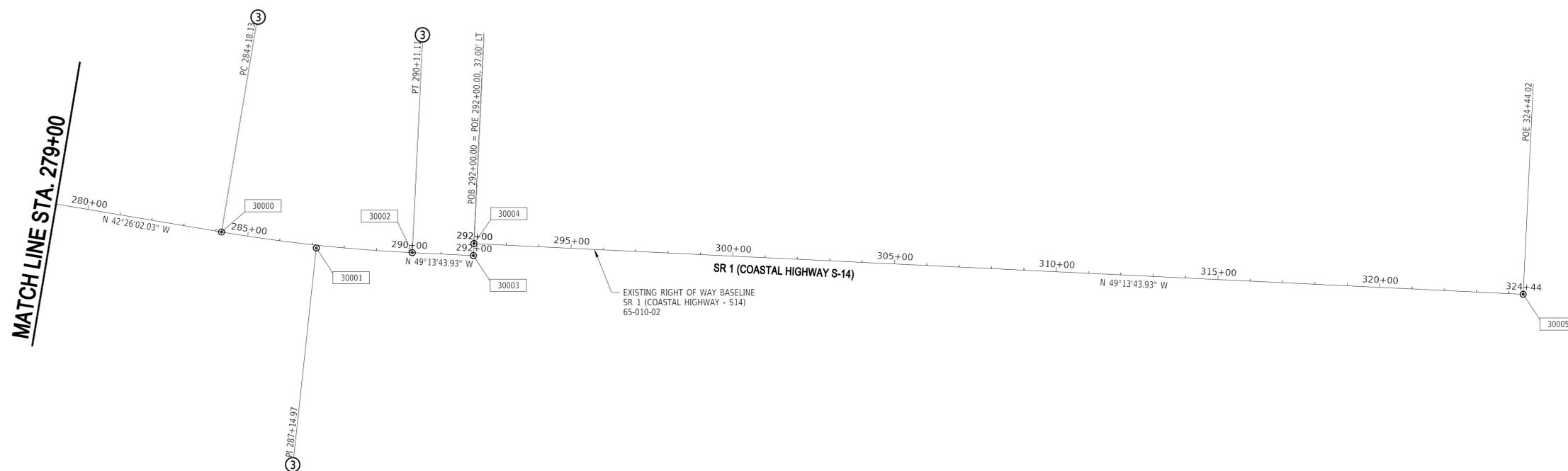
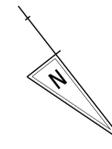
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

**HORIZONTAL AND
VERTICAL CONTROL -
EXISTING BASELINE**

HV-01
SECTION
WRA
SHEET NO.
9

CONSTRUCTION ALIGNMENT CONTROL				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
30003	292+00.00	0.00'	290029.1957	701047.9556
30004	292+00.00	0.00'	290001.1747	701023.7932
30005	324+44.02	0.00'	292119.6466	698567.0184



CIRCULAR CURVE NO. ③			
Element:	STATION	NORTHING	EASTING
PC (30000)	284+18.13	289492.9157	701616.0951
PI (30001)	287+14.97	289711.9963	701415.8092
CC (180003)		286119.2200	697925.8136
PT (30002)	290+11.11	289905.8409	701191.0092
Radius:	5000.00		
Delta:	6°47'41.90" Left		
Degree of Curvature(Arc):	1°08'45.29"		
Length:	592.97		
Tangent:	296.83		
Chord:	592.63		
Middle Ordinate:	8.79		
External:	8.80		
Tangent Direction:	N 42°26'02.02" W		
Radial Direction:	N 47°33'57.97" E		
Chord Direction:	N 45°49'52.97" W		
Radial Direction:	N 40°46'16.07" E		
Tangent Direction:	N 49°13'43.92" W		

DATUM REFERENCE:
 HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE
 PLANE COORDINATE SYSTEM (NAD 83/2011).
 VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

**HORIZONTAL AND
 VERTICAL CONTROL -
 EXISTING BASELINE**

HV-02
SECTION
WRA
SHEET NO.
10

HORIZONTAL / VERTICAL CONTROL DATA					
POINT NO.	STATION	OFFSET*	NORTHING	EASTING	ELEV.
WRA100	260+30.17	254.85'	288051.2479	703487.6821	5.71'
WRA104	274+23.14	-4.48'	288757.2083	702286.1270	8.79'
WRA105	264+41.63	-9.61'	288089.0082	703005.4107	22.90'
WRA106	260+97.18	-49.70'	287845.2601	703253.8161	22.67'
WRA107	252+04.59	-55.64'	287345.7857	704000.1213	13.54'

CONSTRUCTION ALIGNMENT CONTROL				
POINT NO.	STATION	OFFSET*	NORTHING	EASTING
40000	1235+52.43	-18'	286487.3099	705405.3467
80003	1292+02.95	-18'	290015.5639	701036.2009

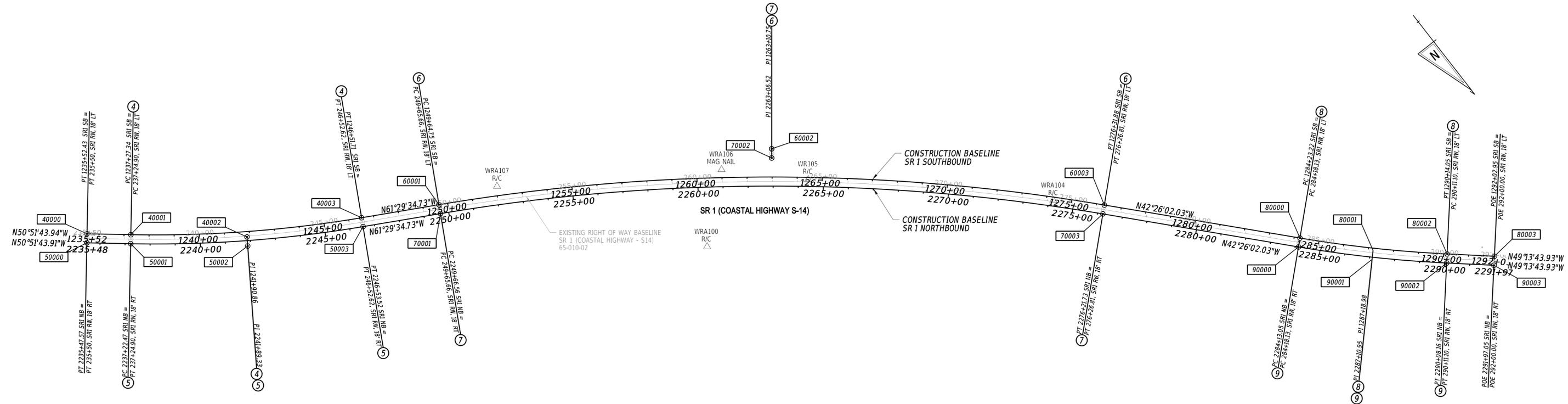
CONSTRUCTION ALIGNMENT CONTROL				
POINT NO.	STATION	OFFSET*	NORTHING	EASTING
50000	2235+47.57	18'	286515.2326	705428.0695
90003	2291+97.05	18'	290042.8275	701059.7103

* OFFSETS SHOWN IN THE ALIGNMENT CONTROL TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

CIRCULAR CURVE NO. ④				
Element: Circular	STATION	NORTHING	EASTING	
PC (40001)	1237+27.34	286597.7078	705269.6851	
PI (40002)	1241+90.86	286890.2732	704910.1683	
CC (180004)	1246+51.71	28733.5181	702125.1085	
PT (40003)	1249+82.00	287111.4937	704502.8499	
Radius:	4982.00			
Delta:	10°37'50.79" Left			
Degree of Curvature(Arc):	1°09'00.20"			
Length:	924.37			
Tangent:	463.52			
Chord:	923.05			
Middle Ordinate:	21.42			
External:	21.52			
Tangent Direction:	N 50°51'43.94" W			
Radial Direction:	N 39°08'16.06" E			
Chord Direction:	N 56°10'39.33" W			
Radial Direction:	N 28°30'25.27" E			
Tangent Direction:	N 61°29'34.73" W			

CIRCULAR CURVE NO. ⑤				
Element: Circular	STATION	NORTHING	EASTING	
PC (50001)	2237+22.47	286625.6302	705292.4083	
PI (50002)	2241+89.33	286920.3099	704930.2934	
CC (180005)	2246+53.52	28733.5182	702125.1084	
PT (50003)	2249+82.00	287143.1291	704520.0313	
Radius:	5018.00			
Delta:	10°37'50.82" Left			
Degree of Curvature(Arc):	1°08'30.49"			
Length:	931.05			
Tangent:	466.87			
Chord:	929.72			
Middle Ordinate:	21.58			
External:	21.67			
Tangent Direction:	N 50°51'43.91" W			
Radial Direction:	N 39°08'16.09" E			
Chord Direction:	N 56°10'39.32" W			
Radial Direction:	N 28°30'25.27" E			
Tangent Direction:	N 61°29'34.73" W			

CIRCULAR CURVE NO. ⑥				
Element: Circular	STATION	NORTHING	EASTING	
PC (60001)	1249+64.75	287260.8971	704227.7634	
PI (60002)	1263+10.75	287903.2993	703044.9514	
CC (180006)	1276+31.89	294306.7839	708054.4857	
PT (60003)	1276+31.89	288896.7254	702136.7503	
Radius:	8018.00			
Delta:	19°03'32.70" Right			
Degree of Curvature(Arc):	0°42'52.52"			
Length:	2667.14			
Tangent:	1346.00			
Chord:	2654.86			
Middle Ordinate:	110.65			
External:	112.19			
Tangent Direction:	N 61°29'34.73" W			
Radial Direction:	N 28°30'25.27" E			
Chord Direction:	N 51°57'48.38" W			
Radial Direction:	N 47°33'57.97" E			
Tangent Direction:	N 42°26'02.03" W			



CIRCULAR CURVE NO. ⑦				
Element: Circular	STATION	NORTHING	EASTING	
PC (70001)	2249+66.56	287292.5324	704244.9451	
PI (70002)	2263+06.52	287932.0503	703067.4437	
CC (180007)	2276+21.72	294306.7839	708054.4857	
PT (70003)	2276+21.72	288921.0162	702163.3203	
Radius:	7982.00			
Delta:	19°03'32.70" Right			
Degree of Curvature(Arc):	0°43'04.12"			
Length:	2655.16			
Tangent:	1339.96			
Chord:	2642.94			
Middle Ordinate:	110.15			
External:	111.69			
Tangent Direction:	N 61°29'34.73" W			
Radial Direction:	N 28°30'25.27" E			
Chord Direction:	N 51°57'48.38" W			
Radial Direction:	N 47°33'57.98" E			
Tangent Direction:	N 42°26'02.02" W			

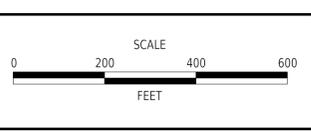
CIRCULAR CURVE NO. ⑧				
Element: Circular	STATION	NORTHING	EASTING	
PC (80000)	1284+23.22	289480.7704	701602.8101	
PI (80001)	1287+18.98	289699.0623	701403.2452	
CC (180008)	1290+14.05	286119.2200	697925.8136	
PT (80002)	1290+14.05	289892.2090	701179.2545	
Radius:	4982.00			
Delta:	6°47'41.89" Left			
Degree of Curvature(Arc):	1°09'00.20"			
Length:	590.84			
Tangent:	295.77			
Chord:	590.49			
Middle Ordinate:	8.76			
External:	8.77			
Tangent Direction:	N 42°26'02.03" W			
Radial Direction:	N 47°33'57.97" E			
Chord Direction:	N 45°49'52.98" W			
Radial Direction:	N 40°46'16.07" E			
Tangent Direction:	N 49°13'43.93" W			

CIRCULAR CURVE NO. ⑨				
Element: Circular	STATION	NORTHING	EASTING	
PC (90000)	2284+13.05	289505.0609	701629.3802	
PI (90001)	2287+10.95	289724.9303	701428.3732	
CC (180009)	2290+08.16	286119.2199	697925.8137	
PT (90002)	2290+08.16	289919.4728	701202.7638	
Radius:	5018.00			
Delta:	6°47'41.91" Left			
Degree of Curvature(Arc):	1°08'30.49"			
Length:	595.11			
Tangent:	297.90			
Chord:	594.76			
Middle Ordinate:	8.82			
External:	8.84			
Tangent Direction:	N 42°26'02.02" W			
Radial Direction:	N 47°33'57.98" E			
Chord Direction:	N 45°49'52.98" W			
Radial Direction:	N 40°46'16.06" E			
Tangent Direction:	N 49°13'43.94" W			

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/2011).
VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

4/27/2020
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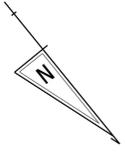
ADDENDA / REVISIONS	



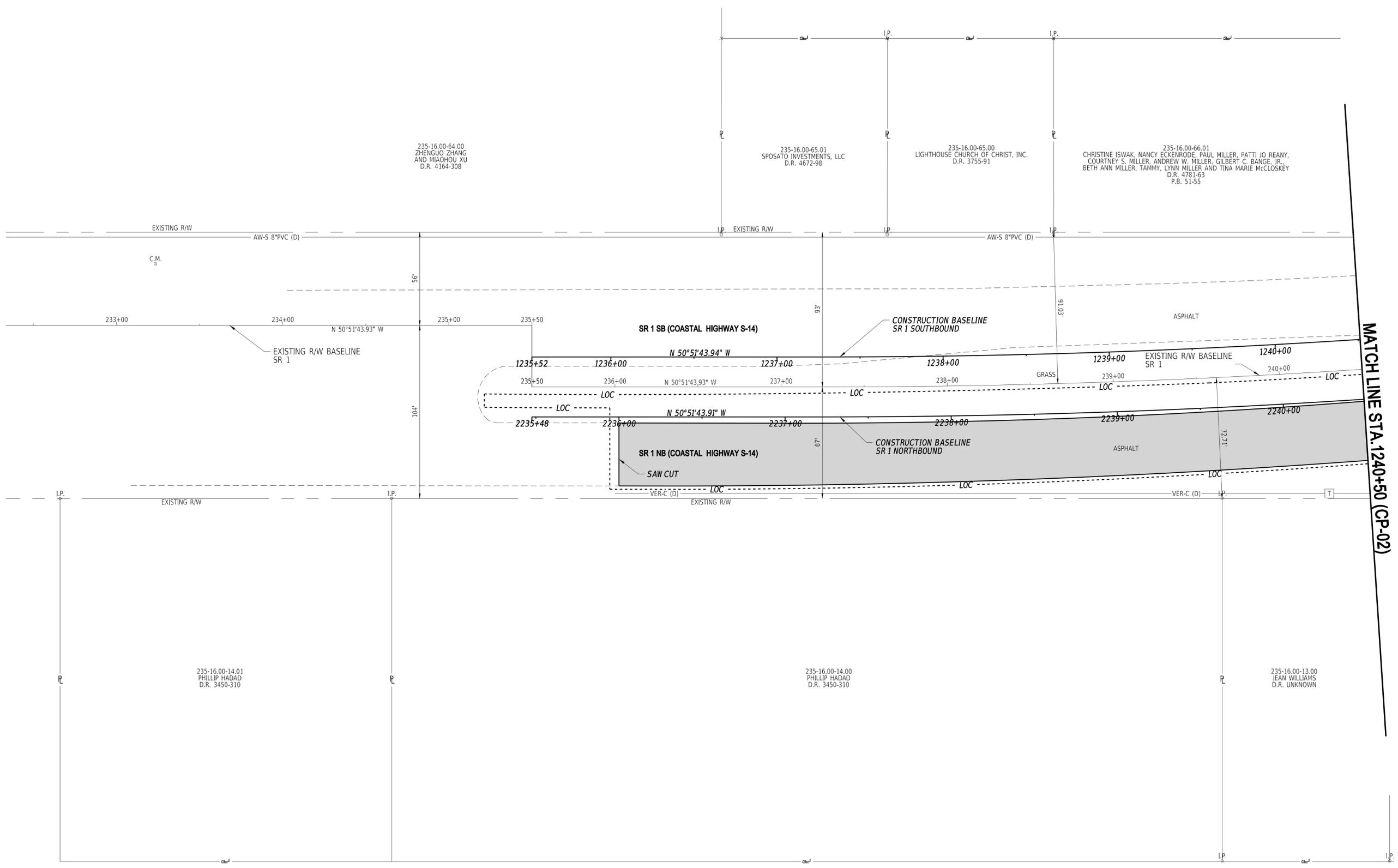
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

HORIZONTAL AND VERTICAL CONTROL - PROPOSED BASELINE	
SECTION	HW-03
WRA	
SHEET NO.	11

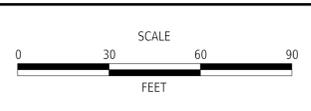


MATCH LINE STA. 1240+50 (CP-02)



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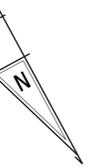
ADDENDA / REVISIONS	



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

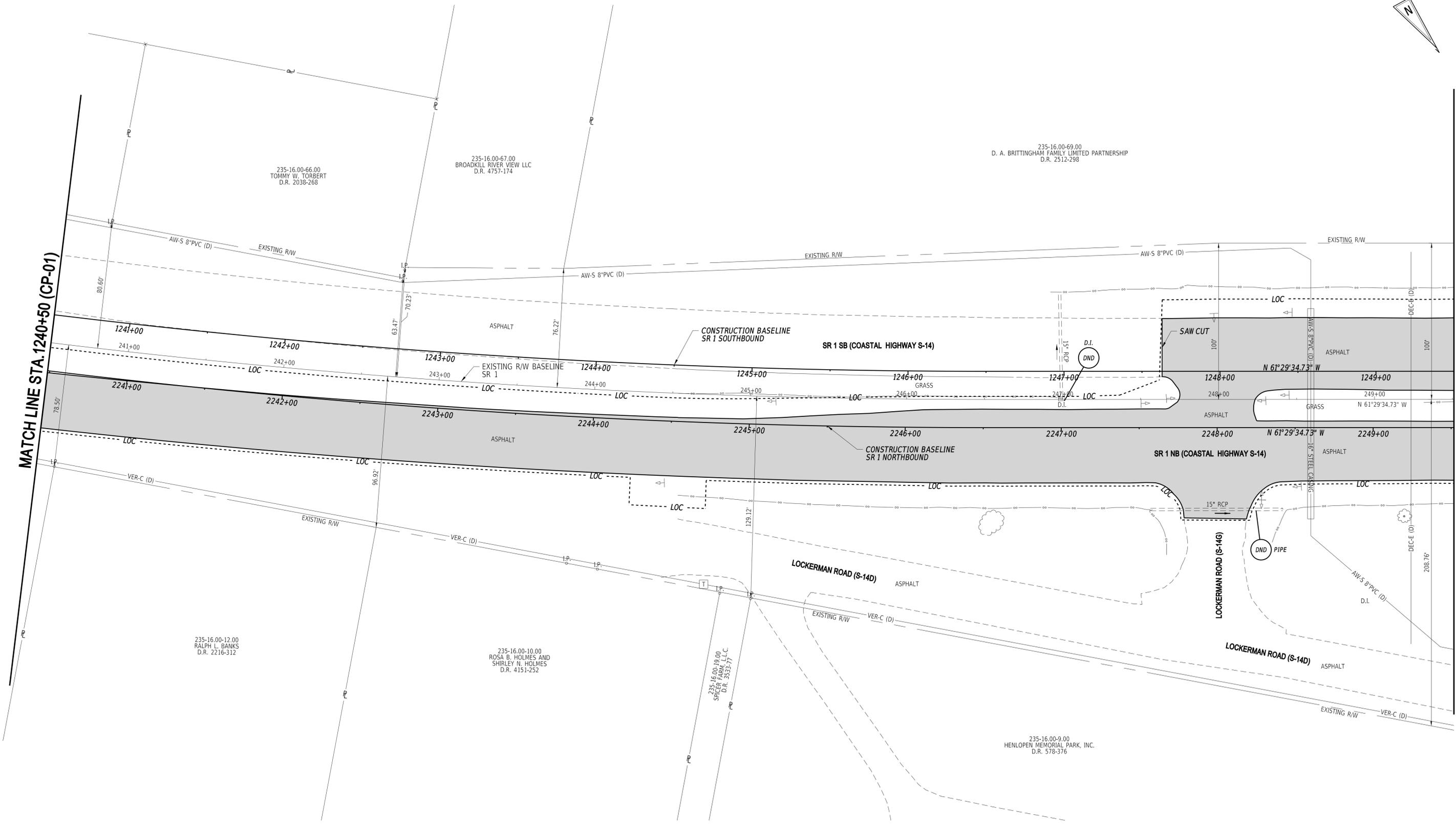
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

CONSTRUCTION PLAN	SECTION	CP-01
	WRA	
	SHEET NO.	12



MATCH LINE STA. 1240+50 (CP-01)

MATCH LINE STA. 1249+50 (CP-03)



235-16.00-66.00
TOMMY W. TORBERT
D.R. 2038-268

235-16.00-67.00
BROADKILL RIVER VIEW LLC
D.R. 4757-174

235-16.00-69.00
D. A. BRITTINGHAM FAMILY LIMITED PARTNERSHIP
D.R. 2512-298

235-16.00-12.00
RALPH L. BANKS
D.R. 2216-312

235-16.00-10.00
ROSA B. HOLMES AND
SHIRLEY N. HOLMES
D.R. 4151-252

235-16.00-19.00
SPICER FARM, L.L.C.
D.R. 3533-71

235-16.00-9.00
HENLOPEN MEMORIAL PARK, INC.
D.R. 578-376

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

CONSTRUCTION PLAN

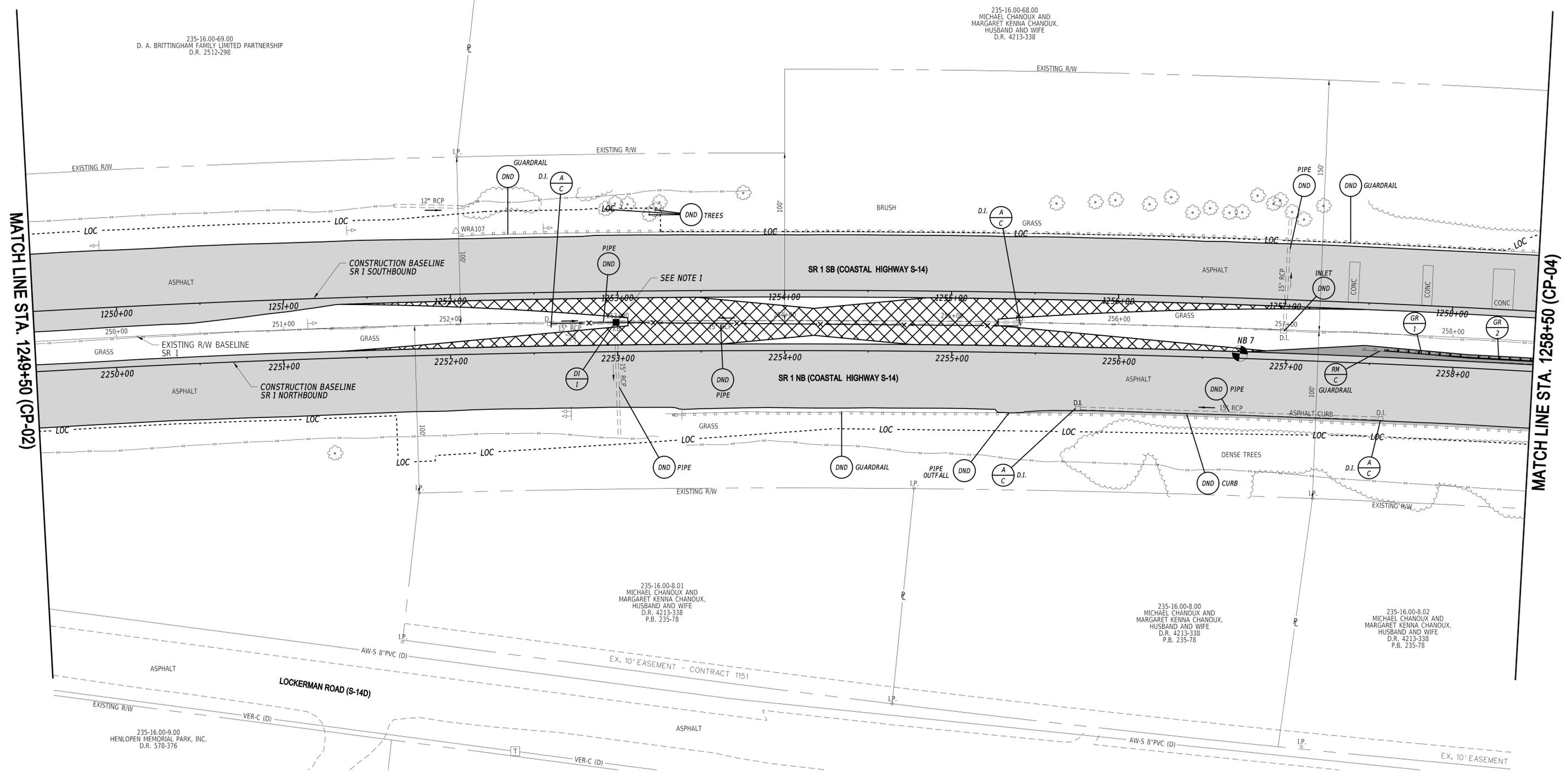
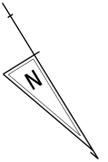
CP-02
SECTION
WRA
SHEET NO.
13

5/14/2020 8:52:39 AM N:\31212-003\CADD\CP02_SR1B.dgn

GUARDRAIL SCHEDULE				
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
1	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	2257+58.83	-8.03'	50.00'
2	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2258+09.06	-6.00'	38.80'

*OFFSETS SHOWN IN THE GUARDRAIL SCHEDULE WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
NB 7	2256+72.33	2.86' LT.	8" OF HOT-MIX ASPHALT



MATCH LINE STA. 1249+50 (CP-02)

MATCH LINE STA. 1258+50 (CP-04)

NOTES:
 I. CONVERT JUNCTION BOX TO INLET WITH TYPE A TOP UNIT AND TYPE 1 GRATE. T.G. ELEV = 10.50. PAYMENT SHALL BE COVERED UNDER ITEM 602506 - CONVERTING EXISTING JUNCTION BOX TO CATCH BASIN.

5/14/2020 8:52:40 AM N:\312122-003\CADD\CP03_SRI1B.dgn

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

CONSTRUCTION PLAN

CP-03
SECTION
WRA
SHEET NO.
14

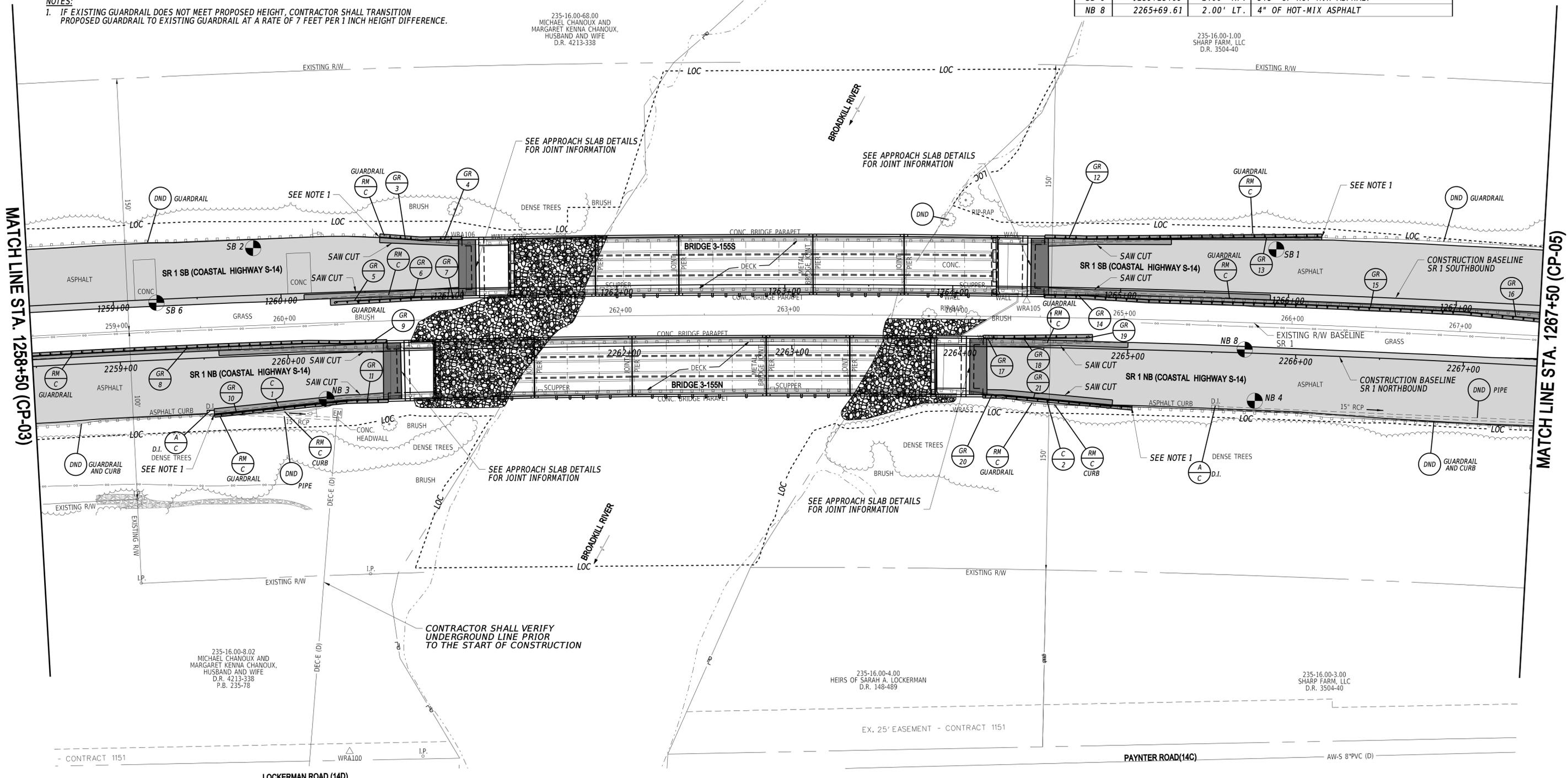
GUARDRAIL SCHEDULE				
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
3	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	1260+59.81	-31.55'	24.10'
4	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	1260+83.71	-29.23'	26.90'
5	END ANCHORAGE, TYPE 31	1260+31.61	5.66'	14.50'
6	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	1260+45.73	5.35'	37.53'
7	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	1260+83.26	4.38'	26.90'
8	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2258+47.84	-6.00'	186.31'
9	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	2260+34.06	-5.08'	26.90'
10	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2259+54.68	33.45'	78.89'
11	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	2260+33.71	28.53'	26.90'

GUARDRAIL SCHEDULE				
NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
12	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	1264+54.35	-28.83'	26.90'
13	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	1264+79.26	-28.84'	139.81'
14	GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1-31	1264+54.57	4.49'	26.90'
15	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	1264+79.59	4.49'	235.47'
16	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	1267+15.19	6.46'	50.00'
17	GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE 31)	2264+13.94	-4.76'	14.23'
18	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2264+26.43	-4.81'	36.39'
19	END ANCHORAGE, TYPE 31	2264+62.77	-5.87'	14.50'
20	GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE 31)	2264+14.16	28.58'	14.23'
21	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2264+26.69	28.52'	76.28'

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	P.C.C. CURB, TYPE 1-4	79'
2	P.C.C. CURB, TYPE 1-4	65'

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
SB 1	1265+91.78	26.11' LT.	8" OF HOT-MIX ASPHALT
SB 2	1259+84.48	27.97' LT.	8" OF HOT-MIX ASPHALT
NB 3	2260+22.03	27.28' RT.	8.5" OF HOT-MIX ASPHALT
NB 4	2265+76.64	28.25' RT.	8" OF HOT-MIX ASPHALT
SB 6	1259+25.69	2.00' RT.	5.5" OF HOT-MIX ASPHALT
NB 8	2265+69.61	2.00' LT.	4" OF HOT-MIX ASPHALT

*OFFSETS SHOWN IN THE GUARDRAIL SCHEDULE WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.
 NOTES:
 1. IF EXISTING GUARDRAIL DOES NOT MEET PROPOSED HEIGHT, CONTRACTOR SHALL TRANSITION PROPOSED GUARDRAIL TO EXISTING GUARDRAIL AT A RATE OF 7 FEET PER 1 INCH HEIGHT DIFFERENCE.



MATCH LINE STA. 1258+50 (CP-03)

MATCH LINE STA. 1267+50 (CP-05)

5/14/2020 8:52:42 AM N:\312122-003\CADD\CP04_S11B.dgn

235-16.00-8.02
 MICHAEL CHANOUX AND
 MARGARET KENNA CHANOUX,
 HUSBAND AND WIFE
 D.R. 4213-338
 P.B. 235-78

235-16.00-68.00
 MICHAEL CHANOUX AND
 MARGARET KENNA CHANOUX,
 HUSBAND AND WIFE
 D.R. 4213-338

235-16.00-1.00
 SHARP FARM, LLC
 D.R. 3504-40

235-16.00-4.00
 HEIRS OF SARAH A. LOCKERMAN
 D.R. 148-489

235-16.00-3.00
 SHARP FARM, LLC
 D.R. 3504-40

ADDENDA / REVISIONS



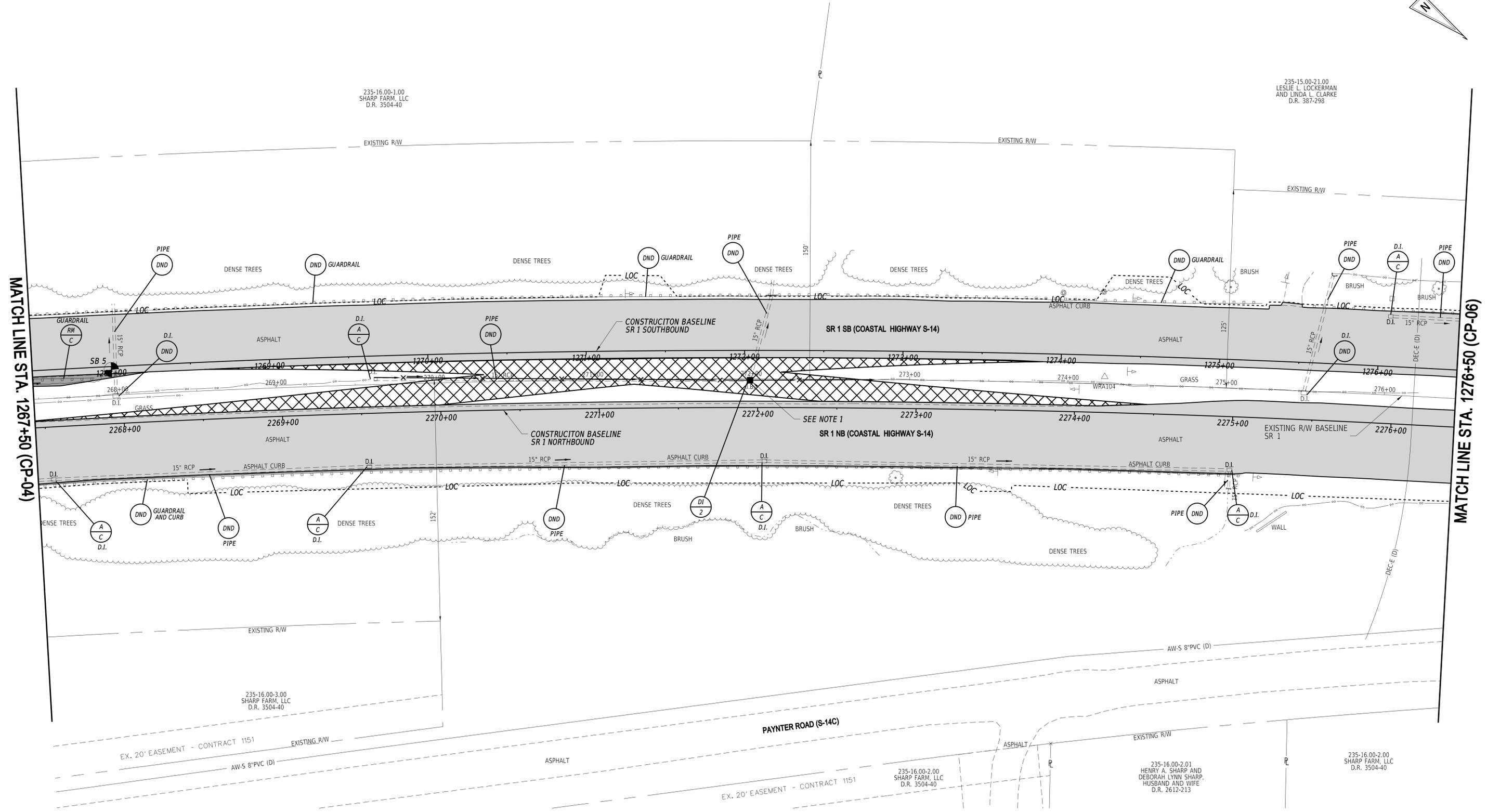
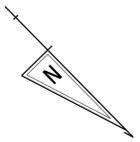
**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

CONSTRUCTION PLAN

CP-04
SECTION
WRA
SHEET NO.
15

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
SB 5	1268+00.00	2.00' RT.	8.25" OF HOT-MIX ASPHALT



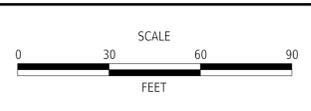
MATCH LINE STA. 1267+50 (CP-04)

MATCH LINE STA. 1276+50 (CP-06)

NOTES:
 1. CONVERT JUNCTION BOX TO INLET WITH TYPE A TOP UNIT AND TYPE 1 GRATE. T.G. ELEV = 11.80. PAYMENT SHALL BE COVERED UNDER ITEM 602506 - CONVERTING EXISTING JUNCTION BOX TO CATCH BASIN.

5/14/2020 8:52:43 AM N:\3122-003\CADD\CP05_S11B.dgn

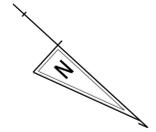
ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

CONSTRUCTION PLAN	
SECTION	CP-05
WRA	
SHEET NO.	16



MATCH LINE STA. 1276+50 (CP-05)

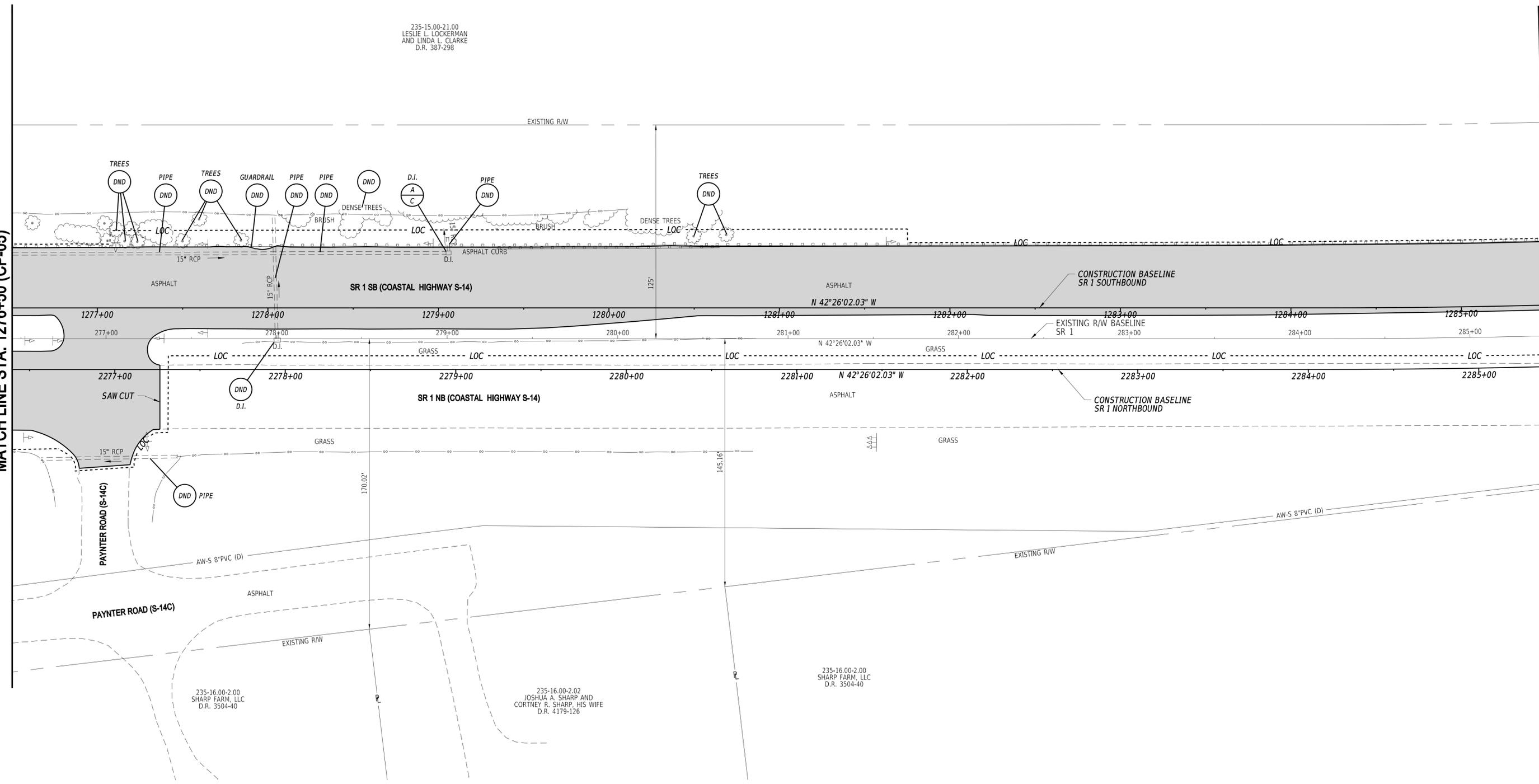
MATCH LINE STA. 1285+50 (CP-07)

235-15.00-21.00
LESLIE L. LOCKERMAN
AND LINDA L. CLARKE
D.R. 387-298

235-16.00-2.00
SHARP FARM, LLC
D.R. 3504-40

235-16.00-2.02
JOSHUA A. SHARP AND
CORTNEY R. SHARP, HIS WIFE
D.R. 4179-126

235-16.00-2.00
SHARP FARM, LLC
D.R. 3504-40



ADDENDA / REVISIONS

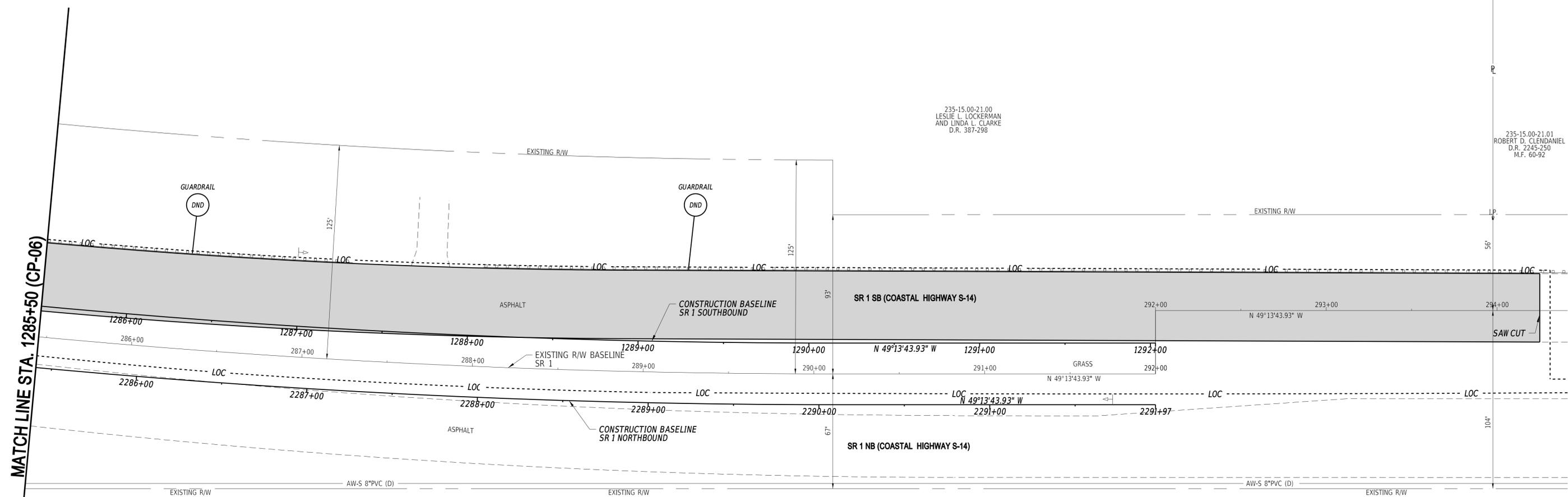
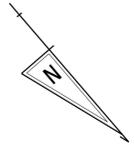


**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT T201907601	BRIDGE NO. BR-155N&S
COUNTY SUSSEX	DESIGNED BY: J. BATOG
	CHECKED BY: T. OLIVER

CONSTRUCTION PLAN	SECTION WRA
	SHEET NO. 17

5/14/2020 8:52:47 AM N:\3222-003\CADD\CP06_S1B.dgn



MATCH LINE STA. 1285+50 (CP-06)

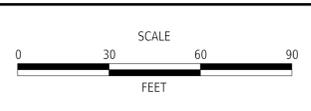
235-15.00-21.00
LESLIE L. LOCKERMAN
AND LINDA L. CLARKE
D.R. 387-298

235-15.00-21.01
ROBERT D. CLENDANIEL
D.R. 2245-250
M.F. 60-92

235-16.00-2.00
SHARP FARM, LLC
D.R. 3504-40

5/14/2020
8:52:48 AM
N:\32122-003\CADD\CP07_SR1B.dgn

ADDENDA / REVISIONS	



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

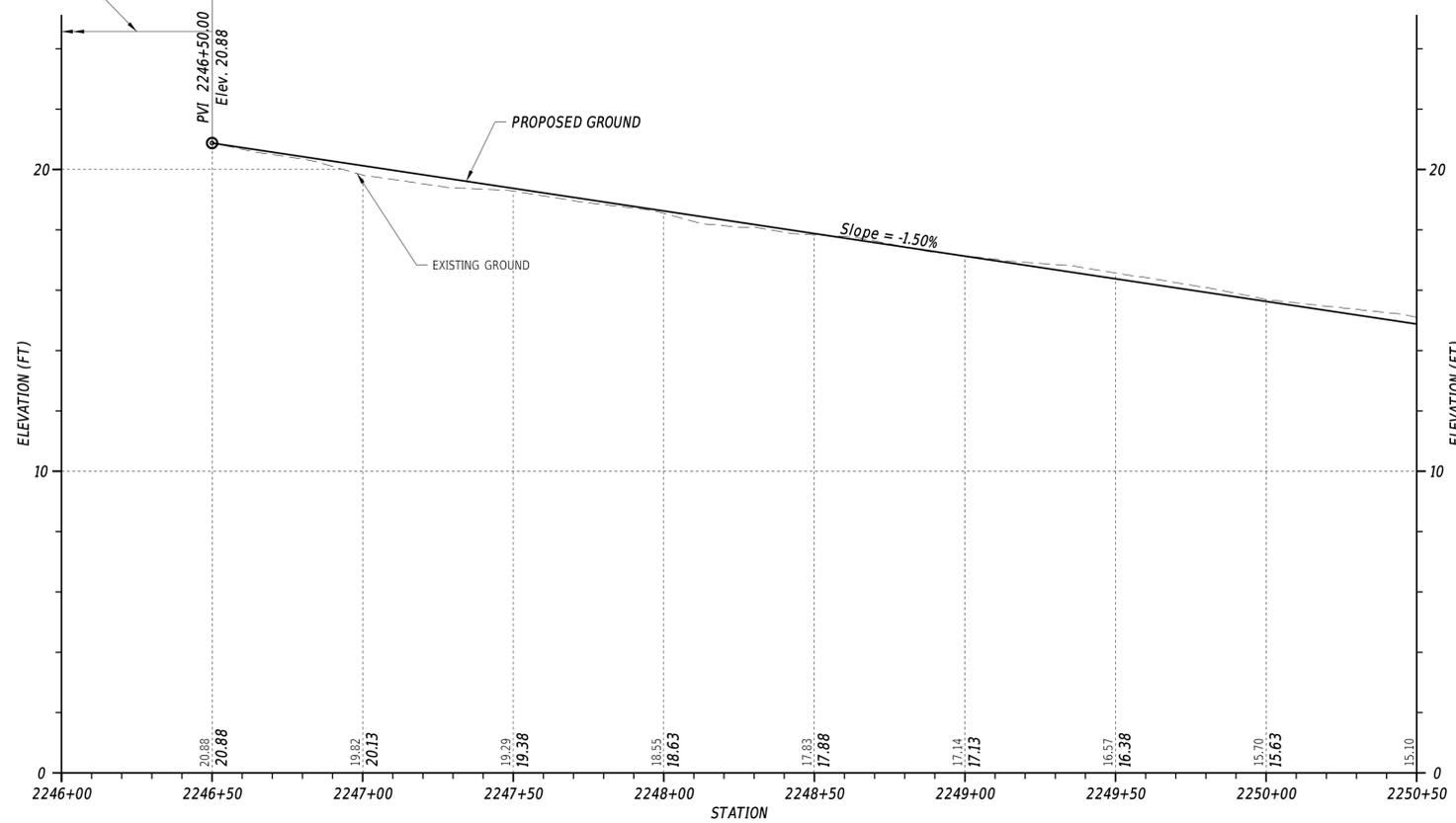
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY: J. BATOG	
COUNTY	CHECKED BY: T. OLIVER	
SUSSEX		

CONSTRUCTION PLAN	SECTION
	WRA
	SHEET NO.
	18

CP-07

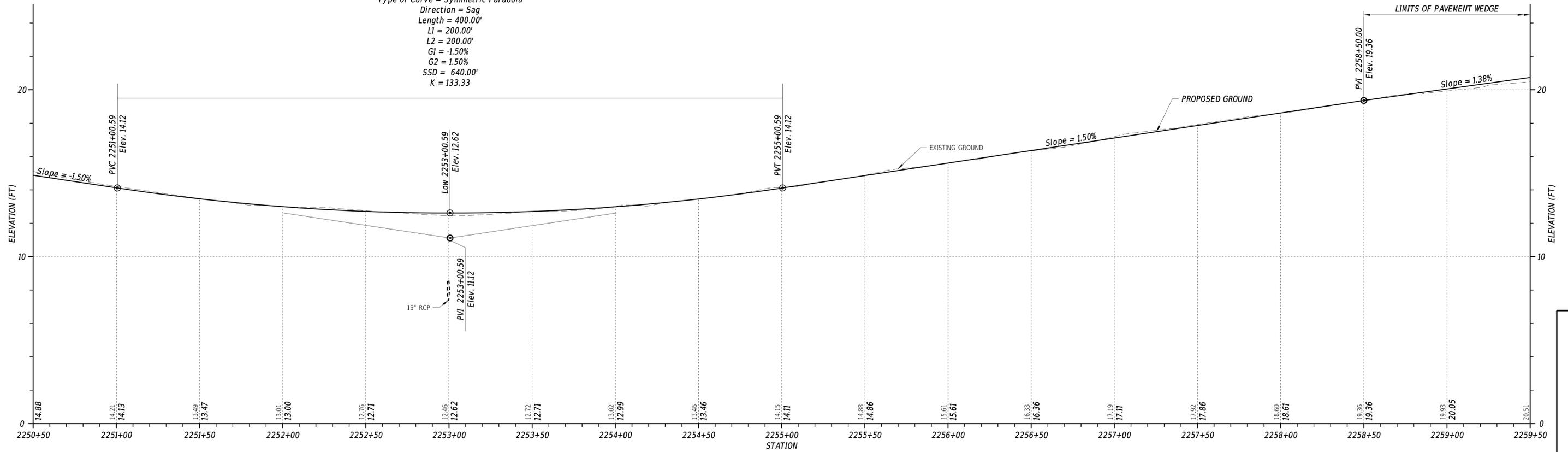
NOTES:
 1. MILL AND OVERLAY EXTENDS BEYOND SURVEY LIMITS. MILL AND OVERLAY SR 1 NORTHBOUND TO STA. 2236+00 (SEE CP-01 AND CP-02)

MILL AND OVERLAY
 SEE NOTE 1



SR 1 NB (COASTAL HIGHWAY S-14)

Type of Curve = Symmetric Parabola
 Direction = Sag
 Length = 400.00'
 L1 = 200.00'
 L2 = 200.00'
 G1 = -1.50%
 G2 = 1.50%
 SSD = 640.00'
 K = 133.33



SR 1 NB (COASTAL HIGHWAY S-14)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

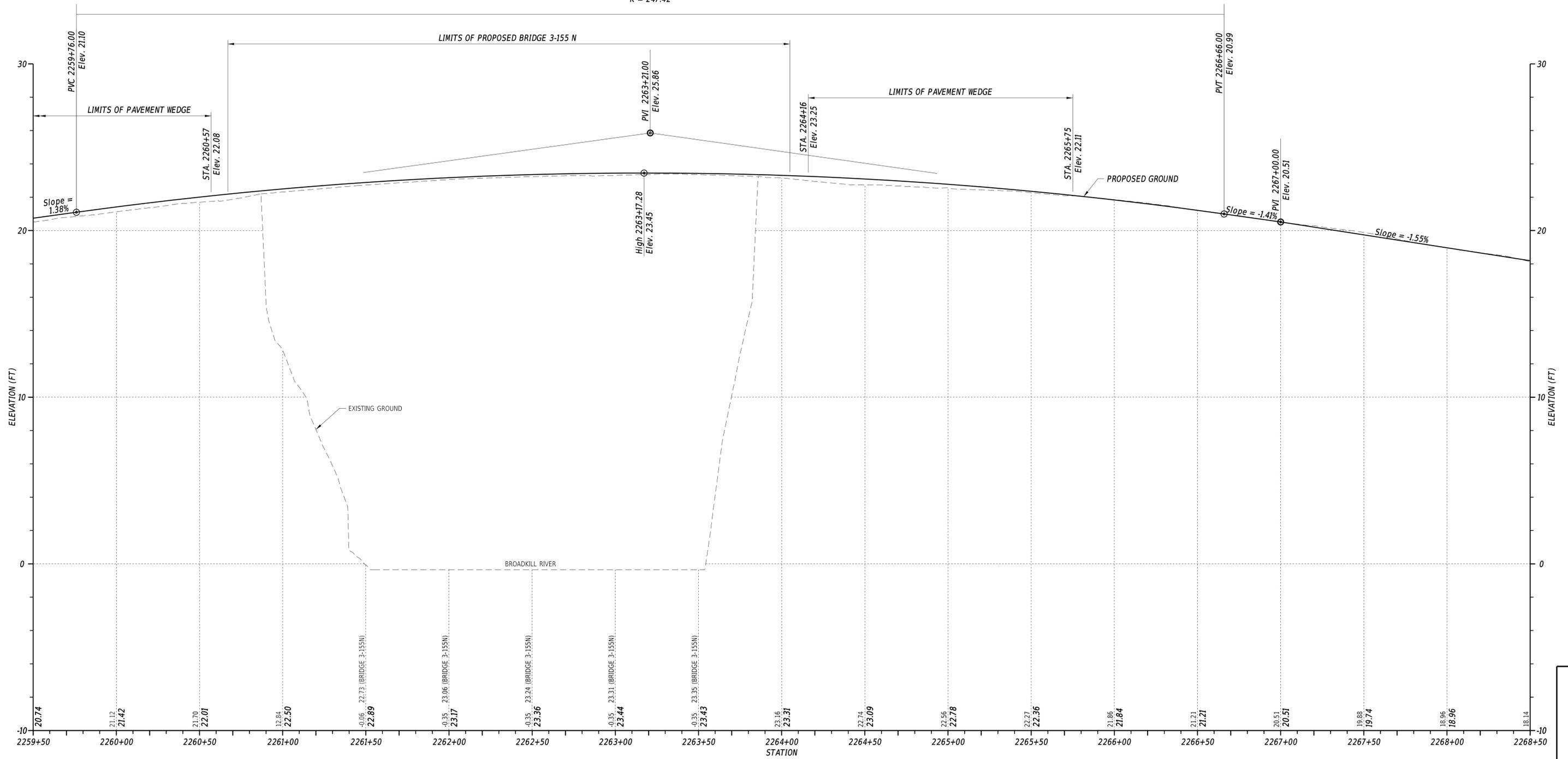
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

PROFILE

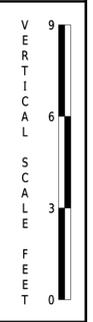


PF-01
SECTION
WRA
SHEET NO.
19

Type of Curve = Symmetric Parabola
 Direction = Crest
 Length = 690.00'
 L1 = 345.00'
 L2 = 345.00'
 G1 = 1.38%
 G2 = -1.41%
 SSD = 731.97'
 K = 247.42

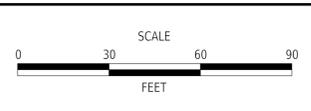


SR 1 NB (COASTAL HIGHWAY S-14)



4/27/2020
 8:56:31 AM
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ADDENDA / REVISIONS	

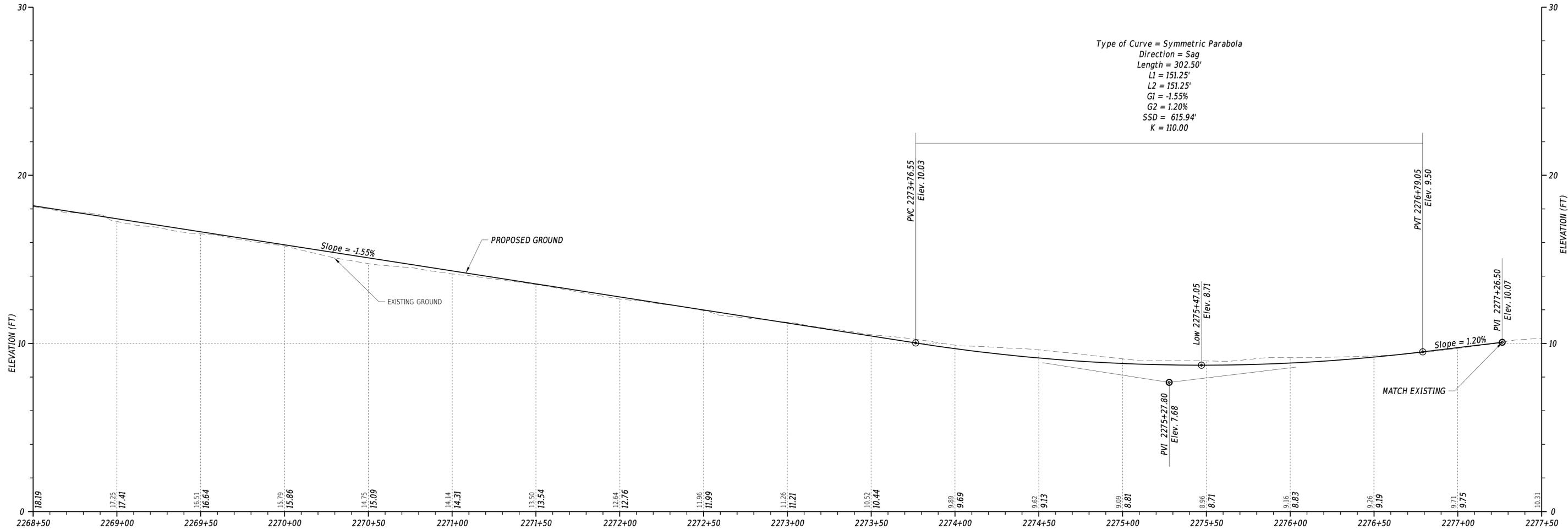


**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

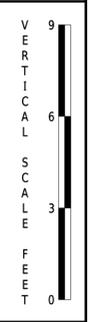
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

PROFILE

PF-02
SECTION
WRA
SHEET NO.
20

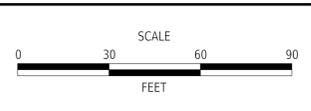


SR 1 NB (COASTAL HIGHWAY S-14)



4/27/2020
8:56:32 AM
N:\32122-003\CADD\PF03_SR1B.dgn

ADDENDA / REVISIONS	

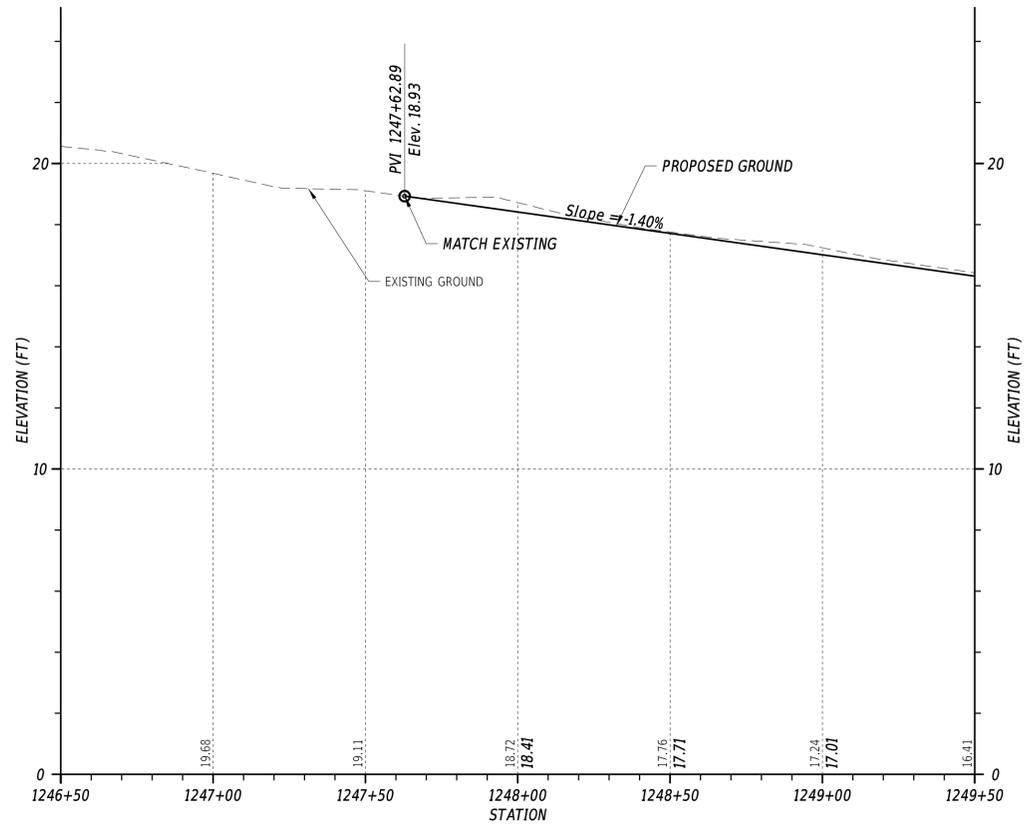


**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

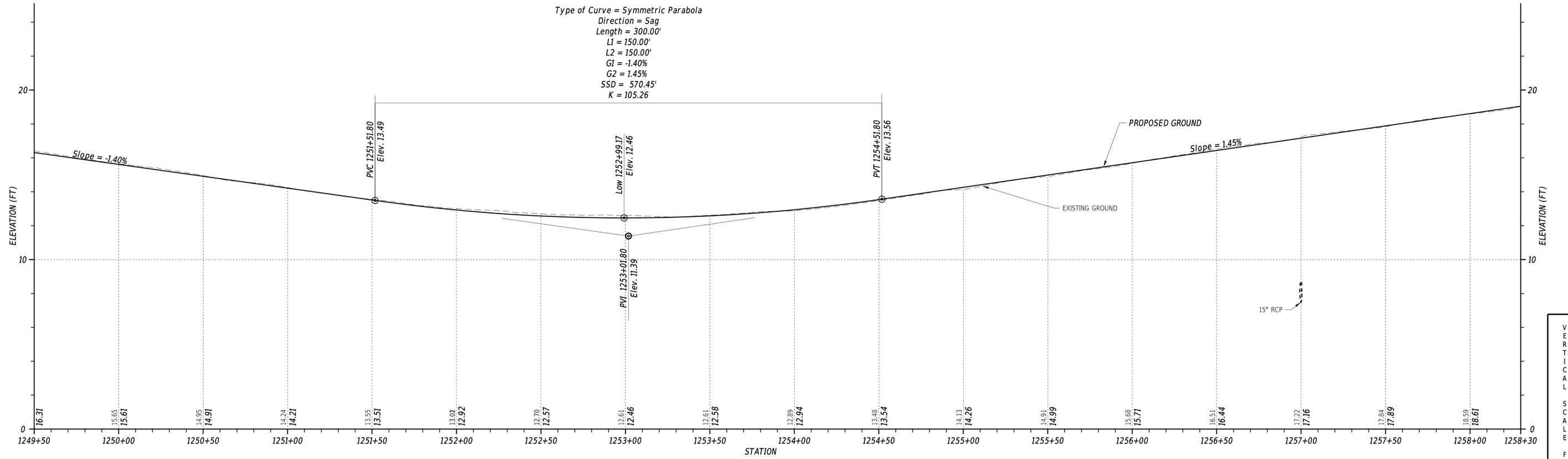
PROFILE

PF-03
SECTION
WRA
SHEET NO.
21

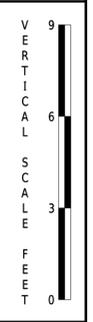


SR 1 SB (COASTAL HIGHWAY S-14)

Type of Curve = Symmetric Parabola
 Direction = Sag
 Length = 300.00'
 L1 = 150.00'
 L2 = 150.00'
 G1 = -1.40%
 G2 = 1.45%
 SSD = 570.45'
 K = 105.26

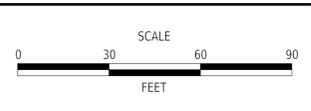


SR 1 SB (COASTAL HIGHWAY S-14)



4/27/2020
 8:56:33 AM
 N:\312122-003\CADD\PF04_S-1B.dgn

ADDENDA / REVISIONS	



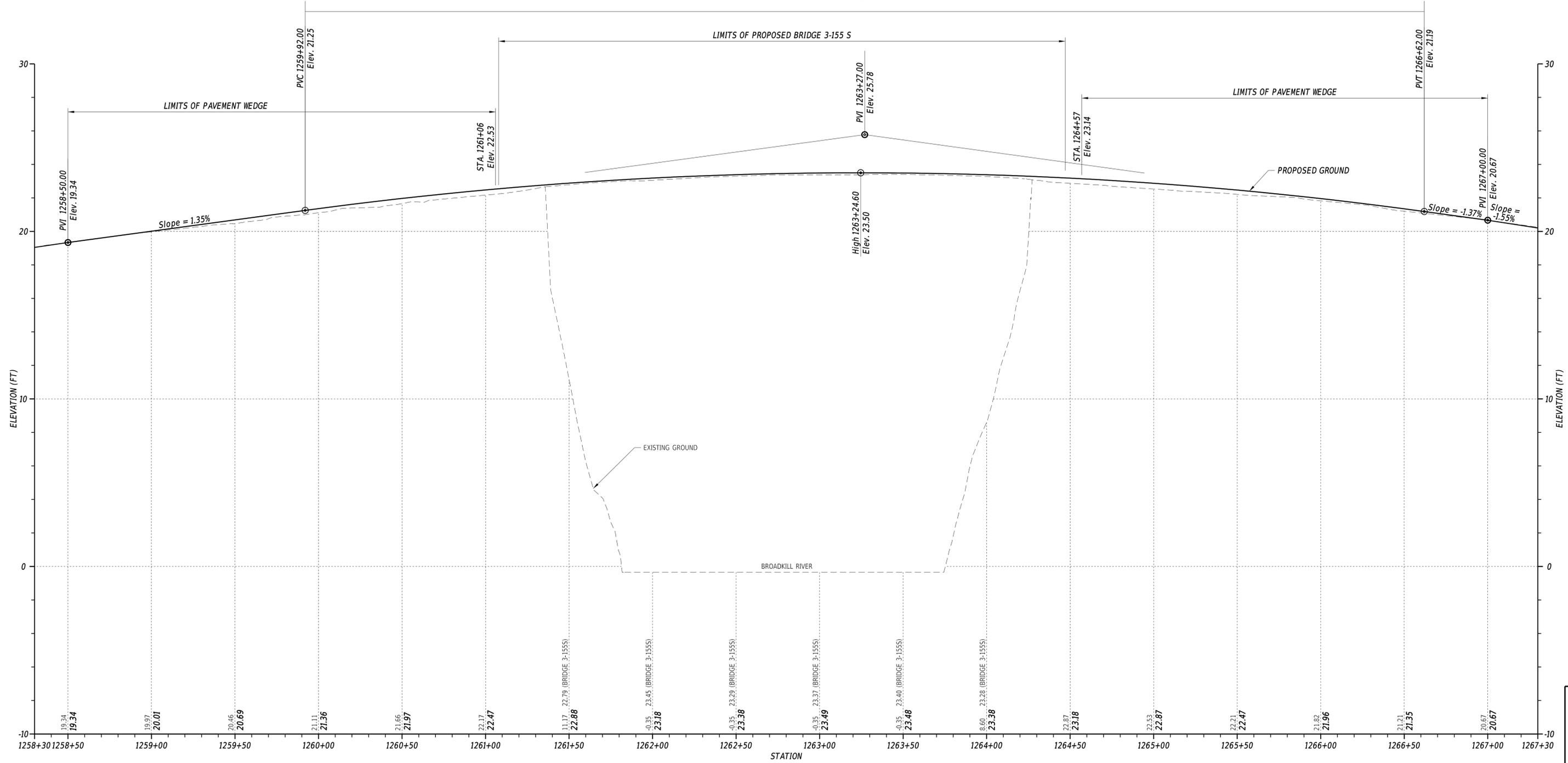
**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

CONTRACT T201907601	BRIDGE NO. BR-155N&S
COUNTY SUSSEX	DESIGNED BY: J. BATOG
	CHECKED BY: T. OLIVER

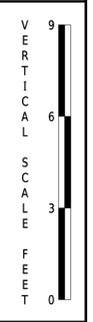
PROFILE

PF-04
SECTION WRA
SHEET NO. 22

Type of Curve = Symmetric Parabola
 Direction = Crest
 Length = 670.00'
 L1 = 335.00'
 L2 = 335.00'
 G1 = 1.35%
 G2 = -1.37%
 SSD = 731.86'
 K = 246.39

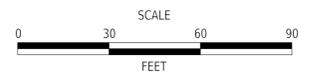


SR 1 SB (COASTAL HIGHWAY S-14)



4/27/2020
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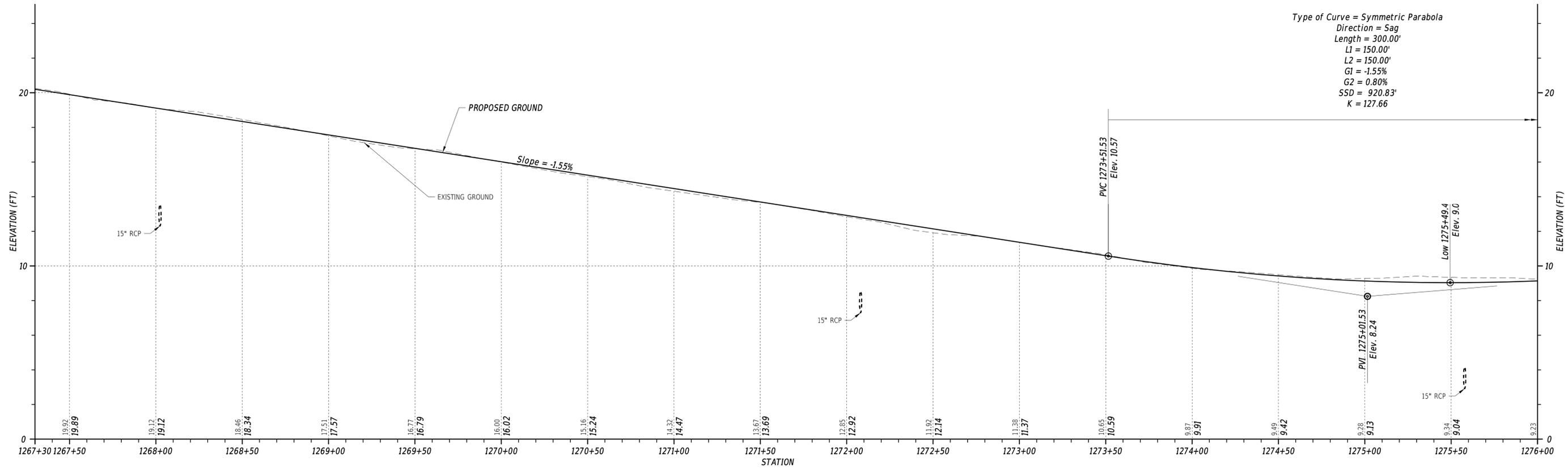
ADDENDA / REVISIONS	



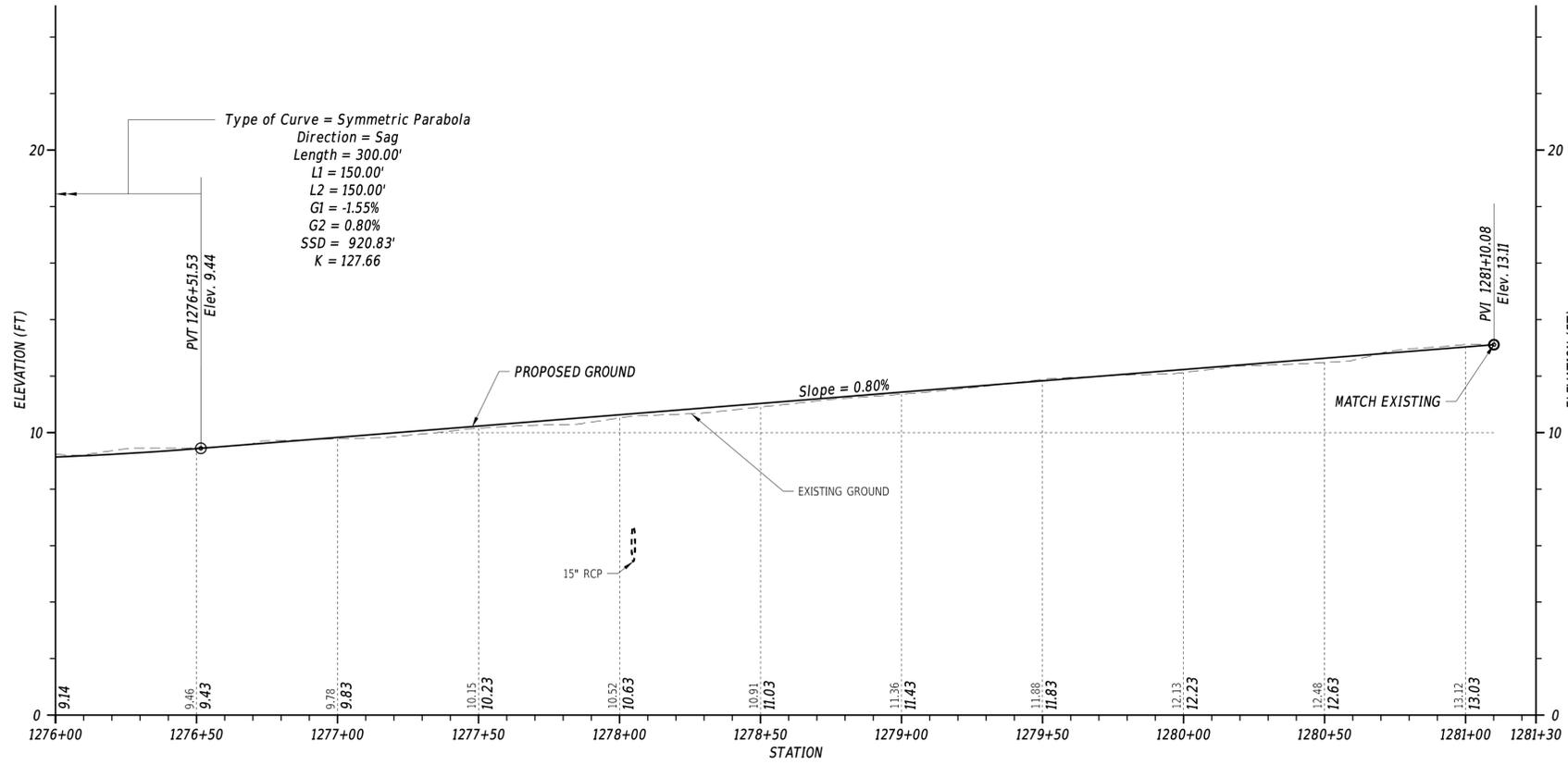
**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

PROFILE	SECTION	PF-05
	WRA	
	SHEET NO.	23



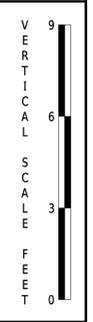
SR 1 SB (COASTAL HIGHWAY S-14)



SR 1 SB (COASTAL HIGHWAY S-14)

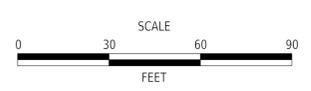
Type of Curve = Symmetric Parabola
 Direction = Sag
 Length = 300.00'
 L1 = 150.00'
 L2 = 150.00'
 G1 = -1.55%
 G2 = 0.80%
 SSD = 920.83'
 K = 127.66

Type of Curve = Symmetric Parabola
 Direction = Sag
 Length = 300.00'
 L1 = 150.00'
 L2 = 150.00'
 G1 = -1.55%
 G2 = 0.80%
 SSD = 920.83'
 K = 127.66



4/27/2020
 8:56:37 AM
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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
 OVER BROADKILL RIVER**

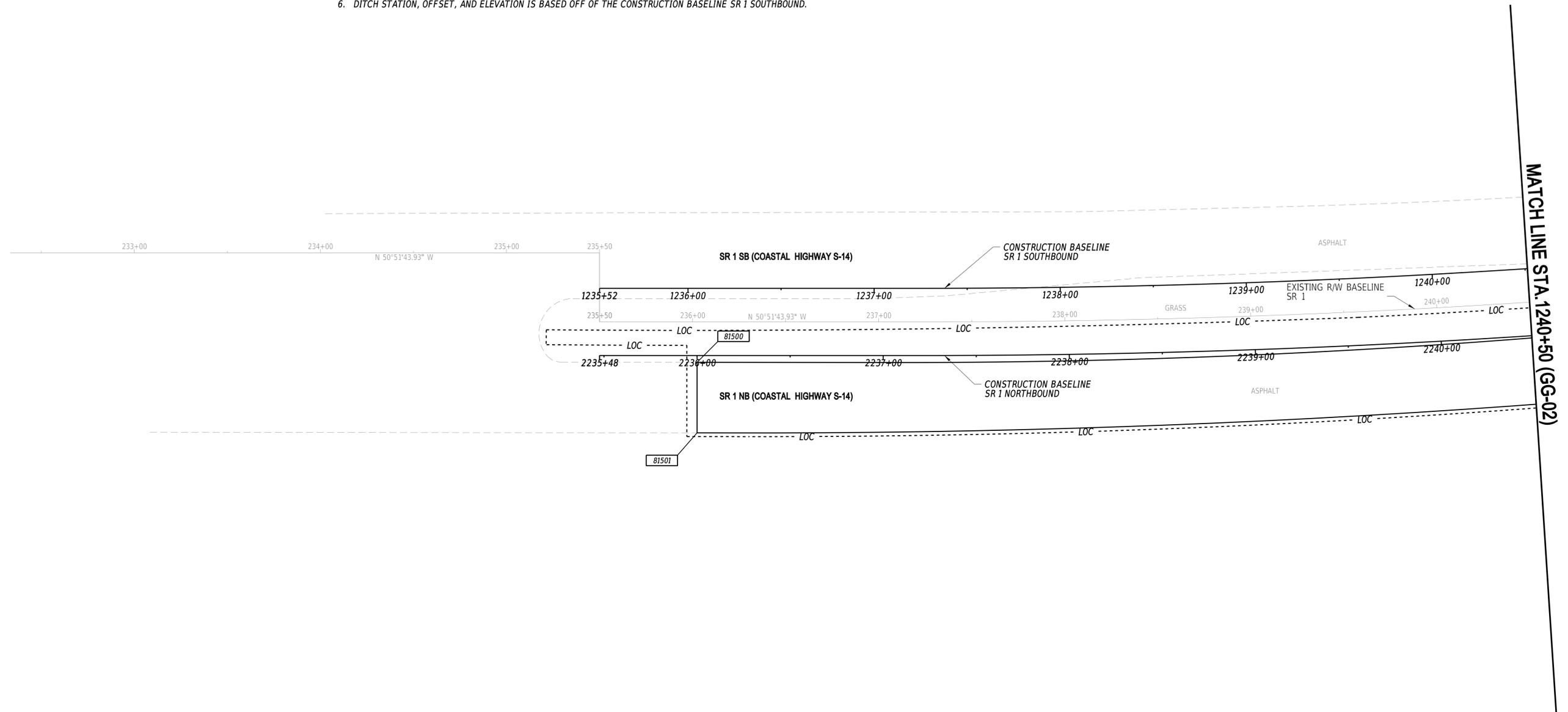
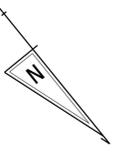
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

PROFILE

PF-06
SECTION
WRA
SHEET NO.
24

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
81500	2236+00.00	3.63'	286551.1417	705389.6883
81501	2236+00.00	41.44'	286580.4692	705413.5543

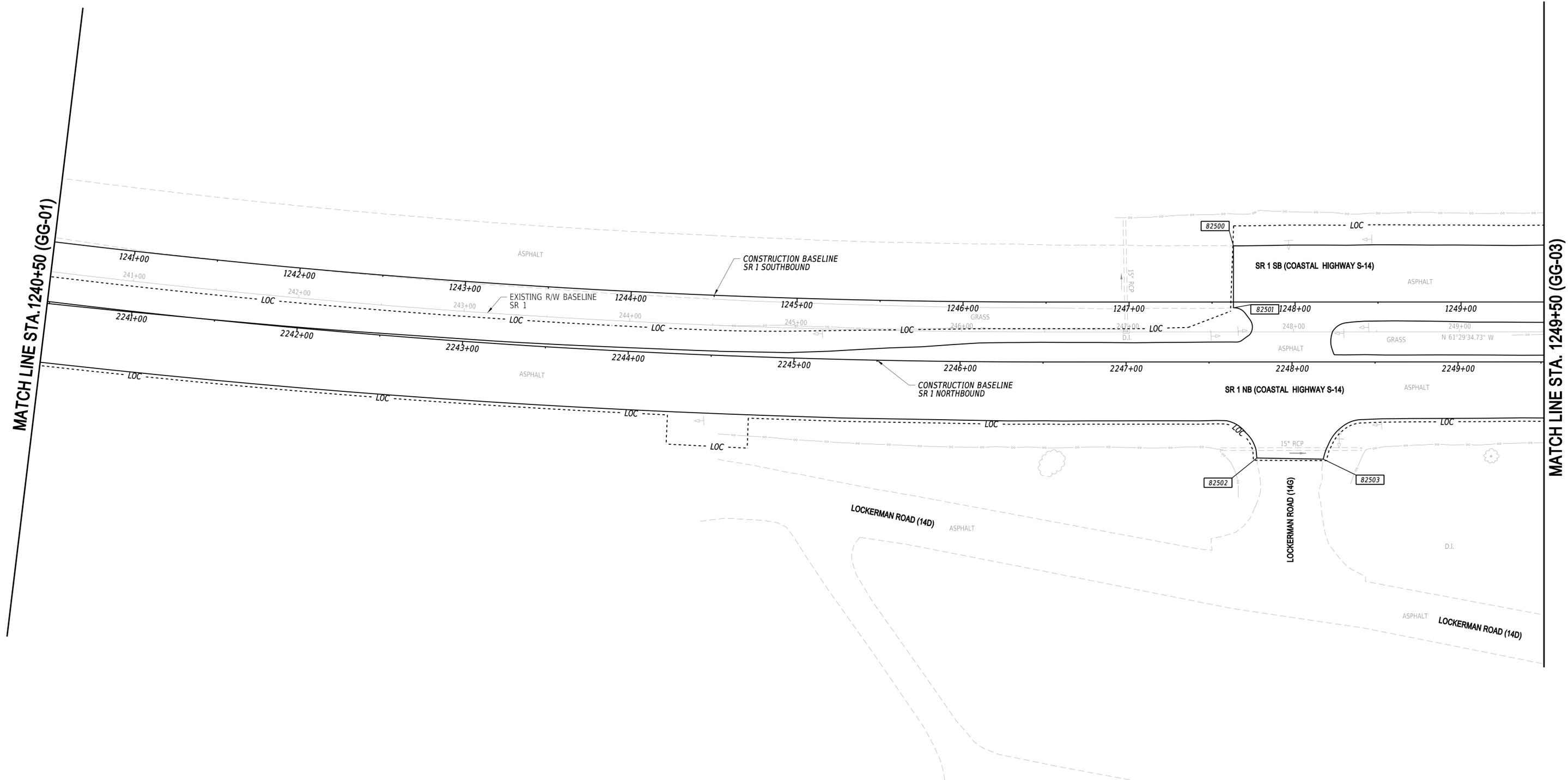
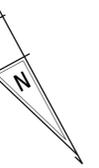
- NOTES:**
- OFFSETS SHOWN IN THE GEOMETRY TABLES WITH A MINUS SIGN ARE TO THE LEFT OF THE CONSTRUCTION BASELINE.
 - UNLESS OTHERWISE NOTED, POINT GEOMETRY ADJACENT TO CURB IS GIVEN AT THE EDGE OF PAVEMENT.
 - RADII ARE GIVEN TO THE EDGE OF PAVEMENT.
 - PROPOSED PAVEMENT OR CURBS THAT TIE INTO EXISTING PAVEMENT OR EXISTING CURBS SHALL MATCH THE EXISTING PAVEMENT OR EXISTING CURB ELEVATIONS.
 - ALL WORK REQUIRED FOR CALCULATING AND STAKING OF GRADES SHALL BE PAID FOR UNDER ITEM 763501 - CONSTRUCTION ENGINEERING.
 - DITCH STATION, OFFSET, AND ELEVATION IS BASED OFF OF THE CONSTRUCTION BASELINE SR 1 SOUTHBOUND.



4/27/2020 8:56:39 AM N:\32122-003\CADD\GG01_SR1B.dgn

ADDENDA / REVISIONS			BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	BR-155N&S	GRADES AND GEOMETRICS	SECTION
				T201907601	DESIGNED BY: J. BATOG			WRA
		SUSSEX	CHECKED BY: T. OLIVER		SHEET NO.	25		

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
82500	1247+62.89	-33.75'	287134.8955	704389.0366
82501	1247+62.89	3.47'	287167.6061	704406.8022
82502	2247+78.78	57.72'	287253.6313	704437.5023
82503	2248+18.82	58.43'	287273.3658	704402.6634



MATCH LINE STA. 1240+50 (GG-01)

MATCH LINE STA. 1249+50 (GG-03)

4/27/20
8:56:41 AM
N:\32122-003\CADD\GG02_S1B.dgn

ADDENDA / REVISIONS



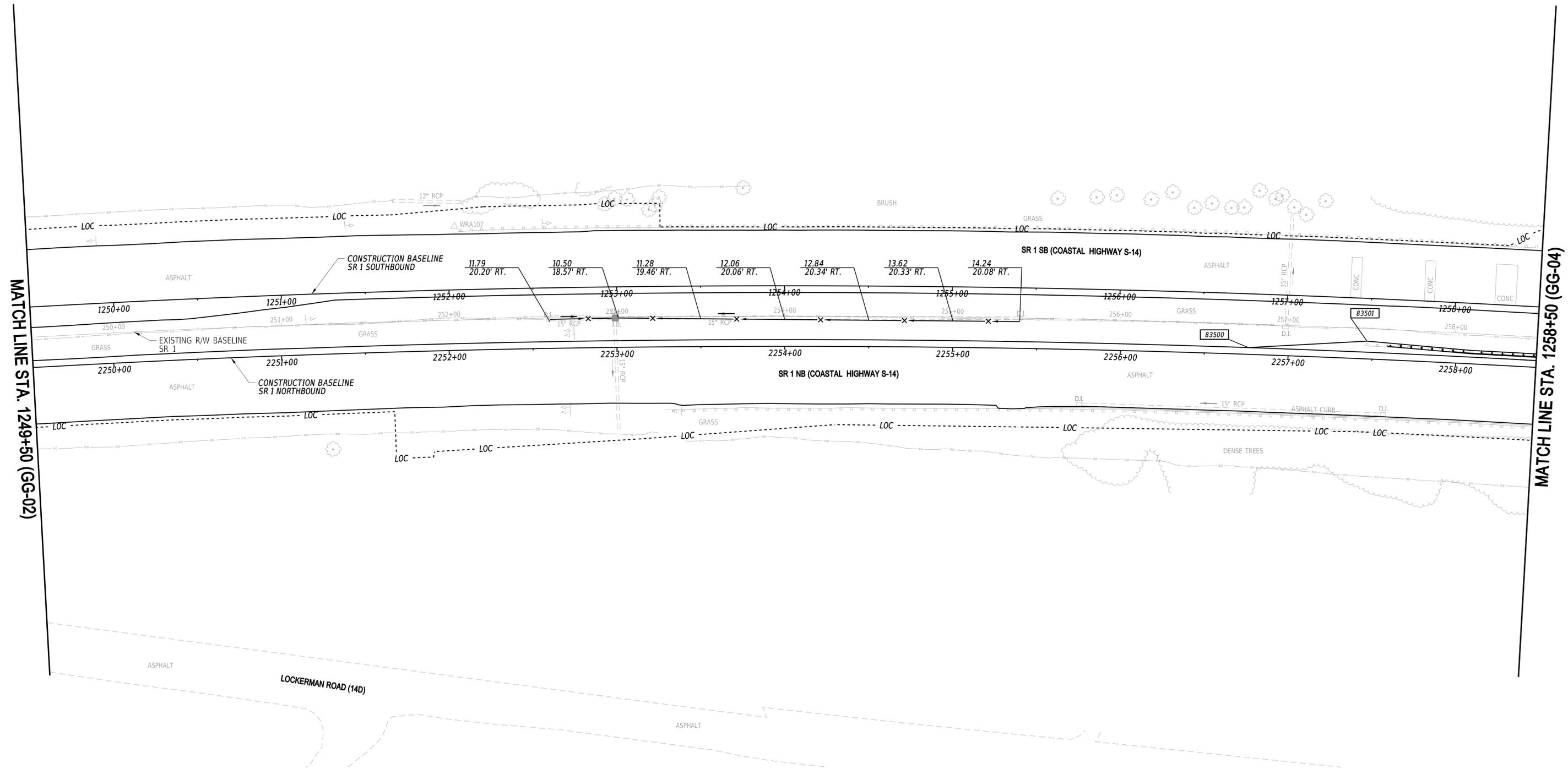
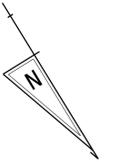
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

GRADES AND GEOMETRICS	
------------------------------	--

GG-02
SECTION
WRA
SHEET NO.
26

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
83500	2256+76.24	-4.00'	287655.1658	703634.9639
83501	2257+46.70	-10.57'	287688.9685	703572.7834

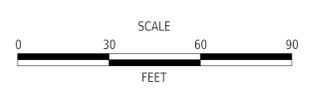


MATCH LINE STA. 1249+50 (GG-02)

MATCH LINE STA. 1258+50 (GG-04)

4/27/20
8:56:43 AM
N:\32122-003\CADD\GG03_SR1B.dgn

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

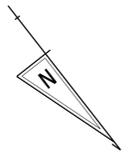
CONTRACT T201907601	BRIDGE NO. BR-155N&S
COUNTY SUSSEX	DESIGNED BY: J. BATOG
	CHECKED BY: T. OLIVER

GRADES AND GEOMETRICS

GG-03
SECTION WRA
SHEET NO. 27

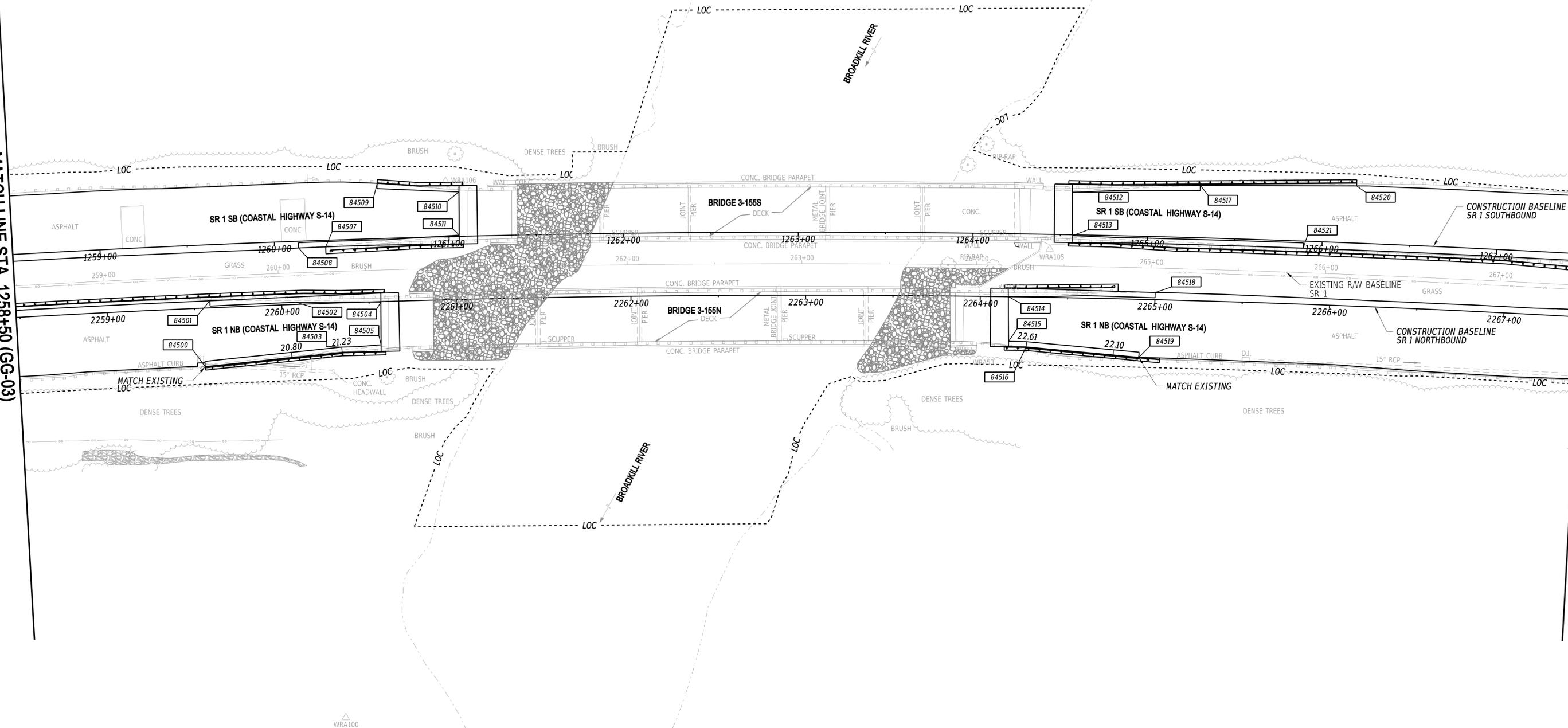
COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
84500	2259+54.68	33.43'	287843.7896	703427.4540
84501	2259+58.96	-4.00'	287815.8418	703402.1888
84502	2260+08.14	-1.26'	287846.8435	703363.8915
84503	2260+33.62	25.25'	287883.2593	703358.9407
84504	2260+56.76	0.30'	287876.7952	703325.5526
84505	1260+59.24	60.67'	287896.0615	703340.4885
84507	1260+29.27	3.77'	287832.5177	703330.9557
84508	1260+13.67	3.84'	287823.3974	703343.5941
84509	1260+59.81	-31.56'	287822.0972	703285.3993
84510	1261+06.35	-25.41'	287854.8251	703251.5069

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
84511	1261+05.87	-0.70'	287874.3505	703266.6437
84512	1264+56.47	-24.27'	288071.5175	702975.1625
84513	1264+57.07	0.53'	288091.1195	702990.3587
84514	2264+16.05	-0.11'	288095.7787	703040.7565
84515	2264+16.55	25.56'	288116.0707	703056.4875
84516	2264+26.69	28.52'	288124.7232	703050.4977
84517	1265+29.37	-29.93'	288113.6020	702915.0630
84518	2265+00.07	-4.09'	288145.8254	702973.1229
84519	2264+91.53	33.20'	288169.1916	703003.4111
84520	1266+18.44	-32.64'	288169.0105	702844.8295
84521	1265+89.26	4.00'	288178.1094	702890.8101



MATCH LINE STA. 1258+50 (GG-03)

MATCH LINE STA. 1267+50 (GG-05)



4/27/20
8:56:45 AM
N:\3122-003\CADD\GG04_SR1B.dgn

ADDENDA / REVISIONS



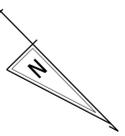
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

GRADES AND GEOMETRICS	
SECTION	WRA
SHEET NO.	28

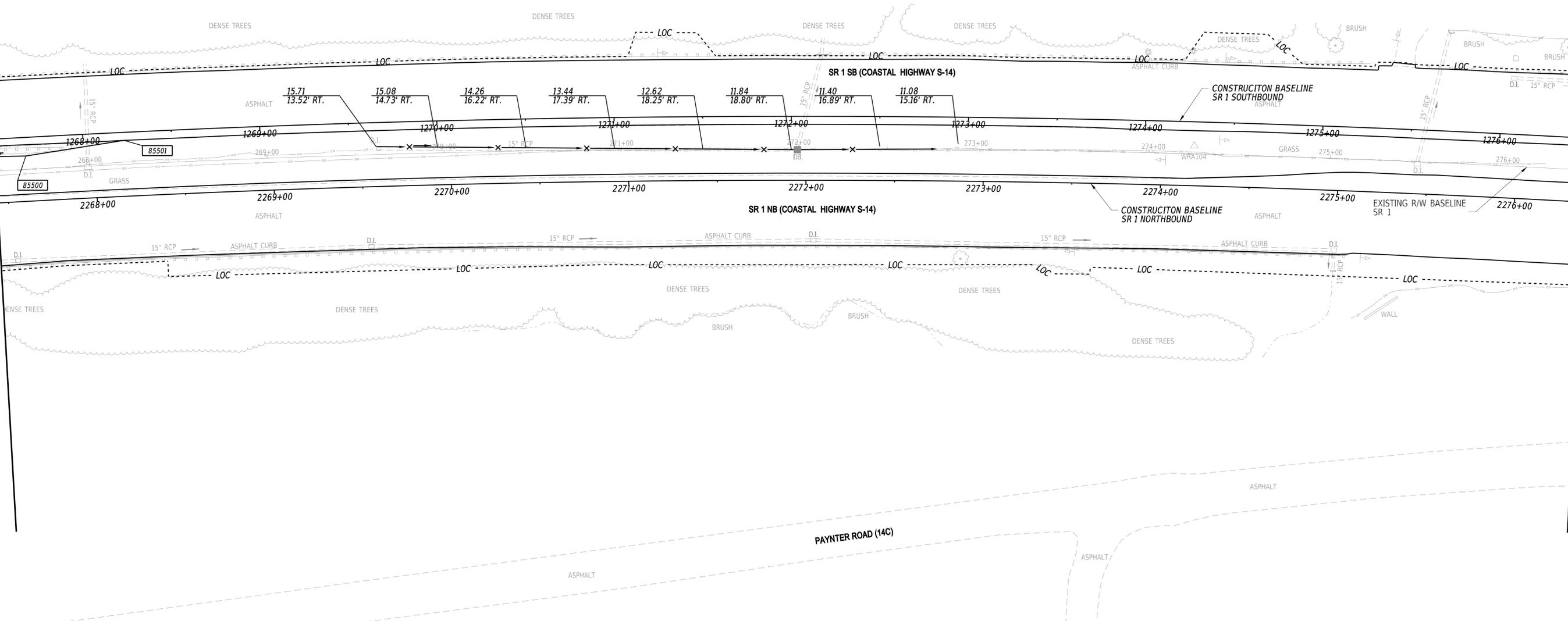
GG-04

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
85500	1267+67.36	10.47'	288299.1658	702760.2444
85501	1268+23.09	4.52'	288331.6711	702714.6478



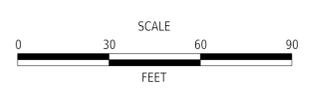
MATCH LINE STA. 1267+50 (GG-04)

MATCH LINE STA. 1276+50 (GG-06)



4/27/20
8:56:53 AM
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ADDENDA / REVISIONS	



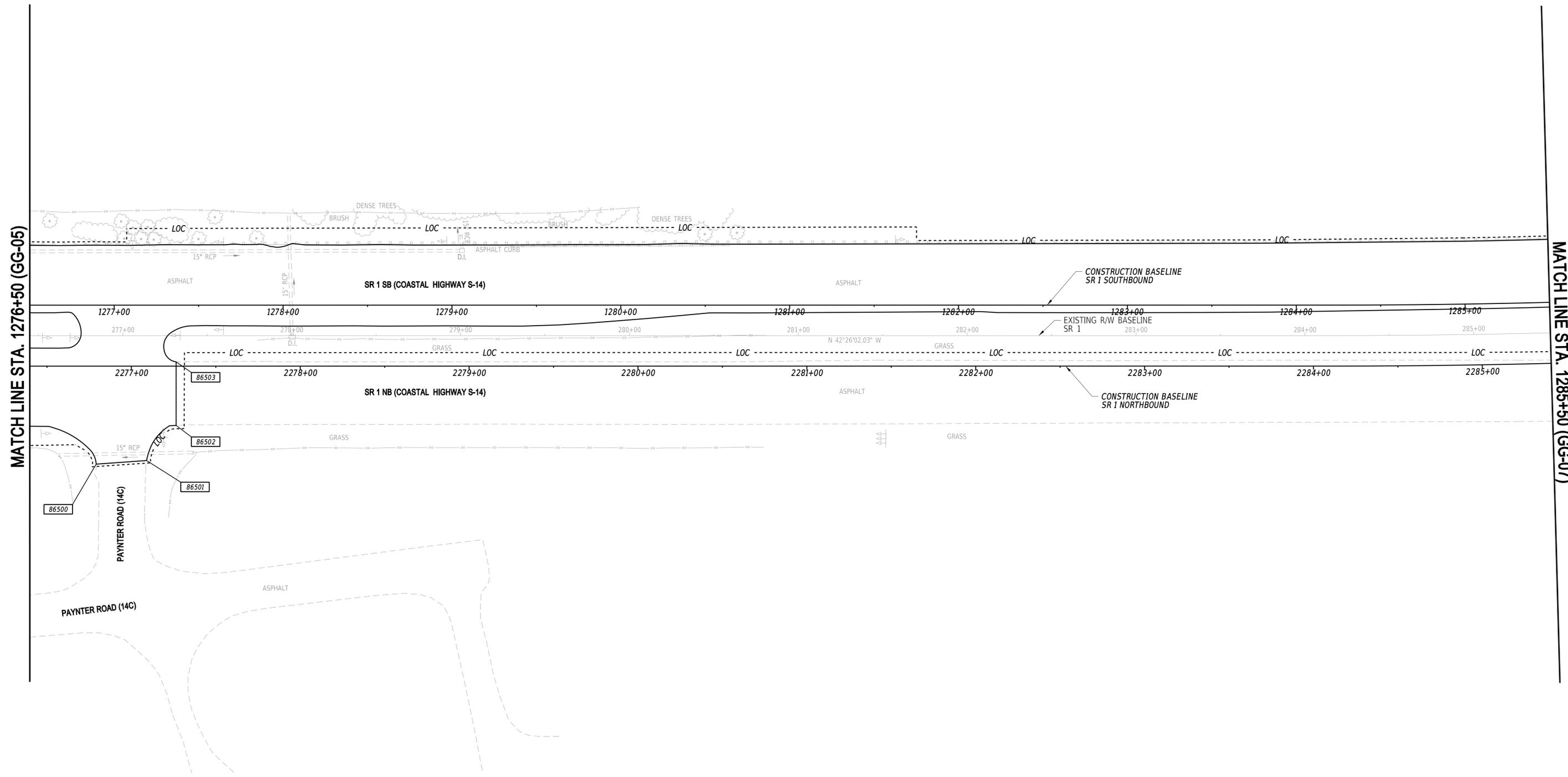
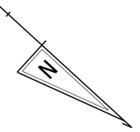
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

GRADES AND GEOMETRICS	
SECTION	WRA
SHEET NO.	29

GG-05

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
86500	2276+79.13	57.85'	289002.4178	702167.2802
86501	2277+08.99	55.74'	289023.0306	702145.5783
86502	2277+26.50	35.02'	289021.9810	702118.4673
86503	2277+26.50	-2.55'	288996.6312	702090.7387

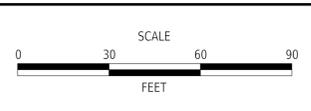


MATCH LINE STA. 1276+50 (GG-05)

MATCH LINE STA. 1285+50 (GG-07)

4/27/2020
8:56:55 AM
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ADDENDA / REVISIONS



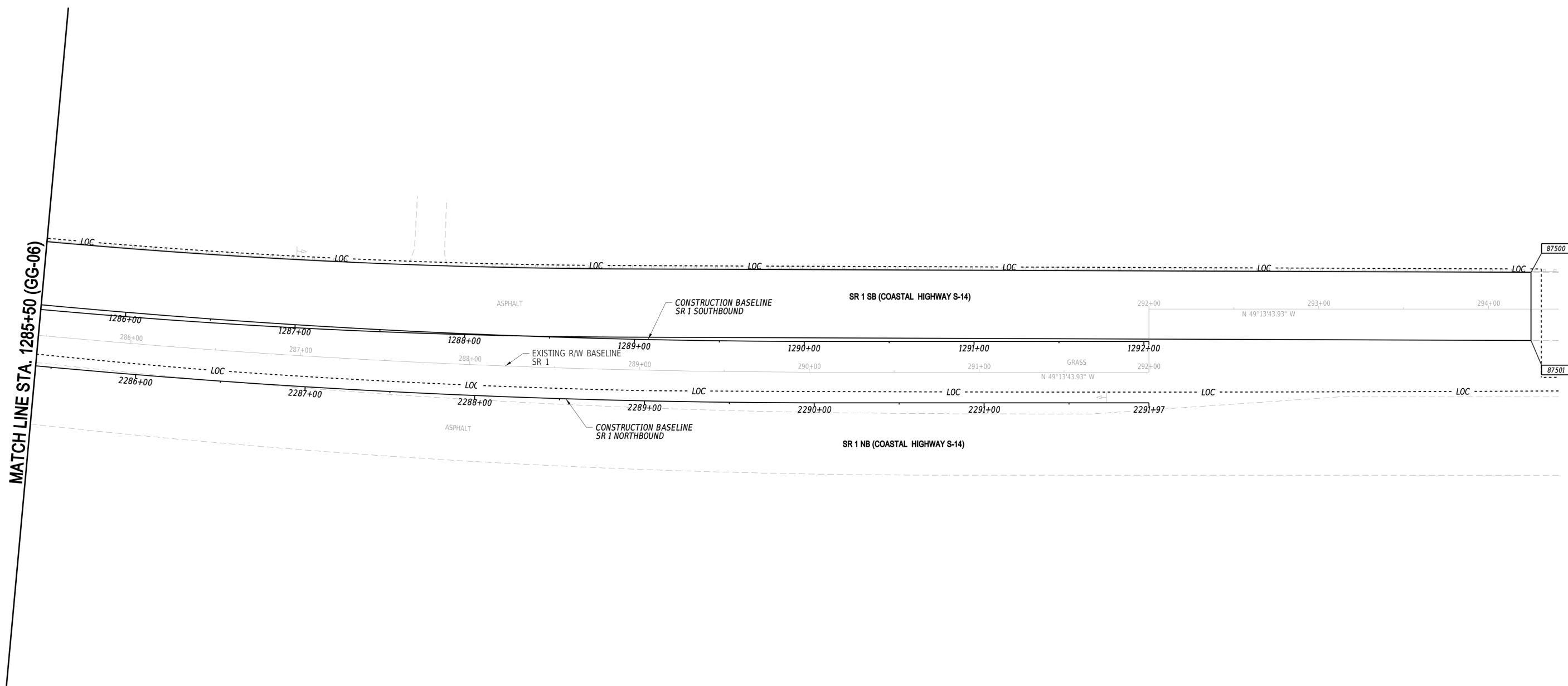
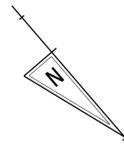
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	J. BATOG
COUNTY	CHECKED BY:	T. OLIVER
SUSSEX		

GRADES AND GEOMETRICS	
SECTION	WRA
SHEET NO.	30

GG-06

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
87500	294+25.00	-21.58'	290131.7679	700839.3048
87501	294+25.00	18.42'	290162.0611	700865.4265



4/27/2020
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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY: J. BATOG	
COUNTY	CHECKED BY: T. OLIVER	
SUSSEX		

GRADES AND GEOMETRICS	
SECTION	WRA
SHEET NO.	31

GG-07

SECTION 200

- REMOVAL OF STRUCTURES AND OBSTRUCTIONS:
ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS ASSOCIATED WITH BRIDGE NO. 3-155N AND 3-155S SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
 - EXISTING DOUBLE FACE THRIE BEAM RAILING RETROFITS
 - EXISTING SINGLE STRAND METAL BRIDGE RAILINGS
 - EXISTING CONCRETE PARAPETS AND SAFETY CURBS
 - EXISTING CONCRETE BRIDGE DECK AND STEEL SUPERSTRUCTURE INCLUDING STEEL BEARINGS AND ANCHOR BOLTS
 - EXISTING CONCRETE BEARING PEDESTALS
 - EXISTING APPROACH SLABS
 - PORTIONS OF EXISTING WINGWALLS
 - EXISTING ABUTMENT BACKWALLS AND CHEEKWALLS
 - EXISTING CONCRETE SLOPE PROTECTION
 - EXISTING NAVIGATIONAL LIGHTING SYSTEM
 - EXISTING PIER PILE JACKETS
 - EXISTING P.C.C. CURB ALONG MEDIAN BETWEEN NORTH ABUTMENT OF BOTH BRIDGES.
- HAZARDOUS MATERIAL:
THE CONTRACTOR IS ADVISED THAT THE EXISTING EXPOSED PORTIONS OF THE STEEL MONOTUBE ENCASMENTS ARE COATED WITH TAR COAL EPOXY. CLEANING AND ANY REMOVAL OF THIS MATERIAL SHALL BE IN CONFORMANCE WITH ITEM 605511 - FRP JACKET AND EPOXY GROUT PILE ENCASMENT, 16" ROUND PILE AND ITEM 605504 - FRP JACKET AND EPOXY GROUT PILE ENCASMENT, 18" ROUND PILE.
- SIGNING:
TO AVOID DAMAGE, SIGNS WITHIN PROJECT LIMITS MAY BE REMOVED DURING CONSTRUCTION IF NEEDED, BUT MUST BE REPLACED TO MATCH FINAL CONDITIONS BEFORE REOPENING THE ROADWAY. ALL WORK RELATED TO MOVING AND REINSTALLING THE SIGNS SHALL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. IF THE SIGN IS DAMAGED DURING CONSTRUCTION, THE SIGN SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SECTION 600

- PORTLAND CEMENT CONCRETE:
USE PORTLAND CEMENT CONCRETE FOR CAST-IN-PLACE ELEMENTS AS FOLLOWS:
($f'c = 28$ -DAY COMPRESSIVE STRENGTH)

CLASS A WITH A HIGH EARLY STRENGTH ADDITIVE - CAST-IN-PLACE ABUTMENT BACKWALLS AND CHEEKWALLS, CAST-IN-PLACE BEARING PEDESTALS, CAST-IN-PLACE PARAPET CLOSURE POURS ($f'c = 4.5$ ksi)

CLASS D WITH A HIGH EARLY STRENGTH ADDITIVE - CAST-IN-PLACE DECK OVER POURS, CAST-IN-PLACE PORTIONS OF THE APPROACH SLABS AND SLEEPER SLABS ($f'c = 4.5$ ksi)

UHPC - CAST-IN-PLACE LONGITUDINAL JOINTS BETWEEN SUPERSTRUCTURE MODULES, LINK SLABS, EXPANSION JOINTS ($f'c = 22.0$ ksi)

THE CONTRACTOR SHALL CONSULT WITH THE DELDOT MATERIALS AND RESEARCH LABORATORY TO DETERMINE THE AMOUNT OF HIGH EARLY STRENGTH ADDITIVE FOR EACH APPLICATION.

A HIGHER CLASS CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT WITH THE APPROVAL OF THE ENGINEER.

- CHAMFER ALL EXPOSED EDGES $\frac{3}{4}" \times \frac{3}{4}"$ UNLESS OTHERWISE NOTED.

- CONTRACTOR SHALL SUPPLY CONCRETE FOR THE CAST-IN-PLACE DECK OVER POURS AND CAST-IN-PLACE PORTIONS OF THE PARAPETS THAT INCLUDES A SHRINKAGE REDUCING/COMPENSATING ADMIXTURE. PAYMENT FOR ADMIXTURE WILL BE INCIDENTAL TO ITS RESPECTIVE CONCRETE ITEMS 610008 AND 610017. THE ADMIXTURE MAY BE SUPPLIED BY ONE PRODUCT THAT PROVIDES BOTH EXPANSION AND PORE WATER SURFACE TENSION OF TWO SEPARATE PRODUCTS EACH ADDED AT A DOSAGE RECOMMENDED BY MANUFACTURER'S TECHNICAL DATA SHEETS AND HAVING THE FOLLOWING CHARACTERISTICS:

- (A) DESIGNED TO PROVIDE BOTH THE FOLLOWING CHARACTERISTICS:
- EXPANDS AT A RATE THAT CLOSELY COMPENSATES FOR SHRINKAGE OF THE CONCRETE MIX.
 - REDUCES THE CAPILLARY SURFACE TENSION OF THE CONCRETE PORE WATER.
- (B) PROVIDES AT LEAST 80% SHRINKAGE REDUCTION AS MEASURED AND DOCUMENTED BY FIELD PERFORMANCE.
- (C) FORMULATED FOR USE IN FREEZING AND THAWING WEATHER.

ALL ADMIXTURES MUST BE COMPATIBLE WITH ALL OTHER CONCRETE-MIX DESIGN CONSTITUENTS. CALCIUM CHLORIDE IS NOT PERMITTED; NO CHEMICAL ADMIXTURES WHICH CONTAIN MORE THAN 0.1% CHLORIDE BY WEIGHT, WILL BE PERMITTED FOR USE. DOSAGE RATE AND MIXING SEQUENCE WILL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

- DECK SLAB:
THE DECK SLAB THICKNESS IS $8\frac{1}{4}"$ (BEFORE DIAMOND GRINDING) WITH A $\frac{3}{4}"$ MINIMUM PPC OVERLAY WEARING SURFACE. THE STRUCTURAL THICKNESS IS 8".

THE USE OF STAY-IN-PLACE FORMS WILL NOT BE PERMITTED.

- BAR REINFORCEMENT:
 - REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.
 - REINFORCING STEEL SHALL HAVE A 3" CLEAR COVER IF CAST AGAINST EARTH OR A 2" CLEAR COVER ELSEWHERE, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
 - ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO ASTM A775.
 - ANY FIELD CUTTING OR FIELD BENDING MUST BE APPROVED BY THE ENGINEER. PAYMENT SHALL BE INCIDENTAL TO THE BAR REINFORCEMENT ITEM.
 - GALVANIZED REINFORCING STEEL MAY BE SUBSTITUTED FOR EPOXY-COATED REINFORCING STEEL AT NO ADDITIONAL COST TO THE DEPARTMENT WITH APPROVAL OF THE ENGINEER.
 - WELDING OF REINFORCEMENT DURING FABRICATION OR CONSTRUCTION WILL NOT BE PERMITTED UNLESS SPECIFIED.

- CONCRETE SEALER:
REFER TO DIAGRAMS CONTAINING SILICONE-BASED ACRYLIC CONCRETE SEALER LIMITS ON PARAPETS AND DECK OVERHANGS ON DWG. TS-01 AND TS-02. SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES AT THE ABUTMENTS (WITH THE EXCEPTION OF THE BEAM SEATS, BEARING PEDESTALS, INSIDE FACE OF THE CHEEKWALLS, AND FRONT FACE OF THE BACKWALLS), WING WALLS, AND THE SIDE AND BOTTOM FACES OF THE PIER CAPS, PAYMENT WILL BE MADE UNDER ITEM 613001 - SILICONE-BASED ACRYLIC CONCRETE SEALER.

EPOXY CONCRETE SEALER SHALL BE APPLIED TO ALL FACES OF THE CONCRETE BEARING PEDESTALS AND BEAM SEATS AT THE ABUTMENTS AND PIERS, INSIDE FACES OF THE CHEEKWALLS, AND THE FRONT FACE OF THE BACKWALLS. PAYMENT WILL BE MADE UNDER ITEM 613000 - EPOXY CONCRETE SEALER.

- ABUTMENT PROTECTION:
THE ABUTMENT PROTECTION SHALL CONSIST OF RIP RAP, R-6. THE PROTECTION SHALL EXTEND AS SHOWN IN THE PLANS AND TERMINATE IN A RIP RAP TOE THAT IS 1'-4" THICKER THAN THE NORMAL THICKNESS OF THE RIP RAP.

SECTION 600 (CONTINUED)

- STRUCTURAL STEEL:
PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270, GRADE 50 (ASTM A709, GRADE 50) DESIGNATION, EXCEPT WHEN NOTED OTHERWISE. THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING (DENOTED AS 'CVN' ON PLANS) OF AASHTO M270 FOR PRIMARY LOAD CARRYING MEMBERS SHALL BE INCLUDED. SUPPLEMENTAL NOTCH TOUGHNESS REQUIREMENTS ARE MANDATORY FOR:
 - ROLLED BEAMS
 - ALL BEARING STIFFENERS
 - ALL DIAPHRAGM MEMBERS AND DIAPHRAGM CONNECTION PLATES

ALL FASTENERS ARE 7/8" DIAMETER ASTM A325 HIGH STRENGTH BOLTS, TYPE 1, UNLESS OTHERWISE NOTED.

PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH AASHTO/AWS D1.5M/D.15 2015 BRIDGE WELDING CODE, AND CONTRACT DOCUMENTS. MAKE TACK WELDS WITH THE SAME TYPE OF ELECTRODE AND INCORPORATE IN THE FINAL WELD. NO OTHER TACK WELDING WILL BE PERMITTED.

DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.

SHOP ASSEMBLE EACH MODULE TO ENSURE THE PROPER FIT FOR ALL STRUCTURAL STEEL COMPONENTS PRIOR TO REAMING OF BOLT HOLES FOR DIAPHRAGM CONNECTION PLATES.

USE OVERSIZED HOLES ON DIAPHRAGM CONNECTORS. CONNECTIONS WITH OVERSIZED HOLES SHALL HAVE AASHTO CLASS B FAYING SURFACES.

SET ANCHOR BOLTS IN PRE-FORMED HOLES. FILL THE PRE-FORMED HOLES WITH NON-SHRINK GROUT.

STABILITY OF MODULES IS TO BE MAINTAINED BY THE CONTRACTOR DURING ERECTION UNTIL ALL MODULES AND DIAPHRAGMS ARE IN PLACE WITH ALL BOLTS PROPERLY INSTALLED AND THE LONGITUDINAL JOINTS BETWEEN MODULES HAVE CURED. ERECTION LOADS INCLUDING SELF-WEIGHT OF THE MODULES, WIND LOADING, AND CONSTRUCTION LIVE LOAD EFFECTS ARE TO BE EVALUATED BY THE CONTRACTOR FOR STABILITY, STRESSES, AND DEFLECTIONS ON THE MODULES DURING ANY STAGE OF CONSTRUCTION OR FABRICATION.

THE COLOR OF THE FINISHED PAINT COAT SHALL CONFORM TO FEDERAL STANDARD NO. 595C COLOR NO. 24172 (GREEN).

OVERHEAD WELDING IS NOT PERMITTED IN THE FIELD UNLESS OTHERWISE PERMITTED ON THE PLANS.

- BEARINGS:
ALL ELASTOMERIC BEARINGS SHALL BE STEEL LAMINATED ELASTOMERIC BEARINGS DESIGNED AS PER AASHTO 14.7.5, METHOD B, AND SHALL CONFORM TO SECTION 623 OF THE STANDARD SPECIFICATIONS. PAYMENT WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARINGS.

SECTION 700

- SAWCUTTING:
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. ALL HOT-MIX OR P.C.C. SAWCUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

- DESIGN SPECIFICATIONS:
 - DELDOT BRIDGE DESIGN MANUAL, 2019 EDITION.
 - AASHTO LRFD BRIDGE SPECIFICATIONS, 2017, 8TH EDITION, U.S. CUSTOMARY UNITS FOR NEW COMPONENTS.
 - 2002 AASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES FOR ANALYSIS OF EXISTING COMPONENTS.
 - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE DELDOT STANDARD SPECIFICATIONS, AUGUST 2016, INCLUDING 2018 SUPPLEMENTAL SPECIFICATIONS.
- LOADING:
 - PARAPETS HAVE BEEN APPLIED TO THE EXTERIOR AND FIRST INTERIOR BEAMS WITH A 75%/25% RATIO RESPECTIVELY.
 - DESIGN LIVE LOADS INCLUDE HL-93 LOADING.
 - FATIGUE DESIGN IS BASED ON THE FOLLOWING ONE DIRECTIONAL TRAFFIC VOLUMES: ADTT = 2,410 IN THE YEAR 2040.
 - LIVE LOAD DISTRIBUTION TO THE BEAMS IS BASED ON THE AASHTO SIMPLIFIED METHOD.
 - THERMAL LOADS AND MOVEMENTS ARE BASED ON THE MODERATE TEMPERATURE RANGE AS STIPULATED IN THE AASHTO LRFD DESIGN SPECIFICATIONS AS 0° TO 110°F. THE NORMAL TEMPERATURE SHALL BE CONSIDERED TO BE 68°F.
 - LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/800.
 - SEISMIC PERFORMANCE ZONE 1, WITH A SITE CLASS = E AND OPERATIONAL CATEGORY = ESSENTIAL.
 - DECK REINFORCEMENT DISTRIBUTION IS BASED ON CLASS 2 EXPOSURE CRITERIA.
 - PARAPETS HAVE BEEN DESIGNED FOR MASH TEST LEVEL 4 (TL-4).
- EXISTING CONDITIONS:
 - ALL EXISTING DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION AND ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS, GEOMETRY, AND ELEVATIONS AS NECESSARY PRIOR TO ORDERING ANY MATERIALS AND COMMENCING CONSTRUCTION TO ENSURE PROPER FIT OF THE PROPOSED CONSTRUCTION.
 - FOLLOWING REMOVAL OF THE SUPERSTRUCTURE, THE CONTRACTOR SHALL IMMEDIATELY SURVEY THE LOCATIONS OF THE PIER CAPS AND ABUTMENT BEAM SEATS AND IMMEDIATELY PROVIDE THIS UPDATED SURVEY INFORMATION TO THE ENGINEER FOR REVIEW. PAYMENT WILL BE INCIDENTAL TO ITEM 763501 - CONSTRUCTION ENGINEERING.
 - THE CONTRACTOR SHALL NOT CONSIDER ANY OF THE DATA ON THE EXISTING STRUCTURE SUPPLIED IN THE ORIGINAL DESIGN DRAWINGS OR MADE AVAILABLE BY THE DEPARTMENT OR ITS AUTHORIZED AGENTS AS POSITIVE REPRESENTATIONS OF ANY OF THE CONDITIONS THAT WILL BE ENCOUNTERED IN THE FIELD.
- HYDRAULIC DATA:
MEAN HIGH WATER ELEVATION: 1.60 FT
MEAN LOW WATER ELEVATION: -2.47 FT
VERTICAL UNDER CLEARANCE: 17.3 FT
- UTILITIES:
THERE ARE NO KNOWN EXISTING UTILITIES ON THE BRIDGE WITH THE EXCEPTION OF THE EXISTING NAVIGATIONAL LIGHTING SYSTEM.
- ENVIRONMENTAL COMPLIANCE:
REFER TO THE ENVIRONMENTAL COMPLIANCE PLANS FOR RESTRICTIONS AND ADDITIONAL GUIDANCE THAT MAY BE ASSOCIATED TO THIS PROJECT.

INDEX OF BRIDGE SHEETS	
BR. SHEET NO.	TABLE OF CONTENTS
32 - 33	BRIDGE PROJECT NOTES
34	QUANTITIES AND LOAD RATINGS
35	GENERAL PLAN AND ELEVATION
36 - 38	SEQUENCE OF CONSTRUCTION
39 - 41	DEMOLITION PLAN AND DETAILS
	BRIDGE 3-155N
42	BRIDGE TYPICAL SECTIONS
43 - 48	ABUTMENT REPAIR DETAILS
49 - 59	PIER REPAIR DETAILS
60	FRAMING PLAN
61 - 71	SUPERSTRUCTURE MODULE DETAILS
72	BEAM ELEVATION
73 - 74	BEAM CAMBER DIAGRAMS
75 - 81	SLEEPER SLAB DETAILS
82 - 86	APPROACH SLAB DETAILS
87 - 88	DECK OVER DETAILS
89 - 91	FINISHED ROADWAY ELEVATIONS
92 - 93	CAST-IN-PLACE REINFORCING BAR LISTS
	BRIDGE 3-155S
94	BRIDGE TYPICAL SECTIONS
95 - 100	ABUTMENT REPAIR DETAILS
101 - 111	PIER REPAIR DETAILS
112	FRAMING PLAN
113 - 123	SUPERSTRUCTURE MODULE DETAILS
124	BEAM ELEVATION
125 - 126	BEAM CAMBER DIAGRAMS
127 - 133	SLEEPER SLAB DETAILS
134 - 138	APPROACH SLAB DETAILS
139 - 140	DECK OVER DETAILS
141 - 143	FINISHED ROADWAY ELEVATIONS
144 - 145	CAST-IN-PLACE REINFORCING BAR LISTS
	BRIDGES 3-155N&S
146	SUBSTRUCTURE REPAIR DETAILS
147 - 151	BEARING DETAILS
152 - 153	SUPERSTRUCTURE MODULE STEEL DETAILS
154	LINK SLAB DETAILS
155	EXPANSION JOINT DETAILS
156	PARAPET DETAILS
157	INDEX OF ELECTRICAL DRAWINGS AND ELECTRICAL NOTES
158	KEY PLAN
159	UTILITY AND CONTROL PANEL
160 - 161	NAVIGATIONAL LIGHTING DETAILS
	TOTAL BRIDGE SHEETS: 130

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT

T201907601

COUNTY

SUSSEX

BRIDGE NO.

3-155N&S

DESIGNED BY: F. OPHARDT

CHECKED BY: W. GESCHREI

BRIDGE PROJECT NOTES - 1

PN-01

SECTION

WRA

SHEET NO.

32

MISCELLANEOUS (CONTINUED)

18. PROTECTIVE SHIELDS:
 PROTECTIVE SHIELDS SHALL BE INSTALLED TO PREVENT MATERIAL FROM FALLING INTO THE WATERWAY DURING DEMOLITION OF THE EXISTING PARAPET, DECK, AND SUPERSTRUCTURE AND DURING CONCRETE PIER REPAIRS. THE PROTECTIVE SHIELD SYSTEM SHALL BE DESIGNED TO SUPPORT A LIVE LOAD OF 150 PSF.

19. ABBREVIATIONS:
 B = BASELINE
 BOT. = BOTTOM
 BRG. = BEARING
 C/C = CENTER-TO-CENTER
 CL = CENTERLINE
 CLR. = CLEAR
 SCH. = SCHEDULE
 SHLD. = SHOULDER
 STA. = STATION
 S.W. = SHOP WELD
 TYP. = TYPICAL
 L.L.V. = LONG LEG VERTICAL
 B.O.F. = BOTTOM OF FOOTING

MAX. = MAXIMUM
 MIN. = MINIMUM
 NO. = NUMBER
 N.T.S. = NOT TO SCALE
 P.C.C. = PORTLAND CEMENT CONCRETE
 PPC = POLYESTER POLYMER CONCRETE
 DIA. = DIAMETER
 DWG. = DRAWING
 E.F. = EACH FACE
 EL. = ELEVATION
 FIX. = FIXED
 UHPC = ULTRA HIGH PERFORMANCE CONCRETE
 C.I.P. = CAST-IN-PLACE

20. CONTINGENT QUANTITIES:
 THESE CONTRACT DRAWINGS HAVE BEEN PREPARED BASED ON ORIGINAL CONTRACT PLANS AND FIELD INSPECTION NOTES. ACTUAL CONDITIONS MAY REQUIRE MODIFICATION IN CONSTRUCTION DETAILS AND WORK QUANTITIES. ALL DIMENSIONS AND DETAILS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING ANY MATERIALS. THE ESTIMATED QUANTITIES FOR THE FOLLOWING PAY ITEMS INCLUDE CONTINGENCY FACTORS TO ACCOUNT FOR THE ANTICIPATED VARIATIONS IN THE ACTUAL QUANTITY.

- ITEM 207020 STRUCTURAL BACKFILL (BORROW TYPE B)	100%
- ITEM 628001 REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	50%
- ITEM 628041 DEEP SPALL REPAIR	50%
- ITEM 628042 REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	100%

21. CONSTRUCTION PROCEDURE:
 IF THE CONTRACTOR ELECTS TO UTILIZE ANY PORTIONS OF THE EXISTING BRIDGE TO SUPPORT HIS CONSTRUCTION LOADS INCLUDING, BUT NOT LIMITED TO, HIS DEMOLITION AND/OR ERECTION EQUIPMENT, HE SHALL PREPARE A DETAILED DEMOLITION PLAN AND/OR ERECTION SEQUENCE SUMMARIZING THE PROPOSED MEANS AND METHODS FOR EITHER OPERATION. COMPUTATIONS DEMONSTRATING THAT THE EXISTING BRIDGE WILL NOT BE OVERSTRESSED SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF DELAWARE FOR REVIEW AND APPROVAL BY THE ENGINEER. THE DEPARTMENT MAKES NO GUARANTEES THAT THE EXISTING BRIDGE MAY BE USED TO SUPPORT DEMOLITION AND/OR ERECTION EQUIPMENT. FURTHERMORE, THE CONTRACTOR IS HEREBY NOTIFIED THAT THE DEPARTMENT HAS NO AS-BUILT INFORMATION ON THE SUBSTRUCTURE PILE CAPACITIES.

THE CONTRACTOR IS ADVISED THAT AN EXISTING SUBMERGED TIMBER BARGE IS LOCATED APPROXIMATELY 60 FEET WEST OF SPAN 3S FOR BRIDGE 3-155S. THE CONTRACTOR HAS THE OPTION TO RELOCATE THE BARGE WITHIN THE WATERWAY FOR THE PURPOSE OF THE CONTRACTOR'S ERECTION SCHEME. THE BARGE SHALL NOT BE REMOVED FROM THE WATERWAY. RELOCATING THE EXISTING BARGE SHALL BE DONE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

PREFABRICATED BRIDGE ELEMENTS NOTES

1. THE FOLLOWING ELEMENTS SHALL BE PREFABRICATED:
 A. SUPERSTRUCTURE MODULE UNITS. PAYMENT FOR THE SUPERSTRUCTURE MODULE UNITS WILL BE MADE UNDER ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
 B. PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS. PAYMENT FOR THE PRECAST APPROACH SLAB PANELS AND THE PRECAST SLEEPER SLAB UNITS WILL BE MADE UNDER ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.

THE CONCRETE PORTIONS OF THE PREFABRICATED SUPERSTRUCTURE MODULES AND THE CONCRETE FOR THE PRECAST APPROACH SLAB PANELS AND PRECAST SLEEPER SLAB UNITS SHALL HAVE $f'c = 5.0$ ksi 28-DAY COMPRESSIVE STRENGTH.

THE CONCRETE PORTIONS OF THE PREFABRICATED SUPERSTRUCTURE MODULES SHALL CONSIST OF LIGHTWEIGHT CONCRETE WITH A 28 DAY AIR DRY UNIT WEIGHT OF 115 POUNDS PER CUBIC FOOT WITH A PERMISSIBLE RANGE OF 113 TO 117 POUNDS PER CUBIC FOOT WHEN TESTED IN ACCORDANCE WITH ASTM C567.

2. BEAM SECTION ALTERNATIVE - PLATE GIRDER OPTION:
 THE CONTRACTOR HAS THE OPTION TO USE BUILT-UP PLATE GIRDERS IN LIEU OF ROLLED W-BEAMS PROVIDED IT IS AT NO ADDITIONAL COST TO THE DEPARTMENT. ANY AND ALL SUBSTITUTIONS SHALL BE APPROVED BY THE ENGINEER. THE DEPARTMENT MAKES NO GUARANTEES THAT THE SUBMITTAL OF AN ALTERNATE BUILT-UP PLATE GIRDER WILL BE ACCEPTED. AT A MINIMUM, THE CONTRACTOR MUST DEMONSTRATE THE PLATE GIRDER HAS SIMILAR SECTION PROPERTIES AND THAT PROCUREMENT AND FABRICATION WILL NOT DELAY THE PROJECT. IF EXERCISED, THE OVERALL DEPTH AND THE BOTTOM FLANGE WIDTH OF THE ALTERNATIVE BUILT-UP PLATE GIRDER SHALL MATCH THE CORRESPONDING W-BEAM AS PRESCRIBED IN THE PLANS. NO ADDITIONAL COMPENSATION WILL BE MADE BY THE DEPARTMENT FOR A PROPOSED BUILT-UP PLATE GIRDER ALTERNATIVE TO FABRICATE THE MODULES, REGARDLESS OF APPROVAL STATUS OR SELECTION FOR USE. ALL COSTS, INCLUDING ADDITIONAL ANALYSIS, WORKING DRAWING REVISIONS, ETC. AS REQUESTED BY THE ENGINEER WILL BE INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.

3. CAMBER ANALYSIS:
 THE CAMBER TABLES PROVIDED ARE APPROXIMATE. VALUES PROVIDED ARE BASED ON DESIGN, FABRICATION, AND ASSEMBLY ASSUMPTIONS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING CAMBER CALCULATIONS TO REFLECT FABRICATION AND ASSEMBLY WITH CONSIDERATION OF APPROVED BEAM SECTION PROPERTIES, CONCRETE STRENGTH AND UNIT WEIGHT, TEMPORARY CONCRETE FORMWORK, DIAPHRAGM INSTALLATION, AND ALL OTHER MEANS AND METHODS. COMMUNICATION AMONGST ALL PARTIES INVOLVED IN FABRICATION IS IMPERATIVE. REFERENCE THE SPECIAL PROVISIONS FOR ITEM 615501 - PREFABRICATED SUPERSTRUCTURE FOR ADDITIONAL INFORMATION.

4. FORMWORK AND SURFACE PREPARATION REQUIREMENTS:
 A. DO NOT USE FORM SUPPORT SYSTEMS THAT WILL CAUSE UNACCEPTABLE OVERSTRESS OR DEFORMATION TO PERMANENT BRIDGE MEMBERS.
 B. TO CREATE AN EXPOSED COARSE AGGREGATE SURFACE ALONG THE SHEAR KEYS OF THE PREFABRICATED SUPERSTRUCTURE MODULES AND PRECAST APPROACH SLAB PANELS, THOROUGHLY COAT THE BEVELED FACE OF THE FORMWORK AT ALL CLOSURE JOINTS WITH AN APPROVED CONCRETE RETARDER. NO STAINS FROM OIL, GREASE, OR OTHER CONTAMINATES SHALL BE PRESENT WITHIN THE CONNECTION SURFACE.

AREAS WHERE AN EXPOSED COARSE AGGREGATE FINISH IS REQUIRED ON THE PREFABRICATED SUPERSTRUCTURE MODULES INCLUDE:
 (i.) LONGITUDINAL SHEAR KEY BETWEEN SUPERSTRUCTURE MODULES
 (ii.) LINK SLAB BLOCKOUTS
 (iii.) EXPANSION JOINT BLOCKOUTS
 (iv.) KEYED TRANSVERSE DECK END SECTIONS

AREAS WHERE AN EXPOSED COARSE AGGREGATE FINISH IS REQUIRED ON THE PRECAST APPROACH SLAB PANELS INCLUDE:
 (i.) LONGITUDINAL SHEAR KEY ADJACENT TO THE CAST-IN-PLACE PORTION OF THE APPROACH SLAB
 (ii.) TRANSVERSE END SECTIONS AT EACH ABUTMENT

C. FORMS SHALL BE REMOVED FROM ALL PRECAST ELEMENTS IN A MANNER THAT NO DAMAGE OCCURS TO THE ELEMENT.
 D. AFTER FORMS ARE STRIPPED FROM THE PREFABRICATED SUPERSTRUCTURE MODULES AND PRECAST APPROACH SLAB PANELS, THE AREAS TO HAVE AN EXPOSED COARSE AGGREGATE FINISH SHALL BE BLAST CLEANED TO CREATE THE EXPOSED AGGREGATE FINISH.

5. FIELD PREPARATION FOR UHPC CLOSURE POURS:
 PRIOR TO UHPC PLACEMENT, THE PREFABRICATED SUPERSTRUCTURE MODULE SIDE FACES, INTERFACING WITH UHPC CLOSURE POURS, SHALL BE CLEAN OF DEBRIS AND LAITANCE AND SHALL BE SATURATED SURFACE DRY.
 6. REFERENCE THE SPECIAL PROVISIONS FOR ITEMS 615501 - PREFABRICATED SUPERSTRUCTURE MODULES AND 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS FOR ADDITIONAL INFORMATION.

6/24/2020 11:09:15 AM N:\32122-003\CADD\Bridges\BR3-155N&S_PN02.dgn

ADDENDA / REVISIONS				NOT TO SCALE	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	BRIDGE PROJECT NOTES - 2	PN-02
						T201907601	DESIGNED BY: F. OPHARDT	SECTION		
						COUNTY	CHECKED BY: W. GESCHREI	WRA		
						SUSSEX		SHEET NO.		
									33	

BRIDGE 3-155N QUANTITIES			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
207020	STRUCTURAL BACKFILL (BORROW TYPE B)	CY	28
21000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
301001	GRADED AGGREGATE BASE COURSE, TYPE B	CY	57
302002	DELAWARE NO. 3 STONE	TON	394
604001	PROTECTIVE SHIELDS	LS	1
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	380
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	300
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	20
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	5
610016	PORTLAND CEMENT CONCRETE MASONRY, CLASS D	CY	22
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	12
610018	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	47
610500	ULTRA-HIGH PERFORMANCE CONCRETE	CF	490
611001	BAR REINFORCEMENT, EPOXY COATED	LB	24177
612504	PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS	CY	43
613000	EPOXY CONCRETE SEALER	SF	847
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	8739
615501	PREFABRICATED SUPERSTRUCTURE MODULES	LS	1
615510	NAVIGATION LIGHTS FOR FIXED BRIDGES	LS	1
623000	ELASTOMERIC BEARINGS	EA	60
624001	PREFABRICATED EXPANSION JOINT SYSTEM, 4"	LF	35
625501	POLYESTER POLYMER CONCRETE OVERLAY INSTALLATION	SY-IN	1240
625502	FURNISH POLYESTER POLYMER CONCRETE OVERLAY	CY	35
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	160
628041	DEEP SPALL REPAIR	CF	55
628042	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	CY	2
628070	DRILLING HOLES AND INSTALLING DOWELS	EACH	710
707012	RIPRAP, R-6	CY	578
708003	GEOTEXTILES, RIPRAP	SY	787

BRIDGE 3-155N LOAD RATING SUMMARY					
DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.16	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TANDEM (INVENTORY)	1.34	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK TRAIN (INVENTORY)	N/A	N/A	N/A	N/A	N/A
HS-20 (INVENTORY)	1.54	55.44	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK (OPERATING)	1.51	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TANDEM (OPERATING)	1.74	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK TRAIN (OPERATING)	N/A	N/A	N/A	N/A	N/A
HS-20 (OPERATING)	2.00	72.00	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S220 & LEGAL-LANE (LEGAL)	2.62	52.40	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S335 & LEGAL-LANE (LEGAL)	1.46	51.10	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S437 & LEGAL-LANE (LEGAL)	1.39	50.93	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S330 & LEGAL-LANE (LEGAL)	2.06	61.80	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S435 & LEGAL-LANE (LEGAL)	1.82	63.70	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S540 & LEGAL-LANE (LEGAL)	1.61	64.40	EXTERIOR (SPAN 3)	1.05	SERVICE II

BRIDGE 3-155S QUANTITIES			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
207020	STRUCTURAL BACKFILL (BORROW TYPE B)	CY	28
21000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
301001	GRADED AGGREGATE BASE COURSE, TYPE B	CY	57
302002	DELAWARE NO. 3 STONE	TON	182
604001	PROTECTIVE SHIELDS	LS	1
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	390
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	300
610005	PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A	CY	20
610008	PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A	CY	5
610016	PORTLAND CEMENT CONCRETE MASONRY, CLASS D	CY	22
610017	PORTLAND CEMENT CONCRETE MASONRY, SUPERSTRUCTURE, CLASS D	CY	12
610018	PORTLAND CEMENT CONCRETE MASONRY, APPROACH SLAB, CLASS D	CY	47
610500	ULTRA-HIGH PERFORMANCE CONCRETE	CF	482
611001	BAR REINFORCEMENT, EPOXY COATED	LB	24142
612504	PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS	CY	43
613000	EPOXY CONCRETE SEALER	SF	849
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	8628
615501	PREFABRICATED SUPERSTRUCTURE MODULES	LS	1
615510	NAVIGATION LIGHTS FOR FIXED BRIDGES	LS	1
623000	ELASTOMERIC BEARINGS	EA	60
624001	PREFABRICATED EXPANSION JOINT SYSTEM, 4"	LF	35
625501	POLYESTER POLYMER CONCRETE OVERLAY INSTALLATION	SY-IN	1210
625502	FURNISH POLYESTER POLYMER CONCRETE OVERLAY	CY	34
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	170
628041	DEEP SPALL REPAIR	CF	50
628042	REHABILITATION OF PORTLAND CEMENT CONCRETE MASONRY	CY	2
628070	DRILLING HOLES AND INSTALLING DOWELS	EACH	710
707012	RIPRAP, R-6	CY	268
708003	GEOTEXTILES, RIPRAP	SY	364

BRIDGE 3-155S LOAD RATING SUMMARY					
DESIGN VEHICLE	RATING FACTOR	RATING WEIGHT (TON)	CONTROLLING MEMBER	CONTROLLING POINT	LOAD EFFECT
HL-93 TRUCK (INVENTORY)	1.16	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TANDEM (INVENTORY)	1.34	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK TRAIN (INVENTORY)	N/A	N/A	N/A	N/A	N/A
HS-20 (INVENTORY)	1.54	55.44	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK (OPERATING)	1.51	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TANDEM (OPERATING)	1.74	N/A	EXTERIOR (SPAN 3)	1.05	SERVICE II
HL-93 TRUCK TRAIN (OPERATING)	N/A	N/A	N/A	N/A	N/A
HS-20 (OPERATING)	2.00	72.00	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S220 & LEGAL-LANE (LEGAL)	2.62	52.40	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S335 & LEGAL-LANE (LEGAL)	1.46	51.10	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S437 & LEGAL-LANE (LEGAL)	1.39	50.93	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S330 & LEGAL-LANE (LEGAL)	2.06	61.80	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S435 & LEGAL-LANE (LEGAL)	1.82	63.70	EXTERIOR (SPAN 3)	1.05	SERVICE II
DE S540 & LEGAL-LANE (LEGAL)	1.61	64.40	EXTERIOR (SPAN 3)	1.05	SERVICE II

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

QUANTITIES AND
LOAD RATINGS

PN-03

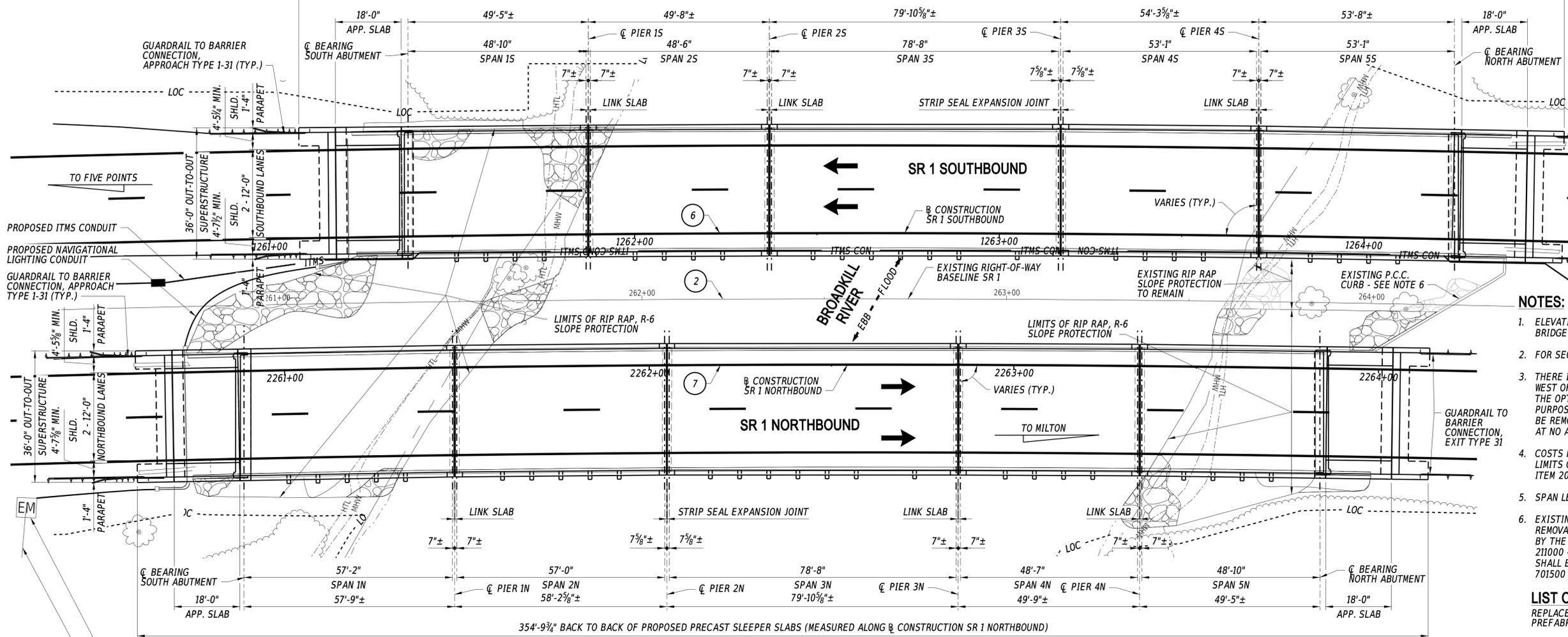
SECTION

WRA

SHEET NO.

34

346'-2 3/4" (-) BACK TO BACK OF PROPOSED PRECAST SLEEPER SLABS (MEASURED ALONG \bar{C} CONSTRUCTION SR 1 SOUTHBOUND)



PLAN

1/16" = 1'-0"

- NOTES:**
- ELEVATION SHOWN ALONG EAST FASCIA OF BRIDGE 3-155N. ELEVATION OF BRIDGE 3-155S BEYOND NOT SHOWN FOR CLARITY.
 - FOR SEQUENCE OF CONSTRUCTION, SEE DWGS. SC-01 AND SC-03.
 - THERE IS A SUBMERGED TIMBER BARGE LOCATED APPROXIMATELY 60 FEET WEST OF SPAN 3S FOR THE SOUTHBOUND BRIDGE. THE CONTRACTOR HAS THE OPTION TO RELOCATE THE BARGE WITHIN THE WATERWAY FOR THE PURPOSE OF THE CONTRACTOR'S ERECTION SCHEME. THE BARGE SHALL NOT BE REMOVED FROM THE WATERWAY. RELOCATING THE BARGE SHALL BE DONE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
 - COSTS FOR REMOVAL OF ALL VEGETATION, INCLUDING TREES, WITHIN THE LIMITS OF THE SLOPE PROTECTION REPLACEMENT WILL BE INCIDENTAL TO ITEM 201000 - CLEARING AND GRUBBING.
 - SPAN LENGTHS ARE MEASURED PERPENDICULAR TO \bar{C} BEARING.
 - EXISTING CURB IS TO BE PARTIALLY REMOVED TO FACILITATE PARTIAL REMOVAL OF THE WING WALLS. LIMITS OF REMOVAL ARE TO BE DETERMINED BY THE ENGINEER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. ANY CURB REMOVED SHALL BE REPLACED. PAYMENT FOR THIS WORK WILL BE MADE UNDER ITEM 701500 - PORTLAND CEMENT CONCRETE CURB, TYPE 1, MODIFIED.

- LIST OF REPAIRS:**
- REPLACE EXISTING BRIDGE DECK AND STEEL SUPERSTRUCTURE WITH PREFABRICATED SUPERSTRUCTURE MODULES (TYP. BOTH BRIDGES)
 - REPLACE EXISTING APPROACH SLABS (TYP. BOTH BRIDGES)
 - SUBSTRUCTURE CONCRETE REPAIRS (TYP. BOTH BRIDGES)
 - REMOVE AND REPLACE EXISTING PILE JACKETS. INSTALL NEW PILE JACKETS ABOVE THE PIER STRUTS (TYP. BOTH BRIDGES)
 - REPLACE NORTH AND SOUTH ABUTMENT BACKWALLS AND CHEEKWALLS (TYP. BOTH BRIDGES)
 - REPLACE EXISTING SCOUR PROTECTION (TYP. BOTH BRIDGES)
 - REPLACE NAVIGATIONAL LIGHTING SYSTEM (TYP. BOTH BRIDGES)
 - INSTALL ITMS CONDUIT ALONG BRIDGE 3-155S

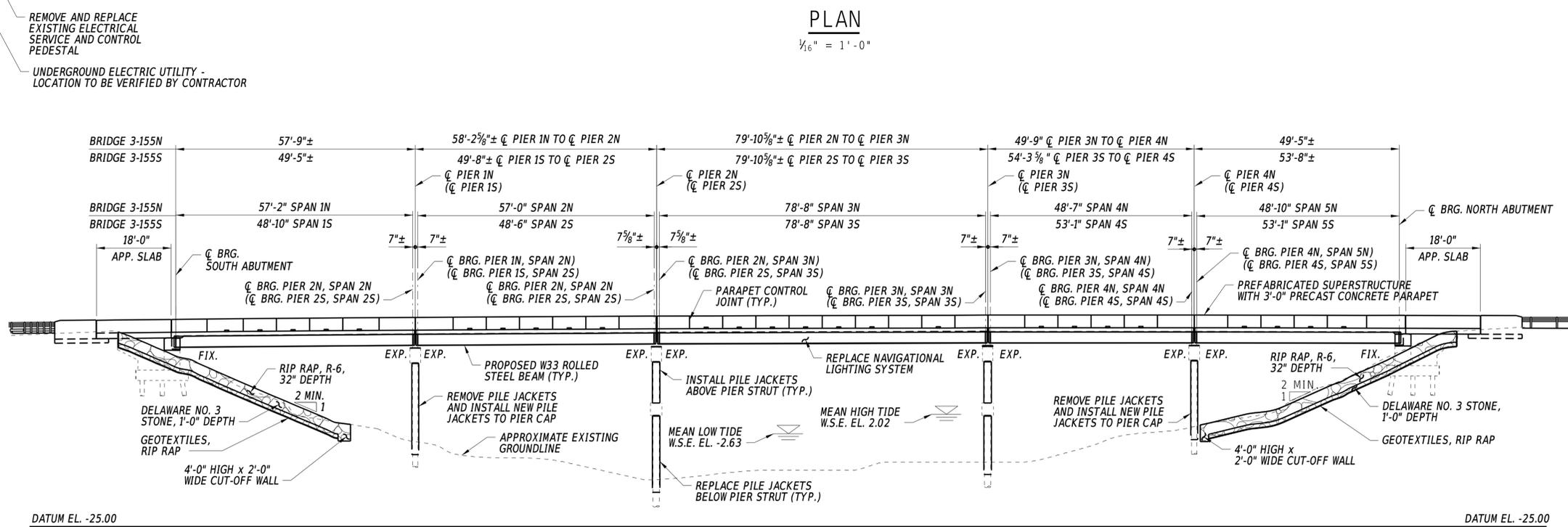
LEGEND:

(X) HORIZONTAL CURVE NUMBER

CURVE 2	CURVE 6	CURVE 7
PI STA. 263+08.64 DELTA = 19°03'32.70" RT. Dc = 0°42'58.31" R = 8000.00' T = 1342.98' L = 2661.15' E = 111.94' PC STA. 249+65.66 PT STA. 276+26.81	PI STA. 1263+10.75 DELTA = 19°03'32.70" RT. Dc = 0°42'52.52" R = 8018.00' T = 1339.96' L = 2667.14' E = 111.94' PC STA. 1249+64.75 PT STA. 1276+31.88	PI STA. 2263+06.52 DELTA = 19°03'32.70" RT. Dc = 0°43'04.12" R = 7982.00' T = 1339.96' L = 2655.16' E = 111.69' PC STA. 2249+66.56 PT STA. 2276+21.73

VERTICAL CURVE DATA

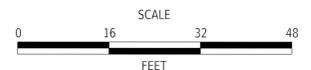
SR 1 SB	SR 1 NB
LENGTH = 670.00' L1 = 335.00' L2 = 335.00' G1 = 1.35% G2 = -1.37% SSD = 731.86' K = 246.39' PVC STA. 1259+92.00 PVC EL. 21.25	LENGTH = 690.00' L1 = 345.00' L2 = 345.00' G1 = 1.38% G2 = -1.41% SSD = 731.97' K = 247.42' PVC STA. 2259+76.00 PVC EL. 21.10



ELEVATION

1/16" = 1'-0"

ADDENDA / REVISIONS



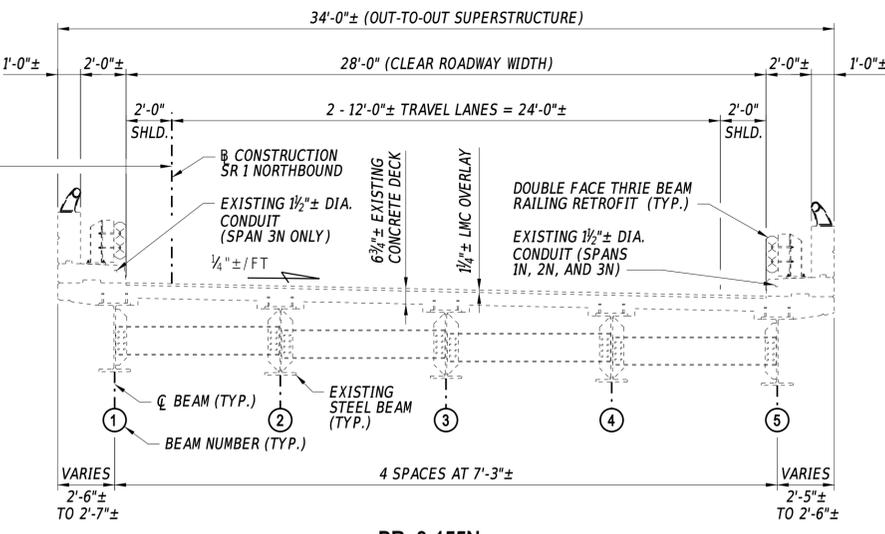
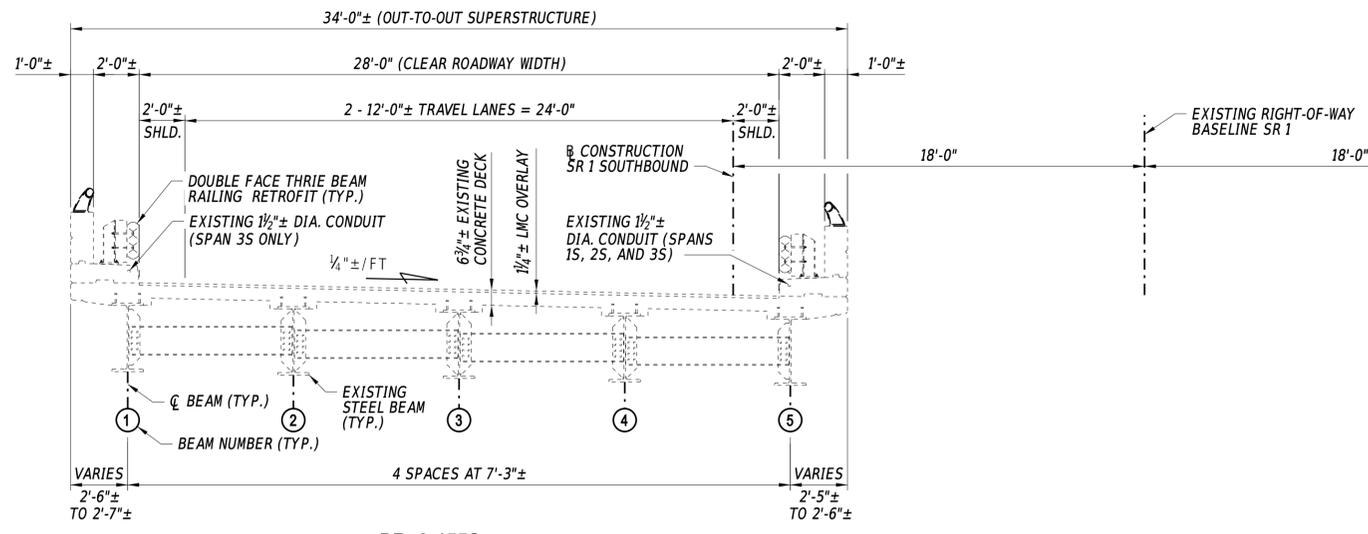
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

GENERAL PLAN AND ELEVATION

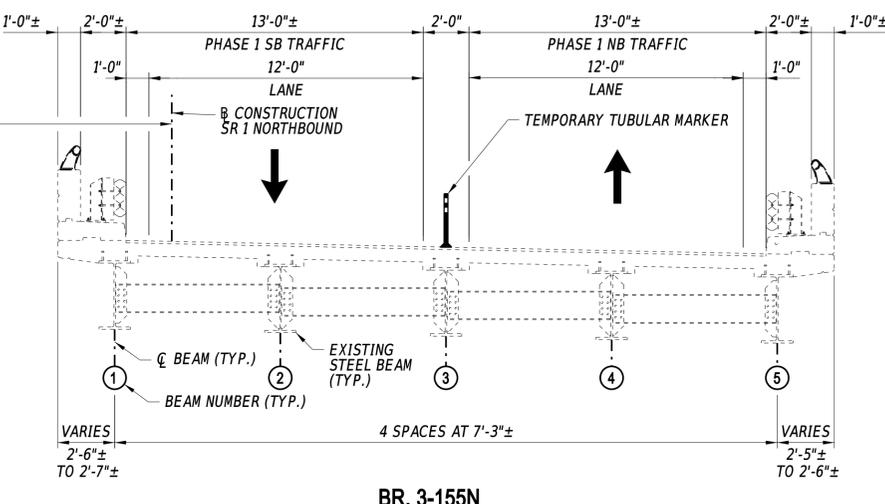
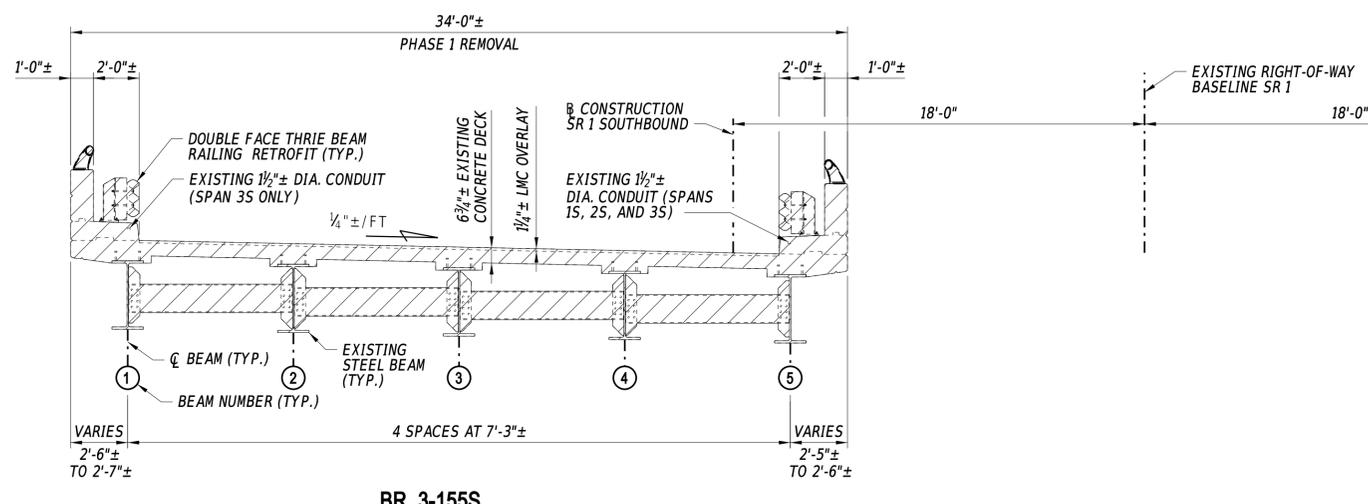
PE-01
SECTION
WRA
SHEET NO.
35

5/14/2020 11:28:04 AM N:\31222-003\CADD\BRIDGE\BR3-155NS_PEO1.dgn



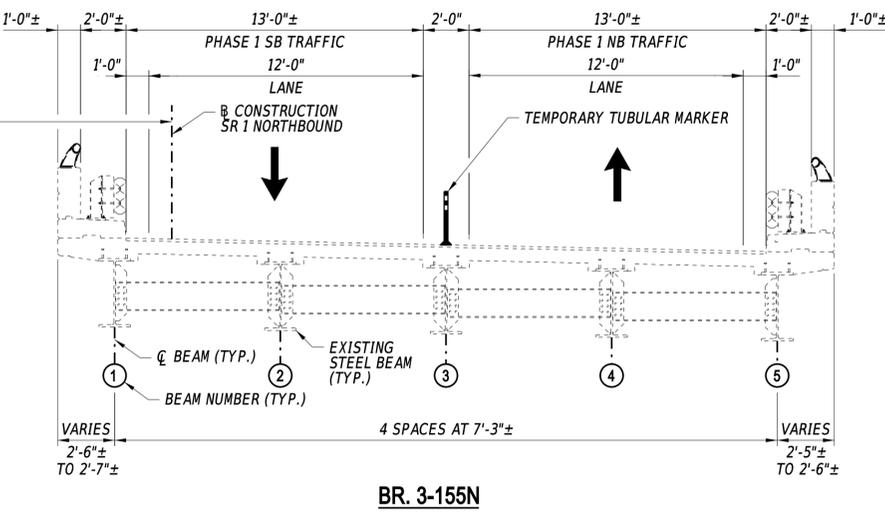
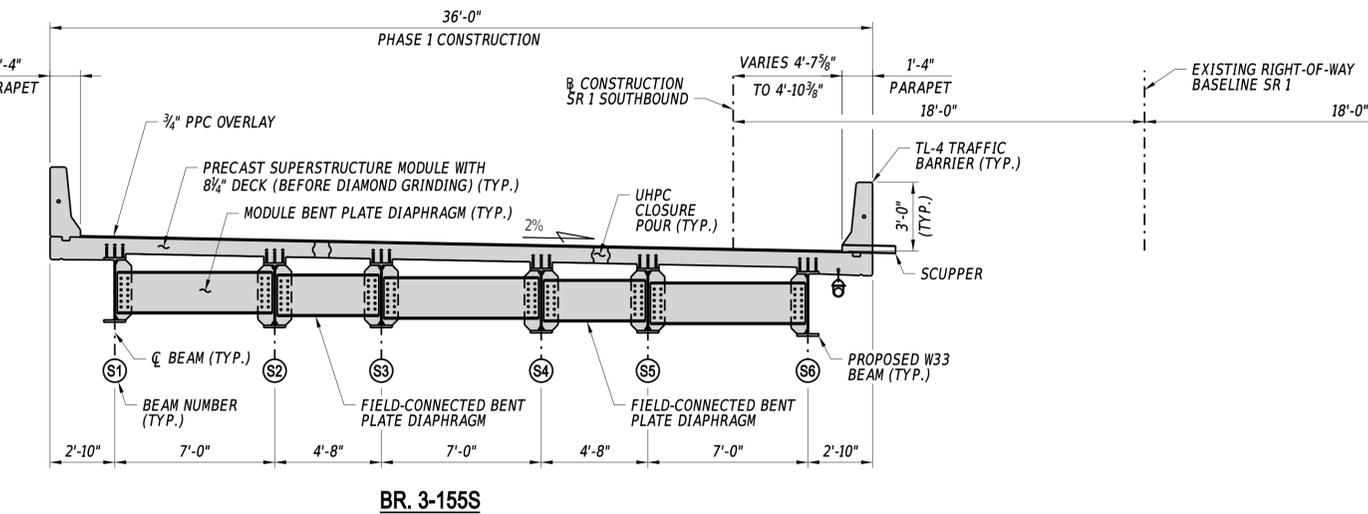
EXISTING TYPICAL SECTIONS

1/4" = 1'-0"



PHASE 1 - REMOVAL

1/4" = 1'-0"



PHASE 1 - CONSTRUCTION

1/4" = 1'-0"

SUGGESTED SEQUENCE OF CONSTRUCTION:

PHASE 1

1. INSTALL TEMPORARY PROTECTIVE SHIELDS (BRIDGE 3-155S). THIS MAY OCCUR PRIOR TO CLOSURE OF THE SOUTHBOUND ROADWAY.
2. INSTALL TEMPORARY NAVIGATIONAL LIGHTING UNTIL SPAN 3S IS REMOVED (BRIDGE 3-155S).
3. REMOVE EXISTING TRAFFIC BARRIERS, CONCRETE DECK, STEEL SUPERSTRUCTURE, BEARINGS, CONCRETE BEARING PEDESTALS, APPROACH SLABS, ABUTMENT BACKWALLS AND CHEEKWALLS, AND PARTIAL REMOVAL OF WING WALLS (BRIDGE 3-155S).
4. CONSTRUCT NEW CONCRETE BEARING PEDESTALS (BRIDGE 3-155S).
5. ERECT THE SUPERSTRUCTURE MODULES AND INSTALL THE FIELD-CONNECTED DIAPHRAGMS. REINSTALL TEMPORARY NAVIGATIONAL LIGHTS UPON THE ERECTION OF THE SPAN 3S MODULES (BRIDGE 3-155S).
6. CONSTRUCT THE LONGITUDINAL UHPC CLOSURE POURS. CONSTRUCT THE LINK SLABS AND EXPANSION JOINTS AFTER THE ADJACENT LONGITUDINAL UHPC CLOSURE POUR REACHES A COMPRESSIVE STRENGTH OF 14 KSI (BRIDGE 3-155S).
7. CONSTRUCT THE CAST-IN-PLACE SHEAR BLOCKS AT THE PIERS AND THE ABUTMENT BACKWALLS AND CHEEKWALLS (BRIDGE 3-155S).
8. BACKFILL BEHIND THE ABUTMENTS, INSTALL THE PRECAST PORTIONS OF THE SLEEPER SLABS, AND CONSTRUCT THE CAST-IN-PLACE PORTION OF THE SLEEPER SLABS (BRIDGE 3-155S).
9. INSTALL THE PRECAST PORTIONS OF THE APPROACH SLABS AND CONSTRUCT THE CAST-IN-PLACE PORTION OF THE APPROACH SLABS (BRIDGE 3-155S).
10. CONSTRUCT THE CAST-IN-PLACE DECK OVERS (BRIDGE 3-155S).
11. DIAMOND GRIND THE DECK AND APPROACH SLAB SURFACES (BRIDGE 3-155S).
12. CONSTRUCT THE PPC OVERLAY (BRIDGE 3-155S).
13. APPLY SILICONE-BASED ACRYLIC CONCRETE SEALER TO THE PARAPETS (BRIDGE 3-155S).

STEPS A THRU E BELOW CAN BE PERFORMED CONCURRENTLY WITH OTHER STEPS.

- A. INSTALL THE TEMPORARY PROTECTIVE SHIELD SYSTEM (BRIDGE 3-155N). REMOVE THE TEMPORARY PROTECTION SHIELD SYSTEM (BRIDGE 3-155S).
- B. PERFORM SUBSTRUCTURE CONCRETE REPAIRS AND REPLACE PILE PROTECTIVE JACKETS. APPLY EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER TO THE SUBSTRUCTURE UNITS (BOTH BRIDGES).
- C. REMOVE AND REPLACE THE EXISTING SLOPE PROTECTION (BOTH BRIDGES).
- D. INSTALLATION OF THE PERMANENT NAVIGATIONAL LIGHTING SYSTEM (BRIDGE 3-155S).
- E. INSTALLATION OF THE ITMS CONDUIT (BRIDGE 3-155S).

NOTES:

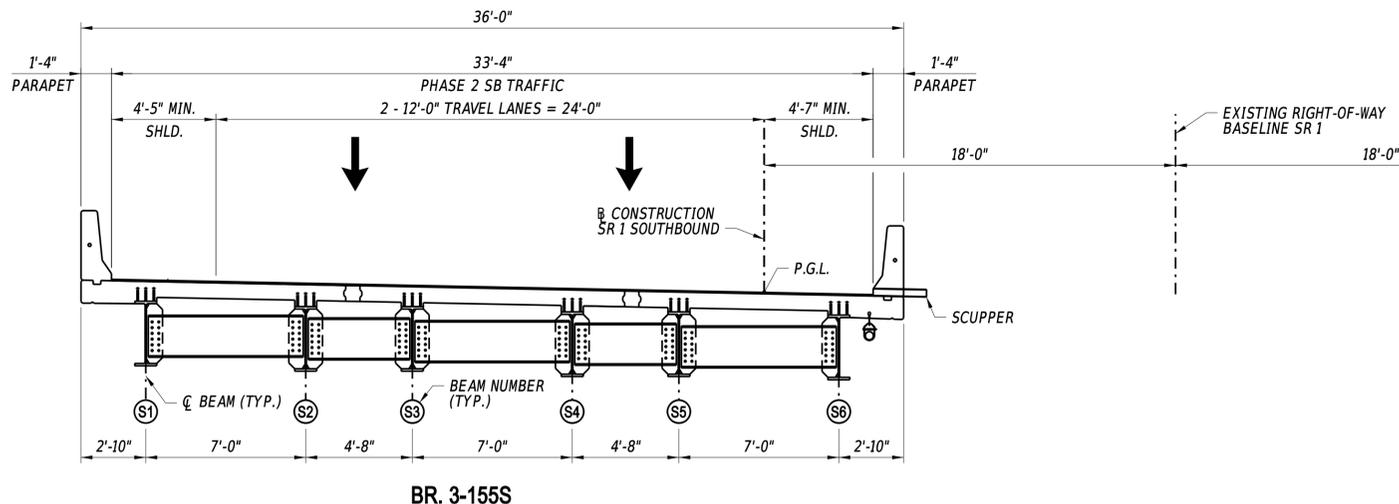
1. FOR PHASE 2 SUGGESTED SEQUENCE OF CONSTRUCTION, SEE DWG. SC-02.
2. FOR PHASE 3 REMOVAL AND CONSTRUCTION, SEE DWG. SC-02.
3. FOR PHASE 3 SUGGESTED SEQUENCE OF CONSTRUCTION, SEE DWG. SC-02.

LEGEND:

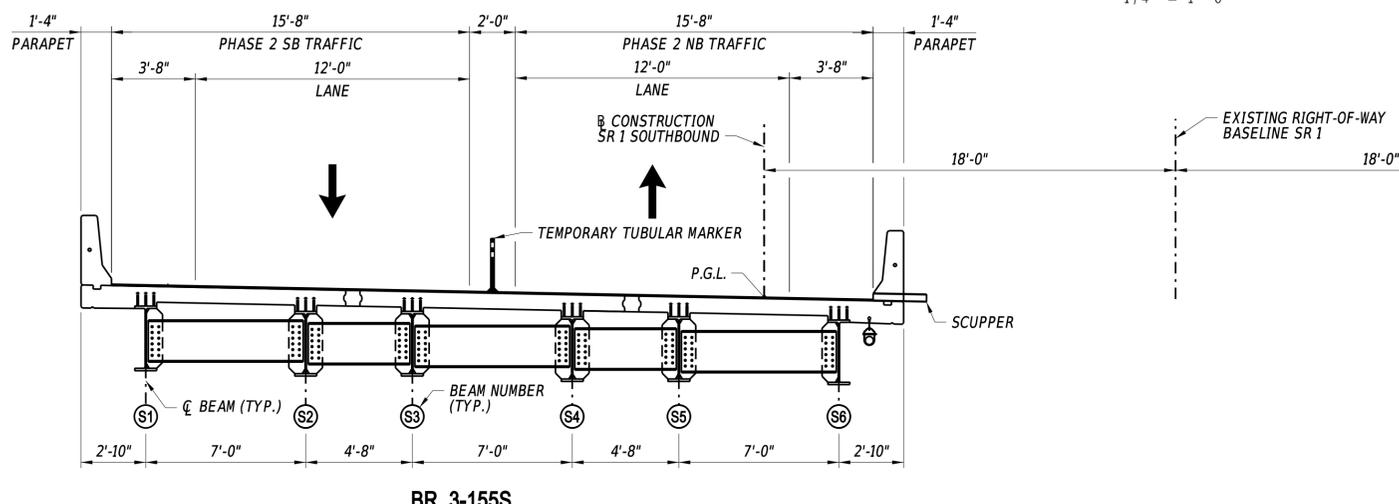
- LIMITS OF REMOVAL
- PROPOSED CONSTRUCTION

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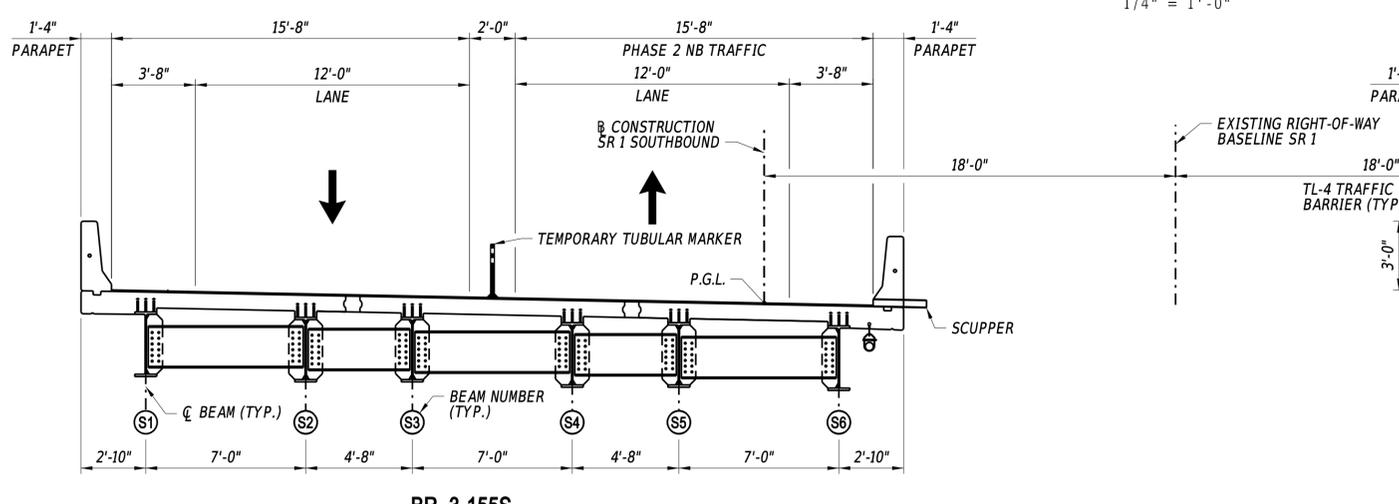
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601	BRIDGE NO. 3-155N&S	SEQUENCE OF CONSTRUCTION - 1	SECTION WRA
				COUNTY SUSSEX	DESIGNED BY: F. OPHARDT		CHECKED BY: W. GESCHREI



BR. 3-155S



BR. 3-155S



BR. 3-155S

PHASE 2

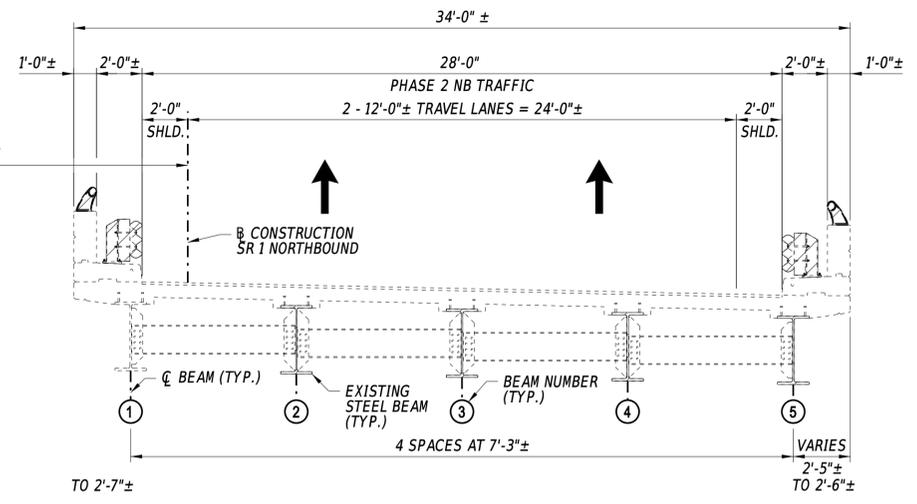
1/4" = 1'-0"

PHASE 3 - REMOVAL

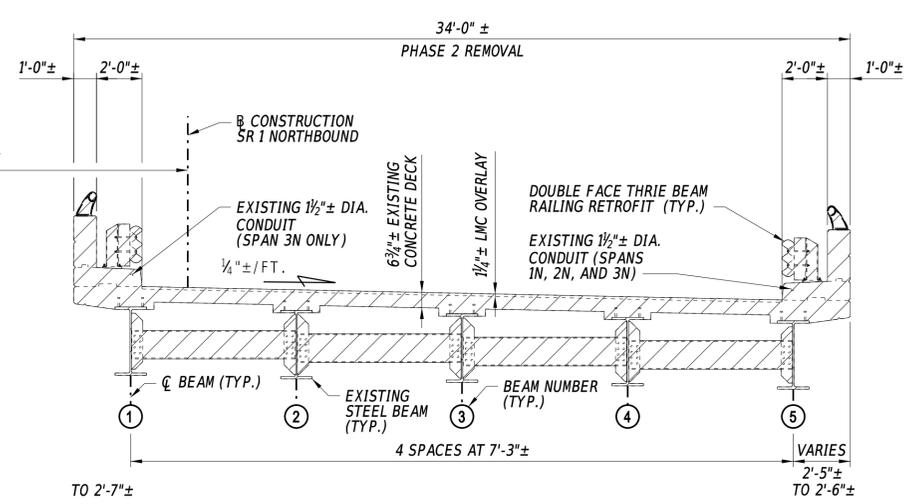
1/4" = 1'-0"

PHASE 3 - CONSTRUCTION

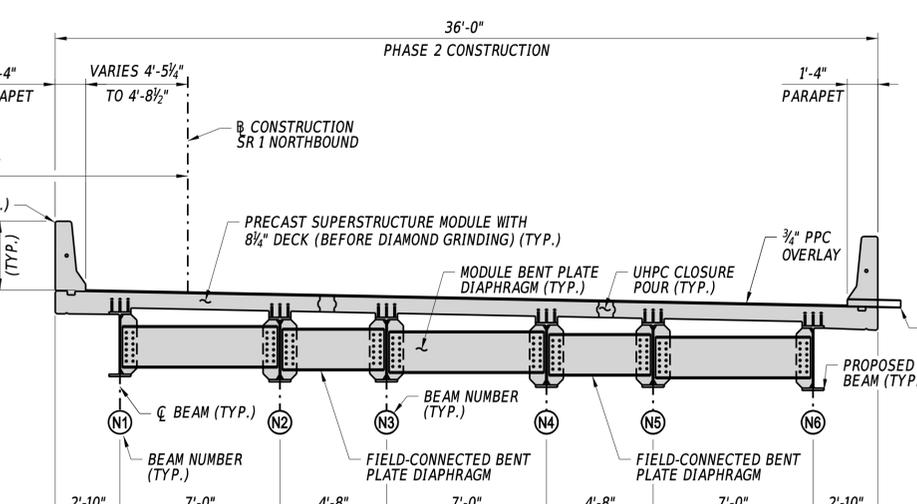
1/4" = 1'-0"



BR. 3-155N



BR. 3-155N



BR. 3-155N

SUGGESTED SEQUENCE OF CONSTRUCTION:

- PHASE 2**
- STEPS A THRU F BELOW CAN BE PERFORMED CONCURRENTLY. ANY WORK SCHEDULED SHALL COMPLY WITH THE CONSTRUCTION RESTRICTIONS NOTED ON DWG. EC-01.
- INSTALL THE TEMPORARY PROTECTION SHIELD SYSTEM (BRIDGE 3-155N).
 - PERFORM SUBSTRUCTURE CONCRETE REPAIRS AND REPLACE PILE PROTECTIVE JACKETS (BOTH BRIDGES).
 - REMOVE AND REPLACE THE EXISTING SLOPE PROTECTION (BOTH BRIDGES).
 - INSTALLATION OF THE PERMANENT NAVIGATIONAL LIGHTING SYSTEM (BRIDGE 3-155S).
 - INSTALLATION OF THE TEMPORARY NAVIGATIONAL LIGHTING SYSTEM (BRIDGE 3-155N).
 - INSTALLATION OF THE ITMS CONDUIT (BRIDGE 3-155S).

- PHASE 3**
- INSTALL TEMPORARY NAVIGATIONAL LIGHTING UNTIL SPAN 3N IS REMOVED (BRIDGE 3-155N).
 - REMOVE EXISTING TRAFFIC BARRIERS, CONCRETE DECK, STEEL SUPERSTRUCTURE, BEARINGS, CONCRETE BEARING PEDESTALS, APPROACH SLABS, ABUTMENT BACKWALLS AND CHEEKWALLS, AND PARTIAL REMOVAL OF WING WALLS (BRIDGE 3-155N).
 - CONSTRUCT NEW CONCRETE BEARING PEDESTALS (BRIDGE 3-155N).
 - ERECT THE SUPERSTRUCTURE MODULES AND INSTALL THE FIELD-CONNECTED DIAPHRAGMS, REINSTALL TEMPORARY NAVIGATIONAL LIGHTS UPON ERECTION OF THE SPAN 3N MODULES (BRIDGE 3-155N).
 - CONSTRUCT THE LONGITUDINAL UHPC CLOSURE POURS. CONSTRUCT THE LINK SLABS AND EXPANSION JOINTS AFTER THE ADJACENT LONGITUDINAL UHPC CLOSURE POUR REACHES A COMPRESSIVE STRENGTH OF 14 KSI (BRIDGE 3-155N).
 - CONSTRUCT THE CAST-IN-PLACE SHEAR BLOCKS AT THE PIERS AND THE ABUTMENT BACKWALLS AND CHEEKWALLS (BRIDGE 3-155N).
 - BACKFILL BEHIND THE ABUTMENTS, INSTALL THE PRECAST PORTIONS OF THE SLEEPER SLABS, AND CONSTRUCT THE CAST-IN-PLACE PORTION OF THE SLEEPER SLABS (BRIDGE 3-155N).
 - INSTALL THE PRECAST PORTIONS OF THE APPROACH SLABS AND CONSTRUCT THE CAST-IN-PLACE PORTION OF THE APPROACH SLABS (BRIDGE 3-155N).
 - CONSTRUCT THE CAST-IN-PLACE DECK OVERS (BRIDGE 3-155N).
 - DIAMOND GRIND THE DECK AND APPROACH SLAB SURFACES (BRIDGE 3-155N).
 - CONSTRUCT THE PPC OVERLAY (BRIDGE 3-155N).
 - APPLY SILICONE-BASED ACRYLIC CONCRETE SEALER TO THE PARAPETS (BRIDGE 3-155N).

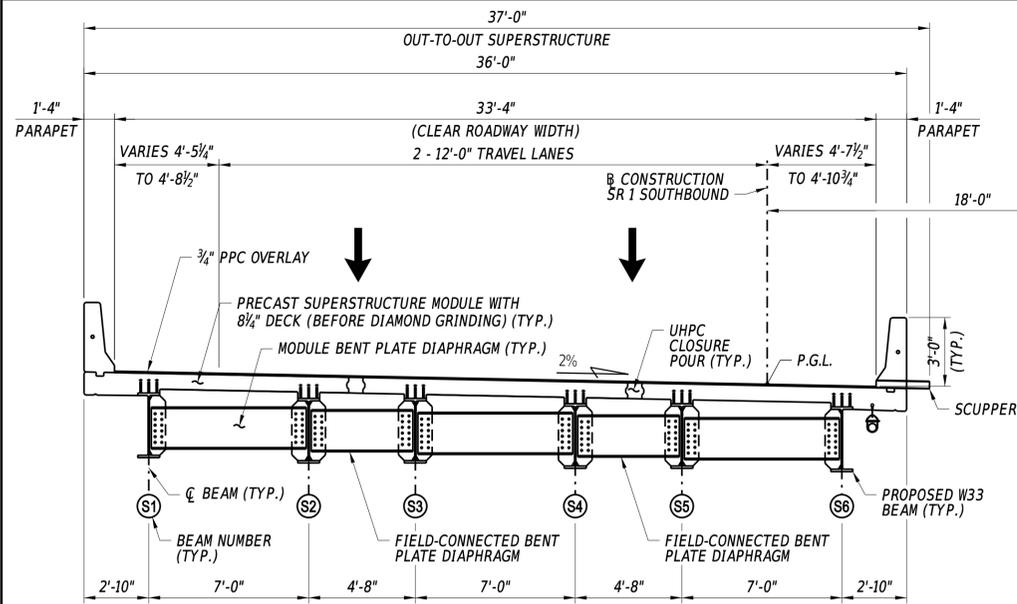
- STEPS A THRU E BELOW CAN BE PERFORMED CONCURRENTLY WITH OTHER STEPS.
- PERFORM SUBSTRUCTURE CONCRETE REPAIRS AND REPLACE PILE PROTECTIVE JACKETS. APPLY EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER TO THE SUBSTRUCTURE UNITS (BOTH BRIDGES).
 - REMOVE AND REPLACE THE EXISTING SLOPE PROTECTION (BOTH BRIDGES).
 - INSTALLATION OF THE PERMANENT NAVIGATIONAL LIGHTING SYSTEM (BRIDGE 3-155N).
 - INSTALLATION OF THE ITMS CONDUIT (BRIDGE 3-155S).

- NOTES:**
- FOR PHASE 1 REMOVAL AND CONSTRUCTION, SEE DWG. SC-01.
 - FOR PHASE 1 SUGGESTED SEQUENCE OF CONSTRUCTION, SEE DWG. SC-01.
 - FOR COMPLETED TYPICAL SECTIONS, SEE DWG. SC-03.

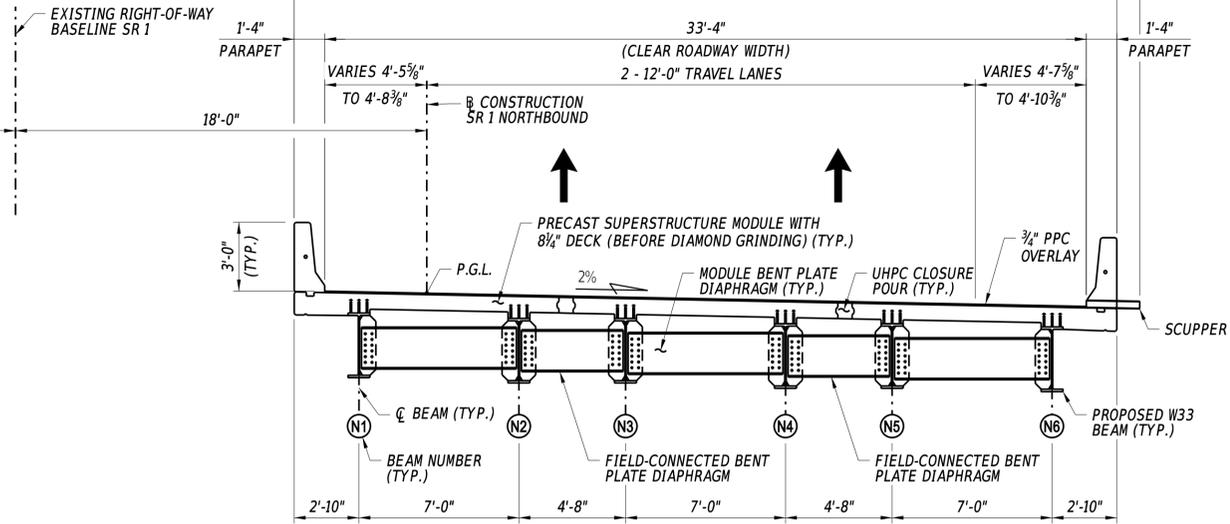
- LEGEND:**
- [Hatched Box] LIMITS OF REMOVAL
 - [Solid Grey Box] PROPOSED CONSTRUCTION

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	SEQUENCE OF CONSTRUCTION - 2	SC-02
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	37
				SUSSEX				



BR. 3-155S



BR. 3-155N

PROPOSED TYPICAL SECTIONS

1/4" = 1'-0"

NOTES:

1. FOR PHASE 1 REMOVAL AND CONSTRUCTION, SEE DWG. SC-01.
2. FOR PHASE 1 SUGGESTED SEQUENCE OF CONSTRUCTION, SEE DWG. SC-01.
3. FOR PHASE 3 REMOVAL AND CONSTRUCTION, SEE DWG. SC-02.
4. FOR PHASES 2 AND 3 SUGGESTED SEQUENCES OF CONSTRUCTION, SEE DWG. SC-02.

ADDENDA / REVISIONS

SCALE AS NOTED

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

SEQUENCE OF
CONSTRUCTION - 3

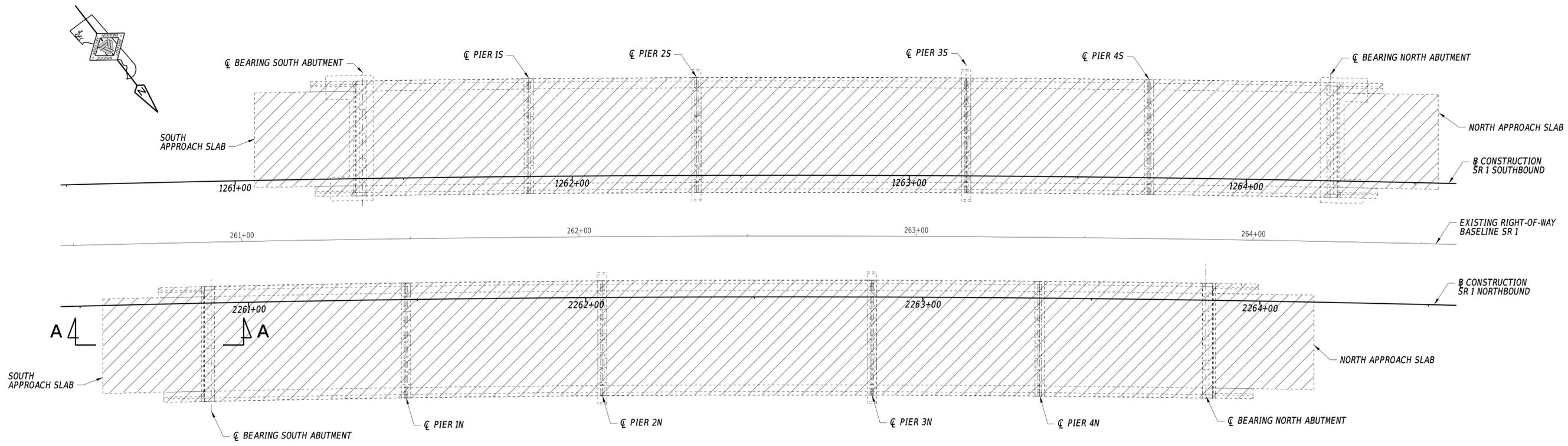
SC-03

SECTION

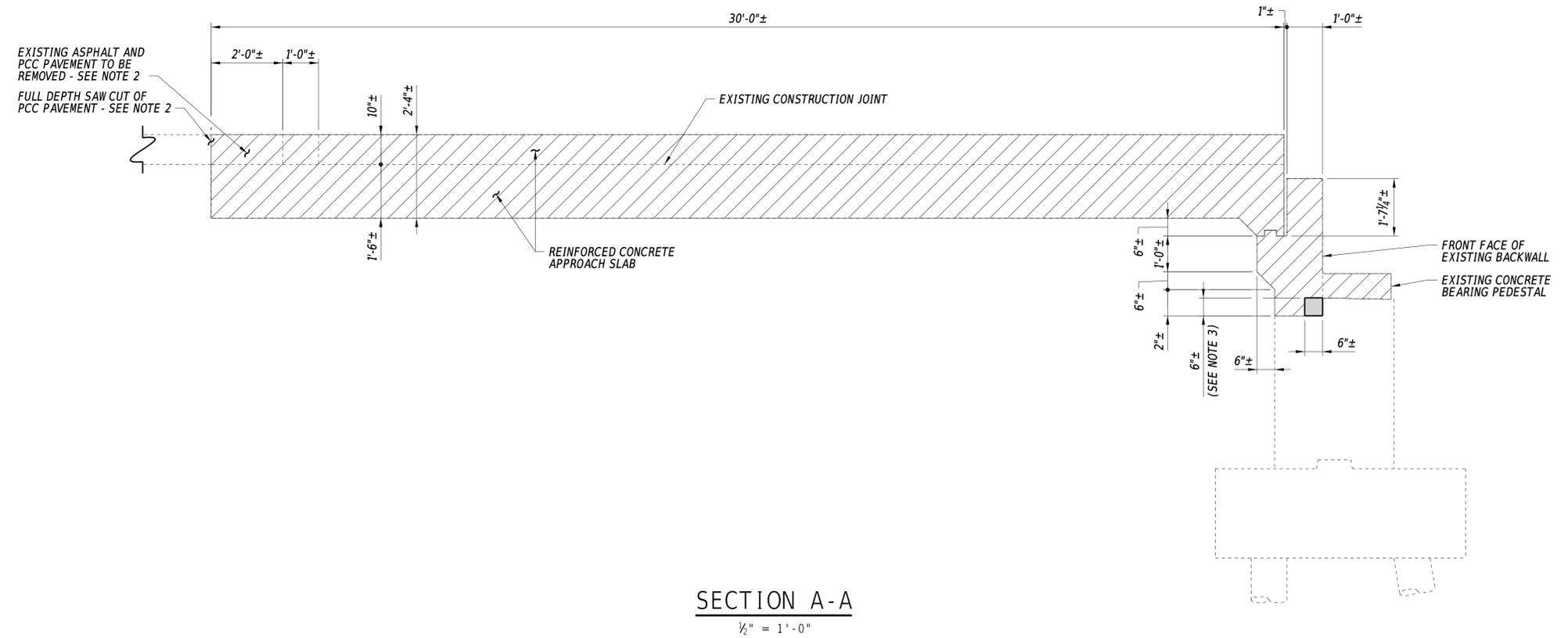
WRA

SHEET NO.

38



DEMOLITION PLAN
 $\frac{1}{16}'' = 1' - 0''$



SECTION A-A
 $\frac{1}{2}'' = 1' - 0''$

LEGEND:

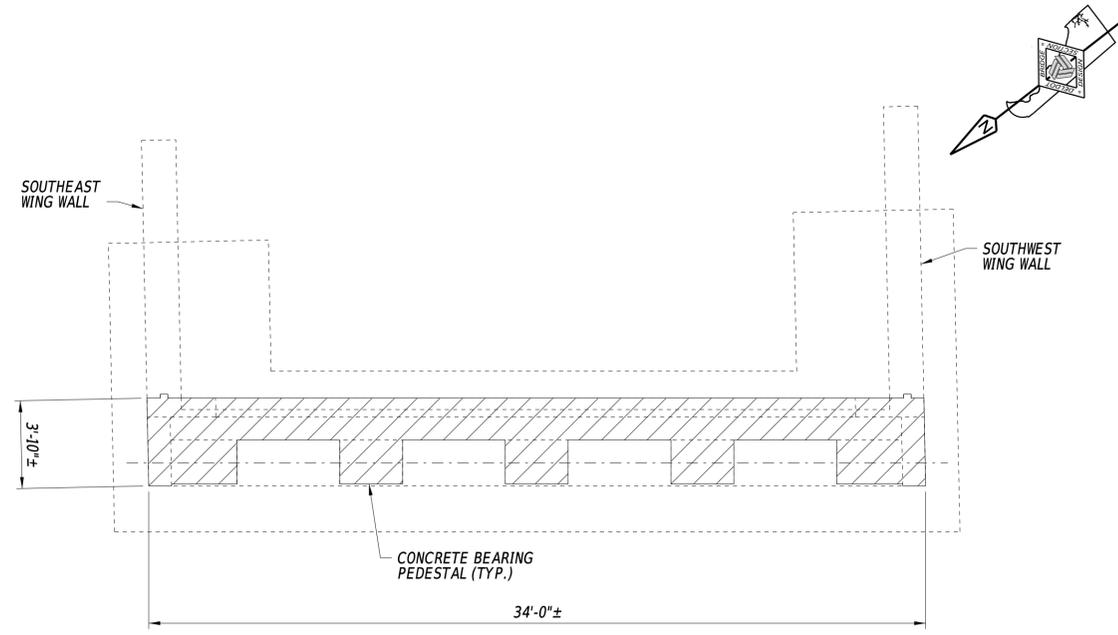
- LIMITS OF DEMOLITION - ITEM 211000
- OPTIONAL LIMITS OF DEMOLITION - SEE NOTE 4

NOTES:

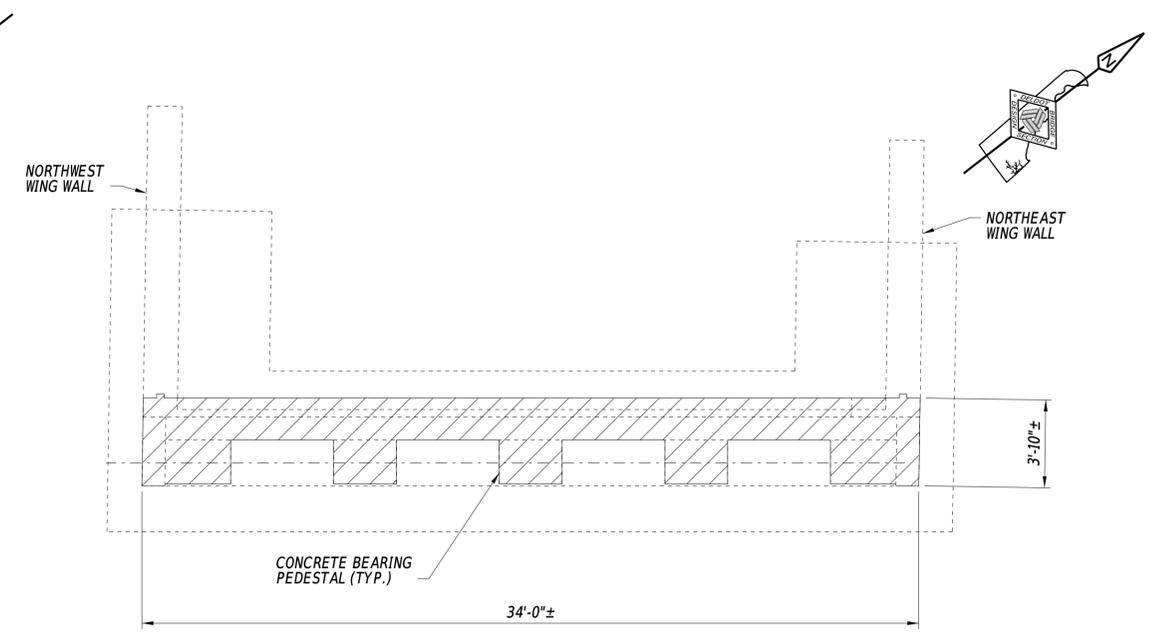
1. EXISTING APPROACH SLAB SHOWN IN SECTION A-A IS BASED ON CONTRACT 20-063-18 AS-BUILT DRAWINGS. CORE SAMPLES OBTAINED ON APRIL 30, 2019 INDICATE A 1½" ASPHALT WEARING SURFACE ON THE NORTH APPROACH SLABS FOR BOTH BRIDGES. PAYMENT FOR REMOVAL OF THE ASPHALT WEARING SURFACE WITHIN THE LIMITS OF THE APPROACH SLAB REMOVAL WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
2. PAYMENT FOR REMOVAL OF EXISTING ASPHALT WEARING SURFACE AND PCC PAVEMENT AND FULL DEPTH SAW CUT OF PCC PAVEMENT WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
3. THE EXISTING AS-BUILT PLANS DO NOT INDICATE THIS DIMENSION AND THE 6"± DIMENSION IS ASSUMED. THE CONTRACTOR SHALL VERIFY THIS DIMENSION AND MAKE ANY NECESSARY ADJUSTMENTS.
4. THE CONTRACTOR HAS THE OPTION TO REMOVE THE ADDITIONAL CONCRETE WITHIN THE SHADED LIMITS SHOWN. IF THE CONTRACTOR CHOOSES TO REMOVE THIS ADDITIONAL AREA OF CONCRETE, 1" SAW CUTS SHALL BE PROVIDED AT THE LIMITS OF REMOVAL. THIS WORK SHALL BE DONE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

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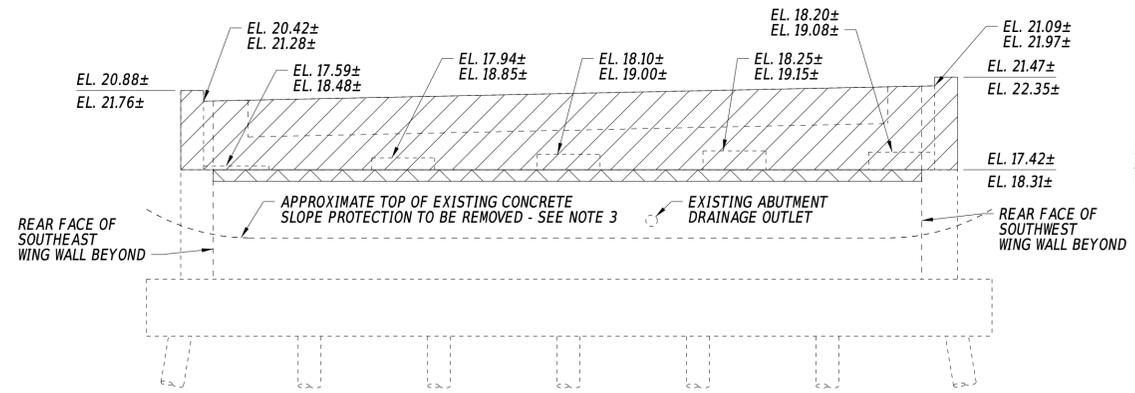
ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N&S</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td style="font-size: small;">F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td style="font-size: small;">W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N&S	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			DEMOLITION PLAN AND DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">SR-01</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">39</td> </tr> </table>	SR-01	SECTION	WRA	SHEET NO.	39
CONTRACT	BRIDGE NO.	3-155N&S																				
T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
SR-01																						
SECTION																						
WRA																						
SHEET NO.																						
39																						



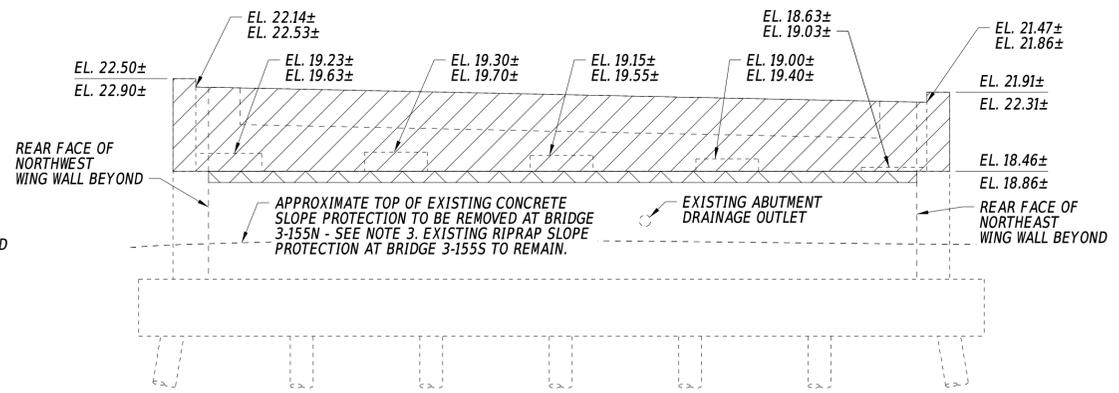
SOUTH ABUTMENT PLAN
 $\frac{1}{4}'' = 1' - 0''$



NORTH ABUTMENT PLAN
 $\frac{1}{4}'' = 1' - 0''$



SOUTH ABUTMENT ELEVATION
 $\frac{1}{4}'' = 1' - 0''$



NORTH ABUTMENT ELEVATION
 $\frac{1}{4}'' = 1' - 0''$

LEGEND:

LIMITS OF DEMOLITION - ITEM 211000

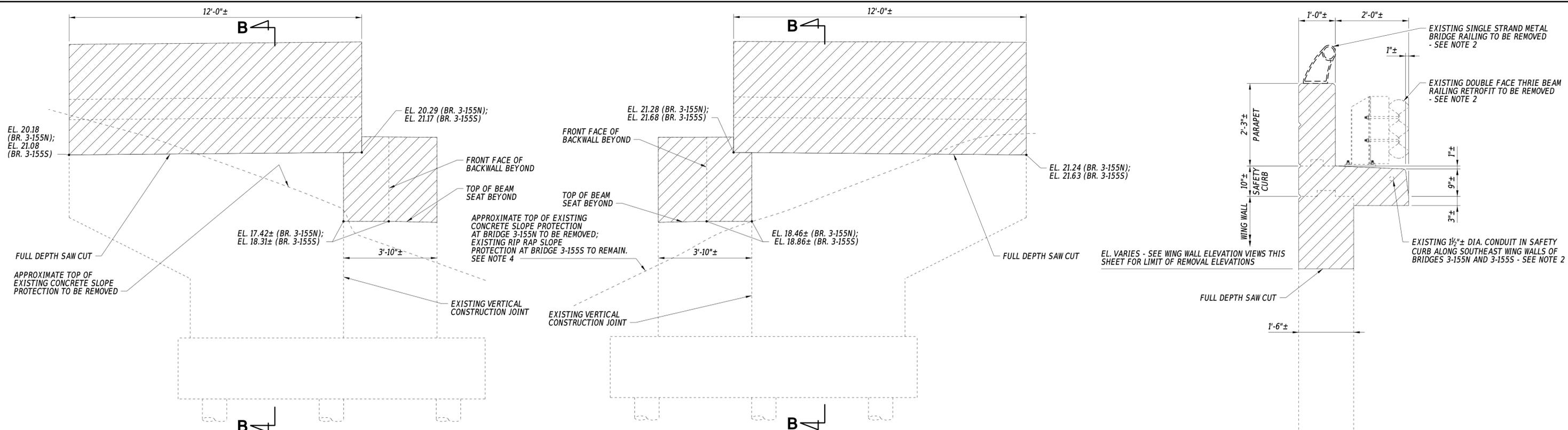
LIMITS OF DEMOLITION ON REAR FACE - ITEM 211000

EL. XX.XX± (BRIDGE 3-155N)
 EL. XX.XX± (BRIDGE 3-155S)

- NOTES:**
1. ABUTMENT PLAN AND ELEVATION VIEWS SHOWN AT BRIDGE 3-155N. ABUTMENT PLAN AND ELEVATION VIEWS AT BRIDGE 3-155S SIMILAR.
 2. ABUTMENT PLAN VIEW SHOWN BELOW EXISTING SAFETY CURBS. EXISTING SAFETY CURBS, PARAPETS, SINGLE STRAND METAL BRIDGE RAILING, AND DOUBLE FACE THRIE BEAM RAILING RETROFITS ALONG WING WALLS NOT SHOWN IN ELEVATION FOR CLARITY.
 3. PAYMENT FOR REMOVAL OF EXISTING CONCRETE SLOPE PROTECTION WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
 4. EXISTING REINFORCEMENT EXTENDING BETWEEN AREAS TO REMAIN AND AREAS TO BE REMOVED SHALL BE CUT FLUSH WITH THE EXISTING SURFACE TO REMAIN AND THE EXPOSED ENDS SHALL BE EPOXY COATED. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

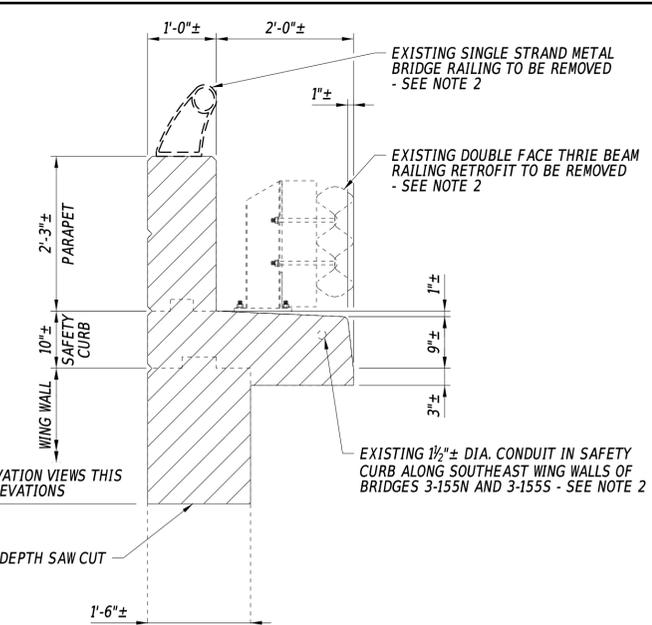
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	DEMOLITION PLAN AND DETAILS - 2	SR-02
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
		COUNTY	SUSSEX	CHECKED BY:	W. GESCHREI	SHEET NO.		40

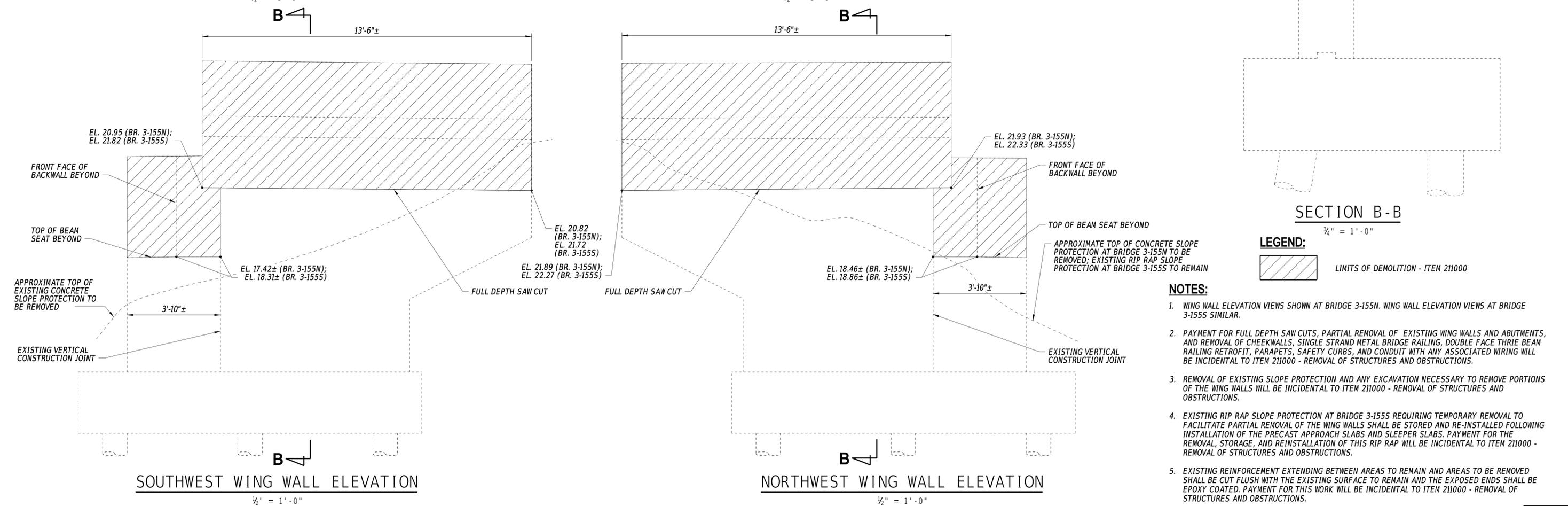


SOUTHEAST WING WALL ELEVATION
 $\frac{1}{2}'' = 1' - 0''$

NORTHEAST WING WALL ELEVATION
 $\frac{1}{2}'' = 1' - 0''$



SECTION B-B
 $\frac{3}{8}'' = 1' - 0''$



SOUTHWEST WING WALL ELEVATION
 $\frac{1}{2}'' = 1' - 0''$

NORTHWEST WING WALL ELEVATION
 $\frac{1}{2}'' = 1' - 0''$

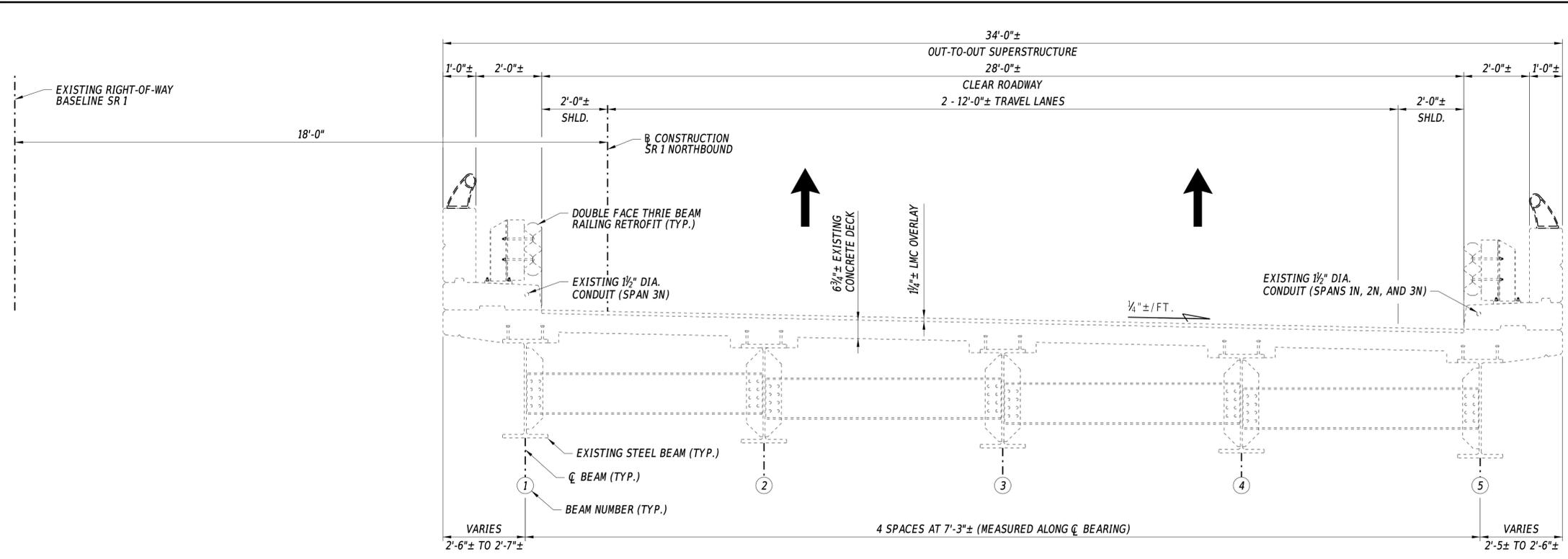
LEGEND:

LIMITS OF DEMOLITION - ITEM 211000

- NOTES:**
1. WING WALL ELEVATION VIEWS SHOWN AT BRIDGE 3-155N. WING WALL ELEVATION VIEWS AT BRIDGE 3-155S SIMILAR.
 2. PAYMENT FOR FULL DEPTH SAW CUTS, PARTIAL REMOVAL OF EXISTING WING WALLS AND ABUTMENTS, AND REMOVAL OF CHEEKWALLS, SINGLE STRAND METAL BRIDGE RAILING, DOUBLE FACE THRIE BEAM RAILING RETROFIT, PARAPETS, SAFETY CURBS, AND CONDUIT WITH ANY ASSOCIATED WIRING WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
 3. REMOVAL OF EXISTING SLOPE PROTECTION AND ANY EXCAVATION NECESSARY TO REMOVE PORTIONS OF THE WING WALLS WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
 4. EXISTING RIP RAP SLOPE PROTECTION AT BRIDGE 3-155S REQUIRING TEMPORARY REMOVAL TO FACILITATE PARTIAL REMOVAL OF THE WING WALLS SHALL BE STORED AND RE-INSTALLED FOLLOWING INSTALLATION OF THE PRECAST APPROACH SLABS AND SLEEPER SLABS. PAYMENT FOR THE REMOVAL, STORAGE, AND REINSTALLATION OF THIS RIP RAP WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
 5. EXISTING REINFORCEMENT EXTENDING BETWEEN AREAS TO REMAIN AND AREAS TO BE REMOVED SHALL BE CUT FLUSH WITH THE EXISTING SURFACE TO REMAIN AND THE EXPOSED ENDS SHALL BE EPOXY COATED. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

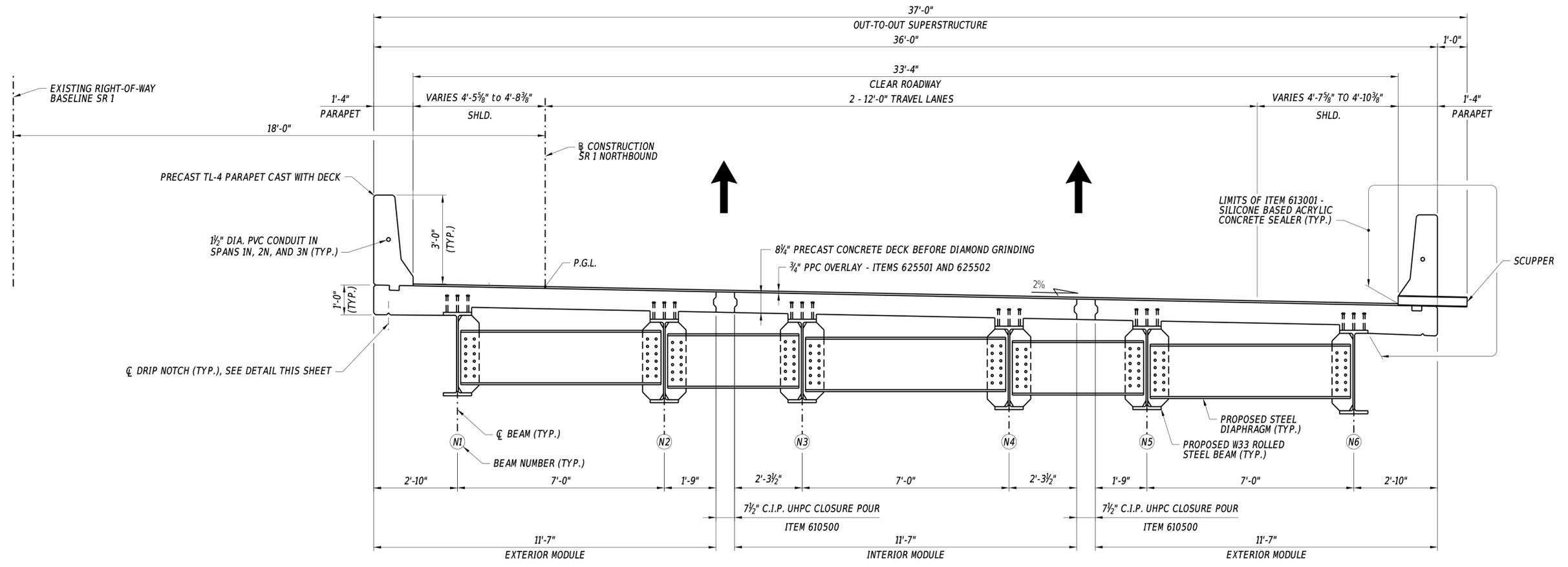
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	DEMOLITION PLAN AND DETAILS - 3	SR-03	
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION	WRA
				COUNTY	CHECKED BY:	W. GESCHREI		SHEET NO.	41
				SUSSEX					

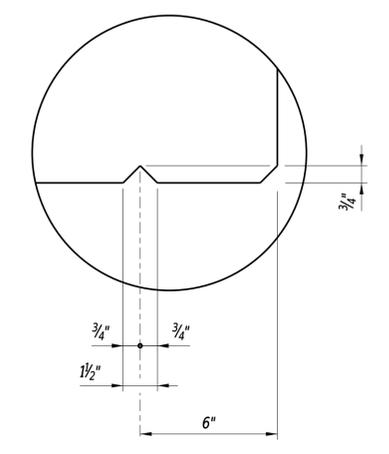


EXISTING TYPICAL SECTION
 1/2" = 1'-0"

- NOTES:**
1. TYPICAL SECTIONS SHOWN ARE IN SPAN 3N LOOKING STATIONS AHEAD.
 2. FOR FRAMING PLAN, SEE DWG. FP-01.
 3. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
 4. FOR DIAPHRAGM DETAILS, SEE DWGS. BM-25 AND BM-26.
 5. FOR SUPERSTRUCTURE MODULE LAYOUT PLAN, C.I.P. UHPC CLOSURE POUR DETAIL, LINK SLAB LOCATIONS, AND EXPANSION JOINT LOCATIONS, SEE DWG. BM-01.
 6. FOR SUPERSTRUCTURE MODULE REINFORCEMENT DETAILS, SEE DWGS. BM-01 THRU BM-11.
 7. FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS, SEE DWGS. BM-03, BM-05, BM-07, BM-09 AND BM-11.
 8. FOR FINISHED ROADWAY ELEVATIONS, SEE DWGS. DK-03 THRU DK-05.



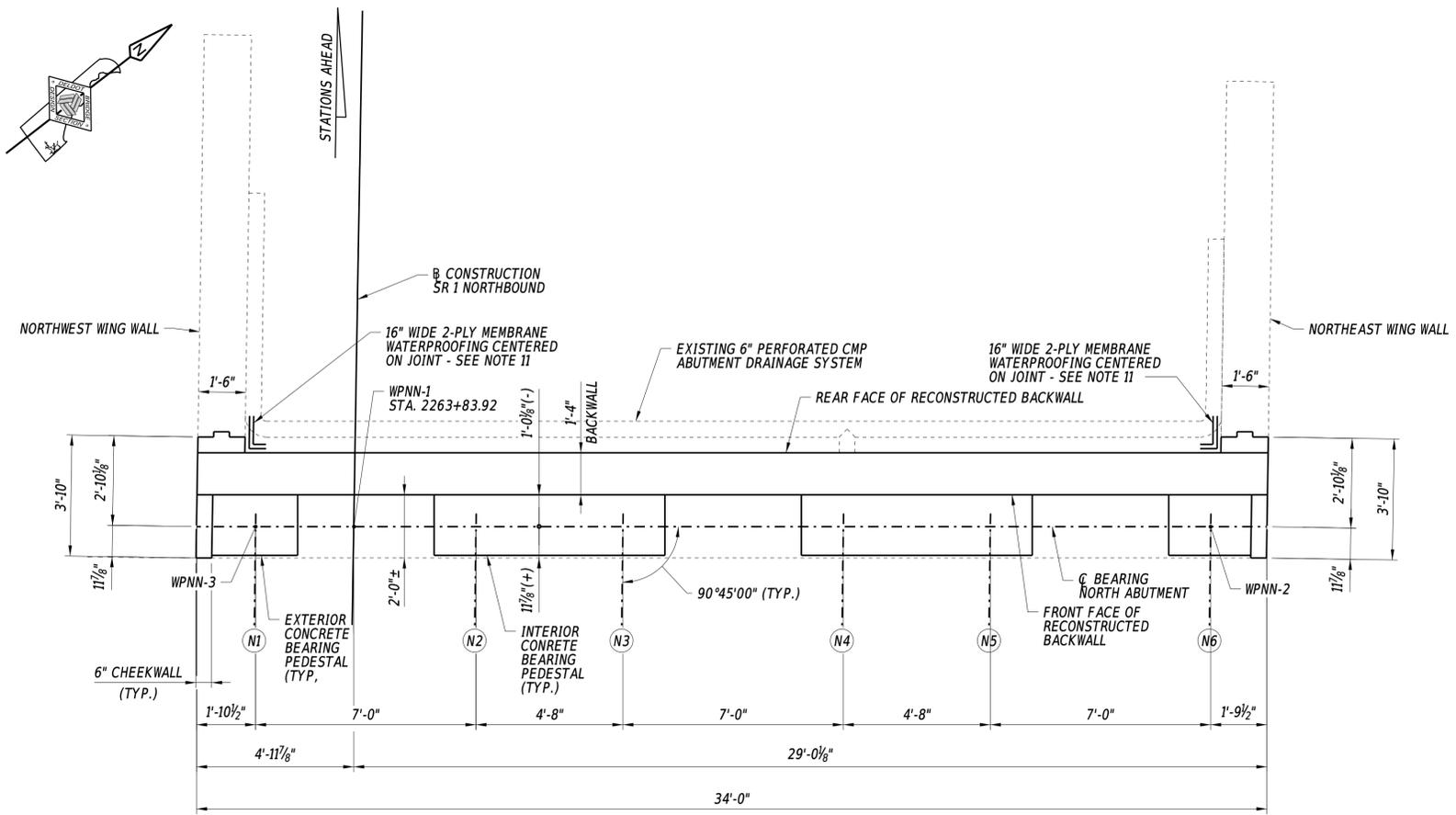
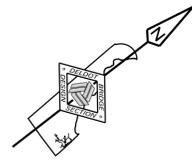
PROPOSED TYPICAL SECTION
 1/2" = 1'-0"



DRIP NOTCH DETAIL
 3" = 1'-0"

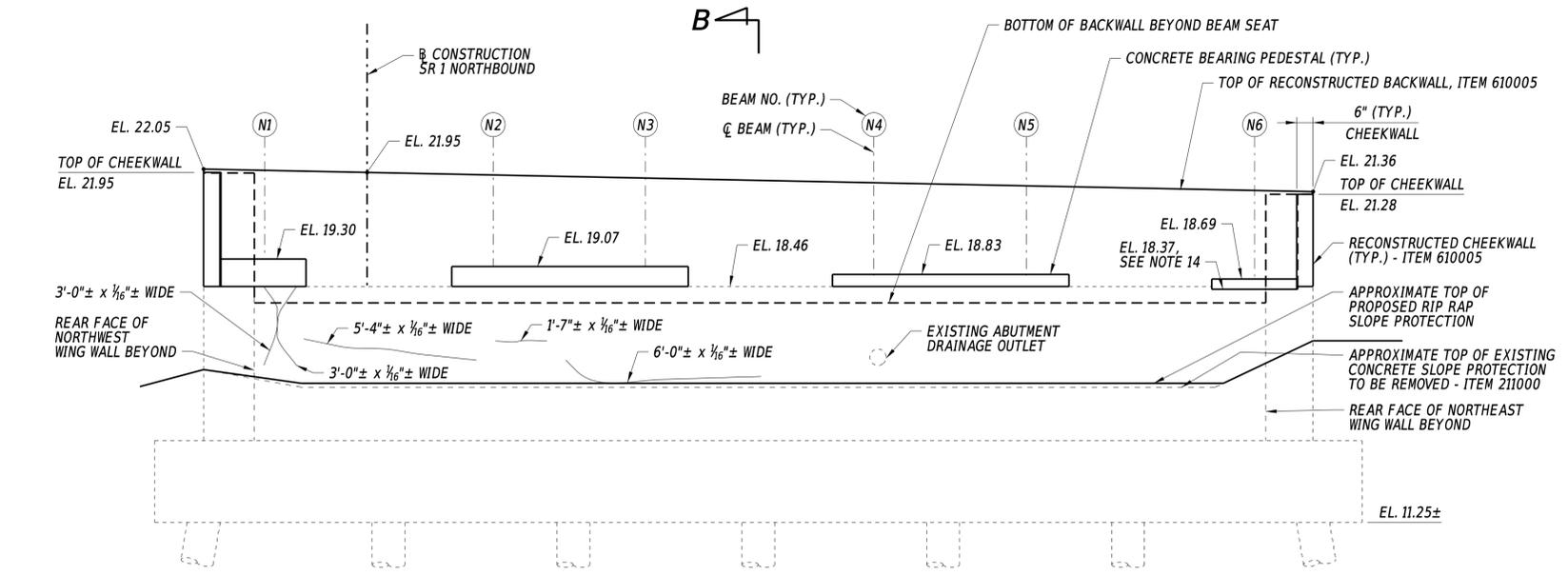
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	BRIDGE TYPICAL SECTIONS	TS-01
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	42
				SUSSEX				



PLAN

3/8" = 1'-0"



ELEVATION

3/8" = 1'-0"

CONCRETE REPAIR QUANTITIES			
SOUTH ABUTMENT			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
628001	REPAIR OF STRUCTURES BY EPOXY INJECTION	LF	19
628041	DEEP SPALL REPAIR	CF	0
613000	EPOXY CONCRETE SEALER	SF	196
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	138

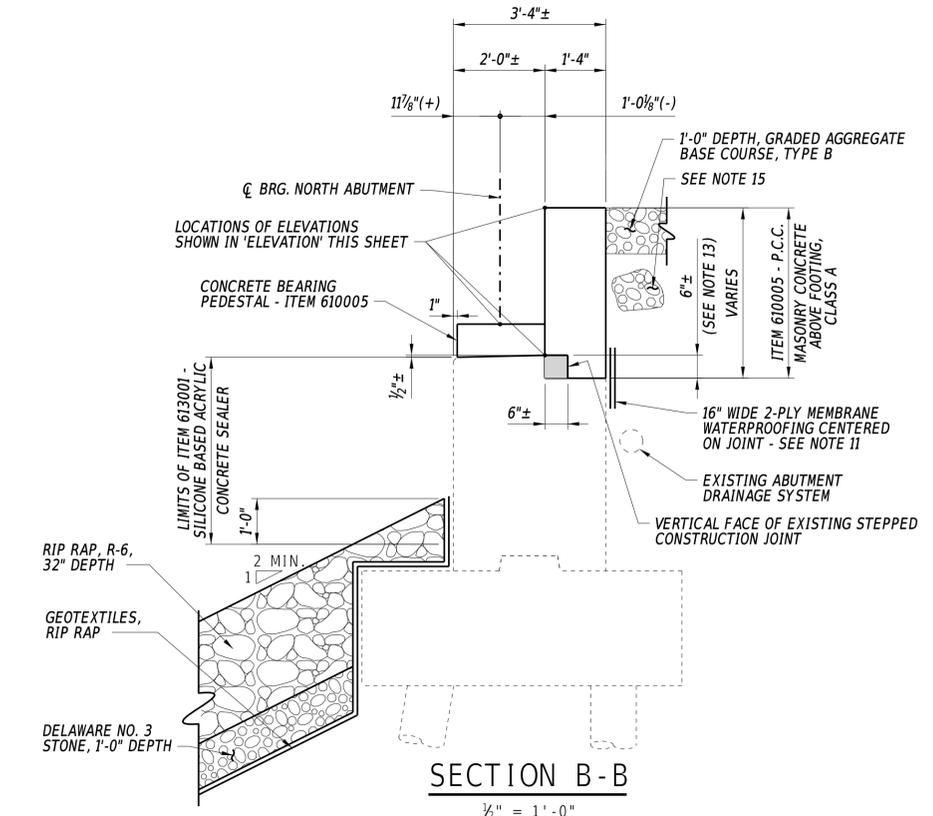
LEGEND:

	OPTIONAL LIMITS OF RECONSTRUCTION - SEE NOTE 13
	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION

NOTE: QUANTITIES SHOWN ARE TOTAL PER ABUTMENT AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

- FOR CONCRETE REPAIR DETAILS, SEE DWG. DT-01.
- FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
- FOR LIMITS OF ABUTMENT AND WING WALL REMOVAL, SEE DWGS. SR-01 THRU SR-03.
- FOR BEAM SEAT DETAILS, SEE DWG. AB-03.
- FOR REINFORCEMENT DETAILS, SEE DWG. AB-05.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE BEAM SEATS, BEARING PEDESTALS, FRONT FACE OF BACKWALL, AND INSIDE FACE OF CHEEKWALLS. PAYMENT WILL BE MADE UNDER ITEM 613000. THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED CONCRETE ABUTMENT SURFACES THAT DO NOT REQUIRE EPOXY SEALER. APPLY TO 1'-0" BELOW THE GROUND LINE. PAYMENT WILL BE MADE UNDER ITEM 613001.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH ABUTMENT.
- 2-PLY MEMBRANE WATERPROOFING SHALL CONFORM TO ASTM D449 AND ASTM D173. APPLY 1 PRIME COAT, 3 MOP COATS, AND 2 LAYERS OF WATERPROOFING FABRIC. COSTS OF THE 2-PLY WATERPROOFING MEMBRANE WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A.
- THE EXISTING AS-BUILT PLANS DO NOT INDICATE THE DIMENSION FROM THE BEAM SEAT TO THE BACKWALL HORIZONTAL CONSTRUCTION JOINT AND THE 6"± DIMENSION SHOWN IS ASSUMED. THE CONTRACTOR SHALL VERIFY THIS DIMENSION AND MAKE ANY NECESSARY ADJUSTMENTS.
- THE CONTRACTOR HAS THE OPTION TO RECONSTRUCT THE AREA WITHIN THE SHADED LIMITS SHOWN AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- PROVIDE 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF PROPOSED PEDESTAL AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 18.37. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- THE CONTRACTOR HAS THE OPTION TO BACKFILL WITH THE EXCAVATED BACKFILL MATERIAL WITH THE APPROVAL OF THE ENGINEER OR BACKFILL WITH SELECT BORROW.



SECTION B-B

1/2" = 1'-0"

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ADDENDA / REVISIONS

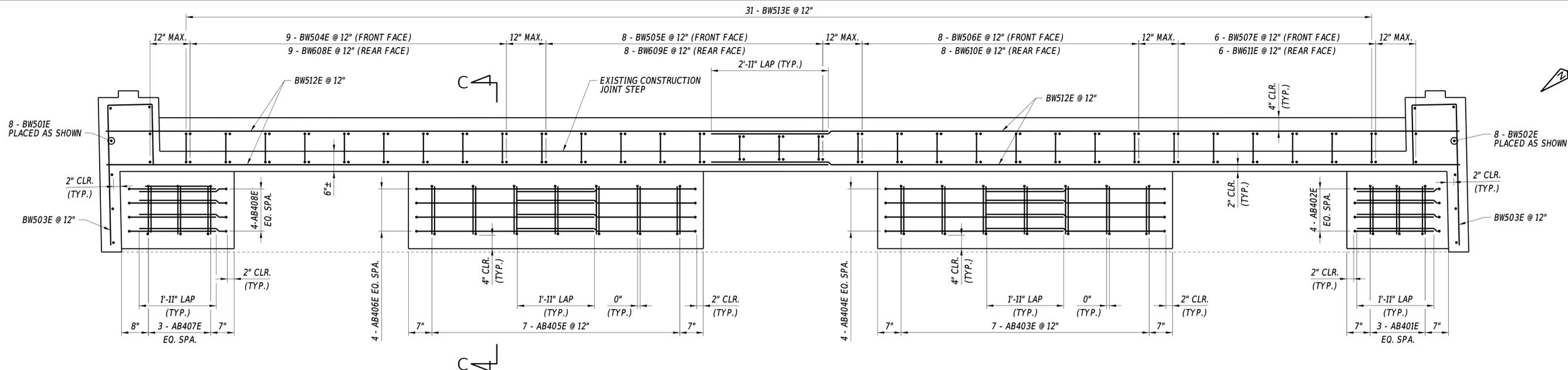
SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

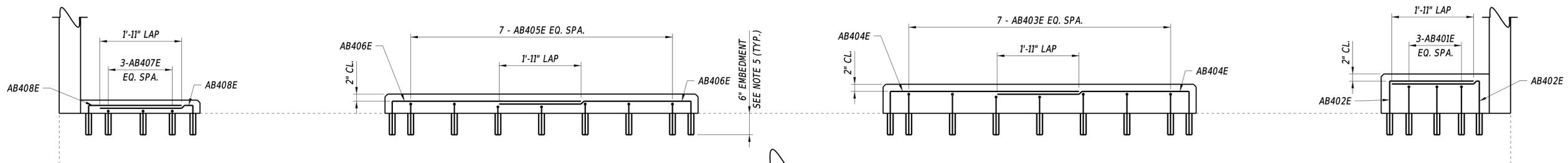
CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

NORTH ABUTMENT REPAIR DETAILS

AB-02
SECTION
WRA
SHEET NO.
44

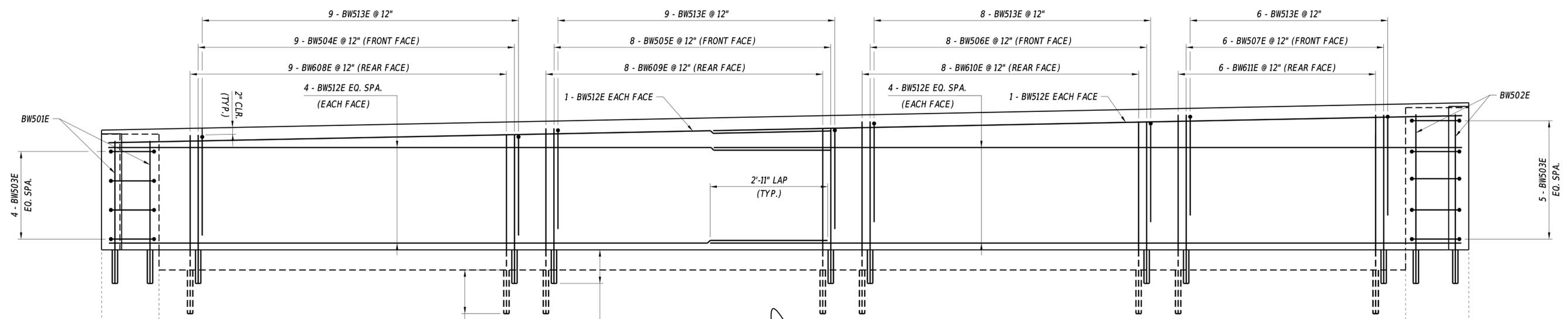


PLAN
3/8" = 1'-0"



BEAM SEAT ELEVATION
3/8" = 1'-0"

NOTE:
BACKWALL AND CHEEKWALL REINFORCEMENT NOT SHOWN FOR CLARITY.

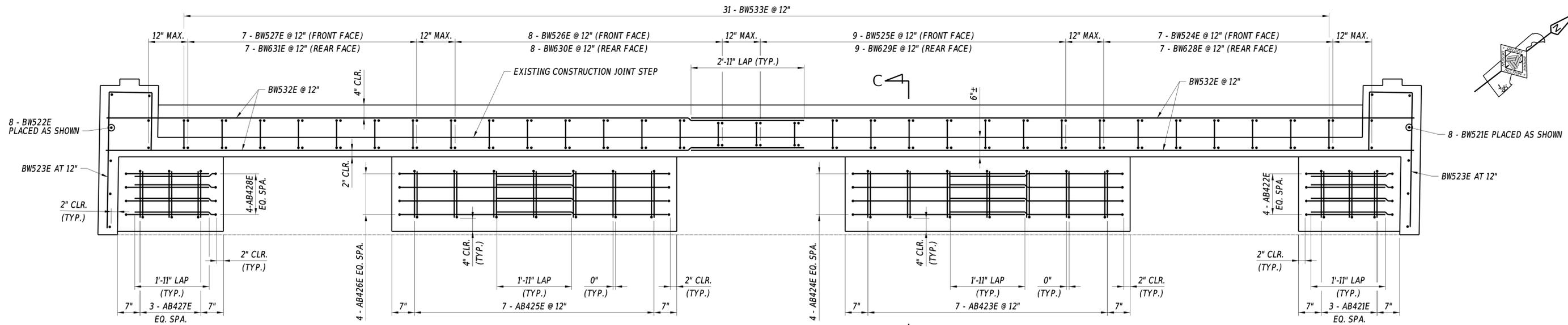
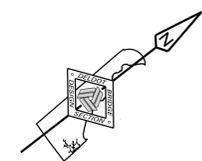


BACKWALL ELEVATION
3/8" = 1'-0"

- NOTES:**
- FOR BACKWALL, CHEEKWALL, BEAM SEAT, AND BEARING PEDESTAL ELEVATIONS, SEE DWG. AB-01.
 - FOR BEAM SEAT DETAILS, SEE DWG. AB-03.
 - FOR SECTION C-C, SEE DWG. AB-06.
 - CONCRETE BEARING PEDESTALS NOT SHOWN IN BACKWALL ELEVATION FOR CLARITY.
 - EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

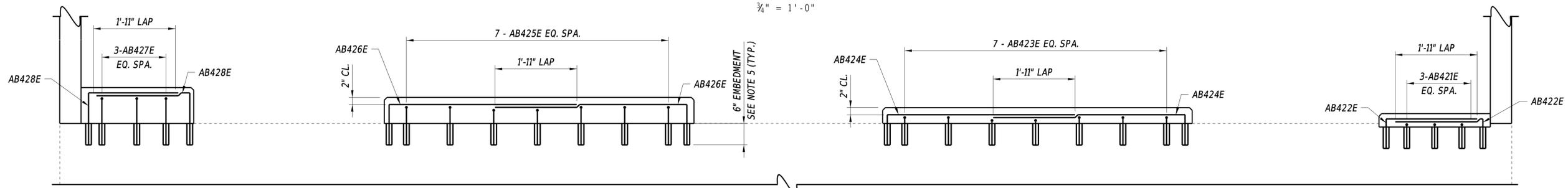
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	SOUTH ABUTMENT REINFORCEMENT DETAILS	AB-04
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	46
				SUSSEX				



PLAN

3/4" = 1'-0"

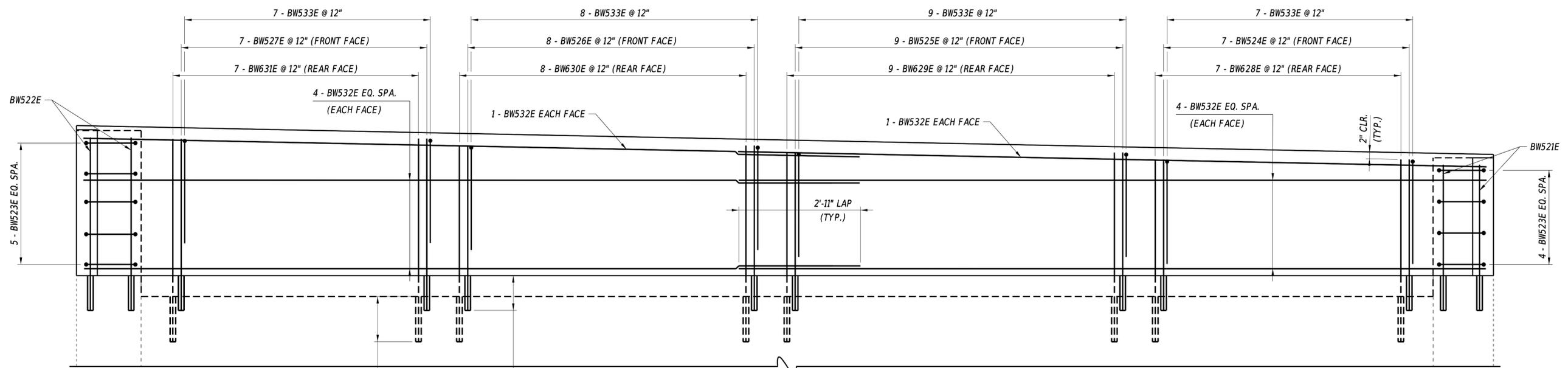


BEAM SEAT ELEVATION

3/4" = 1'-0"

NOTE:

BACKWALL AND CHEEKWALL REINFORCEMENT IN BEAM SEAT ELEVATION NOT SHOWN FOR CLARITY.



BACKWALL ELEVATION

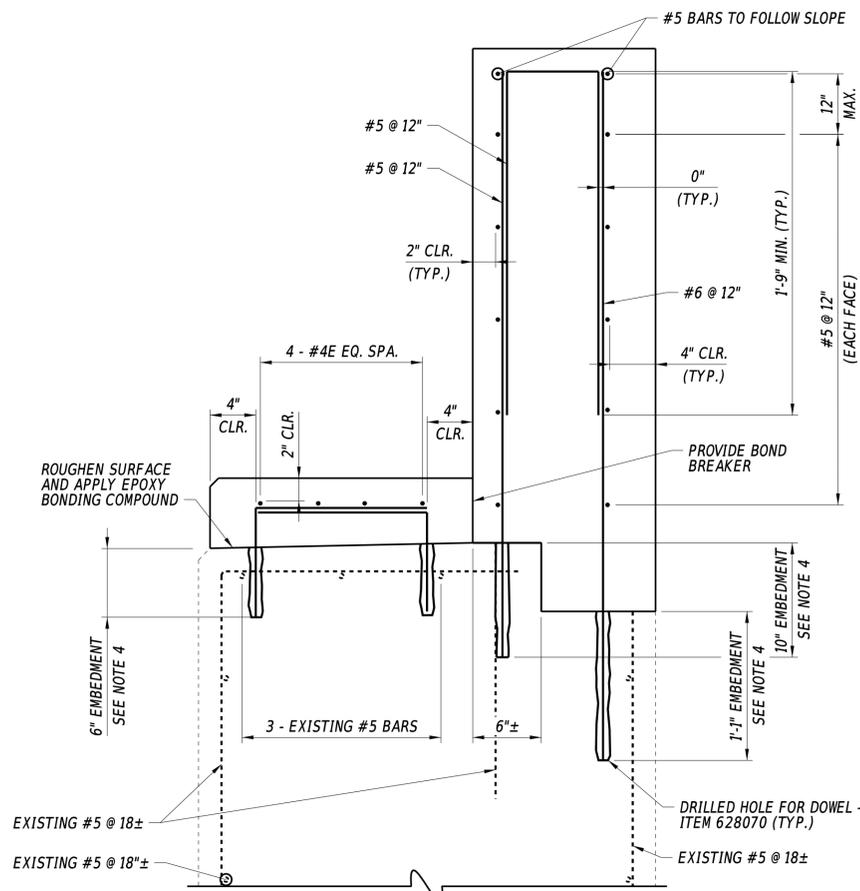
3/4" = 1'-0"

NOTES:

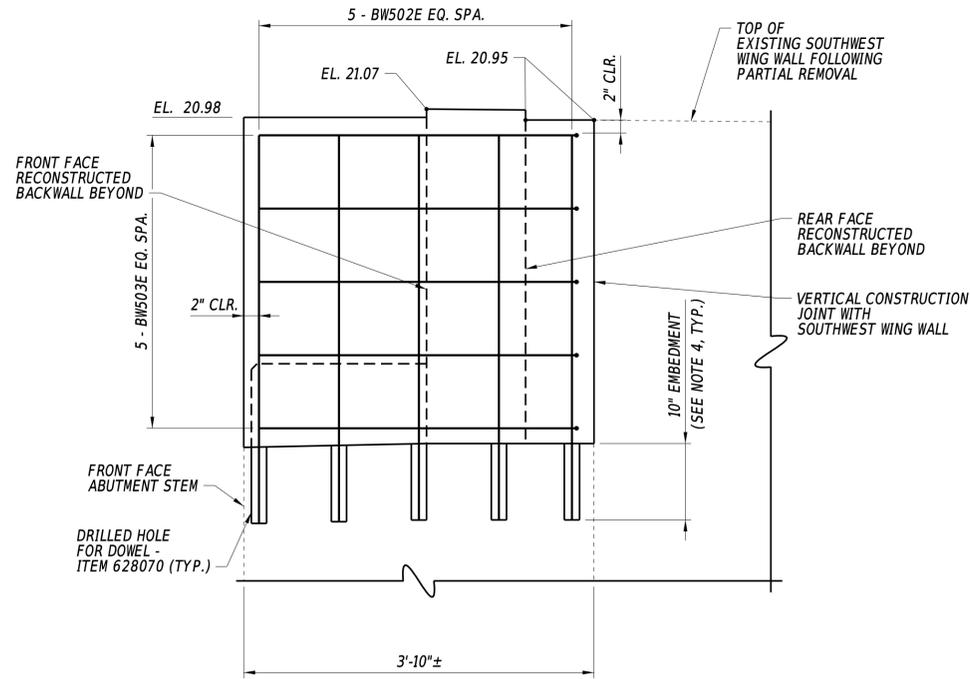
- FOR BACKWALL, CHEEKWALL, BEAM SEAT, AND BEARING PEDESTAL ELEVATIONS, SEE DWG. AB-02.
- FOR BEAM SEAT DETAILS, SEE DWG. AB-03.
- FOR SECTION C-C, SEE DWG. AB-06.
- CONCRETE BEARING PEDESTALS NOT SHOWN IN BACKWALL ELEVATION FOR CLARITY.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

4/28/2020 2:00:21 PM N:\31212-003\CADD\Bridges\BR3-155N_AB05.dgn

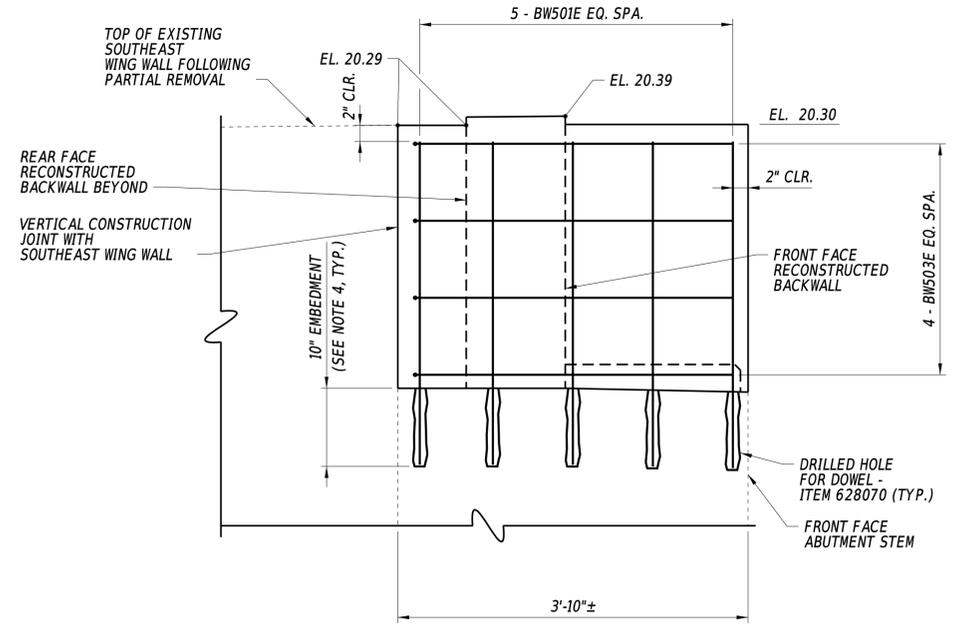
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	NORTH ABUTMENT REINFORCEMENT DETAILS	AB-05
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	47
				SUSSEX				



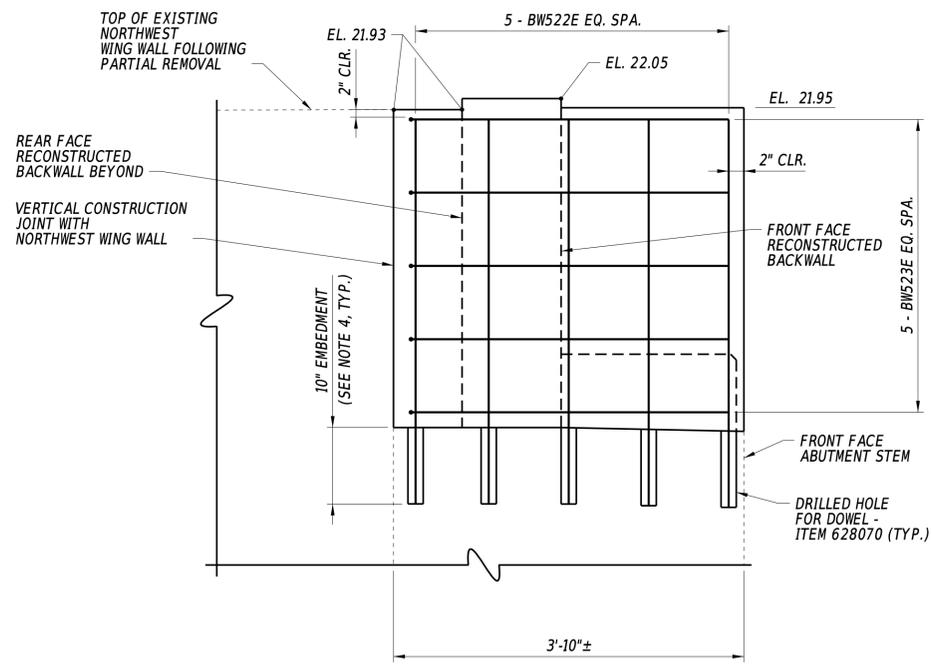
SECTION C-C
1 1/2" = 1'-0"



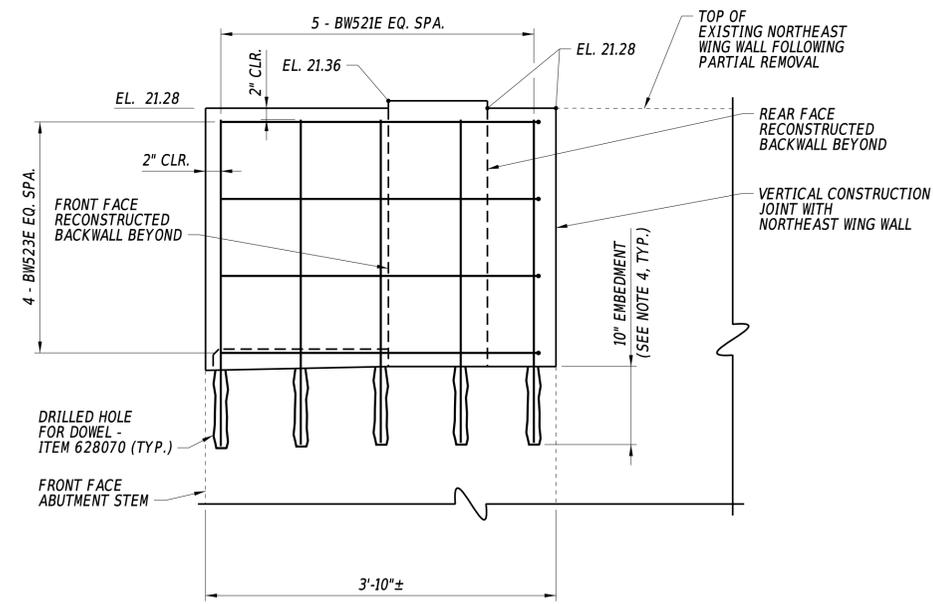
SOUTHWEST CHEEKWALL ELEVATION
1" = 1'-0"



SOUTHEAST CHEEKWALL ELEVATION
1" = 1'-0"



NORTHWEST CHEEKWALL ELEVATION
1" = 1'-0"

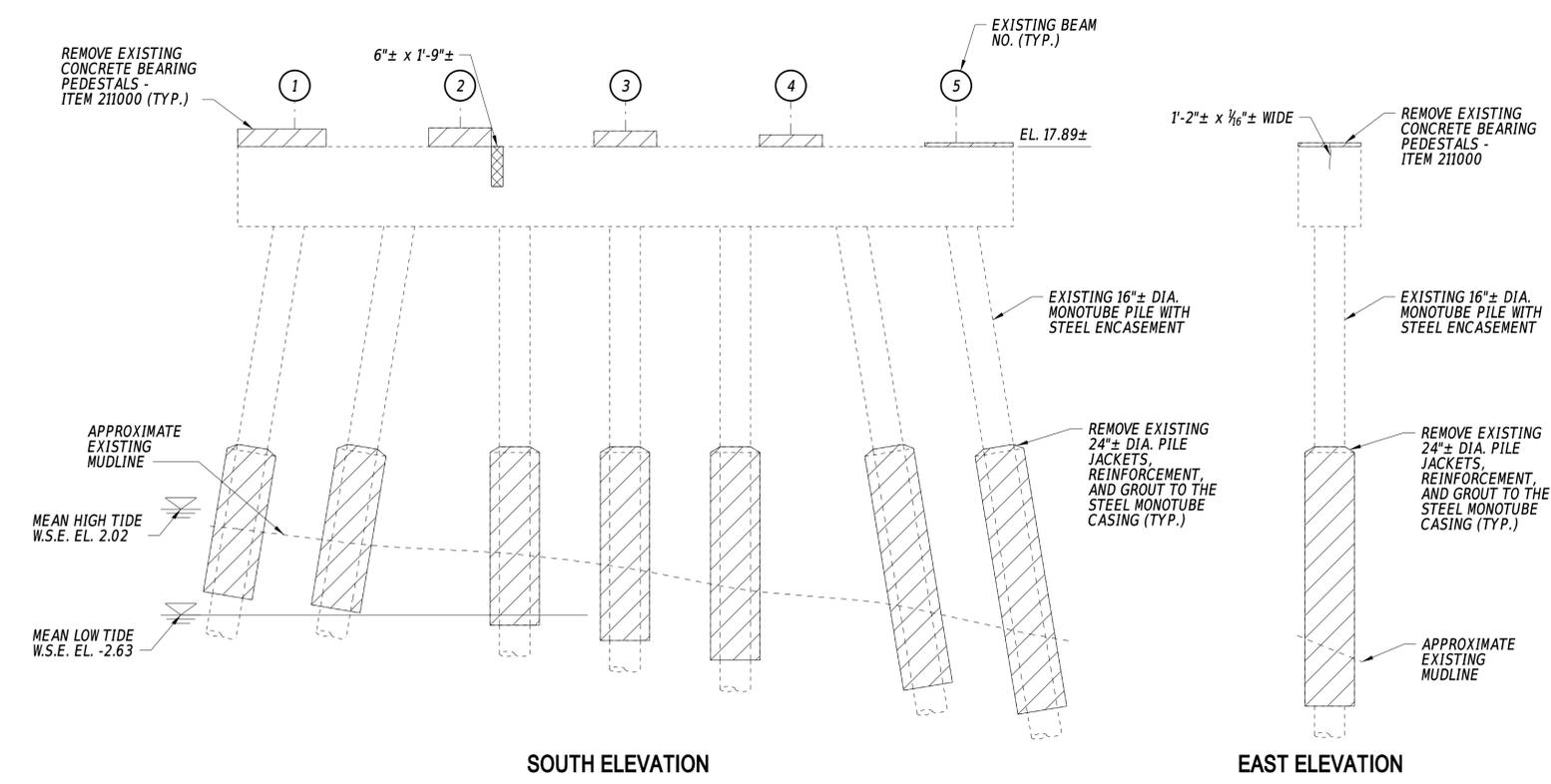


NORTHEAST CHEEKWALL ELEVATION
1" = 1'-0"

- NOTES:**
- FOR EXISTING WING WALL REMOVAL LIMITS, SEE DWG. SR-03.
 - FOR ADDITIONAL ABUTMENT REINFORCING DETAILS, SEE DWG. AB-05.
 - FOR LOCATIONS OF SECTION C-C, SEE DWGS. AB-04 AND AB-05.
 - EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

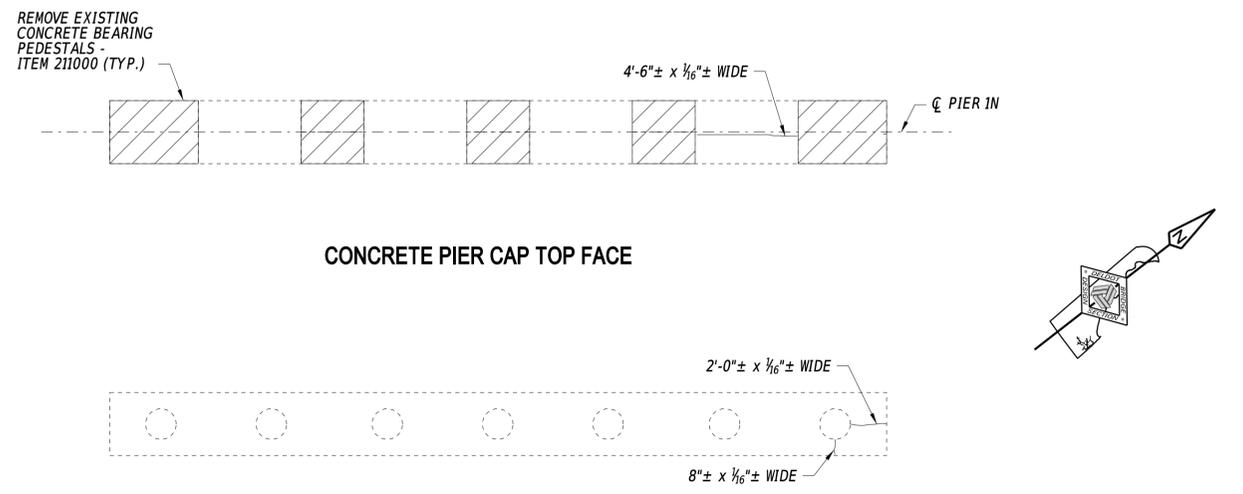
4/28/2020 2:00:26 PM N:\312122-003\CADD\Bridges\BR3-155N_AB06.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	ABUTMENT MISCELLANEOUS DETAILS	AB-06
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	48
				SUSSEX				



SOUTH ELEVATION

EAST ELEVATION



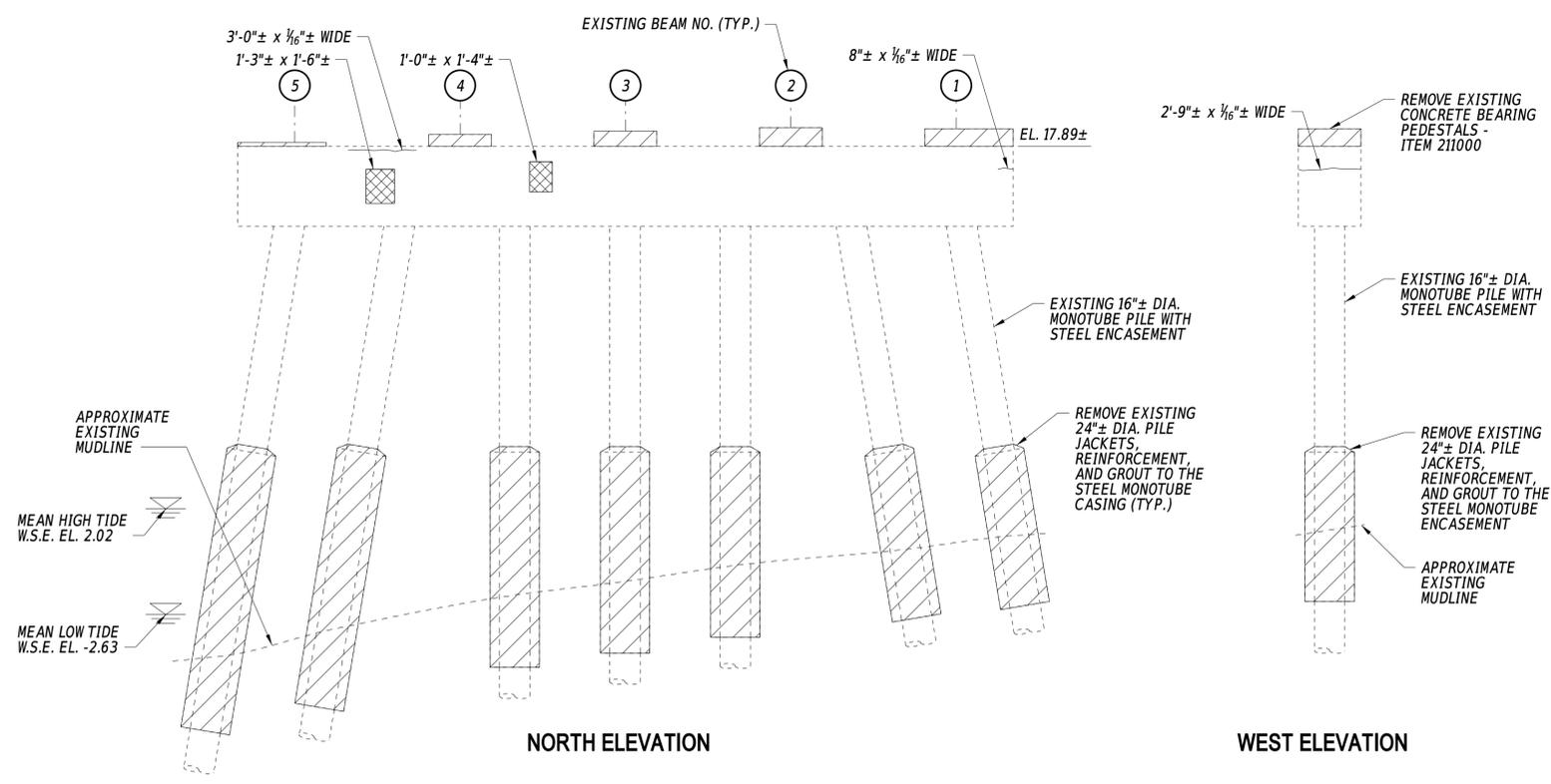
CONCRETE PIER CAP TOP FACE

CONCRETE PIER CAP UNDERSIDE FACE

PIER 1N - PLAN VIEWS

1/4" = 1'-0"

NOTE:
ALL PLAN VIEWS ARE SHOWN LOOKING DOWN,
REGARDLESS OF ELEMENT FACE DEPICTED.



NORTH ELEVATION

WEST ELEVATION

PIER 1N - ELEVATION VIEWS

1/4" = 1'-0"

CONCRETE REPAIR QUANTITIES			
PIER 1N			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	140
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	14
628041	DEEP SPALL REPAIR	CF	3
613000	EPOXY CONCRETE SEALER	SF	111
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	341

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR PIER 1N RECONSTRUCTION DETAILS, SEE DWG. PR-02.
- THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- ADDITIONAL REMOVAL OF CONCRETE IN PIER CAP REQUIRED FOR CONSTRUCTION OF PROPOSED CONCRETE PEDESTAL FOR BEAMS N4 AND N5. SEE DWG. PR-02 FOR ADDITIONAL INFORMATION.

LEGEND:

	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
	DEEP SPALL REPAIR - 628041
	LIMIT OF REMOVAL - ITEM 211000

ADDENDA / REVISIONS

SCALE AS NOTED

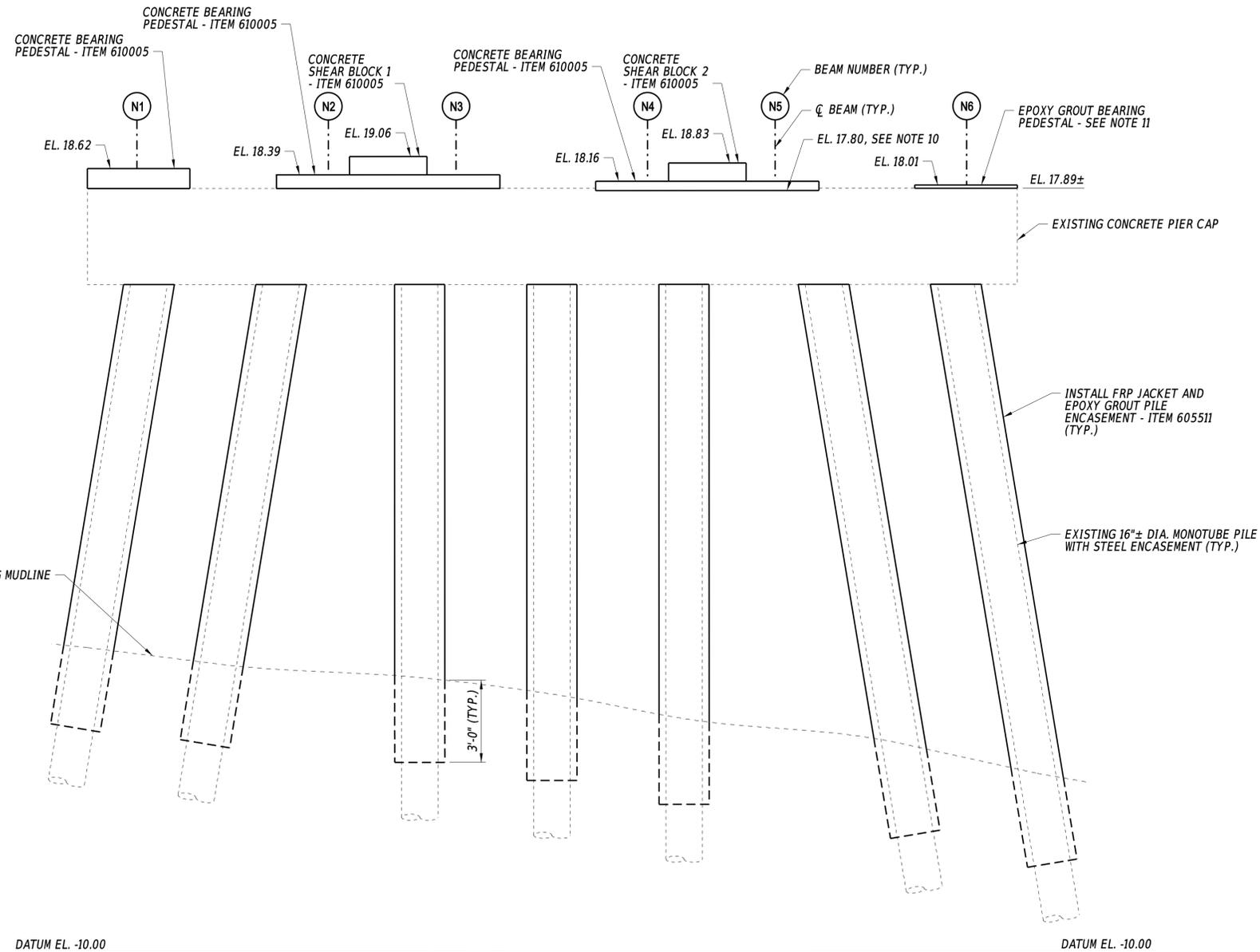
BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

PIER 1N
REPAIR DETAILS - 1

PR-01
SECTION
WRA
SHEET NO.
49

4/28/2020 2:00:29 PM N:\312122-003\CADD\Bridges\BR3-155N_PR01.dgn



ELEVATION

3/8" = 1'-0"

NOTES:

- ELEVATION SHOWN LOOKING STATIONS AHEAD.
- FOR FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-09 THROUGH PR-11.
- FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS PR-10 AND PR-11.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- PROVIDE 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF THE PROPOSED BEARING PEDESTAL FOR BEAMS N4 AND N5 AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 17.80. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- THE BEARING PEDESTAL FOR BEARING N6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION. SEE DWG. PR-09.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

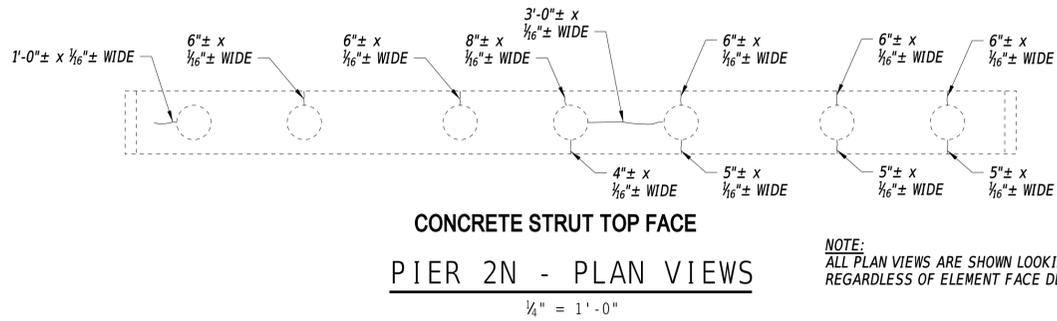
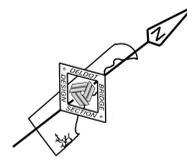
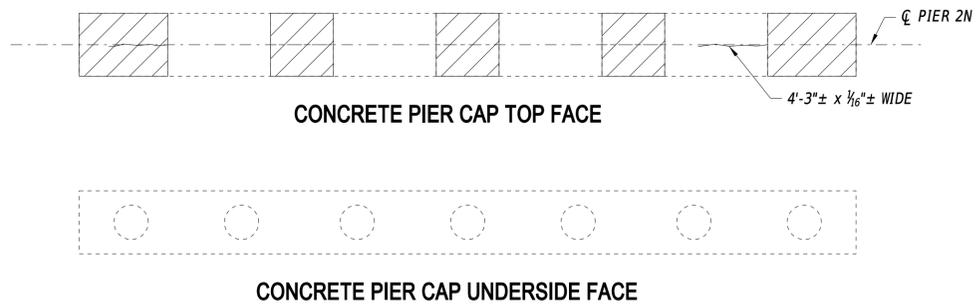
CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155N**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

**PIER 1N
REPAIR DETAILS - 2**

PR-02

SECTION
WRA
SHEET NO.
50



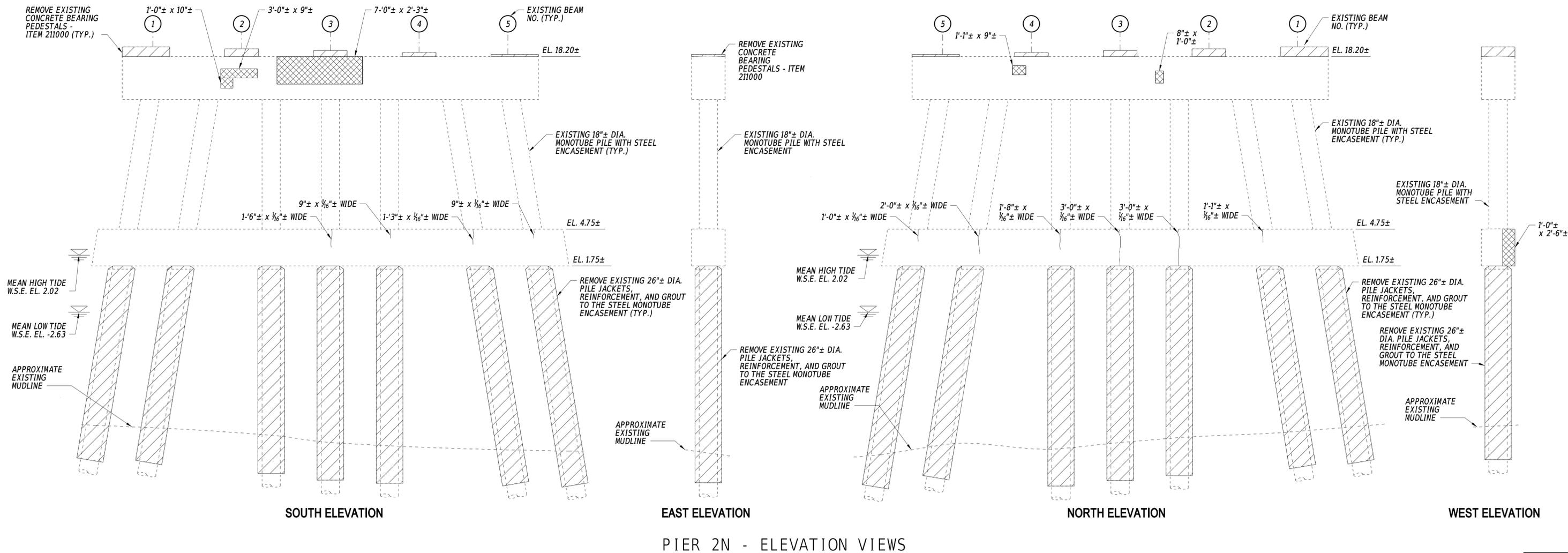
CONCRETE REPAIR QUANTITIES			
PIER 2N			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	200
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	25
628041	DEEP SPALL REPAIR	CF	9
613000	EPOXY CONCRETE SEALER	SF	112
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	329

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

LEGEND:

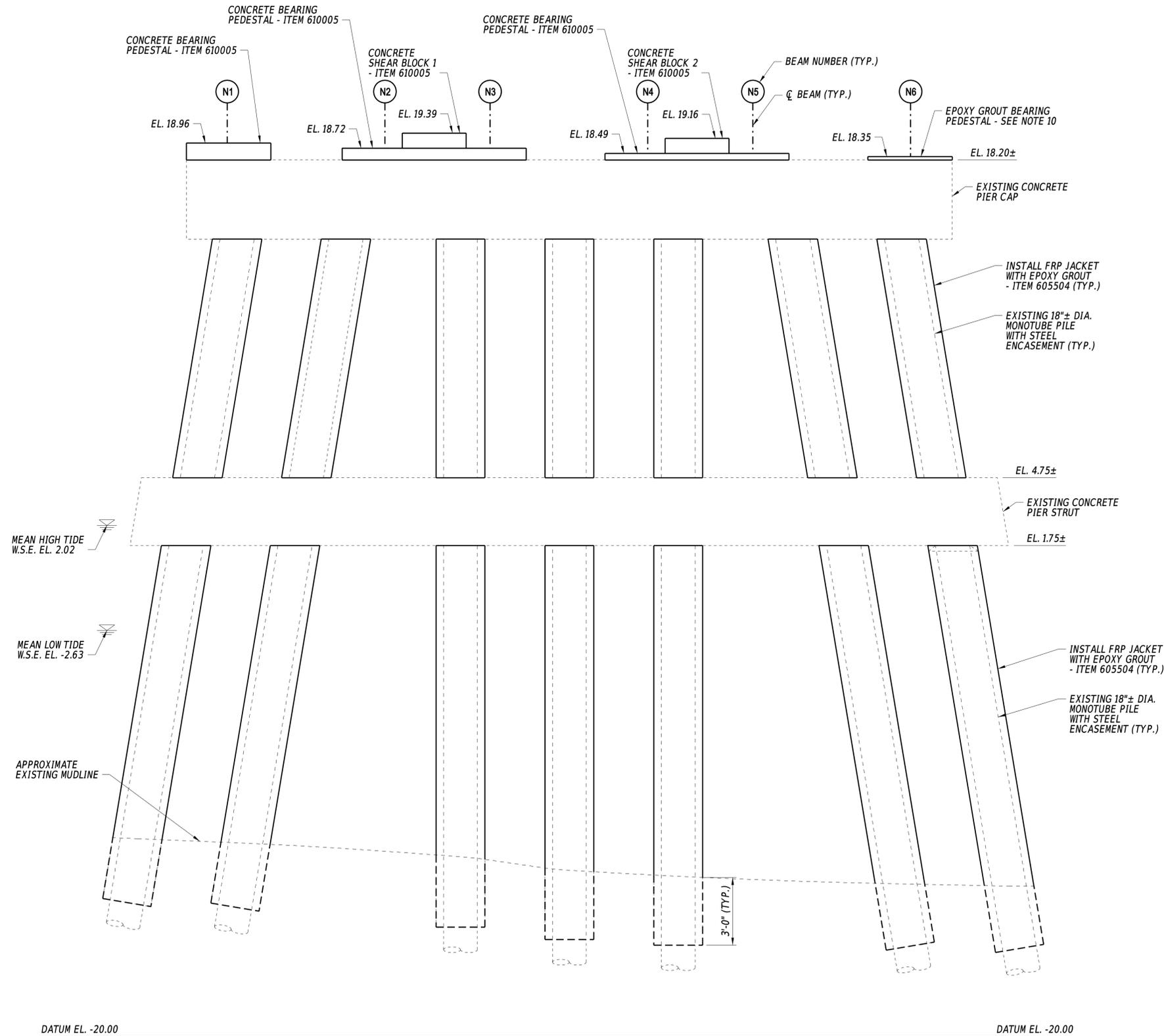
	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
	DEEP SPALL REPAIR - ITEM 628041
	LIMIT OF REMOVAL - ITEM 211000

- NOTES:**
- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR PIER 2N RECONSTRUCTION DETAILS, SEE DWG. PR-04.
 - THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
 - WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
 - IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.



4/28/2020 2:00:55 PM N:\312122-003\CADD\Bridges\BR3-155N_PR03.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	PIER 2N REPAIR DETAILS - 1	PR-03
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	51
				SUSSEX				



NOTES:

- ELEVATION SHOWN LOOKING STATIONS AHEAD.
- FOR FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-09 THRU PR-II.
- FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-10 AND PR-II.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- THE BEARING PEDESTAL FOR BEAM N6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION SEE DWG. PR-09.

ELEVATION

3/8" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

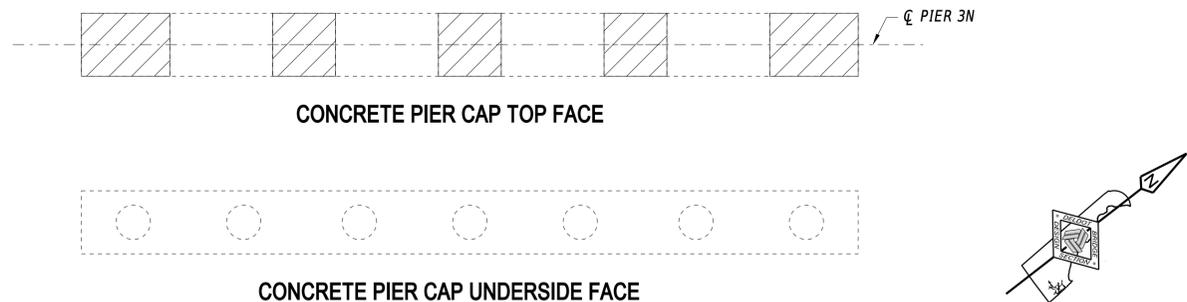
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**PIER 2N
REPAIR DETAILS - 2**

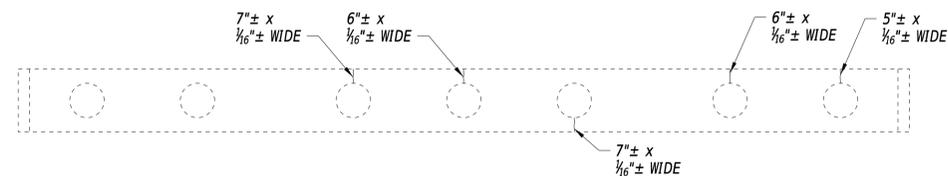
PR-04
SECTION
WRA
SHEET NO.
52

4/28/2020 2:00:38 PM N:\31212-003\CADD\Bridges\BR3-155N_PR04.dgn



CONCRETE PIER CAP TOP FACE

CONCRETE PIER CAP UNDERSIDE FACE



CONCRETE STRUT TOP FACE

PIER 3N - PLAN VIEWS

1/4" = 1'-0"

NOTE:
ALL PLAN VIEWS ARE SHOWN LOOKING DOWN,
REGARDLESS OF ELEMENT FACE DEPICTED.

CONCRETE REPAIR QUANTITIES			
PIER 3N			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	180
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	8
628041	DEEP SPALL REPAIR	CF	8
613000	EPOXY CONCRETE SEALER	SF	120
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	329

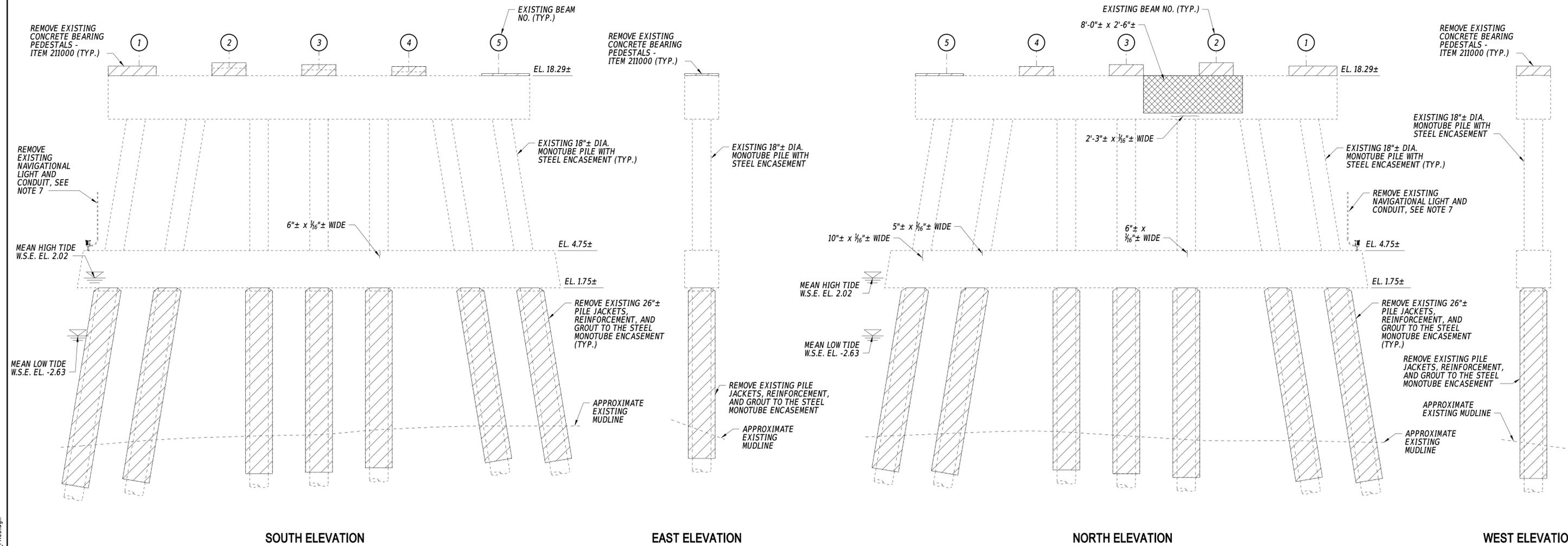
NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR PIER 3N RECONSTRUCTION DETAILS, SEE DWG. PR-06.
- THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- PAYMENT FOR REMOVAL OF THE NAVIGATION LIGHT AND CONDUIT WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

LEGEND:

- REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
- DEEP SPALL REPAIR - ITEM 628041
- LIMIT OF REMOVAL - ITEM 211000



SOUTH ELEVATION

EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

PIER 3N - ELEVATION VIEWS

1/4" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

PIER 3N
REPAIR DETAILS - 1

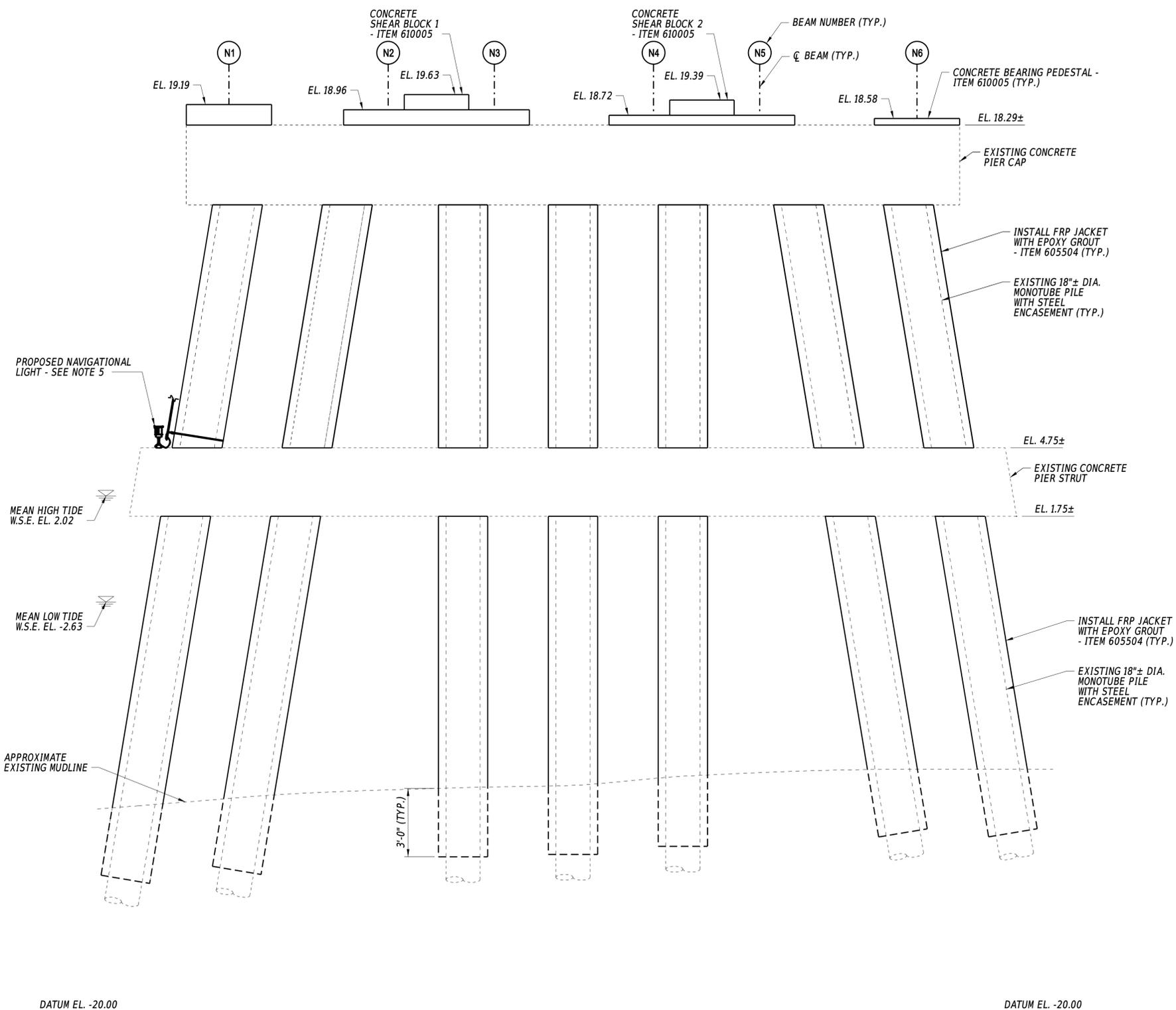
PR-05

SECTION

WRA

SHEET NO.

53



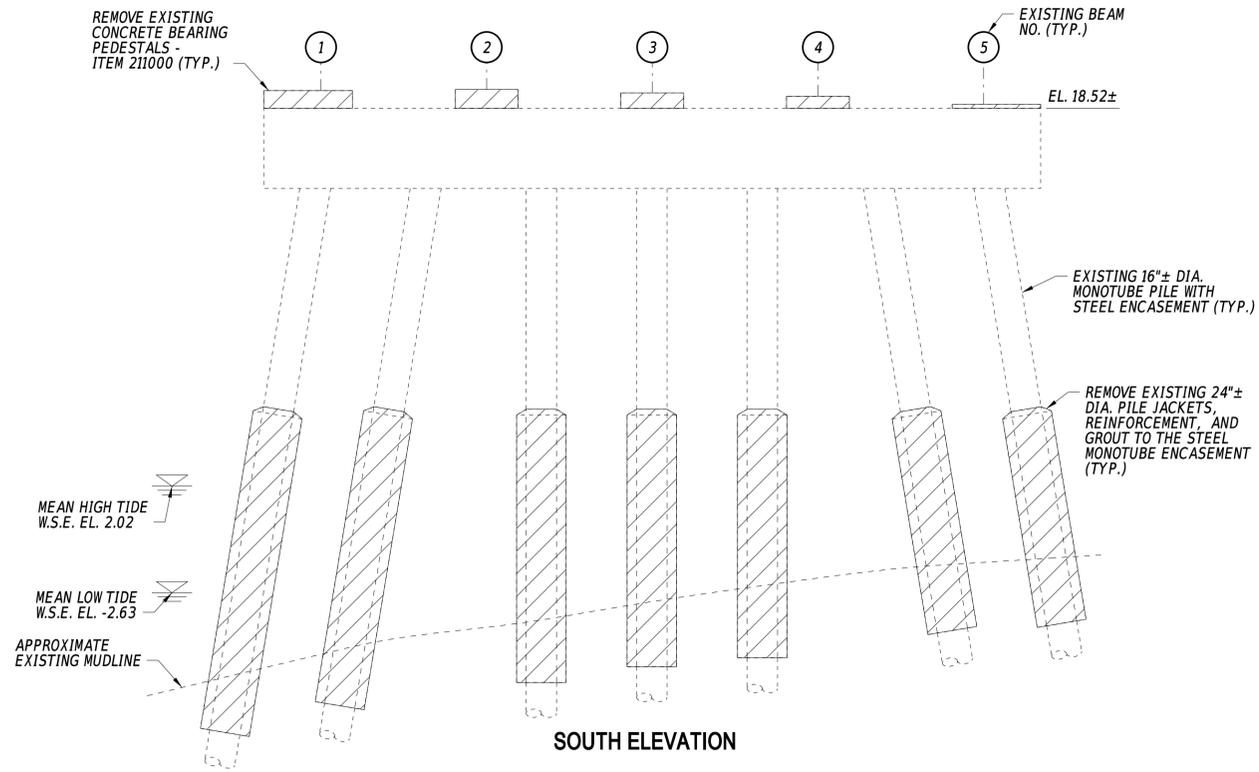
- NOTES:**
- ELEVATION SHOWN LOOKING STATIONS AHEAD.
 - FOR FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-09 THRU PR-11.
 - FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-10 AND PR-11.
 - FOR NAVIGATIONAL LIGHT DETAILS, SEE DWG. NL-05.
 - FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
 - THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
 - THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
 - EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.

DATUM EL. -20.00

ELEVATION
3/8" = 1'-0"

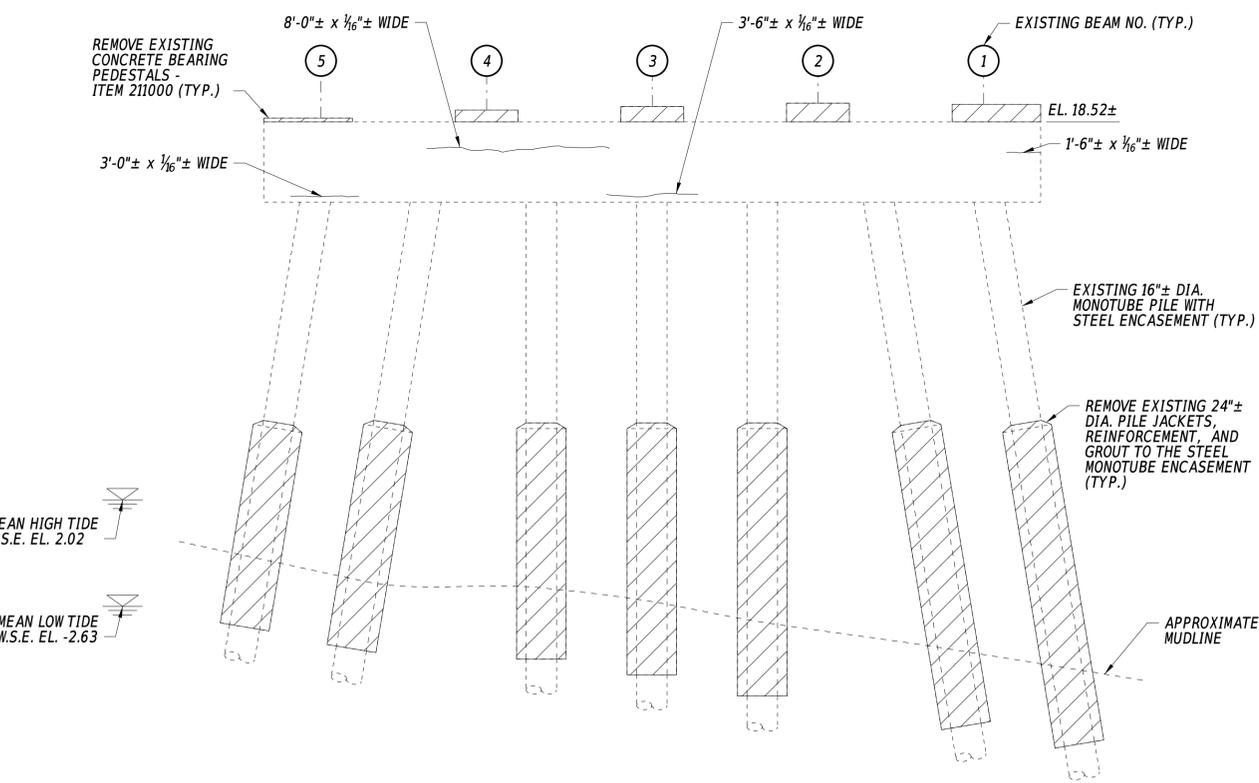
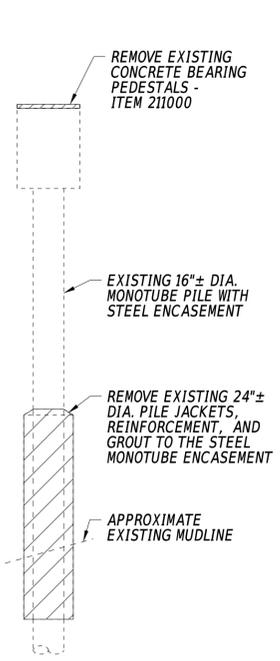
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	PIER 3N REPAIR DETAILS - 2	PR-06
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				SUSSEX	CHECKED BY: W. GESCHREI	SHEET NO.		54



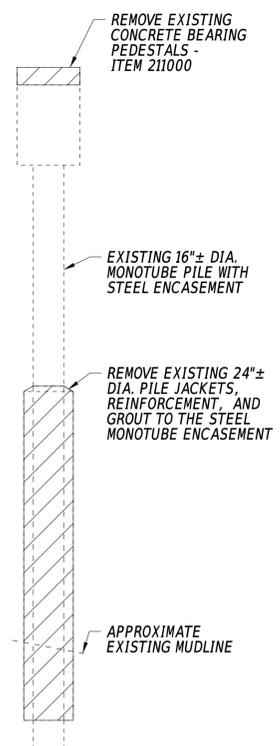
SOUTH ELEVATION

EAST ELEVATION



NORTH ELEVATION

WEST ELEVATION

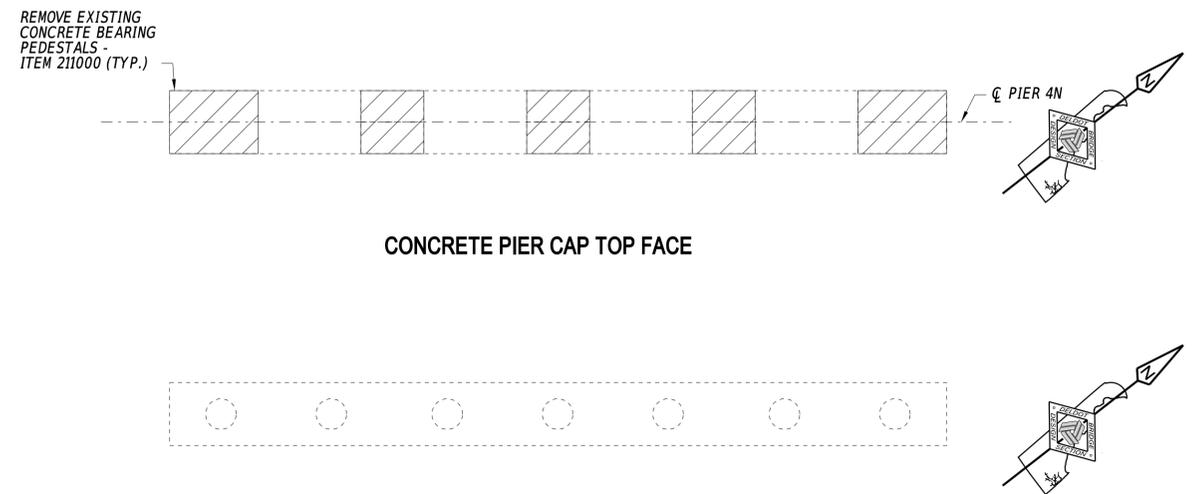


PIER 4N - ELEVATION VIEWS

1/4" = 1'-0"

LEGEND:

	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
	DEEP SPALL REPAIR - ITEM 628041
	EXISTING CONCRETE BEARING PEDESTAL TO BE REMOVED - ITEM 211000



CONCRETE PIER CAP TOP FACE

CONCRETE PIER CAP UNDERSIDE FACE

PIER 4N - PLAN VIEWS

1/4" = 1'-0"

NOTE: ALL PLAN VIEWS ARE SHOWN LOOKING DOWN, REGARDLESS OF ELEMENT FACE DEPICTED.

CONCRETE REPAIR QUANTITIES			
PIER 4N			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	160
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	16
628041	DEEP SPALL REPAIR	CF	0
613000	EPOXY CONCRETE SEALER	SF	108
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	341

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR PIER 4N RECONSTRUCTION DETAILS, SEE DWG. PR-08.
- THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- ADDITIONAL REMOVAL OF CONCRETE IN PIER CAP REQUIRED FOR CONSTRUCTION OF PROPOSED CONCRETE PEDESTAL FOR BEAMS N4 AND N5. SEE DWG. PR-08 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS

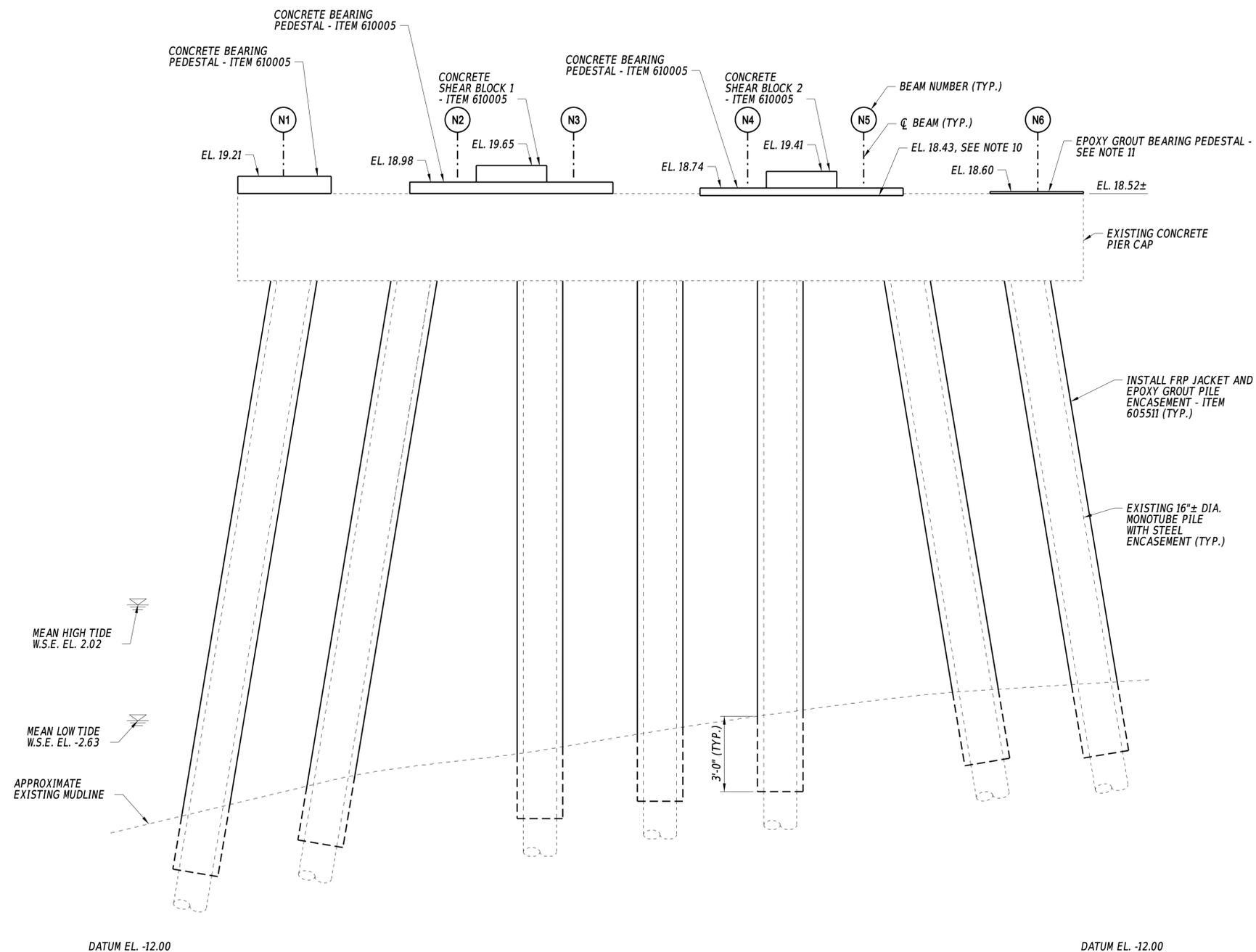
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**PIER 4N
REPAIR DETAILS - 1**

PR-07
SECTION
WRA
SHEET NO.
55



MEAN HIGH TIDE
W.S.E. EL. 2.02

MEAN LOW TIDE
W.S.E. EL. -2.63

APPROXIMATE
EXISTING MUDLINE

DATUM EL. -12.00

DATUM EL. -12.00

ELEVATION

3/8" = 1' - 0"

NOTES:

1. ELEVATION SHOWN LOOKING STATIONS AHEAD.
2. FOR FRP JACKET DETAILS, SEE DWG. DT-01.
3. FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-09 THRU PR-11.
4. FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-10 AND PR-11.
5. FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
6. THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
7. THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
8. EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
9. APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
10. PROVIDE 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF THE PROPOSED BEARING PEDESTAL FOR BEAMS N4 AND N5 AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 18.43. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
11. THE BEARING PEDESTAL FOR BEARING N6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION, SEE DWG. PR-09.

ADDENDA / REVISIONS

SCALE AS NOTED

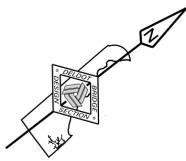
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**PIER 4N
REPAIR DETAILS - 2**

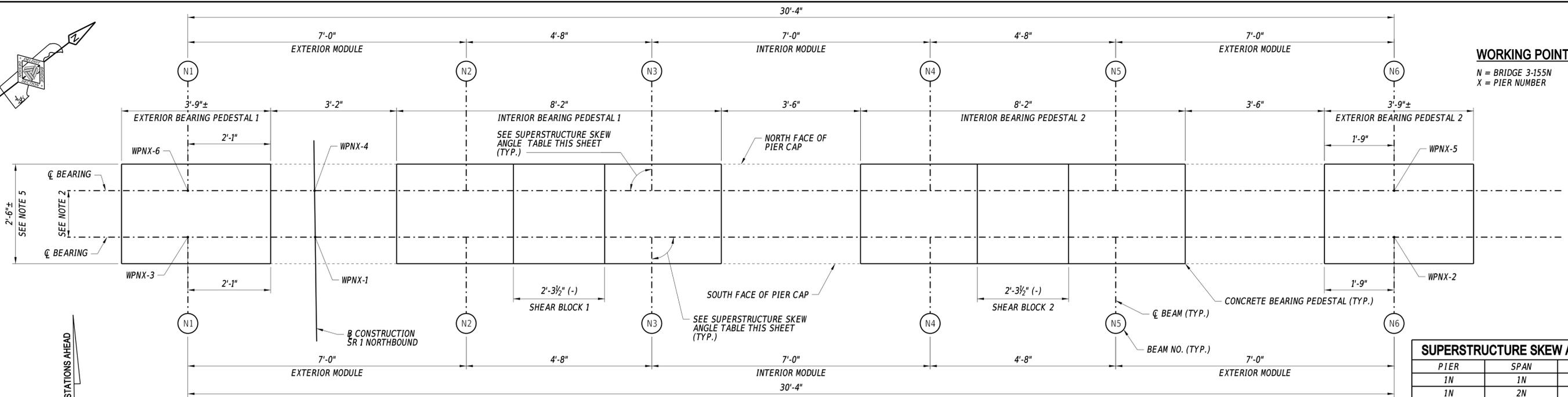
PR-08

SECTION	WRA
SHEET NO.	56



WORKING POINT LEGEND:

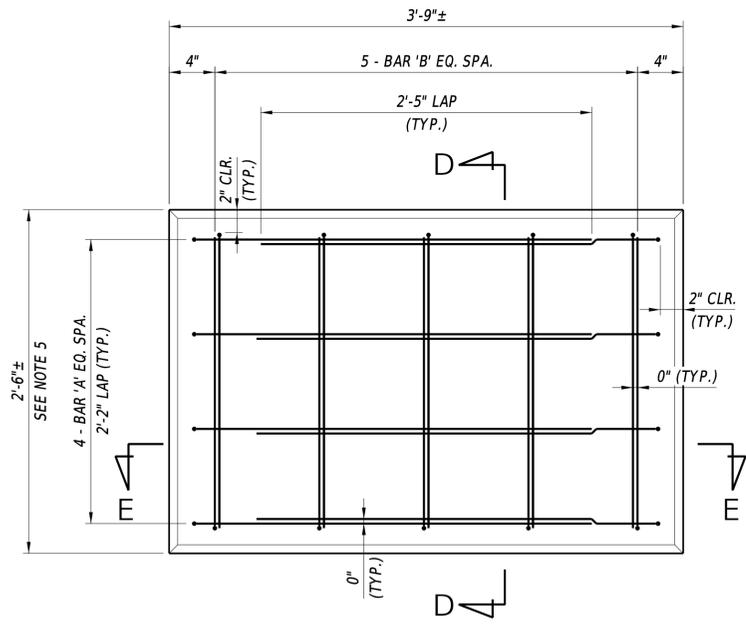
N = BRIDGE 3-155N
X = PIER NUMBER



BEAM SEAT LAYOUT PLAN

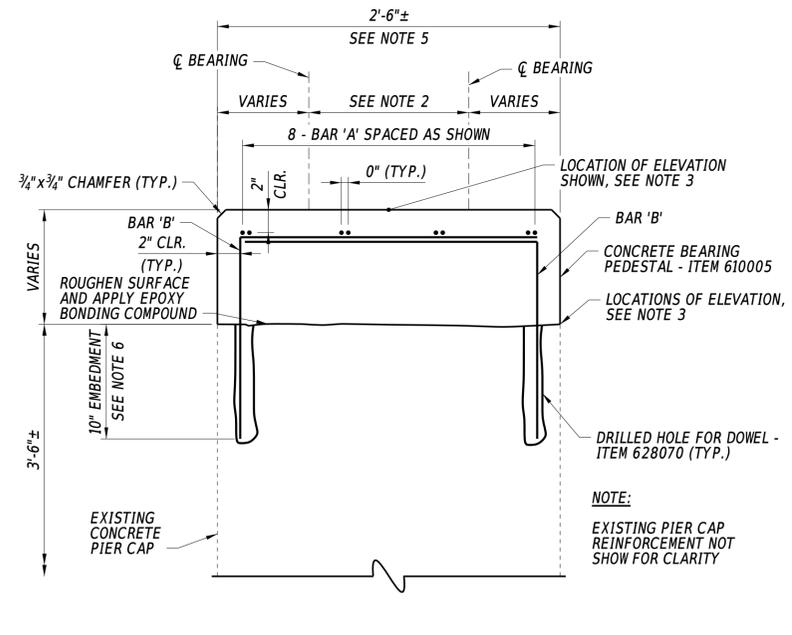
3/4" = 1'-0"

SUPERSTRUCTURE SKEW ANGLE TABLE		
PIER	SPAN	ANGLE
1N	1N	89° - 00' - 00"
1N	2N	89° - 30' - 00"
2N	2N	89° - 30' - 00"
2N	3N	90° - 00' - 00"
3N	3N	90° - 00' - 00"
3N	4N	90° - 15' - 00"
4N	4N	90° - 15' - 00"
4N	5N	90° - 45' - 00"



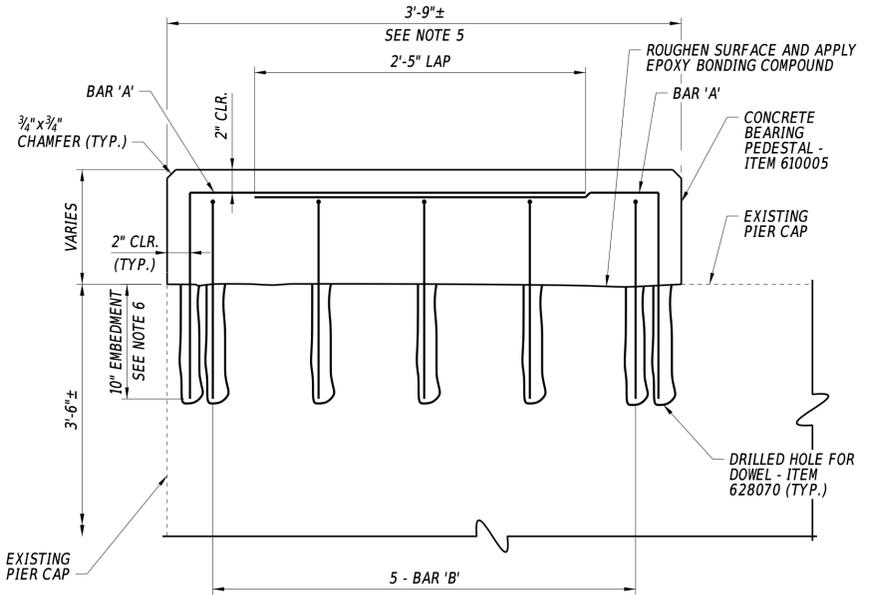
EXTERIOR BEARING PEDESTAL REINFORCEMENT PLAN

1 1/2" = 1'-0"



SECTION D-D

1 1/2" = 1'-0"



SECTION E-E

1 1/2" = 1'-0"

NOTES:

- FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1N, PIER 3N, AND PIER 4N IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 2N IS 1'-3 1/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-02, PR-04, PR-06, AND PR-08.
- FOR CONCRETE SHEAR BLOCK AND ADDITIONAL PEDESTAL DETAILS, SEE DWGS. PR-10 AND PR-11.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A.
- EXTERIOR BEARING PEDESTAL 2 AT PIER 1N, PIER 2N, AND PIER 4N SHALL BE CONSTRUCTED WITH EPOXY GROUT (SIKADUR 42, GROUT PAK LE OR AN APPROVED EQUAL). PLACEMENT OF THIS PEDESTAL SHALL BE IN ACCORDANCE WITH SUBSECTION 610.03.H.I.C OF THE STANDARD SPECIFICATIONS. IF REMOVAL OF CONCRETE IS REQUIRED TO MEET THE MANUFACTURER'S MINIMUM THICKNESS REQUIREMENT, PROVIDE A 1" MAX SAW CUT AT THE LIMITS OF CONCRETE REMOVAL. FOLLOW THE EPOXY GROUT MANUFACTURER'S RECOMMENDATIONS FOR COLD WEATHER PLACEMENT AND CURING REQUIREMENTS. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. FAILURE TO PROPERLY CURE THE EPOXY GROUT WILL REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE THE BEARING PEDESTAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

EXTERIOR PEDESTAL - BAR MARKS			
PIER	PEDESTAL LOCATION	BAR 'A'	BAR 'B'
PIER 1N	EXTERIOR PEDESTAL 1	PR501E	PR502E
PIER 2N	EXTERIOR PEDESTAL 1	PR515E	PR516E
PIER 3N	EXTERIOR PEDESTAL 1	PR529E	PR530E
PIER 3N	EXTERIOR PEDESTAL 2	PR531E	PR532E
PIER 4N	EXTERIOR PEDESTAL 1	PR545E	PR546E

NOTE: NO REINFORCEMENT IS REQUIRED IN EXTERIOR PEDESTAL 2 AT PIERS 1N, 2N, AND 4N. SEE NOTE 9 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS

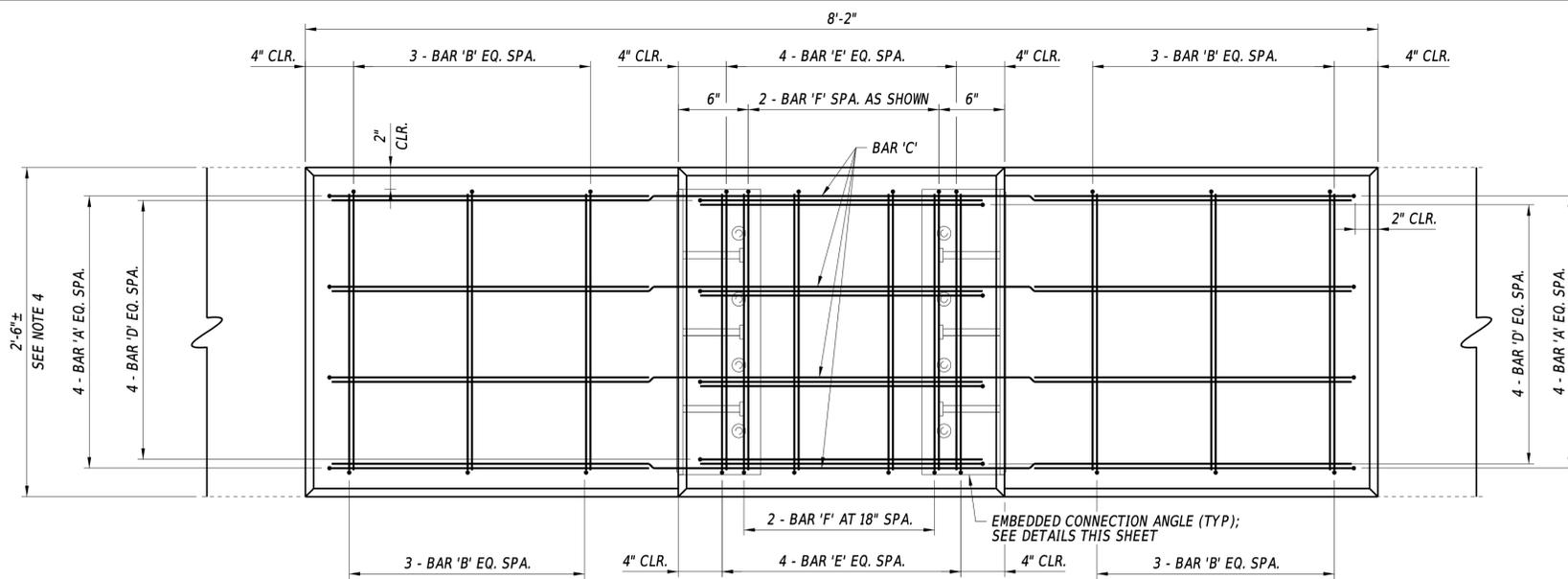
SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

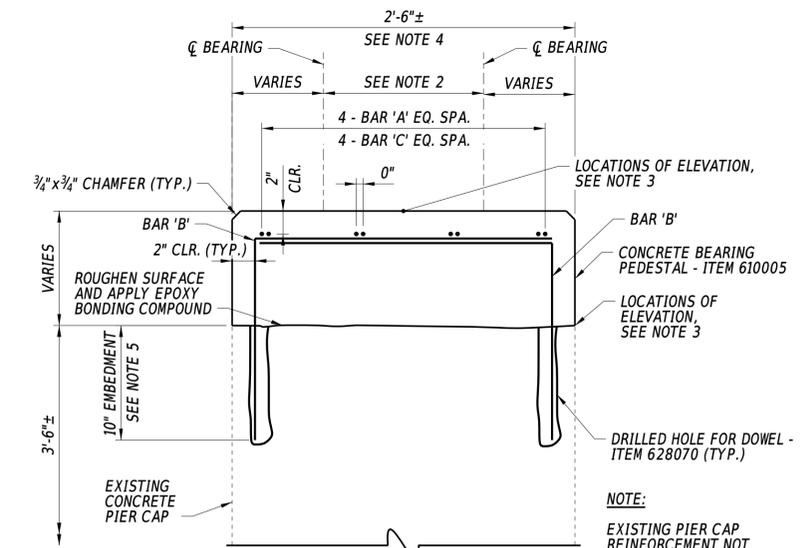
PIER BEAM SEAT DETAILS

PR-09
SECTION
WRA
SHEET NO.
57



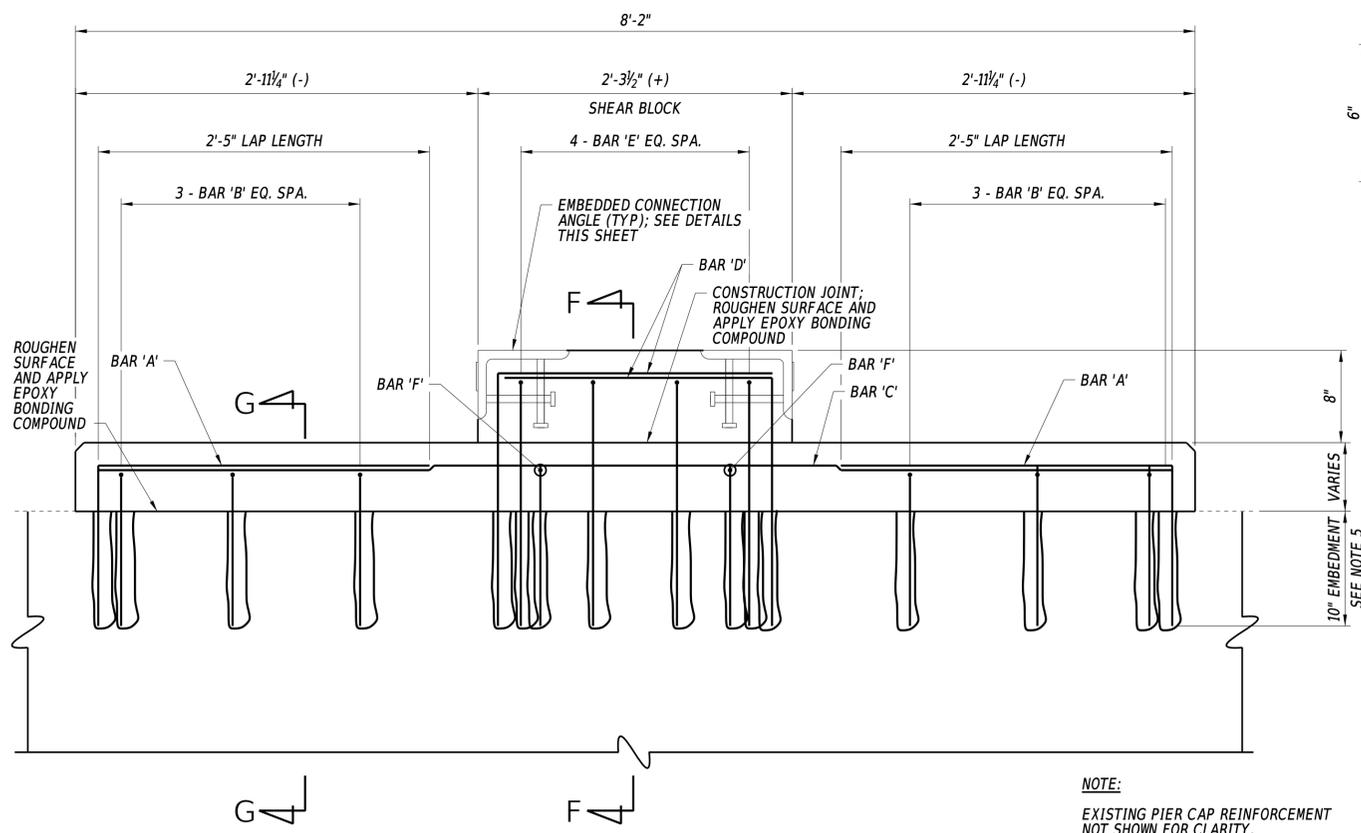
INTERIOR BEARING PEDESTAL 1 REINFORCEMENT PLAN

1 1/2" = 1'-0"



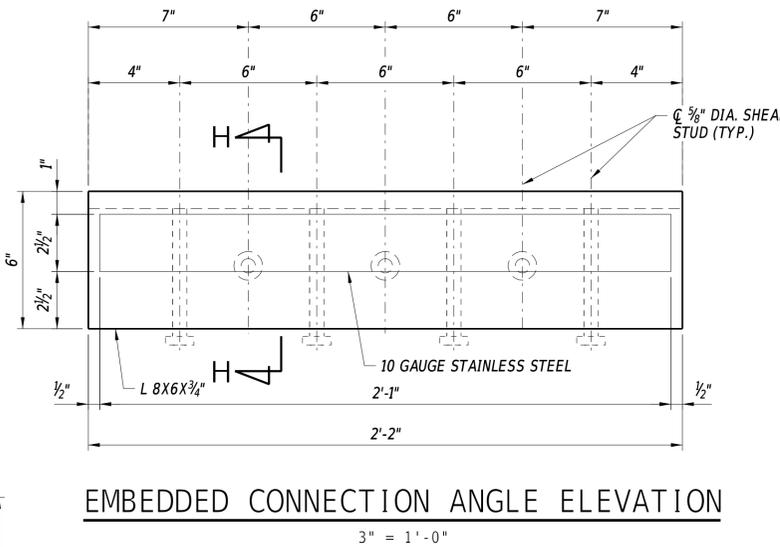
SECTION G-G

1 1/2" = 1'-0"



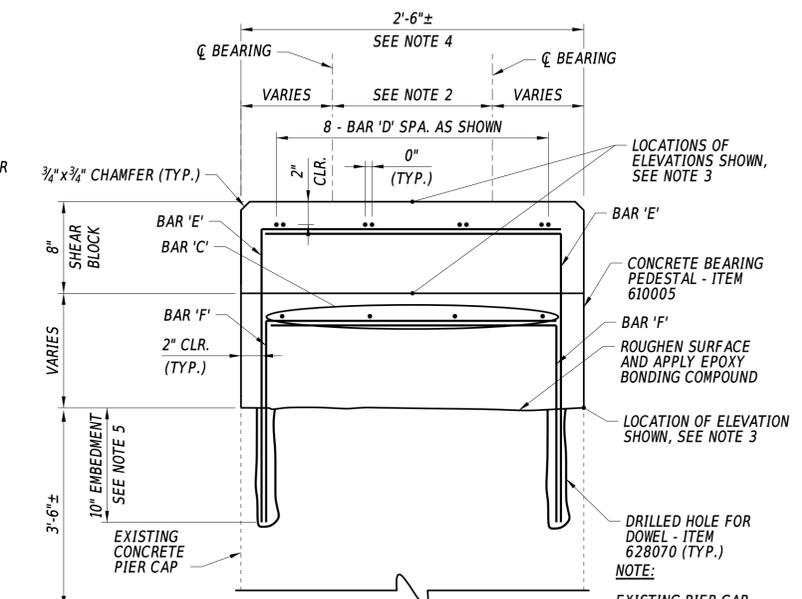
INTERIOR BEARING PEDESTAL 1 ELEVATION

1 1/2" = 1'-0"



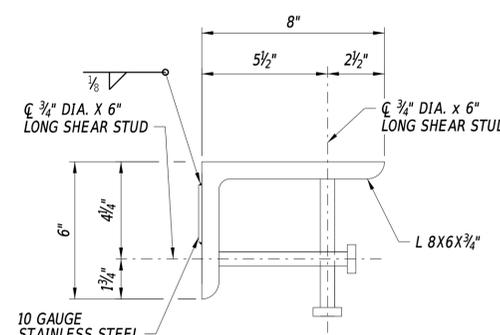
EMBEDDED CONNECTION ANGLE ELEVATION

3" = 1'-0"



SECTION F-F

1 1/2" = 1'-0"



SECTION H-H

NOTE:

THE EXPOSED VERTICAL FACE OF THE STEEL ANGLE SHALL BE SHOP PAINTED IN CONFORMANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS.

NOTES:

- FOR INTERIOR PEDESTAL AND SHEAR BLOCK BAR MARKS, SEE DWG. PR-11
- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1N, PIER 3N, AND PIER 4N IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 2N IS 1'-3/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-02, PR-04, PR-06, AND PR-08.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. SURFACES SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
- PAYMENT FOR FABRICATING, PAINTING, FURNISHING, AND INSTALLING THE EMBEDDED CONNECTION ANGLE WILL BE INCIDENTAL TO ITEM 62300 - ELASTOMERIC BEARINGS.

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ADDENDA / REVISIONS

SCALE AS NOTED

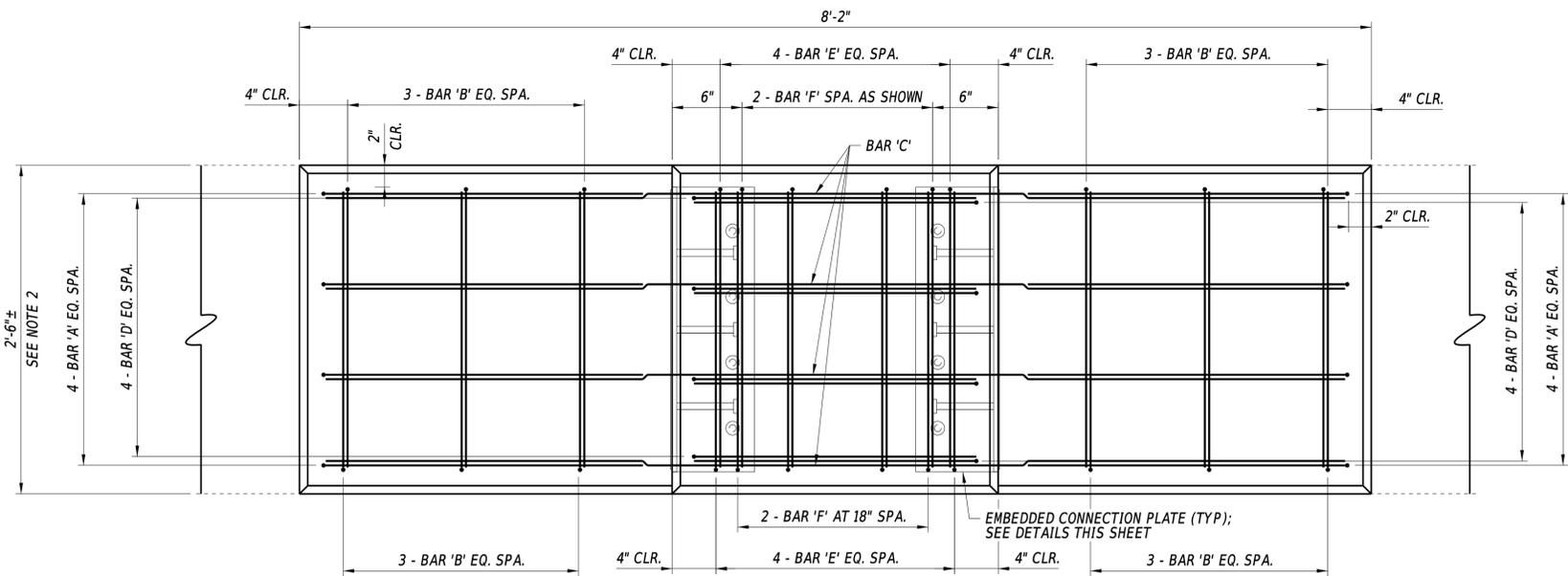
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. 3-155N
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

INTERIOR PEDESTAL AND SHEAR BLOCK DETAILS - 1

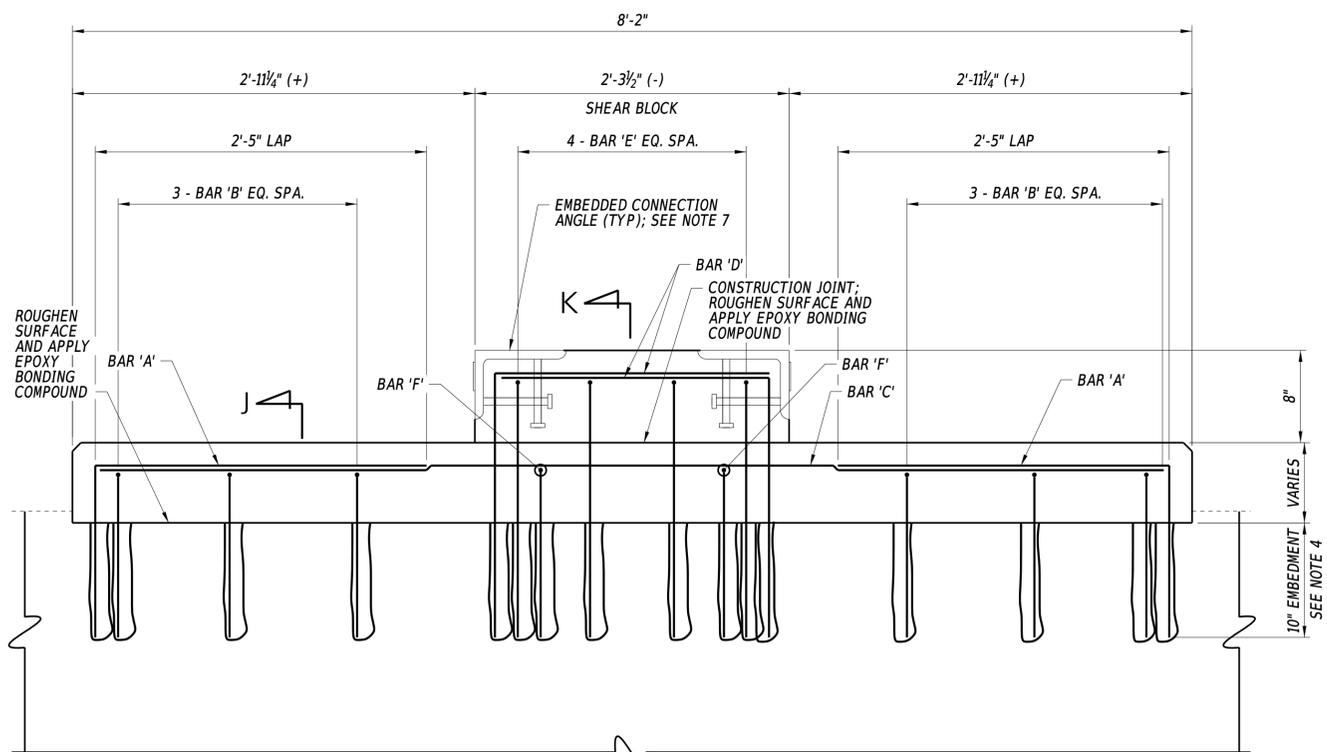
PR-10
SECTION
WRA
SHEET NO.
58



INTERIOR BEARING PEDESTAL 2 REINFORCEMENT PLAN

1 1/2" = 1'-0"

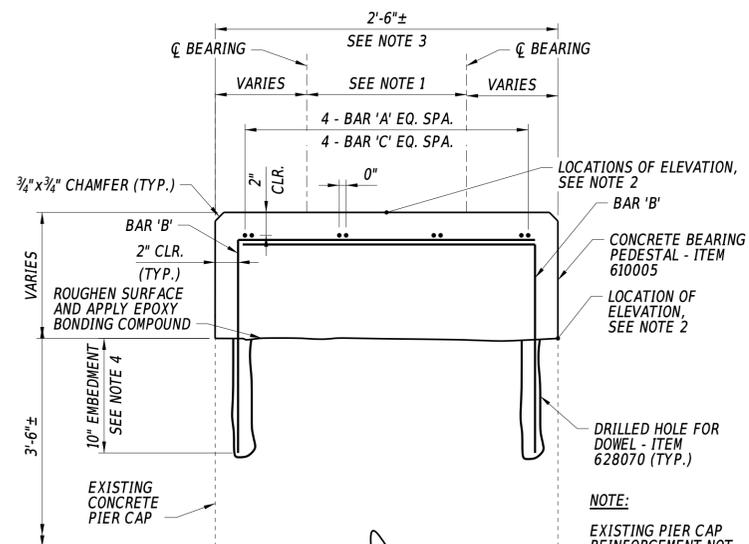
INTERIOR PEDESTAL - BAR MARKS							
PIER	PEDESTAL LOCATION	BAR 'A'	BAR 'B'	BAR 'C'	BAR 'D'	BAR 'E'	BAR 'F'
PIER 1N	INTERIOR PEDESTAL 1	PR503E	PR504E	PR505E	PR506E	PR507E	PR508E
PIER 1N	INTERIOR PEDESTAL 2	PR509E	PR510E	PR511E	PR512E	PR513E	PR514E
PIER 2N	INTERIOR PEDESTAL 1	PR517E	PR518E	PR519E	PR520E	PR521E	PR522E
PIER 2N	INTERIOR PEDESTAL 2	PR523E	PR524E	PR525E	PR526E	PR527E	PR528E
PIER 3N	INTERIOR PEDESTAL 1	PR533E	PR534E	PR535E	PR536E	PR537E	PR538E
PIER 3N	INTERIOR PEDESTAL 2	PR539E	PR540E	PR541E	PR542E	PR543E	PR544E
PIER 4N	INTERIOR PEDESTAL 1	PR547E	PR548E	PR549E	PR550E	PR551E	PR552E
PIER 4N	INTERIOR PEDESTAL 2	PR553E	PR554E	PR555E	PR556E	PR557E	PR558E



INTERIOR BEARING PEDESTAL 2 ELEVATION

1 1/2" = 1'-0"

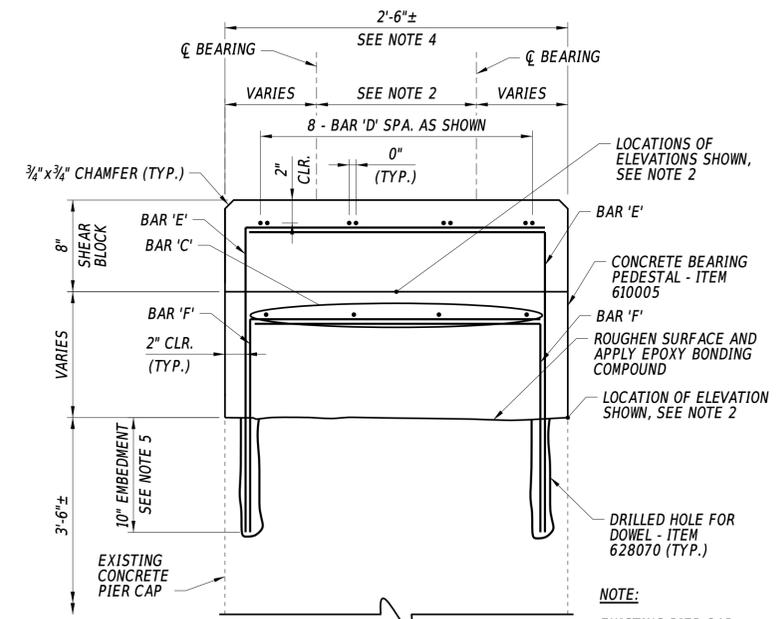
NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION J - J

1 1/2" = 1'-0"

NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION K - K

1 1/2" = 1'-0"

NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.

NOTES:

- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1N, PIER 3N, AND PIER 4N IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 2N IS 1'-3 1/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-02, PR-04, PR-06, AND PR-08.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELCON CONSTRUCTION SYSTEMS KELGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. SURFACES SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
- FOR EMBEDDED CONNECTION ANGLE DETAILS, SEE DWG. PR-10.

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ADDENDA / REVISIONS

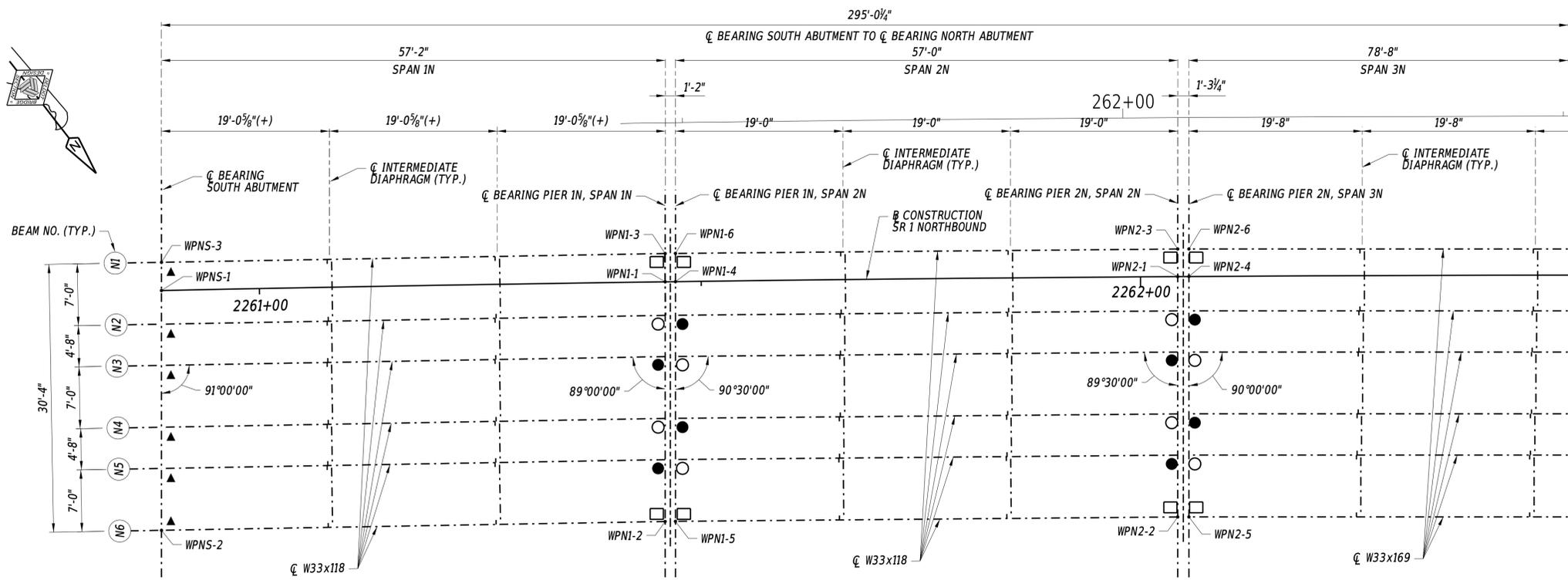
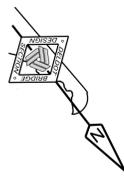
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**INTERIOR PEDESTAL
AND SHEAR BLOCK DETAILS - 2**

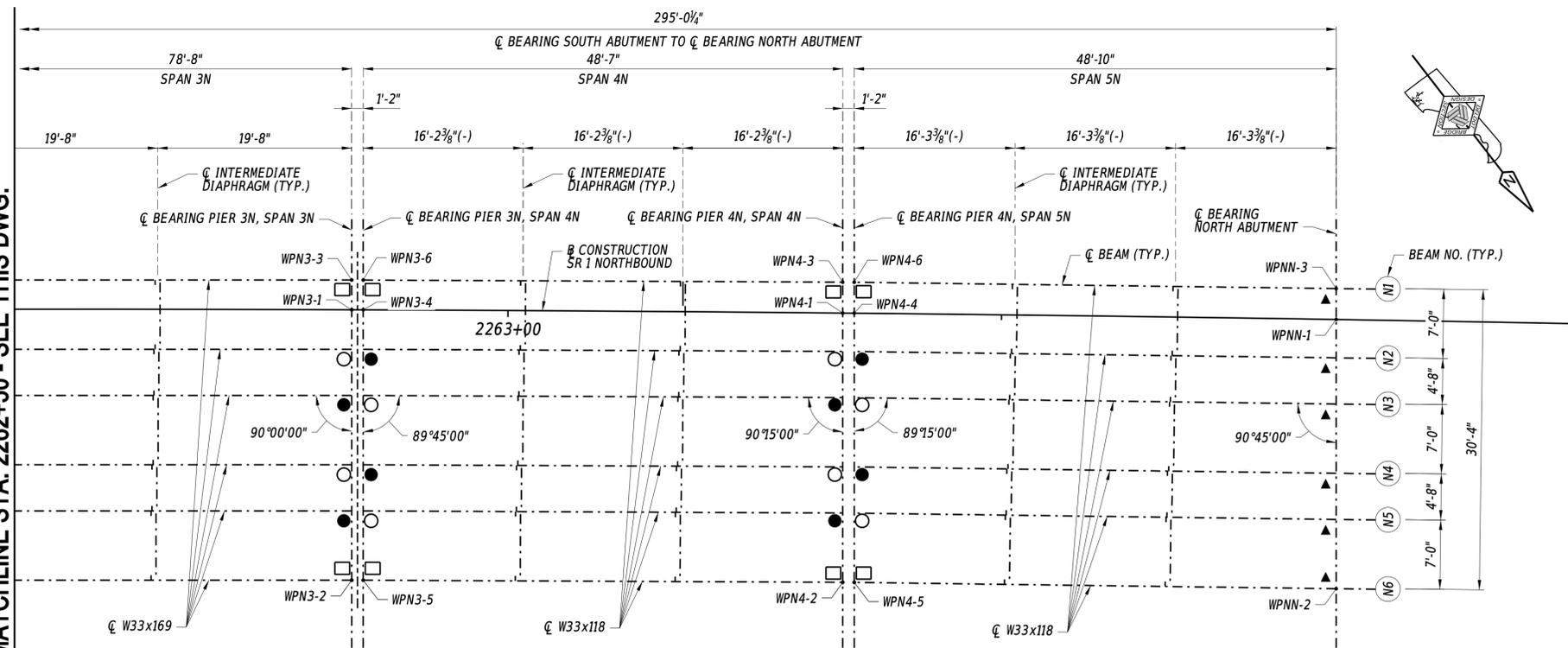
PR-11
SECTION
WRA
SHEET NO.
59



FRAMING PLAN

1/8" = 1' - 0"

MATCHLINE STA. 2262+50 - SEE THIS DWG.



FRAMING PLAN

1/8" = 1' - 0"

MATCHLINE STA. 2262+50 - SEE THIS DWG.

WORKING POINT COORDINATES				
POINT	STATION	OFFSET	NORTHING	EASTING
WPNS-1	2260+88.88	-----	287895.6352	703299.5412
WPNS-2	2260+88.31	27.14' RT.	287917.0932	703316.1636
WPNS-3	2260+88.94	3.19' LT.	287893.1096	703297.5847
WPN1-1	2261+46.06	-----	287929.8593	703253.7403
WPN1-2	2261+45.68	27.13' RT.	287951.3132	703270.3595
WPN1-3	2261+46.10	3.20' LT.	287927.3295	703251.7806
WPN1-4	2261+47.22	-----	287930.5611	703252.8082
WPN1-5	2261+46.85	27.13' RT.	287952.0152	703269.4276
WPN1-6	2261+47.27	3.20' LT.	287928.0343	703250.8508
WPN2-1	2262+04.22	-----	287965.0130	703207.3973
WPN2-2	2262+04+05	27.21' RT.	287986.5273	703224.0634
WPN2-3	2262+04.24	3.12' LT.	287962.5464	703205.4866
WPN2-4	2262+05.50	-----	287965.7848	703206.3877
WPN2-5	2262+05.32	27.22' RT.	287987.3005	703223.0548
WPN2-6	2262+05.51	3.12' LT.	287963.3205	703204.4788
WPN3-1	2262+84.16	-----	288013.8727	703144.1301
WPN3-2	2262+84.26	27.33' RT.	288035.4758	703160.8649
WPN3-3	2262+84.15	3.00' LT.	288011.4958	703142.2889
WPN3-4	2262+85.33	-----	288014.5904	703143.2104
WPN3-5	2262+85.43	27.32' RT.	288036.1922	703159.9442
WPN3-6	2262+85.32	3.01' LT.	288012.2120	703141.3679
WPN4-1	2263+33.91	-----	288044.6002	703105.0029
WPN4-2	2263+34.18	27.21' RT.	288066.1148	703121.6691
WPN4-3	2263+33.88	3.12' LT.	288042.1346	703103.0929
WPN4-4	2263+35.08	-----	288045.3238	703104.0876
WPN4-5	2263+35.35	27.21' RT.	288066.8372	703120.7530
WPN4-6	2263+35.05	3.12' LT.	288042.8551	703102.1753
WPNN-1	2263+83.92	-----	288075.7272	703065.8730
WPNN-2	2263+84.36	27.21' RT.	288097.2456	703082.5422
WPNN-3	2263+83.87	3.12' LT.	288073.2636	703063.9546

NOTES:

- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
- FOR BEAM ELEVATIONS, SEE DWG. BM-12.
- FOR STRUCTURAL STEEL DETAILS, SEE DWGS. BM-25 AND BM-26.
- FOR CAMBER TABLES, SEE DWGS. CT-01 AND CT-02.
- FOR BEARING DETAILS, SEE DWGS. BB-01 THRU BB-05.
- FOR SUPERSTRUCTURE MODULE LAYOUT PLAN, SEE DWG. BM-01.
- SPAN LENGTHS ARE MEASURED PERPENDICULAR TO C BEARING.

BEARING SYMBOL LEGEND

- ▲ FIXED BEARING, TYPE I
- EXPANSION BEARING, TYPE I
- EXPANSION BEARING, TYPE II
- EXPANSION BEARING, TYPE III

ADDENDA / REVISIONS

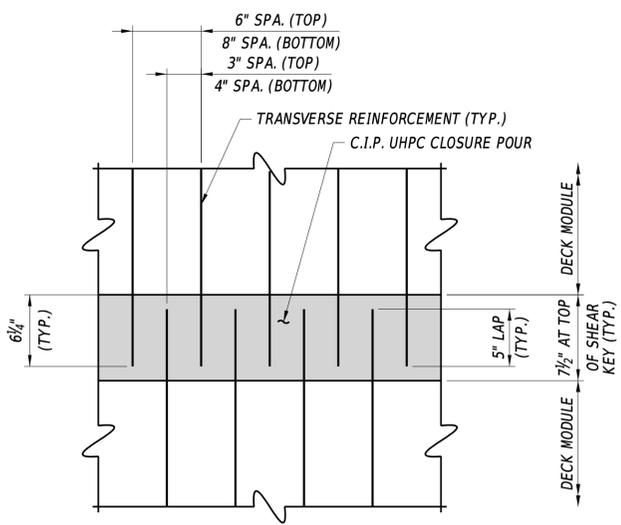
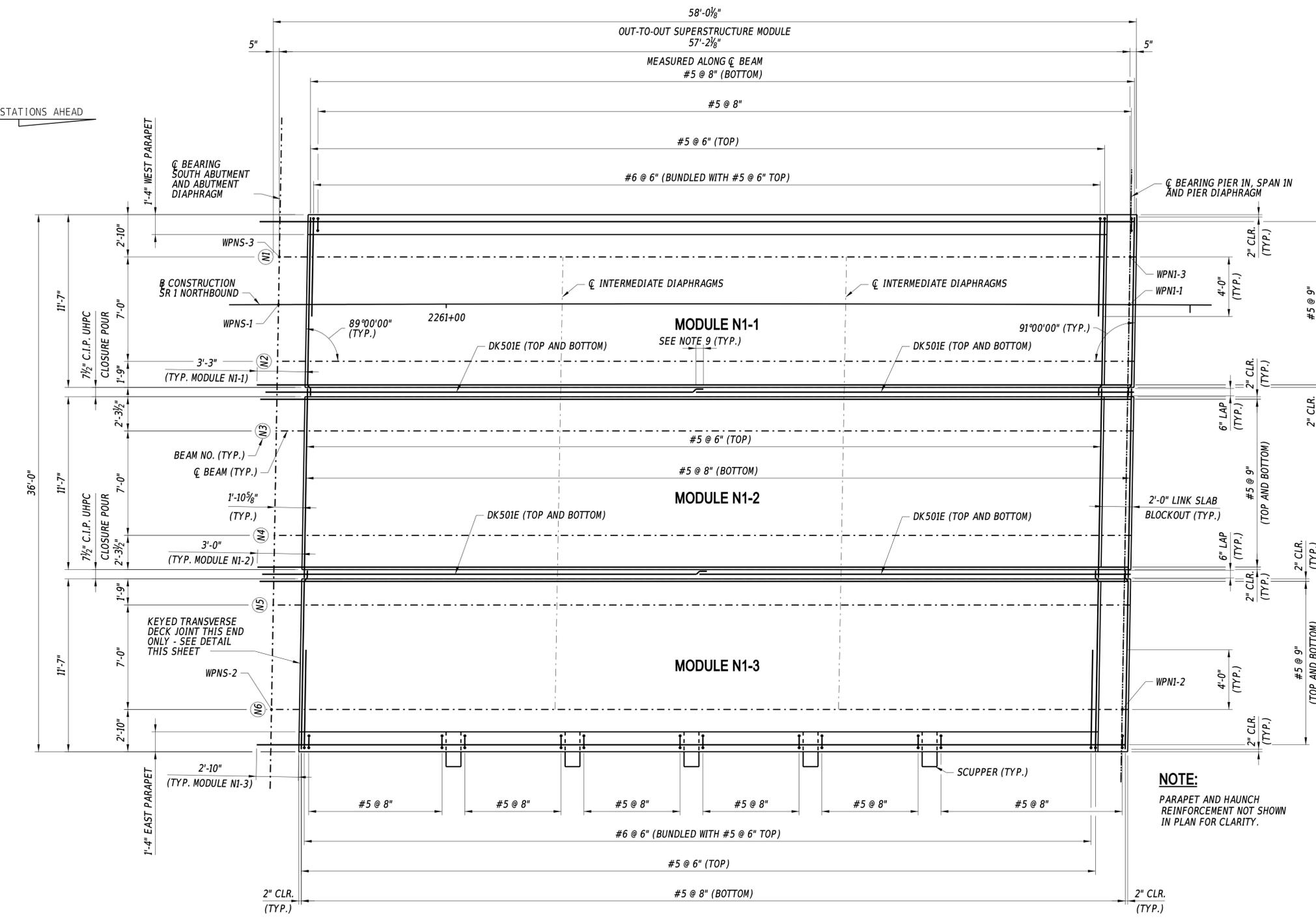
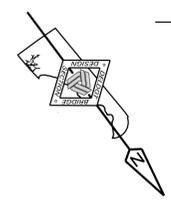
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

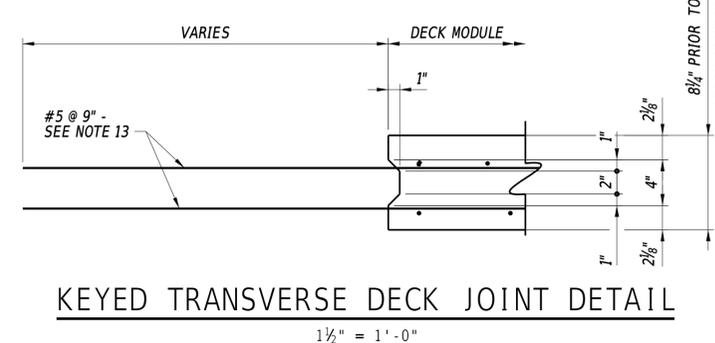
CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

FRAMING PLAN

FP-01
SECTION
WRA
SHEET NO.
60



NON-CONTACT LAP SPLICE DETAIL
1 1/2" = 1'-0"



KEYED TRANSVERSE DECK JOINT DETAIL
1 1/2" = 1'-0"

NOTE:
TERMINATE KEYED DIMENSIONS 1'-0" FROM EAST AND WEST FASCIAS OF THE DECK.

NOTES:

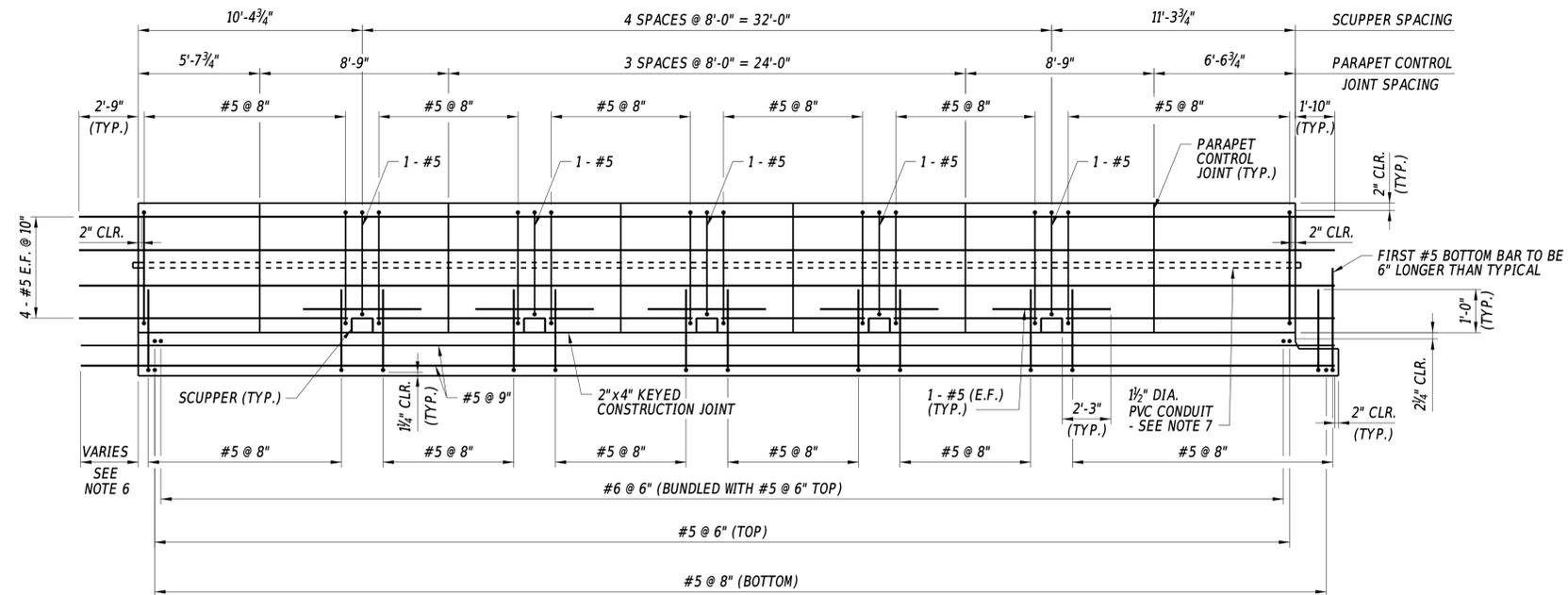
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
3. FOR FRAMING PLAN, SEE DWG. FP-01.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
6. FOR PARAPET CONTROL JOINT DETAILS, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-03.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR SCUPPER DETAIL, SEE DWG. PA-01.
9. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
10. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
11. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT LAP SPLICE DETAIL THIS SHEET.
12. ANTICIPATED MODULE SELF WEIGHT:
MODULE N1-1 - 48.6 TONS
MODULE N1-2 - 37.2 TONS
MODULE N1-3 - 48.6 TONS
13. THE CONTRACTOR HAS THE OPTION OF EXTENDING THE LONGITUDINAL PRECAST DECK REINFORCEMENT TO THE REQUIRED LENGTH BEYOND THE KEYED TRANSVERSE DECK JOINT USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.

NOTE:
PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

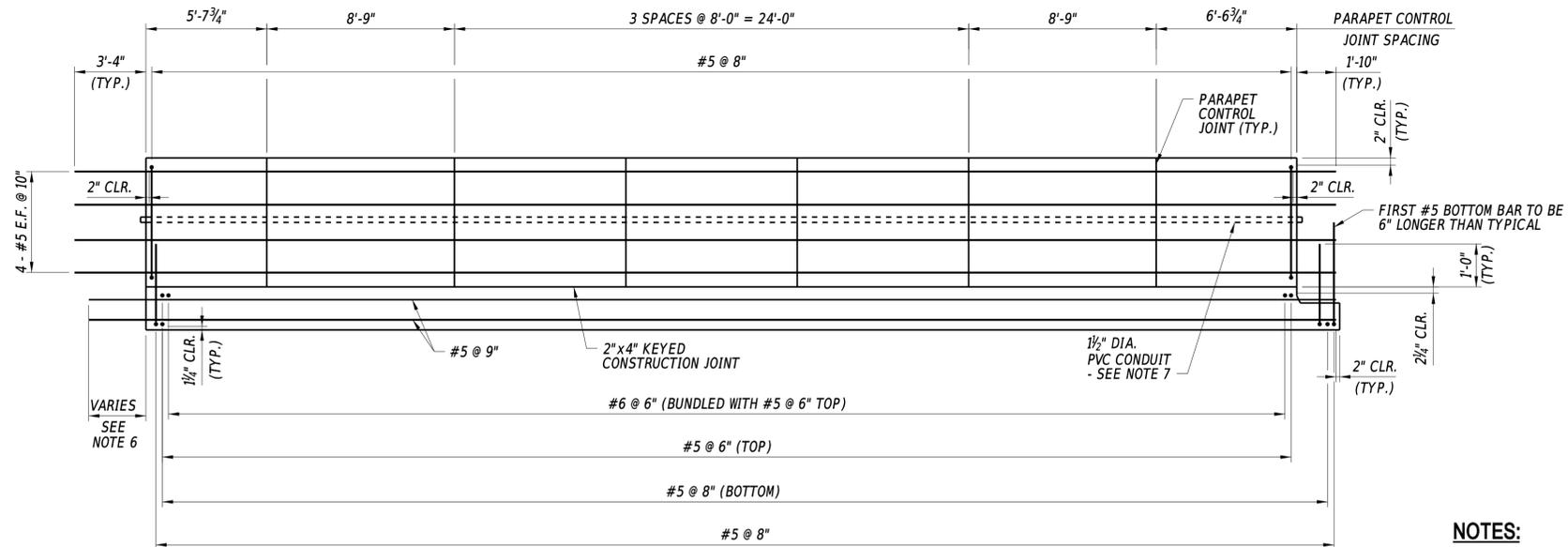
SUPERSTRUCTURE MODULE PLAN - SPAN 1N
1/4" = 1'-0"

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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601 COUNTY SUSSEX	BRIDGE NO. 3-155N DESIGNED BY: F. OPHARDT CHECKED BY: W. GESCHREI	SPAN 1N SUPERSTRUCTURE MODULE DETAILS - 1	BM-02 SECTION WRA SHEET NO. 62
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SPAN 1 IN EAST PARAPET ELEVATION
 (EXTERIOR ELEVATION SHOWN)
 HORIZ. SCALE: 1/4" = 1'-0"
 VERT. SCALE: 1/2" = 1'-0"



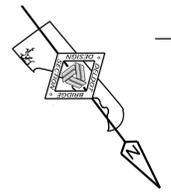
SPAN 1 IN WEST PARAPET ELEVATION
 (INTERIOR ELEVATION SHOWN)
 HORIZ. SCALE: 1/4" = 1'-0"
 VERT. SCALE: 1/2" = 1'-0"

NOTES:

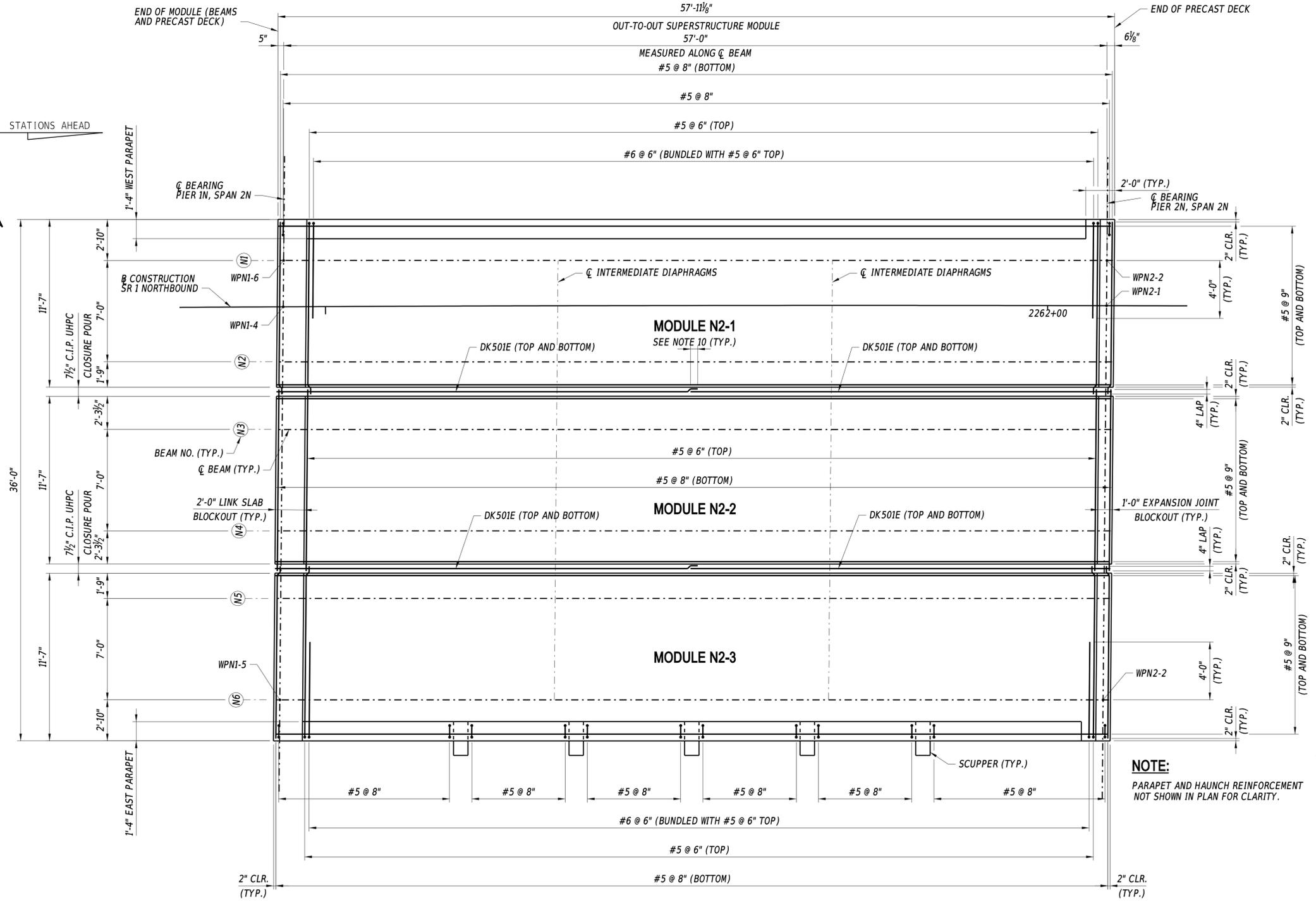
1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
6. LENGTHS OF MODULE LONGITUDINAL DECK REINFORCEMENT EXTENDING BEYOND THE KEYED TRANSVERSE DECK JOINT VARIES BETWEEN MODULES. SEE DWG. BM-02 FOR ADDITIONAL INFORMATION.
7. EXTEND THE PVC CONDUIT 3" BEYOND THE LIMITS OF THE PRECAST PARAPET.

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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 1N SUPERSTRUCTURE MODULE DETAILS - 2	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-weight: bold; font-size: small;">BM-03</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">63</td> </tr> </table>	BM-03	SECTION	WRA	SHEET NO.	63
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T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
BM-03																						
SECTION																						
WRA																						
SHEET NO.																						
63																						



STATIONS AHEAD



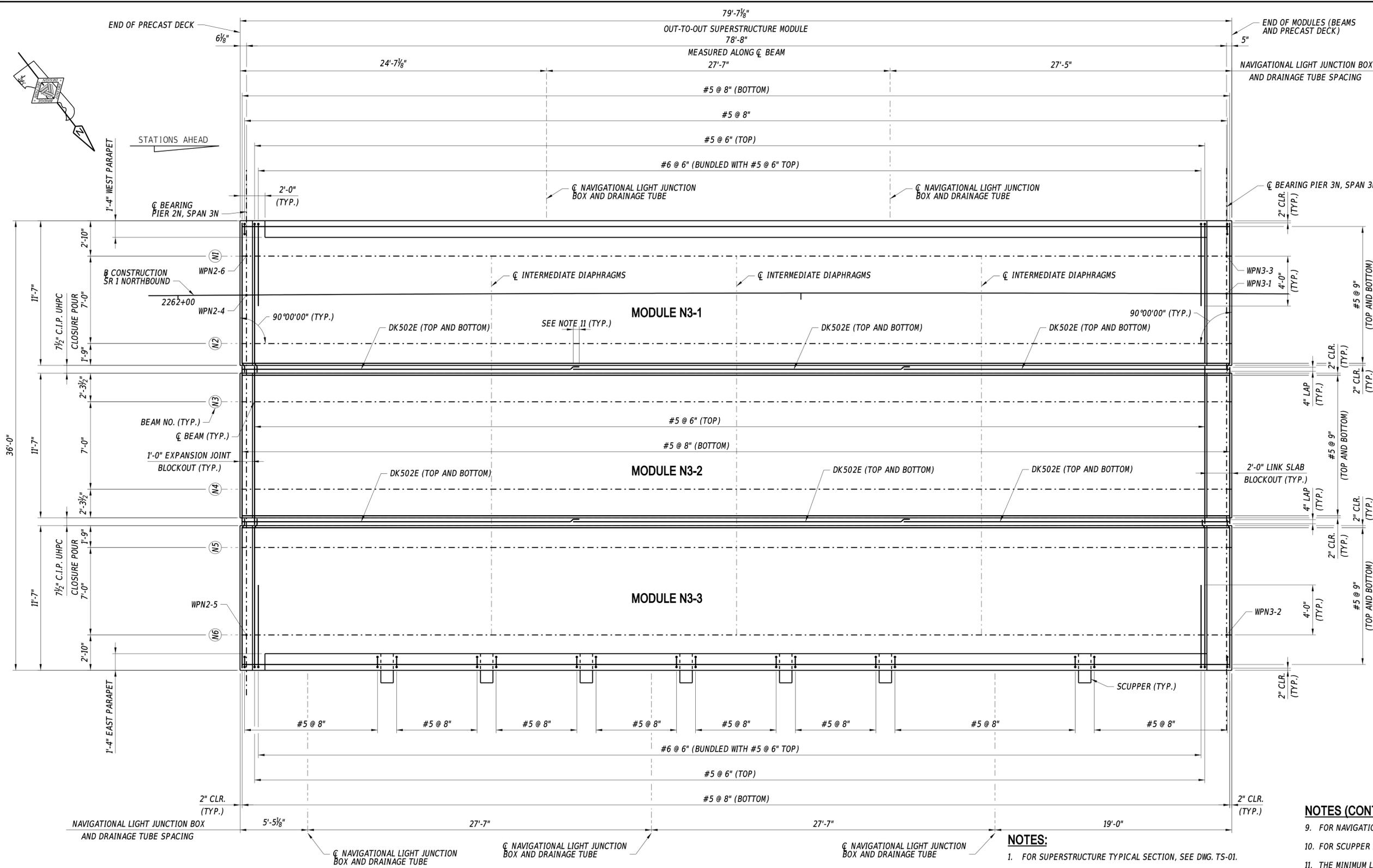
SUPERSTRUCTURE MODULE PLAN - SPAN 2N
 1/4" = 1' - 0"

NOTE:
 PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

- NOTES:**
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
 2. FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
 3. FOR FRAMING PLAN, SEE DWG. FP-01.
 4. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
 5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
 6. FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-05.
 7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
 8. FOR EXPANSION JOINT DETAILS, SEE DWG. JT-02.
 9. FOR SCUPPER DETAIL, SEE DWG. PA-01.
 10. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
 11. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
 12. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE THE NON-CONTACT LAP SPLICE DETAIL ON DWG. BM-02.
 13. ANTICIPATED MODULE SELF WEIGHT:
 MODULE N2-1 - 49.6 TONS
 MODULE N2-2 - 38.1 TONS
 MODULE N2-3 - 49.6 TONS

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	SECTION	BM-04
				T201907601	DESIGNED BY: F. OPHARDT			
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	64
				SUSSEX				



SUPERSTRUCTURE MODULE PLAN - SPAN 3N
 1/4" = 1'-0"

NOTE:
 PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

NOTES:

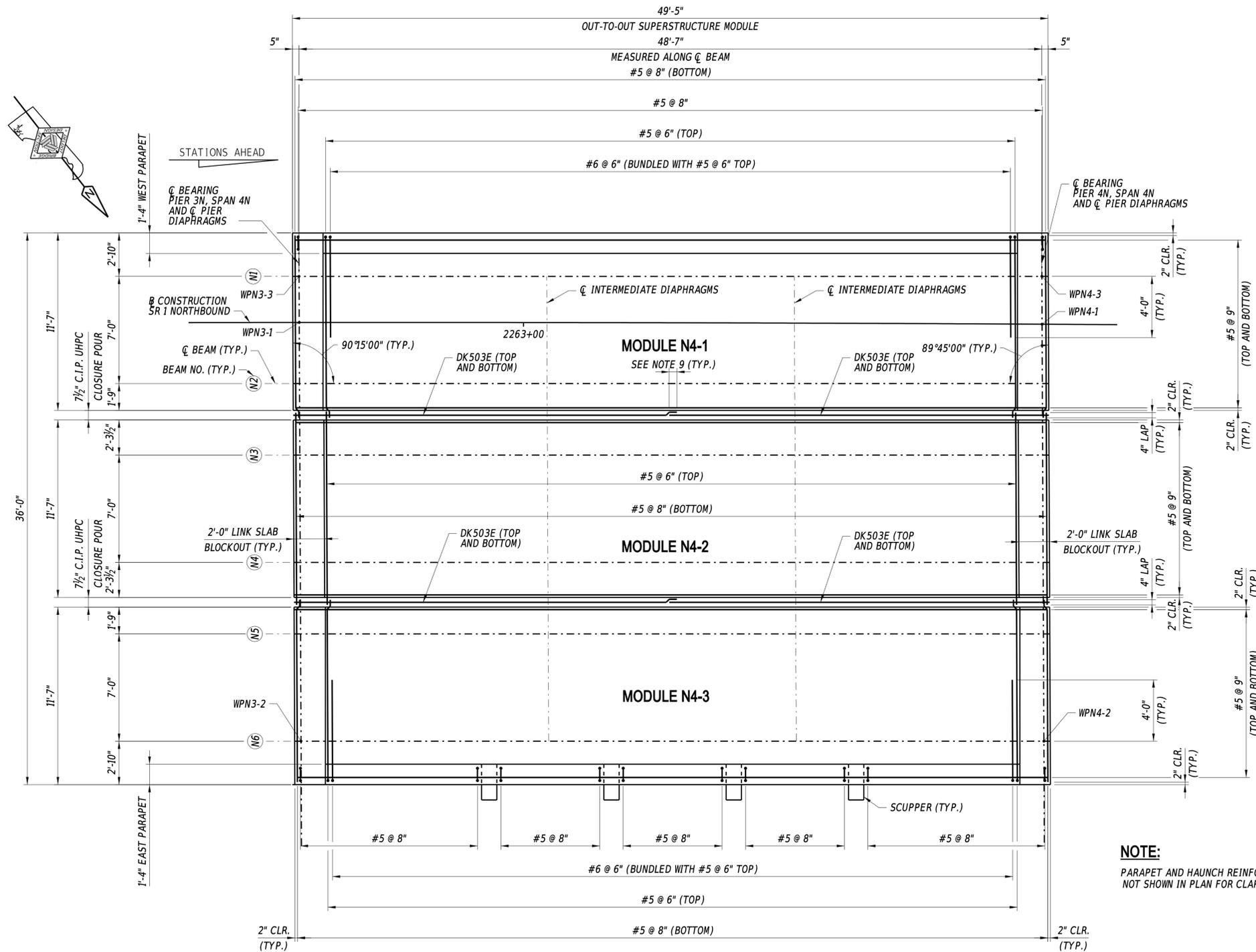
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
3. FOR FRAMING PLAN, SEE DWG. FP-01.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
6. FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-07.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR EXPANSION JOINT DETAILS, SEE DWG. JT-02.

NOTES (CONTINUED):

9. FOR NAVIGATIONAL LIGHTING DETAILS, SEE DWGS. NL-01 THRU NL-05.
10. FOR SCUPPER DETAILS, SEE DWG. PA-01.
11. THE MINIMUM LAP SPlice LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
12. THE MINIMUM LAP SPlice LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
13. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPlice ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE THE NON-CONTACT LAP SPlice DETAIL ON DWG. BM-02.
14. ANTICIPATED MODULE SELF WEIGHT:
 MODULE N3-1 - 71.4 TONS
 MODULE N3-2 - 55.9 TONS
 MODULE N3-3 - 71.4 TONS

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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> </thead> <tbody> <tr> <td> </td> </tr> <tr> <td> </td> </tr> <tr> <td> </td> </tr> </tbody> </table>	ADDENDA / REVISIONS				SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td colspan="2"> </td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 3N SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-weight: bold;">BM-06</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">66</td> </tr> </table>	BM-06	SECTION	WRA	SHEET NO.	66
ADDENDA / REVISIONS																										
CONTRACT	BRIDGE NO.	3-155N																								
T201907601	DESIGNED BY:	F. OPHARDT																								
COUNTY	CHECKED BY:	W. GESCHREI																								
SUSSEX																										
BM-06																										
SECTION																										
WRA																										
SHEET NO.																										
66																										



SUPERSTRUCTURE MODULE PLAN - SPAN 4N

1/4" = 1'-0"

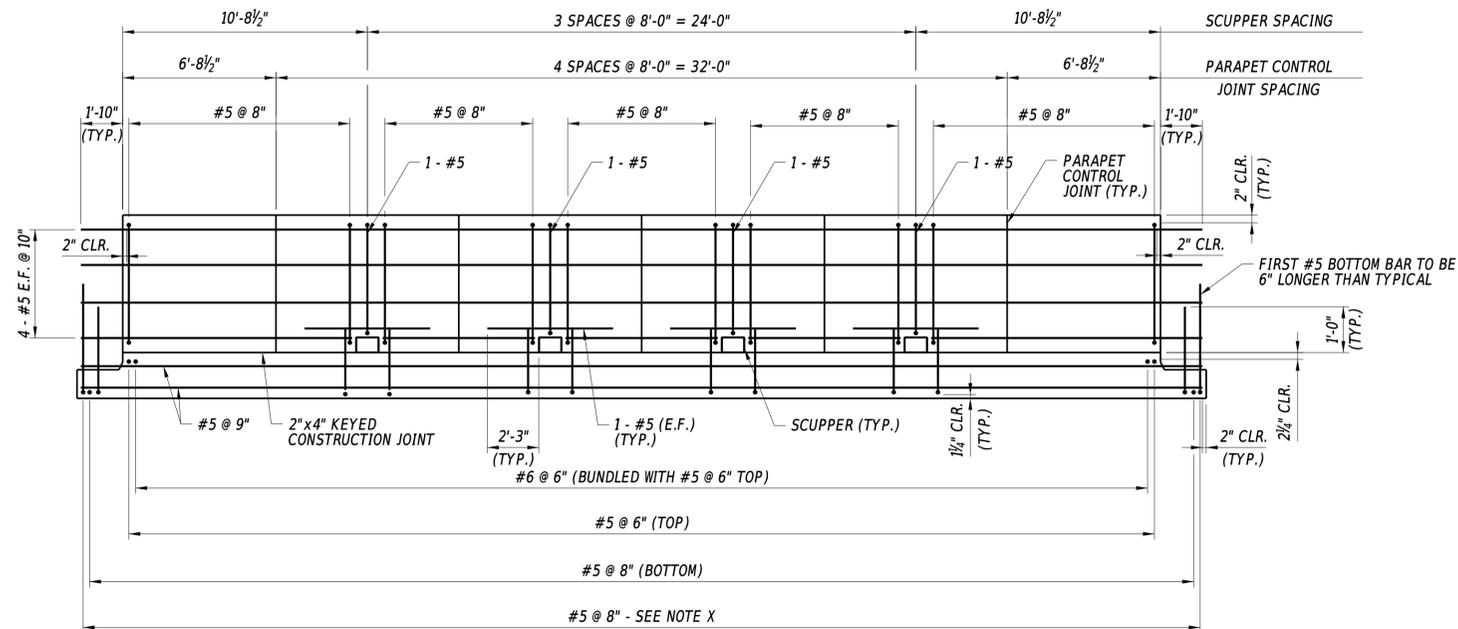
NOTE:
PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

NOTES:

1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
3. FOR FRAMING PLAN, SEE DWG. FP-01.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
6. FOR PARAPET CONTROL JOINT DETAILS, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-09.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR SCUPPER DETAIL, SEE DWG. PA-01.
9. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5'.
10. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
11. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE THE NON-CONTACT LAP SPLICE DETAIL ON DWG. BM-02.
12. ANTICIPATED MODULE SELF WEIGHT:
MODULE N4-1 - 42.0 TONS
MODULE N4-2 - 32.3 TONS
MODULE N4-3 - 42.0 TONS

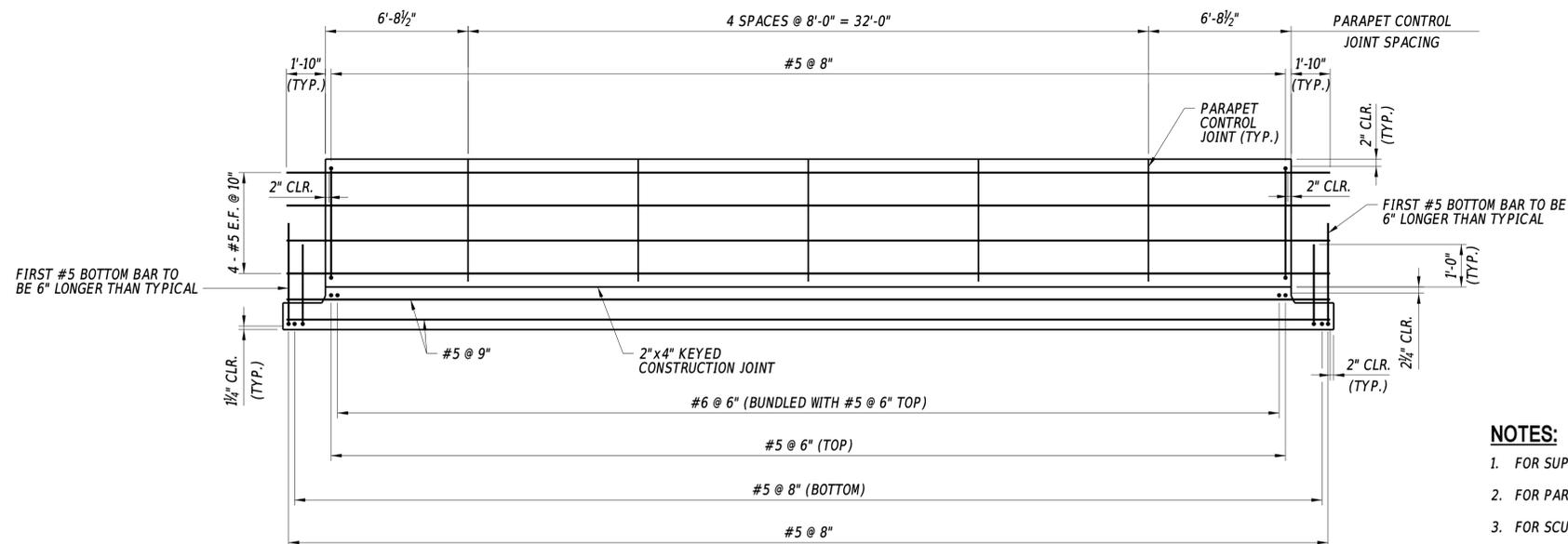
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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 4N SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">BM-08</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">68</td> </tr> </table>	BM-08	SECTION	WRA	SHEET NO.	68
CONTRACT	BRIDGE NO.	3-155N																				
T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
BM-08																						
SECTION																						
WRA																						
SHEET NO.																						
68																						



SPAN 4N EAST PARAPET ELEVATION

(EXTERIOR ELEVATION SHOWN)
 HORIZ. SCALE: 1/4" = 1'-0"
 VERT. SCALE: 1/2" = 1'-0"



SPAN 4N WEST PARAPET ELEVATION

(INTERIOR ELEVATION SHOWN)
 HORIZ. SCALE: 1/4" = 1'-0"
 VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".

ADDENDA / REVISIONS

SCALE AS NOTED

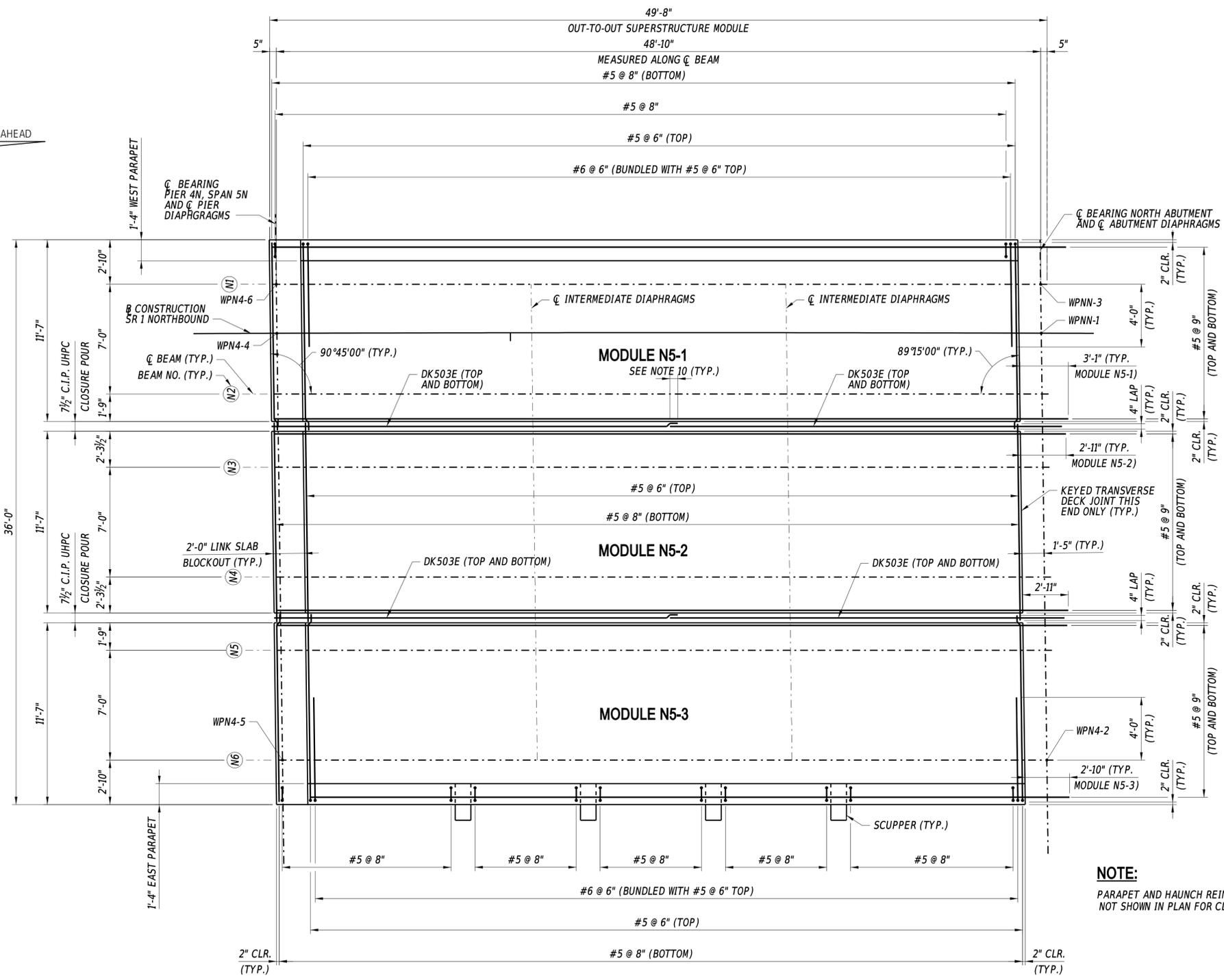
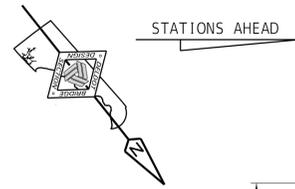
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155N**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

**SPAN 4N SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-09
SECTION
WRA
SHEET NO.
69



SUPERSTRUCTURE MODULE PLAN - SPAN 5N
 $\frac{1}{4}'' = 1' - 0''$

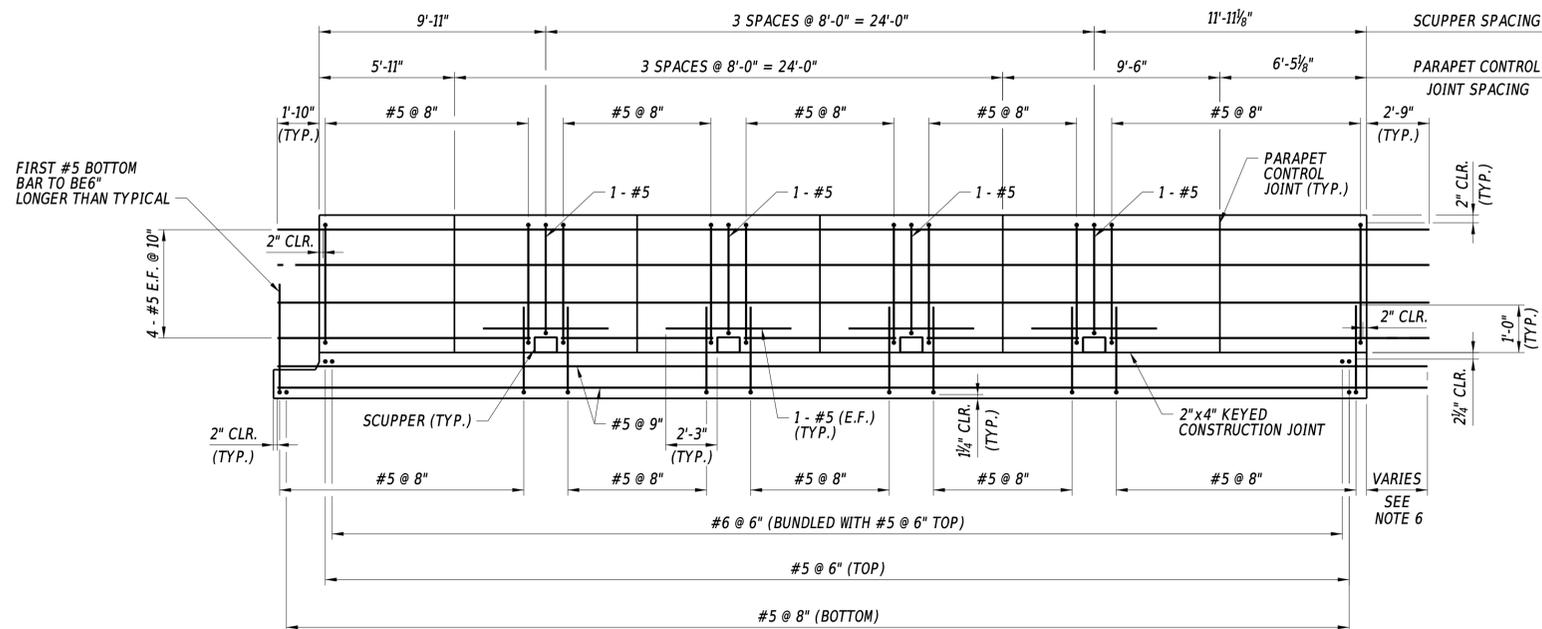
NOTE:
 PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

NOTES:

1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-01.
3. FOR FRAMING PLAN, SEE DWG. FP-01.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-12.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
6. FOR PARAPET CONTROL JOINT DETAILS, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-11.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR SCUPPER DETAIL, SEE DWG. PA-01.
9. FOR KEYED TRANSVERSE DECK JOINT DETAIL, SEE DWG. BM-02.
10. THE MINIMUM LAP SPlice LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
11. THE MINIMUM LAP SPlice LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
12. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPlice ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE THE NON-CONTACT LAP SPlice DETAIL ON DWG. BM-10.
13. ANTICIPATED MODULE SELF WEIGHT:
 MODULE N5-1 - 41.7 TONS
 MODULE N5-2 - 32.0 TONS
 MODULE N5-3 - 41.7 TONS

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 N:\322122-003\CADD\Bridg\BR3-155N_BM10.dgn

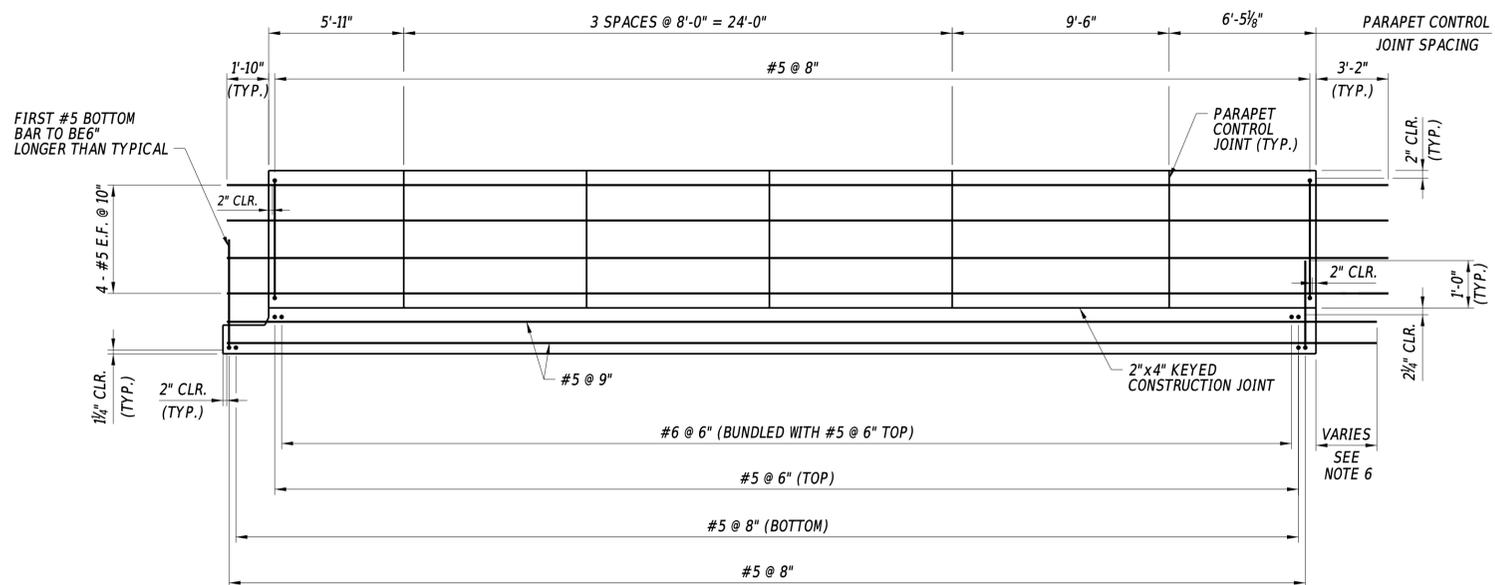
ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 5N SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-weight: bold; font-size: small;">BM-10</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">70</td> </tr> </table>	BM-10	SECTION	WRA	SHEET NO.	70
CONTRACT	BRIDGE NO.	3-155N																				
T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
BM-10																						
SECTION																						
WRA																						
SHEET NO.																						
70																						



SPAN 5N EAST PARAPET ELEVATION

(EXTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"



SPAN 5N WEST PARAPET ELEVATION

(INTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-01.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. THE MINIMUM LAP SPlice FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
6. LENGTHS OF MODULE LONGITUDINAL DECK REINFORCEMENT EXTENDING BEYOND THE KEYED TRANSVERSE DECK JOINT VARIES BETWEEN MODULES. SEE DWG. BM-10 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS

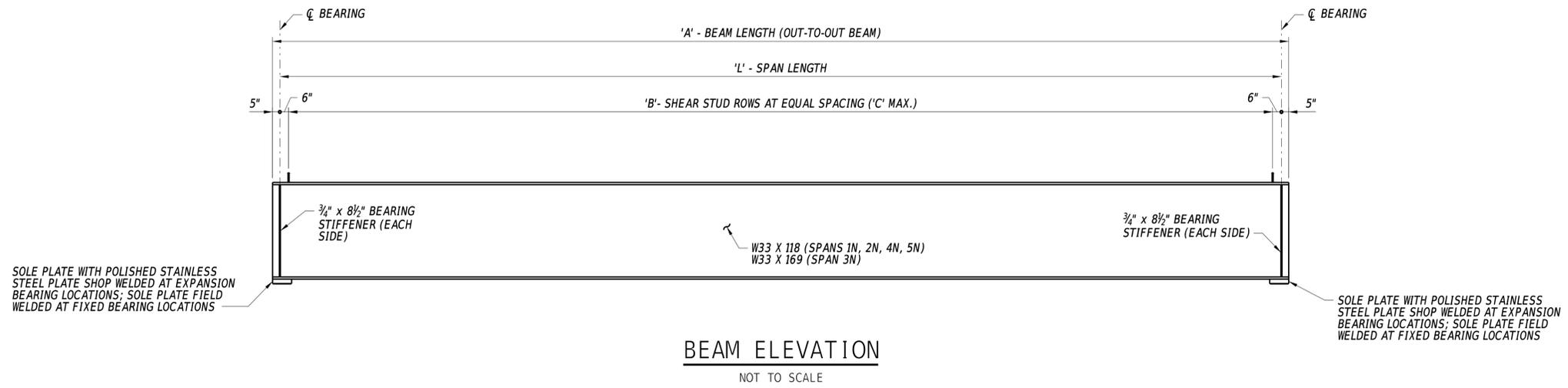
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**SPAN 5N SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-11
SECTION
WRA
SHEET NO.
71

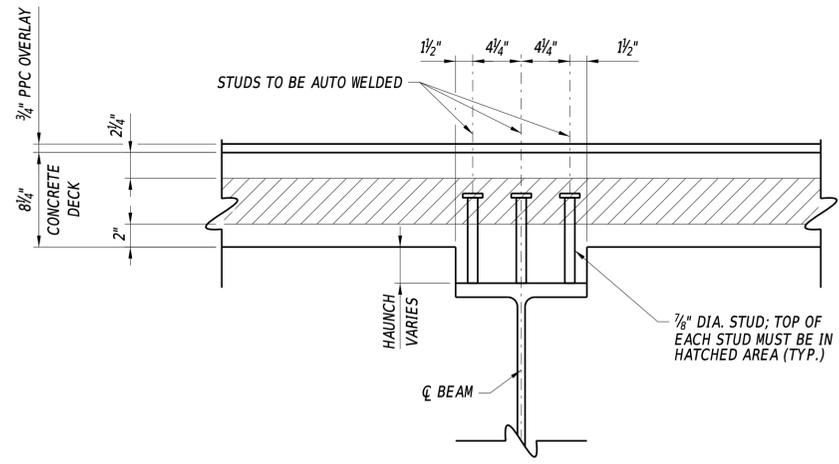


BEAM ELEVATION
NOT TO SCALE

BEAM SUMMARY				
SPAN NO.	A - BEAM LENGTH	L - SPAN LENGTH	B - NUMBER OF SHEAR STUD ROWS	C - SHEAR STUD ROW MAX. SPACING
1N	58' - 0 1/8"	57' - 2 1/8"	63	11"
2N	57' - 10"	57' - 0"	63	11"
3N	79' - 6"	78' - 8"	105	9"
4N	49' - 5"	48' - 7"	53	11"
5N	49' - 8"	48' - 10"	54	11"

NOTES:

- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-01.
- FOR FRAMING PLAN, SEE DWG. FP-01.
- FOR DIAPHRAGM CONNECTION PLATE AND BEARING STIFFENER DETAILS, SEE DWGS. BM-25 AND BM-26.
- FOR FIXED AND EXPANSION BEARING LOCATIONS, SEE DWGS. FP-01.
- FOR FIXED AND EXPANSION BEARING SOLE PLATE DETAILS, SEE DWGS. BB-01 THRU BB-04.
- THE CONTRACTOR SHALL PROTECT THE SOLE PLATE WITH POLISHED STAINLESS STEEL PLATE FROM DAMAGE DURING ALL STAGES OF FABRICATION, STORAGE, AND TRANSPORT. ANY DAMAGE TO THIS ASSEMBLY SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- SHEAR STUD GEOMETRY APPLICABLE TO ALL BEAMS WITHIN SPAN.
- FOR BEAM CAMBER, SEE DWGS. CT-01 AND CT-02.
- THERE ARE THREE (3) SHEAR STUDS PER ROW. SEE SHEAR STUD DETAIL, THIS SHEET.
- DIAPHRAGM CONNECTION PLATES NOT SHOWN. FOR LOCATIONS OF DIAPHRAGM CONNECTION PLATES, SEE DWG. FP-01.



SHEAR STUD DETAIL
1 1/2" = 1' - 0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	BEAM ELEVATION	BM-12
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
		COUNTY	CHECKED BY: W. GESCHREI	SHEET NO.	72			
		SUSSEX						

LEGEND:

DLS = DENOTES DEFLECTION DUE TO THE STEEL BEAM AND MODULE DIAPHRAGMS

DLC = DENOTES DEFLECTION DUE TO THE CONCRETE DECK SLAB AND HAUNCH

SDL-1 = DENOTES DEFLECTION DUE TO THE PRECAST BARRIER

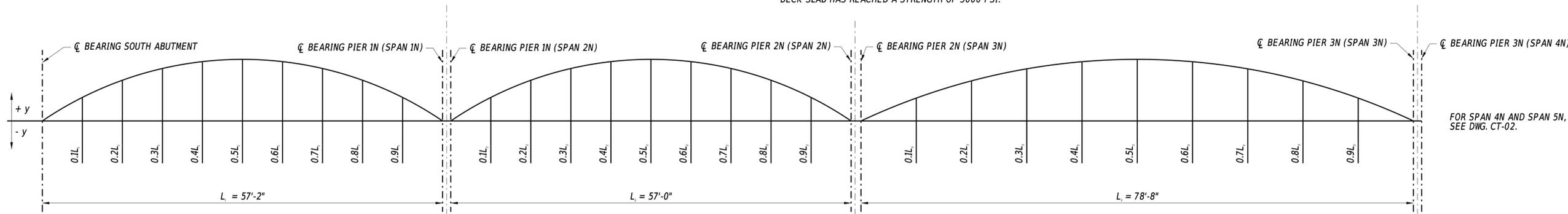
SDL-2 = DENOTES DEFLECTION DUE TO THE FIELD-CONNECTED DIAPHRAGMS, LONGITUDINAL UHPC CLOSURE POURS, AND PPC OVERLAY

TD&C = DENOTES TOTAL DEAD LOAD DEFLECTION AND CAMBER

VCO = DENOTES CAMBER FOR VERTICAL CURVE ORDINATE DUE TO ROADWAY PROFILE

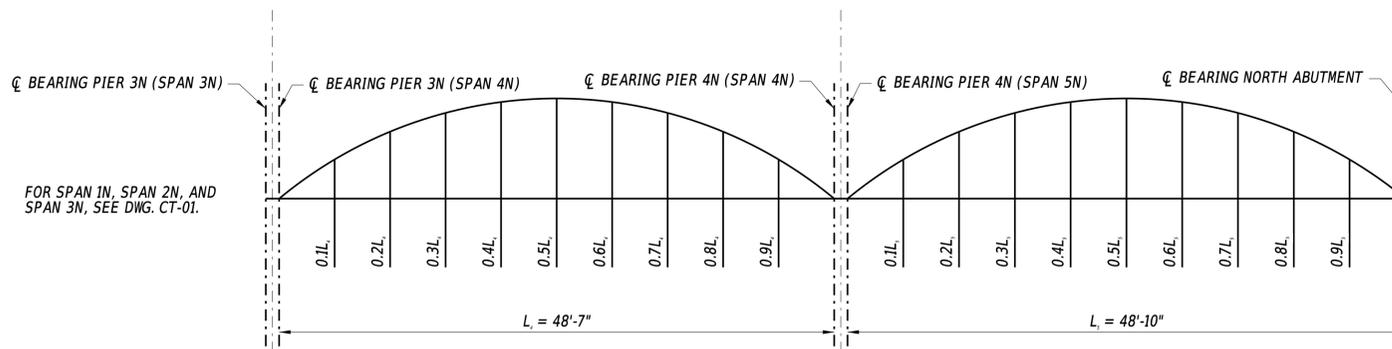
STEEL BEAM CAMBER NOTES:

1. PROVIDED DEAD LOAD CAMBER VALUES ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE CAMBER VALUES BASED ON FABRICATION AND ASSEMBLY MEANS AND METHODS. SEE 'PREFABRICATED BRIDGE ELEMENT NOTES' NOTE 3 ON DWG. PN-02 AND THE 615501 - PREFABRICATED SUPERSTRUCTURE MODULES SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
2. ALL BEAMS SHALL BE CAMBERED FOR DEAD LOAD ORDINATES TO THE DIMENSIONS SHOWN ON THESE PLANS. THE CAMBER TOLERANCE IS ZERO UNDER TO 3/4 INCH OVER.
3. THE PRECAST BARRIER SHALL BE PLACED AS A SEPARATE POUR AFTER THE PRECAST DECK SLAB HAS REACHED A STRENGTH OF 3000 PSI.
4. AFTER THE MODULE STEEL DIAPHRAGMS ARE INSTALLED, THE CONTRACTOR SHALL OBTAIN ELEVATIONS AT THE TENTH POINTS ON THE FLANGES OF ALL GIRDERS TO DETERMINE THE REQUIRED HAUNCH THICKNESS OF THE PRECAST DECK SLAB.
5. A MOCK FIT-UP OF THE FIELD-CONNECTED DIAPHRAGMS SHALL BE MADE PRIOR TO MODULE SHIPMENT TO ENSURE A SATISFACTORY FIT IN CONDITIONS SIMILAR TO THOSE EXPECTED IN THE FIELD.



DEFLECTION AND TOTAL CAMBER (INCHES)

PROPOSED GIRDERS	C BRG. S. ABUT.	SPAN 1N (SPAN 1N)										SPAN 2N (SPAN 2N)										SPAN 3N (SPAN 3N)												
		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 1N (SPAN 1N)	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 2N (SPAN 2N)	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 3N (SPAN 3N)			
BEAM N1	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	0	0	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	0	0	11/16	1 1/4	1 11/16	2	2 1/8	2	1 11/16	1 1/4	11/16	0
	SDL-1	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	3/8	7/16	7/16	7/16	3/8	1/4	1/8	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0
	TD & C	0	7/16	13/16	1 1/16	1 5/16	1 3/8	1 5/16	1 1/16	13/16	7/16	0	0	7/16	13/16	1 1/16	1 5/16	1 3/8	1 5/16	1 1/16	13/16	7/16	0	0	1 1/16	1 15/16	2 11/16	3 1/8	3 1/4	3 1/8	2 11/16	1 15/16	1 1/16	0
	VCO	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
	TD & C + VCO	0	1/2	15/16	1 1/4	1 1/2	1 9/16	1 1/2	1 1/4	15/16	1/2	0	0	1/2	15/16	1 3/16	1 1/2	1 9/16	1 1/2	1 3/16	15/16	1/2	0	0	1 3/16	2 3/16	3	3 7/16	3 5/8	3 7/16	3	2 3/16	1 3/16	0
BEAM N2	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0	0	1/2	15/16	1 1/4	1 1/2	1 9/16	1 1/2	1 1/4	15/16	1/2	0
	SDL-1	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0	
	SDL-2	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	
	TD & C	0	1/4	5/8	13/16	15/16	1	15/16	13/16	5/8	1/4	0	0	1/4	5/8	13/16	15/16	1	15/16	13/16	5/8	1/4	0	0	13/16	1 1/2	2 1/16	2 7/16	2 1/2	2 7/16	2 1/16	1 1/2	13/16	0
	VCO	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
	TD & C + VCO	0	5/16	3/4	1	1 1/8	1 3/16	1 1/8	15/16	3/4	5/16	0	0	5/16	3/4	15/16	1 1/8	1 3/16	1 1/8	15/16	3/4	5/16	0	0	15/16	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 3/4	15/16	0
BEAM N3	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/4	7/16	5/8	11/16	3/4	11/16	5/8	7/16	1/4	0	0	1/4	7/16	5/8	11/16	3/4	11/16	5/8	7/16	1/4	0	0	1/2	1	1 5/16	1 9/16	1 5/8	1 9/16	1 5/16	1	1/2	0
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	SDL-2	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	
	TD & C	0	5/16	5/8	13/16	15/16	1	15/16	13/16	5/8	5/16	0	0	5/16	5/8	13/16	15/16	1	15/16	13/16	5/8	5/16	0	0	3/4	1 7/16	1 15/16	2 1/4	2 5/16	2 1/4	1 15/16	1 7/16	3/4	0
	VCO	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
	TD & C + VCO	0	3/8	3/4	1	1 1/8	1 3/16	1 1/8	1	3/4	3/8	0	0	3/8	3/4	15/16	1 1/8	1 3/16	1 1/8	15/16	3/4	3/8	0	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0
BEAM N4	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/4	7/16	5/8	11/16	3/4	11/16	5/8	7/16	1/4	0	0	1/4	7/16	5/8	11/16	3/4	11/16	5/8	7/16	1/4	0	0	1/2	1	1 5/16	1 9/16	1 5/8	1 9/16	1 5/16	1	1/2	0
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	SDL-2	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	
	TD & C	0	5/16	5/8	13/16	15/16	1	15/16	13/16	5/8	5/16	0	0	5/16	5/8	13/16	15/16	1	15/16	13/16	5/8	5/16	0	0	3/4	1 7/16	1 15/16	2 1/4	2 5/16	2 1/4	1 15/16	1 7/16	3/4	0
	VCO	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
	TD & C + VCO	0	3/8	3/4	1	1 1/8	1 3/16	1 1/8	1	3/4	3/8	0	0	3/8	3/4	15/16	1 1/8	1 3/16	1 1/8	15/16	3/4	3/8	0	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0
BEAM N5	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0	0	3/16	3/8	9/16	5/8	11/16	5/8	9/16	3/8	3/16	0	0	1/2	15/16	1 1/4	1 1/2	1 9/16	1 1/2	1 1/4	15/16	1/2	0
	SDL-1	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/8	3/16	1/4	1/4	1/4	3/16	1/8	1/16	0	
	SDL-2	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	
	TD & C	0	1/4	5/8	13/16	15/16	1	15/16	13/16	5/8	1/4	0	0	1/4	5/8	13/16	15/16	1	15/16	13/16	5/8	1/4	0	0	13/16	1 1/2	2 1/16	2 7/16	2 1/2	2 7/16	2 1/16	1 1/2	13/16	0
	VCO	0	1/16	1/8	3/16	3/16	3/16	3/16	1/8	1/16	0	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
	TD & C + VCO	0	5/16	3/4	1	1 1/8	1 3/16	1 1/8	1	3/4	5/16	0	0	5/16	3/4	1	1 1/8	1 3/16	1 1/8	15/16	3/4	5/16	0	0	15/16	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 3/4	15/16	0
BEAM N6	DLS	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	1/16	1/8	1/8	3/16	3/16	3/16	1/8	1/8	1/16	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	0	0	5/16	9/16	3/4	7/8	15/16	7/8	3/4	9/16	5/16	0	0	11/16	1 1/4	1 11/16	2	2 1/8	2	1 11/16	1 1/4	11/16	0
	SDL-1																																	



STEEL BEAM CAMBER NOTES:

1. PROVIDED DEAD LOAD CAMBER VALUES ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE CAMBER VALUES BASED ON FABRICATION AND ASSEMBLY MEANS AND METHODS. SEE 'PREFABRICATED BRIDGE ELEMENT NOTES' NOTE 3 ON DWG. PN-02 AND THE 615501 - PREFABRICATED SUPERSTRUCTURE MODULES SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
2. ALL BEAMS SHALL BE CAMBERED FOR DEAD LOAD ORDINATES TO THE DIMENSIONS SHOWN ON THESE PLANS. THE CAMBER TOLERANCE IS ZERO UNDER TO 3/4 INCH OVER.
3. THE PRECAST BARRIER SHALL BE PLACED AS A SEPARATE POUR AFTER THE PRECAST DECK SLAB HAS REACHED A STRENGTH OF 3000 PSI.
4. AFTER THE MODULE STEEL DIAPHRAGMS ARE INSTALLED, THE CONTRACTOR SHALL OBTAIN ELEVATIONS AT THE TENTH POINTS ON THE FLANGES OF ALL GIRDERS TO DETERMINE THE REQUIRED HAUNCH THICKNESS OF THE PRECAST DECK SLAB.
5. A MOCK FIT-UP OF THE FIELD-CONNECTED DIAPHRAGMS SHALL BE MADE PRIOR TO MODULE SHIPMENT TO ENSURE A SATISFACTORY FIT IN CONDITIONS SIMILAR TO THOSE EXPECTED IN THE FIELD.

DEFLECTION AND TOTAL CAMBER (INCHES)

PROPOSED GIRDERS	C BRG. PIER 3N (SPAN 4N)	SPAN 3N (SPAN 4N)										C BRG. PIER 4N (SPAN 5N)	SPAN 4N (SPAN 5N)										C BRG. ABUT. N.		
		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	0.1L		0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L					
BEAM N1	DLS	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	DLC	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	
	SDL-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	SDL-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TD & C	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0	0	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0
BEAM N2	TD & C + VCO	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	0	
	DLS	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	1/16	0	0	
	DLC	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	
	SDL-1	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	
	SDL-2	0	0	0	0	0	1/16	0	0	0	0	0	0	0	0	0	1/16	0	0	0	0	0	0	0	
	TD & C	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	0	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	
BEAM N3	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0	
	TD & C + VCO	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	
	DLS	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	DLC	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	SDL-2	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	
BEAM N4	TD & C	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0	0	
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0	
	TD & C + VCO	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	0	
	DLS	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	DLC	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BEAM N5	SDL-2	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	0	0	0	1/16	1/16	1/16	0	0	0	0		
	TD & C	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0		
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0	
	TD & C + VCO	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	
	DLS	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	DLC	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	1/8	1/4	5/16	3/8	3/8	3/8	5/16	1/4	1/8	0	0	
BEAM N6	SDL-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	0	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	
	SDL-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
	TD & C	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0		
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0	
	TD & C + VCO	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	0	
	DLS	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	

LEGEND:

- DLS = DENOTES DEFLECTION DUE TO THE STEEL BEAMS AND MODULE DIAPHRAGMS
- DLC = DENOTES DEFLECTION DUE TO THE CONCRETE DECK SLAB AND HAUNCH
- SDL-1 = DENOTES DEFLECTION DUE TO THE PRECAST BARRIER
- SDL-2 = DENOTES DEFLECTION DUE TO THE FIELD-CONNECTED DIAPHRAGMS, LONGITUDINAL UHPC CLOSURE POURS, AND PPC OVERLAY
- TD&C = DENOTES TOTAL DEAD LOAD DEFLECTION AND CAMBER
- VCO = DENOTES CAMBER FOR VERTICAL CURVE ORDINATE DUE TO ROADWAY PROFILE

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

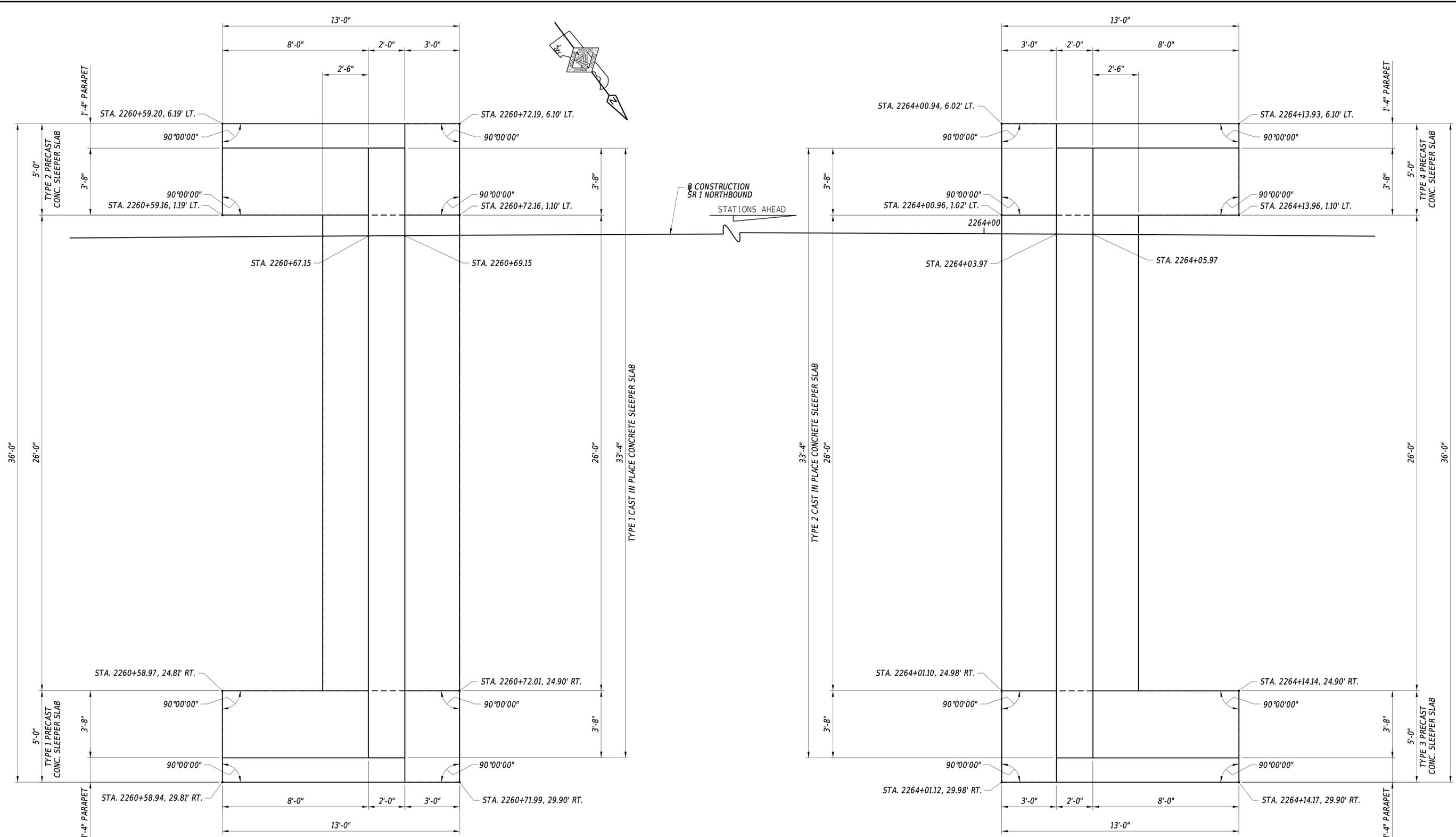
CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155N**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

**BEAM CAMBER
DIAGRAMS - 2**

CT-02

SECTION
WRA
SHEET NO.
74



SLEEPER SLAB LAYOUT PLAN

3/8" = 1'-0"

NOTES:

- FOR PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-02 THRU AS-05.
- FOR CAST-IN-PLACE CONCRETE SLEEPER SLAB DETAILS, SEE DWG. AS-06 AND AS-07.
- PRECAST PORTIONS OF THE SLEEPER SLABS SHALL BEAR DIRECTLY ON 6" OF SAND THAT IS PLACED ON 1'-0" DEPTH OF GRADED AGGREGATE BASE COURSE, TYPE B. EXTEND THE GRADED AGGREGATE BASE COURSE 6" BEYOND THE EDGES OF THE PRECAST PORTIONS OF THE SLEEPER SLABS. COSTS FOR FURNISHING AND PLACING THE SAND WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL ALTERNATIVES TO THE SAND TO PROVIDE A SMOOTH BEARING SURFACE FOR THE PRECAST SLEEPER SLABS. ANY ACCEPTED ALTERNATIVES WILL BE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

4/28/2020 2:02:06 PM N:\312122-003\CADD\Bridges\BR3-155N_A501.dgn

ADDENDA / REVISIONS	

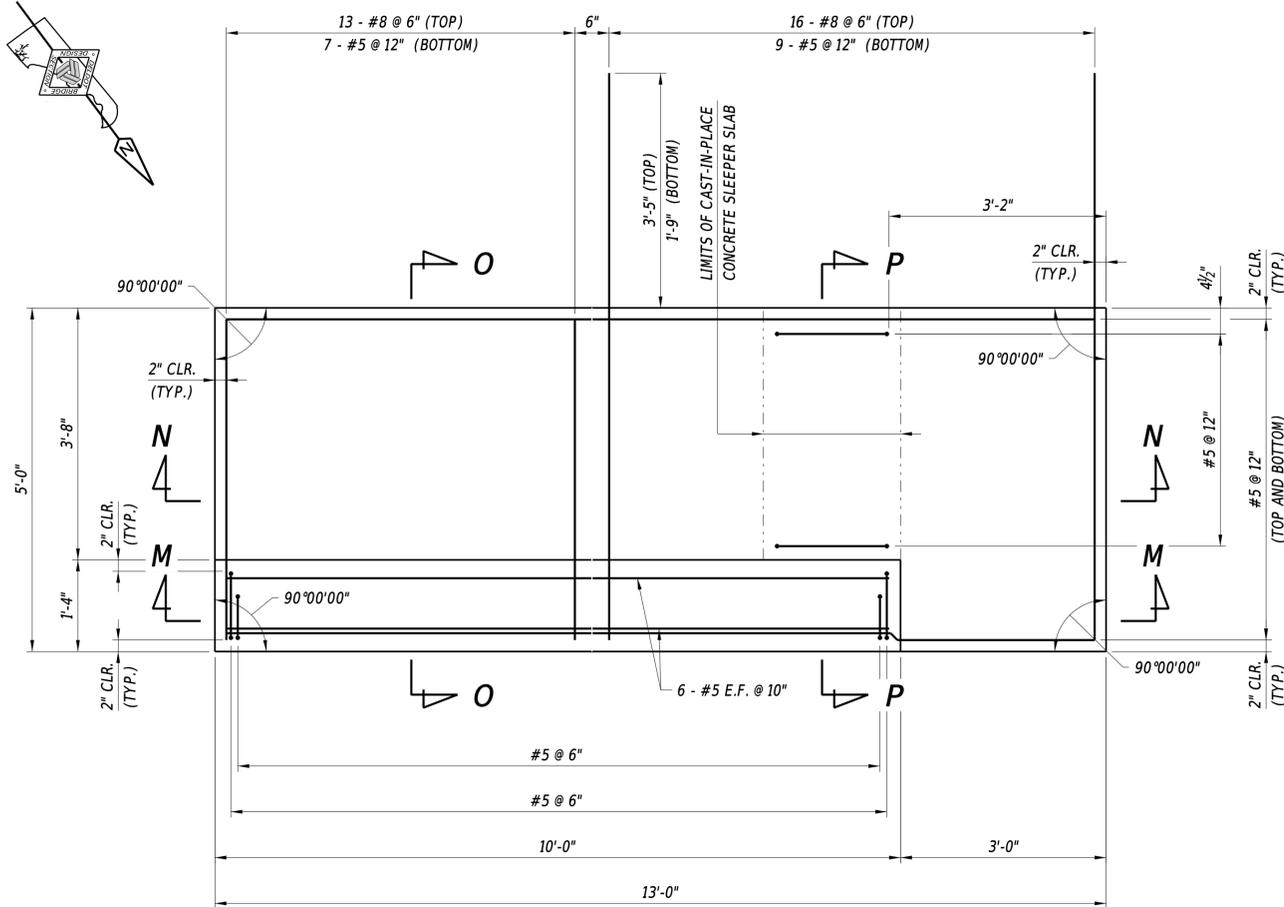
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

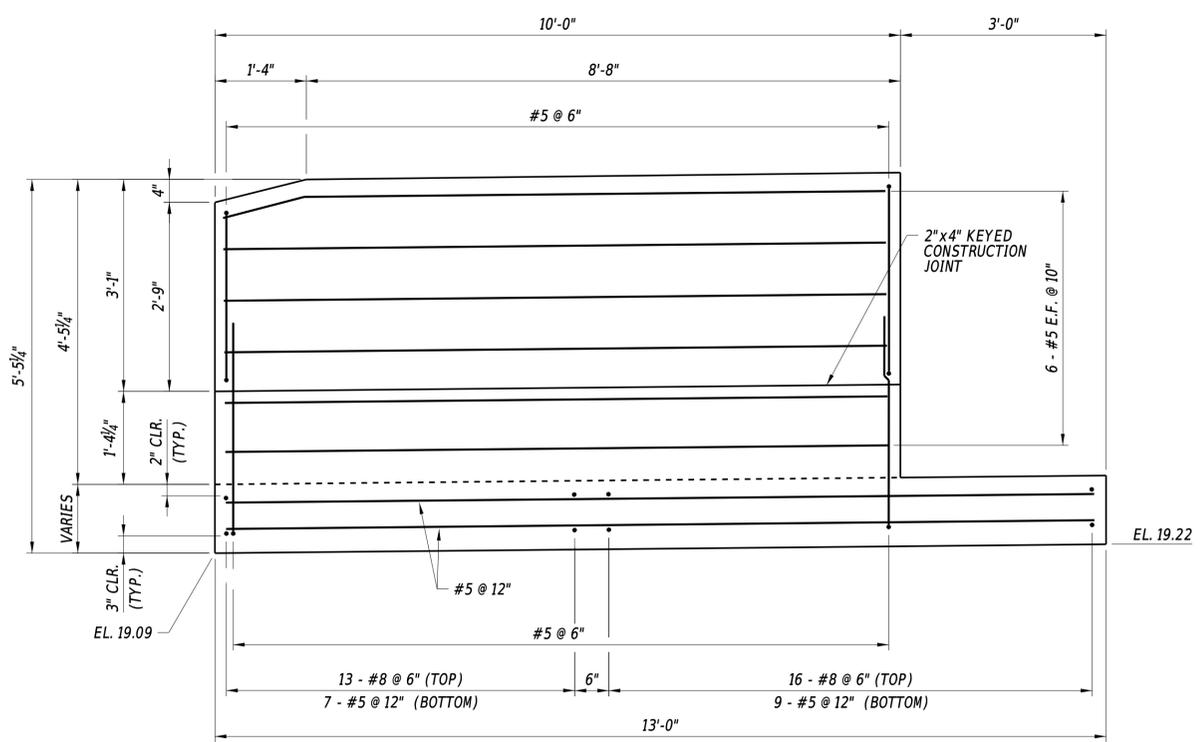
**SLEEPER SLAB
LAYOUT PLAN**

AS-01
SECTION
WRA
SHEET NO.
75



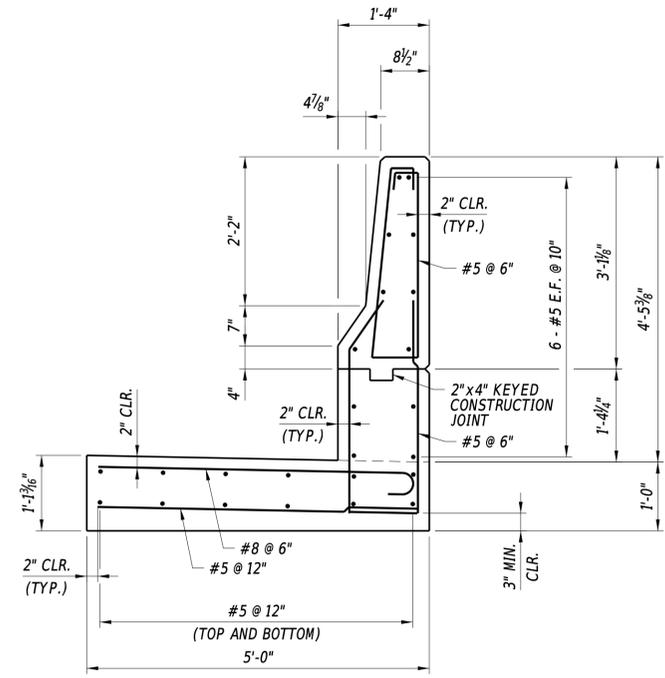
TYPE 1 PRECAST CONCRETE SLEEPER SLAB PLAN

3/4" = 1'-0"



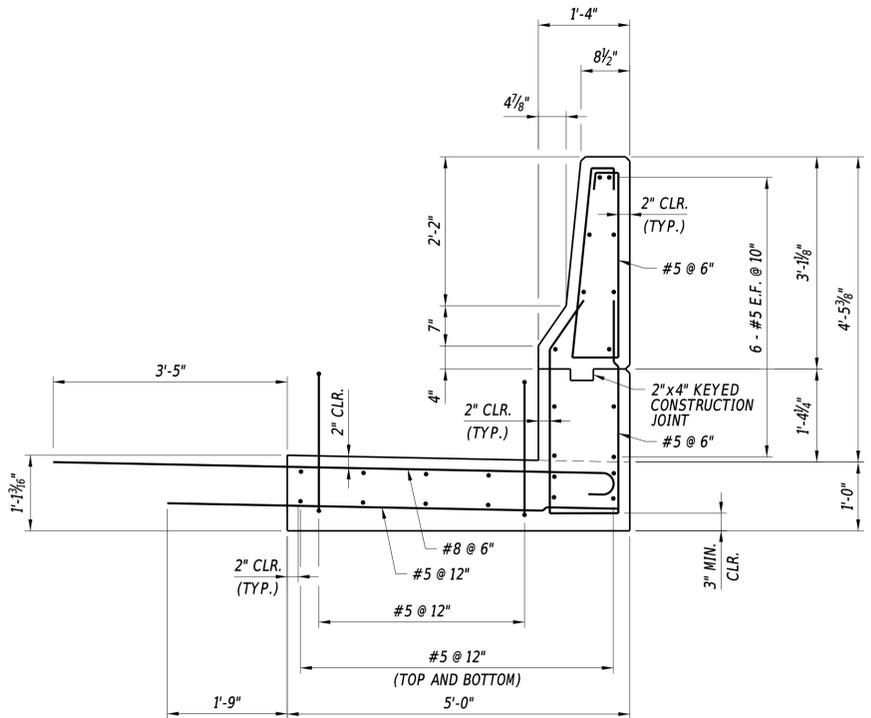
SECTION M-M

3/4" = 1'-0"



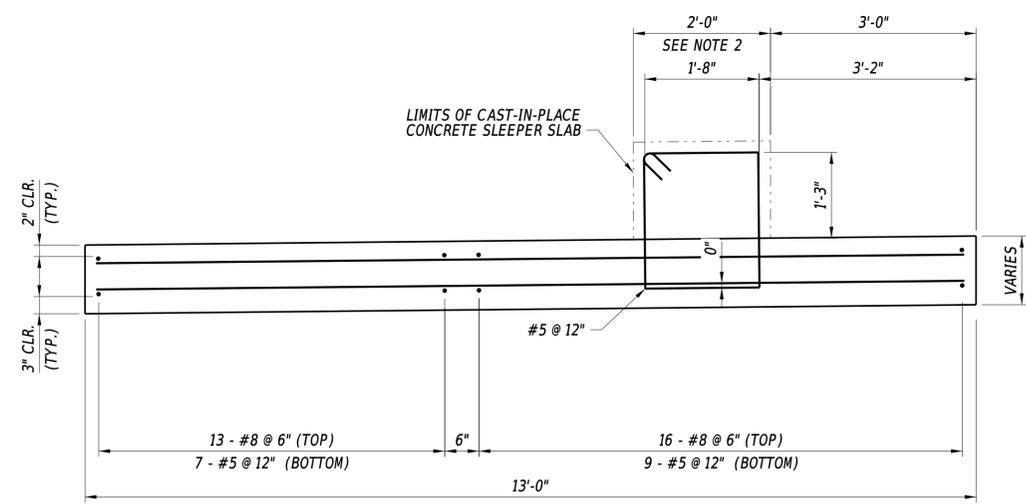
SECTION O-O

3/4" = 1'-0"



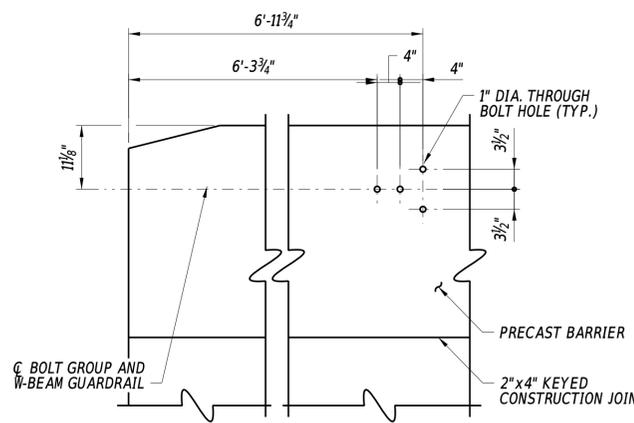
SECTION P-P

3/4" = 1'-0"



SECTION N-N

3/4" = 1'-0"



GUARDRAIL APPROACH CONNECTION BOLT HOLE DETAIL

3/4" = 1'-0"

NOTES:

- FOR LOCATION OF TYPE 1 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-01.
- ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

4/28/2020 2:02:09 PM N:\312122-003\CADD\bridge\BR3-155N_AS02.dgn

ADDENDA / REVISIONS

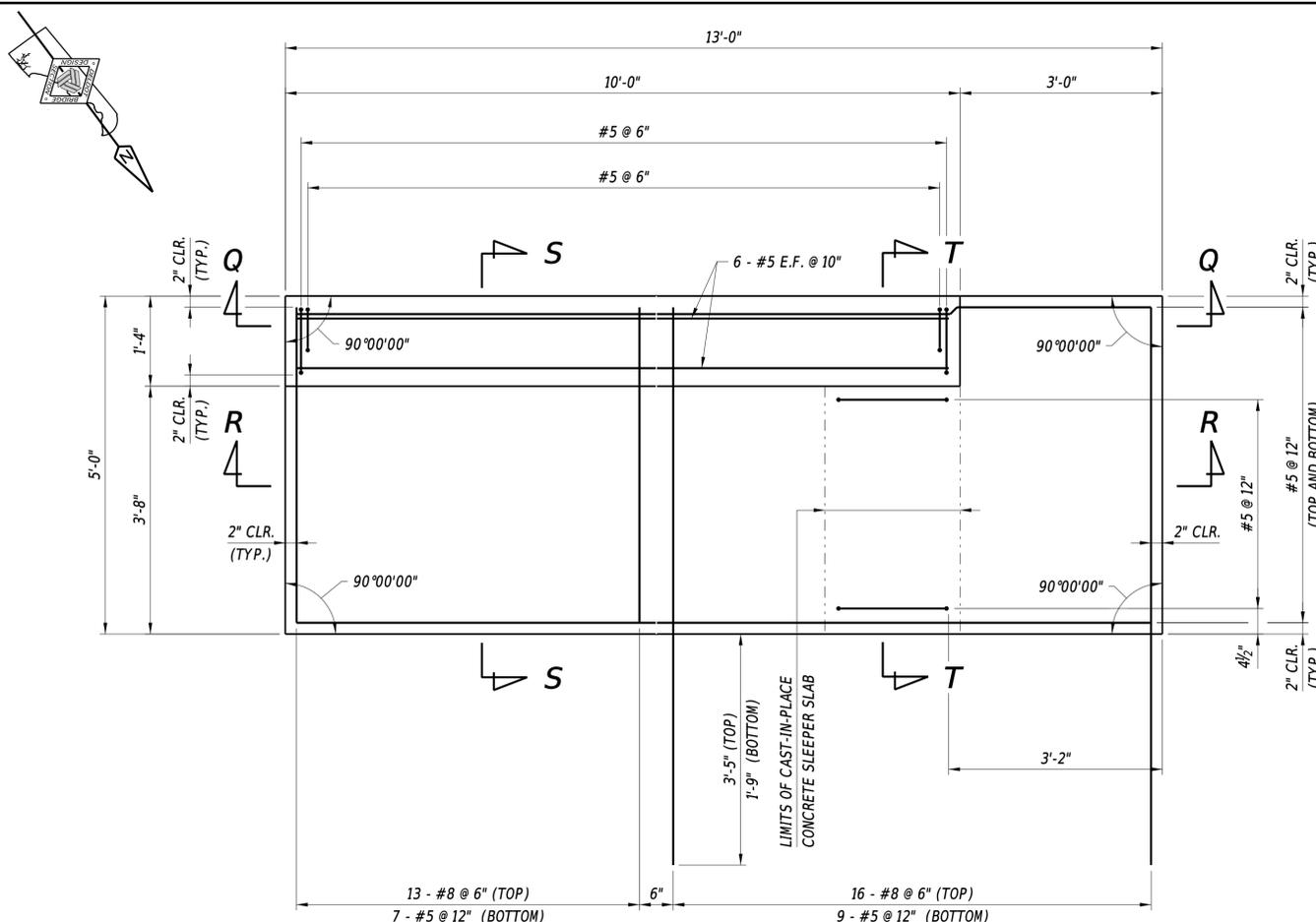
SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

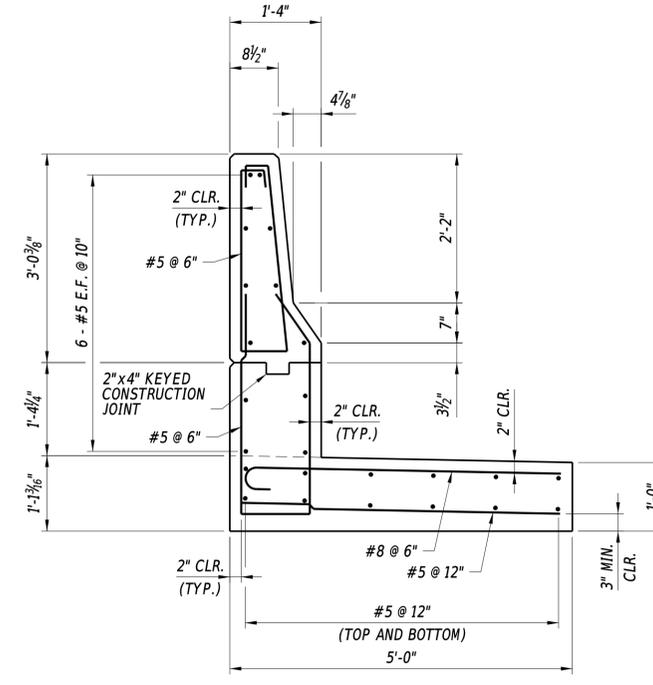
CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

TYPE 1 PRECAST CONCRETE SLEEPER SLAB DETAILS

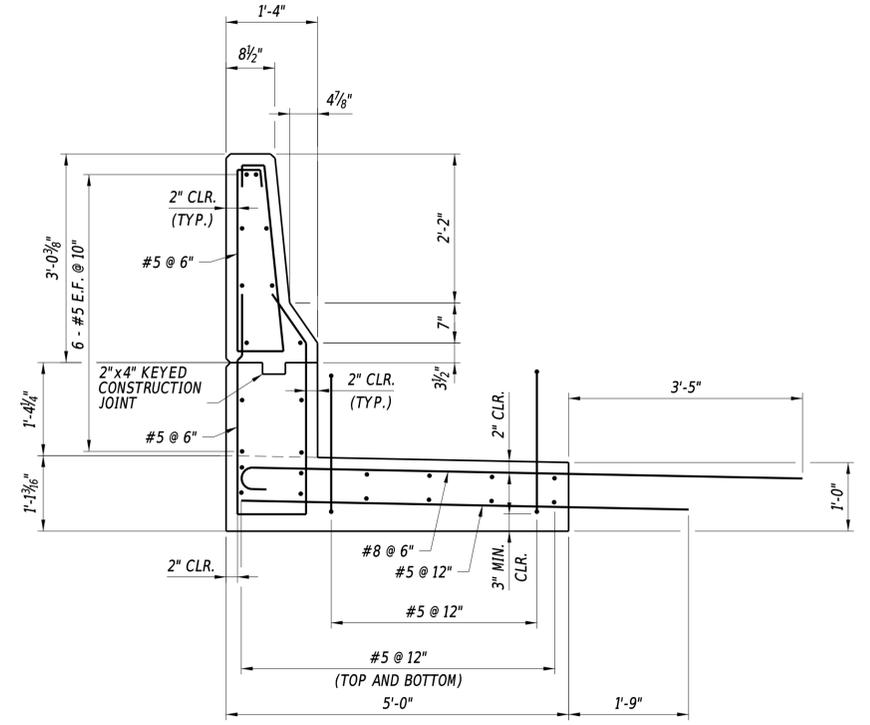
AS-02
SECTION
WRA
SHEET NO.
76



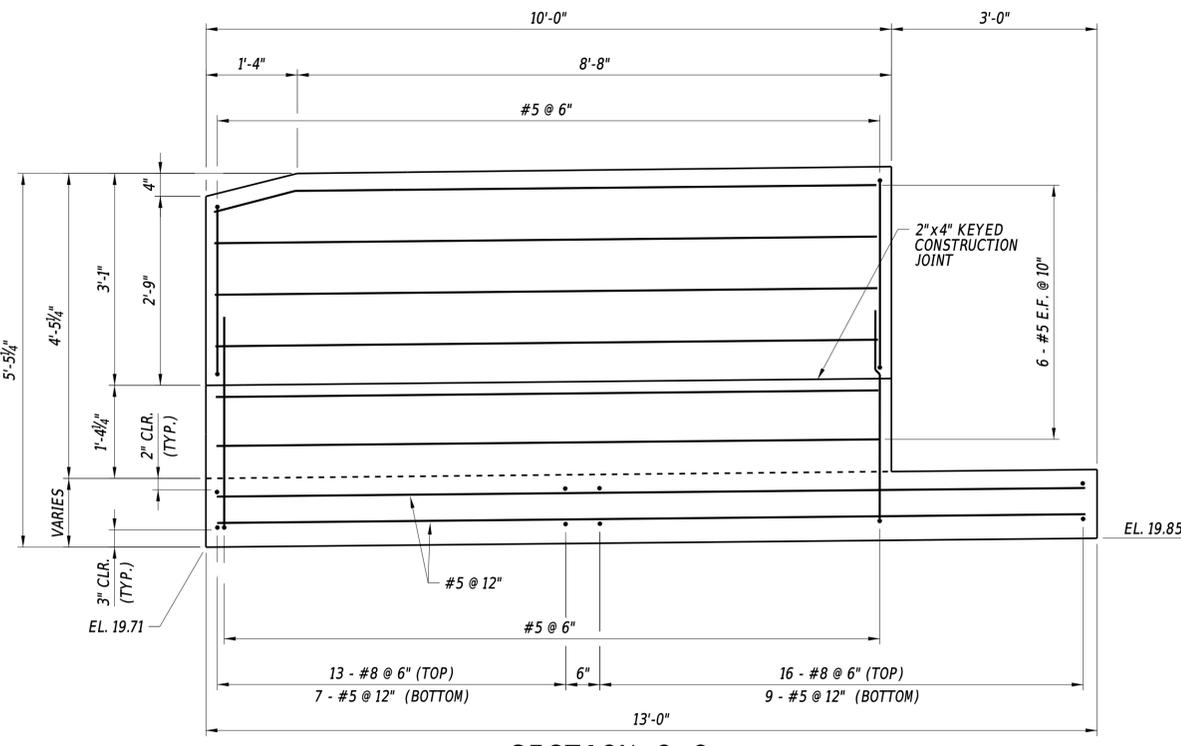
TYPE 2 PRECAST CONCRETE SLEEPER SLAB PLAN
 $\frac{3}{4}'' = 1' - 0''$



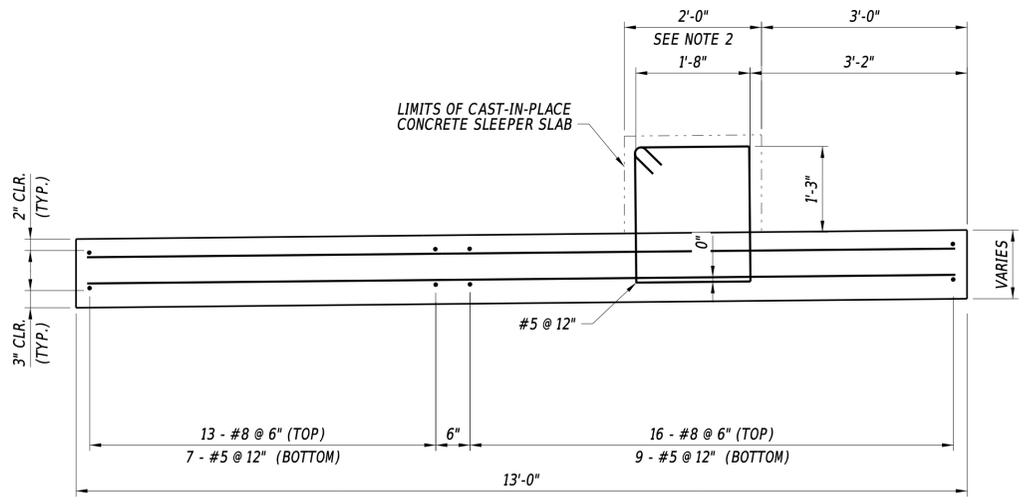
SECTION S-S
 $\frac{3}{4}'' = 1' - 0''$



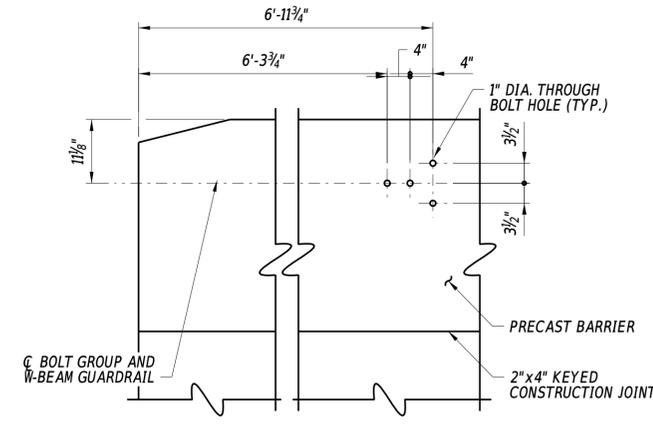
SECTION T-T
 $\frac{3}{4}'' = 1' - 0''$



SECTION Q-Q
 $\frac{3}{4}'' = 1' - 0''$



SECTION R-R
 $\frac{3}{4}'' = 1' - 0''$

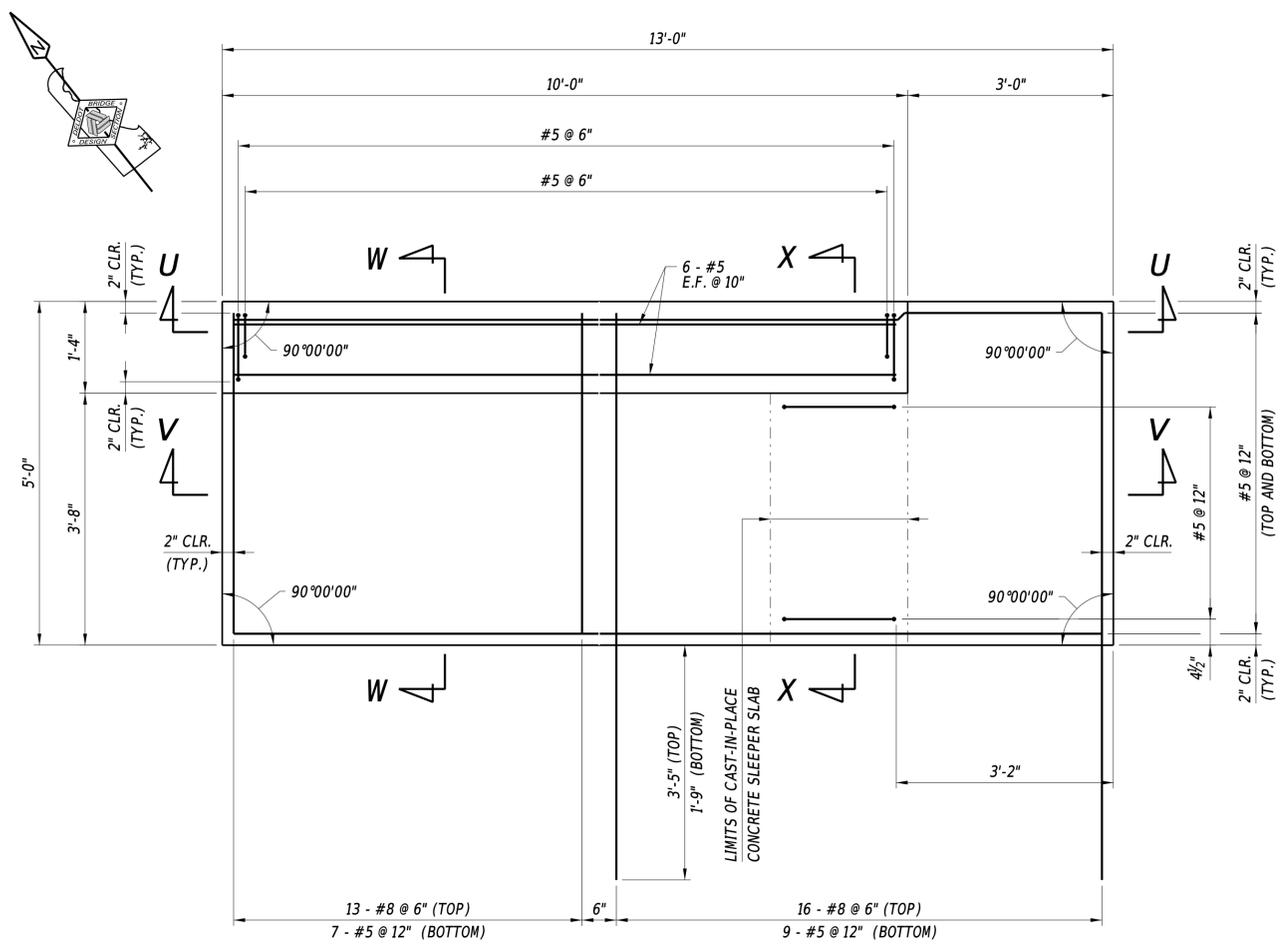


GUARDRAIL APPROACH CONNECTION BOLT HOLE DETAIL
 $\frac{3}{4}'' = 1' - 0''$

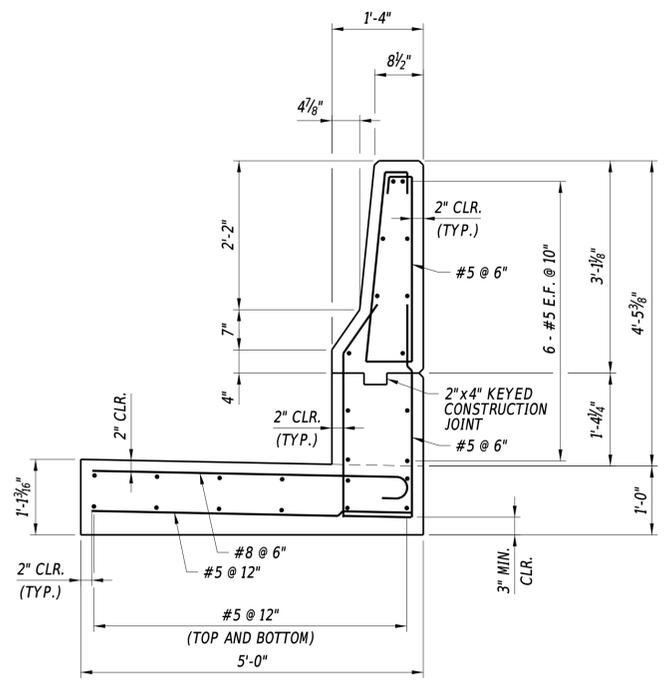
- NOTES:**
- FOR LOCATION OF TYPE 2 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-01.
 - ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

4/28/2020 2:02:14 PM N:\312122-003\CADD\bridge\BR3-155N_A503.dgn

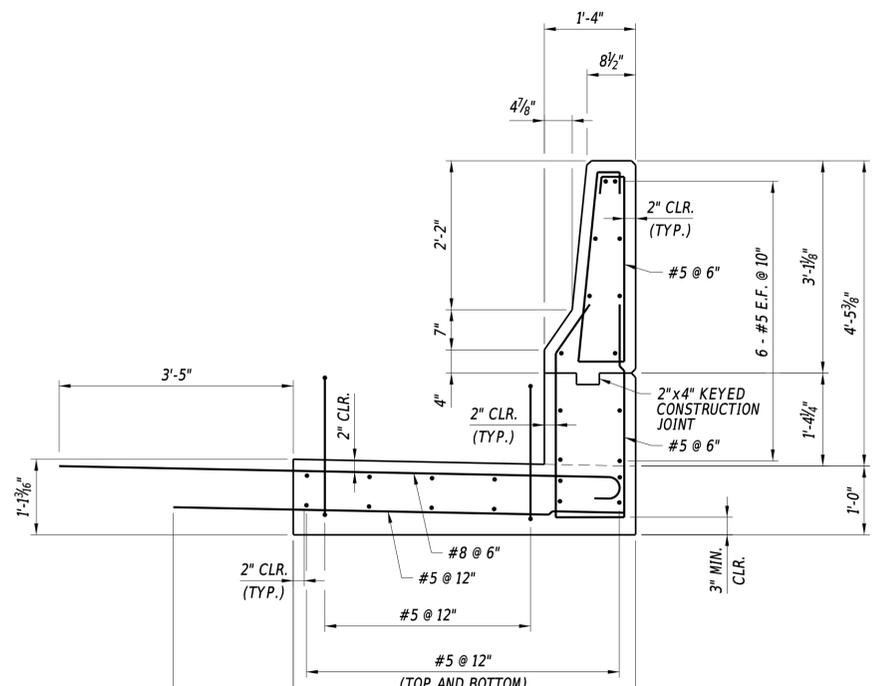
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	TYPE 2 PRECAST CONCRETE SLEEPER SLAB DETAILS	AS-03
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:		W. GESCHREI	SHEET NO.
				SUSSEX				77



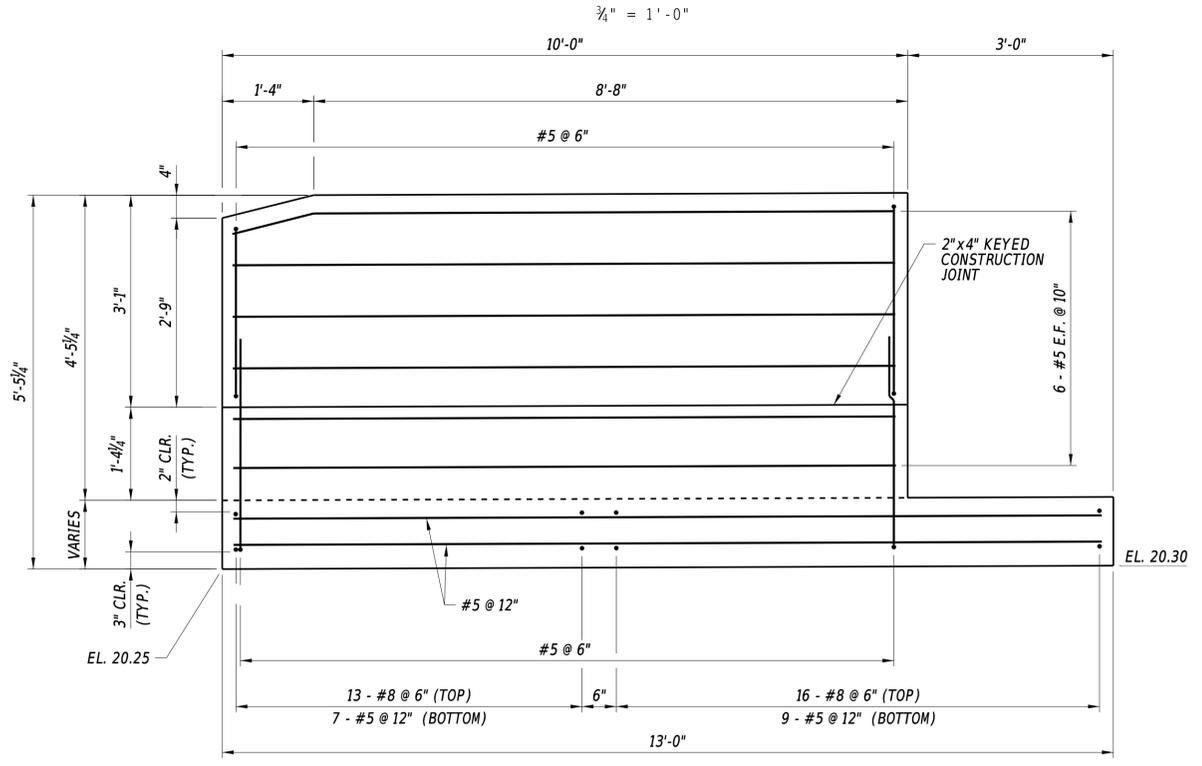
TYPE 3 PRECAST CONCRETE SLEEPER SLAB PLAN



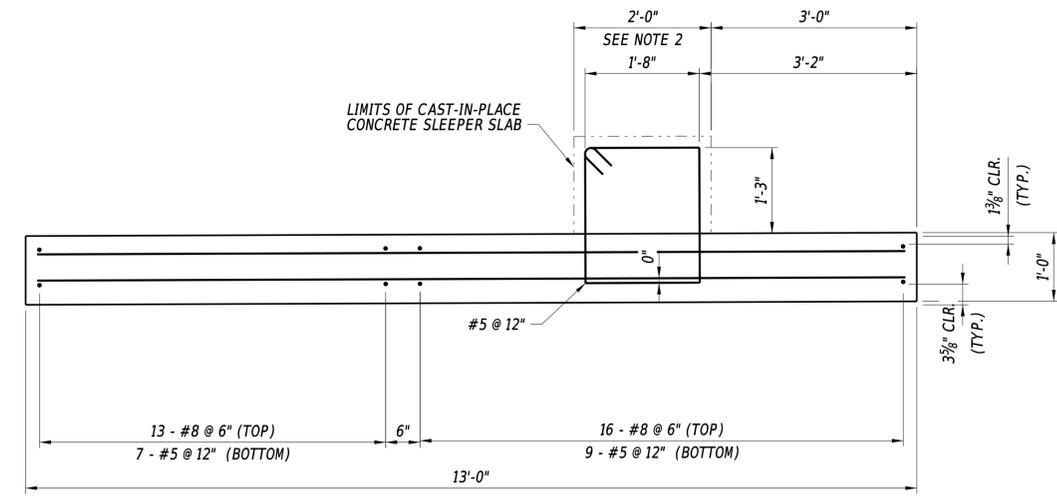
SECTION W-W



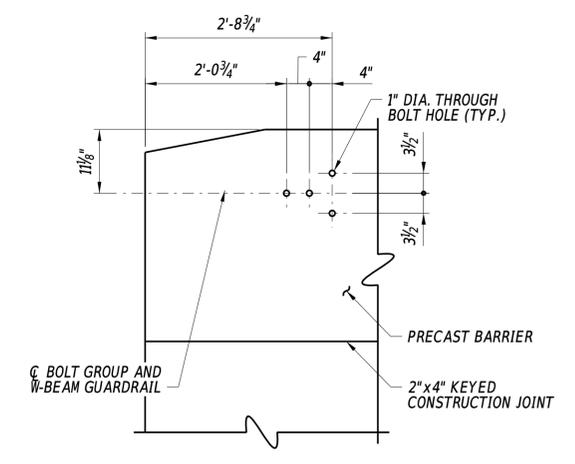
SECTION X-X



SECTION U-U



SECTION V-V



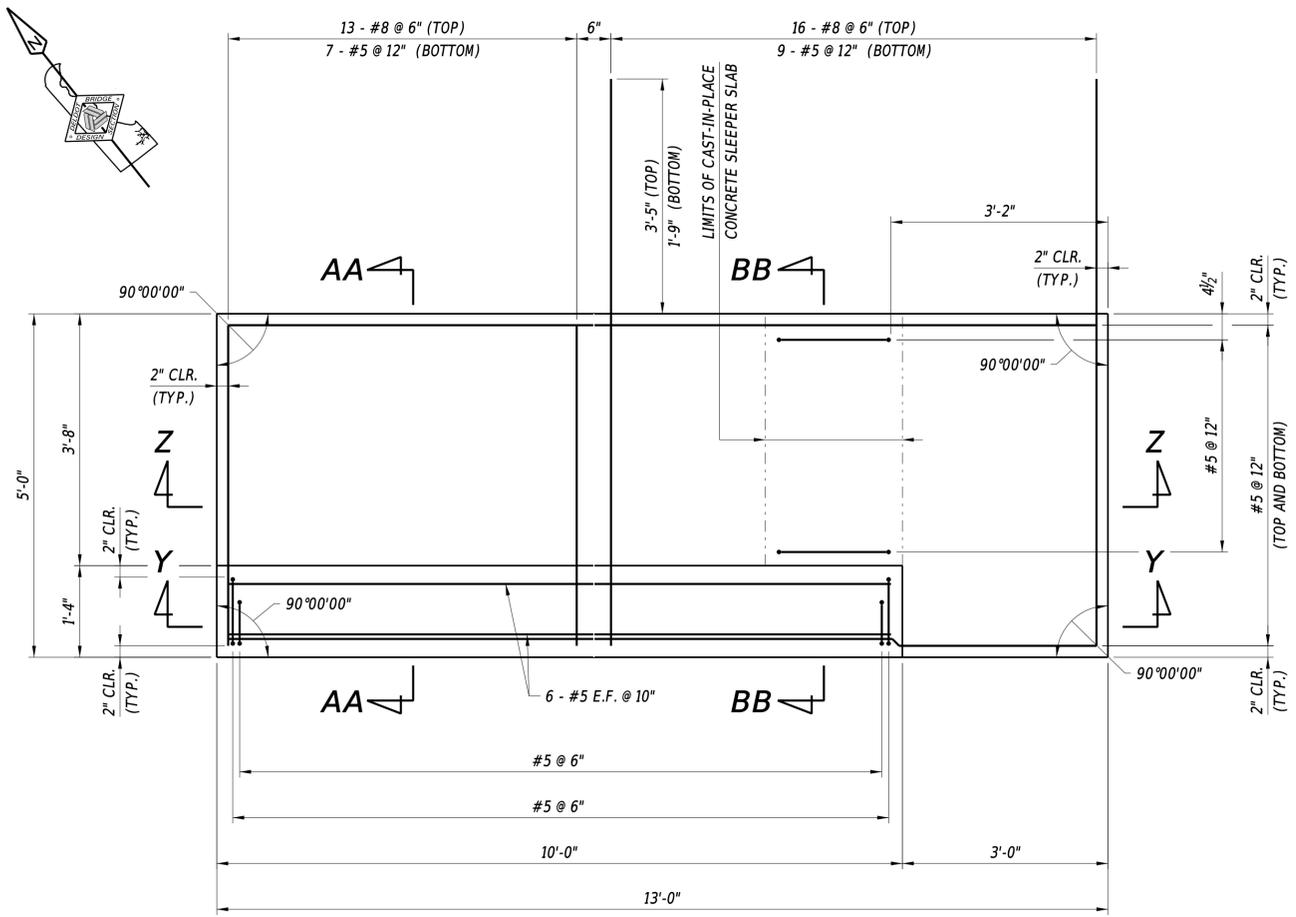
GUARDRAIL EXIT CONNECTION BOLT HOLE DETAIL

NOTES:

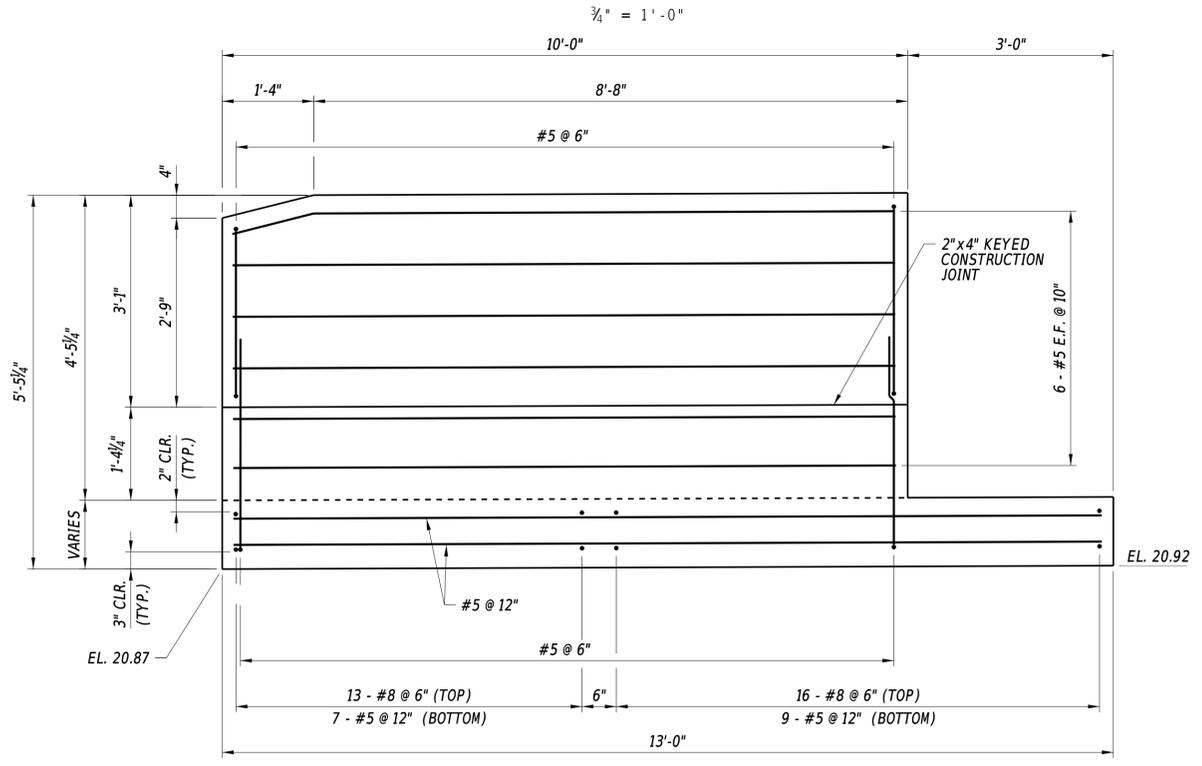
- FOR LOCATION OF TYPE 3 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-01.
- ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

4/28/2020 2:02:17 PM N:\312122-003\CADD\Bridges\BR3-155N_AS04.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601	BRIDGE NO. 3-155N	DESIGNED BY: F. OPHARDT	CHECKED BY: W. GESCHREI	TYPE 3 PRECAST CONCRETE SLEEPER SLAB DETAILS	AS-04
									SECTION
				COUNTY SUSSEX				SHEET NO. 78	

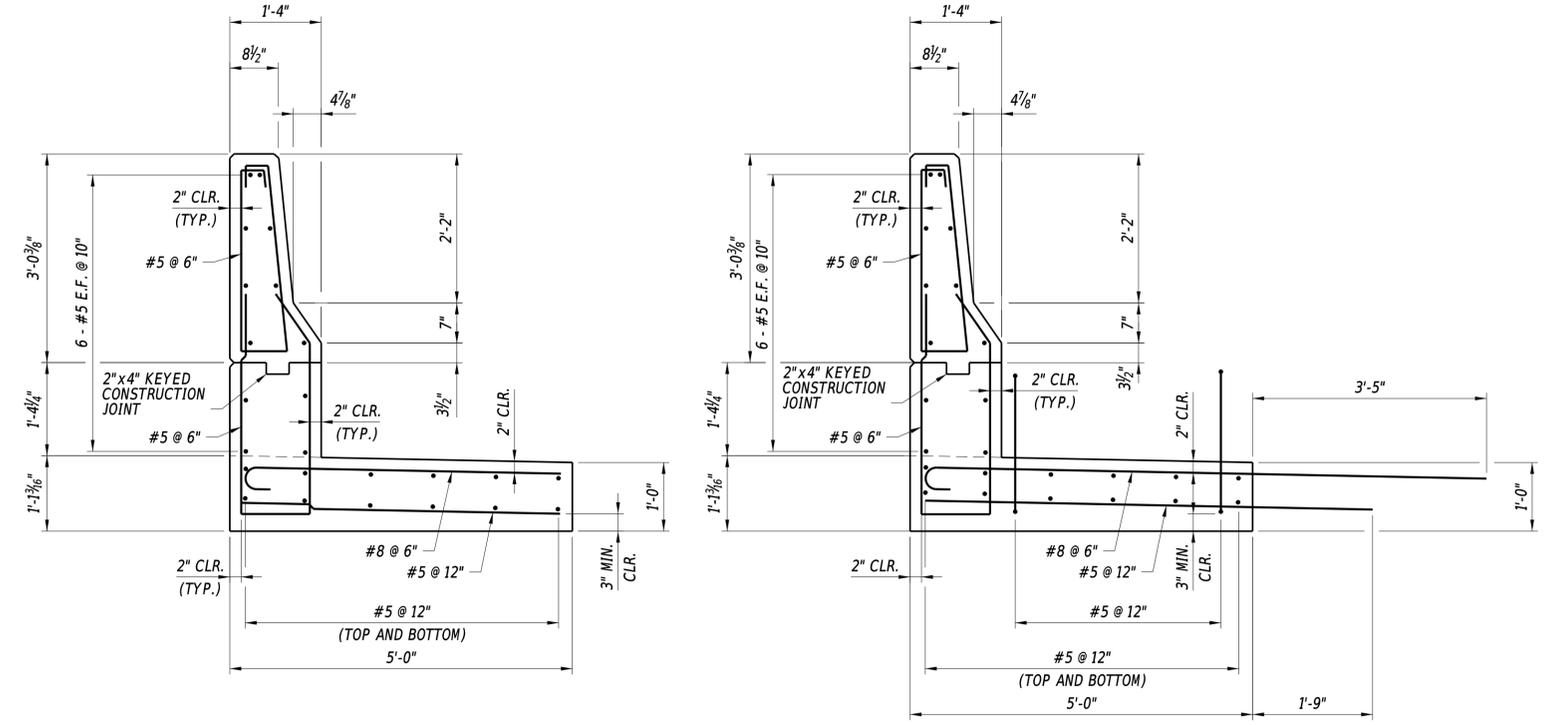


TYPE 4 PRECAST CONCRETE SLEEPER SLAB PLAN



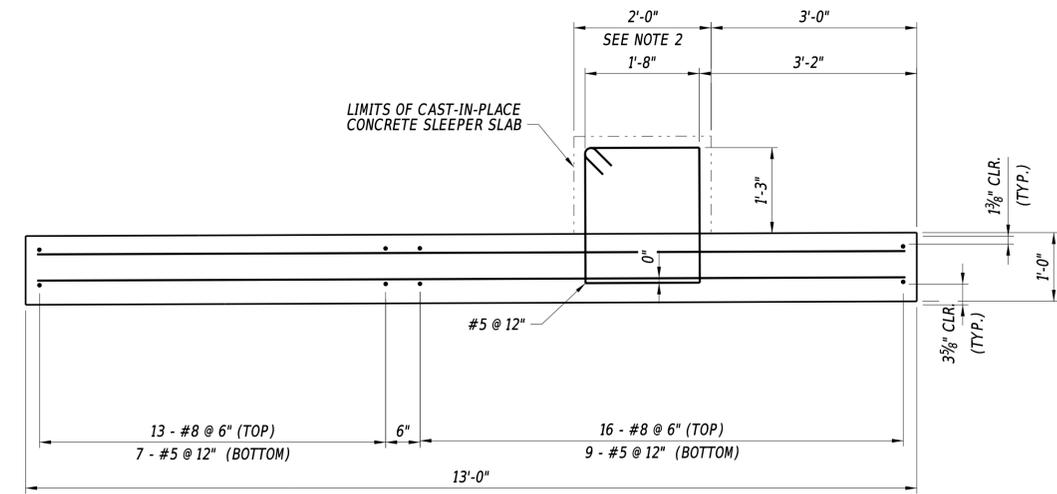
SECTION Y-Y

ADDENDA / REVISIONS	

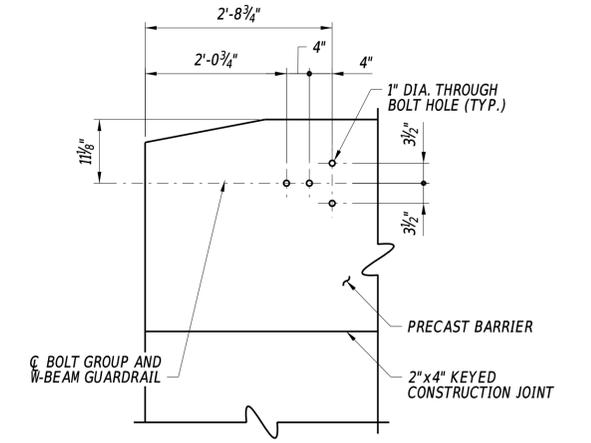


SECTION AA-AA

SECTION BB-BB



SECTION Z-Z



GUARDRAIL EXIT CONNECTION BOLT HOLE DETAIL

- NOTES:**
- FOR LOCATION OF TYPE 4 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-01.
 - ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

4/28/2020
 2:02:20 PM
 N:\31212-003\CADD\Bridges\BR3-155N_AS05.dgn

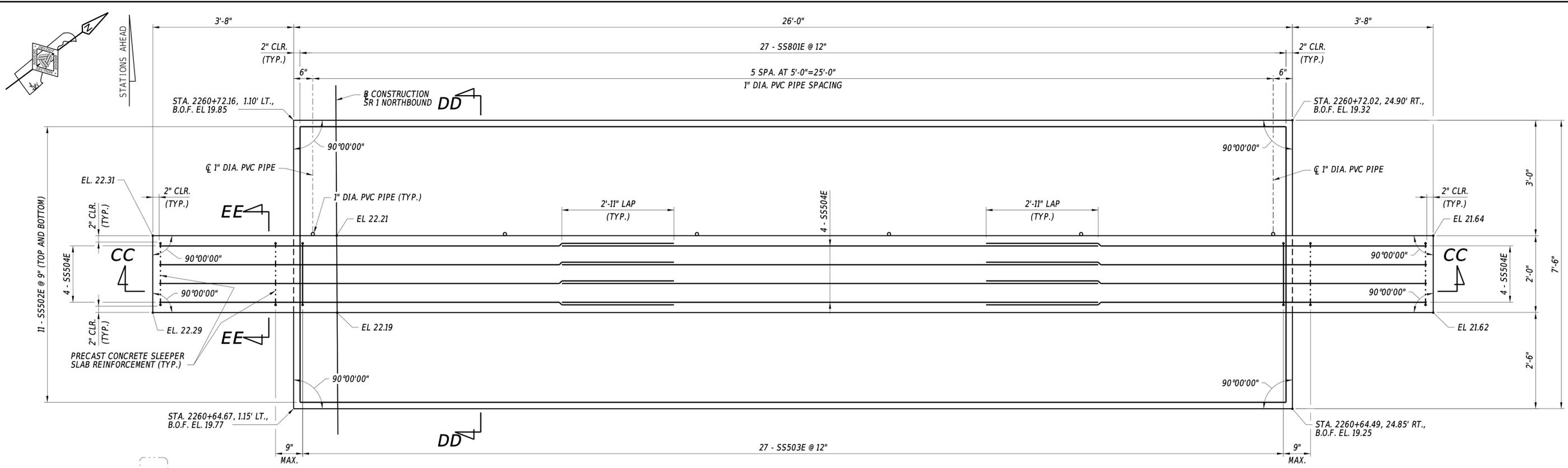
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

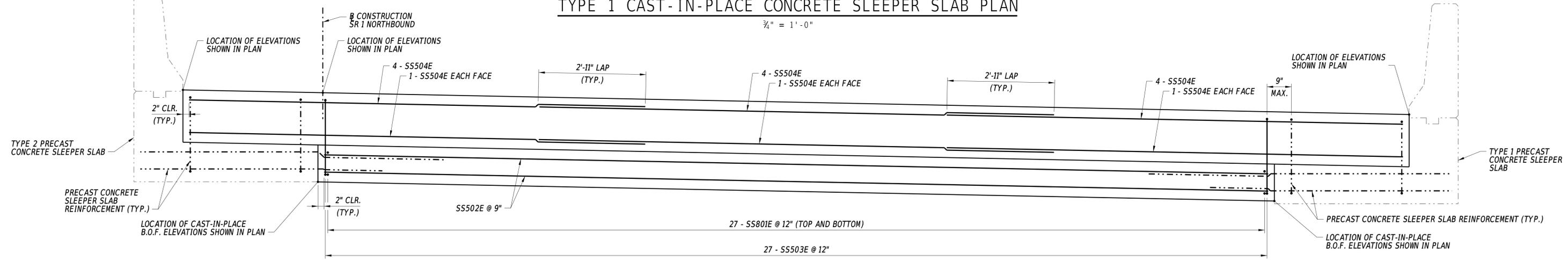
CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**TYPE 4 PRECAST CONCRETE
SLEEPER SLAB DETAILS**

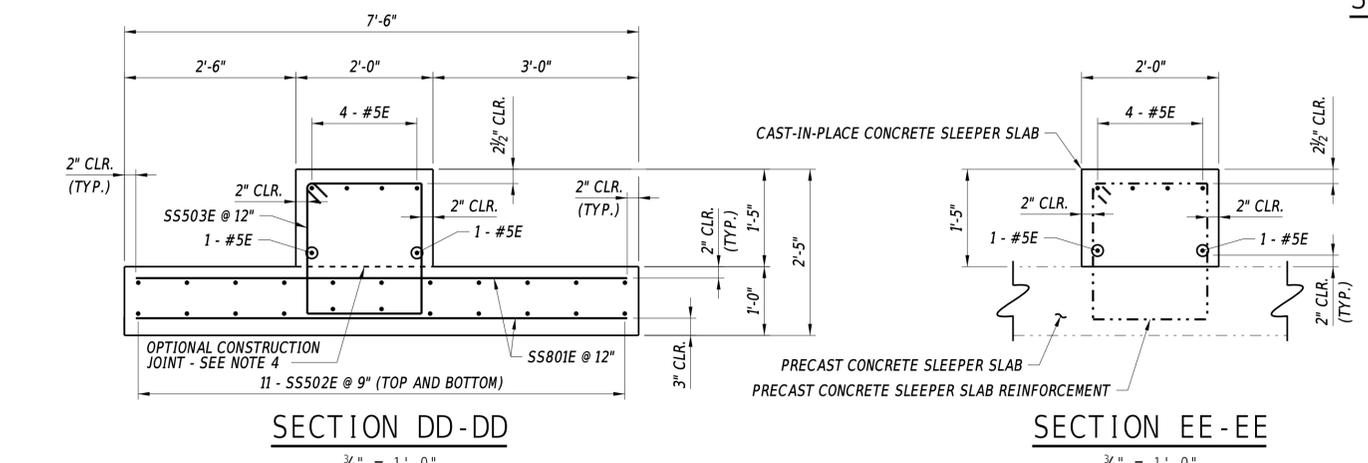
AS-05
SECTION
WRA
SHEET NO.
79



TYPE 1 CAST-IN-PLACE CONCRETE SLEEPER SLAB PLAN



SECTION CC-CC



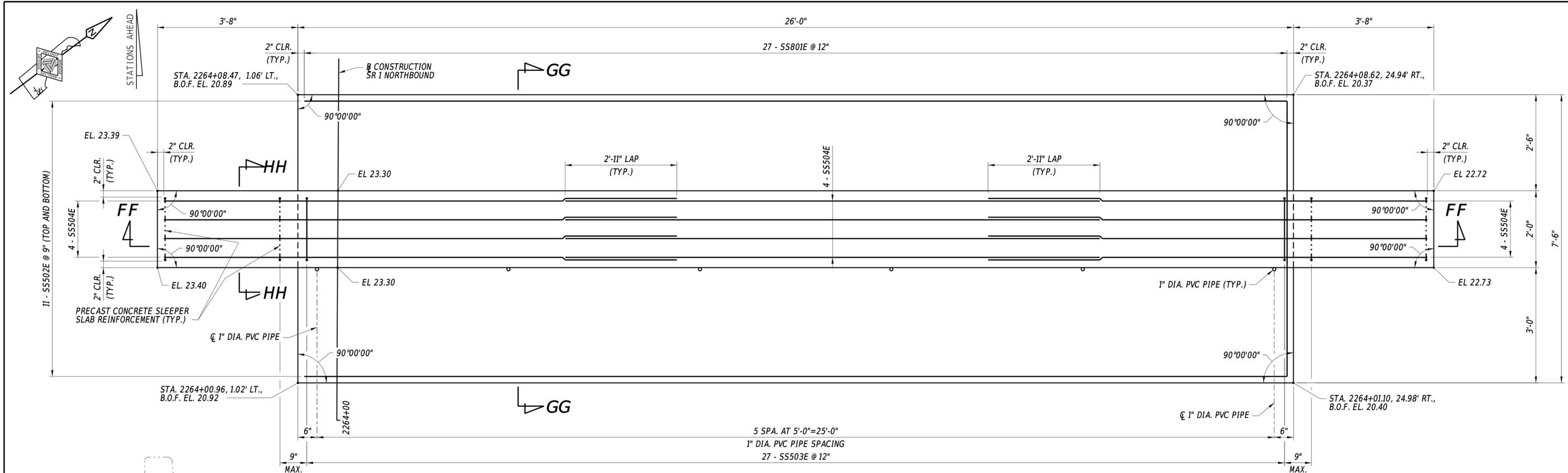
SECTION DD-DD

SECTION EE-EE

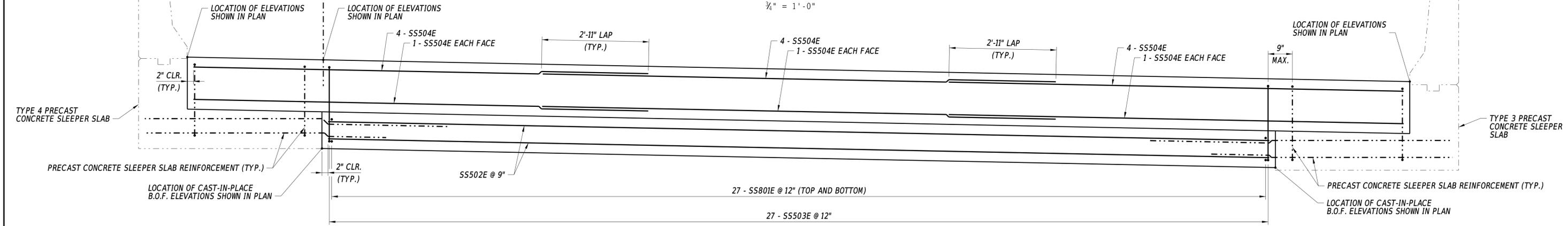
- NOTES:**
1. FOR SLEEPER SLAB LAYOUT PLAN, SEE DWG. AS-01.
 2. FOR PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-02 AND AS-03.
 3. DOWEL BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT PATCH NOT SHOWN FOR CLARITY, SEE DWG. AS-09 FOR ADDITIONAL INFORMATION.
 4. THE CONTRACTOR HAS THE OPTION TO PROVIDE A ROUGHENED CONSTRUCTION JOINT AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE OPTIONAL ROUGHENED CONSTRUCTION JOINT WITHIN THE LIMITS OF THE CAST-IN-PLACE SLEEPER SLAB SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4".

4/28/2020 2:02:22 PM N:\312122-003\CADD\Bridges\BR3-155N_AS06.dgn

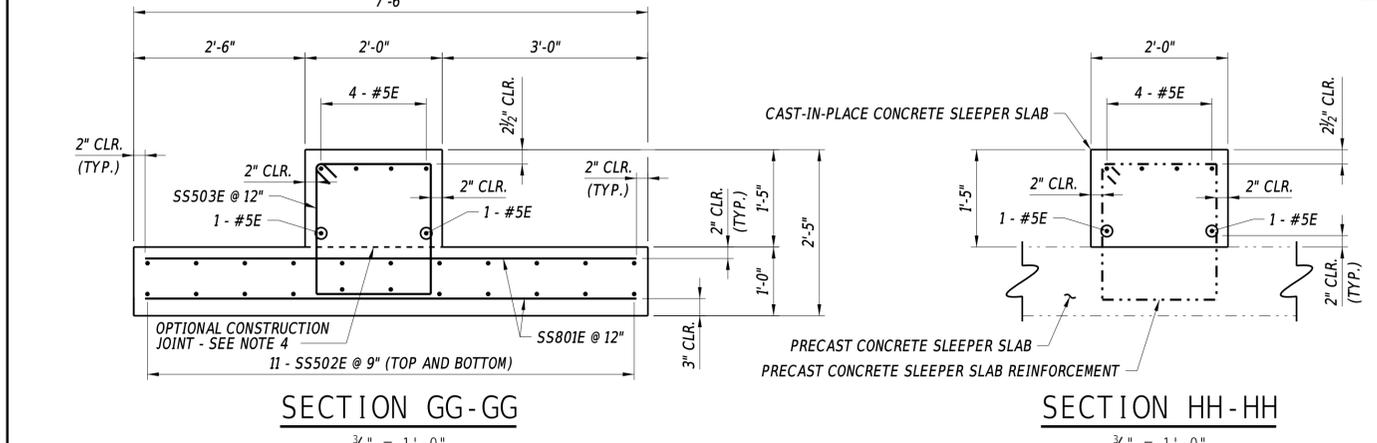
ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			TYPE 1 CAST-IN-PLACE SLEEPER SLAB DETAILS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">AS-06</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">80</td> </tr> </table>	AS-06	SECTION	WRA	SHEET NO.	80
CONTRACT	BRIDGE NO.	3-155N																				
T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
AS-06																						
SECTION																						
WRA																						
SHEET NO.																						
80																						



TYPE 2 CAST-IN-PLACE CONCRETE SLEEPER SLAB PLAN



SECTION FF-FF



- NOTES:**
- FOR SLEEPER SLAB LAYOUT PLAN, SEE DWG. AS-01.
 - FOR TYPE 3 AND TYPE 4 PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-04 THRU AS-05.
 - DOWEL BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT PATCH NOT SHOWN FOR CLARITY, SEE DWG. AS-09 FOR ADDITIONAL INFORMATION.
 - THE CONTRACTOR HAS THE OPTION TO PROVIDE A ROUGHENED CONSTRUCTION JOINT AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE OPTIONAL ROUGHENED CONSTRUCTION JOINT WITHIN THE LIMITS OF THE CAST-IN-PLACE SLEEPER SLAB SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4".

ADDENDA / REVISIONS

SCALE AS NOTED

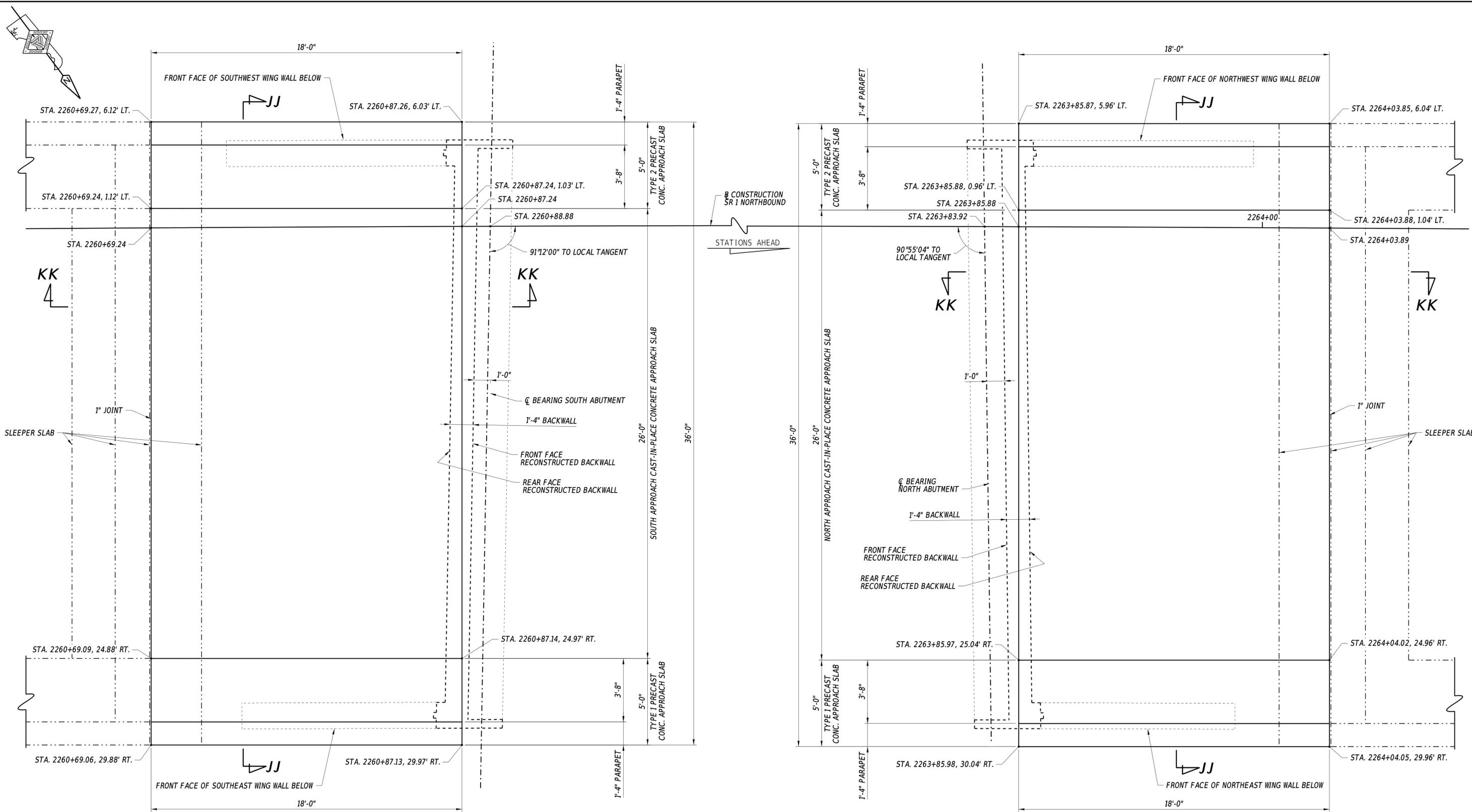
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**TYPE 2 CAST-IN-PLACE
SLEEPER SLAB DETAILS**

AS-07
SECTION
WRA
SHEET NO.
81

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APPROACH SLAB LAYOUT PLAN

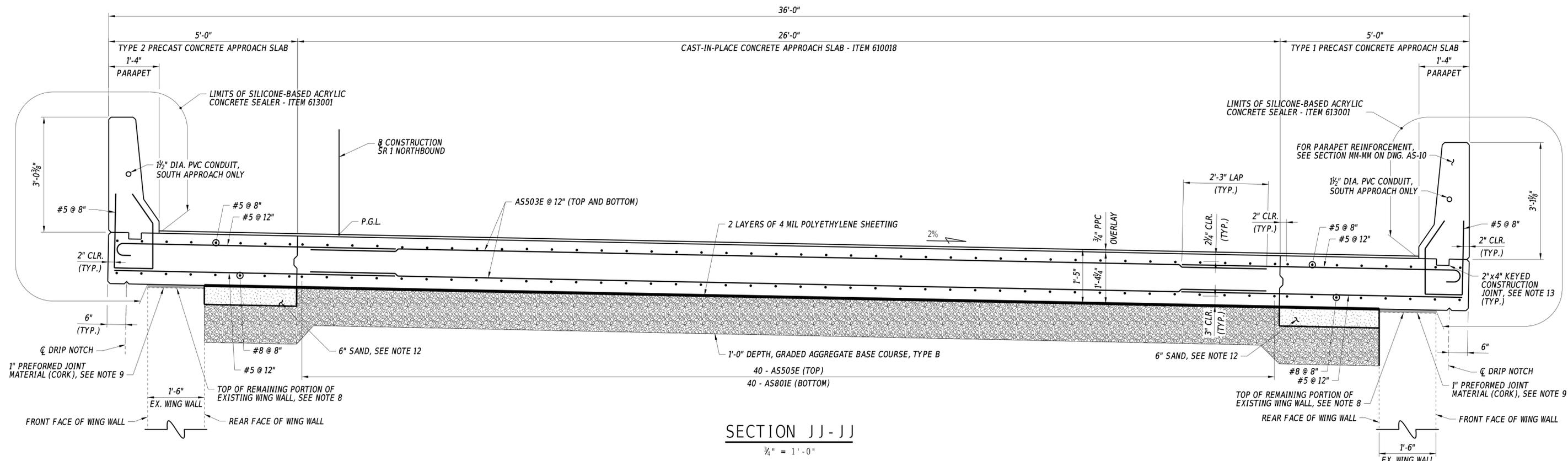
3/8" = 1'-0"

NOTES:

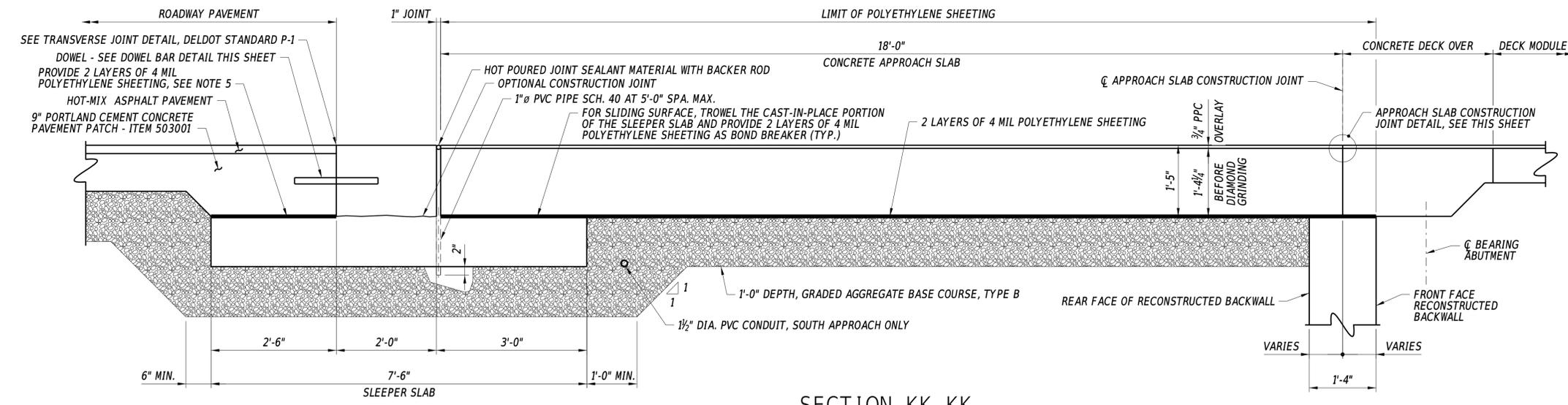
- FOR SECTIONS JJ-JJ AND KK-KK, SEE DWG. AS-09.
- FOR SLEEPER SLAB DETAILS, SEE DWG. AS-01 THRU AS-07.
- FOR PRECAST APPROACH SLAB DETAILS, SEE DWG. AS-10 AND AS-11.
- FOR CAST-IN-PLACE APPROACH SLAB REINFORCEMENT DETAILS, SEE DWGS. AS-09 AND AS-12.

4/28/2020
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	APPROACH SLAB LAYOUT PLAN	AS-08	
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION	WRA
				COUNTY	CHECKED BY:	W. GESCHREI		SHEET NO.	82
				SUSSEX					

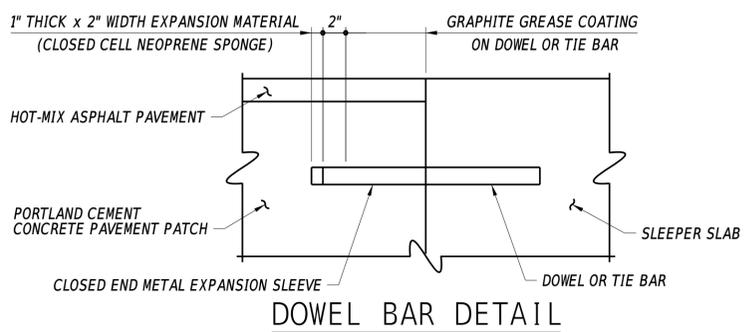


SECTION JJ-JJ
 $\frac{3}{8}'' = 1' - 0''$

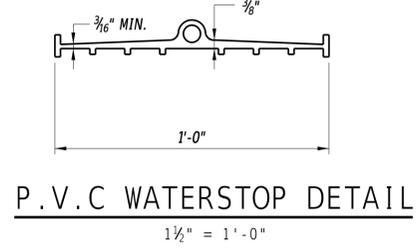


SECTION KK-KK
 $\frac{3}{8}'' = 1' - 0''$

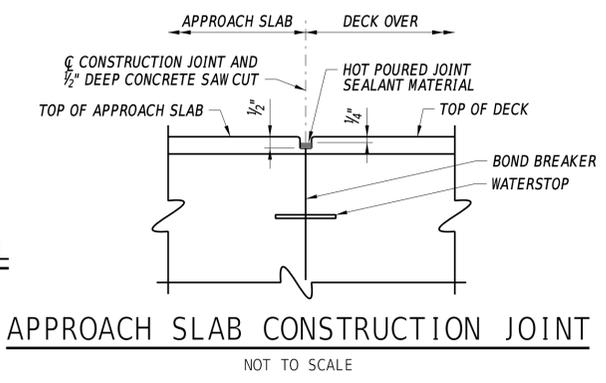
- NOTES:**
- FOR SLEEPER SLAB DETAILS, SEE DWG. AS-01 THRU AS-07.
 - FOR APPROACH SLAB LAYOUT PLAN AND LOCATION OF SECTIONS JJ-JJ AND KK-KK, SEE DWG. AS-08.
 - FOR PRECAST APPROACH SLAB DETAILS, SEE DWG. AS-10 AND AS-11.
 - FOR ADDITIONAL CAST-IN-PLACE APPROACH SLAB REINFORCEMENT DETAILS, SEE DWG. AS-12.
 - PAYMENT FOR POLYETHYLENE SHEETING, BOND BREAKER, WATERSTOP, 1/2" DEEP CONCRETE SAW CUT, PVC PIPE, AND HOT Poured JOINT SEALANT WILL BE INCIDENTAL TO ITEM 610018 - PORTLAND CEMENT CONCRETE, APPROACH SLAB, CLASS D.
 - PAYMENT FOR FULL DEPTH SAWCUT THROUGH PPC OVERLAY WILL BE INCIDENTAL TO ITEM 625501 - POLYESTER POLYMER CONCRETE OVERLAY INSTALLATION.
 - FOR ADDITIONAL ROADWAY PAVEMENT DETAILS, SEE DELDOT STANDARD P-1. PAYMENT FOR ROADWAY JOINTS WILL BE INCIDENTAL TO THE ROADWAY PAVEMENT ITEM.
 - FOR LIMITS OF EXISTING WING WALL REMOVAL, SEE DWG. SR-03.
 - PAYMENT FOR PREFORMED JOINT MATERIAL (CORK) WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.
 - THE CONTRACTOR HAS THE OPTION TO CAST THE DOWELS IN THE SLEEPER SLAB OR DRILL HOLES IN THE SLEEPER SLAB AT NO ADDITIONAL COST TO THE DEPARTMENT FOR WHICHEVER OPTION IS SELECTED. IF DRILLING HOLES INTO THE SLEEPER SLAB, THE HOLES SHALL BE LOCATED TO AVOID REINFORCEMENT. PAYMENT FOR THIS WILL BE INCIDENTAL TO ITEM 503001 - PATCHING PORTLAND CEMENT CONCRETE PAVEMENT, 6' TO 15', TYPE A.
 - FOR CONCRETE DECK OVER DETAILS, SEE DWGS. DK-01 AND DK-02.
 - PRECAST PORTIONS OF THE APPROACH SLABS NOT BEARING ON THE BACKWALL OR SLEEPER SLAB AND NOT DIRECTLY ABOVE THE EXISTING WING WALLS SHALL BEAR ON 6" OF SAND. COSTS FOR FURNISHING AND PLACING THE SAND WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL ALTERNATIVES TO THE SAND TO PROVIDE A SMOOTH BEARING SURFACE FOR THE PRECAST APPROACH SLABS. ANY ACCEPTED ALTERNATIVES WILL BE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
 - THE CONTRACTOR HAS THE OPTION OF PROVIDING A ROUGHENED CONSTRUCTION JOINT TO A 1/4" AMPLITUDE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.



DOWEL BAR DETAIL
 NOT TO SCALE



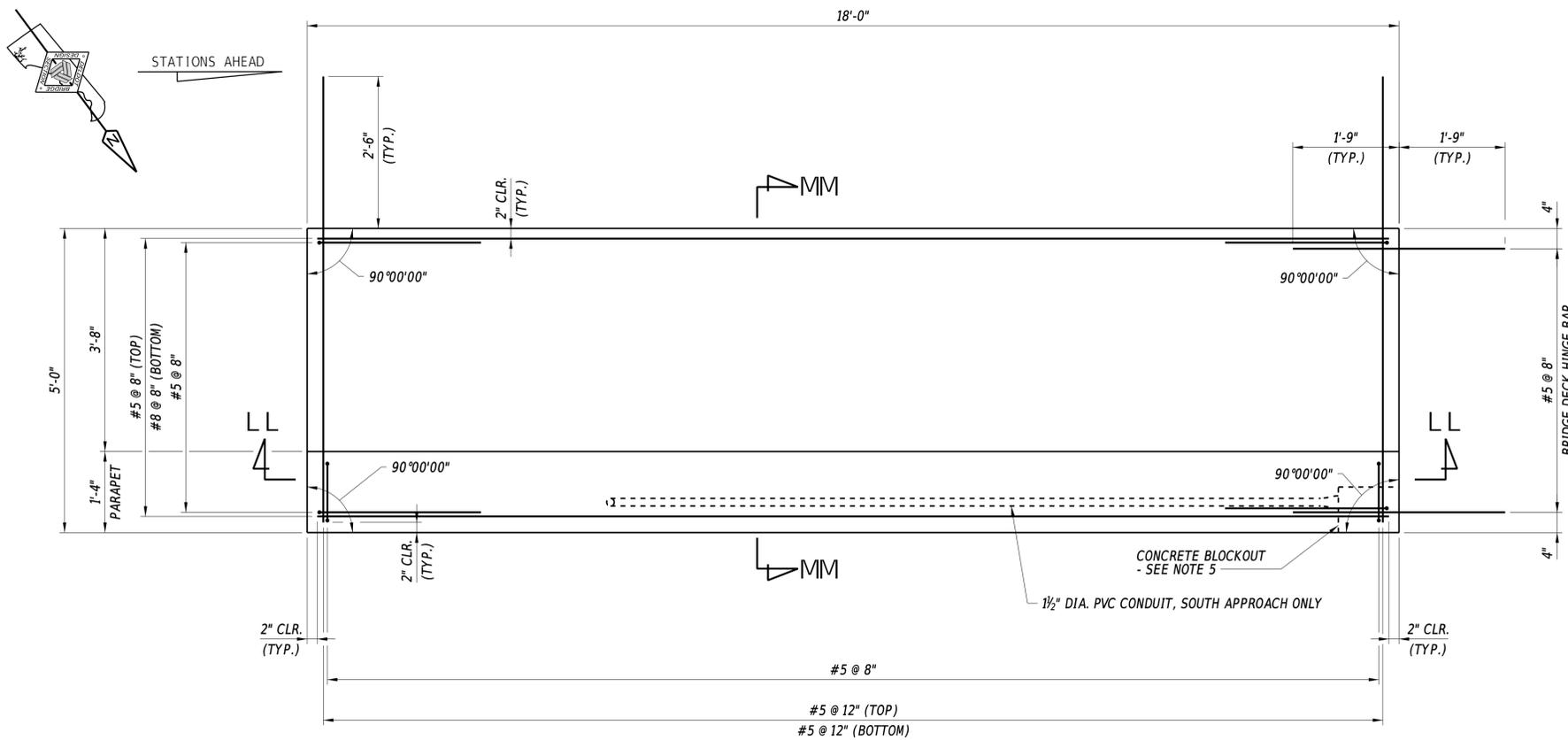
P.V.C WATERSTOP DETAIL
 $\frac{1}{2}'' = 1' - 0''$



APPROACH SLAB CONSTRUCTION JOINT
 NOT TO SCALE

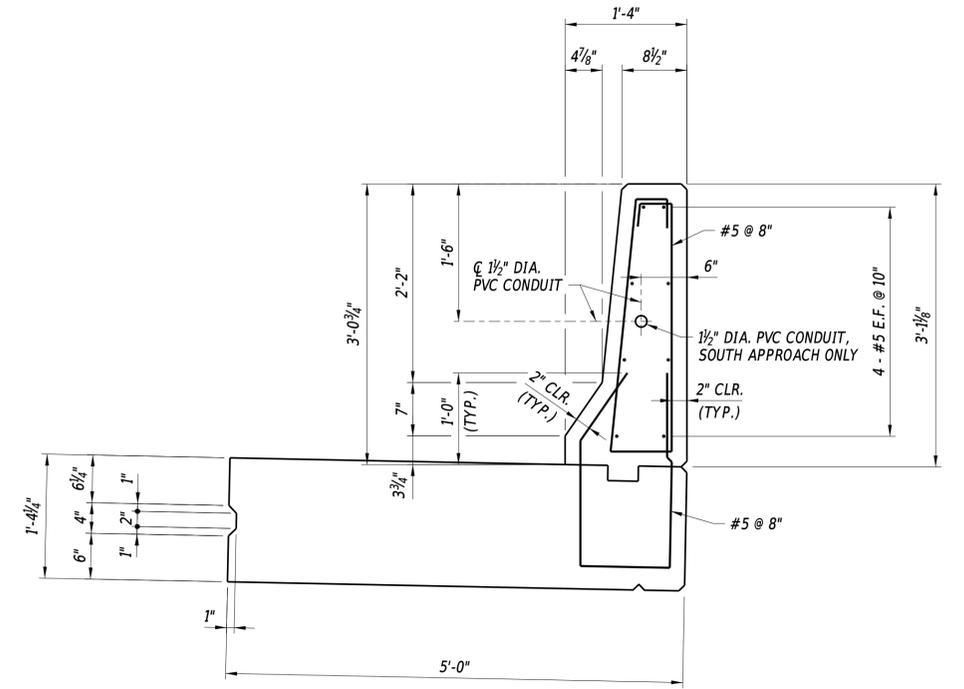
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	SECTION	AS-09
				T201907601	DESIGNED BY: F. OPHARDT	APPROACH SLAB TYPICAL SECTION		SECTION
		COUNTY	SUSSEX	CHECKED BY: W. GESCHREI	SHEET NO.		83	



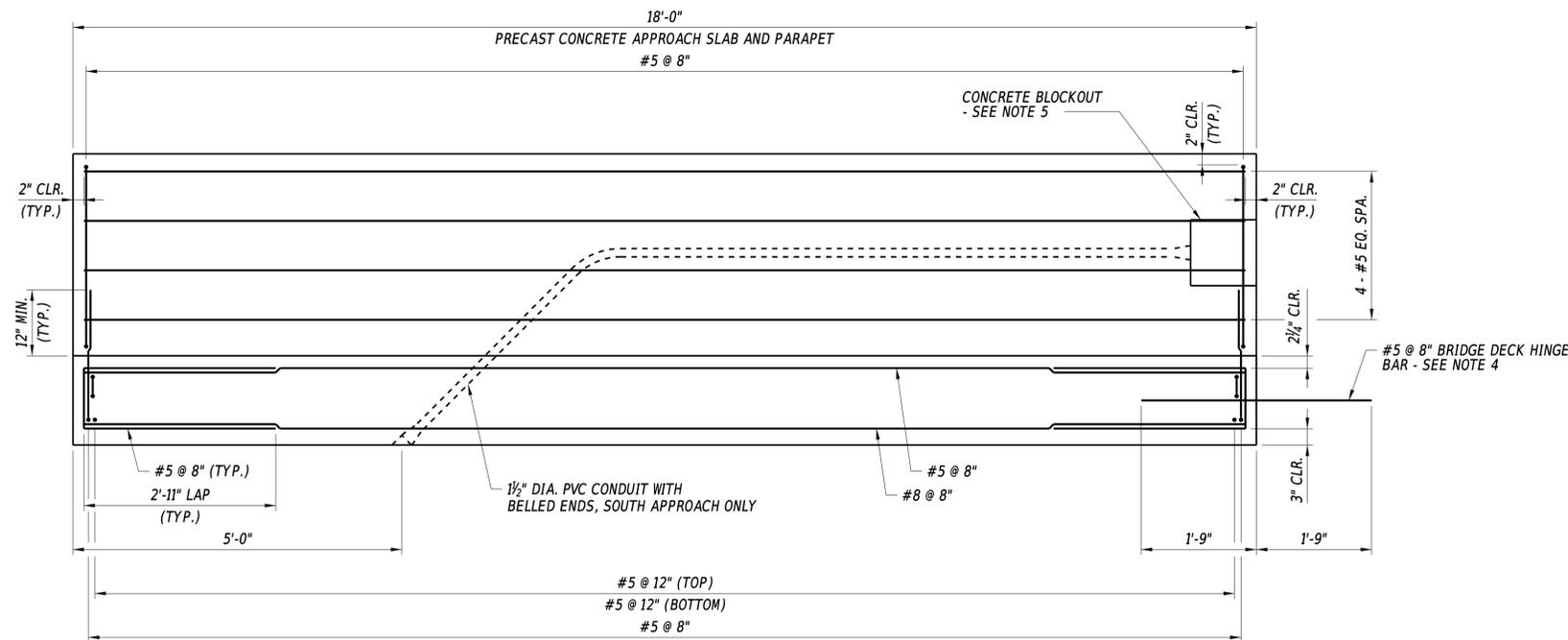
TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN

(2 REQUIRED)
3/4" = 1'-0"



SECTION MM-MM

1" = 1'-0"



SECTION LL-LL

3/4" = 1'-0"

NOTES:

1. FOR LOCATIONS OF TYPE 1 PRECAST CONCRETE APPROACH SLAB, SEE DWG. AS-08.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SECTION JJ-JJ ON DWG. AS-09.
3. SOUTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SHOWN, NORTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.
4. THE CONTRACTOR HAS THE OPTION OF EXTENDING THE BRIDGE DECK HINGE BAR TO THE REQUIRED LENGTH BEYOND THE LIMITS OF THE PRECAST CONCRETE USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.
5. THE CONTRACTOR SHALL PROVIDE CONCRETE BLOCKOUT DETAIL TO THE ENGINEER FOR APPROVAL.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**TYPE 1 PRECAST CONCRETE
APPROACH SLAB DETAILS**

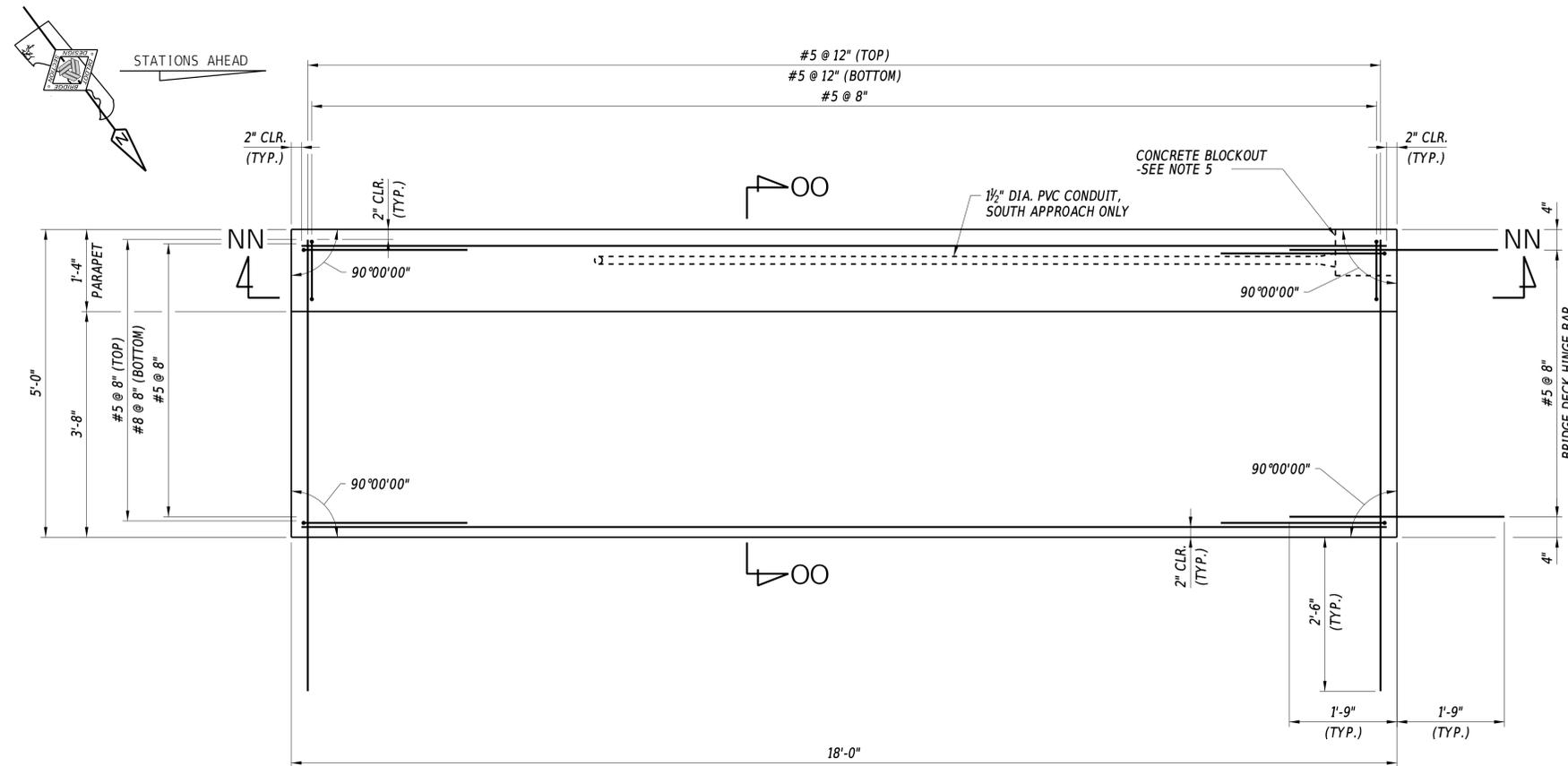
AS-10

SECTION

WRA

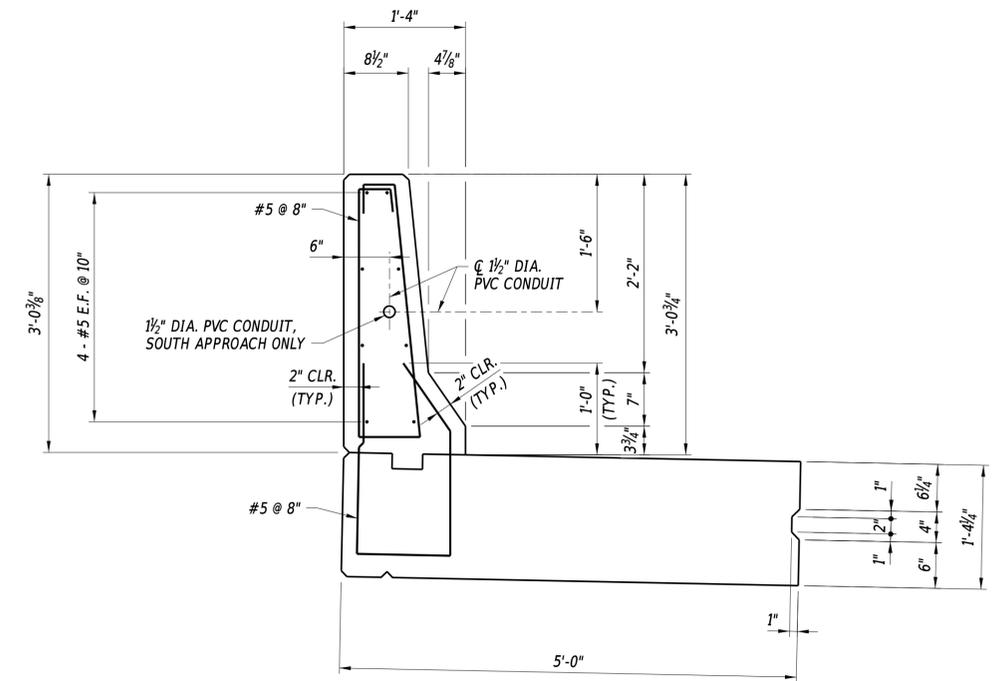
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84



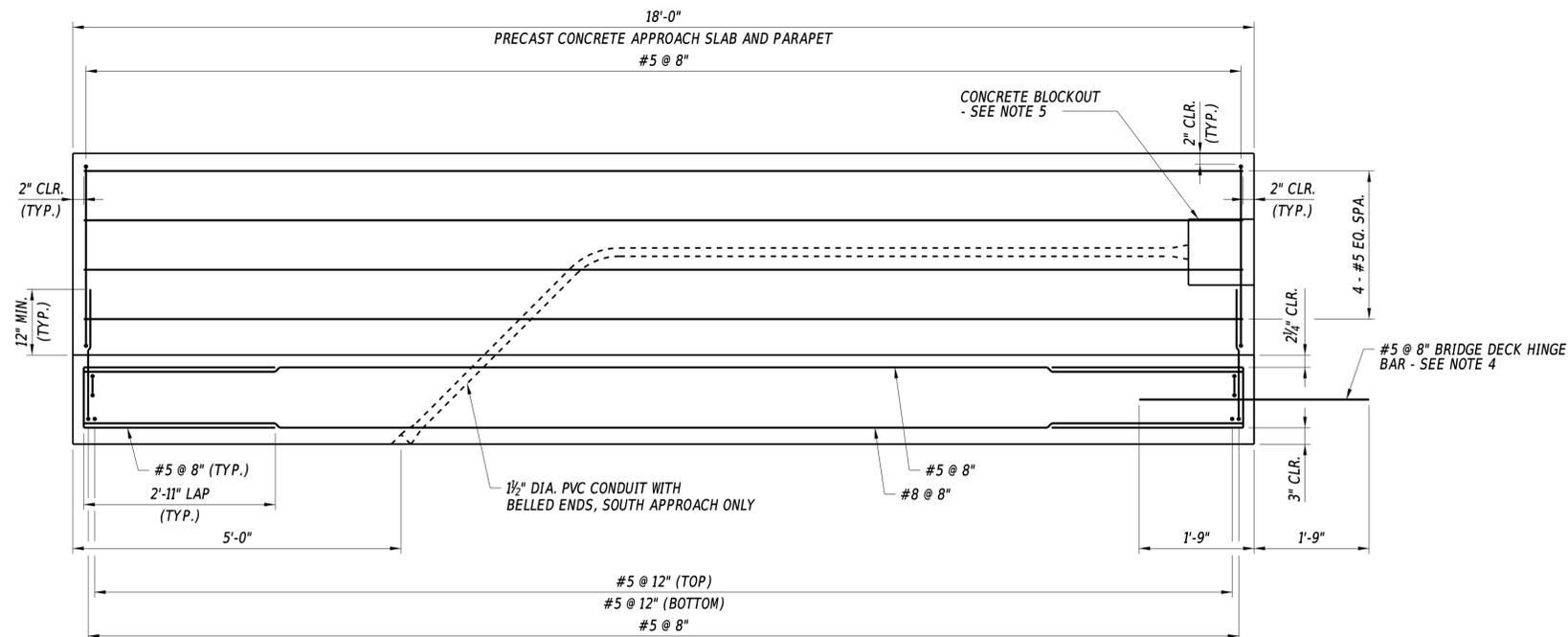
TYPE 2 PRECAST CONCRETE APPROACH SLAB PLAN

(2 REQUIRED)
3/4" = 1'-0"



SECTION OO-OO

1" = 1'-0"



SECTION NN-NN

3/4" = 1'-0"

NOTES:

1. FOR LOCATIONS OF TYPE 2 PRECAST CONCRETE APPROACH SLABS, SEE DWG. AS-08.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SECTION JJ-JJ, SEE DWG. AS-09.
3. SOUTH APPROACH TYPE 2 PRECAST CONCRETE APPROACH SLAB PLAN SHOWN, NORTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.
4. THE CONTRACTOR HAS THE OPTION OF EXTENDING THE BRIDGE DECK HINGE BAR TO THE REQUIRED LENGTH BEYOND THE LIMITS OF THE PRECAST CONCRETE USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.
5. THE CONTRACTOR SHALL PROVIDE CONCRETE BLOCKOUT DETAILS FOR APPROVAL.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**TYPE 2 PRECAST CONCRETE
APPROACH SLAB DETAILS**

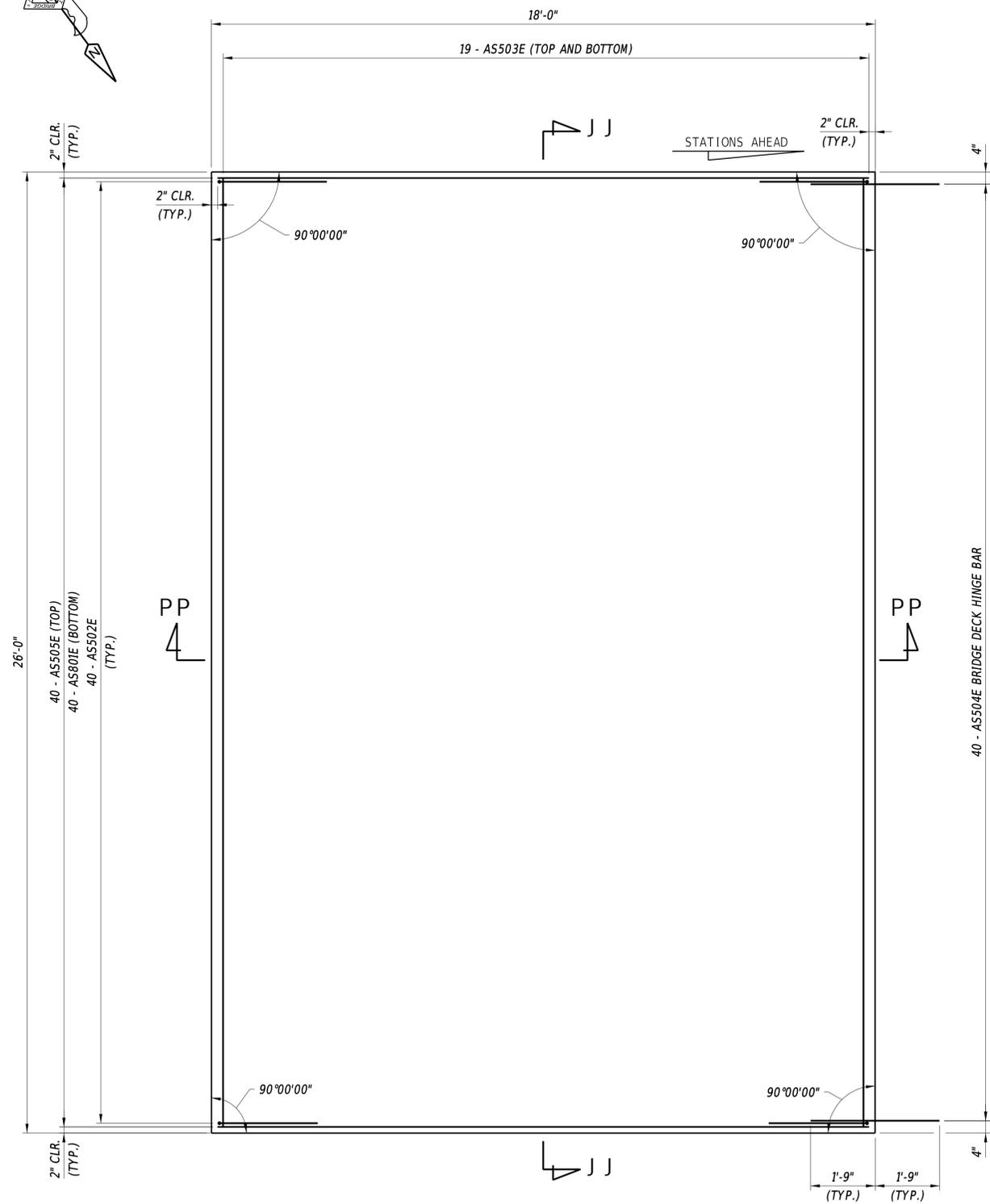
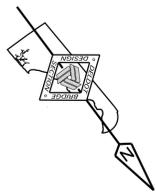
AS-11

SECTION

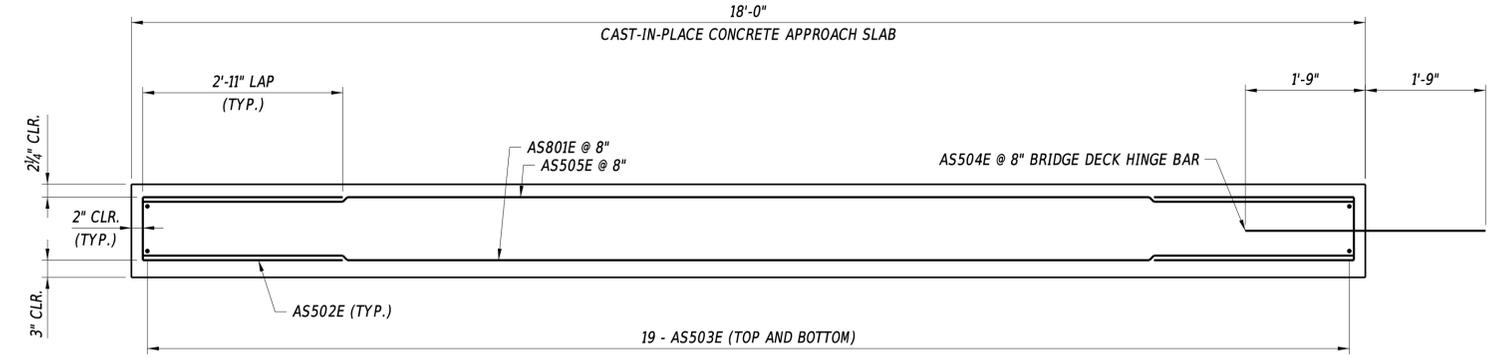
WRA

SHEET NO.

85



CAST-IN-PLACE CONCRETE APPROACH SLAB PLAN
 $\frac{1}{2}'' = 1' - 0''$

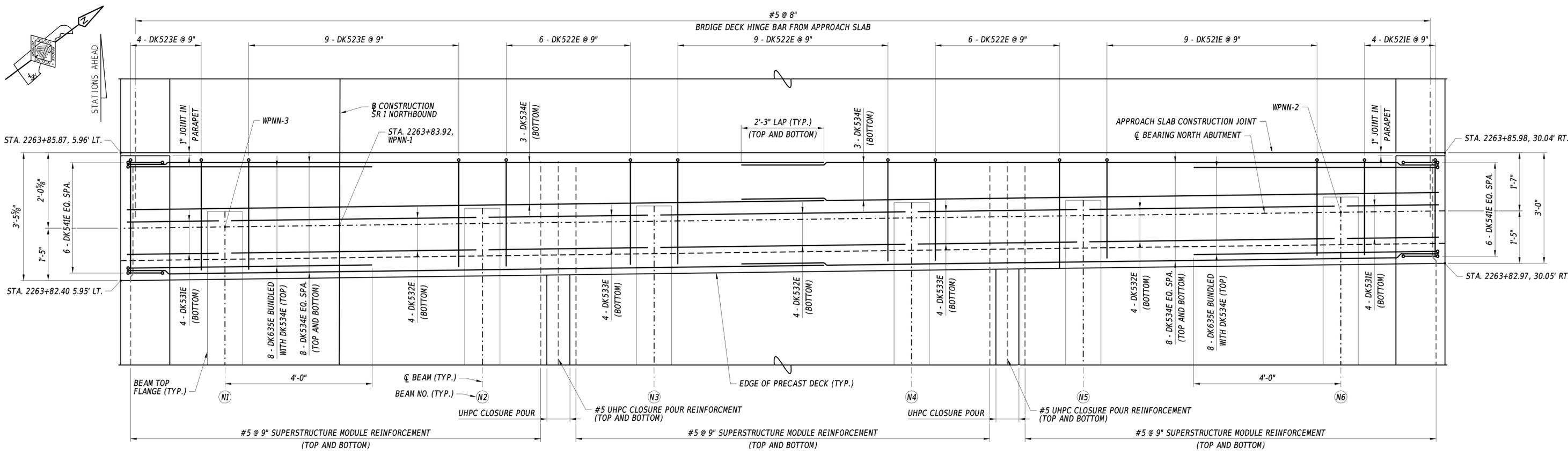
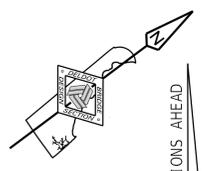


SECTION PP-PP
 $\frac{3}{4}'' = 1' - 0''$

- NOTES:**
- FOR LOCATIONS OF CAST-IN-PLACE APPROACH SLABS, SEE DWG. AS-08.
 - FOR SECTION JJ-JJ, SEE DWG. AS-09.
 - SOUTH APPROACH CAST-IN-PLACE CONCRETE APPROACH SLAB PLAN SHOWN. NORTH APPROACH CAST-IN-PLACE CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.

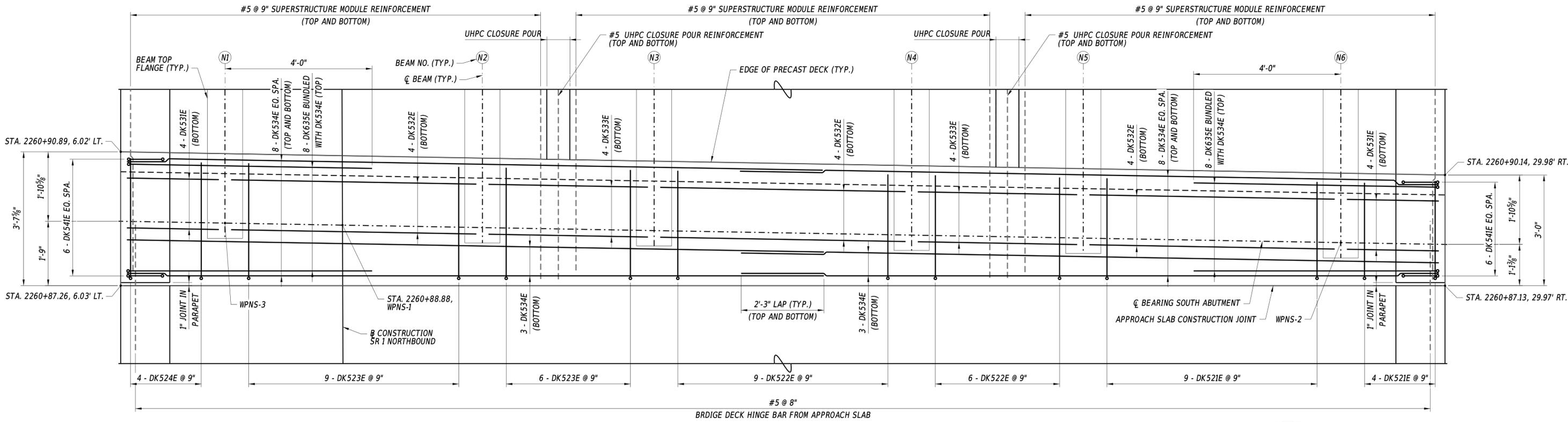
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N	CAST-IN-PLACE CONCRETE APPROACH SLAB REINFORCEMENT DETAILS	AS-12
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
		COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	86		
		SUSSEX						



NORTH ABUTMENT DECK OVER PLAN

$\frac{3}{4}'' = 1' - 0''$



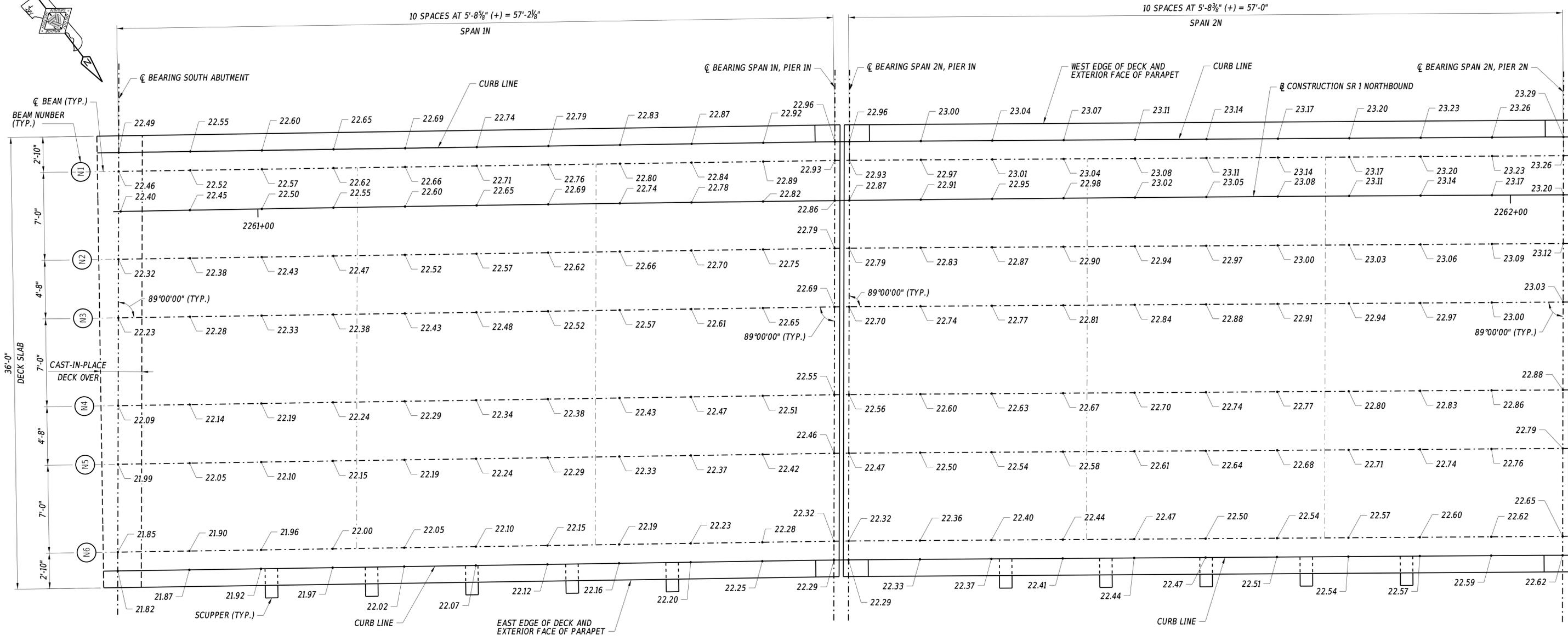
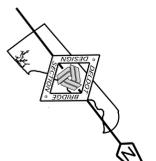
SOUTH ABUTMENT DECK OVER PLAN

$\frac{3}{4}'' = 1' - 0''$

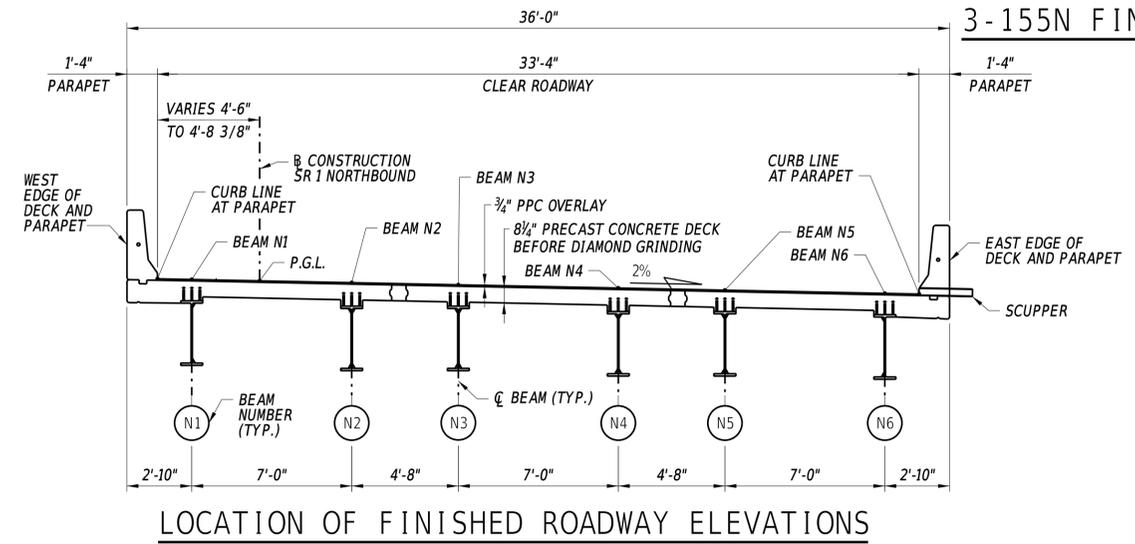
- NOTES:**
1. FOR DECK OVER DETAILS, SEE DWG. DK-01.
 2. FOR APPROACH SLAB DETAILS, SEE DWGS. AS-08 THRU AS-12.
 3. FOR SUPERSTRUCTURE MODULES, SEE DWGS. BM-01 THRU BM-12.

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<p>ADDENDA / REVISIONS</p>	<p>SCALE AS NOTED</p>	<p>BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			<p>DECK OVER PLAN</p>	<p>DK-02</p> <p style="font-size: x-small;">SECTION WRA SHEET NO. 88</p>
CONTRACT	BRIDGE NO.	3-155N															
T201907601	DESIGNED BY:	F. OPHARDT															
COUNTY	CHECKED BY:	W. GESCHREI															
SUSSEX																	



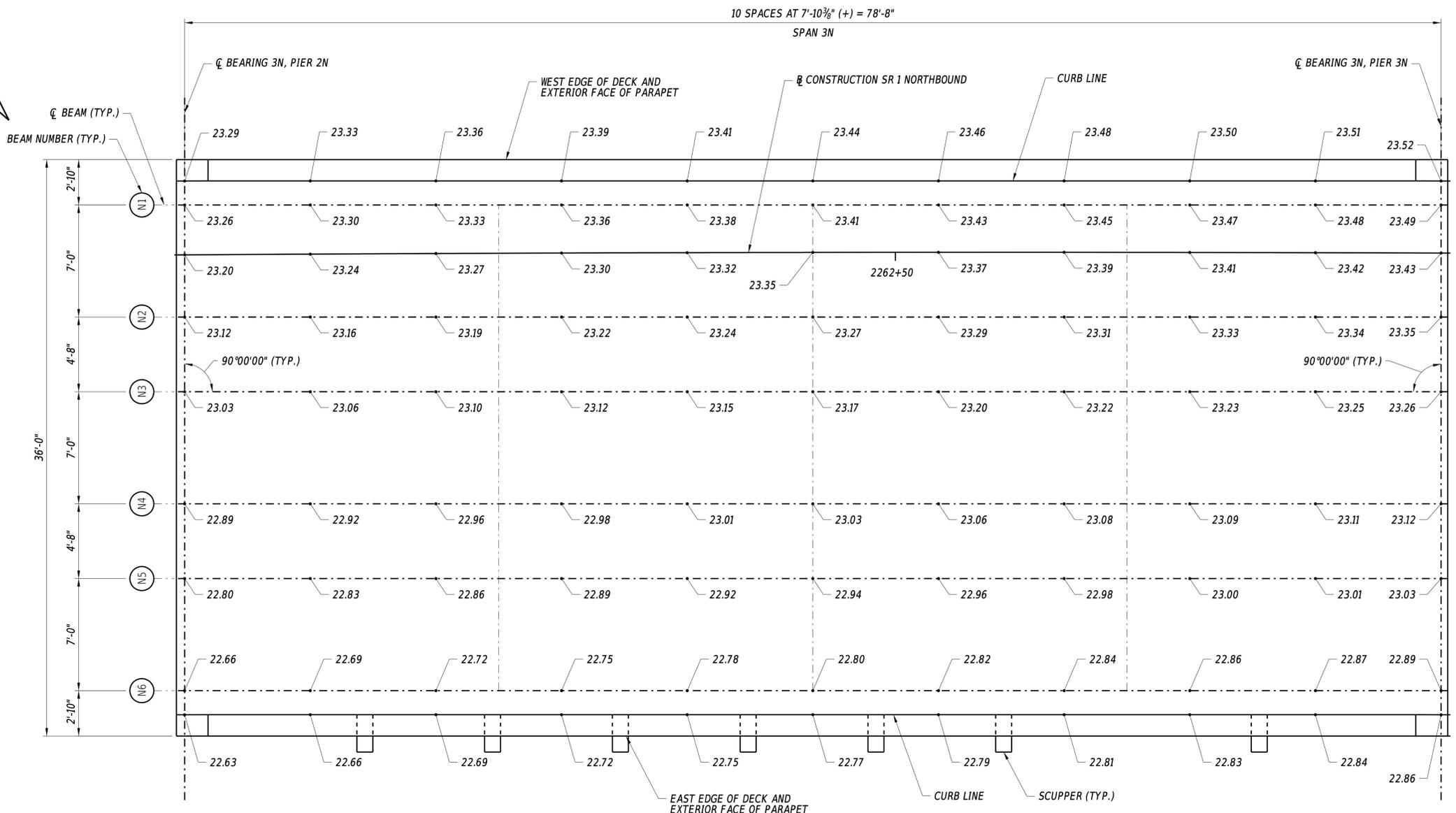
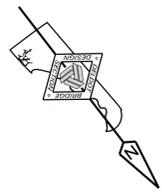
3-155N FINISHED ROADWAY ELEVATIONS - SPAN 1N AND SPAN 2N



- NOTES:**
1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
 2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
 3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS, SEE DWGS. BM-03, BM-05, BM-07, BM-09, AND BM-11.

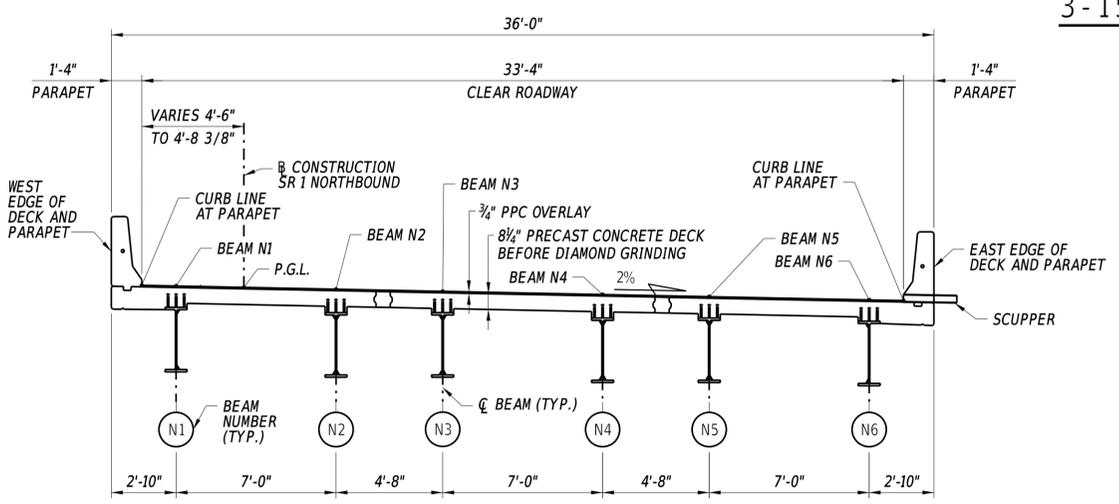
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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td style="font-size: small;">K. YI</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td style="font-size: small;">H. QIN</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N	T201907601	DESIGNED BY:	K. YI	COUNTY	CHECKED BY:	H. QIN	SUSSEX			FINISHED ROADWAY ELEVATIONS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-weight: bold; font-size: small;">DK-03</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">RJM</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">89</td> </tr> </table>	DK-03	SECTION	RJM	SHEET NO.	89
CONTRACT	BRIDGE NO.	3-155N																				
T201907601	DESIGNED BY:	K. YI																				
COUNTY	CHECKED BY:	H. QIN																				
SUSSEX																						
DK-03																						
SECTION																						
RJM																						
SHEET NO.																						
89																						



3-155N FINISHED ROADWAY ELEVATIONS - SPAN 3N

1/4" = 1'-0"



LOCATION OF FINISHED ROADWAY ELEVATIONS

1/4" = 1'-0"

NOTES:

1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS, SEE DWGS. BM-03, BM-05, BM-07, BM-09, AND BM-11.

4/28/2020 2:02:55 PM N:\31212-003\CADD\Bridges\BR3-155N_DK04.dgn

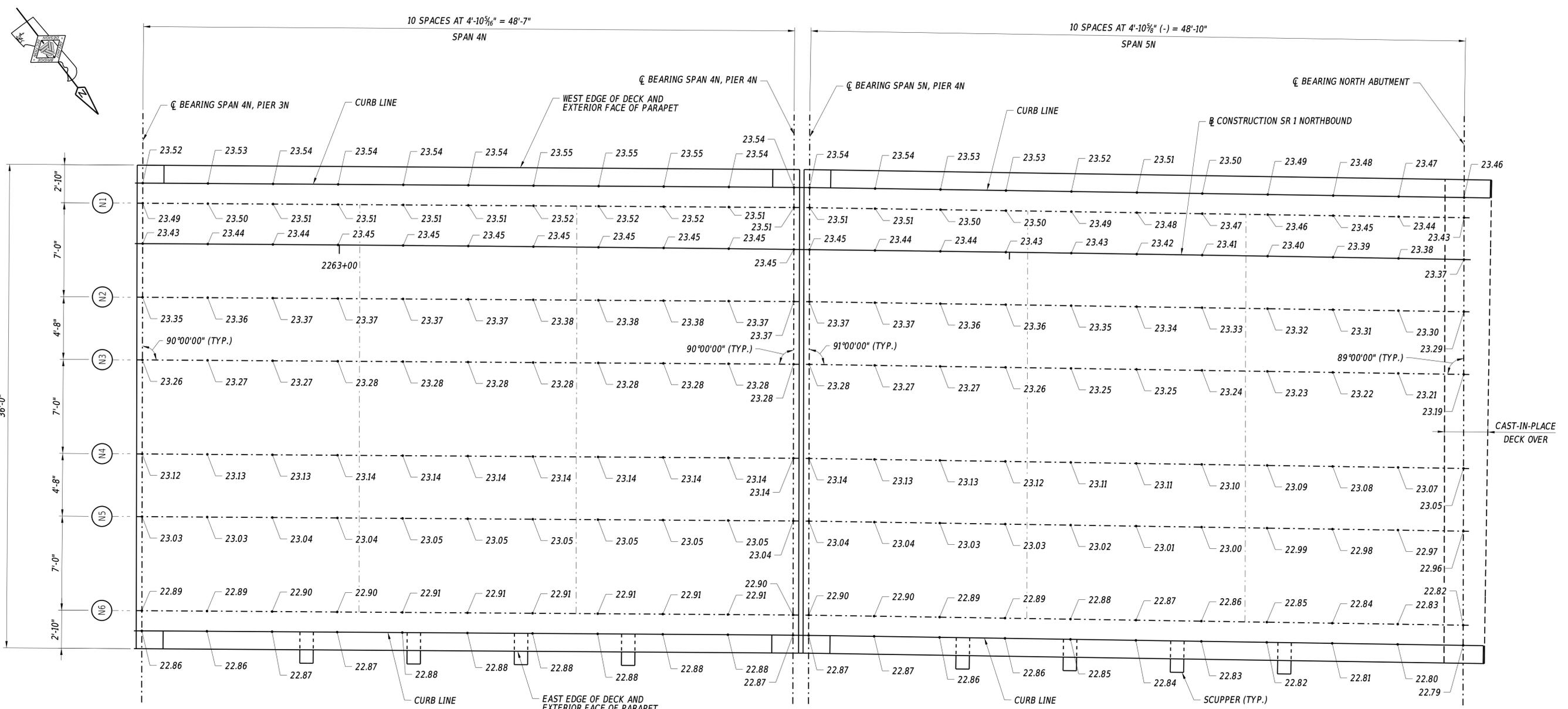
ADDENDA / REVISIONS	

SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

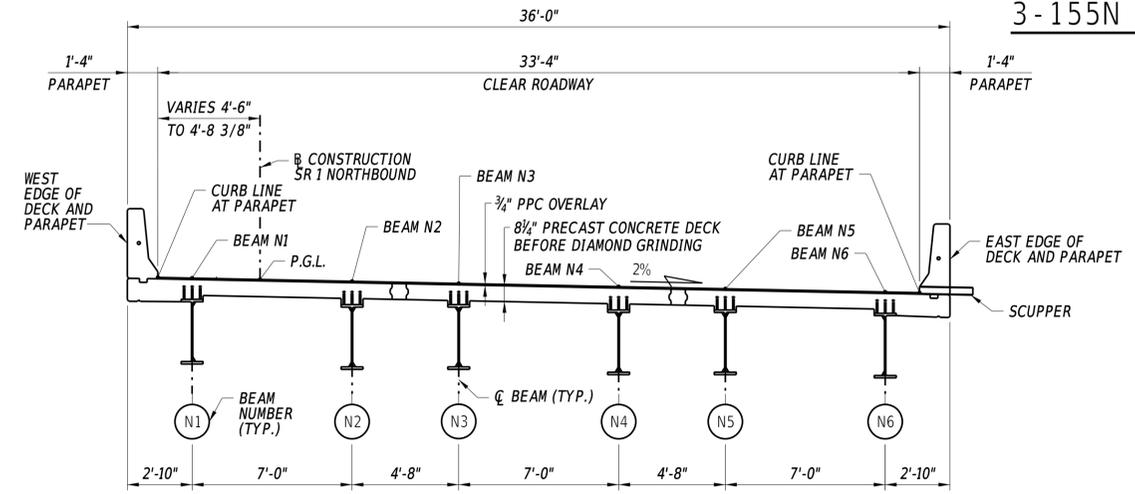
CONTRACT T201907601	BRIDGE NO. 3-155N
COUNTY SUSSEX	DESIGNED BY: K. YI
	CHECKED BY: H. QIN

FINISHED ROADWAY ELEVATIONS - 2	SECTION DK-04
	RJM
	SHEET NO. 90



3-155N FINISHED ROADWAY ELEVATIONS - SPAN 4N AND SPAN 5N

1/4" = 1'-0"



LOCATION OF FINISHED ROADWAY ELEVATIONS

1/4" = 1'-0"

NOTES:

1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS, SEE DWGS. BM-03, BM-05, BM-07, BM-09, AND BM-11.

4/28/2020 2:02:58 PM N:\312122-003\CADD\Bridges\BR3-155N_DK05.dgn

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N
T201907601	DESIGNED BY:	K. YI
COUNTY	CHECKED BY:	H. QIN
SUSSEX		

**FINISHED ROADWAY
ELEVATIONS - 3**

DK-05
SECTION
RJM
SHEET NO.
91

- ① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.
- ② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SS = SLEEPER SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

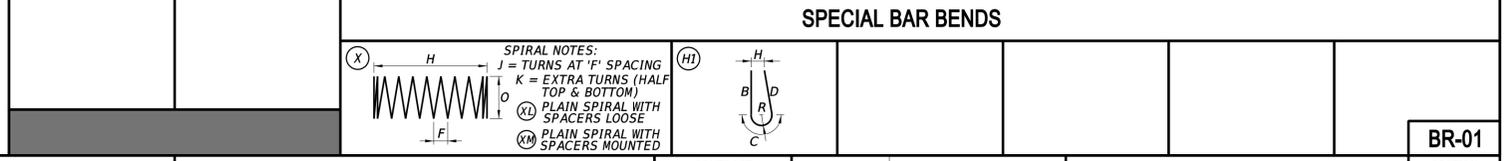
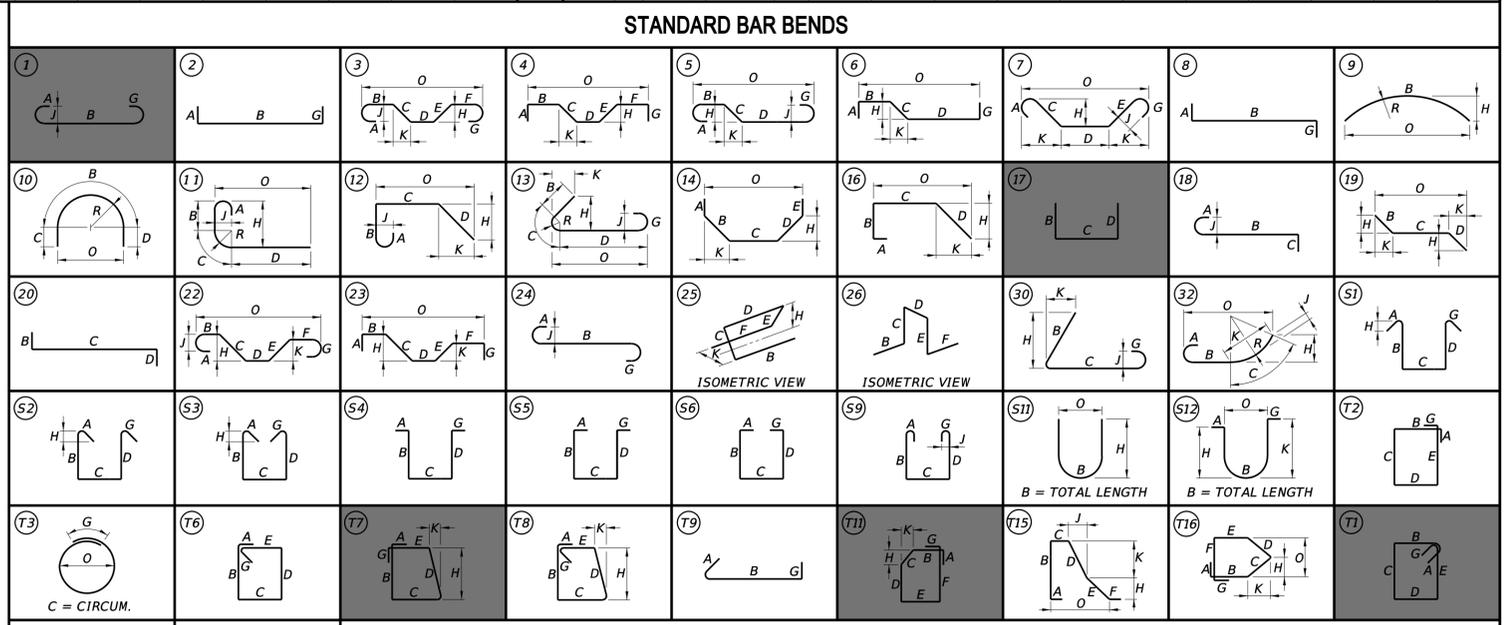
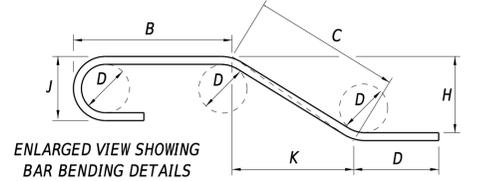
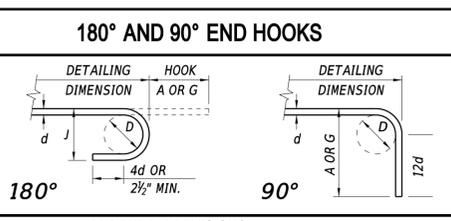
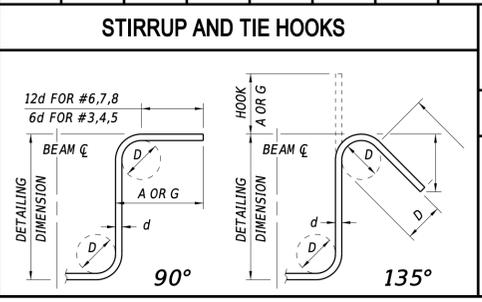
SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
NORTH APPROACH SLAB															
40	8	17-80	AS801E	STR		17-80									
80	5	6-102	AS502E	17		3-00	0-102	3-00							
38	5	25-80	AS503E	STR		25-80									
40	5	3-60	AS504E	STR		3-60									
40	5	17-80	AS505E	STR		17-80									
NORTH SLEEPER SLAB															
54	8	6-110	SS801E	STR		6-110									
22	5	25-80	SS502E	STR		25-80									
27	5	7-112	SS503E	T1	0-52	1-72	1-103	1-72	1-103		0-52				
18	5	12-111	SS504E	STR		12-111									
SOUTH APPROACH SLAB															
40	8	17-80	AS801E	STR		17-80									
80	5	6-102	AS502E	17		3-00	0-102	3-00							
38	5	25-80	AS503E	STR		25-80									
40	5	3-60	AS504E	STR		3-60									
40	5	17-80	AS505E	STR		17-80									
SOUTH SLEEPER SLAB															
54	8	6-110	SS801E	STR		6-110									
22	5	25-80	SS502E	STR		25-80									
27	5	7-112	SS503E	T1	0-52	1-72	1-103	1-72	1-103		0-52				
18	5	12-111	SS504E	STR		12-111									
SPAN 1N, UHPC LONGITUDINAL CLOSURE POUR															
8	5	29-51	DK501E	STR		29-51									
SPAN 2N, UHPC LONGITUDINAL CLOSURE POUR															
8	5	29-51	DK501E	STR		29-51									
SPAN 3N, UHPC LONGITUDINAL CLOSURE POUR															
12	5	26-101	DK502E	STR		26-101									
SPAN 4N, UHPC LONGITUDINAL CLOSURE POUR															
8	5	25-60	DK503E	STR		25-60									
SPAN 5N, UHPC LONGITUDINAL CLOSURE POUR															
8	5	25-60	DK503E	STR		25-60									

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
NORTH ABUTMENT DECK OVER															
13	5	6-71	DK521E	T11			0-93	2-11	1-01	2-80		0-63		0-63	
21	5	6-102	DK522E	T11			0-93	2-23	1-01	2-93		0-63		0-63	
13	5	7-32	DK523E	T11			0-93	2-51	1-01	3-01		0-63		0-63	
8	5	2-60	DK531E	STR		2-60									
12	5	6-80	DK532E	STR		6-80									
8	5	4-40	DK533E	STR		4-40									
38	5	18-112	DK534E	STR		18-112									
16	6	7-60	DK635E	1	0-80	6-100							0-60		
12	5	5-02	DK541E	T11			1-00	1-10	1-00	1-112		0-102		0-53	
12	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
SOUTH ABUTMENT DECK OVER															
13	5	6-71	DK521E	T11			0-93	2-11	1-01	2-80		0-63		0-63	
15	5	6-102	DK522E	T11			0-93	2-23	1-01	2-93		0-63		0-63	
15	5	7-32	DK523E	T11			0-93	2-51	1-01	3-01		0-63		0-63	
4	5	7-92	DK524E	T11			0-93	2-81	1-01	3-31		0-63		0-63	
8	5	2-60	DK531E	STR		2-60									
12	5	6-80	DK532E	STR		6-80									
8	5	4-40	DK533E	STR		4-40									
38	5	18-112	DK534E	STR		18-112									
16	6	7-60	DK635E	1	0-80	6-100							0-60		
12	5	5-02	DK541E	T11			1-00	1-10	1-00	1-112		0-102		0-53	
12	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
LINK SLAB (TOTAL = 3)															
147	5	5-10	DK512E	STR		4-130									
54	5	18-112	DK513E	STR		18-112									
48	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
EXPANSION JOINT (TOTAL = 1)															
8	5	18-112	DK511E	STR		18-112									
8	6	6-100	DK614E	STR		6-100									
16	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
SOUTH ABUTMENT BACKWALL															
8	5	3-82	BW501E	STR		3-82									
8	5	4-41	BW502E	STR		4-41									
9	5	6-03	BW503E	17		3-60	1-03	1-60							
9	5	3-80	BW504E	STR		3-80									
8	5	3-100	BW505E	STR		3-100									
8	5	4-00	BW506E	STR		4-00									
6	5	4-20	BW507E	STR		4-20									
9	6	4-50	BW608E	STR		4-50									
8	6	4-70	BW609E	STR		4-70									
8	6	4-90	BW610E	STR		4-90									
6	6	4-110	BW611E	STR		4-110									
20	5	18-40	BW512E	STR		18-40									
31	5	5-83	BW513E	17		2-60	0-83	2-60							
SOUTH ABUTMENT BEAM SEAT															
6	4	2-52	AB401E	17		1-22	1-30								
8	4	3-33	AB402E	17		1-30	2-03								
14	4	2-22	AB403E	17		0-112	1-30								
8	4	5-52	AB404E	17		1-00	4-52								
14	4	1-113	AB405E	17		0-83	1-30								
8	4	5-23	AB406E	17		0-91	4-52								
6	4	1-101	AB407E	17		0-71	1-30								
8	4	2-100	AB408E	17		0-73	2-21								

ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOK	
	DIAMETER (INCHES)	AREA ² (INCHES)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	10"	3"	7"	6"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	12"	3 1/2"	8"	7"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	14"	4"	9"	8"	6"
9	1.128	1.000	3.400	6 3/4"	13"	9"	16"	4 1/2"	10"	9"	7"
10	1.270	1.270	4.303	7 1/4"	15"	10"	18"	5"	11"	10"	8"
11	1.410	1.560	5.313	8"	17"	11"	20"	5 1/2"	12"	11"	9"
14	1.693	2.250	7.650	9 1/2"	21"	14"	24"	6 1/2"	15"	14"	11"
18	2.257	4.000	13.600	12 1/2"	28"	19"	32"	8 1/2"	20"	19"	14"

- NOTES:**
- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
 - STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
 - ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
 - "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
 - WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
 - "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
 - UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
 - WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
 - WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
 - FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
 - TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.



- ① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.
 ② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SS = SLEEPER SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
NORTH ABUTMENT BACKWALL															
8	5	3-7.3	BW521E	STR		3-7.3									
8	5	4-3.3	BW522E	STR		4-3.3									
9	5	6-0.3	BW523E	17		3-6.0	1-0.3	1-6.0							
7	5	3-7.0	BW524E	STR		3-7.0									
9	5	3-9.0	BW525E	STR		3-9.0									
8	5	4-0.0	BW526E	STR		3-1.10									
7	5	4-1.0	BW527E	STR		4-1.0									
7	6	4-4.0	BW628E	STR		4-4.0									
9	6	4-6.0	BW629E	STR		4-6.0									
8	6	4-8.0	BW630E	STR		4-8.0									
7	6	4-10.0	BW631E	STR		4-10.0									
20	5	18-4.0	BW532E	STR		18-4.0									
31	5	5-8.3	BW533E	17		2-6.0	0-8.3	2-6.0							
NORTH ABUTMENT BEAM SEAT															
6	4	1-10.0	AB421E	17		0-7.0	1-3.0								
8	4	2-8.3	AB422E	17		0-7.3	2-1.0								
14	4	1-10.3	AB423E	17		0-7.3	1-3.0								
8	4	5-1.3	AB424E	17		0-8.1	4-5.2								
14	4	2-1.2	AB425E	17		0-10.2	1-3.0								
8	4	5-4.3	AB426E	17		0-11.1	4-5.2								
6	4	2-4.1	AB427E	17		1-1.1	1-3.0								
8	4	3-3.3	AB428E	17		1-2.0	2-1.3								

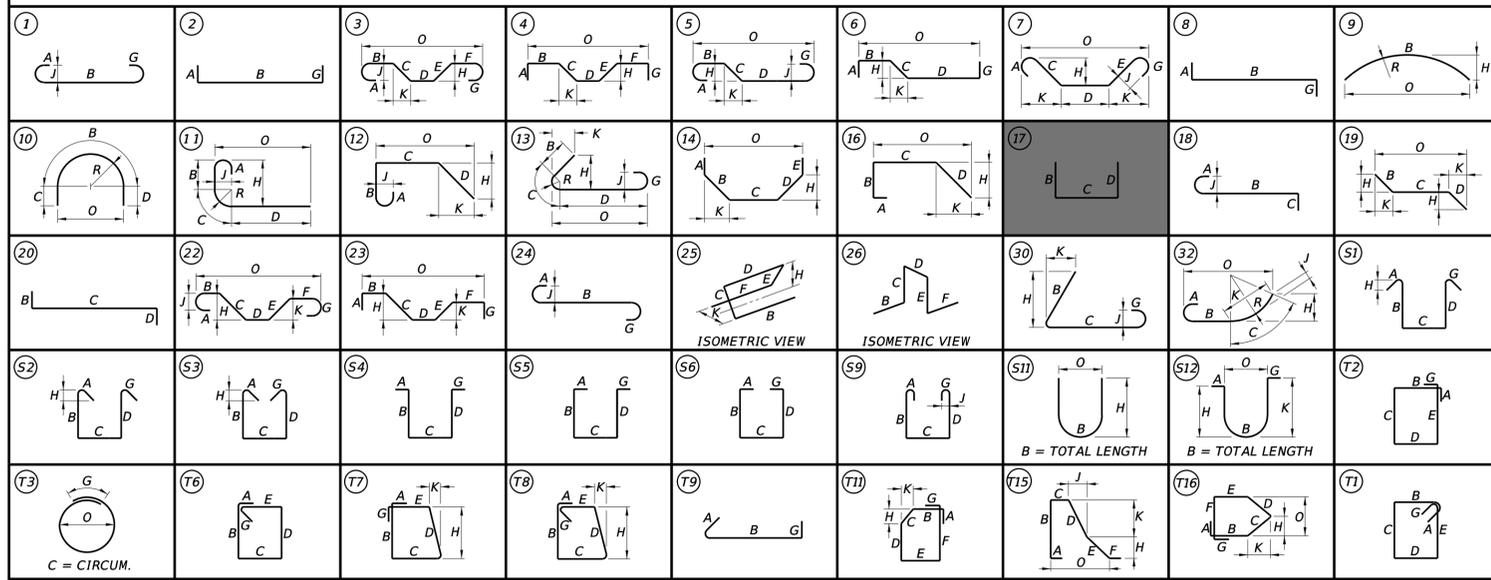
SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
PIER 1N															
8	5	4-4.3	PR501E	17		1-4.3	3-0.0								
10	5	3-7.1	PR502E	17		1-4.1	2-3.0								
8	5	3-9.0	PR503E	17		1-3.0	2-6.0								
12	5	3-4.2	PR504E	17		1-1.2	2-3.0								
4	5	7-1.10	PR505E	STR		7-1.10									
8	5	3-9.2	PR506E	17		1-10.0	1-1.12								
8	5	4-0.2	PR507E	17		1-9.2	2-3.0								
4	5	3-4.2	PR508E	17		1-1.2	2-3.0								
8	5	3-5.1	PR509E	17		0-1.11	2-6.0								
12	5	3-1.2	PR510E	17		0-10.2	2-3.0								
4	5	7-1.10	PR511E	STR		7-1.10									
8	5	3-6.3	PR512E	17		1-7.1	1-1.12								
8	5	3-9.2	PR513E	17		1-6.2	2-3.0								
4	5	3-1.2	PR514E	17		0-10.2	2-3.0								
PIER 2N															
8	5	4-5.0	PR515E	17		1-5.0	3-0.0								
10	5	3-7.2	PR516E	17		1-4.2	2-3.0								
8	5	3-8.1	PR517E	17		1-2.1	2-6.0								
12	5	3-4.2	PR518E	17		1-1.2	2-3.0								
4	5	7-1.10	PR519E	STR		7-1.10									
8	5	3-9.3	PR520E	17		1-10.1	1-1.12								
8	5	4-0.2	PR521E	17		1-9.2	2-3.0								
4	5	3-4.2	PR522E	17		1-1.2	2-3.0								
8	5	3-5.2	PR523E	17		0-1.12	2-6.0								
12	5	3-1.3	PR524E	17		0-10.3	2-3.0								
4	5	7-1.10	PR525E	STR		7-1.10									
8	5	3-7.0	PR526E	17		1-7.2	1-1.12								
8	5	3-9.3	PR527E	17		1-6.3	2-3.0								
4	5	3-1.3	PR528E	17		0-10.3	2-3.0								

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
PIER 3N															
8	5	4-7.0	PR529E	17		1-7.0	3-0.0								
10	5	3-9.2	PR530E	17		1-6.2	2-3.0								
8	5	3-1.3	PR531E	17		0-11.3	3-0.0								
10	5	3-2.0	PR532E	17		0-1.10	2-3.0								
8	5	3-10.1	PR533E	17		1-4.1	2-6.0								
12	5	3-6.3	PR534E	17		1-3.3	2-3.0								
4	5	7-1.10	PR535E	STR		7-1.10									
8	5	3-1.3	PR536E	17		2-0.1	1-1.12								
8	5	4-2.3	PR537E	17		1-1.3	2-3.0								
4	5	3-6.3	PR538E	17		1-3.3	2-3.0								
8	5	3-7.2	PR539E	17		1-1.2	2-6.0								
12	5	3-3.3	PR540E	17		1-0.3	2-3.0								
4	5	7-1.10	PR541E	STR		7-1.10									
8	5	3-9.0	PR542E	17		1-9.2	1-1.12								
8	5	3-1.3	PR543E	17		1-8.3	2-3.0								
4	5	3-3.3	PR544E	17		1-0.3	2-3.0								
PIER 4N															
8	5	4-4.2	PR545E	17		1-4.2	3-0.0								
10	5	3-6.3	PR546E	17		1-3.3	2-3.0								
8	5	3-7.3	PR547E	17		1-1.3	2-6.0								
12	5	3-4.0	PR548E	17		1-1.0	2-3.0								
4	5	7-1.10	PR549E	STR		7-1.10									
8	5	3-9.1	PR550E	17		1-9.3	1-1.12								
8	5	4-0.0	PR551E	17		1-9.0	2-3.0								
4	5	3-4.0	PR552E	17		1-1.0	2-3.0								
8	5	3-5.0	PR553E	17		0-1.10	2-6.0								
12	5	3-1.1	PR554E	17		0-10.1	2-3.0								
4	5	7-1.10	PR555E	STR		7-1.10									
8	5	3-6.2	PR556E	17		1-7.0	1-1.12								
8	5	3-9.1	PR557E	17		1-6.1	2-3.0								
4	5	3-1.1	PR558E	17		0-10.1	2-3.0								

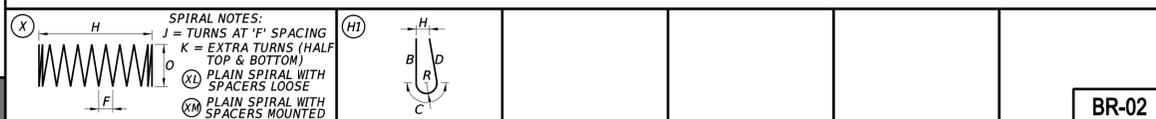
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOK	
	DIAMETER (INCHES)	AREA ² (INCHES)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	10"	3"	7"	6"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1-2"	5 1/4"	1-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1-3"	11 3/4"	1-7"				
10	1.270	1.270	4.303	10 3/4"	1-5"	1-1 1/4"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2 3/4"	2-0"				
14	1.693	2.250	7.650	1-6 1/4"	2-3"	1-9 3/4"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4 1/2"	3-5"				

- NOTES:
 1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
 2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
 3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
 4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
 5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
 6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
 7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
 8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
 9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
 10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
 11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

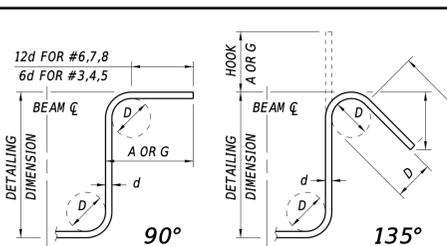
STANDARD BAR BENDS



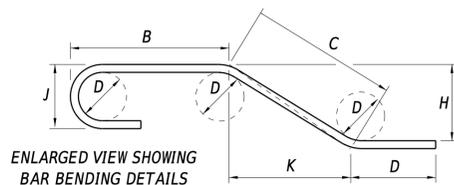
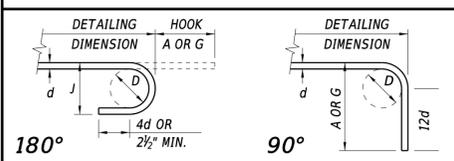
SPECIAL BAR BENDS



STIRRUP AND TIE HOOKS



180° AND 90° END HOOKS



ADDENDA / REVISIONS

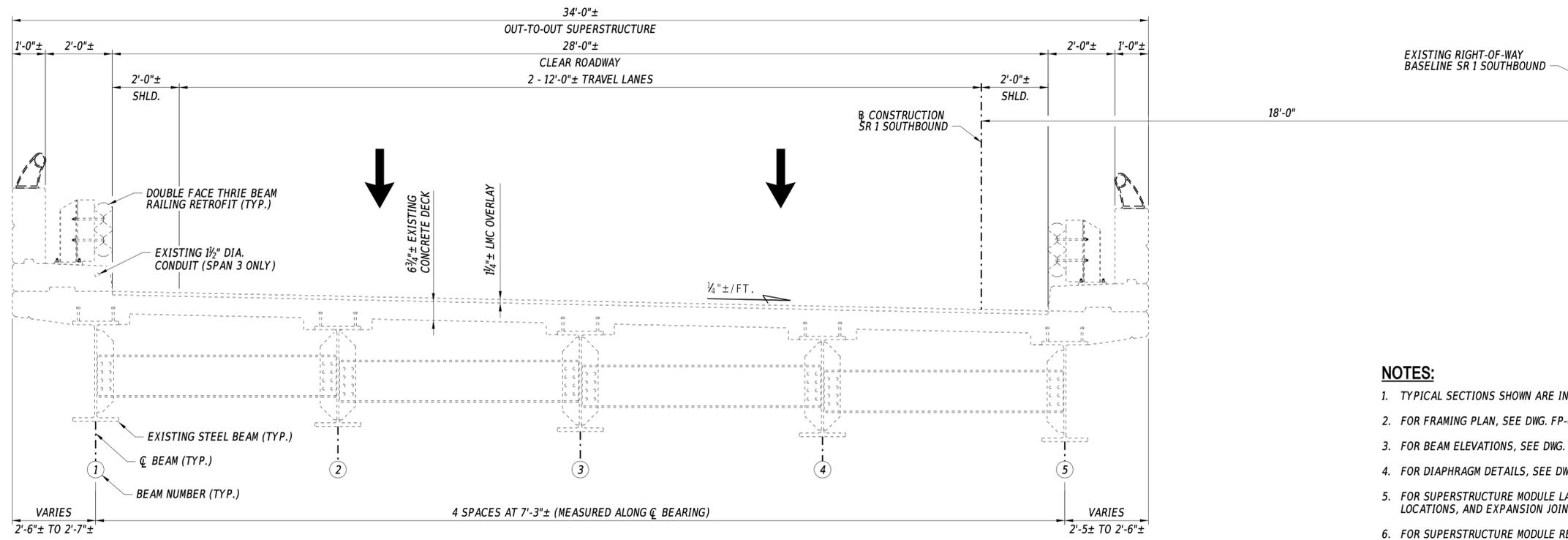
SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT: T201907601
 COUNTY: SUSSEX
 BRIDGE NO.: 3-155N
 DESIGNED BY: K. YI
 CHECKED BY: H. QIN

CAST-IN-PLACE REINFORCING BAR LIST - 2

BR-02
 SECTION: RJM
 SHEET NO.: 93

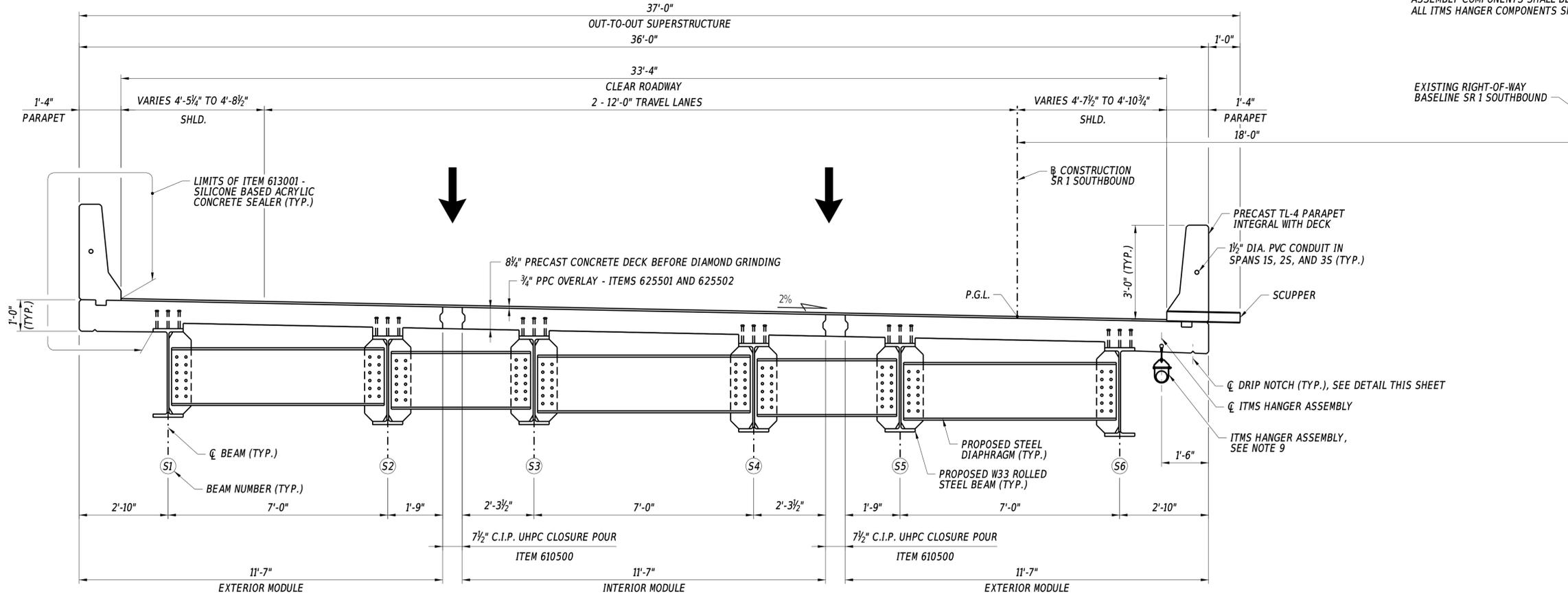


EXISTING TYPICAL SECTION

½" = 1' - 0"

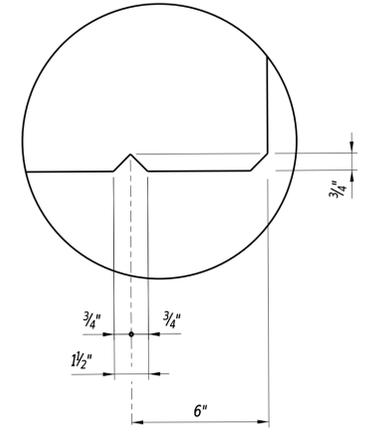
NOTES:

1. TYPICAL SECTIONS SHOWN ARE IN SPAN 3S LOOKING STATIONS AHEAD.
2. FOR FRAMING PLAN, SEE DWG. FP-02.
3. FOR BEAM ELEVATIONS, SEE DWG. BM-24.
4. FOR DIAPHRAGM DETAILS, SEE DWGS. BM-25 AND BM-26.
5. FOR SUPERSTRUCTURE MODULE LAYOUT PLAN, C.I.P. UHPC CLOSURE POUR DETAIL, LINK SLAB LOCATIONS, AND EXPANSION JOINT LOCATIONS, SEE DWG. BM-13.
6. FOR SUPERSTRUCTURE MODULE REINFORCEMENT DETAILS, SEE DWGS. BM-13 THRU BM-23.
7. FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS, SEE DWGS. BM-15, BM-17, BM-19, BM-21, AND BM-23.
8. FOR FINISHED ROADWAY ELEVATIONS, SEE DWGS. DK-08 THRU DK-10.
9. SEE DWGS. BM-14, BM-16, BM-18, BM-20 AND BM-22 FOR ITMS HANGER SPACING. ALL ITMS HANGER ASSEMBLY COMPONENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PRECAST DECK CASTING. ALL ITMS HANGER COMPONENTS SHALL BE GALVANIZED.



PROPOSED TYPICAL SECTION

½" = 1' - 0"

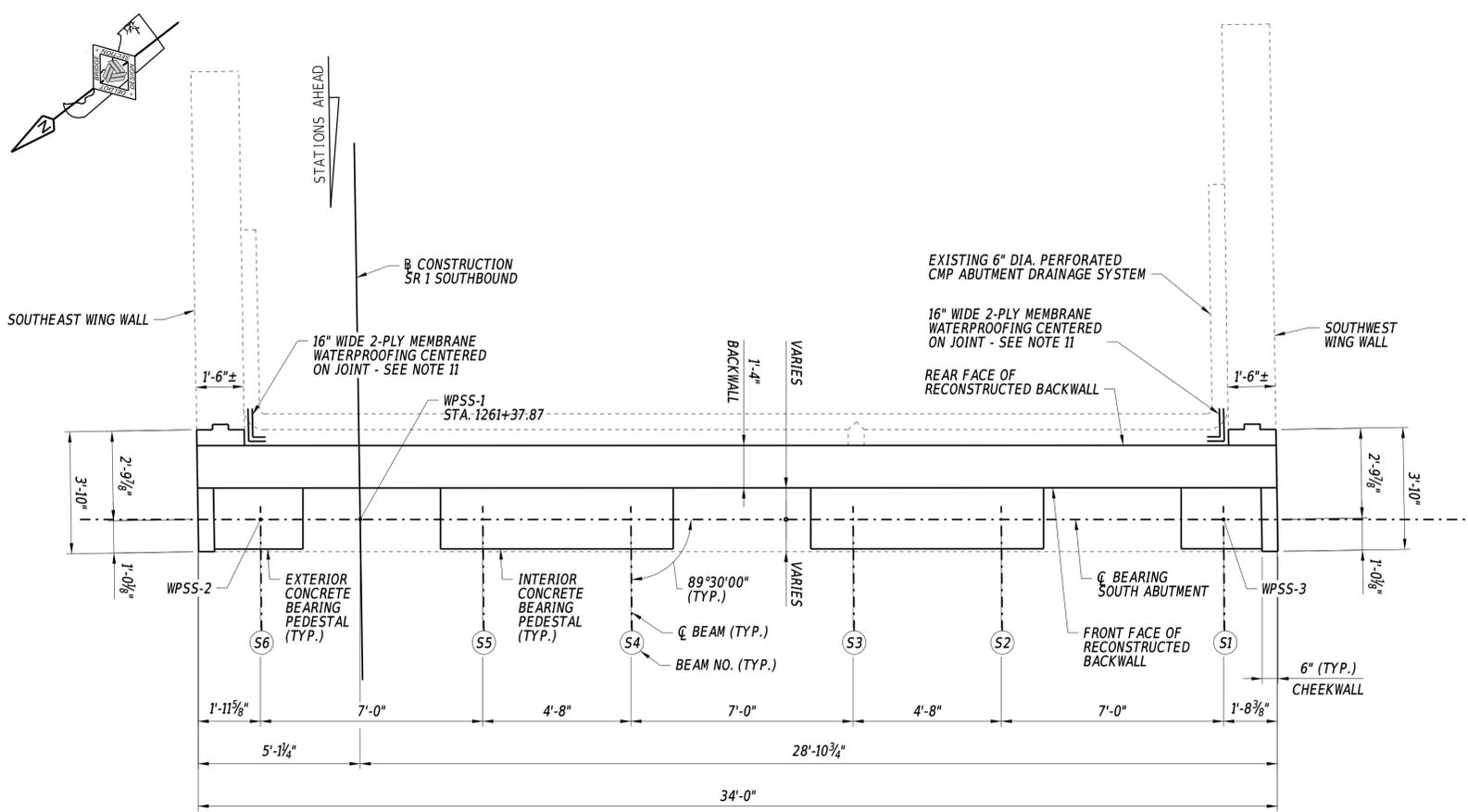


DRIP NOTCH DETAIL

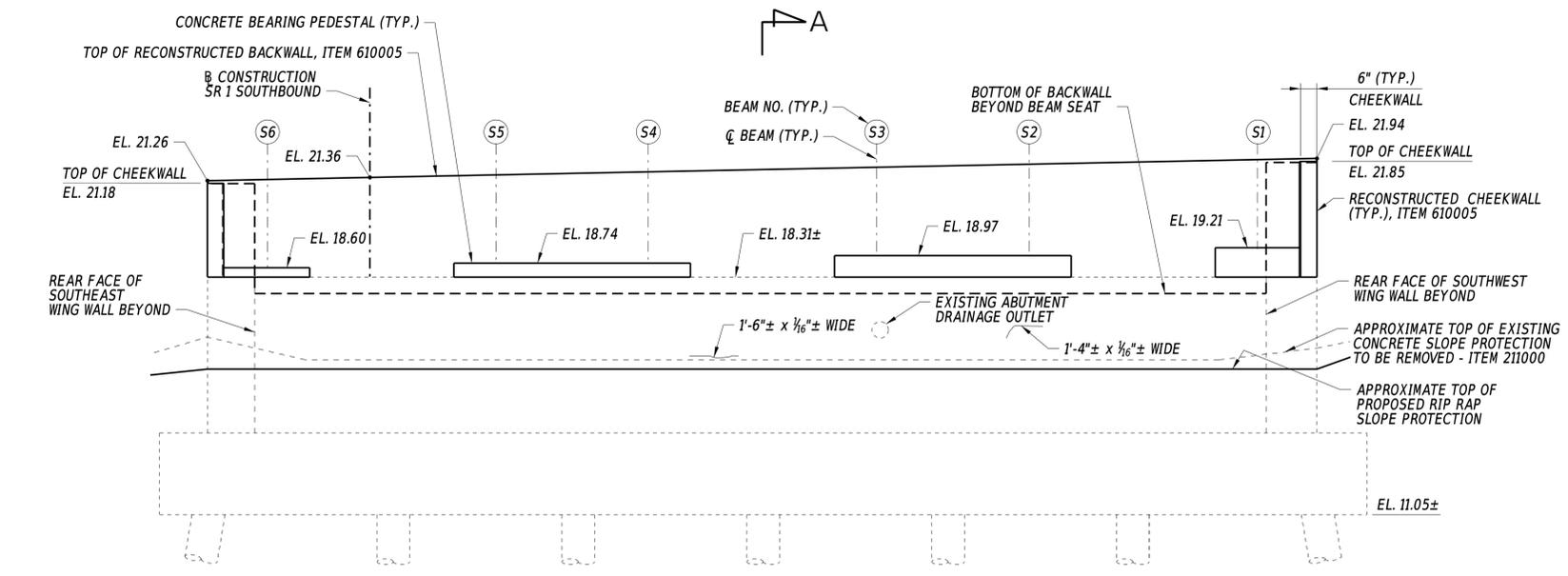
3" = 1' - 0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	BRIDGE TYPICAL SECTIONS	TS-02
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	94
				SUSSEX				



PLAN
3/8" = 1'-0"



ELEVATION
3/8" = 1'-0"

CONCRETE REPAIR QUANTITIES			
SOUTH ABUTMENT			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
628001	REPAIR OF STRUCTURES BY EPOXY INJECTION	LF	3
628041	DEEP SPALL REPAIR	CF	0
613000	EPOXY CONCRETE SEALER	SF	196
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	133

LEGEND:

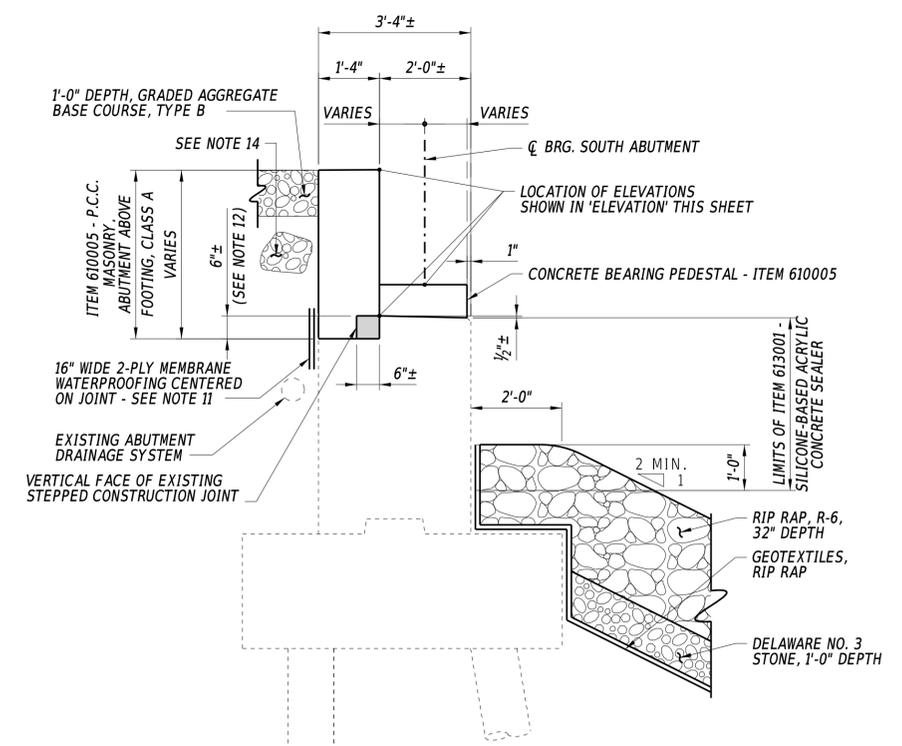
OPTIONAL LIMITS OF RECONSTRUCTION - SEE NOTE 12

REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION

NOTE: QUANTITIES SHOWN ARE TOTAL PER ABUTMENT AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

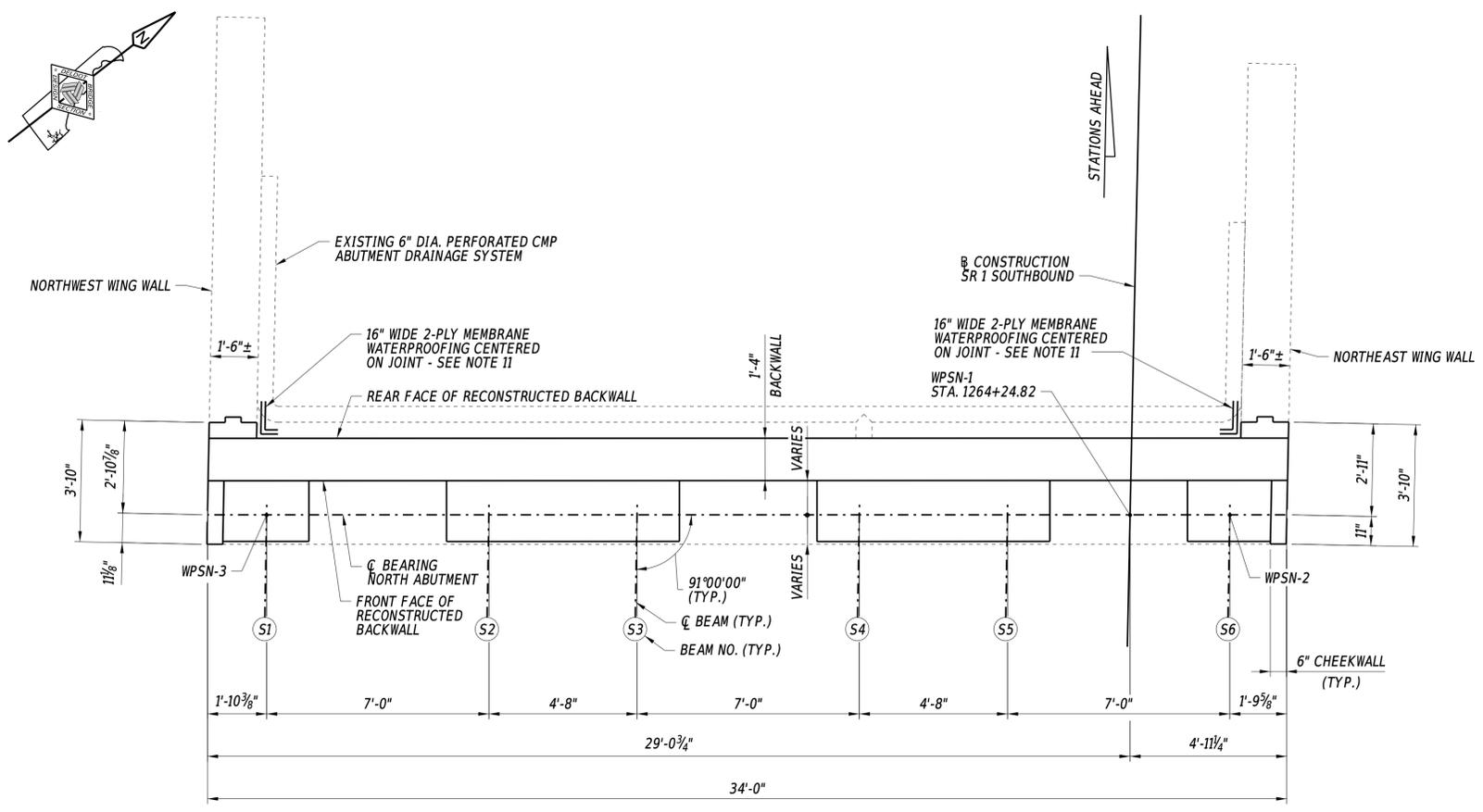
- FOR CONCRETE REPAIR DETAILS, SEE DWG. DT-01.
- FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
- FOR LIMITS OF ABUTMENT AND WING WALL REMOVAL, SEE DWGS. SR-01 THRU SR-03.
- FOR BEAM SEAT DETAILS, SEE DWG. AB-09.
- FOR REINFORCEMENT DETAILS, SEE DWG. AB-10.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE BEAM SEATS, BEARING PEDESTALS, FRONT FACE OF BACKWALL, AND INSIDE FACE OF CHEEKWALLS. PAYMENT WILL BE MADE UNDER ITEM 613000. THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED CONCRETE ABUTMENT SURFACES THAT DO NOT REQUIRE EPOXY SEALER. PAYMENT WILL BE MADE UNDER ITEM 613001.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH ABUTMENT.
- 2-PLY MEMBRANE WATERPROOFING SHALL CONFORM TO ASTM D449 AND ASTM D173. APPLY 1 PRIME COAT, 3 MOP COATS, AND 2 LAYERS OF WATERPROOFING FABRIC. COSTS OF THE 2-PLY WATERPROOFING MEMBRANE WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A.
- THE EXISTING AS-BUILT PLANS DO NOT INDICATE THE DIMENSION FROM THE BEAM SEAT TO THE BACKWALL HORIZONTAL CONSTRUCTION JOINT AND THE 6"± DIMENSION SHOWN IS ASSUMED. THE CONTRACTOR SHALL VERIFY THIS DIMENSION AND MAKE ANY NECESSARY ADJUSTMENTS.
- THE CONTRACTOR HAS THE OPTION TO RECONSTRUCT THE AREA WITHIN THE SHADED LIMITS SHOWN AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR HAS THE OPTION TO BACKFILL WITH THE EXCAVATED BACKFILL MATERIAL WITH THE APPROVAL OF THE ENGINEER OR BACKFILL WITH SELECT BORROW.



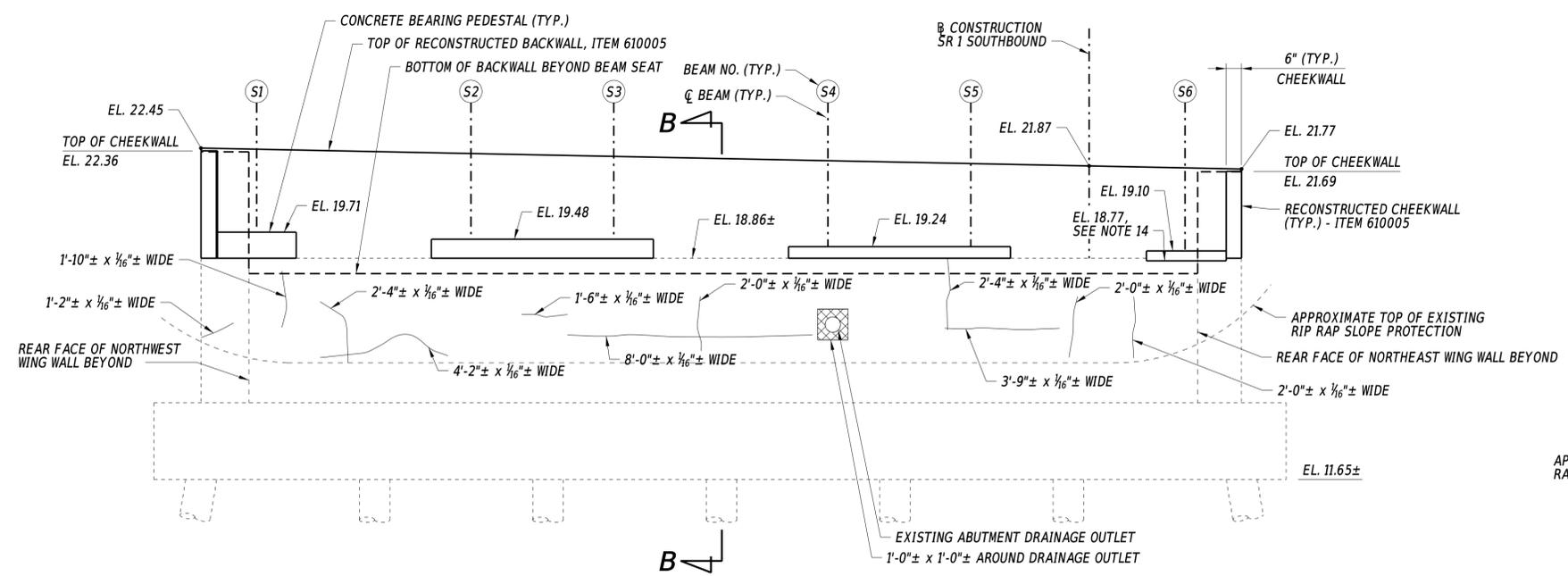
SECTION A-A
1/2" = 1'-0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	SOUTH ABUTMENT REPAIR DETAILS	SECTION	AB-07
				T201907601	DESIGNED BY: F. OPHARDT	WRA			
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	95	
				SUSSEX					



PLAN
 $\frac{3}{8}'' = 1' - 0''$



ELEVATION
 $\frac{3}{8}'' = 1' - 0''$

CONCRETE REPAIR QUANTITIES			
SOUTH ABUTMENT			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
628001	REPAIR OF STRUCTURES BY EPOXY INJECTION	LF	29
628041	DEEP SPALL REPAIR	CF	1
613000	EPOXY CONCRETE SEALER	SF	192
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	152

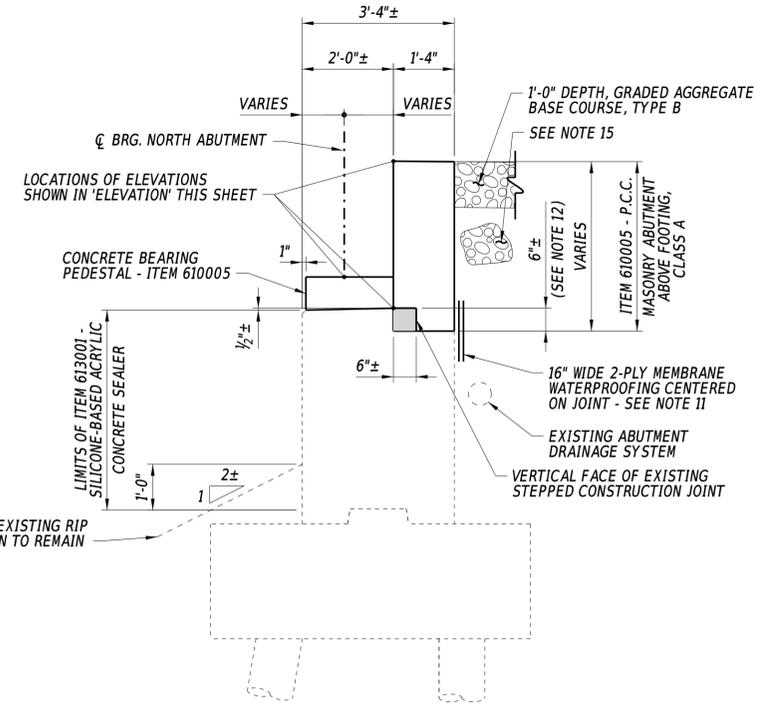
LEGEND:

- OPTIONAL LIMITS OF RECONSTRUCTION - SEE NOTE 12
- REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION
- DEEP SPALL REPAIR

NOTE: QUANTITIES SHOWN ARE TOTAL PER ABUTMENT AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

NOTES:

- FOR CONCRETE REPAIR DETAILS, SEE DWG. DT-01.
- FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
- FOR LIMITS OF ABUTMENT AND WING WALL REMOVAL, SEE DWGS. SR-01 THRU SR-03.
- FOR BEAM SEAT DETAILS, SEE DWG. AB-09.
- FOR REINFORCEMENT DETAILS, SEE DWG. AB-11.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- EPOXY CONCRETE SEALER SHALL BE APPLIED TO THE BEAM SEATS, BEARING PEDESTALS, FRONT FACE OF BACKWALL, AND INSIDE FACE OF CHEEKWALLS. PAYMENT WILL BE MADE UNDER ITEM 613000. THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL BE APPLIED TO ALL EXPOSED CONCRETE ABUTMENT SURFACES THAT DO NOT REQUIRE EPOXY SEALER. PAYMENT WILL BE MADE UNDER ITEM 613001.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH ABUTMENT.
- 2-PLY MEMBRANE WATERPROOFING SHALL CONFORM TO ASTM D449 AND ASTM D173. APPLY 1 PRIME COAT, 3 MOP COATS, AND 2 LAYERS OF WATERPROOFING FABRIC. COSTS OF THE 2-PLY WATERPROOFING MEMBRANE WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A.
- THE EXISTING AS-BUILT PLANS DO NOT INDICATE THE DIMENSION FROM THE BEAM SEAT TO THE BACKWALL HORIZONTAL CONSTRUCTION JOINT AND THE 6"± DIMENSION SHOWN IS ASSUMED. THE CONTRACTOR SHALL VERIFY THIS DIMENSION AND MAKE ANY NECESSARY ADJUSTMENTS.
- THE CONTRACTOR HAS THE OPTION TO RECONSTRUCT THE AREA WITHIN THE SHADED LIMITS SHOWN AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- PROVIDE A 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF THE PROPOSED PEDESTAL AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 18.77. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- THE CONTRACTOR HAS THE OPTION TO BACKFILL WITH THE EXCAVATED BACKFILL MATERIAL WITH THE APPROVAL OF THE ENGINEER OR BACKFILL WITH SELECT BORROW.

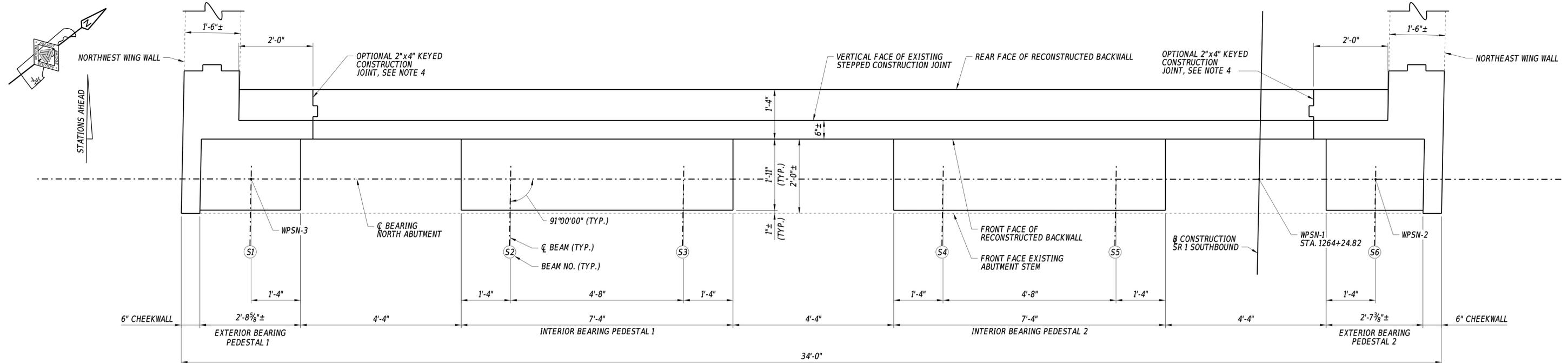


SECTION B-B
 $\frac{1}{2}'' = 1' - 0''$

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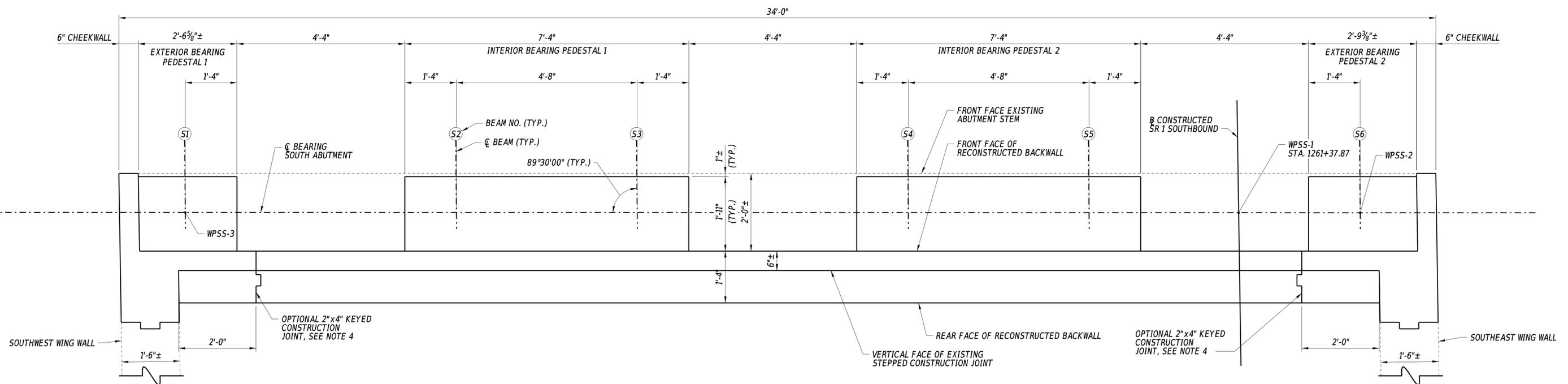
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	NORTH ABUTMENT REPAIR DETAILS	SECTION
				T201907601				DESIGNED BY: F. OPHARDT
				COUNTY	CHECKED BY: W. GESCHREI			SHEET NO.
				SUSSEX				96

AB-08



NORTH ABUTMENT BEAM SEAT PLAN

3/4" = 1' - 0"



SOUTH ABUTMENT BEAM SEAT PLAN

3/4" = 1' - 0"

NOTES:

1. FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
2. FOR SOUTH ABUTMENT REINFORCEMENT DETAILS, SEE DWG. AB-10.
3. FOR NORTH ABUTMENT REINFORCEMENT DETAILS, SEE DWG. AB-11.
4. THE CONTRACTOR HAS THE OPTION TO CONSTRUCT THE KEYED CONSTRUCTION JOINT AT THE LOCATIONS SHOWN AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**ABUTMENT BEAM
SEAT DETAILS**

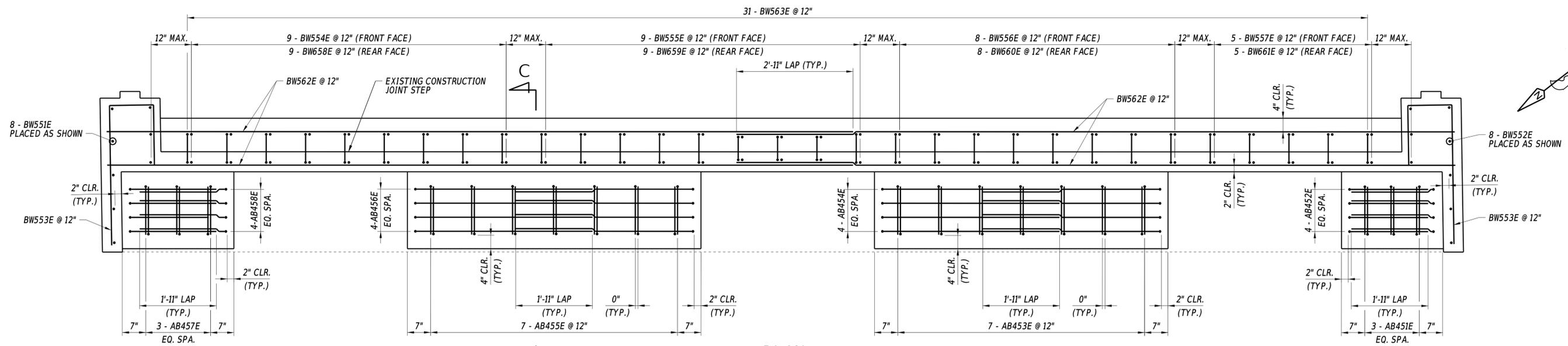
AB-09

SECTION

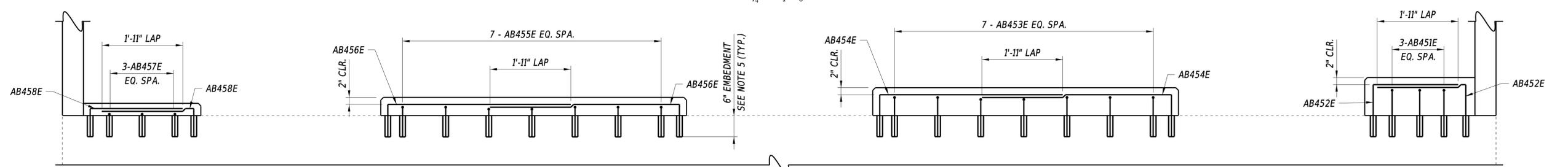
WRA

SHEET NO.

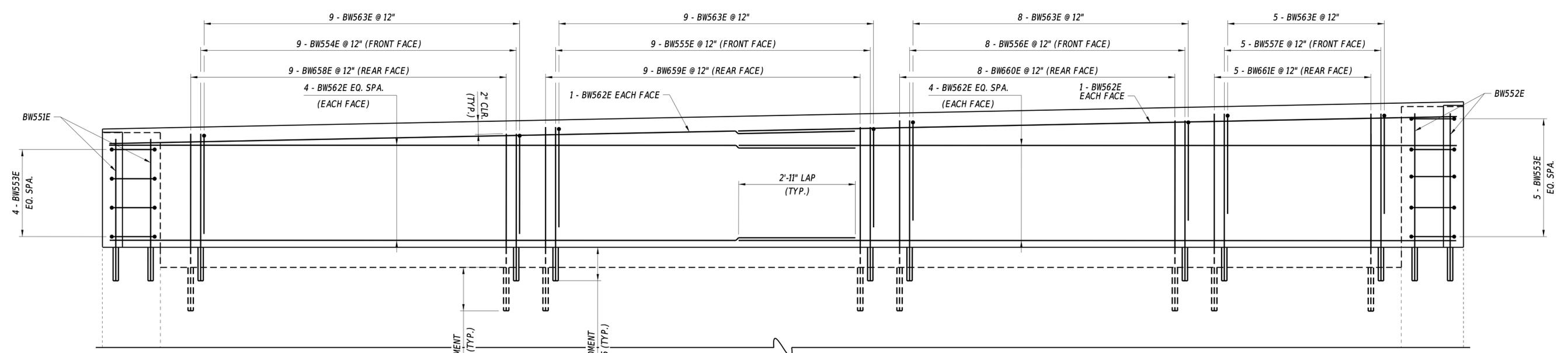
97



PLAN
 $\frac{3}{4}'' = 1' - 0''$



BEAM SEAT ELEVATION
 $\frac{3}{4}'' = 1' - 0''$

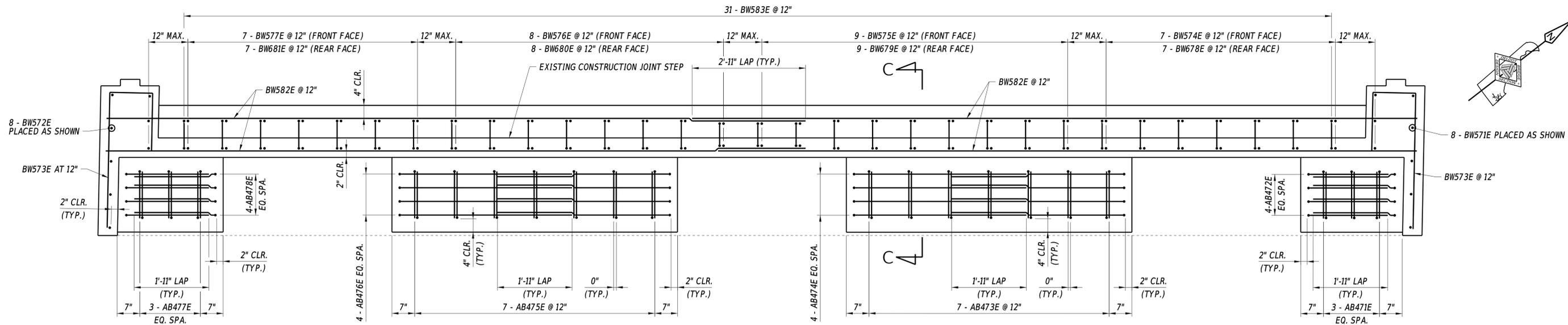


BACKWALL ELEVATION
 $\frac{3}{4}'' = 1' - 0''$

- NOTES:**
- FOR BACKWALL, CHEEKWALL, BEAM SEAT, AND BEARING PEDESTAL ELEVATIONS, SEE DWG. AB-07.
 - FOR BEAM SEAT DETAILS, SEE DWG. AB-09.
 - FOR SECTION C-C, SEE DWG. AB-12.
 - CONCRETE BEARING PEDESTALS NOT SHOWN IN BACKWALL ELEVATION FOR CLARITY.
 - EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

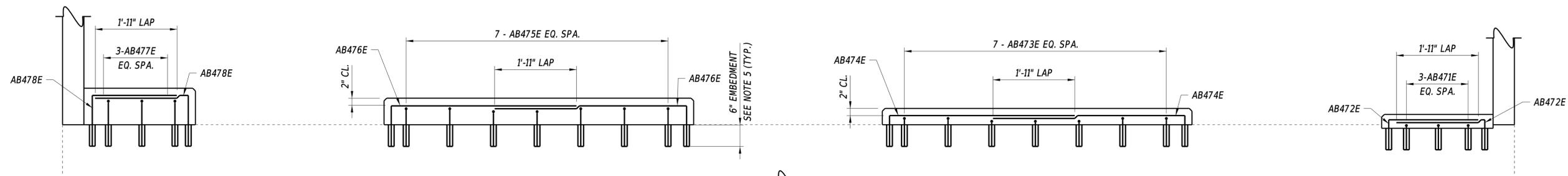
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	SOUTH ABUTMENT REINFORCEMENT DETAILS	AB-10
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	98
				SUSSEX				



PLAN

3/4" = 1'-0"

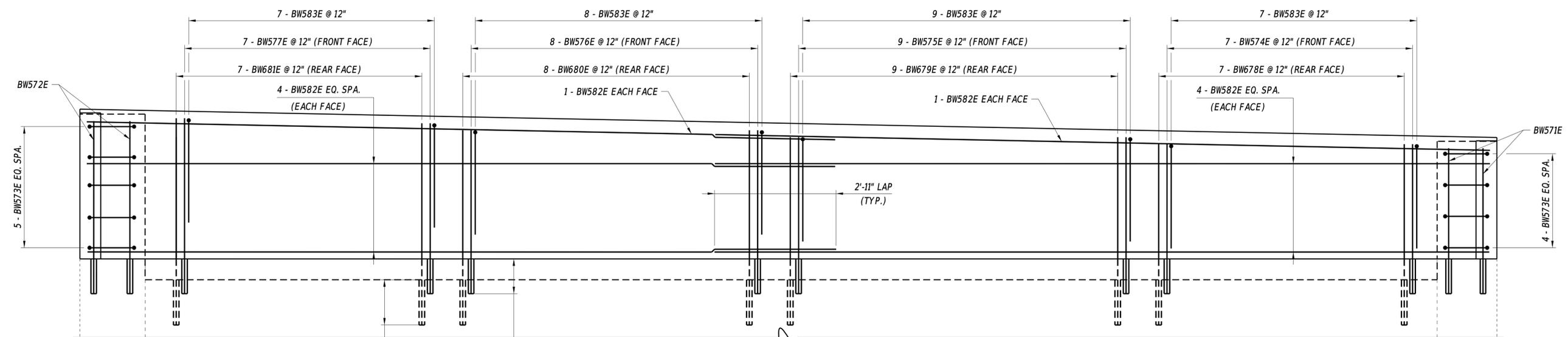


BEAM SEAT ELEVATION

3/4" = 1'-0"

NOTE:

BACKWALL AND CHEEKWALL REINFORCEMENT NOT SHOWN FOR CLARITY.



BACKWALL ELEVATION

3/4" = 1'-0"

NOTES:

1. FOR BACKWALL, CHEEKWALL, BEAM SEAT, AND BEARING PEDESTAL ELEVATIONS, SEE DWG. AB-08.
2. FOR BEAM SEAT DETAILS, SEE DWG. AB-09.
3. FOR SECTION C-C, SEE DWG. AB-12.
4. CONCRETE BEARING PEDESTALS NOT SHOWN IN BACKWALL ELEVATION FOR CLARITY.
5. EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

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ADDENDA / REVISIONS

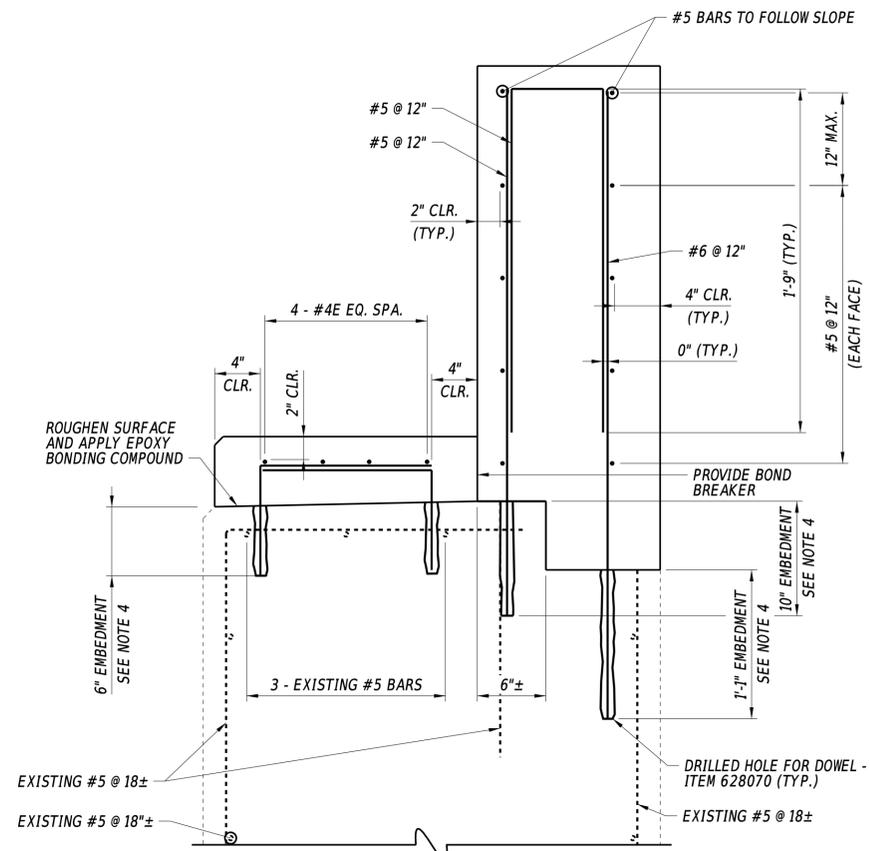
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

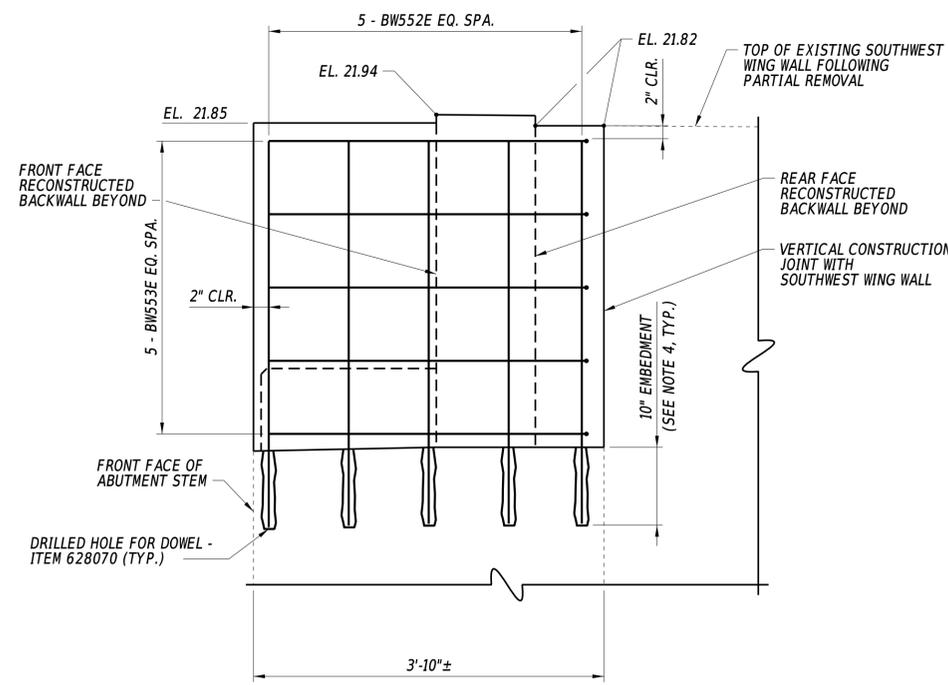
CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**NORTH ABUTMENT
REINFORCEMENT DETAILS**

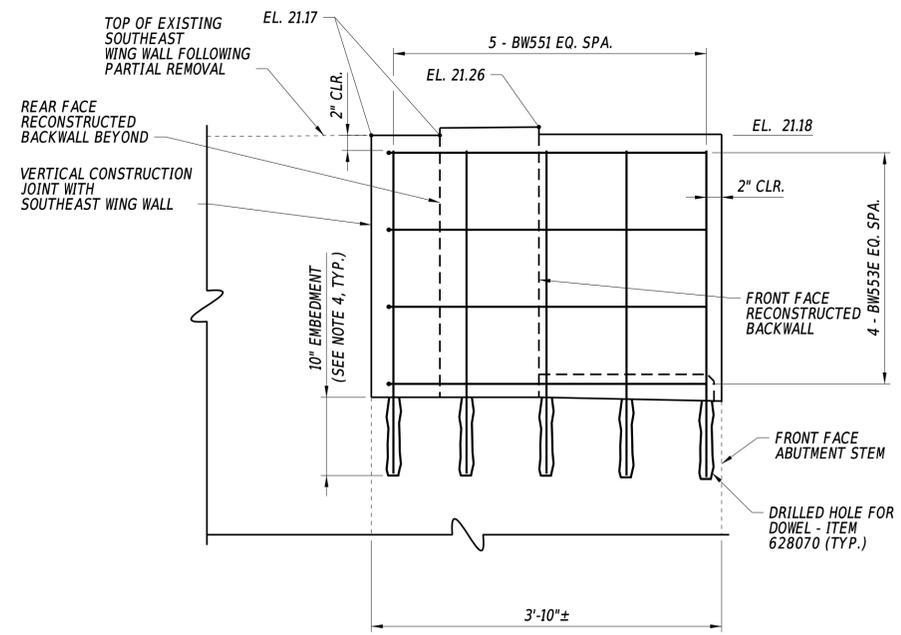
AB-11
SECTION
WRA
SHEET NO.
99



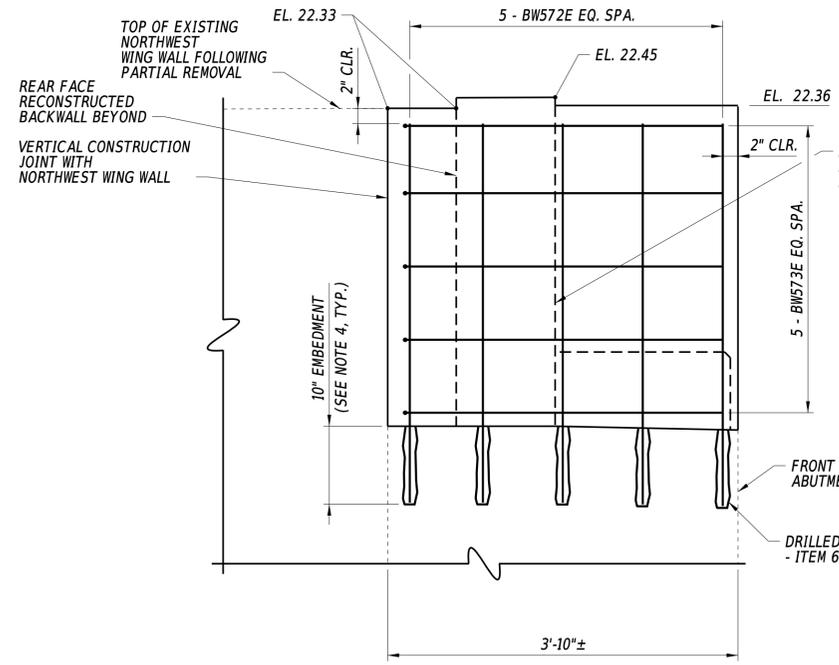
SECTION C-C
1 1/2" = 1'-0"



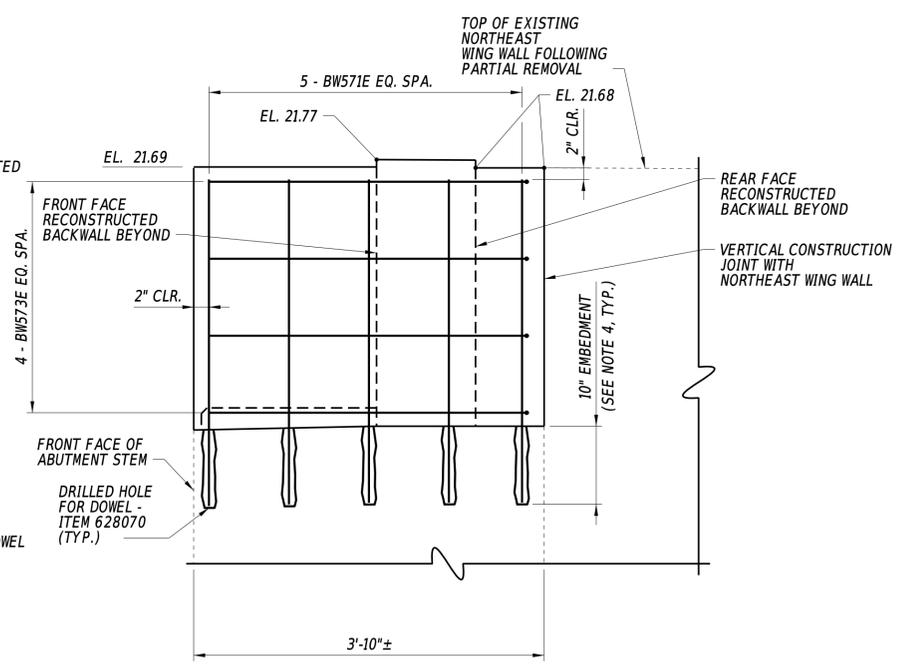
SOUTHWEST CHEEKWALL ELEVATION
1" = 1'-0"



SOUTHEAST CHEEKWALL ELEVATION
1" = 1'-0"



NORTHWEST CHEEKWALL ELEVATION
1" = 1'-0"

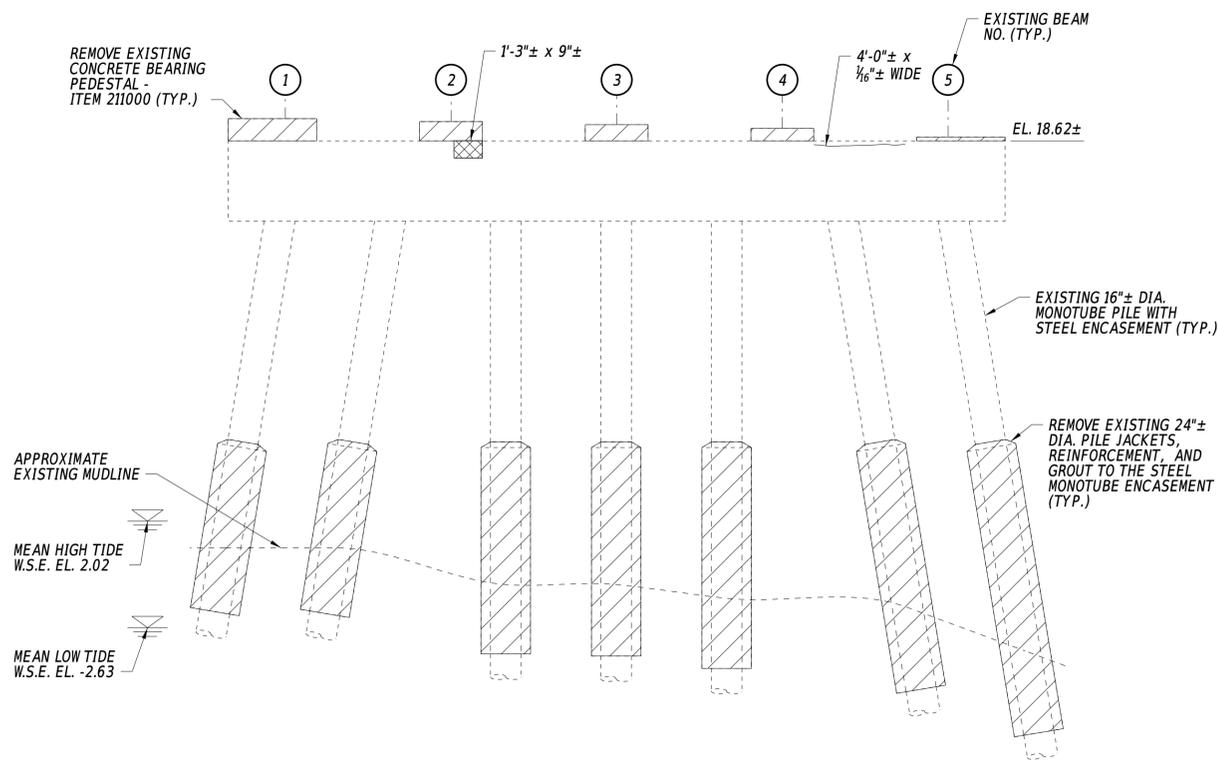


NORTHEAST CHEEKWALL ELEVATION
1" = 1'-0"

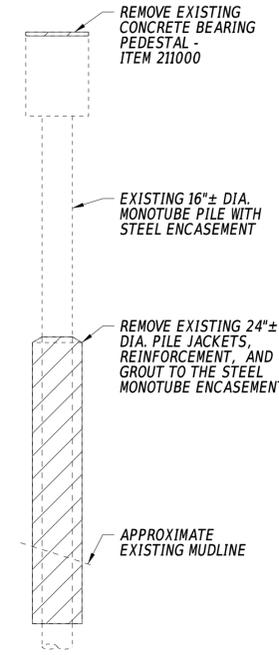
- NOTES:**
- FOR EXISTING WING WALL REMOVAL LIMITS, SEE DWG. SR-03.
 - FOR ADDITIONAL ABUTMENT REINFORCEMENT DETAILS, SEE DWGS. AB-10 AND AB-11.
 - FOR LOCATION OF SECTION C-C, SEE DWGS. AB-10 AND AB-11.
 - EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

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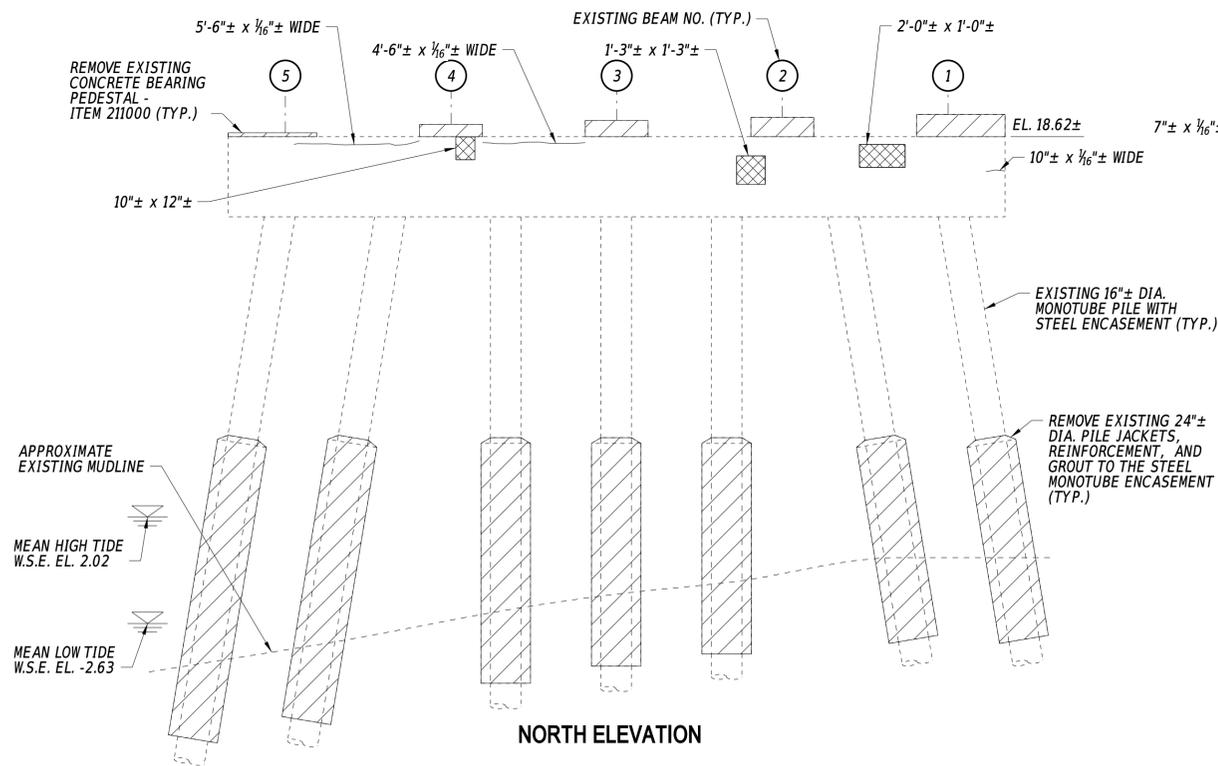
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	AB-12
				T201907601	DESIGNED BY: F. OPHARDT		
				COUNTY	CHECKED BY: W. GESCHREI	ABUTMENT MISCELLANEOUS DETAILS	SECTION
				SUSSEX			WRA
							SHEET NO.
							100



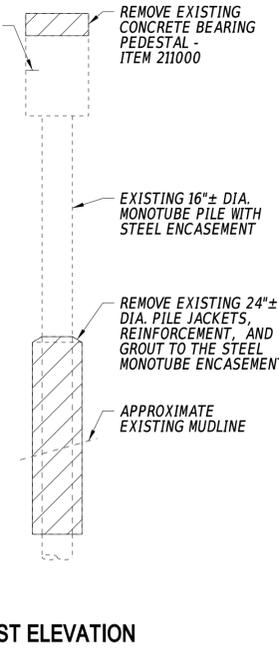
SOUTH ELEVATION



EAST ELEVATION



NORTH ELEVATION

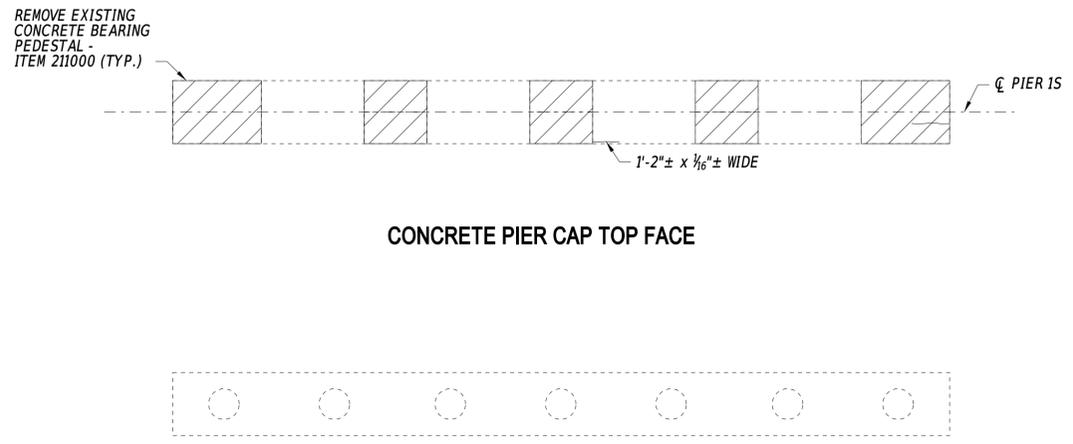


WEST ELEVATION

PIER 1S - ELEVATION VIEWS

1/4" = 1'-0"

- LEGEND:**
- REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
 - DEEP SPALL REPAIR - ITEM 628041
 - LIMIT OF REMOVAL - ITEM 211000



CONCRETE PIER CAP TOP FACE

CONCRETE PIER CAP UNDERSIDE FACE

PIER 1S - PLAN VIEWS

1/4" = 1'-0"

CONCRETE REPAIR QUANTITIES			
PIER 1S			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	140
613000	EPOXY CONCRETE SEALER	SF	110
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	341
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	16
628041	DEEP SPALL REPAIR	CF	3

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

- NOTES:**
- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR PIER 1S RECONSTRUCTION DETAILS, SEE DWG. PR-13.
 - THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
 - WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
 - IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
 - ADDITIONAL REMOVAL OF CONCRETE IN PIER CAP REQUIRED FOR CONSTRUCTION OF PROPOSED CONCRETE PEDESTAL FOR BEAMS S4 AND S5. SEE DWG. PR-13 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS

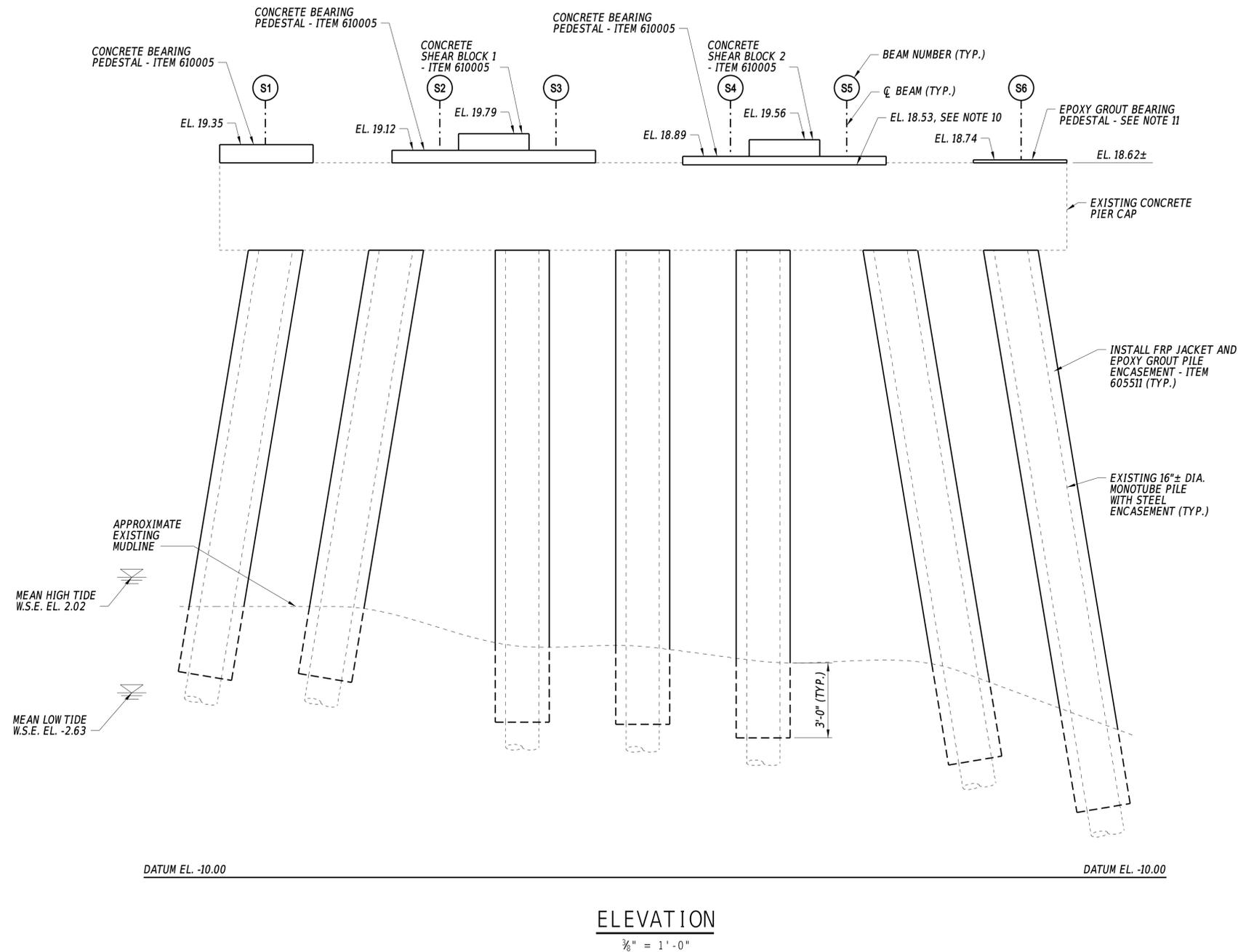
SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

PIER 1S REPAIR DETAILS - 1

PR-12
SECTION
WRA
SHEET NO.
101



NOTES:

1. ELEVATION SHOWN LOOKING STATIONS AHEAD.
2. FOR FRP JACKET DETAILS, SEE DWG. DT-01.
3. FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-20 THROUGH PR-22.
4. FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-21 AND PR-22.
5. FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
6. THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
7. THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
8. EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
9. APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
10. PROVIDE 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF THE PROPOSED BEARING PEDESTAL FOR BEAMS S4 AND S5 AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 18.53. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
11. THE BEARING PEDESTAL FOR BEARING S6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION, SEE DWG. PR-20.

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ADDENDA / REVISIONS	

SCALE AS NOTED

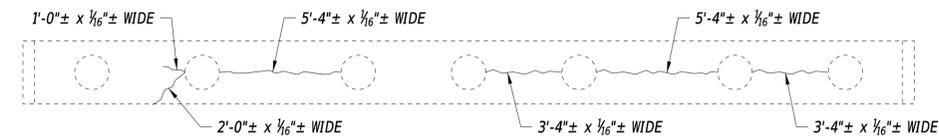
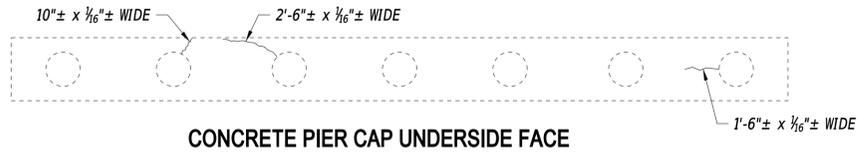
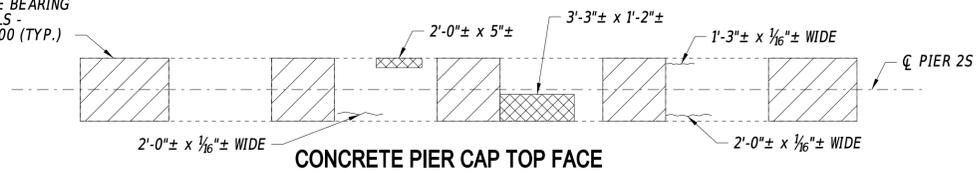
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**PIER 1S
REPAIR DETAILS - 2**

PR-13
SECTION
WRA
SHEET NO.
102

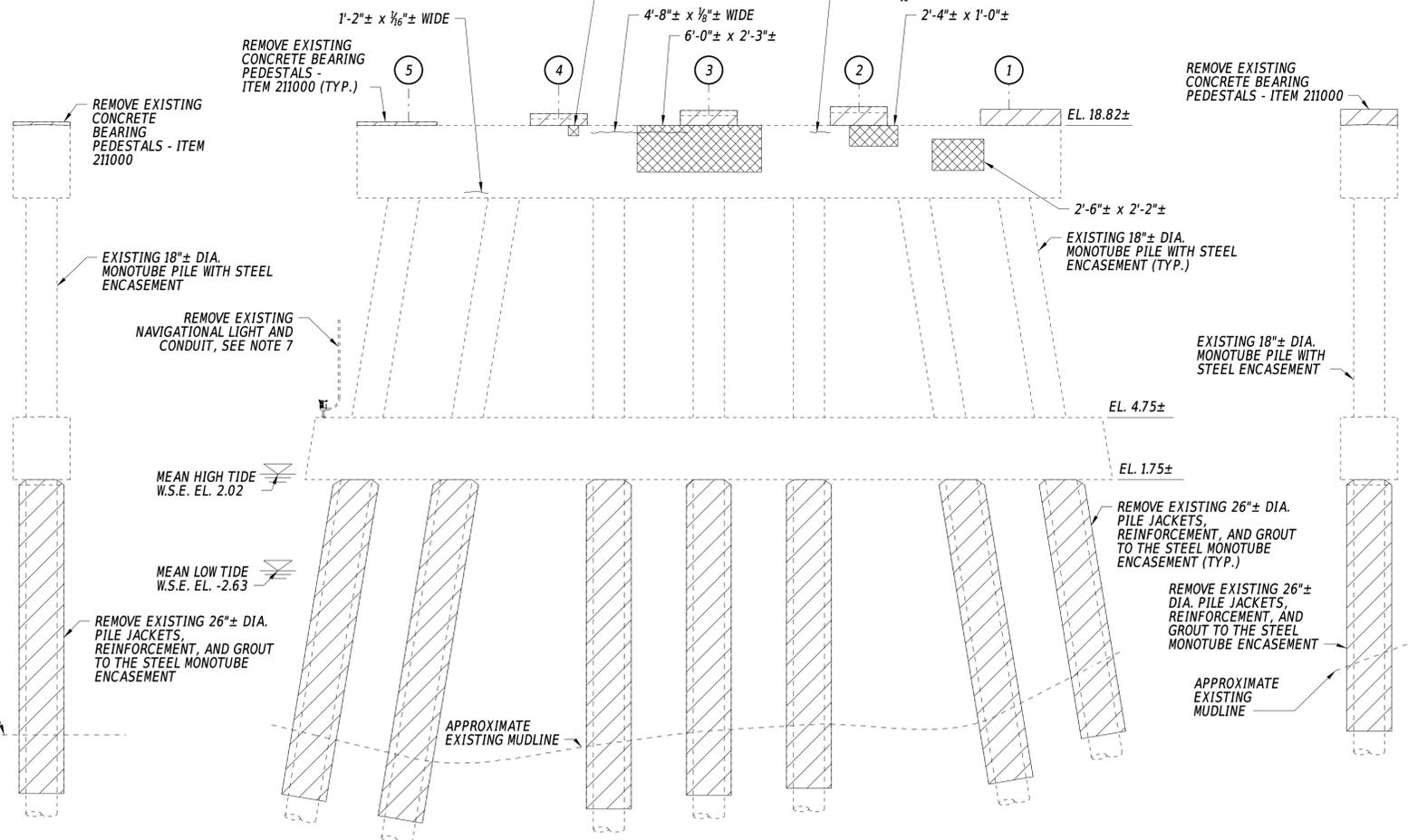
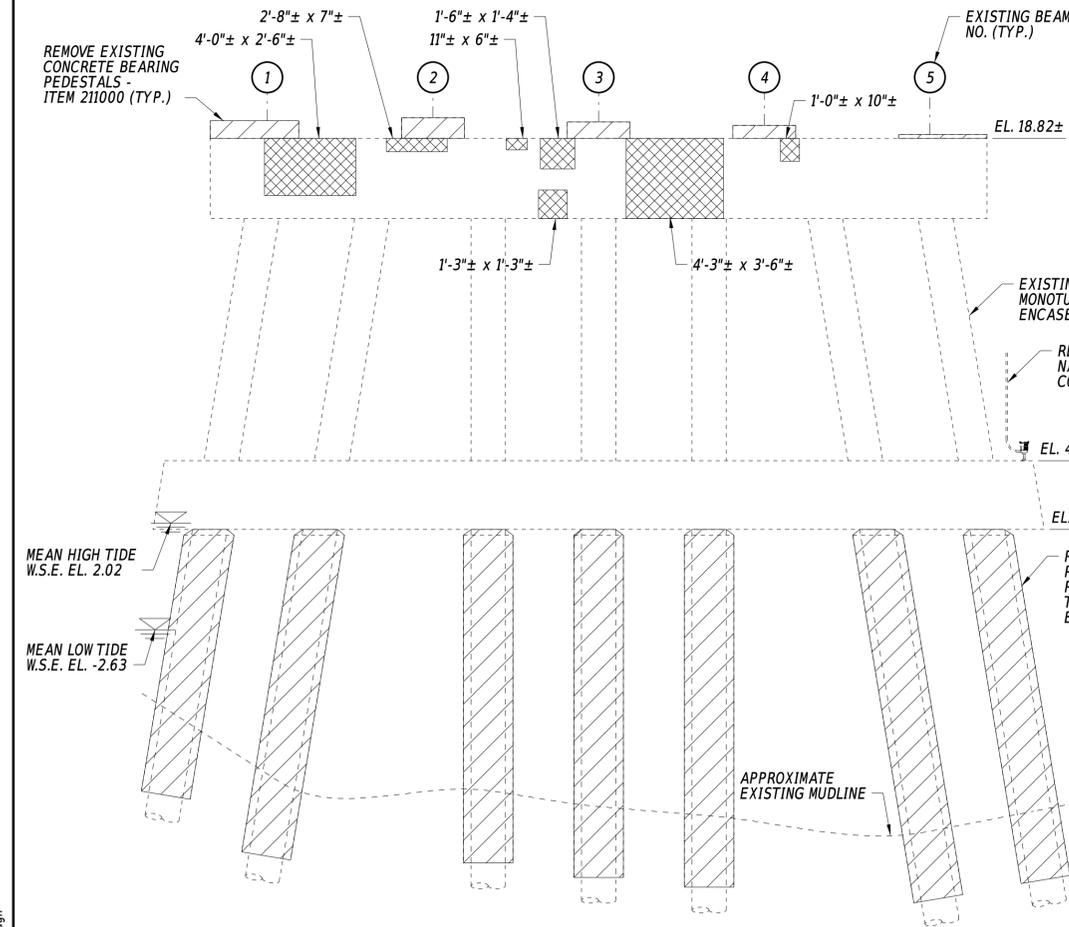
REMOVE EXISTING CONCRETE BEARING PEDESTALS - ITEM 211000 (TYP.)



CONCRETE STRUT TOP FACE
PIER 2S - PLAN VIEWS

NOTE:
ALL PLAN VIEWS ARE SHOWN LOOKING DOWN, REGARDLESS OF ELEMENT FACE DEPICTED.

1/4" = 1'-0"



SOUTH ELEVATION
EAST ELEVATION
NORTH ELEVATION
WEST ELEVATION
PIER 2S - ELEVATION VIEWS

1/4" = 1'-0"

CONCRETE REPAIR QUANTITIES

PIER 2S			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	180
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	33
628041	DEEP SPALL REPAIR	CF	17
613000	EPOXY CONCRETE SEALER	SF	111
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	329

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

LEGEND:

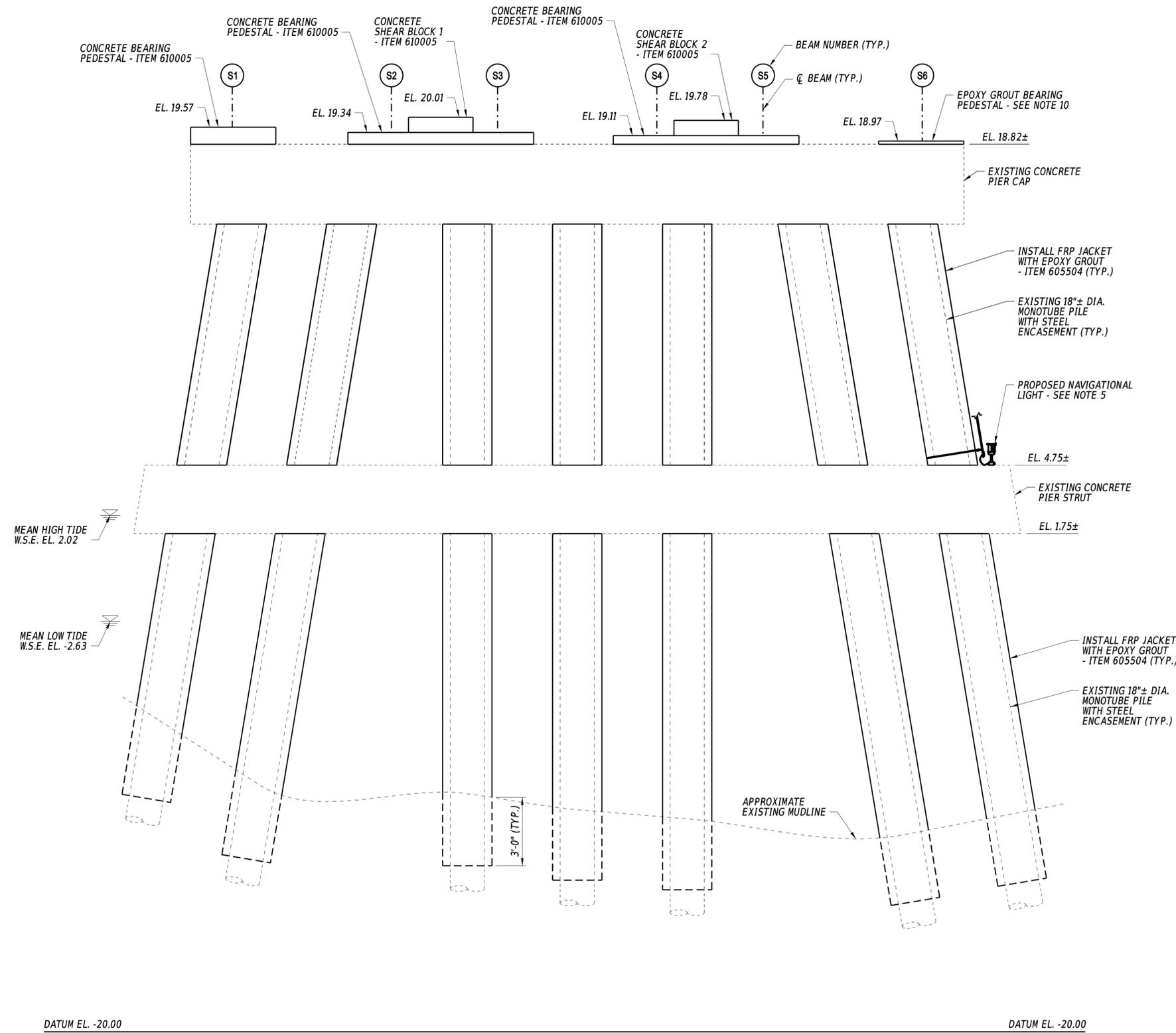
- REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
- DEEP SPALL REPAIR - ITEM 628041
- LIMIT OF REMOVAL - ITEM 211000

NOTES:

- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR PIER 2S RECONSTRUCTION DETAILS, SEE DWG. PR-15.
- THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
- WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
- IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- PAYMENT FOR REMOVAL OF THE NAVIGATION LIGHT AND CONDUIT WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	PIER 2S REPAIR DETAILS - 1	PR-14
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	103
				SUSSEX				



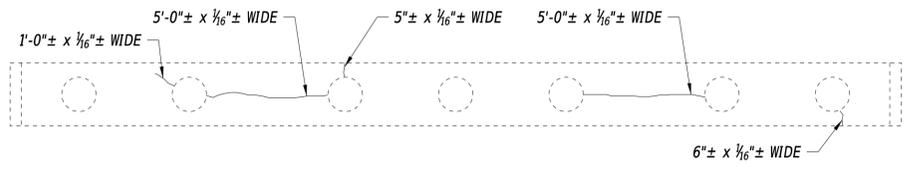
NOTES:

- ELEVATION SHOWN LOOKING STATIONS AHEAD.
- FOR FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-20 THRU PR-22.
- FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-21 AND PR-22.
- FOR NAVIGATIONAL LIGHT DETAILS, SEE DWG. NL-05.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
- THE BEARING PEDESTAL FOR BEAM S6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION SEE DWG. PR-20.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.

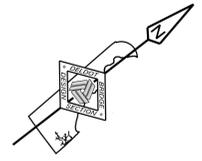
ELEVATION
 3/8" = 1'-0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	PIER 2S REPAIR DETAILS - 2	PR-15
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	104
				SUSSEX				



PIER 3S - PLAN VIEWS
 NOTE: ALL PLAN VIEWS ARE SHOWN LOOKING DOWN, REGARDLESS OF ELEMENT FACE DEPICTED.



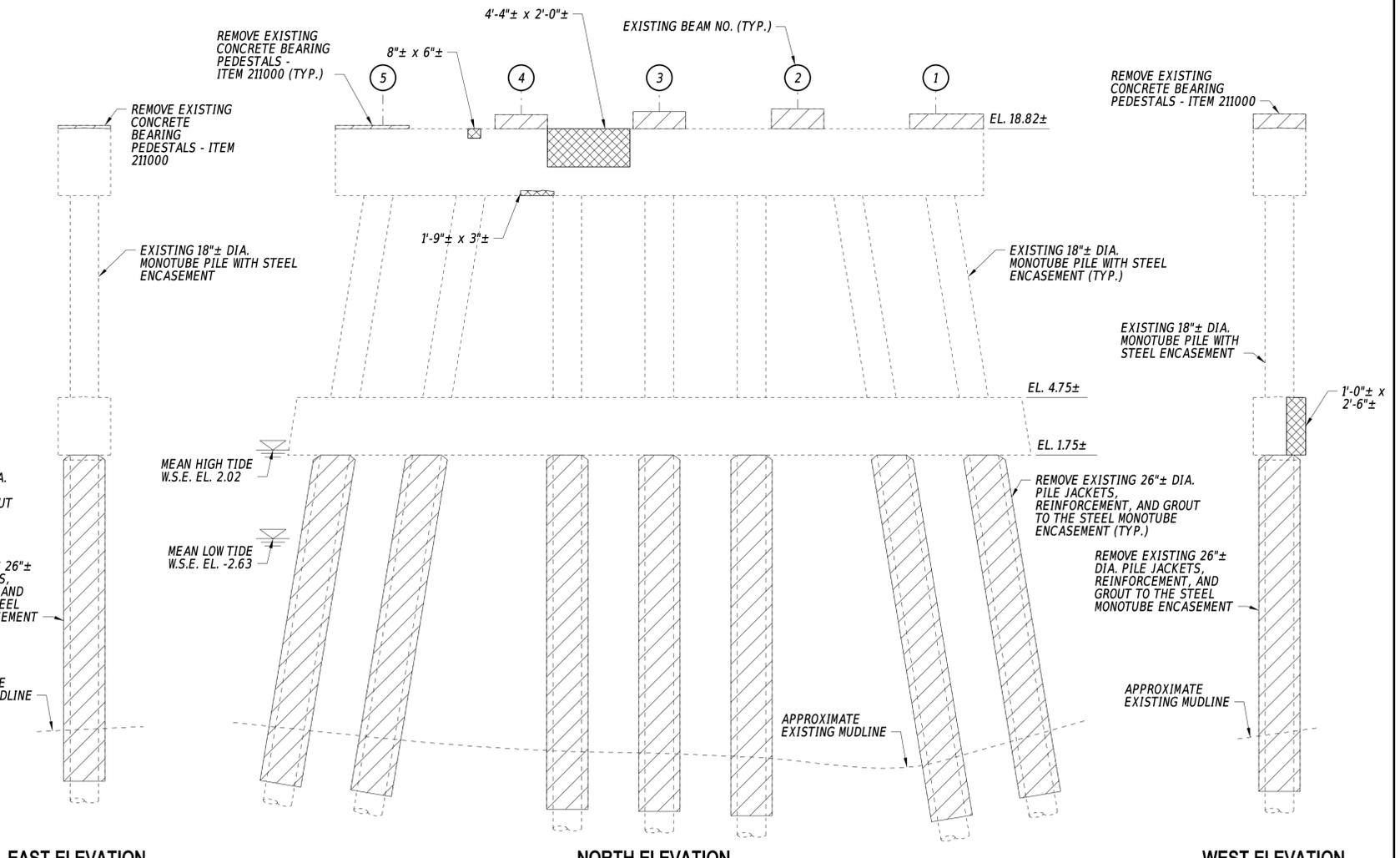
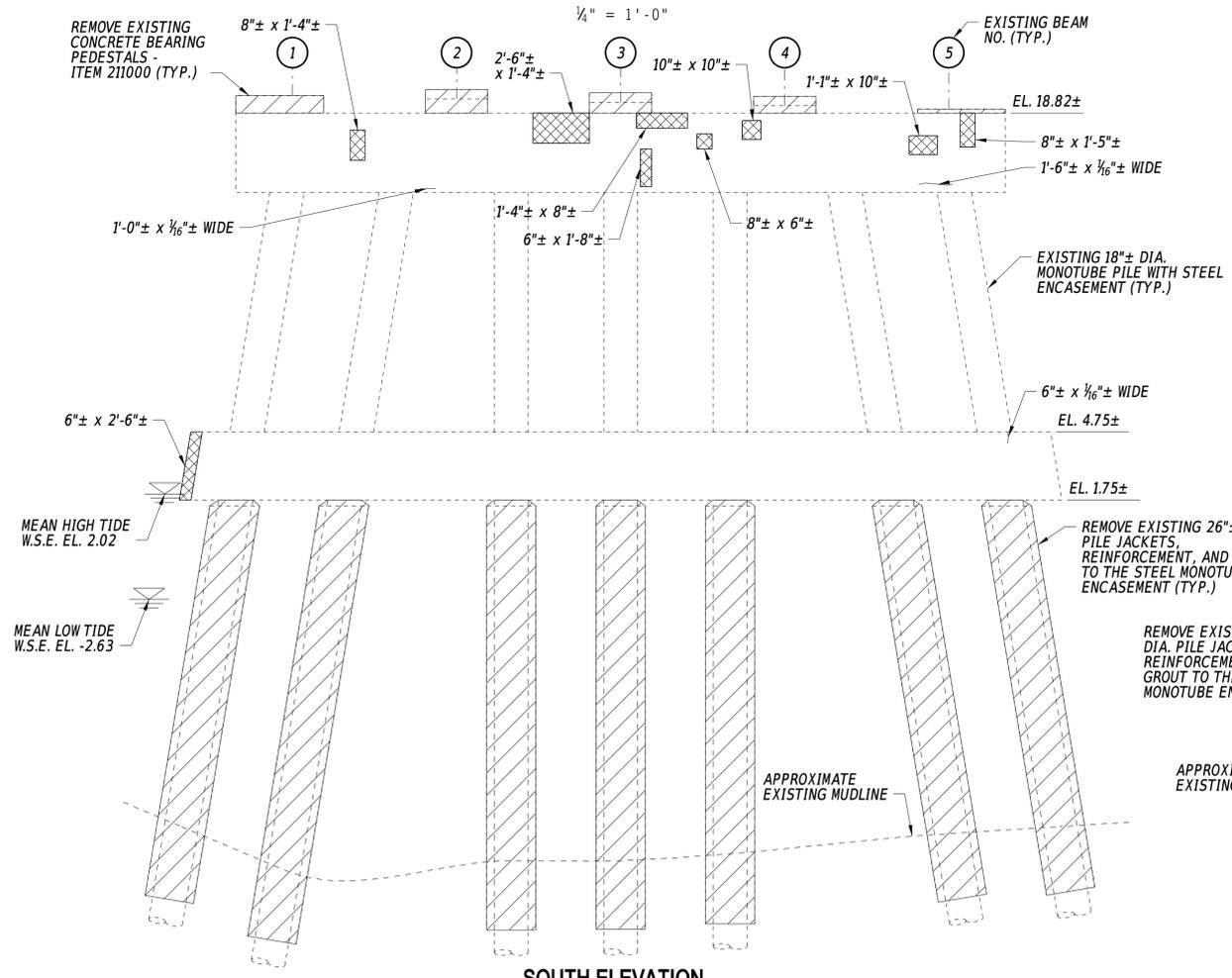
CONCRETE REPAIR QUANTITIES			
PIER 3S			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605504	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 18" ROUND PILE	LF	210
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	18
628041	DEEP SPALL REPAIR	CF	10
613000	EPOXY CONCRETE SEALER	SF	121
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	329

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

LEGEND:

	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
	DEEP SPALL REPAIR - ITEM 628041
	LIMIT OF REMOVAL - ITEM 211000

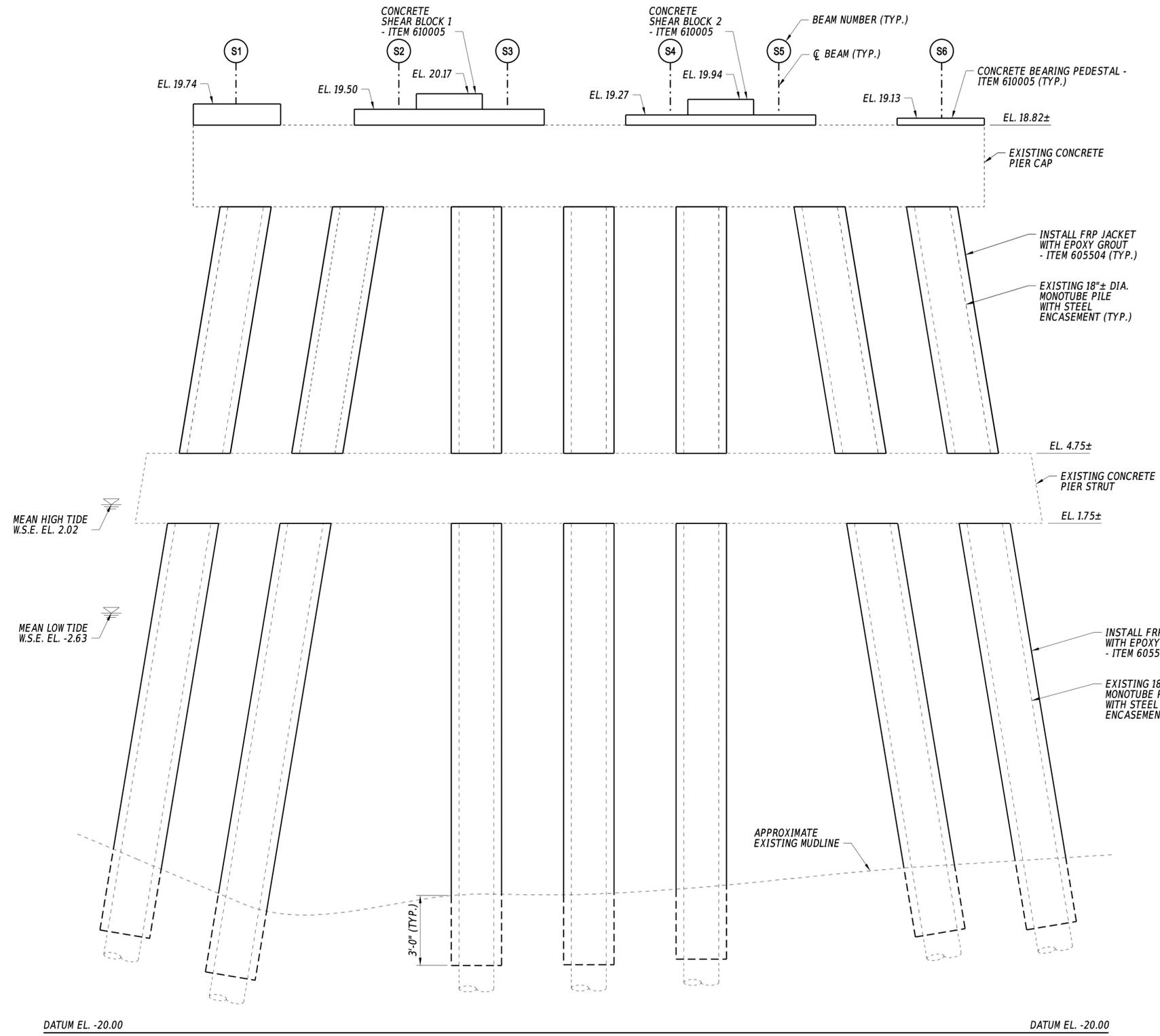
- NOTES:**
- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR PIER 3S RECONSTRUCTION DETAILS, SEE DWG. PR-17.
 - THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
 - WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
 - IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.



PIER 3S - ELEVATION VIEWS
 1/4" = 1'-0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	PIER 3S REPAIR DETAILS - 1	PR-16
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	105
				SUSSEX				

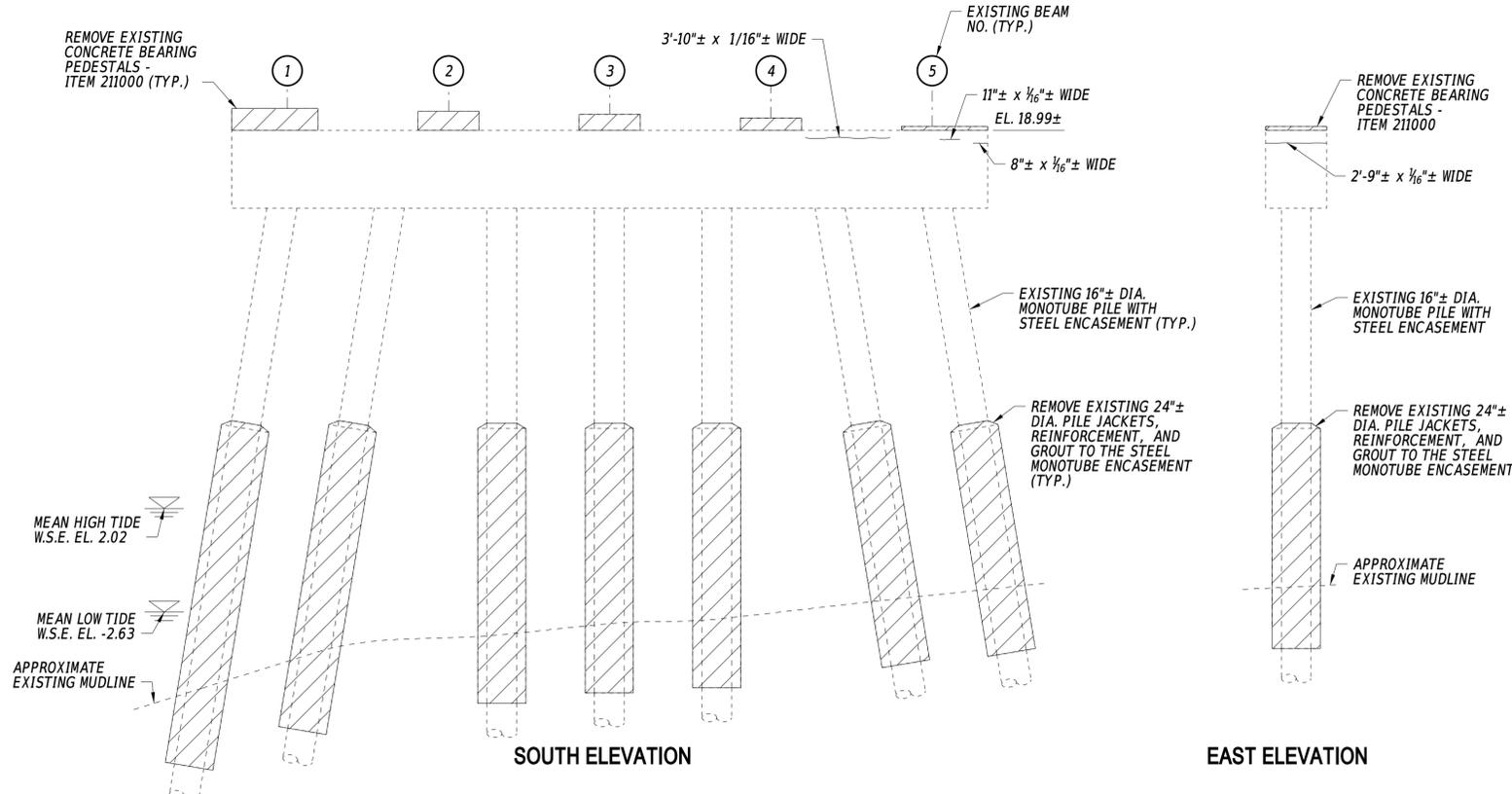


- NOTES:**
- ELEVATION SHOWN LOOKING STATIONS AHEAD.
 - FOR FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-20 THRU PR-22.
 - FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-21 AND PR-22.
 - FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
 - THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
 - THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
 - EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.

ELEVATION
 $\frac{3}{8}'' = 1' - 0''$

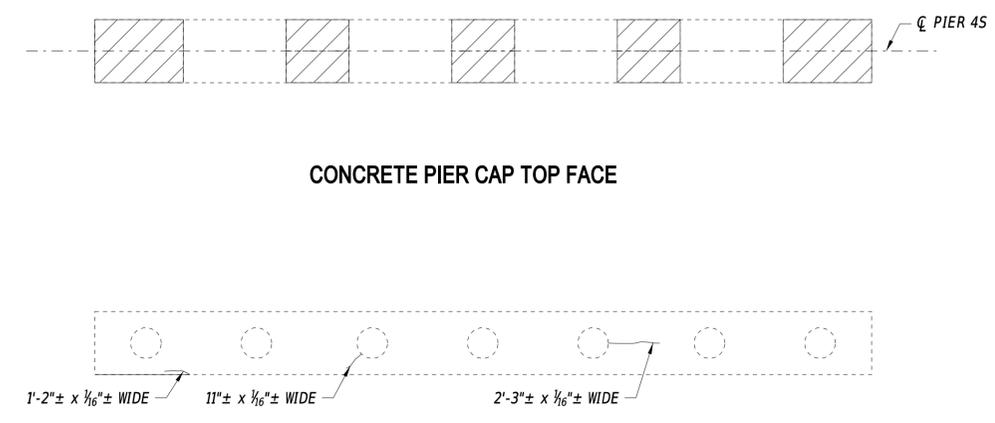
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	PIER 3S REPAIR DETAILS - 2	PR-17
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	106
				SUSSEX				



SOUTH ELEVATION

EAST ELEVATION



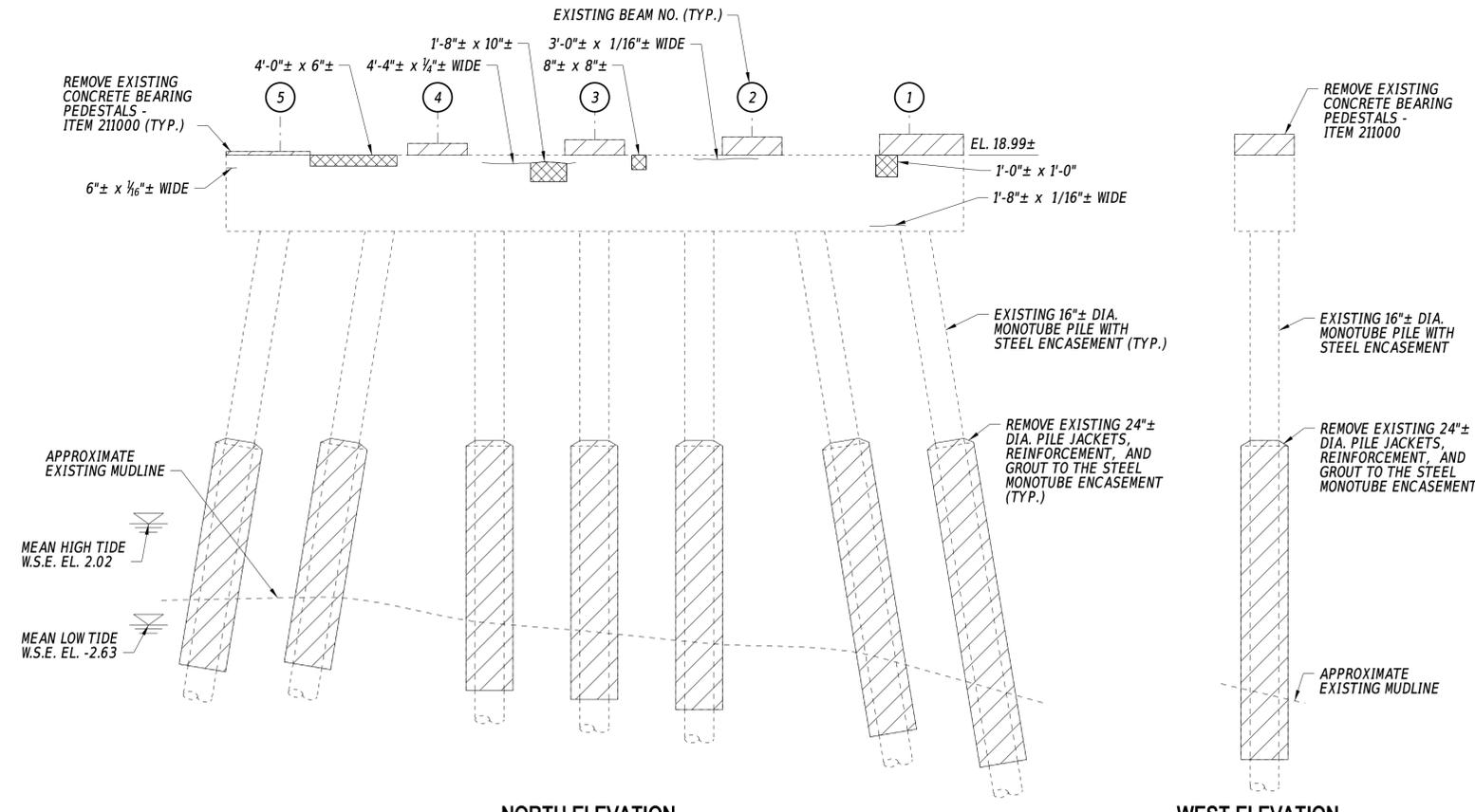
CONCRETE PIER CAP TOP FACE

CONCRETE PIER CAP UNDERSIDE FACE

PIER 4S - PLAN VIEWS

1/4" = 1'-0"

NOTE: ALL PLAN VIEWS ARE SHOWN LOOKING DOWN, REGARDLESS OF ELEMENT FACE DEPICTED.



NORTH ELEVATION

WEST ELEVATION

PIER 4S - ELEVATION VIEWS

1/4" = 1'-0"

- LEGEND:**
- REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION - ITEM 628001
 - DEEP SPALL REPAIR - ITEM 628041
 - LIMIT OF REMOVAL - ITEM 211000

CONCRETE REPAIR QUANTITIES			
PIER 4S			
ITEM NO	ITEM TITLE	UNIT	QUANTITY
605511	FRP JACKET AND EPOXY GROUT PILE ENCASEMENT, 16" ROUND PILE	LF	160
628001	REPAIR OF CONCRETE STRUCTURES BY EPOXY INJECTION	LF	20
628041	DEEP SPALL REPAIR	CF	3
613000	EPOXY CONCRETE SEALER	SF	109
613001	SILICONE-BASED ACRYLIC CONCRETE SEALER	SF	341

NOTE: QUANTITIES SHOWN ARE TOTAL PER PIER AND DO NOT INCLUDE CONTINGENCY PERCENTAGE.

- NOTES:**
- FOR CONCRETE REPAIR DETAILS AND FRP JACKET DETAILS, SEE DWG. DT-01.
 - FOR PIER 4S RECONSTRUCTION DETAILS, SEE DWGS. PR-19.
 - THE LOCATION AND QUANTITIES OF THE REPAIRS SHOWN ON THIS DRAWING ARE BASED ON INSPECTION FIELD NOTES. PRIOR TO STARTING EACH REPAIR, THE LIMITS SHALL BE VERIFIED BY THE CONTRACTOR IN THE PRESENCE OF THE ENGINEER.
 - WHERE CRACKS EXIST CONCURRENTLY WITH SPALLS AND/OR DELAMINATIONS, THE ASSOCIATED CRACK SHALL BE COMPLETELY REMOVED DURING THE COMPLETION OF THE DEEP SPALL REPAIR. IF THE CRACK EXTENDS LESS THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR, EXTEND THE LIMITS OF THE DEEP SPALL REPAIR TO ENCOMPASS THE CRACK. IF THE CRACK EXTENDS DEEPER THAN THE LIMITS OF CONCRETE REMOVAL, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHED MORE THAN 6" FROM THE ORIGINAL FACE OF CONCRETE, ALL WORK ON THE REPAIR SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. IF THE CRACK EXTENDS MORE THAN 1'-0" BEYOND THE LIMITS OF THE DEEP SPALL REPAIR INTO SOUND CONCRETE, THE CRACK SHALL BE REPAIRED BY EPOXY INJECTION AND PAID FOR UNDER ITEM 628001 BEYOND THE LIMITS OF THE DEEP SPALL REPAIR. CRACKS LOCATED WITHIN DEEP SPALL REPAIRS WILL NOT BE PAID FOR AND WILL BE CONSIDERED INCIDENTAL TO ITEM 628041.
 - IN THE EVENT WHERE A CRACK EXISTS IN THE CONCRETE BEARING PEDESTAL TO BE REMOVED AND THE CRACK EXTENDS BELOW THE LIMITS OF REMOVAL INTO THE PIER CAP, THE CONTRACTOR SHALL REMOVE ADDITIONAL CONCRETE IN THE PIER CAP UNTIL THE CRACK IS FULLY REMOVED. IF THE DEPTH OF REMOVAL REACHES MORE THAN 6" BELOW THE BEAM SEAT, ALL WORK ON THE REMOVAL SHALL STOP AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
 - APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
 - ADDITIONAL REMOVAL OF CONCRETE IN PIER CAP REQUIRED FOR CONSTRUCTION OF PROPOSED CONCRETE PEDESTAL FOR BEAMS S4 AND S5. SEE DWG. PR-19 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS

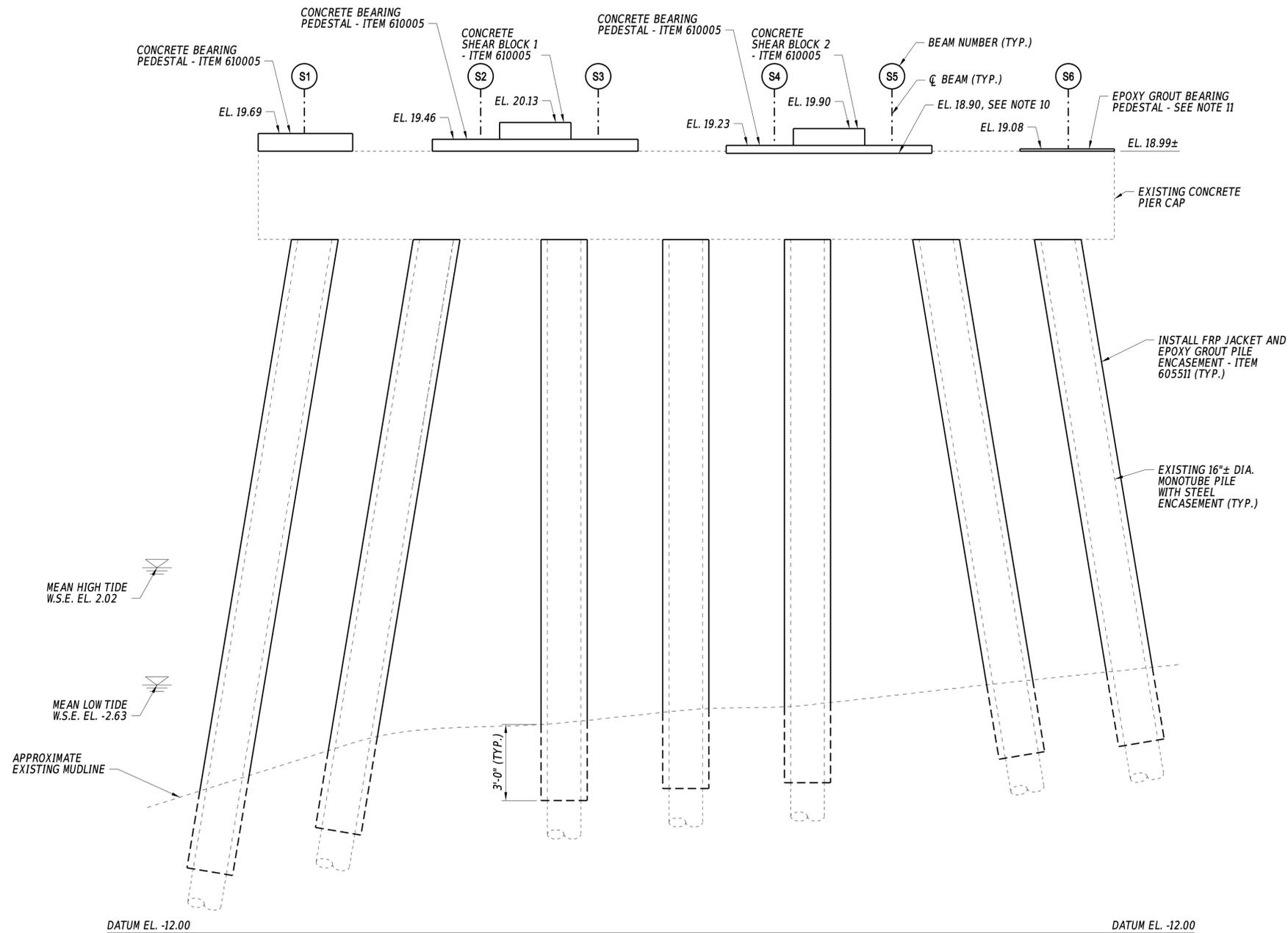
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**PIER 4S
REPAIR DETAILS - 1**

PR-18
SECTION
WRA
SHEET NO.
107



NOTES:

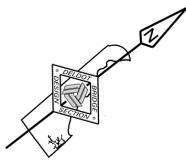
- ELEVATION SHOWN LOOKING STATIONS AHEAD.
- FOR FRP JACKET DETAILS, SEE DWG. DT-01.
- FOR BEAM SEAT LAYOUT PLAN AND CONCRETE BEARING PEDESTAL REINFORCEMENT DETAILS, SEE DWGS. PR-20 THRU PR-22.
- FOR CONCRETE SHEAR BLOCK DETAILS, SEE DWGS. PR-21 AND PR-22.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- THE CONTRACTOR SHALL REMOVE DEBRIS FROM THE BEAM SEAT PRIOR TO THE APPLICATION OF THE EPOXY CONCRETE SEALER. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 613000.
- THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE BEARINGS DURING THE APPLICATION OF THE EPOXY CONCRETE SEALER. ANY CLEAN-UP REQUIRED TO REMOVE THE SEALER FROM THE BEARINGS WILL BE COMPLETED AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.
- EPOXY CONCRETE SEALER AND SILICONE-BASED ACRYLIC CONCRETE SEALER SHALL ONLY BE APPLIED AFTER ALL CONCRETE REPAIRS ARE COMPLETED AT EACH PIER.
- APPROXIMATE EXISTING MUDLINE ELEVATIONS SHOWN ARE BASED ON SKETCHES INCLUDED IN APPENDIX B OF THE DESIGN LEVEL INSPECTION REPORT DATED MAY 24, 2019.
- PROVIDE 1" DEEP SAW CUT IN THE EXISTING BEAM SEAT AT THE LIMITS OF THE PROPOSED BEARING PEDESTAL FOR BEAMS S4 AND S5 AND REMOVE THE EXISTING CONCRETE WITHIN THE LIMITS OF THE PROPOSED PEDESTAL TO ELEVATION 18.90. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- THE BEARING PEDESTAL FOR BEARING S6 SHALL BE CONSTRUCTED WITH EPOXY GROUT. FOR ADDITIONAL INFORMATION. SEE DWG. PR-20.

ELEVATION

3/8" = 1'-0"

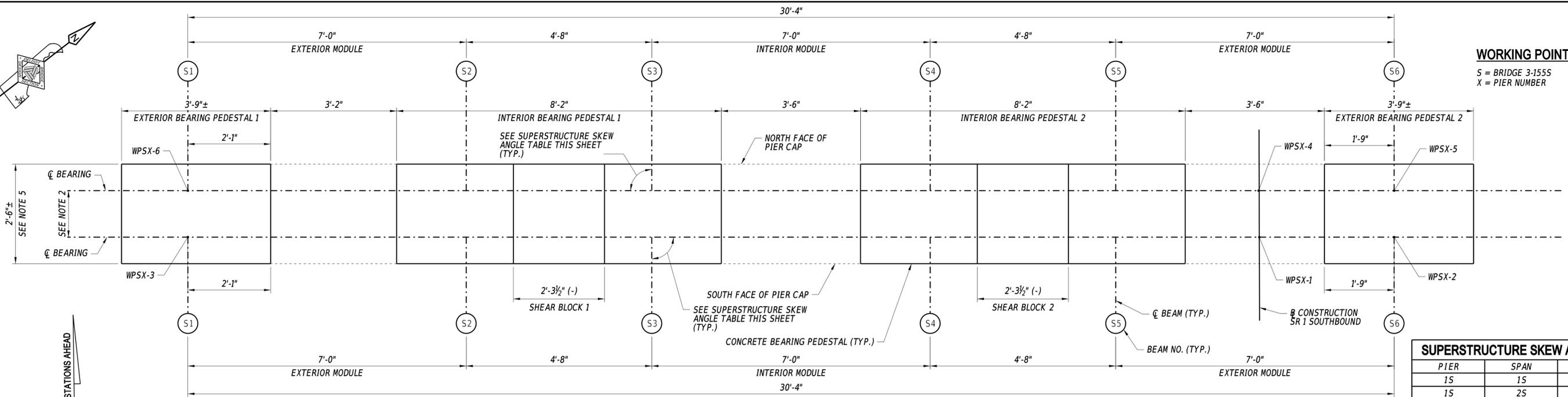
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	PIER 4S REPAIR DETAILS - 2	PR-19
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	108
				SUSSEX				



WORKING POINT LEGEND:

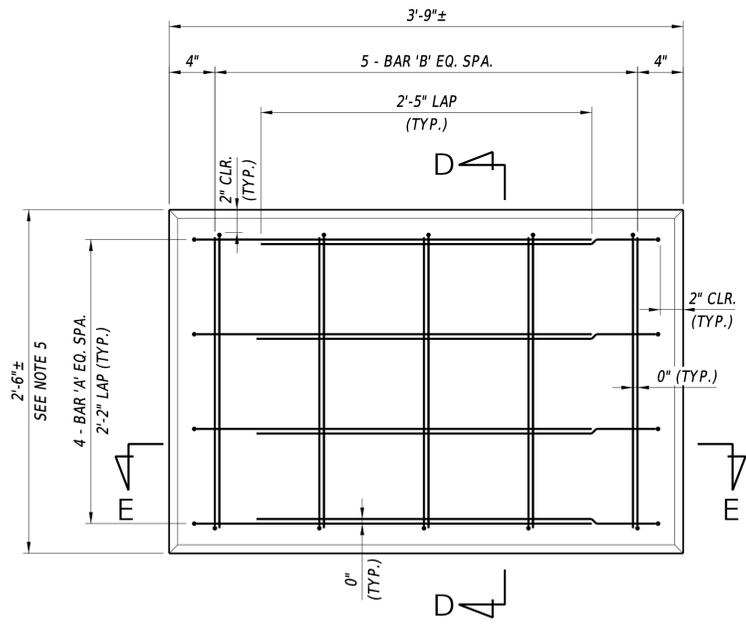
S = BRIDGE 3-155S
X = PIER NUMBER



BEAM SEAT LAYOUT PLAN

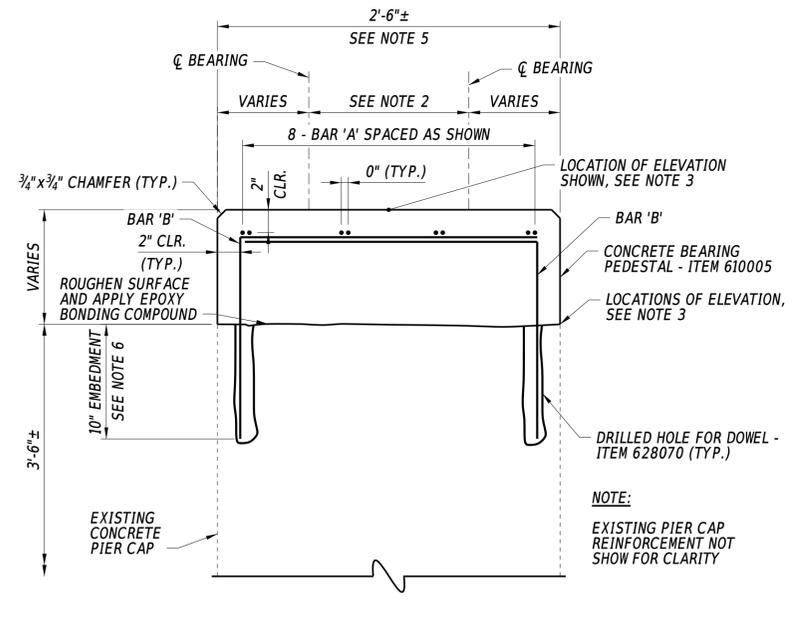
3/4" = 1'-0"

SUPERSTRUCTURE SKEW ANGLE TABLE		
PIER	SPAN	ANGLE
1S	1S	89° - 30' - 00"
1S	2S	89° - 45' - 00"
2S	2S	89° - 45' - 00"
2S	3S	90° - 00' - 00"
3S	3S	90° - 00' - 00"
3S	4S	89° - 30' - 00"
4S	4S	89° - 30' - 00"
4S	5S	89° - 00' - 00"



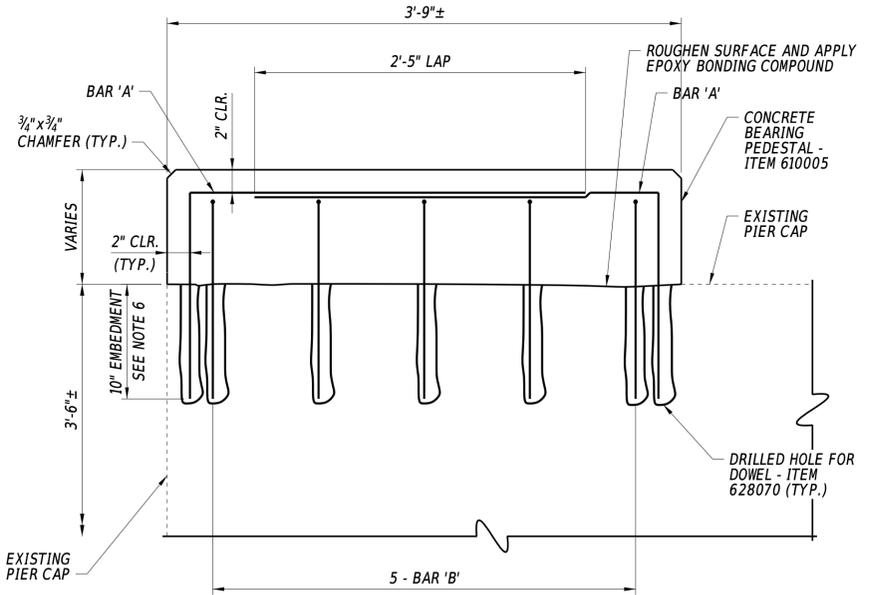
EXTERIOR BEARING PEDESTAL REINFORCEMENT PLAN

1 1/2" = 1'-0"



SECTION D-D

1 1/2" = 1'-0"



SECTION E-E

1 1/2" = 1'-0"

NOTES:

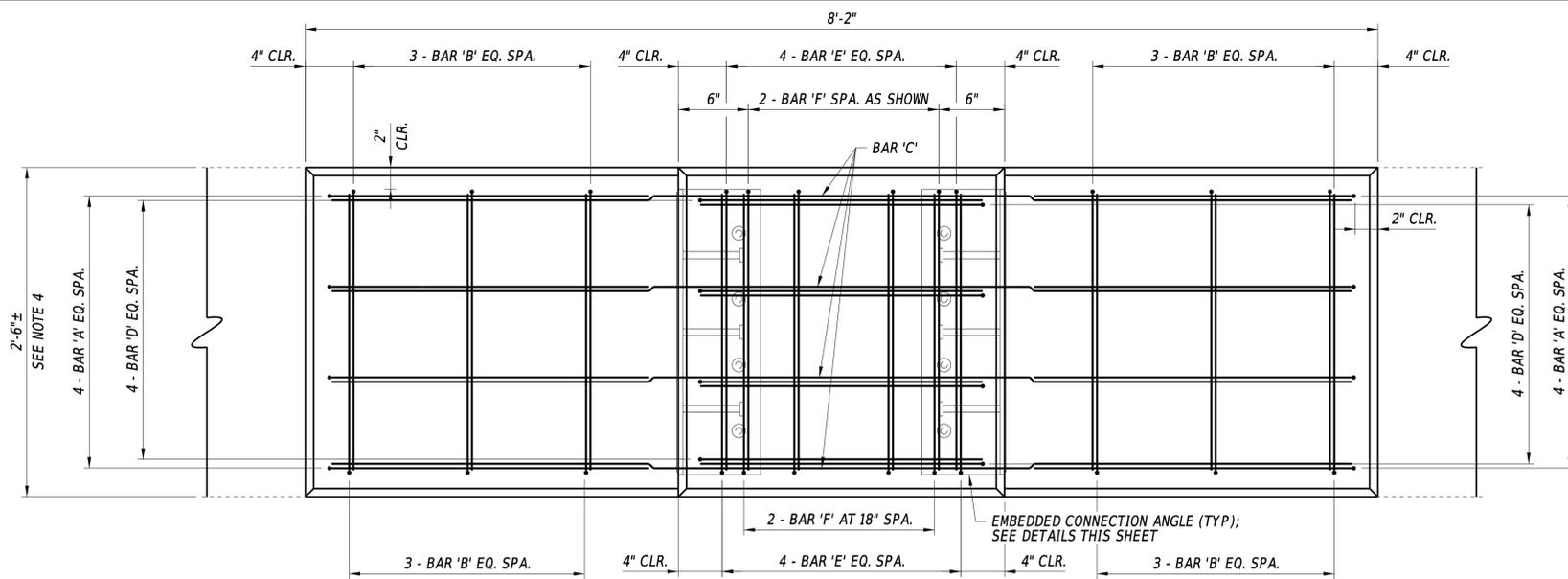
- FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1S, PIER 2S, AND PIER 4S IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 3S IS 1'-3 1/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-13, PR-15, PR-17, AND PR-19.
- FOR CONCRETE SHEAR BLOCK AND ADDITIONAL PEDESTAL DETAILS, SEE DWGS. PR-21 AND PR-22.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A.
- EXTERIOR BEARING PEDESTAL 2 AT PIER 1S, PIER 2S, AND PIER 4S SHALL BE CONSTRUCTED WITH EPOXY GROUT (SIKADUR 42, GROUT PAK LE OR AN APPROVED EQUAL). PLACEMENT OF THIS PEDESTAL SHALL BE IN ACCORDANCE WITH SUBSECTION 610.03.H.I.C OF THE STANDARD SPECIFICATIONS. IF REMOVAL OF CONCRETE IS REQUIRED TO MEET THE MANUFACTURER'S MINIMUM THICKNESS REQUIREMENT, PROVIDE A 1" MAX SAW CUT AT THE LIMITS OF CONCRETE REMOVAL. FOLLOW THE EPOXY GROUT MANUFACTURER'S RECOMMENDATIONS FOR COLD WEATHER PLACEMENT AND CURING REQUIREMENTS. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. FAILURE TO PROPERLY CURE THE EPOXY GROUT WILL REQUIRE THE CONTRACTOR TO REMOVE AND REPLACE THE BEARING PEDESTAL AT NO ADDITIONAL COST TO THE DEPARTMENT.

EXTERIOR PEDESTAL - BAR MARKS			
PIER	PEDESTAL LOCATION	BAR 'A'	BAR 'B'
PIER 1S	EXTERIOR PEDESTAL 1	PR501E	PR502E
PIER 2S	EXTERIOR PEDESTAL 1	PR515E	PR516E
PIER 3S	EXTERIOR PEDESTAL 1	PR529E	PR530E
PIER 3S	EXTERIOR PEDESTAL 2	PR531E	PR532E
PIER 4S	EXTERIOR PEDESTAL 1	PR545E	PR546E

NOTE: NO REINFORCEMENT IS REQUIRED IN EXTERIOR PEDESTAL 2 AT PIERS 1S, 2S, AND 4S. SEE NOTE 9 FOR ADDITIONAL INFORMATION.

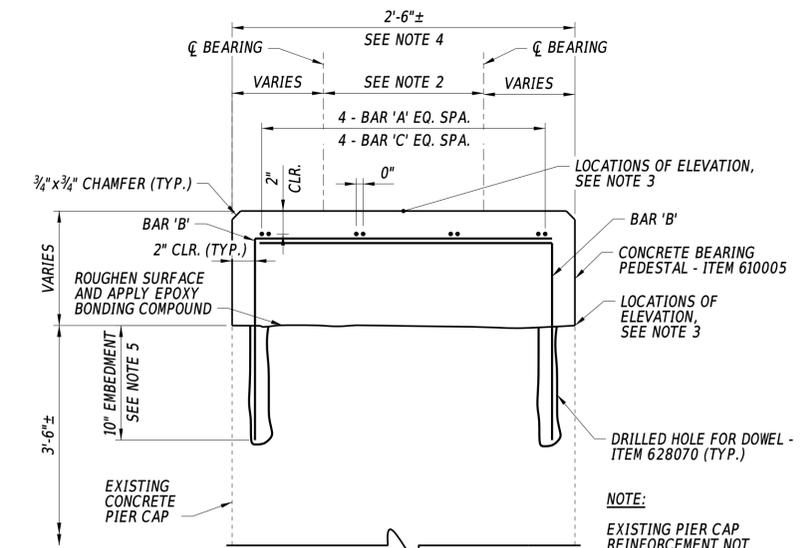
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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601 COUNTY SUSSEX	BRIDGE NO. 3-155S DESIGNED BY: F. OPHARDT CHECKED BY: W. GESCHREI	PIER BEAM SEAT DETAILS	PR-20 SECTION WRA SHEET NO. 109
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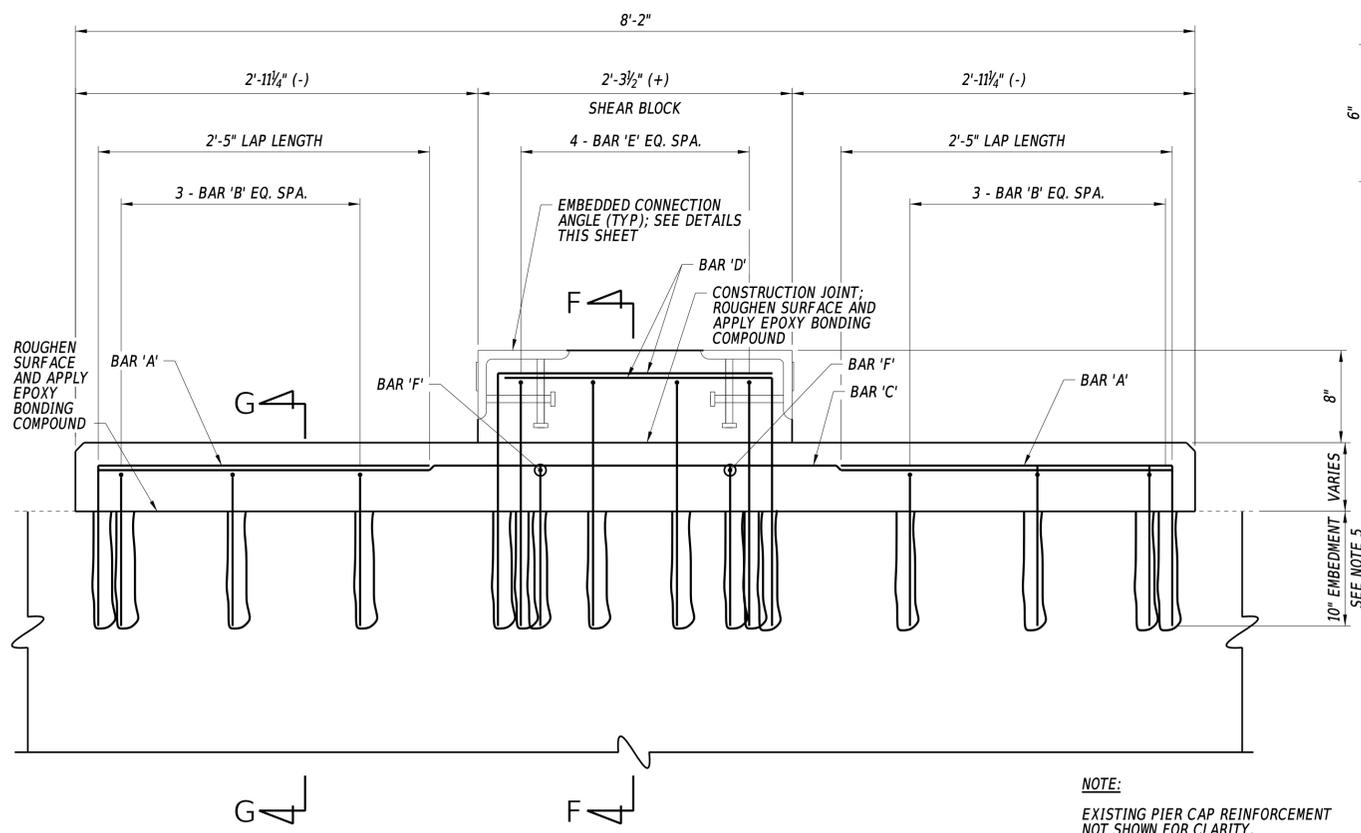
INTERIOR BEARING PEDESTAL 1 REINFORCEMENT PLAN

1 1/2" = 1'-0"



SECTION G-G

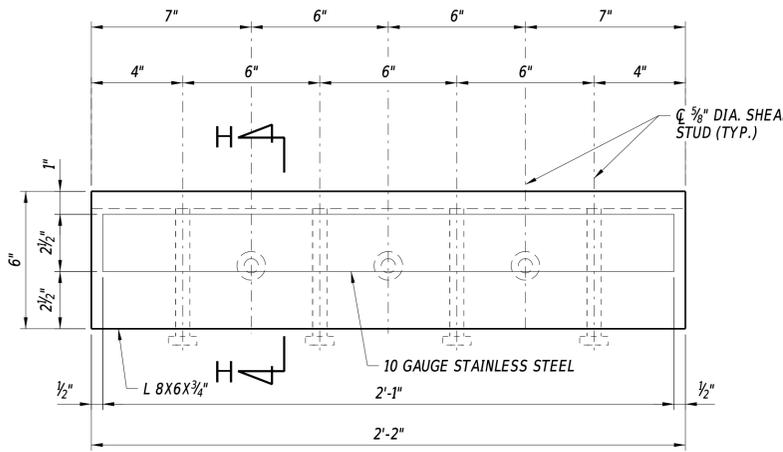
1 1/2" = 1'-0"



INTERIOR BEARING PEDESTAL 1 ELEVATION

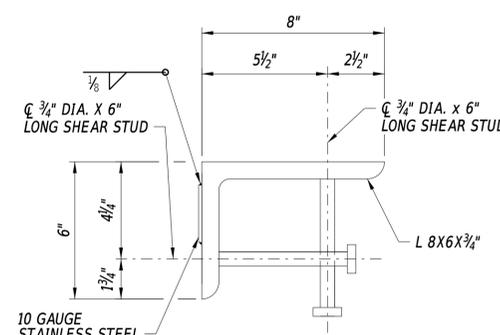
1 1/2" = 1'-0"

NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.



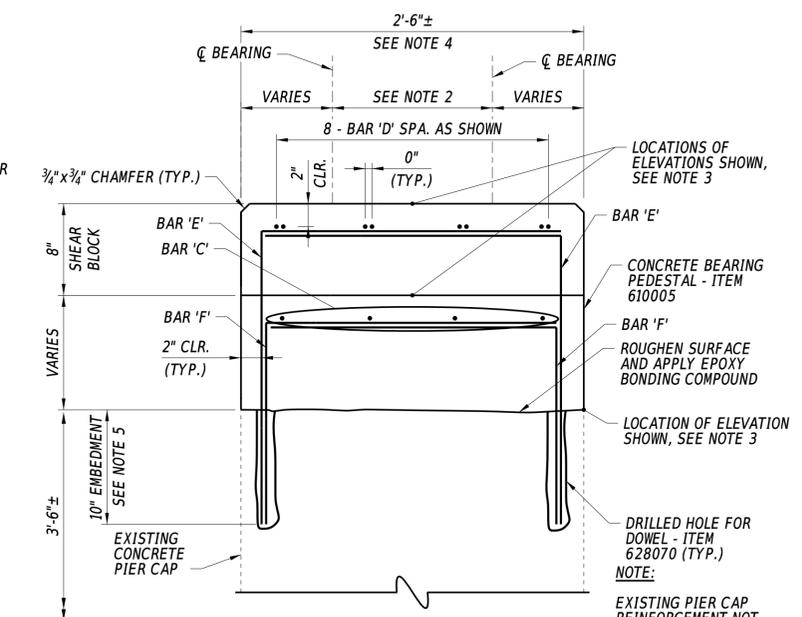
EMBEDDED CONNECTION ANGLE ELEVATION

3" = 1'-0"



SECTION H-H

NOTE:
THE EXPOSED VERTICAL FACE OF THE STEEL ANGLE SHALL BE SHOP PAINTED IN CONFORMANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS.



SECTION F-F

1 1/2" = 1'-0"

NOTES:

- FOR INTERIOR PEDESTAL AND SHEAR BLOCK BAR MARKS, SEE DWG. PR-22
- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1S, PIER 2S, AND PIER 4S IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 3S IS 1'-3/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-13, PR-15, PR-17, AND PR-19.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELKEN CONSTRUCTION SYSTEMS KELIGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. SURFACES SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
- PAYMENT FOR FABRICATING, PAINTING, FURNISHING, AND INSTALLING THE EMBEDDED CONNECTION ANGLE WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARING.

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ADDENDA / REVISIONS

SCALE AS NOTED

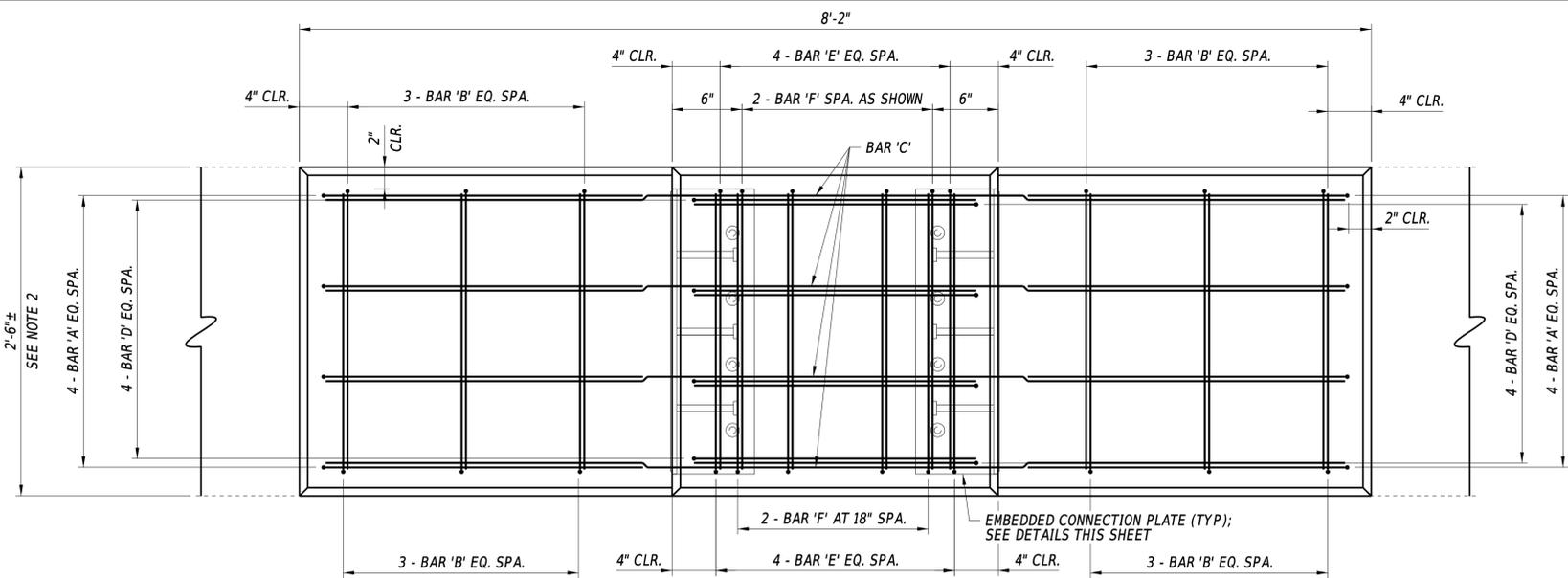
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. 3-155S
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

INTERIOR PEDESTAL AND SHEAR BLOCK DETAILS - 1

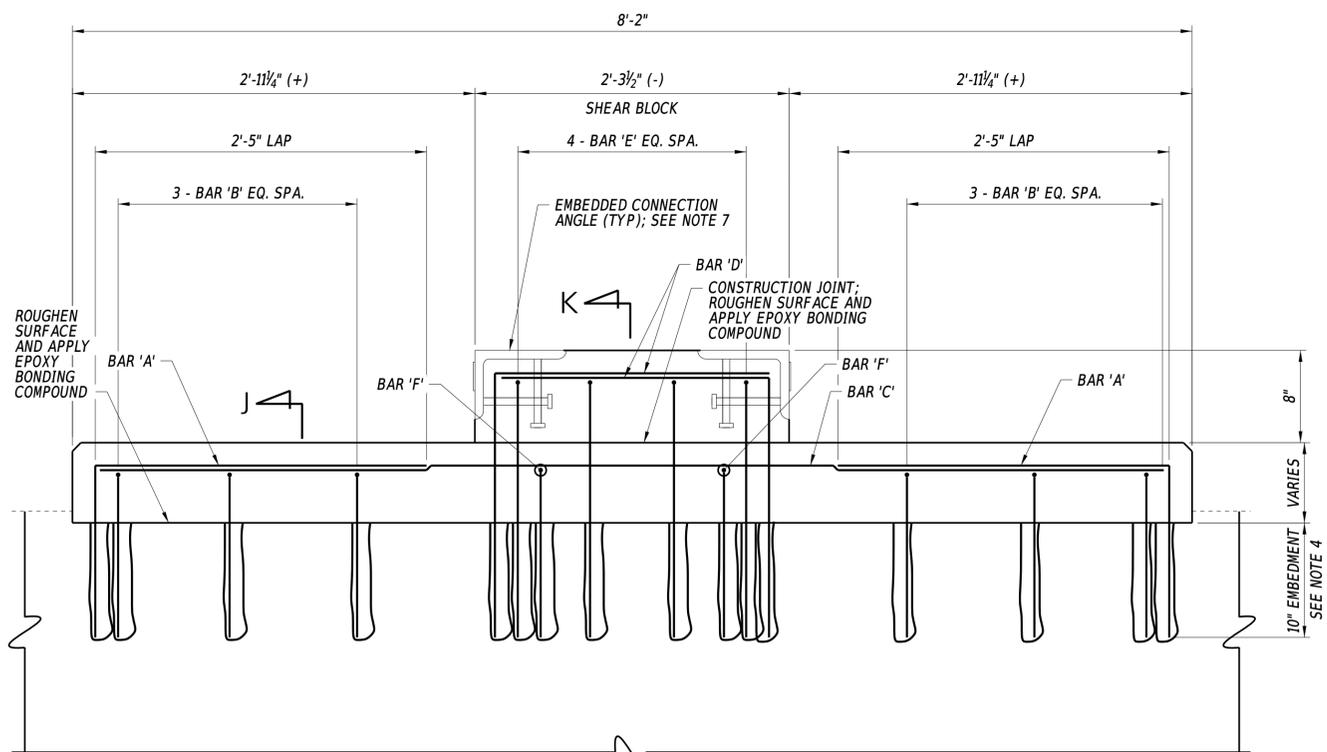
PR-21
SECTION
WRA
SHEET NO.
110



INTERIOR BEARING PEDESTAL 2 REINFORCEMENT PLAN

1 1/2" = 1'-0"

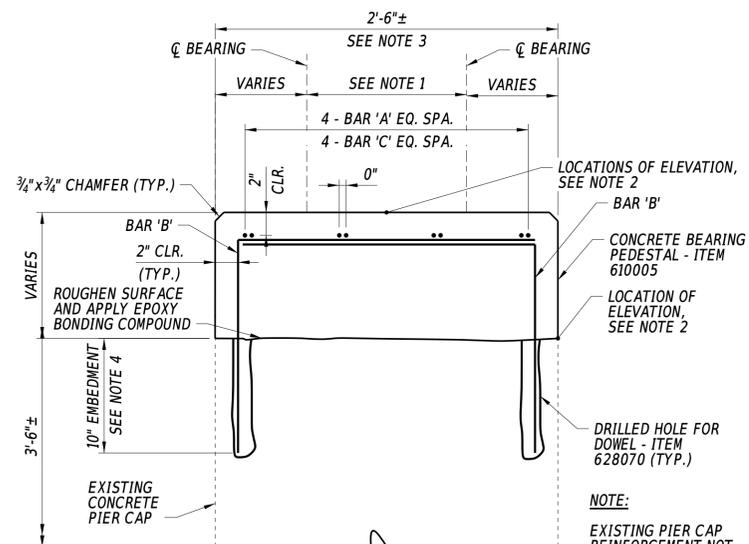
INTERIOR PEDESTAL - BAR MARKS							
PIER	PEDESTAL LOCATION	BAR 'A'	BAR 'B'	BAR 'C'	BAR 'D'	BAR 'E'	BAR 'F'
PIER 1S	INTERIOR PEDESTAL 1	PR503E	PR504E	PR505E	PR506E	PR507E	PR508E
PIER 1S	INTERIOR PEDESTAL 2	PR509E	PR510E	PR511E	PR512E	PR513E	PR514E
PIER 2S	INTERIOR PEDESTAL 1	PR517E	PR518E	PR519E	PR520E	PR521E	PR522E
PIER 2S	INTERIOR PEDESTAL 2	PR523E	PR524E	PR525E	PR526E	PR527E	PR528E
PIER 3S	INTERIOR PEDESTAL 1	PR533E	PR534E	PR535E	PR536E	PR537E	PR538E
PIER 3S	INTERIOR PEDESTAL 2	PR539E	PR540E	PR541E	PR542E	PR543E	PR544E
PIER 4S	INTERIOR PEDESTAL 1	PR547E	PR548E	PR549E	PR550E	PR551E	PR552E
PIER 4S	INTERIOR PEDESTAL 2	PR553E	PR554E	PR555E	PR556E	PR557E	PR558E



INTERIOR BEARING PEDESTAL 2 ELEVATION

1 1/2" = 1'-0"

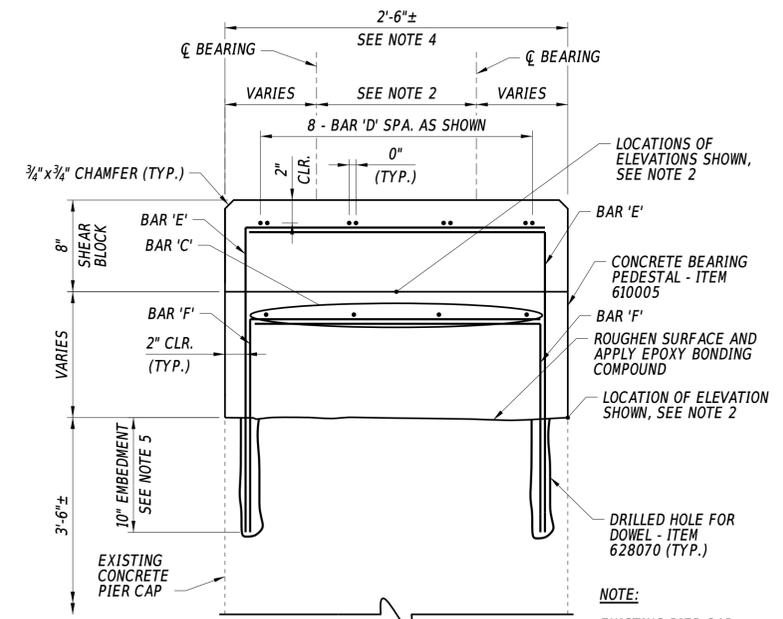
NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION J - J

1 1/2" = 1'-0"

NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.



SECTION K - K

1 1/2" = 1'-0"

NOTE:
EXISTING PIER CAP REINFORCEMENT NOT SHOWN FOR CLARITY.

NOTES:

- SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 1S, PIER 2S, AND PIER 4S IS 1'-2". SPACING BETWEEN CENTERLINES OF BEARING FOR PIER 3S IS 1'-3/4".
- FOR PIER CAP AND BEARING PEDESTAL ELEVATIONS, SEE DWGS. PR-13, PR-15, PR-17, AND PR-19.
- FIELD SURVEY RESULTS FOR THE PIER CAP WIDTH DIFFER FROM THAT SHOWN IN THE EXISTING PLANS. THE DIMENSION SHOWN IS BASED ON THE FIELD SURVEY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THIS DIMENSION, TO CONSTRUCT THE CONCRETE BEARING PEDESTALS, AND TO FABRICATE ALL MATERIALS TO MEET THE REQUIREMENTS OF THE ACTUAL FIELD CONDITIONS.
- EPOXY GROUT FOR THE DOWELS PLACED IN DRILLED HOLES SHALL BE KELCON CONSTRUCTION SYSTEMS KELGROUT OR AN APPROVED EQUAL. THE REINFORCEMENT HAS BEEN DETAILED FOR THE EMBEDMENT LENGTHS SHOWN. PROVIDE EMBEDMENT AS RECOMMENDED BY THE EPOXY GROUT MANUFACTURER AND ADJUST THE REINFORCEMENT AS NECESSARY AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- THE CONTRACTOR SHALL LOCATE EXISTING REINFORCEMENT AND DRILL HOLES FOR DOWELS TO AVOID THE EXISTING REINFORCEMENT.
- PAYMENT FOR ROUGHENING THE EXISTING PIER CAP TO PLACE THE CONCRETE BEARING PEDESTAL WILL BE INCIDENTAL TO ITEM 610005 - PORTLAND CEMENT CONCRETE MASONRY, SUBSTRUCTURE, CLASS A. SURFACES SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
- FOR EMBEDDED CONNECTION ANGLE DETAILS, SEE DWG. PR-21.

ADDENDA / REVISIONS

SCALE AS NOTED

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

INTERIOR PEDESTAL
AND SHEAR BLOCK DETAILS - 2

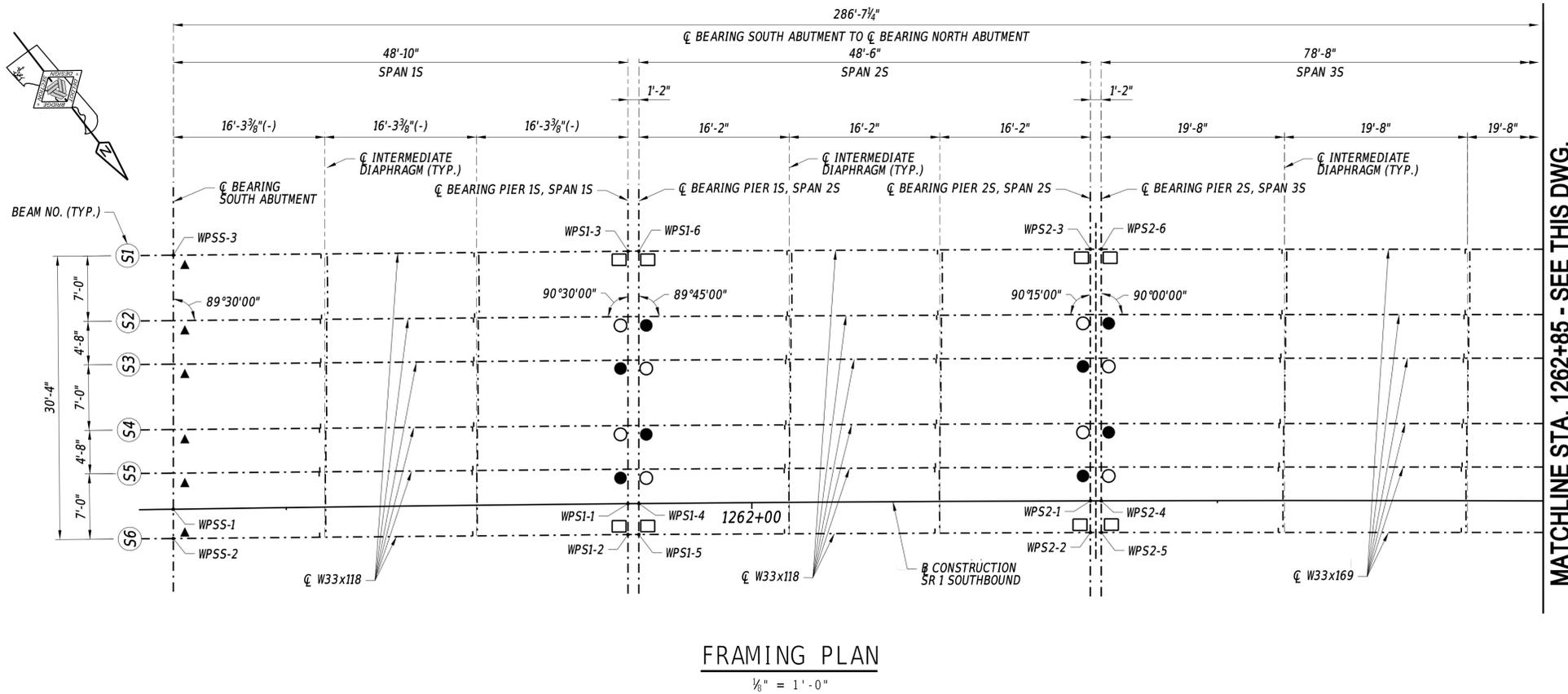
PR-22

SECTION

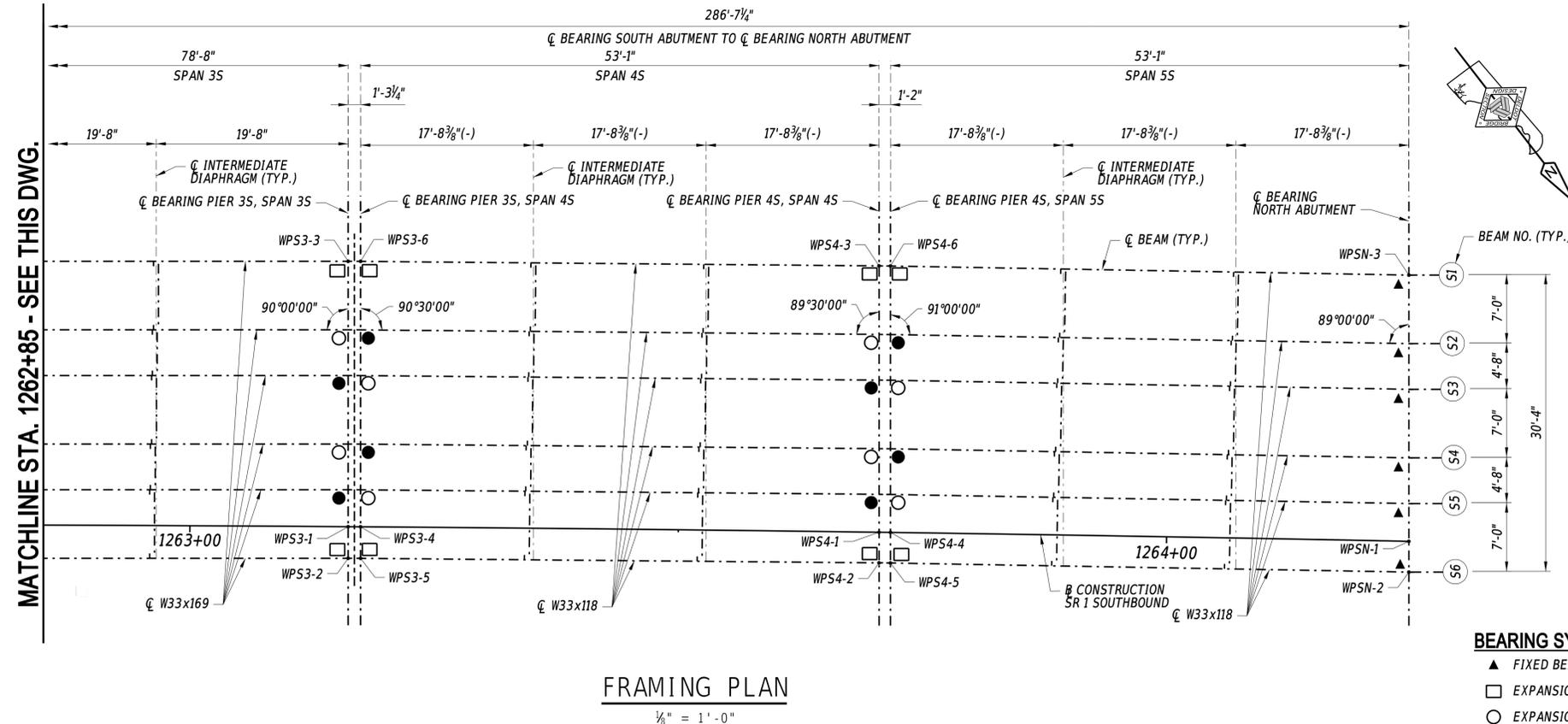
WRA

SHEET NO.

111



MATCHLINE STA. 1262+85 - SEE THIS DWG.



MATCHLINE STA. 1262+85 - SEE THIS DWG.

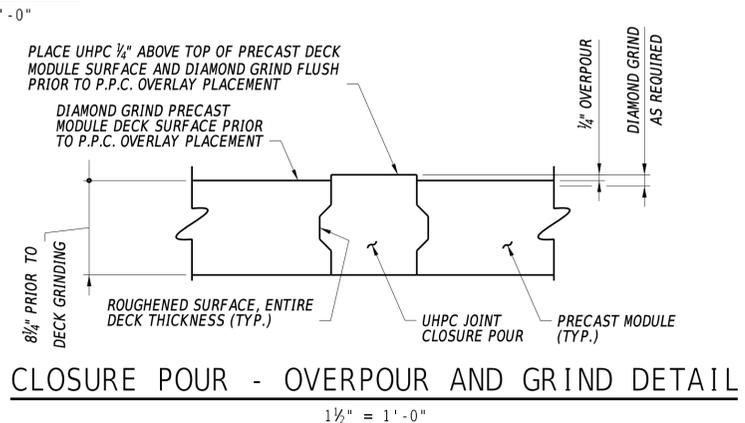
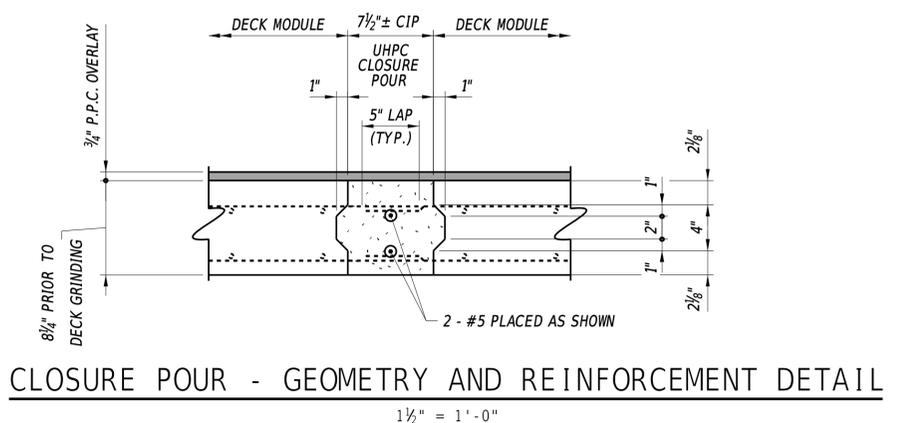
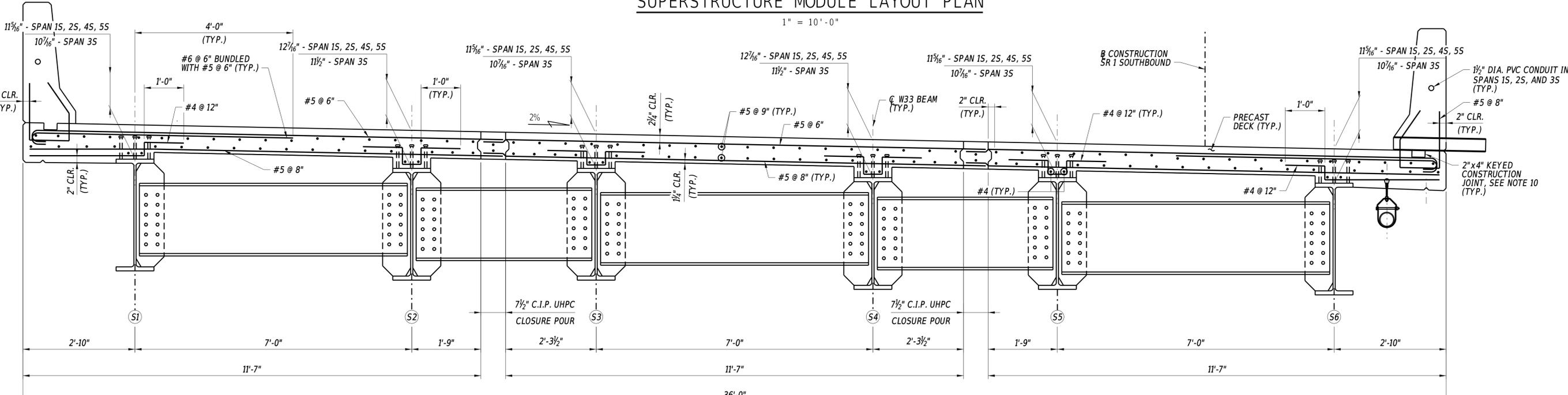
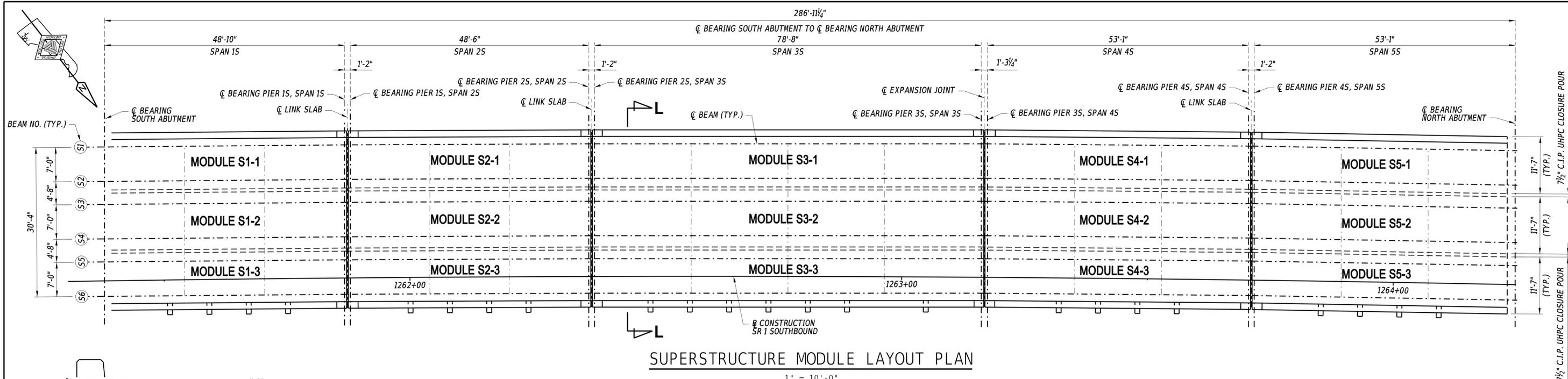
- BEARING SYMBOL LEGEND:**
- ▲ FIXED BEARING, TYPE I
 - EXPANSION BEARING, TYPE I
 - EXPANSION BEARING, TYPE II
 - EXPANSION BEARING, TYPE III

WORKING POINT COORDINATES				
POINT	STATION	OFFSET	NORTHING	EASTING
WPSS-1	1261+37.87	-----	287894.0729	703241.4345
WPSS-2	1261+37.82	3.14' RT.	287896.5541	703243.3565
WPSS-3	1261+38.28	27.19' LT.	287872.5732	703224.7797
WPS1-1	1261+86.70	-----	287923.5065	703202.4662
WPS1-2	1261+86.67	3.31' RT.	287926.1212	703204.4923
WPS1-3	1261+86.95	27.03' LT.	287902.1405	703185.9151
WPS1-4	1261+87.87	-----	287924.2123	703201.5378
WPS1-5	1261+87.84	3.31' RT.	287926.8299	703203.5655
WPS1-6	1261+88.11	27.02' LT.	287902.8500	703184.9889
WPS2-1	1262+36.37	-----	287953.6844	703163.0186
WPS2-2	1262+36.36	3.39' RT.	287956.3639	703165.0943
WPS2-3	1262+36.45	26.94' LT.	287932.3837	703146.5180
WPS2-4	1262+37.54	-----	287954.3962	703162.0942
WPS2-5	1262+37.53	3.39' RT.	287957.0764	703164.1705
WPS2-6	1262+37.61	26.94' LT.	287933.0964	703145.5944
WPS3-1	1263+16.20	-----	288002.7020	703100.0054
WPS3-2	1263+16.23	3.23' RT.	288005.2520	703101.9808
WPS3-3	1263+16.01	27.11' LT.	287981.2720	703083.4047
WPS3-4	1263+17.48	-----	288003.4873	703099.0063
WPS3-5	1263+17.50	3.22' RT.	288006.0350	703100.9798
WPS3-6	1263+17.28	27.11' LT.	287982.0540	703082.4031
WPS4-1	1263+70.56	-----	288036.4336	703057.3833
WPS4-2	1263+70.60	3.13' RT.	288038.9080	703059.3001
WPS4-3	1263+70.19	27.20' LT.	288014.9271	703040.7233
WPS4-4	1263+71.73	-----	288037.1609	703056.4709
WPS4-5	1263+71.77	3.13' RT.	288039.6345	703058.3871
WPS4-6	1263+71.35	27.21' LT.	288015.6509	703039.8082
WPSN-1	1264+24.82	-----	288070.3925	703015.0664
WPSN-2	1264+24.88	3.14' RT.	288072.8751	703016.9896
WPSN-3	1264+24.26	27.19' LT.	288048.8915	702998.4107

- NOTES:**
- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
 - FOR BEAM ELEVATION, SEE DWG. BM-24.
 - FOR DIAPHRAGM DETAILS, SEE DWGS. BM-25 AND BM-26.
 - FOR CAMBER TABLES, SEE DWGS. CT-03 AND CT-04.
 - FOR BEARING DETAILS, SEE DWGS. BB-01 THRU BB-05.
 - FOR SUPERSTRUCTURE MODULE LAYOUT PLAN, SEE DWG. BM-13.
 - SPAN LENGTHS MEASURED PERPENDICULAR TO \bar{C} BEARING.

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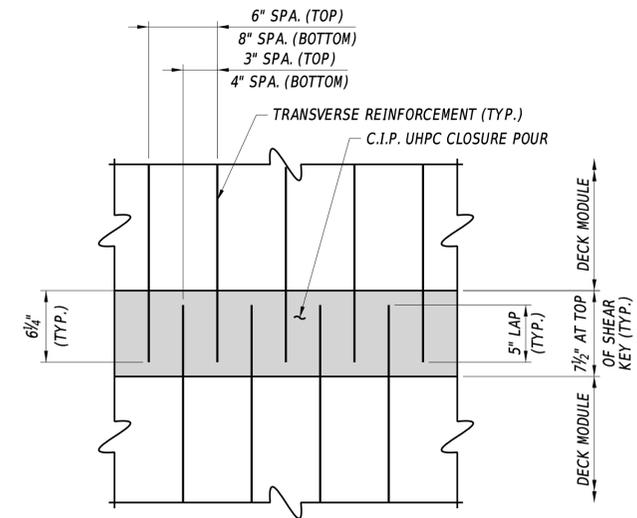
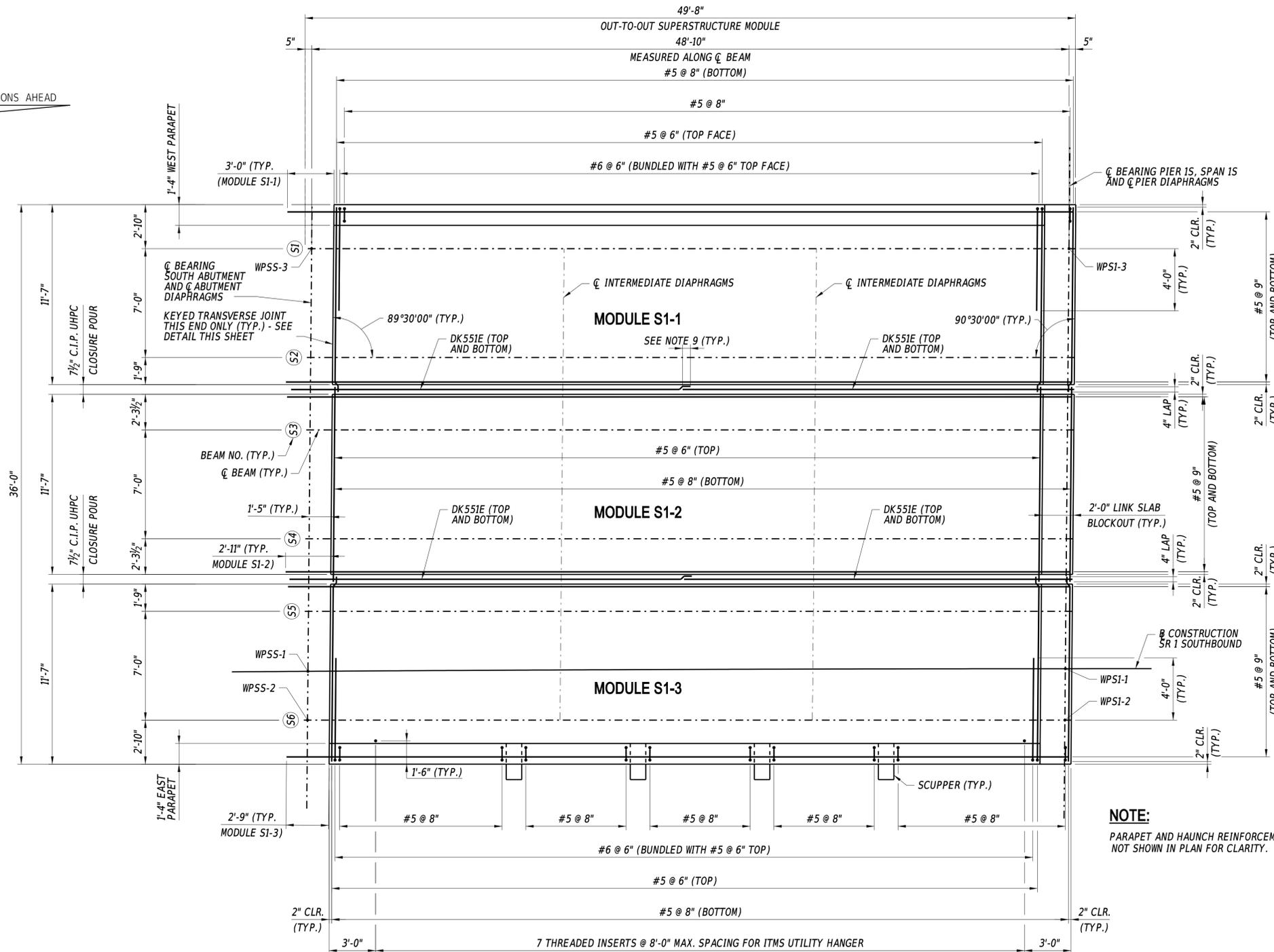
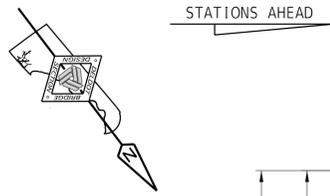
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	FRAMING PLAN	FP-02
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	112
				SUSSEX				



- NOTES:**
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
 2. FOR FRAMING PLAN, SEE DWG. FP-02.
 3. FOR BEAM ELEVATION, SEE DWG. BM-24.
 4. FOR DIAPHRAGM DETAILS, SEE DWGS. BM-25 AND BM-26.
 5. FOR ADDITIONAL SUPERSTRUCTURE MODULE REINFORCEMENT DETAILS, SEE DWGS. BM-14 THRU BM-23.
 6. FOR NON-CONTACT LAP SPLICE DETAIL IN C.I.P. UHPC CLOSURE POURS, SEE DWG. BM-14.
 7. FOR LINK SLAB DETAILS, SEE DWG. JT-01.
 8. FOR EXPANSION JOINT DETAILS, SEE DWG. JT-02.
 9. FOR PARAPET DETAILS, SEE DWG. PA-01.
 10. THE CONTRACTOR HAS THE OPTION OF PROVIDING A ROUGHENED CONSTRUCTION JOINT TO A 1/4" AMPLITUDE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
 11. SPAN LENGTHS ARE MEASURED PERPENDICULAR TO @ BEARING.

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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601 COUNTY SUSSEX	BRIDGE NO. 3-155S DESIGNED BY: F. OPHARDT CHECKED BY: W. GESCHREI	SUPERSTRUCTURE MODULE LAYOUT PLAN	BM-13 SECTION WRA SHEET NO. 113
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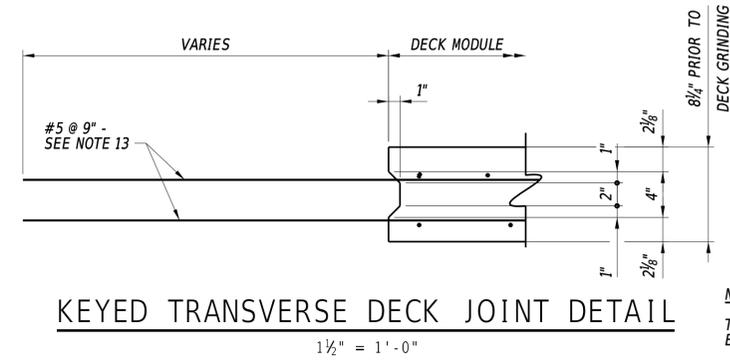


NON-CONTACT LAP SPLICE DETAIL
1 1/2" = 1'-0"

- NOTES:**
- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
 - FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
 - FOR FRAMING PLAN, SEE DWG. FP-02.
 - FOR BEAM ELEVATIONS, SEE DWG. BM-24.
 - FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
 - FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-15.
 - FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
 - PAYMENT FOR PRECAST INSERTS FOR THE ITMS UTILITY HANGERS IS INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
 - THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
 - THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
 - STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT SPLICE DETAIL ON THIS SHEET.
 - ANTICIPATED MODULE SELF WEIGHT:
MODULE S1-1 - 41.7 TONS
MODULE S1-2 - 32.0 TONS
MODULE S1-3 - 41.7 TONS
 - THE CONTRACTOR HAS THE OPTION OF EXTENDING THE LONGITUDINAL PRECAST DECK REINFORCEMENT TO THE REQUIRED LENGTH BEYOND THE KEYED TRANSVERSE DECK JOINT USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.

NOTE:
PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

SUPERSTRUCTURE MODULE PLAN - SPAN 15
1/4" = 1'-0"



KEYED TRANSVERSE DECK JOINT DETAIL
1 1/2" = 1'-0"

ADDENDA / REVISIONS

SCALE AS NOTED

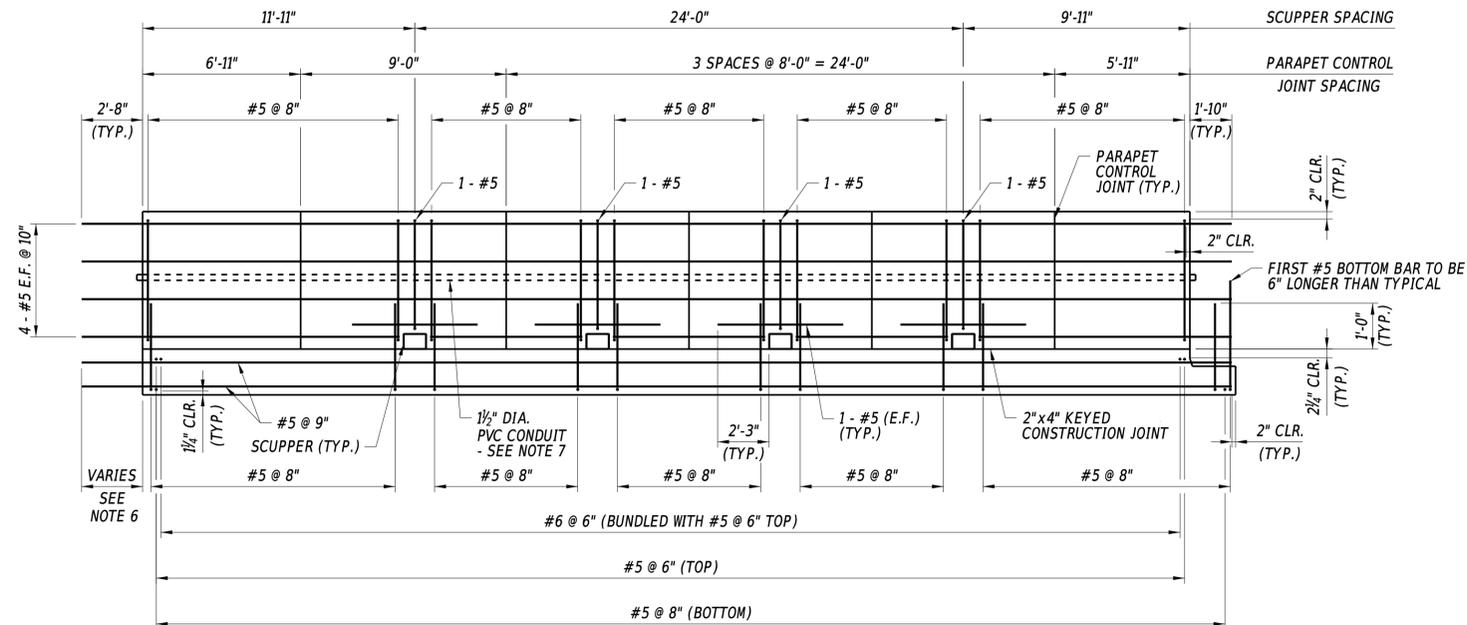
BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

SPAN 1S SUPERSTRUCTURE
MODULE DETAILS - 1

BM-14
SECTION
WRA
SHEET NO.
114

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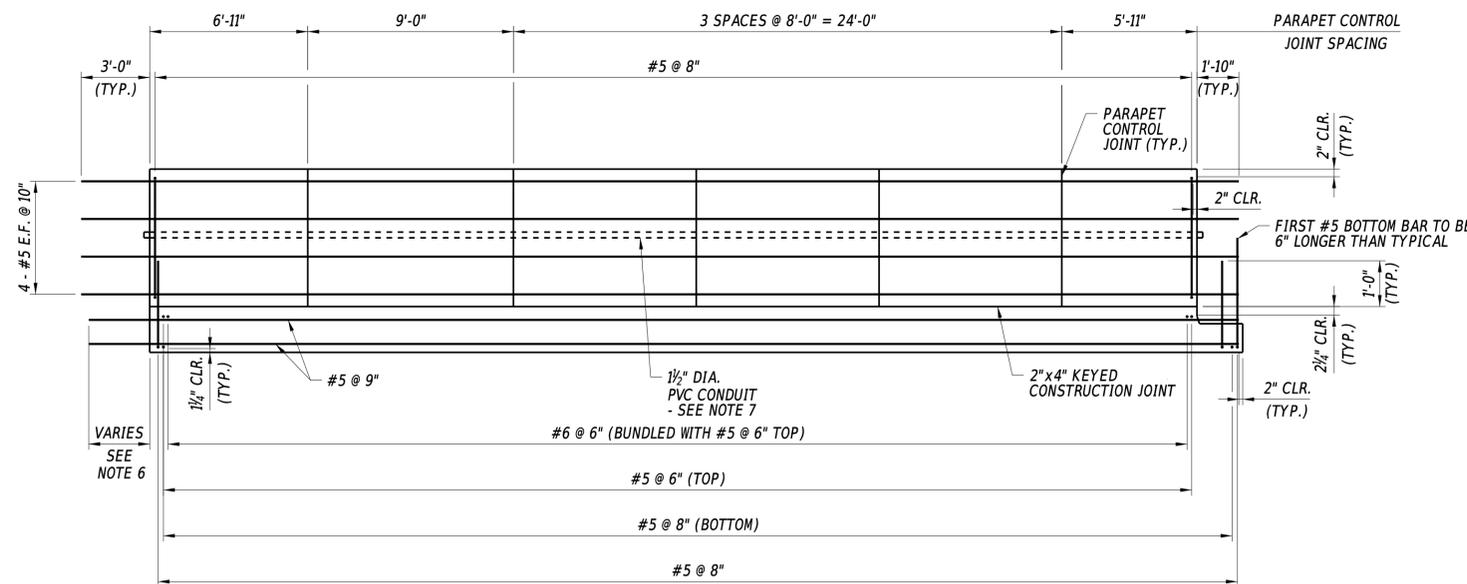


SPAN 1S EAST PARAPET ELEVATION

(EXTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTE: ITMS UTILITY SUPPORT HANGER
INSERTS NOT SHOWN FOR CLARITY.



SPAN 1S WEST PARAPET ELEVATION

(INTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
6. LENGTHS OF MODULE LONGITUDINAL DECK REINFORCEMENT EXTENDING BEYOND THE KEYED TRANSVERSE DECK JOINT VARIES BETWEEN MODULES. SEE DWG. BM-14 FOR ADDITIONAL INFORMATION.
7. EXTEND THE PVC CONDUIT 3" BEYOND THE LIMITS OF THE PRECAST PARAPET.

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ADDENDA / REVISIONS	

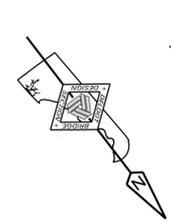
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

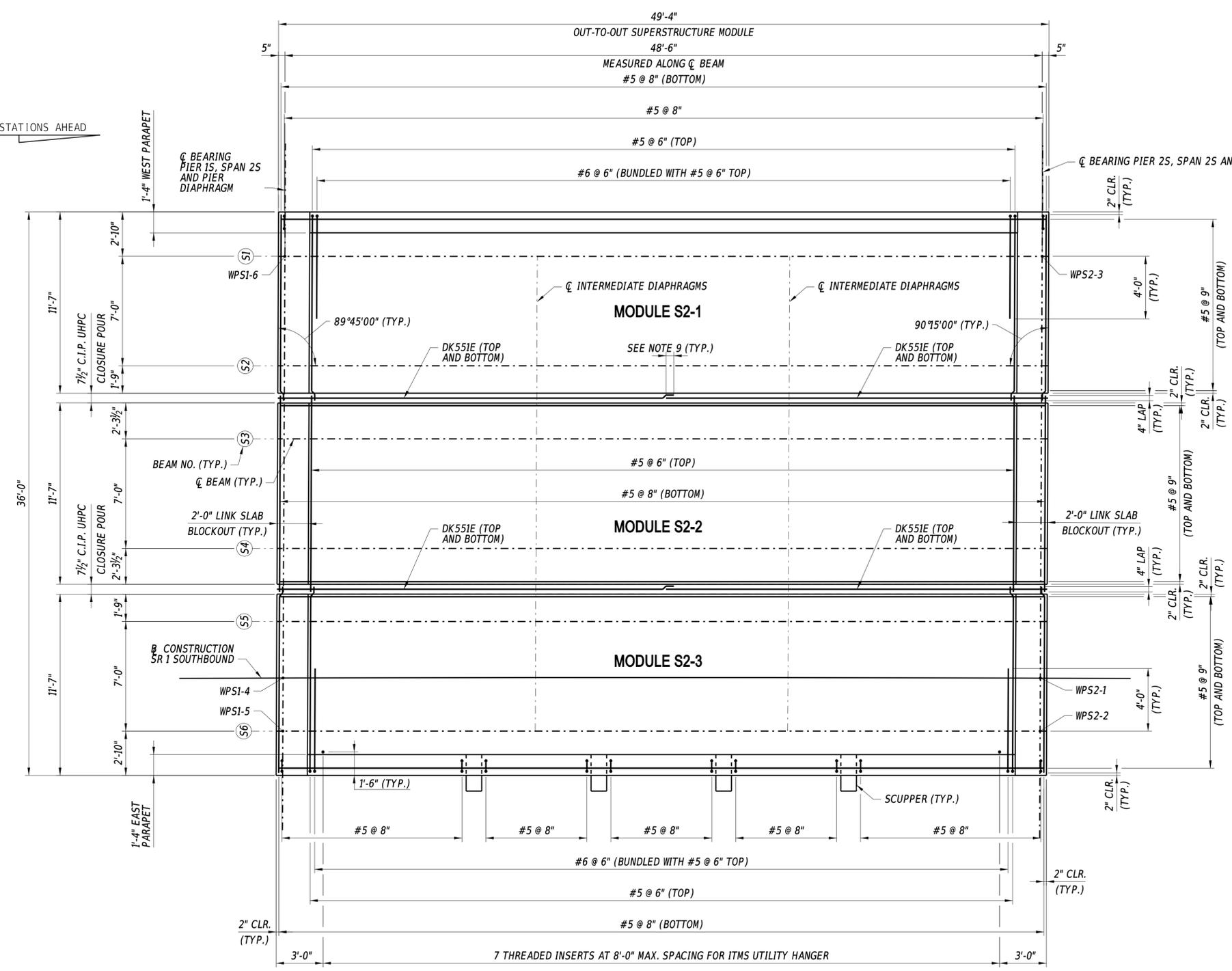
CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**SPAN 1S SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-15
SECTION
WRA
SHEET NO.
115



STATIONS AHEAD



NOTE:
PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

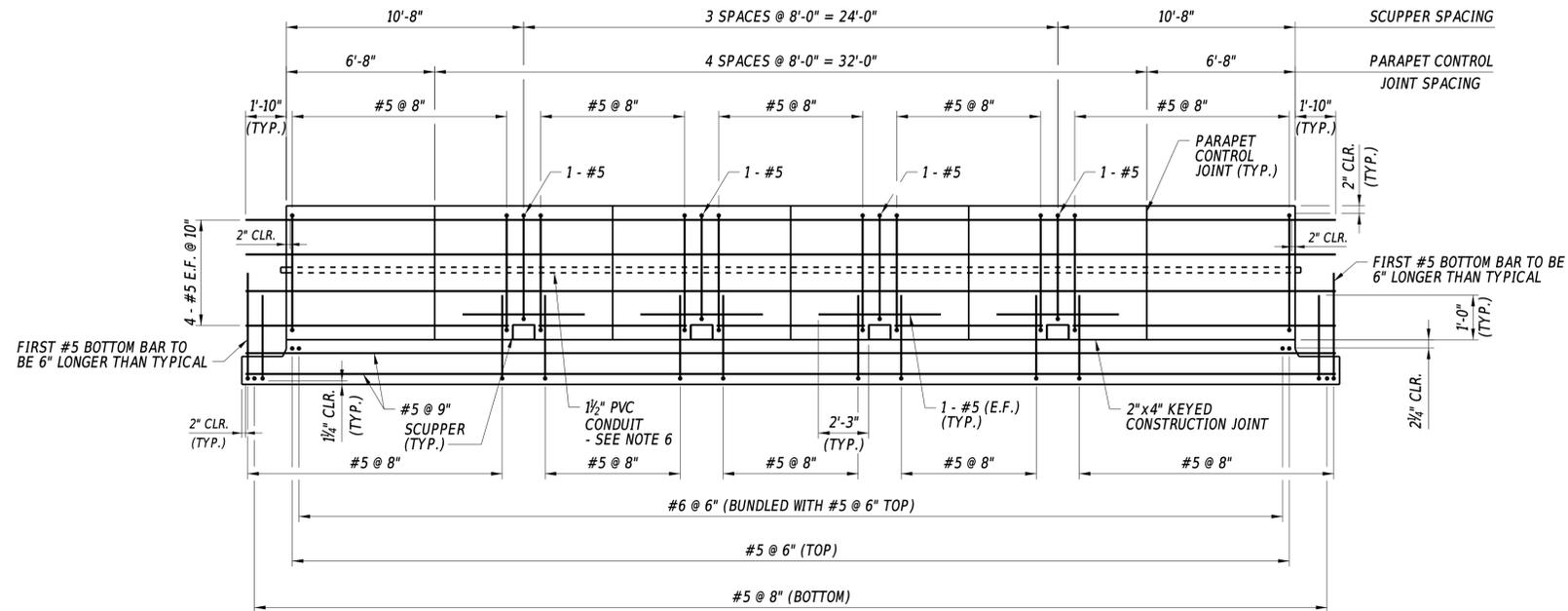
- NOTES:**
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
 2. FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
 3. FOR FRAMING PLAN, SEE DWG. FP-02.
 4. FOR BEAM ELEVATIONS, SEE DWG. BM-24.
 5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
 6. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-17.
 7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
 8. PAYMENT FOR PRECAST INSERTS FOR THE ITMS UTILITY HANGERS IS INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
 9. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5'.
 10. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
 11. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT SPLICE DETAIL ON DWG. BM-14.
 12. ANTICIPATED MODULE SELF WEIGHT:
MODULE S2-1 - 41.9 TONS
MODULE S2-2 - 32.3 TONS
MODULE S2-3 - 41.9 TONS

SUPERSTRUCTURE MODULE PLAN - SPAN 2S

1/4" = 1'-0"

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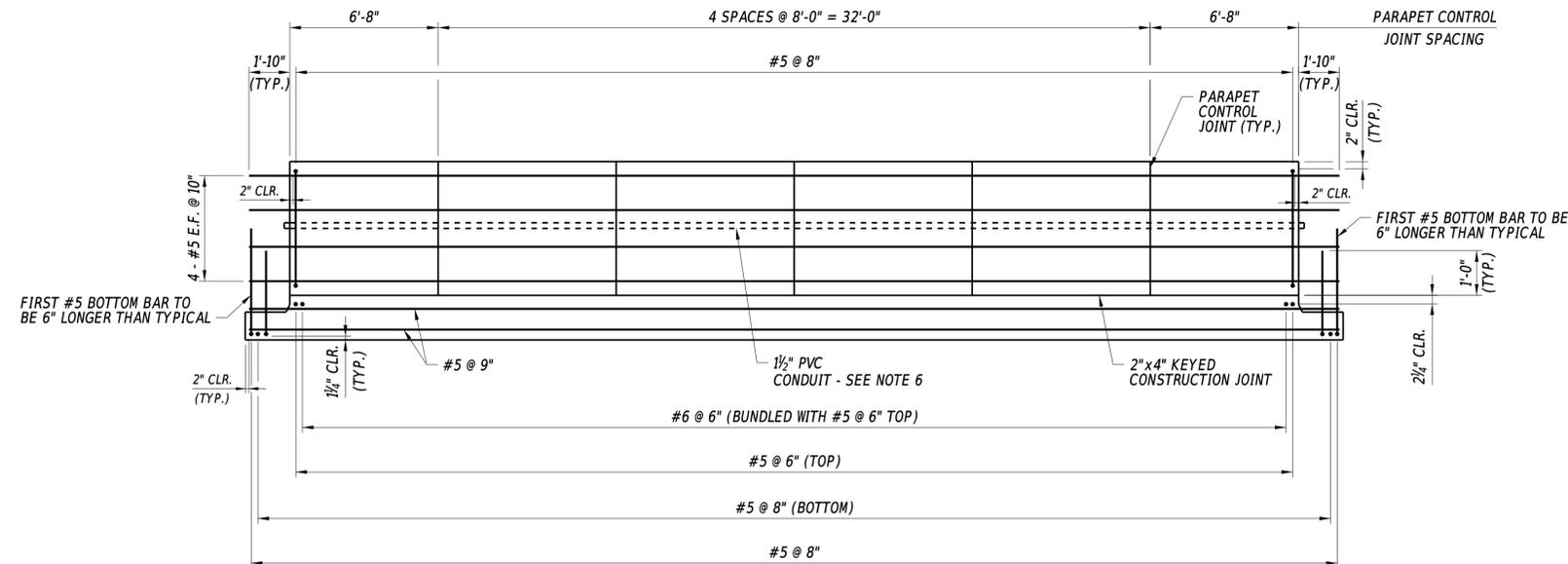
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	SECTION	BM-16
				T201907601	DESIGNED BY: F. OPHARDT	SPAN 2S SUPERSTRUCTURE MODULE DETAILS - 1		WRA
			SUSSEX	CHECKED BY: W. GESCHREI	SHEET NO.		116	



SPAN 2S EAST PARAPET ELEVATION
(EXTERIOR ELEVATION SHOWN)

NOTE: ITMS UTILITY SUPPORT HANGER
INSERTS NOT SHOWN FOR CLARITY.

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"



SPAN 2S WEST PARAPET ELEVATION
(INTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

- FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
- FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
- FOR SCUPPER DETAIL, SEE DWG. PA-01.
- FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
- THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
- EXTEND THE PVC CONDUIT 3" BEYOND THE LIMITS OF THE PRECAST PARAPET.

ADDENDA / REVISIONS

SCALE AS NOTED

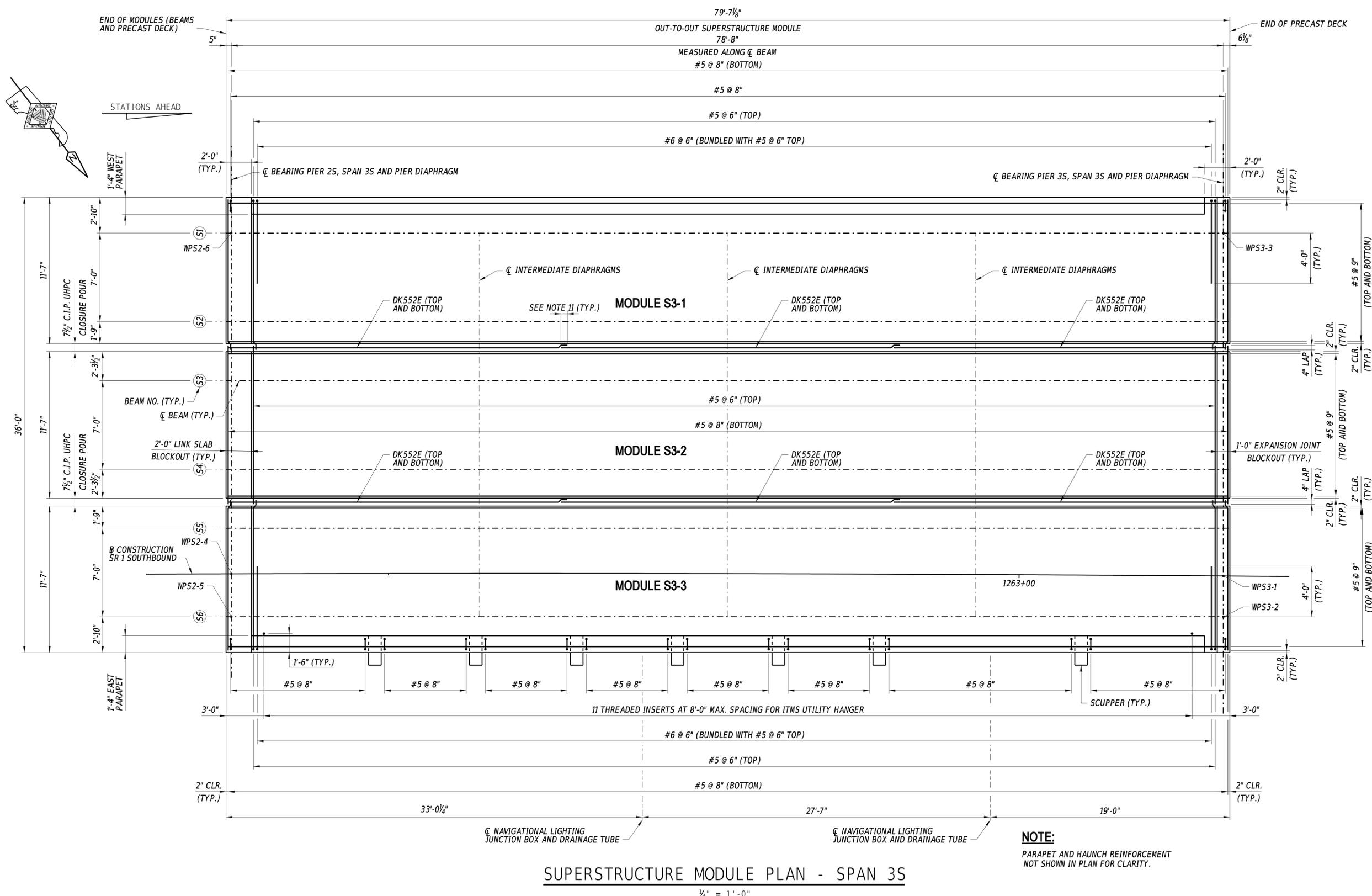
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155S**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

**SPAN 2S SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-17
SECTION
WRA
SHEET NO.
117



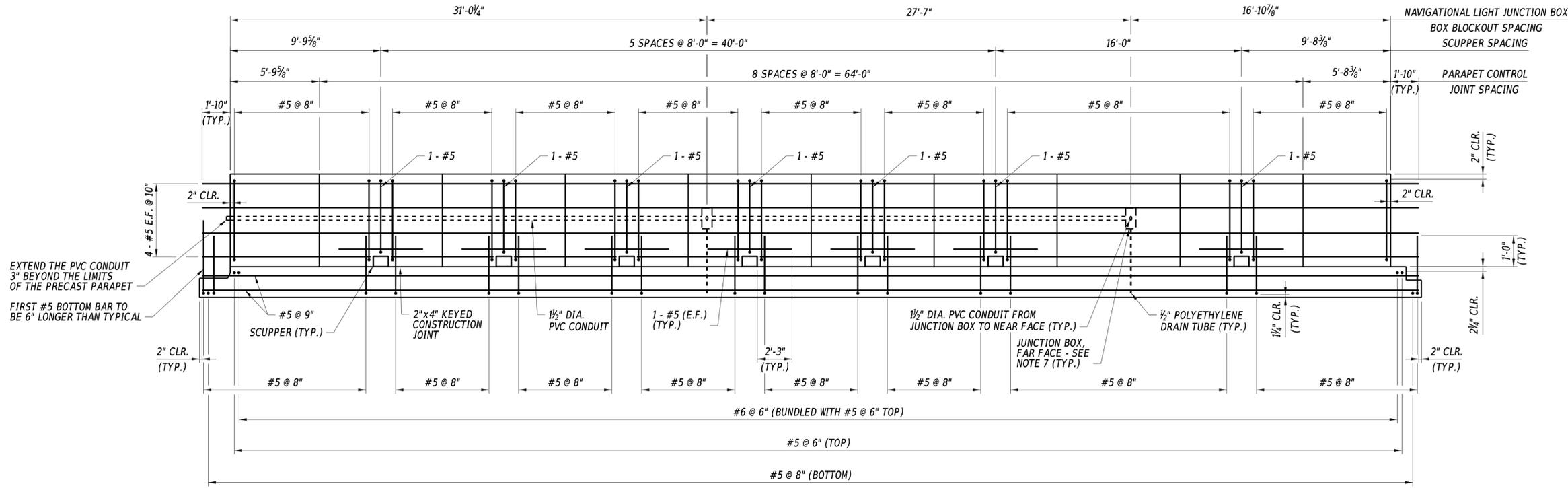
SUPERSTRUCTURE MODULE PLAN - SPAN 3S
 $\frac{1}{4}'' = 1' - 0''$

NOTE:
 PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

- NOTES:**
- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
 - FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
 - FOR FRAMING PLAN, SEE DWG. FP-02.
 - FOR BEAM ELEVATIONS, SEE DWG. BM-24.
 - FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
 - FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-19.
 - FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
 - FOR EXPANSION JOINT DETAILS, SEE DWG. JT-02.
 - FOR NAVIGATIONAL LIGHTING DETAILS, SEE DWGS. LI-01 THRU LI-05.
 - PAYMENT FOR PRECAST INSERTS FOR THE ITMS UTILITY HANGERS IS INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
 - THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
 - THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
 - STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT SPLICE DETAIL ON DWG. BM-14.
 - ANTICIPATED MODULE SELF WEIGHT:
 MODULE S3-1 - 71.4 TONS
 MODULE S3-2 - 55.9 TONS
 MODULE S3-3 - 71.4 TONS

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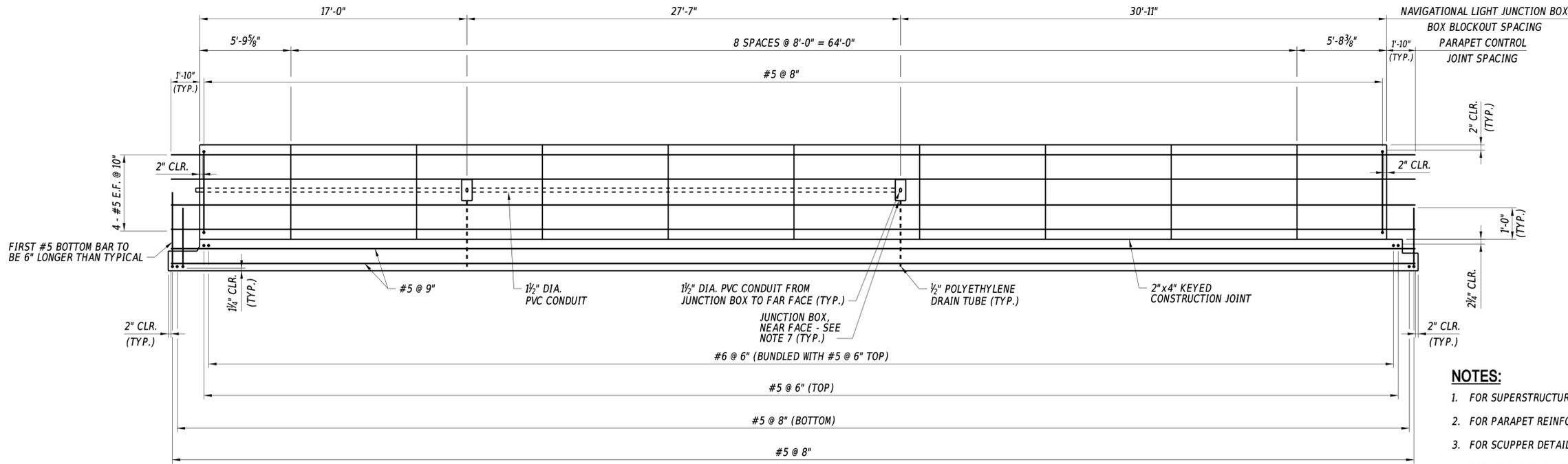
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">ADDENDA / REVISIONS</th> <th style="width:50%;"></th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	ADDENDA / REVISIONS						SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> <td>3-155S</td> </tr> <tr> <td>T201907601</td> <td>DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td>COUNTY</td> <td>CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td>SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155S	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 3S SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>BM-18</td> </tr> <tr> <td>SECTION</td> </tr> <tr> <td>WRA</td> </tr> <tr> <td>SHEET NO.</td> </tr> <tr> <td align="center">118</td> </tr> </table>	BM-18	SECTION	WRA	SHEET NO.	118
ADDENDA / REVISIONS																												
CONTRACT	BRIDGE NO.	3-155S																										
T201907601	DESIGNED BY:	F. OPHARDT																										
COUNTY	CHECKED BY:	W. GESCHREI																										
SUSSEX																												
BM-18																												
SECTION																												
WRA																												
SHEET NO.																												
118																												



SPAN 3S EAST PARAPET
(EXTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTE: ITMS UTILITY SUPPORT HANGER INSERTS NOT SHOWN FOR CLARITY.



SPAN 3S WEST PARAPET
(INTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. FOR EXPANSION JOINT DETAIL, SEE DWG. JT-02.
6. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
7. FOR JUNCTION BOX DETAIL, SEE DWG. NL-04.

ADDENDA / REVISIONS

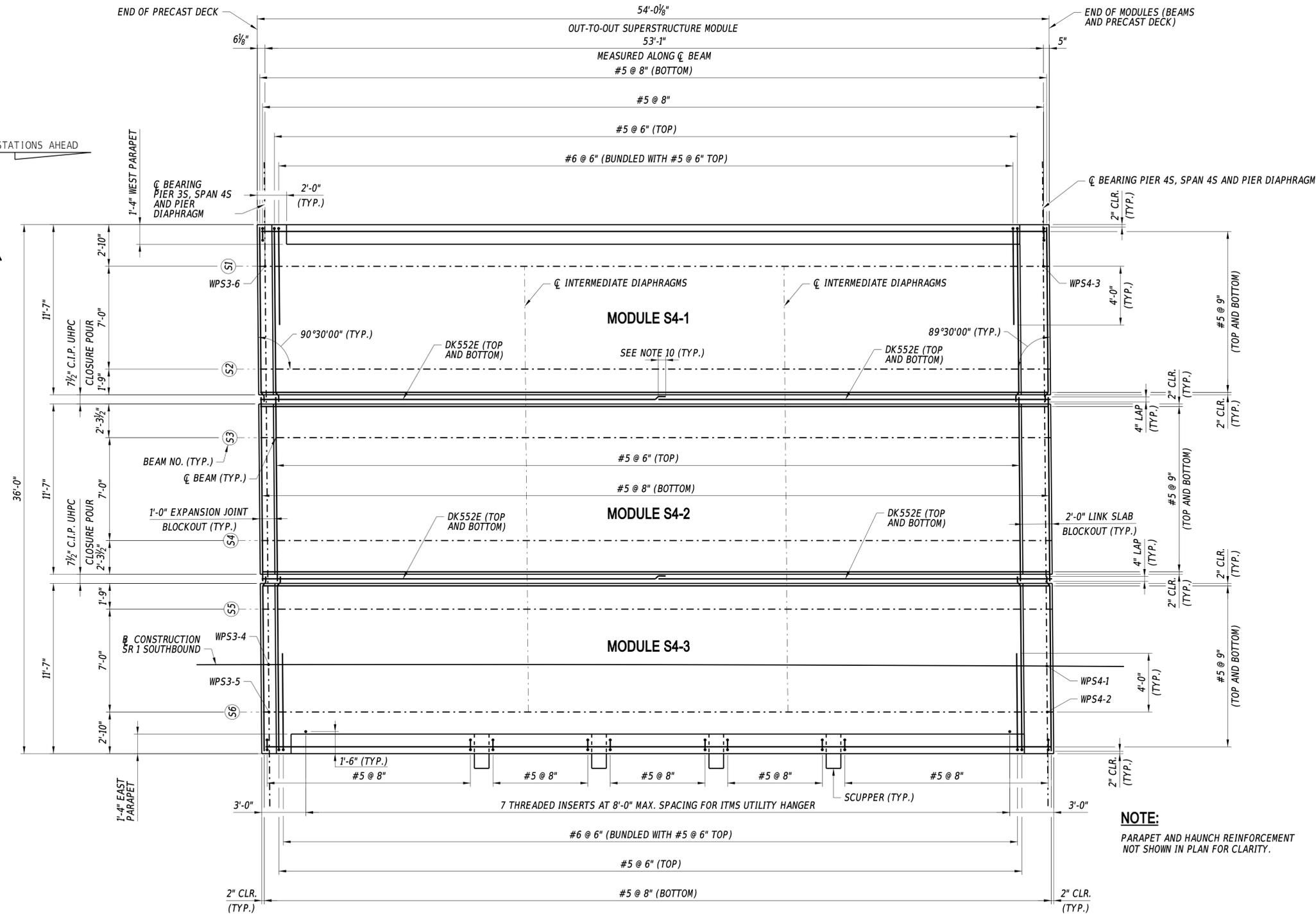
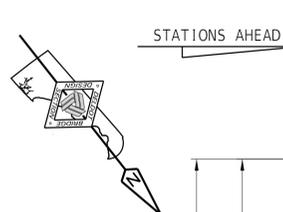
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**SPAN 3S SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-19
SECTION
WRA
SHEET NO.
119



SUPERSTRUCTURE MODULE PLAN - SPAN 4S
 $\frac{1}{4}'' = 1' - 0''$

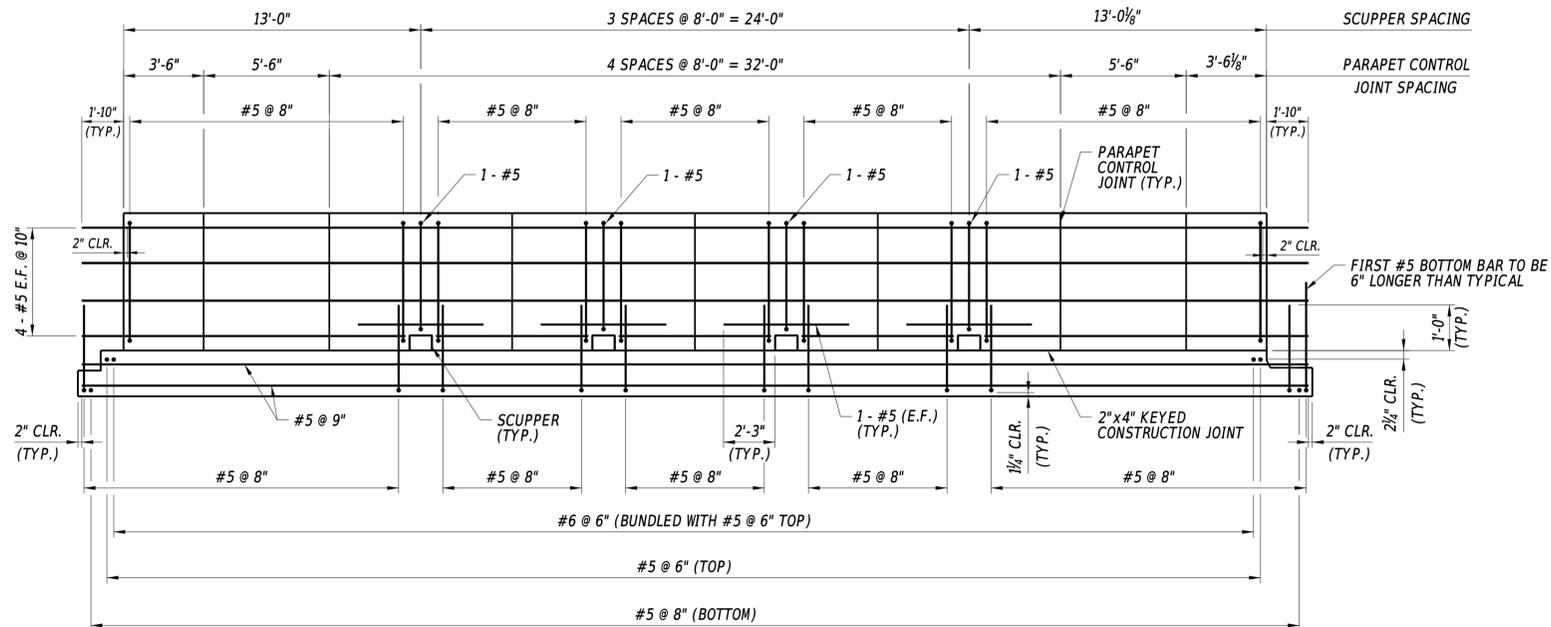
NOTES:

1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
3. FOR FRAMING PLAN, SEE DWG. FP-02.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-24.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
6. FOR PARAPET CONTROL JOINT DETAIL, SEE DWG. PA-01. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-21.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR EXPANSION JOINT DETAILS, SEE DWG. JT-02.
9. PAYMENT FOR PRECAST INSERTS FOR THE ITMS UTILITY HANGERS IS INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
10. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5'.
11. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
12. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT SPLICE DETAIL ON DWG. BM-14.
13. ANTICIPATED MODULE SELF WEIGHT:
 MODULE S4-1 - 46.2 TONS
 MODULE S4-2 - 35.6 TONS
 MODULE S4-3 - 46.2 TONS

NOTE:
 PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

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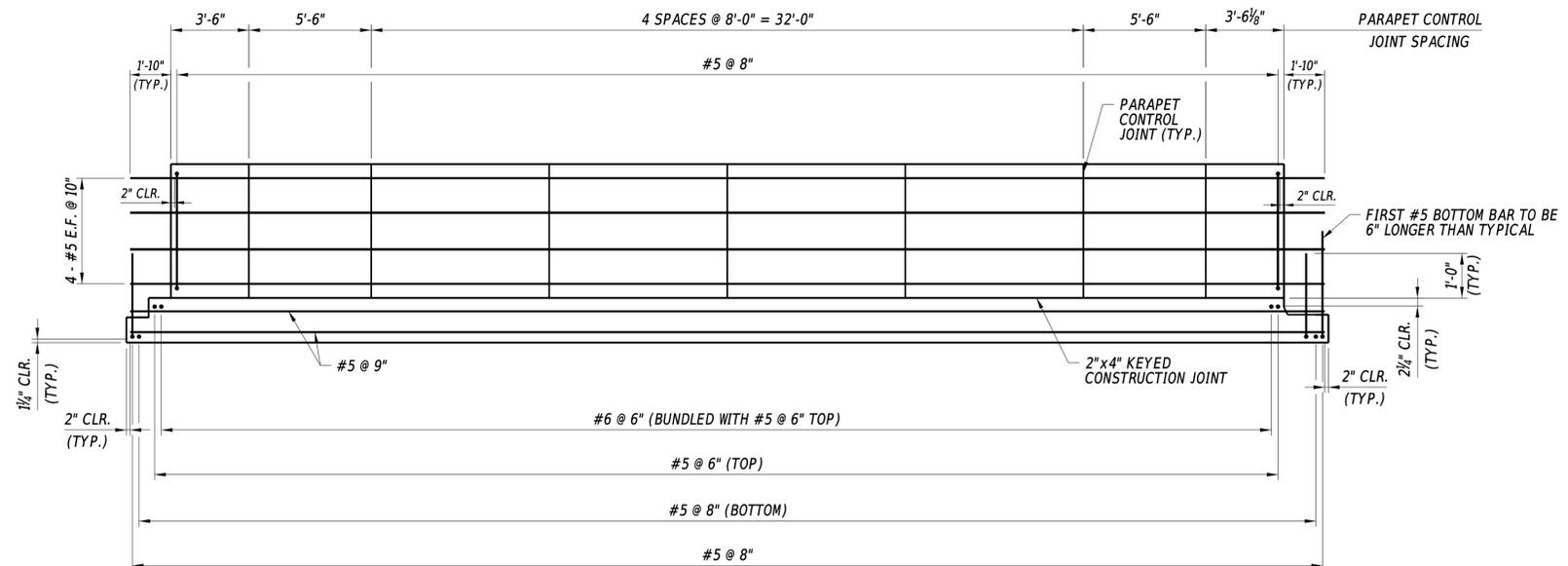
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">ADDENDA / REVISIONS</th> </tr> </thead> <tbody> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> <tr><td> </td></tr> </tbody> </table>	ADDENDA / REVISIONS					SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>CONTRACT</td> <td>BRIDGE NO.</td> <td>3-155S</td> </tr> <tr> <td>T201907601</td> <td>DESIGNED BY:</td> <td>F. OPHARDT</td> </tr> <tr> <td>COUNTY</td> <td>CHECKED BY:</td> <td>W. GESCHREI</td> </tr> <tr> <td>SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155S	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 4S SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>BM-20</td></tr> <tr><td>SECTION</td></tr> <tr><td>WRA</td></tr> <tr><td>SHEET NO.</td></tr> <tr><td>120</td></tr> </table>	BM-20	SECTION	WRA	SHEET NO.	120
ADDENDA / REVISIONS																											
CONTRACT	BRIDGE NO.	3-155S																									
T201907601	DESIGNED BY:	F. OPHARDT																									
COUNTY	CHECKED BY:	W. GESCHREI																									
SUSSEX																											
BM-20																											
SECTION																											
WRA																											
SHEET NO.																											
120																											



SPAN 4S EAST PARAPET ELEVATION
(EXTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTE: ITMS UTILITY SUPPORT HANGER
INSERTS NOT SHOWN FOR CLARITY.



SPAN 4S WEST PARAPET ELEVATION
(INTERIOR ELEVATION SHOWN)

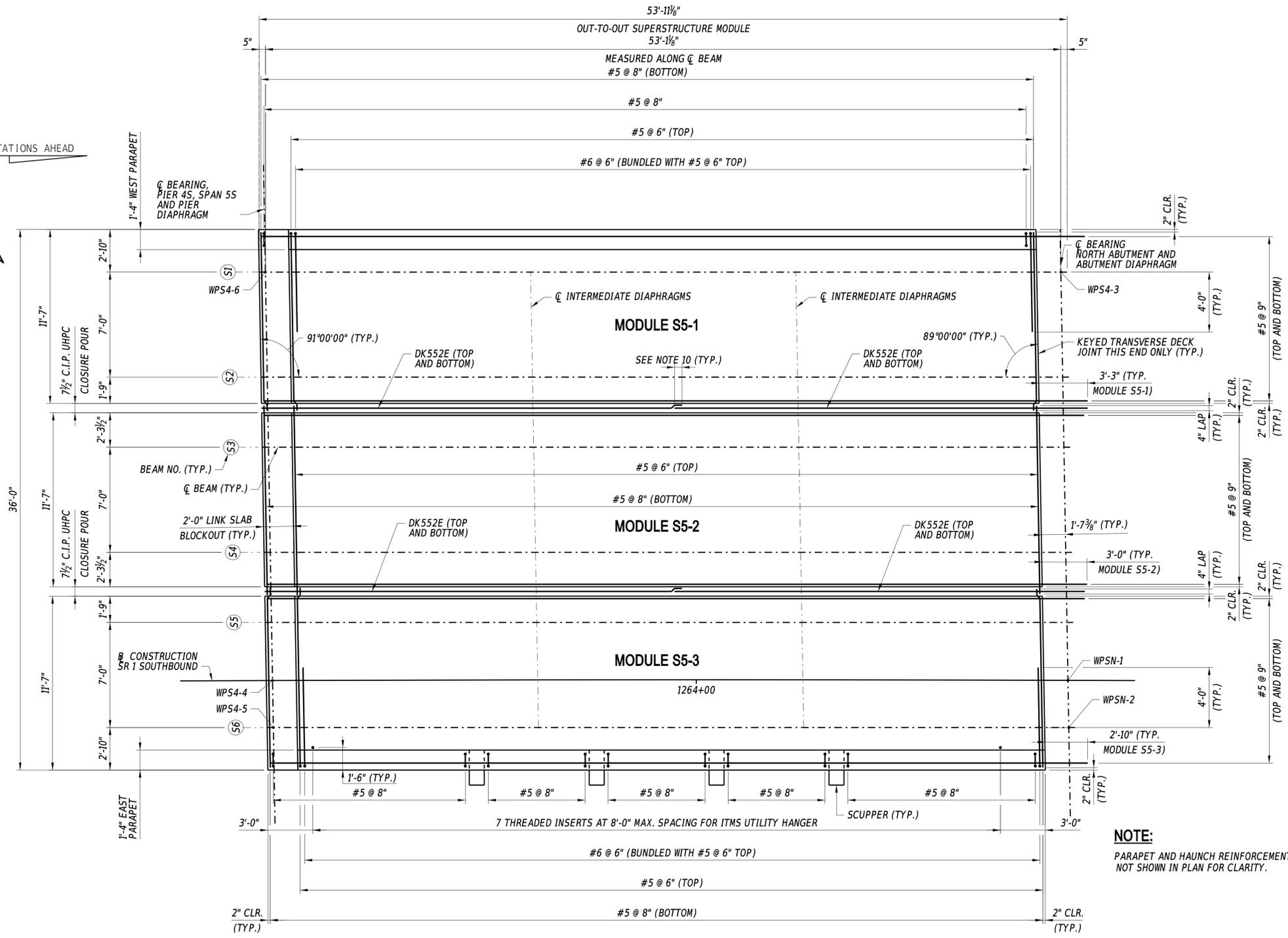
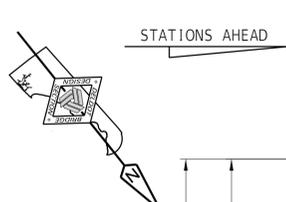
HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. FOR EXPANSION JOINT DETAIL, SEE DWG. JT-02.
6. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	SPAN 4S SUPERSTRUCTURE MODULE DETAILS - 2	BM-21
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
		SUSSEX	CHECKED BY: W. GESCHREI	SHEET NO.	121			



SUPERSTRUCTURE MODULE PLAN - SPAN 5S

1/4" = 1' - 0"

NOTES:

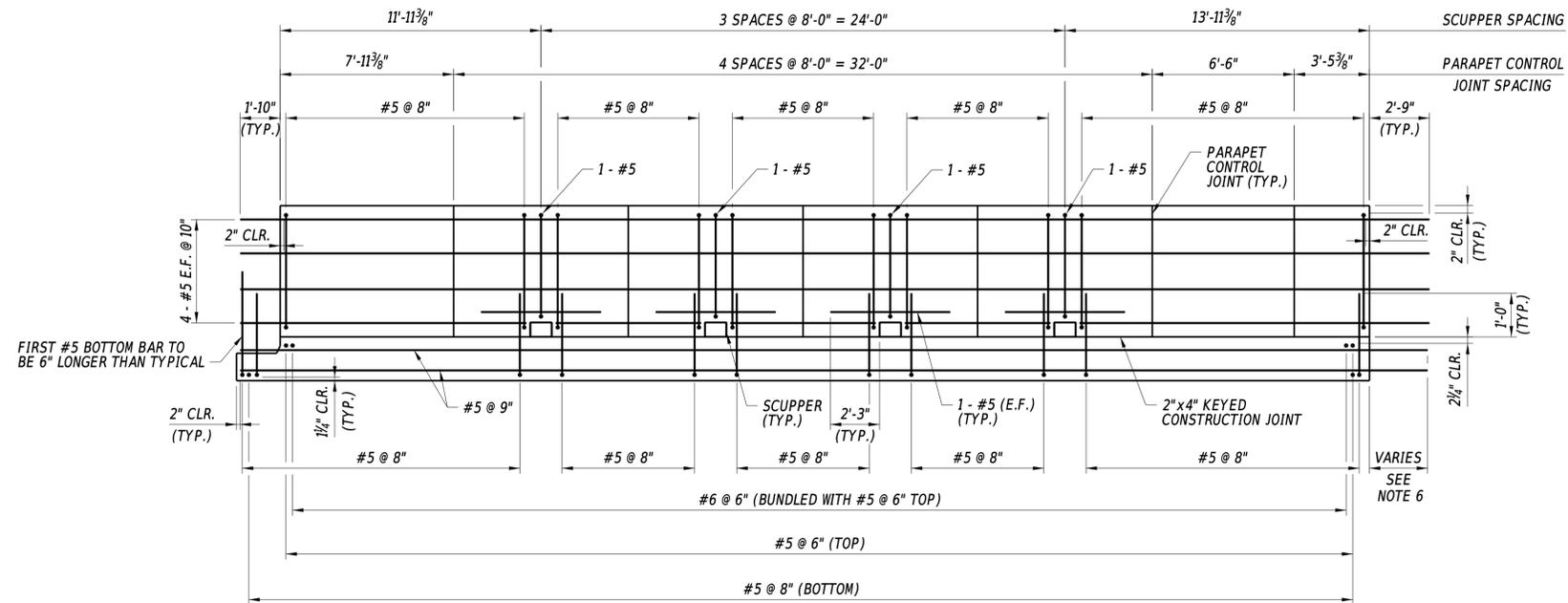
1. FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
2. FOR WORKING POINT COORDINATES, SEE DWG. FP-02.
3. FOR FRAMING PLAN, SEE DWG. FP-02.
4. FOR BEAM ELEVATIONS, SEE DWG. BM-24.
5. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
6. FOR PARAPET CONTROL JOINT LOCATIONS AND SPACING, SEE DWG. BM-23.
7. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
8. FOR KEYED TRANSVERSE DECK JOINT DETAIL, SEE DWG. BM-14.
9. PAYMENT FOR PRECAST INSERTS FOR THE ITMS UTILITY HANGERS IS INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
10. THE MINIMUM LAP SPLICE LENGTH FOR THE UHPC CLOSURE POUR REINFORCEMENT PLACED IN THE FIELD SHALL BE 5".
11. THE MINIMUM LAP SPLICE LENGTH FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
12. STAGGER TOP AND BOTTOM TRANSVERSE REINFORCEMENT ALONG LENGTH OF EACH MODULAR UNIT TO CREATE A NON-CONTACT LAP SPLICE ALONG THE LONGITUDINAL UHPC CLOSURE POUR. SEE NON-CONTACT SPLICE DETAIL ON DWG. BM-14.
13. ANTICIPATED MODULE SELF WEIGHT:
 MODULE S5-1 - 45.3 TONS
 MODULE S5-2 - 34.7 TONS
 MODULE S5-3 - 45.3 TONS

NOTE:

PARAPET AND HAUNCH REINFORCEMENT NOT SHOWN IN PLAN FOR CLARITY.

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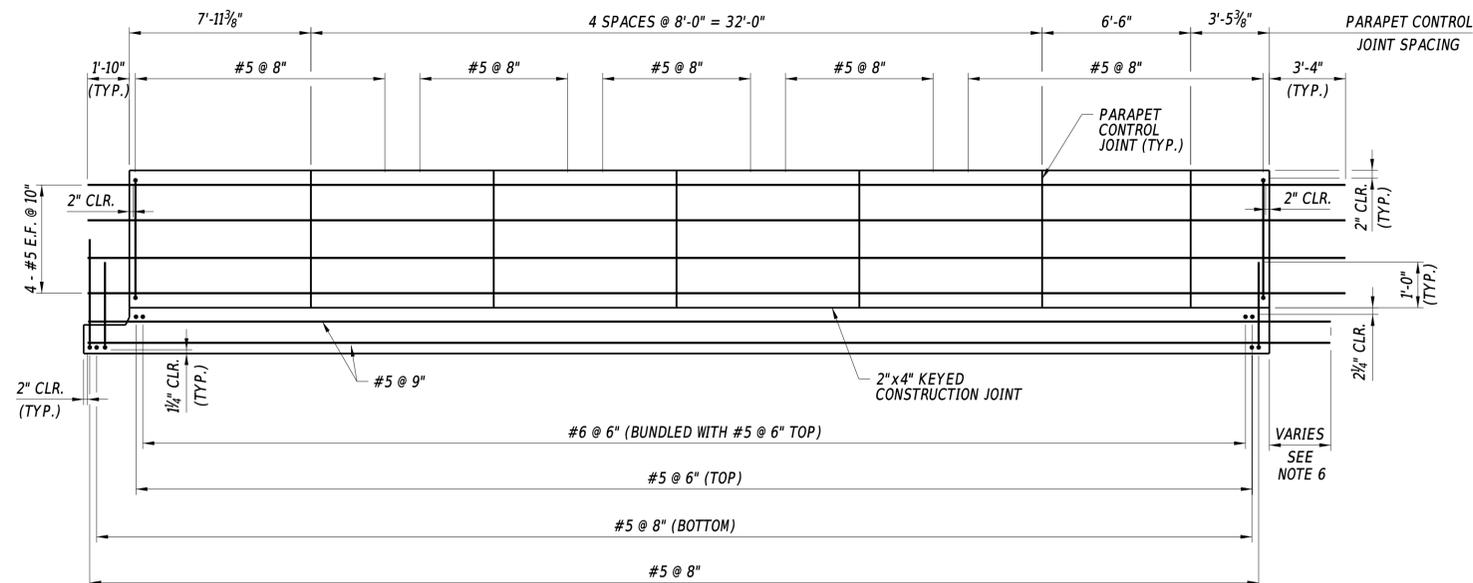
ADDENDA / REVISIONS 	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155S</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td style="font-size: small;">F. OPHARDT</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td style="font-size: small;">W. GESCHREI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td colspan="2"></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155S	T201907601	DESIGNED BY:	F. OPHARDT	COUNTY	CHECKED BY:	W. GESCHREI	SUSSEX			SPAN 5S SUPERSTRUCTURE MODULE DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">BM-22</td> </tr> <tr> <td style="font-size: x-small;">SECTION</td> </tr> <tr> <td style="font-size: x-small;">WRA</td> </tr> <tr> <td style="font-size: x-small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">122</td> </tr> </table>	BM-22	SECTION	WRA	SHEET NO.	122
CONTRACT	BRIDGE NO.	3-155S																				
T201907601	DESIGNED BY:	F. OPHARDT																				
COUNTY	CHECKED BY:	W. GESCHREI																				
SUSSEX																						
BM-22																						
SECTION																						
WRA																						
SHEET NO.																						
122																						



SPAN 5S EAST PARAPET
(EXTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTE: ITMS UTILITY SUPPORT HANGER
INSERTS NOT SHOWN FOR CLARITY.



SPAN 5S WEST PARAPET
(INTERIOR ELEVATION SHOWN)

HORIZ. SCALE: 1/4" = 1'-0"
VERT. SCALE: 1/2" = 1'-0"

NOTES:

1. FOR SUPERSTRUCTURE MODULES REINFORCEMENT TYPICAL SECTION, SEE DWG. BM-13.
2. FOR PARAPET REINFORCEMENT DETAILS AND CONTROL JOINT DETAILS, SEE DWG. PA-01.
3. FOR SCUPPER DETAIL, SEE DWG. PA-01.
4. FOR LINK SLAB BLOCKOUT DETAIL, SEE DWG. JT-01.
5. THE MINIMUM LAP SPLICE FOR LONGITUDINAL REINFORCEMENT WITHIN THE PRECAST DECK AND PARAPETS SHALL BE 3'-0".
6. LENGTHS OF MODULE LONGITUDINAL DECK REINFORCEMENT EXTENDING BEYOND THE KEYED TRANSVERSE DECK JOINT VARIES BETWEEN MODULES. SEE DWG. BM-22 FOR ADDITIONAL INFORMATION.

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ADDENDA / REVISIONS	

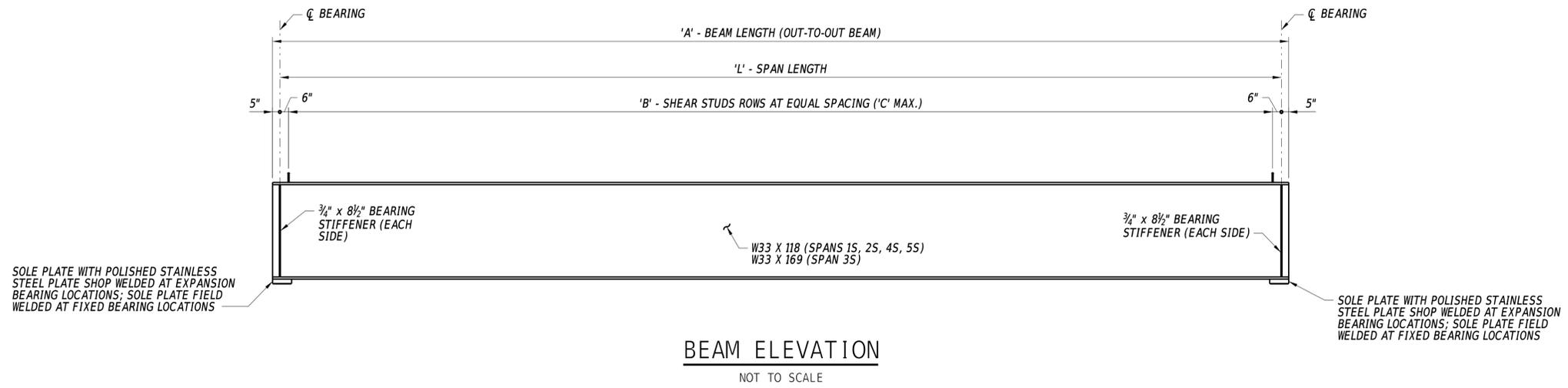
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**SPAN 5S SUPERSTRUCTURE
MODULE DETAILS - 2**

BM-23
SECTION
WRA
SHEET NO.
123

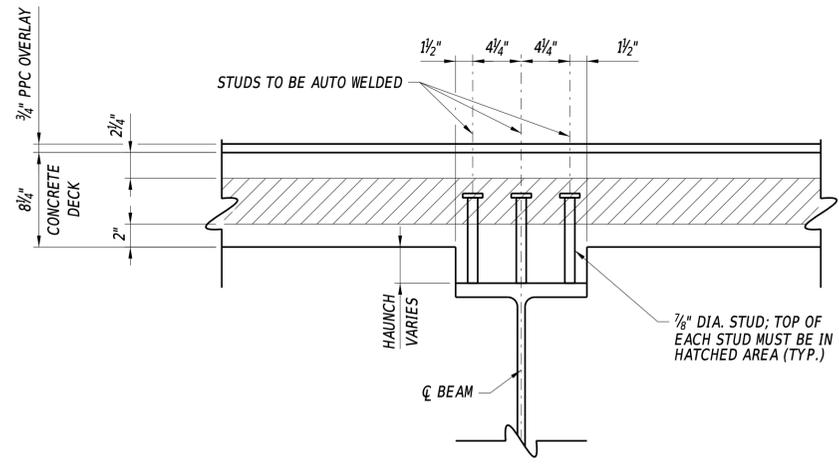


BEAM ELEVATION
NOT TO SCALE

BEAM SUMMARY				
SPAN NO.	A - BEAM LENGTH	L - SPAN LENGTH	B - NUMBER OF SHEAR STUD ROWS	C - SHEAR STUD ROW MAX. SPACING
1S	49' - 8"	48' - 10"	54	11"
2S	49' - 4"	48' - 6"	53	11"
3S	79' - 6"	78' - 8"	105	9"
4S	53' - 11"	53' - 1"	58	11"
5S	53' - 11 1/8"	53' - 1 1/8"	58	11"

NOTES:

- FOR SUPERSTRUCTURE TYPICAL SECTION, SEE DWG. TS-02.
- FOR FRAMING PLAN, SEE DWG. FP-02.
- FOR DIAPHRAGM CONNECTION PLATE AND BEARING STIFFENER DETAILS, SEE DWGS. BM-25 AND BM-26.
- FOR FIXED AND EXPANSION BEARING LOCATIONS, SEE DWG. FP-02.
- FOR FIXED AND EXPANSION BEARING DETAILS, SEE DWGS. BB-01 THRU BB-04.
- THE CONTRACTOR SHALL PROTECT THE SOLE PLATE WITH POLISHED STAINLESS STEEL PLATE FROM DAMAGE DURING ALL STAGES OF FABRICATION, STORAGE, AND TRANSPORT. ANY DAMAGE TO THIS ASSEMBLY SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
- SHEAR STUD GEOMETRY APPLICABLE TO ALL BEAMS WITHIN SPAN.
- FOR BEAM CAMBER, SEE DWGS. CT-03 AND CT-04.
- THERE ARE THREE (3) SHEAR STUDS PER ROW. SEE SHEAR STUD DETAIL, THIS SHEET.
- DIAPHRAGM CONNECTION PLATES NOT SHOWN. FOR LOCATIONS OF DIAPHRAGM CONNECTION PLATES, SEE DWG. FP-02.



SHEAR STUD DETAIL
1 1/2" = 1' - 0"

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	BEAM ELEVATION	SECTION	BM-24
				T201907601	DESIGNED BY: F. OPHARDT	WRA			
				COUNTY	CHECKED BY: W. GESCHREI			SHEET NO.	124
				SUSSEX					

LEGEND:

DLS = DENOTES DEFLECTION DUE TO THE STEEL BEAMS AND MODULE DIAPHRAGMS

DLC = DENOTES DEFLECTION DUE TO THE CONCRETE DECK SLAB AND HAUNCH

SDL-1 = DENOTES DEFLECTION DUE TO THE PRECAST BARRIER

SDL-2 = DENOTES DEFLECTION DUE TO THE FIELD-CONNECTED DIAPHRAGMS, LONGITUDINAL UHPC CLOSURE POURS, AND PPC OVERLAY

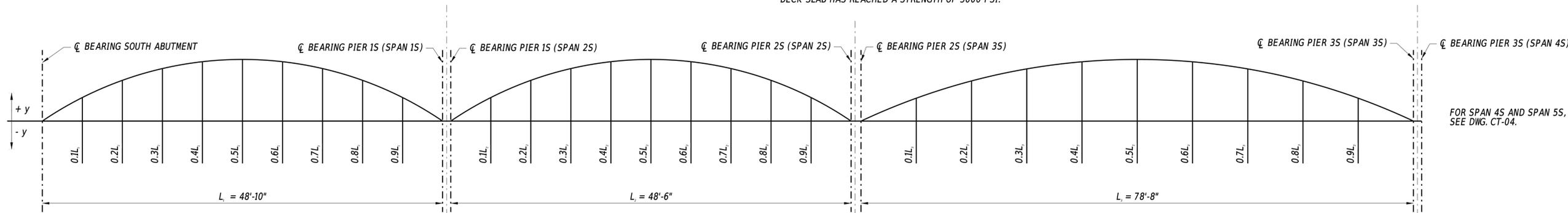
TD&C = DENOTES TOTAL DEAD LOAD DEFLECTION AND CAMBER

VCO = DENOTES CAMBER FOR VERTICAL CURVE ORDINATE DUE TO ROADWAY PROFILE

STEEL BEAM CAMBER NOTES:

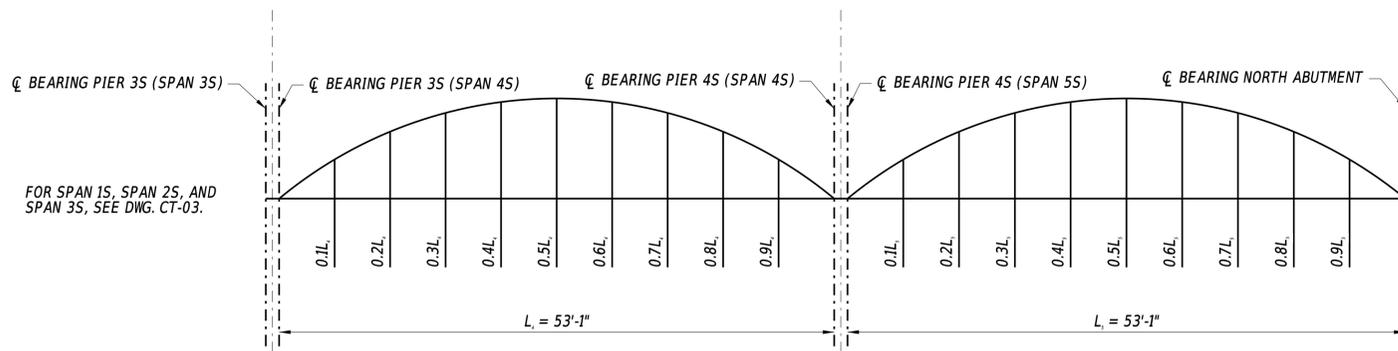
1. PROVIDED DEAD LOAD CAMBER VALUES ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE CAMBER VALUES BASED ON FABRICATION AND ASSEMBLY MEANS AND METHODS. SEE 'PREFABRICATED BRIDGE ELEMENT NOTES' NOTE 3 ON DWG. PN-02 AND THE 615501 - PREFABRICATED SUPERSTRUCTURE MODULES SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
2. ALL BEAMS SHALL BE CAMBERED FOR DEAD LOAD ORDINATES TO THE DIMENSIONS SHOWN ON THESE PLANS. THE CAMBER TOLERANCE IS ZERO UNDER TO 3/4 INCH OVER.
3. THE PRECAST BARRIER SHALL BE PLACED AS A SEPARATE POUR AFTER THE PRECAST DECK SLAB HAS REACHED A STRENGTH OF 3000 PSI.

4. AFTER THE MODULE STEEL DIAPHRAGMS ARE INSTALLED, THE CONTRACTOR SHALL OBTAIN ELEVATIONS AT THE TENTH POINTS ON THE FLANGES OF ALL GIRDERS TO DETERMINE THE REQUIRED HAUNCH THICKNESS OF THE PRECAST DECK SLAB.
5. A MOCK FIT-UP OF THE FIELD-CONNECTED DIAPHRAGMS SHALL BE MADE PRIOR TO MODULE SHIPMENT TO ENSURE A SATISFACTORY FIT IN CONDITIONS SIMILAR TO THOSE EXPECTED IN THE FIELD.



DEFLECTION AND TOTAL CAMBER (INCHES)

PROPOSED GIRDERS	C BRG. S. ABUT.	SPAN 1S (L = 48'-10")										SPAN 2S (L = 48'-6")										SPAN 3S (L = 78'-8")												
		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 1S (SPAN 1S)	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 2S (SPAN 2S)	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	C BRG. PIER 3S (SPAN 3S)			
BEAM S1	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0	
	DLC	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	11/16	1 1/4	1 11/16	2	2 1/8	2	1 11/16	1 1/4	11/16	0
	SDL-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	1/8	1/4	3/8	7/16	7/16	7/16	3/8	1/4	1/8	0
	SDL-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0
	TD & C	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0	0	0	1/8	7/16	1/2	5/8	3/4	5/8	1/2	7/16	1/8	0	1 1/16	1 15/16	2 11/16	3 1/8	3 1/4	3 1/8	2 11/16	1 15/16	1 1/16	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
TD & C + VCO	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	0	0	3/16	1/2	5/8	3/4	7/8	3/4	5/8	1/2	3/16	0	1 3/16	2 3/16	3	3 7/16	3 5/8	3 7/16	3	2 3/16	1 3/16	0	
BEAM S2	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	13/16	1 1/2	2 1/16	2 7/16	2 1/2	2 7/16	2 1/16	1 1/2	13/16	0
	SDL-1	0	0	0	1/16	1/16	1/16	1/16	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/8	1/4	1/4	1/4	3/16	1/8	1/16	0
	SDL-2	0	0	0	0	1/16	0	0	0	0	0	0	0	0	1/16	0	0	0	0	0	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0
	TD & C	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	0	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	1 1/16	1 1/2	2 1/16	2 7/16	2 1/2	2 7/16	2 1/16	1 1/2	13/16	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
TD & C + VCO	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	1 1/16	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 3/4	15/16	0	
BEAM S3	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	15/16	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 3/4	15/16	0
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	SDL-2	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0
	TD & C	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0	0	0	1/8	5/16	3/8	1/2	3/8	5/16	1/8	0	0	0	3/4	1 7/16	1 15/16	2 1/4	2 5/16	2 1/4	1 15/16	1 7/16	3/4	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
TD & C + VCO	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	0	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0	
BEAM S4	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0
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	TD & C	0	1/8	5/16	3/8	1/2	9/16	1/2	3/8	5/16	1/8	0	0	0	1/8	5/16	3/8	1/2	3/8	5/16	1/8	0	0	0	3/4	1 7/16	1 15/16	2 1/4	2 5/16	2 1/4	1 15/16	1 7/16	3/4	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
TD & C + VCO	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	0	0	3/16	3/8	1/2	5/8	11/16	5/8	1/2	3/8	3/16	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0	
BEAM S5	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	1/8	1/4	5/16	3/8	3/8	5/16	1/4	1/8	0	0	0	7/8	1 11/16	2 1/4	2 9/16	2 11/16	2 9/16	2 1/4	1 11/16	7/8	0
	SDL-1	0	0	0	1/16	1/16	1/16	1/16	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0
	SDL-2	0	0	0	0	1/16	0	0	0	0	0	0	0	0	1/16	0	0	0	0	0	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0
	TD & C	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	0	0	1/8	5/16	7/16	9/16	5/8	9/16	7/16	5/16	1/8	0	1 1/16	1 1/2	2 1/16	2 7/16	2 1/2	2 7/16	2 1/16	1 1/2	13/16	0
	VCO	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/16	1/16	0	0	0	1/8	1/4	5/16	5/16	3/8	5/16	5/16	1/4	1/8	0
TD & C + VCO	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	0	0	3/16	3/8	9/16	11/16	3/4	11/16	9/16	3/8	3/16	0	15/16	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 3/4	15/16	0	
BEAM S6	DLS-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	3/16	3/8	1/2	9/16	9/16	9/16	1/2	3/8	3/16	0
	DLC	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	1/8	5/16	3/8	1/2	1/2	3/8	5/16	1/8	0	0	0	11/16	1 1/4	1 11/16	2	2 1/8	2	1 11/16	1 1/4	11/16	0
	SDL-1	0	0	1/16	1/16	1/16	1/8	1/16	1/16	1/16	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	1/8	1/4	3/8	7/16	7/16	7/16	3/8	1/4	1/8	0
	SDL-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0
	TD & C</																																	



STEEL BEAM CAMBER NOTES:

1. PROVIDED DEAD LOAD CAMBER VALUES ARE APPROXIMATE. THE CONTRACTOR SHALL PROVIDE CAMBER VALUES BASED ON FABRICATION AND ASSEMBLY MEANS AND METHODS. SEE 'PREFABRICATED BRIDGE ELEMENT NOTES' NOTE 3 ON DWG. PN-02 AND THE 615501 - PREFABRICATED SUPERSTRUCTURE MODULES SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
2. ALL BEAMS SHALL BE CAMBERED FOR DEAD LOAD ORDINATES TO THE DIMENSIONS SHOWN ON THESE PLANS. THE CAMBER TOLERANCE IS ZERO UNDER TO 3/4 INCH OVER.
3. THE PRECAST BARRIER SHALL BE PLACED AS A SEPARATE POUR AFTER THE PRECAST DECK SLAB HAS REACHED A STRENGTH OF 3000 PSI.
4. AFTER THE MODULE STEEL DIAPHRAGMS ARE INSTALLED, THE CONTRACTOR SHALL OBTAIN ELEVATIONS AT THE TENTH POINTS ON THE FLANGES OF ALL GIRDERS TO DETERMINE THE REQUIRED HAUNCH THICKNESS OF THE PRECAST DECK SLAB.
5. A MOCK FIT-UP OF THE FIELD-CONNECTED DIAPHRAGMS SHALL BE MADE PRIOR TO MODULE SHIPMENT TO ENSURE A SATISFACTORY FIT IN CONDITIONS SIMILAR TO THOSE EXPECTED IN THE FIELD.

DEFLECTION AND TOTAL CAMBER (INCHES)

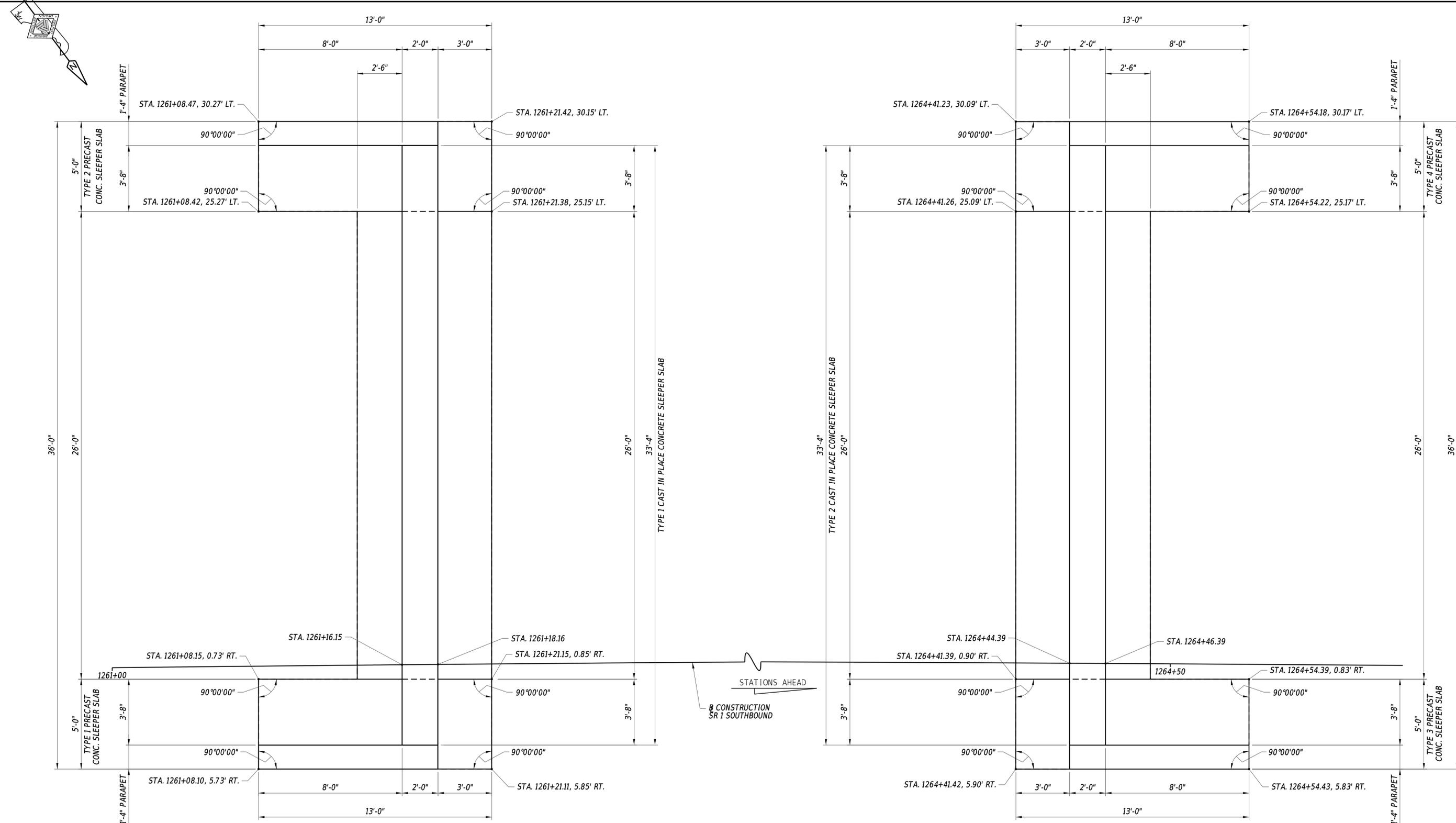
PROPOSED GIRDERS	CL BRG. PIER 3S (SPAN 4S)	SPAN 4S										CL BRG. PIER 4S (SPAN 4S)	SPAN 4S										CL BRG. N. ABUT.	
		0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	0.1L		0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L				
BEAM S1	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	1/16	0
	DLC	0	1/4	7/16	9/16	11/16	11/16	11/16	9/16	7/16	1/4	0	0	0	1/4	7/16	9/16	11/16	11/16	11/16	9/16	7/16	1/4	0
	SDL-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	TD & C	0	3/8	9/16	7/8	1	1	1	7/8	9/16	3/8	0	0	0	3/8	9/16	7/8	1	1	7/8	9/16	3/8	0	0
	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
BEAM S2	TD & C + VCO	0	7/16	11/16	1	1 1/8	1 3/16	1 1/8	1	11/16	7/16	0	0	0	7/16	11/16	1	1 1/8	1 3/16	1 1/8	1	11/16	7/16	0
	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	DLC	0	3/16	5/16	7/16	1/2	1/2	1/2	7/16	5/16	3/16	0	0	0	3/16	5/16	7/16	1/2	1/2	1/2	7/16	5/16	3/16	0
	SDL-1	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	1/16	0	0	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	TD & C	0	1/4	7/16	11/16	3/4	3/4	3/4	11/16	7/16	1/4	0	0	0	1/4	7/16	11/16	3/4	3/4	11/16	7/16	1/4	0	0
BEAM S3	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
	TD & C + VCO	0	5/16	9/16	13/16	7/8	15/16	7/8	13/16	9/16	5/16	0	0	0	5/16	9/16	13/16	7/8	15/16	7/8	13/16	9/16	5/16	0
	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	DLC	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0	0	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
BEAM S4	TD & C	0	1/4	3/8	5/8	11/16	3/4	11/16	5/8	3/8	1/4	0	0	0	1/4	3/8	5/8	11/16	3/4	11/16	5/8	3/8	1/4	0
	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
	TD & C + VCO	0	5/16	1/2	3/4	13/16	15/16	13/16	3/4	1/2	5/16	0	0	0	5/16	1/2	3/4	13/16	15/16	13/16	3/4	1/2	5/16	0
	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	DLC	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0	0	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0
	SDL-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEAM S5	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	TD & C	0	1/4	3/8	5/8	11/16	3/4	11/16	5/8	3/8	1/4	0	0	0	1/4	3/8	5/8	11/16	3/4	11/16	5/8	3/8	1/4	0
	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
	TD & C + VCO	0	5/16	1/2	3/4	13/16	15/16	13/16	3/4	1/2	5/16	0	0	0	5/16	1/2	3/4	13/16	15/16	13/16	3/4	1/2	5/16	0
	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	DLC	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0	0	0	3/16	5/16	7/16	1/2	9/16	1/2	7/16	5/16	3/16	0
BEAM S6	SDL-1	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	TD & C	0	1/4	7/16	11/16	3/4	3/4	3/4	11/16	7/16	1/4	0	0	0	1/4	7/16	11/16	3/4	3/4	11/16	7/16	1/4	0	0
	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
	TD & C + VCO	0	5/16	9/16	13/16	7/8	15/16	7/8	13/16	9/16	5/16	0	0	0	5/16	9/16	13/16	7/8	15/16	7/8	13/16	9/16	5/16	0
	DLS-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
BEAM S7	DLC	0	1/4	7/16	9/16	11/16	11/16	11/16	9/16	7/16	1/4	0	0	0	1/4	7/16	9/16	11/16	11/16	11/16	9/16	7/16	1/4	0
	SDL-1	0	1/16	1/16	1/8	1/8	1/8	1/8	1/8	1/16	1/16	0	0	0	1/16	1/16	1/8	1/8	1/8	1/8	1/16	1/16	0	0
	SDL-2	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0	0	0	0	0	1/16	1/16	1/16	1/16	1/16	0	0	0
	TD & C	0	3/8	9/16	7/8	1	1	1	7/8	9/16	3/8	0	0	0	3/8	9/16	7/8	1	1	7/8	9/16	3/8	0	0
	VCO	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0	0	0	1/16	1/8	1/8	1/8	3/16	1/8	1/8	1/8	1/16	0
	TD & C + VCO	0	7/16	11/16	1	1 1/8	1 3/16	1 1/8	1	11/16	7/16	0	0	0	7/16	11/16	1	1 1/8	1 3/16	1 1/8	1	11/16	7/16	0

LEGEND:

- DLS = DENOTES DEFLECTION DUE TO THE STEEL BEAM AND MODULE DIAPHRAGMS.
- DLC = DENOTES DEFLECTION DUE TO THE CONCRETE DECK SLAB AND HAUNCH
- SDL-1 = DENOTES DEFLECTION DUE TO THE PRECAST BARRIER
- SDL-2 = DENOTES DEFLECTION DUE TO THE FIELD-CONNECTED DIAPHRAGMS, LONGITUDINAL UHPC CLOSURE POURS, AND PPC OVERLAY
- TD&C = DENOTES TOTAL DEAD LOAD DEFLECTION & CAMBER
- VCO = DENOTES CAMBER FOR VERTICAL CURVE ORDINATE DUE TO ROADWAY PROFILE

6/24/2020 11:06:31 AM N:\32122-003\CADD\Bridg\BR3-155S_CT04.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	BEAM CAMBER DIAGRAMS - 2	CT-04
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	126
				SUSSEX				



SLEEPER SLAB LAYOUT PLAN

3/8" = 1' - 0"

NOTES:

- FOR PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-14 THRU AS-17.
- FOR CAST-IN-PLACE CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-18 AND AS-19.
- PRECAST PORTIONS OF THE SLEEPER SLABS SHALL BEAR DIRECTLY ON 6" OF SAND THAT IS PLACED ON 1'-0" DEPTH OF GRADED AGGREGATE BASE COURSE, TYPE B. EXTEND THE GRADED AGGREGATE BASE COURSE 6" BEYOND THE EDGES OF THE PRECAST PORTIONS OF THE SLEEPER SLABS. COSTS FOR FURNISHING AND PLACING THE SAND WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL ALTERNATIVES TO THE SAND TO PROVIDE A SMOOTH BEARING SURFACE FOR THE PRECAST SLEEPER SLABS. ANY ACCEPTED ALTERNATIVES WILL BE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

4/28/2020
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ADDENDA / REVISIONS	

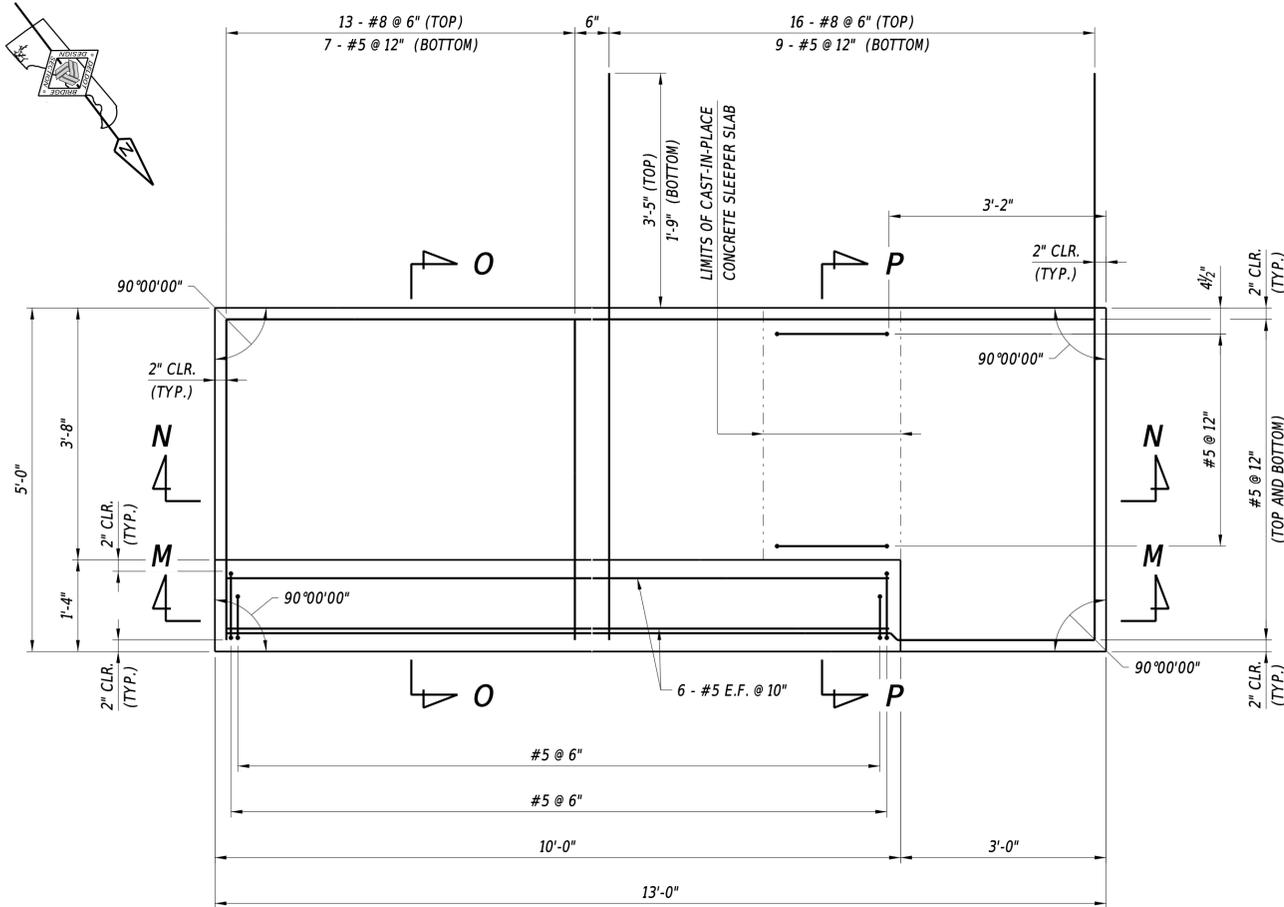
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

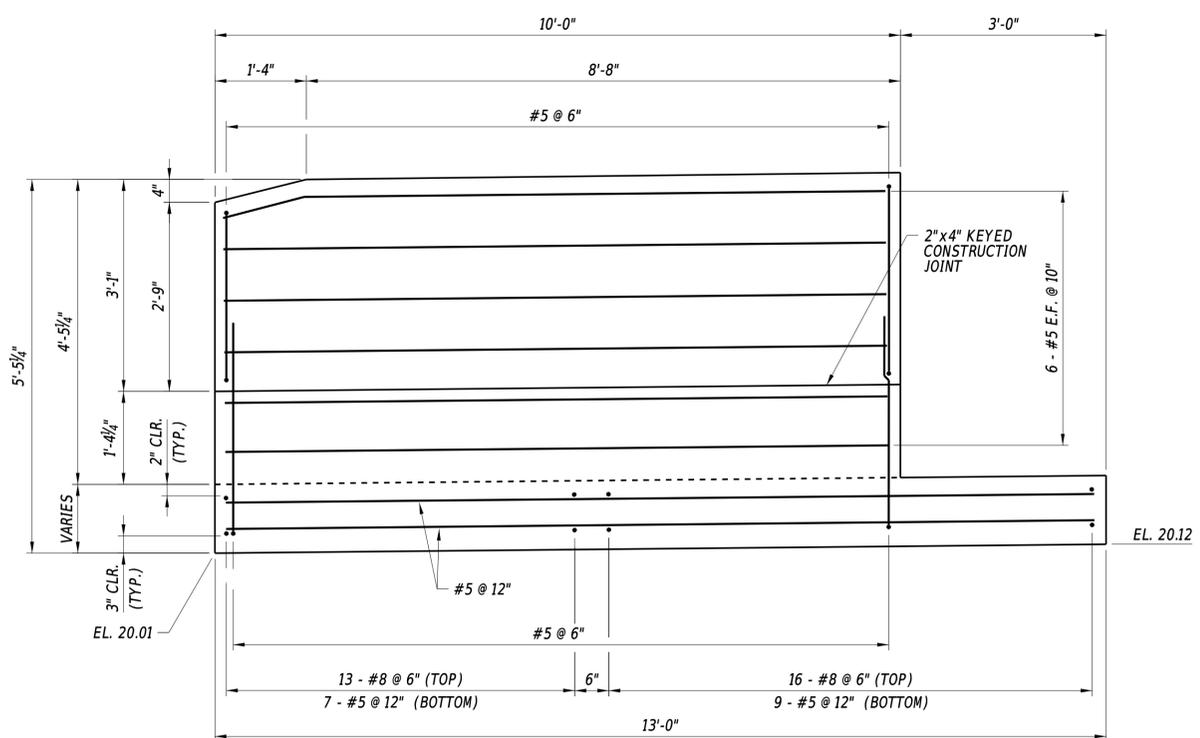
**SLEEPER SLAB
LAYOUT PLAN**

AS-13
SECTION
WRA
SHEET NO.
127



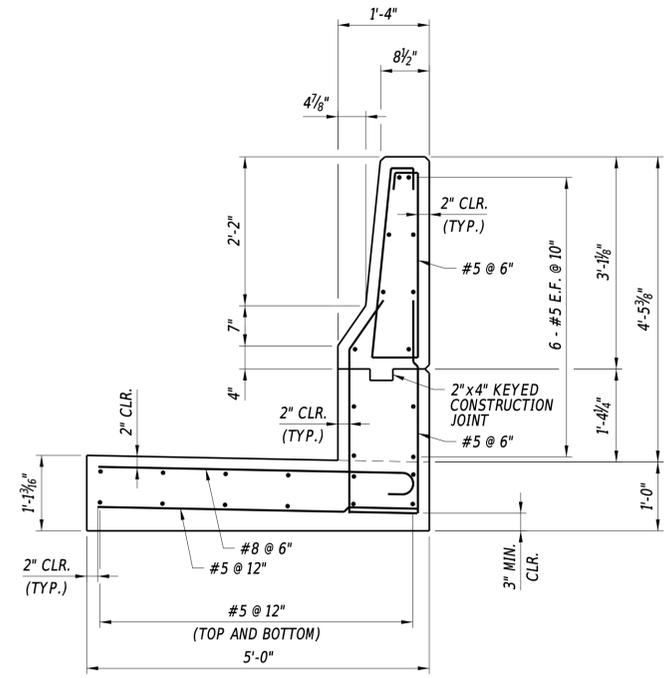
TYPE 1 PRECAST CONCRETE SLEEPER SLAB PLAN

3/4" = 1'-0"



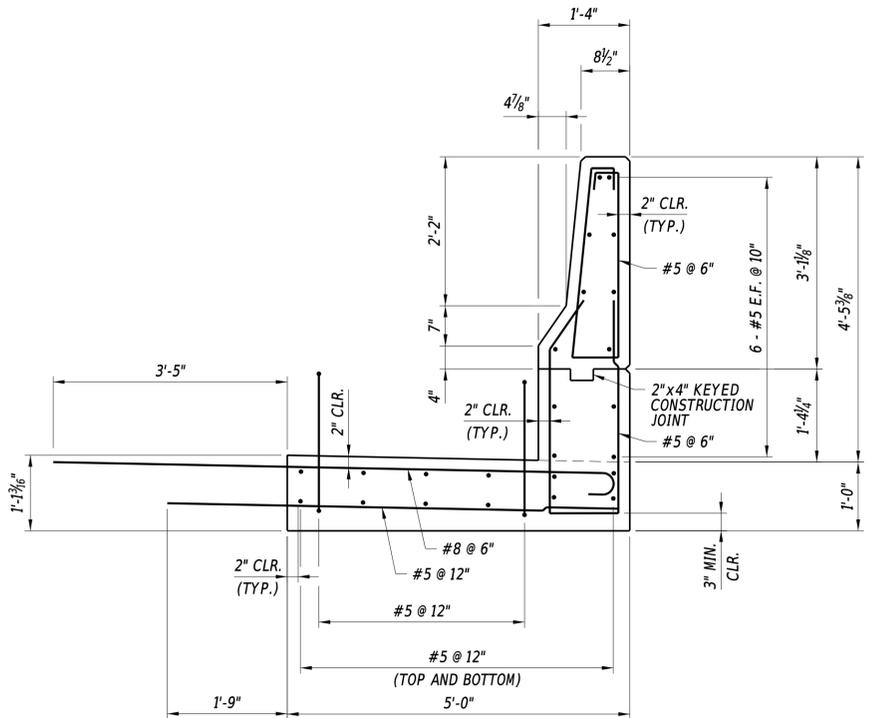
SECTION M-M

3/4" = 1'-0"



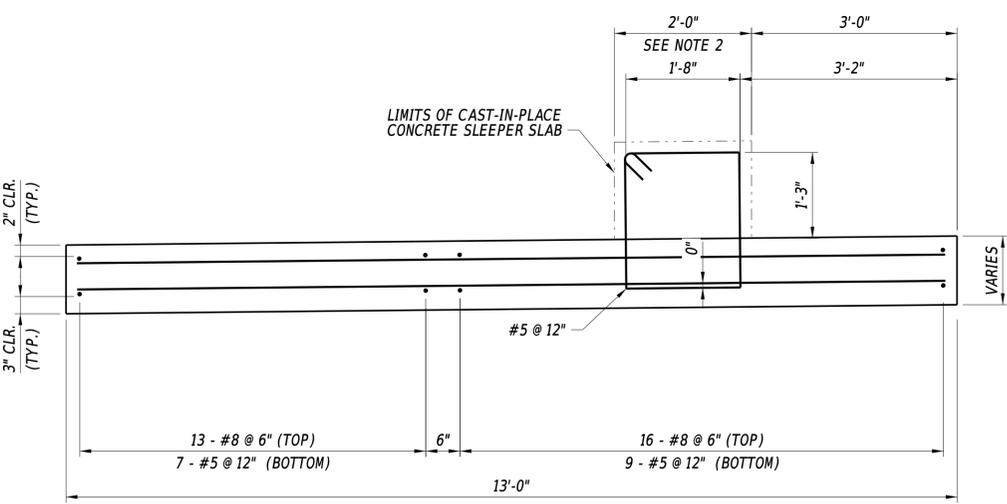
SECTION O-O

3/4" = 1'-0"



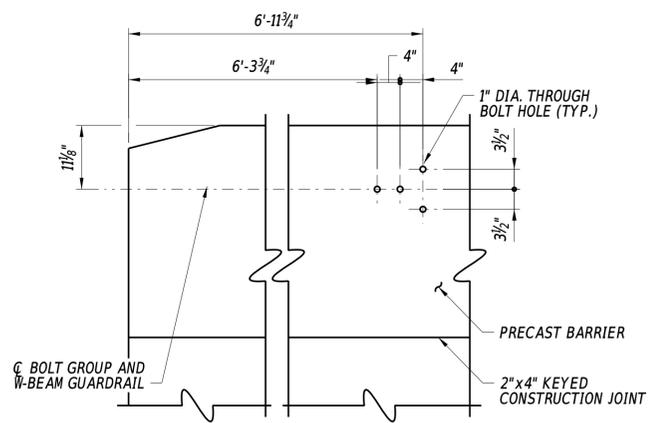
SECTION P-P

3/4" = 1'-0"



SECTION N-N

3/4" = 1'-0"



GUARDRAIL APPROACH CONNECTION BOLT HOLE DETAIL

3/4" = 1'-0"

- NOTES:**
- FOR LOCATION OF TYPE 1 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-13.
 - ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

ADDENDA / REVISIONS

SCALE AS NOTED

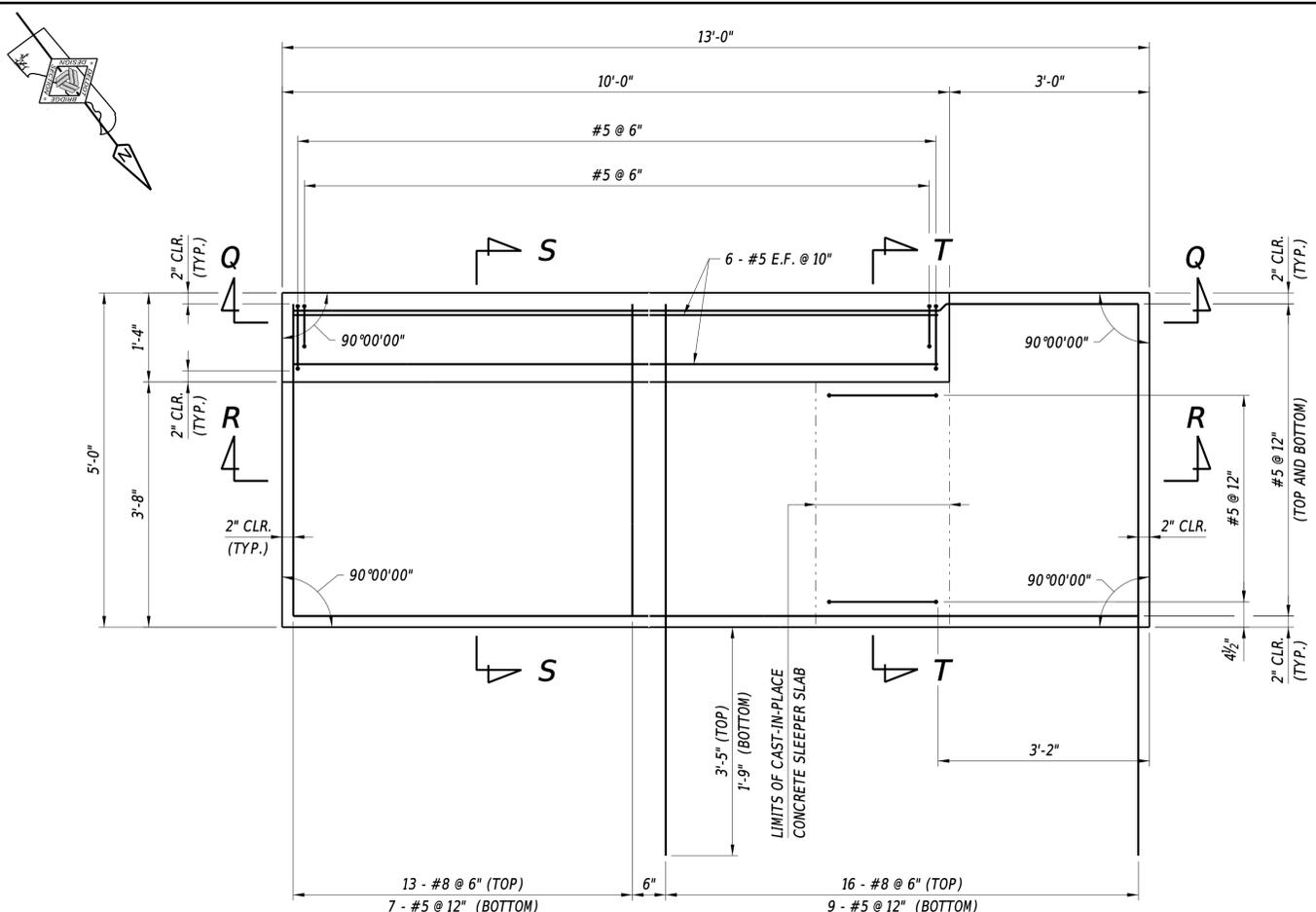
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

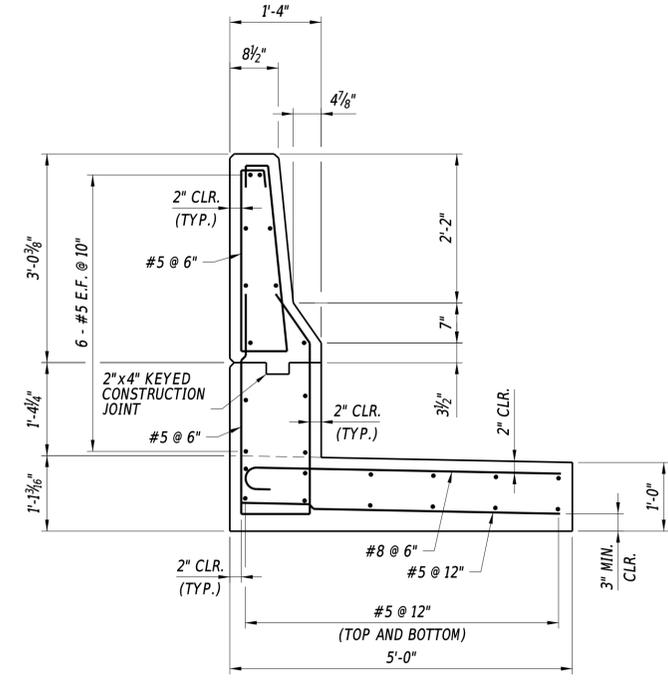
TYPE 1 PRECAST CONCRETE SLEEPER SLAB DETAILS

AS-14
SECTION
WRA
SHEET NO.
128

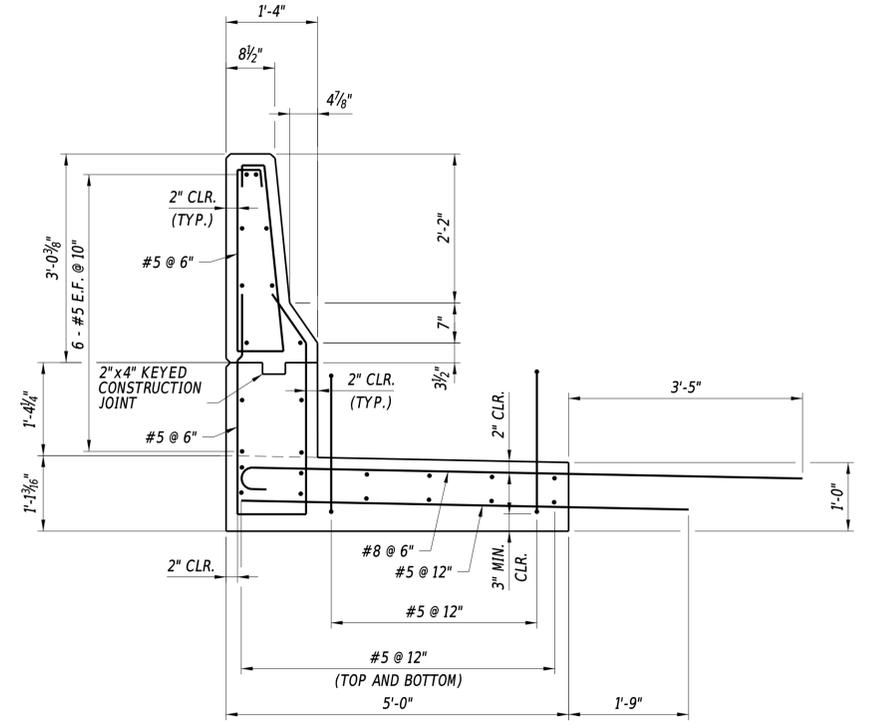
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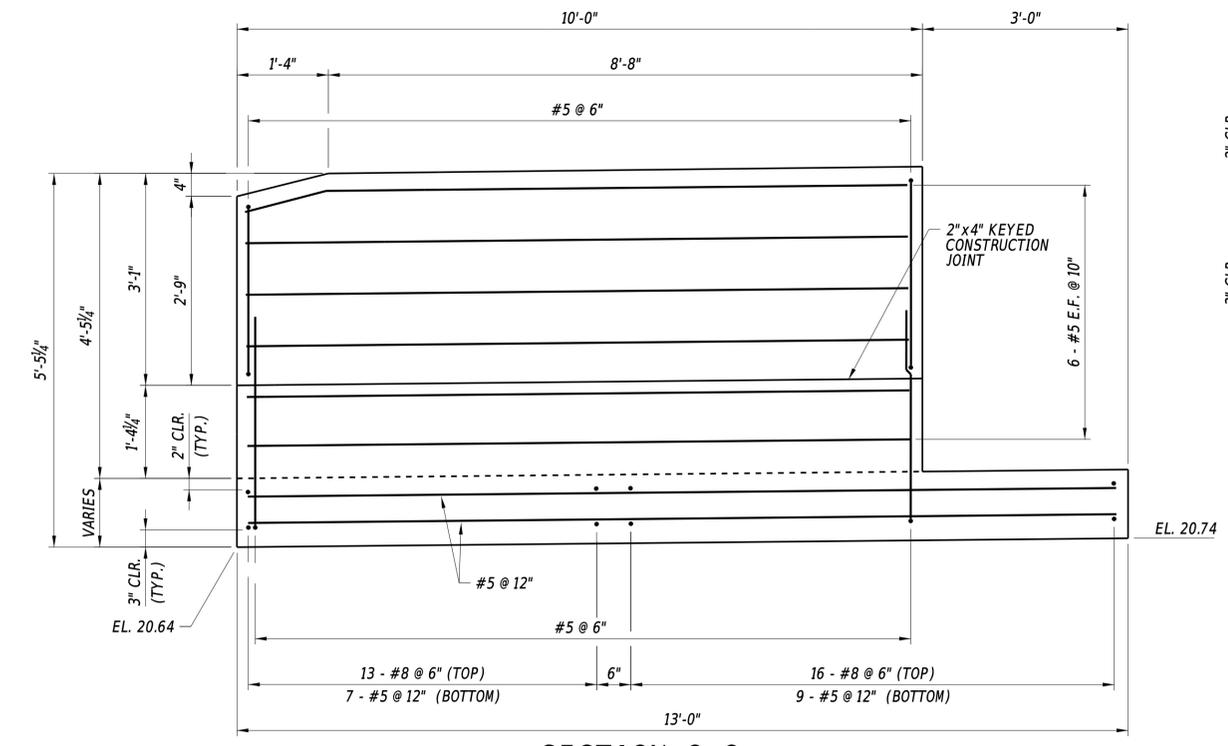
TYPE 2 PRECAST CONCRETE SLEEPER SLAB PLAN
 $\frac{3}{4}'' = 1' - 0''$



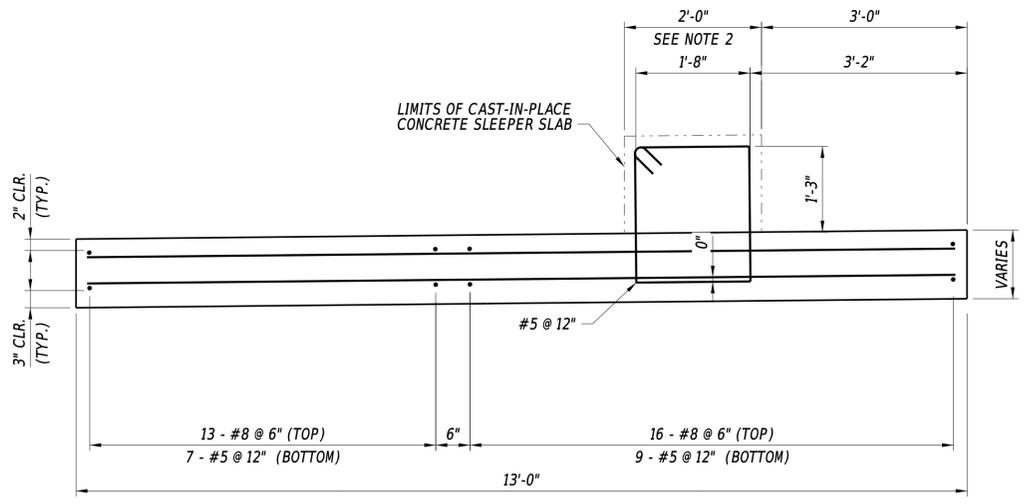
SECTION S-S
 $\frac{3}{4}'' = 1' - 0''$



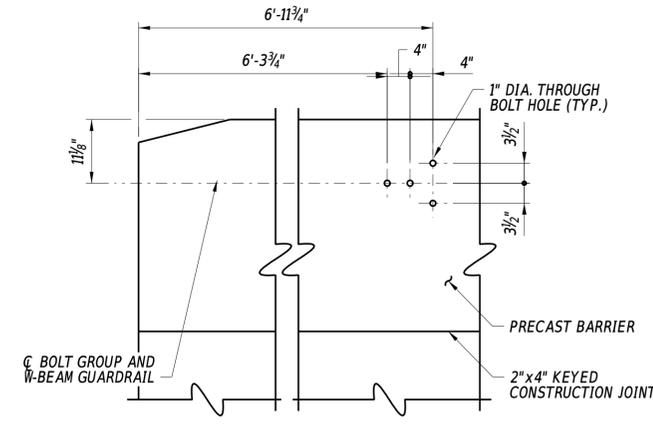
SECTION T-T
 $\frac{3}{4}'' = 1' - 0''$



SECTION Q-Q
 $\frac{3}{4}'' = 1' - 0''$



SECTION R-R
 $\frac{3}{4}'' = 1' - 0''$

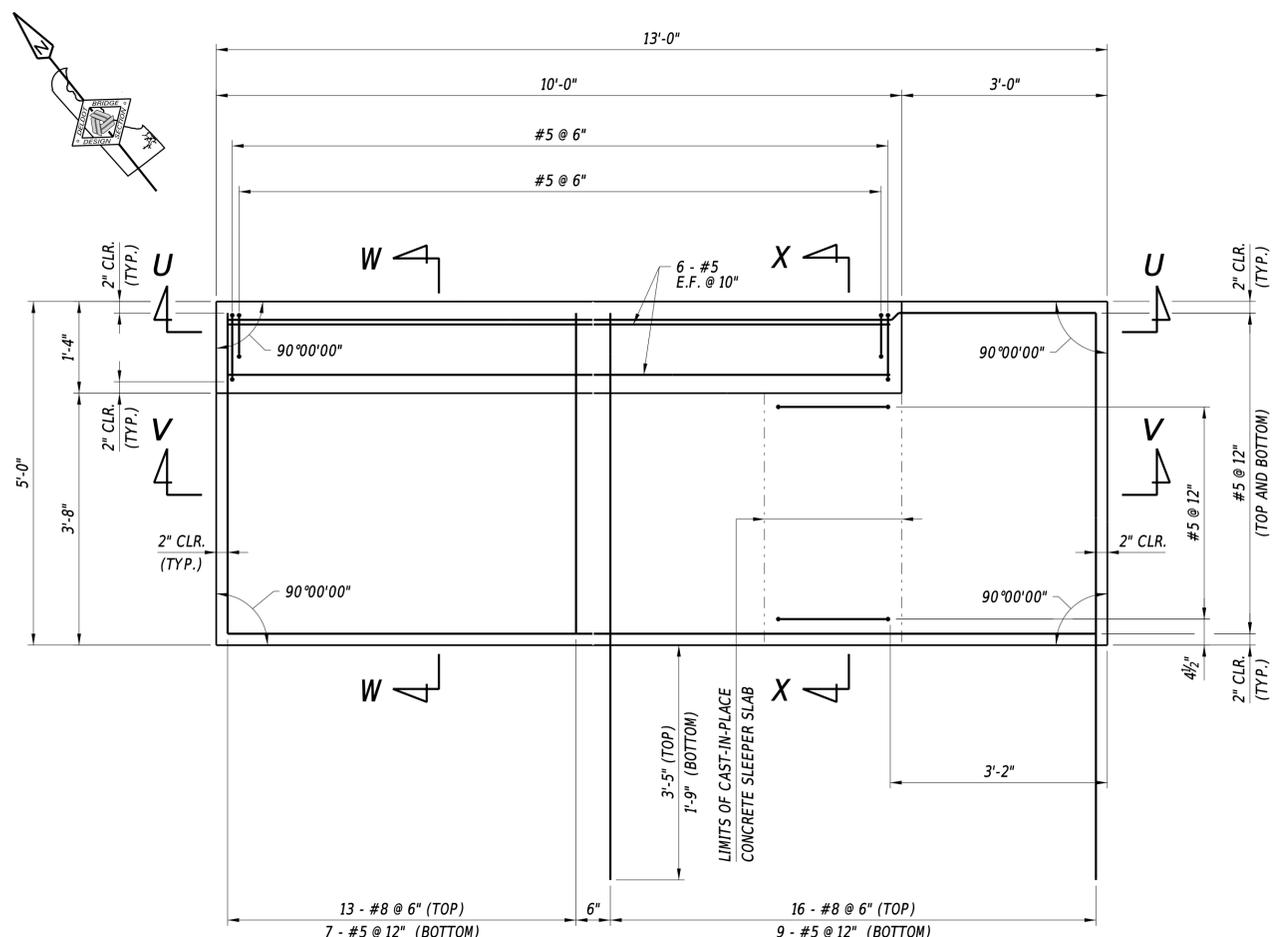


GUARDRAIL APPROACH CONNECTION BOLT HOLE DETAIL
 $\frac{3}{4}'' = 1' - 0''$

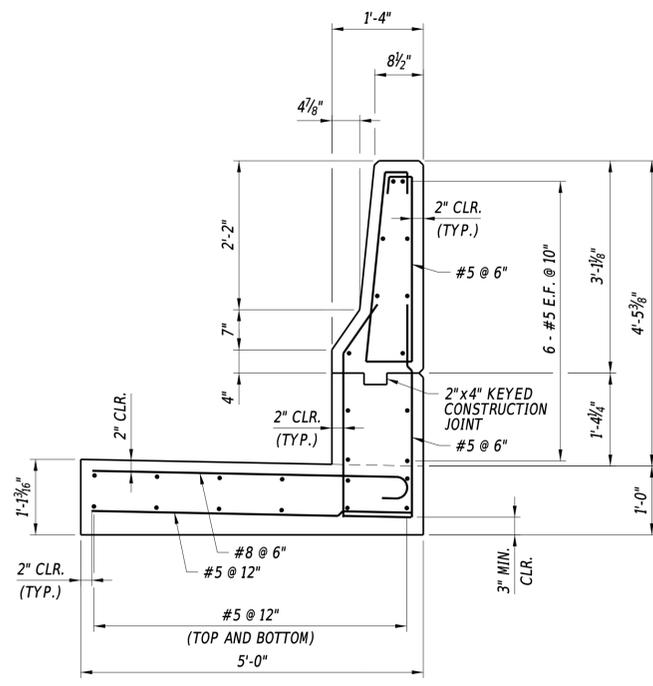
- NOTES:**
- FOR LOCATION OF TYPE 2 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-13.
 - ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

4/28/2020
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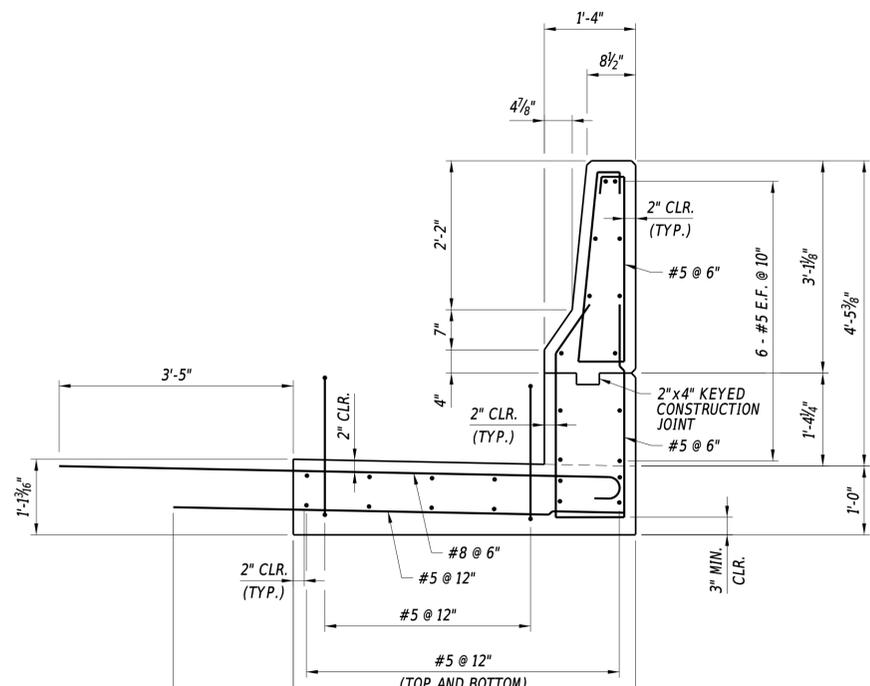
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	TYPE 2 PRECAST CONCRETE SLEEPER SLAB DETAILS	AS-15
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	129
				SUSSEX				



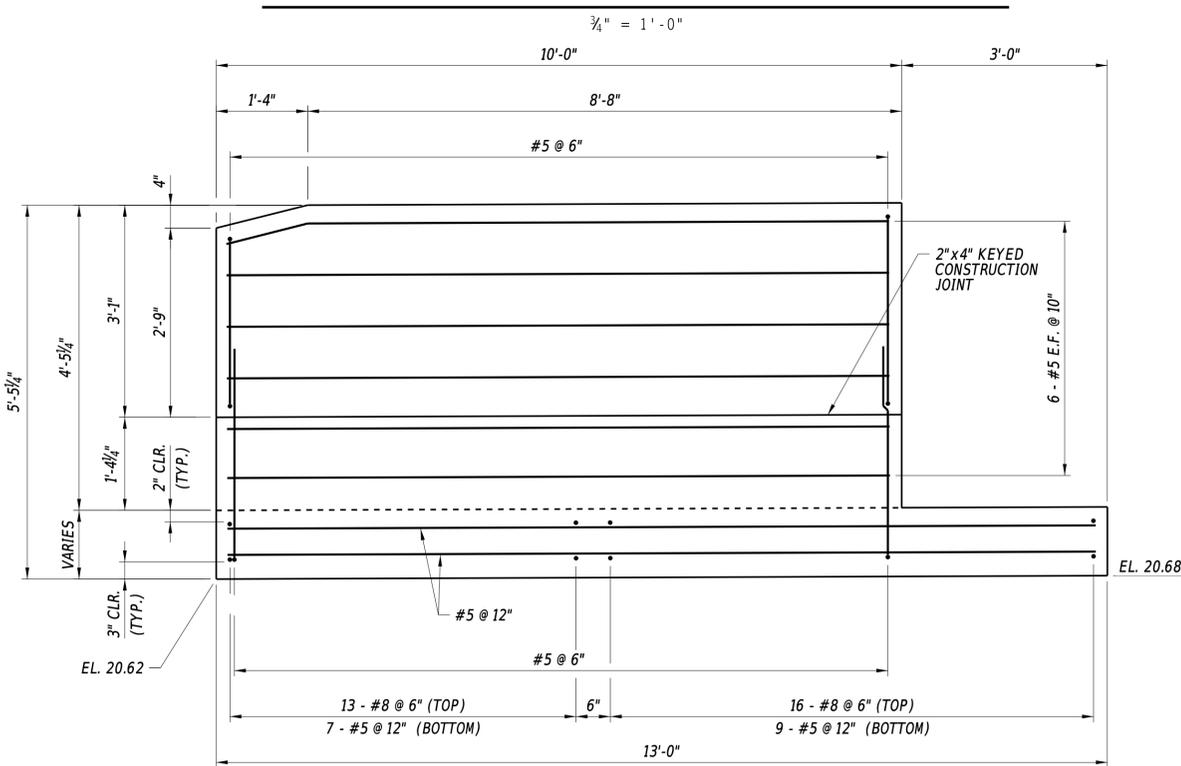
TYPE 3 PRECAST CONCRETE SLEEPER SLAB PLAN
 $\frac{3}{4}'' = 1' - 0''$



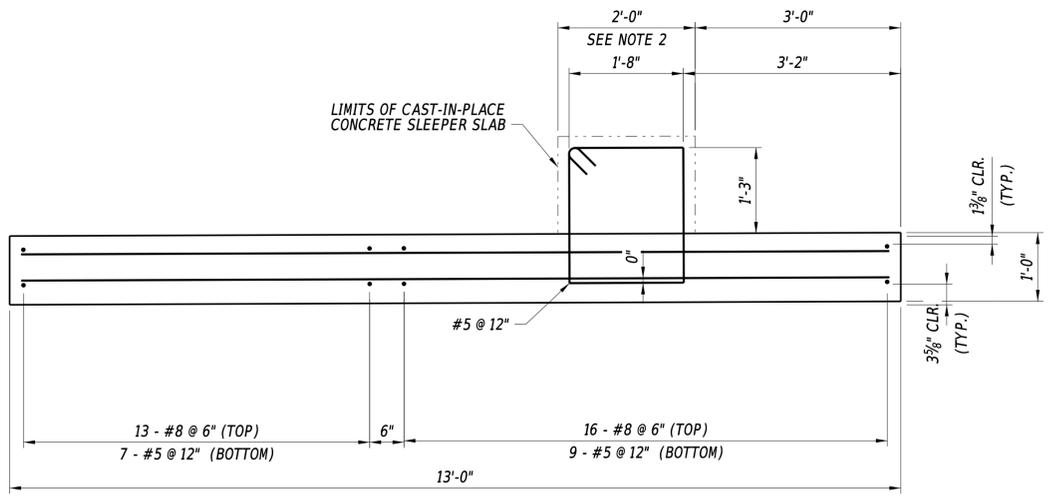
SECTION W-W
 $\frac{3}{4}'' = 1' - 0''$



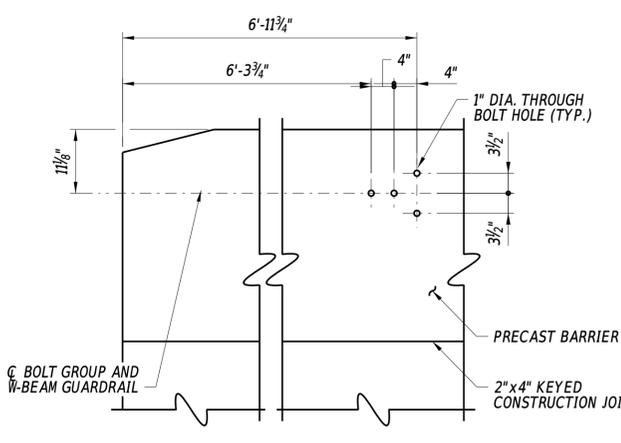
SECTION X-X
 $\frac{3}{4}'' = 1' - 0''$



SECTION U-U
 $\frac{3}{4}'' = 1' - 0''$



SECTION V-V
 $\frac{3}{4}'' = 1' - 0''$

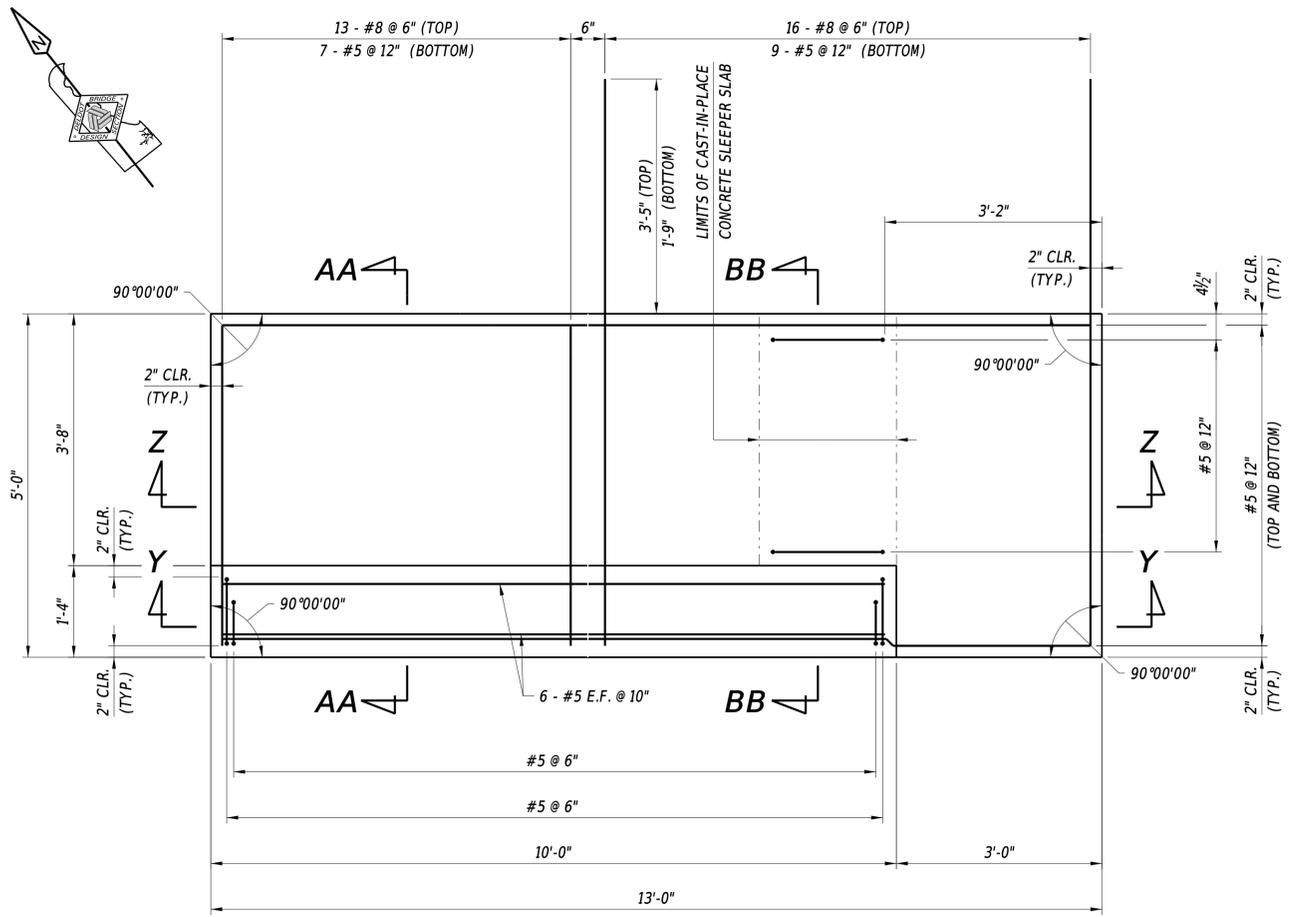


GUARDRAIL APPROACH CONNECTION
 BOLT HOLE DETAIL
 $\frac{3}{4}'' = 1' - 0''$

- NOTES:**
- FOR LOCATION OF TYPE 3 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-13.
 - ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

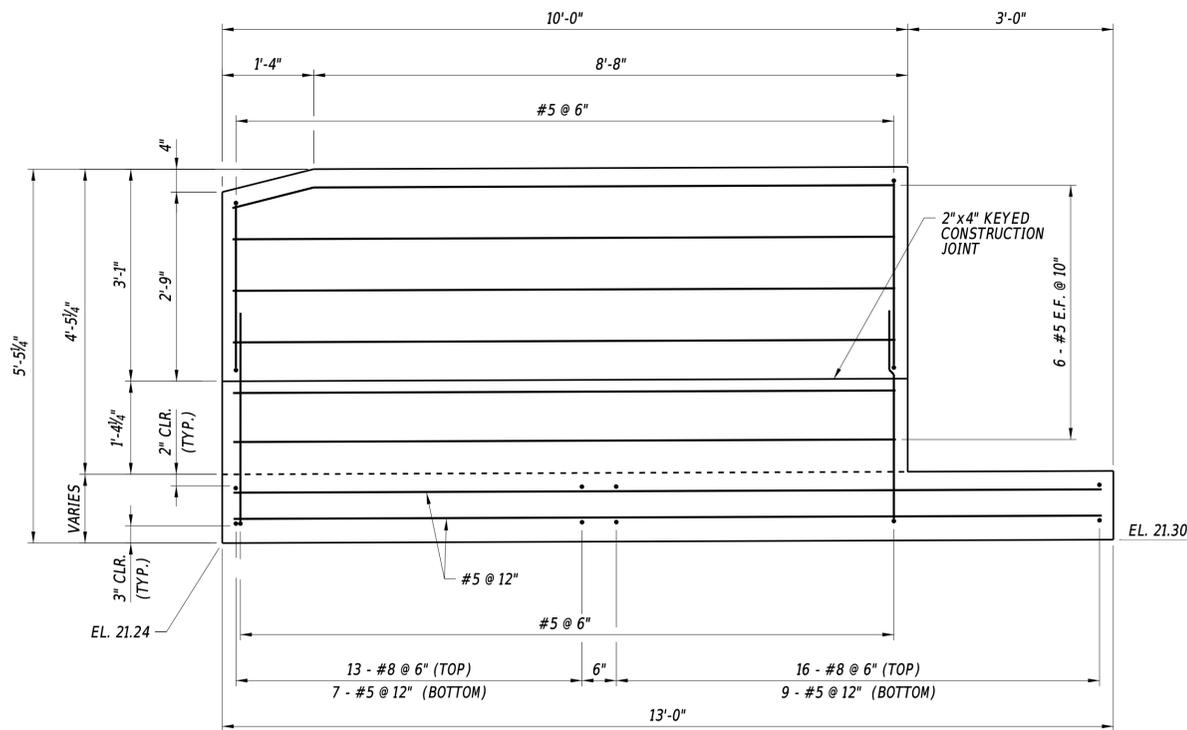
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	TYPE 3 PRECAST CONCRETE SLEEPER SLAB DETAILS	AS-16
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	130
				SUSSEX				



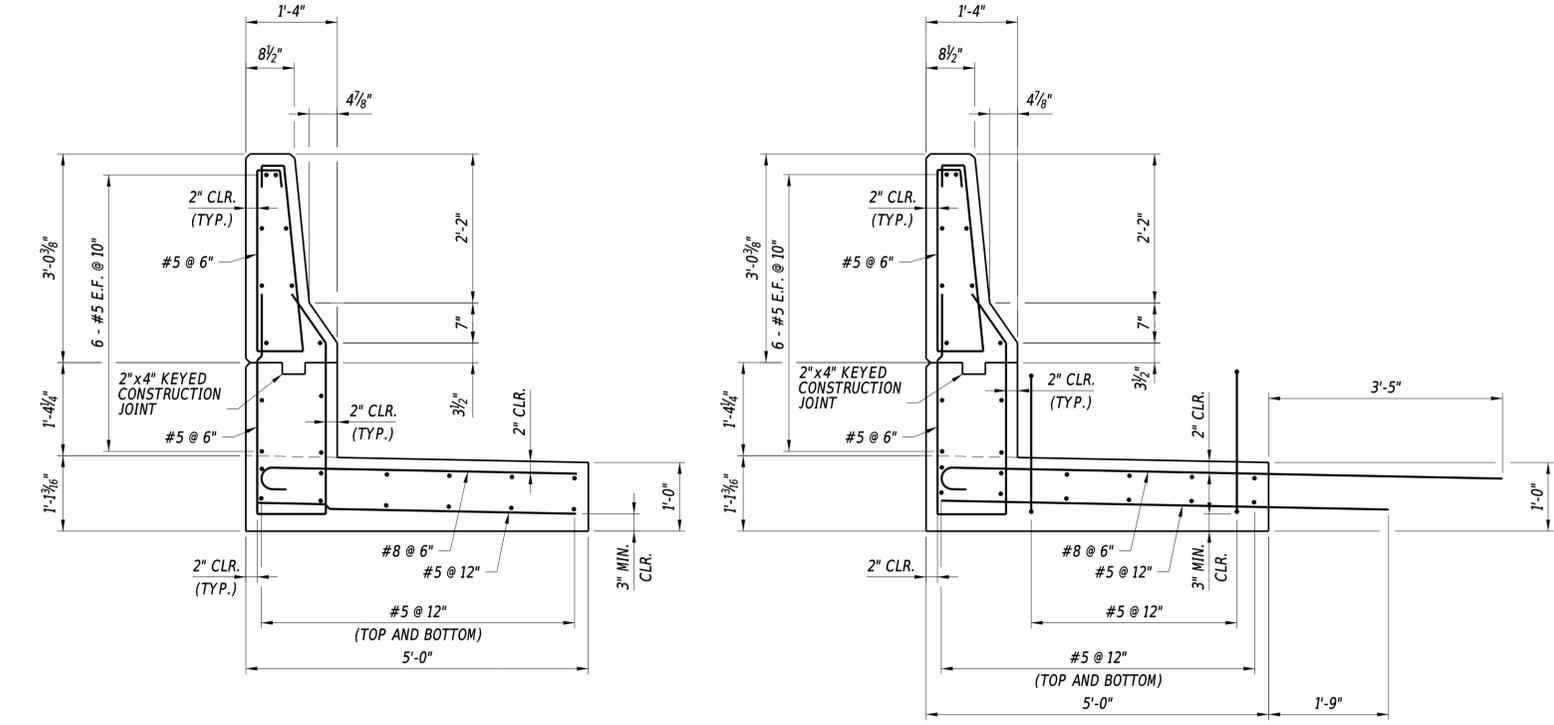
TYPE 4 PRECAST CONCRETE SLEEPER SLAB PLAN

3/4" = 1'-0"



SECTION Y-Y

3/4" = 1'-0"

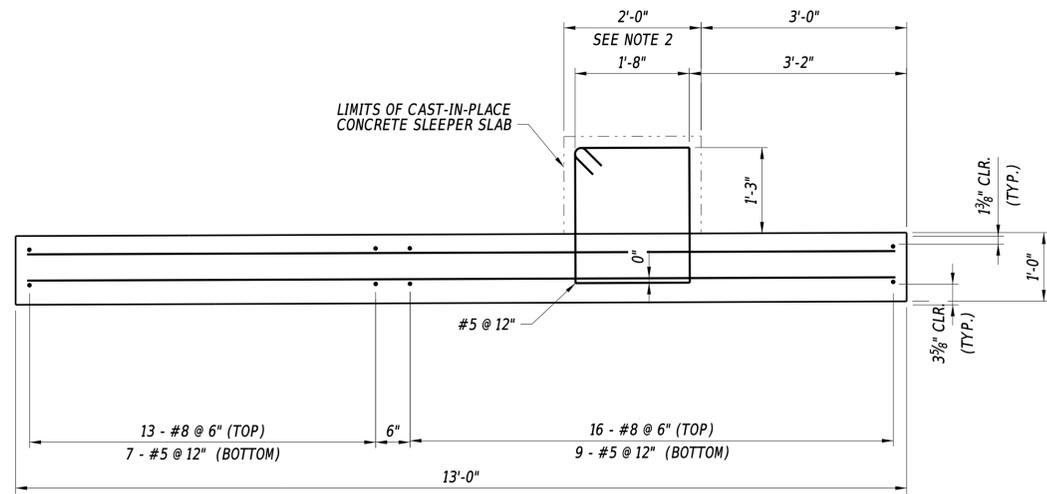


SECTION AA-AA

3/4" = 1'-0"

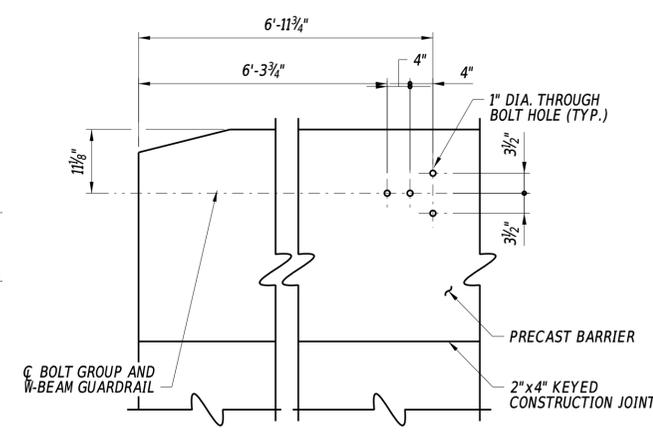
SECTION BB-BB

3/4" = 1'-0"



SECTION Z-Z

3/4" = 1'-0"



GUARDRAIL APPROACH CONNECTION BOLT HOLE DETAIL

3/4" = 1'-0"

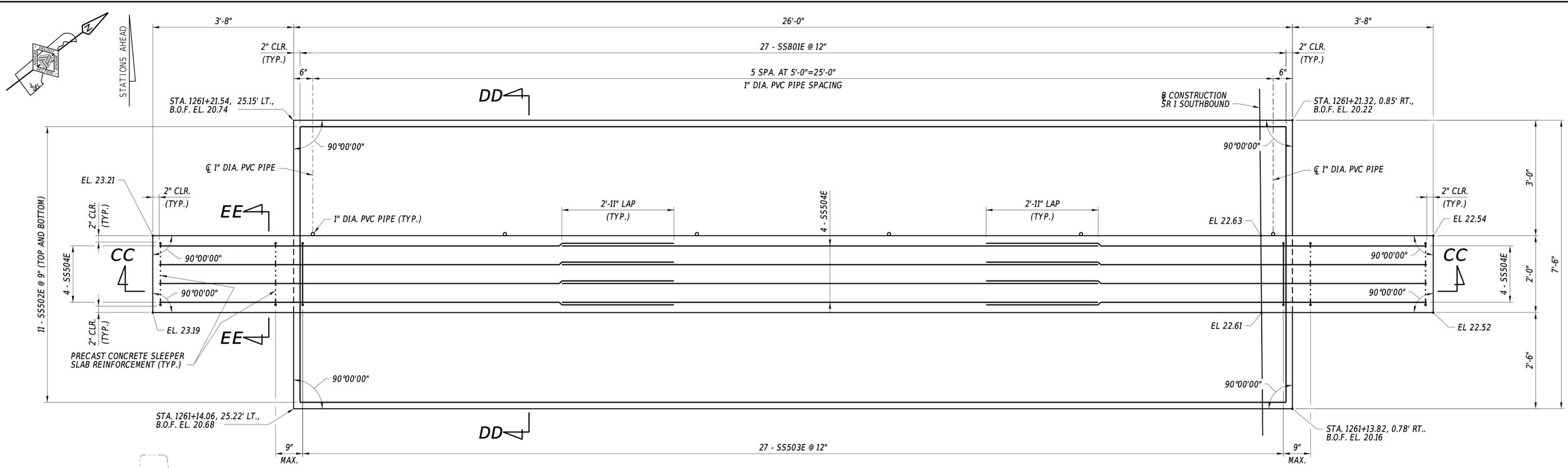
NOTES:

- FOR LOCATION OF TYPE 4 PRECAST CONCRETE SLEEPER SLAB, SEE DWG. AS-13.
- ROUGHEN THE SURFACE WITHIN THE LIMITS OF THE CAST-IN-PLACE CONCRETE TO A 1/4" AMPLITUDE.

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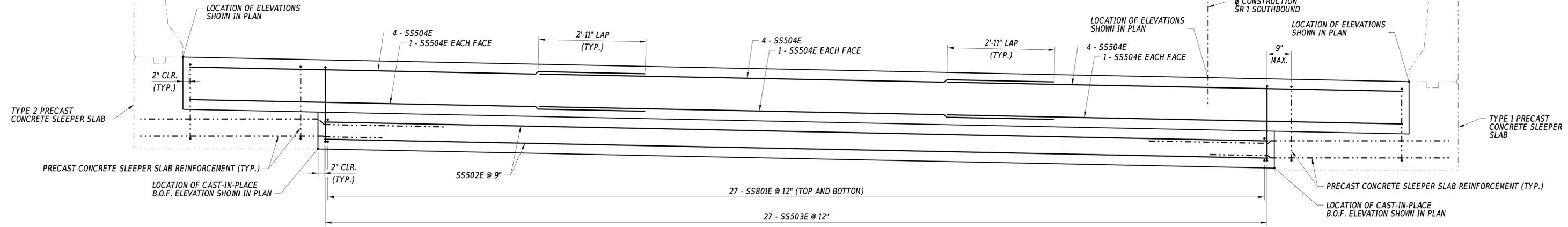
ADDENDA / REVISIONS	

SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER		CONTRACT	BRIDGE NO.	3-155S	TYPE 4 PRECAST CONCRETE SLEEPER SLAB DETAILS	AS-17
	T201907601	DESIGNED BY: F. OPHARDT	SECTION	WRA			
	COUNTY	CHECKED BY: W. GESCHREI	SHEET NO.	131			
	SUSSEX						



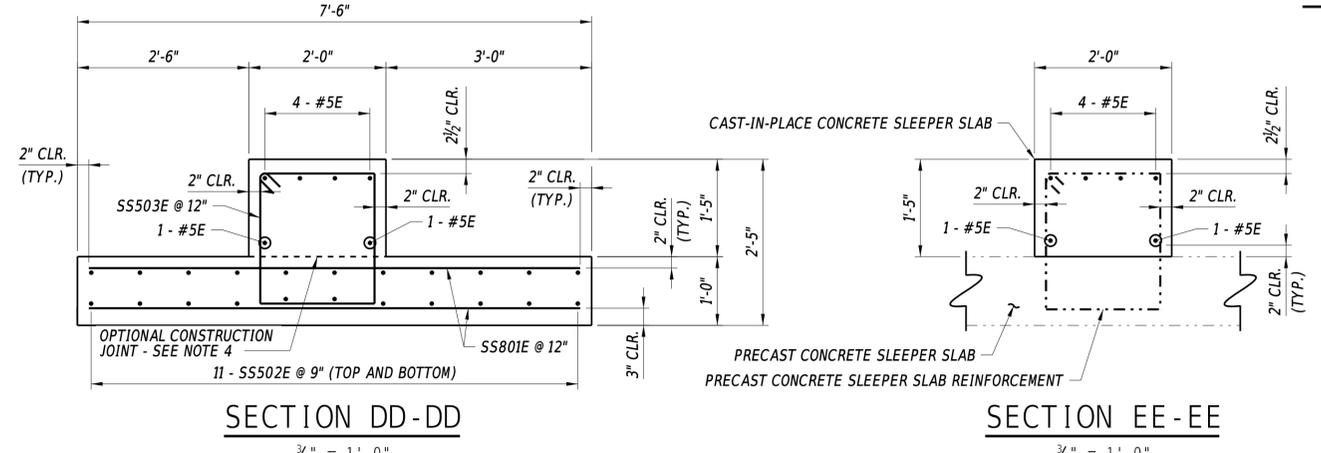
TYPE 1 CAST-IN-PLACE CONCRETE SLEEPER SLAB PLAN

3/4" = 1'-0"



SECTION CC-CC

3/4" = 1'-0"



SECTION DD-DD

3/4" = 1'-0"

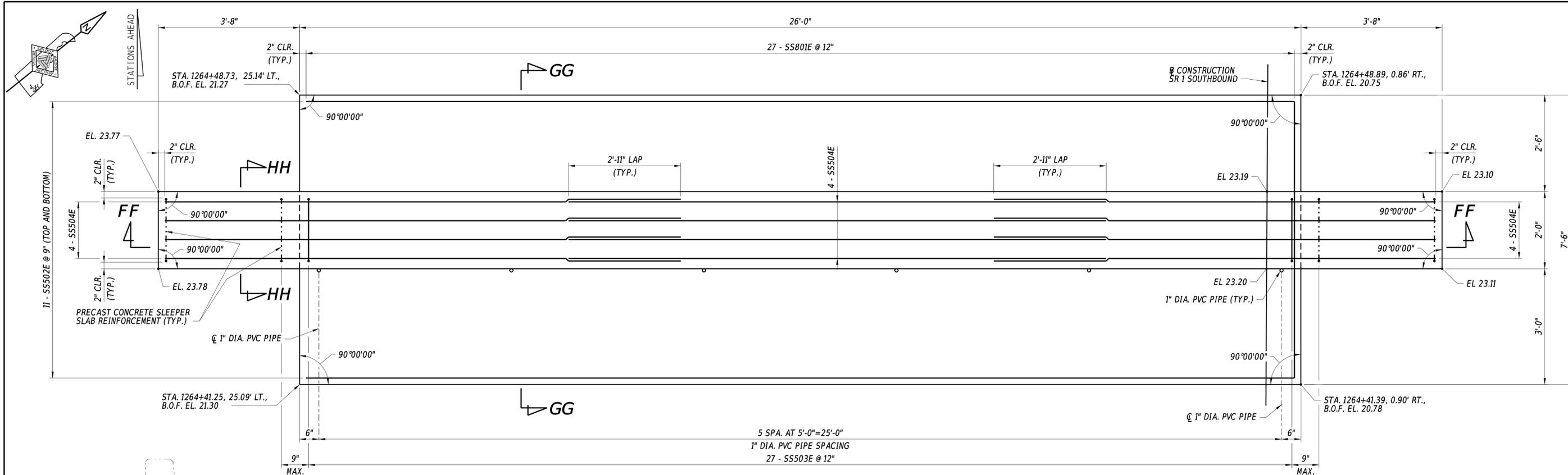
SECTION EE-EE

3/4" = 1'-0"

- NOTES:**
1. FOR SLEEPER SLAB LAYOUT PLAN, SEE DWG. AS-13.
 2. FOR PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-14 AND AS-15.
 3. DOWEL BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT PATCH NOT SHOWN FOR CLARITY, SEE DWG. AS-21 FOR ADDITIONAL INFORMATION.
 4. THE CONTRACTOR HAS THE OPTION TO PROVIDE A ROUGHENED CONSTRUCTION JOINT AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE OPTIONAL ROUGHENED CONSTRUCTION JOINT WITHIN THE LIMITS OF THE CAST-IN-PLACE SLEEPER SLAB SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4".

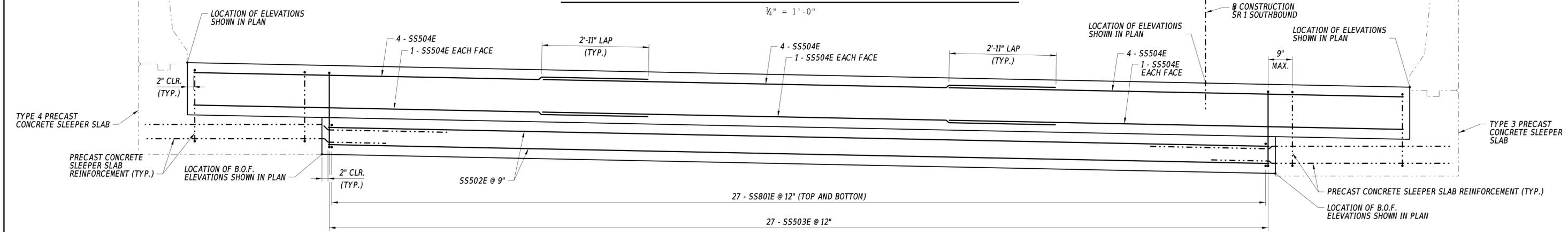
4/28/2020 2:05:34 PM N:\312122-003\CADD\BRIDGE\BR3-155S_AS18.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	TYPE 1 CAST-IN-PLACE SLEEPER SLAB DETAILS	AS-18
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:		W. GESCHREI	SHEET NO.
				SUSSEX				132



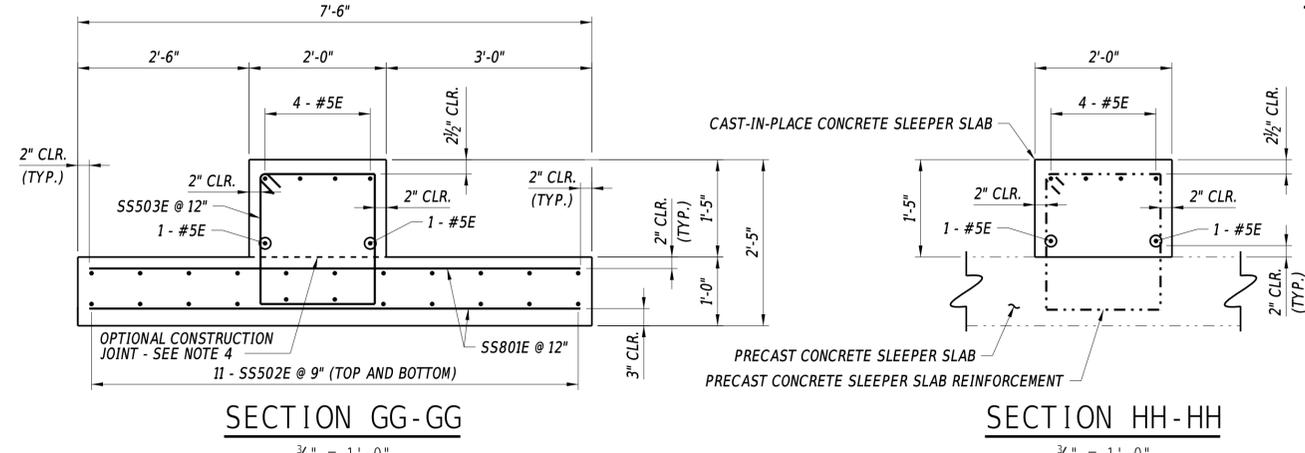
TYPE 2 CAST-IN-PLACE CONCRETE SLEEPER SLAB PLAN

3/4" = 1'-0"



SECTION FF-FF

3/4" = 1'-0"



SECTION GG-GG

3/4" = 1'-0"

SECTION HH-HH

3/4" = 1'-0"

- NOTES:**
- FOR SLEEPER SLAB LAYOUT PLAN, SEE DWG. AS-13.
 - FOR PRECAST CONCRETE SLEEPER SLAB DETAILS, SEE DWGS. AS-16 AND AS-17.
 - DOWEL BARS FOR PORTLAND CEMENT CONCRETE PAVEMENT PATCH NOT SHOWN FOR CLARITY, SEE DWG. AS-21 FOR ADDITIONAL INFORMATION.
 - THE CONTRACTOR HAS THE OPTION TO PROVIDE A ROUGHENED CONSTRUCTION JOINT AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE OPTIONAL ROUGHENED CONSTRUCTION JOINT WITHIN THE LIMITS OF THE CAST-IN-PLACE SLEEPER SLAB SHALL BE ROUGHENED TO AN AMPLITUDE OF 1/4".

ADDENDA / REVISIONS

SCALE AS NOTED

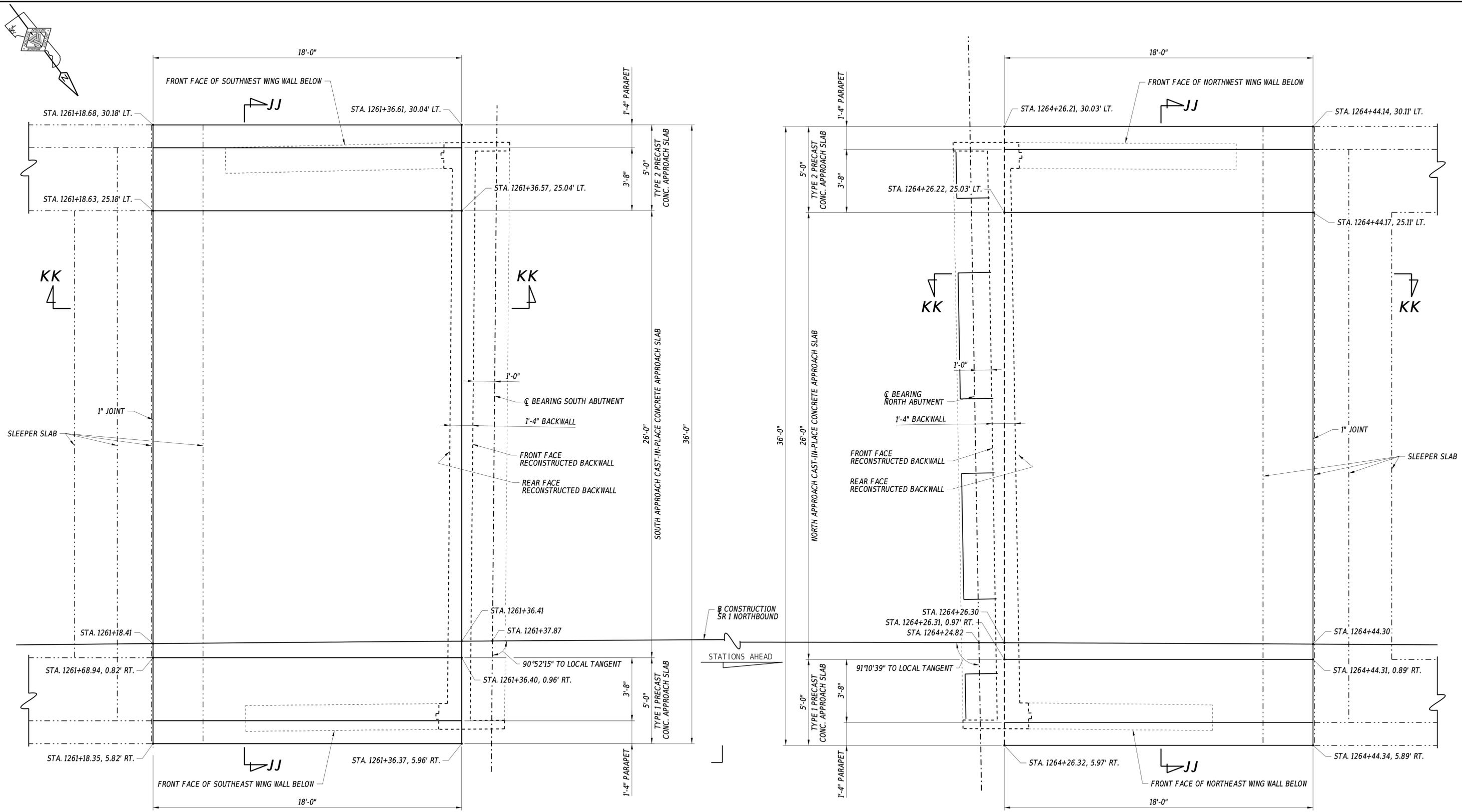
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**TYPE 2 CAST-IN-PLACE
SLEEPER SLAB DETAILS**

AS-19
SECTION
WRA
SHEET NO.
133

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APPROACH SLAB LAYOUT PLAN

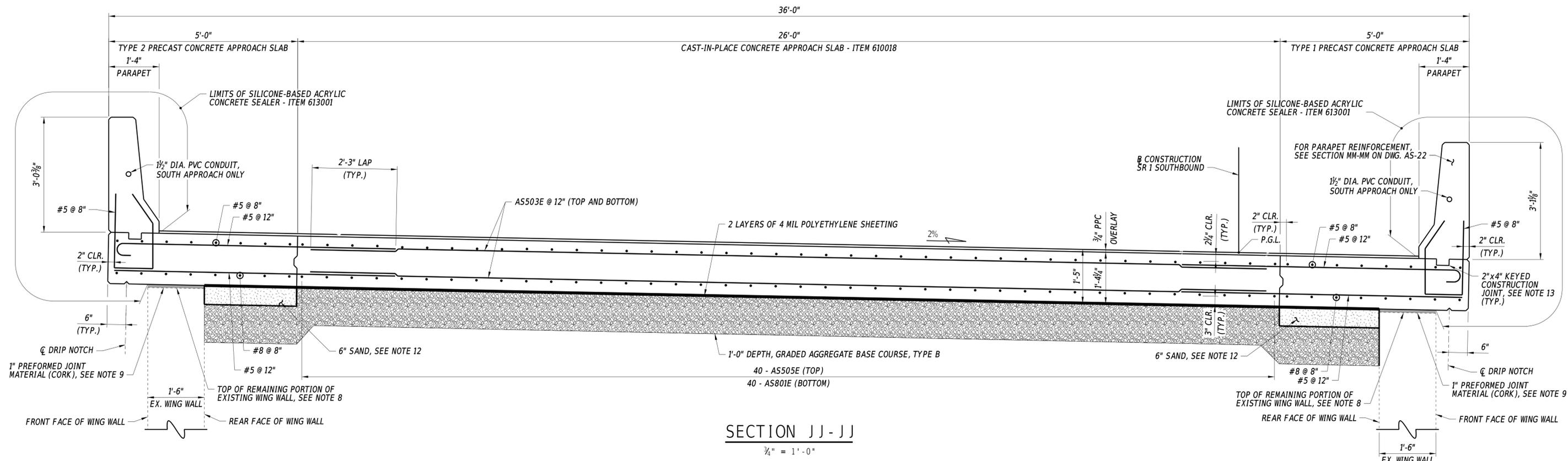
3/8" = 1' - 0"

NOTES:

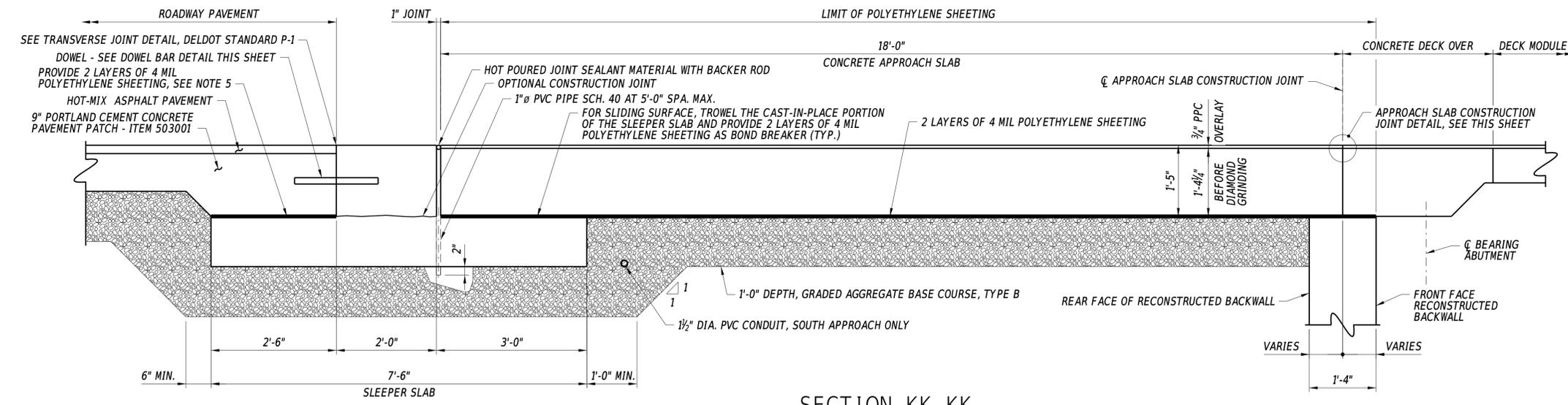
1. FOR SECTIONS JJ-JJ AND KK-KK, SEE DWG. AS-21.
2. FOR SLEEPER SLAB DETAILS, SEE DWG. AS-13 THRU AS-19.
3. FOR PRECAST APPROACH SLAB DETAILS, SEE DWGS. AS-22 AND AS-23.
4. FOR CAST-IN-PLACE APPROACH SLAB REINFORCEMENT DETAILS, SEE DWGS. AS-24..

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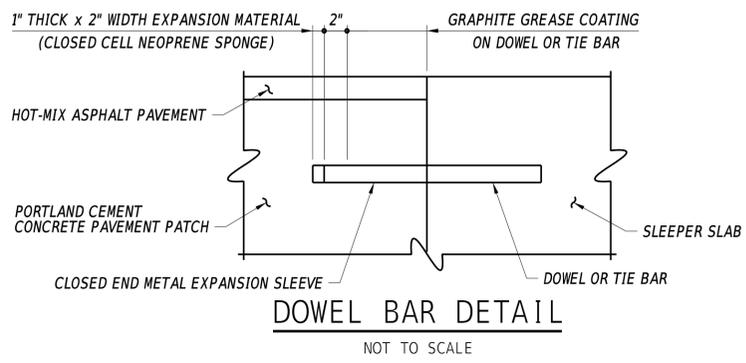
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	APPROACH SLAB LAYOUT PLAN	AS-20
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	134
				SUSSEX				



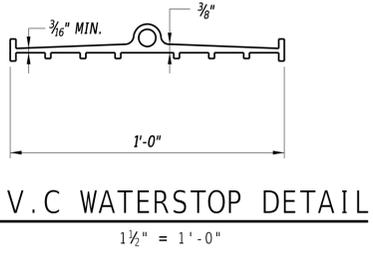
SECTION JJ-JJ
3/8" = 1'-0"



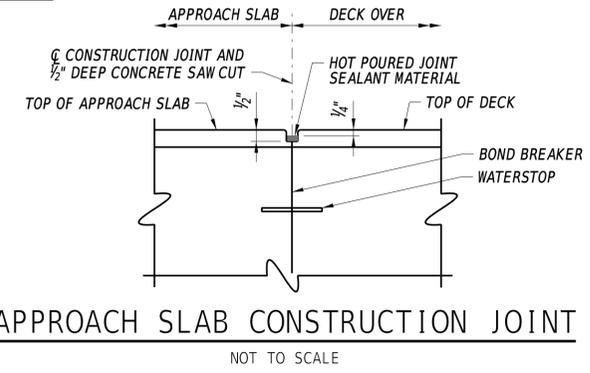
SECTION KK-KK
3/8" = 1'-0"



DOWEL BAR DETAIL
NOT TO SCALE



P.V.C WATERSTOP DETAIL
1 1/2" = 1'-0"

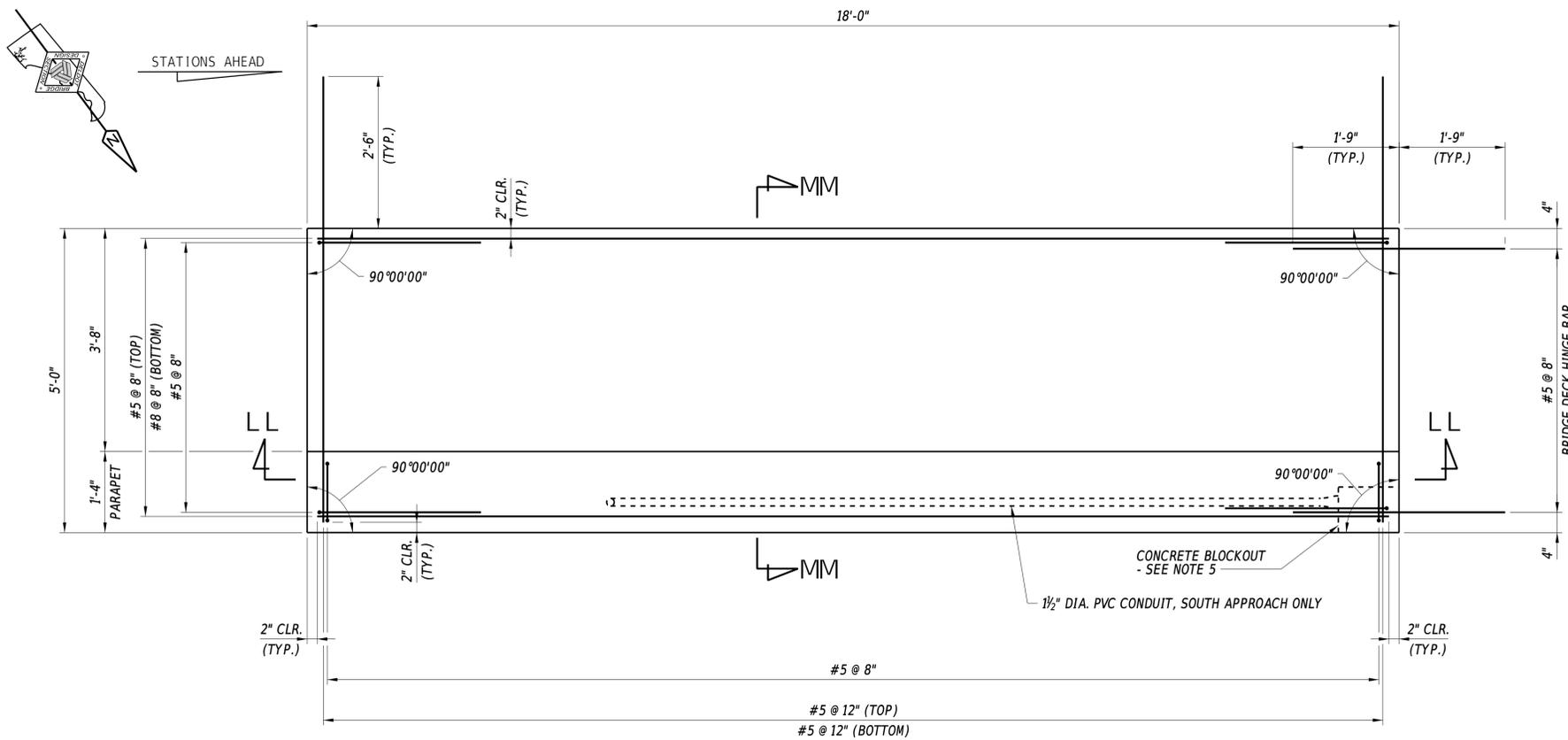


APPROACH SLAB CONSTRUCTION JOINT
NOT TO SCALE

- NOTES:**
- FOR SLEEPER SLAB DETAILS, SEE DWG. AS-13 THRU AS-19.
 - FOR APPROACH SLAB LAYOUT PLAN AND LOCATION OF SECTIONS JJ-JJ AND KK-KK, SEE DWG. AS-20.
 - FOR PRECAST APPROACH SLAB DETAILS, SEE DWG. AS-22 AND AS-23.
 - FOR CAST-IN-PLACE APPROACH SLAB REINFORCEMENT DETAILS, SEE DWG. AS-24.
 - PAYMENT FOR POLYETHYLENE SHEETING, BOND BREAKER, WATERSTOP, 1/2" DEEP CONCRETE SAW CUT, PVC PIPE, AND HOT Poured JOINT SEALANT WILL BE INCIDENTAL TO ITEM 610018 - PORTLAND CEMENT CONCRETE, APPROACH SLAB, CLASS D.
 - PAYMENT FOR FULL DEPTH SAWCUT THROUGH PPC OVERLAY WILL BE INCIDENTAL TO ITEM 625501 - POLYESTER POLYMER CONCRETE OVERLAY INSTALLATION.
 - FOR ADDITIONAL ROADWAY PAVEMENT DETAILS, SEE DELDOT STANDARD P-1. PAYMENT FOR ROADWAY JOINTS SHALL BE INCIDENTAL TO ROADWAY PAVEMENT ITEM.
 - FOR LIMITS OF EXISTING WING WALL REMOVAL, SEE DWG. SR-03.
 - PAYMENT FOR PREFORMED JOINT MATERIAL (CORK) WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS.
 - THE CONTRACTOR HAS THE OPTION TO CAST THE DOWELS IN THE SLEEPER SLAB OR DRILL HOLES IN THE SLEEPER SLAB AT NO ADDITIONAL COST TO THE DEPARTMENT FOR WHICHEVER OPTION IS SELECTED. IF DRILLING HOLES INTO THE SLEEPER SLAB, THE HOLES SHALL BE LOCATED TO AVOID REINFORCEMENT. PAYMENT FOR THIS WILL BE INCIDENTAL TO ITEM 503001 - PATCHING PORTLAND CEMENT CONCRETE PAVEMENT, 6' TO 15', TYPE A.
 - FOR CONCRETE DECK OVER DETAILS, SEE DWGS. DK-06 AND DK-07.
 - PRECAST PORTIONS OF THE APPROACH SLABS NOT BEARING ON THE BACKWALL OR SLEEPER SLABS AND NOT DIRECTLY ABOVE THE EXISTING WING WALLS SHALL BEAR ON 6" OF SAND. COSTS FOR FURNISHING AND PLACING THE SAND WILL BE INCIDENTAL TO ITEM 612504 - PRECAST APPROACH SLAB PANELS AND SLEEPER SLAB UNITS. THE CONTRACTOR MAY SUBMIT FOR APPROVAL ALTERNATIVES TO THE SAND TO PROVIDE A SMOOTH BEARING SURFACE FOR THE PRECAST APPROACH SLABS. ANY ACCEPTED ALTERNATIVES WILL BE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
 - THE CONTRACTOR HAS THE OPTION OF PROVIDING A ROUGHENED CONSTRUCTION JOINT TO A 1/4" AMPLITUDE AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.

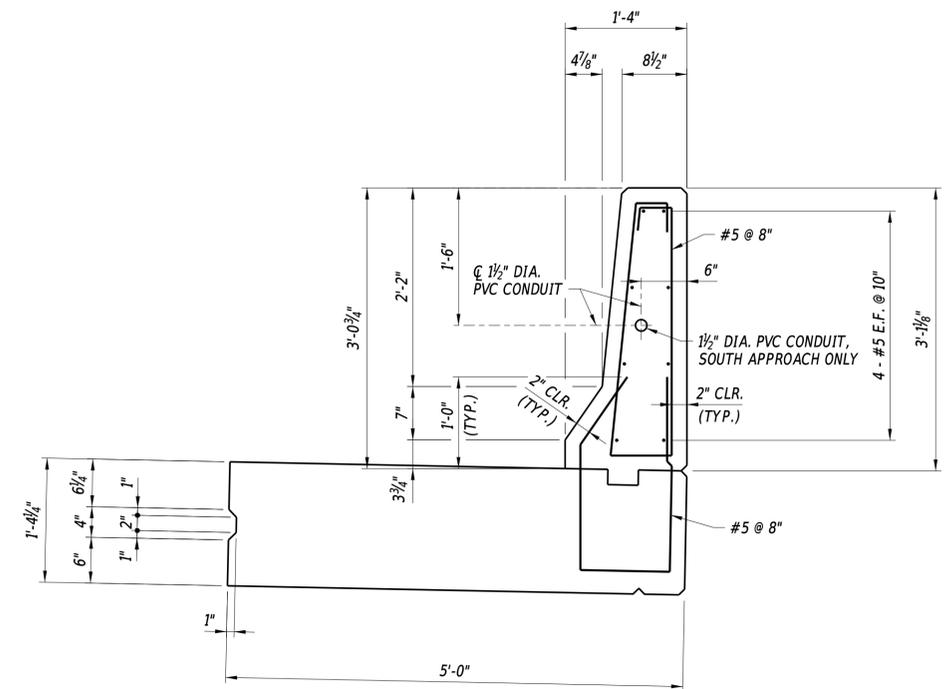
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	APPROACH SLAB TYPICAL SECTION	AS-21	
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION	WRA
				COUNTY	CHECKED BY:	W. GESCHREI		SHEET NO.	135
				SUSSEX					



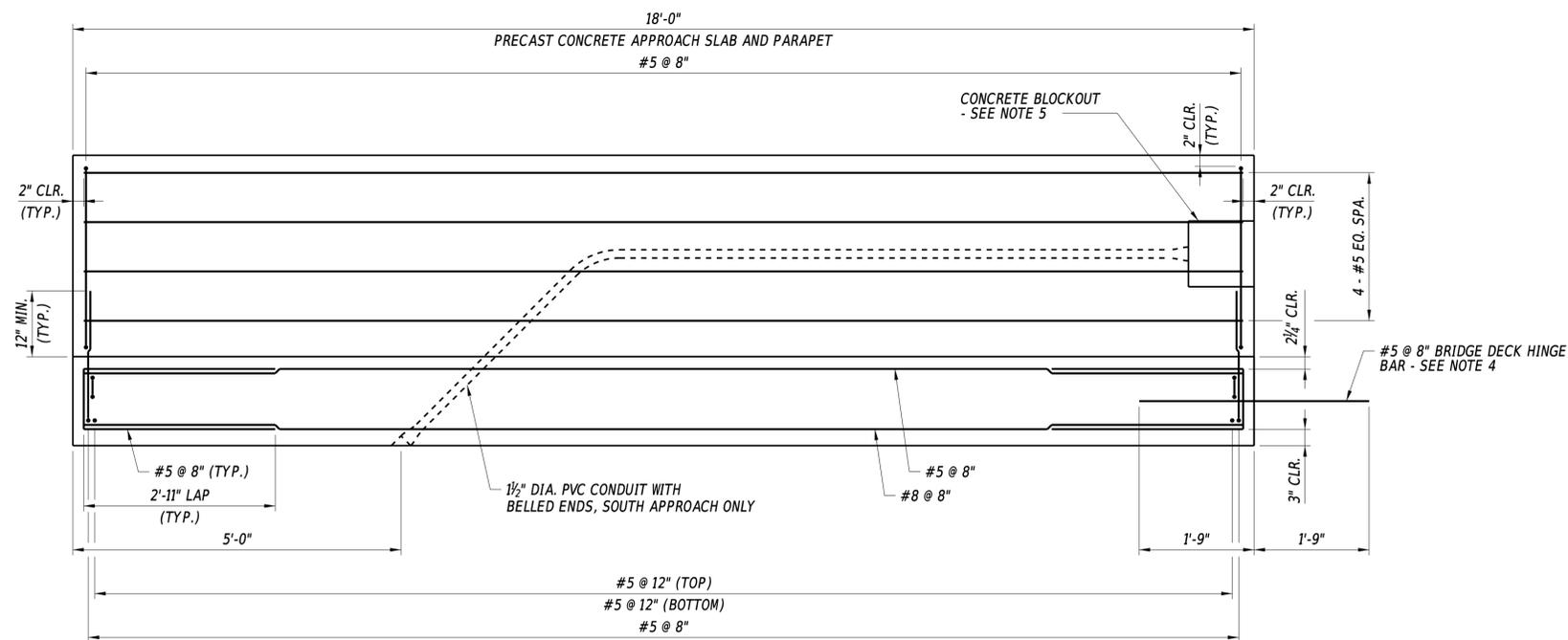
TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN

(2 REQUIRED)
3/4" = 1'-0"



SECTION MM-MM

1" = 1'-0"



SECTION LL-LL

3/4" = 1'-0"

NOTES:

1. FOR LOCATIONS OF TYPE 1 PRECAST CONCRETE APPROACH SLAB, SEE DWG. AS-20.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SECTION JJ-JJ ON DWG. AS-21.
3. SOUTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SHOWN, NORTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.
4. THE CONTRACTOR HAS THE OPTION OF EXTENDING THE BRIDGE DECK HINGE BAR TO THE REQUIRED LENGTH BEYOND THE LIMITS OF THE PRECAST CONCRETE USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.
5. THE CONTRACTOR SHALL PROVIDE CONCRETE BLOCKOUT DETAILS FOR APPROVAL.

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ADDENDA / REVISIONS

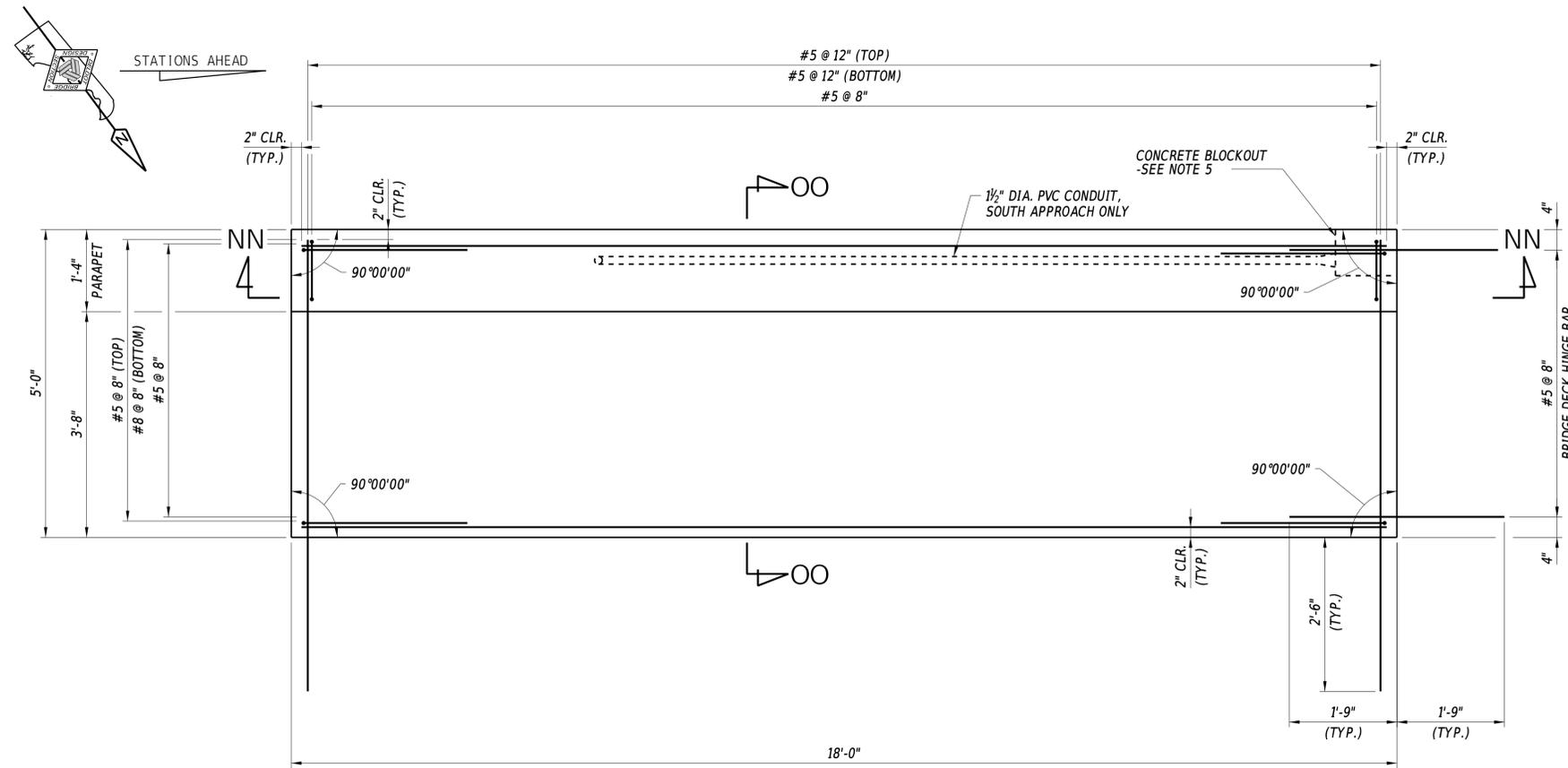
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

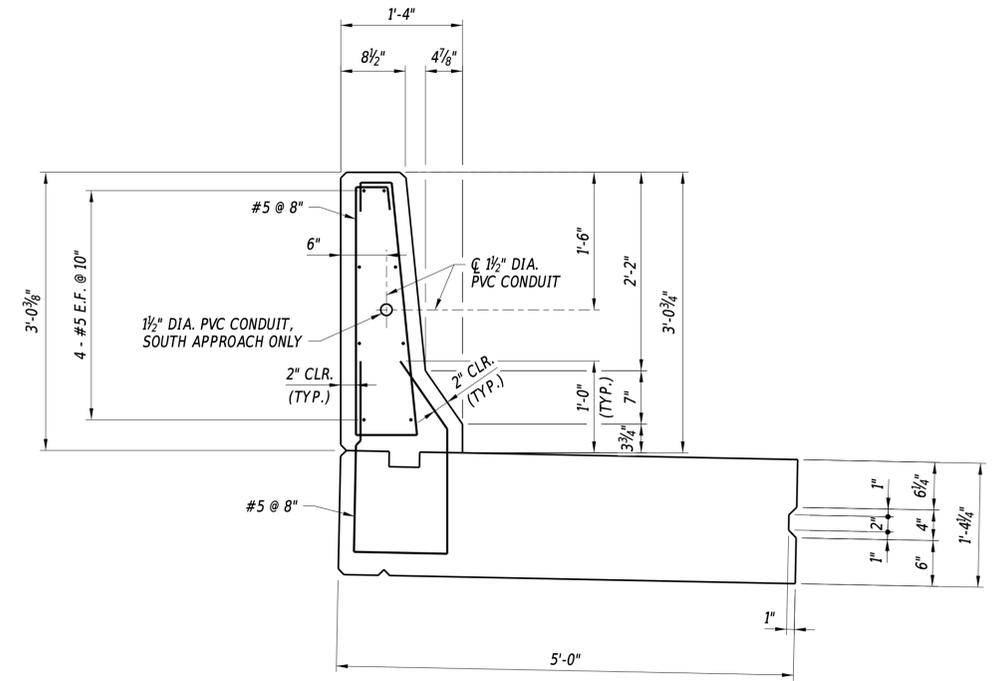
**TYPE 1 PRECAST CONCRETE
APPROACH SLAB DETAILS**

AS-22
SECTION
WRA
SHEET NO.
136



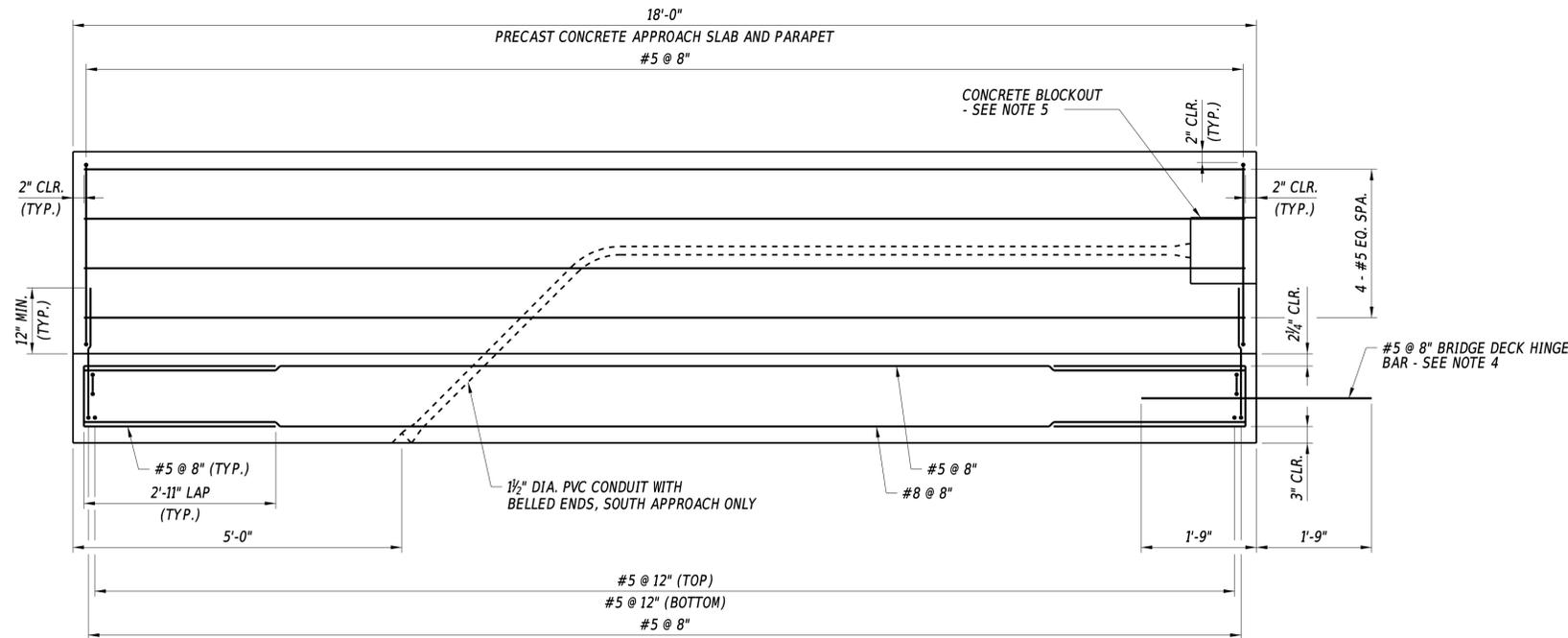
TYPE 2 PRECAST CONCRETE APPROACH SLAB PLAN

(2 REQUIRED)
3/4" = 1'-0"



SECTION OO-OO

1" = 1'-0"



SECTION NN-NN

3/4" = 1'-0"

NOTES:

1. FOR LOCATIONS OF TYPE 2 PRECAST CONCRETE APPROACH SLABS, SEE DWG. AS-20.
2. FOR ADDITIONAL REINFORCEMENT DETAILS, SEE SECTION JJ-JJ, SEE DWG. AS-21.
3. SOUTH APPROACH TYPE 2 PRECAST CONCRETE APPROACH SLAB PLAN SHOWN, NORTH APPROACH TYPE 1 PRECAST CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.
4. THE CONTRACTOR HAS THE OPTION OF EXTENDING THE BRIDGE DECK HINGE BAR TO THE REQUIRED LENGTH BEYOND THE LIMITS OF THE PRECAST CONCRETE USING MECHANICAL SPLICES AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE MECHANICAL SPLICE AND THE REVISED REINFORCEMENT DETAILS FOR APPROVAL. THE COVER TO THE MECHANICAL SPLICE SHALL MEET THE SAME COVER REQUIREMENTS AS THE REINFORCEMENT. THE MECHANICAL SPLICES SHALL BE EPOXY COATED AND THE RESISTANCE SHALL BE AT LEAST 125% OF THE YIELD STRESS OF THE REINFORCEMENT.
5. PROVIDE CONCRETE BLOCKOUT DETAILS FOR APPROVAL.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

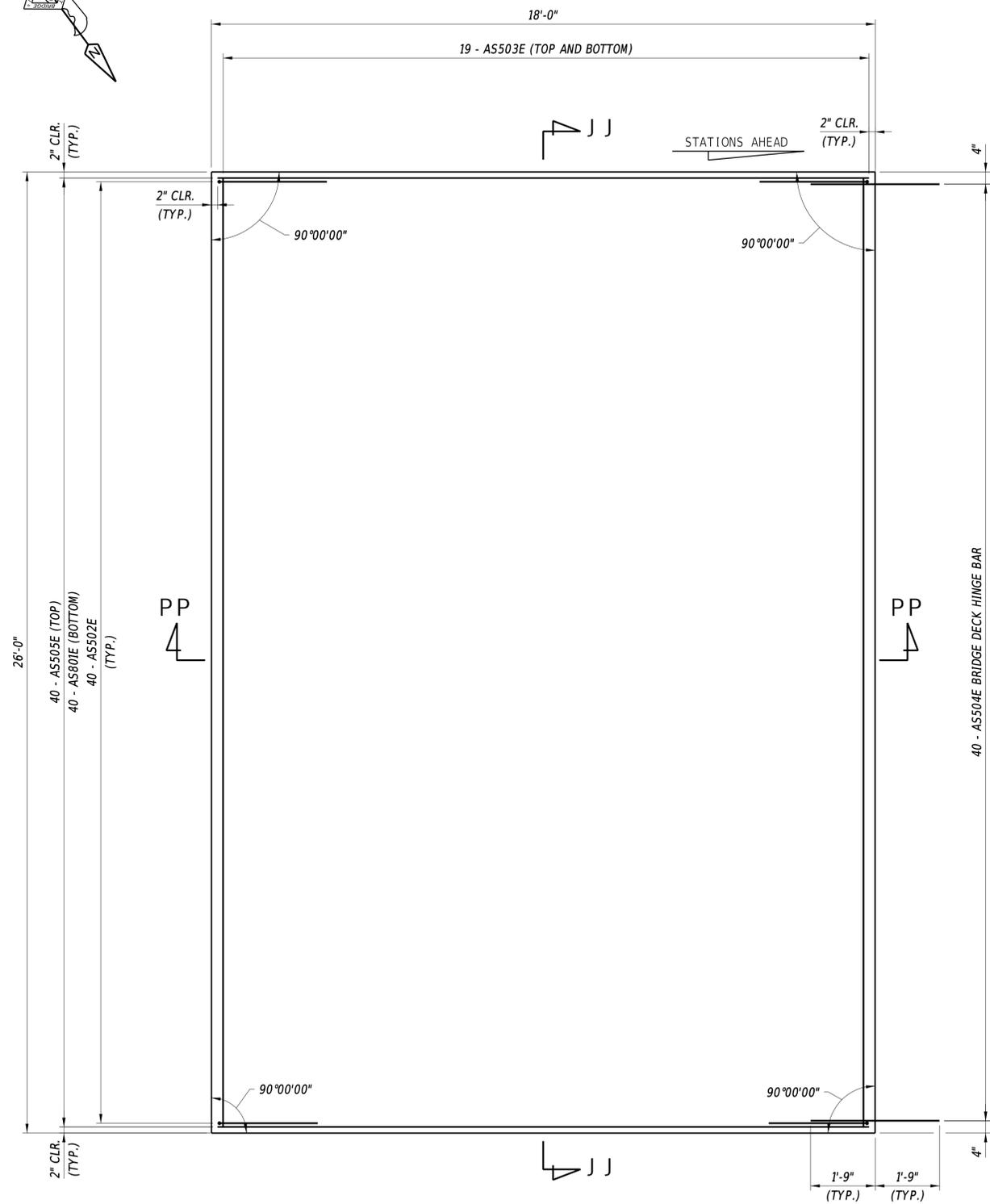
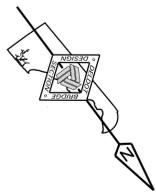
CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155S**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

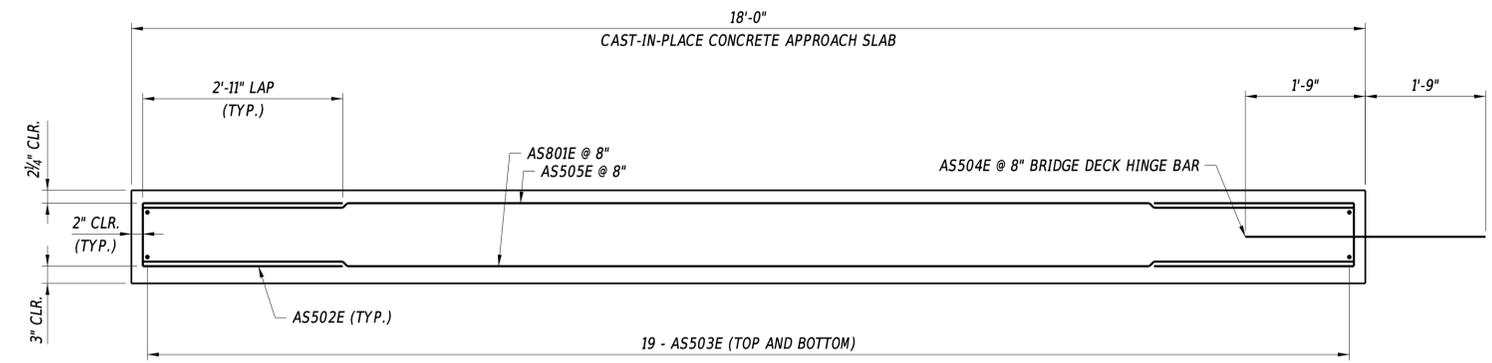
**TYPE 2 PRECAST CONCRETE
APPROACH SLAB DETAILS**

AS-23

SECTION
WRA
SHEET NO.
137



CAST-IN-PLACE CONCRETE APPROACH SLAB PLAN
 $\frac{1}{2}'' = 1' - 0''$

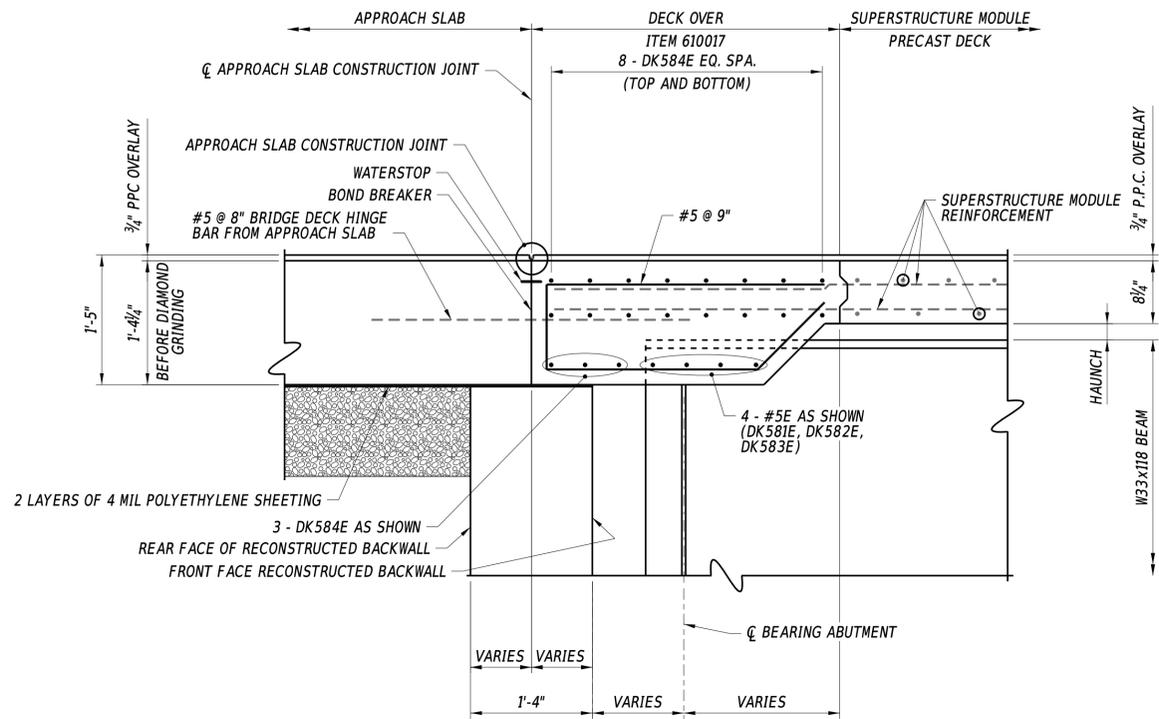


SECTION PP-PP
 $\frac{3}{4}'' = 1' - 0''$

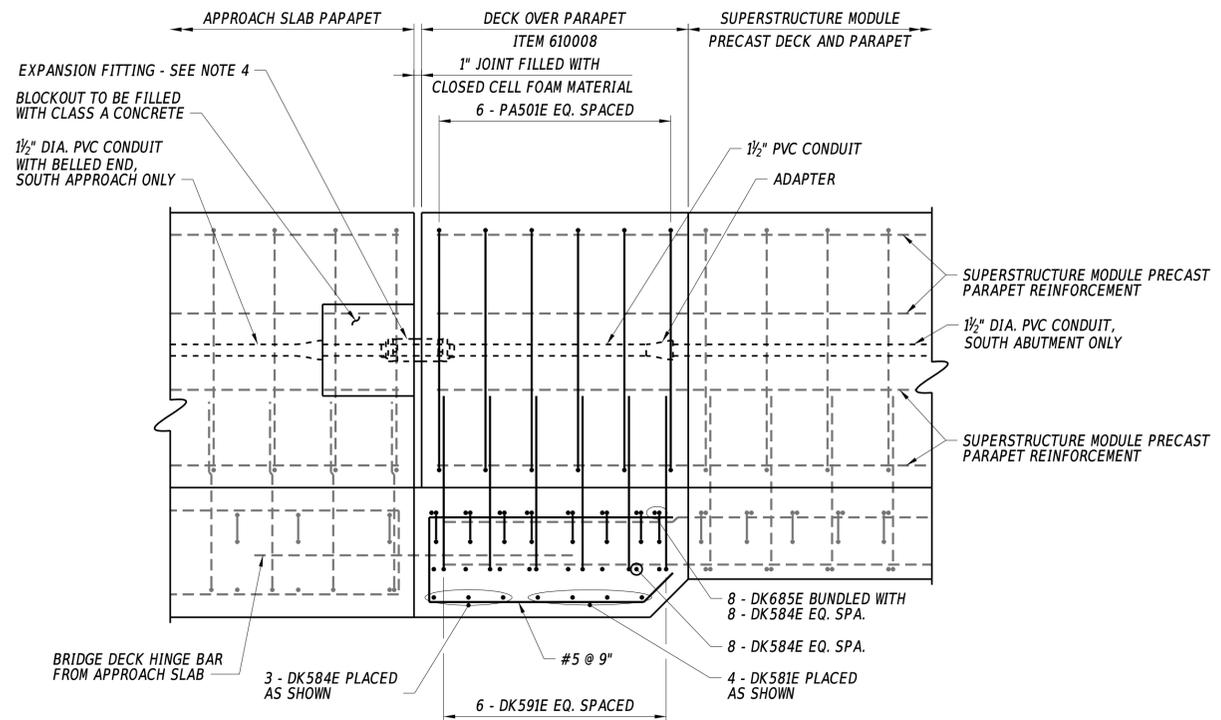
- NOTES:**
- FOR LOCATIONS OF CAST-IN-PLACE APPROACH SLABS, SEE DWG. AS-20.
 - FOR SECTION JJ-JJ, SEE DWG. AS-21.
 - SOUTH APPROACH CAST-IN-PLACE CONCRETE APPROACH SLAB SHOWN. NORTH APPROACH CAST-IN-PLACE CONCRETE APPROACH SLAB PLAN SIMILAR BUT OPPOSITE HAND.

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	CAST-IN-PLACE CONCRETE APPROACH SLAB REINFORCEMENT DETAILS	AS-24
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
		COUNTY	SUSSEX	CHECKED BY:	W. GESCHREI	SHEET NO.		138



DECK OVER TYPICAL SECTION
1" = 1'-0"

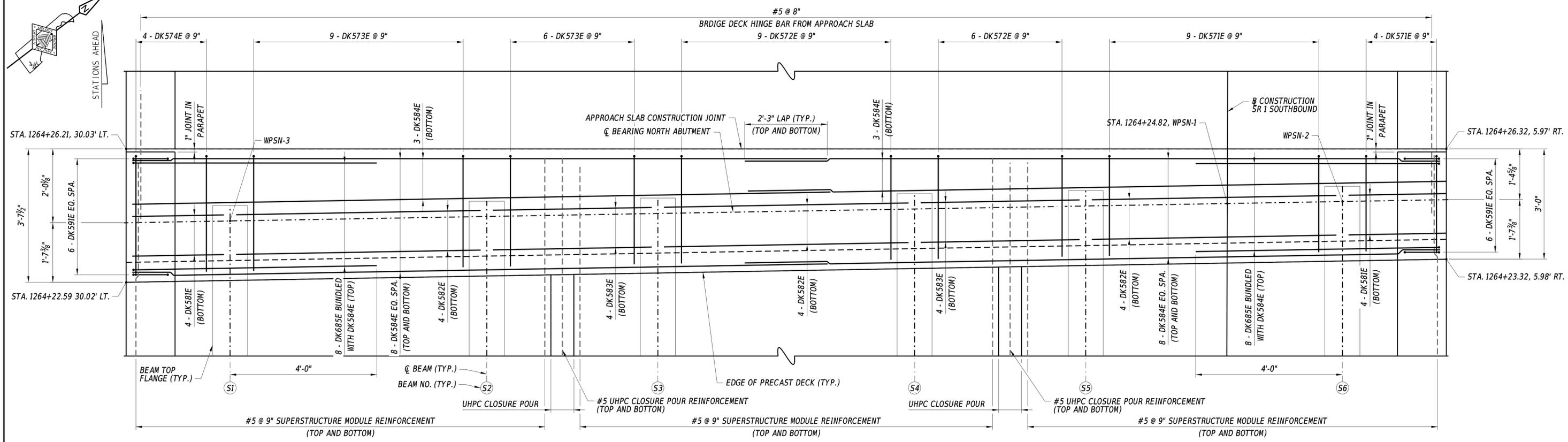
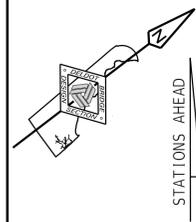


DECK OVER AT PARAPET - ELEVATION
1" = 1'-0"

- NOTES:**
- FOR DECK OVER PLAN, SEE DWG. DK-07.
 - FOR APPROACH SLAB DETAILS, SEE DWGS. AS-20 THRU AS-24.
 - FOR SUPERSTRUCTURE MODULE DETAILS, SEE DWGS. BM-13 THRU BM-23.
 - FOR CONDUIT EXPANSION FITTING DETAIL, SEE DWG. NL-04.
 - PAYMENT FOR THE BOND BREAKER AND WATERSTOP ALONG THE APPROACH SLAB CONSTRUCTION JOINT WILL BE INCIDENTAL TO ITEM 610018 - PORTLAND CEMENT CONCRETE, APPROACH SLAB, CLASS D.
 - FOR ADDITIONAL PARAPET DETAILS, SEE DWG. PA-01.
 - COSTS ASSOCIATED WITH THE CLOSED CELL FOAM MATERIAL WILL BE INCIDENTAL TO ITEM 610008 - PORTLAND CEMENT CONCRETE MASONRY, PARAPET, CLASS A.

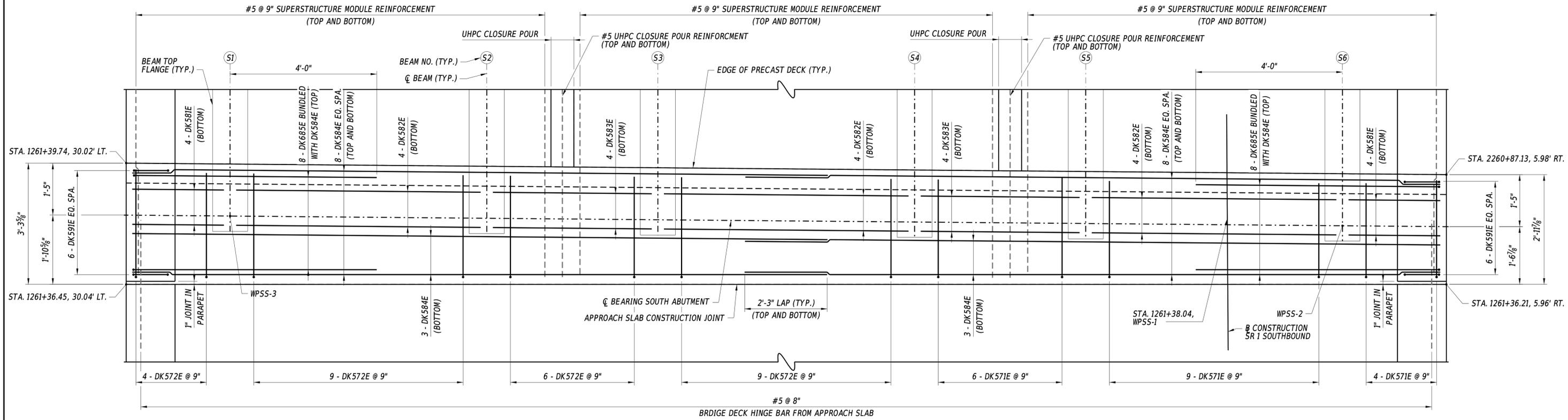
4/28/2020 2:05:58 PM N:\312122-003\CADD\Bridges\BR3-155S_DK06.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	DECK OVER DETAILS	DK-06
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	139
				SUSSEX				



NORTH ABUTMENT DECK OVER PLAN

3/4" = 1' - 0"



SOUTH ABUTMENT DECK OVER PLAN

3/4" = 1' - 0"

NOTES:

1. FOR DECK OVER DETAILS, SEE DWG. DK-06.
2. FOR APPROACH SLAB DETAILS, SEE DWGS. AS-20 THRU AS-24.
3. FOR SUPERSTRUCTURE MODULE DETAILS, SEE DWGS. BM-13 THRU BM-23.

NOTES (CONTINUED):

4. FOR ADDITIONAL PARAPET DETAILS, SEE DWG. PA-01.

ADDENDA / REVISIONS

SCALE AS NOTED

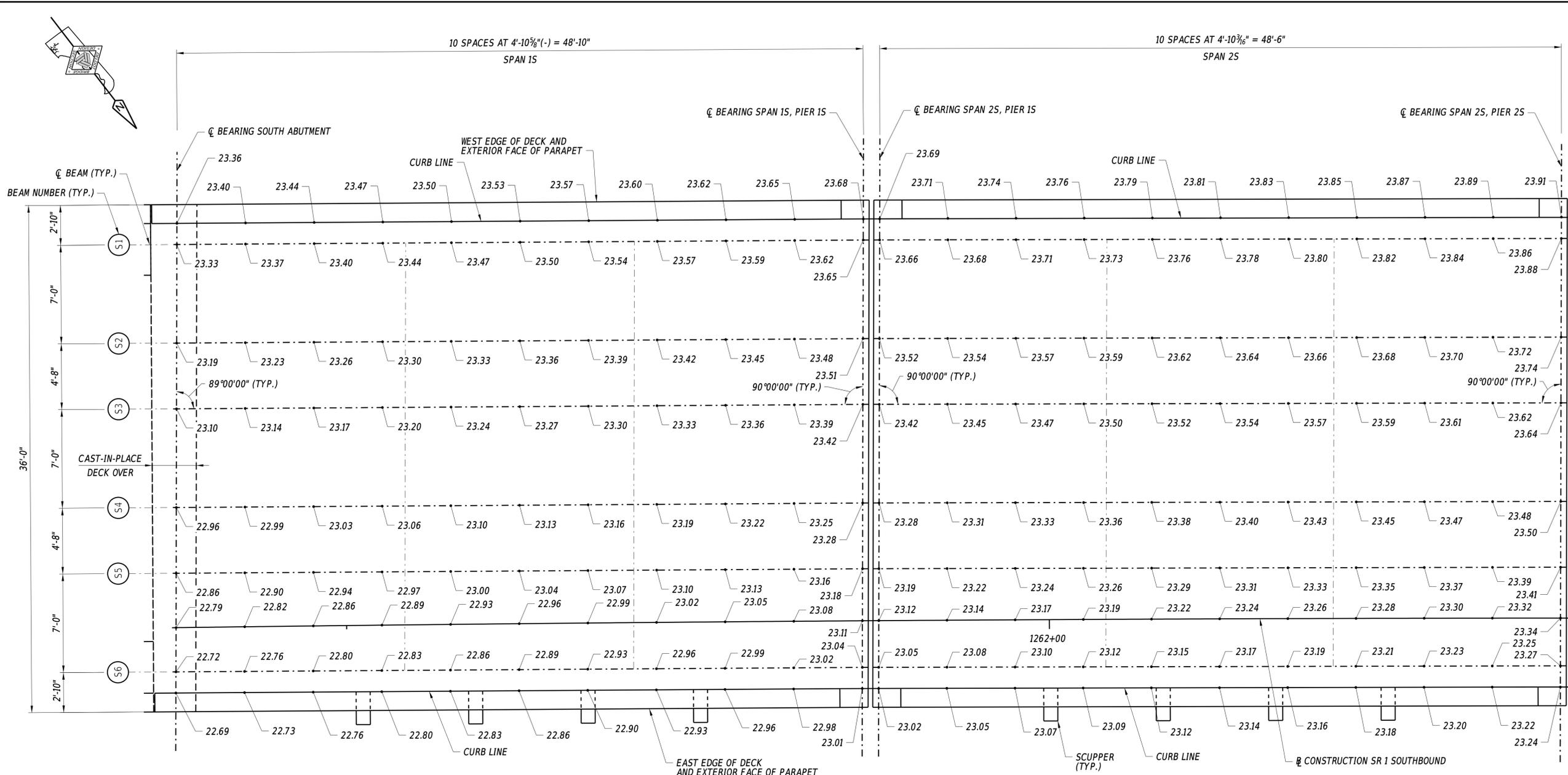
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

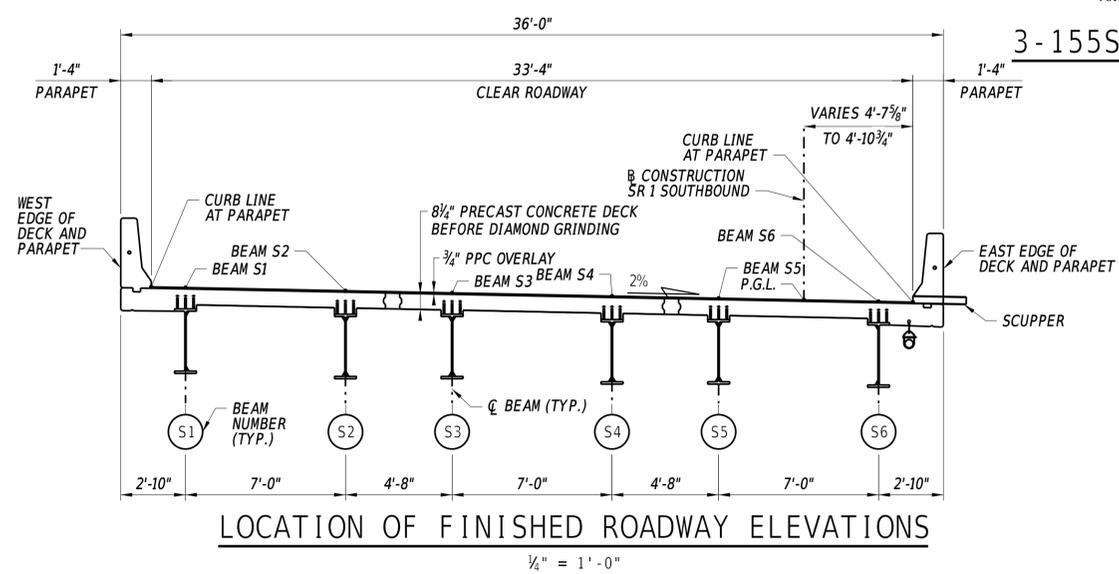
DECK OVER PLAN

DK-07
SECTION
WRA
SHEET NO.
140

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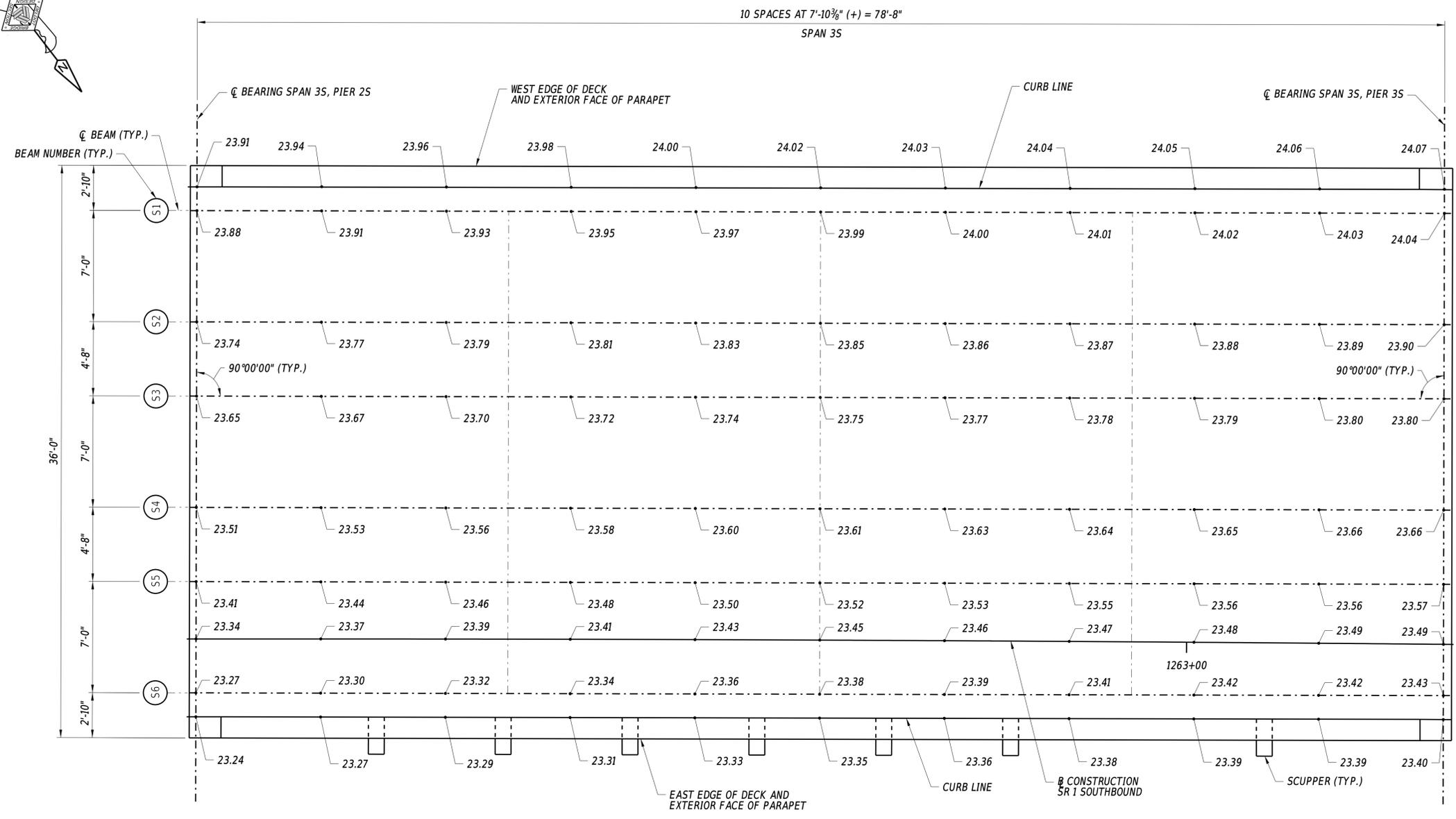
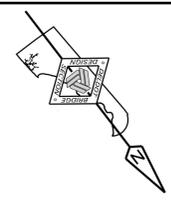
3-155S FINISHED ROADWAY ELEVATIONS - SPAN 1S AND SPAN 2S



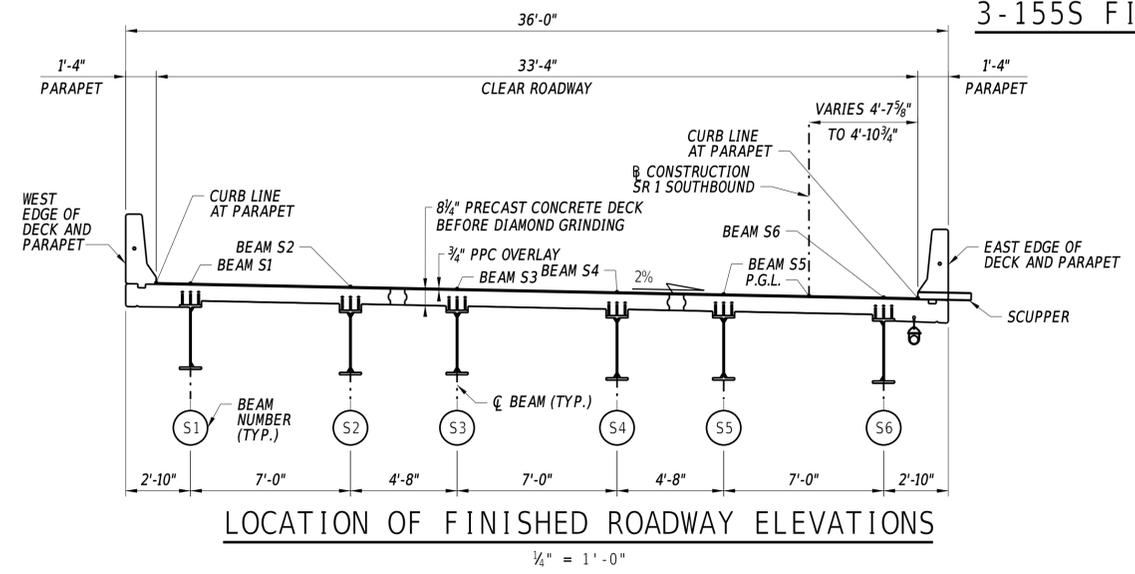
- NOTES:**
1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
 2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
 3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS, SEE DWGS. BM-15 AND BM-17.

4/28/2020 2:06:04 PM N:\31212-003\CADD\Bridges\BR3-155S_DK08.dgn

ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	FINISHED ROADWAY ELEVATIONS - 1	DK-08
				T201907601	DESIGNED BY: K. YI			SECTION
				COUNTY	CHECKED BY: H. QIN		RJM	
				SUSSEX			SHEET NO.	141



3-155S FINISHED ROADWAY ELEVATIONS - SPAN 3S



- NOTES:**
1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
 2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
 3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS SEE DWG. BM-19.

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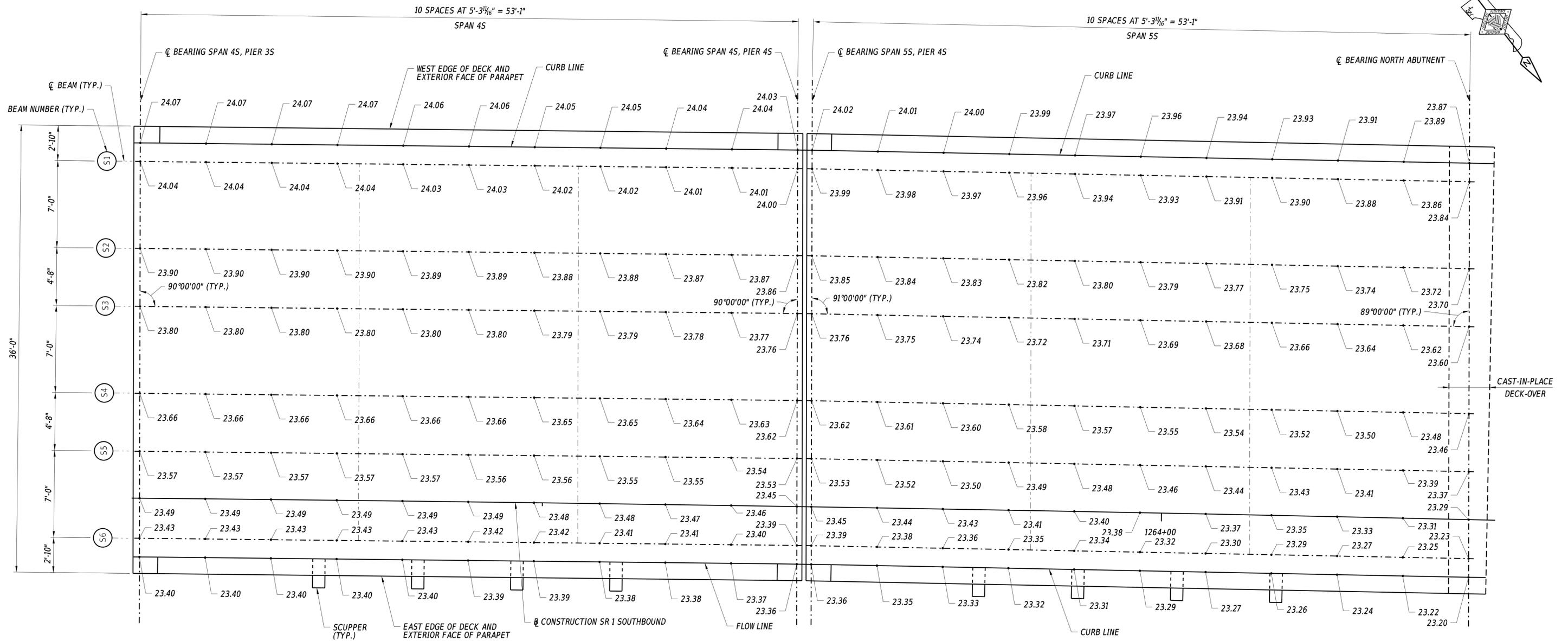
ADDENDA / REVISIONS	

SCALE AS NOTED

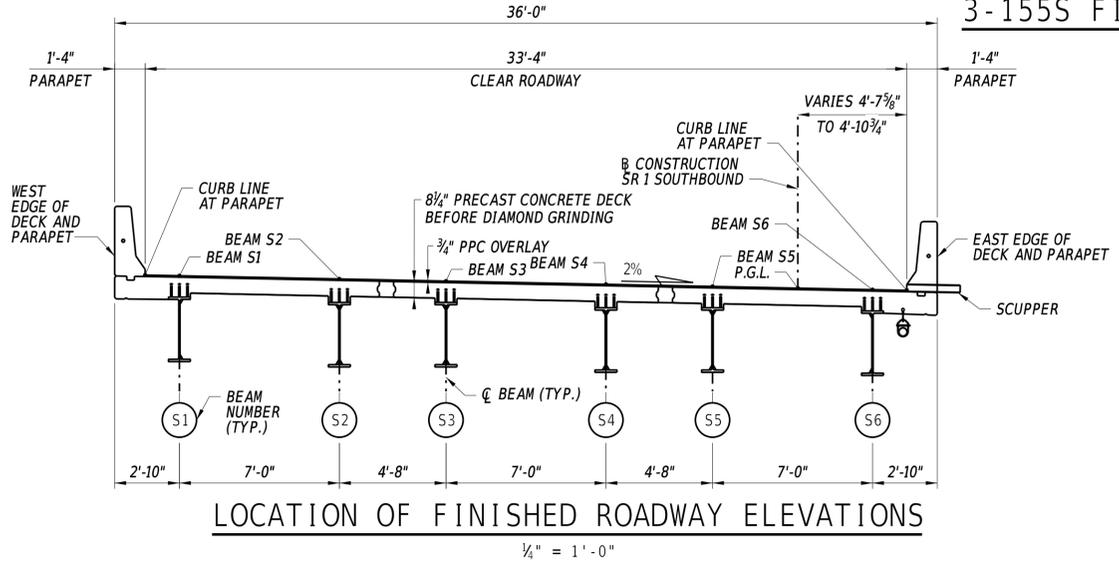
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT T201907601	BRIDGE NO. 3-155S
COUNTY SUSSEX	DESIGNED BY: K. YI
	CHECKED BY: H. QIN

FINISHED ROADWAY ELEVATIONS - 2	SECTION DK-09
	RJM
	SHEET NO. 142



3-155S FINISHED ROADWAY ELEVATIONS - SPAN 4S AND SPAN 5S



LOCATION OF FINISHED ROADWAY ELEVATIONS

- NOTES:**
1. THE FINISHED ROADWAY ELEVATIONS SHOWN ARE TO THE TOP OF THE PPC OVERLAY.
 2. FOR VERTICAL CURVE DATA, SEE DWG. PE-01.
 3. FOR LOCATIONS AND SPACING OF PARAPET CONTROL JOINTS, SEE DWGS. BM-21 AND BM-23.

4/28/2020
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155S	FINISHED ROADWAY ELEVATIONS - 3	DK-10
				T201907601	DESIGNED BY: K. YI	SECTION		RJM
				COUNTY	CHECKED BY: H. QIN		SHEET NO.	143
				SUSSEX				

① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.

② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SS = SLEEPER SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

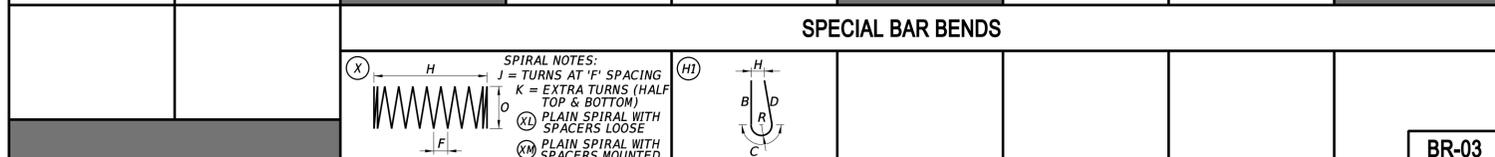
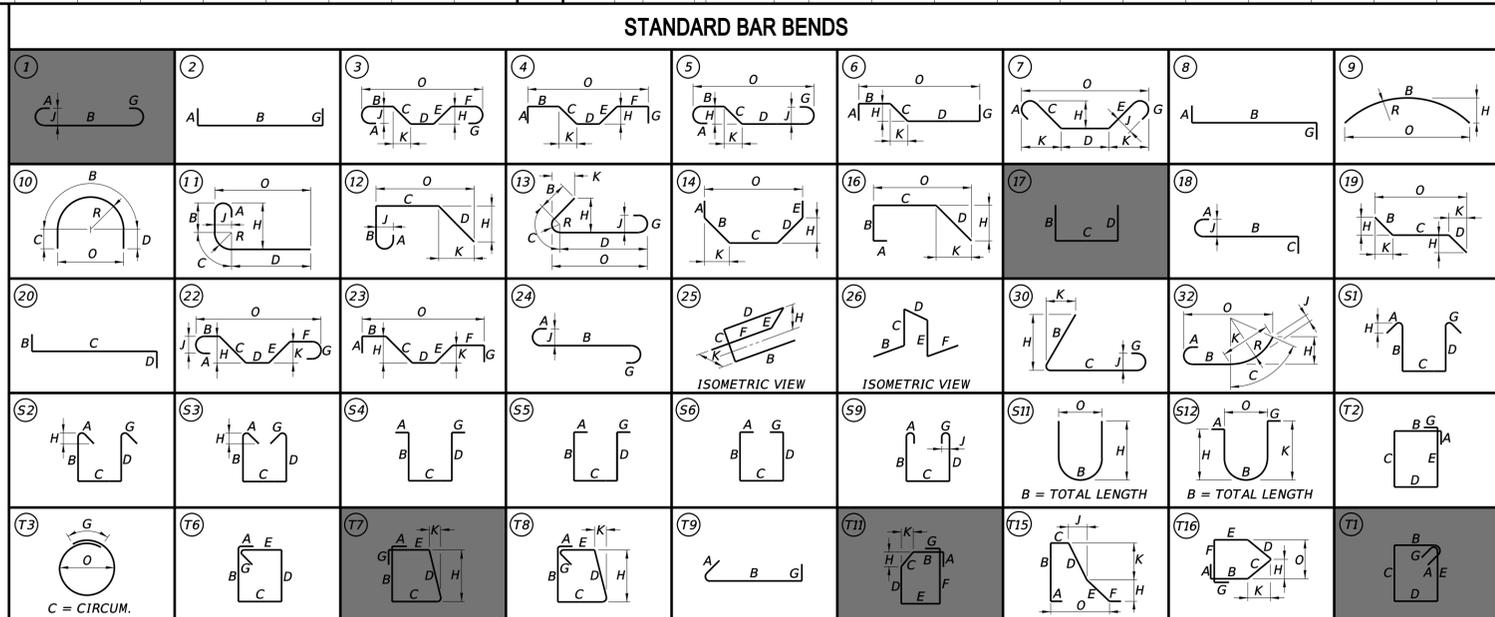
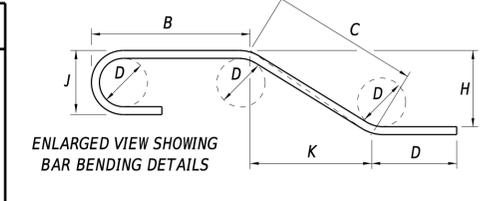
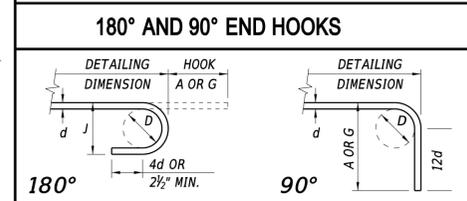
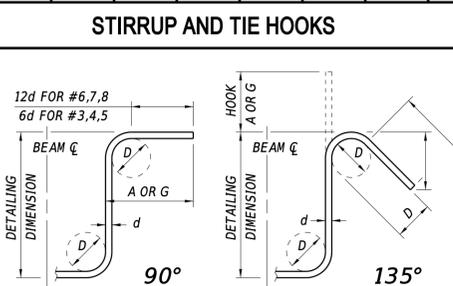
SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
NORTH APPROACH SLAB															
40	8	17-80	AS801E	STR		17-80									
80	5	6-102	AS502E	17		3-00	0-102	3-00							
38	5	25-80	AS503E	STR		25-80									
40	5	3-60	AS504E	STR		3-60									
40	5	17-80	AS505E	STR		17-80									
NORTH SLEEPER SLAB															
54	8	6-110	SS801E	STR		6-110									
22	5	25-80	SS502E	STR		25-80									
27	5	7-112	SS503E	T1	0-52	1-72	1-103	1-72	1-103					0-52	
18	5	12-111	SS504E	STR		12-111									
SOUTH APPROACH SLAB															
40	8	17-80	AS801E	STR		17-80									
80	5	6-102	AS502E	17		3-00	0-102	3-00							
38	5	25-80	AS503E	STR		25-80									
40	5	3-60	AS504E	STR		3-60									
40	5	17-80	AS505E	STR		17-80									
SOUTH SLEEPER SLAB															
54	8	6-110	SS801E	STR		6-110									
22	5	25-80	SS502E	STR		25-80									
27	5	7-112	SS503E	T1	0-52	1-72	1-103	1-72	1-103					0-52	
18	5	12-111	SS504E	STR		12-111									
SPAN 1S, UHPC LONGITUDINAL CLOSURE POUR															
8	5	25-60	DK551E	STR		25-60									
SPAN 2S, UHPC LONGITUDINAL CLOSURE POUR															
8	5	25-60	DK551E	STR		25-60									
SPAN 3S, UHPC LONGITUDINAL CLOSURE POUR															
12	5	27-61	DK552E	STR		27-61									
SPAN 4S, UHPC LONGITUDINAL CLOSURE POUR															
8	5	27-61	DK552E	STR		27-61									
SPAN 5S, UHPC LONGITUDINAL CLOSURE POUR															
8	5	27-61	DK552E	STR		27-61									

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
NORTH ABUTMENT DECK OVER															
13	5	6-71	DK571E	T11			0-93	2-11	1-01	2-80		0-63		0-63	
15	5	6-100	DK572E	T11			0-93	2-22	1-01	2-92		0-63		0-63	
15	5	7-41	DK573E	T11			0-93	2-53	1-01	3-02		0-63		0-63	
4	5	7-91	DK574E	T11			0-93	2-81	1-01	3-30		0-63		0-63	
8	5	2-60	DK581E	STR		2-60									
12	5	6-80	DK582E	STR		6-80									
8	5	4-40	DK583E	STR		4-40									
38	5	18-112	DK584E	STR		18-112									
16	6	7-60	DK685E	1	0-80	6-100							0-60		
12	5	5-02	DK591E	T11			1-00	1-10	1-00	1-112		0-102		0-53	
12	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
SOUTH ABUTMENT DECK OVER															
19	5	6-71	DK571E	T11			0-93	2-11	1-01	2-80		0-63		0-63	
28	5	6-100	DK572E	T11			0-93	2-22	1-01	2-92		0-63		0-63	
8	5	2-60	DK581E	STR		2-60									
12	5	6-80	DK582E	STR		6-80									
8	5	4-40	DK583E	STR		4-40									
38	5	18-112	DK584E	STR		18-112									
16	6	7-60	DK685E	1	0-80	6-100							0-60		
12	5	5-02	DK591E	T11			1-00	1-10	1-00	1-112		0-102		0-53	
12	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
LINK SLAB (TOTAL = 3)															
147	5	5-10	DK562E	STR		4-130									
54	5	18-112	DK563E	STR		18-112									
48	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	
EXPANSION JOINT (TOTAL = 1)															
8	5	18-112	DK561E	STR		18-112									
8	6	6-100	DK664E	STR		6-100									
16	5	9-63	PA501E	T7	0-60	2-81	2-83	2-90	0-43		0-60	2-81		2-33	

SPECIFICATIONS				BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)											
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F / R	G	H	J	K	O
SOUTH ABUTMENT BACKWALL															
8	5	3-71	BW551E	STR		3-71									
8	5	4-30	BW552E	STR		4-30									
9	5	6-03	BW553E	17		3-60	1-03	1-60							
9	5	3-80	BW554E	STR		3-80									
9	5	3-100	BW555E	STR		3-100									
8	5	4-00	BW556E	STR		4-00									
5	5	4-20	BW557E	STR		4-20									
9	6	4-50	BW658E	STR		4-50									
9	6	4-70	BW659E	STR		4-70									
8	6	4-90	BW660E	STR		4-90									
5	6	4-110	BW661E	STR		4-110									
20	5	18-40	BW562E	STR		18-40									
31	5	5-83	BW563E	17		2-60	0-83	2-60							
SOUTH ABUTMENT BEAM SEAT															
6	4	2-51	AB451E	17		1-21	1-30								
8	4	3-50	AB452E	17		1-23	2-21								
14	4	2-21	AB453E	17		0-111	1-30								
8	4	5-52	AB454E	17		1-00	4-52								
14	4	1-112	AB455E	17		0-82	1-30								
8	4	5-22	AB456E	17		0-90	4-52								
6	4	1-100	AB457E	17		0-70	1-30								
8	4	2-81	AB458E	17		0-72	2-03								

ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOK	
	DIAMETER (INCHES)	AREA ² (INCHES)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	10"	3"	7"	6"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1-2"	5 1/4"	1-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1-3"	11 3/4"	1-7"				
10	1.270	1.270	4.303	10 3/4"	1-5"	1-1 1/4"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2 3/4"	2-0"				
14	1.693	2.250	7.650	1-6 1/4"	2-3"	1-9 3/4"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4 1/2"	3-5"				

- NOTES:**
- FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
 - STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
 - ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
 - "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
 - WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
 - "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
 - UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
 - WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
 - WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
 - FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
 - TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.



- ① ANY MARK NUMBER WITH SUFFIX 'E' DENOTES EPOXY COATED REINFORCING STEEL.
 ② ALL MARK 'LOCATION PREFIXES' SHALL CONSIST OF TWO LETTERS AND ARE AS FOLLOWS: AB = ABUTMENT, AS = APPROACH SLAB, BC = BOX CULVERT, BW = BACKWALL, CL = COLUMN, DK = DECK, DL = DOWEL, FT = FOOTING, HW = HEADWALL, MS = MISC. BARS, PA = PARAPET, PR = PIER, SC = SHEETPILE CAP, SS = SLEEPER SLAB, TW = TOEWALL, WL = WALL (UNIQUE LOCATION), WW = WINGWALL

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
NORTH ABUTMENT BACKWALL															
8	5	3-6.3	BW571E	STR		3-6.3									
8	5	4-2.3	BW572E	STR		4-2.3									
9	5	6-0.3	BW573E	17		3-6.0	1-0.3	1-6.0							
7	5	3-7.0	BW574E	STR		3-7.0									
9	5	3-9.0	BW575E	STR		3-9.0									
8	5	4-0.0	BW576E	STR		3-11.0									
7	5	4-1.0	BW577E	STR		4-1.0									
7	6	4-4.0	BW678E	STR		4-4.0									
9	6	4-6.0	BW679E	STR		4-6.0									
8	6	4-8.0	BW680E	STR		4-8.0									
7	6	4-10.0	BW681E	STR		4-10.0									
20	5	18-4.0	BW582E	STR		18-4.0									
31	5	5-8.3	BW583E	17		2-6.0	0-8.3	2-6.0							
NORTH ABUTMENT BEAM SEAT															
6	4	1-10.2	AB471E	17		0-7.2	1-3.0								
8	4	2-9.1	AB472E	17		0-8.0	2-1.1								
14	4	1-1.0	AB473E	17		0-8.0	1-3.0								
8	4	5-2.0	AB474E	17		0-8.2	4-5.2								
14	4	2-2.0	AB475E	17		0-11.0	1-3.0								
8	4	5-5.0	AB476E	17		0-11.2	4-5.2								
6	4	2-4.3	AB477E	17		1-1.3	1-3.0								
8	4	3-4.0	AB478E	17		1-2.1	2-1.3								

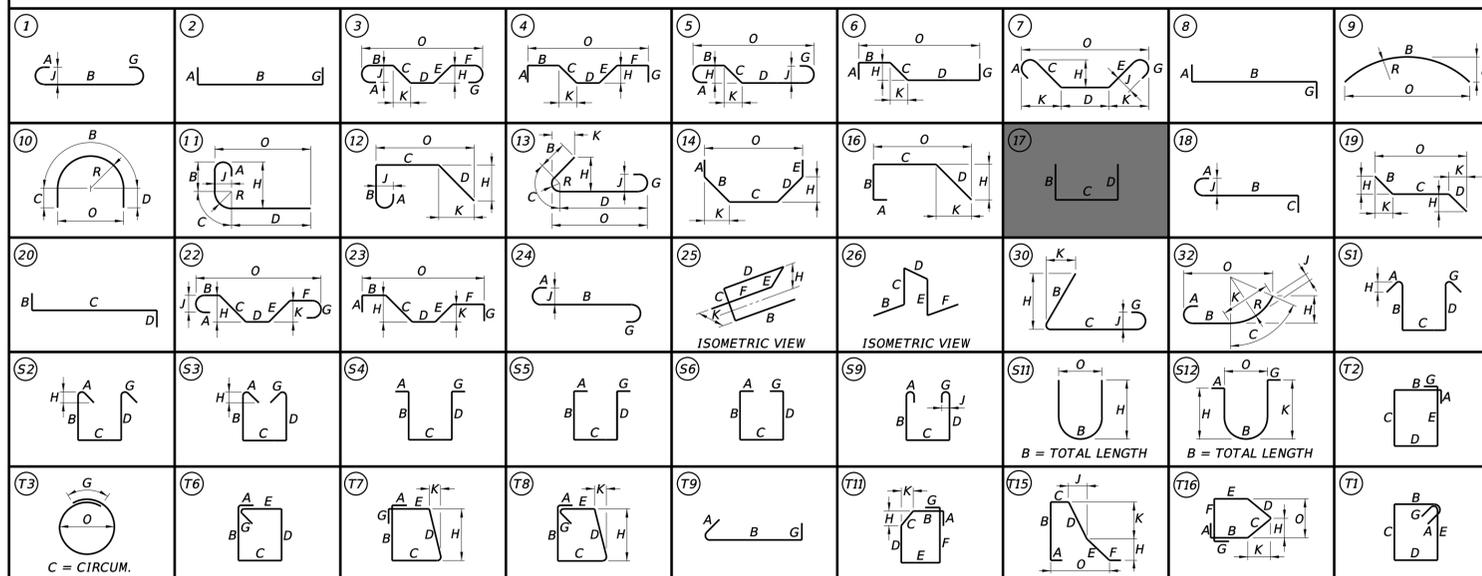
SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
PIER 1S															
8	5	4-4.3	PR501E	17		1-4.3	3-0.0								
10	5	3-7.1	PR502E	17		1-4.1	2-3.0								
8	5	3-9.0	PR503E	17		1-3.0	2-6.0								
12	5	3-4.2	PR504E	17		1-1.2	2-3.0								
4	5	7-11.0	PR505E	STR		7-11.0									
8	5	3-9.2	PR506E	17		1-10.0	1-11.2								
8	5	4-0.2	PR507E	17		1-9.2	2-3.0								
4	5	3-4.2	PR508E	17		1-1.2	2-3.0								
8	5	3-5.1	PR509E	17		0-11.1	2-6.0								
12	5	3-1.2	PR510E	17		0-10.2	2-3.0								
4	5	7-11.0	PR511E	STR		7-11.0									
8	5	3-6.3	PR512E	17		1-7.1	1-11.2								
8	5	3-9.2	PR513E	17		1-6.2	2-3.0								
4	5	3-1.2	PR514E	17		0-10.2	2-3.0								
PIER 2S															
8	5	4-5.0	PR515E	17		1-5.0	3-0.0								
10	5	3-7.2	PR516E	17		1-4.2	2-3.0								
8	5	3-8.1	PR517E	17		1-2.1	2-6.0								
12	5	3-4.2	PR518E	17		1-1.2	2-3.0								
4	5	7-11.0	PR519E	STR		7-11.0									
8	5	3-9.3	PR520E	17		1-10.1	1-11.2								
8	5	4-0.2	PR521E	17		1-9.2	2-3.0								
4	5	3-4.2	PR522E	17		1-1.2	2-3.0								
8	5	3-5.2	PR523E	17		0-11.2	2-6.0								
12	5	3-1.3	PR524E	17		0-10.3	2-3.0								
4	5	7-11.0	PR525E	STR		7-11.0									
8	5	3-7.0	PR526E	17		1-7.2	1-11.2								
8	5	3-9.3	PR527E	17		1-6.3	2-3.0								
4	5	3-1.3	PR528E	17		0-10.3	2-3.0								

SPECIFICATIONS					BENDING DIMENSIONS (FEET-INCHES / QUARTER INCH)										
QTY.	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	F/R	G	H	J	K	O
PIER 3S															
8	5	4-7.0	PR529E	17		1-7.0	3-0.0								
10	5	3-9.2	PR530E	17		1-6.2	2-3.0								
8	5	3-11.3	PR531E	17		0-11.3	3-0.0								
10	5	3-2.0	PR532E	17		0-11.0	2-3.0								
8	5	3-10.1	PR533E	17		1-4.1	2-6.0								
12	5	3-6.3	PR534E	17		1-3.3	2-3.0								
4	5	7-11.0	PR535E	STR		7-11.0									
8	5	3-11.3	PR536E	17		2-0.1	1-11.2								
8	5	4-2.3	PR537E	17		1-11.3	2-3.0								
4	5	3-6.3	PR538E	17		1-3.3	2-3.0								
8	5	3-7.2	PR539E	17		1-1.2	2-6.0								
12	5	3-3.3	PR540E	17		1-0.3	2-3.0								
4	5	7-11.0	PR541E	STR		7-11.0									
8	5	3-9.0	PR542E	17		1-9.2	1-11.2								
8	5	3-11.3	PR543E	17		1-8.3	2-3.0								
4	5	3-3.3	PR544E	17		1-0.3	2-3.0								
PIER 4S															
8	5	4-4.2	PR545E	17		1-4.2	3-0.0								
10	5	3-6.3	PR546E	17		1-3.3	2-3.0								
8	5	3-7.3	PR547E	17		1-1.3	2-6.0								
12	5	3-4.0	PR548E	17		1-1.0	2-3.0								
4	5	7-11.0	PR549E	STR		7-11.0									
8	5	3-9.1	PR550E	17		1-9.3	1-11.2								
8	5	4-0.0	PR551E	17		1-9.0	2-3.0								
4	5	3-4.0	PR552E	17		1-1.0	2-3.0								
8	5	3-5.0	PR553E	17		0-11.0	2-6.0								
12	5	3-1.1	PR554E	17		0-10.1	2-3.0								
4	5	7-11.0	PR555E	STR		7-11.0									
8	5	3-6.2	PR556E	17		1-7.0	1-11.2								
8	5	3-9.1	PR557E	17		1-6.1	2-3.0								
4	5	3-1.1	PR558E	17		0-10.1	2-3.0								

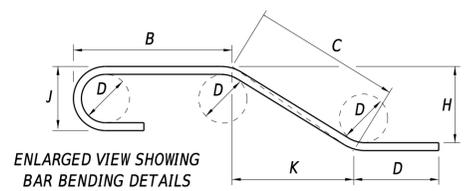
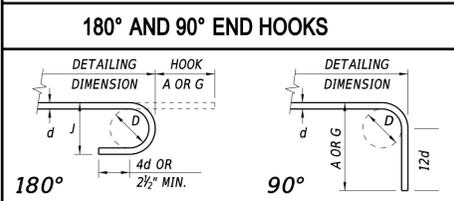
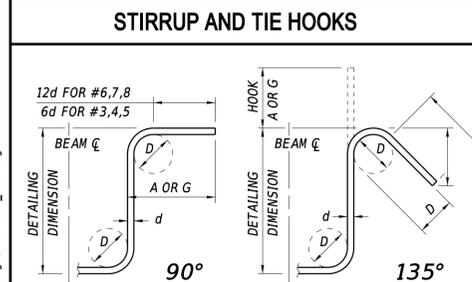
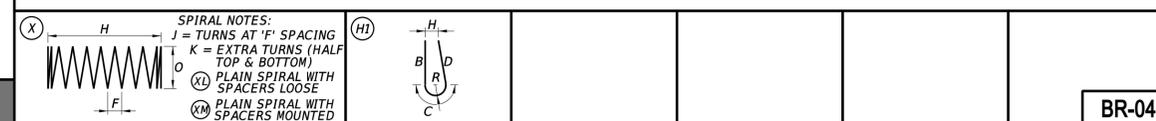
ASTM STANDARD ENGLISH REINFORCING BARS				RECOMMENDED END HOOKS, APPLICABLE TO ALL GRADES				STIRRUP AND TIE HOOKS, APPLICABLE TO ALL GRADES			
BAR SIZE	NOMINAL DIMENSIONS			180° HOOKS		90° HOOKS		90° HOOK		135° HOOK	
	DIAMETER (INCHES)	AREA ² (INCHES)	WEIGHT (LBS./FT.)	D	A OR G	J	A OR G	D	A OR G	A OR G	A OR G
3	0.375	0.110	0.376	2 1/4"	5"	3"	6"	1 1/2"	4"	4"	2 1/2"
4	0.500	0.200	0.668	3"	6"	4"	8"	2"	4 1/2"	4 1/2"	3"
5	0.625	0.310	1.043	3 3/4"	7"	5"	10"	2 1/2"	6"	5 1/2"	3 3/4"
6	0.750	0.440	1.502	4 1/2"	8"	6"	1-0"	3 1/2"	1-0"	8"	4 1/2"
7	0.875	0.600	2.044	5 1/4"	10"	7"	1-2"	5 1/4"	1-2"	9"	5 1/4"
8	1.000	0.790	2.670	6"	11"	8"	1-4"	6"	1-4"	10 1/2"	6"
9	1.128	1.000	3.400	9 1/2"	1-3"	11 3/4"	1-7"				
10	1.270	1.270	4.303	10 3/4"	1-5"	1-1 1/4"	1-10"				
11	1.410	1.560	5.313	1-0"	1-7"	1-2 3/4"	2-0"				
14	1.693	2.250	7.650	1-6 1/4"	2-3"	1-9 3/4"	2-7"				
18	2.257	4.000	13.600	2-0"	3-0"	2-4 1/2"	3-5"				

- NOTES:
 1. FIGURES SHOWN IN CIRCLES REPRESENT BAR BEND TYPES.
 2. STANDARD BAR BENDS INCLUDE ONLY THOSE TYPES BELOW, INDICATED AS SUCH.
 3. ALL DIMENSIONS OUT-TO-OUT, EXCEPT "A" AND "G" ON STD. 180° AND 135° HOOKS.
 4. "J" DIMENSIONS ON 180° HOOKS TO BE SHOWN ONLY WHERE NECESSARY TO RESTRICT HOOK SIZE, OTHERWISE STANDARD 'ACI' HOOKS ARE TO BE USED.
 5. WHERE "J" IS NOT SHOWN, "J" WILL BE KEPT EQUAL TO OR LESS THAN "H" ON TYPES 3, 5 AND 22. WHERE "J" CAN EXCEED "H", IT SHALL BE SHOWN.
 6. "H" DIMENSIONS OF STIRRUPS TO BE SHOWN AS NEEDED TO FIT WITHIN THE CONCRETE.
 7. UNLESS OTHERWISE NOTED, DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON A BAR (EXCEPT FOR BEND TYPES 11 AND 13).
 8. WHERE SLOPE DIFFERS FROM 45° OFFSET, "H" AND "K" MUST BE SHOWN.
 9. WHERE BARS ARE TO BE BENT MORE ACCURATELY THAN STANDARD BENDING TOLERANCES, BENDING DIMENSIONS REQUIRING CLOSER FABRICATION SHOULD HAVE LIMITS INDICATED.
 10. FOR RECOMMENDED DIAMETER "D", OF BENDS, HOOKS, ETC., REFER TO TABLE ABOVE, 'CRSI' OR 'ACI' TABLES WHERE APPLICABLE AND REQUIRED.
 11. TYPE S1-S6, S11, T1-T3 AND T6-T9 APPLICABLE TO BAR SIZES #3 THROUGH #8.

STANDARD BAR BENDS



SPECIAL BAR BENDS



ADDENDA / REVISIONS

SCALE AS NOTED

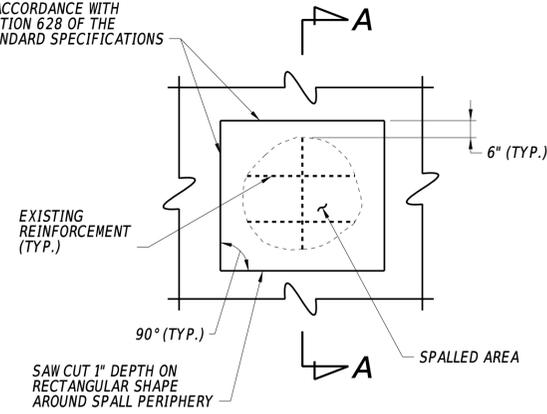
BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155S
T201907601	DESIGNED BY:	K. YI
COUNTY	CHECKED BY:	H. QIN
SUSSEX		

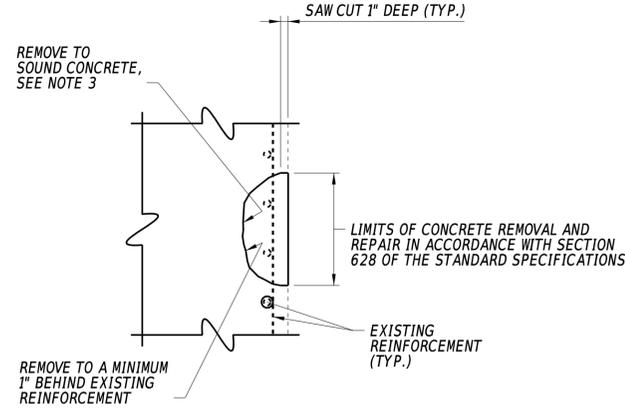
CAST-IN-PLACE REINFORCING BAR LIST - 2

BR-04
SECTION
RJM
SHEET NO.
145

LIMITS OF CONCRETE REMOVAL AND REPAIR IN ACCORDANCE WITH SECTION 628 OF THE STANDARD SPECIFICATIONS



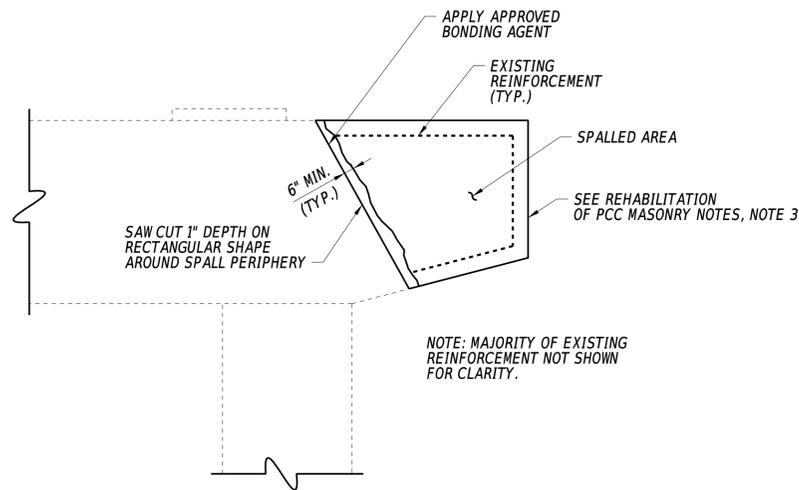
PLAN



SECTION A-A

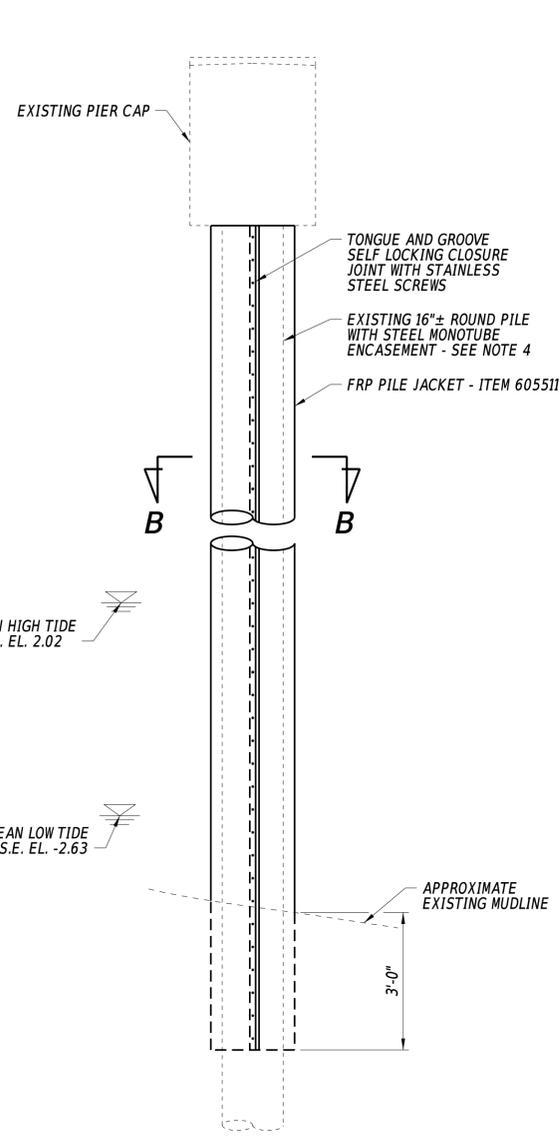
DEEP SPALL REPAIR

NOT TO SCALE



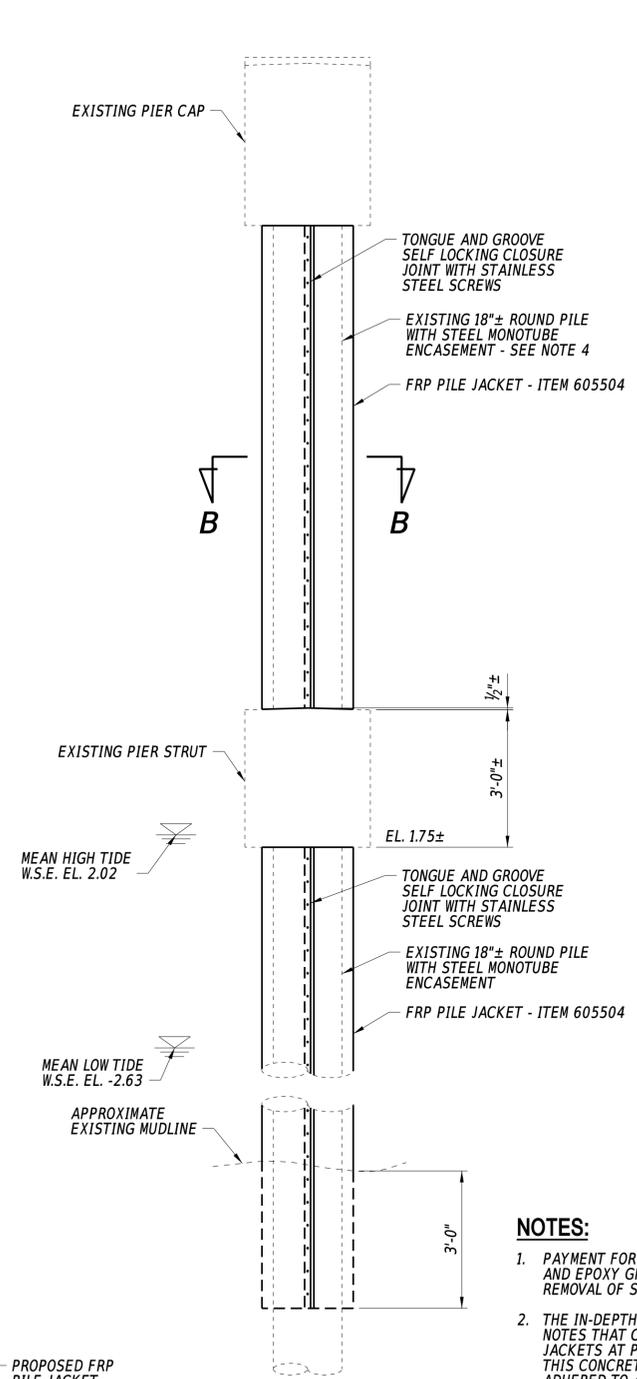
REHABILITATION OF PCC MASONRY

NOT TO SCALE



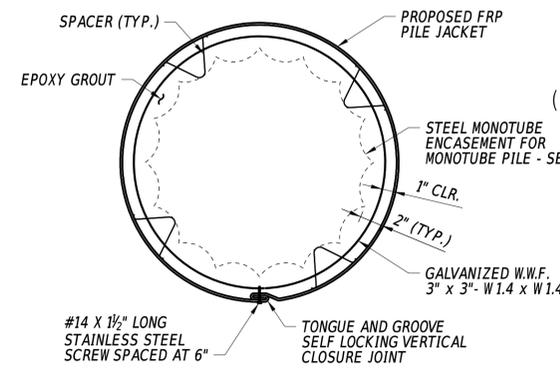
PILE PROTECTION

(PIERS 1N, 4N, 1S, 4S)
1/2" = 1'-0"



PILE PROTECTION

(PIERS 2N, 3N, 2S, 3S)
1/2" = 1'-0"



SECTION B-B

1/2" = 1'-0"

NOTES:

1. PAYMENT FOR REMOVAL OF EXISTING FIBERGLASS JACKETS AND EPOXY GROUT WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
2. THE IN-DEPTH INSPECTION REPORT DATED MAY 24, 2019 NOTES THAT CONCRETE IS ADHERED TO THE FIBERGLASS JACKETS AT PIERS 1N AND 1S. PAYMENT FOR REMOVAL OF THIS CONCRETE OR ANY OTHER MATERIAL THAT MAY BE ADHERED TO ANY OF THE EXISTING FIBERGLASS JACKETS AT ANY OF THE SUBSTRUCTURE UNITS WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE OUT-TO-OUT LIMITS OF THE EXISTING STEEL MONOTUBE ENCASUREMENT.
4. THE PORTIONS OF THE EXISTING STEEL MONOTUBE ENCASUREMENTS THAT DO NOT HAVE FIBERGLASS JACKETS ARE COATED WITH COAL TAR EPOXY. REFER TO THE SPECIAL PROVISIONS FOR ITEMS 605504 - FRP JACKET AND EPOXY GROUT PILE ENCASUREMENT, 18" ROUND PILE AND 605511 - FRP JACKET AND EPOXY GROUT PILE ENCASUREMENT, 16" ROUND PILE FOR CLEANING REQUIREMENTS FOR THESE AREAS.
5. STAINLESS STEEL SCREWS SHALL CONFORM TO ASTM TYPE 305.
6. FOR ADDITIONAL PIER ELEVATIONS, SEE DWGS. PR-01 THRU PR-08 AND PR-12 THRU PR-19.
7. PAYMENT FOR THE GALVANIZED WELDED WIRE FABRIC WILL BE INCIDENTAL TO ITEM 605504 - FRP JACKET AND EPOXY GROUT PILE ENCASUREMENT, 18" ROUND PILE AND ITEM 605511 - FRP JACKET AND EPOXY GROUT PILE ENCASUREMENT, 16" ROUND PILE, AS APPLICABLE.

DEEP SPALL REPAIR NOTES:

1. DEEP SPALL REPAIRS ARE DEFINED AS PATCHES THAT EXTEND BELOW THE TOP MAT OF REINFORCEMENT. DELAMINATED CONCRETE HAS BEEN ASSUMED AS DEEP SPALL REPAIRS.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL; CLEANING OF CONCRETE SURFACE AND EXISTING REINFORCEMENT; REPAIRING OR REPLACING DAMAGED REINFORCEMENT AS RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS; PRESENCE OF CONTRACTION OR EXPANSION JOINTS; SURFACE PREPARATION; AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO 628041 - DEEP SPALL REPAIR.
3. IF DEPTH OF REPAIR EXTENDS MORE THAN 6" BEYOND SURFACE OF CONCRETE, CONTRACTOR SHALL STOP WORK AND NOTIFY THE ENGINEER IMMEDIATELY.
4. FOR ANY DEEP SPALL REPAIR TO TAKE PLACE WITHIN THE SPLASH ZONE OR UNDERWATER THE CONTRACTOR SHALL SUBMIT A WORKING DRAWING IN ACCORDANCE WITH SUBSECTION 628.03 (E)(2).

REHABILITATION OF PCC MASONRY NOTES:

1. REHABILITATION OF PCC MASONRY IS DEFINED AS DEEP SPALL PATCHES THAT EXCEED THE 0.5 C.Y. THRESHOLD IN A SINGLE AREA.
2. ALL WORK INVOLVING METHODS OF CONCRETE REMOVAL; CLEANING OF CONCRETE SURFACE AND EXISTING REINFORCEMENT; REPAIRING OR REPLACING DAMAGED REINFORCEMENT AS RESULT OF CONSTRUCTION ACTIVITIES OR SECTION LOSS; PRESENCE OF CONTRACTION OR EXPANSION JOINTS; SURFACE PREPARATION; AND CONCRETE PLACEMENT SHALL BE PERFORMED IN ACCORDANCE WITH SUBSECTION 628.03(E) OF THE STANDARD SPECIFICATIONS. PAYMENT INCIDENTAL TO 628042 - REHABILITATION OF PCC MASONRY.
3. DETAIL SHOWN FOR "REHABILITATION OF EXISTING PCC MASONRY" UTILIZES A GENERIC EXAMPLE USING PARTIAL RECONSTRUCTION OF AN EXISTING PIER CAP. SEE ABUTMENT AND PIER REHABILITATION SHEETS FOR SIZE AND LOCATION OF REPAIRS AT EACH SUBSTRUCTURE UNIT.
4. IF DEPTH OF REPAIR EXTENDS MORE THAN 6" BEYOND SURFACE OF CONCRETE, CONTRACTOR SHALL STOP WORK AND NOTIFY THE ENGINEER IMMEDIATELY.
5. FOR ANY DEEP SPALL REPAIR OR REHABILITATION OF PCC MASONRY TO TAKE PLACE WITHIN THE SPLASH ZONE OR UNDERWATER THE CONTRACTOR SHALL SUBMIT A WORKING DRAWING IN ACCORDANCE WITH SUBSECTION 628.03 (E)(2).

ADDENDA / REVISIONS

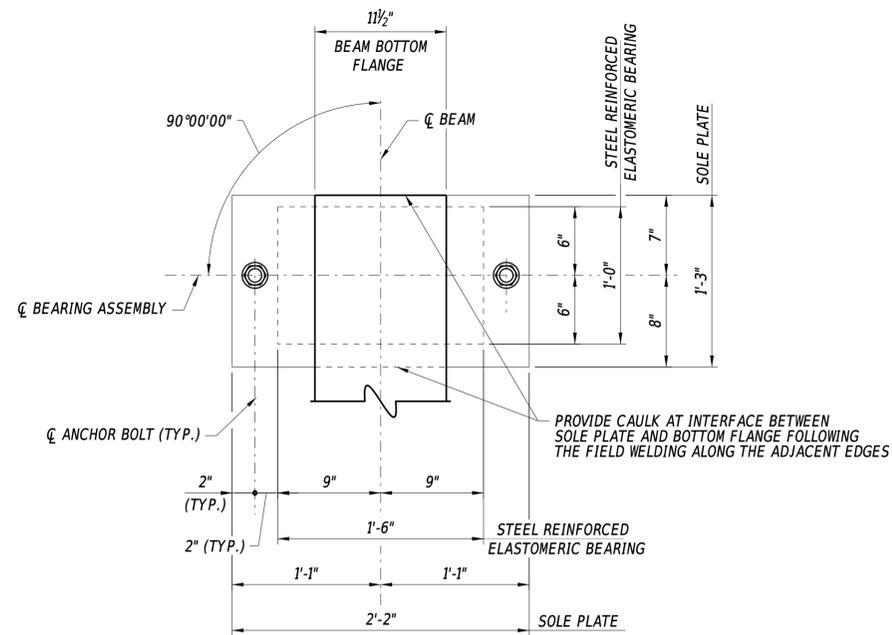
SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

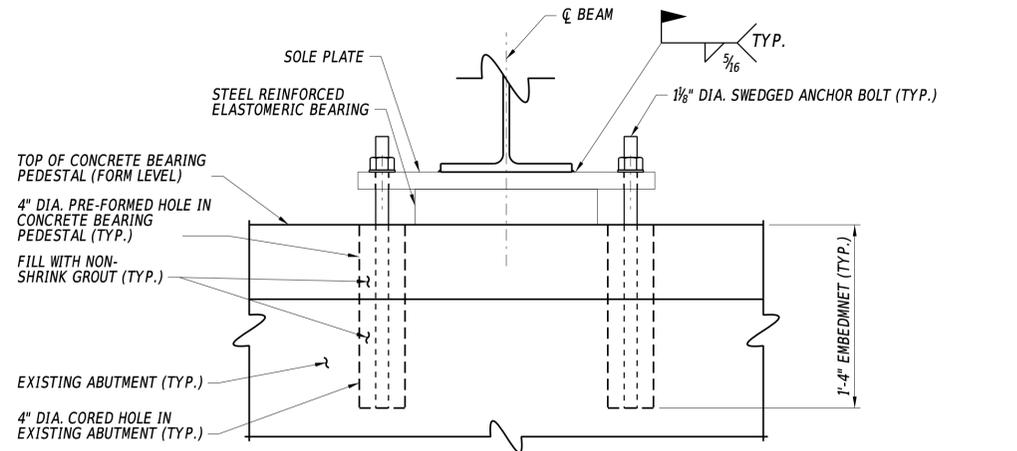
**SUBSTRUCTURE
REPAIR DETAILS**

DT-01
SECTION
WRA
SHEET NO.
146



BEARING ASSEMBLY PLAN

1 1/2" = 1'-0"

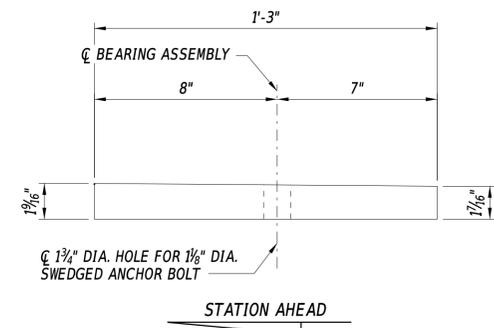


BEARING ASSEMBLY ELEVATION

1 1/2" = 1'-0"

NOTES:

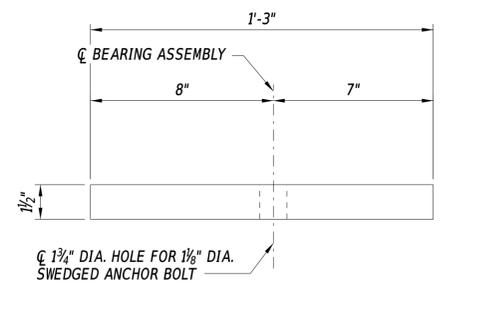
1. FIXED BEARING ASSEMBLY SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE OF GIRDER.
2. PROVIDE STEEL REINFORCED ELASTOMERIC BEARINGS IN ACCORDANCE WITH SECTION 623 - 'BEARING DEVICES' OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH CHAPTER 18 OF THE 2017 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
3. SWEDGED ANCHOR BOLTS SHALL BE UNPAINTED ASTM F 1554, GRADE 55 GALVANIZED STEEL. WASHERS SHALL BE UNPAINTED A709 GRADE 36 GALVANIZED STEEL. ALL NUTS SHALL BE UNPAINTED A307 GALVANIZED STEEL. THE GALVANIZING OF THE BOLTS, WASHERS, AND NUTS SHALL BE ACCORDANCE WITH ASTM F 2329.
4. SOLE PLATES SHALL BE AASHTO M270, GRADE 50. STEEL SURFACES OF THE SOLE PLATE SHALL BE MACHINED FINISHED TO 1000 RMS, MEASURED IN ACCORDANCE WITH ANSI B46.1.
5. SOLE PLATES SHALL MEET A FLATNESS REQUIREMENT OF 0.5 PERCENT IN THE DIRECTION BEING MEASURED (WIDTH, LENGTH, DIAGONAL) MAXIMUM, BUT NOT TO EXCEED 1/8".
6. USE 1 3/4" DIA. HOLES IN THE SOLE PLATE AND 3/8" x 3" DIA. WASHERS WITH 1 3/16" DIA HOLE IN WASHER.
7. FILL HOLES AROUND ANCHOR BOLTS WITH NONHARDENING CAULKING COMPOUND OR ELASTIC JOINT SEALER.
8. ELASTOMERIC BEARINGS SHALL CONFORM TO AASHTO M 251 AND SHALL BE 60 DUROMETER HARDNESS. INTERNAL STEEL SHEETS SHALL BE STAINLESS STEEL MEETING ASTM 240, TYPE 304.
9. THE SOLE PLATE SHALL BE FACTORY VULCANIZED TO THE ELASTOMERIC BEARING, AND BEARINGS SHALL BE SHIPPED ASSEMBLED AS UNITS.
10. CONTRACTOR SHALL TOUCH UP SOLE PLATE PAINT SYSTEM AFTER WELDING THE SOLE PLATE TO GIRDER.
11. STEEL REINFORCED ELASTOMERIC BEARINGS SHALL BE ATTACHED TO THE TOP OF THE CONCRETE PEDESTAL WITH AN APPROVED EPOXY ADHESIVE IN ACCORDANCE WITH SECTION 623.03(C) OF THE STANDARD SPECIFICATIONS IN SUCH A WAY THAT VISIBLE CONCRETE SURFACES WILL NOT BE STAINED. ENSURE THE EPOXY ADHESIVE HAS SET PRIOR TO PLACEMENT OF BEAMS.
12. PAYMENT AND INSTALLATION OF STEEL REINFORCED ELASTOMERIC BEARINGS, SOLE PLATES AND ANCHOR BOLTS WILL BE INCIDENTAL TO ITEM 623000.
13. REFER TO DWGS. FP-01 AND FP-02 FOR LOCATION OF BEARINGS. REFER TO DWGS. BB-02, BB-03, AND BB-04 FOR EXPANSION BEARING DETAILS.
14. PAINTED AREAS DAMAGED BY FIELD WELDING SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR THE FIELD PAINTING WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARINGS.



SOLE PLATE - SIDE ELEVATION

SPAN 1N AND SPAN 1S

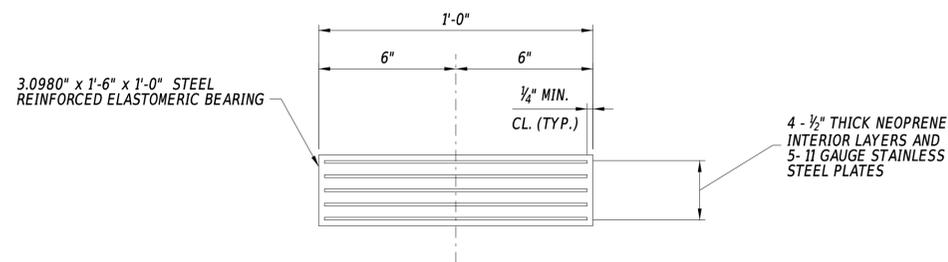
3" = 1'-0"



SOLE PLATE - SIDE ELEVATION

SPAN 5N AND SPAN 5S

3" = 1'-0"



STEEL REINFORCED ELASTOMERIC BEARING - SIDE ELEVATION

3" = 1'-0"

3-155N - STEEL REINFORCED ELASTOMERIC BEARING SCHEDULE											
LOCATION	BEARING DESIGNATION			CAPACITY PER PAD		STEEL REINFORCED ELASTOMERIC BEARING				TOTAL PAD THICKNESS 'T'	
	TYPE	NEOPRENE HARDNESS (SHORE A)	TOTAL NO. REQD	REACTION	MOVEMENT	DIMENSION		LAYER THICKNESS			INTERIOR LAYERS
						'L'	'W'	'T'	'Te'		
SOUTH ABUTMENT	FIXED	60 ± 5 DURO	6	93.7 KIP	N/A	12 IN	18 IN	0.50 IN	0.25 IN	4	3.0980 IN
PIER 1N	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 2N	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 3N	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 4N	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
NORTH ABUTMENT	FIXED	60 ± 5 DURO	6	93.7 KIP	N/A	12 IN	18 IN	0.50 IN	0.25 IN	4	3.0980 IN

3-155S - STEEL REINFORCED ELASTOMERIC BEARING SCHEDULE											
LOCATION	BEARING DESIGNATION			CAPACITY PER PAD		STEEL REINFORCED ELASTOMERIC BEARING				TOTAL PAD THICKNESS 'T'	
	TYPE	NEOPRENE HARDNESS (SHORE A)	TOTAL NO. REQD	REACTION	MOVEMENT	DIMENSION		LAYER THICKNESS			INTERIOR LAYERS
						'L'	'W'	'T'	'Te'		
SOUTH ABUTMENT	FIXED	60 ± 5 DURO	6	93.7 KIP	N/A	12 IN	18 IN	0.50 IN	0.25 IN	4	3.0980 IN
PIER 1S	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 2S	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 3S	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
PIER 4S	EXPANSION - TYPE I	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE II	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
	EXPANSION - TYPE III	60 ± 5 DURO	4	100.0 KIP	0.25 IN	8 IN	16 IN	0.625 IN	0.25 IN	3	2.8534 IN
NORTH ABUTMENT	FIXED	60 ± 5 DURO	6	93.7 KIP	N/A	12 IN	18 IN	0.50 IN	0.25 IN	4	3.0980 IN

ADDENDA / REVISIONS

SCALE AS NOTED

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT

T201907601

COUNTY

SUSSEX

BRIDGE NO.

3-155N&S

DESIGNED BY: F. OPHARDT

CHECKED BY: W. GESCHREI

FIXED BEARING

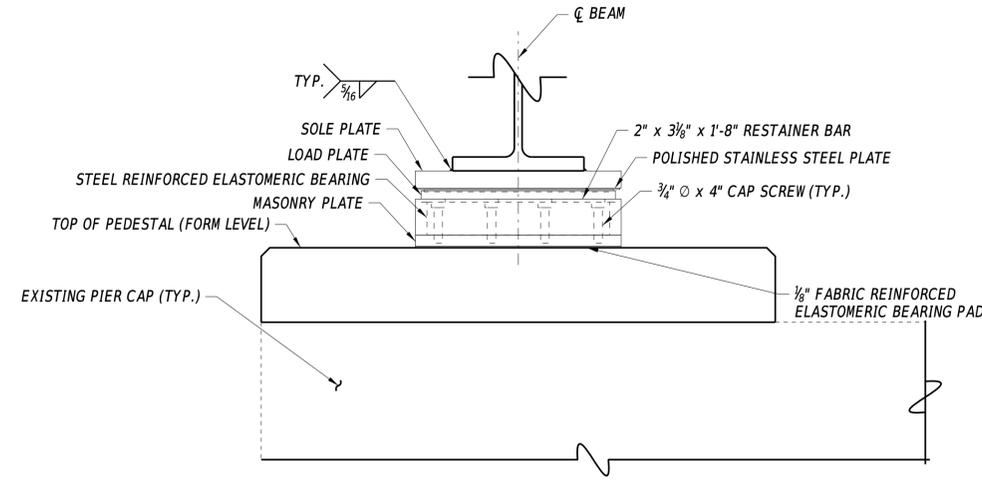
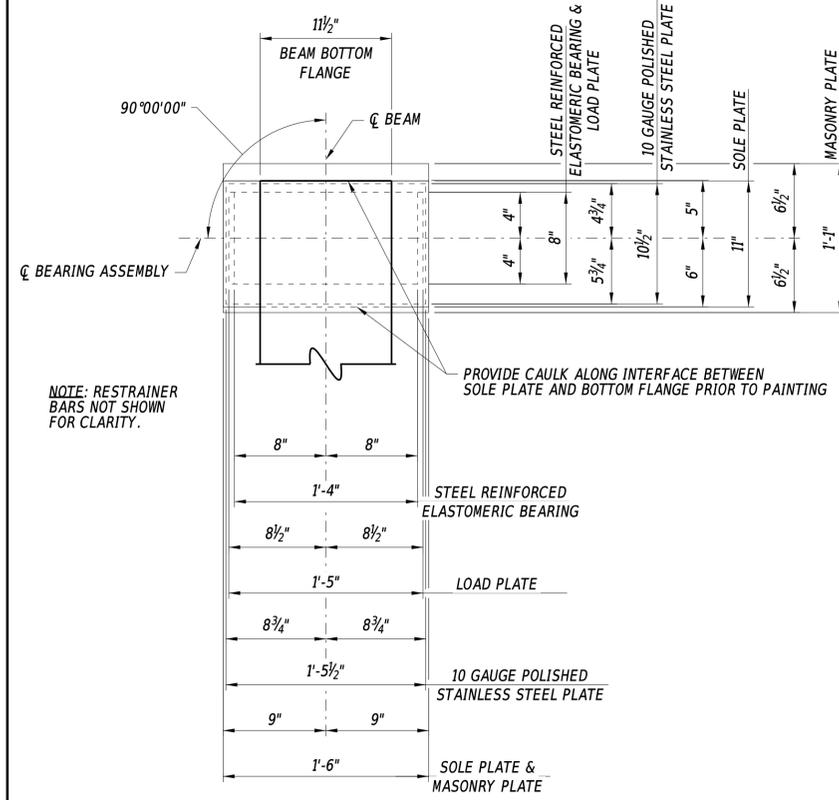
BB-01

SECTION

WRA

SHEET NO.

147

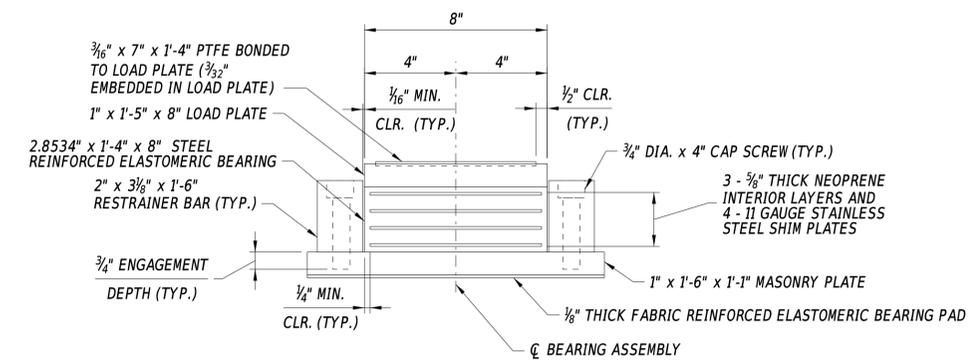
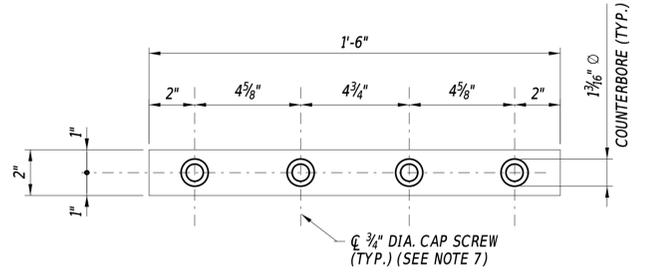
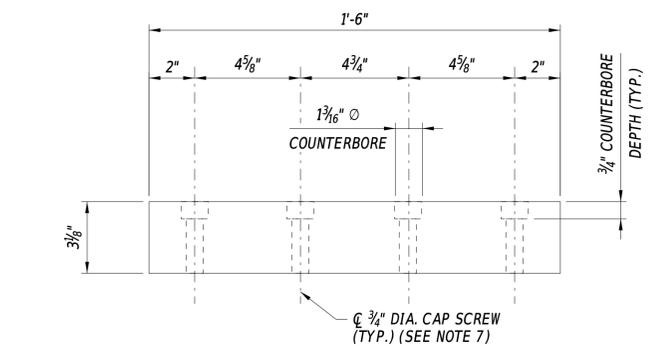
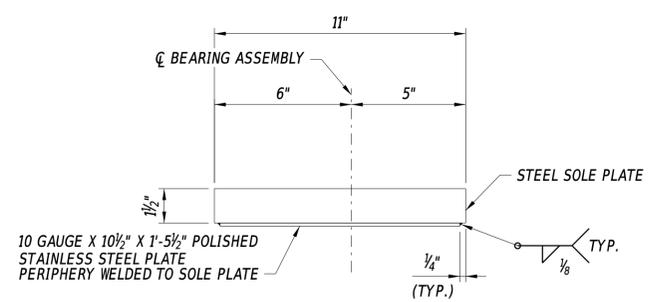


NOTES:

- EXPANSION BEARING ASSEMBLY SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE OF GIRDER.
- PROVIDE STEEL REINFORCED ELASTOMERIC BEARINGS IN ACCORDANCE WITH SECTION 623 - 'BEARING DEVICES' OF THE STANDARD SPECIFICATION AND IN ACCORDANCE WITH CHAPTER 18 OF THE 2017 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- MASONRY PLATES, RESTRAINER BARS, LOAD PLATES, AND SOLE PLATES SHALL BE AASHTO M270, GRADE 50. STEEL SURFACES OF THE MASONRY PLATES, LOAD PLATES, AND SOLE PLATES SHALL BE MACHINED FINISHED TO 1000 RMS, MEASURED IN ACCORDANCE WITH ANSI B46.1.
- MASONRY PLATES, LOAD PLATES, AND SOLE PLATES SHALL MEET A FLATNESS REQUIREMENT OF 0.5 PERCENT IN THE DIRECTION BEING MEASURED (WIDTH, LENGTH, DIAGONAL) MAXIMUM, BUT NOT TO EXCEED 1/8".
- ELASTOMERIC BEARINGS SHALL CONFORM TO AASHTO M 251 AND SHALL BE 60 DUROMETER HARDNESS. INTERNAL STEEL SHEETS SHALL BE STAINLESS STEEL MEETING ASTM 240, TYPE 304.
- THE SURFACE OF THE STAINLESS STEEL SHEET IN CONTACT WITH THE PTFE SHALL HAVE A SURFACE FINISH LESS THAN 20 μ IN R(a) AND BE MIRROR FINISHED. MATERIAL SHALL BE ASTM A 240, TYPE 304. THE MAXIMUM COEFFICIENT OF FRICTION FOR THE PTFE AND BEARING ASSEMBLY SHALL BE $\mu=0.06$ AT 0°F.
- CAP SCREWS SHALL BE $\frac{3}{4}''$ -10 UNC 3A THREAD WHICH CONFORMS TO ASTM-A574 ALLOY STEEL.
- PTFE SHEET SHALL BE DIMPLED LUBRICATED MEETING THE REQUIREMENTS OF ASTM D 4894 OR ASTM D 4895. THE BEARING SHALL BE COMPOSED OF 100 PERCENT VIRGIN PTFE POLYMER.
- THE MASONRY PLATE AND LOAD PLATE SHALL BE FACTORY VULCANIZED TO THE ELASTOMERIC BEARING, RESTRAINER BARS ATTACHED TO THE MASONRY PLATES, AND BEARINGS SHALL BE SHIPPED ASSEMBLED AS UNITS.
- DURING FIELD WELDING, THE TEMPERATURE OF THE STEEL ADJACENT TO THE PTFE SHALL NOT EXCEED 200°F. TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURE AND TEMPERATURE INDICATING WAX PENS OR OTHER DEVICES APPROVED BY THE ENGINEER.
- PAYMENT FOR FABRICATING, FURNISHING, AND INSTALLATION OF THE SOLE PLATES WITH POLISHED STEEL PLATE AND ALL COMPONENTS OF THE BEARING ASSEMBLY WILL BE INCIDENTAL TO ITEM 623000.
- REFER TO DWGS. FP-01 AND FP-02 FOR LOCATION OF BEARINGS. REFER TO DWGS. BB-01, BB-03, AND BB-04 FOR EXPANSION BEARING DETAILS.
- PAYMENT FOR CAULKING ALONG EDGE INTERFACE BETWEEN SOLE PLATE AND BOTTOM FLANGE WILL BE INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.

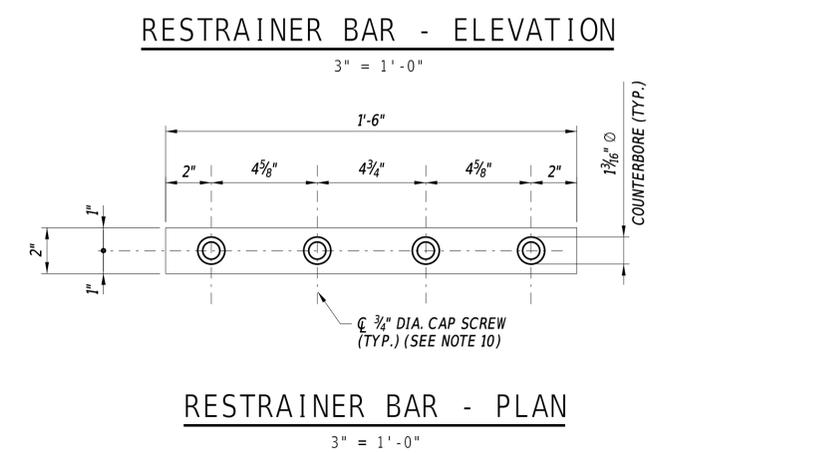
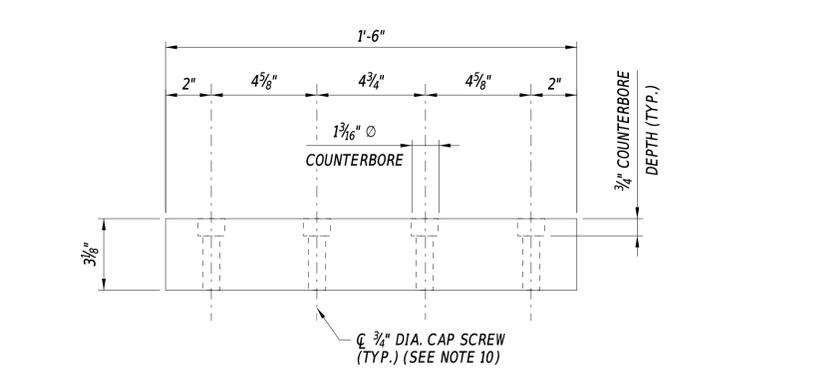
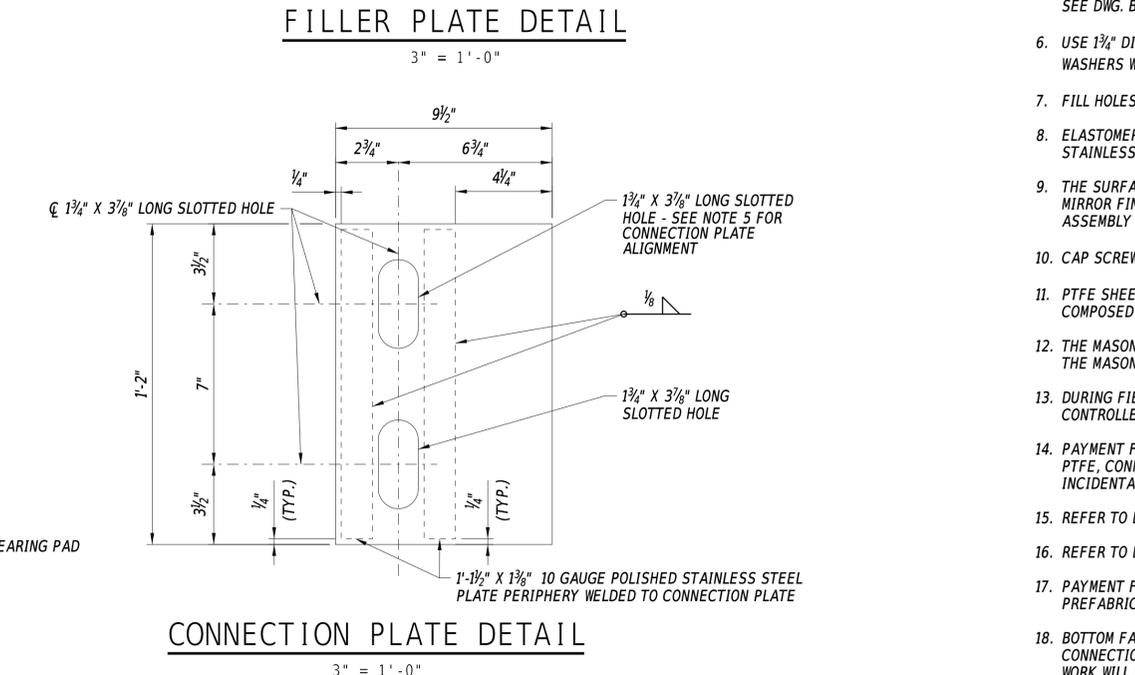
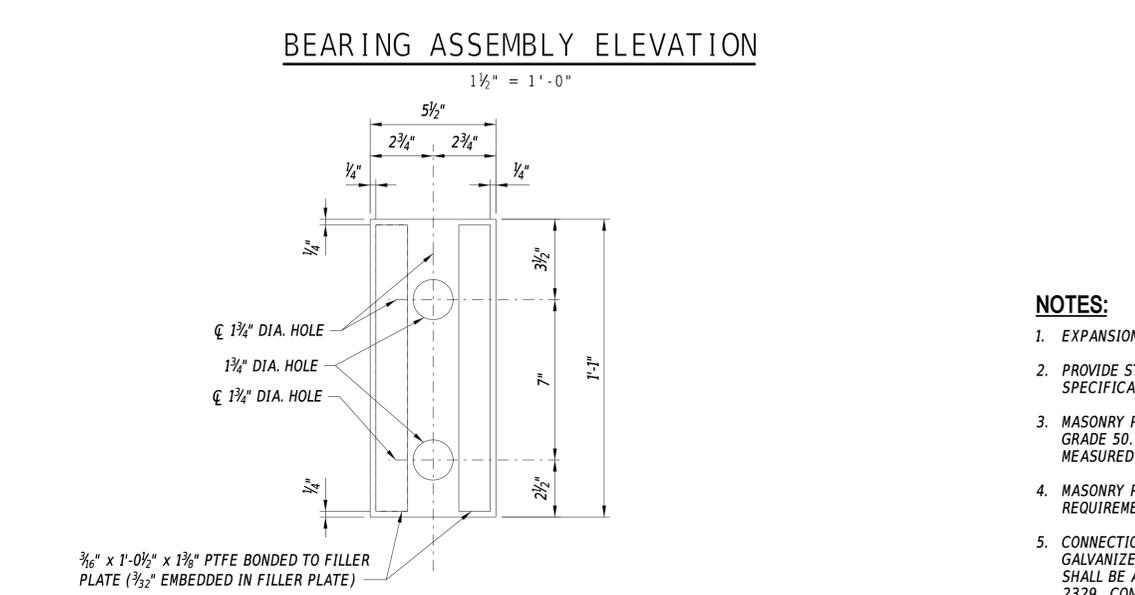
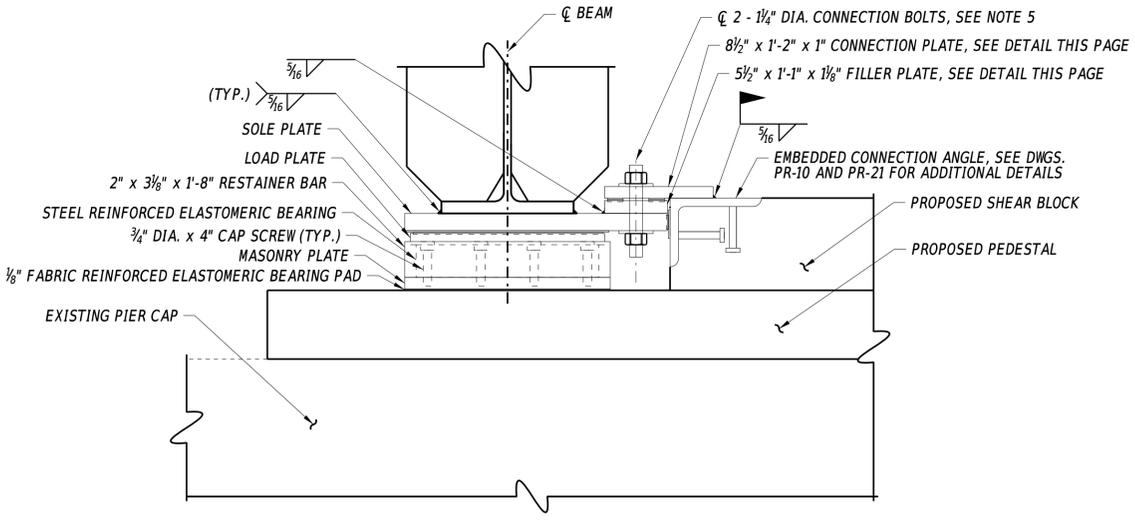
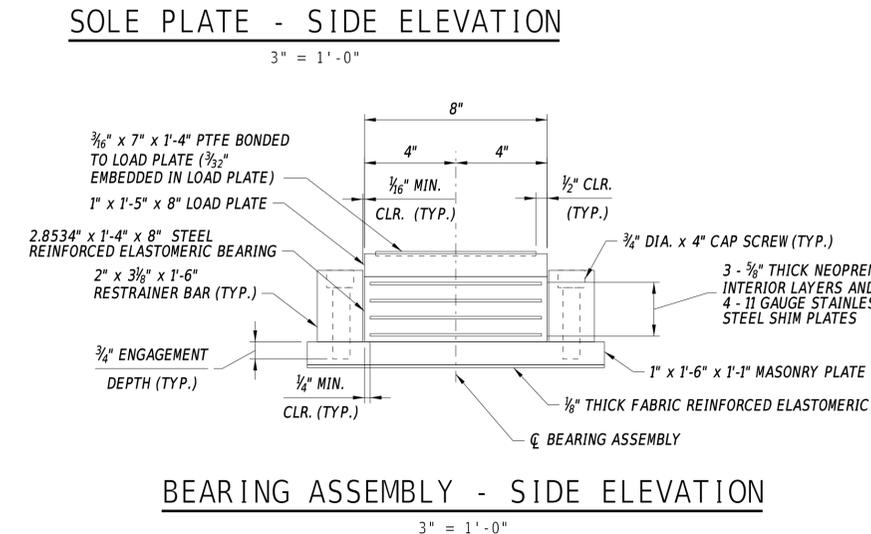
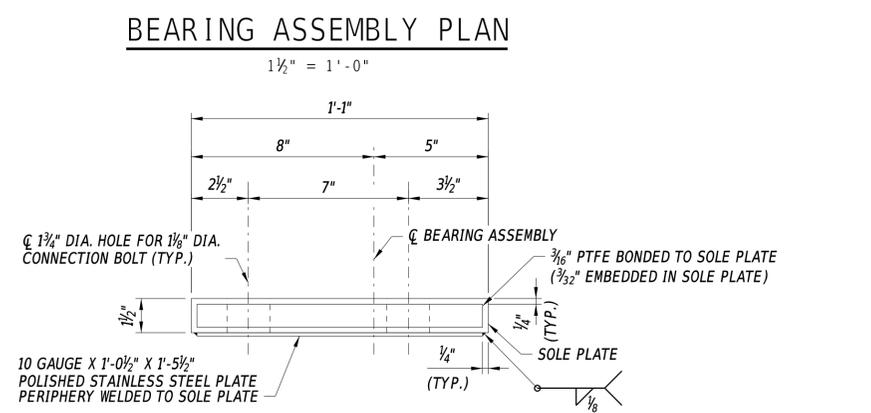
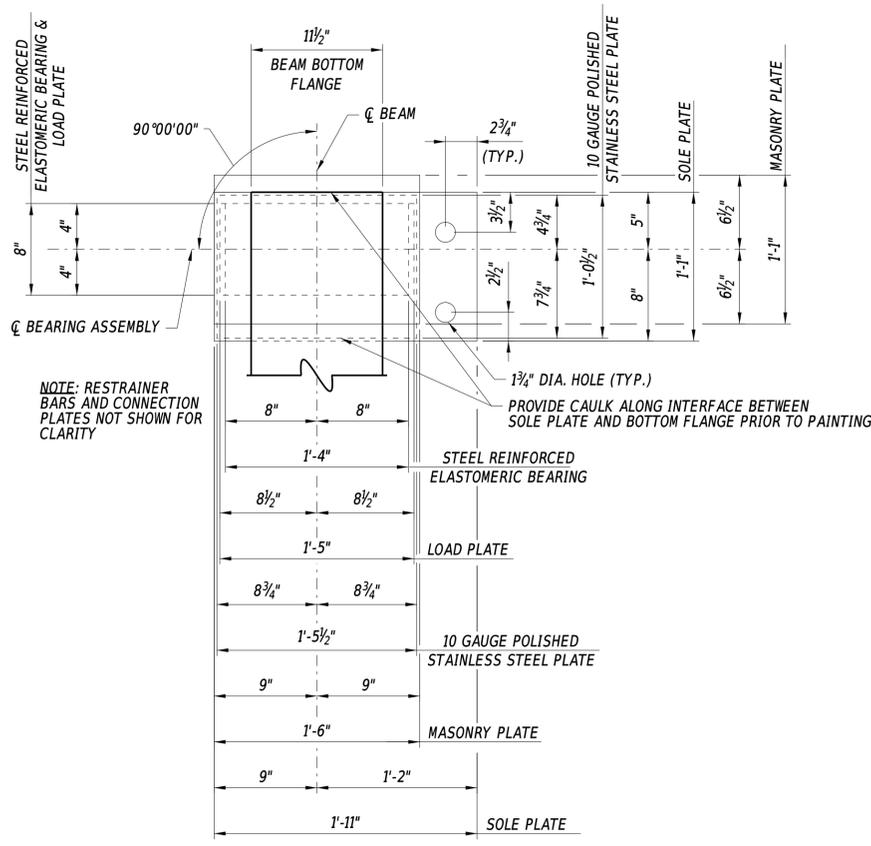
BEARING ASSEMBLY PLAN

$1\frac{1}{2}'' = 1'-0''$



4/28/2020 2:06:50 PM N:\312122-003\CADD\Bridges\BR3-155N&S_BB02.dgn

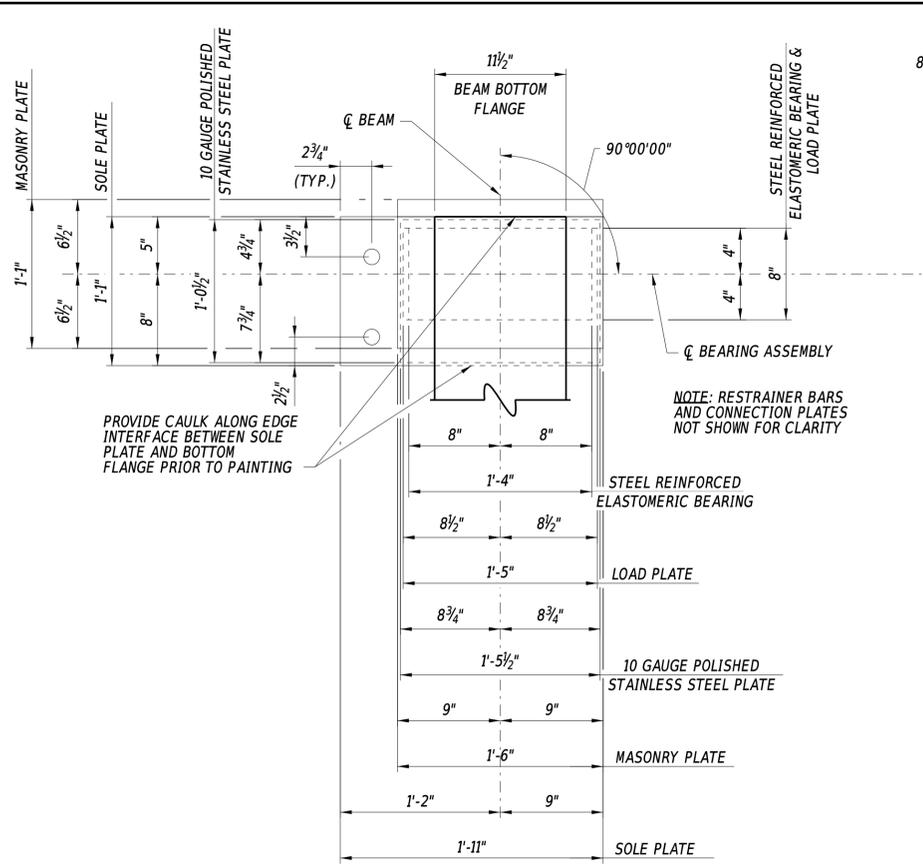
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	EXPANSION BEARING TYPE I	BB-02
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	148
				SUSSEX				



- NOTES:**
- EXPANSION BEARING ASSEMBLY SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE OF GIRDER.
 - PROVIDE STEEL REINFORCED ELASTOMERIC BEARINGS IN ACCORDANCE WITH SECTION 623 - 'BEARING DEVICES' OF THE STANDARD SPECIFICATION AND IN ACCORDANCE WITH CHAPTER 18 OF THE 2017 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
 - MASONRY PLATES, RESTRAINER BARS, LOAD PLATES, SOLE PLATES, FILLER PLATES, AND CONNECTION PLATES SHALL BE AASHTO M270, GRADE 50. STEEL SURFACES OF THE MASONRY PLATES, LOAD PLATES, AND SOLE PLATES SHALL BE MACHINED FINISHED TO 1000 RMS, MEASURED IN ACCORDANCE WITH ANSI B46.1.
 - MASONRY PLATES, RESTRAINER BARS, LOAD PLATES, SOLE PLATES, FILLER PLATES, AND CONNECTION PLATES SHALL MEET A FLATNESS REQUIREMENT OF 0.5 PERCENT IN THE DIRECTION BEING MEASURED (WIDTH, LENGTH, DIAGONAL) MAXIMUM, BUT NOT TO EXCEED 1/8".
 - CONNECTION BOLTS SHALL BE UNPAINTED ASTM F 1554, GRADE 55 GALVANIZED STEEL. WASHERS SHALL BE UNPAINTED A709 GRADE 36 GALVANIZED STEEL. ALL NUTS SHALL BE UNPAINTED A307 GALVANIZED STEEL. THE GALVANIZING OF THE BOLTS, WASHERS, AND NUTS SHALL BE ACCORDANCE WITH ASTM F 2329. THE GALVANIZING OF THE BOLTS, WASHERS, AND NUTS SHALL BE ACCORDANCE WITH ASTM F 2329. CONNECTION PLATE ALIGNMENT IS DEPENDENT ON THE AMBIENT AIR TEMPERATURE. FOR ADDITIONAL CONNECTION PLATE DETAILS, SEE DWG. BB-05. CONNECTION BOLT NUTS SHALL BE INSTALLED SNUG TIGHT.
 - USE 1 3/4" DIA. HOLES IN THE SOLE PLATE AND FILLER PLATE, 1 3/4" X 3 7/8" LONG SLOTTED HOLE IN THE CONNECTION PLATE, AND 3/8" X 3" DIA. WASHERS WITH 1/4" DIA HOLE IN WASHER.
 - FILL HOLES AROUND CONNECTIONS BOLTS WITH NONHARDENING CAULKING COMPOUND OR ELASTIC JOINT SEALER.
 - ELASTOMERIC BEARING SHALL CONFORM TO AASHTO M 251 AND SHALL BE 60 DUROMETER HARDNESS. INTERNAL STEEL SHEETS SHALL BE STAINLESS STEEL MEETING ASTM 240, TYPE 304.
 - THE SURFACE OF THE STAINLESS STEEL SHEET IN CONTACT WITH THE PTFE SHALL HAVE A SURFACE FINISH LESS THAN 20 μIN R(a) AND BE MIRROR FINISHED. MATERIAL SHALL BE ASTM A 240, TYPE 304. THE MAXIMUM COEFFICIENT OF FRICTION FOR THE PTFE AND BEARING ASSEMBLY SHALL BE μ=0.06 AT 0°F.
 - CAP SCREWS SHALL BE 3/4"-10 UNC 3A THREAD WHICH CONFORMS TO ASTM-A574 ALLOY STEEL.
 - PTFE SHEET SHALL BE DIMPLED LUBRICATED MEETING THE REQUIREMENTS OF ASTM D 4894 OR ASTM D 4895. THE BEARING SHALL BE COMPOSED OF 100 PERCENT VIRGIN PTFE POLYMER.
 - THE MASONRY PLATE AND LOAD PLATE SHALL BE FACTORY VULCANIZED TO THE ELASTOMERIC BEARING, RESTRAINER BARS ATTACHED TO THE MASONRY PLATES, AND BEARINGS SHALL BE SHIPPED ASSEMBLED AS UNITS.
 - DURING FIELD WELDING, THE TEMPERATURE OF THE STEEL ADJACENT TO THE PTFE SHALL NOT EXCEED 200°F. TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURE AND TEMPERATURE INDICATING WAX PENS OR OTHER DEVICES APPROVED BY THE ENGINEER.
 - PAYMENT FOR FABRICATING, FURNISHING, AND INSTALLATION OF THE SOLE PLATES WITH POLISHED STEEL PLATES, FILLER PLATES WITH PTFE, CONNECTION PLATES WITH POLISHED STEEL PLATE, CONNECTION BOLTS, AND ALL COMPONENTS OF THE BEARING ASSEMBLY WILL BE INCIDENTAL TO ITEM 623000.
 - REFER TO DWGS. FP-01 AND FP-02 FOR LOCATION OF BEARINGS. REFER TO DWGS. BB-01, BB-02, AND BB-04 FOR EXPANSION BEARING DETAILS.
 - REFER TO DWG. BB-05 FOR CONNECTION BOLT AND CONNECTION PLATE TO EMBEDDED CONNECTION ANGLE DETAIL.
 - PAYMENT FOR CAULKING ALONG EDGE INTERFACE BETWEEN SOLE PLATE AND BOTTOM FLANGE WILL BE INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
 - BOTTOM FACE OF CONNECTION PLATE BEYOND THE LIMITS OF THE POLISHED STAINLESS STEEL PLATE AND THE VERTICAL FACES OF THE CONNECTION PLATE SHALL BE SHOP PAINTED IN ACCORDANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARINGS.

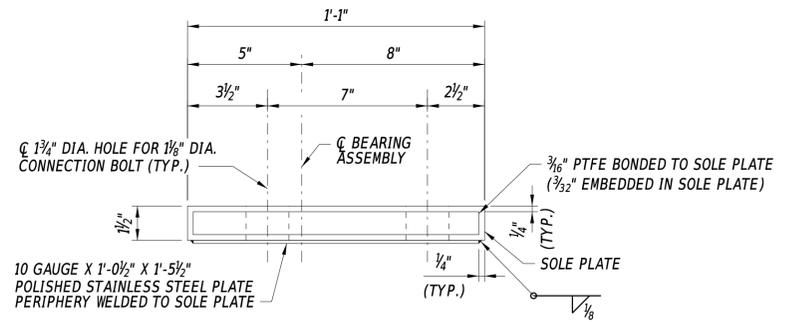
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	EXPANSION BEARING TYPE II	BB-03
				T201907601	DESIGNED BY: F. OPHARDT	SECTION		WRA
				COUNTY	CHECKED BY: W. GESCHREI		SHEET NO.	149
				SUSSEX				



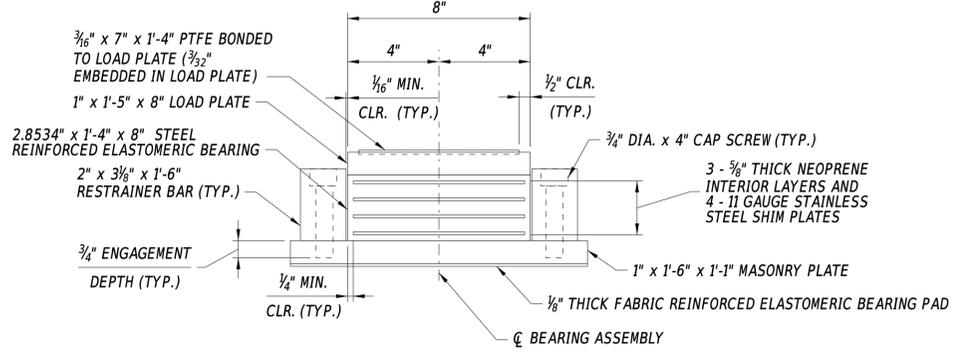
BEARING ASSEMBLY PLAN

1 1/2" = 1'-0"



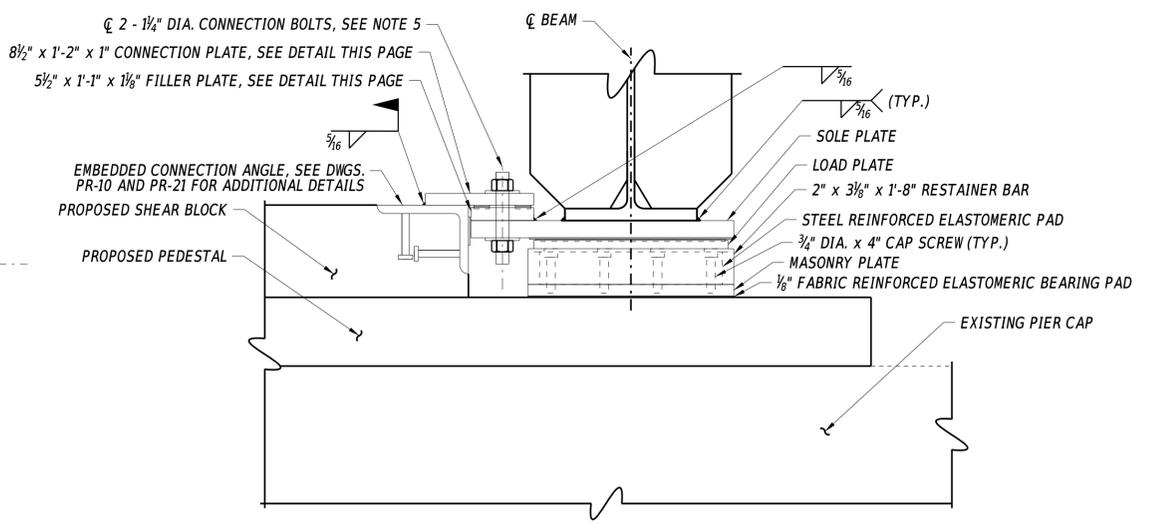
SOLE PLATE - SIDE ELEVATION

3" = 1'-0"



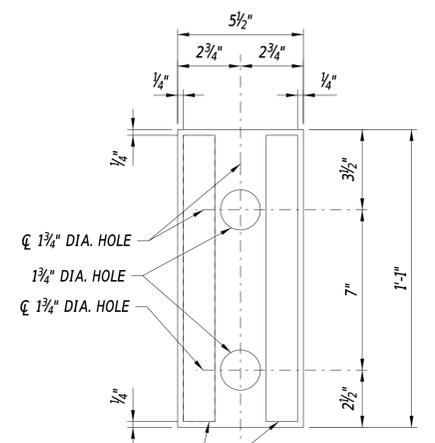
BEARING ASSEMBLY - SIDE ELEVATION

3" = 1'-0"



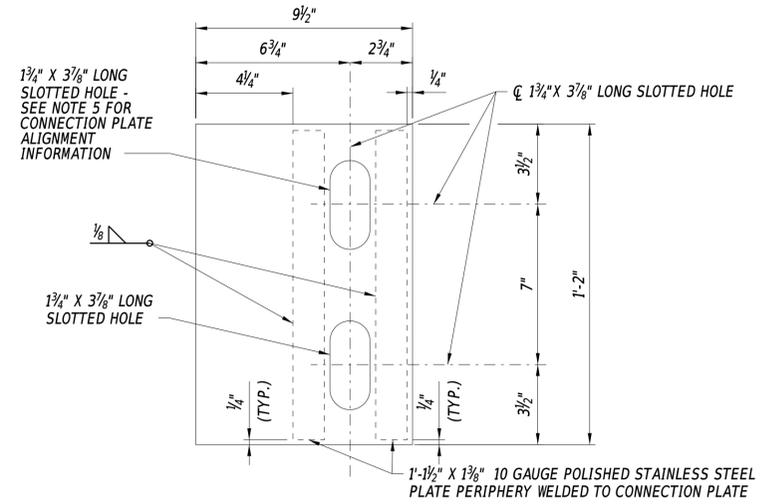
BEARING ASSEMBLY ELEVATION

1 1/2" = 1'-0"



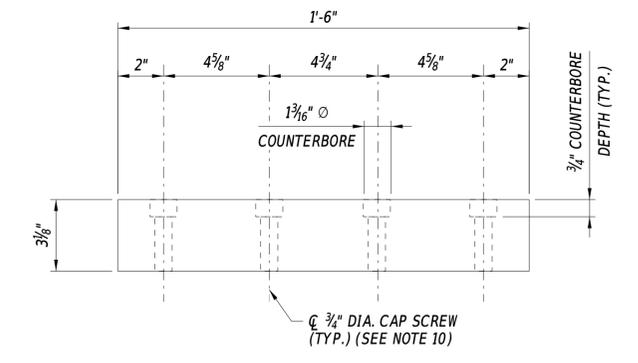
FILLER PLATE DETAIL

3" = 1'-0"

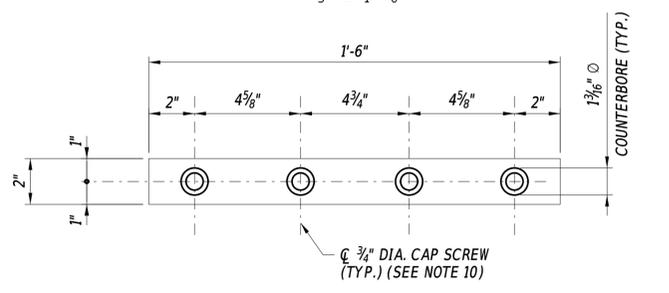


CONNECTION PLATE DETAIL

3" = 1'-0"



RESTRAINER BAR - ELEVATION



RESTRAINER BAR - PLAN

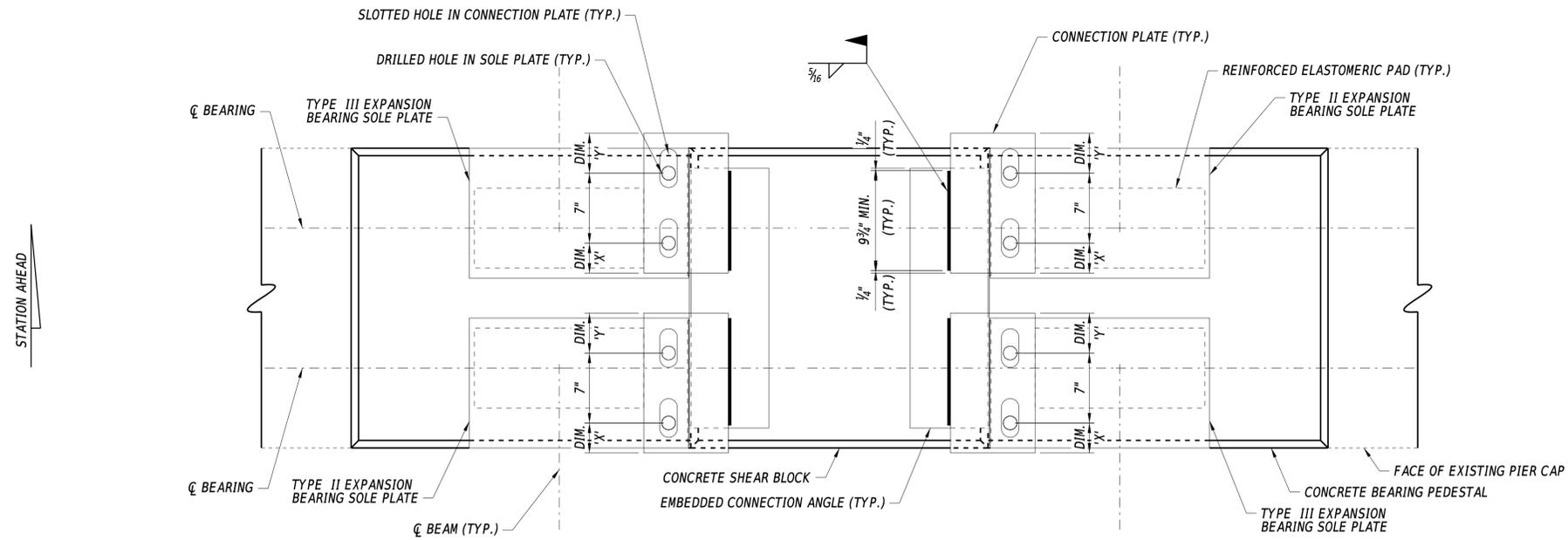
3" = 1'-0"

NOTES:

- EXPANSION BEARING ASSEMBLY SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE OF GIRDER.
- PROVIDE STEEL REINFORCED ELASTOMERIC BEARINGS IN ACCORDANCE WITH SECTION 623 - 'BEARING DEVICES' OF THE STANDARD SPECIFICATION AND IN ACCORDANCE WITH CHAPTER 18 OF THE 2017 AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS.
- MASONRY PLATES, RESTRAINER BARS, LOAD PLATES, SOLE PLATES, FILLER PLATES, AND CONNECTION PLATES SHALL BE AASHTO M270, GRADE 50. STEEL SURFACES OF THE MASONRY PLATES, LOAD PLATES, AND SOLE PLATES SHALL BE MACHINED FINISHED TO 1000 RMS, MEASURED IN ACCORDANCE WITH ANSI B46.1.
- MASONRY PLATES, RESTRAINER BARS, LOAD PLATES, SOLE PLATES, FILLER PLATES, AND CONNECTION PLATES SHALL MEET A FLATNESS REQUIREMENT OF 0.5 PERCENT IN THE DIRECTION BEING MEASURED (WIDTH, LENGTH, DIAGONAL) MAXIMUM, BUT NOT TO EXCEED 1/8".
- CONNECTION BOLTS SHALL BE UNPAINTED ASTM F 1554, GRADE 55 GALVANIZED STEEL. WASHERS SHALL BE UNPAINTED A709 GRADE 36 GALVANIZED STEEL. ALL NUTS SHALL BE UNPAINTED A307 GALVANIZED STEEL. CONNECTION PLATE ALIGNMENT IS DEPENDENT ON THE AMBIENT AIR TEMPERATURE. FOR ADDITIONAL CONNECTION PLATE DETAILS, SEE DWG. BB-05. CONNECTION BOLT NUTS SHALL BE INSTALLED SNUG TIGHT.
- USE 1 3/4" DIA. HOLES IN THE SOLE PLATE AND FILLER PLATE, 1 3/4" X 3 7/8" LONG SLOTTED HOLE IN THE CONNECTION PLATE, AND 3/8" X 3" DIA. WASHERS WITH 1 1/4" DIA HOLE IN WASHER.
- FILL HOLES AROUND CONNECTIONS BOLTS WITH NONHARDENING CAULKING COMPOUND OR ELASTIC JOINT SEALER.
- ELASTOMERIC BEARING SHALL CONFORM TO M 251 AND SHALL BE 60 DUROMETER HARDNESS. INTERNAL STEEL SHEETS SHALL BE STAINLESS STEEL MEETING ASTM 240, TYPE 304.
- THE SURFACE OF THE STAINLESS STEEL SHEET IN CONTACT WITH THE PTFE SHALL HAVE A SURFACE FINISH LESS THAN 20 μIN R(a) AND BE MIRROR FINISHED. MATERIAL SHALL BE ASTM A 240, TYPE 304. THE MAXIMUM COEFFICIENT OF FRICTION FOR THE PTFE AND BEARING ASSEMBLY SHALL BE μ=0.06 AT 0°F.
- CAP SCREWS SHALL BE 3/4"-10 UNC 3A THREAD WHICH CONFORMS TO ASTM-A574 ALLOY STEEL.
- PTFE SHEET SHALL BE DIMPLD LUBRICATED MEETING THE REQUIREMENTS OF ASTM D 4894 OR ASTM D 4895. THE BEARING SHALL BE COMPOSED OF 100 PERCENT VIRGIN PTFE POLYMER.
- THE MASONRY PLATE AND LOAD PLATE SHALL BE FACTORY VULCANIZED TO THE ELASTOMERIC BEARING, RESTRAINER BARS ATTACHED TO THE MASONRY PLATES, AND BEARINGS SHALL BE SHIPPED ASSEMBLED AS UNITS.
- DURING FIELD WELDING, THE TEMPERATURE OF THE STEEL ADJACENT TO THE PTFE SHALL NOT EXCEED 200°F. TEMPERATURE SHALL BE CONTROLLED BY WELDING PROCEDURE AND TEMPERATURE INDICATING WAX PENS OR OTHER DEVICES APPROVED BY THE ENGINEER.
- PAYMENT FOR FABRICATING, FURNISHING, AND INSTALLATION OF THE SOLE PLATES WITH POLISHED STEEL PLATES, FILLER PLATES WITH PTFE, CONNECTION PLATES WITH POLISHED STEEL PLATE, CONNECTION BOLTS, AND ALL COMPONENTS OF THE BEARING ASSEMBLY WILL BE INCIDENTAL TO ITEM 623000.
- REFER TO DWGS. FP-01 AND FP-02 FOR LOCATION OF BEARINGS. REFER TO DWGS. BB-01, BB-02, AND BB-03 FOR EXPANSION BEARING DETAILS.
- REFER TO DWG. BB-05 FOR CONNECTION BOLT AND CONNECTION PLATE TO EMBEDDED CONNECTION ANGLE DETAIL.
- PAYMENT FOR CAULKING ALONG EDGE INTERFACE BETWEEN SOLE PLATE AND BOTTOM FLANGE WILL BE INCIDENTAL TO ITEM 615501 - PREFABRICATED SUPERSTRUCTURE MODULES.
- BOTTOM FACE OF CONNECTION PLATE BEYOND THE LIMITS OF THE POLISHED STEEL PLATE AND THE VERTICAL FACES OF THE CONNECTION PLATE SHALL BE SHOP PAINTED IN ACCORDANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARINGS.

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	EXPANSION BEARING TYPE III	BB-04
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	150
				SUSSEX				



CONNECTION PLATE PLAN DETAIL

1 1/2" = 1'-0"

NOTE: CONNECTION PLATE DETAIL IS USED FOR EXPANSION BEARINGS TYPE II AND TYPE III.

BRIDGE 3-155S - CONNECTION PLATE PLACEMENT													
PIER	SPAN	10°F		30°F		50°F		68°F		70°F		90°F	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PIER 1S	SPAN 1S	3 3/8 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 1S	SPAN 2S	3 3/8 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 2S	SPAN 2S	3 3/8 IN	3 15/16 IN	3 3/8 IN	3 13/16 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 11/16 IN	3 3/8 IN
PIER 2S	SPAN 3S	3 3/8 IN	3 15/16 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 11/16 IN	3 3/8 IN
PIER 3S	SPAN 3S	2 11/16 IN	4 5/16 IN	3 IN	4 IN	3 3/4 IN	3 3/4 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 13/16 IN	3 3/8 IN
PIER 3S	SPAN 4S	4 IN	3 IN	3 13/16 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 4S	SPAN 4S	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 4S	SPAN 5S	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN

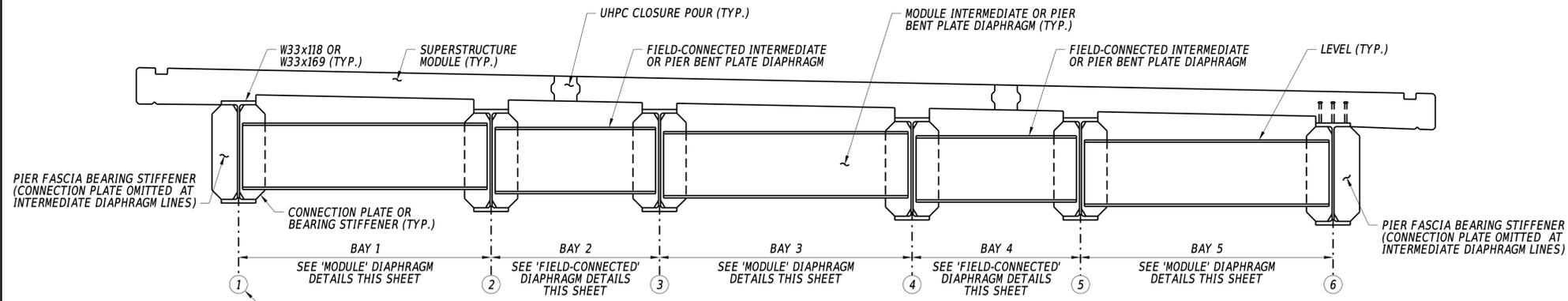
BRIDGE 3-155N - CONNECTION PLATE PLACEMENT													
PIER	SPAN	10°F		30°F		50°F		68°F		70°F		90°F	
		X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
PIER 1N	SPAN 1N	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 11/16 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 1N	SPAN 2N	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 2N	SPAN 2N	3 IN	4 IN	3 3/8 IN	3 13/16 IN	3 3/8 IN	3 11/16 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 11/16 IN	3 3/8 IN
PIER 2N	SPAN 3N	4 5/16 IN	2 11/16 IN	4 IN	3 IN	3 3/4 IN	3 3/4 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 3N	SPAN 3N	3 13/16 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 3N	SPAN 4N	3 13/16 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 4N	SPAN 4N	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN
PIER 4N	SPAN 5N	3 3/4 IN	3 3/4 IN	3 3/8 IN	3 3/8 IN	3 3/8 IN	3 1/8 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 1/2 IN	3 3/8 IN	3 3/8 IN

NOTES:

- CONNECTION BOLTS SHALL BE UNPAINTED ASTM F 1554, GRADE 55 GALVANIZED STEEL. WASHERS SHALL BE UNPAINTED A709 GRADE 36 GALVANIZED STEEL. ALL NUTS SHALL BE UNPAINTED A307 GALVANIZED STEEL. CONNECTION BOLT NUTS SHALL BE INSTALLED SNUG TIGHT.
- BEARINGS SHALL BE PLACED NORMAL TO CENTERLINE OF BEAM.
- FOR QUANTITY AND LOCATION OF BEARINGS, SEE DWGS. BB-01, FP-01, AND FP-02.
- FOR SOLE PLATE AND CONNECTION PLATE DETAIL, SEE DWGS. BB-03 AND BB-04.
- FOR EMBEDDED CONNECTION ANGLE DETAILS, SEE DWGS. PR-10 AND PR-21.
- TOP FACE OF CONNECTION PLATE AND EMBEDDED CONNECTION PLATE SHALL BE FIELD PAINTED IN ACCORDANCE WITH SECTION 616 OF THE STANDARD SPECIFICATIONS FOLLOWING THE FIELD WELDING. PAYMENT FOR THIS PAINTING WILL BE INCIDENTAL TO ITEM 623000 - ELASTOMERIC BEARINGS.

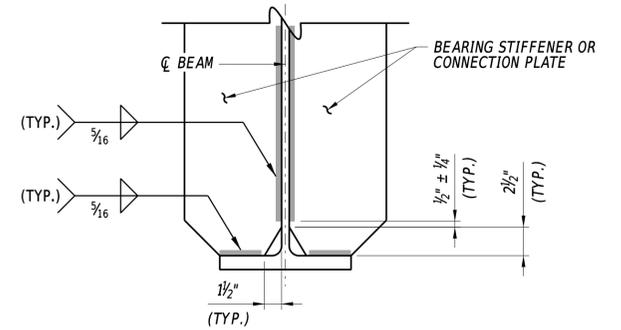
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	CONNECTION PLATE DETAIL	SECTION	BB-05
				T201907601	DESIGNED BY:	F. OPHARDT		WRA	
		COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	151			
		SUSSEX							



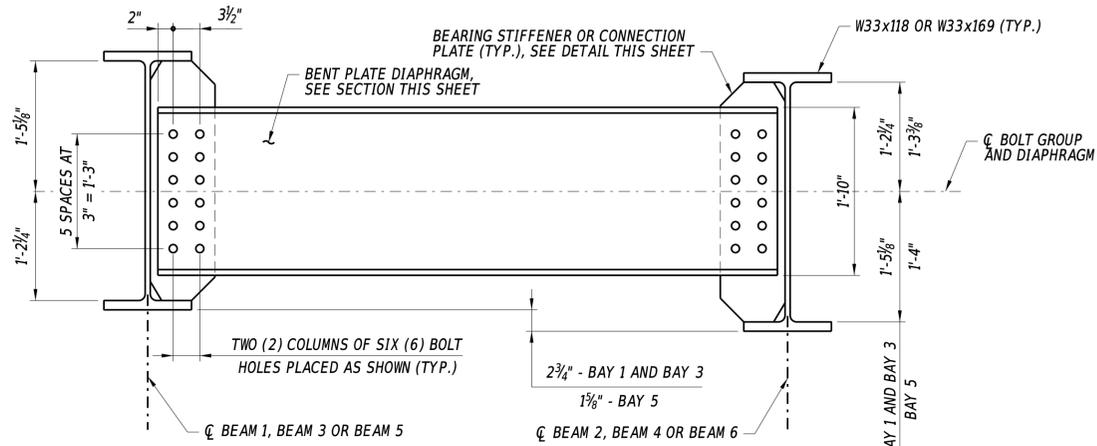
INTERMEDIATE AND PIER DIAPHRAGM LAYOUT

1/2" = 1'-0"



CORNER CHAMFER DETAIL

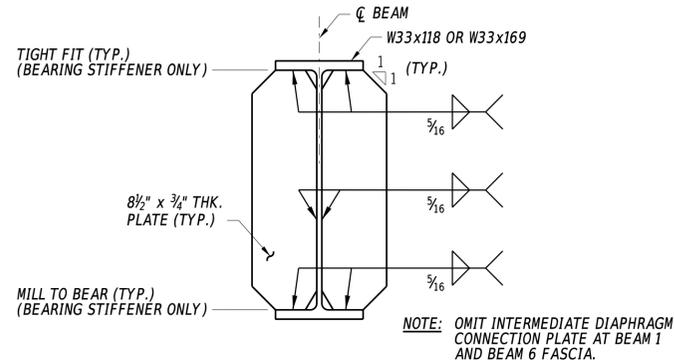
1 1/2" = 1'-0"



MODULE INTERMEDIATE AND PIER DIAPHRAGM DETAIL

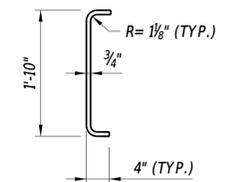
BAY 1, BAY 3 AND BAY 5
1" = 1'-0"

NOTE: BEARING STIFFENERS OR CONNECTION PLATES NOT SHOWN IN ADJACENT BAYS FOR CLARITY.



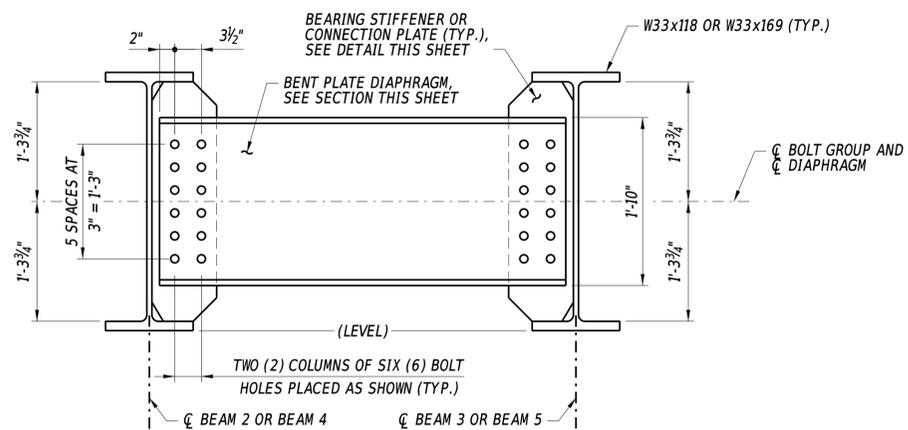
BEARING STIFFENER OR CONNECTION PLATE DETAIL

1" = 1'-0"



BENT PLATE DIAPHRAGM SECTION

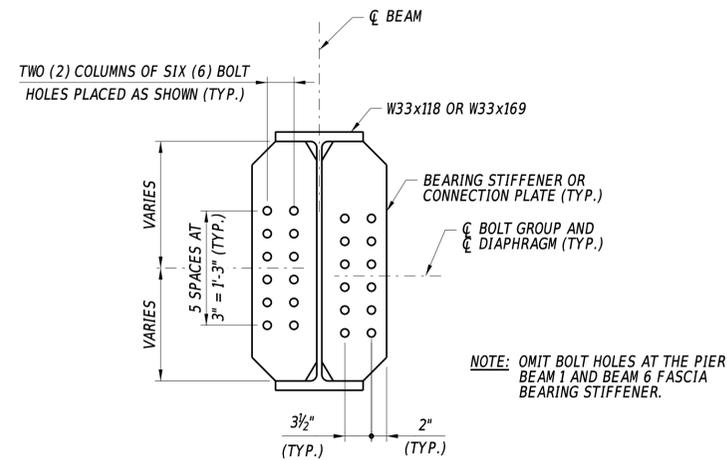
3/4" = 1'-0"



FIELD-CONNECTED INTERMEDIATE AND PIER DIAPHRAGM DETAIL

BAY 2 AND BAY 4
1" = 1'-0"

NOTE: BEARING STIFFENERS OR CONNECTION PLATES NOT SHOWN IN ADJACENT BAYS FOR CLARITY.



BEARING STIFFENER OR CONNECTION PLATE BOLT HOLE DETAIL

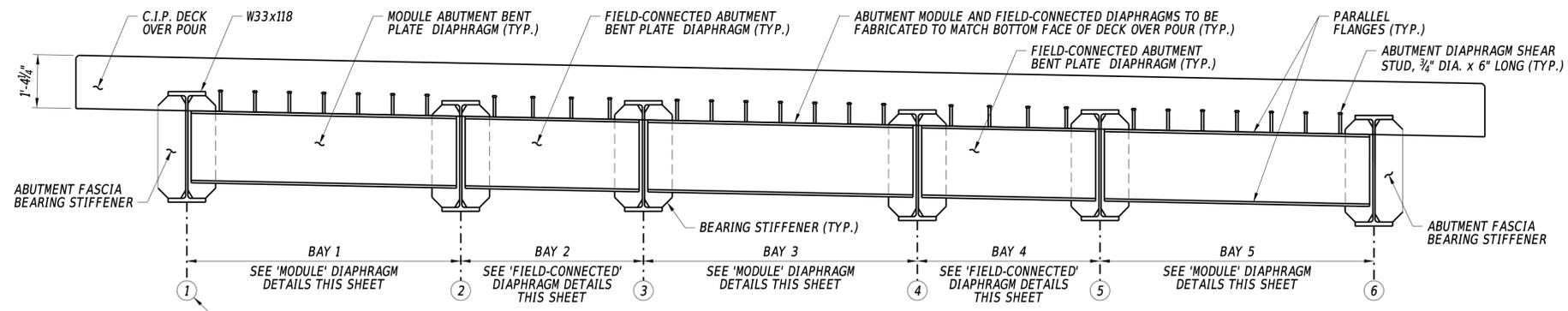
1" = 1'-0"

NOTES:

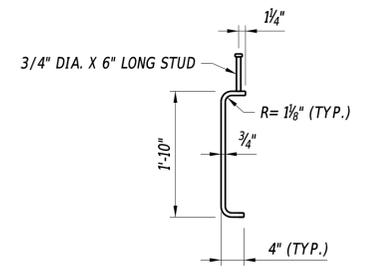
- SPAN, BEAM, AND BAY NUMBERS APPLY TO BOTH BRIDGES.
- SEE BRIDGE PROJECT NOTES FOR ALL HARDWARE AND BOLT HOLE SIZE INFORMATION.

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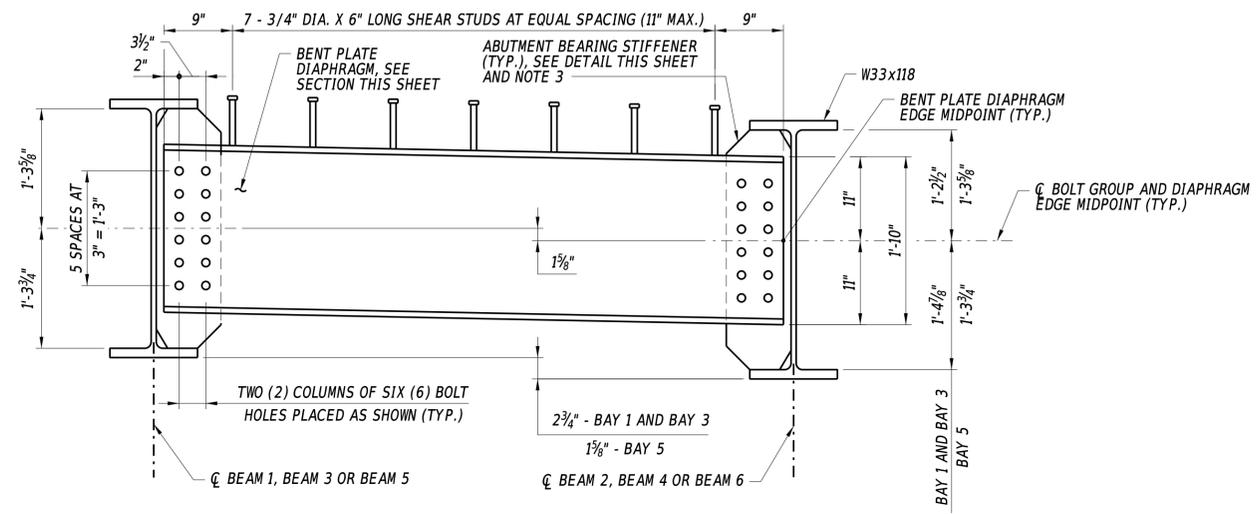
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	SUPERSTRUCTURE DETAILS - 1	BM-25
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	152
				SUSSEX				



ABUTMENT DIAPHRAGM LAYOUT
1/2" = 1'-0"

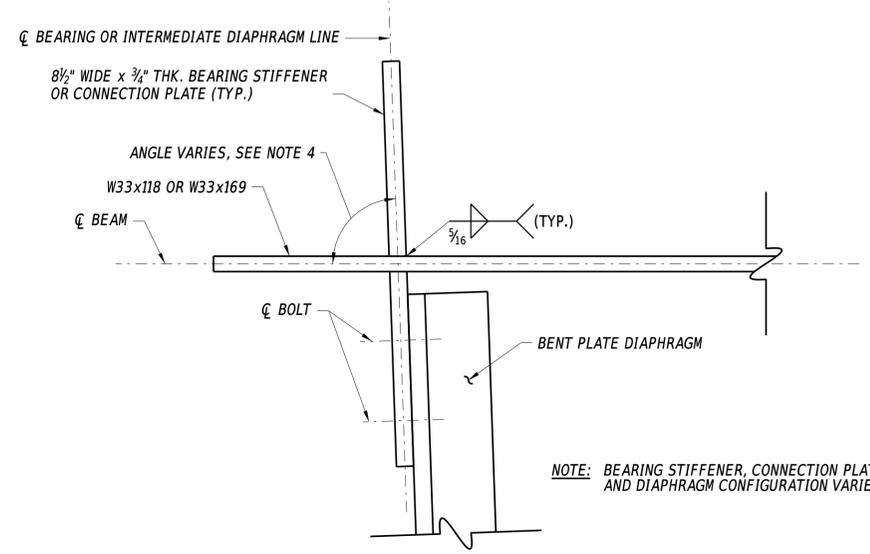


ABUTMENT BENT PLATE DIAPHRAGM SECTION
3/4" = 1'-0"

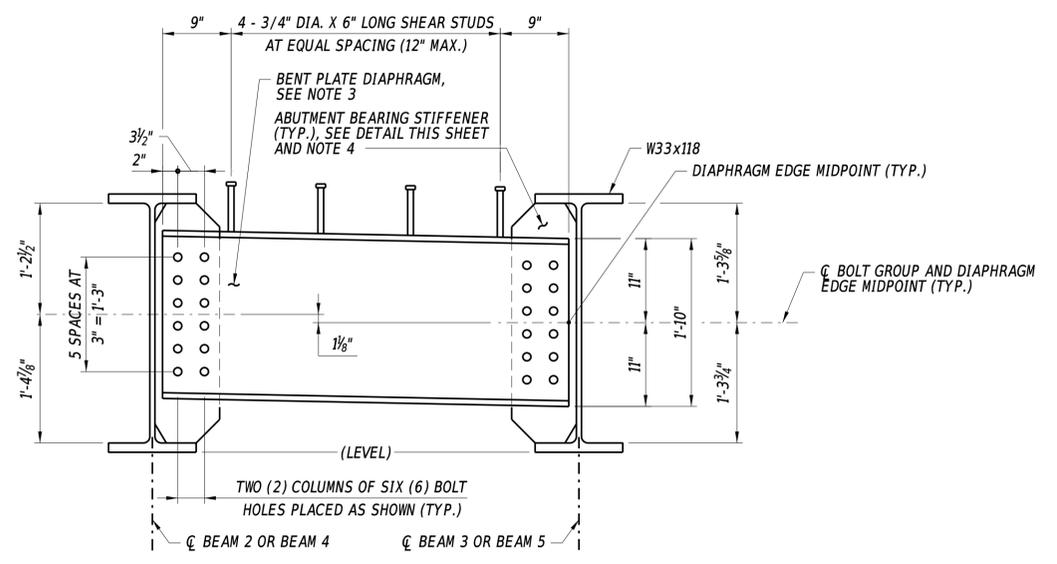


MODULE ABUTMENT DIAPHRAGM DETAIL
BAY 1, BAY 3 AND BAY 5
1" = 1'-0"

NOTE: BEARING STIFFENERS NOT SHOWN IN ADJACENT BAYS FOR CLARITY.

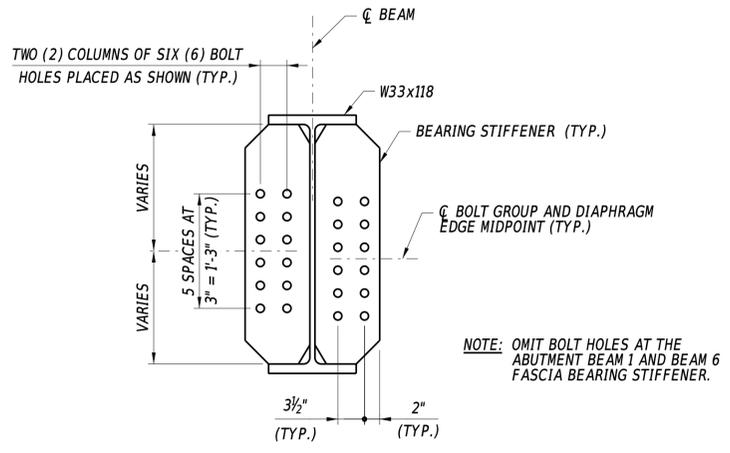


BEARING STIFFENER OR CONNECTION PLATE DETAIL
3" = 1'-0"



FIELD-CONNECTED ABUTMENT DIAPHRAGM DETAIL
BAY 2 AND BAY 4
1" = 1'-0"

NOTE: BEARING STIFFENERS NOT SHOWN IN ADJACENT BAYS FOR CLARITY.



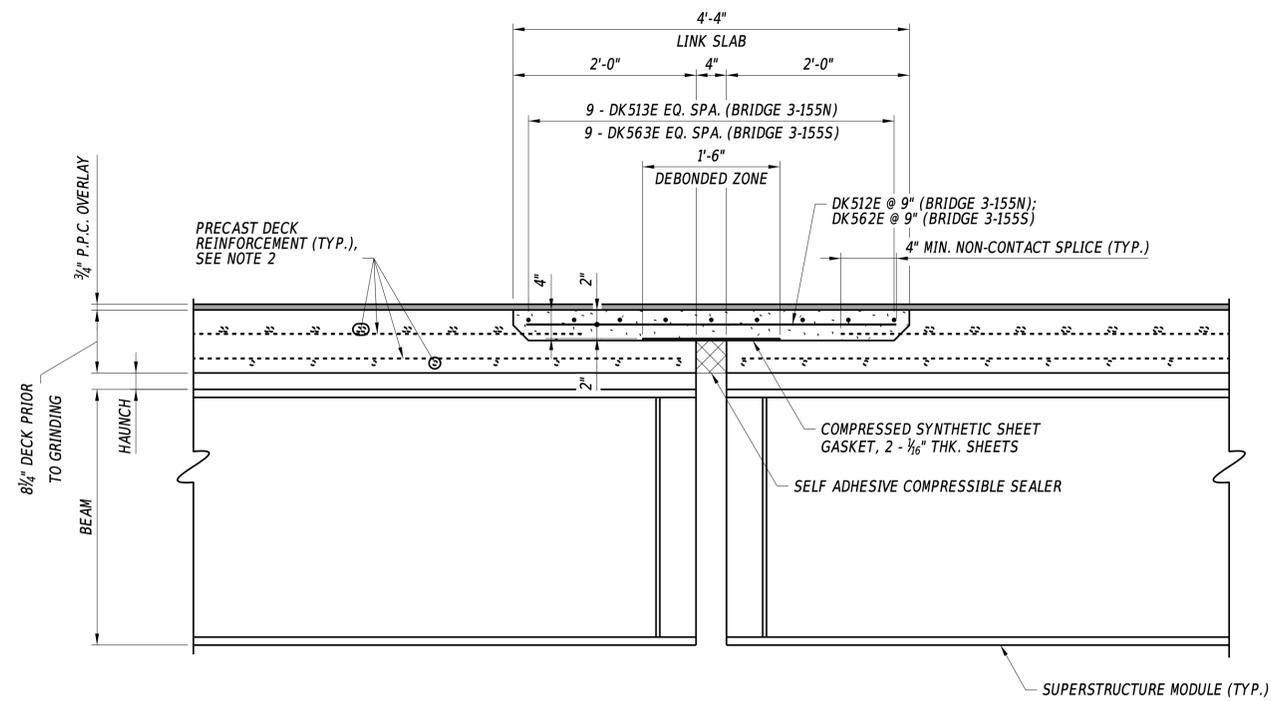
ABUTMENT BEARING STIFFENER DETAIL
1" = 1'-0"

NOTE: OMIT BOLT HOLES AT THE ABUTMENT BEAM 1 AND BEAM 6 FASCIA BEARING STIFFENER.

- NOTES:**
- SPAN, BEAM, AND BAY NUMBERS APPLY TO BOTH BRIDGES.
 - SEE BRIDGE PROJECT NOTES FOR ALL HARDWARE AND BOLT HOLE SIZE INFORMATION.
 - SEE DWG. BM-25 FOR ADDITIONAL BEARING STIFFENER DETAILS.
 - DIAPHRAGMS ARE PLACED PARALLEL TO ϕ BEARING, SEE DWG. FP-01 AND DWG. FP-02 FOR SKEW ANGLES.

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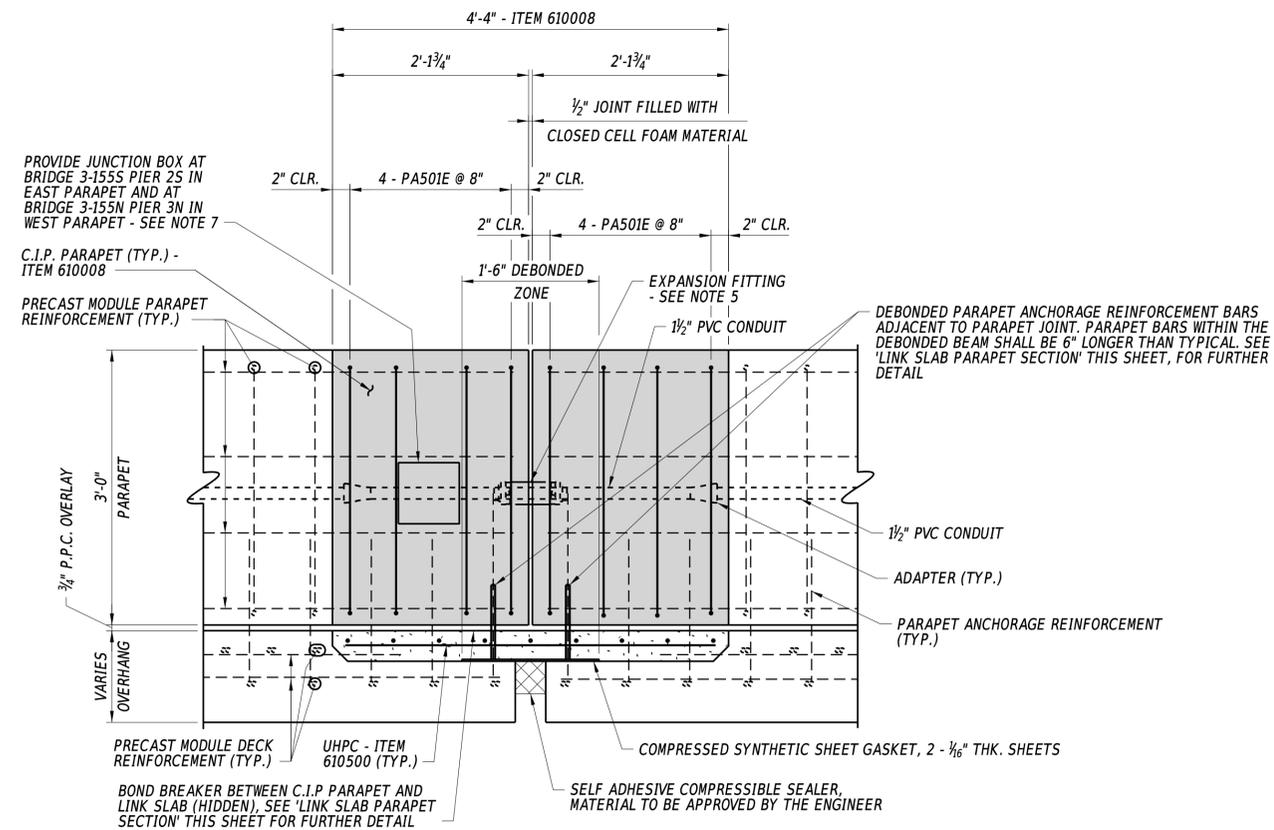
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	SUPERSTRUCTURE DETAILS - 2	BM-26
				T201907601	DESIGNED BY:	F. OPHARDT		SECTION
				COUNTY	CHECKED BY:	W. GESCHREI	SHEET NO.	153
				SUSSEX				



LINK SLAB - GEOMETRY AND REINFORCEMENT DETAIL

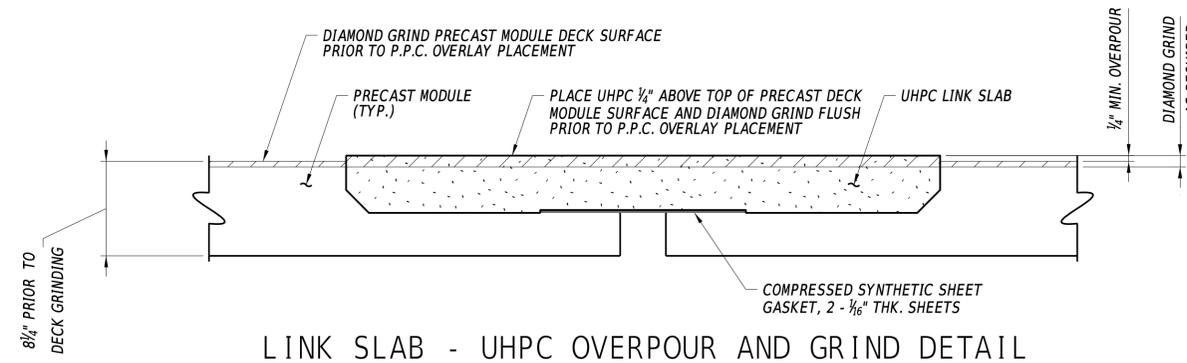
1" = 1'-0"

NOTE: SHEAR STUDS NOT SHOWN FOR CLARITY. SEE NOTE 1.



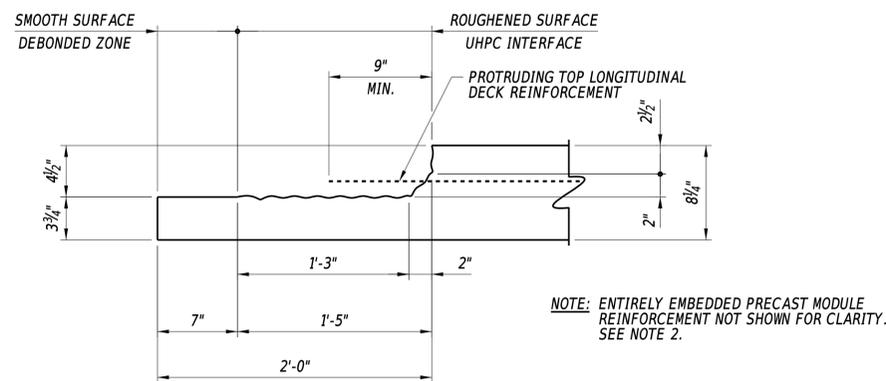
LINK SLAB PARAPET ELEVATION

1" = 1'-0"



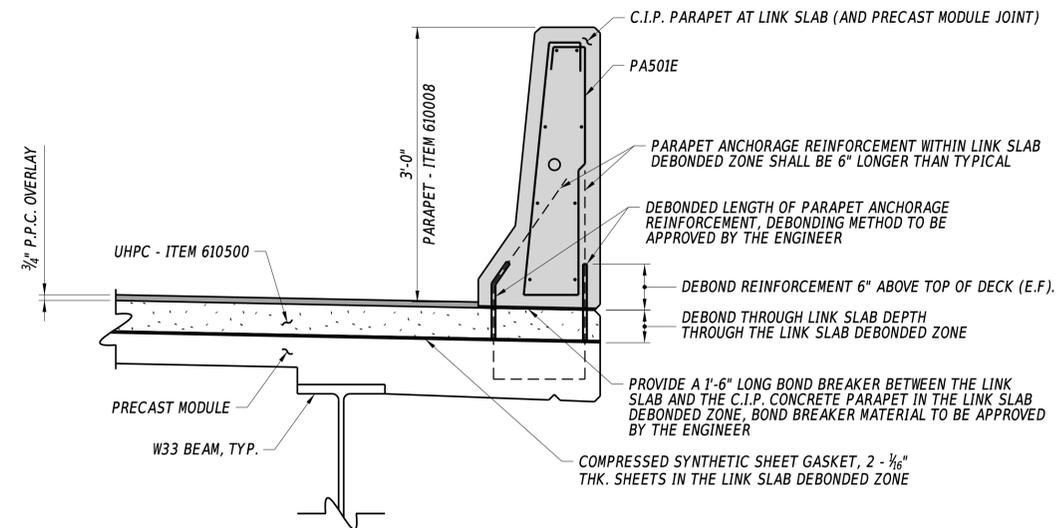
LINK SLAB - UHPC OVERPOUR AND GRIND DETAIL

1 1/2" = 1'-0"



MODULE LINK SLAB BLOCKOUT DETAIL

1 1/2" = 1'-0"



LINK SLAB PARAPET SECTION

1" = 1'-0"

NOTES:

1. SHEAR STUDS SHALL NOT PENETRATE THE LINK SLAB IN THE DEBONDED ZONE.
2. FOR MODULE REINFORCEMENT SEE DWGS. BM-01 THRU BM-11 AND BM-13 THRU BM-23.
3. THE COMPRESSED SYNTHETIC SHEET GASKET LOCATED IN THE LINK SLAB IS INTENDED TO ACT AS A BOND BREAKER. BOTH SIDES OF EACH SHEET SHALL BE TREATED WITH A PARTING AGENT. EACH SHEET GASKET SHALL BE A NOMINAL 1#16" THICK. THE COMPRESSED SYNTHETIC SHEET GASKET SHALL BE MANUFACTURED BY AXELA SERVICES LLC., CONSTRUCTION INNOVATIONS CO., INC. OR AN APPROVED EQUAL.
4. PAYMENT FOR THE SELF ADHESIVE COMPRESSIBLE SEALER, THE COMPRESSIVE SYNTHETIC SHEET GASKET, THE REINFORCEMENT DEBONDING MATERIAL AND THE BOND BREAKER IS INCIDENTAL TO ITEM 610500 - ULTRA-HIGH PERFORMANCE CONCRETE.
5. PAYMENT FOR THE CLOSED CELL FOAM MATERIAL IS INCIDENTAL TO ITEM 610008 - PORTLAND CEMENT CONCRETE, PARAPET, CLASS A.
6. FOR CONDUIT EXPANSION FITTING DETAIL, SEE DWG. NL-04.
7. FOR ADDITIONAL JUNCTION BOX DETAILS, SEE DWG. NL-05.

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ADDENDA / REVISIONS

SCALE AS NOTED

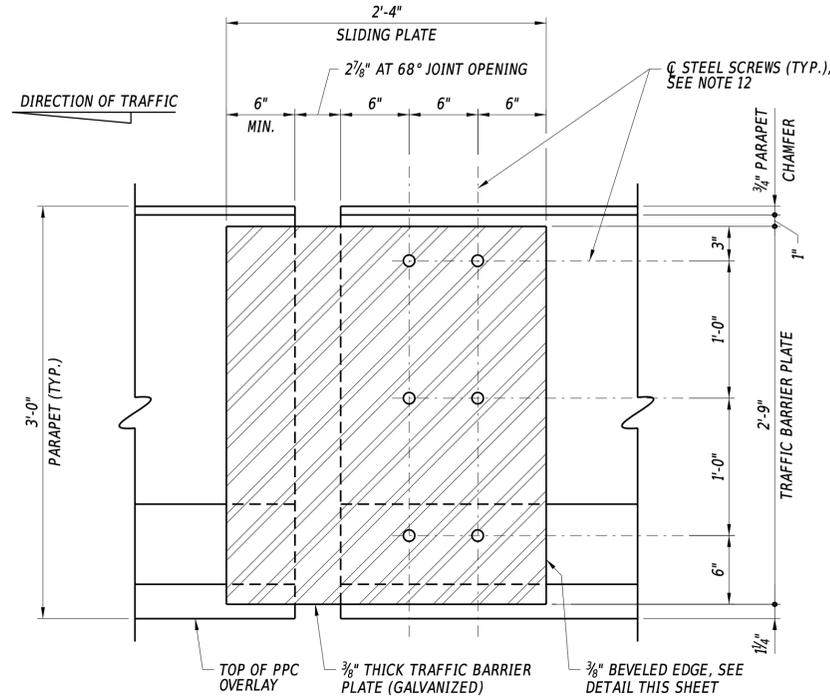
**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. **3-155N&S**
DESIGNED BY: F. OPHARDT
CHECKED BY: W. GESCHREI

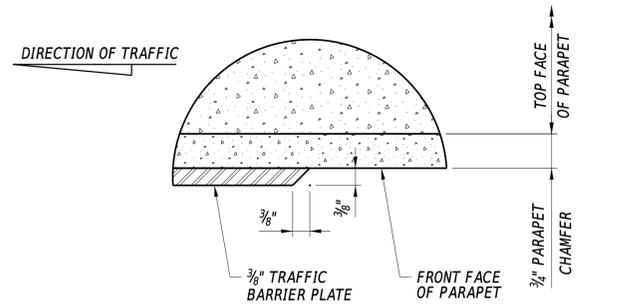
LINK SLAB DETAILS

JT-01
SECTION
WRA
SHEET NO.
154



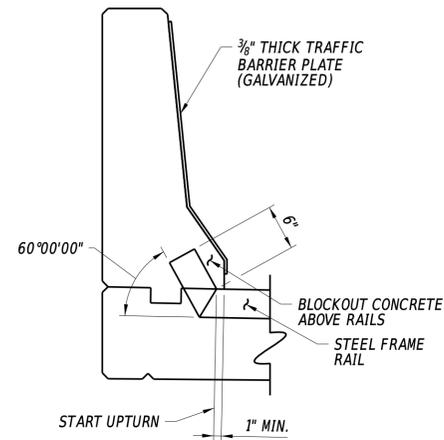
TRAFFIC BARRIER PLATE DETAIL

1 1/2" = 1'-0"



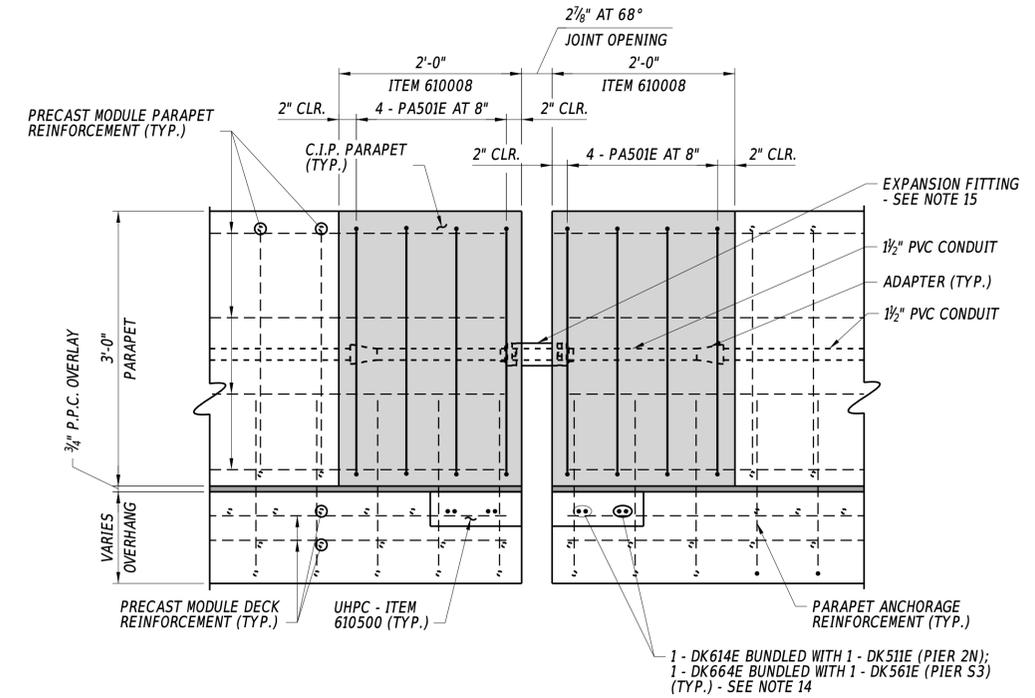
TRAFFIC BARRIER PLATE BEVEL DETAIL

6" = 1'-0"



TYPICAL UPTURN DETAIL

1" = 1'-0"



EXPANSION JOINT PARAPET ELEVATION

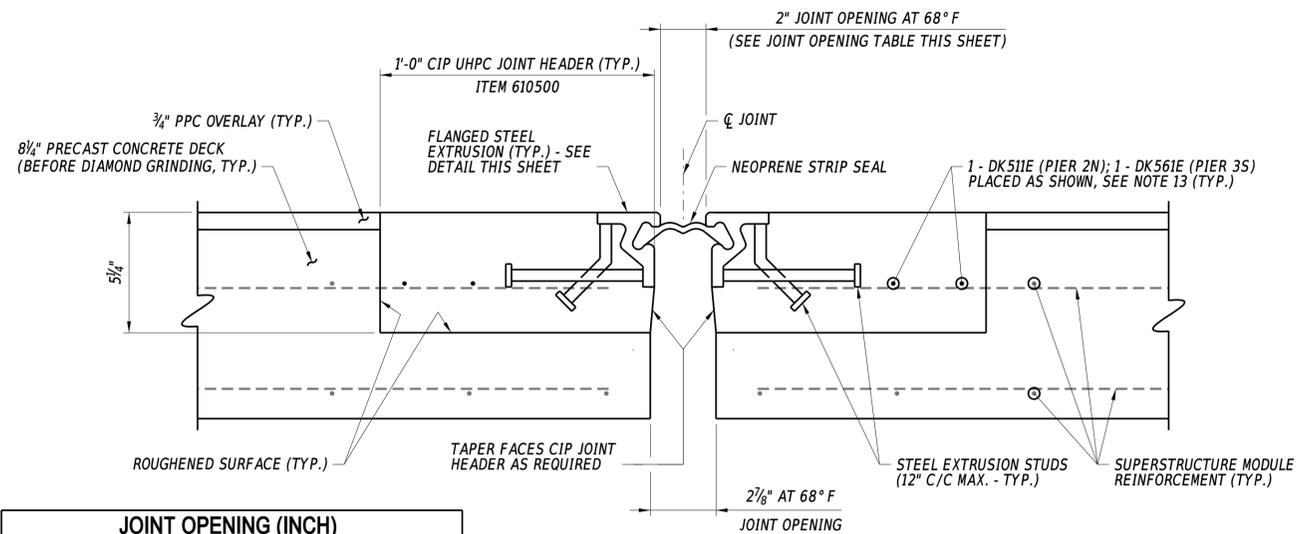
1" = 1'-0"

NOTE: JOINT ASSEMBLY DETAILS NOT SHOWN FOR CLARITY. SEE DETAIL THIS SHEET.

NOTES:

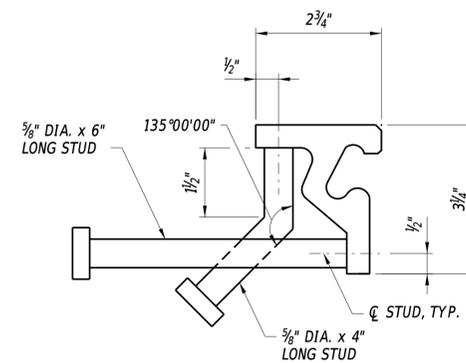
- STEEL FOR FLANGED STEEL EXTRUSION AND STEEL SLIDING PLATES SHALL CONFORM TO AASHTO M270, GR. 36 (ASTM A36). GRADE 50 STEEL MAY BE SUBSTITUTED FOR GRADE 36 AT NO ADDITIONAL COST TO THE DEPARTMENT.
- NEOPRENE STRIP SEAL TO MEET ASTM D-2628-81 MODIFIED, (RECOVERY TEST EXCLUDED).
- THE EXPANSION JOINT SHALL BE CAPABLE OF SEALING THE DECK JOINT TO PREVENT MOISTURE AND OTHER CONTAMINANTS FROM DESCENDING THROUGH THE JOINT.
- THE CONTRACTOR SHALL ADJUST THE OPEN JOINT AS REQUIRED TO PROVIDE A 2" JOINT OPENING AT 68°F.
- FLANGED STEEL EXTRUSION SHALL BE CONTINUOUS ACROSS THE FULL WIDTH OF THE ROADWAY, NO FIELD SPLICING WILL BE PERMITTED.
- THE STRIP SEAL SHALL BE INSTALLED IN ONE PIECE ACROSS THE FULL WIDTH OF ROADWAY. SPLICING OF THE STRIP SEAL IS NOT PERMITTED.
- PAYMENT FOR THE EXPANSION JOINT SYSTEM WILL BE PAID UNDER ITEM 624001 - PREFABRICATED EXPANSION JOINT SYSTEM, 4".
- FLANGED STEEL EXTRUSION SHALL BE HOT-DIP GALVANIZED.
- LUBRICANT-ADHESIVE FOR USE IN INSTALLING AND BONDING NEOPRENE SEAL ELEMENTS TO STEEL JOINT COMPONENTS SHALL BE A ONE QUART MOISTURE-CURING POLYURETHANE AND HYDROCARBON SOLVENT MIXTURE HAVING THE FOLLOWING PHYSICAL PROPERTIES:

AVERAGE WEIGHT, POUNDS PER GALLON	8±10%
SOLIDS CONTENT	65%
ADHESIVE SHALL REMAIN LIQUID FROM	5°F TO 120°F
FILM STRENGTH, AS PER ASTM D-412	2,000 PSI
ELONGATION	250%
- STEEL SLIDING PLATES ALONG THE PARAPETS ARE REQUIRED AT PIERS 2N AND 3S. SEE SLIDING PLATE DETAIL THIS SHEET. PAYMENT FOR FURNISHING AND INSTALLING THE SLIDING PLATE, INSERTS, AND COUNTERSUNK SCREWS WILL BE INCIDENTAL TO ITEM 624001 - PREFABRICATED JOINT SYSTEM, 4".
- CONTRACTOR SHALL PROVIDE MEANS TO SUPPORT AND ADJUST THE JOINT ASSEMBLY.
- USE 3/4" STAINLESS STEEL, TYPE 316, COUNTERSUNK FLATHEAD SCREWS WITH ASTM A108 THREADED INSERTS FOR ANCHORING THE SLIDING PLATE. THE HEAD OF THE SCREWS SHALL BE FLUSH WITH THE FACE OF THE STEEL PLATE.
- PROVIDE A 2'-3" LAP SPLICE BETWEEN CONSECUTIVE REINFORCEMENT BARS IN THE CAST-IN-PLACE CONCRETE.
- THE #6 BUNDLED BAR AT THE EDGE OF DECK SHALL EXTEND 4'-0" BEYOND THE CENTERLINE OF THE FIRST EXTERIOR BEAM.
- FOR CONDUIT EXPANSION FITTING DETAIL, SEE DWG. NL-04.



JOINT ASSEMBLY DETAIL

3" = 1'-0"



FLANGED STEEL EXTRUSION DETAIL

6" = 1'-0"

LOCATION	TEMPERATURE					MOVEMENT CLASSIFICATION
	10°	30°	50°	70°	90°	
PIER 2N	3 5/16"	2 7/8"	2 7/16"	1 5/16"	1 1/2"	4"
PIER 3S	3 1/4"	2 13/16"	2 3/8"	1 15/16"	1 1/2"	4"

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

EXPANSION JOINT DETAILS

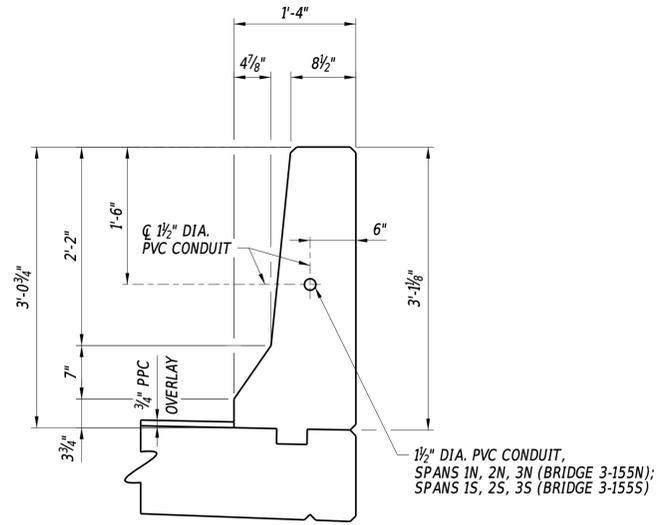
JT-02

SECTION

WRA

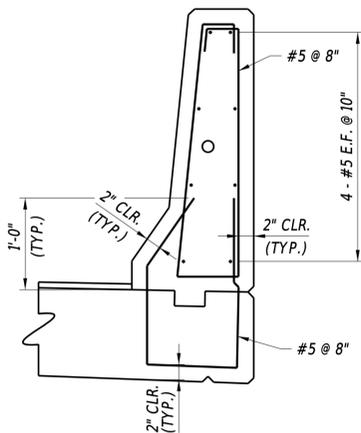
SHEET NO.

155



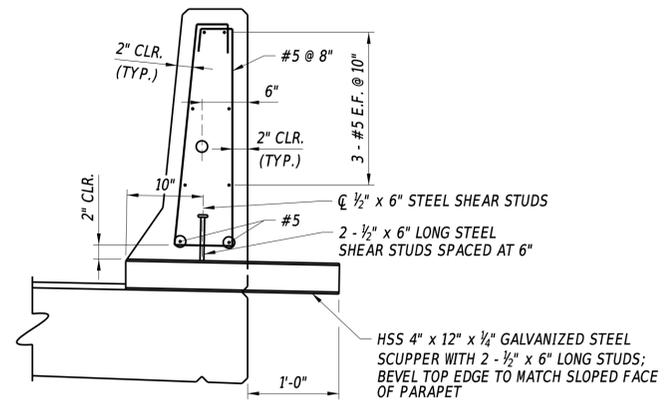
EAST PARAPET TYPICAL SECTION

1" = 1'-0"



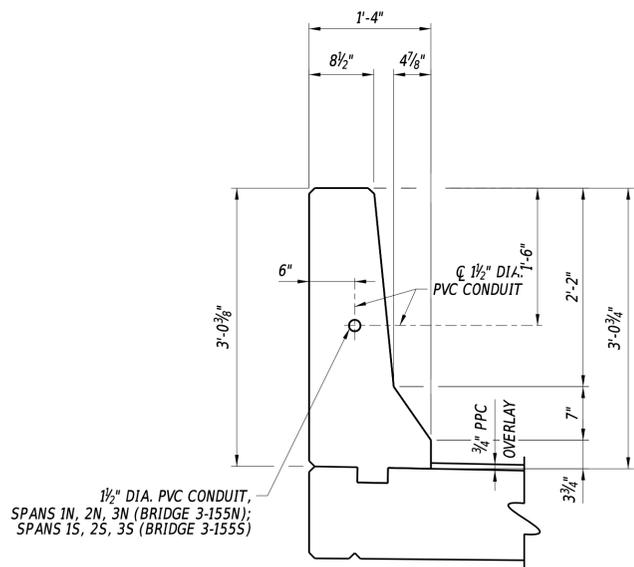
EAST PARAPET REINFORCEMENT

1" = 1'-0"



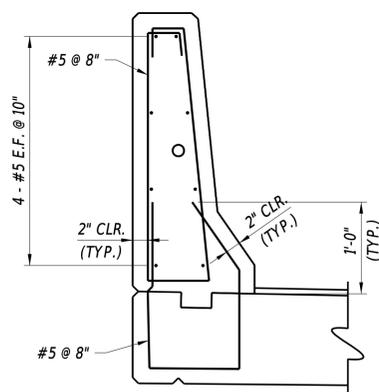
SCUPPER DETAIL

1" = 1'-0"



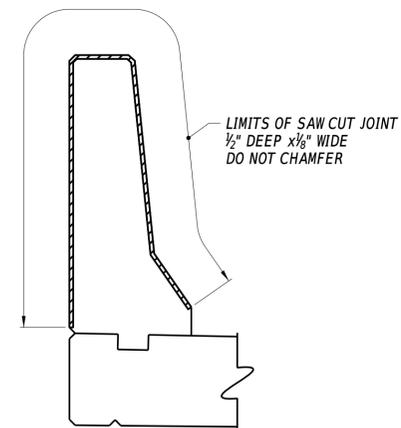
WEST PARAPET TYPICAL SECTION

1" = 1'-0"



WEST PARAPET REINFORCEMENT

1" = 1'-0"



PARAPET CONTROL JOINT DETAIL

1" = 1'-0"

NOTES:

1. THE GALVANIZED SCUPPERS SHALL BE IN ACCORDANCE WITH ASTM A 123.
2. THE SCUPPER SHALL BE BEVELED PRIOR TO BEING GALVANIZED.
3. PARAPET CONTROL JOINTS ALONG THE SUPERSTRUCTURE MODULES SHALL BE CONSTRUCTED PRIOR TO THE MODULES BEING TRANSPORTED TO THE SITE.
4. THE STEEL SCUPPER SHALL CONFORM TO ASTM A 500.

ADDENDA / REVISIONS

SCALE AS NOTED

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N&S
T201907601	DESIGNED BY:	F. OPHARDT
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SUSSEX		

PARAPET DETAILS

PA-01

SECTION

WRA

SHEET NO.

156

DESCRIPTION OF ELECTRICAL SCOPE OF WORK

INDEX OF ELECTRICAL DRAWINGS	
DRAWING NO.	SHEET TITLE
NL-01	INDEX OF ELECTRICAL DRAWINGS & ELECTRICAL NOTES
NL-02	KEY PLAN
NL-03	UTILITY AND CONTROL PANEL
NL-04	NAVIGATION LIGHTING DETAILS - 1
NL-05	NAVIGATION LIGHTING DETAILS - 2

1. GENERAL NOTES

- A. ALL WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), THE NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), THE INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE), STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING (NECA 1), THE NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA), THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST VERSION) AND ALL OTHER APPLICABLE STATE AND LOCAL CODES AND STANDARDS.
- B. THE CONTRACTOR AND/OR SUBCONTRACTOR PERFORMING THE ELECTRICAL WORK SHALL BE PROPERLY QUALIFIED, SKILLED AND EXPERIENCED IN THE TYPE OF WORK REQUIRED.
- C. IN NO WAY SHALL THESE PLANS BE INTERPRETED AS REQUIRING A VIOLATION OF THE NATIONAL ELECTRICAL CODE OR ANY OTHER APPLICABLE FEDERAL, STATE, OR LOCAL CODES OR REGULATIONS. IN ANY CASE OF DISPUTE BETWEEN THESE PLANS AND APPLICABLE CODES AND STANDARDS, THE HIGHER (MORE STRINGENT) STANDARD SHALL GOVERN.
- D. THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR ALL COORDINATION WITH THE U.S. COAST GUARD FOR WORK IN AND/OR OVER NAVIGABLE WATERS, INCLUDING OBTAINING ALL REQUIRED PERMITS AND SHALL PAY ANY FINES AND/OR PENALTIES RESULTING FROM SUCH WORK.
- E. THE NAVIGATION LIGHTING SYSTEM SHALL BE OPERATIONAL AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE TEMPORARY NAVIGATION LIGHTING AS REQUIRED TO MAINTAIN THE NAVIGATION LIGHTING SYSTEMS IN SERVICE. SEE STAGING REQUIREMENTS.
- F. THE CONTRACTOR IS REQUIRED TO DELIVER A COMPLETE, WORKING, RELIABLE AND SAFE ELECTRICAL SYSTEM IN ACCORDANCE WITH THESE PLANS AND ALL APPLICABLE CODES, STANDARDS, AND STANDARD SPECIFICATIONS.
- G. PROPOSED VARIATIONS FROM THESE PLANS SHALL BE SUBMITTED TO, AND MUST BE APPROVED BY, THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PERFORMANCE OF THE RELATED WORK. ALL CHANGES SHALL BE REFLECTED IN THE AS-BUILT DRAWINGS.
- H. IN ADDITION TO THE EQUIPMENT, MATERIALS, AND OTHER ITEMS WHICH ARE EXPLICITLY SHOWN ON THESE PLANS, PROVIDE ALL OTHER MISCELLANEOUS ITEMS AND APPURTENANCES REQUIRED TO PROVIDE A COMPLETE, WORKING, RELIABLE, AND SAFE ELECTRICAL SYSTEM.
- I. THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR COORDINATION INCLUDING FIELD VERIFICATION OF ALL RELEVANT DIMENSIONS, EQUIPMENT SPECIFICATIONS, ELECTRICAL LOADS, CIRCUIT REQUIREMENTS, AND POINT TO POINT WIRING, PRIOR TO PURCHASE, FABRICATION OF EQUIPMENT AND MATERIALS, AND INSTALLATION.
- J. THE CONTRACTOR SHALL CAREFULLY AND THOROUGHLY INVESTIGATE AND VERIFY THE LOCATIONS AND CHARACTERISTICS OF ALL EXISTING FEATURES AND FACILITIES, ABOVE GROUND AND UNDERGROUND, PRIOR TO CONSTRUCTION. ANY DAMAGE TO EXISTING FEATURES OR FACILITIES SHALL BE REPAIRED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE DEPARTMENT.
- K. PRIOR TO DISCONNECTING THE EXISTING CIRCUITS AND REMOVING EXISTING EQUIPMENT, THE CONTRACTOR SHALL IDENTIFY ALL EQUIPMENT, RACEWAYS, CABLES, CONDUCTORS AND ITEMS WHICH ARE TO REMAIN OR TO BE RELOCATED OR RE-ROUTED FOR THE WORK DESCRIBED HEREIN. THOROUGHLY LOCATE, TRACE, IDENTIFY, AND DOCUMENT ALL CIRCUITS OF SUCH EQUIPMENT. THE CONTRACTOR SHALL PREPARE AND SUBMIT WORKING DRAWINGS, INCLUDING BUT NOT LIMITED TO CONDUIT AND WIRING SCHEDULES, TABULATIONS, AND WIRING DIAGRAMS WITH INDICATED QUANTITY AND SIZE OF CONDUCTORS OF EACH CIRCUIT, SOURCE AND EQUIPMENT SERVED OF EACH CIRCUIT AND WIRE LABELING. THESE WORKING DRAWINGS SHALL BE USED FOR THE RECONNECTION OR RELOCATION TO ENSURE THAT, AFTER THE INSTALLATION, EXISTING EQUIPMENT WHICH IS TO REMAIN OR TO BE RELOCATED SHALL FUNCTION PROPERLY AS INTENDED FOR EACH SYSTEM TO THE SATISFACTION OF THE ENGINEER.
- L. THE CONTRACTOR SHALL EXERCISE CARE TO NOT DAMAGE ANY ITEMS WHICH ARE EXISTING AND ARE TO REMAIN IN PLACE OR TO BE RE-LOCATED.
- M. LOCATIONS OF RACEWAYS, CABLES AND EQUIPMENT SHOWN ON THESE PLANS ARE DIAGRAMMATIC ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

2. MATERIALS AND WORKMANSHIP

- A. ALL EQUIPMENT AND MATERIALS SHALL BE SUITABLE FOR THE INTENDED USE AND SHALL BE FURNISHED WITH ALL NECESSARY HARDWARE AND COMPONENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MODIFICATIONS OR FABRICATIONS NECESSARY FOR PROPER INSTALLATION AND OPERATION OF EQUIPMENT.
- B. REFERENCE TO A SPECIFIC MANUFACTURER'S NAME AND CATALOG NUMBER OR MODEL NUMBER IS INTENDED TO DENOTE THE PERFORMANCE, RATING, QUALITY, CHARACTERISTICS, AND PHYSICAL DIMENSIONS OF THE EQUIPMENT AND MATERIAL, AND IS NOT INTENDED TO EXCLUDE OTHER ACCEPTABLE PRODUCTS OF EQUAL OR BETTER PERFORMANCE OR QUALITY. ALL ITEMS SPECIFIED WITH MANUFACTURER'S NAME AND CATALOG/MODEL NUMBER SHALL BE CONSIDERED TO BE FOLLOWED BY A PHRASE "OR APPROVED EQUAL", UNLESS OTHERWISE NOTED. PRODUCTS OF EQUAL OR BETTER PERFORMANCE AND QUALITY, PROPOSED TO SUBSTITUTE REFERENCED ITEMS MUST BE SUPPORTED BY MANUFACTURER'S SPECIFICATIONS, SHOP DRAWINGS, AND DOCUMENTS TO INDICATE SO, AND MUST BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- C. PRIOR TO ORDERING EQUIPMENT, THE CONTRACTOR SHALL CHECK ALL EQUIPMENT CATALOG/MODEL NUMBERS, VERIFY THE COMPATIBILITY OF THE EQUIPMENT TO BE INSTALLED AND USED WITH OTHER SYSTEMS AND SUB-SYSTEMS, CHECK THE AVAILABILITY OF EQUIPMENT WITH SUPPLIERS, AND COORDINATE WITH ALL OTHER SUBCONTRACTORS.
- D. ALL WORK SHALL BE OF THE HIGHEST QUALITY. ALL EQUIPMENT, RACEWAYS, WIRING, ETC. SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH NECA 1 (STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING), AND WITHOUT VIOLATING ANY CLEAR WORKING CLEARANCE SPACE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. EQUIPMENT ENCLOSURES, CABINETS, BOXES, AND SIMILAR ITEMS SHALL BE INSTALLED PLUMB AND SECURELY FASTENED IN PLACE. ALL MOUNTINGS SHALL BE RIGID.
- E. THE INSTALLATION OF ALL EQUIPMENT AND MATERIALS SHALL COMPLY WITH THE RECOMMENDATIONS AND INSTALLATION PROCEDURES OF THEIR RESPECTIVE MANUFACTURERS.
- F. THE CONTRACTOR SHALL PROTECT THE ENTIRE SYSTEM, AND ALL PARTS THEREOF, FROM INJURY DURING CONSTRUCTION AND UP TO AND INCLUDING ACCEPTANCE OF THE SYSTEM.

3. STAGING

PHASE 1

- A. AFTER SOUTHBOUND TRAFFIC IS ON THE BRIDGE 3-155N, PROVIDE TEMPORARY BATTERY OR SOLAR POWERED SPAN LIGHTING ON EAST AND WEST SIDES OF BRIDGE 3-155S AND PIER LIGHTING ON THE EAST SIDE OF BRIDGE 3-155S (PIER 2S ONLY) UNTIL THE SPAN IS REMOVED. AS SOON AS THE CHANNEL IS OBSTRUCTED BY THE CONSTRUCTION OF THE NEW BRIDGE, TEMPORARY NAVIGATION LIGHTS MUST BE REINSTALLED. THE NEW, PERMANENT LIGHTING UNITS MAY BE USED AND MODIFIED FOR THE TEMPORARY SPAN LIGHTING PROVIDED THEY ARE IN NEW CONDITION AT THE TIME OF ACCEPTANCE.
- B. ISOLATE POWER AT THE METERING BOARD BY TURNING OFF AND LOCKING OUT THE ASSOCIATED CIRCUIT BREAKER AND COMPLETELY DISCONNECTING THE WIRING FROM BRIDGE 3-155S CONDUIT AT THE ELECTRICAL SERVICE AND CONTROL PEDESTAL.
- C. REMOVE EXISTING, PERMANENT BRIDGE 3-155S SPAN NAVIGATION LIGHTS, THE PIER NAVIGATION LIGHT, MOUNTING BRACKETS AND ACCESSORIES, AND CONDUIT. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 21100 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.

- D. DURING BRIDGE CONSTRUCTION, INSTALL NEW LIGHTING, JUNCTION BOXES AND ACCESSORIES AND CONDUIT ON BRIDGE 3-155S AND BETWEEN THE BRIDGES UP TO THE POINT OF CONDUIT CROSSING THE BRIDGE 3-155N APPROACH. THE CONTRACTOR SHALL ENSURE THAT CONDUIT IN PREFORMED SLABS ARE IN ACCORDANCE WITH SHOP DRAWINGS.

PHASE 2

- E. AFTER NORTHBOUND TRAFFIC IS ON BRIDGE 3-155S, PROVIDE TEMPORARY BATTERY OR SOLAR POWERED SPAN LIGHTING ON THE EAST AND WEST SIDES OF BRIDGE 3-155N AND PIER LIGHTING ON THE WEST SIDE OF BRIDGE 3-155N (PIER 3N ONLY) UNTIL THE SPAN IS REMOVED. AS SOON AS THE CHANNEL IS OBSTRUCTED BY THE CONSTRUCTION OF THE NEW BRIDGE, TEMPORARY NAVIGATION LIGHTS MUST BE REINSTALLED. NEW LIGHTING UNITS MAY BE USED AND MODIFIED FOR THE TEMPORARY SPAN LIGHTING PROVIDED THEY ARE IN NEW CONDITION AT THE TIME OF ACCEPTANCE.
- F. ISOLATE POWER AT THE METERING BOARD BY TURNING OFF AND LOCKING OUT ASSOCIATED BREAKER AND COMPLETELY DISCONNECTING THE WIRING FROM THE BRIDGE 3-155N CONDUIT AT THE ELECTRICAL SERVICE AND CONTROL PEDESTAL.
- G. REMOVE EXISTING BRIDGE 3-155N SPAN NAVIGATION LIGHTS, PIER NAVIGATION LIGHT, MOUNTING BRACKETS AND ACCESSORIES, AND CONDUIT. PAYMENT FOR THIS WORK WILL BE INCIDENTAL TO ITEM 21000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- H. DURING BRIDGE CONSTRUCTION INSTALL NEW LIGHTING, JUNCTION BOXES AND ACCESSORIES AND CONDUIT BURIED UNDER THE BRIDGE 3-155N APPROACH, FROM THE ELECTRICAL SERVICE AND CONTROL PEDESTAL TO THE BRIDGE AND ON BRIDGE 3-155N. COMPLETE ELECTRICAL CONNECTION OF BRIDGE 3-155S CONDUCTORS TO THE COMPLETE ELECTRICAL SYSTEM.
- I. CONTACT AND COORDINATE WITH UTILITY TO ISOLATE POWER TO ELECTRICAL SERVICE. REPLACE THE ELECTRICAL SERVICE AND CONTROL PEDESTAL WHILE USING TEMPORARY POWER FOR ALL NAVIGATION LIGHTING.
- J. TEMPORARY OR PERMANENT LIGHTING MUST BE IN PLACE AND IN OPERATION FROM THE START OF THE CONTRACT TO FINAL ACCEPTANCE. CONTRACTOR TO PROVIDE DETAILED PLAN ON KEEPING THE BRIDGE LIT TO COASTGUARD REQUIREMENTS THROUGHOUT AND THE PLAN MUST BE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO THE START OF WORK.

4. ELECTRICAL SERVICE

THE EXISTING ELECTRICAL SERVICE TRANSFORMER SHALL REMAIN AND THE CONDUIT TO THE LOCATION OF THE EXISTING SERVICE PANEL SHALL BE MODIFIED. DURING THE REMOVAL OF THE EXISTING SERVICE PANEL AND THE INSTALLATION OF THE NEW ELECTRICAL SERVICE AND CONTROL PEDESTAL, THE CONDUIT AND WIRING STUBBING UP INTO THE EQUIPMENT SHALL BE REPLACED WITH NEW PVC COATED RIGID GALVANIZED STEEL TYPE AS SHOWN ON THE PLANS. TEMPORARY POWER TO THE NAVIGATION LIGHTING SHALL BE PROVIDED DURING THE CHANGEOVER TO ASSURE THE NAVIGATION LIGHTING IS AVAILABLE AT ALL TIMES.

THE EXISTING ELECTRICAL SERVICE SHALL BE TESTED AND METERED FOR EXISTING LOAD AND EXISTING ADDITIONAL CAPACITY TO DETERMINE POWER AVAILABLE FOR THE MEDIAN CROSSOVER LIGHTING. AFTER DETERMINATION OF ADEQUATE POWER, TWO NEW CIRCUIT BREAKERS SHALL BE INSTALLED IN THE SERVICE PANEL FOR USE OF THE NORTH AND SOUTH MEDIAN CROSSOVER LIGHTING.

THE NEW ELECTRICAL SERVICE AND CONTROL PEDESTAL SHALL BE FURNISHED AND INSTALLED AS SHOWN ON THE PLANS. IT SHALL BE MOUNTED ON A RIGID CHANNEL FRAME SYSTEM AS SHOWN ON THE PLANS. THE CONDUIT TO THE NAVIGATION LIGHTING SHALL BE NEW.

5. NAVIGATION LIGHTING

NEW NAVIGATION LIGHTS SHALL BE PROVIDED FOR BRIDGES 3-155N AND 3-155S IN ACCORDANCE WITH U.S. COAST GUARD REGULATION 33 CFR PART 118.

SPAN NAVIGATION LIGHTS SHALL BE LED TUBE LIGHT CONSTRUCTION MANUFACTURED BY MCDERMOTT LIGHT AND SIGNAL OR APPROVED EQUAL. SPAN NAVIGATION LIGHTS SHALL BE MOUNTED TO PARAPET AND POSITIONED IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS AND AS SHOWN ON THE PLANS. PIER NAVIGATION LIGHTS SHALL BE INSTALLED ON PIERS 2S AND 3N ON THE INTER-SPAN SIDES AND SHALL BE MANUFACTURED BY B&B ROADWAY (TYPE PL WITH LED LAMP AND JUNCTION BOX OPTIONS) OR APPROVED EQUAL.

TEMPORARY POWER AND TEMPORARY USE OF EXISTING NAVIGATION LIGHTING SHALL BE AS CALLED OUT IN THE STAGING REQUIREMENTS.

6. CONDUIT, WIRING AND ENCLOSURES

INSTALLATION OF CONDUIT, WIRING, JUNCTION BOXES/WELLS, AND ACCESSORIES AND HARDWARE SHALL BE IN ACCORDANCE WITH THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016 VERSION).

APPLY CONDUIT/DUCT SEALANT DURING CONDUIT INSTALLATION AS SPECIFIED BY DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016 VERSION).

PROVIDE COVER FOR BURIED CONDUIT IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016).

THE CONTRACTOR SHALL PERFORM CONTINUITY AND INSULATION RESISTANCE TESTS ON ALL CONDUCTORS AND CABLES, AND TEST ALL ELECTRICAL DEVICES REQUIRED TO COMPLETE THE INSTALLATION AS INDICATED ON THE PLANS AND IN ACCORDANCE WITH NETA AND DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016 VERSION).

GROUND TESTING SHALL BE CONDUCTED FOR THE ENTIRE GROUNDING SYSTEM AND SHALL BE IN ACCORDANCE WITH NETA AND DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016 VERSION).

CONDUIT PROVIDING ELECTRICAL SERVICE AND CONDUIT FROM ELECTRICAL SERVICE PEDESTAL TO JUNCTION WELLS AND BETWEEN JUNCTION WELLS SHALL BE 2". ALL CONDUIT EXITING JUNCTION WELLS INTO BRIDGE SPAN STRUCTURES SHALL BE 1-1/2". BURIED OR EMBEDDED CONDUIT SHALL BE SCHEDULE 80 PVC TYPE RATED FOR UNDERGROUND BURIAL AND EMBEDDING IN POURED CONCRETE UNLESS OTHERWISE NOTED. ALL EXPOSED CONDUIT SHALL BE PVC COATED GALVANIZED STEEL CONDUIT UNLESS OTHERWISE NOTED.

ALL ENCLOSURES SHALL BE RATED NEMA 4X AND FABRICATED FROM TYPE 316 STAINLESS STEEL. CONDUIT ENTRY INTO ENCLOSURES SHALL BE AT THE SIDE OR BOTTOM OF ALL ENCLOSURES. TOP ENTRY INTO ENCLOSURES IS NOT PERMITTED.

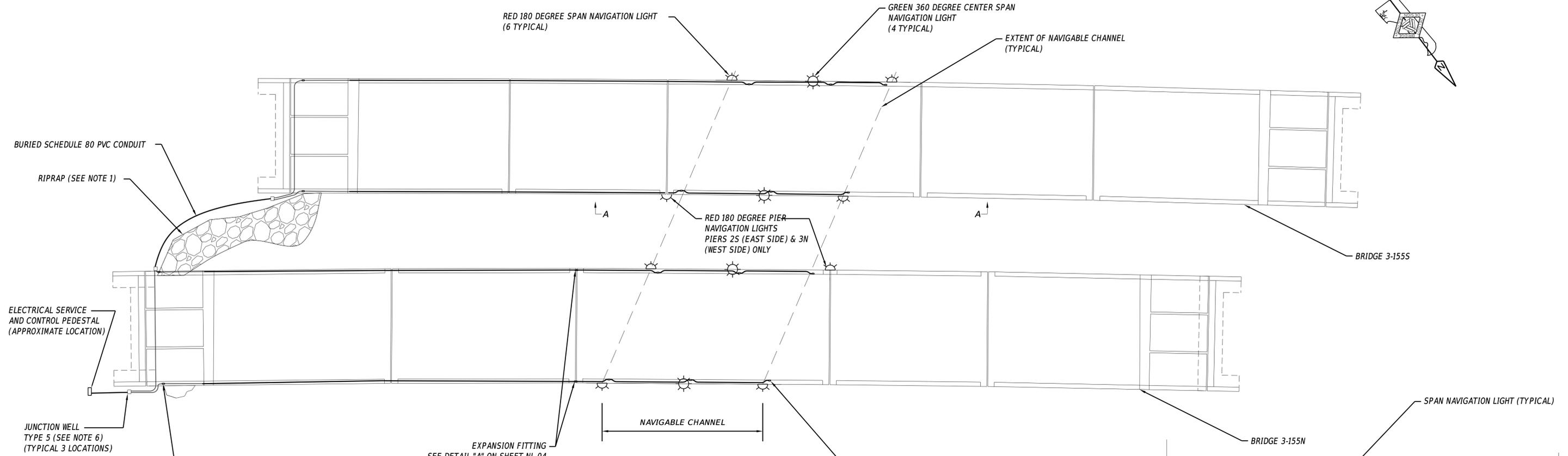
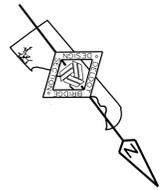
CONDUIT EMBEDDED IN THE PARAPET BARRIERS SHALL BE PROVIDED WITH EMBEDDED PULL/JUNCTION BOXES AT EACH LIGHT FIXTURE AS SHOWN ON THE PLANS AND WHERE REQUIRED BY CODE. EXPANSION, DEFLECTION AND EXPANSION/DEFLECTION FITTINGS SHALL BE PROVIDED WHEREVER EXPANSION AND/OR DEFLECTION WILL OCCUR.

ALL EXPOSED CONDUITS AND CABLES THROUGHOUT THE BRIDGE SHALL BE INSTALLED USING CONDUIT AND CABLE SUPPORTS IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (AUGUST 2016). ALL SUPPORTS SHALL BE CORROSION AND UV RESISTANT AND VIBRATION PROOF.

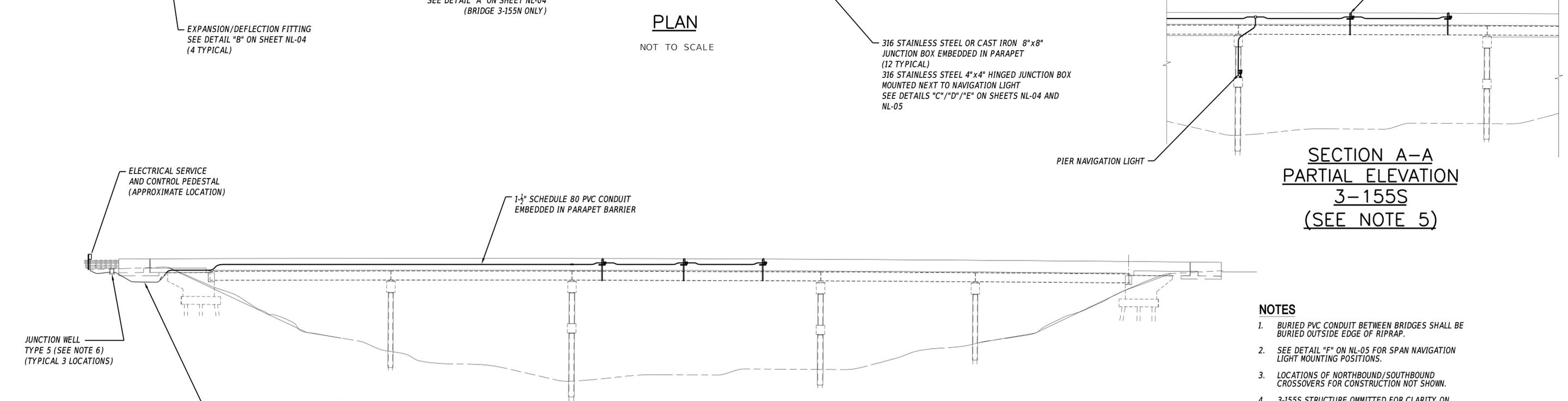
ALL WIRING SHALL BE MINIMUM #12AWG XHHW-2 STRANDED CONDUCTORS. THE CONTRACTOR SHALL VERIFY WIRE SIZING FOR CONDUIT FILL AND VOLTAGE DROP.

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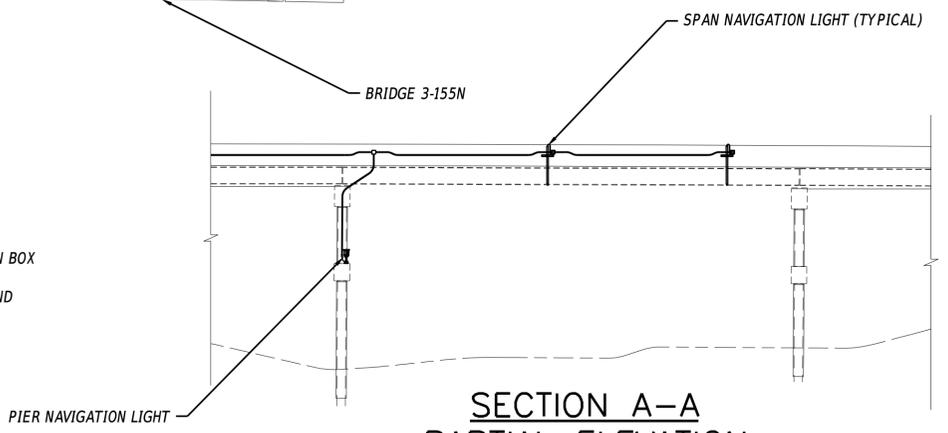
ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="font-size: small;">3-155N&S</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td style="font-size: small;">R. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td style="font-size: small;">J. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td colspan="2"></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N&S	T201907601	DESIGNED BY:	R. MARCHETTI	COUNTY	CHECKED BY:	J. MARCHETTI	SUSSEX			INDEX OF ELECTRICAL DRAWINGS AND ELECTRICAL NOTES	NL-01 SECTION TCS SHEET NO. 157
CONTRACT	BRIDGE NO.	3-155N&S																
T201907601	DESIGNED BY:	R. MARCHETTI																
COUNTY	CHECKED BY:	J. MARCHETTI																
SUSSEX																		



PLAN
NOT TO SCALE



ELEVATION
(SEE NOTE 4)
NOT TO SCALE

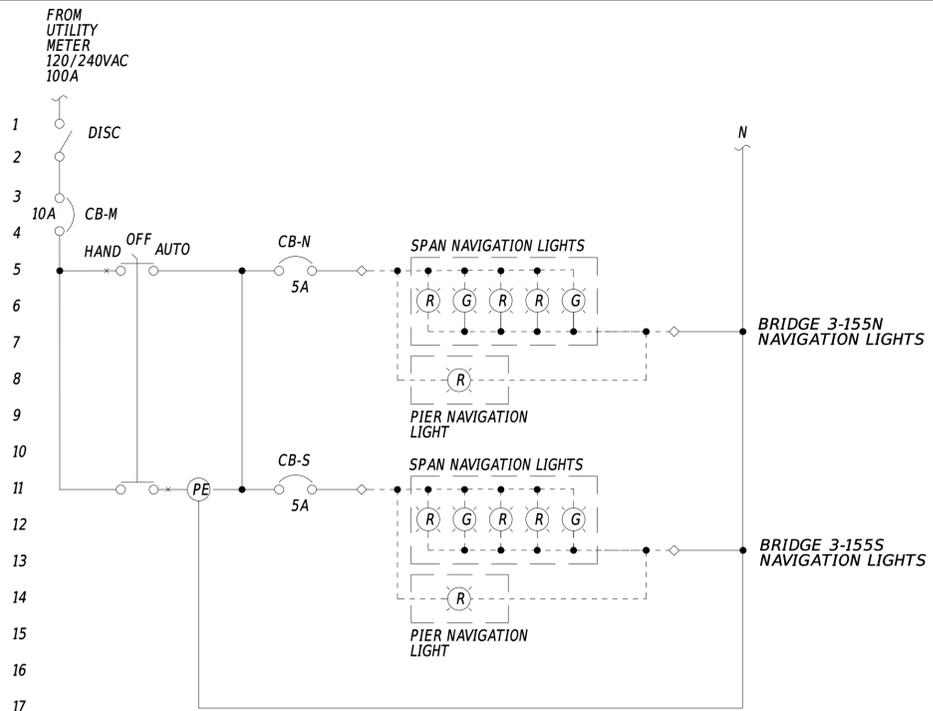
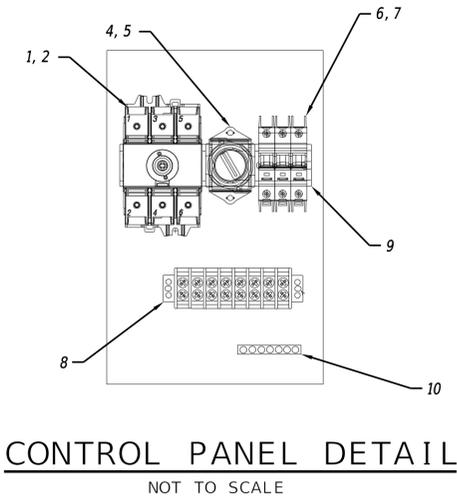
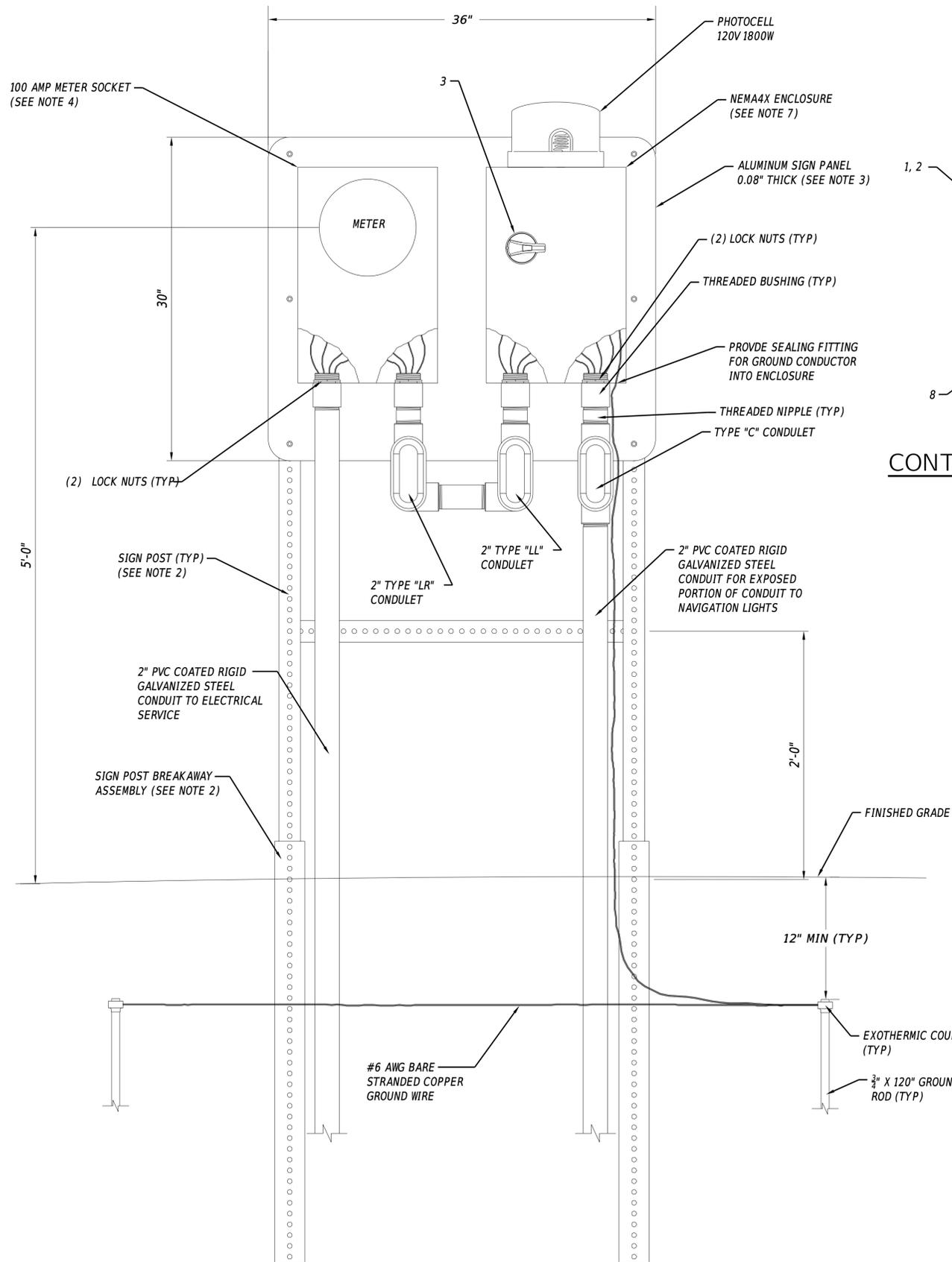


SECTION A-A
PARTIAL ELEVATION
3-155S
(SEE NOTE 5)

- NOTES**
- BURIED PVC CONDUIT BETWEEN BRIDGES SHALL BE BURIED OUTSIDE EDGE OF RIPRAP.
 - SEE DETAIL "F" ON NL-05 FOR SPAN NAVIGATION LIGHT MOUNTING POSITIONS.
 - LOCATIONS OF NORTHBOUND/SOUTHBOUND CROSSOVERS FOR CONSTRUCTION NOT SHOWN.
 - 3-155S STRUCTURE OMITTED FOR CLARITY ON ELEVATION VIEW.
 - 3-155N (WEST SIDE ONLY) NAVIGATION LIGHT MOUNTING SIMILAR BUT OPPOSITE HAND.
 - SEE DELDOT STANDARD DRAWING T-3 (TYPE 15)

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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N&S</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td style="font-size: small;">DESIGNED BY:</td> <td style="font-size: small;">R. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td style="font-size: small;">CHECKED BY:</td> <td style="font-size: small;">J. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td></td> <td></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N&S	T201907601	DESIGNED BY:	R. MARCHETTI	COUNTY	CHECKED BY:	J. MARCHETTI	SUSSEX			KEY PLAN	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">NL-02</td> </tr> <tr> <td style="font-size: small;">SECTION</td> </tr> <tr> <td style="font-size: small;">TCS</td> </tr> <tr> <td style="font-size: small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">158</td> </tr> </table>	NL-02	SECTION	TCS	SHEET NO.	158
CONTRACT	BRIDGE NO.	3-155N&S																				
T201907601	DESIGNED BY:	R. MARCHETTI																				
COUNTY	CHECKED BY:	J. MARCHETTI																				
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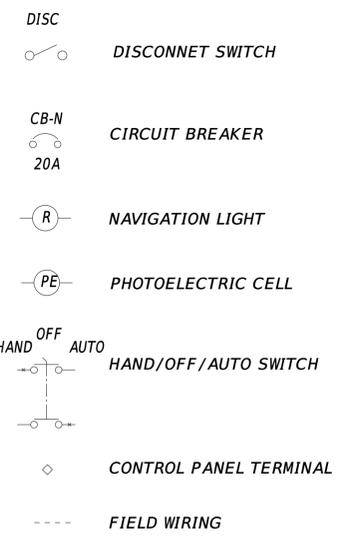
MATERIALS LIST

ITEM	QTY	PART NO.	MANUFACTURER	DESCRIPTION
1	1	R9C3100U	EATON	C-FRAME, 3-POLE, 30-100 AMP, NF, DISCONNECT
2	1	SF320SH5X5	EATON	SHAFT EXTENSION, 320mm
3	1	SHB0N4X	EATON	DOOR INTERLOCKED HANDLE, SIZE 0, BLACK, NEMA 4, 4X
4	1	10250T22KB-POP	EATON	SELECTOR SWITCH, 3 POSITION MAINTAINED, HOA LEGEND
5	1	M22-IVS	EATON	DIN RAIL MOUNTING ADAPTER
6	2	FAZB5 / 1	EATON	CIRCUIT BREAKER, 5A, 1-Pole, DIN RAIL MOUNT, 277/480V AC
7	1	FAZB10 / 1	EATON	CIRCUIT BREAKER, 10A, 1-Pole, DIN RAIL MOUNT, 277/480V AC
8	1	14004-8	EATON	TERMINAL BLOCK, 600V, 90A, 8 POSITION
9	N/A	XBANS35	EATON	DIN RAIL, PERFORATED 6.6"x1.4"x0.3" (2m x 35mm x 7.5mm)
10	1	NBAS-006-1-B	ILSCO	GROUND BAR, 6 CIRCUIT

NOTES

- ALL MATERIAL SUBSTITUTIONS MUST BE APPROVAL BY THE ENGINEER. SELECTED MATERIALS ARE TO ESTABLISH QUALITY AND REQUIREMENTS COMPONENTS AND MATERIALS SHALL BE UL LISTED AND THEIR INSTALLATION SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) STANDARDS, AND ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AND STANDARDS.
- SEE DELDOT STANDARD DRAWING T-17 FOR DETAILS.
- ATTACH ALUMINUM PANEL TO SIGN POSTS WITH (6) 1/8" X 2-1/2" LONG GRADE 5 BOLTS, FLAT WASHERS, AND NYLON LOCK NUTS, 3 ON EACH SIDE.
- MOUNT METER SOCKET TO ALUMINUM PANEL WITH (4) 1/4" X 4" STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
- MOUNT CONTROL PANEL TO ALUMINUM PANEL WITH (4) 1/4" X 4" STAINLESS STEEL BOLTS AND NYLON LOCK NUTS.
- ALL ENCLOSURES SHALL BE NEMA4X RATED.
- CONTROL PANEL ENCLOSURE SIZED AS REQUIRED.
- CONTROL PANEL TO BE UL LISTED.
- DISCONNECT SHALL BE SUITABLE FOR SERVICE ENTRANCE REQUIREMENTS.

ELECTRICAL SYMBOLS



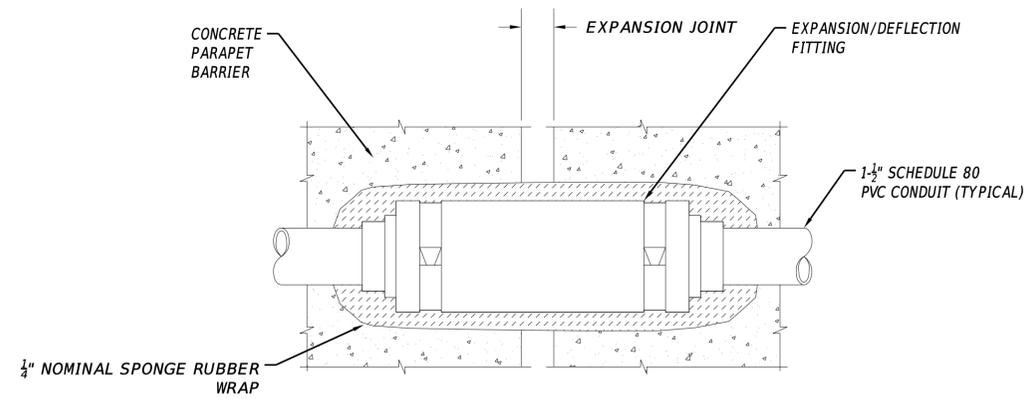
ABBREVIATIONS

- CB-N CIRCUIT BREAKER - NORTH BRIDGE LIGHTING
- CB-S CIRCUIT BREAKER - NORTH BRIDGE LIGHTING
- CB-M CIRCUIT BREAKER - MAIN
- PE PHOTOELECTRIC CELL

ELECTRICAL SERVICE AND CONTROL PEDESTAL
NOT TO SCALE

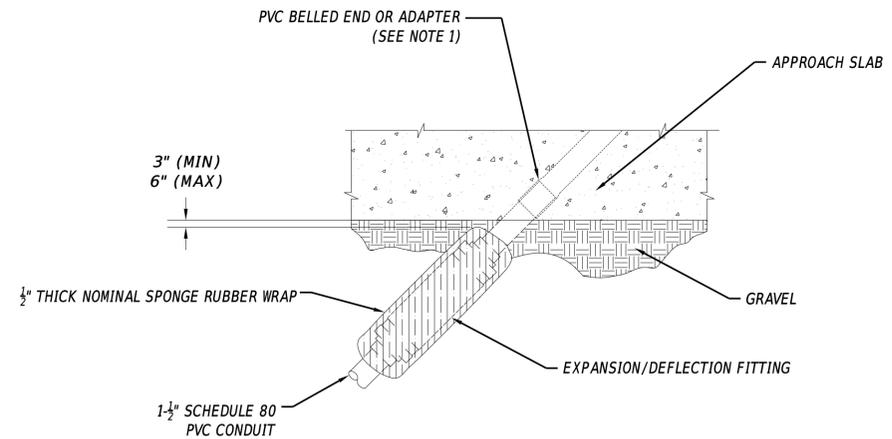
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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	UTILITY AND CONTROL PANEL	NL-03
				T201907601	DESIGNED BY: R. MARCHETTI	SECTION		TCS
				COUNTY	CHECKED BY: J. MARCHETTI		SHEET NO.	159
				SUSSEX				



**DETAIL "A" TYPICAL EXPANSION/DEFLECTION FITTING
(CONCRETE/CONCRETE)**

NOT TO SCALE

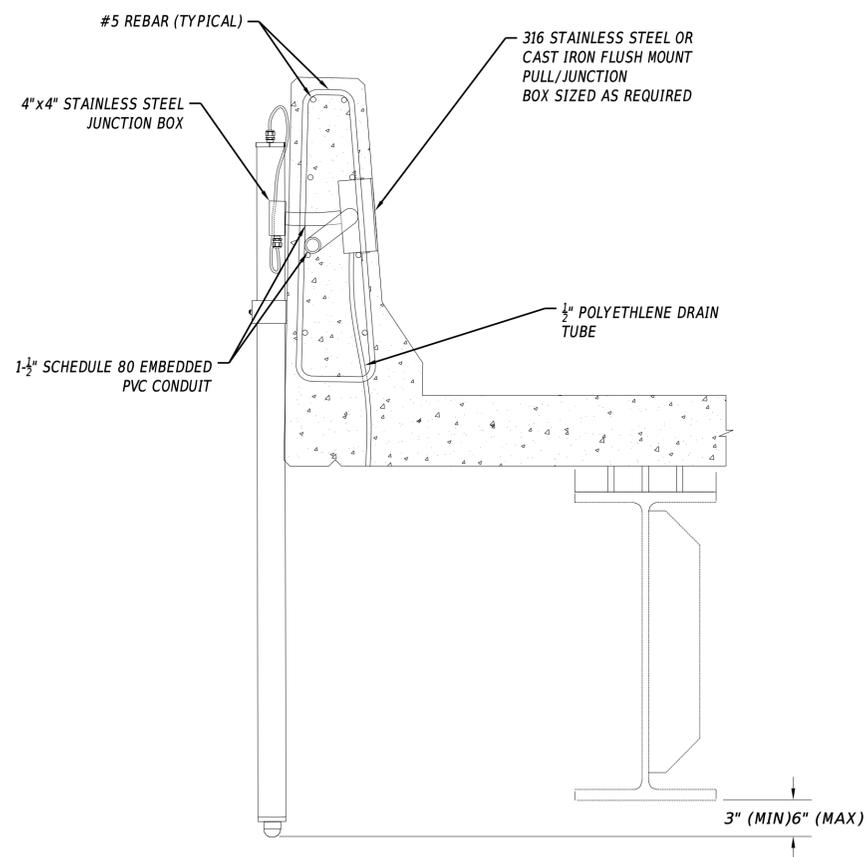


**DETAIL "B" TYPICAL EXPANSION/DEFLECTION FITTING
(EARTH/CONCRETE) (SEE NOTE 2)**

NOT TO SCALE

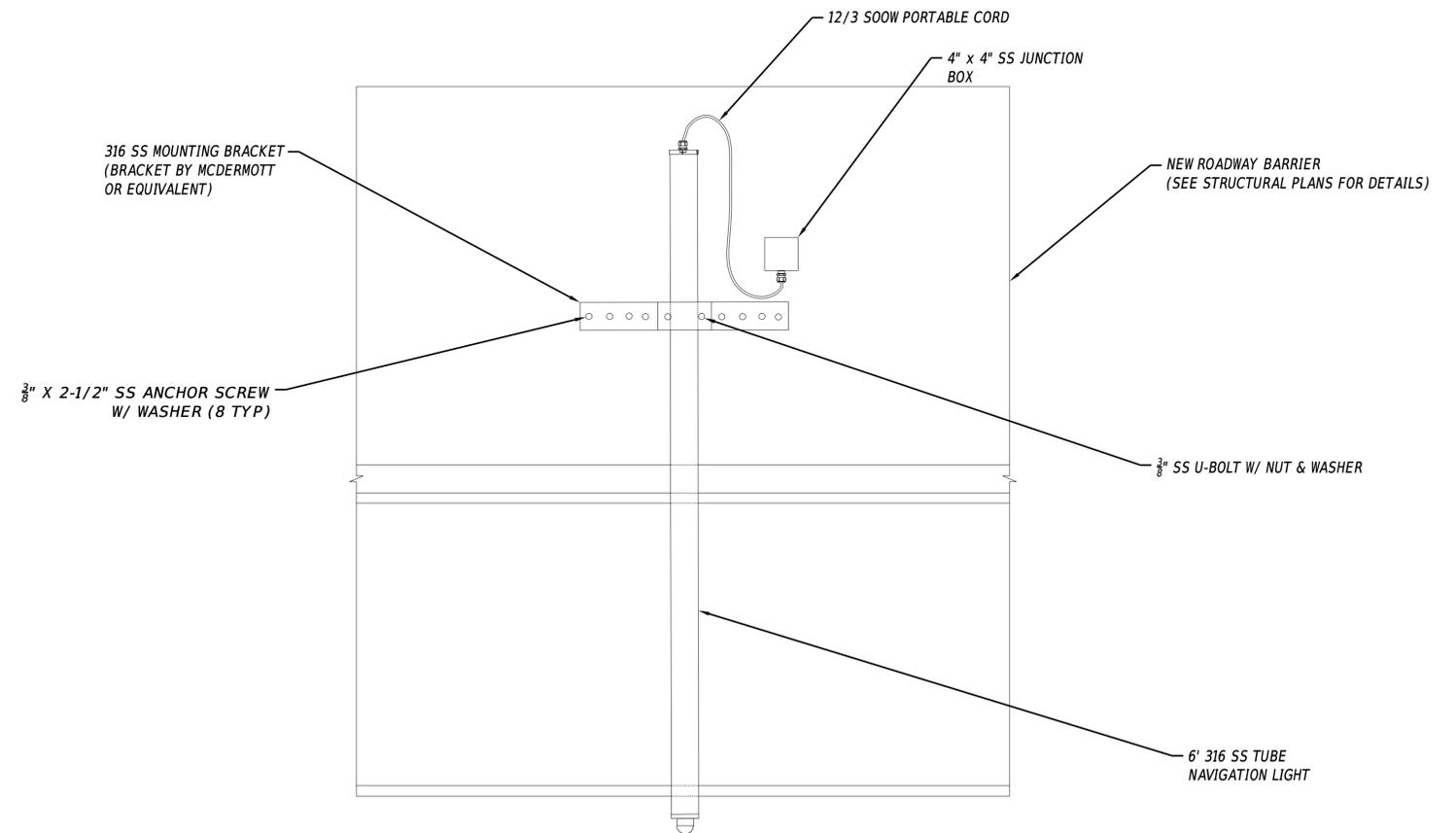
NOTES

1. CONDUIT SHALL BE THOROUGHLY CLEANED AND FREE FROM DEBRIS PRIOR TO MAKING CONNECTION.
2. CONDUIT SHALL ENTER APPROACH SLAB DIRECTLY INTO PARAPET SECTION.



**DETAIL "C" SECTION THRU PARAPET RAILING
AT ELECTRICAL JUNCTION BOX**

NOT TO SCALE

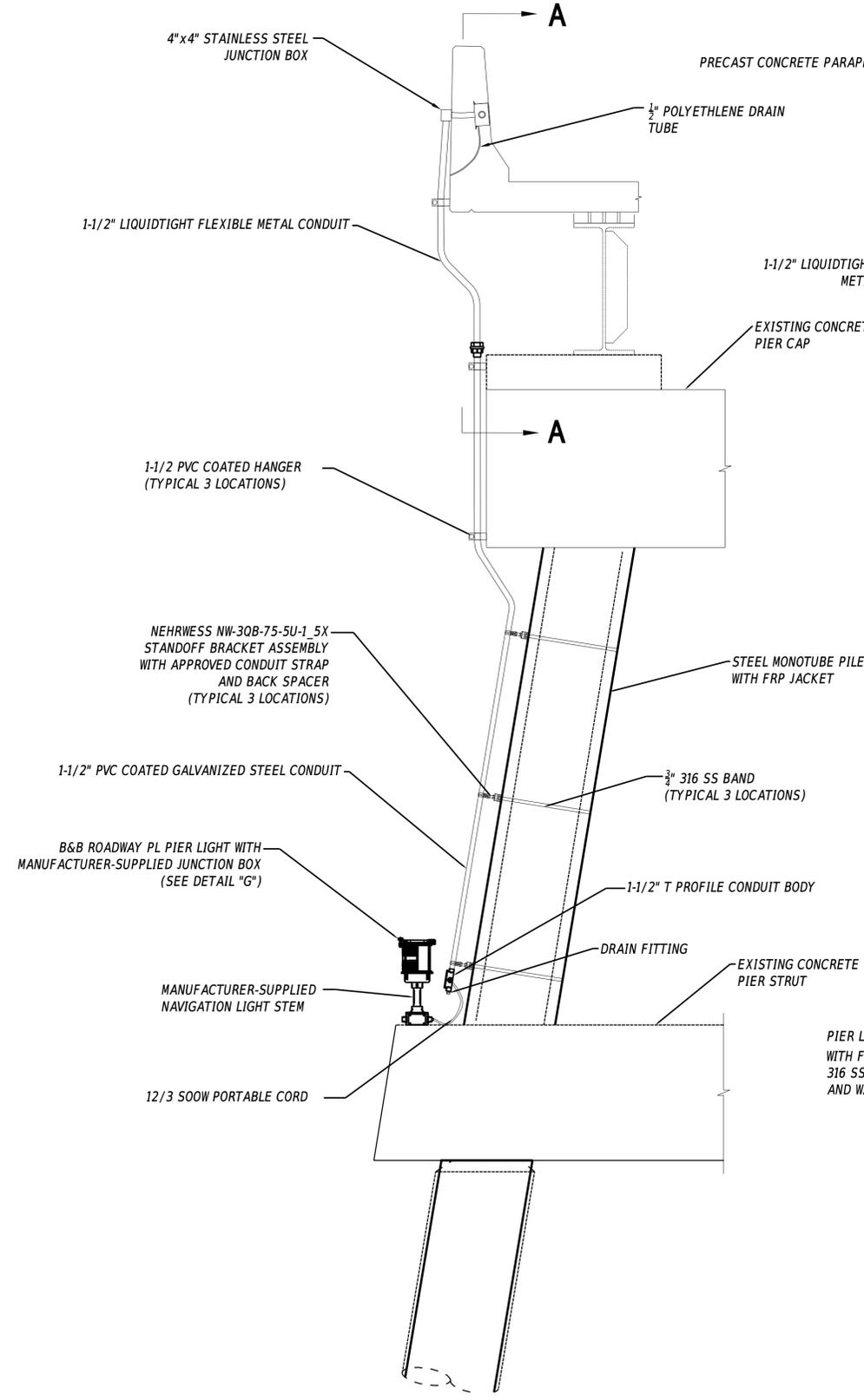


**DETAIL "D" PARTIAL ELEVATION
TYPICAL SPAN NAVIGATION LIGHT MOUNTING**

NOT TO SCALE

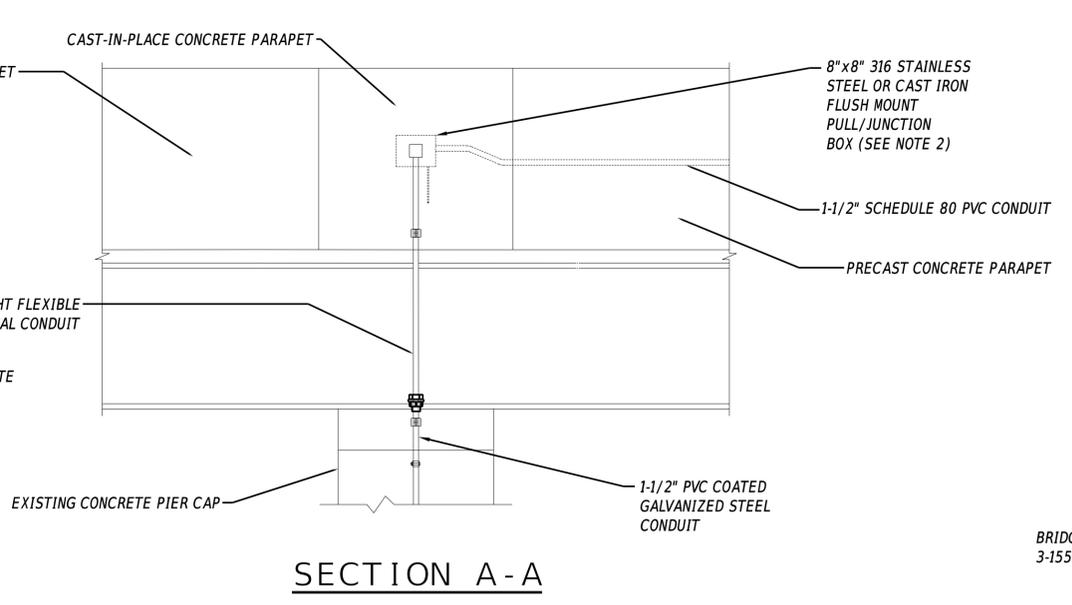
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ADDENDA / REVISIONS	SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">CONTRACT</td> <td style="font-size: small;">BRIDGE NO.</td> <td style="text-align: center;">3-155N&S</td> </tr> <tr> <td style="font-size: small;">T201907601</td> <td colspan="2" style="font-size: small;">DESIGNED BY: R. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">COUNTY</td> <td colspan="2" style="font-size: small;">CHECKED BY: J. MARCHETTI</td> </tr> <tr> <td style="font-size: small;">SUSSEX</td> <td colspan="2"></td> </tr> </table>	CONTRACT	BRIDGE NO.	3-155N&S	T201907601	DESIGNED BY: R. MARCHETTI		COUNTY	CHECKED BY: J. MARCHETTI		SUSSEX			NAVIGATIONAL LIGHTING DETAILS - 1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="font-size: small;">NL-04</td> </tr> <tr> <td style="font-size: small;">SECTION</td> </tr> <tr> <td style="font-size: small;">TCS</td> </tr> <tr> <td style="font-size: small;">SHEET NO.</td> </tr> <tr> <td style="text-align: center;">160</td> </tr> </table>	NL-04	SECTION	TCS	SHEET NO.	160
CONTRACT	BRIDGE NO.	3-155N&S																				
T201907601	DESIGNED BY: R. MARCHETTI																					
COUNTY	CHECKED BY: J. MARCHETTI																					
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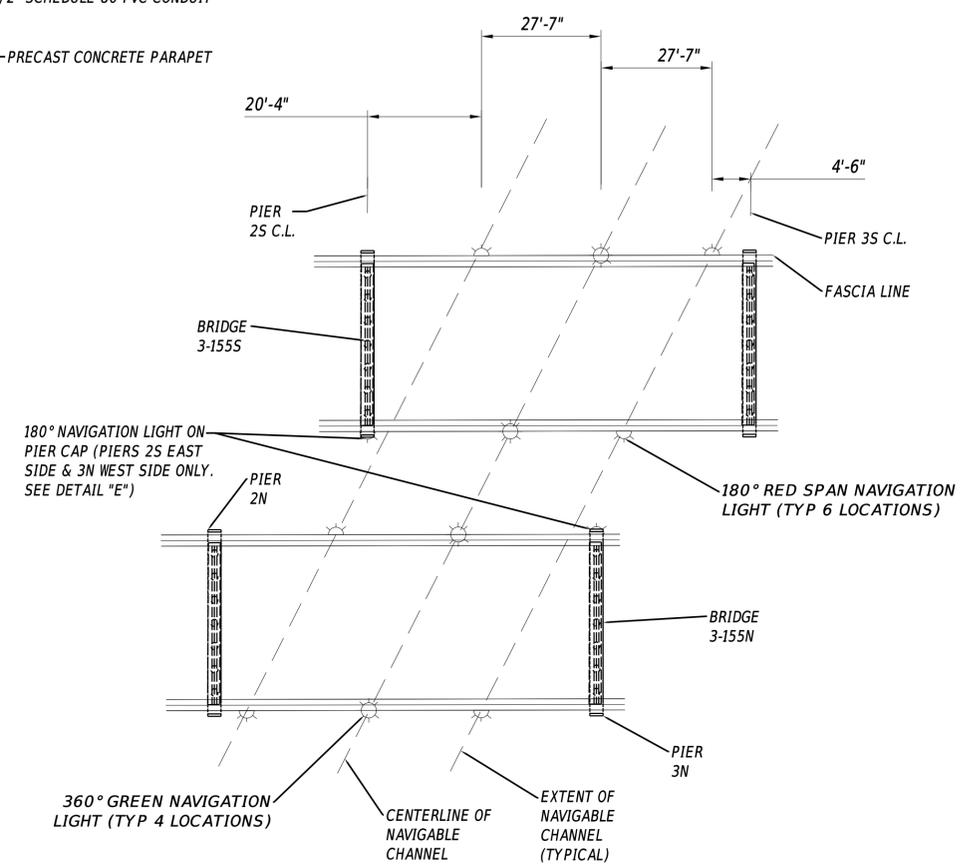


**DETAIL "E" PIER 3N NAVIGATION LIGHT DETAIL
(PIER 2S SIMILAR)**

NOT TO SCALE

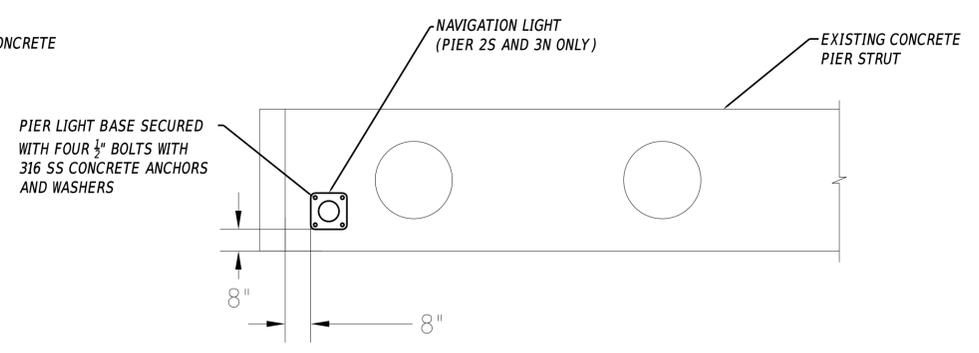


SECTION A-A



DETAIL "F" NAVIGATION LIGHT LOCATION PLAN

NOT TO SCALE



**DETAIL "G" PIER 3N STRUT PLAN
(PIER STRUT 2S OPPOSITE HAND)**

NOT TO SCALE

- NOTES**
- BRIDGE 3-155N NAVIGATION LIGHT PLACEMENT ON DETAIL "F" 180 DEGREE ROTATION FROM BRIDGE 3-155S SPAN NAVIGATION LIGHT PLACEMENT.
 - FLUSH MOUNT JUNCTION BOXES FOR PIER LIGHTS ON PIERS 2S AND 3N SHALL BE CAST-IN-PLACE. ALL OTHER FLUSH MOUNT JUNCTION BOXES SHALL BE PRECAST.

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ADDENDA / REVISIONS		SCALE AS NOTED	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	3-155N&S	NAVIGATIONAL LIGHTING DETAILS - 2	NL-05
				T201907601	DESIGNED BY: R. MARCHETTI	TCS		
				COUNTY	CHECKED BY: J. MARCHETTI		SHEET NO.	161
				SUSSEX				

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

- A. THE PURPOSE OF THESE SHEETS 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, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT DOT_ENVIRONMENTALSTUDIES@DELAWARE.GOV OR (302)760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THESE SHEETS 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 23 **
 DNREC - WETLANDS & SUBAQUEOUS LANDS (W.SL): WETLANDS AND SUBAQUEOUS LANDS PERMIT **
 DNREC - WQC & CZM: ISSUED (PROJECT NOT LOCATED IN A CRW)
 U.S. COAST GUARD - BRIDGE MAINTENANCE PROJECT PLAN**

* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THIS APPROVAL.

** THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE IT IS DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

B. CONSTRUCTION RESTRICTIONS:

- FISHERIES - TO PROTECT DIADROMOUS FISH MIGRATIONS/SPAWNING, NO IN-WATER WORK SHALL OCCUR FROM MARCH 1-JUNE 30 (INCLUSIVE). BARGES ARE ALLOWED DURING THIS PERIOD, BUT MUST REMAIN ANCHORED AND STATIONARY.
- ENDANGERED SPECIES - TO PROTECT ATLANTIC AND SHORNOSE STURGEON:
 1) FROM VESSEL STRIKES, PROJECT VESSEL SPEEDS MUST REMAIN BELOW 10 KNOTS;
 2) THE NUMBER OF PROJECT VESSELS MUST BE LIMITED TO THE GREATEST EXTENT POSSIBLE; AND
 3) TURBIDITY CONTROL MEASURES MUST BE DESIGNED TO NOT ENTANGLE OR ENTRAP THESE SPECIES.
- MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

BASED ON CURRENT COORDINATION, THE PROJECT IS CLEAR FOR CULTURAL RESOURCES AND EXEMPT FROM REVIEW BY THE DELAWARE STATE HISTORIC PRESERVATION OFFICE (SHPO) UNDER STIPULATION III OF DELDOT'S PROGRAMMATIC AGREEMENT WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND SHPO. AS A RESULT, DELDOT CULTURAL RESOURCE STAFF HAVE ISSUED A FINDING OF NO HISTORIC PROPERTIES AFFECTED FOR THIS PROJECT. THERE ARE NO CULTURAL RESOURCE CONCERNS AS LONG AS THE PROJECT SCOPE IS NOT MODIFIED AND ALL STAGING AND STOCKPILING REMAIN WITHIN THE EXISTING ROADWAY FOOTPRINT. SHOULD IT BE NECESSARY TO ADD ADDITIONAL ACCESS LOCATIONS, OTHER STOCKPILING/STAGING AREAS, OR OTHERWISE ALTER THE SCOPE OF THE PROJECT, DELDOT ENVIRONMENTAL STUDIES STAFF WILL NEED TO REVIEW THESE CHANGES FOR POTENTIAL CULTURAL RESOURCES CONCERNS.

4. RESTORATION:

- A. FOLLOW THE SPECIAL PROVISION FOR ITEM 707500 - 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 707500 - 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 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 707500 - 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 707500 - 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.

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 908017 - TEMPORARY GRASS SEEDING (ANNUAL RYEGRASS).
- 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. SANDBAGS AND CFL'S (AND CONTENTS) MUST BE REMOVED IN THEIR ENTIRETY WHEN NO LONGER NEEDED. SANDBAGS/CFL USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM 905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (TREVOR MCCOLLEY, 302-760-2278) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.
- D. ESSENTIAL FISH HABITAT - PROJECT VESSELS SHALL BE OPERATED IN ADEQUATE WATER DEPTHS TO AVOID PROPELLER SCOUR AND GROUNDING AT ALL TIDES. SHALLOW DRAFT VESSELS WILL BE USED IN SHALLOW AREAS TO MAXIMIZE THE NAVIGATIONAL CLEARANCE BETWEEN THE VESSEL AND THE BOTTOM SUBSTRATE. SPUDS MAY BE USED TO ELEVATE THE VESSEL.
- E. TO PROTECT AQUATIC SPECIES (INCLUDING EGGS) FROM IMPINGEMENT AND/OR ENTRAINMENT, TEMPORARY INTAKES RELATED TO CONSTRUCTION OCCURRING FROM MARCH 1 TO OCTOBER 31 (INCLUSIVE) MUST BE EQUIPPED WITH 2 MILLIMETER (MM) WEDGE WIRE SCREENS WITH A MAXIMUM INTAKE VELOCITY OF 0.5 FEET PER SECOND (FT/SEC). PAYMENT FOR STREAM PUMPING AND DEWATERING OPERATIONS USING SCREENS WILL BE INCIDENTAL TO ITEM 909004 - TURBIDITY CURTAIN, FLOATING. CONTRACTOR MAY CHOOSE FROM ANY OF THE FOLLOWING APPROVED PRODUCTS AND ALTERNATIVE PRODUCTS WILL NOT BE CONSIDERED:
 - LAKOS Filtration Solutions: PC-Self Cleaning Intake Screen (<https://www.lakos.com/product/pc-series-self-cleaning-intake-screen/>)
 - Federal Screen Products Inc. Intake Screen (<https://www.federalscreen.com/intake-screens>)
 - Hendrick Screen Company: Passive Water Intake Wedge Wire Screens (<https://www.hendrickcorp.com/screen/markets/water-intake-water-treatment/>)
 - Big Brand Water Filter, Inc.: Self-Cleaning Pump Intake Screens PC-915 (https://www.bigbrandwater.com/Self-Cleaning-Pump-Intake-Screens-PC-915_p_17721.html)

NOTES:

WETLANDS DELINEATED BY WHITMAN, REQUADT & ASSOCIATES ON SEPTEMBER 11, 2019 IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS MANUAL AND THE 2012 ATLANTIC AND GULF COASTAL PLAIN REGIONAL SUPPLEMENT.

SHEETS PREPARED BY: WHITMAN, REQUADT & ASSOCIATES, LLP
 DATE: OCTOBER 1, 2019
 LAST UPDATED JUNE 23, 2020

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
SHEET	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
EC-02	USACE/DNREC IMPACTS	15,884.88	0.3647	154.10	USACE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		15,884.88	0.3647	154.10	USACE/DNREC

TEMPORARY TIDAL WETLAND IMPACT AREA SCHEDULE					
SHEET	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
EC-02	DNREC IMPACTS	3,792.94	0.0871	347.52	DNREC
TOTAL TEMPORARY WETLAND IMPACTS (DNREC)		3,792.97	0.0871	347.52	DNREC

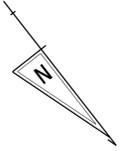
ADDENDA / REVISIONS

**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

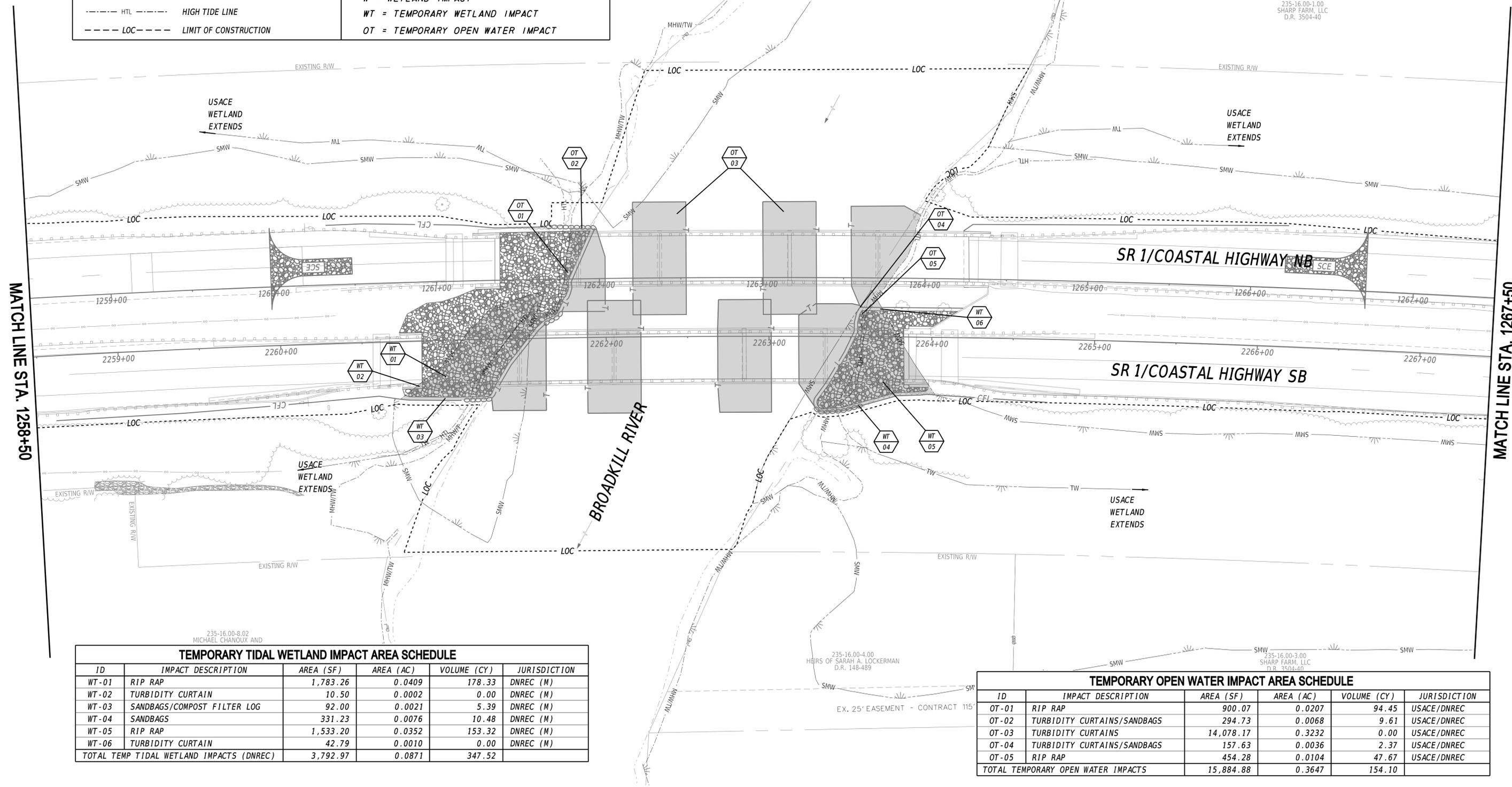
CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY: L. CALLENS	
COUNTY	CHECKED BY: W. GESCHREI	
SUSSEX		

**ENVIRONMENTAL
COMPLIANCE PLAN**

EC-01
SECTION
WRA
SHEET NO.
162



LEGEND	
	TEMPORARY IMPACT AREA
	USACE TIDAL WETLAND
	STATE MAPPED WETLAND
	MEAN HIGH WATER
	HIGH TIDE LINE
	LIMIT OF CONSTRUCTION
	IMPACT AREA TYPE ID. (SEE BELOW) IMPACT AREA ID. AND/OR NUMBER
O	OPEN WATER IMPACT
M	MARSH
T	TIDAL MUDFLATS
W	WETLAND IMPACT
WT	TEMPORARY WETLAND IMPACT
OT	TEMPORARY OPEN WATER IMPACT



235-16.00-8.02
MICHAEL CHANOUX AND

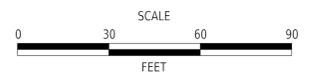
235-16.00-4.00
HEIRS OF SARAH A. LOCKERMAN
D.R. 148-489

235-16.00-3.00
SHARP FARM, LLC
D.R. 3504-40

TEMPORARY TIDAL WETLAND IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
WT-01	RIP RAP	1,783.26	0.0409	178.33	DNREC (M)
WT-02	TURBIDITY CURTAIN	10.50	0.0002	0.00	DNREC (M)
WT-03	SANDBAGS/COMPOST FILTER LOG	92.00	0.0021	5.39	DNREC (M)
WT-04	SANDBAGS	331.23	0.0076	10.48	DNREC (M)
WT-05	RIP RAP	1,533.20	0.0352	153.32	DNREC (M)
WT-06	TURBIDITY CURTAIN	42.79	0.0010	0.00	DNREC (M)
TOTAL TEMP TIDAL WETLAND IMPACTS (DNREC)		3,792.97	0.0871	347.52	

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-01	RIP RAP	900.07	0.0207	94.45	USACE/DNREC
OT-02	TURBIDITY CURTAINS/SANDBAGS	294.73	0.0068	9.61	USACE/DNREC
OT-03	TURBIDITY CURTAINS	14,078.17	0.3232	0.00	USACE/DNREC
OT-04	TURBIDITY CURTAINS/SANDBAGS	157.63	0.0036	2.37	USACE/DNREC
OT-05	RIP RAP	454.28	0.0104	47.67	USACE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		15,884.88	0.3647	154.10	

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	BR-155N&S
T201907601	DESIGNED BY:	L. CALLENS
COUNTY	CHECKED BY:	W. GESCHREI
SUSSEX		

**ENVIRONMENTAL
COMPLIANCE PLAN**

EC-02
SECTION
WRA
SHEET NO.
163

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GENERAL TRAFFIC CONTROL NOTES

- ALL NECESSARY SIGNS SHALL BE INSTALLED PRIOR TO THE OPENING/REOPENING/CLOSING OF A ROADWAY OR RAMP. THE CONTRACTOR SHALL SCHEDULE A WALKTHROUGH WITH THE ENGINEER, TRAFFIC SAFETY SECTION, TRAFFIC CONSTRUCTION SECTION, AND OTHER PERSONNEL SHALL OCCUR NO LESS THAN 48 HOURS PRIOR TO THE OPENING/REOPENING OF ANY ROAD OR RAMP.
- DURING THE PERIOD BETWEEN STAGES, THE LIMITS OF THE WORK ZONE MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER IN THE FIELD. A WARNING SIGN SHALL NOT BE PAID WHILE THE SIGN IS NOT IN USE, INCLUDING DURATIONS WHEN THE CONTRACTOR CHOOSES TO BAG THE SIGN.
- REMOVAL OF EXISTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER SHALL BE PAID UNDER ITEM 817031 - REMOVAL OF PAVEMENT STRIPING. ALL MARKINGS THAT ARE NO LONGER IN USE AND CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS IN USE DURING A GIVEN STAGE ARE TO BE REMOVED BY THE CONTRACTOR AND MUST BE COMPLETELY OBLITERATED BY WATERBLASTING. PAINTING OVER THE CONFLICTING STRIPING WILL NOT BE ACCEPTED AS A METHOD OF REMOVAL. IF WEATHER CONDITIONS (FREEZING TEMPERATURES) PREVENT WATERBLASTING, THEN ALTERNATE REMOVAL METHODS MAY BE PERMITTED WITH APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL SUPPLY PORTABLE CHANGEABLE MESSAGE SIGNS UNDER ITEM 803001 - FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN. THE CONTRACTOR MUST DESIGNATE A PERSON RESPONSIBLE FOR THESE MESSAGE BOARDS. RELOCATING THE MESSAGE BOARDS TO DIFFERENT LOCATIONS WILL BE INCIDENTAL TO ITEM 803001. IN ADDITION TO THE LOCATIONS DEPICTED ON THE TRAFFIC CONTROL PLANS, MESSAGE BOARDS SHALL BE POSTED ALONG SR 1 NORTHBOUND AND SOUTHBOUND INFORMING MOTORISTS OF CHANGES IN TRAFFIC PATTERNS ASSOCIATED WITH EACH STAGE OF CONSTRUCTION. THE PCMSs SHALL DISPLAY THE MESSAGE "NEW TRAFFIC PATTERN" (SCREEN 1) "ON OR ABOUT MM/DD" (SCREEN 2) FOR SEVEN DAYS PRIOR TO TRAFFIC PATTERN CHANGES AND THE MESSAGE "NEW TRAFFIC PATTERN" (SCREEN 1) "USE CAUTION" (SCREEN 2) FOR SEVEN DAYS AFTER THE TRAFFIC PATTERN HAS BEEN CHANGED. ALL LOCATIONS AND MESSAGES FOR THE MESSAGE BOARDS SHALL BE APPROVED BY THE DISTRICT SAFETY OFFICER.
- TEMPORARY IMPACT ATTENUATORS ON SR 1 SHALL BE DESIGNED FOR A 60 MPH DESIGN SPEED, NON-GATING, REDIRECTIVE, TL-3.
- THE REFLECTIVE LENSES ONLY OF ANY EXISTING RAISED/RECESSED PAVEMENT MARKERS IN CONFLICT WITH PROPOSED TEMPORARY STRIPING SHALL BE REMOVED. PAYMENT FOR REMOVAL OF THE REFLECTIVE LENSES WILL BE INCIDENTAL TO ITEM 801000 - MAINTENANCE OF TRAFFIC.
- W11-10 (48"x48") TRUCK WARNING SIGNS SHALL BE INSTALLED 500 FEET IN ADVANCE OF ALL ACTIVE STABILIZED CONSTRUCTION ENTRANCES (SCEs). THE CONTRACTOR SHALL COORDINATE THE PLACEMENT OF THE TRUCK WARNING SIGNS WITH OTHER SIGNING AS APPROVED BY THE ENGINEER. SCEs SHALL BE DELINEATED BY TYPE III BARRICADES AT ALL TIMES.
- WHEN THE LEADING END OF THE BARRIER IS OPEN FOR CONSTRUCTION ACCESS AND WORK IS OCCURRING WITHIN THE STOPPING SIGHT DISTANCE FROM THE END OF THE BARRIER (495 FEET OF THE LEADING END OF THE BARRIER FOR SR 1 MAINLINE), A TYPE 2 TRUCK MOUNTED ATTENUATOR SHALL BE PROVIDED AT THE LEADING END OF THE BARRIER TO PROTECT THE WORK AREA AND TO PREVENT ERRANT VEHICLES FROM TRAVELING BEHIND THE BARRIER.
- THE TYPICAL APPLICATIONS FROM PART 6 OF THE DELAWARE MUTCD SHALL BE UTILIZED FOR CONSTRUCTION ACTIVITIES WHICH OCCUR OUTSIDE OF THE WORK AREAS ESTABLISHED ON THE CONSTRUCTION STAGING, MOT AND EROSION CONTROL PLANS, OR AS DIRECTED BY THE ENGINEER:
 - TYPICAL APPLICATION 35B - INSTALLATION OF ALL LANE LINE, CENTERLINE, AND EDGE LINE PAVEMENT MARKINGS
 - PAVING AND PATCHING - TA-33
 - ALL LIGHTING, SIGNING, ITMS, AND TEMPORARY SIGNING WORK IN THE MEDIAN AND ON OR OFF THE SHOULDER - TA-3A, TA-33
- ALL DRUMS SHALL BE DOUBLE RINGED.
- TEMPORARY P.C.C. SAFETY BARRIER IS INSTALLED TO PHYSICALLY CLOSE THE ACTIVE BRIDGE CONSTRUCTION AREA TO ERRANT OR ROGUE VEHICLES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING THIS BARRIER FOR ACCESS TO THE WORK AREA AND FOR REPOSITIONING THE BARRIER TO PHYSICALLY CLOSE THE WORK AREA AT THE END OF EACH WORK SHIFT. RELOCATING AND REPOSITIONING THE BARRIER WILL NOT BE MEASURED AND PAID FOR, BUT WILL BE INCIDENTAL TO ITEM 801001 - MAINTENANCE OF TRAFFIC.
- RUMBLE STRIP REMOVAL REQUIRED FOR THE IMPLEMENTATION OF THE TEMPORARY LANE CONFIGURATIONS SHOWN ON THESE PLANS WILL BE PERFORMED BY OTHERS UNDER CONTRACT T201904003.01 - OPEN END CONSTRUCTION SERVICES, KENT & SUSSEX COUNTY AND IS TO BE COMPLETED PRIOR TO SHIFTING TRAFFIC IN THIS PROJECT.
- RELAPPING GUARDRAIL W BEAMS FOR THE PROPER APPROACH DIRECTION OF TRAFFIC THROUGH EACH STAGE AND REPLACING GUARDRAIL REFLECTORS FOR THE DIRECTION OF TRAVEL WILL NOT BE MEASURED AND PAID FOR BUT WILL BE INCIDENTAL TO ITEM 801000 - MAINTENANCE OF TRAFFIC.
- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

()	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
X	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. 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. 801000 - 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.

TRAFFIC OFFICER NOTES

- THE CONTRACTOR SHALL PROVIDE TWO TRAFFIC OFFICERS FOR MAJOR PHASE CHANGE TRAFFIC SWITCHES ON SR 1. THE TRAFFIC OFFICERS SHALL BE ON-SITE DURING THE TRAFFIC SWITCH AND DURING THE FIRST MORNING PEAK PERIOD (6AM - 9AM) AND THE FIRST AFTERNOON PEAK PERIOD (3PM - 7PM) AFTER THE TRAFFIC SWITCH HAS BEEN IMPLEMENTED.
- ADDITIONAL USAGE OF TRAFFIC OFFICERS OUTSIDE OF THE ABOVE REQUIREMENTS SHALL BE APPROVED BY THE ENGINEER IN CONSULTATION WITH THE TRAFFIC SAFETY SECTION.

WORK HOUR RESTRICTION NOTES

- ALL WORK REQUIRING LANE CLOSURES SHALL BE COMPLETED DURING THE HOURS PERMITTED IN THE FOLLOWING TABLE.

HOUR	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
0							
1							
2							
3							
4							
5							
6							
7							
8							
9						SEE NOTE	
10						SEE NOTE	
11						SEE NOTE	
12						SEE NOTE	
13						SEE NOTE	
14						SEE NOTE	
15							
16							
17							
18							
19							
20							
21							
22							
23							

NOTE: SINGLE LANE CLOSURE PERMITTED ON FRIDAYS DURING HOURS SHOWN NOVEMBER THROUGH FEBRUARY ONLY.

 LANE CLOSURES NOT PERMITTED
 LANE CLOSURES PERMITTED

- ALL WORK REQUIRING A ROADWAY CLOSURE AND DETOUR OF SR 1 SHALL BE COMPLETED DURING THE HOURS PERMITTED IN THE FOLLOWING TABLE. THE ROADWAY CLOSURE AND DETOUR OF SR 1 SHALL ONLY BE PERMITTED A MAXIMUM OF 10 TIMES (I.E. 10 NIGHTS OF THE SR 1 ROADWAY CLOSURE AND DETOUR). BOTH DIRECTIONS OF SR 1 SHALL BE CLOSED AND DETOURED SIMULTANEOUSLY. ROADWAY CLOSURES AND DETOURS OF SR 1 NORTHBOUND AND SOUTHBOUND SHALL BE PERMITTED DURING PHASE 1 AND PHASE 3 ONLY, AS APPROVED BY THE ENGINEER.

HOUR	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
0							
1							
2							
3							
4							
5							
6							
7							
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9							
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23							

 ROAD CLOSURE NOT PERMITTED
 ROAD CLOSURE PERMITTED

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ADDENDA / REVISIONS		NOT TO SCALE	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT	BRIDGE NO.	N/A	CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN GENERAL NOTES	CS-001
				T201907601	DESIGNED BY: WRA	SECTION		WRA
		COUNTY	CHECKED BY: WRA	SHEET NO.	164			
		SUSSEX						

GENERAL EROSION CONTROL NOTES

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

- THE DISTURBED AREA FOR THIS PROJECT IS 1.45 ACRES.
- THE TOTAL IMPERVIOUS AREA ADDED AS RESULT OF THIS PROJECT IS 0.11 ACRES.
- THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A FIVE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

EROSION CONTROL SEQUENCE OF CONSTRUCTION

PHASE 1:

- IN CONJUNCTION WITH INSTALLATION OF TRAFFIC CONTROLS SHOWN ON CS-101 THROUGH CS-107, INSTALL NEW MEDIAN INLET PROTECTIONS ON EXISTING MEDIAN INLETS AS SHOWN ON CS-103 AND CS-105.
- UPON SHIFT OF TRAFFIC FROM SR 1 SB TO SR 1 NB, INSTALL STABILIZED CONSTRUCTION ENTRANCES FOR SB BRIDGE RECONSTRUCTION AS SHOWN ON CS-104.
- AS SHOWN ON CS-104 AND IN ACCORDANCE WITH THE BRIDGE RECONSTRUCTION PLANS/SEQUENCE OF CONSTRUCTION; THE REQUIREMENTS ON THE ENVIRONMENTAL COMPLIANCE PLANS; AND ALL APPLICABLE PERMITS AND REGULATIONS, INSTALL COMPOST FILTER LOGS, SANDBAG DIVERSIONS AND TURBIDITY CURTAINS AND PROCEED WITH THE RECONSTRUCTION THE SR 1 SB BRIDGE AND INSTALLATION OF THE ASSOCIATED SCOUR COUNTERMEASURES AND PIER REPAIRS.
- WITH THE APPROVAL OF THE ENGINEER, SCOUR COUNTERMEASURES AND PIER REPAIRS FOR THE SR 1 NB BRIDGE MAY BE IMPLEMENTED DURING PHASE 1. THIS WORK AND THE ASSOCIATED EROSION AND SEDIMENT CONTROLS ARE THEREFORE SHOWN ON THE PHASE 1 PLANS. THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY OF CONFIRMING THE EXTENT OF WORK TO BE PERFORMED DURING PHASE 1 WITH THE ENGINEER IN ORDER TO ENSURE FEASIBILITY OF CONSTRUCTION OPERATIONS WITH TRAFFIC CONTROL OPERATIONS, ENVIRONMENTAL REQUIREMENTS AND ANY OTHER CONTRACT REQUIREMENTS IMPACTING EXECUTION OF THE PLANNED WORK. ALL MAINTENANCE OF STREAM FLOW DEVICES INCLUDING ALL SANDBAGS, TURBIDITY CURTAINS, PUMPS AND ANY OTHER DEVICES USED DURING THE INSTALLATION OF THE SCOUR COUNTERMEASURES SHALL NOT BE LEFT IN PLACE DURING PHASE 2. WITH THE APPROVAL OF THE ENGINEER, COMPOST FILTER LOGS AT THE BRIDGE ABUTMENTS MAY BE LEFT IN PLACE.
- STABILIZE ALL REMAINING, DISTURBED AREAS IN THE PHASE 1 WORK ZONE WITH TOPSOIL, SEED AND ECBM IN ACCORDANCE WITH THE ROADWAY TYPICAL SECTIONS AND ANY REQUIREMENTS OF THE ENVIRONMENTAL COMPLIANCE PLANS.
- UPON COMPLETION OF THE SR 1 SB BRIDGE AND WITH THE APPROVAL OF THE ENGINEER, REMOVE THE PHASE 1 STABILIZED CONSTRUCTION ENTRANCES AND PROCEED WITH IMPLEMENTATION OF PHASE 2 OPERATIONS.

PHASE 2:

- MAINTAIN ALL PHASE 1 INLET PROTECTION AND COMPOST FILTER LOG SEDIMENT CONTROLS FOR DURATION OF PHASE 2, DURING WHICH NO ACTIVE CONSTRUCTION ACTIVITIES ARE TO TAKE PLACE UNLESS AUTHORIZED BY THE ENGINEER.

PHASE 3:

- MAINTAIN ALL REMAINING, PHASE 1 EROSION AND SEDIMENT CONTROL DEVICES.
- UPON SHIFT OF TRAFFIC FROM SR 1 NB TO SR 1 SB, INSTALL STABILIZED CONSTRUCTION ENTRANCES FOR NB BRIDGE RECONSTRUCTION AS SHOWN ON CS-303 AND CS-304.
- AS SHOWN ON CS-304 AND IN ACCORDANCE WITH THE BRIDGE RECONSTRUCTION PLANS/SEQUENCE OF CONSTRUCTION; THE REQUIREMENTS ON THE ENVIRONMENTAL COMPLIANCE PLANS; AND ALL APPLICABLE PERMITS AND REGULATIONS, INSTALL OR MAINTAIN FROM PHASE 1 INSTALLATION ALL COMPOST FILTER LOGS, SANDBAG DIVERSIONS AND TURBIDITY CURTAINS AND PROCEED WITH THE RECONSTRUCTION THE SR 1 NB BRIDGE AND THE ASSOCIATED SCOUR COUNTERMEASURES AND PIER REPAIRS. MAINTENANCE OF STREAM FLOW DEVICES INCLUDING SANDBAG DIVERSIONS AND TURBIDITY CURTAINS ARE SHOWN FOR BOTH THE SR 1 NB AND SB BRIDGES IN THE EVENT THAT WORK ON THE SB BRIDGE ELEMENTS AND SCOUR COUNTERMEASURES WAS NOT COMPLETED DURING PHASE 1. THESE DEVICES MUST BE RE-INSTALLED DURING PHASE 3 DUE TO THEIR PROHIBITION DURING PHASE 2. THE CONTRACTOR SHALL CONFIRM THE NEED FOR ALL MAINTENANCE OF STREAM FLOW DEVICES TO BE INSTALLED IN PHASE 3 WITH THE ENGINEER PRIOR TO PROCEEDING.
- UPON COMPLETION OF ALL SCOUR COUNTERMEASURES AND PIER REPAIRS, STABILIZE ALL AREAS OF BARE EARTH DIRECTLY ADJACENT TO THE BROADKILL RIVER IN ACCORDANCE WITH THE ROADWAY TYPICAL SECTIONS AND THE ENVIRONMENTAL COMPLIANCE PLANS.
- STABILIZE ALL REMAINING, DISTURBED AREAS IN THE PHASE 3 WORK ZONE WITH TOPSOIL, SEED AND INSTALL ECBM MULCH IN ACCORDANCE WITH THE ROADWAY TYPICAL SECTIONS AND ANY REQUIREMENTS OF THE ENVIRONMENTAL COMPLIANCE PLANS.

PHASE 4:

- MAINTAIN ALL REMAINING EROSION AND SEDIMENT CONTROL DEVICES FROM PREVIOUS PHASES.
- UPON SHIFT OF TRAFFIC FROM MEDIAN CROSSOVERS TO PERMANENT SR 1 NB AND SB TRAVEL LANES, INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON CS-402, CS-403 AND CS-405, AND INSTALL ADDITIONAL INLET PROTECTION ON EXISTING MEDIAN INLET AT APPROXIMATELY STA 1275+50, RT, BASELINE SR 1 SB.
- PROCEED WITH REMOVAL OF MEDIAN CROSSOVER ROADWAYS, FINAL DITCH GRADING AND CONVERSION OF JUNCTION BOXES TO MEDIAN INLETS AS SHOWN ON THE CONSTRUCTION PLANS. IMMEDIATELY INSTALL INLET PROTECTITONS ON JUNCTION BOXES CONVERTED TO INLETS.
- REMAINING SIGING, LIGHTING AND CONDUIT WORK MAY PROCEED CONCURRENTLY WITH THIS PHASE OF WORK OR PHASES 1 AND/OR 2 UPON THE APPROVAL OF THE ENGINEER ADN PROVIDED THAT ANY DISTURBED AREAS ARE VEGETATIVELY STABILIZED IMMEDIATELY.
- STABILIZE ALL REMAINING, DISTURBED AREAS WITH TOPSOIL, SEED AND ECBM IN ACCORDANCE WITH THE ROADWAY TYPICAL SECTIONS AND ANY REQUIREMENTS OF THE ENVIRONMENTAL COMPLIANCE PLANS.
- UPON THE APPROVAL OF THE ENGINEER, REMOVE ALL REMAINING EROSION AND SEDIMENT CONTOL DEVICES AND STABILIZE THE AREA OF THE REMOVAL IMMEDIATELY WITH TOPSOIL, SEED AND MULCH.

Vincent W. Davis 05/11/2020

DELDOT STORMWATER ENGINEER

DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND THAT ALL CLEARING, GRADING, AND CONSTRUCTION WILL BE ACCOMPLISHED PURSUANT TO THE PLAN."

EROSION & SEDIMENT CONTROL	
— CFL —	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
— SF —	SILT FENCE
	REINFORCED SILT FENCE / LENGTH
— RSF —	REINFORCED SILT FENCE
	SUPER SILT FENCE / LENGTH
— SSF —	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
— T —	TURBIDITY CURTAIN

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER

CONTRACT

T201907601

COUNTY

SUSSEX

BRIDGE NO.

N/A

DESIGNED BY: WRA

CHECKED BY: WRA

EROSION
CONTROL NOTES

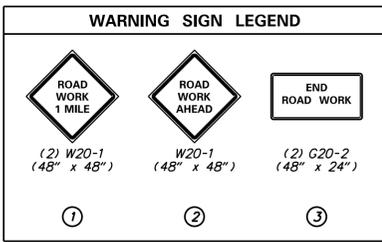
CS-002

SECTION

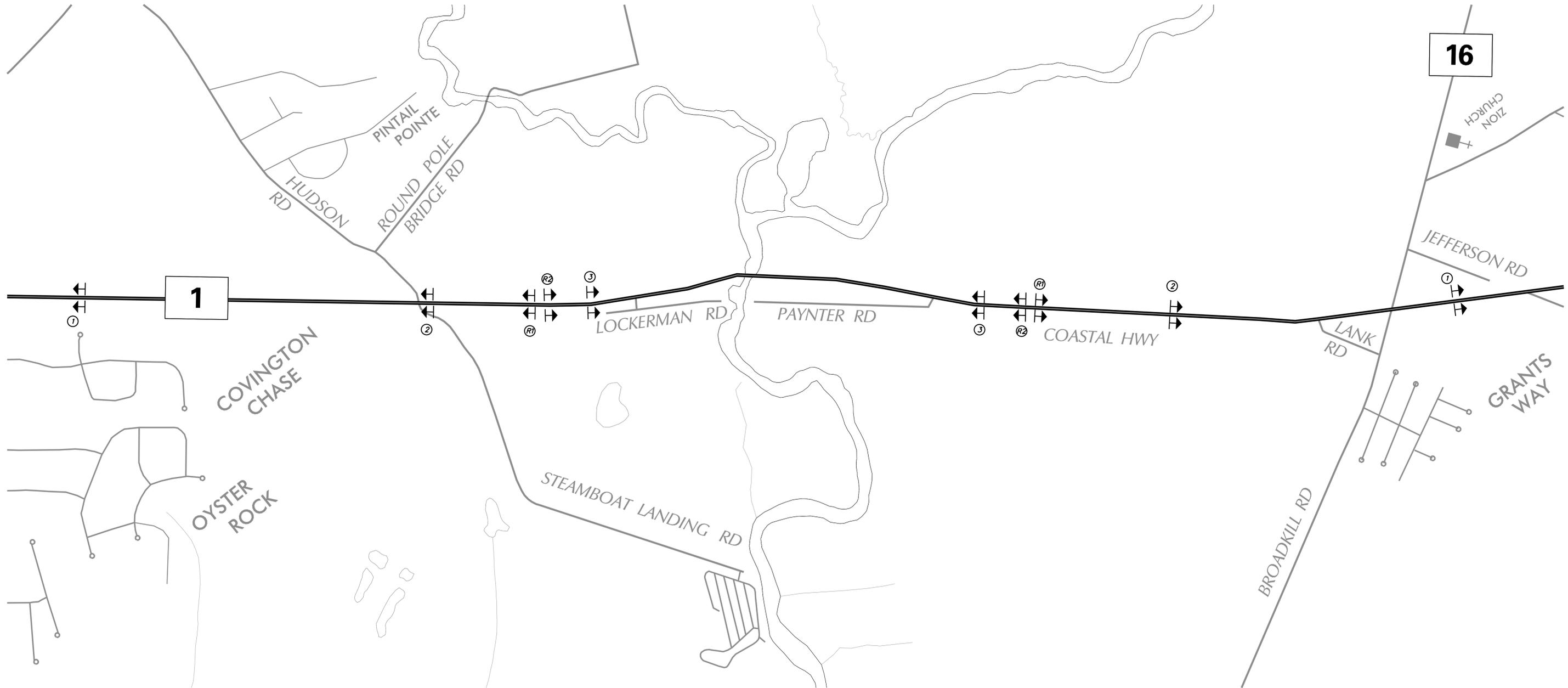
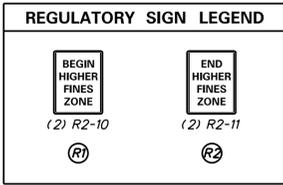
WRA

SHEET NO.

165

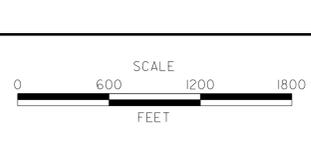


- NOTES:**
- SEE INDIVIDUAL PHASE PLANS FOR PLACEMENT OF ADDITIONAL WARNING SIGNS. LOCATION OF ALL PERMANENT WARNING SIGNS SHALL BE COORDINATED WITH THE ENGINEER.
 - ANY EXISTING SIGNS THAT CONFLICT WITH CONSTRUCTION WARNING SIGNS SHALL BE COVERED OR RELOCATED, AS DIRECTED BY THE ENGINEER.
 - PERMANENT WARNING SIGNS SHALL BE PLACED ON THE LEFT AND RIGHT SIDE OF THE ROADWAY OF DIVIDED HIGHWAYS WHEN APPLICABLE.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING DETAILS AND CALCULATIONS FOR ANY BARRIER AND/OR BRIDGE MOUNTED PERMANENT WARNING SIGN SUPPORTS REQUIRED TO MOUNT PERMANENT WARNING SIGNS TO THE ENGINEER FOR APPROVAL. PROVIDING BARRIER AND/OR BRIDGE MOUNTED PERMANENT WARNING SIGN DETAILS AND CALCULATIONS WILL NOT BE MEASURED AND PAID FOR BUT WILL BE INCIDENTAL TO THE TEMPORARY WARNING SIGNS ITEM.
 - THIS CONTRACT MAY OVERLAP WITH CONTRACT T201500301 - HEP SC, SR 1 AND SR 16 GRADE SEPARATED INTERSECTION. THE CONTRACTOR SHALL COORDINATE PLACEMENT OF PERMANENT WARNING SIGNS WITH THE CONTRACT T201500301 CONTRACTOR, AND MAKE ADJUSTMENTS AS DIRECTED BY THE ENGINEER.



5/14/2020 5:00:39 PM N:\312122-003\CADD\Traffic\CS003_SR1B.dgn

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**PERMANENT
WARNING SIGN
LOCATION PLAN**

CS-003
SECTION
WRA
SHEET NO.
166

SEQUENCE OF CONSTRUCTION

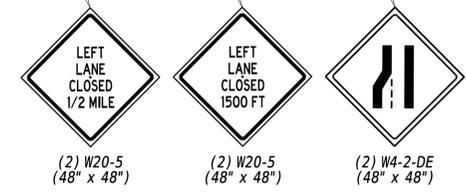
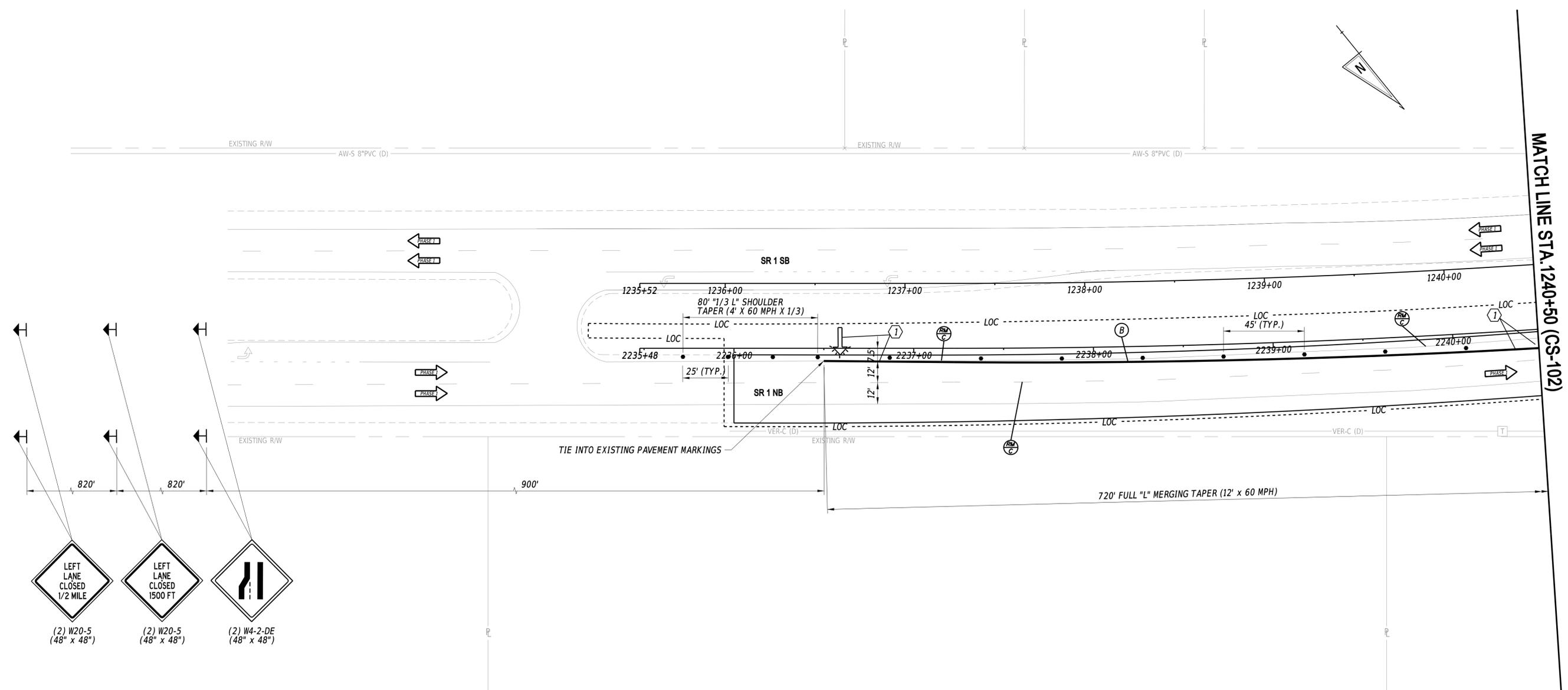
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	5" SOLID WHITE EPOXY	0 LF
Ⓑ	5" SOLID YELLOW EPOXY	398 LF
Ⓒ	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
Ⓓ	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
Ⓔ	WHITE PAINT PAVEMENT SYMBOL	0 SF



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1**

CS-101
SECTION
WRA
SHEET NO.
167

5/14/2020 5:00:40 PM N:\32122-003\CADD\Traffic\CS101_SR1B.dgn

SEQUENCE OF CONSTRUCTION

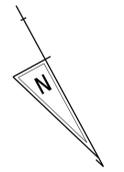
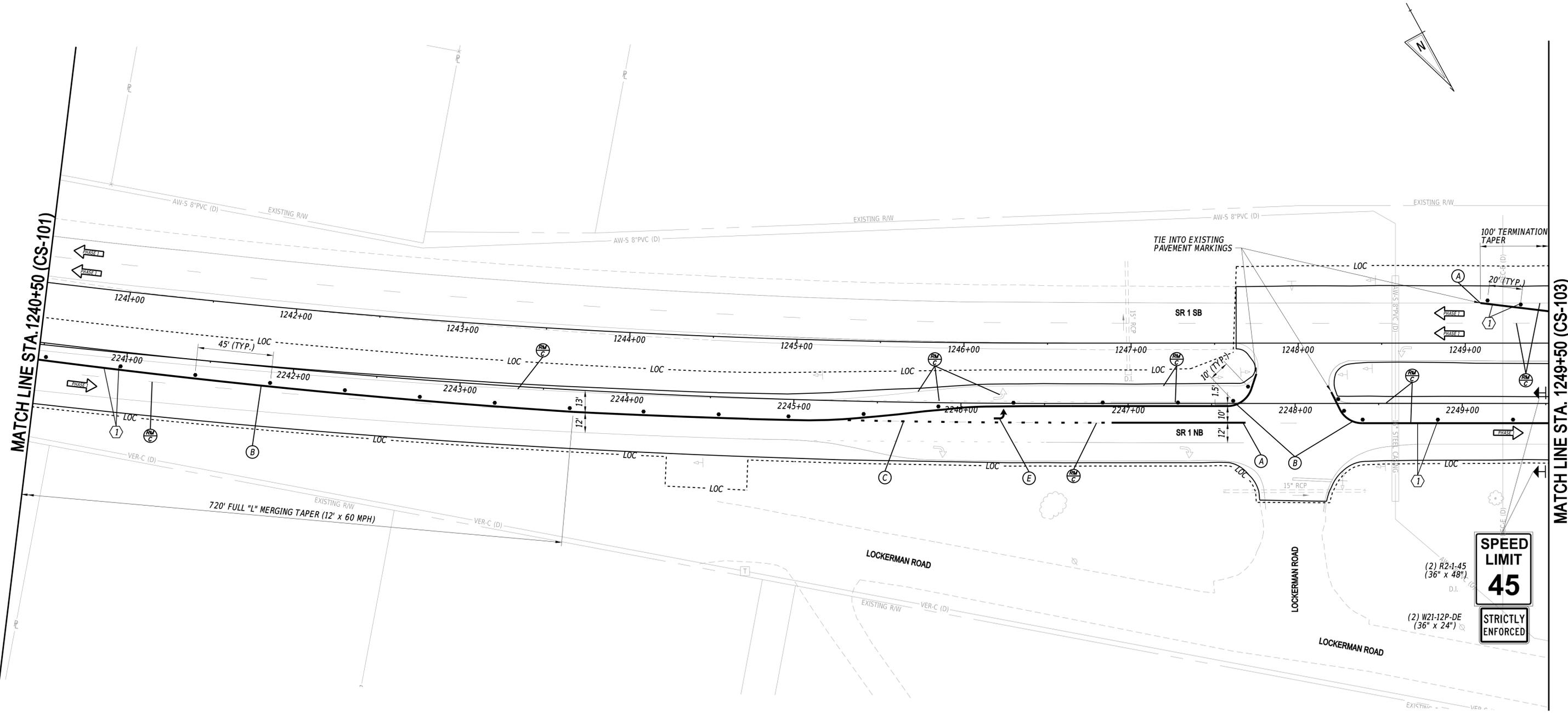
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➔ TRAFFIC FLOW ARROW
- ▬ TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- Ⓜ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	5" SOLID WHITE EPOXY	125 LF
Ⓑ	5" SOLID YELLOW EPOXY	965 LF
Ⓒ	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	40 LF
Ⓓ	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
Ⓔ	WHITE PAINT PAVEMENT SYMBOL	15.5 SF



MATCH LINE STA. 1240+50 (CS-101)

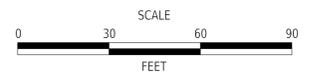
MATCH LINE STA. 1249+50 (CS-103)

SPEED LIMIT
45
STRICTLY ENFORCED

(2) R2-1-45 (36" x 48")
D.I.
(2) W21-12P-DE (36" x 24")

5/14/2020 5:00:42 PM N:\3122-003\CADD\Traffic\CS102_SR1B.dgn

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 1

CS-102
SECTION
WRA
SHEET NO.
168

SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY ROADWAY LIGHTING. TEMPORARY ROADWAY LIGHTING MUST BE TESTED AND OPERATIONAL PRIOR TO SHIFTING TRAFFIC THROUGH THE TEMPORARY CROSSOVER. SEE TEMPORARY LIGHTING PLANS FOR DETAILS.
- ② MILL AND OVERLAY PAVEMENT TO ADJUST CROSS SLOPES AND TRANSITIONS FOR THE TEMPORARY CROSSOVER ROADWAYS USING TEMPORARY LANE CLOSURES DURING ALLOWABLE LANE CLOSURE HOURS.
- ③ INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- ④ INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ⑤ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE.
- ⑥ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.

CONSTRUCTION STAGING LEGEND

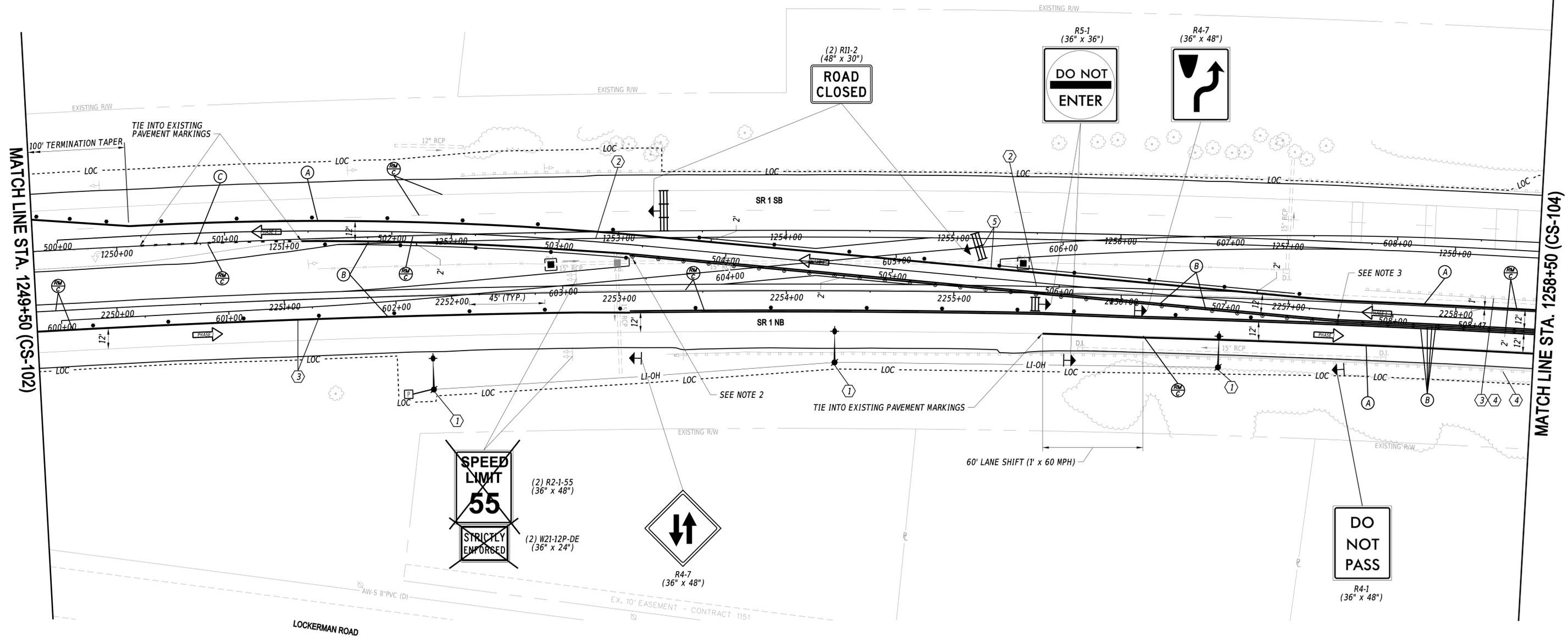
- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➡ TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬▬▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1, 194 LF
(B)	5" SOLID YELLOW EPOXY	2, 735 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	13 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

NOTES:

1. THE TEMPORARY CROSSOVER ROADWAY SHOWN BEING USED DURING THIS PHASE IS PROPOSED BY OTHERS UNDER CONTRACT T201904003.01 - OPEN END CONSTRUCTION SERVICES, KENT & SUSSEX COUNTY AND IS TO BE COMPLETED PRIOR TO USE IN THIS PROJECT.
2. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND 1 FOOT OFFSET FROM THE CENTER OF THE DOUBLE YELLOW LINE FROM STATION 503+45 TO 507+52.
3. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND CENTERED BETWEEN THE TWO SETS OF DOUBLE YELLOW LINE FROM STATION 2257+17 TO 2266+82.



5/14/2020
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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1**

CS-103
SECTION
WRA
SHEET NO.
169

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

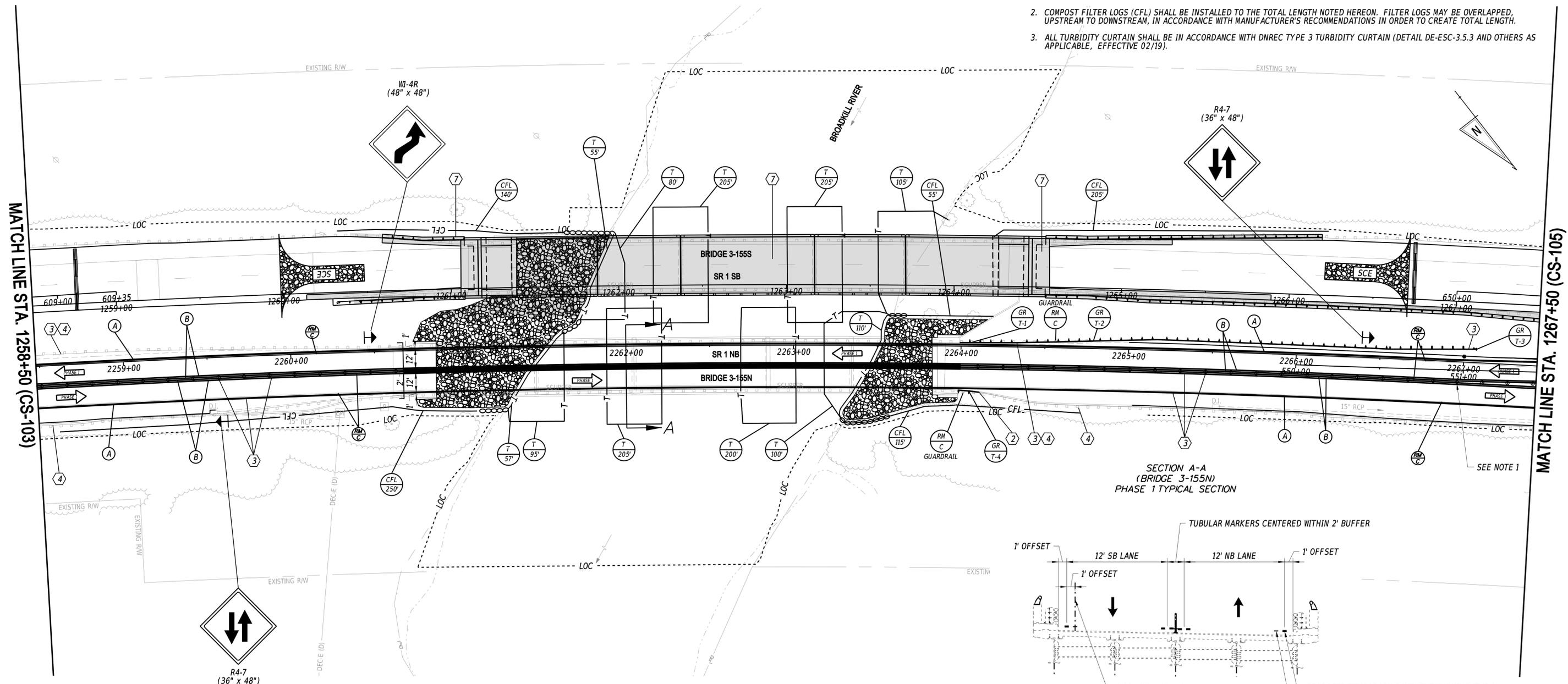
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	900 LF
(B)	5" SOLID YELLOW EPOXY	1,800 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

SEQUENCE OF CONSTRUCTION

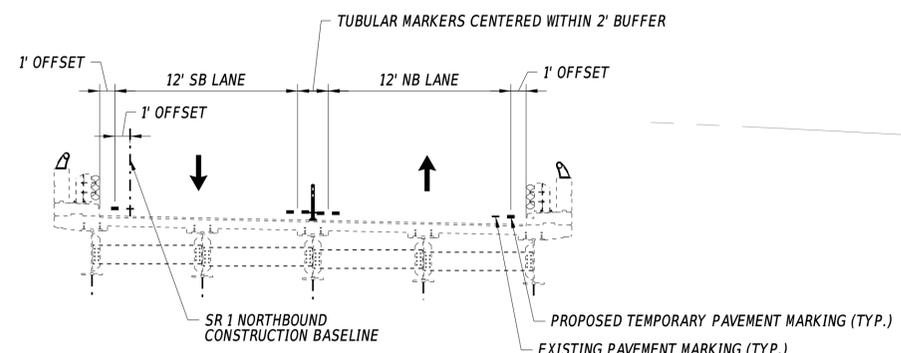
- ① MILL AND OVERLAY PAVEMENT TO ADJUST CROSS SLOPES AND TRANSITIONS FOR THE TEMPORARY CROSSOVER ROADWAYS USING TEMPORARY LANE CLOSURES DURING ALLOWABLE LANE CLOSURE HOURS.
- ② REPLACE EXISTING GUARDRAIL DURING ALLOWABLE LANE CLOSURE HOURS.
- ③ INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. REPLACE EXISTING GUARDRAIL. RE-LAP GUARDRAIL W BEAM SPLICE FOR TEMPORARY TRAFFIC DIRECTION IN SOUTHBOUND LANE.
- ④ INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ⑤ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE.
- ⑥ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ⑦ PERFORM SR 1 SB BRIDGE AND ROADWAY REHABILITATION

NOTES:

1. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND 1 FOOT OFFSET FROM THE CENTER OF THE DOUBLE YELLOW LINE FROM STATION 550+96 TO 556+37.
2. COMPOST FILTER LOGS (CFL) SHALL BE INSTALLED TO THE TOTAL LENGTH NOTED HEREON. FILTER LOGS MAY BE OVERLAPPED, UPSTREAM TO DOWNSTREAM, IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS IN ORDER TO CREATE TOTAL LENGTH.
3. ALL TURBIDITY CURTAIN SHALL BE IN ACCORDANCE WITH DNREC TYPE 3 TURBIDITY CURTAIN (DETAIL DE-ESC-3.5.3 AND OTHERS AS APPLICABLE, EFFECTIVE 02/19).



SECTION A-A
(BRIDGE 3-155N)
PHASE 1 TYPICAL SECTION



TEMPORARY GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
T-1	BRIDGE RAIL RETROFIT, ENTRANCE END APPLICATION	2263+99.2	-2.0'	19.75'
T-2	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	2264+19.0	-2.0'	236.8'
T-3	GUARDRAIL END TREATMENT, TYPE1-31, TEST LEVEL 3	2266+55.8	-5.5'	50.0'
T-4	BRIDGE RAIL RETROFIT, ENTRANCE END APPLICATION	2263+98.3	26.0'	19.75'

*OFFSETS SHOWN IN THE GUARDRAIL SCHEDULE WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1**

CS-104
SECTION
WRA
SHEET NO.
170

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SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY ROADWAY LIGHTING. TEMPORARY ROADWAY LIGHTING MUST BE TESTED AND OPERATIONAL PRIOR TO SHIFTING TRAFFIC THROUGH THE TEMPORARY CROSSOVER. SEE TEMPORARY LIGHTING PLANS FOR DETAILS.
- ② MILL AND OVERLAY PAVEMENT TO ADJUST CROSS SLOPES AND TRANSITIONS FOR THE TEMPORARY CROSSOVER ROADWAYS USING TEMPORARY LANE CLOSURES DURING ALLOWABLE LANE CLOSURE HOURS.
- ③ INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ④ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ⑤ PERFORM SR 1 SB ROADWAY REHABILITATION.

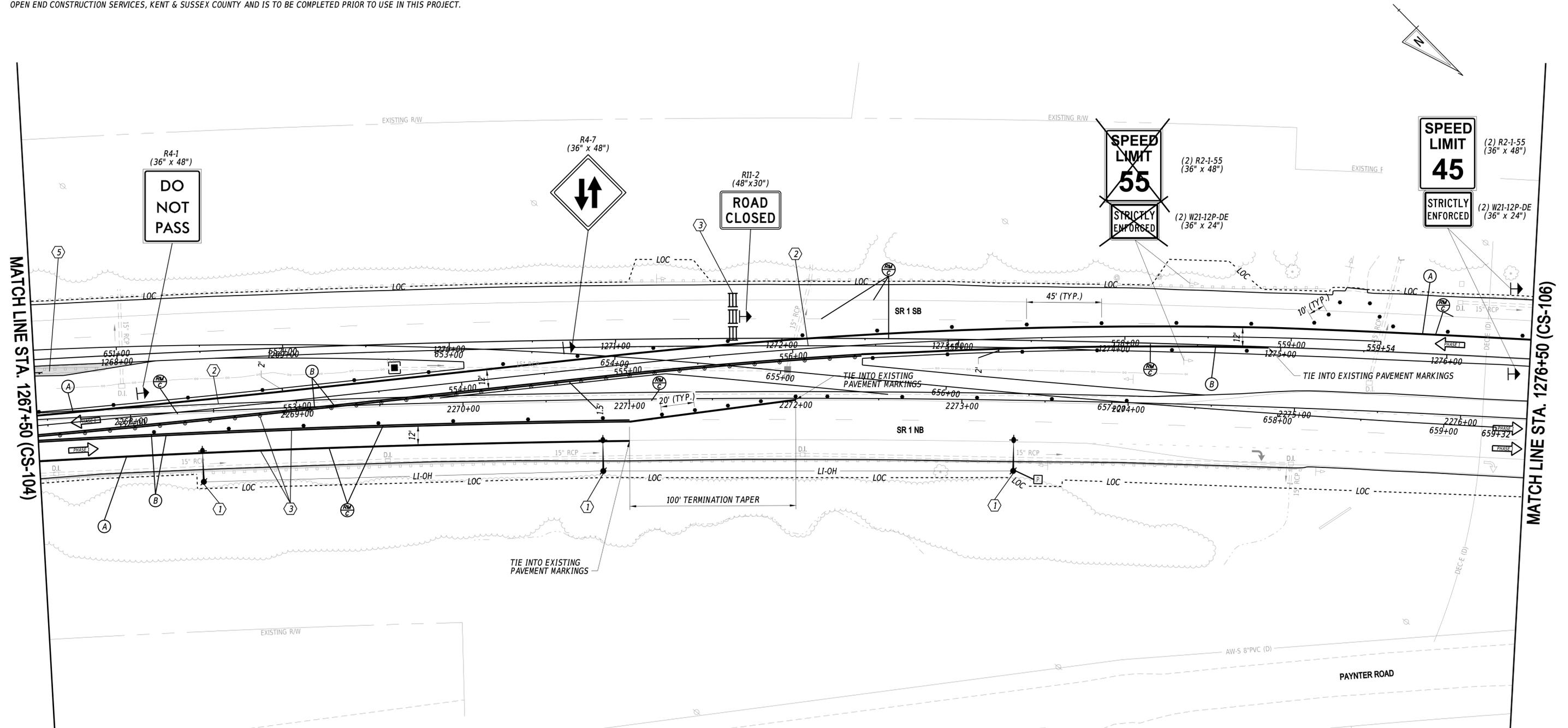
CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1,370 LF
(B)	5" SOLID YELLOW EPOXY	2,055 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

NOTES:
 1. THE TEMPORARY CROSSOVER ROADWAY SHOWN BEING USED DURING THIS PHASE IS PROPOSED BY OTHERS UNDER CONTRACT T201904003.01 - OPEN END CONSTRUCTION SERVICES, KENT & SUSSEX COUNTY AND IS TO BE COMPLETED PRIOR TO USE IN THIS PROJECT.



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ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	T201907601	BRIDGE NO.	N/A
COUNTY	SUSSEX	DESIGNED BY:	WRA
		CHECKED BY:	WRA

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 1

CS-105
 SECTION
 WRA
 SHEET NO.
 171

SEQUENCE OF CONSTRUCTION

① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

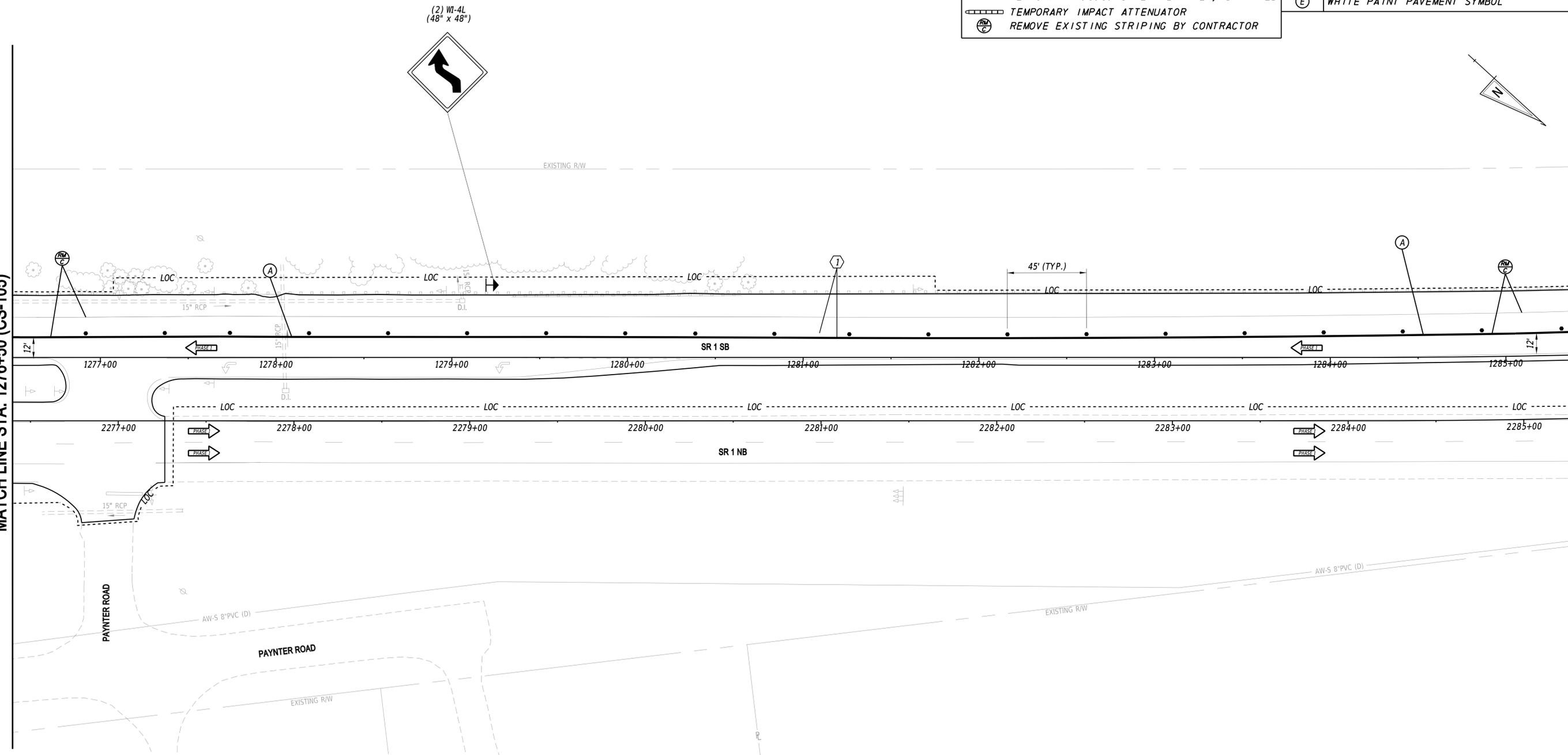
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	900 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

MATCH LINE STA. 1276+50 (CS-105)

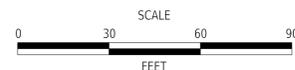
MATCH LINE STA. 1285+50 (CS-107)



(2) W1-4L
(48" x 48")

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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1**

CS-106
SECTION
WRA
SHEET NO.
172

SEQUENCE OF CONSTRUCTION

1 INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

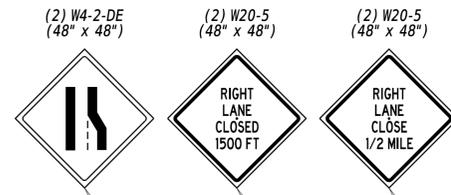
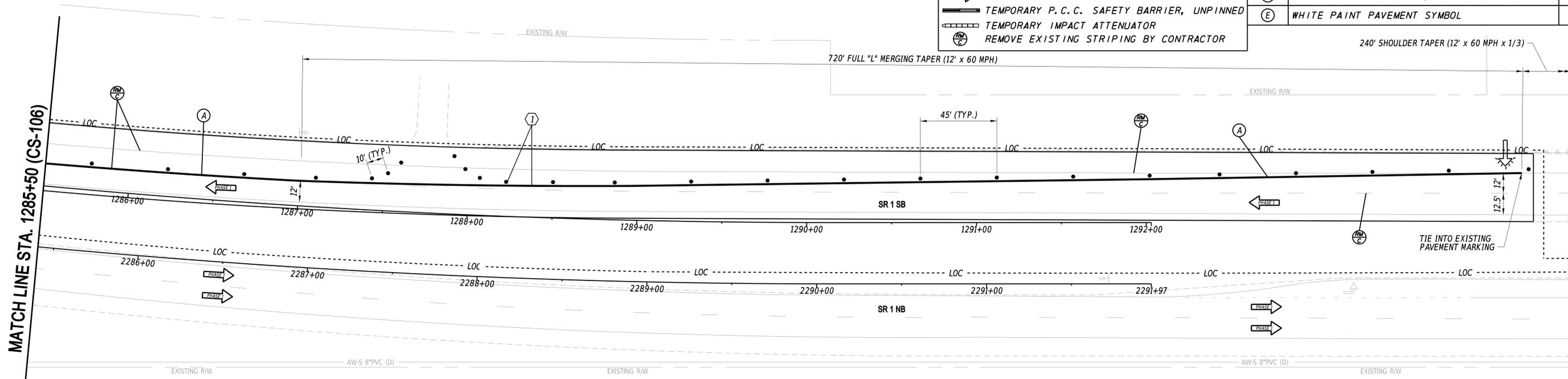
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

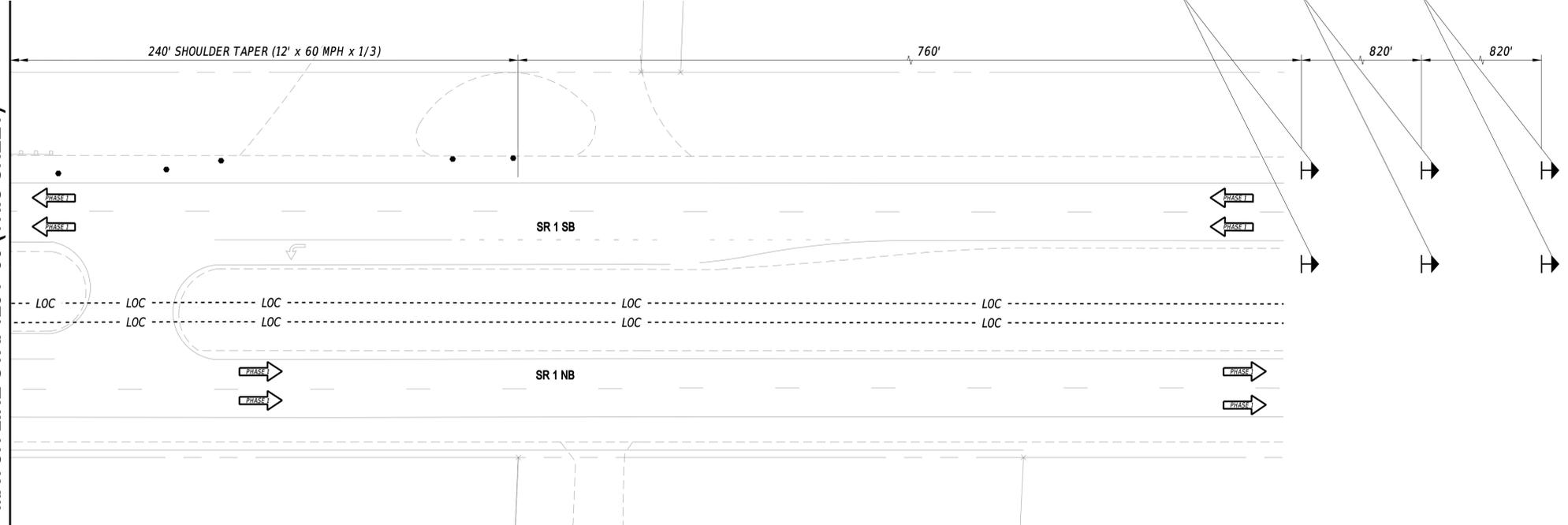
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	853 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

MATCH LINE STA. 1285+50 (CS-106)

MATCH LINE STA. 1294+50 (THIS SHEET)



MATCH LINE STA. 1294+50 (THIS SHEET)



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 1**

CS-107
SECTION
WRA
SHEET NO.
173

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SEQUENCE OF CONSTRUCTION

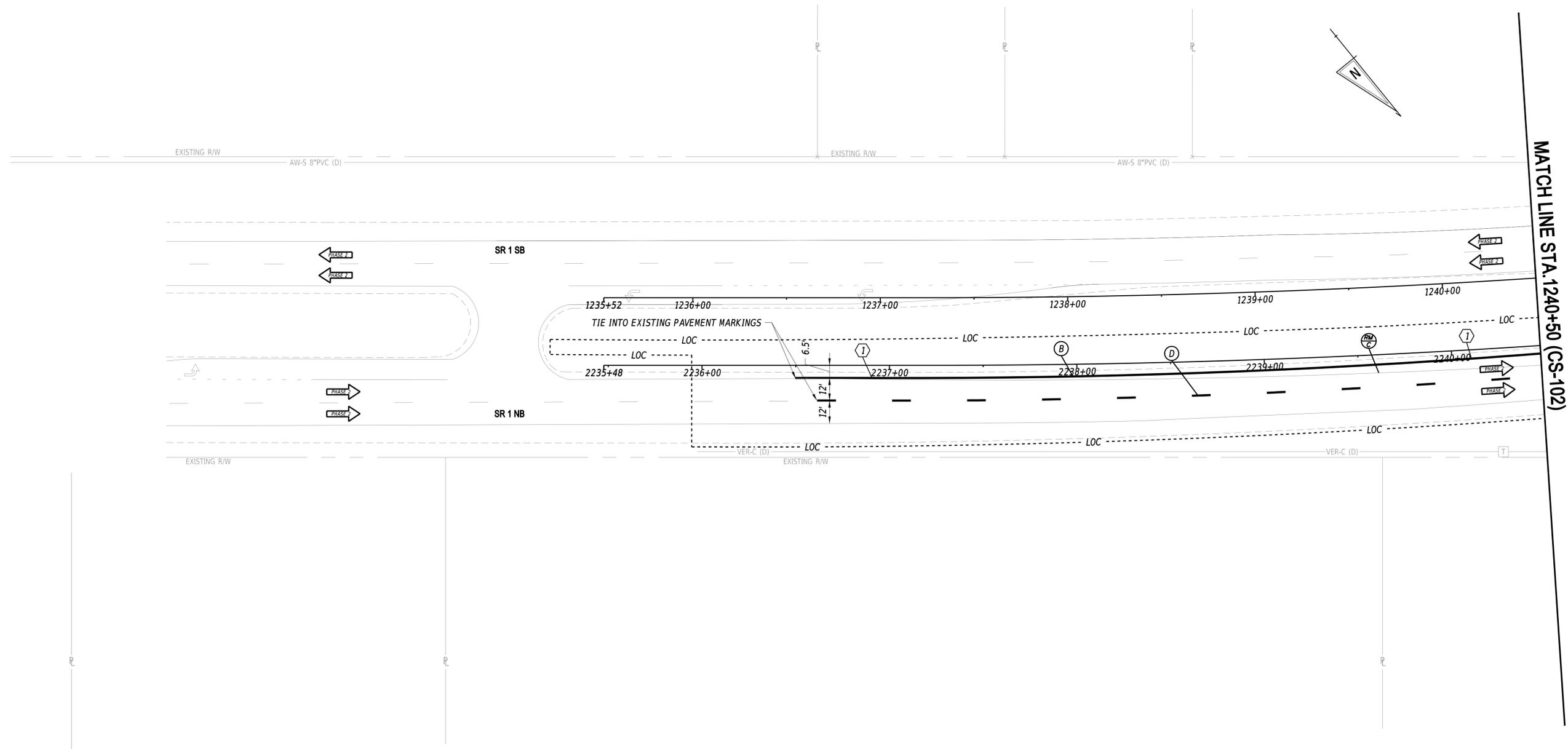
(I) INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

-  PROPOSED CONSTRUCTION THIS STAGE
-  RUNOUT LENGTH SHADING
-  EXISTING SIGN/PROPOSED TEMPORARY SIGN
-  TYPE III BARRICADE
-  PLASTIC DRUM
-  TUBULAR MARKER
-  TRAFFIC FLOW ARROW
-  TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
-  TEMPORARY IMPACT ATTENUATOR
-  REMOVE EXISTING STRIPING BY CONTRACTOR

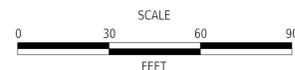
TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	0 LF
(B)	5" SOLID YELLOW EPOXY	399 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	100 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-201
SECTION
WRA
SHEET NO.
174

SEQUENCE OF CONSTRUCTION

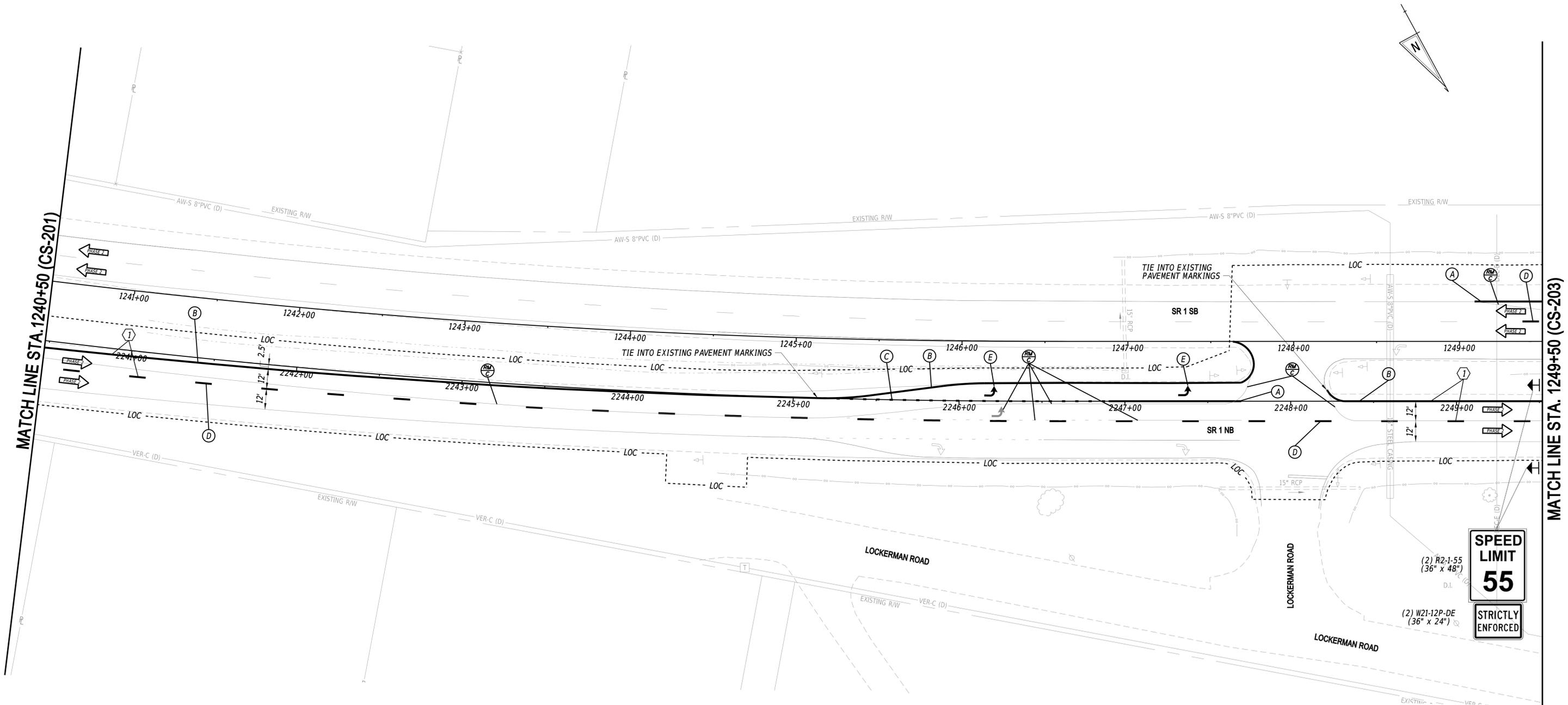
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➔ TRAFFIC FLOW ARROW
- ▬ TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

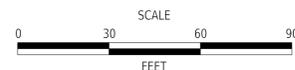
SYMBOL	ITEM	QUANTITY
Ⓐ	5" SOLID WHITE EPOXY	121 LF
Ⓑ	5" SOLID YELLOW EPOXY	895 LF
Ⓒ	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	44 LF
Ⓓ	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	240 LF
Ⓔ	WHITE PAINT PAVEMENT SYMBOL	31 SF



SPEED LIMIT
55
STRICTLY ENFORCED

5/14/2020
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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO.
N/A
DESIGNED BY: WRA
CHECKED BY: WRA

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-202
SECTION
WRA
SHEET NO.
175

SEQUENCE OF CONSTRUCTION

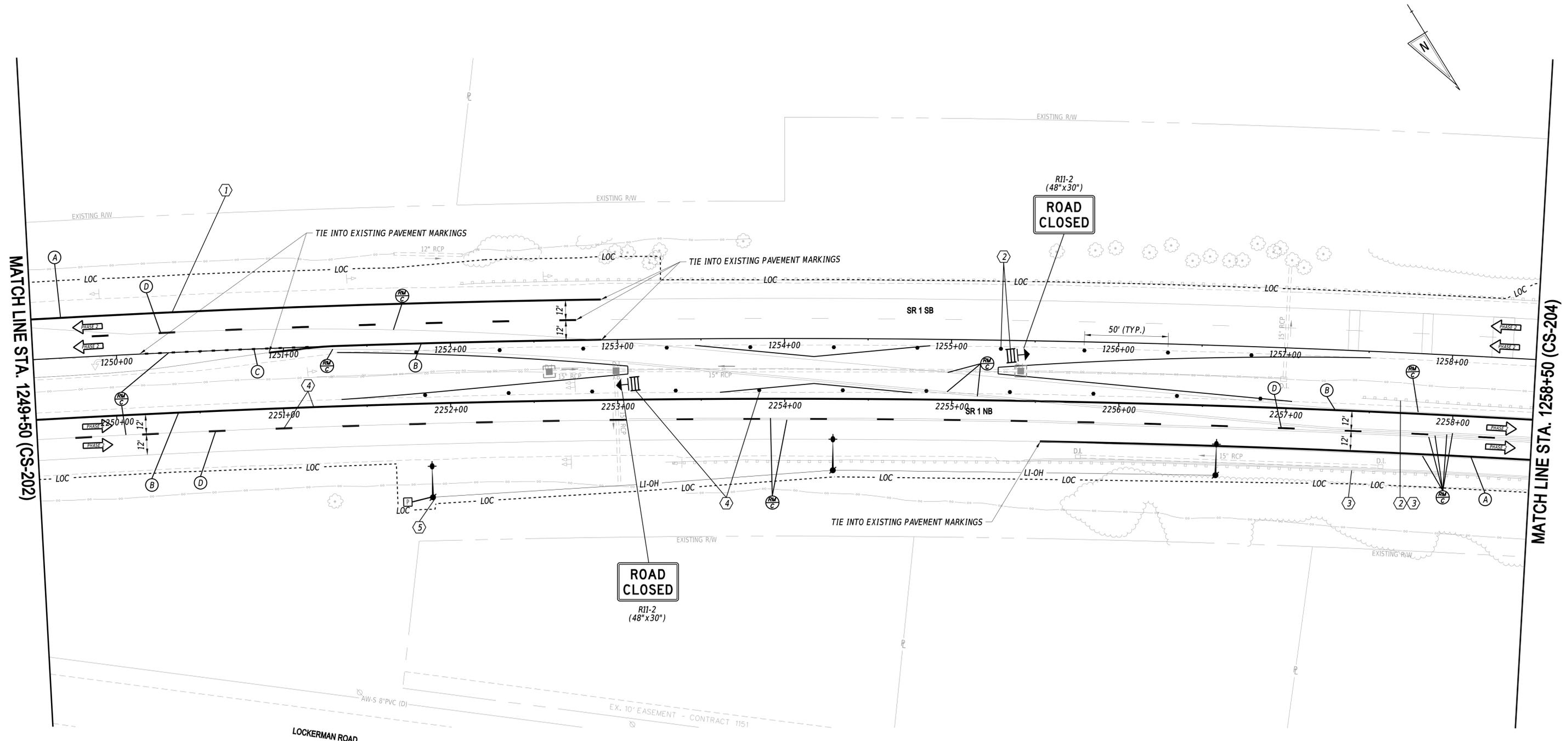
- 1 INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.
- 2 RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- 3 INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- 4 INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.
- 5 TEMPORARY LIGHTING EQUIPMENT SHOWN FOR REFERENCE PURPOSES ONLY. TEMPORARY LIGHTING IS NOT REQUIRED TO BE IN OPERATION DURING PHASE 2.

CONSTRUCTION STAGING LEGEND

- ☐ PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➡ TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

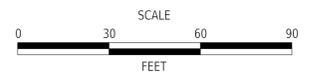
TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	636 LF
(B)	5" SOLID YELLOW EPOXY	1,099 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	26 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	300 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-203

SECTION	WRA
SHEET NO.	176

CONSTRUCTION STAGING LEGEND

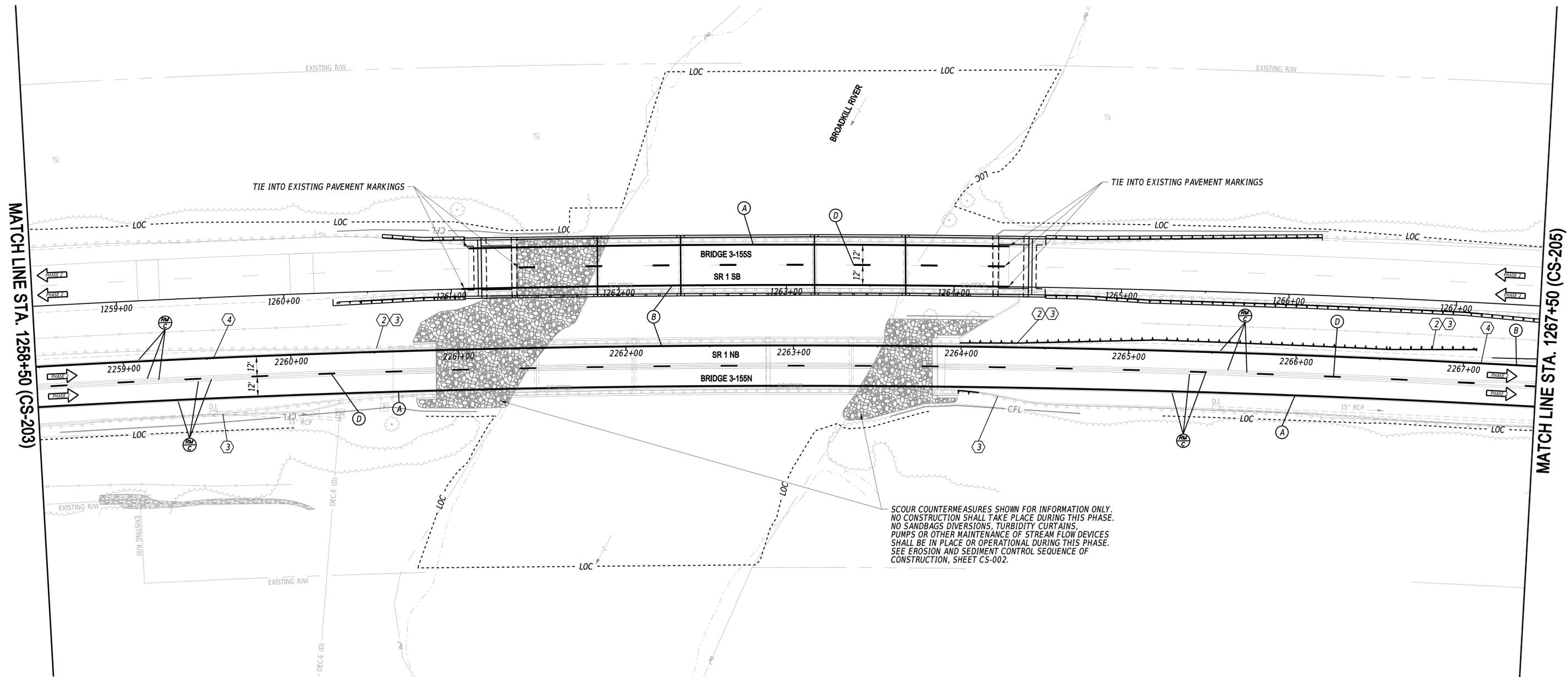
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1, 225 LF
(B)	5" SOLID YELLOW EPOXY	1, 225 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	300 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- ③ INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ④ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.

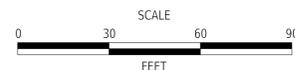


SCOUR COUNTERMEASURES SHOWN FOR INFORMATION ONLY. NO CONSTRUCTION SHALL TAKE PLACE DURING THIS PHASE. NO SANDBAGS DIVERSIONS, TURBIDITY CURTAINS, PUMPS OR OTHER MAINTENANCE OF STREAM FLOW DEVICES SHALL BE IN PLACE OR OPERATIONAL DURING THIS PHASE. SEE EROSION AND SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION, SHEET CS-002.

MATCH LINE STA. 1258+50 (CS-203)

MATCH LINE STA. 1267+50 (CS-205)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-204
SECTION
WRA
SHEET NO.
177

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SEQUENCE OF CONSTRUCTION

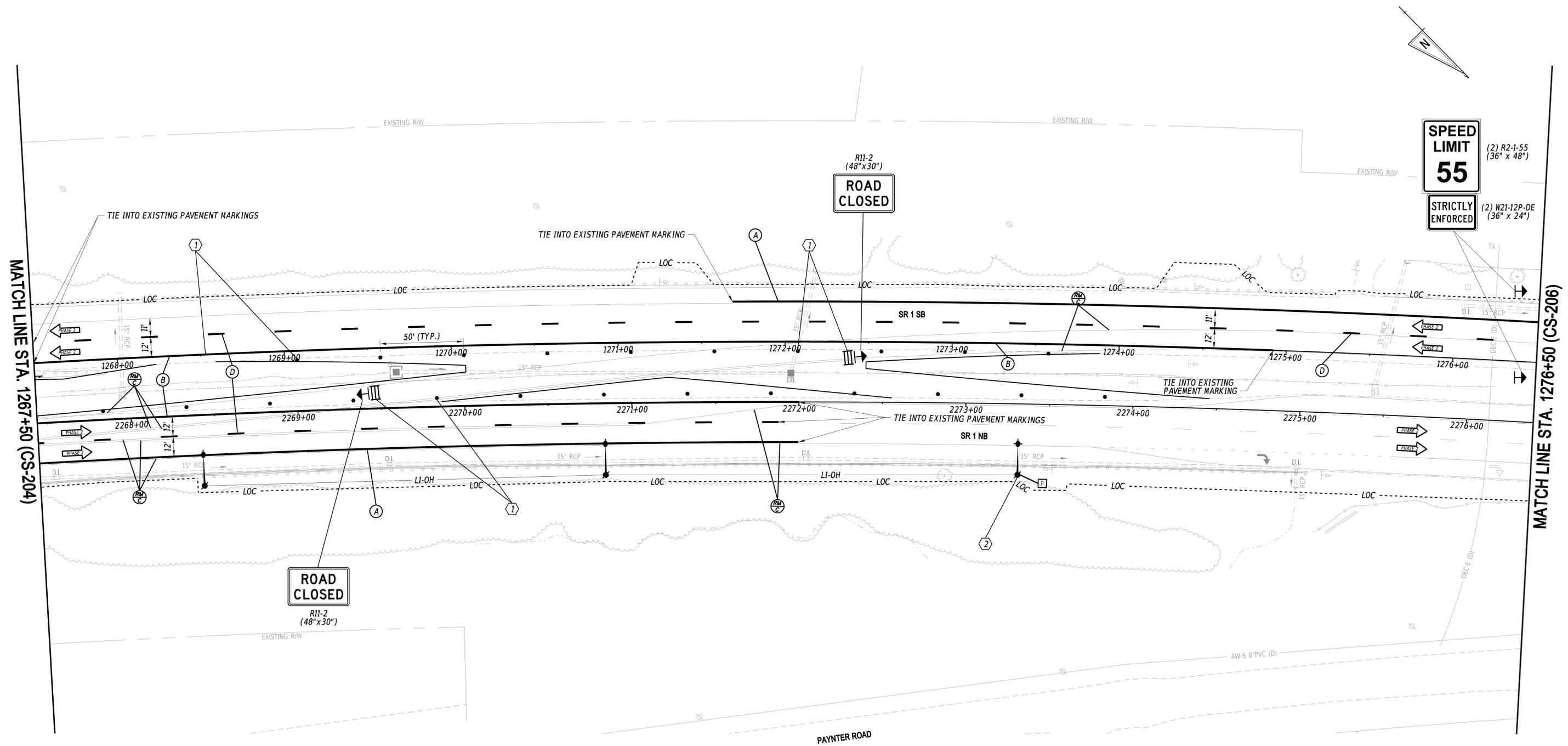
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② TEMPORARY LIGHTING EQUIPMENT SHOWN FOR REFERENCE PURPOSES ONLY. TEMPORARY LIGHTING IS NOT REQUIRED TO BE IN OPERATION DURING PHASE 2.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➔ TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	938 LF
(B)	5" SOLID YELLOW EPOXY	1,198 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	340 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-205
SECTION
WRA
SHEET NO.
178

SEQUENCE OF CONSTRUCTION

(I) INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

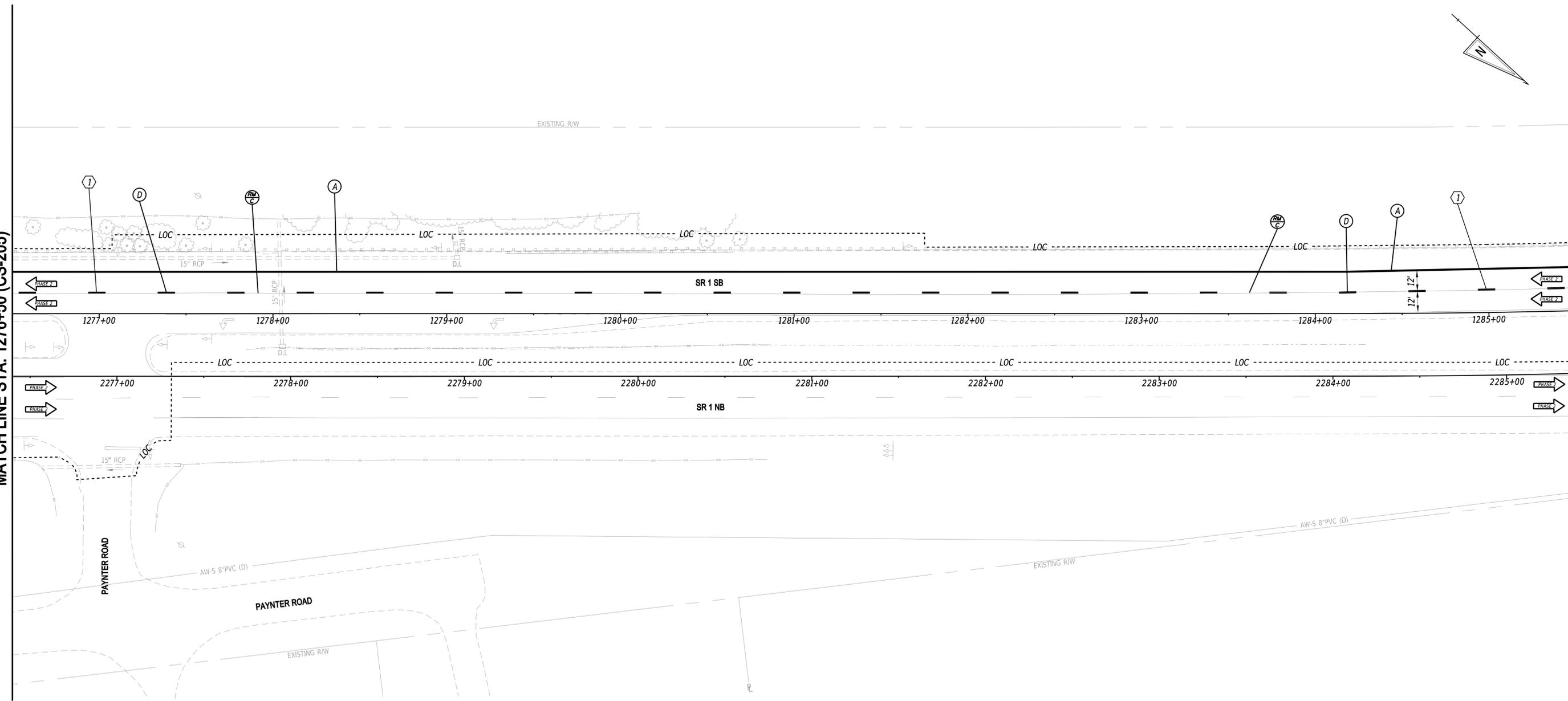
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

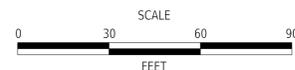
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	900 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	230 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

MATCH LINE STA. 1276+50 (CS-205)

MATCH LINE STA. 1285+50 (CS-207)



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 2**

CS-206

SECTION	WRA
SHEET NO.	179

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SEQUENCE OF CONSTRUCTION

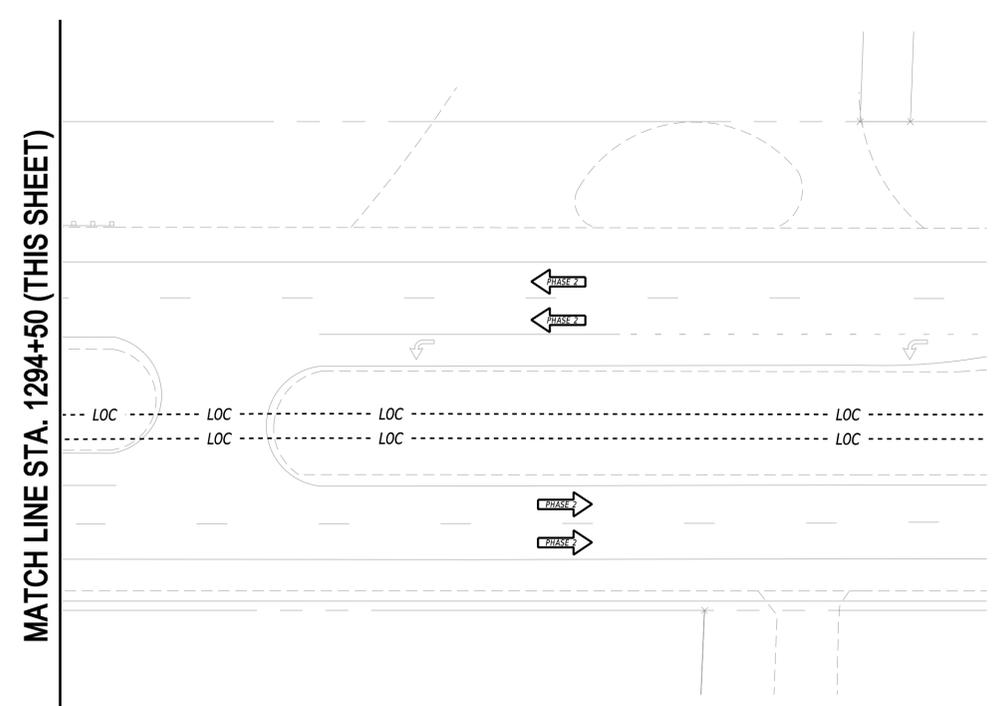
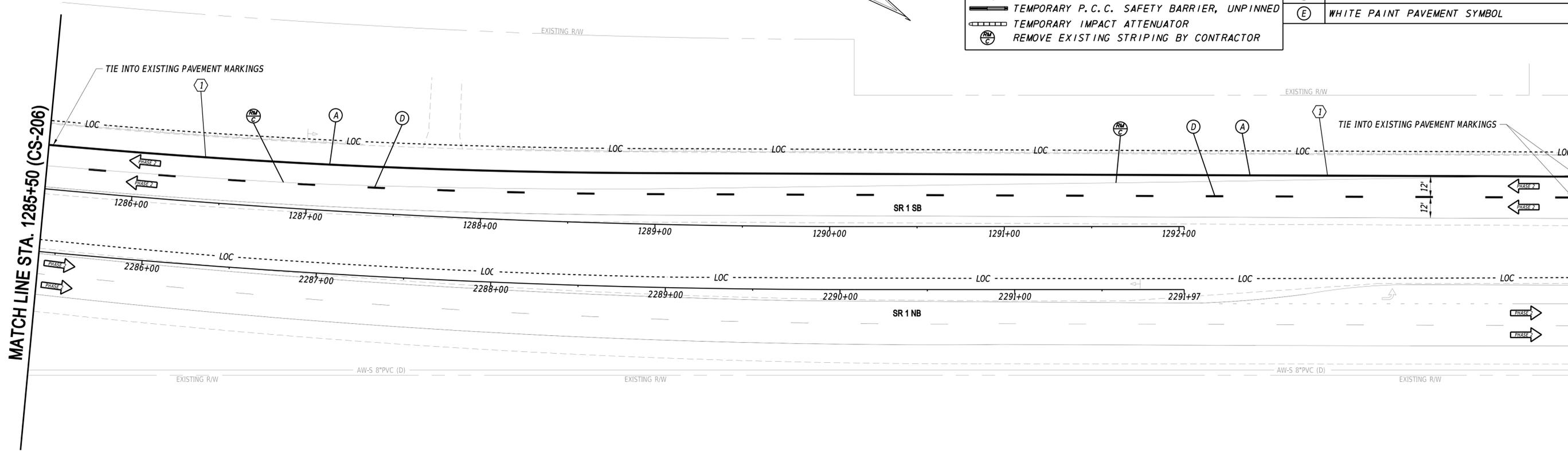
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 2 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

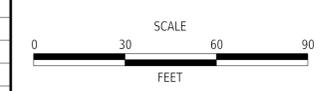
- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➡ TRAFFIC FLOW ARROW
- ▬ TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- Ⓢ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	5" SOLID WHITE EPOXY	875 LF
Ⓑ	5" SOLID YELLOW EPOXY	0 LF
Ⓒ	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
Ⓓ	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	220 LF
Ⓔ	WHITE PAINT PAVEMENT SYMBOL	0 SF



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-207
SECTION
WRA
SHEET NO.
180

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SEQUENCE OF CONSTRUCTION

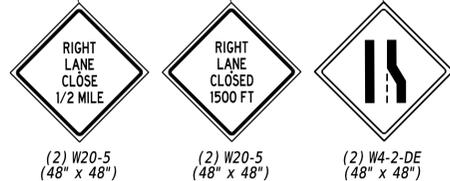
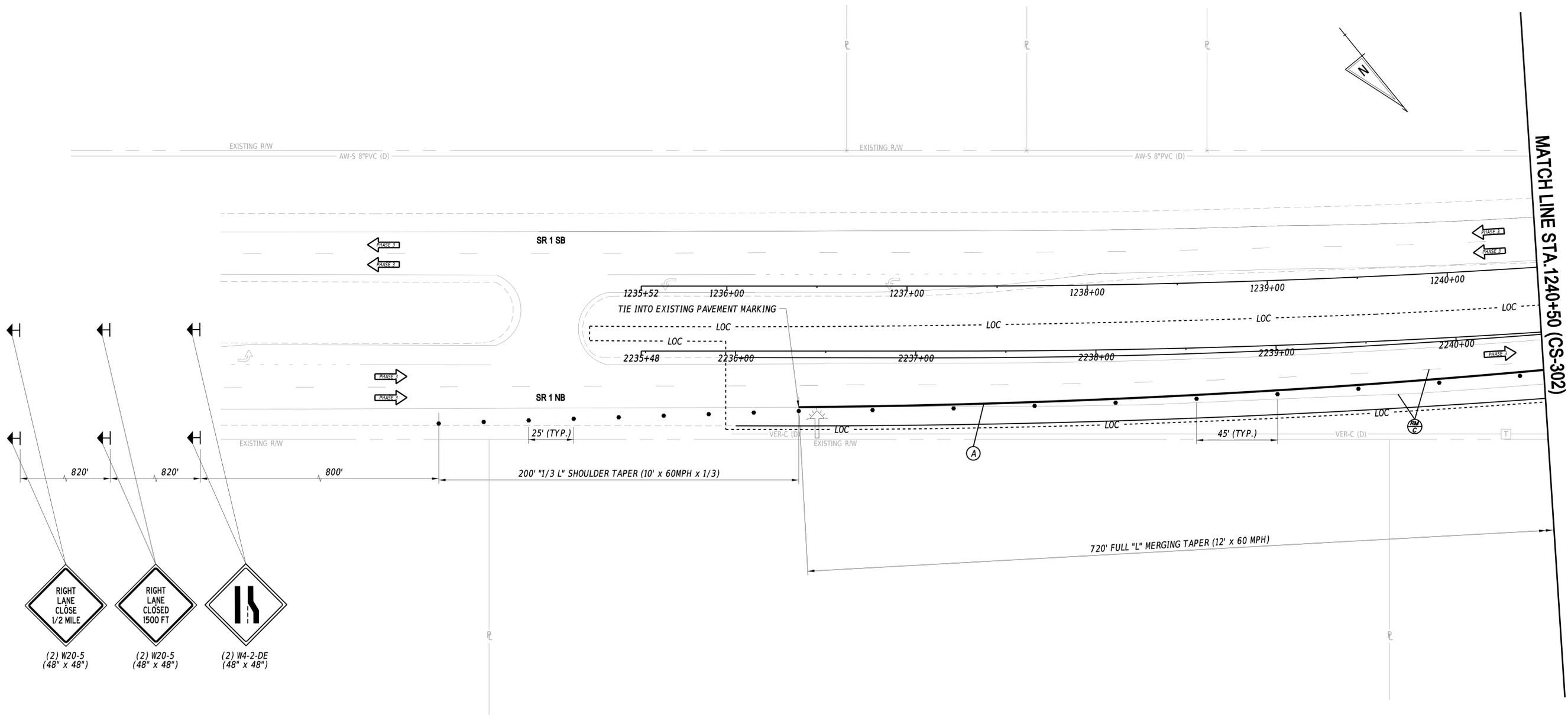
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	414 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-301
SECTION
WRA
SHEET NO.
181

5/14/2020
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SEQUENCE OF CONSTRUCTION

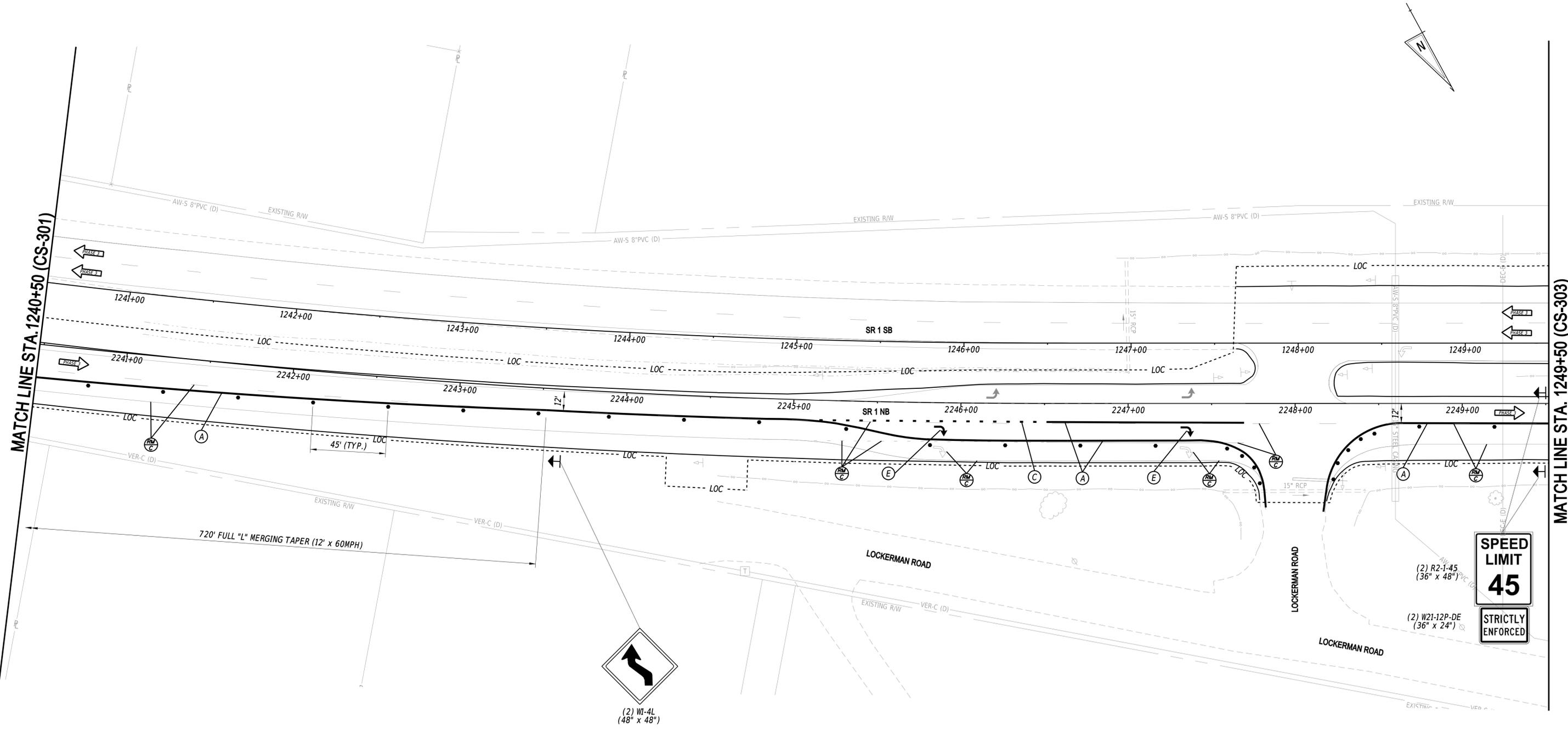
① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

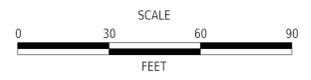
TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1050 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	38 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	31 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-302
SECTION
WRA
SHEET NO.
182

SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. REPLACE EXISTING GUARDRAIL. RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- ② INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ③ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE.
- ④ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ⑤ PERFORM SR 1 NB ROADWAY REHABILITATION.

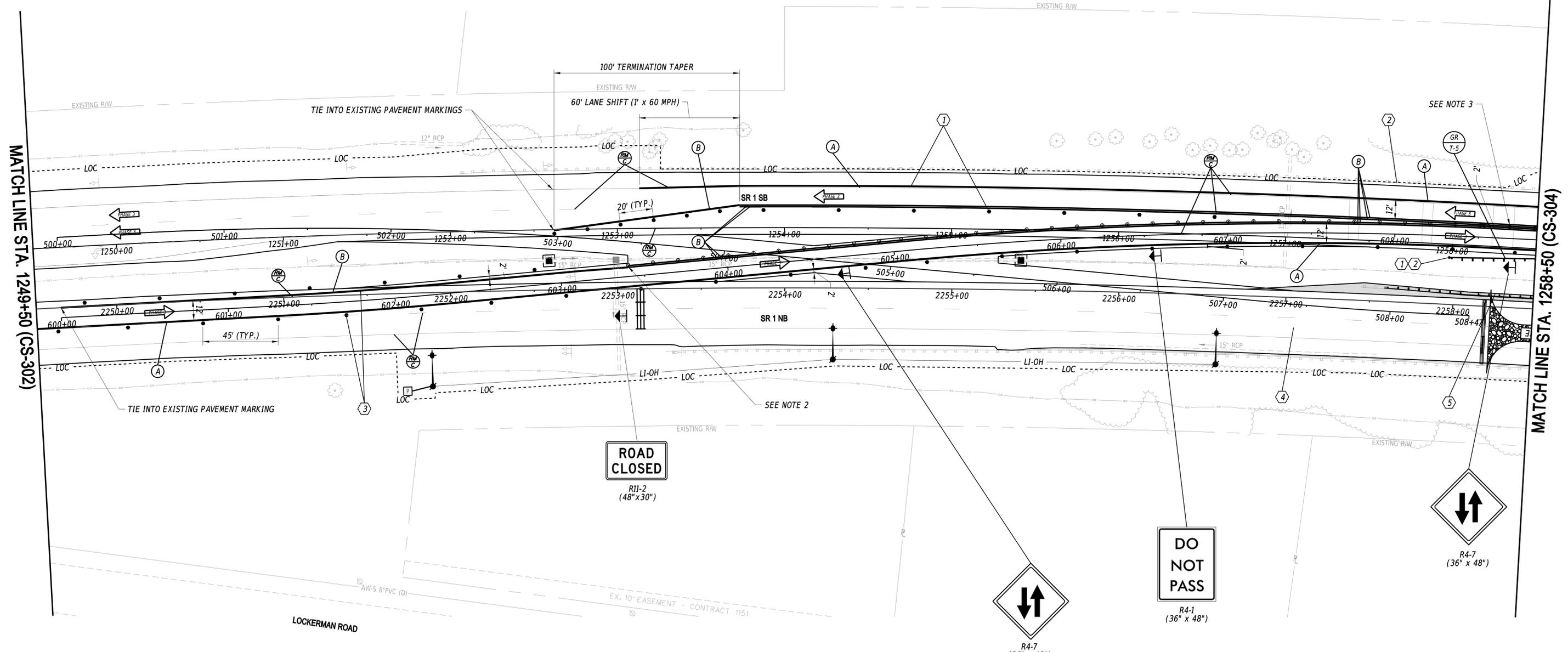
- NOTES:**
1. THE TEMPORARY CROSSOVER ROADWAY SHOWN BEING USED DURING THIS PHASE IS PROPOSED BY OTHERS UNDER CONTRACT T201904003.01 - OPEN END CONSTRUCTION SERVICES, KENT & SUSSEX COUNTY AND IS TO BE COMPLETED PRIOR TO USE IN THIS PROJECT.
 2. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND 1 FOOT OFFSET FROM THE CENTER OF THE DOUBLE YELLOW LINE FROM STATION 603+41 TO 608+50.
 3. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND CENTERED BETWEEN THE TWO SETS OF DOUBLE YELLOW LINE FROMS STATION 1258+30 TO 1267+97.

CONSTRUCTION STAGING LEGEND

- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➡ TRAFFIC FLOW ARROW
- ▬ TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1,487 LF
(B)	5" SOLID YELLOW EPOXY	2,525 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

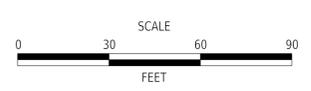


TEMPORARY GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
T-5	GUARDRAIL END TREATMENT, TYPE 1-31, TEST LEVEL 3	1257+98.2	8.0'	50.0'

*OFFSETS SHOWN IN THE GUARDRAIL SCHEDULE WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT T201907601	BRIDGE NO. N/A
COUNTY SUSSEX	DESIGNED BY: WRA
	CHECKED BY: WRA

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

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CONSTRUCTION STAGING LEGEND

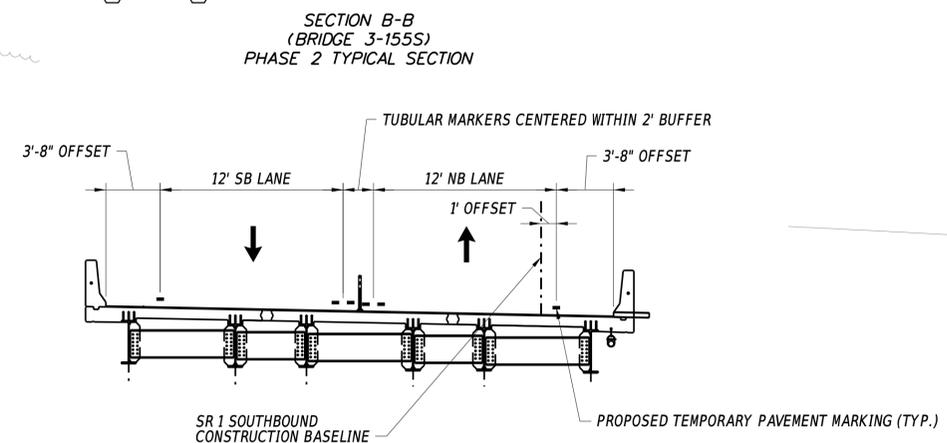
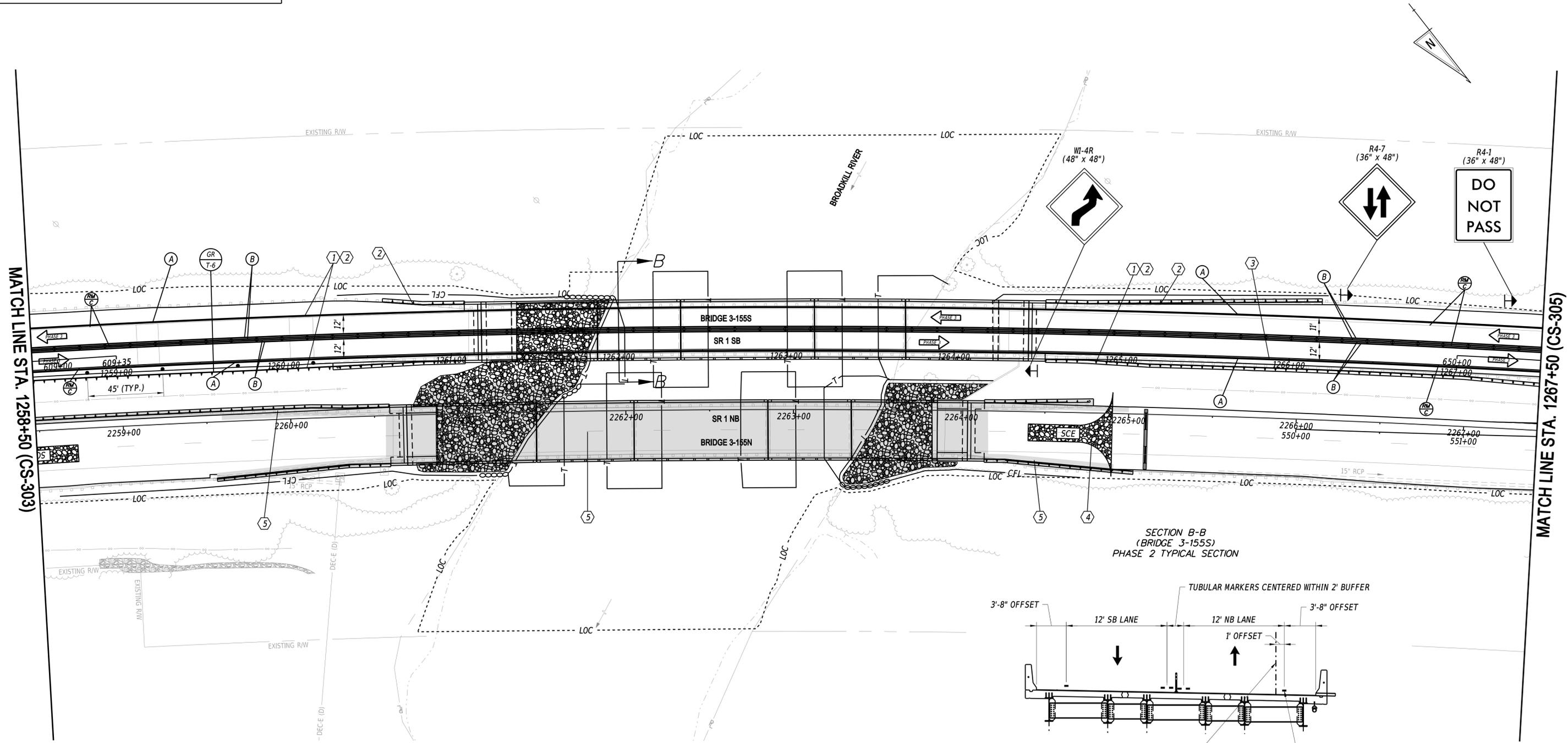
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1,800 LF
(B)	5" SOLID YELLOW EPOXY	3,600 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. REPLACE EXISTING GUARDRAIL. RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- ② INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ③ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE.
- ④ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ⑤ PERFORM SR 1 NB ROADWAY REHABILITATION.



TEMPORARY GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET*	LENGTH
T-6	GALVANIZED STEEL BEAM GUARDRAIL, TYPE 1-31	1258+50.0	6.0'	195.7'

*OFFSETS SHOWN IN THE GUARDRAIL SCHEDULE WITH A MINUS SIGN ARE TO THE LEFT OF THE BASELINE.

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 3

CS-304
SECTION
WRA
SHEET NO.
184

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SEQUENCE OF CONSTRUCTION

- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② INSTALL EROSION AND SEDIMENT CONTROL DEVICES.

NOTES:

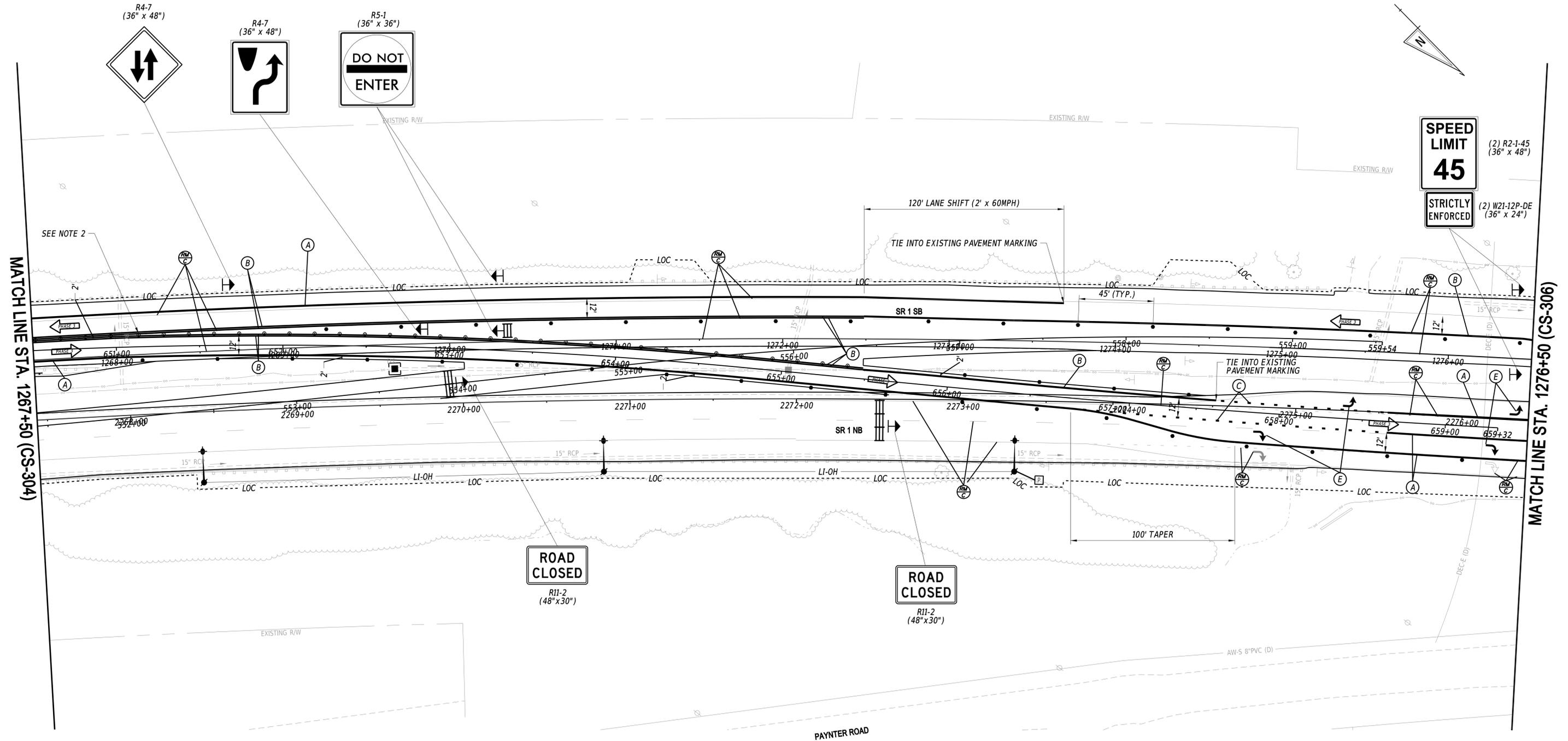
1. THE TEMPORARY CROSSOVER ROADWAY SHOWN BEING USED DURING THIS PHASE IS PROPOSED BY OTHERS UNDER CONTRACT T201904003.01 - OPEN END CONSTRUCTION SERVICES, KENT & SUSSEX COUNTY AND IS TO BE COMPLETED PRIOR TO USE IN THIS PROJECT.
2. INSTALL TUBULAR MARKERS 15 FEET ON CENTER AND 1 FOOT OFFSET FROM THE CENTER OF THE DOUBLE YELLOW LINE FROM STATION 651+14 TO 655+39.

CONSTRUCTION STAGING LEGEND

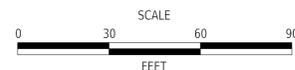
- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➡ TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊙ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1, 173 LF
(B)	5" SOLID YELLOW EPOXY	2, 615 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	44 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	62 SF



ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-305
SECTION
WRA
SHEET NO.
185

SEQUENCE OF CONSTRUCTION

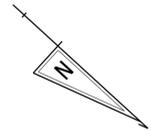
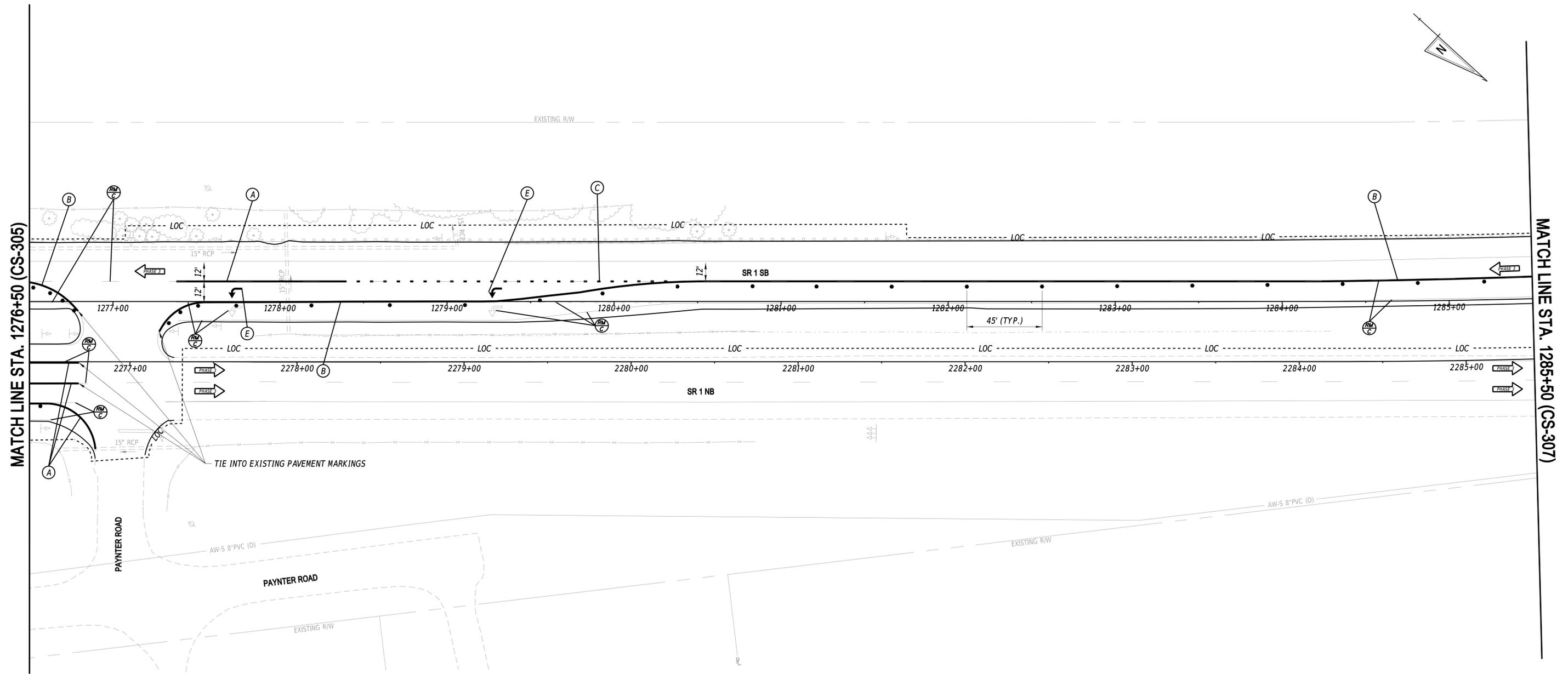
(I) INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

-  PROPOSED CONSTRUCTION THIS STAGE
-  RUNOUT LENGTH SHADING
-  EXISTING SIGN/PROPOSED TEMPORARY SIGN
-  TYPE III BARRICADE
-  PLASTIC DRUM
-  TUBULAR MARKER
-  TRAFFIC FLOW ARROW
-  TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
-  TEMPORARY IMPACT ATTENUATOR
-  REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	0 LF
(B)	5" SOLID YELLOW EPOXY	970 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	47 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	31 SF



MATCH LINE STA. 1276+50 (CS-305)

MATCH LINE STA. 1285+50 (CS-307)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-306
SECTION
WRA
SHEET NO.
186

5/14/2020 5:01:10 PM N:\32122-003\CADD\Traffic\CS306_SFR1B.dgn

SEQUENCE OF CONSTRUCTION

① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 3 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.

CONSTRUCTION STAGING LEGEND

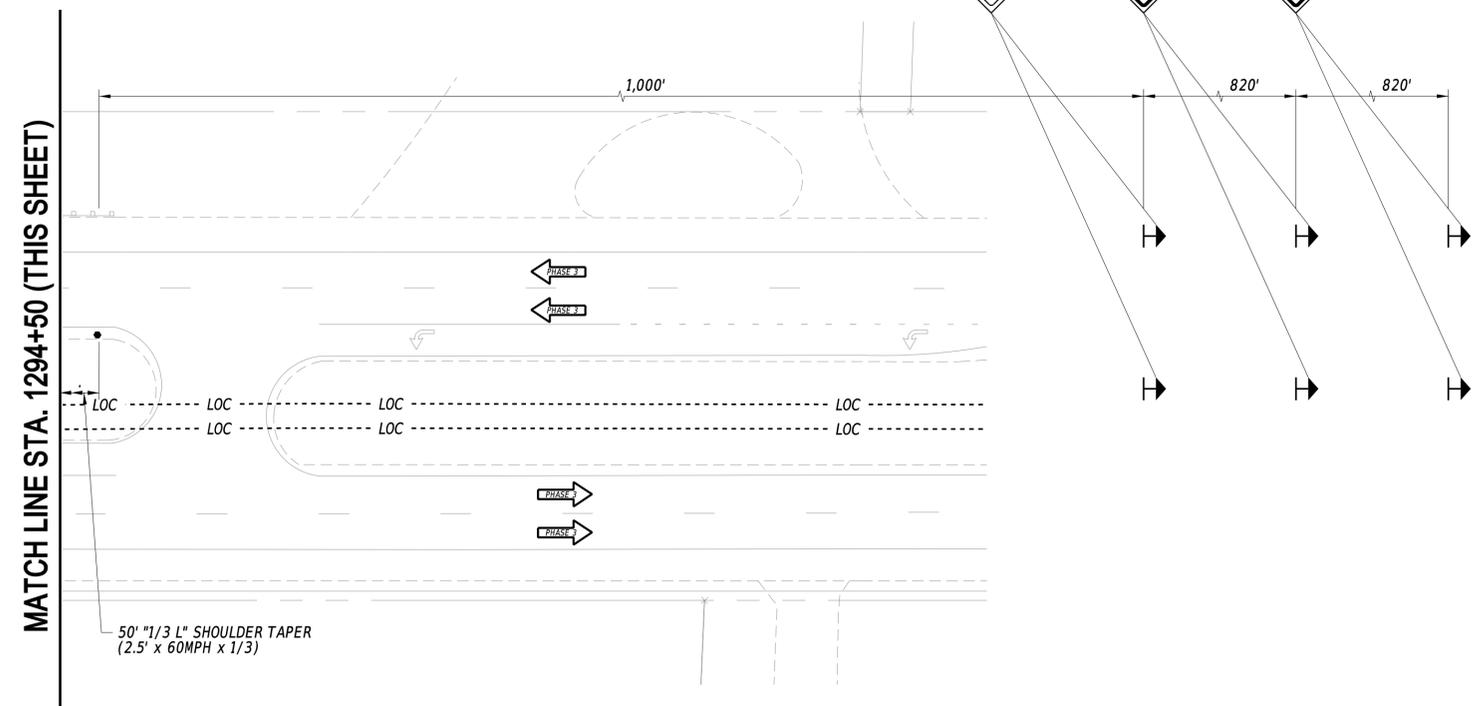
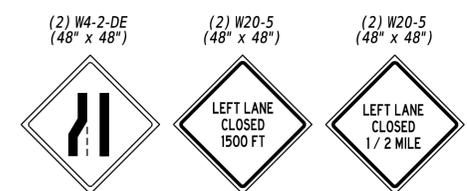
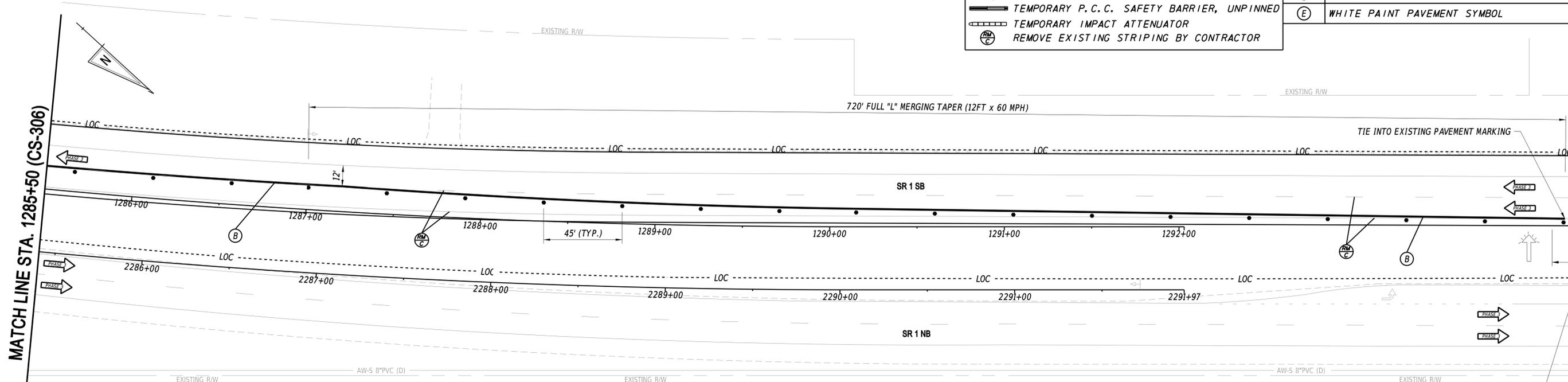
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇌ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	0 LF
(B)	5" SOLID YELLOW EPOXY	870 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

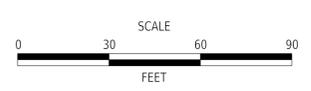
MATCH LINE STA. 1285+50 (CS-306)

MATCH LINE STA. 1294+50 (THIS SHEET)



MATCH LINE STA. 1294+50 (THIS SHEET)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 3**

CS-307
SECTION
WRA
SHEET NO.
187

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SEQUENCE OF CONSTRUCTION

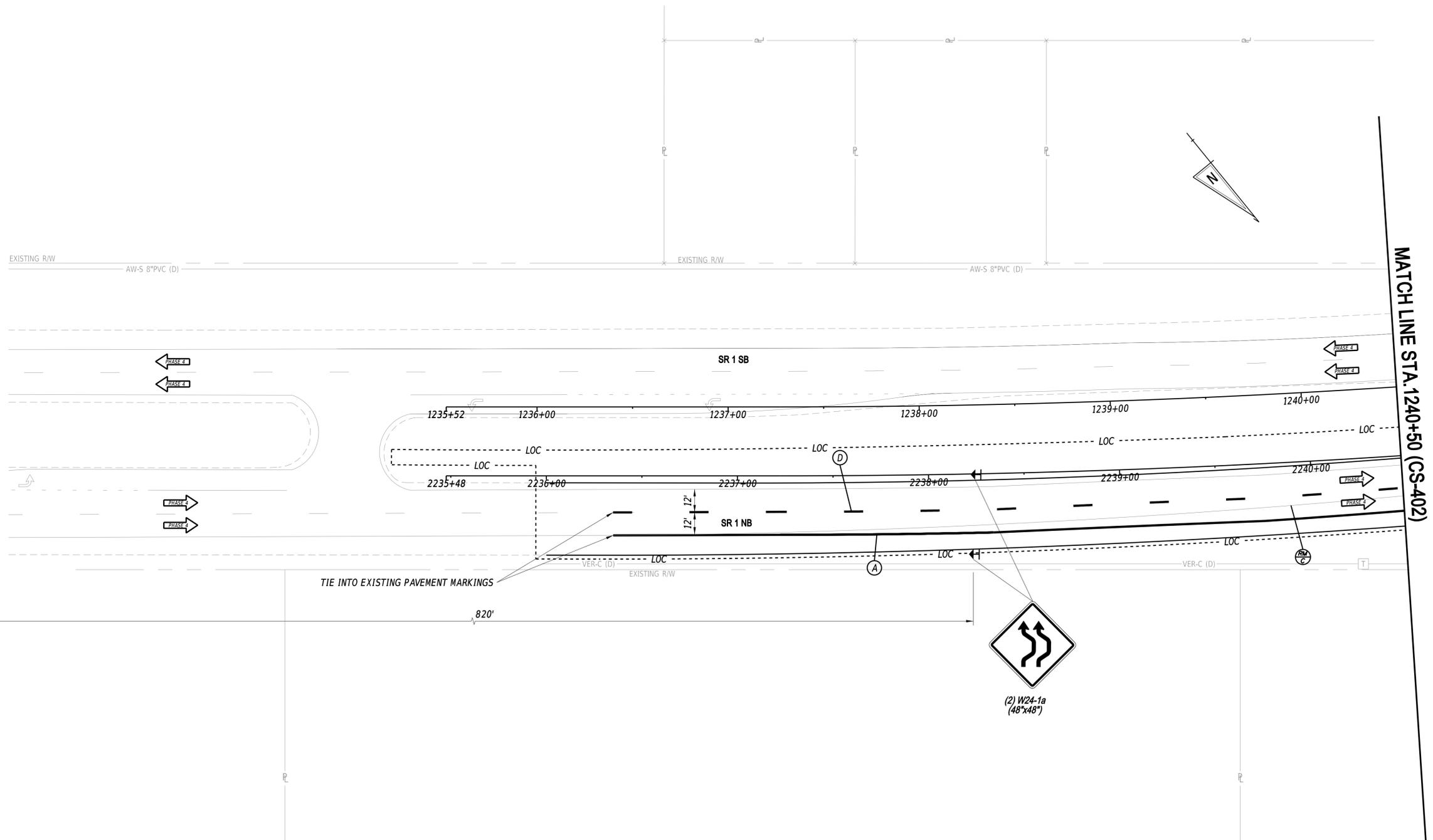
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	415 LF
(B)	5" SOLID YELLOW EPOXY	0 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	104 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-401

SECTION	WRA
SHEET NO.	188

SEQUENCE OF CONSTRUCTION

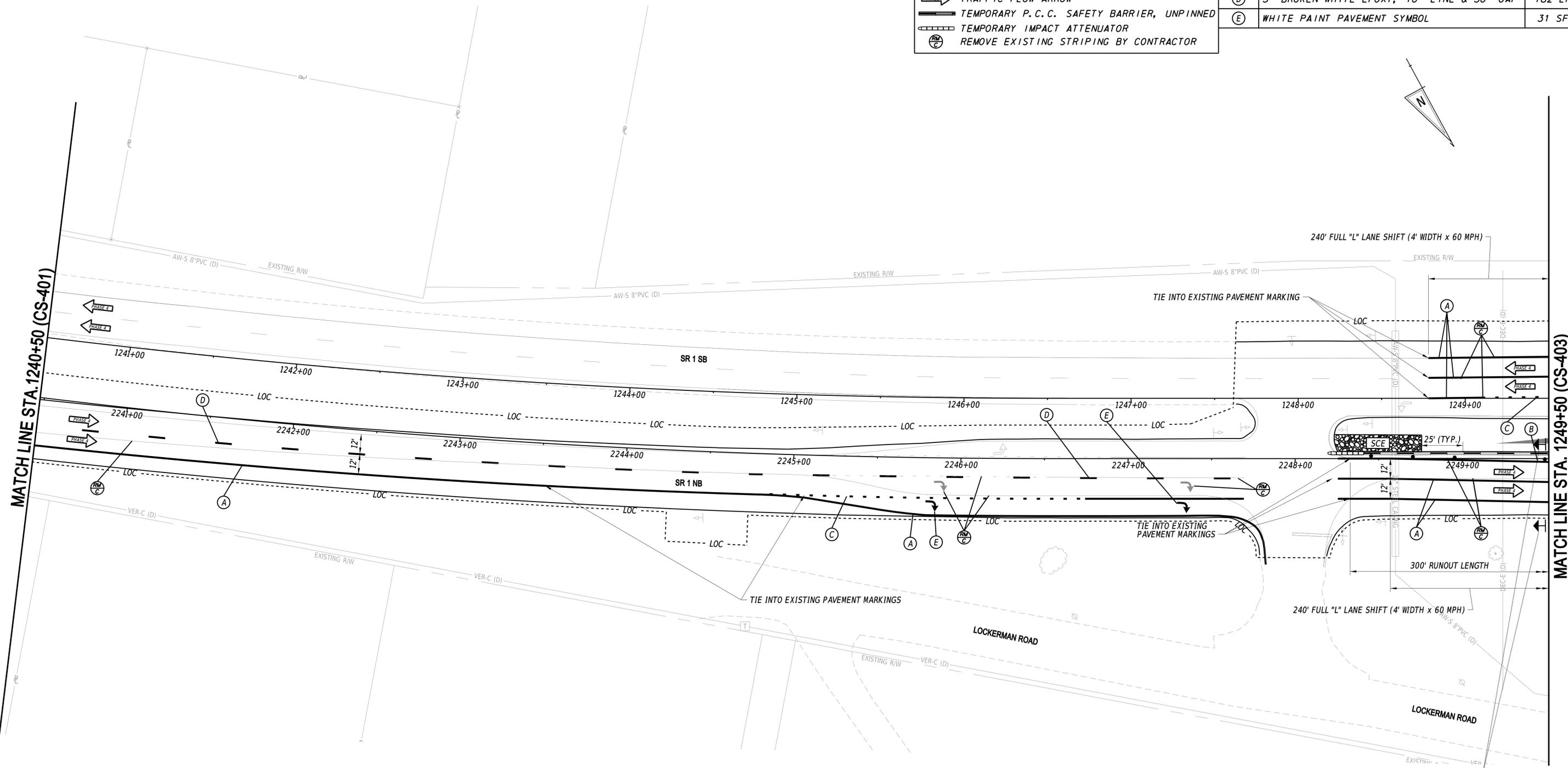
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ③ FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- ➔ TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	1,192 LF
(B)	5" SOLID YELLOW EPOXY	119 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	54 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	182 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	31 SF



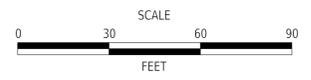
(2) R2-1-55
(36" x 48")

SPEED LIMIT 55

(2) W21-12P-DE
(36" x 24")

STRICTLY ENFORCED

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-402

SECTION
WRA
SHEET NO.
189

5/14/2020
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SEQUENCE OF CONSTRUCTION

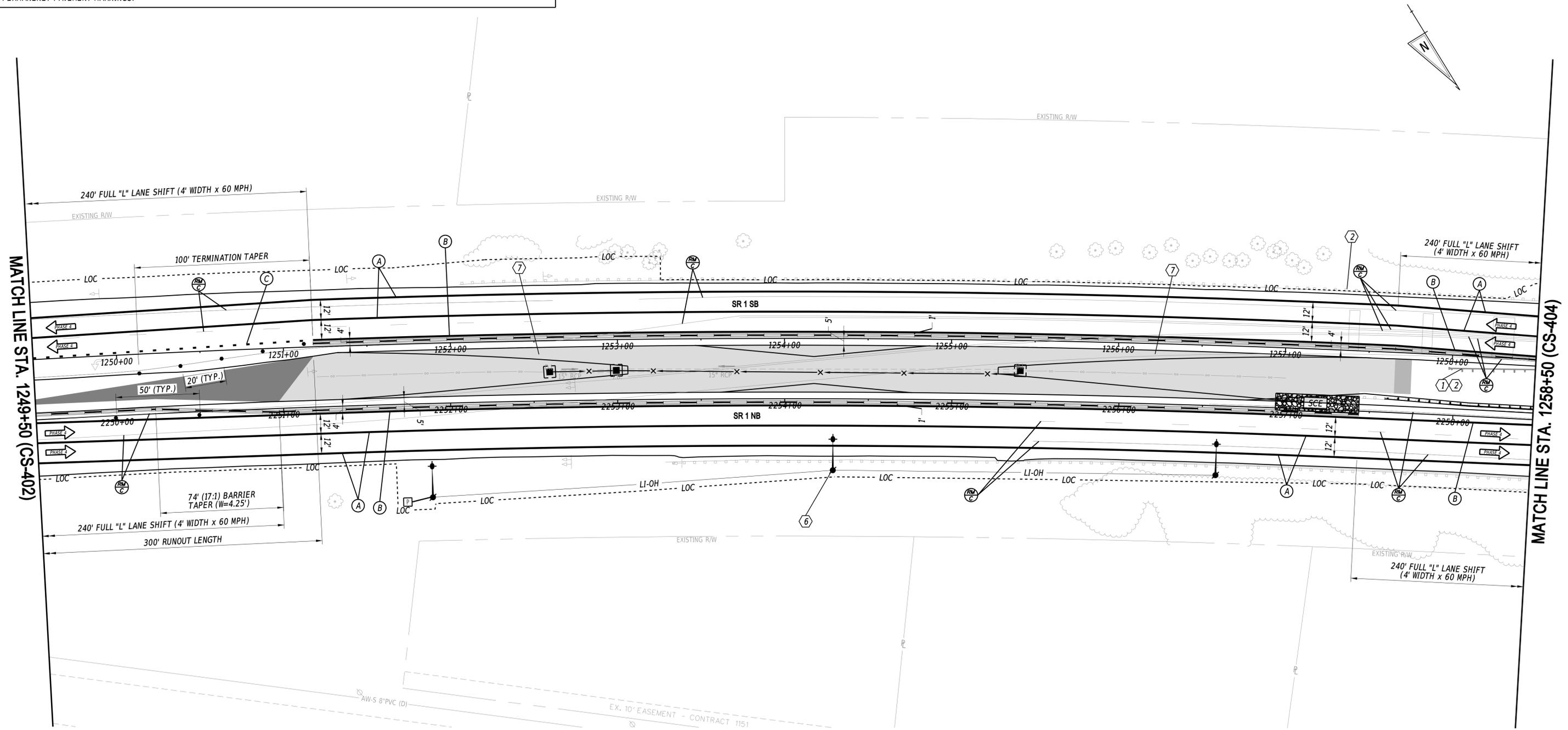
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
- ② INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
- ③ INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, OPEN SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.
- ④ INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ⑤ REMOVE TEMPORARY CROSSOVERS AND CONSTRUCT PERMANENT MEDIAN.
- ⑥ REMOVE TEMPORARY ROADWAY LIGHTING.
- ⑦ FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

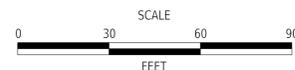
TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	3,600 LF
(B)	5" SOLID YELLOW EPOXY	1,632 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	42 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



5/14/2020
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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-403
SECTION
WRA
SHEET NO.
190

CONSTRUCTION STAGING LEGEND

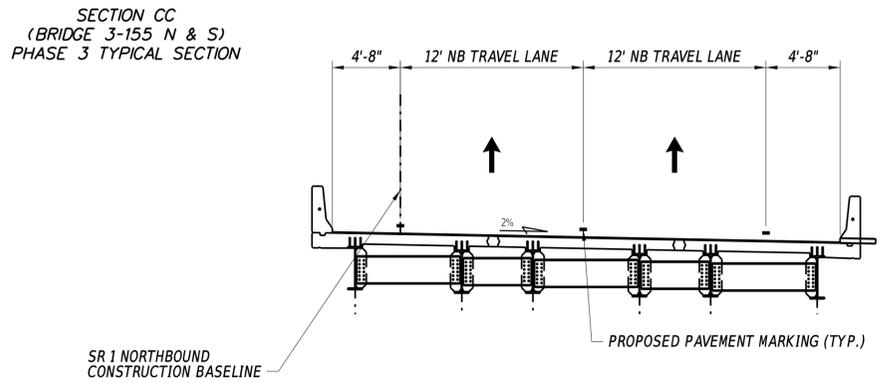
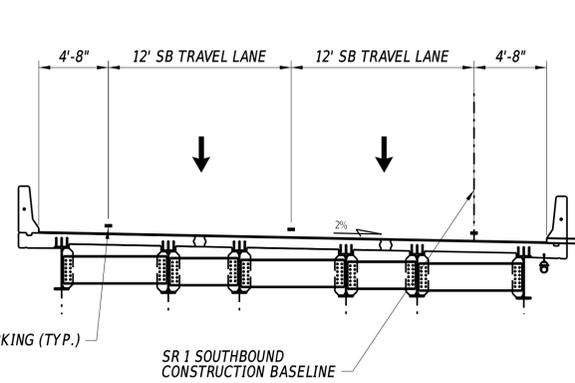
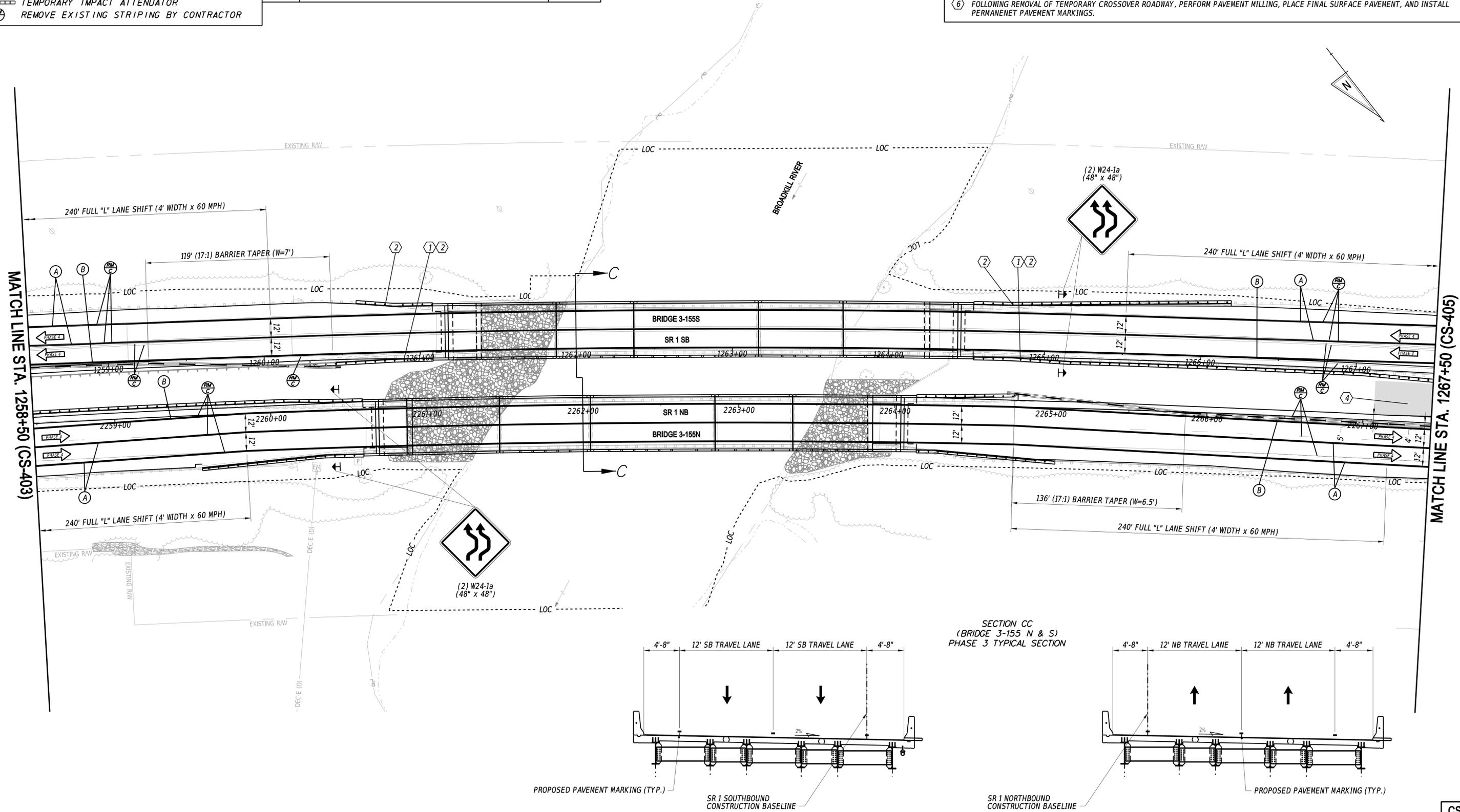
- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	3,600 LF
(B)	5" SOLID YELLOW EPOXY	1,800 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF

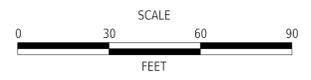
SEQUENCE OF CONSTRUCTION

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT NORTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANE. RE-LAP GUARDRAIL W BEAMS FOR PROPER APPROACH DIRECTION OF TRAFFIC.
2. INSTALL GUARDRAIL REFLECTORS SPACED AT 100 FEET AND AS DIRECTED IN SECTION 720 OF THE SPECIFICATIONS.
3. INSTALL REMAINING TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 1 PLANS, OPEN SOUTHBOUND TRAFFIC TO DESIGNATED TRAVEL LANES.
4. INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
5. REMOVE TEMPORARY CROSSOVERS AND CONSTRUCT PERMANENT MEDIAN.
6. FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.



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ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

CONSTRUCTION PHASING, M.O.T. AND EROSION CONTROL PLAN - PHASE 4

CS-404
SECTION
WRA
SHEET NO.
191

SEQUENCE OF CONSTRUCTION

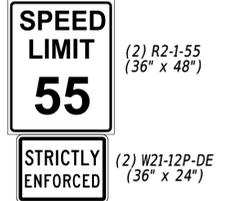
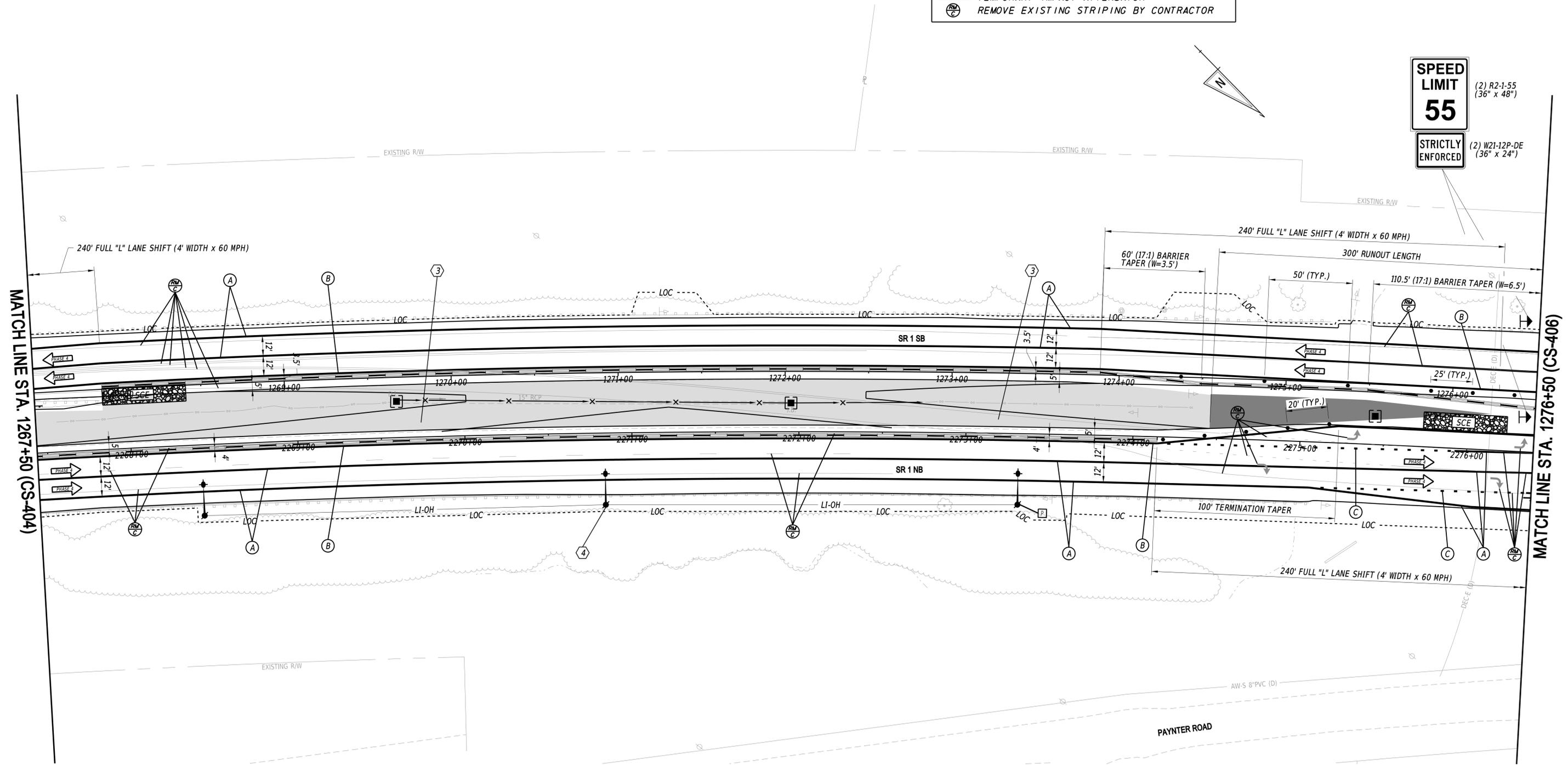
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② INSTALL EROSION AND SEDIMENT CONTROL DEVICES.
- ③ REMOVE TEMPORARY CROSSOVERS AND CONSTRUCT PERMANENT MEDIAN.
- ④ REMOVE TEMPORARY ROADWAY LIGHTING.
- ⑤ FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- ☐ PROPOSED CONSTRUCTION THIS STAGE
- ▨ RUNOUT LENGTH SHADING
- ⇄ EXISTING SIGN/PROPOSED TEMPORARY SIGN
- ≡ TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- ▬ TEMPORARY IMPACT ATTENUATOR
- ⊖ REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	3,650 LF
(B)	5" SOLID YELLOW EPOXY	1,800 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	100 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	0 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



MATCH LINE STA. 1267+50 (CS-404)

MATCH LINE STA. 1276+50 (CS-406)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-405
SECTION
WRA
SHEET NO.
192

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SEQUENCE OF CONSTRUCTION

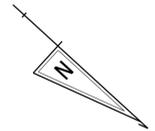
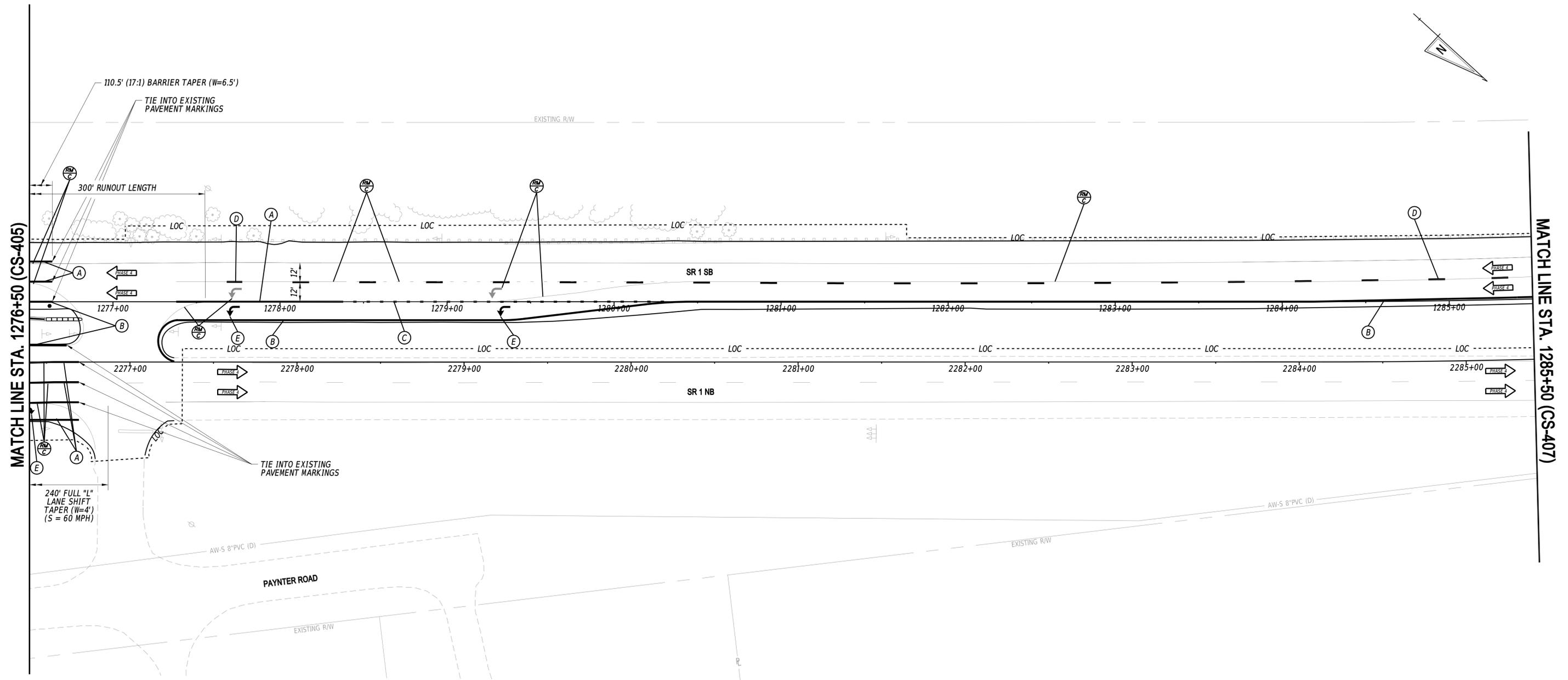
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② FOLLOWING REMOVAL OF TEMPORARY CROSSOVER ROADWAY, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

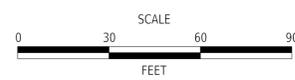
TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	189 LF
(B)	5" SOLID YELLOW EPOXY	865 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	6 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	195 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	46.5 SF



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ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-406
SECTION
WRA
SHEET NO.
193

SEQUENCE OF CONSTRUCTION

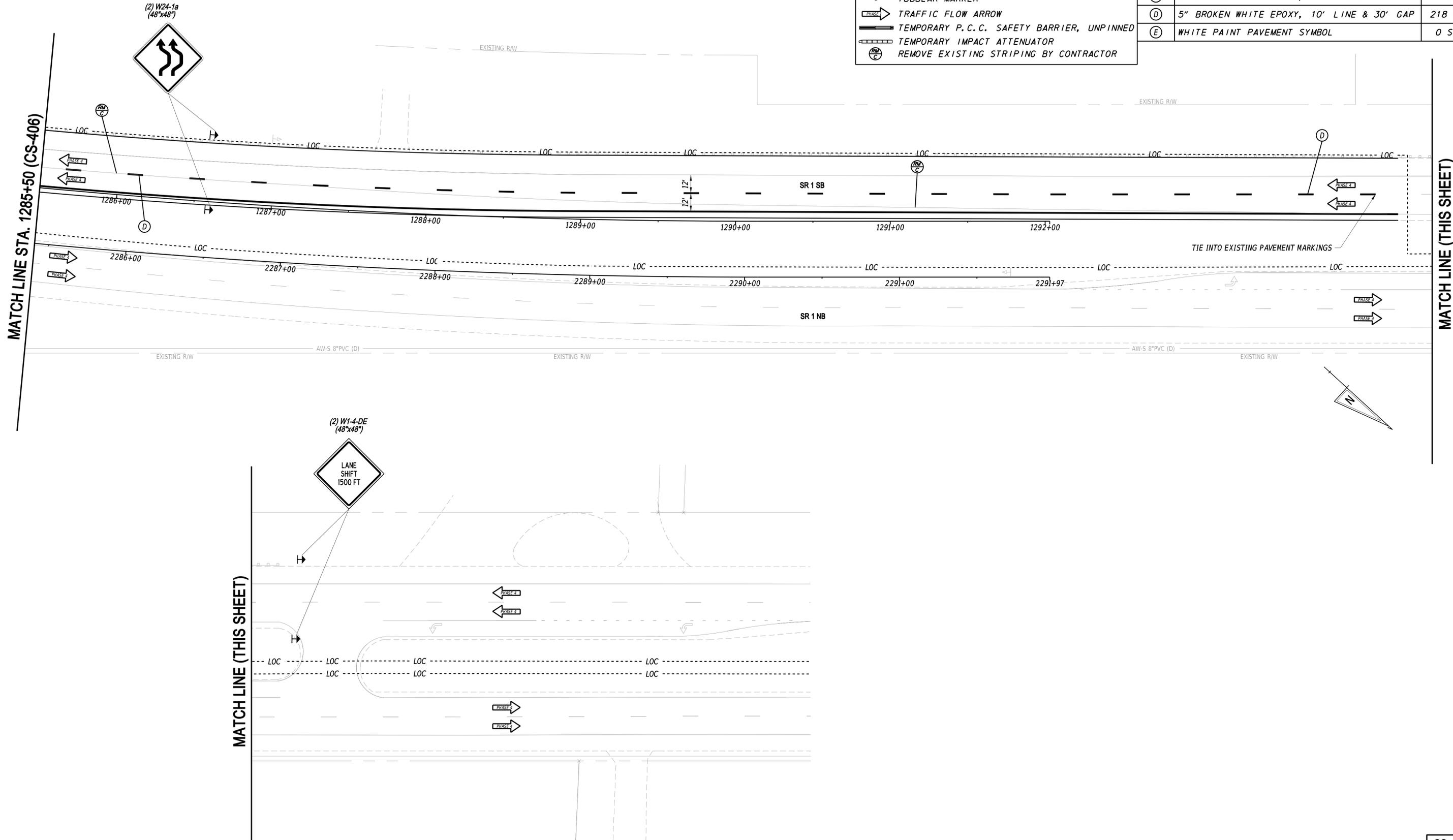
- ① INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS SHOWN ON THE PERMANENT WARNING SIGN PLAN AND PHASE 4 PLANS, SHIFT TRAFFIC TO DESIGNATED TRAVEL LANES.
- ② FOLLOWING THE REMOVAL OF THE TEMPORARY CROSSOVER ROADWAYS, PERFORM PAVEMENT MILLING, PLACE FINAL SURFACE PAVEMENT, AND INSTALL PERMANENT PAVEMENT MARKINGS.

CONSTRUCTION STAGING LEGEND

- PROPOSED CONSTRUCTION THIS STAGE
- RUNOUT LENGTH SHADING
- EXISTING SIGN/PROPOSED TEMPORARY SIGN
- TYPE III BARRICADE
- PLASTIC DRUM
- TUBULAR MARKER
- TRAFFIC FLOW ARROW
- TEMPORARY P.C.C. SAFETY BARRIER, UNPINNED
- TEMPORARY IMPACT ATTENUATOR
- REMOVE EXISTING STRIPING BY CONTRACTOR

TEMPORARY PAVEMENT MARKINGS LEGEND

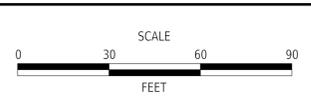
SYMBOL	ITEM	QUANTITY
(A)	5" SOLID WHITE EPOXY	0 LF
(B)	5" SOLID YELLOW EPOXY	721 LF
(C)	5" DOTTED WHITE EPOXY, 2' LINE & 6' GAP	0 LF
(D)	5" BROKEN WHITE EPOXY, 10' LINE & 30' GAP	218 LF
(E)	WHITE PAINT PAVEMENT SYMBOL	0 SF



MATCH LINE (THIS SHEET)

MATCH LINE (THIS SHEET)

ADDENDA / REVISIONS



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**CONSTRUCTION PHASING,
M.O.T. AND EROSION
CONTROL PLAN - PHASE 4**

CS-407
SECTION
WRA
SHEET NO.
194

5/14/2020 5:01:22 PM N:\31212-003\CADD\Traffic\CS407_SRB.dgn

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-3

SR1 NB
AT
BRDKILL

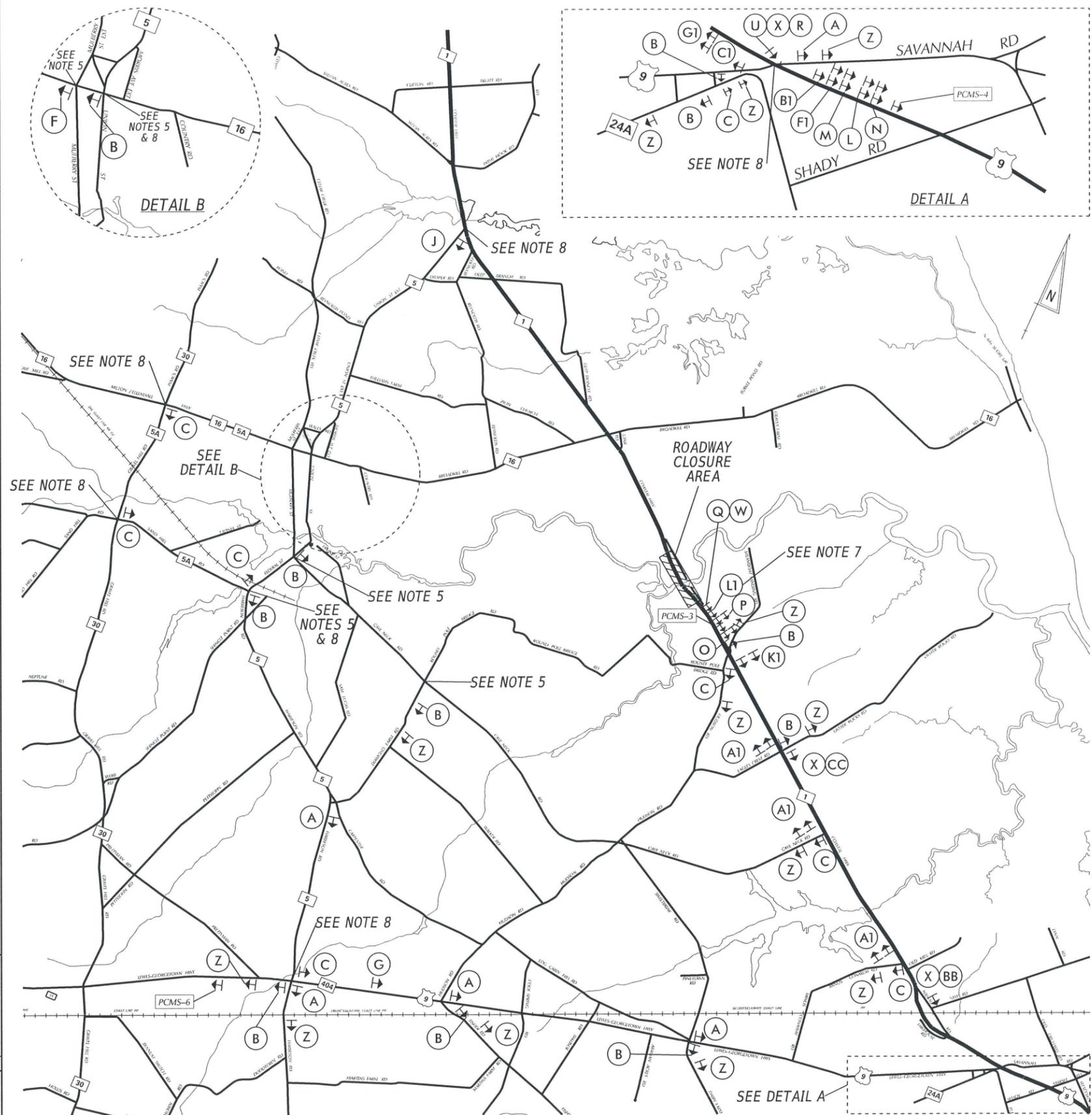
TO CLOSE
XX/XX/XX
10P-6A

DURING DETOUR
(DISPLAY DURING IMPLEMENTATION OF DETOUR)

PCMS-4 AND PCMS-6

SR1
NORTH
CLOSED

FOLLOW
DETOUR



LEGEND

DETOUR M4-8 NORTH M3-1 M1-5 M6-3	DETOUR M4-8 NORTH M3-1 M1-5 M6-(1)L	DETOUR M4-8 NORTH M3-1 M1-5 M6-(1)R	DETOUR M4-8 NORTH M3-1 M1-5 M6-(2)L
DETOUR M4-8 NORTH M3-1 M1-5 M6-2(R)	DETOUR M4-8 NORTH M3-1 M1-5 M5-(1)L	DETOUR M4-8 NORTH M3-1 M1-5 M5-(1)R	DETOUR M4-8 NORTH M3-1 M1-5 M5-(2)L
DETOUR M4-8 NORTH M3-1 M1-5 M5-2(R)	END DETOUR M4-8a NORTH M3-1 M1-5	DETOUR AHEAD W20-2	DETOUR 1000 FT W20-2
DETOUR 500 FT W20-2	ROAD CLOSED AHEAD W20-3	ROAD CLOSED 1000 FT W20-3	ROAD CLOSED 500 FT W20-3
ROAD CLOSED R11-2	DETOUR M4-10(L)	DETOUR M4-10(R)	
ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY R11-3a	BRIDGE OUT 5 MILES AHEAD LOCAL TRAFFIC ONLY R11-3b	ROAD CLOSED TO THRU TRAFFIC R11-4	

BRIDGE OUT 4 MILES AHEAD LOCAL TRAFFIC ONLY R11-3b

BRIDGE OUT 1 MILE AHEAD LOCAL TRAFFIC ONLY R11-3b

1 NORTH
CLOSED AT
BROADKILL
RIVER
FOLLOW
DETOUR

BORDER 3/5" R=6" TH=1" IN=0.5"

BLACK LEGEND, RETROREFLECTIVE, PRISMATIC, FLUORESCENT, ORANGE, BACKGROUND

- 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.
 - THE CONTRACTOR SHALL POSITION A TRAFFIC OFFICER AT THE LOCATIONS IDENTIFIED FOR ENFORCEMENT OF TRAFFIC RESTRICTIONS IN AND AROUND THE TOWN OF MILTON, DE DURING IMPLEMENTATION OF THE DETOUR.
 - REFER TO DP-03 FOR ADDITIONAL SIZES OF DETOUR SIGNS PLACED ALONG FREEWAYS, INTERSTATES AND EXPRESSWAYS.
 - CLOSE THE RIGHT LANE OF SR 1 NORTHBOUND FOLLOWING TA-33 AND FORCE TRAFFIC TO U-TURN AT LOCKERMAN ROAD.
 - THE CONTRACTOR SHALL POSITION A TRAFFIC OFFICER AND A LIGHT PLANT AT THE LOCATIONS IDENTIFIED TO ASSIST WITH TRAFFIC OPERATIONS DURING IMPLEMENTATION OF THE DETOUR.

PREPARED BY

WRA Whitman, Requardt and Associates, LLP
Engineers • Architects • Environmental Planners Est. 1915

7/14/2020 DATE

SEAL

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

QA/QC REVIEWER: *[Signature]* DATE: 7/14/2020

CONCURRENCE FOR IMPLEMENTATION

[Signature] DATE: 7/16/20

TRAFFIC SAFETY DP-01

ADDENDA / REVISIONS	NOT TO SCALE	BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER	CONTRACT T201907601	PERMIT NO.	SECTION WRA-TR
			COUNTY SUSSEX	DESIGNED BY: WRA	SHEET NO. 195
			CHECKED BY: WRA	DETOUR PLAN SR 1 NORTH OVER BROADKILL RIVER	

LAST REVISED: 9/11/2018
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PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

SR1 SB
AT
BRDKILL

TO CLOSE
XX/XX/XX
10P-6A

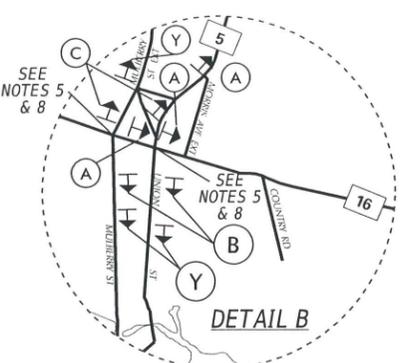
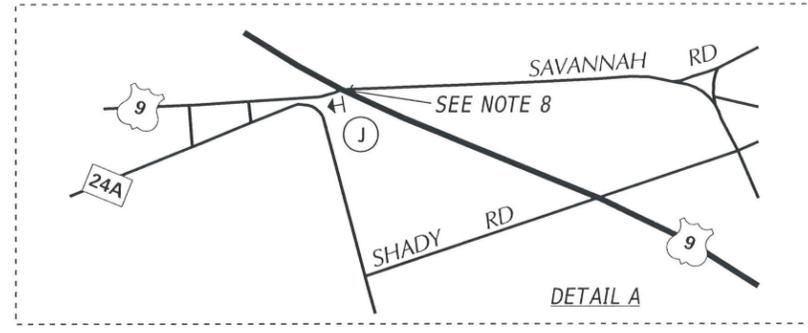
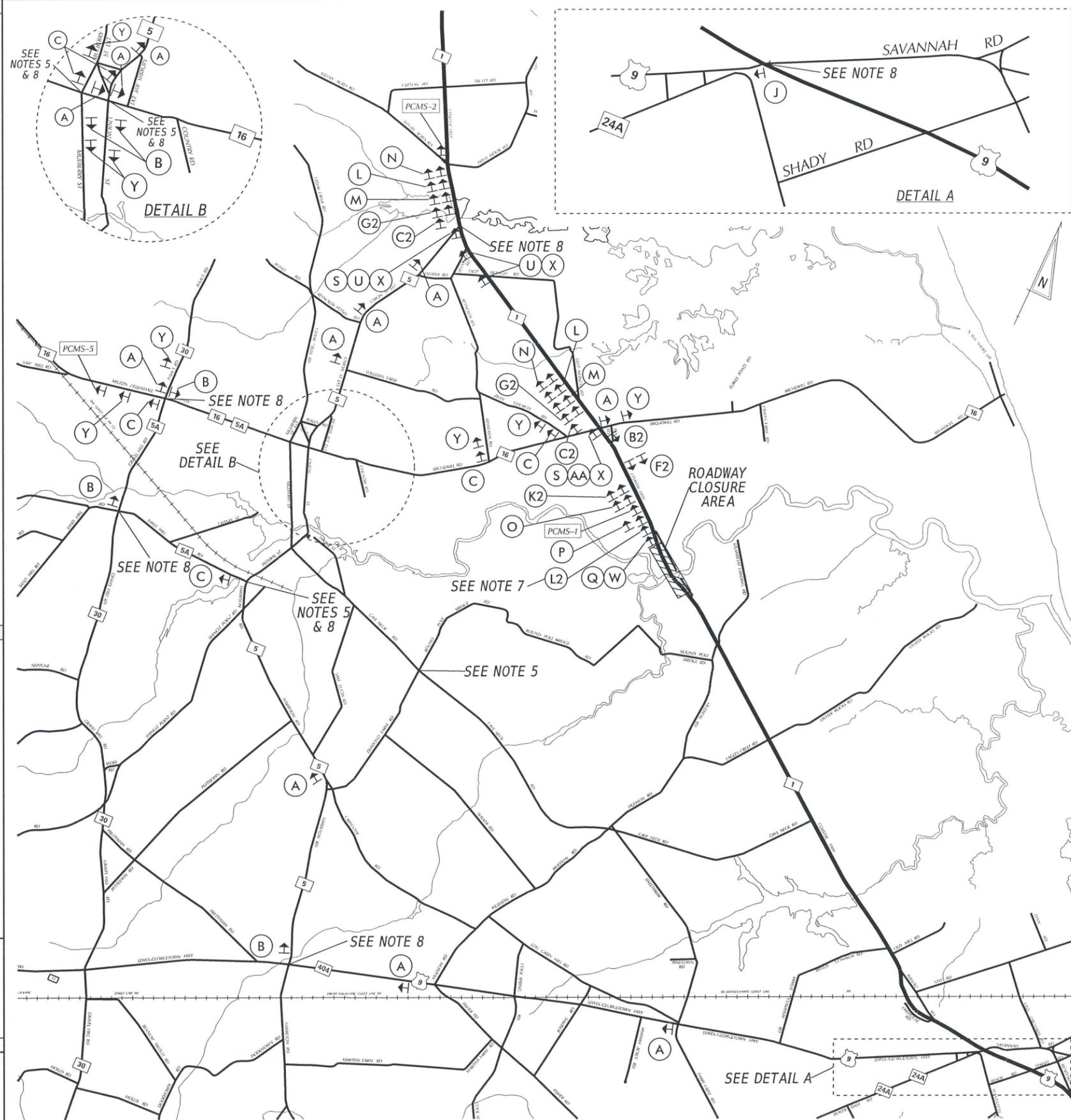
DURING DETOUR

(DISPLAY DURING IMPLEMENTATION OF DETOUR)

PCMS-2 AND PCMS-5

SR1
SOUTH
CLOSED

FOLLOW
DETOUR



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 "O" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.
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- REFER TO DP-03 FOR ADDITIONAL SIZES OF DETOUR SIGNS PLACED ALONG FREEWAYS, INTERSTATES AND EXPRESSWAYS.
- CLOSE THE RIGHT LANE OF SR1 SOUTHBOUND FOLLOWING TA-33 AND FORCE TRAFFIC TO U-TURN AT PAYNTER ROAD.
- THE CONTRACTOR SHALL POSITION A TRAFFIC OFFICER AND A LIGHT PLANT AT THE LOCATIONS IDENTIFIED TO ASSIST WITH TRAFFIC OPERATIONS DURING IMPLEMENTATION OF THE DETOUR.

CONCURRENCE FOR IMPLEMENTATION

Donald A. Maggipinto **7/16/20**
TRAFFIC SAFETY DATE

BRIDGE OUT 1 MILE AHEAD LOCAL TRAFFIC ONLY R11-3b

BRIDGE OUT 3 MILES AHEAD LOCAL TRAFFIC ONLY R11-3b

ROAD CLOSED AT BROADKILL RIVER FOLLOW DETOUR

BORDER R=6" TH=1" IN=0.5" BLACK LEGEND, RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE BACKGROUND

PREPARED BY
WRA Whitman, Reardon and Associates, LLP
Engineers • Architects • Environmental Planners Est. 1915

[Signature] **7/14/2020**
DATE

SEAL
STATE OF DELAWARE
J.A. BUCKLEY
No. 16224
Professional Engineer

QA/QC REVIEWER
[Signature] **7/14/2020**
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

NOT TO SCALE

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT T201907601	PERMIT NO.
COUNTY SUSSEX	DESIGNED BY: WRA
	CHECKED BY: WRA

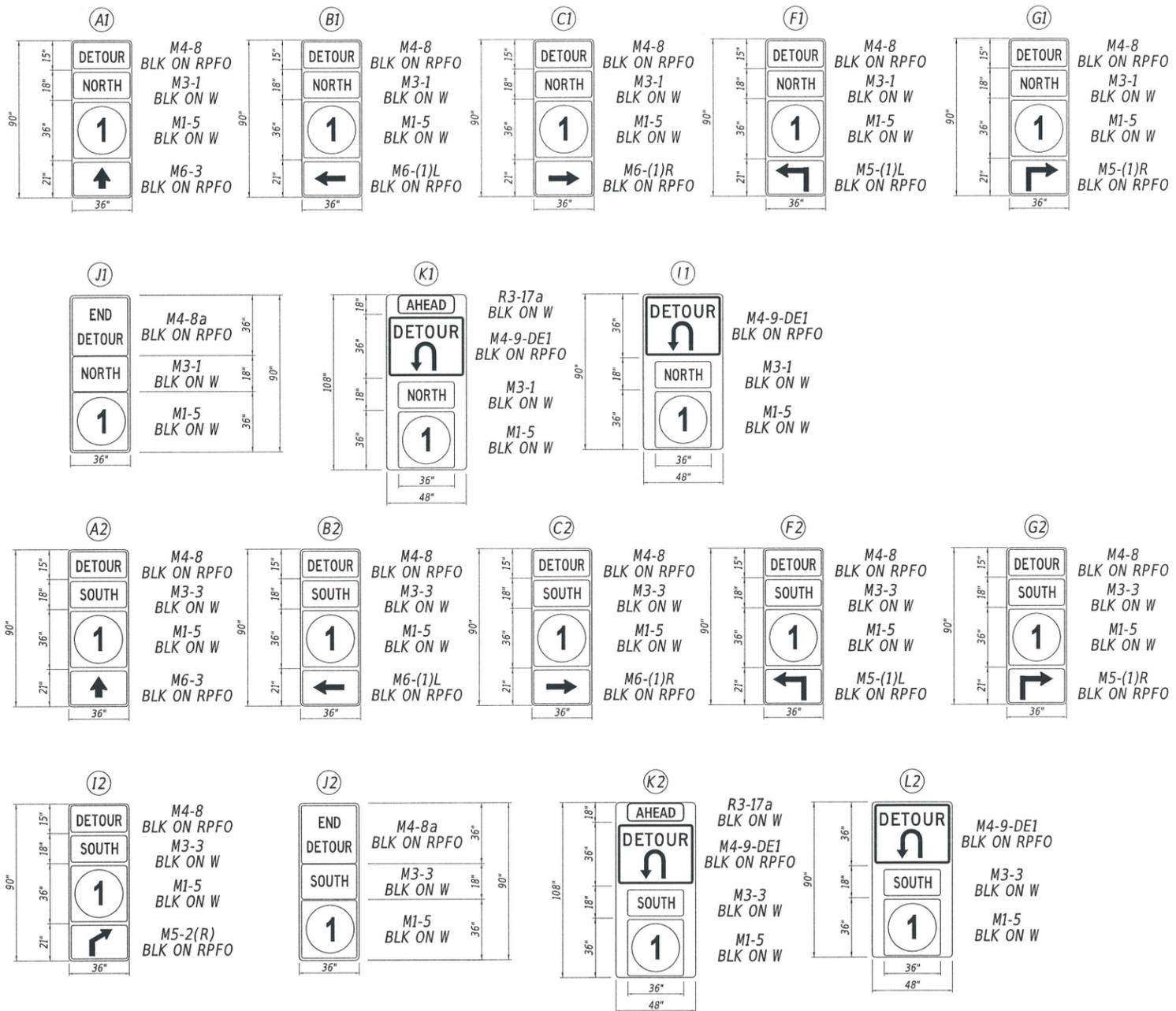
DETOUR PLAN		SECTION
SR 1 SOUTH OVER BROADKILL RIVER		WRA-TR
		SHEET NO.
		196

LAST REVISED: 9/11/2018
7/14/2020
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LEGEND

NOTES:

- SIGN ASSEMBLIES ARE TO BE FABRICATED AS A SINGLE SIGN PANEL.
- COLORS: BLK=BLACK, W=WHITE, RPFO=RETROREFLECTIVE PRISMATIC FLUORESCENT ORANGE



GENERAL NOTES

PREPARED BY
WRA Whitman, Requardt and Associates, LLP
 Engineers - Architects - Environmental Planners Est. 1915

 DATE: 7/14/2020
 THIS SEAL APPLIES TO ALL SHEETS BEARING THE "WRA" SECTION DESIGNATION.

QA/QC REVIEWER:
 DATE: 7/14/2020

"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

NOT TO SCALE

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	PERMIT NO.
T201907601	
COUNTY	DESIGNED BY: WRA
SUSSEX	CHECKED BY: WRA

CONCURRENCE FOR IMPLEMENTATION

 DATE: 7/16/20

SECTION	WRA-TR
SHEET NO.	197

LAST REVISED: 9/11/2018
 7/14/2020
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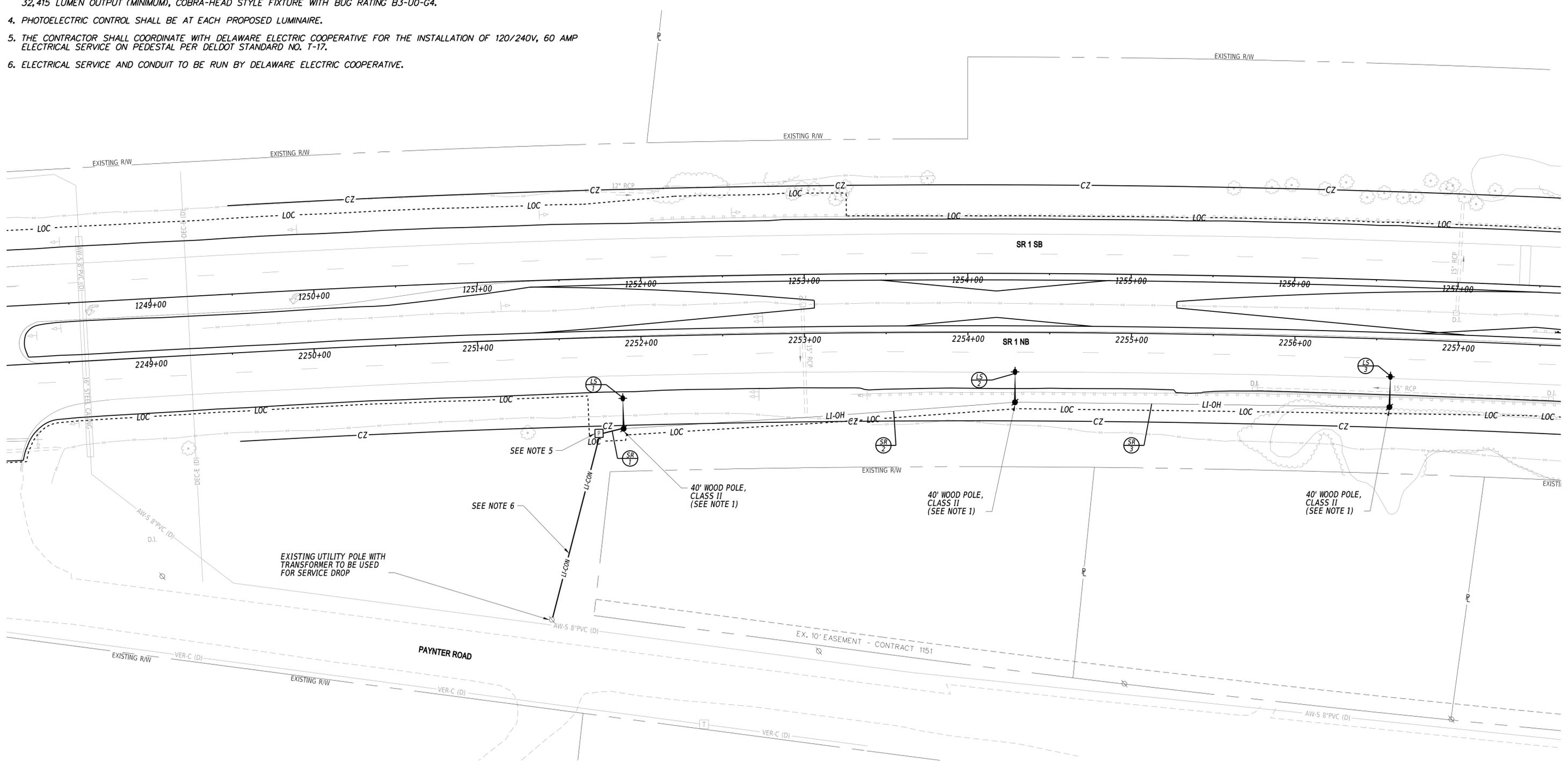
LIGHTING SERVICE SCHEDULE					
SERVICE RUN	# OF CONDUITS	SIZE	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION
1	1	2.0"*	48'	#6 AWG ALUMINUM TRIPLEX	TRENCH / ON STRUCTURE
2	N/A	N/A	240'	#6 AWG ALUMINUM TRIPLEX W/ STEEL SUPPORT STRAND	AERIAL
3	N/A	N/A	229'	#6 AWG ALUMINUM TRIPLEX W/ STEEL SUPPORT STRAND	AERIAL

LIGHTING STANDARD SCHEDULE						
NO.	CKT NO.	STATION	OFFSET	HEIGHT	ARM	LIGHT STANDARD
LS-1	1	2251+87.9	56.0' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION
LS-2	1	2254+28.9	42.6' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION
LS-3	1	2256+59.1	41.5' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION

LIGHTING SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED LIGHTING STANDARD
	PROPOSED LIGHTING SERVICE RUN (OVERHEAD)
	PROPOSED LIGHTING SERVICE RUN (UNDERGROUND)
	PROPOSED SERVICE RUN IDENTIFIER
	EXISTING & PROPOSED UTILITY POLE
	EXISTING & PROPOSED ELECTRICAL SERVICE PEDESTAL

NOTE: SERVICE RUN DISTANCE REFLECTS CONDUIT LENGTH/OVERHEAD AERIAL LENGTH ONLY.
 * RIGID GALVANIZED STEEL CONDUIT

- NOTES:
1. THE TRAFFIC CONTRACTOR SHALL INSTALL TWO (2) BACK GUYS, IN ACCORDANCE WITH ITEM 840001 - FURNISH & INSTALL DOWN GUY AND ANCHOR, TO SUPPORT THE PROPOSED WOOD POLE. BACK GUYS SHALL BE INCIDENTAL TO THE LUMP SUM TEMPORARY LIGHTING ITEM.
 2. THE TRAFFIC CONTRACTOR SHALL STAKEOUT ALL PROPOSED LIGHT POLE LOCATIONS PRIOR TO INSTALLATION OF THE WOOD POLE. IF THE CONTRACTOR PERCEIVES THAT AN UNDERGROUND OR OVERHEAD UTILITY CONFLICT EXISTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR A RESOLUTION.
 3. THE PROPOSED LUMINAIRE SHALL BE 268 WATT LED WITH MEDIUM VERTICAL DISTRIBUTION, IES TYPE 3 HORIZONTAL DISTRIBUTION, 32,415 LUMEN OUTPUT (MINIMUM), COBRA-HEAD STYLE FIXTURE WITH BUG RATING B3-U0-G4.
 4. PHOTOELECTRIC CONTROL SHALL BE AT EACH PROPOSED LUMINAIRE.
 5. THE CONTRACTOR SHALL COORDINATE WITH DELAWARE ELECTRIC COOPERATIVE FOR THE INSTALLATION OF 120/240V, 60 AMP ELECTRICAL SERVICE ON PEDESTAL PER DELDOT STANDARD NO. T-17.
 6. ELECTRICAL SERVICE AND CONDUIT TO BE RUN BY DELAWARE ELECTRIC COOPERATIVE.



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ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

TEMPORARY LIGHTING PLAN PHASES 1 AND 2		LI-01
		SECTION
		WRA
		SHEET NO.
		198

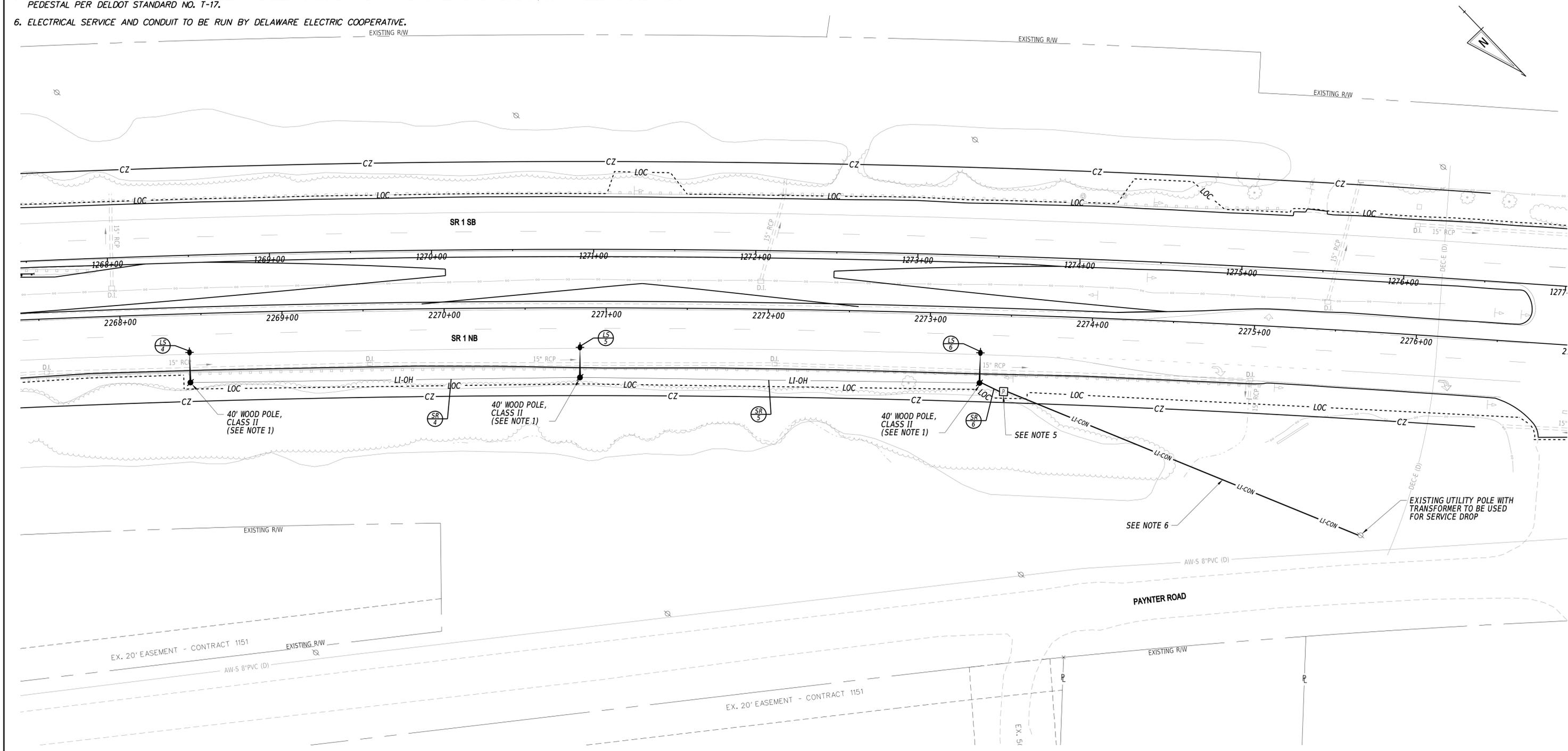
LIGHTING SERVICE SCHEDULE					
SERVICE RUN	# OF CONDUITS	SIZE	DISTANCE (L.F.)	DESCRIPTION	INSTALLATION
4	N/A	N/A	241'	#6 AWG ALUMINUM TRIPLEX W/ STEEL SUPPORT STRAND	AERIAL
5	N/A	N/A	247'	#6 AWG ALUMINUM TRIPLEX W/ STEEL SUPPORT STRAND	AERIAL
6	1	2.0"*	48'	#6 AWG ALUMINUM TRIPLEX	TRENCH / ON STRUCTURE

NOTE: SERVICE RUN DISTANCE REFLECTS CONDUIT LENGTH/OVERHEAD AERIAL LENGTH ONLY.
 * RIGID GALVANIZED STEEL CONDUIT

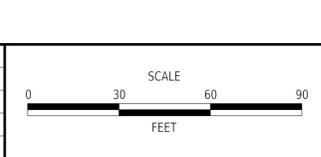
- NOTES:
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 - THE TRAFFIC CONTRACTOR SHALL STAKEOUT ALL PROPOSED LIGHT POLE LOCATIONS PRIOR TO INSTALLATION OF THE WOOD POLE. IF THE CONTRACTOR PERCEIVES THAT AN UNDERGROUND OR OVERHEAD UTILITY CONFLICT EXISTS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR A RESOLUTION.
 - THE PROPOSED LUMINAIRES SHALL BE 268 WATT LED WITH MEDIUM VERTICAL DISTRIBUTION, IES TYPE 3 HORIZONTAL DISTRIBUTION, 32,415 LUMEN OUTPUT (MINIMUM), COBRA-HEAD STYLE FIXTURE WITH BUG RATING B3-U0-G4.
 - PHOTOELECTRIC CONTROL SHALL BE AT EACH PROPOSED LUMINAIRE.
 - THE CONTRACTOR SHALL COORDINATE WITH DELAWARE ELECTRIC COOPERATIVE FOR THE INSTALLATION OF 120/240V, 60 AMP ELECTRICAL SERVICE ON PEDESTAL PER DELDOT STANDARD NO. T-17.
 - ELECTRICAL SERVICE AND CONDUIT TO BE RUN BY DELAWARE ELECTRIC COOPERATIVE.

LIGHTING STANDARD SCHEDULE						
NO.	CKT NO.	STATION	OFFSET	HEIGHT	ARM	LIGHT STANDARD
LS-4	1	2268+42.3	42.3' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION
LS-5	1	2270+83.8	42.8' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION
LS-6	1	2273+31.5	42.4' RT.	35'	12'	268 W LED, IES TYPE 3 DISTRIBUTION

LIGHTING SYMBOL LEGEND	
SYMBOL	DESCRIPTION
	PROPOSED LIGHTING STANDARD
	PROPOSED LIGHTING SERVICE RUN (OVERHEAD)
	PROPOSED LIGHTING SERVICE RUN (UNDERGROUND)
	PROPOSED SERVICE RUN IDENTIFIER
	EXISTING & PROPOSED UTILITY POLE
	EXISTING & PROPOSED ELECTRICAL SERVICE PEDESTAL



ADDENDA / REVISIONS	



**BR 3-155 N&S ON SR 1
OVER BROADKILL RIVER**

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

**TEMPORARY LIGHTING PLAN
PHASES 1 AND 2**

LI-02
SECTION
WRA
SHEET NO.
199

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PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	0 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	110 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	451 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	451 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	0 LF
(I)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	0 EACH

ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
1	1	4.0 IN	431 FT	T	EMPTY
2	1	4.0 IN	433 FT*	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT

SIGNING, STRIPING AND CONDUIT GENERAL NOTES:

1. ALL CONDUIT SHALL BE SCHEDULE 80 PVC WHEN INSTALLED BY TRENCHING OR OPEN CUT AND HDPE SDR-13.5 WHEN INSTALLED BY BORING, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT OR THROUGH WRITTEN APPROVAL BY THE ENGINEER.

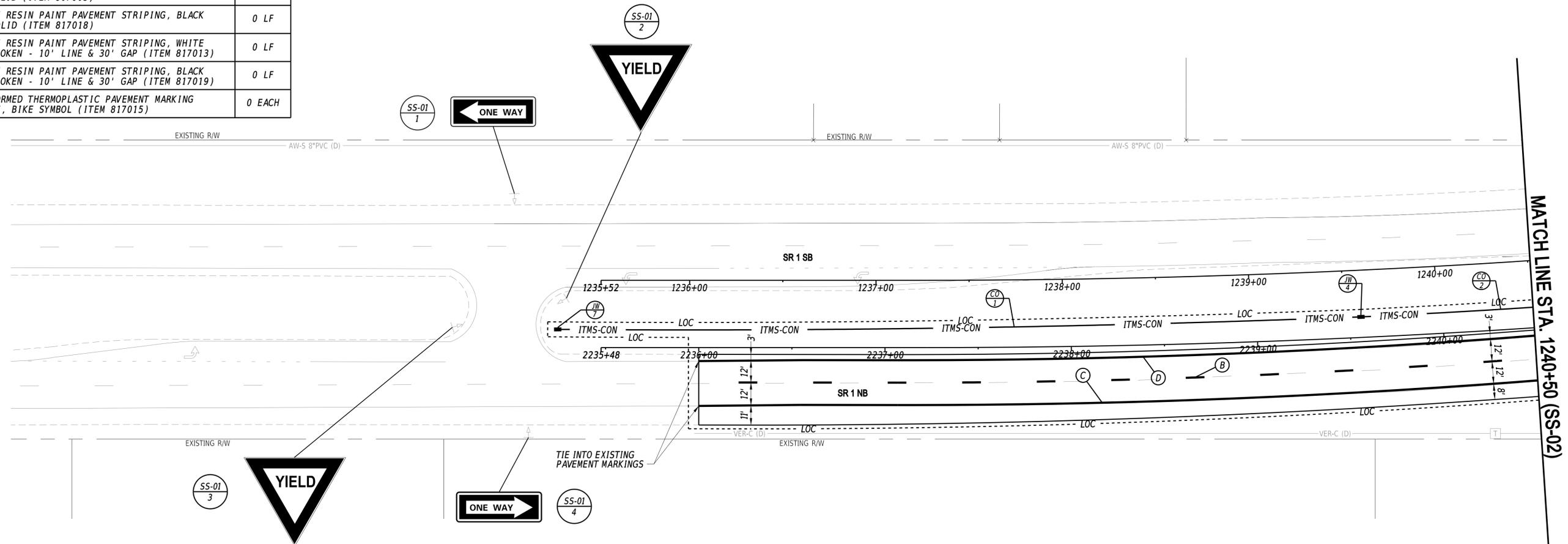
DELAWARE - "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" 2011 EDITION AND SUBSEQUENT REVISIONS (DEMUTCD)

F.H.W.A. - "STANDARD HIGHWAY SIGNS" 2004 EDITION AND ALL SUPPLEMENTS

3. THE CONTRACTOR SHALL INSTALL RAISED/RECESSED PAVEMENT MARKERS (RPMs) PER PART 3 OF THE DELAWARE MUTCD (SEE FIGURES 3B-15A, 3B-15B, 3B-15C, 3B-15E AND 3B-15F).

4. THE CONTRACTOR SHALL INSTALL POST MOUNTED, GUARDRAIL, OR BARRIER MOUNTED DELINEATORS ALONG THE LIMITS OF THE PROPOSED CONSTRUCTION AS PER PART 3 OF THE DELAWARE MUTCD, THE STANDARD SPECIFICATIONS, AND THE STANDARD CONSTRUCTION DETAILS.

5. ALL EXISTING SIGNS NOT SHOWN ON THE PLAN SHALL REMAIN.



ITMS LEGEND	
-ITMS-CON-	- MULTIDUCT ITMS CONDUIT
J.W.	- EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
JW 1	- EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO 1	- EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
	- PROPOSED SIGN/PROPOSED SIGN MODIFICATION
	- EXISTING SIGN
	- EXISTING GROUND MOUNTED SIGN
	- PROPOSED GROUND MOUNTED SIGN
	- EXISTING SIGN TO BE REMOVED

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

SS-01
SECTION
WRA
SHEET NO.
200

ITMS LEGEND	
-ITMS-CON-	MULTIDUCT ITMS CONDUIT
	EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
	EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
	PROPOSED SIGN/PROPOSED SIGN MODIFICATION
	EXISTING SIGN
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING SIGN TO BE REMOVED

MATCH LINE STA. 1240+50 (SS-01)

MATCH LINE STA. 1249+50 (SS-03)

PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	88 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	280 LF
C	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,441 LF
D	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,035 LF
E	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	80 SF
F	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	30 SF
G	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
H	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	0 LF
I	PERFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	2 EACH

ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
2	1	4.0 IN	433 FT*	T	EMPTY
3	1	4.0 IN	372 FT	T	EMPTY
4	1	4.0 IN	110 FT	B	EMPTY
5	1	4.0 IN	600 FT*	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT

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ADDENDA / REVISIONS

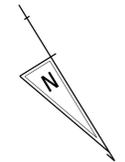


BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

SS-02
SECTION
WRA
SHEET NO.
201

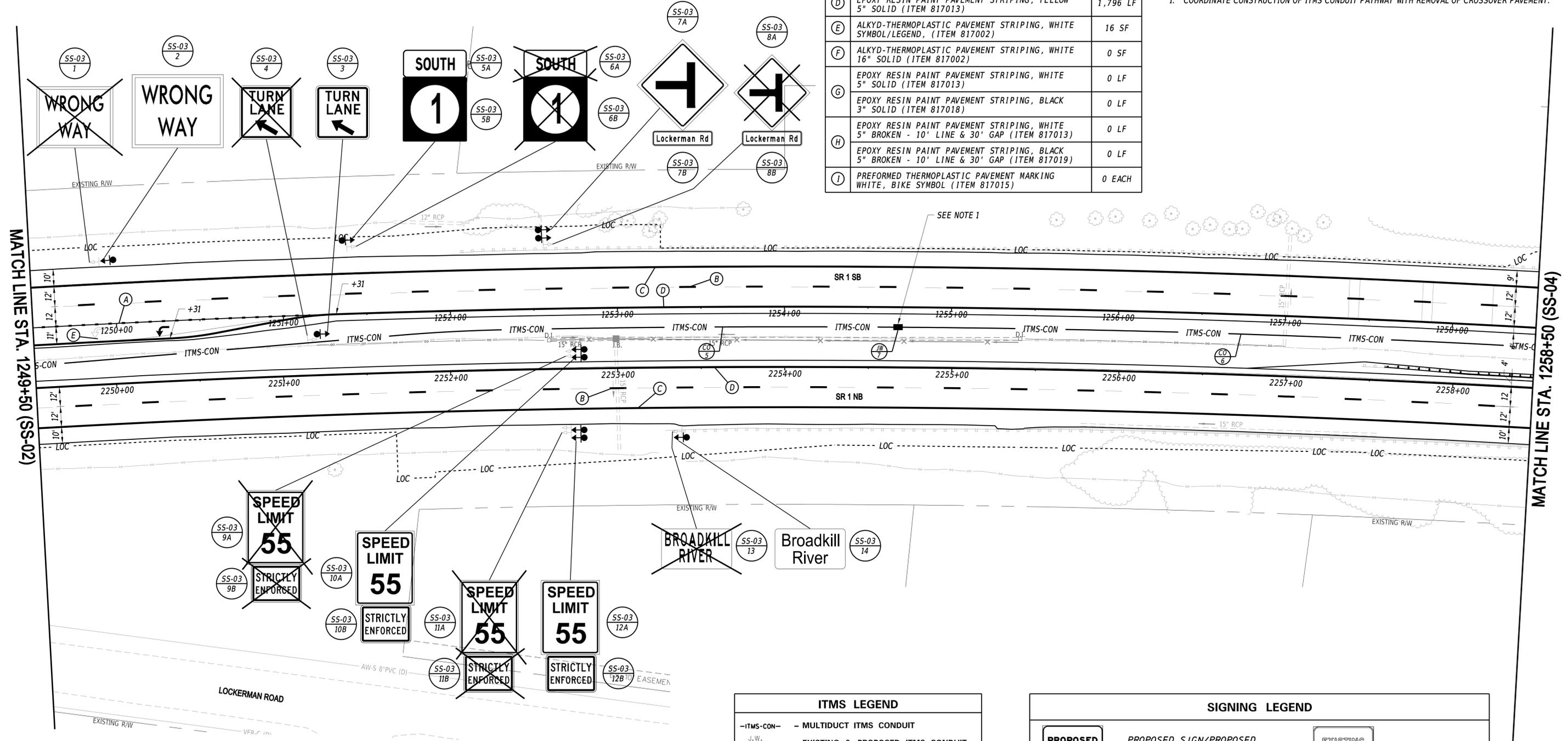


PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	42 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	440 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,796 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,796 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	16 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	0 LF
(I)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	0 EACH

ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
5	1	4.0 IN	600 FT*	T	EMPTY
6	1	4.0 IN	600 FT*	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT

NOTES:
1. COORDINATE CONSTRUCTION OF ITMS CONDUIT PATHWAY WITH REMOVAL OF CROSSOVER PAVEMENT.

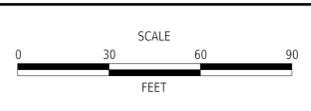


ITMS LEGEND	
-ITMS-CON-	- MULTIDUCT ITMS CONDUIT
J.W.	- EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
(JW X)	- EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
(CO #)	- EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
PROPOSED SIGN	- PROPOSED SIGN/PROPOSED SIGN MODIFICATION
EXISTING SIGN	- EXISTING SIGN
▲	- EXISTING GROUND MOUNTED SIGN
●	- PROPOSED GROUND MOUNTED SIGN
EXISTING SIGN	- EXISTING SIGN TO BE REMOVED

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ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

SS-03
SECTION
WRA
SHEET NO.
202

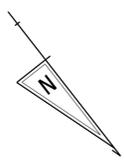
PAVEMENT MARKINGS LEGEND

SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6" GAP (ITEM 817013)	0 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	270 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,080 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,805 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	720 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	720 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	90 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	90 LF
(I)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	0 EACH

ITMS CONDUIT RUN SCHEDULE

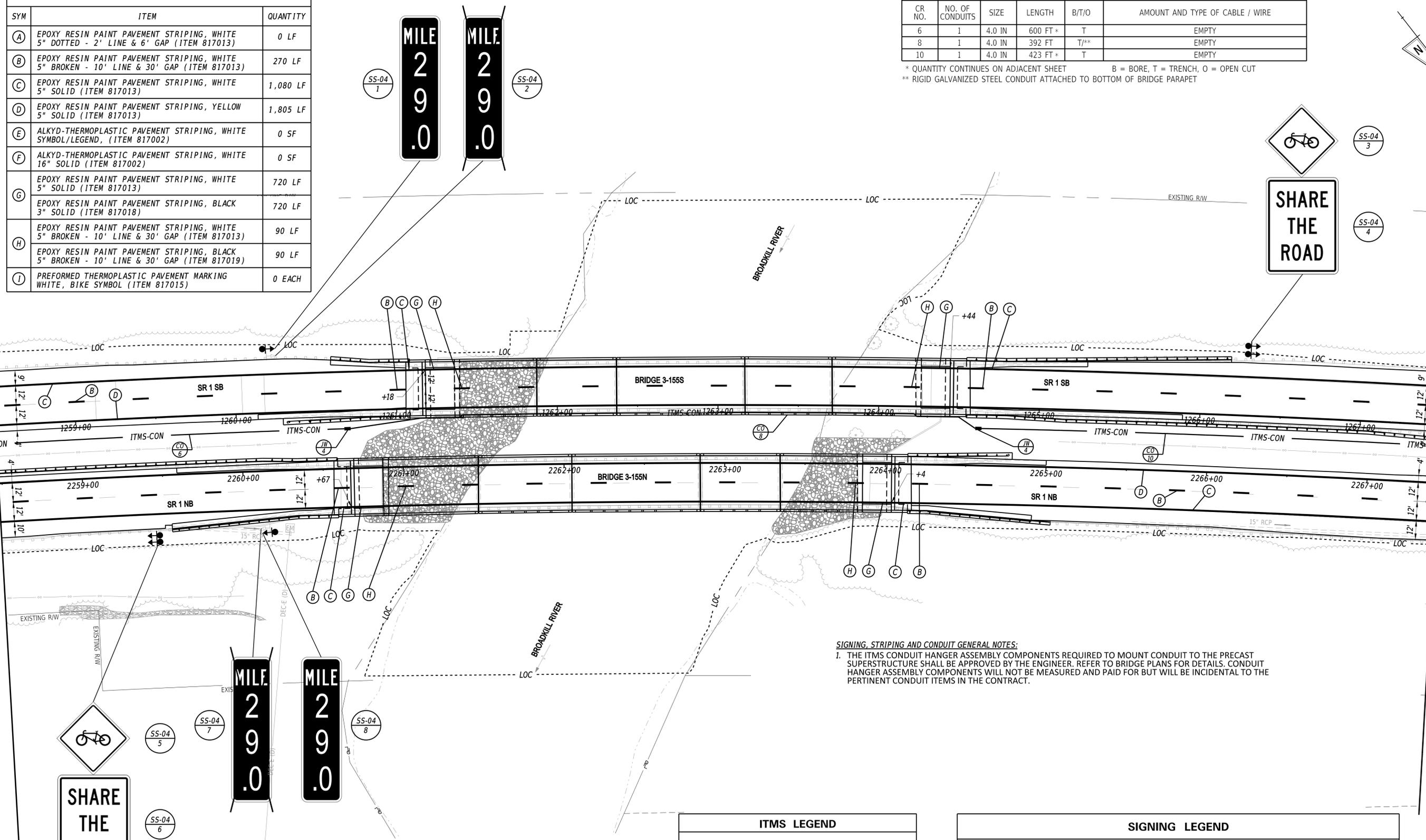
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
6	1	4.0 IN	600 FT *	T	EMPTY
8	1	4.0 IN	392 FT	T/**	EMPTY
10	1	4.0 IN	423 FT *	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT
 ** RIGID GALVANIZED STEEL CONDUIT ATTACHED TO BOTTOM OF BRIDGE PARAPET



MATCH LINE STA. 1258+50 (SS-03)

MATCH LINE STA. 1267+50 (SS-05)



SIGNING, STRIPING AND CONDUIT GENERAL NOTES:
 1. THE ITMS CONDUIT HANGER ASSEMBLY COMPONENTS REQUIRED TO MOUNT CONDUIT TO THE PRECAST SUPERSTRUCTURE SHALL BE APPROVED BY THE ENGINEER. REFER TO BRIDGE PLANS FOR DETAILS. CONDUIT HANGER ASSEMBLY COMPONENTS WILL NOT BE MEASURED AND PAID FOR BUT WILL BE INCIDENTAL TO THE PERTINENT CONDUIT ITEMS IN THE CONTRACT.

ITMS LEGEND

-ITMS-CON-	MULTIDUCT ITMS CONDUIT
J.W.	EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
J.W./X	EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO	EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND

	PROPOSED SIGN/PROPOSED SIGN MODIFICATION		EXISTING SIGN
	EXISTING GROUND MOUNTED SIGN		EXISTING SIGN TO BE REMOVED
	PROPOSED GROUND MOUNTED SIGN		

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	3-155N/3-155S
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

SS-04	SECTION
	WRA
	SHEET NO.
	203

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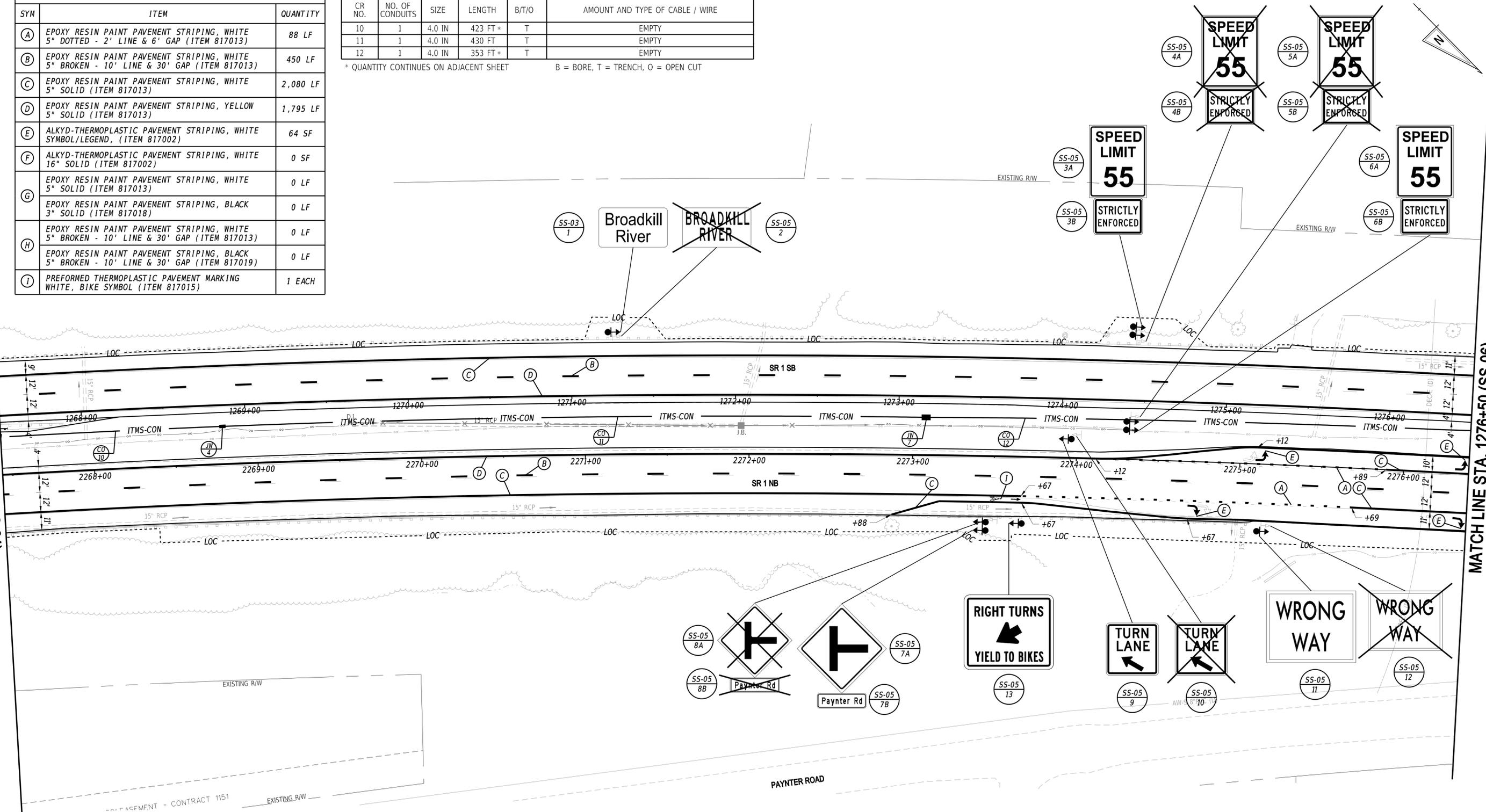
PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	88 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	450 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	2,080 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,795 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	64 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
(I)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	1 EACH

ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
10	1	4.0 IN	423 FT *	T	EMPTY
11	1	4.0 IN	430 FT	T	EMPTY
12	1	4.0 IN	353 FT *	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT

MATCH LINE STA. 1267+50 (SS-04)

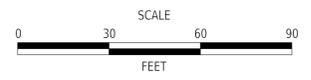
MATCH LINE STA. 1276+50 (SS-06)



SIGNING LEGEND			
	PROPOSED SIGN/PROPOSED SIGN MODIFICATION		EXISTING SIGN
	EXISTING GROUND MOUNTED SIGN		EXISTING SIGN TO BE REMOVED
	PROPOSED GROUND MOUNTED SIGN		

ITMS LEGEND	
	ITMS-CON - MULTIDUCT ITMS CONDUIT
	JW - EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
	JW-X - EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
	CO-# - EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

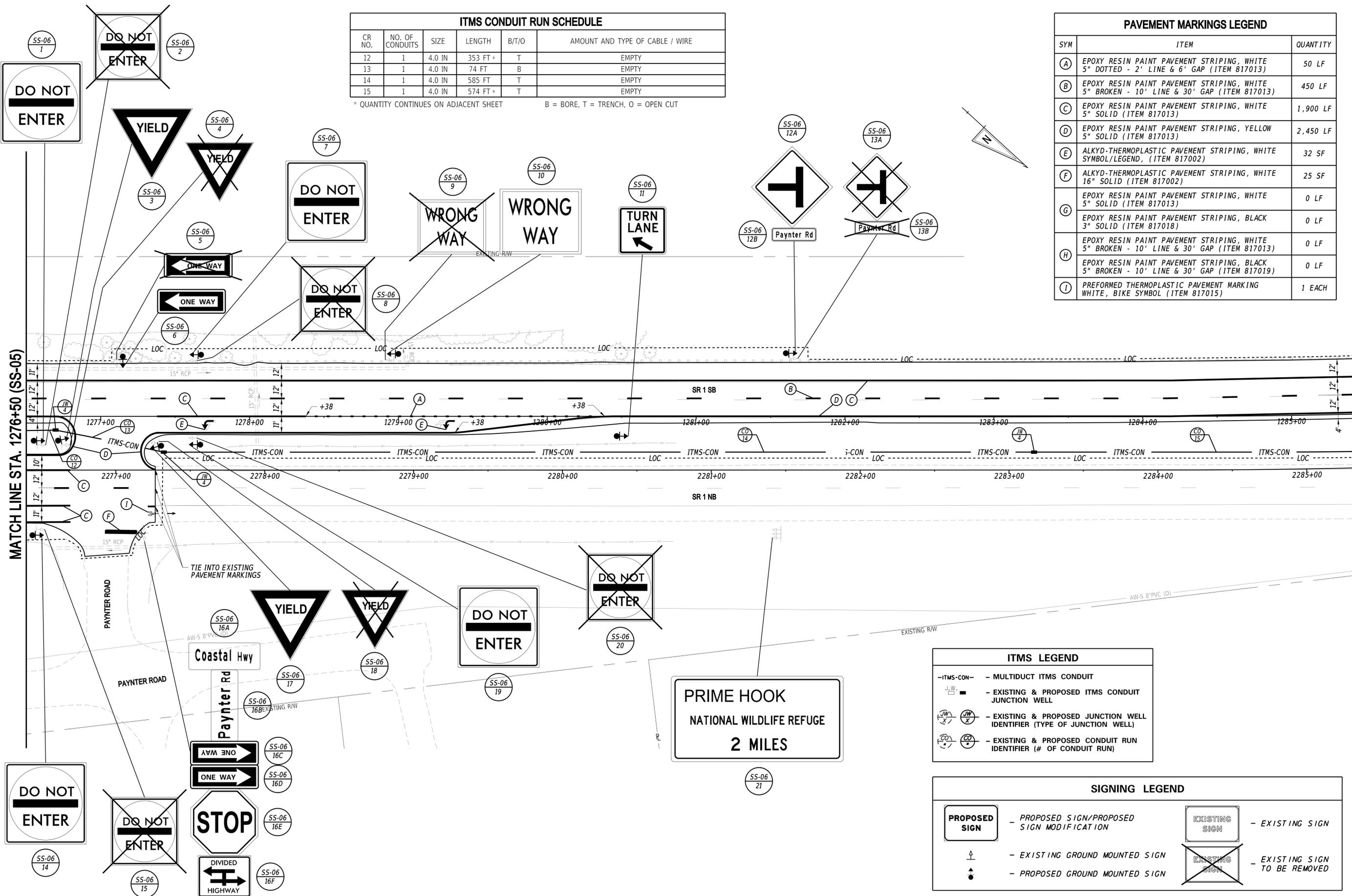
SS-05	SECTION
	WRA
	SHEET NO.
	204

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ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
12	1	4.0 IN	353 FT *	T	EMPTY
13	1	4.0 IN	74 FT	B	EMPTY
14	1	4.0 IN	585 FT	T	EMPTY
15	1	4.0 IN	574 FT *	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT

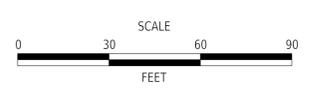
PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	50 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	450 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,900 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	2,450 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	32 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	25 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
(I)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	0 LF
(J)	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	0 LF
(K)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	1 EACH



ITMS LEGEND	
-ITMS-CON-	MULTIDUCT ITMS CONDUIT
J.W.	EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
J.W. (with symbols)	EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO (with symbols)	EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
PROPOSED SIGN	PROPOSED SIGN/PROPOSED SIGN MODIFICATION
EXISTING SIGN	EXISTING SIGN
EXISTING SIGN TO BE REMOVED	EXISTING SIGN TO BE REMOVED
↑	EXISTING GROUND MOUNTED SIGN
●	PROPOSED GROUND MOUNTED SIGN

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

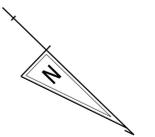
SS-06	SECTION
	WRA
	SHEET NO.
	205

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PAVEMENT MARKINGS LEGEND		
SYM	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 817013)	0 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	220 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	910 LF
(D)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	910 LF
(E)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE SYMBOL/LEGEND, (ITEM 817002)	0 SF
(F)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF
(G)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 817018)	0 LF
(H)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" BROKEN - 10' LINE & 30' GAP (ITEM 817013)	0 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 5" BROKEN - 10' LINE & 30' GAP (ITEM 817019)	0 LF
(I)	PREFORMED THERMOPLASTIC PAVEMENT MARKING WHITE, BIKE SYMBOL (ITEM 817015)	0 EACH

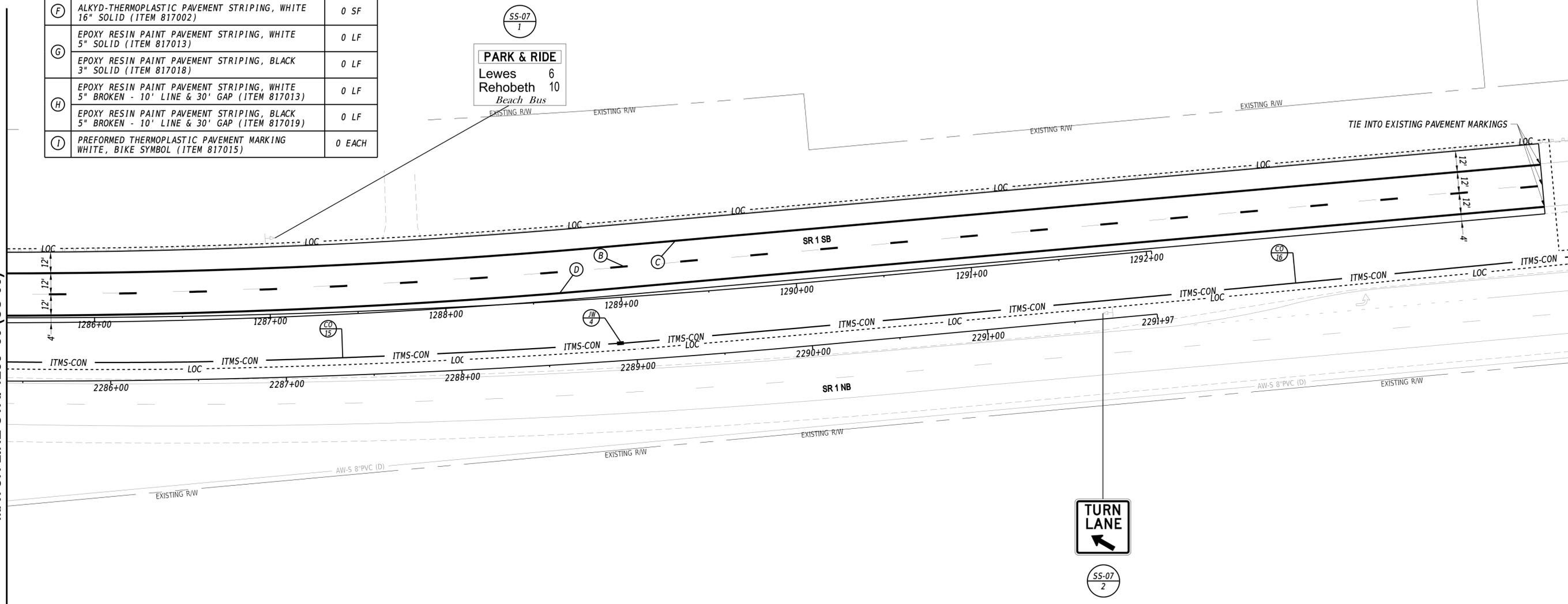
ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
15	1	4.0 IN	574 FT*	T	EMPTY
16	1	4.0 IN	575 FT*	T	EMPTY

* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT



MATCH LINE STA. 1285+50 (SS-06)

MATCH LINE STA. 1552+00 (SS-08)



ITMS LEGEND	
-ITMS-CON-	MULTIDUCT ITMS CONDUIT
J.W.	EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
JW X	EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO	EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
	PROPOSED SIGN/PROPOSED SIGN MODIFICATION
	EXISTING SIGN
	EXISTING GROUND MOUNTED SIGN
	PROPOSED GROUND MOUNTED SIGN
	EXISTING SIGN TO BE REMOVED

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

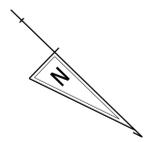
SS-07
SECTION
WRA
SHEET NO.
206

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NOTES:
1. EXISTING SIGNS NOT SHOWN.

ITMS CONDUIT RUN SCHEDULE					
CR NO.	NO. OF CONDUITS	SIZE	LENGTH	B/T/O	AMOUNT AND TYPE OF CABLE / WIRE
16	1	4.0 IN	575 FT *	T	EMPTY
17	1	4.0 IN	57 FT	B	EMPTY
18	1	4.0 IN	470 FT	T	EMPTY
19	1	4.0 IN	471 FT	T	EMPTY
20	1	4.0 IN	58 FT	B	EMPTY
21	1	4.0 IN	344 FT	T	EMPTY
22	1	4.0 IN	342 FT	T	EMPTY

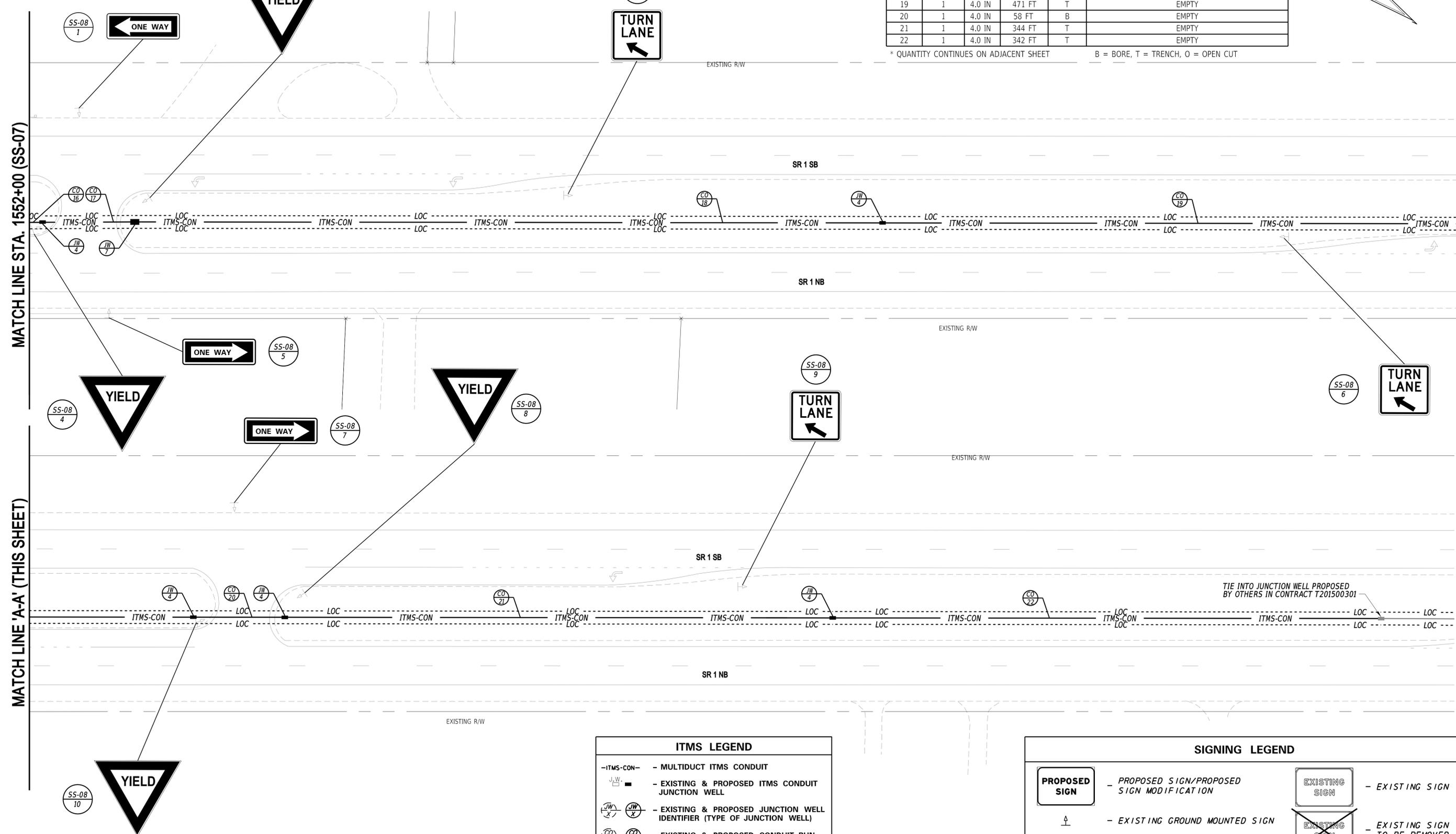
* QUANTITY CONTINUES ON ADJACENT SHEET B = BORE, T = TRENCH, O = OPEN CUT



MATCH LINE STA. 1552+00 (SS-07)

MATCH LINE 'A-A' (THIS SHEET)

MATCH LINE 'A-A' (THIS SHEET)

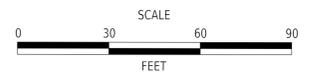


TIE INTO JUNCTION WELL PROPOSED BY OTHERS IN CONTRACT T201500301

ITMS LEGEND	
-ITMS-CON-	- MULTIDUCT ITMS CONDUIT
J.W. ■	- EXISTING & PROPOSED ITMS CONDUIT JUNCTION WELL
JW X / JW X	- EXISTING & PROPOSED JUNCTION WELL IDENTIFIER (TYPE OF JUNCTION WELL)
CO # / CO #	- EXISTING & PROPOSED CONDUIT RUN IDENTIFIER (# OF CONDUIT RUN)

SIGNING LEGEND	
	- PROPOSED SIGN/PROPOSED SIGN MODIFICATION
	- EXISTING SIGN
	- EXISTING GROUND MOUNTED SIGN
	- PROPOSED GROUND MOUNTED SIGN
	- EXISTING SIGN TO BE REMOVED

ADDENDA / REVISIONS



BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT	BRIDGE NO.	N/A
T201907601	DESIGNED BY:	WRA
COUNTY	CHECKED BY:	WRA
SUSSEX		

SIGNING, STRIPING AND CONDUIT PLAN

SS-08
SECTION
WRA
SHEET NO.
207

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PERMANENT SIGN SCHEDULE

#	SHEET NO.	PLAN IDENTIFIER	SIGN DESIGNATION	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost) (EACH)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS	
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL						
252	SS-02	1	R3-20-DE	1	TURN LANE	18	18	2.3	NEW		1				SOIL	1				
252	SS-02	2	R3-20-DE	1	TURN LANE	18	18		REMOVE	1										
359	SS-02	3	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0	NEW		1				SOIL	1				
358	SS-02	4	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
8	SS-02	5	R1-2(36)	1	YIELD	36	36		REMOVE	1										
9	SS-02	6	R1-2(48)	1	YIELD	48	48	6.9				NEW		6.9	SOIL	2				
394	SS-02	7	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12	3.0	NEW		1				SOIL	1				
394	SS-02	8	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12		REMOVE	1										
8	SS-02	9	R1-2(36)	1	YIELD	36	36		REMOVE	1										
9	SS-02	10	R1-2(48)	1	YIELD	48	48	6.9				NEW		6.9	SOIL	2				
358	SS-02	11	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
359	SS-02	12	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0	NEW		1				SOIL	1				
822	SS-02	13A	W2-2_R(30)	1	SIDE ROAD (Perpendicular - Right) - 30x30	30	30		REMOVE	1										
1367	SS-02	13B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	42	9		REMOVE	1										
823	SS-02	14A	W2-2_R(36)	1	SIDE ROAD (Perpendicular - Right) - 36x36	36	36	9.0				NEW		9.0	SOIL	2				
1367	SS-02	14B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	42	9	2.6				NEW		2.6					"Lockerman Rd"	
1674	SS-02	15A	D3-1(12)	1	STREET NAME (1 Line) Posted speed ≤ 40 MPH	36	12		REMAIN										"Coastal Hwy"	
1674	SS-02	15B	D3-1(12)	1	STREET NAME (1 Line) Posted speed ≤ 40 MPH	36	12		REMAIN										"Lockerman Rd"	
394	SS-02	15C	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12		REMAIN											
392	SS-02	15D	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36	12		REMAIN											
4	SS-02	15E	R1-1(36)	1	STOP	36	36		REMAIN											
406	SS-02	15F	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30	24		REMAIN											
1924	SS-02	16A	EM-1-DE	1	EVACUATION ROUTE	24	24		REMAIN											
1618	SS-02	16B	M6-3(B)	1	DIRECTIONAL ARROW (Up) - 12x9	12	9		REMAIN											
359	SS-02	17	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0	NEW		1				SOIL	1				
358	SS-02	18	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
305	SS-02	19	R4-4-DE	1	RIGHT TURNS YIELD TO BIKE	36	30		NEW		1				SOIL	1				
362	SS-03	1	R5-1a(36)	1	WRONG WAY - 36x24	36	24		REMOVE	1										
363	SS-03	2	R5-1a(42)	1	WRONG WAY - 42x30	42	30	8.8	NEW		1				SOIL	1				
252	SS-03	3	R3-20-DE	1	TURN LANE	18	18	2.3	NEW		1				SOIL	1				
252	SS-03	4	R3-20-DE	1	TURN LANE	18	18		REMOVE	1										
1514	SS-03	5A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24	12	2.0	NEW		1				SOIL	1				
1488	SS-03	5B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24	24	4.0	NEW		1									
1514	SS-03	6A	M3-3(24)	1	CARDINAL DIRECTION - SOUTH - 24x12	24	12		REMOVE	1										
1488	SS-03	6B	M1-5(24)	1	STATE ROUTE (2 - Digit Sign) - 24x24	24	24		REMOVE	1										
828	SS-03	7A	W2-2_L(36)	1	SIDE ROAD (Perpendicular - Left) - 36x36	36	36	9.0				NEW		9.0	SOIL	2				
1367	SS-03	7B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	42	9	2.6				NEW		2.6					"Lockerman Rd"	
827	SS-03	8A	W2-2_L(30)	1	SIDE ROAD (Perpendicular - Left) - 30x30	30	30		REMOVE	1										
1367	SS-03	8B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	42	9		REMOVE	1										
67	SS-03	9A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48					REMOVE	12.0							
1447	SS-03	9B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24		REMOVE	1										
67	SS-03	10A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48	12.0				NEW		12.0	SOIL	2				
1447	SS-03	10B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24	6.0				NEW		6.0						
67	SS-03	11A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48					REMOVE	12.0							
1447	SS-03	11B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24		REMOVE	1										
67	SS-03	12A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48	12.0				NEW		12.0	SOIL	2				
1447	SS-03	12B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24	6.0				NEW		6.0						
1906	SS-03	13	I-3(18)	1	GEOGRAPHICAL FEATURES	32	18		REMOVE	1										
1906	SS-03	14	I-3(18)	1	GEOGRAPHICAL FEATURES	32	18	4.0	NEW		1				SOIL	1			"Broadkill River"	
1827	SS-04	1	D10-2a(12)	1	INTERMEDIATE REFERENCE LOCATION (2 - Digit) - 12x48	12	48	4.0	NEW		1				SOIL	1				
1827	SS-04	2	D10-2a(12)	1	INTERMEDIATE REFERENCE LOCATION (2 - Digit) - 12x48	12	48		REMOVE	1										
1162	SS-04	3	W11-1(18)	1	BICYCLE (Symbol) - 18x18	18	18	2.3	NEW		1				SOIL	1				
1333	SS-04	4	W16-1P(18)	1	SHARE THE ROAD (plaque) - 18x24	18	24	3.0	NEW		1				SOIL	1				
1162	SS-04	5	W11-1(18)	1	BICYCLE (Symbol) - 18x18	18	18	2.3	NEW		1				SOIL	1				
1333	SS-04	6	W16-1P(18)	1	SHARE THE ROAD (plaque) - 18x24	18	24	3.0	NEW		1				SOIL	1				
1827	SS-04	7	D10-2a(12)	1	INTERMEDIATE REFERENCE LOCATION (2 - Digit) - 12x48	12	48		REMOVE	1										
1827	SS-04	8	D10-2a(12)	1	INTERMEDIATE REFERENCE LOCATION (2 - Digit) - 12x48	12	48	4.0	NEW		1				SOIL	1				
1906	SS-05	1	I-3(18)	1	GEOGRAPHICAL FEATURES	32	18	4.0	NEW		1				SOIL	1			"Broadkill River"	
1906	SS-05	2	I-3(18)	1	GEOGRAPHICAL FEATURES	32	18		REMOVE	1										
PAGE TOTALS									149					24	73		29	0	0	

5/14/2020 5:01:50 PM N:\32122-003\CADD\Traffic\SS09_SR1B.dgn

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO.
N/A
DESIGNED BY: WRA
CHECKED BY: WRA

SIGNING, STRIPING AND CONDUIT PLAN

SS-09
SECTION
WRA
SHEET NO.
208

PERMANENT SIGN SCHEDULE

NO.	SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost) (EACH)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS	
									SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL						
67	SS-05	3A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48	12.0				NEW		12.0	SOIL	2				
1447	SS-05	3B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24	6.0				NEW		6.0						
67	SS-05	4A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48		REMOVE	1										
1447	SS-05	4B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24		REMOVE	1										
67	SS-05	5A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48		REMOVE	1										
1447	SS-05	5B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24		REMOVE	1										
67	SS-05	6A	R2-1-55(36)	1	SPEED LIMIT (55 MPH - 36x48)	36	48	12.0				NEW		12.0	SOIL	2				
1447	SS-05	6B	W21-12P-DE	1	STRICTLY ENFORCED (plaque)	36	24	6.0				NEW		6.0						
823	SS-05	7A	W2-2_R(36)	1	SIDE ROAD (Perpendicular - Right) - 36x36	36	36	9.0				NEW		9.0	SOIL	2				
1367	SS-05	7B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9	1.9				NEW		1.9					"Paynter Rd"	
822	SS-05	8A	W2-2_R(30)	1	SIDE ROAD (Perpendicular - Right) - 30x30	30	30		REMOVE	1										
1367	SS-05	8B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9		REMOVE	1										
252	SS-05	9	R3-20-DE	1	TURN LANE	18	18	2.3			1				SOIL	1				
252	SS-05	10	R3-20-DE	1	TURN LANE	18	18		REMOVE	1										
363	SS-05	11	R5-1a(42)	1	WRONG WAY - 42x30	42	30	8.8			1				SOIL	1				
362	SS-05	12	R5-1a(36)	1	WRONG WAY - 36x24	36	24		REMOVE	1										
305	SS-05	13	R4-4-DE	1	RIGHT TURNS YIELD TO BIKE	36	30	7.5			1				SOIL	1				
359	SS-06	1	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0			1				SOIL	1				
358	SS-06	2	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
9	SS-06	3	R1-2(48)	1	YIELD	48	48	6.9				NEW		6.9	SOIL	2				
8	SS-06	4	R1-2(36)	1	YIELD	36	36		REMOVE	1										
394	SS-06	5	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12		REMOVE	1										
394	SS-06	6	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12	3.0			1				SOIL	1				
359	SS-06	7	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0			1				SOIL	1				
358	SS-06	8	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
362	SS-06	9	R5-1a(36)	1	WRONG WAY - 36x24	36	24		REMOVE	1										
363	SS-06	10	R5-1a(42)	1	WRONG WAY - 42x30	42	30	8.8			1				SOIL	1				
252	SS-06	11	R3-20-DE	1	TURN LANE	18	18	2.3			1				SOIL	1				
828	SS-06	12A	W2-2_L(36)	1	SIDE ROAD (Perpendicular - Left) - 36x36	36	36	9.0				NEW		9.0	SOIL	2				
1367	SS-06	12B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9	1.9				NEW		1.9					"Paynter Rd"	
827	SS-06	13A	W2-2_L(30)	1	SIDE ROAD (Perpendicular - Left) - 30x30	30	30		REMOVE	1										
1367	SS-06	13B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	30	9		REMOVE	1										
359	SS-06	14	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0			1				SOIL	1				
358	SS-06	15	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
1674	SS-06	16A	D3-1(12)	1	STREET NAME (1 Line) Posted speed ≤ 40 MPH	36	12		REMAIN										"Coastal Hwy"	
1674	SS-06	16B	D3-1(12)	1	STREET NAME (1 Line) Posted speed ≤ 40 MPH	36	12		REMAIN										"Paynter Rd"	
394	SS-06	16C	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12		REMAIN											
392	SS-06	16D	R6-1_R(36)	1	ONE WAY (ENCLOSED IN RIGHT ARROW) - 36x12	36	12		REMAIN											
4	SS-06	16E	R1-1(36)	1	STOP	36	36		REMAIN											
406	SS-06	16F	R6-3(30)	1	DIVIDED HIGHWAY CROSSING (4 - Legged Intersection) - 30x24	30	24		REMAIN											
9	SS-06	17	R1-2(48)	1	YIELD	48	48	6.9				NEW		6.9	SOIL	2				
8	SS-06	18	R1-2(36)	1	YIELD	36	36		REMOVE	1										
359	SS-06	19	R5-1(36)	1	DO NOT ENTER - 36x36	36	36	9.0			1				SOIL	1				
358	SS-06	20	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMOVE	1										
1907	SS-06	21	I-3(36)	1	GEOGRAPHICAL FEATURES	80	36		REMAIN										"PRIME HOOK" Refuge	
1670	SS-07	1	D2-3	1	DISTANCE (3 Line)	48	42		REMAIN										1670	
252	SS-07	2	R3-20-DE	1	TURN LANE	18	18		REMAIN											
394	SS-08	1	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12	3.0			1				SOIL	1				
9	SS-08	2	R1-2(48)	1	YIELD	48	48	6.9			1				SOIL	1				
252	SS-08	3	R3-20-DE	1	TURN LANE	18	18	2.3			1				SOIL	1				
9	SS-08	4	R1-2(48)	1	YIELD	48	48	6.9			1				SOIL	1				
394	SS-08	5	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12	3.0			1				SOIL	1				
252	SS-08	6	R3-20-DE	1	TURN LANE	18	18	2.3			1				SOIL	1				
394	SS-08	7	R6-1_L(36)	1	ONE WAY (ENCLOSED IN LEFT ARROW) - 36x12	36	12	3.0			1				SOIL	1				
9	SS-08	8	R1-2(48)	1	YIELD	48	48	6.9			1				SOIL	1				
252	SS-08	9	R3-20-DE	1	TURN LANE	18	18	2.3			1				SOIL	1				
9	SS-08	10	R1-2(48)	1	YIELD	48	48	6.9			1				SOIL	1				
PAGE TOTALS								184									32	0	0	
PROJECT TOTALS								332									61	0	0	

5/14/2020 5:01:53 PM N:\32122-003\CADD\Traffic\SS10_SR1B.dgn

ADDENDA / REVISIONS

NOT TO SCALE

BR 3-155 N&S ON SR 1 OVER BROADKILL RIVER

CONTRACT
T201907601
COUNTY
SUSSEX

BRIDGE NO. N/A
DESIGNED BY: WRA
CHECKED BY: WRA

SIGNING, STRIPING AND CONDUIT PLAN

SS-10

SECTION
WRA
SHEET NO.
209