MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1	1094
PROJECT FILE NO.	608049		

TITLE SHEET

PLAN AND PROFILE OF

ROUTE 79

(BRIDGE NO. F-02-087)

IN THE CITY OF

FALL RIVER

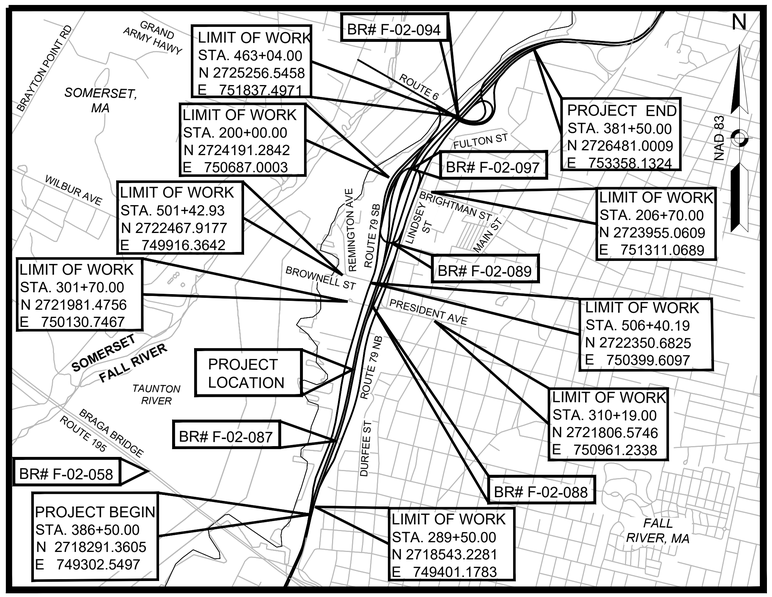
BRISTOL COUNTY

FEDERAL AID PROJECT NO. NHP(IM)/TAP/HIP(BR)/STP-003S(191)

VOLUME 4:
ISSUED FOR CONSTRUCTION

NOTE:
SEE SHEET NO. 2 FOR INDEX.

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.



LENGTH OF PROJECT (ROUTE 79 NB) = 9200.00 FEET = 1.742 MILES
LENGTH OF PROJECT (ROUTE 79 SB) = 7654.00 FEET = 1.449 MILES
LENGTH OF PROJECT (DAVOL ST) = 1686.73 FEET = 0.319 MILES
LENGTH OF PROJECT (PRESIDENT AVE) = 849.00 FEET = 0.161 MILES
LENGTH OF PROJECT (BRIGHTMAN ST) = 670.00 FEET = 0.127 MILES
LENGTH OF PROJECT (BROWNELL ST) = 640.19 FEET = 0.121 MILES
LENGTH OF PROJECT (LINDSEY ST) = 453.00 FEET = 0.086 MILES
LENGTH OF PROJECT (LINDSEY ST NORTH) = 230.00 FEET = 0.044 MILES

DESIGN DESIGNATION

	(ROUTE 79 SB)	(ROUTE 79 NB)	(PRESIDENT AVE)	(BRIGHTMAN ST)
DESIGN SPEED	40 MPH	40 MPH	35 MPH	30 MPH
ADT (2016)	8000	8600	17600	2900
ADT (2025)	13100	14800	13700	5800
ADT (2040)	14100	14800	13800	8500
K	0.10	0.10	0.10	0.10
D	100%	100%	60%	59%
T (PEAK HOUR)	10%	5%	2%	2%
T (AVERAGE DAY)	9%	4%	2%	2%
DHV	1410	1480	1380	850
DDHV	1410	1480	824	499
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL

	(DAVOL STREET)	(TURNER STREET)	(HATHAWAY STREET)
DESIGN SPEED	35 MPH	30 MPH	30 MPH
ADT (2016)	3100	2600	200
ADT (2025)	100	4600	1300
ADT (2040)	100	4800	1600
K	0.10	0.10	0.10
D	100%	54%	56%
T (PEAK HOUR)	10%	2%	2%
T (AVERAGE DAY)	9%	2%	2%
DHV	10	480	160
DDHV	10	260	90
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL	URBAN MINOR ARTERIAL	LOCAL

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J ADAMS
CIVIL
No. 50754
REGISTERED PROFESSIONAL ENGINEER
2-16-2024
FOR SHEETS 1012 TO 1052

COMMONWEALTH OF MASSACHUSETTS
NATHAN J. RICHMOND
CIVIL
No. 50122
REGISTERED PROFESSIONAL ENGINEER
02/16/2024
FOR SHEETS 1053 TO 1055, SHEETS 1062 TO 1067

COMMONWEALTH OF MASSACHUSETTS
ALISON L STEERE
CIVIL
No. 54752
REGISTERED PROFESSIONAL ENGINEER
2/16/2024
FOR SHEETS 1056 TO 1061

HNTB
31 ST. JAMES AVE.
SUITE 300
BOSTON, MASSACHUSETTS 02116
Steere ENGINEERING INC

DATE	DESCRIPTION	REV #
03/25/2025	LANDSCAPE IFC, DCN/FDC/RFI UPDATES. SEE INDEX.	1
01/19/2024	ISSUED FOR CONSTRUCTION	0

massDOT
Massachusetts Department of Transportation
Highway Division

APPROVED

CHIEF ENGINEER **DATE**

608049_HDI\VOL 4 TITLE).DWG Plotted on 14-Feb-2024 12:40 PM

FALL RIVER
DAVOL ST/ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	2	1094
PROJECT FILE NO.	608049		

INDEX

608049_HD(VOL 1 TITLE).DWG Plotted on 24-Mar-2025 3:59 PM

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4	GENERAL NOTES
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12 - 15	TYPICAL SECTIONS - ROUTE 79 SB
16 - 20	TYPICAL SECTIONS - SIDE STREETS
21 - 30	CONSTRUCTION BASELINE TIE PLANS
31 - 32	CONSTRUCTION BASELINE DATA
33 - 61	CONSTRUCTION PLANS
62 - 79	PROFILES - ROUTE 79 NB
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219 - 226	DRAINAGE DETAILS
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266 - 278	TRAFFIC SIGNAL PLANS
279 - 281	TRAFFIC DETAILS
282 - 310	UTILITY PLANS
311 - 329	UTILITY AND DRAIN PROFILES
330	SANITARY DETAILS
331 - 332	WATER SYSTEM DETAILS
333	SANITARY STRUCTURE TABLE
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519 - 520	PROFILE-STAGE 1 VMB RAMP TO ROUTE 79 SB TEMP
521 - 527	STAGE 1 GRADING PLANS
528 - 533	STAGE 2A INTERIM GRADING PLANS
534 - 547	STAGE 2B GRADING PLANS
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550 - 553	STAGE 3 ENABLING WORK GRADING PLANS
554 - 555	TEMPORARY TRAFFIC CONTROL NOTES
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560	STAGE 1 ADVANCE SIGNAGE
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572	STAGE 1 DETOUR PLANS
573	STAGE 2A-4 ADVANCE SIGNAGE
574 - 582	STAGE 2A TEMPORARY TRAFFIC CONTROL PLANS
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585 - 587	STAGE 2A CLOSURE PLANS
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593 - 601	STAGE 2B TEMPORARY TRAFFIC CONTROL PLANS
602 - 611	STAGE 2B SUBSTAGE PLANS
612 - 613	STAGE 2B TEMPORARY SIGNAL PLANS
614 - 617	STAGE 2B SUBSTAGES TEMPORARY SIGNAL PLAN
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635 - 643	STAGE 4 TEMPORARY TRAFFIC CONTROL PLANS
644 - 647	TEMPORARY TRAFFIC SIGN SUMMARY
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735 - 818	CROSS SECTIONS - ROUTE 79 NB
819 - 895	CROSS SECTIONS - ROUTE 79 SB
896 - 963	CROSS SECTIONS - SIDE STREETS
964 - 984	CROSS SECTIONS - SHARED USE PATH
985 - 1010	CROSS SECTIONS - INFIELD
1011	INTENTIONALLY LEFT BLANK

VOLUME 4

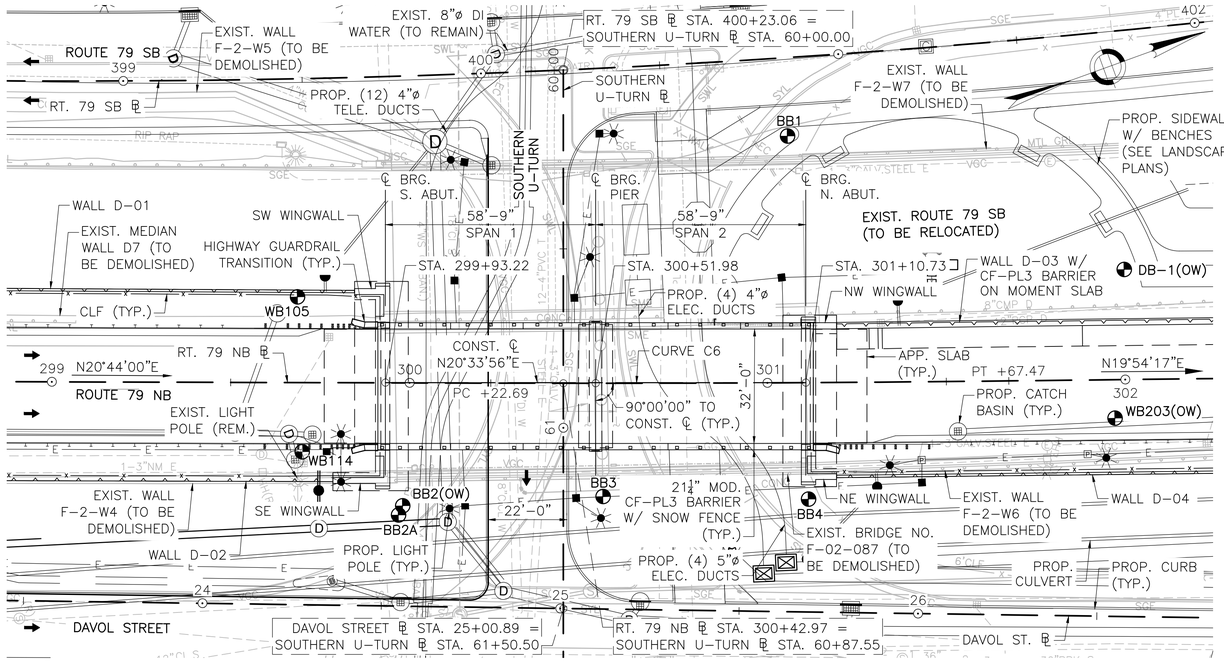
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX
1012 - 1044	BRIDGE DESIGN PLANS
1045 - 1055	RETAINING WALL PLANS
1056 - 1061	BOARDWALK MISCELLANEOUS
1062	SIGN BASE DETAILS
1063 - 1067	INTENTIONALLY LEFT BLANK

VOLUME 5

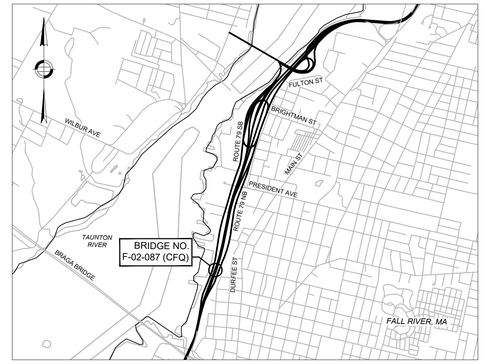
SHEET NO.	DESCRIPTION
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2	INDEX
3	LEGEND AND ABBREVIATIONS
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1078 - 1083	CULVERT PROFILE
1084 - 1085	CULVERT SECTION DETAILS
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1090 - 1093	CULVERT BEND DETAILS
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REV.	DATE	DESCRIPTION
		SHEETS 33, 52, 53, 80, 119, 120, 121, 138, 139, 153, 156, 157, 184, 185, 186, 202, 213, 214, 215, 216, 217, 218, 226, 282, 283, 299, 310, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 362, 363, 364, 365, 366, 375, 376, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 1031 REVISED
1	03/25/2025	SHEETS 226A, 585A, 602A, 626A ADDED
0	01/19/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

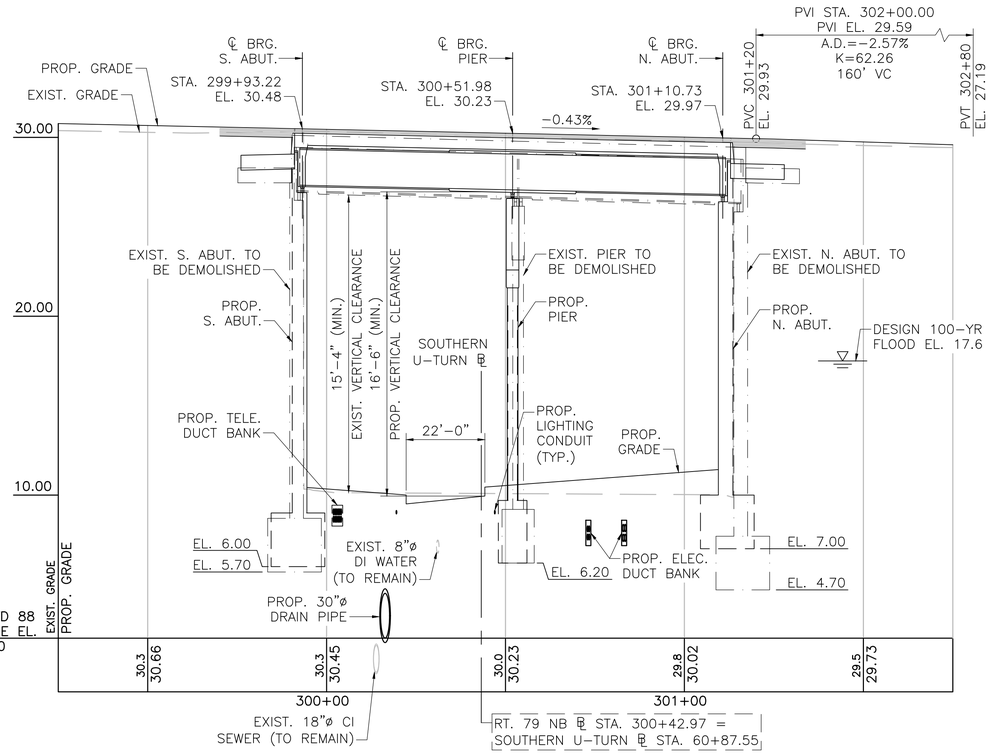


KEY PLAN
SCALE: 1" = 20'

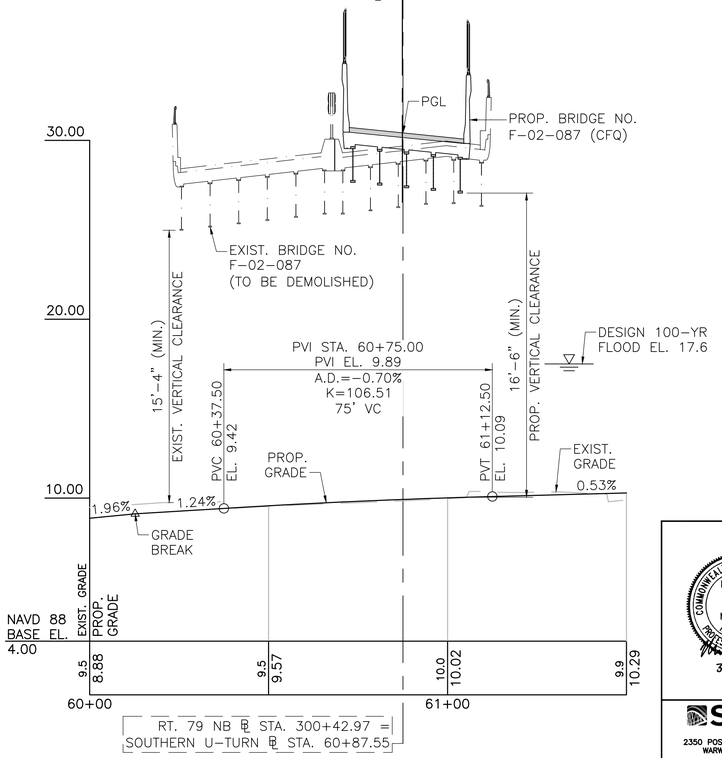


LOCUS
SCALE: 1"=2000'

CURVE C6 DATA:
Δ=0°49'43"
R=10,011.00'
T=72.39'
L=144.78'



PROFILE – ROUTE 79 NB
SCALE: HORIZ. 1" = 20'
SCALE: VERT. 1" = 4'



PROFILE – SOUTHERN U-TURN
SCALE: HORIZ. 1" = 20'
SCALE: VERT. 1" = 4'

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1012	1094
	PROJECT FILE NO. 608049		

KEY PLAN, PROFILES, & LOCUS

INDEX OF SHEETS:

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4	BORINGS 2
5	BORINGS 3
6	BORINGS 4
7	BORINGS 5
8	BORINGS 6
9	GENERAL PLAN & ELEVATION
10	STAGED CONSTRUCTION PLANS
11	STAGED CONSTRUCTION SECTIONS
12	DEMOLITION ELEVATIONS
13	SOUTH ABUTMENT PLAN & ELEVATION
14	NORTH ABUTMENT PLAN & ELEVATION
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16	ABUTMENT DETAILS 1
17	ABUTMENT DETAILS 2
18	ABUTMENT DETAILS 3
19	ABUTMENT DETAILS 4
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23	PIER DETAILS 1
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25	FRAMING PLAN & GIRDER DETAILS
26	STEEL DETAILS
27	BEARING DETAILS
28	DECK DETAILS 1
29	DECK DETAILS 2
30	HIGHWAY GUARDRAIL TRANSITION DETAILS
31	SNOW FENCE DETAILS 1
32	SNOW FENCE DETAILS 2
33	APPROACH SECTIONS

MICHAEL J ADAMS CIVIL No. 50754 REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
3-14-2024

FEB. 16, 2024 | ISSUED FOR CONSTRUCTION

MassDOT Massachusetts Department of Transportation Highway Division

PROPOSED BRIDGE
FALL RIVER
ST 79 NB
OVER DAVOL STREET

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

STATE BRIDGE ENGINEER | CHIEF ENGINEER

Steere ENGINEERING INC
2350 POST ROAD, SUITE 100
WARWICK, RI 02886

HNTB
31 ST. JAMES AVE., SUITE 300
BOSTON, MA 02116

608049_BR01(FIRST_SHEET)(F020087).DWG Plotted on 13-Mar-2024 12:25 PM
16-February-2024 Final Structural Submittal (SF)

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1013	1094
PROJECT FILE NO. 608049			

GENERAL NOTES

GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING.

MASSDOT BENCHMARK:

STAKE & NAIL; NORTHING = 2719537.651, EASTING = 749815.481 (NAD83). BENCHMARK ELEVATION = 10.51. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL BE AASHTO M 270 GRADE 50 UNLESS NOTED OTHERWISE. ALL GIRDERS AND WELDED ATTACHMENTS SHALL BE METALIZED AND PAINTED. ALL STEEL DIAPHRAGMS AND BOLTED ATTACHMENTS SHALL BE HOT DIP GALVANIZED AND PAINTED. PAINT FINISH COAT SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.

ALL BOLTS SHALL BE $\frac{7}{8}$" DIAMETER, ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS IN $\frac{15}{16}$" DIAMETER HOLES, UNLESS NOTED OTHERWISE. NUTS AND WASHERS SHALL BE LISTED AS SUITABLE IN THE ASTM F3125 SPECIFICATION FOR GRADE A325. ALL BOLTS SHALL BE DRILLED FULL SIZE OR SUBPUNCHED AND REAMED TO SIZE UNLESS NOTED OTHERWISE.

ALL BOLTS SHALL BE FURNISHED SUCH THAT THE THREADS ARE EXCLUDED FROM THE SHEAR PLANE.

SHEAR CONNECTORS SHALL BE $\frac{3}{4}$" DIAMETER AASHTO M 169 STUDS, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL MAIN MEMBERS SHALL CONFORM TO THE CHARPY V-NOTCH REQUIREMENTS OF AASHTO M 270 ZONE 2.

CONCRETE:

(1)	(2)	(3)	TO BE USED IN THE CONSTRUCTION OF:
4000	$\frac{3}{4}$"	610	ABUTMENT STEMS & FOOTINGS, WINGWALLS, PIER FOOTINGS, & APPROACH SLABS
4000	$\frac{3}{4}$"	610HP	ABUTMENT BACKWALLS
4000	$\frac{3}{4}$"	585HP	DECK, KEEPER BLOCKS, END DIAPHRAGMS, PIER COLUMNS, PIER CAPS
5000	$\frac{3}{4}$"	685HP	CF-PL3 BARRIERS, PRECAST HIGHWAY GUARDRAIL TRANSITIONS

(1) 28-DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (INCHES)
(3) CEMENTITIOUS CONTENT (LB/CY)

REINFORCEMENT STEEL:

ALL REINFORCING STEEL SHALL BE EPOXY COATED, UNLESS NOTED OTHERWISE.

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITIONS:	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	19"	23"
2. 12" OF CONCRETE BELOW BAR	20"	25"	30"
3. EPOXY COATED BARS, COVER $<3d_b$, OR CLEAR SPACING $<6d_b$	23"	29"	34"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"
5. CONDITION 2. AND 3.	26"	32"	39"
6. CONDITION 2. AND 4.	24"	30"	36"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWING.

MEMBRANE WATERPROOFING:

ALL MEMBRANE WATERPROOFING USED ON THE BRIDGE DECKS SHALL BE MEMBRANE WATERPROOFING FOR BRIDGE DECKS – SPRAY APPLIED.

DATES:

TO BE PLACED ON THE INSIDE FACE OF THE SOUTHEAST AND SOUTHWEST HIGHWAY GUARDRAIL TRANSITIONS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HIGHWAY GUARDRAIL TRANSITION IS CONSTRUCTED. BOTH HIGHWAY GUARDRAIL TRANSITIONS SHALL FEATURE THE SAME DATE.

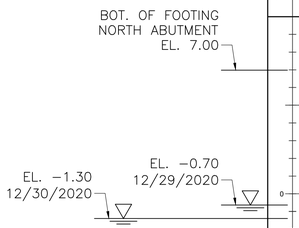
TRAFFIC DATA		
	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2025	2025
AVERAGE DAILY TRAFFIC – PRESENT	14800	1300
AVERAGE DAILY TRAFFIC – DESIGN YEAR	14800	200
DESIGN HOURLY VOLUME	1480	20
DIRECTIONAL DISTRIBUTION	100%	100%
TRUCK PERCENTAGE – AVERAGE DAY	4%	3%
TRUCK PERCENTAGE – PEAK HOUR	5%	0%
DESIGN SPEED	40 MPH	30 MPH
DIRECTIONAL DESIGN HOURLY VOLUME	1480	20

SEISMIC DESIGN CRITERIA	
DESIGN RETURN PERIOD:	2500
DESIGN SPECTRA	
As	0.128
SDs	0.211
SD1	0.118
SITE CLASS	D
SEISMIC DESIGN CATEGORY (SDC)	A

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

608049_BR02(SECOND_SHEET)(F02087).DWG Plotted on 13-Feb-2024 9:46 AM
16-February-2024 Final Structural Submittal (SF)

BORING BB1
STA. 301+05.96
OFFSET 68.97' LT.



BORING INFORMATION
NORTHING: 2719653 **EASTING:** 749732 **STATION:** 56+00 **OFFSET:** ~ 50' West
GROUND SURFACE EL. (ft): 10 **DATE START/END:** 12/22/2020 - 12/29/2020
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.
TOTAL DEPTH (ft): 106.0 **DRILLER NAME:** T. Tucker
LOGGED BY: H. Ghiye/ L. Neyman **RIG TYPE:** Mobile B-59 Truck Rig

BORING BB1 **PAGE 1 of 4**

DRILLING INFORMATION
HAMMER TYPE: Automatic **CASING I.D./O.D.:** 5 inch / 5.5 inch **CORE BARREL TYPE:** NX
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.625 inch **CORE BARREL I.D./O.D.:** 2.16 inch / 2.91 inch
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): ▼ 10.7 12/29/2020 7:05 am ▼ 11.3 12/30/2020 7:00 am

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/12	1-3-7-7	Grass Surface.	FILL	0-6": Topsoil. S1 (6"- 12"): Moist, medium dense, brown, FINE TO COARSE SAND, some fine to coarse gravel up to 3/4", some non-plastic fines.
						EOD on 12/22 at 2'. Washed ahead to 4'.		
	5	S2	4 to 6	24/12	5-4-9-9	Resumed drilling on 12/23 at 4'.		S2: Moist, medium dense, brown, FINE TO COARSE SAND, some fine to coarse gravel up to 1/2", some non-plastic fines.
0	10	S3	9 to 11	24/16	15-11-8-7			S3: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand, trace non-plastic fines. Roots present.
		S4	11 to 13	24/9	5-5-4-3		GRAVEL	S4: Wet, loose, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.
	15	S5	13 to 15	24/6	10-6-4-5			S5: Similar to S4.
		S6	15 to 17	24/12	36-11-8-17			S6 (0"-6"): Wet, medium dense, gray, FINE TO COARSE GRAVEL.
		S7	17 to 19	24/18	17-40-18-13	Spoon bent when collecting S7.	SAND AND GRAVEL	S6 (6"-12"): Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace non-plastic fines. S7: Wet, very dense, gray to dark gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
-10	20	S8	19 to 21	24/8	15-15-16-4			S8: Wet, dense, gray, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WOBURN STD 7-5 CN-E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING BB1 **PAGE 2 of 4**

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S9	24 to 26	24/10	16-19-8-8		SAND AND GRAVEL	S9: Wet, medium dense, brownish gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
-20	30	S10	29 to 31	24/14	9-13-14-13	5-in casing to 29' and then telescoped 4-in casing from 29' to 54'.No recovery with 2-in spoon. Re-drove 3-in spoon.		S10: No recovery. Re-drove 3-in spoon. S10: Wet, medium dense, gray/brown, FINE TO COARSE SAND, some non-plastic fines, trace fine to medium gravel.
	35	S11	34 to 36	24/15	5-15-14-17			S11: Wet, medium dense, brown, FINE TO COARSE SAND, some non-plastic fines, trace fine gravel.
-30	40	S12	39 to 41	24/10	13-19-18-16			S12: Wet, dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
						EOD on 12/23 at 41'. Washed ahead to 44'.		
	45	S13	44 to 46	24/8	15-15-19-16			S13 (0"-4"): Wet, dense, light brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL UP TO 1", some non-plastic fines. S13 (4"-8"): Wet, dense, light brown, FINE TO COARSE SAND, some fine to medium gravel, some non-plastic fines.
-40	50	S14	49 to 51	24/18	34-48-55-60		GLACIAL TILL	S14: Wet, very dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.
-50	55	S15	54 to 54.8	10/5	43-100/4"			S15: Similar to S14.

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WOBURN STD 7-5 CN-E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING BB1 **PAGE 3 of 4**

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-50	60	S16	59 to 59.7	8/5	15-50/2"	Roller bit refusal at bottom of casing at ~59'. Pulled up roller bit with casing and re-drilled.	GLACIAL TILL	S16: Wet, dense, gray, FINE TO COARSE GRAVEL AND FINE TO COARSE SAND, some non-plastic fines.
						Losing water return at ~63'. Heavy rig chatter at ~63.5'.		
	65	S17	64 to 65.3	16/5	11-51-100/4"			S17: Wet, very dense, gray, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.
-60	70	S18	69 to 71	24/10	27-44-40-50			S18: Wet, hard, gray, INORGANIC SILT, some fine to coarse sand.
	75	S19	74 to 75.2	14/0	52-94-60/2"			S19: No recovery. Re-drove 3-in spoon. S19: Wet, very dense, gray, FINE TO COARSE SAND, trace fine gravel.
						EOD on 12/28 at 76'. Washed ahead to 79'.		
-70	80	S20	79 to 81	24/10	25-51-56-61	4-in casing to 79' and then telescoped 3-in casing from 79' to 94'.		S20: Wet, very dense, gray, FINE TO COARSE SAND, some non-plastic fines, some fine gravel.
	85	S21	84 to 84.7	8/4	100-50/2"			S21: Wet, very dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WOBURN STD 7-5 CN-E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING BB1 **PAGE 4 of 4**

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
-80	90	S22	89 to 91	24/9	42-37-22-55		GLACIAL TILL	S22 (0"-5"): Wet, very dense, gray, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL, some non-plastic fines. S22 (5"-9"): Wet, hard, gray, INORGANIC SILT, some fine sand.
	95	S23	94 to 94	0/0	50/0*	Spoon refusal on bedrock.	SANDSTONE	S23: No recovery. Refusal on bedrock.
-90	100	C1	96 to 101	60/59	78	Core times: 1.0, 1.5, 2.0, 1.5, 2 min/ft.		C1: SANDSTONE; Gray, medium hard, fine to medium grain, weathered at joints at ~35 degrees from horizontal, joints spaced 0.5 to 13 in, soft portions along some joints, bedding mostly indiscernible, gravel-size grains at ~30 to 32 in. RHODE ISLAND FORMATION.
	105	C2	101 to 106	60/60	87	Core times: 1.0, 1.0, 1.0, 1.0, 1.5 min/ft.		C2: SANDSTONE; Similar to C1 except joints at ~25 degrees from horizontal, joints spaced 2 to 15 in and no gravel-size grains.
-100	110							Bottom of boring at 106 feet. Backfilled with cuttings.
	115							

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1014	1094
	PROJECT FILE NO. 608049		

BORINGS 1

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLANS THUS: BB1
2. BORING ARE TAKEN FOR PURPOSE OF DESIGN AND CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY REFLECT THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY REFLECT THE TRUE GROUND WATER LEVELS.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1⅜" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVE.) IN LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA, BOSTON, MA.
6. BORINGS BB1, BB2A, AND BB2(OW) WERE MADE IN DECEMBER 2020. BORINGS WB105 AND WB114 WERE MADE IN JULY 2013. BORINGS DB−1(OW) AND WB203(OW) WERE MADE IN JUNE THRU JULY 2021. BORINGS BB−3 AND BB−4 WERE MADE IN DECEMBER 2022 THRU JANUARY 2023.
7. BORINGS BB1, BB2A, BB2(OW), DB−1(OW), AND WB203(OW) WERE MADE BY NORTHERN DRILL SERVICES, INC. 130 EAST MAIN ST., BUILDING A, NORTHBOROUGH, MA 01532.
8. BORINGS WB105 AND WB114 WERE MADE BY GEOLOGIC, INC. 7 DAVID RD., NORFOLK, MA 02056.
9. BORINGS BB3 AND BB4 WERE MADE BY ALLSTATE DRILLING, INC. 227 WAMPANOAG TRAIL, RIVERSIDE, RI 02915.
10. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

608049_BR03-08(BORINGS)(F022087).DWG Plotted on 13-Feb-2024 9:47 AM
16-February-2024 Final Structural Submittal (SF)

BORING BB2A
STA. 299+97.00
OFFSET 36.95' RT.

BORING INFORMATION
NORTHING: 2719514 **EASTING:** 749793 **STATION:** 55+00 **OFFSET:** ~ 50' East
GROUND SURFACE EL. (ft): 11 **DATE START/END:** 12/15/2020 - 12/22/2020
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.
TOTAL DEPTH (ft): 95.0 **DRILLER NAME:** T. Tucker
LOGGED BY: K. Gleichauf/H. Ghiye **RIG TYPE:** Mobile B-59 Truck Rig

BORING
BB2A
PAGE 1 of 4

DRILLING INFORMATION
HAMMER TYPE: Automatic **CASING I.D./O.D.:** 5 inch / 5.5 inch **CORE BARREL TYPE:** NX
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.625 inch **CORE BARREL I.D./O.D.:** 2.16 inch / 2.91 inch
DRILLING METHOD: Drive and Wash
WATER LEVEL DEPTHS (ft): ▽ 19.7 12/22/2020 11:55 am

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	0					Grass Surface.		
						Direct drilling to 29'. Samples S1 through S9 collected from original boring location (BB2).		

BOT. OF FOOTING SOUTH ABUTMENT EL. 6.00

EL. −8.70 12/22/2020

NOTES: 12/15: Offset boring location after abondoning original location (BB2) due to shoe casing braking off, and direct drilling to 29' at new location (BB2A).

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI WOBURN STD 7-5-2+6 E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING
BB2A
PAGE 2 of 4

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25							
	30	S10	29 to 31	24/12	12-20-19-23	Gravel in wash. 5-in casing to 30' and then telescoped 4-in casing from 30' to 75'.	SAND AND GRAVEL	S10: Wet, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace non-plastic fines.
	35	S11	34 to 36	24/14	24-36-80-44			S11: Wet, very dense, brown/gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace non-plastic fines.
	40	S12	39 to 39.5	6/5	120/6"	EOD on 12/15 at 39'. Casing drove down to 39'.	GLACIAL TILL	S12: Wet, very dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand, trace non-plastic fines.
	45	S13	44 to 44.8	9/5	47-73/3"			S13: Wet, very dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace non-plastic fines.
	50	S14	49 to 49.7	8/5	96-24/2"			S14: Similar to S13.
	55	S15	54 to 54.8	9/7	54-66/3"			S15: Wet, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace non-plastic fines.

NOTES: 12/15: Offset boring location after abondoning original location (BB2) due to shoe casing braking off, and direct drilling to 29' at new location (BB2A).

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI WOBURN STD 7-5-2+6 E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING
BB2A
PAGE 3 of 4

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	60	S16	59 to 59.6	7/6	90-30/1"	Casing refusal at 57'. Rig chatter from 57' to 59'. EOD on 12/16 at 60'. Washed ahead to 64'.	GLACIAL TILL	S16: Wet, gray, very dense, FINE TO COARSE SAND, some fine to coarse gravel, trace non-plastic fines.
	65	S17	64 to 64.8	9/3	63-57/3"	Resumed drilling on 12/21 at 64'.		S17: Wet, gray, very dense, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL UP TO 1", some non-plastic fines.
	70	S18	69 to 69.5	6/4	120/6"			S18: Wet, gray, very dense, FINE TO COARSE SAND, some fine to coarse gravel up to 3/4", some non-plastic fines.
	75	S19	74 to 74.8	10/8	33-88/4"	Telescoped 3-inch casing from 75' to 85'.		S19: Wet, gray, very dense, FINE TO COARSE SAND, some fine to coarse gravel up to 1", some non-plastic fines. Sand is mostly fine.
	80	S20	79 to 79.8	10/6	70-52/4"			S20: Wet, gray, very dense, FINE TO COARSE SAND, some fine to coarse gravel up to 1", some non-plastic fines.
	85	S21	84 to 84.3	3/2	120/3"	EOD on 12/21 at 84.5'. Resumed drilling on 12/22 at 84.5'. Rig chatter.Core times: 1.5, 2, 2, 1.5, 2 min/ft.		S21: Similar to S20.
		C1	85 to 90	60/60	53			C1: SANDSTONE; Gray, soft to medium-hard, fine to medium grain, slightly to moderately weathered, slightly weathered to rough joints at ~ 45 degrees from horizontal, joints spaced 1 to 11 in, friable and soft along some joints. RHODE ISLAND

NOTES: 12/15: Offset boring location after abondoning original location (BB2) due to shoe casing braking off, and direct drilling to 29' at new location (BB2A).

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI WOBURN STD 7-5-2+6 E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

BORING
BB2A
PAGE 4 of 4

Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	90	C2	90 to 95	60/60	52	Core times: 2.5, 3, 3, 3, 3.5 min/ft.	SANDSTONE	FORMATION. C2: SANDSTONE; Similar to C1 except bedding thin and oriented ~ 30 degrees from horizontal, most joints along bedding.
	95							Bottom of boring at 95 feet. Backfilled with cuttings.

NOTES: 12/15: Offset boring location after abondoning original location (BB2) due to shoe casing braking off, and direct drilling to 29' at new location (BB2A).

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI WOBURN STD 7-5-2+6 E-LAYER NAME BORING LOGS 7-8-21.GPJ 7/13/21

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1015	1094
	PROJECT FILE NO. 608049		

BORINGS 2

NOTES:

1. FOR BORING NOTES SEE SHEET 3.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR03-08(BORINGS)(F020087).DWG Plotted on 13-Feb-2024 9:47 AM
16-February-2024 Final Structural Submittal (SF)

NOTES:

1. FOR BORING NOTES SEE SHEET 3.
2. TABULATED GROUND WATER ELEVATIONS HAVE BEEN TAKEN FROM THE GEOTECHNICAL DATA REPORT, DATED JANUARY 19, 2022 (REVISED FEBRUARY 14, 2022).

BORING BB2(OW)

STA. 299+98.15
OFFSET 34.37' RT.

BORING INFORMATION
NORTHING: 2719516 **EASTING:** 749791 **STATION:** 24+57 (Rte 79 Off Ramp) **OFFSET:** ~43' West
GROUND SURFACE EL. (ft): 11 **DATE START/END:** 12/14/2020 - 12/15/2020
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.
TOTAL DEPTH (ft): 29.0 **DRILLER NAME:** T. Tucker
LOGGED BY: K. Gleichauf/H. Ghiye **RIG TYPE:** Mobile B-59 Truck Rig

BORING BB2 (OW) PAGE 1 of 2

DRILLING INFORMATION
HAMMER TYPE: Automatic **CASING I.D./O.D.:** 5 inch / 5.5 inch **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.625 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rotary Wash with Casing
WATER LEVEL DEPTHS (ft): ▼ 9.5 12/30/2020 9:44 am

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

BOT. OF FOOTING SOUTH ABUTMENT EL. 6.00

EL. 1.50 12/30/2020

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						Grass Surface.	FILL	0-4": Topsoil.
10	1	S1	0 to 2	24/13	1-3-4-3			S1 (4"- 13"): Moist, loose, dark brown, FINE TO COARSE SAND, some fine to coarse gravel up to 1", trace non-plastic fines.
	5	S2	4 to 6	24/14	11-8-5-3			S2 (0"- 10"): Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL. S2 (10"- 14"): Wet, medium dense, black, FINE TO COARSE SAND, some non-plastic fines, trace fine gravel.
		S3	9 to 11	24/3	8-8-8-6			S3: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.
0	10	S4	11 to 13	24/0	5-6-5-4	No recovery with 2-in spoon. Re-drove 3-in spoon.	GRAVEL	S4: No recovery, gravel in tip of spoon. Re-drove 3-in spoon. S4: Wet, medium dense, gray, COARSE GRAVEL UP TO 2.5", some fine to coarse sand, one 2.5" piece of asphalt.
		S5	13 to 15	24/4	5-7-5-5	Water return loss while drilling.		S5: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.
	15	S6	15 to 17	24/14	8-9-11-9			S6 (0"-10"): Wet, medium dense, gray, FINE TO COARSE SAND, some fine gravel.
-10		S7	17 to 19	24/11	11-13-14-14		SAND AND GRAVEL	S6 (10"-14"): Wet, medium dense, tan, FINE SAND, trace non-plastic fines. S7: Wet, medium dense, brown, FINE TO COARSE SAND, trace fine gravel.
	20	S8	19 to 21	24/1	16-14-16-13			S8: One piece of fractured gravel --> Re-drove 3-in spoon --> Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL UP TO 2", trace non-plastic fines.

GEI WORKSTD 7-5-21-LAYER NAME: BORING LOGS 8-24-21.GPJ 9/29/21

NOTES: 12/14: S1-S9 collected. Attempted to drill from 26' to 29', hole started collapsing, casing shoe broke off; 12/15: Installed OW in this original boring location.

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

BORING BB2 (OW) PAGE 2 of 2

NORTHING: 2719516 **EASTING:** 749791 **STATION:** 24+57 (Rte 79 Off Ramp) **OFFSET:** ~43' West
GROUND SURFACE EL. (ft): 11 **DATE START/END:** 12/14/2020 - 12/15/2020
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
	25	S9	24 to 26	24/15	12-27-25-32	Casing refusal at 27'. Washed ahead and continued driving. Rig chatter.	SAND AND GRAVEL	S9: Wet, very dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace non-plastic fines.
-20	30					Abandoned hole at 29.0 ft after casing shoe broke off. Completed as well.		
-30	35							
	40							
	45							
-40	50							
	55							

GEI WORKSTD 7-5-21-LAYER NAME: BORING LOGS 8-24-21.GPJ 9/29/21

NOTES: 12/14: S1-S9 collected. Attempted to drill from 26' to 29', hole started collapsing, casing shoe broke off; 12/15: Installed OW in this original boring location.

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

BORING WB105

STA. 299+68.61
OFFSET 23.95' LT.

BORING INFORMATION
LOCATION: Route 79 SB highspeed lane
GROUND SURFACE EL. (ft): 29.9 **DATE START/END:** 7/8/2013 - 7/8/2013
VERTICAL DATUM: NAVD 88 **DRILLING COMPANY:** Geologic, Inc.
TOTAL DEPTH (ft): 26.0 **DRILLER NAME:** Matt Ferreira
LOGGED BY: Steve Dube **RIG TYPE:** Mobile B-57

BORING WB105 PAGE 1 of 1

DRILLING INFORMATION
HAMMER TYPE: Donut Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rotary Wash
WATER LEVEL DEPTHS (ft): ▼ 18.0 7/8/2013

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

EL. 11.90 7/8/2013

BOT. OF FOOTING SOUTH ABUTMENT EL. 6.00

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						Rotary wash to 1'.	FILL	(0-6"): ASPHALT
	1	S1	1 to 3	24/15	12-32-43-26	After S1, drove 4" casing to 4'.		S1: Dry, very dense, light brown, FINE TO COARSE SAND, some inorganic silt, some fine gravel.
	5	S2	4 to 6	24/11	14-19-28-41	After S2, drove 4" casing to 9'.		S2: Similar to S1, except dense, with some ~1" pieces of quartz and gravel in spoon.
20	10	S3	9 to 11	24/1	55-76-57-77	After S3, drove 4" casing to 14'.		S3: Wet, very dense, brown, FINE SAND, some inorganic silt, red fractured rock in spoon.
	15	S4	14 to 16	24/0	37-53-79-60	After S4, drove casing to 19'.		S4: No Recovery. S4 (Redrive): Wet, very dense, brown-gray, FINE TO COARSE SAND, some fine to coarse gravel, some inorganic silt, rock fragments up to ~1.5", 2.5" piece of gravel in shoe.
	20	S5	19 to 21	24/9	17-15-14-17			S5: Wet, medium dense, brown-gray, FINE TO COARSE SAND, some inorganic silt, some fine gravel.
10	25	S6	24 to 26	24/3	29-122-80-41			S6: Wet, very dense, gray, FINE TO COARSE SAND, some inorganic silt, trace fine gravel.
								Bottom of boring at depth 26 ft.

GEI WORKSTD 1-LOCATION-LAYER NAME: FALL RIVER INT 79 AND INTERCHANGE.GPJ GEI DATA TEMPLATE 2011.GDT 11/8/13

NOTES: Borehole backfilled with cuttings and asphalt patch.

PROJECT NAME: Fall River Interchange
CITY/STATE: Fall River, MA
GEI PROJECT NUMBER: 132083-1

GEI Consultants

BORING WB114

STA. 299+70.01
OFFSET 19.35' RT.

BORING INFORMATION
LOCATION: Route 79 NB right shoulder
GROUND SURFACE EL. (ft): 30.30 **DATE START/END:** 7/2/2013 - 7/2/2013
VERTICAL DATUM: NAVD 88 **DRILLING COMPANY:** Geologic, Inc.
TOTAL DEPTH (ft): 26.0 **DRILLER NAME:** Matt Ferreira
LOGGED BY: Steve Dube **RIG TYPE:** Mobile B-57

BORING WB114 PAGE 1 of 1

DRILLING INFORMATION
HAMMER TYPE: Donut Hammer - rope and cathead **CASING I.D./O.D.:** 4 inch/ 4.5 inch **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rotary Wash
WATER LEVEL DEPTHS (ft): Not measured

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

BOT. OF FOOTING SOUTH ABUTMENT EL. 6.00

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
							FILL	(0-9"): ASPHALT
	1	S1	1 to 3	24/7	16-28-25-17	After S1, drove 4" casing to 4'.		S1: Dry, very dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt.
	5	S2	4 to 6	24/5	8-5-4-3	After S2, drove 4" casing to 9'.		S2: Wet, loose, tan, FINE TO COARSE SAND, trace fine gravel, trace inorganic silt.
20	10	S3	9 to 10.5	18/0	28-58-115/6"	After S3, drove 4" casing to 14'.		S3: No Recovery, redrove 3" split spoon. S3 (Redrive): Wet, very dense, gray-light brown, FINE TO COARSE SAND AND GRAVEL, trace inorganic silt.
	15	S4	14 to 16	24/9	72-45-30-25	After S4, drove 4" casing to 19'.		S4: Wet, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, some inorganic silt, lense of fractured granite at 2-4" from top.
	20	S5	19 to 20.1	13/6	29-32-100/1"			S5: Similar to S4, except no granite.
10	25	S6	24 to 26	24/0	27-30-31-33			S6: No Recovery, rock lodged in shoe. Redrove 3" split spoon. S6 (Redrive): Wet, dense, brown and gray, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt. Recovery=9" on redrive.
								Bottom of boring at depth 26 ft.

GEI WORKSTD 1-LOCATION-LAYER NAME: FALL RIVER INT 79 AND INTERCHANGE.GPJ GEI DATA TEMPLATE 2011.GDT 11/8/13

NOTES: Borehole backfilled with cuttings and asphalt patch.

PROJECT NAME: Fall River Interchange
CITY/STATE: Fall River, MA
GEI PROJECT NUMBER: 132083-1

GEI Consultants

OBSERVATION WELL GROUND WATER ELEVATIONS					
BORING ID	DATE INSTALLED	GROUND SURFACE	BOTTOM OF WELL	MEASUREMENT DATE	MEASUREMENT ELEVATION
BB2(OW)	12/15/2020	11.0	−18.0	12/21/2020	1.8
				12/22/2020	0.6
				12/23/2020	0.2
				12/29/2020	−0.1
				12/30/2020	1.5

GROUND WATER:

THE WATER LEVELS RECORDED IN THE TABLE ARE THOSE MEASURED ON THE DATES GIVEN AND DO NOT NECESSARILY REPRESENT GROUND WATER LEVEL AT TIME OF CONSTRUCTION.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR03-08(BORINGS)(F02087).DWG Plotted on 13-Feb-2024 9:47 AM
16-February-2024 Final Structural Submittal (SF)

BORING DB–1(OW)

STA. 302+00.06
OFFSET 30.75' LT.

BORING INFORMATION

NORTHING: 2719728 **EASTING:** 749800 **STATION:** 302+00 (Rte 79 NB) **OFFSET:** ~30' West
GROUND SURFACE EL. (ft): 28.8 **DATE START/END:** 6/29/2021 - 6/30/2021
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.
TOTAL DEPTH (ft): 40.0 **DRILLER NAME:** Z. Nader
LOGGED BY: H. Ghiye **RIG TYPE:** Mobile B-59 Truck Rig

BORING
DB-1 (OW)
PAGE 1 of 2

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.625 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rotary Wash with Casing
WATER LEVEL DEPTHS (ft): ▼ 28.5 6/29/2021 1:45 pm ▼ 28.8 6/30/2021 9:20 am

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/12	10-10-16-16	Advanced 4-Inch-ID casing to 32'. 2.4 ppm	FILL	S1: Moist, medium dense, brown to gray brown, FINE TO COARSE SAND, some fine to medium gravel up to 1", trace inorganic silt. Asphalt present from pavement above.
		S2	4 to 6	24/14	10-15-29-28	1.0 ppm		S2: Moist, dense, brown, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.
		S3	9 to 11	24/12	14-14-15-21	1.1 ppm		S3: Moist, medium dense, brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt.
		S4	14 to 16	24/14	13-18-16-13	0.7 ppm		S4: Moist, dense, brown to gray brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt. Gravel is mostly fine.
		S5	19 to	24/16	17-15-18-16	0.1 ppm		S5: Moist, dense, dark brown to black, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WORKBIN STD 7-5-CAD-E-LAYER NAME BORING LOGS 8-24-21.GPJ 9/29/21

BORING WB203(OW)

STA. 301+97.01
OFFSET 10.76' RT.

BORING INFORMATION

NORTHING: 2719711 **EASTING:** 749838 **STATION:** 302+00 (Rte 79 NB) **OFFSET:** ~10' East
GROUND SURFACE EL. (ft): 29.5 **DATE START/END:** 7/1/2021 - 7/1/2021
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.
TOTAL DEPTH (ft): 40.0 **DRILLER NAME:** J. Beirholm
LOGGED BY: R. Oulal **RIG TYPE:** Mobile B-57 Truck Rig

BORING
WB203 (OW)
PAGE 1 of 2

DRILLING INFORMATION

HAMMER TYPE: Automatic **CASING I.D./O.D.:** 4 inch / 4.5 inch **CORE BARREL TYPE:**
AUGER I.D./O.D.: NA / NA **DRILL ROD O.D.:** 2.625 inch **CORE BARREL I.D./O.D.:** NA / NA
DRILLING METHOD: Rotary Wash with Casing
WATER LEVEL DEPTHS (ft): ▼ 17.8 7/1/2021 12:20 pm

ABBREVIATIONS: Pen. = Penetration Length; Rec. = Recovery Length; RQD = Rock Quality Designation = Length of Sound Cores>4 in / Pen.,%; WOR = Weight of Rods; WOH = Weight of Hammer; S = Split Spoon Sample; C = Core Sample; U = Undisturbed Sample; SC = Sonic Core; DP = Direct Push Sample; HSA = Hollow-Stem Auger; Qp = Pocket Penetrometer Strength; Sv = Pocket Torvane Shear Strength; LL = Liquid Limit; PI = Plasticity Index; PID = Photoionization Detector; I.D./O.D. = Inside Diameter/Outside Diameter; NA, NM = Not Applicable, Not Measured; Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
						No samples collected from 0' to 3'. Advanced 4-Inch-ID casing to 35'.	FILL	
		S1	3 to 5	24/10	50-43-17-28	1.6 ppm		S1: Wet, very dense, brown, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.
		S2	6 to 8	24/0	9-10-14-17	Rig chattering from 5' to 6'. Re-drove S2 using a 3-inch spoon to obtain recovery from 6' to 8'. 0.2 ppm (re-drive)		S2: NO RECOVERY. 1" gravel in tip of spoon. S2 (REDRIVE): Wet, medium dense, tan, FINE TO COARSE SAND, some fine to medium gravel, trace inorganic silt. Sand mostly coarse.
		S3	9 to 11	24/5	10-9-8-12	0.5 ppm		S3: Wet, medium dense, FINE TO COARSE SAND, some inorganic silt, trace fine gravel.
		S4	12 to 14	24/8	13-11-25-22	0.4 ppm		S4: Wet, dense, tan, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt.
		S5	15 to 17	24/5	8-10-8-6	0.4 ppm		S5: Wet, medium dense, tan, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.
		S6	18 to 20	24/6	9-4-3-6	0.1 ppm		S6: Wet, loose, tan, FINE TO COARSE GRAVEL AND FINE TO COARSE SAND, trace inorganic silt.

EL. 11.70
7/1/2021

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WORKBIN STD 7-5-CAD-E-LAYER NAME BORING LOGS 8-24-21.GPJ 9/29/21

NORTHING: 2719728 **EASTING:** 749800 **STATION:** 302+00 (Rte 79 NB) **OFFSET:** ~30' West
GROUND SURFACE EL. (ft): 28.8 **DATE START/END:** 6/29/2021 - 6/30/2021
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING
DB-1 (OW)
PAGE 2 of 2

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
			21				FILL	silt. Asphalt present.
		S6	23 to 25	24/14	11-23-17-19	0.3 ppm		S6: Moist, dense, brown, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.
		S7	25 to 27	24/16	17-28-44-61	0.5 ppm 0.4 ppm		S7 (0-10"): Moist, very dense, brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt. S7 (10"-16"): Moist, very dense, black, FINE TO COARSE SAND, some fine to medium gravel up to 0.75", some inorganic silt. [GRAIN SIZE DISTRIBUTION WITH HYDROMETER PERFORMED]
		S8	27 to 27.8	9/8	100/3"	2.7 ppm Practical refusal at 27.8'.		S8: Wet, very dense, brown to dark gray, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL, trace fine to medium gravel, trace inorganic silt. Gravel is mostly fine.
			32 to 32	0/0	12/0"	Hammer bouncing hard at 32'. Losing drilling water. Telescoped 3-inch casing from 32' to 40'. Drilled through a possible obstruction from 32' to 33'. 12.2 ppm		
		S9	33 to 35	24/6	13-10-10-13			S9: Wet, medium dense, gray with red coating, FINE TO COARSE GRAVEL UP TO 1.5", some fine to coarse sand, trace inorganic silt. Brick fragments present.
		S10	38 to 40	24/12	8-8-15-16	0.0 ppm	SAND, SILT AND GRAVEL	S10: Wet, medium dense, gray, FINE TO COARSE SAND, trace fine gravel up to 3/8", some inorganic silt.
								Bottom of boring at 40 ft. Backfilled with cuttings and topped with all-purpose gravel and an asphalt cold patch.

EL. 0.20
6/29/2021

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

GEI WORKBIN STD 7-5-CAD-E-LAYER NAME BORING LOGS 8-24-21.GPJ 9/29/21

NORTHING: 2719711 **EASTING:** 749838 **STATION:** 302+00 (Rte 79 NB) **OFFSET:** ~10' East
GROUND SURFACE EL. (ft): 29.5 **DATE START/END:** 7/1/2021 - 7/1/2021
VERT./HORIZ. DATUMS: NAVD 88/NAD83 MA **DRILLING COMPANY:** Northern Drill Service, Inc.

BORING
WB203 (OW)
PAGE 2 of 2

Elev. (ft)	Depth (ft)	Sample No.	Sample Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S7	23 to 25	24/9	8-15-17-15	No PID headspace reading taken for S7.	FILL	S7: Wet, dense, tan, FINE TO COARSE SAND, some fine to medium gravel, trace inorganic silt.
						Rig chattering from 25' to 26'. Return change color change to gray at 26'.		
		S8	28 to 30	24/10	15-13-15-11	0.2 ppm		S8: Wet, medium dense, brown, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.
		S9	33 to 35	24/10	7-10-11-11	0.0 ppm		S9: Wet, medium dense, black, FINE TO COARSE SAND, trace fine to medium gravel, trace inorganic silt.
		S10	38 to 40	24/11	10-17-11-10	0.5 ppm		S10 (0-9"): Wet, medium dense, gray with oxidized orange coating, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt. S10 (9"-11"): Wet, medium dense, gray, FINE TO COARSE SAND AND INORGANIC SILT, trace fine gravel. Sand mostly fine. [SAMPLE CHECK WITH #200 SIEVE]. SAND, SILT AND GRAVEL. Bottom of boring at 40 ft. Completed as a well.

NOTES:

PROJECT NAME: Route 79/Davol Street Improvements Project
CITY/STATE: Fall River, Massachusetts
GEI PROJECT NUMBER: 1803206

GEI Consultants

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1017	1094
	PROJECT FILE NO. 608049		

BORINGS 4

NOTES:

1. FOR BORING NOTES SEE SHEET 3.
2. TABULATED GROUND WATER ELEVATIONS HAVE BEEN TAKEN FROM THE GEOTECHNICAL DATA REPORT, DATED JANUARY 19, 2022 (REVISED FEBRUARY 14, 2022).

OBSERVATION WELL GROUND WATER ELEVATIONS					
BORING ID	DATE INSTALLED	GROUND SURFACE	BOTTOM OF WELL	MEASUREMENT DATE	MEASUREMENT ELEVATION
DB–1(OW)	6/30/2021	28.8	–11.2	7/7/2021	0.0
WB203(OW)	7/1/2021	29.5	–10.5	7/1/2021	0.1
				7/8/2021	0.6

GROUND WATER:

THE WATER LEVELS RECORDED IN THE TABLE ARE THOSE MEASURED ON THE DATES GIVEN AND DO NOT NECESSARILY REPRESENT GROUND WATER LEVEL AT TIME OF CONSTRUCTION.

DATE	DESCRIPTION
FEB. 16, 2024	ISSUED FOR CONSTRUCTION

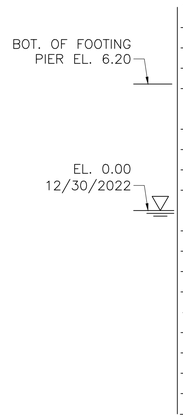
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR03-08(BORINGS)(F02087).DWG Plotted on 13-Feb-2024 9:47 AM
Final Structural Submittal (SF) 16-February-2024

BORING BB3

STA. 300+54.03

OFFSET 31.64' RT.



massDOT Highway

Allstate Drilling, Inc

227 Wampanoag Trail, Riverside, RI, 02915

No. BB-3

Scale: 1:20

City/Town: Fall River, MA	Bridge Number: Davol st	Project File Number: 608049	Page 1 of 3
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40	Total Hours: 11.3
Groundwater Depth (Feet): 10	Date & Time: 12/30/2022 10:00	Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. Wiliam	Helper's Name: N. Richard
Ground Elevation (Feet): 10	Inspector's Name (PRINT): H. Osman	Inspector's Signature: H. Osman	Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 1	0 - 2	5 - 8 - 9 - 9	0	**0.0 -** SS-1: No recovery, obtain sample from drill cuttings, Moist, medium dense, black, FINE SAND, some organic silt.	1.0
SS - 2	2 - 4	11 - 11 - 7 - 9	11	**2.0 -** SS-2: Moist, medium dense, brown, FINE SAND, some fine to coarse gravel.	2.5 3.0 3.5
SS - 3	4 - 6	10 - 8 - 22 - 13	16	**4.0 -** SS-3: Moist, medium dense, black, FINE TO COARSE SAND, some fine to coarse gravel, trace of organic silt, trace of coal.	4.5
SS - 4	6 - 8	9 - 9 - 7 - 6	11	**6.0 -** SS-4: Moist, medium dense, black, FINE TO COARSE SAND, some fine to coarse gravel, trace of organic silt, trace of coal, trace of brick.	
SS - 5	8 - 10	7 - 7 - 6 - 6	9	**8.0 -** SS-5 : Moist, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked).	
SS - 6	10 - 12	9 - 7 - 6 - 6	8	**10.0 -** SS-6: Wet, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked).	10
SS - 7	15 - 17	5 - 4 - 3 - 3	7	**15.0 -** SS-7: Wet, loose, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked), fine sand in tip of split spoon possible strata change.	15
				17.0 - drove 4" casing was too easy possible starta change at depth 17 to 20 feet, fine sand seen in drill cuttings.	

Remarks: Boring backfilled with drill cuttings

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

Core Barrel Type: NX Size: 2.15" ID

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less



massDOT Highway

Allstate Drilling, Inc

227 Wampanoag Trail, Riverside, RI, 02915

No. BB-3

Scale: 1:20

City/Town: Fall River, MA	Bridge Number: Davol st	Project File Number: 608049	Page 3 of 3
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40	Total Hours: 11.3
Groundwater Depth (Feet): 10	Date & Time: 12/30/2022 10:00	Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. Wiliam	Helper's Name: N. Richard
Ground Elevation (Feet): 10	Inspector's Name (PRINT): H. Osman	Inspector's Signature: H. Osman	Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 12	40 - 42	17 - 14 - 11 - 25	4	**40.0 -** SS-12: Wet, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt.	-30
SS - 13	45 - 45.6	96 - 30/1" - -	6	**45.0 -** SS-13: Wet, very dense, grey, FINE SAND, some medium gravel, trace of inorganic silt.	45 -35
				45.6 - Boring terminated at depth 45.6 feet below ground surface.	50 -40

Remarks: Boring backfilled with drill cuttings

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

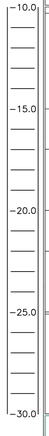
Core Barrel Type: NX Size: 2.15" ID

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less



massDOT Highway

Allstate Drilling, Inc

227 Wampanoag Trail, Riverside, RI, 02915

No. BB-3

Scale: 1:20

City/Town: Fall River, MA	Bridge Number: Davol st	Project File Number: 608049	Page 2 of 3
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40	Total Hours: 11.3
Groundwater Depth (Feet): 10	Date & Time: 12/30/2022 10:00	Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. Wiliam	Helper's Name: N. Richard
Ground Elevation (Feet): 10	Inspector's Name (PRINT): H. Osman	Inspector's Signature: H. Osman	Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 8	20 - 20.3	100/3" - - -	0	**20.0 -** SS-8: No recovery, Wobbly advance of rolled bit through possible boulders and cobbles from depth 20 to 23 feet.	-16
SS - 9	25 - 27	31 - 33 - 47 - 65	18	**25.0 -** SS-9: Wet, very dense, grey, FINE SAND, some fine to coarse gravel, trace of inorganic silt.	25 -15
SS - 10	30 - 32	33 - 48 - 59 - 52	18	**30.0 -** SS-10: Wet, very dense, grey, FINE SAND, some fine to coarse gravel, trace of inorganic silt.	30 -20
SS - 11	35 - 35.1	60/1" - - -	0	**35.0 -** SS-11: No recovery, Wobbly advance of rolled bit through possible boulders and cobbles from depth 35 to 39 feet.	35 -25

Remarks: Boring backfilled with drill cuttings

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

Core Barrel Type: NX Size: 2.15" ID

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1018	1094
PROJECT FILE NO.	608049		

BORINGS 5

NOTES:

1. FOR BORING NOTES SEE SHEET 3.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR03-08(BORINGS)(F02087).DWG Plotted on 13-Feb-2024 9:47 AM
Final Structural Submittal (SF) 16-February-2024

BORING BB4

STA. 301+11.26
OFFSET 32.57' RT.

BOT. OF FOOTING
NORTH ABUTMENT
EL. 7.00

EL. 0.30
1/3/2023

Allstate Drilling, Inc
227 Wampanoag Trail, Riverside, RI, 02915

No. BB-4
Scale: 1:20
Page 1 of 3

City/Town: Fall River, MA | Bridge Number: Davol st | Project File Number: 608049

Location: Near North Side of abutment
Groundwater Depth (Feet): 9 | Date & Time: 1/3/2023 9:45
Date & Time Started: 1/3/2023 8:30
Date & Time Completed: 1/3/2023 2:30
Total Hours: 6

Coordinates (Feet): N 2719622.83 E 749829.1 | Driller's Name: W. Wiliam | Helper's Name: Corey

Ground Elevation (Feet): 9.3 | Inspector's Name (PRINT): N. Hourani | Inspector's Signature: *N. Hourani* | Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 1	0 - 2	2 - 2 - 6 - 12	9	***0.0*** - SS-1: Dry, loose, brown, FINE SAND, some organic silt.	9 / 0.5 / 1.4 / 3.5
SS - 2	2 - 4	20 - 19 - 15 - 15	5	***2.0*** - SS-2: Dry, dense, brown to black, ORGANIC SILT, fine sand.	
SS - 3	4 - 6	12 - 10 - 8 - 5	3	***4.0*** - SS-3: Dry, medium dense, brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace of inorganic silt.	5 / -1
SS - 4	6 - 8	8 - 4 - 5 - 6	10	***6.0*** - SS-4: Moist, loose, black, COARSE GRAVEL, some coarse sand (Gravel borrow).	
SS - 5	8 - 10	7 - 7 - 8 - 11	10	***8.0*** - SS-5 : Wet, medium dense, black, COARSE GRAVEL, some coarse sand, trace of inorganic silt (Gravel borrow).	
SS - 6	10 - 12	13 - 6 - 7 - 10	12	***10.0*** - SS-6: Wet, medium dense, black, FINE SAND, some inorganic silt (trace of black oil).	10 / -1
SS - 7	15 - 17	10 - 16 - 16 - 13	8	***15.0*** - SS-7: Wet, dense, grey, FINE TO COARSE SAND, some fine gravel.	15 / -6

Remarks: Boring backfilled with drill cuttings. Boring 9 ft from corner of N Abutment, Gas Station on other side of road. At 6ft deep drove 4" casing

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

Core Barrel Type: NX Size: 2.15" ID

Allstate Drilling, Inc
227 Wampanoag Trail, Riverside, RI, 02915

No. BB-4
Scale: 1:20
Page 3 of 3

City/Town: Fall River, MA | Bridge Number: Davol st | Project File Number: 608049

Location: Near North Side of abutment
Groundwater Depth (Feet): 9 | Date & Time: 1/3/2023 9:45
Date & Time Started: 1/3/2023 8:30
Date & Time Completed: 1/3/2023 2:30
Total Hours: 6

Coordinates (Feet): N 2719622.83 E 749829.1 | Driller's Name: W. Wiliam | Helper's Name: Corey

Ground Elevation (Feet): 9.3 | Inspector's Name (PRINT): N. Hourani | Inspector's Signature: *N. Hourani* | Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 12	40 - 42	38 - 48 - 50 - 50/5"	15	***40.0*** - SS-12: Wet, very dense, grey to red, FINE SAND AND INORGANIC SILT/L, some gravel, some clay.	31
SS - 13	45 - 46	28 - 57 - -	11	***45.0*** - SS-13: Wet, very dense, grey to red, FINE SAND AND INORGANIC SILT/L, some gravel, some clay.	45 / -36
				46.0 - Boring terminated at depth 46 feet below ground surface.	50 / -41
					55 / -46

Remarks: Boring backfilled with drill cuttings. Boring 9 ft from corner of N Abutment, Gas Station on other side of road. At 6ft deep drove 4" casing

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

Core Barrel Type: NX Size: 2.15" ID

Allstate Drilling, Inc
227 Wampanoag Trail, Riverside, RI, 02915

No. BB-4
Scale: 1:20
Page 2 of 3

City/Town: Fall River, MA | Bridge Number: Davol st | Project File Number: 608049

Location: Near North Side of abutment
Groundwater Depth (Feet): 9 | Date & Time: 1/3/2023 9:45
Date & Time Started: 1/3/2023 8:30
Date & Time Completed: 1/3/2023 2:30
Total Hours: 6

Coordinates (Feet): N 2719622.83 E 749829.1 | Driller's Name: W. Wiliam | Helper's Name: Corey

Ground Elevation (Feet): 9.3 | Inspector's Name (PRINT): N. Hourani | Inspector's Signature: *N. Hourani* | Inspector's Company: HNTB

Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches / Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 8	20 - 22	20 - 12 - 14 - 12	9	***20.0*** - SS-8: Wet, medium dense, grey, FINE TO COARSE SAND, some fine gravel.	11
SS - 9	25 - 26	20 - 52 - -	3	***25.0*** - SS-9: Wet, very dense, grey, COARSE GRAVEL, trace of fine sand, trace of silt.	25 / -16
SS - 10	30 - 32	20 - 43 - 35 - 36	7	***30.0*** - SS-10: Wet, very dense, grey, INORGANIC SILT, some fine to coarse gravel.	30 / -21
SS - 11	35 - 37	18 - 50/4" - -	6	***35.0*** - SS-11: Wet, very dense, grey, FINE TO COARSE SAND, some fine to medium gravel.	35 / -26

Remarks: Boring backfilled with drill cuttings. Boring 9 ft from corner of N Abutment, Gas Station on other side of road. At 6ft deep drove 4" casing

Arrow-Board: -
Signs: -
Cones: -

Protective Device - Stand: - Box: -
Well Depth: - Solid Pipe: -
Stick Up Pipe: - Screen Pipe: -

Penetration Resistance (N) Guide

Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Silts, Clays)	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance
Very Loose	0 - 4	Very Soft	0 - 2
Loose	4 - 10	Soft	2 - 4
Medium Dense	10 - 30	Medium Stiff	4 - 8
Dense	30 - 50	Stiff	8 - 15
Very Dense	Over 50	Very Stiff	15 - 30
		Hard	Over 30

N = Sum of Second and Third 6" Blow Counts

Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less

Type of Drill Rig: Mobile Drill Dietrich D-50

Casing Type: Size 4"
Hammer Weight: 140 lb
Fall: 30"
Depth: 85

Sampler Type: SS Size 1-3/8" ID
Automatic Hammer Weight: 140 lb
Safety Hammer Weight: -
Donut Hammer Weight: -
Fall: 30"

Core Barrel Type: NX Size: 2.15" ID

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1019	1094
PROJECT FILE NO.	608049		

BORINGS 6

NOTES:

1. FOR BORING NOTES SEE SHEET 3.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

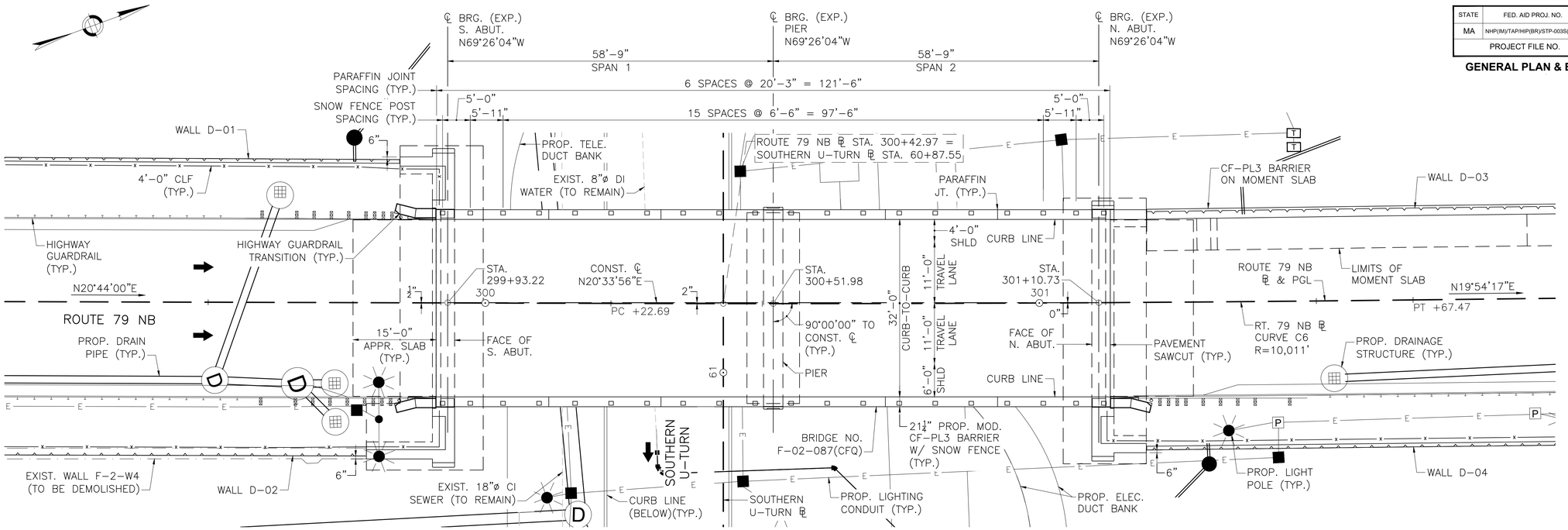
USE ONLY PRINTS OF LATEST DATE

608049_BR03-08(BORINGS)(F02087).DWG Plotted on 13-Feb-2024 9:47 AM
Final Structural Submittal (SF) 16-February-2024

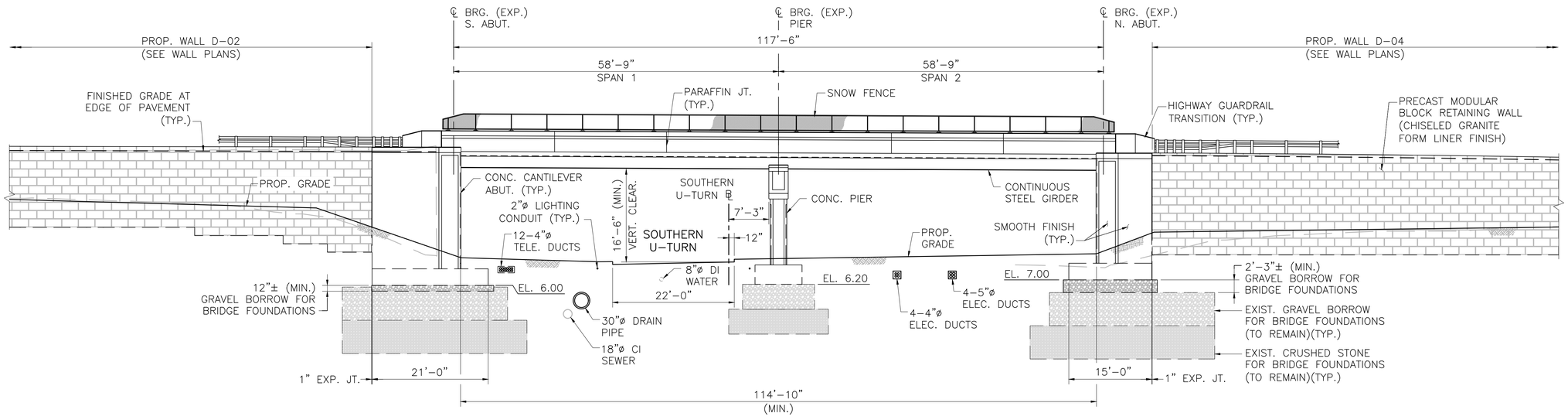
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1020	1094
PROJECT FILE NO.	608049		

GENERAL PLAN & ELEVATION



PROPOSED PLAN
SCALE: 1" = 10'-0"



NOTE:

CHAIN LINK FENCE OMITTED FROM ELEVATION FOR CLARITY.

PROPOSED EAST ELEVATION
SCALE: 1" = 10'-0"

DATE	DESCRIPTION
FEB. 16, 2024	ISSUED FOR CONSTRUCTION

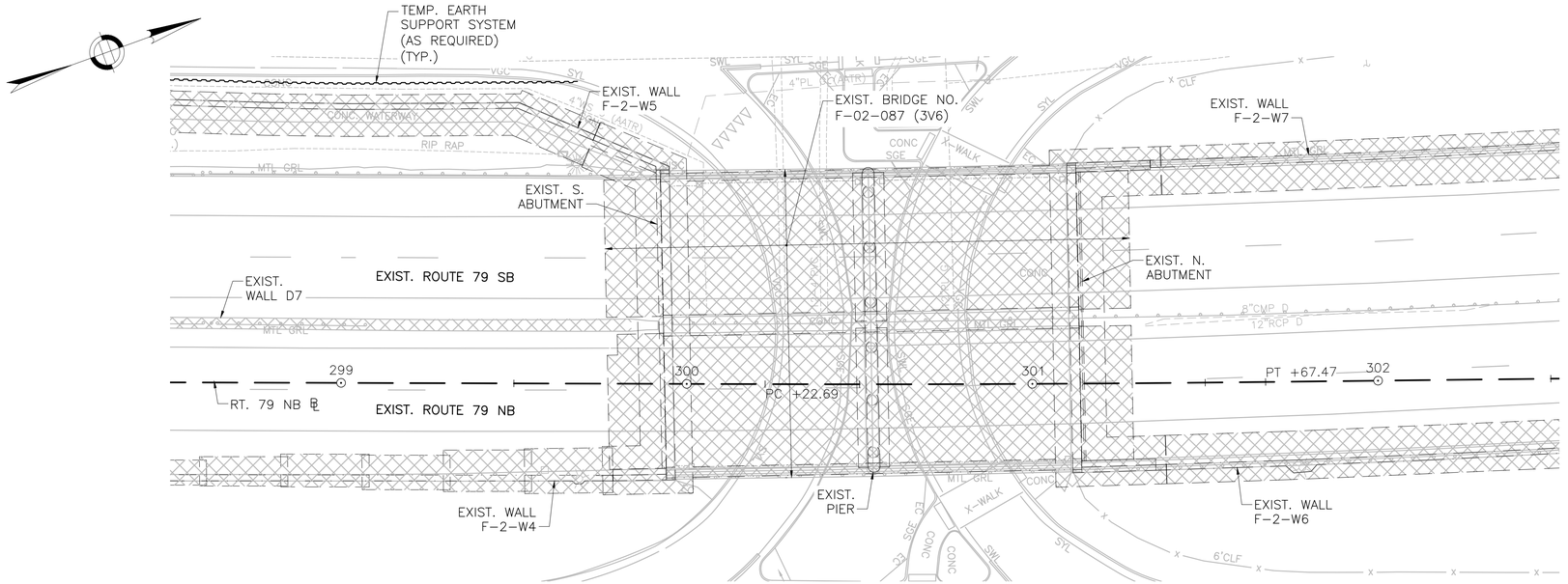
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR09(PLAN_ELEVATION)(F02087).DWG Plotted on 13-Feb-2024 9:49 AM
Final Structural Submittal (SF) 16-February-2024

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1021	1094
PROJECT FILE NO.	608049		

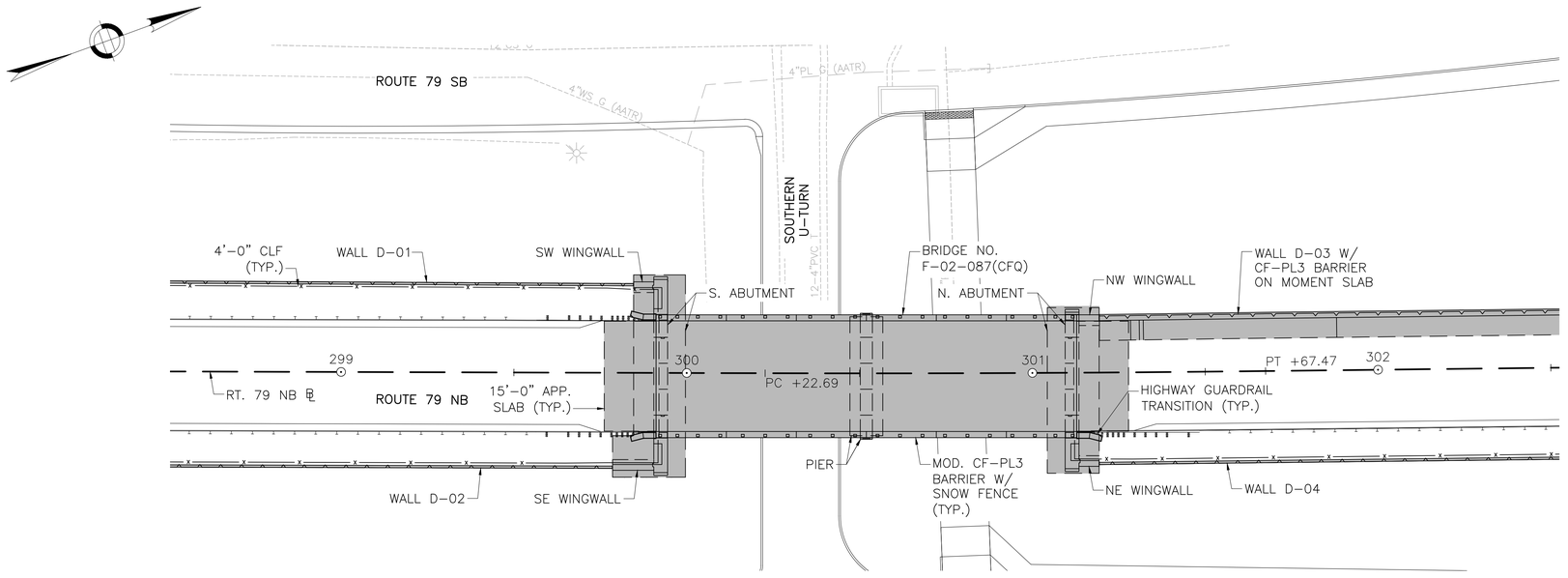
STAGED CONSTRUCTION PLANS



STAGE 1 DEMOLITION
SCALE: 1" = 20'

NOTES:

1. U-TURN MOVEMENTS SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE VOLUME 2 TEMPORARY TRAFFIC CONTROL PLANS.
2. FOR STAGED CONSTRUCTION SECTIONS, SEE SHEET 11.



STAGE 1 CONSTRUCTION
SCALE: 1" = 20'

LEGEND:

DENOTES EXISTING STRUCTURE TO BE DEMOLISHED

DENOTES NEW STRUCTURE TO BE CONSTRUCTED

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

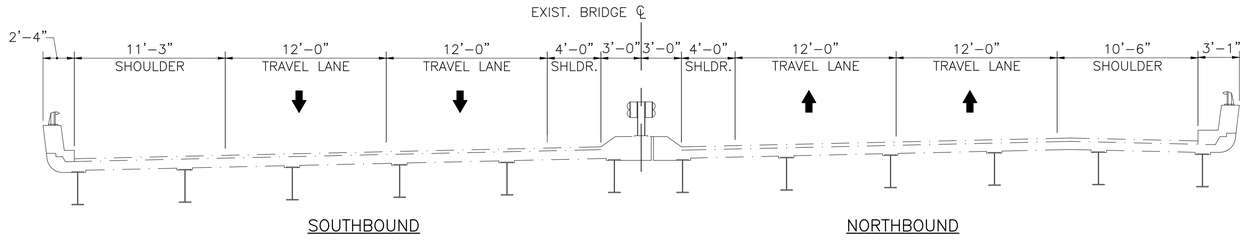
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR10(STAGED_CONSTRUCTION_PLANS)(F02087).DWG Plotted on 13-Feb-2024 9:51 AM
16-February-2024 Final Structural Submittal (SF)

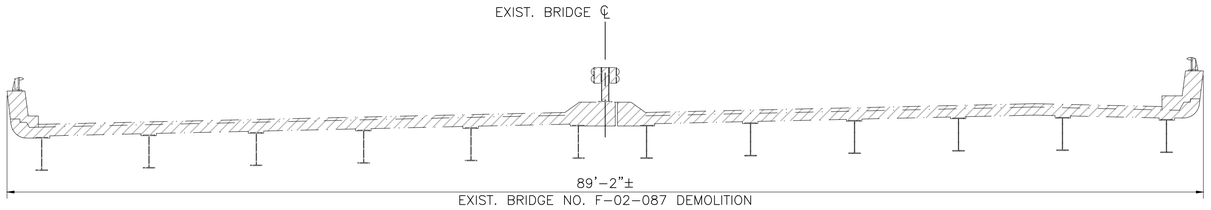
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1022	1094
PROJECT FILE NO.	608049		

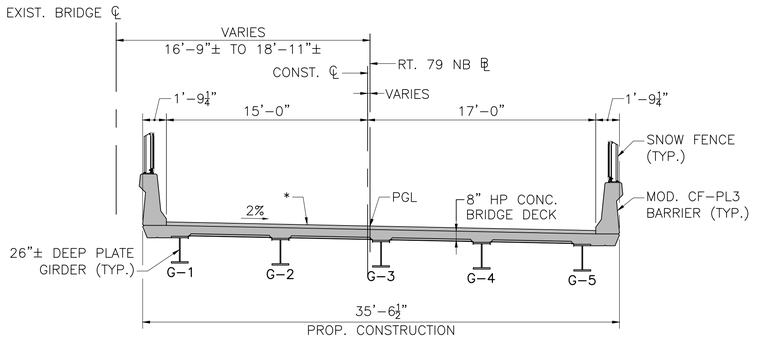
STAGED CONSTRUCTION SECTIONS



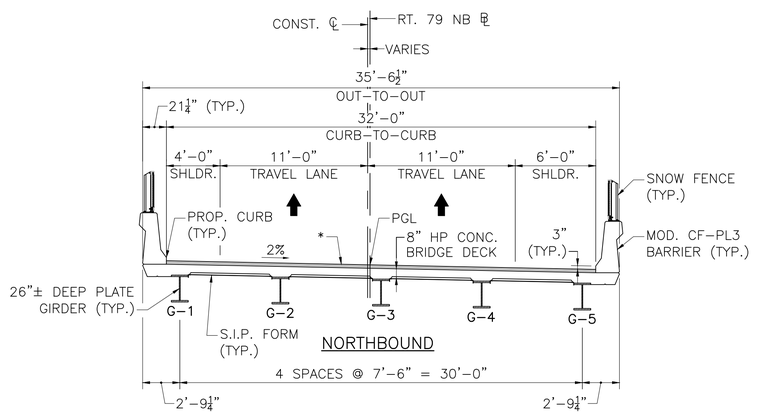
EXISTING CROSS SECTION



STAGE 1 DEMOLITION



STAGE 1 CONSTRUCTION



PROPOSED CROSS SECTION

* 1½" SUPERPAVE BRIDGE SURFACE COURSE – 12.5 POLYMER (SSC–B–12.5–P) OVER
1½" SUPERPAVE BRIDGE PROTECTIVE COURSE – 12.5 POLYMER (SPC–B–12.5–P) OVER
SPRAY APPLIED MEMBRANE WATERPROOFING

STAGED CONSTRUCTION SECTIONS

SCALE: 3/16" = 1'–0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

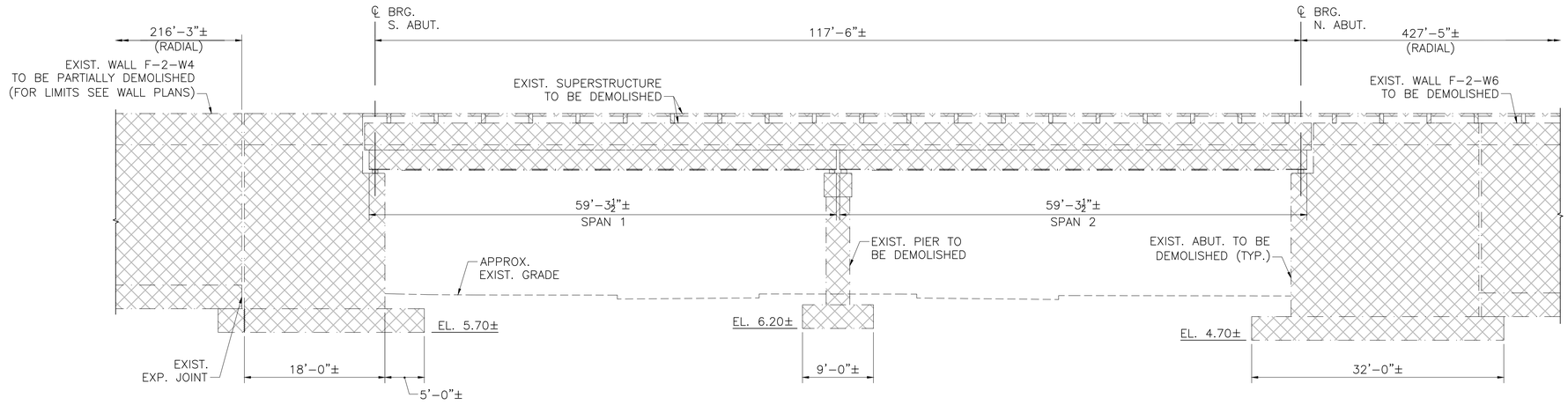
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR11(STAGED_SECTIONS)(F02087).DWG Plotted on 13-Feb-2024 9:51 AM
Final Structural Submittal (SF) 16-February-2024

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1023	1094
PROJECT FILE NO.	608049		

DEMOLITION ELEVATIONS



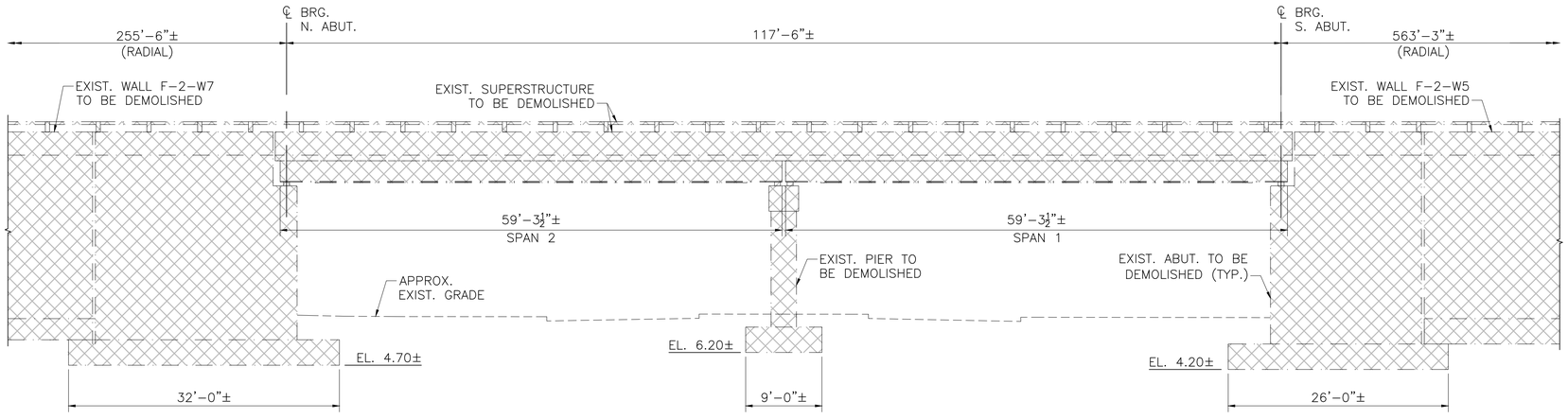
STAGE 1 DEMOLITION
EAST ELEVATION
SCALE: $\frac{1}{8}$" = 1'–0"

NOTES:

1. EXISTING DIMENSIONS SHOWN ARE FROM RECORD PLANS AND ARE NOT GUARANTEED.
2. DEMOLITION OF EXISTING SUBSTRUCTURES SHALL BE PERFORMED TO BOTTOM OF FOOTING UNLESS OTHERWISE NOTED.

LEGEND:

DENOTES EXISTING STRUCTURE TO BE DEMOLISHED

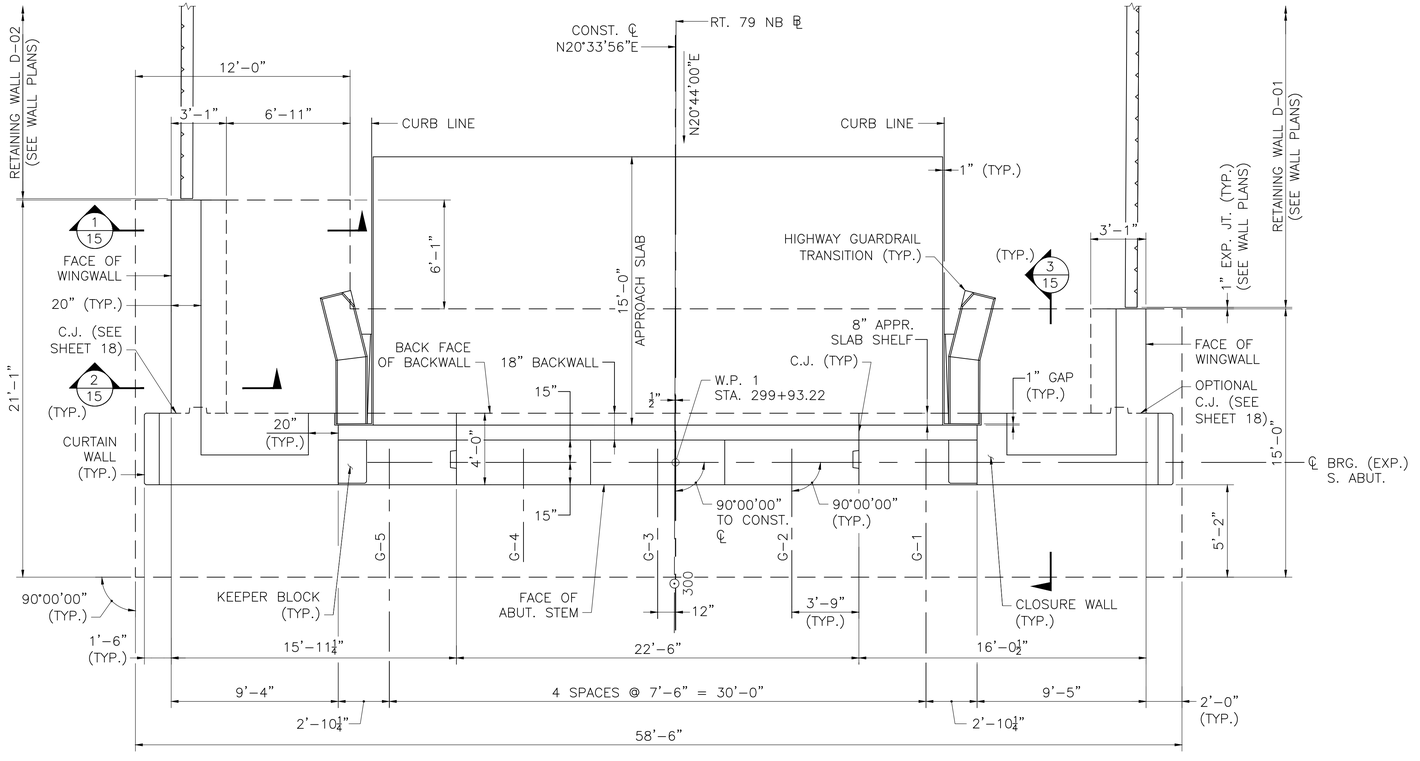


STAGE 1 DEMOLITION
WEST ELEVATION
SCALE: $\frac{1}{8}$" = 1'–0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

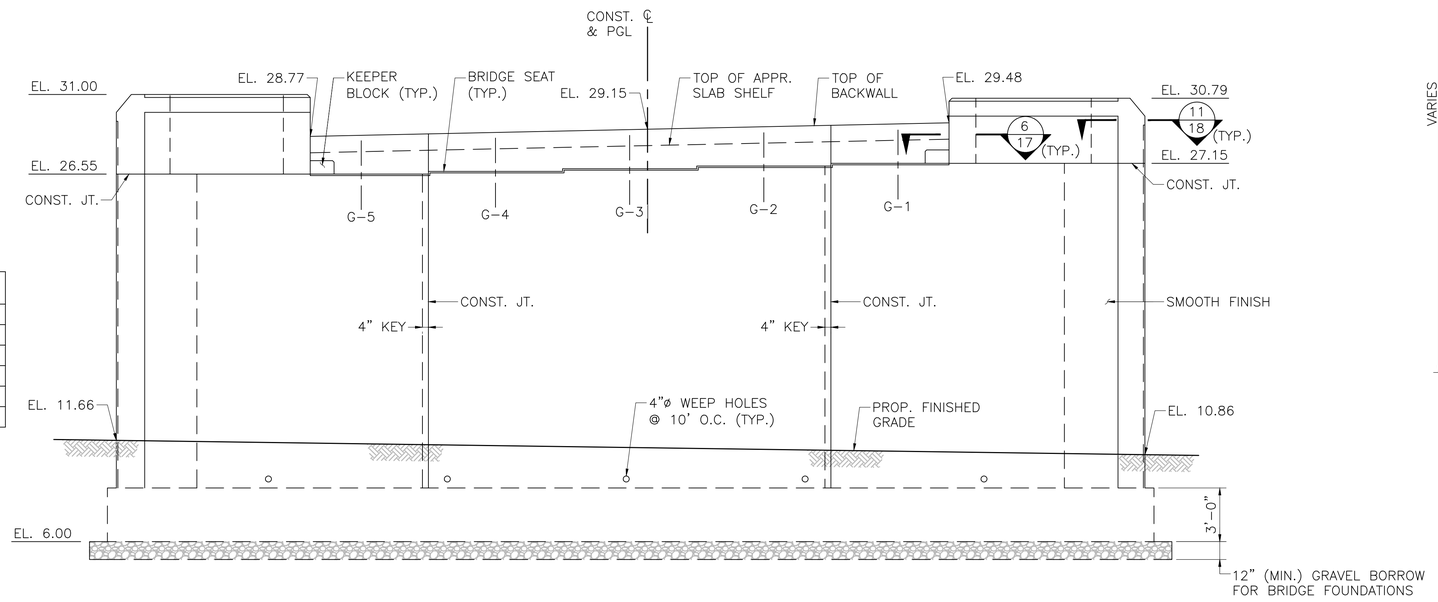
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR12(DEMO_ELEVATIONS)(F02087).DWG Plotted on 13-Feb-2024 9:51 AM
16-February-2024 Final Structural Submittal (SF)



SOUTH ABUTMENT PLAN

SCALE: ¼" = 1'-0"



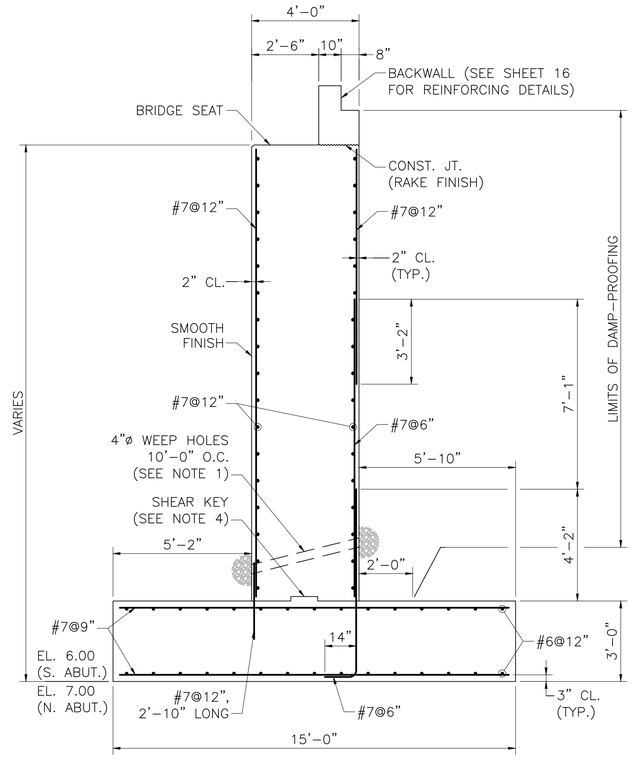
SOUTH ABUTMENT BRIDGE SEAT ELEVATIONS	
GIRDER NO.	ELEVATION
G-1	27.15
G-2	27.00
G-3	26.85
G-4	26.70
G-5	26.55

SOUTH ABUTMENT ELEVATION

SCALE: ¼" = 1'-0"

NOTE:

ALL ELEVATIONS ARE PROVIDED AT THE FRONT FACE OF BACKWALL.



TYPICAL ABUTMENT SECTION

SCALE: ⅜" = 1'-0"

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1024	1094
PROJECT FILE NO. 608049			

SOUTH ABUTMENT PLAN & ELEVATION

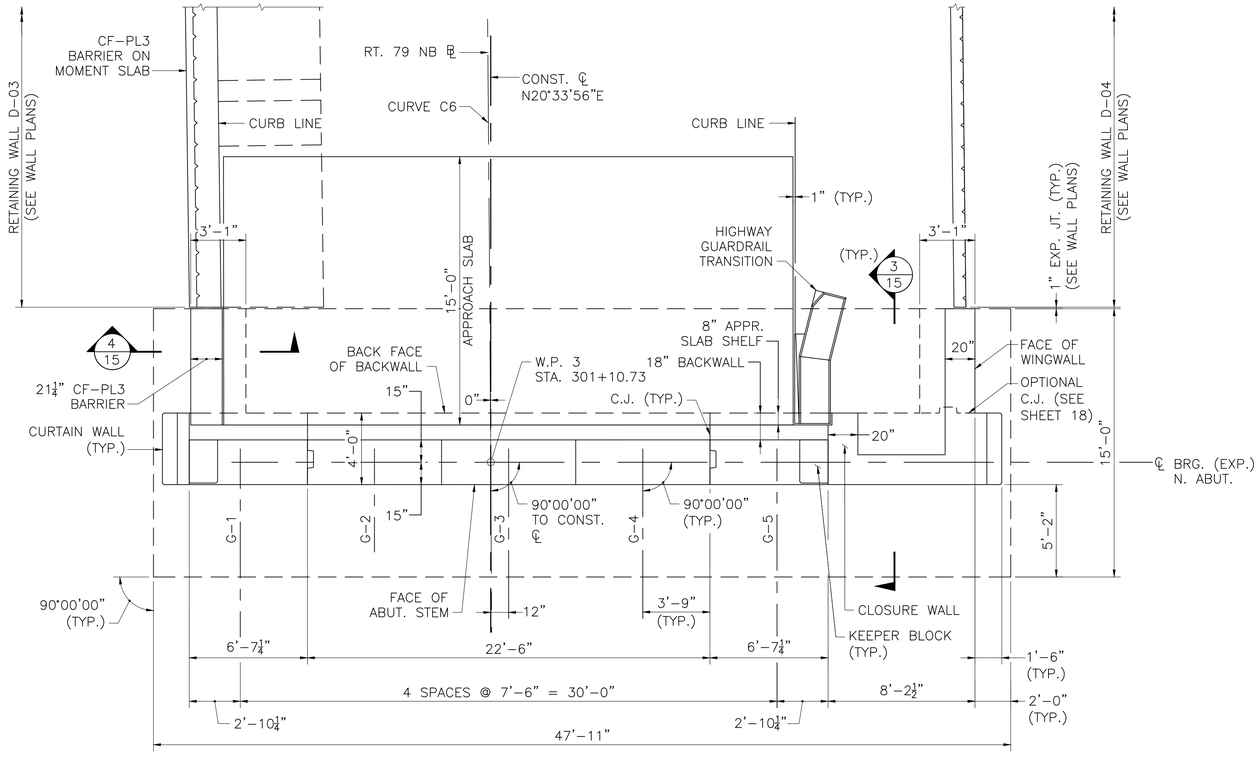
NOTES:

1. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI, ¾ IN, 610 CEMENT CONCRETE.
3. THE FACTORED BEARING PRESSURE = 3.96 KSF FOR THE SOUTH ABUTMENT AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 6.3 KSF FOR THE SOUTH ABUTMENT. THE FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
4. CONSTRUCTION JOINT WITH 12"x12"x2" SHEAR KEYS AT 3'-0" O.C.
5. FOR FOUNDATION PREPARATION NOTES, SEE SHEET 14.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

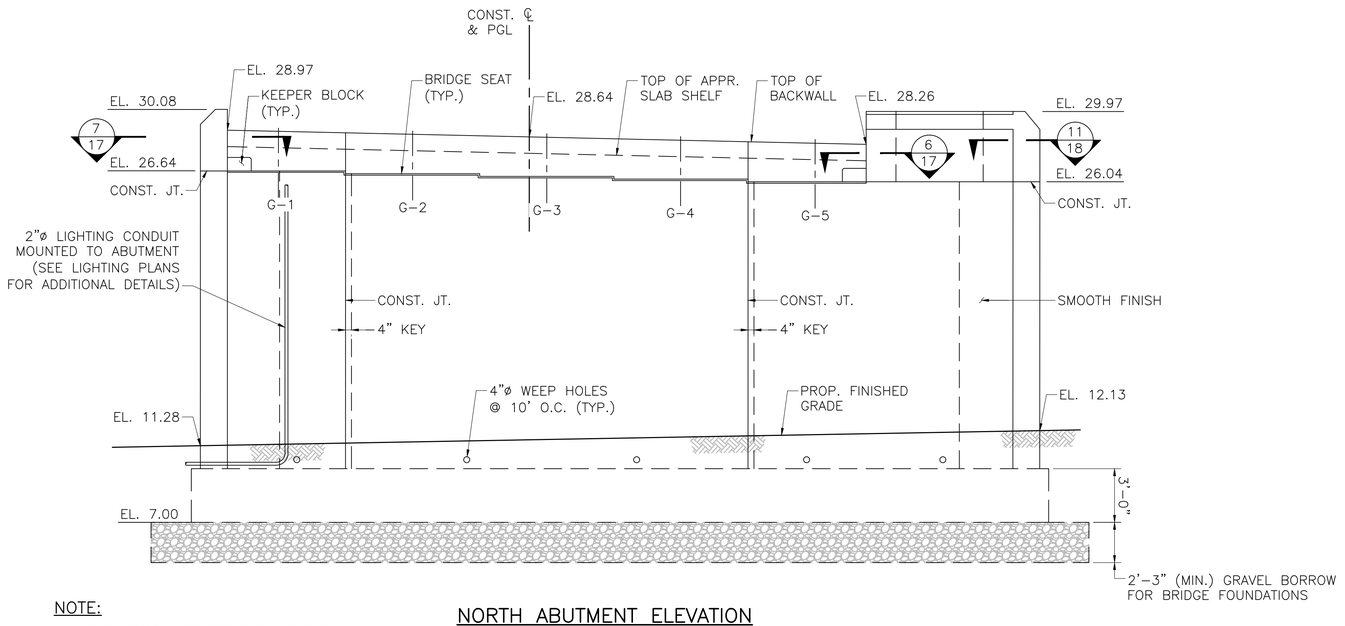
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR13(SOUTH_ABUTMENT)(F020087).DWG Plotted on 13-Feb-2024 9:51 AM
16-February-2024
Final Structural Submittal (SF)



NORTH ABUTMENT PLAN

SCALE: ¼" = 1'-0"



NOTE:

ALL ELEVATIONS ARE PROVIDED AT THE FRONT FACE OF BACKWALL.

NORTH ABUTMENT ELEVATION

SCALE: ¼" = 1'-0"

NORTH ABUTMENT BRIDGE SEAT ELEVATIONS	
GIRDER NO.	ELEVATION
G-1	26.64
G-2	26.49
G-3	26.34
G-4	26.19
G-5	26.04

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1025	1094
PROJECT FILE NO. 608049			

NORTH ABUTMENT
PLAN & ELEVATION

NOTES:

1. THE FACTORED BEARING PRESSURE = 3.84 KSF FOR THE NORTH ABUTMENT AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 6.7 KSF FOR THE NORTH ABUTMENT. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. FOR TYPICAL ABUTMENT SECTION, SEE SHEET 13.

NOTES FOR ABUTMENT & PIER FOUNDATION PREPARATION:

1. FOOTING SUBGRADES SHALL BE PREPARED IN ACCORDANCE WITH SECTION 150.61 OF THE MASSDOT STANDARD SPECIFICATIONS.
2. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN. FOOTINGS SHALL BE PLACED ON COMPACTED GRAVEL BORROW FOR BRIDGE FOUNDATIONS (M1.03 TYPE A) TO CREATE A COMPETENT BEARING SURFACE BEFORE PLACEMENT OF THE NEW FOOTING. REFER TO THE ABUTMENT ELEVATIONS FOR MINIMUM GRAVEL BORROW THICKNESS.
3. THE FOOTING BEARING SURFACE SHALL BE FREE OF STANDING WATER, FROST, AND UNSUITABLE (SUCH AS ORGANIC) SOIL.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

608049_BR14(NORTH_ABUTMENT)(F02087).DWG Plotted on 13-Feb-2024 9:51 AM
16-February-2024 Final Structural Submittal (SF)

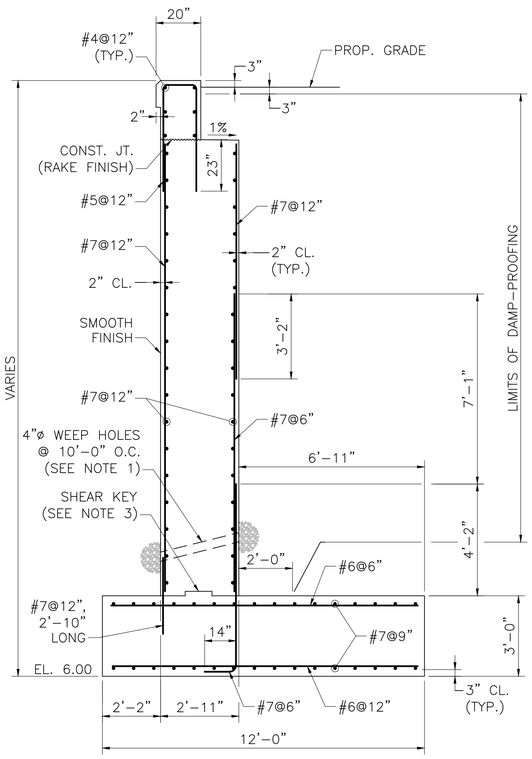
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1026	1094
PROJECT FILE NO. 608049			

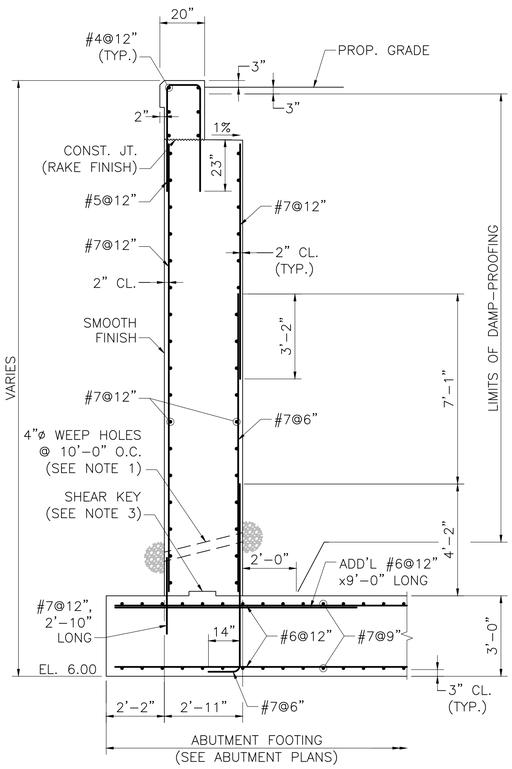
ABUTMENT & WINGWALL SECTIONS

NOTES:

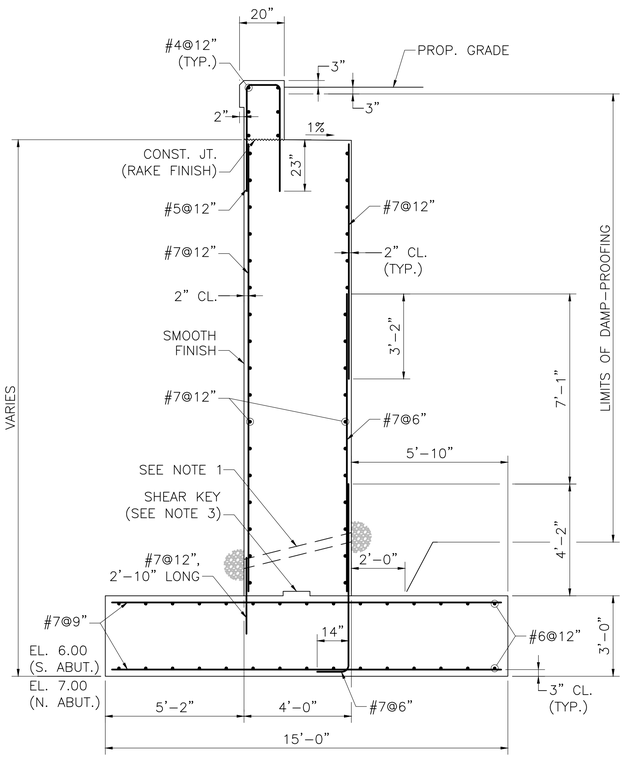
1. PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
2. ALL CONCRETE SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE.
3. CONSTRUCTION JOINT WITH 12"x12"x2" SHEAR KEYS AT 3'–0" O.C.



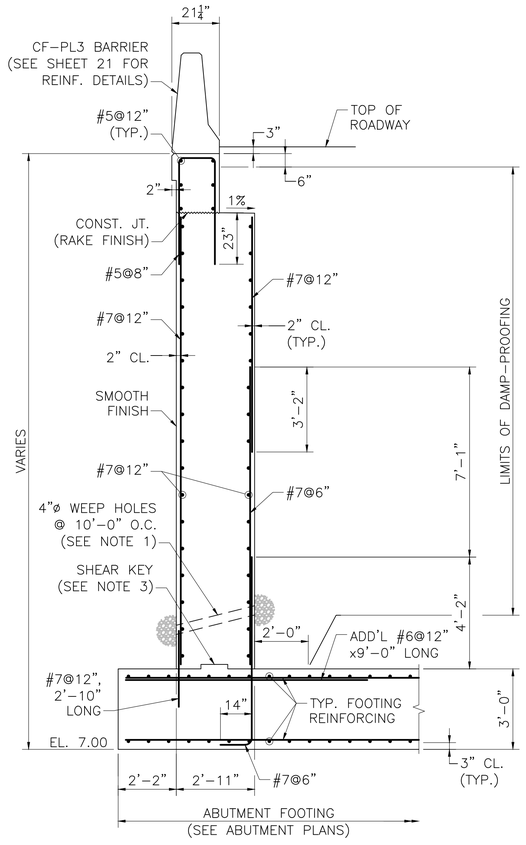
SECTION 1
SCALE: $\frac{3}{8}$" = 1'–0"



SECTION 2
SCALE: $\frac{3}{8}$" = 1'–0"



SECTION 3
SCALE: $\frac{3}{8}$" = 1'–0"



SECTION 4
SCALE: $\frac{3}{8}$" = 1'–0"

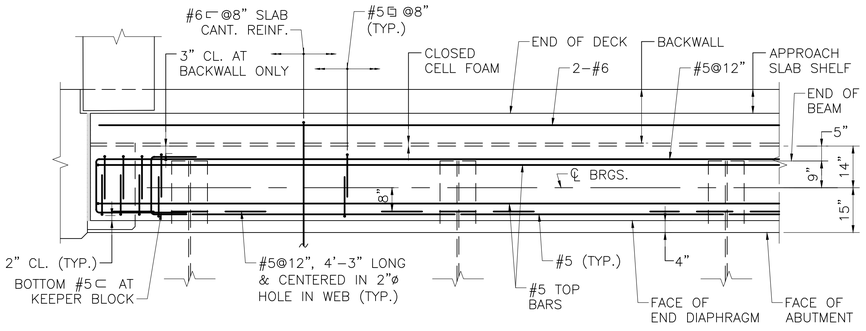
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR15-20(ABUTMENT_DETAILS)(F022087).DWG Plotted on 13-Feb-2024 9:51 AM
16-February-2024
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FALL RIVER
ROUTE 79

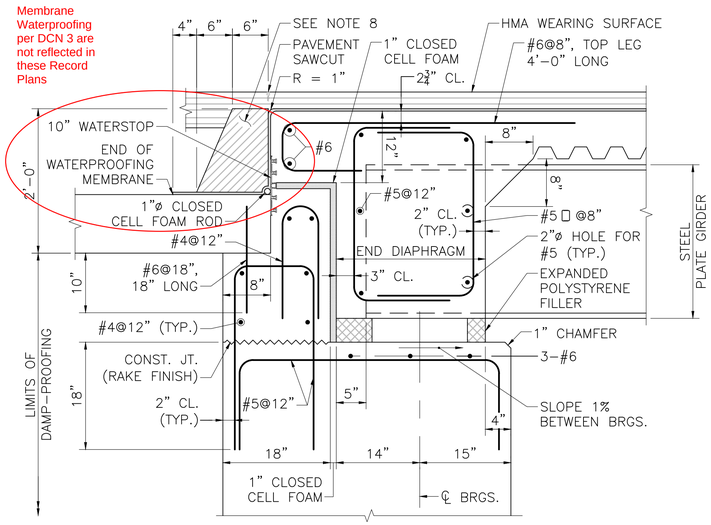
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1027	1094
	PROJECT FILE NO. 608049		

ABUTMENT DETAILS 1



END DIAPHRAGM PLAN
SCALE: $\frac{1}{2}$" = 1'-0"

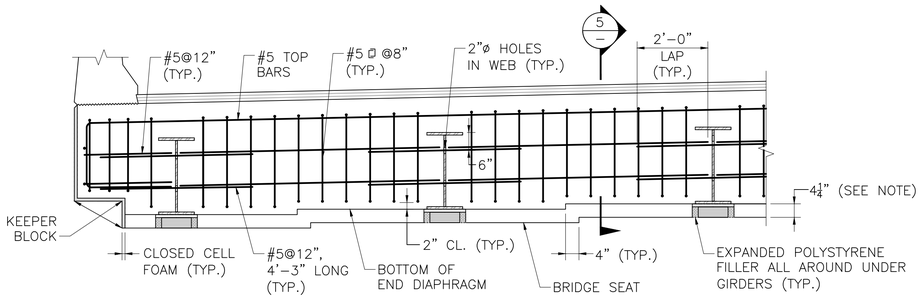
Membrane Waterproofing per DCN 3 are not reflected in these Record Plans



DETAIL AT ABUTMENT
ROADWAY SECTION
SCALE: 1" = 1'-0"

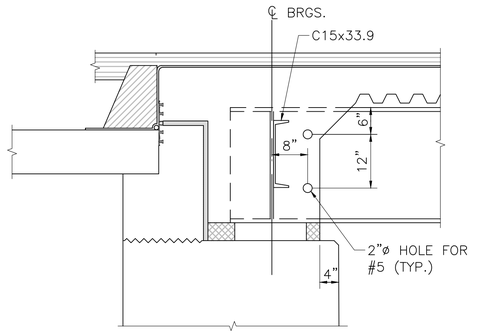
ROADWAY SECTION NOTES:

1. ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
2. ALL BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT LOCATED AT THE BRIDGE SEAT SHALL BE 4000 PSI, ¾ IN, 610 CEMENT CONCRETE. THE CONSTRUCTION JOINT SHALL BE GIVEN A RAKE FINISH WITH A ¼" MINIMUM AMPLITUDE.
3. TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
4. THE BACKWALL, KEEPER BLOCK, AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
5. THE END DIAPHRAGM CONCRETE SHALL BE 4000 PSI, ¾ IN, 585 HP CEMENT CONCRETE AND SHALL BE PLACED MONOLITHICALLY WITH THE DECK.
6. PRIOR TO PLACING THE END DIAPHRAGM CONCRETE, CLOSED CELL FOAM OF THE SPECIFIED THICKNESSES SHALL BE ATTACHED WITH ADHESIVE TO ALL SURFACES OF THE BACKWALL, KEEPER BLOCKS, AND CURTAIN WALLS AS SHOWN ON THE PLANS. EXPANDED POLYSTYRENE FILLER SHALL BE PLACED UNDER THE BEAM BOTTOM FLANGE AND THE BOTTOM OF THE END DIAPHRAGM SHALL BE FORMED AS SPECIFIED. THE CONTRACTOR SHALL ENSURE THAT ALL ABUTMENT CONCRETE IS PROPERLY LINED. END DIAPHRAGM CONCRETE MUST NOT COME IN DIRECT CONTACT WITH ABUTMENT CONCRETE.
7. DRAPE MEMBRANE WATERPROOFING OVER CLOSED CELL FOAM BACKER ROD.
8. PROTECTIVE COURSE TO BE SUPERPAVE BRIDGE PROTECTIVE COARSE (SPC-B-12.5), PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND-GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.



END DIAPHRAGM ELEVATION
SCALE: $\frac{1}{2}$" = 1'-0"

NOTE:
THE CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE END DIAPHRAGM.



SECTION 5
SCALE: ¾" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

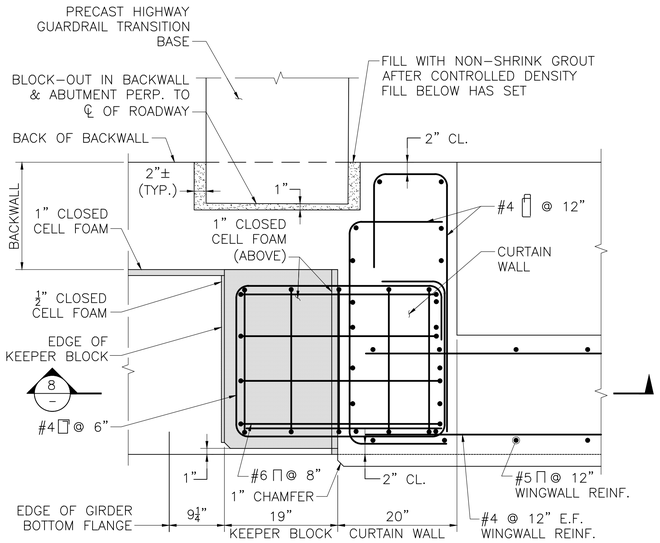
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR15-20(ABUTMENT_DETAILS)(F020087).DWG Plotted on 13-Feb-2024 9:52 AM
16-February-2024 Final Structural Submittal (SF)

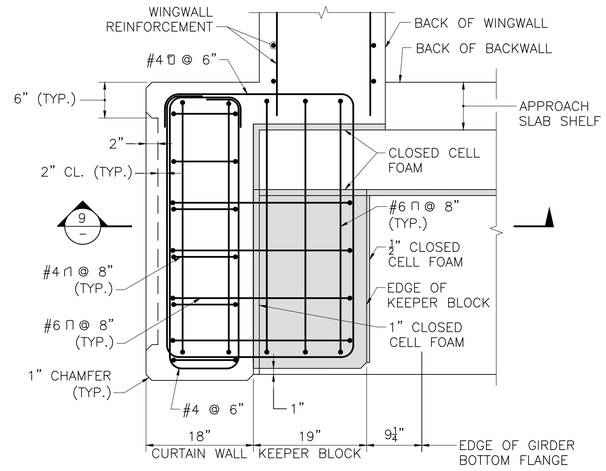
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1028	1094
	PROJECT FILE NO. 608049		

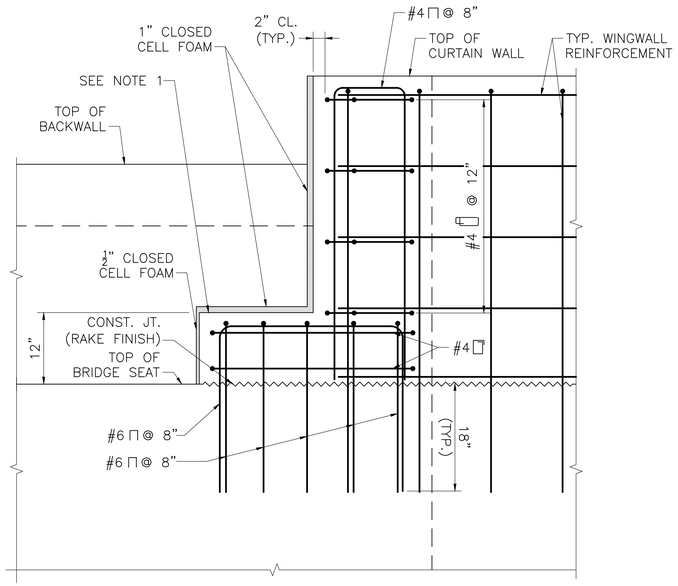
ABUTMENT DETAILS 2



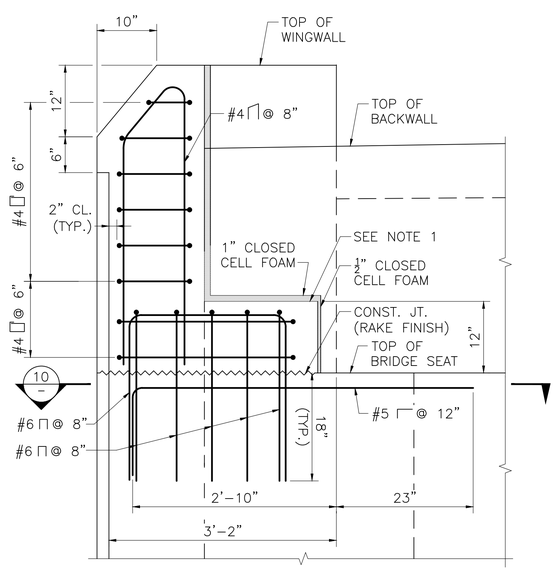
SECTION 6
SCALE: 1" = 1'-0"



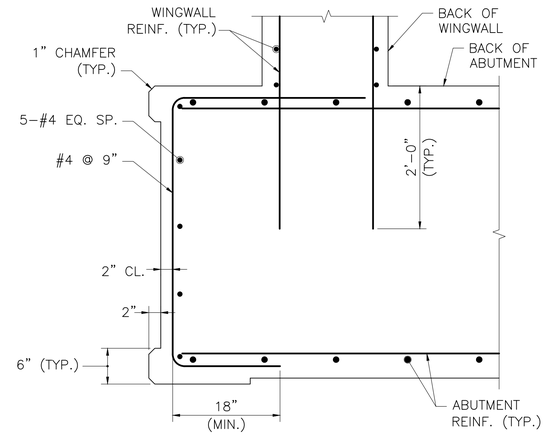
SECTION 7
SCALE: 1" = 1'-0"



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



SECTION 9
SCALE: 1" = 1'-0"



SECTION 10
SCALE: 1" = 1'-0"

NOTES:

1. TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH PARALLEL TO PROFILE GRADE.
2. ABUTMENT REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

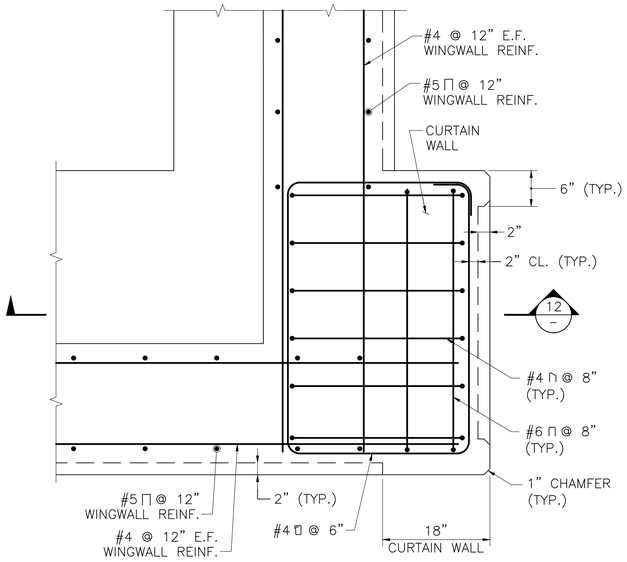
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR15-20(ABUTMENT_DETAILS)(F020B7).DWG Plotted on 13-Feb-2024 9:52 AM
16-February-2024 Final Structural Submittal (SF)

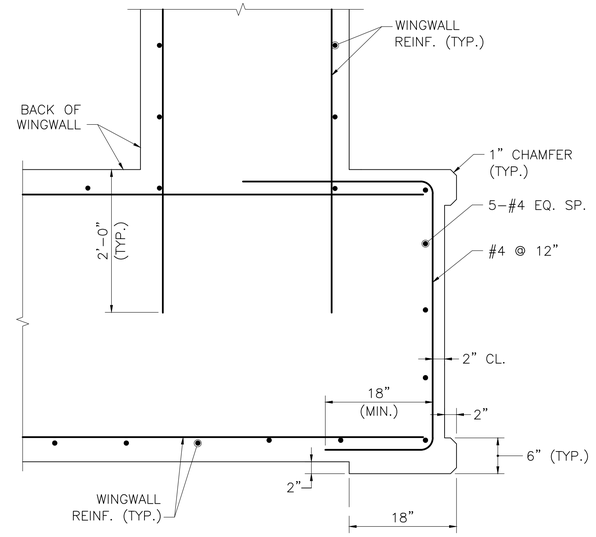
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1029	1094
	PROJECT FILE NO. 608049		

ABUTMENT DETAILS 3



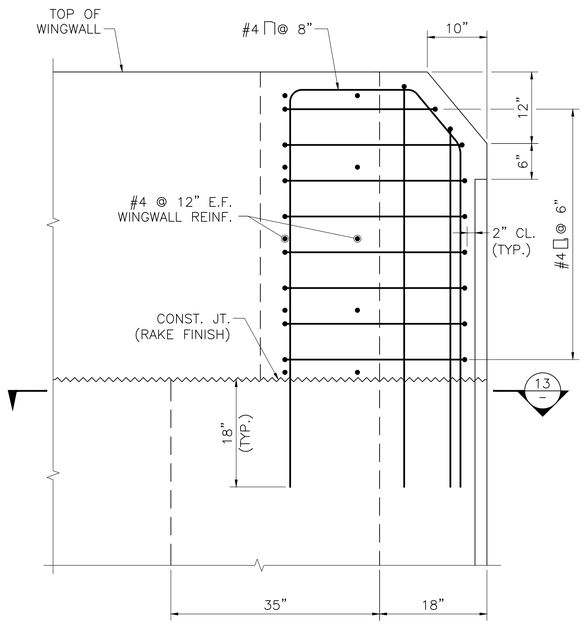
SECTION 11
SCALE: 1" = 1'–0"



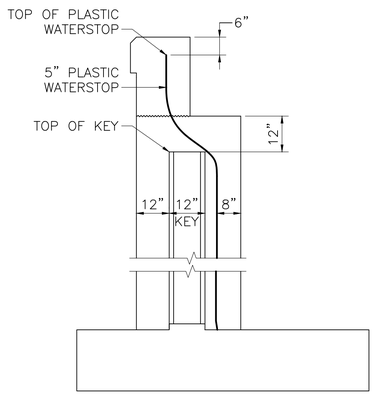
SECTION 13
SCALE: 1" = 1'–0"

NOTES:

1. WINGWALL REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.

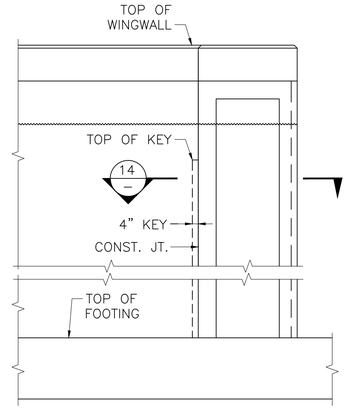


SECTION 12
SCALE: 1" = 1'–0"

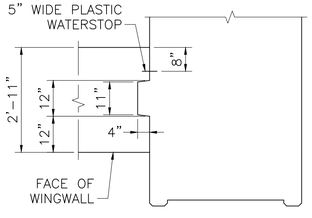


NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

VERTICAL SECTION THRU WINGWALL CONSTRUCTION JOINT
SCALE: $\frac{1}{2}$" = 1'–0"



WINGWALL ELEVATION



SECTION 14

WINGWALL CONSTRUCTION JOINT DETAILS
SCALE: $\frac{1}{2}$" = 1'–0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

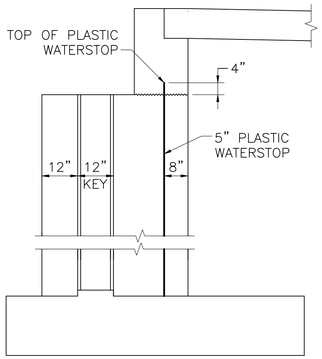
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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USE ONLY PRINTS OF LATEST DATE

608049_BR15-20(ABUTMENT_DETAILS)(F020087).DWG Plotted on 13-Feb-2024 9:52 AM
16-February-2024
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FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1030	1094
	PROJECT FILE NO. 608049		

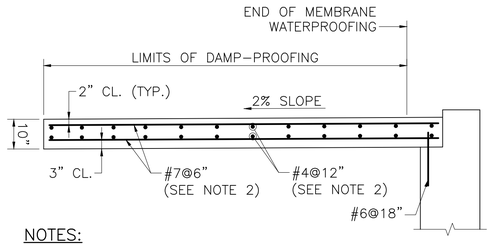
ABUTMENT DETAILS 4



NOTE:

REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

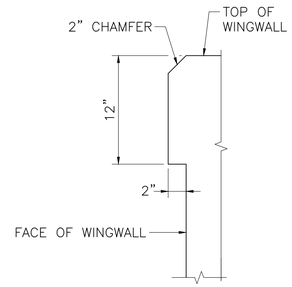
VERTICAL SECTION THRU CONSTRUCTION JOINT
SCALE: $\frac{1}{2}$" = 1'–0"



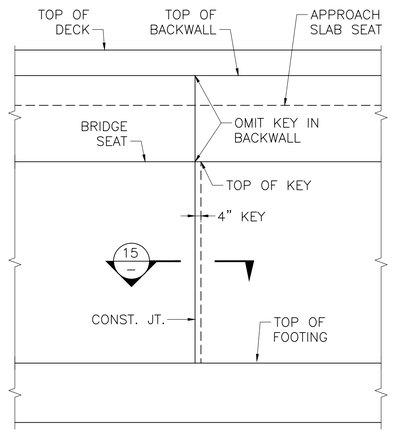
NOTES:

1. APPROACH SLAB TO BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE.
2. PLACE LONGITUDINAL REINFORCEMENT ALONG CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.

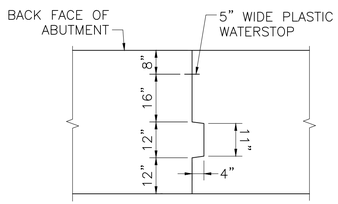
APPROACH SLAB DETAIL
SCALE: $\frac{1}{2}$" = 1'–0"



DETAIL AT TOP OF WINGWALL
SCALE: 1$\frac{1}{2}$" = 1'–0"

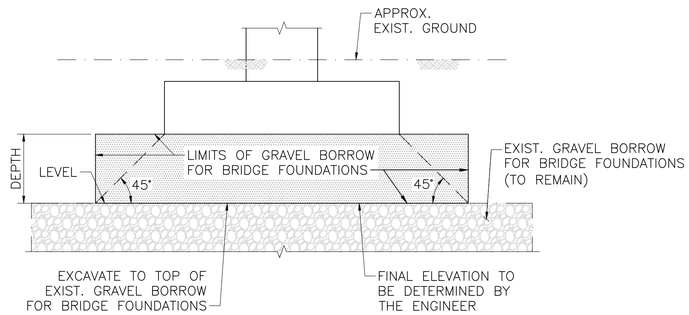


ABUTMENT ELEVATION



SECTION 15

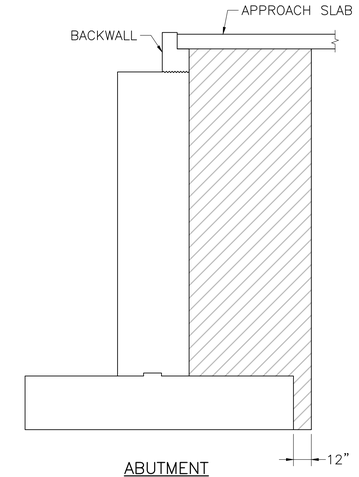
CONSTRUCTION JOINT DETAILS
SCALE: $\frac{1}{2}$" = 1'–0"



NOTES:

1. SAME TREATMENT IS TO BE USED AT ENDS OF WALLS, PIERS, AND ABUTMENTS.
2. FOR ADDITIONAL FOUNDATION PREPARATION REQUIREMENTS, SEE SHEET 14.

LIMITS OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS
NOT TO SCALE



ABUTMENT

NOTES:

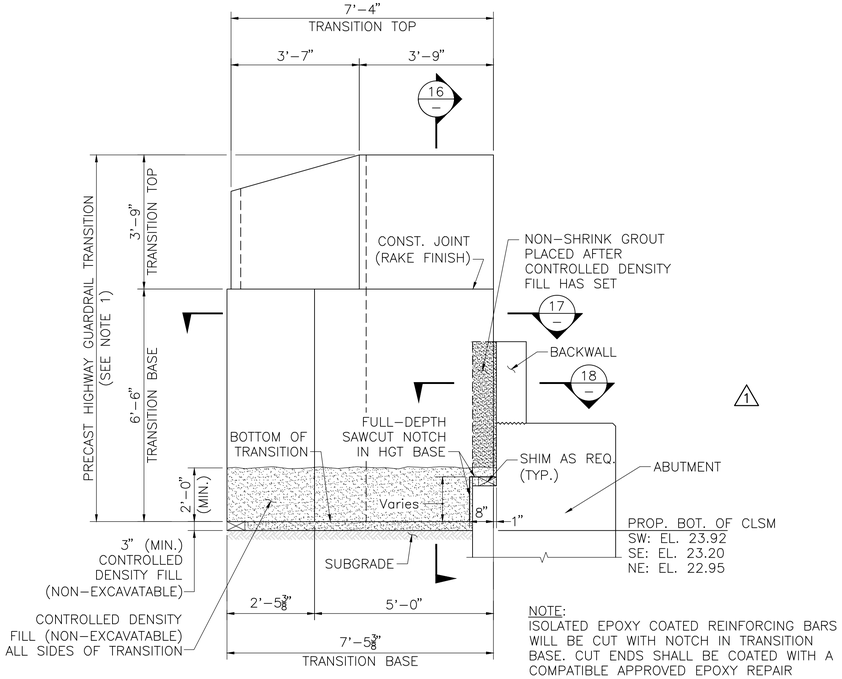
1. HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.
2. ABUTMENT SHOWN, WINGWALLS SIMILAR.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES
SCALE: $\frac{1}{4}$" = 1'–0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

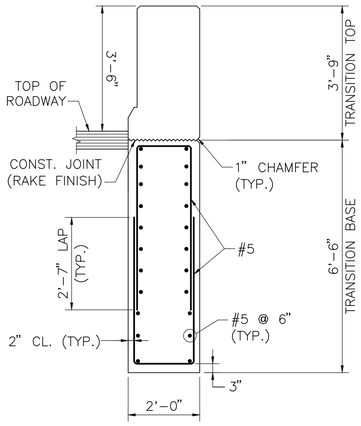
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR15-20(ABUTMENT_DETAILS)(F020087).DWG Plotted on 13-Feb-2024 9:52 AM
16-February-2024
Final Structural Submittal (SF)



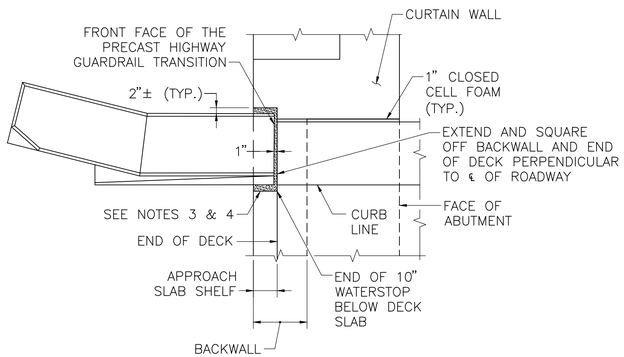
NOTE:
ISOLATED EPOXY COATED REINFORCING BARS WILL BE CUT WITH NOTCH IN TRANSITION BASE. CUT ENDS SHALL BE COATED WITH A COMPATIBLE APPROVED EPOXY REPAIR COATING.

PRECAST GUARDRAIL TRANSITION ELEVATION
SCALE: 1/2" = 1'-0"

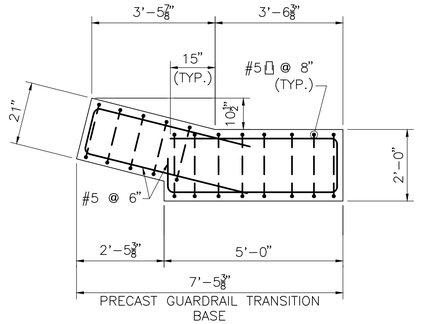


NOTE:
REINFORCEMENT OF THE TRANSITION TOP IS NOT SHOWN FOR CLARITY.

SECTION 16
SCALE: 1/2" = 1'-0"

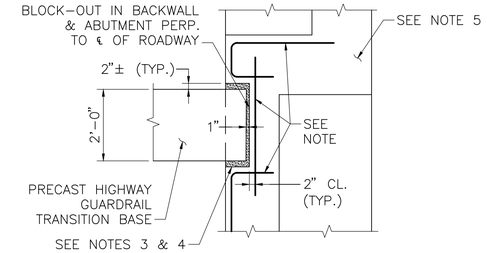


PRECAST GUARDRAIL TRANSITION PLAN AT CURTAIN WALL
SCALE: 1/2" = 1'-0"



NOTE:
WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY.

SECTION 17
SCALE: 1/2" = 1'-0"



NOTE:
BAR SIZE AND SPACING SHALL MATCH ABUTMENT BACKWALL AND STEM REINFORCING.

SECTION 18
SCALE: 1/2" = 1'-0"

NOTES:

1. PRECAST GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.
2. GRAVEL BORROW SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF 3" (MIN.) BELOW THE INTENDED BOTTOM OF THE PRECAST GUARDRAIL TRANSITION BASE AND TO A HEIGHT OF 2'-0" (MIN.) ON ALL SIDES OF THE TRANSITION BASE TO FORM A TRENCH IN WHICH TO SET THE TRANSITION. WHERE NO GRAVEL BORROW IS REQUIRED BELOW THE BASE, IT SHALL BE PLACED ON UNDISTURBED SOIL.
3. CONTRACTOR SHALL SET THE PRECAST GUARDRAIL TRANSITION TO THE REQUIRED ELEVATION AND ALIGNMENT, AND BACKILL PRECAST GUARDRAIL TRANSITION WITH CONTROLLED DENSITY FILL (NON-EXCAVATABLE) TO THE ELEVATION SHOWN.
4. AFTER CONTROLLED DENSITY FILL (NON-EXCAVATABLE) HAS SET FILL THE GAPS BETWEEN GUARDRAIL TRANSITION AND BLOCK-OUT IN BACKWALL AND ABUTMENT WITH NON-SHRINK GROUT UP TO THE TOP OF BACKWALL.
5. THE REMAINDER OF THE REINFORCEMENT IS NOT SHOWN FOR CLARITY.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1031	1094
PROJECT FILE NO.	608049		

ABUTMENT DETAILS 5

DATE	DESCRIPTION
MARCH 25, 2025	1 TRANSITION BASE MODIFIED
FEB. 16, 2024	ISSUED FOR CONSTRUCTION

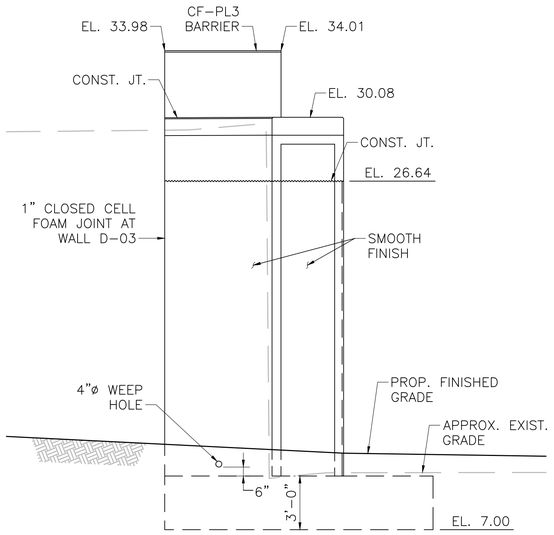
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR15-20(ABUTMENT_DETAILSR2)(F020087).DWG Plotted on 27-Mar-2025 3:06 PM
16-February-2024 Final Structural Submittal (SF)

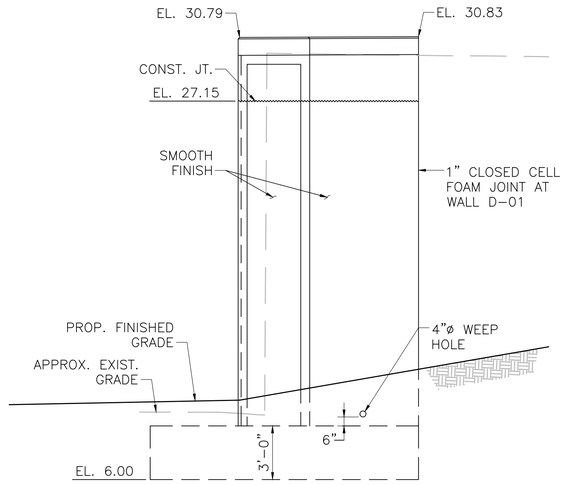
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1032	1094
PROJECT FILE NO.	608049		

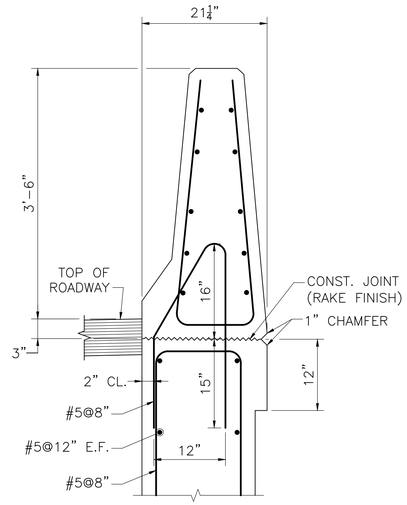
WINGWALL DETAILS



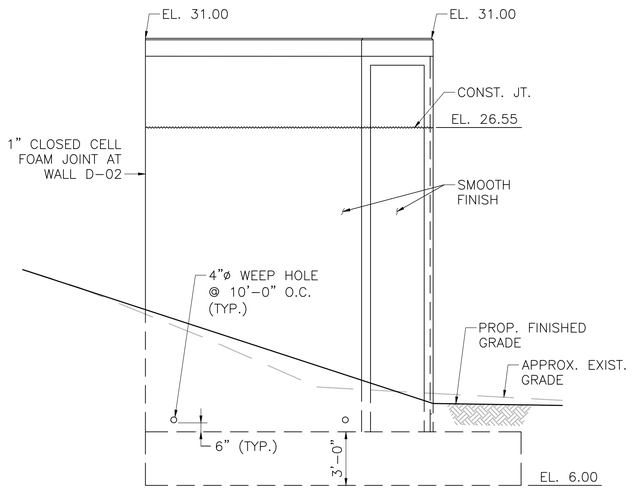
NORTHWEST WINGWALL ELEVATION
SCALE: ¼" = 1'–0"



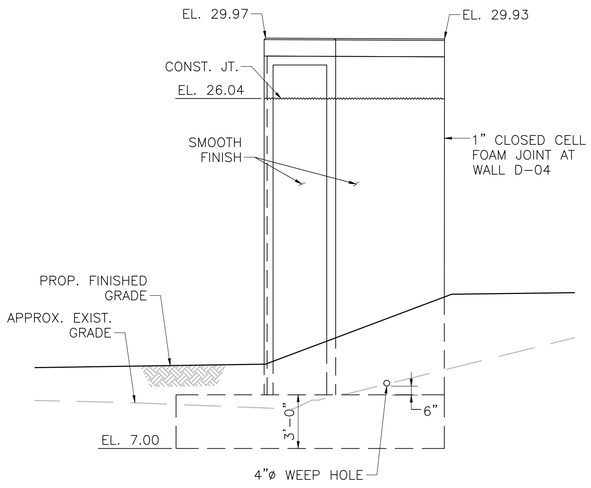
SOUTHWEST WINGWALL ELEVATION
SCALE: ¼" = 1'–0"



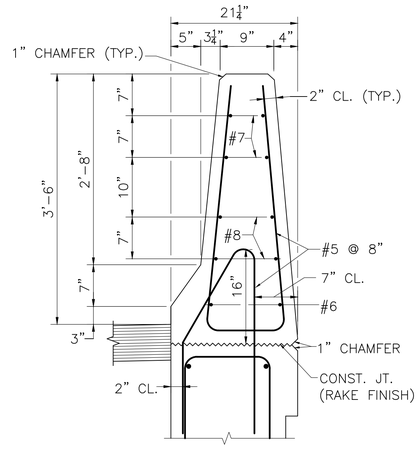
TOP OF NORTHWEST WINGWALL DETAIL
SCALE: 1" = 1'–0"



SOUTHEAST WINGWALL ELEVATION
SCALE: ¼" = 1'–0"



NORTHEAST WINGWALL ELEVATION
SCALE: ¼" = 1'–0"



CF–PL3 BARRIER REINFORCING DETAIL
SCALE: 1" = 1'–0"

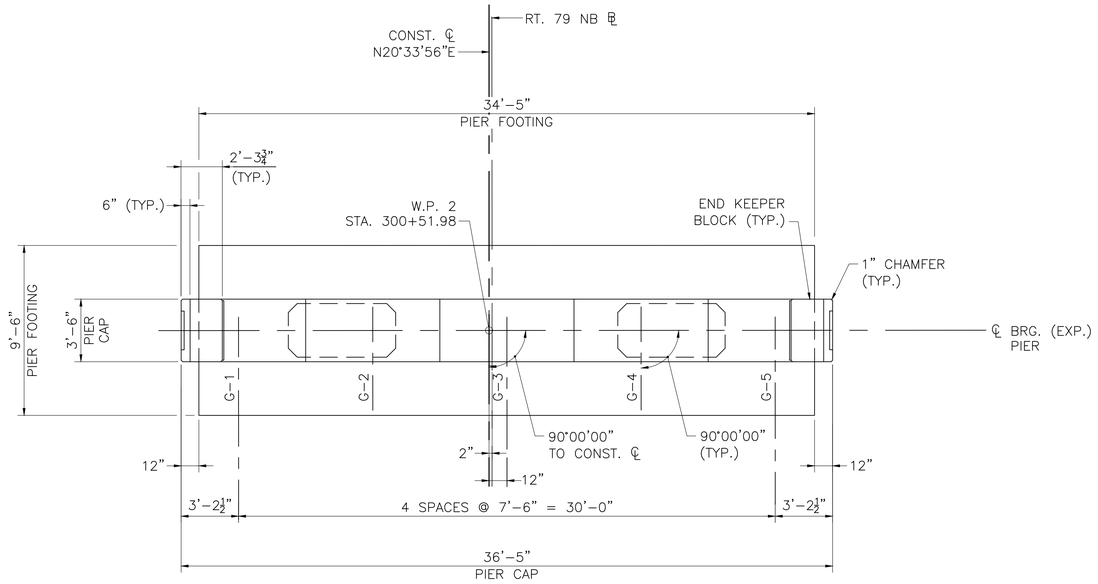
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR21(WINGWALL_DETAILS)(F020087).DWG Plotted on 13-Feb-2024 9:52 AM
16-February-2024
Final Structural Submittal (SF)

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1033	1094
PROJECT FILE NO.	608049		

PIER PLAN & ELEVATIONS

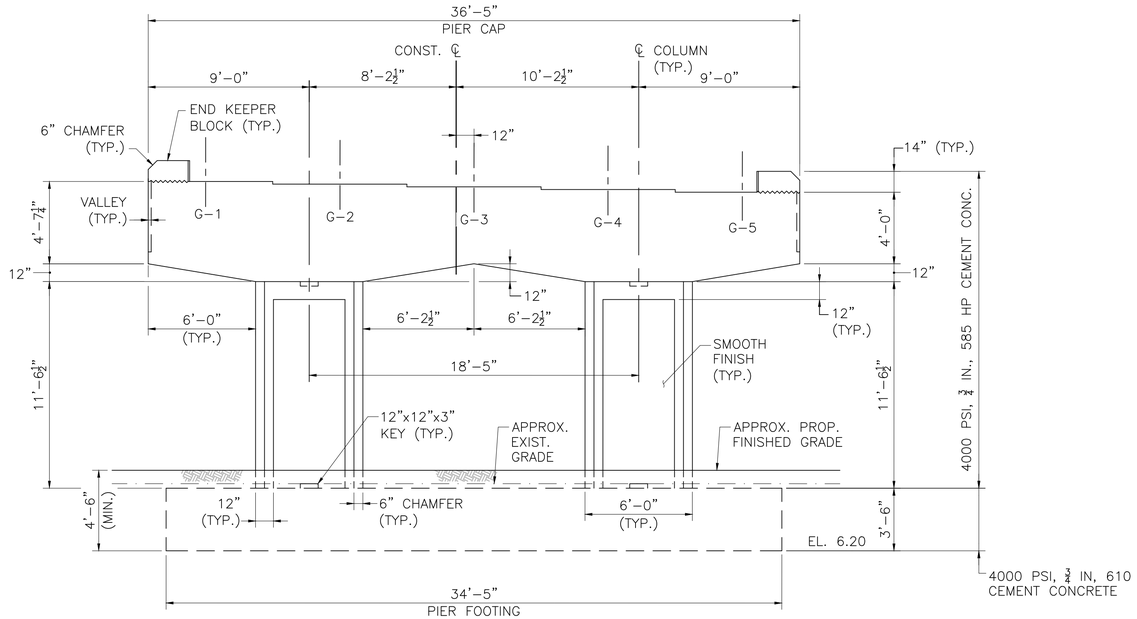


PIER PLAN
SCALE: ¼" = 1'-0"

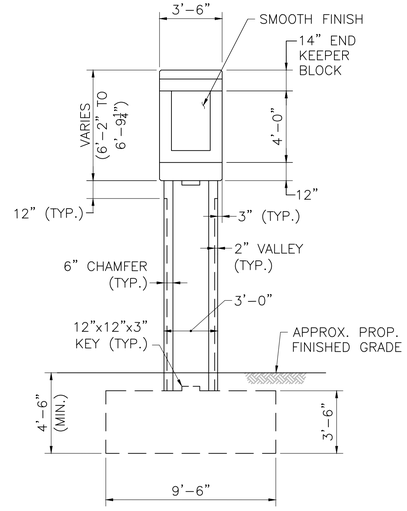
NOTES:

1. ALL KEYS TO BE SLIGHTLY TAPERED.
2. FOR FOUNDATION PREPARATION NOTES, SEE SHEET 14.

PIER BRIDGE SEAT ELEVATIONS	
GIRDER NO.	ELEVATION
G-1	26.85
G-2	26.70
G-3	26.55
G-4	26.40
G-5	26.25



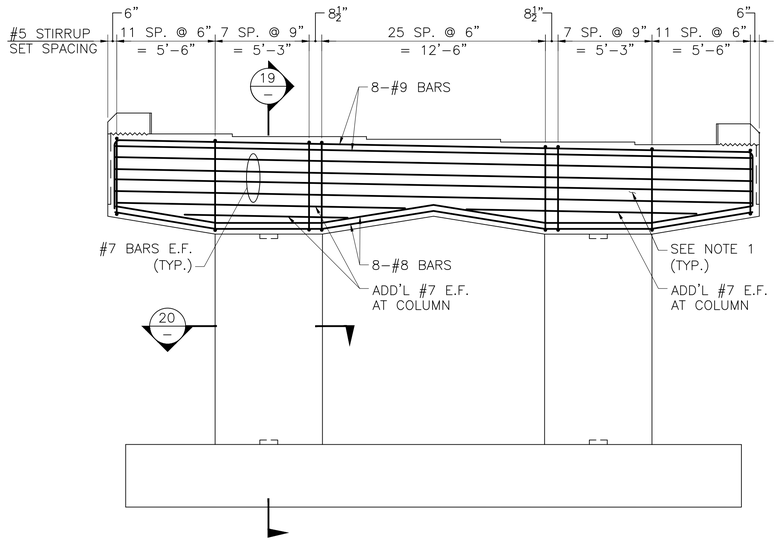
PIER ELEVATION
SCALE: ¼" = 1'-0"



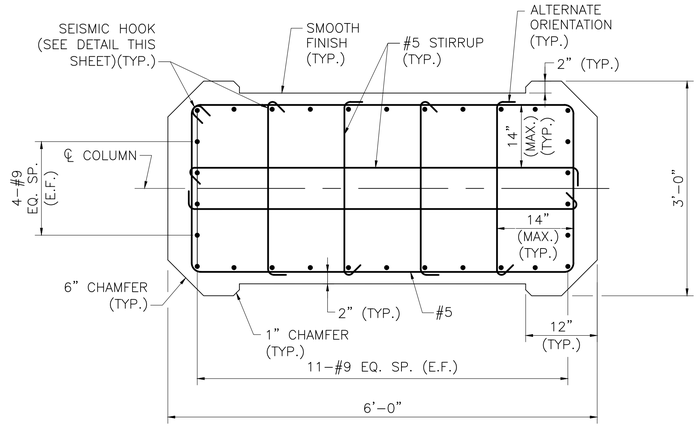
PIER SIDE ELEVATION
SCALE: ¼" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR22(PIER)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
16-February-2024 Final Structural Submittal (SF)



PIER CAP REINFORCING DETAIL
SCALE: ¼" = 1'-0"



SECTION 20
SCALE: 1" = 1'-0"

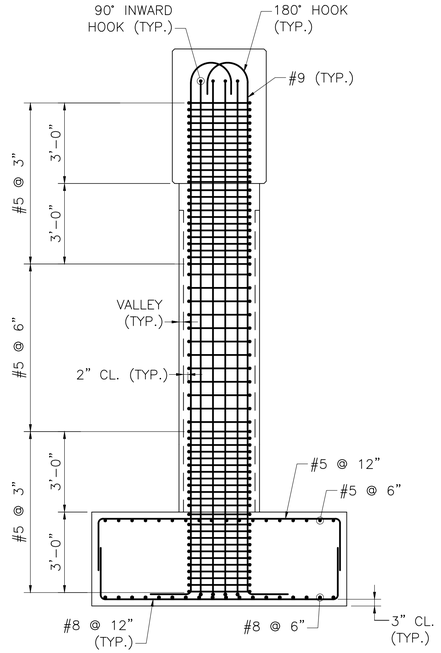
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1034	1094
PROJECT FILE NO.	608049		

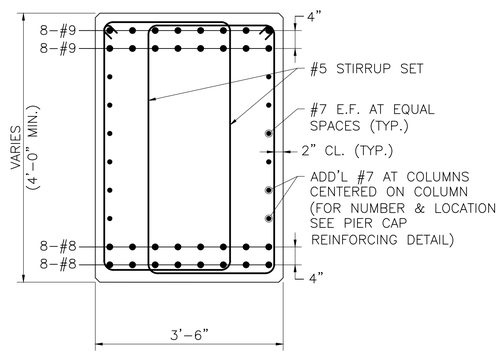
PIER DETAILS 1

NOTES:

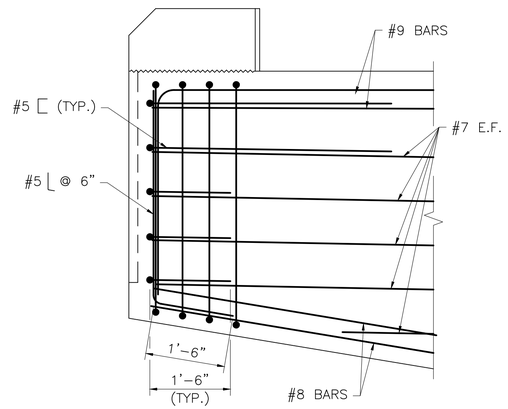
1. CAP STIRRUP SPACING MAY BE ADJUSTED IN AREAS OF CONFLICT WITH COLUMN REINFORCEMENT (MAX. SPACING 18"). CAP STIRRUPS MAY USE LAP SPLICES IN AREAS OF CONFLICT WITH COLUMN REINFORCEMENT.
2. THE FACTORED BEARING PRESSURE = 7.18 KSF FOR THE PIER AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH 1 LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 9.0 KSF FOR THE PIER. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.



SECTION 19
SCALE: ⅜" = 1'-0"

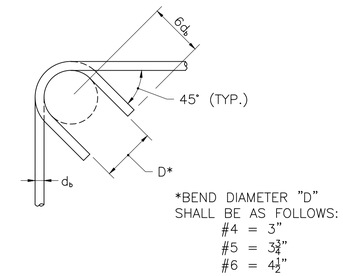


TYPICAL PIER CAP SECTION
SCALE: ¾" = 1'-0"



NOTE:
END KEEPER BLOCK REINFORCEMENT OMITTED FOR CLARITY.

PIER CAP END REINFORCING DETAIL
SCALE: ¾" = 1'-0"



*BEND DIAMETER "D" SHALL BE AS FOLLOWS:
#4 = 3"
#5 = 3¾"
#6 = 4½"

SEISMIC HOOK DETAIL
NOT TO SCALE

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

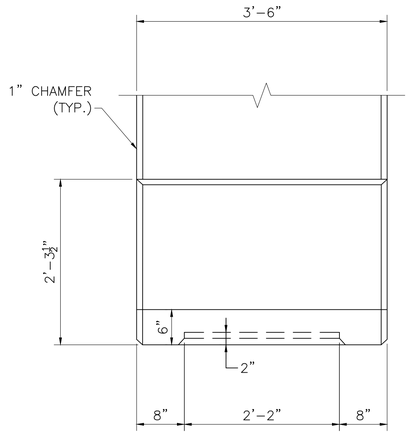
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR23-24(PIERDETAILS)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
16-February-2024 Final Structural Submittal (SF)

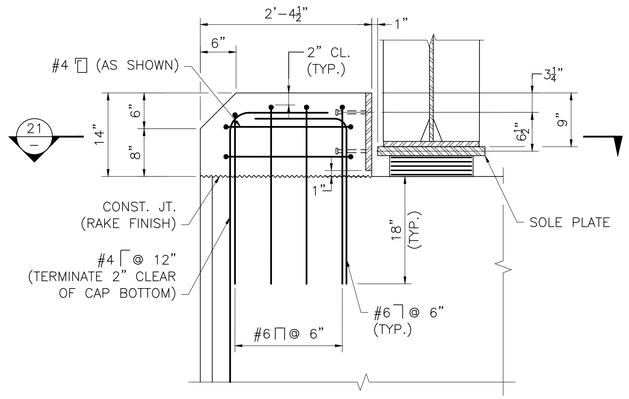
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1035	1094
PROJECT FILE NO.	608049		

PIER DETAILS 2



PLAN



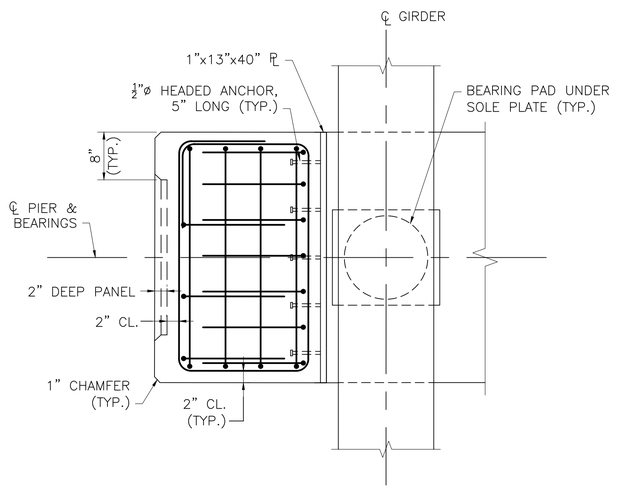
ELEVATION OF END PIER KEEPER BLOCK
SCALE: ¾" = 1'–0"

NOTES:

1. KEEPER BLOCKS SHALL BE CAST BEFORE GIRDERS ARE SET.
2. STEEL PLATES EMBEDDED IN KEEPER BLOCKS SHALL BE HOT–DIP GALVANIZED.
3. TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH.

ELEVATION

PIER CAP END DETAILS
SCALE: 1" = 1'–0"

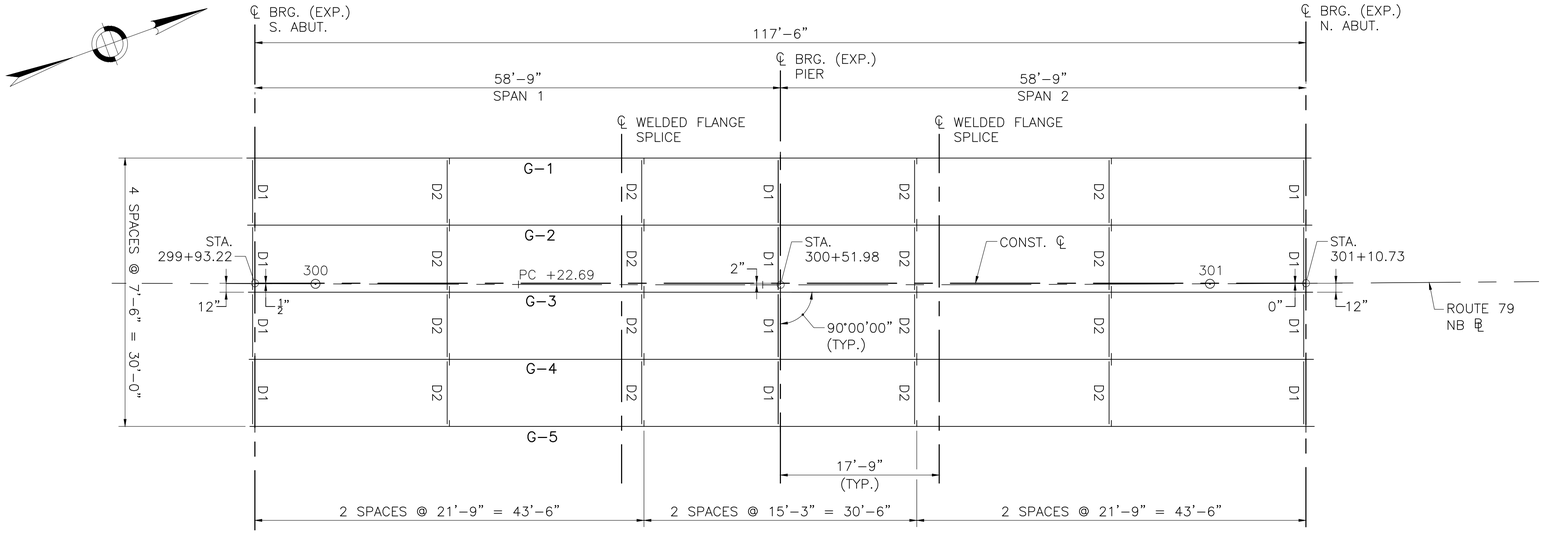


SECTION 21
SCALE: ¾" = 1'–0"

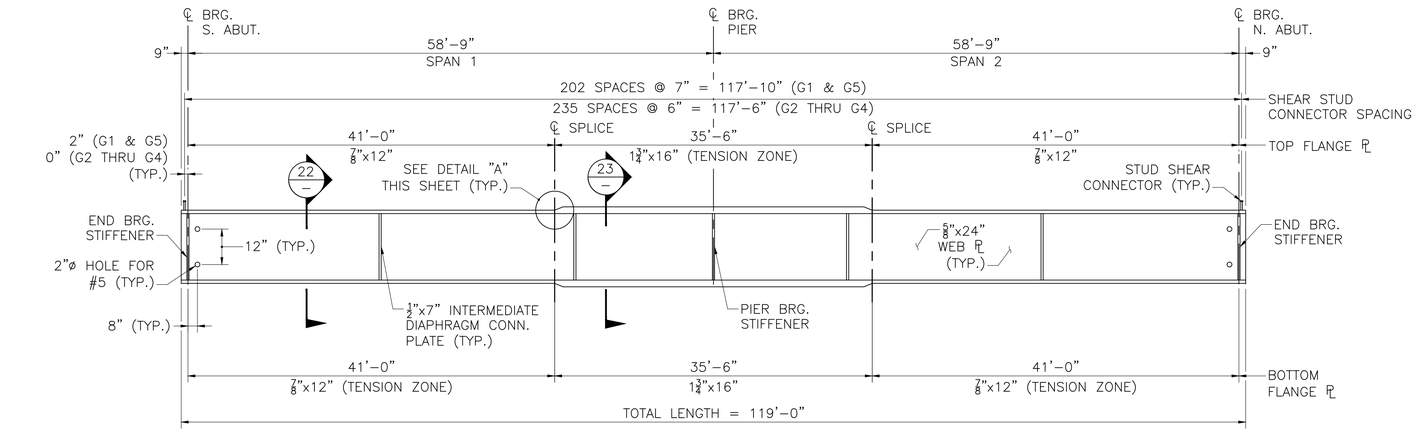
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

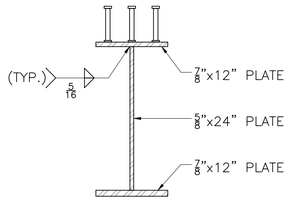
608049_BR23-24(PIERDETAILS)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
Final Structural Submittal (SF) 16-February-2024



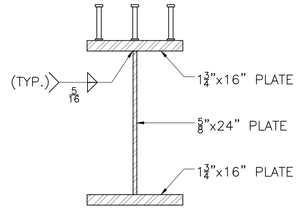
FRAMING PLAN
SCALE: ⅛" = 1'–0"



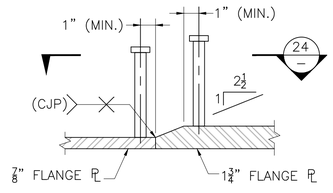
GIRDER ELEVATION
NOT TO SCALE



SECTION 22
NOT TO SCALE

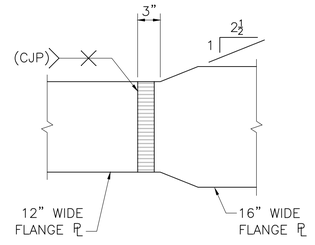


SECTION 23
NOT TO SCALE

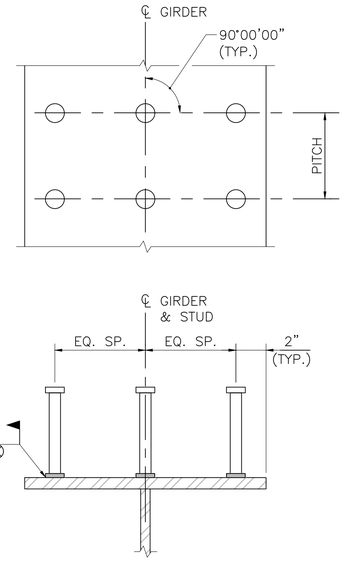


NOTE:
TOP FLANGE SHOWN. BOTTOM FLANGE SIMILAR.

DETAIL A
NOT TO SCALE



SECTION 24
NOT TO SCALE



NOTE:
⅞"ø STUDS MAY BE SUBSTITUTED FOR ¾"ø STUDS BY ADJUSTING THE PITCH TO PROVIDE AN EQUIVALENT CROSS–SECTIONAL AREA PER FOOT.

SHEAR STUD CONNECTOR DETAIL
NOT TO SCALE

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1036	1094
PROJECT FILE NO.	608049		

FRAMING PLAN & GIRDER DETAILS

NOTES:

1. D1 = C15x33.9 (TYPICAL END DIAPHRAGM)
   D2 = C15x33.9 (TYPICAL INTERMEDIATE DIAPHRAGM)
2. THE MAIN LOAD CARRYING MEMBERS ARE GIRDER G–1 THRU G–5.
3. ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50.
4. ALL STEEL GIRDERS AND WELDED ATTACHMENTS SHALL BE METALIZED AND PAINTED. ALL STEEL DIAPHRAGMS AND BOLTED ATTACHMENTS SHALL BE HOT DIP GALVANIZED AND PAINTED.
5. PAINT FINISH COAT SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.
6. ALL DIAPHRAGMS SHALL BE DETAILED AND FABRICATED TO THE TOTAL DEAD LOAD FIT (TDLF) CONDITION.
7. ALL BEARING STIFFENERS SHALL BE PLUMB.
8. END OF GIRDERS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD, THE ENDS ARE PLUMB.

DATE	DESCRIPTION
FEB. 16, 2024	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR25(FRAMING)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
16-February-2024 Final Structural Submittal (SF)

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1037	1094
PROJECT FILE NO. 608049			

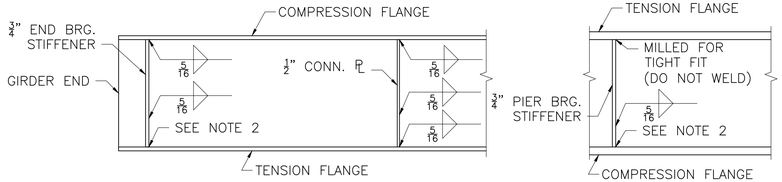
STEEL DETAILS

CAMBER TABLE (INCHES)

GIRDER NO.	DESCRIPTION	S. ABUT. BRG.	SPAN NO. 1									PIER BRG.	SPAN NO. 2									N. ABUT. BRG.
		0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
G1 & G5	STEEL DL DEFLECTION	0.00	0.04	0.08	0.10	0.11	0.10	0.08	0.06	0.03	0.01	0.00	0.01	0.03	0.06	0.08	0.10	0.11	0.10	0.08	0.04	0.00
	CONCRETE DL DEFLECTION	0.00	0.23	0.41	0.53	0.57	0.52	0.42	0.28	0.14	0.04	0.00	0.04	0.14	0.28	0.42	0.52	0.57	0.53	0.41	0.23	0.00
	S.D.L. DEFLECTION	0.00	0.09	0.17	0.22	0.24	0.23	0.18	0.13	0.07	0.02	0.00	0.02	0.07	0.13	0.18	0.23	0.24	0.22	0.17	0.09	0.00
	ADDITIONAL CAMBER	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00
	TOTAL CAMBER	0.00	0.50	0.90	1.16	1.27	1.22	1.04	0.77	0.48	0.20	0.00	0.20	0.48	0.77	1.04	1.22	1.27	1.16	0.90	0.50	0.00
G2 THRU G4	STEEL DL DEFLECTION	0.00	0.05	0.09	0.11	0.12	0.11	0.09	0.06	0.03	0.01	0.00	0.01	0.03	0.06	0.09	0.12	0.12	0.11	0.09	0.05	0.00
	CONCRETE DL DEFLECTION	0.00	0.25	0.45	0.58	0.61	0.57	0.45	0.30	0.16	0.05	0.00	0.05	0.16	0.30	0.45	0.57	0.61	0.58	0.45	0.25	0.00
	S.D.L. DEFLECTION	0.00	0.07	0.13	0.16	0.18	0.17	0.13	0.09	0.05	0.01	0.00	0.01	0.05	0.09	0.13	0.17	0.18	0.16	0.13	0.07	0.00
	ADDITIONAL CAMBER	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00
	TOTAL CAMBER	0.00	0.50	0.90	1.16	1.26	1.21	1.03	0.76	0.47	0.20	0.00	0.20	0.47	0.76	1.03	1.21	1.26	1.16	0.90	0.50	0.00

NOTES:

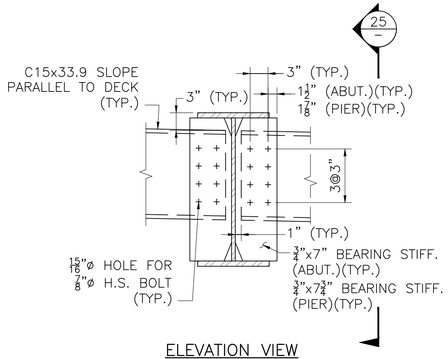
1. TERMINATE WELD $\frac{1}{4}$" FROM EDGE OF FLANGE OR CONNECTION PLATE, WHICHEVER IS ENCOUNTERED FIRST.
2. BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH $\frac{5}{16}$" FILLET WELDS BOTH SIDES OF PLATE.
3. ALL CONNECTIONS HAVE BEEN DESIGNED FOR A CLASS C SURFACE CONDITION, ASSUMING A COEFFICIENT OF FRICTION ON THE FAYING SURFACES EQUAL TO OR GREATER THAN 0.30.



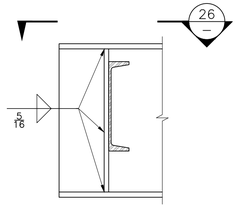
END BEARING (ABUTMENT) | INTERMEDIATE DIAPHRAGM | INTERMEDIATE BEARING (PIER)

NOTE:
SEE CLIP DETAIL THIS SHEET.

STIFFENER ATTACHMENT DETAILS
NOT TO SCALE



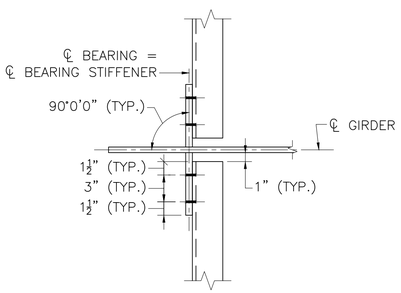
ELEVATION VIEW



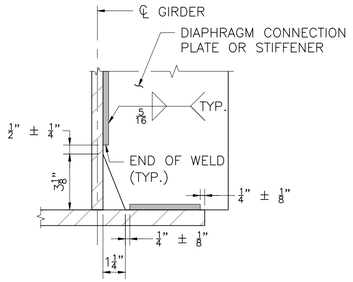
SECTION 25

NOTE:
SEE CLIP DETAIL THIS SHEET.

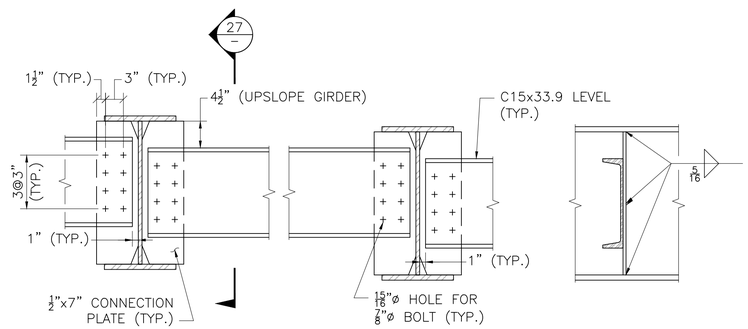
END DIAPHRAGM (D1) DETAILS
SCALE: 1" = 1'–0"



SECTION 26
SCALE: $1\frac{1}{2}$" = 1'–0"



CLIP DETAIL
NOT TO SCALE



ELEVATION VIEW | SECTION 27

NOTE:
SEE CLIP DETAIL THIS SHEET.

INTERMEDIATE DIAPHRAGM (D2) DETAILS
SCALE: 1" = 1'–0"

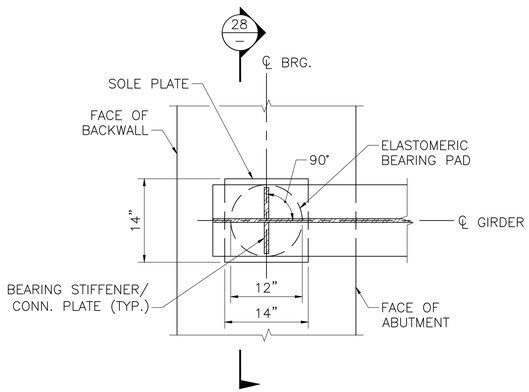
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR26(STEEL_DETAILS)F022087).DWG Plotted on 13-Feb-2024 9:53 AM
16-February-2024 Final Structural Submittal (SF)

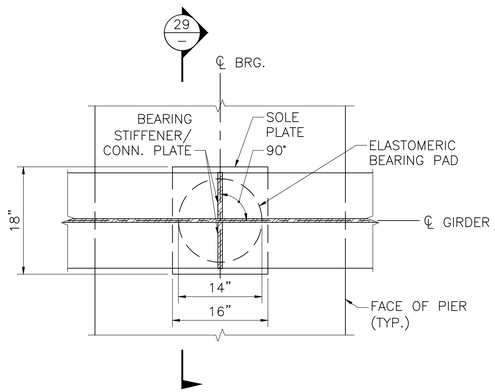
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)STP-003S(191)	1038	1094
PROJECT FILE NO.	608049		

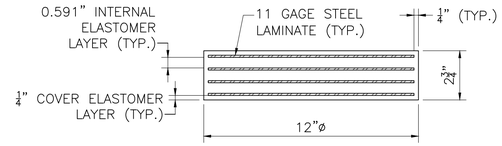
BEARING DETAILS



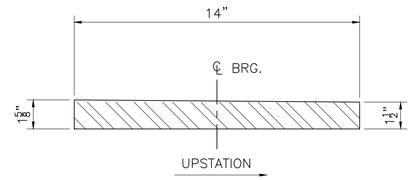
PLAN AT ABUTMENT
SCALE: 1" = 1'–0"



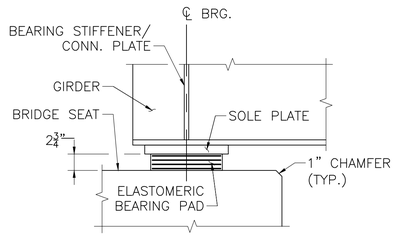
PLAN AT PIER
SCALE: 1" = 1'–0"



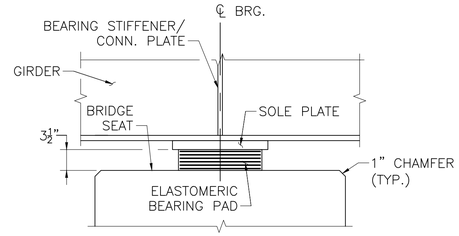
AT ABUTMENTS



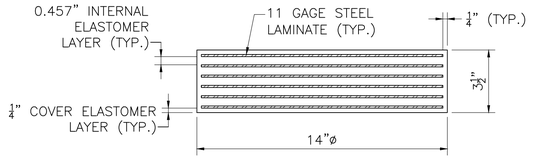
AT NORTH ABUTMENT



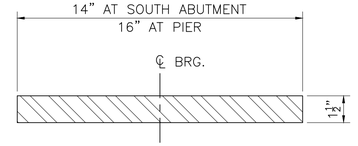
ELEVATION AT ABUTMENT
SCALE: 1" = 1'–0"



ELEVATION AT PIER
SCALE: 1" = 1'–0"



AT PIER



AT SOUTH ABUTMENT & PIER

NOTES:

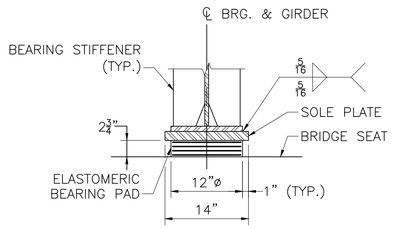
1. ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
2. STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
3. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 98 KIPS AT THE ABUTMENTS AND 230 KIPS AT THE PIER. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 0.865 KSI AT THE ABUTMENTS AND 1.495 KSI AT THE PIER.
4. ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

ELASTOMERIC BEARING PAD DETAIL
SCALE: 3" = 1'–0"

NOTES:

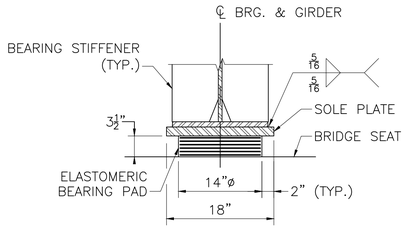
1. STEEL SOLE PLATE SHALL CONFORM TO AASHTO M 270 GRADE 36 AND SHALL BE HOT–DIP GALVANIZED.
2. CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING BEAM ERECTION.
3. BEAMS SHALL BE ERECTED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 50 °F AND 77 °F. IF BEAMS ARE ERECTED AT OTHER AMBIENT TEMPERATURES, THEY WILL HAVE TO BE JACKED AND THE ELASTOMERIC BEARINGS RECENTERED WHEN THE TEMPERATURE RETURNS TO THAT RANGE.

SOLE PLATE DETAIL
SCALE: 3" = 1'–0"



(*) – WELDS SHALL TERMINATE ¼" FROM EDGE OF PLATE.

SECTION 28
SCALE: 1" = 1'–0"



(*) – WELDS SHALL TERMINATE ¼" FROM EDGE OF PLATE.

SECTION 29
SCALE: 1" = 1'–0"

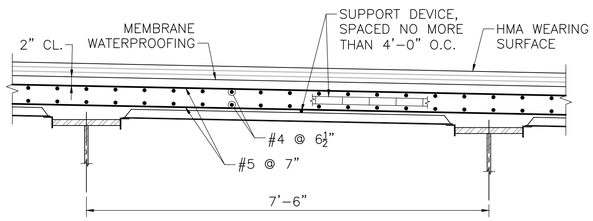
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR27(BEARINGS)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
Final Structural Submittal (SF) 16-February-2024

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1039	1094
PROJECT FILE NO. 608049			

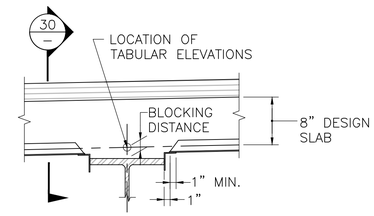
DECK DETAILS 1



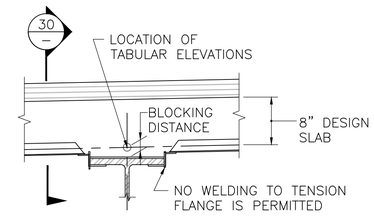
NOTES:

1. ROADWAY DECK SLAB SHALL BE 4000 PSI, ¾ IN., 585 HP CEMENT CONCRETE.
2. LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE GIRDERS. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS.
3. ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
4. THE FINISHED SURFACES OF BRIDGE DECK SHALL BE SMOOTH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE MEMBRANE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.

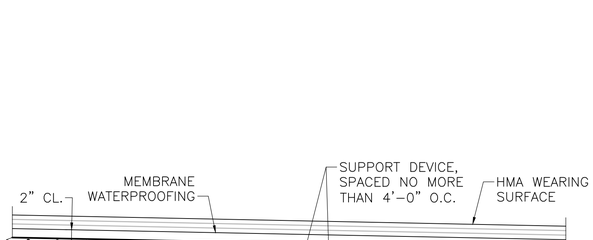
TYPICAL DECK REINFORCEMENT
SCALE: ¾" = 1'-0"



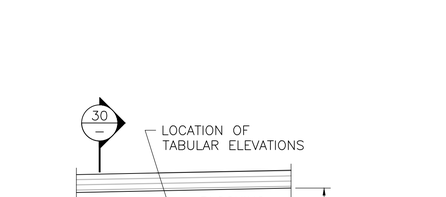
HAUNCH DETAIL AT NON-TENSION FLANGE AREA



HAUNCH DETAIL AT TENSION FLANGE AREA



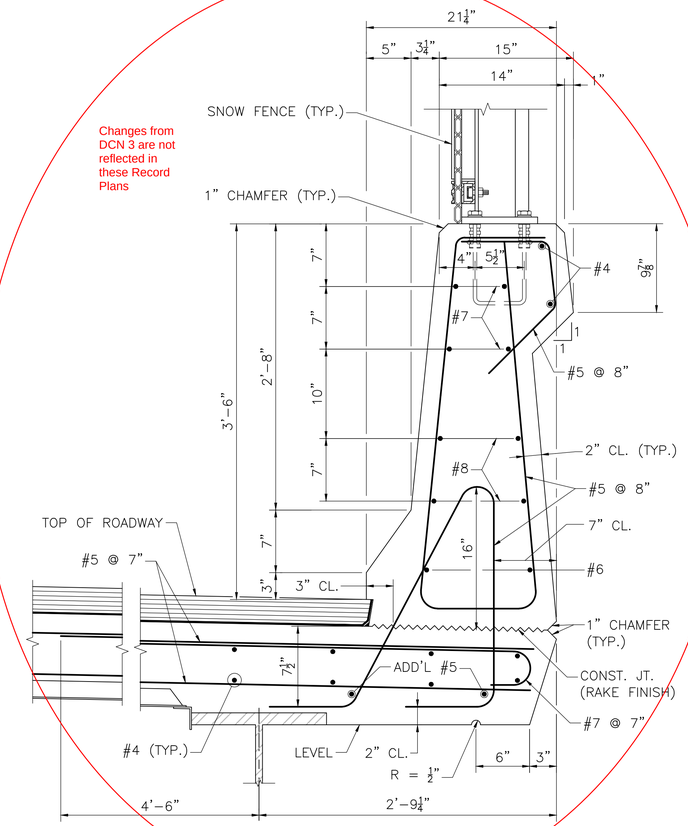
DECK REINFORCEMENT AT PIER
SCALE: ¾" = 1'-0"



SECTION 30

STAY-IN-PLACE FORM DETAILS
NOT TO SCALE

Changes from DCN 3 are not reflected in these Record Plans



NOTE:

CF-PL3 MODIFIED BARRIER SHALL BE 5000 PSI, ¾ INCH, 685 HP CONCRETE.

SECTION THRU BARRIER AND OVERHANG
SCALE: 1½" = 1'-0"

S.I.P. FORM NOTES:

1. FOR 2" S.I.P. FORM, SET BOTTOM OF FORM 1" BELOW ELEVATION GIVEN IN TABLE. FOR 3" S.I.P. FORM, SET BOTTOM OF FORM 1½" BELOW TABLE ELEVATIONS.
2. FORM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPARATE END CLOSURE PIECES WILL NOT BE ALLOWED.
3. SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBLE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP FLANGE OR COVER PLATE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
4. ALL MAIN STEEL REINFORCEMENT IN THE LOWER MAT SHALL BE CENTERED OVER THE VALLEY OF THE S.I.P. FORM.
5. CONTRACTOR SHALL DESIGN AND DETAIL ALL ELEMENTS OF THE FORMING SYSTEM AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
6. IN CASES WHERE STANDARD 2" OR 3" DEEP S.I.P. FORMS DO NOT SATISFY DESIGN REQUIREMENTS AN ALTERNATIVE FORMING SYSTEM CONSISTING OF DEEPER S.I.P. FORMS OR REMOVABLE FORMS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE DESIGN THICKNESS OF THE SLAB SHALL NOT BE REDUCED.

TOP OF FORM ELEVATIONS OF DECK SLAB PRIOR TO PLACING CONCRETE (FEET)																					
GIRDER NO.	S. ABUT. ℄ BRG	SPAN (INCREASING STATION)									PIER ℄ BRG	SPAN (INCREASING STATION)									N. ABUT. ℄ BRG
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
G-1	29.84	29.85	29.84	29.83	29.81	29.78	29.75	29.70	29.66	29.63	29.60	29.58	29.56	29.55	29.54	29.53	29.51	29.48	29.43	29.39	29.33
G-2	29.69	29.70	29.69	29.68	29.66	29.63	29.59	29.55	29.51	29.48	29.45	29.43	29.41	29.40	29.39	29.38	29.35	29.32	29.28	29.24	29.18
G-3	29.54	29.55	29.54	29.53	29.51	29.48	29.44	29.40	29.36	29.33	29.30	29.28	29.26	29.25	29.24	29.23	29.20	29.17	29.13	29.09	29.03
G-4	29.39	29.40	29.39	29.38	29.36	29.33	29.29	29.25	29.21	29.18	29.15	29.13	29.11	29.10	29.09	29.08	29.05	29.02	28.98	28.94	28.88
G-5	29.24	29.25	29.24	29.23	29.21	29.18	29.15	29.10	29.06	29.03	29.00	28.98	28.96	28.95	28.94	28.93	28.91	28.88	28.83	28.79	28.73

NOTE:

AFTER THE GIRDERS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF GIRDER TO THE BOTTOM OF THE SLAB AT CENTERLINE OF GIRDER.

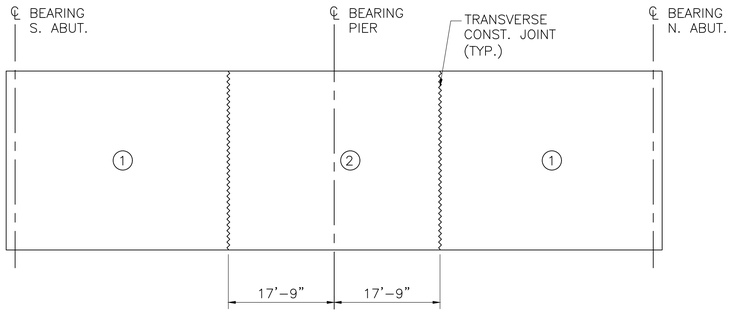
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

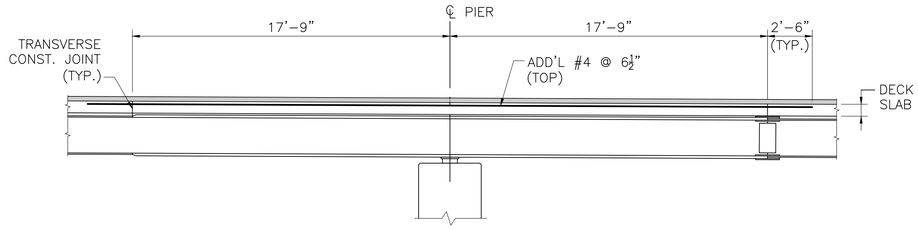
608049_BR28-29(DECK_DETAILS)F02087).DWG Plotted on 18-Mar-2024 11:06 PM
16-February-2024 Final Structural Submittal (SF)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1040	1094
PROJECT FILE NO.	608049		

DECK DETAILS 2



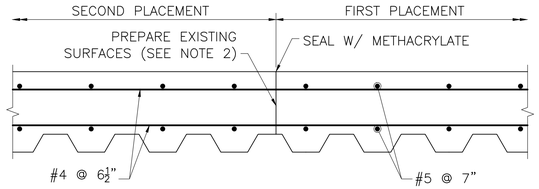
DECK POUR SEQUENCE
NOT TO SCALE



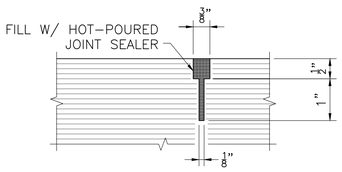
SECTION AT PIER
NOT TO SCALE

CONSTRUCTION JOINT NOTES:

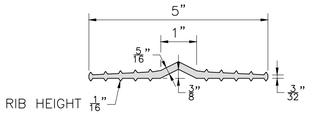
1. BRIDGE DECK SLAB SHALL BE PLACED IN ACCORDANCE WITH THE PLACEMENT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR MAY PLACE THE ENTIRE DECK IN ONE CONTINUOUS OPERATION WITHOUT CONSTRUCTION JOINTS WITH THE APPROVAL OF THE ENGINEER PROVIDED THAT THE INITIAL SET (FC = 500 PSI) OF ALL CONCRETE DOES NOT OCCUR UNTIL AFTER THE COMPLETION OF THE PLACEMENT. AN APPROVED RETARDER SHALL BE USED, WHEN NECESSARY, TO RETAIN THE WORKABILITY OF THE CONCRETE. IF MULTIPLE PLACEMENTS ARE MADE, POSITIVE MOMENT REGIONS SHALL BE PLACED PRIOR TO NEGATIVE MOMENT REGIONS AND A MINIMUM OF 72 HOURS SHALL PASS BETWEEN PLACEMENTS.
2. THE SURFACE OF THE PREVIOUSLY CAST CONCRETE SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
3. IN LIEU OF THE MORTAR, AN EPOXY ADHESIVE SUITABLE FOR BONDING FRESH CONCRETE TO HARDENED CONCRETE FOR LOAD BEARING APPLICATIONS MAY BE USED. THE EPOXY ADHESIVE SHALL CONFORM TO AASHTO M 235 TYPE V AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



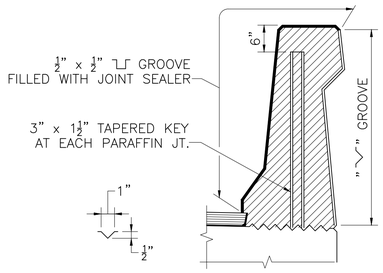
TRANSVERSE CONSTRUCTION JOINT DETAIL IN DECK SLAB
SCALE: 1½" = 1'–0"



PAVEMENT SAWCUT DETAIL
NOT TO SCALE



5" WATERSTOP
NOT TO SCALE

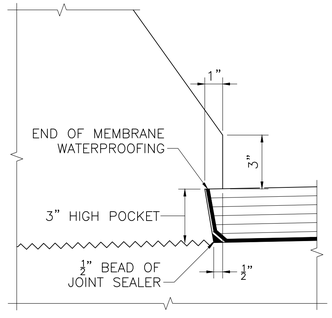


NOTES:

1. ALL CONCRETE ABOVE SLAB SHALL BE POURED IN ALTERNATING SECTIONS WITH NOT LESS THAN 3 DAYS BETWEEN POURS.
2. DO NOT CARRY LONGITUDINAL BARS THROUGH THE PARAFFIN JOINTS. END THE REINFORCEMENT 2" CLEAR OF JOINT.
3. JOINT SHALL BE SQUARE TO FACE OF CURB.

PARAFFIN JOINT DETAIL
NOT TO SCALE

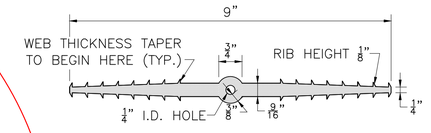
Changes from DCN 3 do not appear to be reflected in these Record Plans.



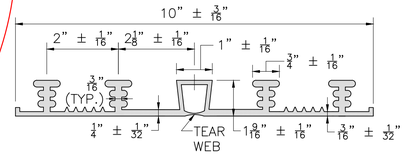
NOTE:

TURN MEMBRANE UP INTO 3" HIGH POCKET.

FACE OF SAFETY CURB DETAIL
SCALE: 3" = 1'–0"



9" WATERSTOP
NOT TO SCALE

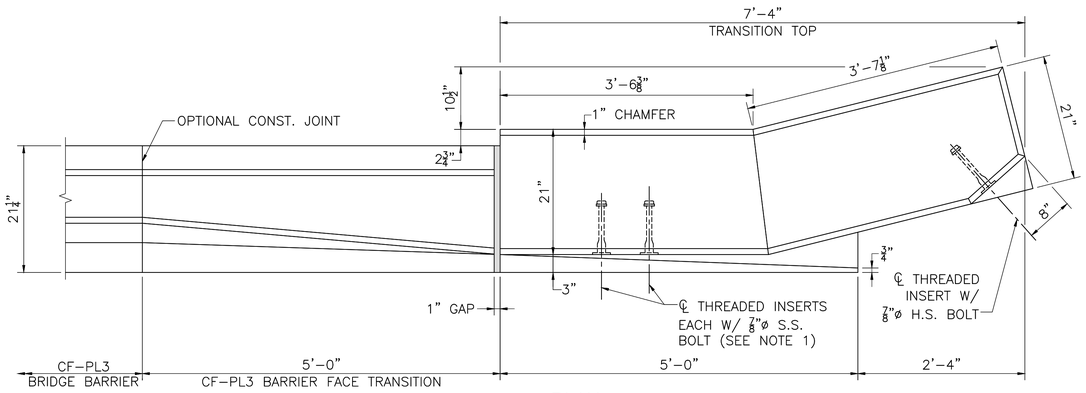


10" WATERSTOP
NOT TO SCALE

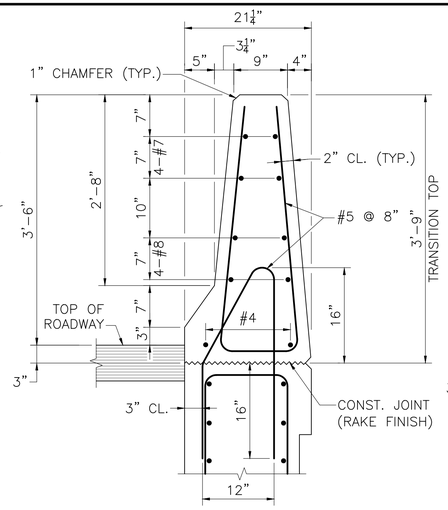
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

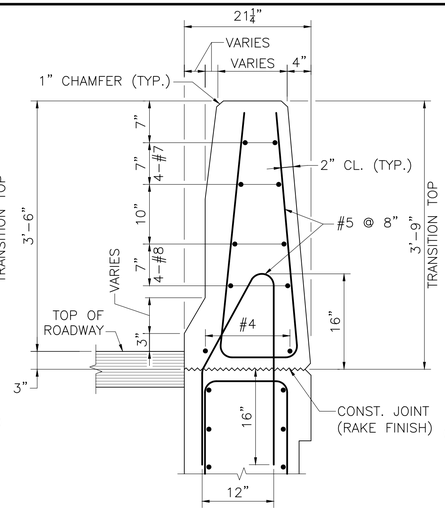
608049_BR28-29(DECK_DETAILS)(F02087).DWG Plotted on 13-Feb-2024 9:53 AM
Final Structural Submittal (SF) 16-February-2024



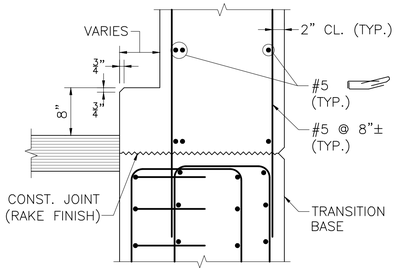
PLAN
SCALE: 1" = 1'-0"



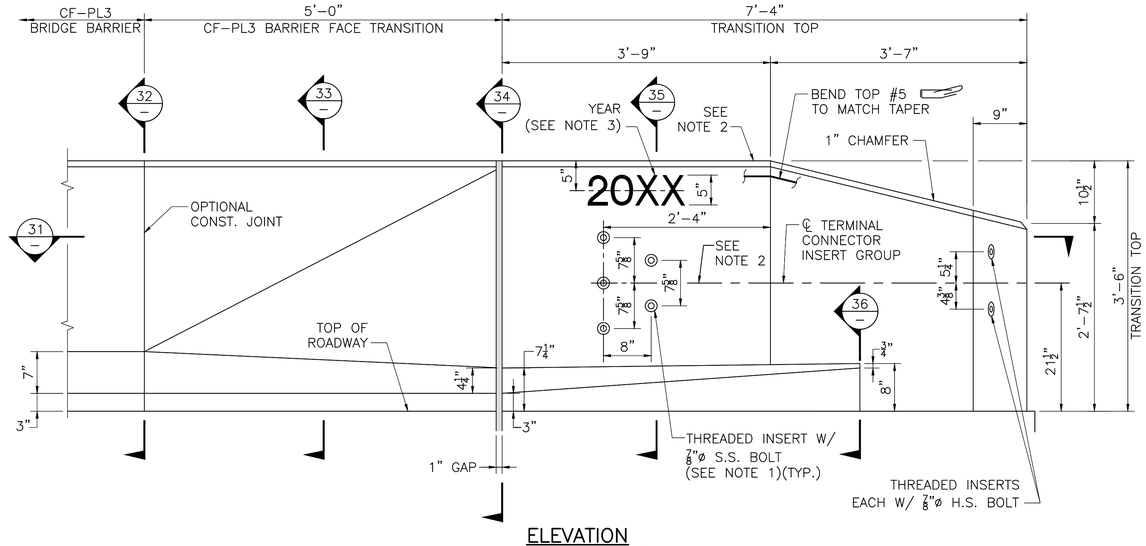
SECTION 30
TYPICAL CF-PL3 BRIDGE BARRIER
SCALE: 1" = 1'-0"



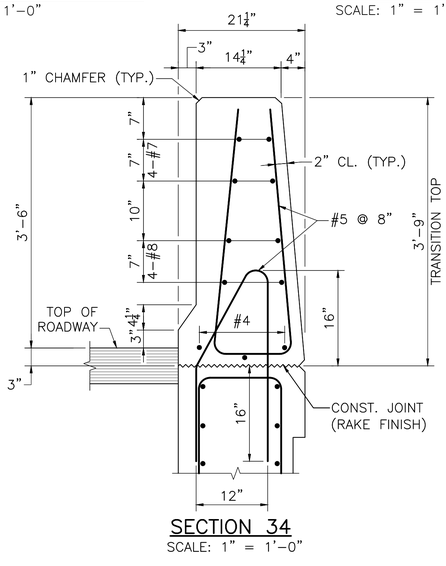
SECTION 33
SCALE: 1" = 1'-0"



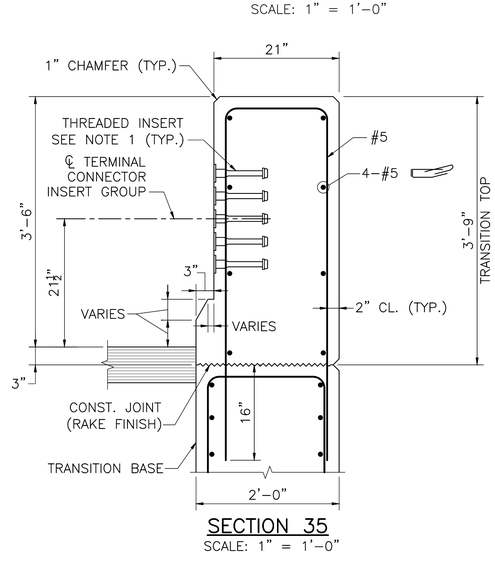
SECTION 36
SCALE: 1" = 1'-0"



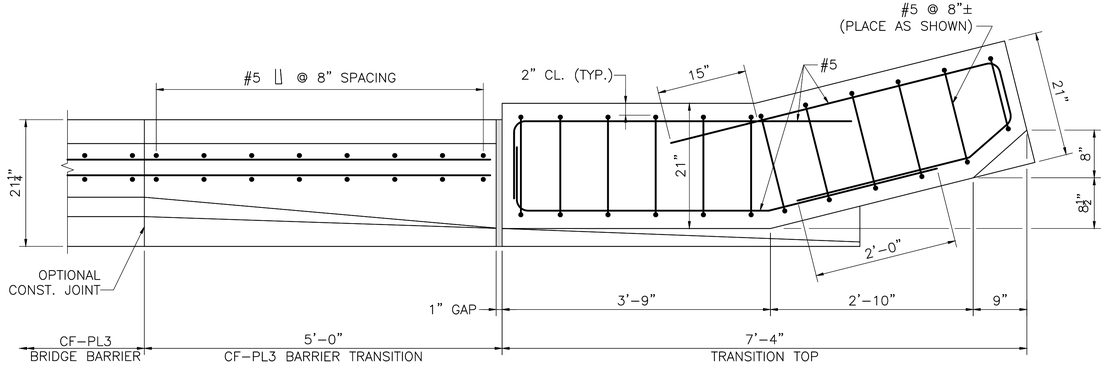
ELEVATION
SCALE: 1" = 1'-0"



SECTION 34
SCALE: 1" = 1'-0"



SECTION 35
SCALE: 1" = 1'-0"



SECTION 31
SCALE: 1" = 1'-0"

NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER ⅞" ø S.S. BOLT. S.S. BOLTS SHALL BE ⅞" ø x 1¾" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR ⅞" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.

2. FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.

   FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF THE BRIDGE BARRIERS SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.

3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.

4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, ¾", 685 HP CEMENT CONCRETE.

5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1½" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1041	1094
PROJECT FILE NO.	608049		

HIGHWAY GUARDRAIL TRANSITION DETAILS

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

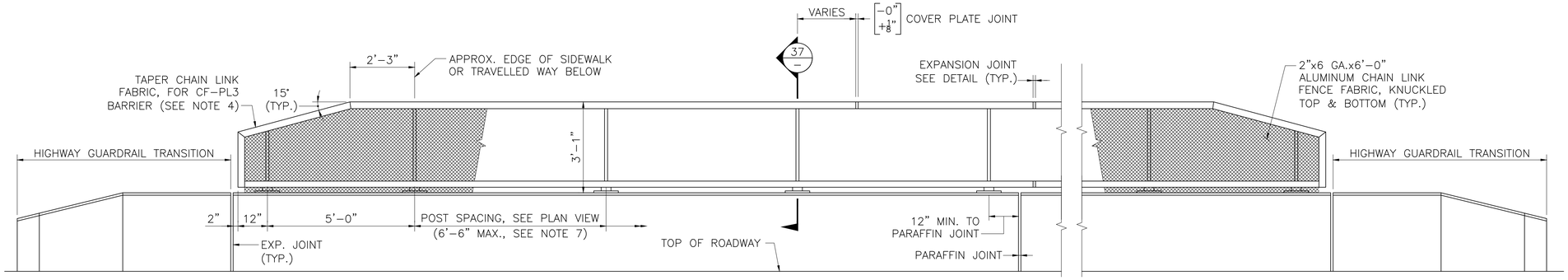
TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR CF-PL3 BARRIER

608049_BR30(HWY_GUARDRAIL_TRANSITION)(F02087).DWG Plotted on 13-Feb-2024 9:54 AM
16-February-2024
Final Structural Submittal (SF)

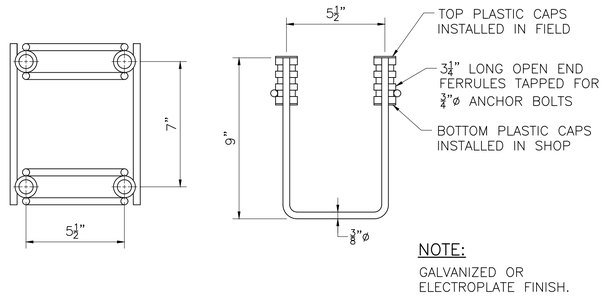
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1042	1094
PROJECT FILE NO.	608049		

SNOW FENCE DETAILS 1

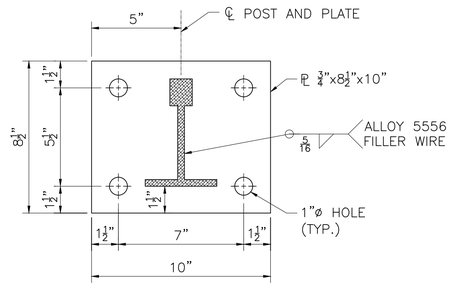


SNOW FENCE ELEVATION
SCALE: ½" = 1'−0"

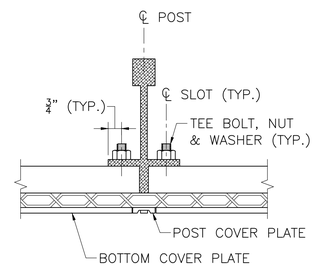


NOTE:
GALVANIZED OR ELECTROPLATE FINISH.

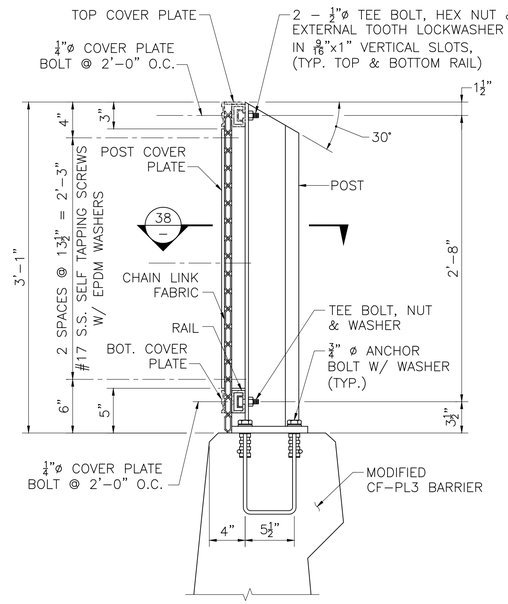
ANCHOR CAGE
SCALE: 3" = 1'−0"



BASE PLATE DETAIL
SCALE: 3" = 1'−0"



SECTION 38
SCALE: 3" = 1'−0"



SECTION 37
CF−PL3 BARRIER
SCALE: 1½" = 1'−0"

GENERAL NOTES:

1. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR POSTS, IF POSSIBLE.
2. RAILS SHALL HAVE AN EXPANSION JOINT IN THE PANEL OVER A BRIDGE EXPANSION JOINT, IF ANY, AND AT 30 FOOT MAXIMUM SPACING ELSEWHERE.
3. BOTTOM OF POST BASE PLATE TO BE SET ON A ⅛" MOLDED FABRIC BEARING PAD (M9.16.2). THE THICKNESS OF THE PAD SHALL BE IGNORED BY THE DETAILER.
4. THE CHAIN LINK FABRIC SHALL BE SECURED BY KNUCKLING TOGETHER THE CUT ENDS OF THE FABRIC WIRE IN A MANNER SIMILAR TO THE ORIGINALLY MANUFACTURED END.
5. WHERE THE R.O.W. FENCE MUST MEET THE SCREEN, USE THE SQUARE END TO HIGHWAY GUARDRAIL TRANSITION DETAIL.
6. THE SCREEN END TREATMENT TO BE USED (SQUARE OR TAPERED) IS SPECIFIED ELSEWHERE ON THE CONSTRUCTION DRAWINGS.
7. POST SPACING SHALL BE UNIFORM BETWEEN TAPERED ENDS.
8. SET POSTS PERPENDICULAR TO GRADE FOR GRADES UP TO 1.5%. SET POSTS PLUMB FOR GRADES GREATER THAN 1.5%.

FINISHES:

1. POSTS, RAILS, COVER PLATES AND SPLICE PLATES SHALL RECEIVE AN ANODIZED FINISH. FINISH COLOR SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.
2. CHAIN LINK FABRIC SHALL RECEIVE A 4±1 MIL POLYESTER POWDER COAT FINISH. THE COLOR SHALL BE BLUE TO MATCH COLOR OF ANODIZED ALUMINUM FRAMEWORK.
3. #17 SELF TAPPING SCREWS AND ¼" ø COVER PLATE BOLTS TO BE COLORED TO MATCH THE ANODIZED EXTRUSIONS.

MATERIALS:

EXTRUSIONS & PLATES ____ ASTM B 221, ALLOY 6061−T6

CHAIN LINK FABRIC _____ AASHTO M 181 TYPE III (ALLOY 6061−T89 OR T94)

SELF TAPPING SCREWS ____ TYPE 304 STAINLESS STEEL WITH ¼" THICK EPDM (ETHYLENE PROPYLENE DIENE MONOMER) WASHERS

ANCHOR BOLTS _____ AASHTO M 164 GALVANIZED (ROTATION CAPACITY TEST NOT REQUIRED)

TEE BOLTS _____ ASTM A 307 GALVANIZED OR TYPE 304 STAINLESS STEEL

COVER PLATE BOLTS _____ TYPE 304 STAINLESS STEEL WITH OVERSIZED STAINLESS WASHER AND STAINLESS NUT WITH NYLON INSERT

DATE	DESCRIPTION
FEB. 16, 2024	ISSUED FOR CONSTRUCTION

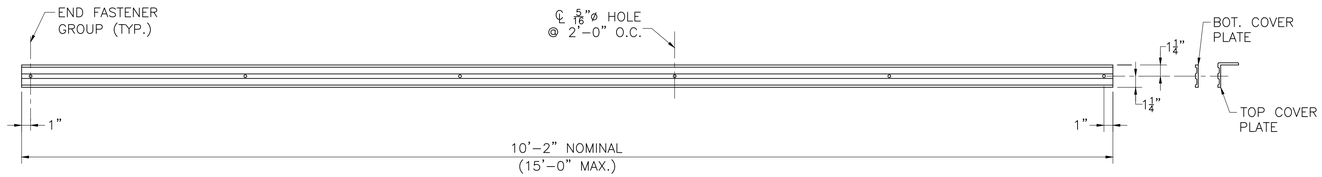
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR31-32(SNOW_FENCE)(F020087).DWG Plotted on 13-Feb-2024 9:54 AM
Final Structural Submittal (SF) 16-February-2024

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1043	1094
PROJECT FILE NO.	608049		

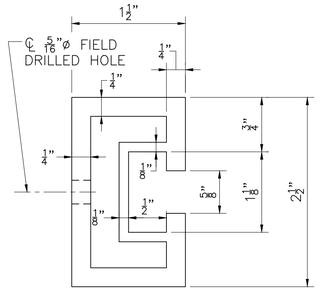
SNOW FENCE DETAILS 2



TOP AND BOTTOM COVER PLATE
SCALE: 1½" = 1'-0"

COVER PLATE NOTES:

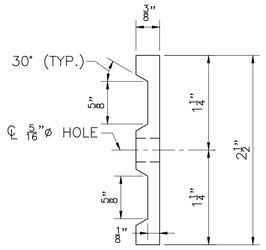
1. COVER PLATES MAY BE CONTINUOUS OVER A RAIL EXPANSION JOINT SPLICE. COVER PLATES SHALL BE FIELD CUT AS REQUIRED TO CLEAR THE EXPANSION JOINT. SEE DETAIL AT EXPANSION JOINT.
2. FIELD DRILL 5/16"ø HOLE 1" FROM THE FIELD CUT END OF A COVER PLATE, UNLESS THERE IS AN EXISTING HOLE WITHIN 6" FROM THE COVER PLATE END.
3. FIELD PAINT THE FIELD CUT ENDS OF THE COVER PLATES TO MATCH THE COVER PLATES.



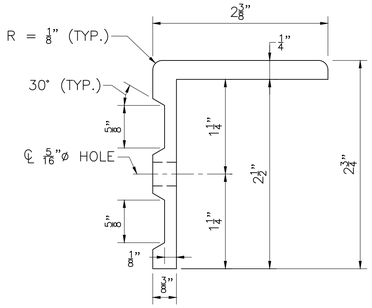
NOTE:

OTHER CONFIGURATIONS OF THE INTERNAL WALLS OF THE RAIL EXTRUSION MAY BE SUBMITTED FOR APPROVAL.

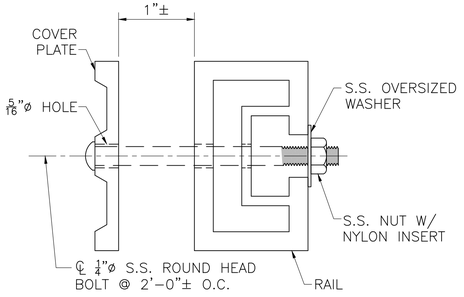
RAIL EXTRUSION
FULL SCALE



BOTTOM COVER PLATE EXTRUSION
FULL SCALE



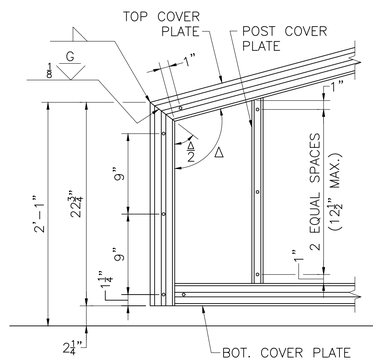
TOP COVER PLATE EXTRUSION
FULL SCALE



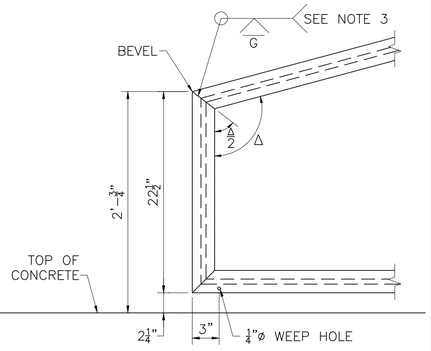
NOTE:

BOLTS SHALL BE TYPE 304 WITH A DRIVE HEAD TO BE COLORED TO MATCH ANODIZING.

RAIL & COVER PLATE DETAIL
FULL SCALE



COVER PLATE DETAILS

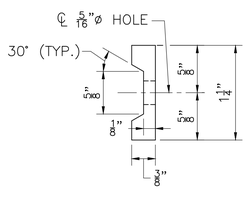


RAIL DETAILS

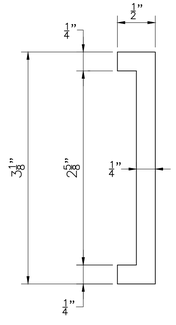
NOTES:

1. WELDING OF TOP COVER PLATE AND RAILS OF NON-TAPERED END IS SIMILAR.
2. WELDS AND MITERING TYPICAL FOR ALL ANGLED CORNERS.
3. WELD TYPICAL FOR TOP AND BOTTOM END CORNERS OF RAIL. INTERRUPT WELD AT SLOT IN BACK OF RAIL.

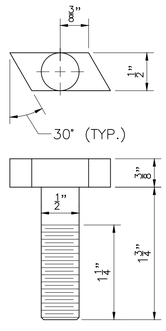
TAPERED END DETAILS
SCALE: 1½" = 1'-0"



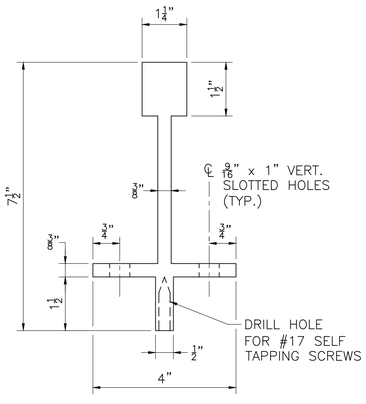
POST COVER PLATE EXTRUSION
FULL SCALE



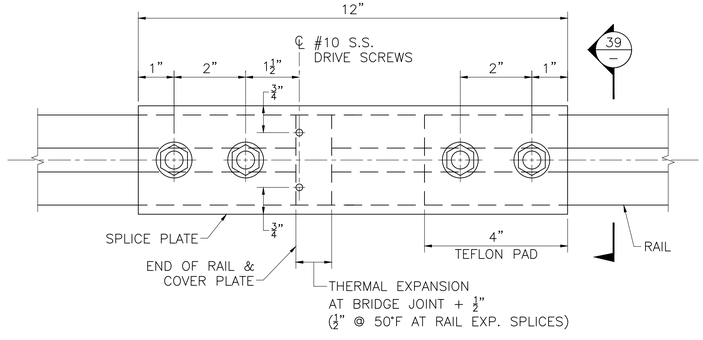
SPLICE PLATE EXTRUSION
FULL SCALE



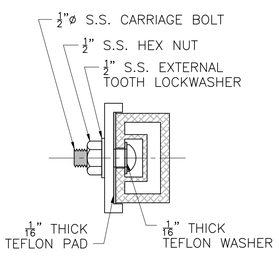
TEE BOLT
FULL SCALE



POST EXTRUSION
SCALE: 6" = 1'-0"



DETAIL AT RAIL EXPANSION JOINT SPLICE
SCALE: 6" = 1'-0"



SECTION 39
SCALE: 6" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR31-32(SNOW_FENCE)(F02087).DWG Plotted on 13-Feb-2024 9:54 AM
16-February-2024 Final Structural Submittal (SF)

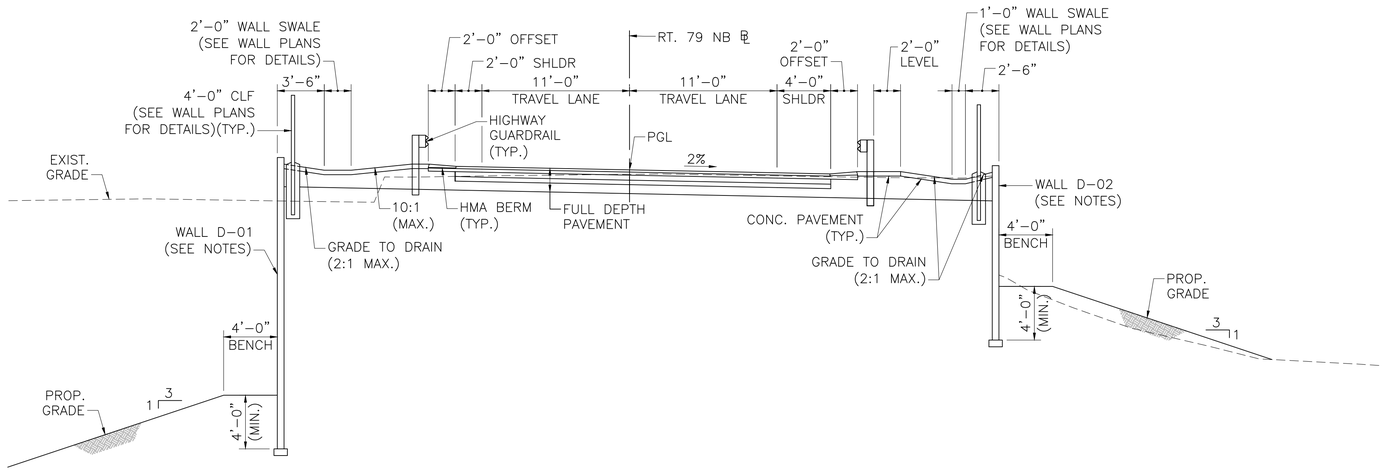
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1044	1094
PROJECT FILE NO.	608049		

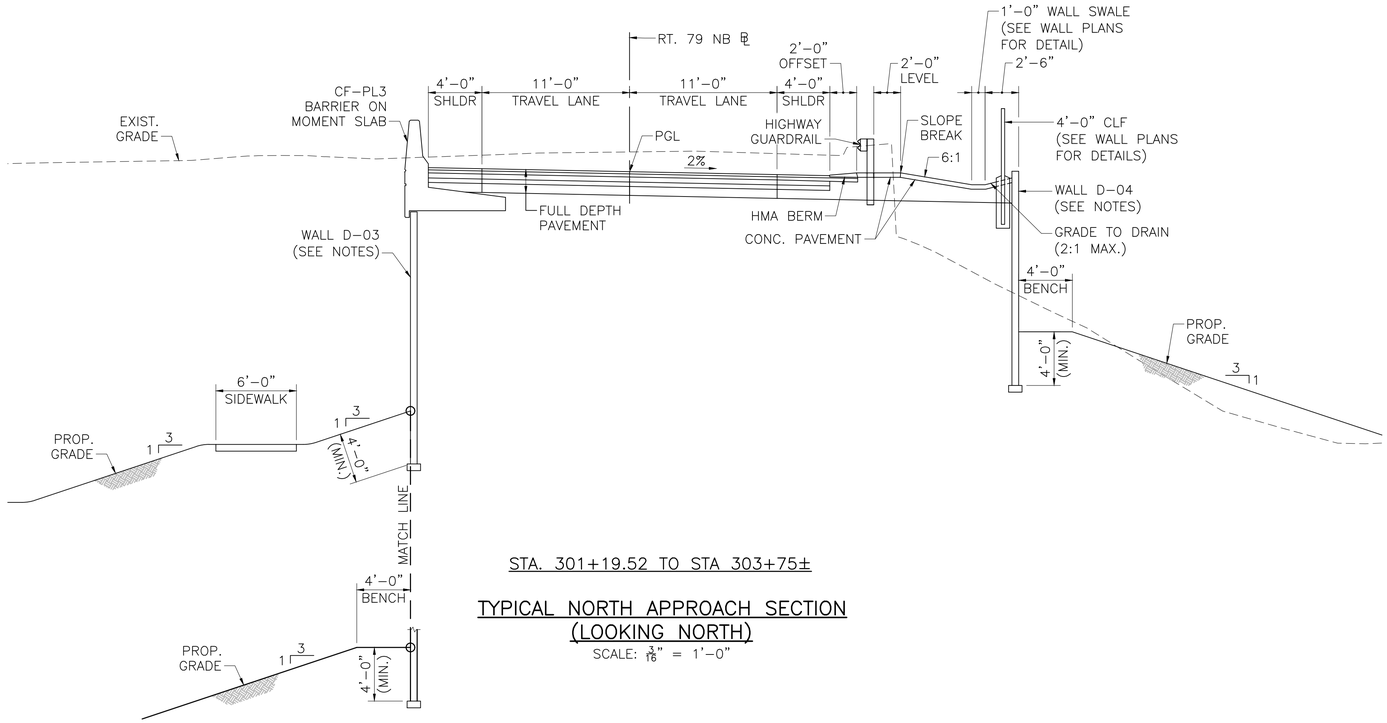
APPROACH SECTIONS

NOTES:

1. PROPOSED RETAINING WALLS D–01, D–02, D–03, AND D–04 SHALL BE MANUFACTURER–DESIGNED PROPRIETARY WALL SYSTEMS.
2. REFER TO THE RETAINING WALL PLANS FOR ADDITIONAL DETAILS.



TYPICAL SOUTH APPROACH SECTION
(LOOKING NORTH)
SCALE: $\frac{3}{16}$" = 1'–0"



STA. 301+19.52 TO STA 303+75±

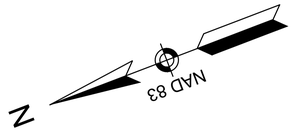
TYPICAL NORTH APPROACH SECTION
(LOOKING NORTH)
SCALE: $\frac{3}{16}$" = 1'–0"

STA. 303+75± TO STA 304+28.18

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: _____ STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

608049_BR33(APPROACH_SECTIONS)(F02087).DWG Plotted on 13-Feb-2024 9:54 AM
16-February-2024 Final Structural Submittal (SF)



WALL D-01 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
295+59.41 TO 296+32.19	0.45	12.2	5.5
296+32.19 TO 299+84.40		22.6	10.2

LEGEND:

BB1 - LOCATION OF BORINGS

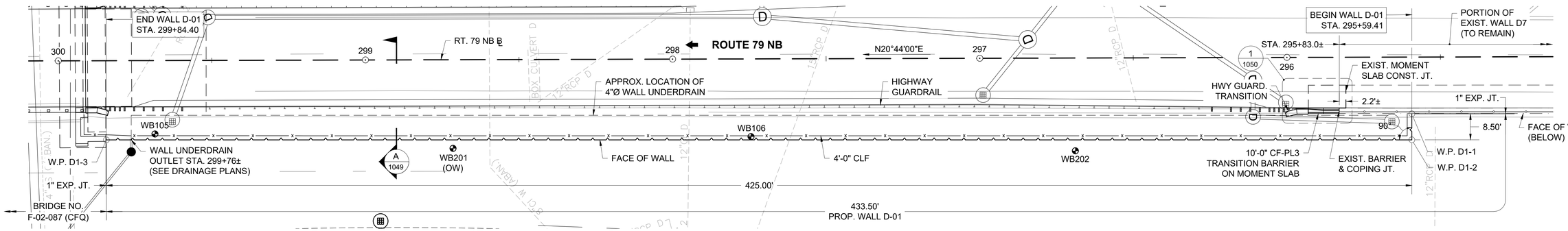
- LIMITS OF DEMOLITION

WALL D-01 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D1-1	295+59.41	18.5'± LT.
W.P. D1-2	295+59.41	27.00' LT.
W.P. D1-3	299+84.40	25.82' LT.

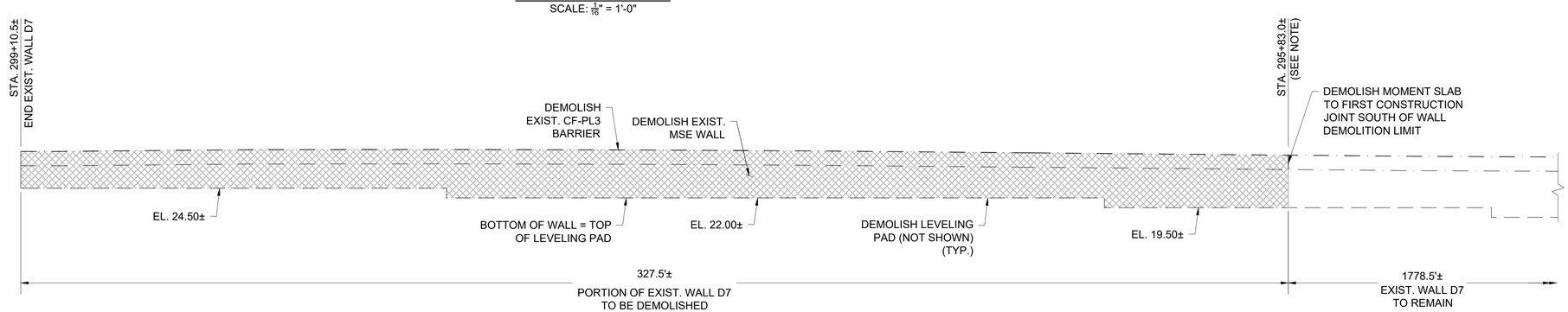
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1045	1094
PROJECT FILE NO.	608049		

RETAINING WALL PLANS
WALL D-01

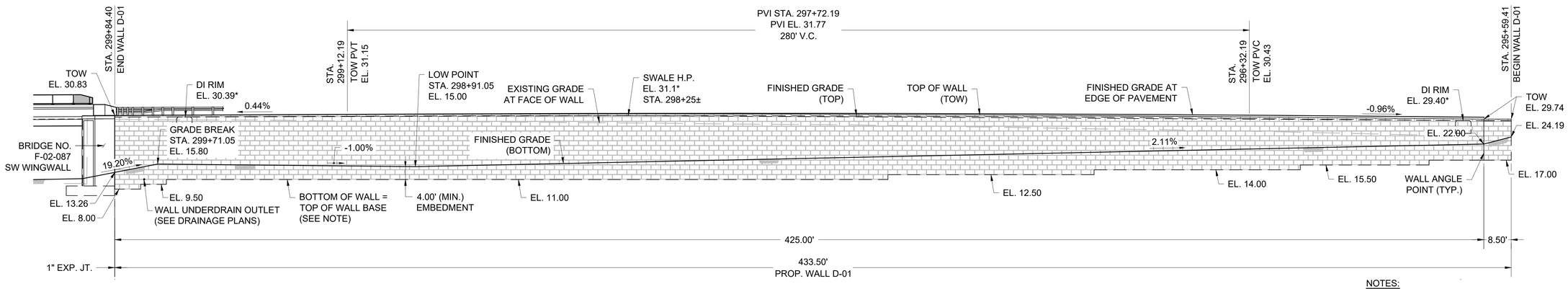


PROP. WALL D-01 PLAN
SCALE: 1/16" = 1'-0"



EXIST. WALL D7 ELEVATION
SCALE: 1/16" = 1'-0"

NOTE: LIMITS OF DEMOLITION SHALL BE MODIFIED AS REQUIRED TO COINCIDE WITH AN EXISTING VERTICAL MSE PANEL JOINT.



PROP. WALL D-01 ELEVATION
(DEVELOPED ABOUT EXPOSED FACE)
SCALE: 1/16" = 1'-0"

* RETAINING WALL TOP BLOCKS SHALL BE PROPORTIONED TO AVOID CONFLICT WITH THE BOTTOM OF SWALE AND DROP INLETS.

BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

1. PROPOSED WALL D-01 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
2. EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
3. WORK POINTS ARE PROVIDED AT FACE OF WALL.
4. CHAIN LINK FENCE NOT SHOWN IN ELEVATION FOR CLARITY.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_HD(WALL_D-01).DWG Plotted on 13-Feb-2024 3:49 PM

WALL D-02 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
297+78.69 TO 298+78.69	0.45	12.2	5.5
298+78.69 TO 299+78.69		22.6	10.2

LEGEND:

BB1 - LOCATION OF BORINGS

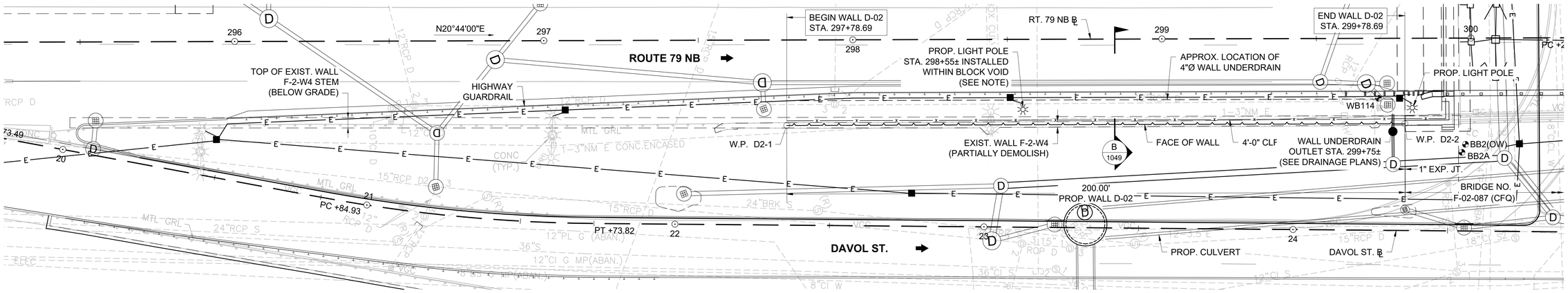
- LIMITS OF DEMOLITION

WALL D-02 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D2-1	297+78.69	27.65' RT.
W.P. D2-2	299+78.69	27.65' RT.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1046	1094
PROJECT FILE NO.	608049		

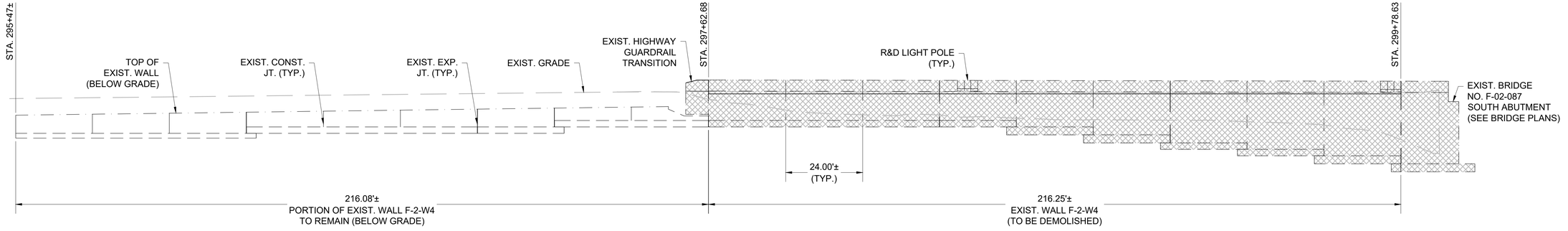
RETAINING WALL PLANS
WALL D-02



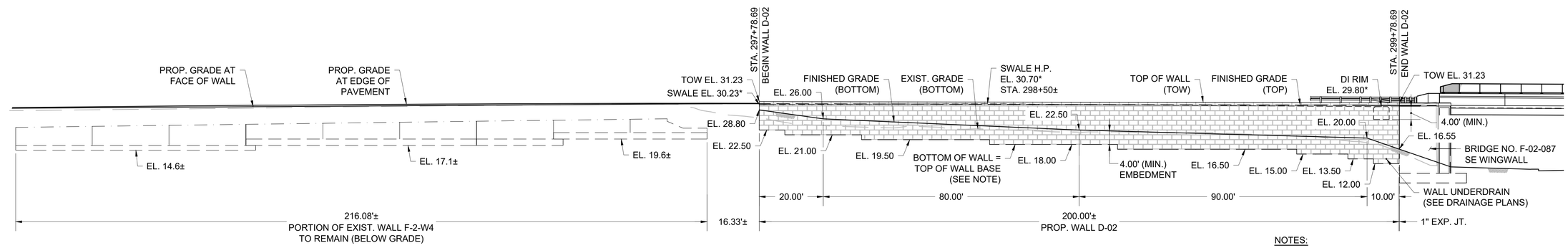
PROP. WALL D-02 PLAN
SCALE: $\frac{1}{16}$" = 1'-0"

LIGHT POLE NOTE:

FOR LIGHT POLE DETAILS IN BLOCK, SEE RETAINING WALL DETAILS 4.



EXIST. WALL F-2-W4 ELEVATION
SCALE: $\frac{1}{16}$" = 1'-0"



PROP. WALL D-02 ELEVATION
(DEVELOPED ABOUT EXPOSED FACE)
SCALE: $\frac{1}{16}$" = 1'-0"

* RETAINING WALL TOP BLOCKS SHALL BE PROPORTIONED TO AVOID CONFLICT WITH THE BOTTOM OF SWALE AND DROP INLET.

BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

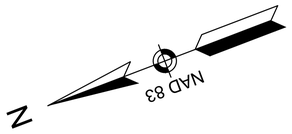
NOTES:

1. PROPOSED WALL D-02 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
2. EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
3. WORK POINTS ARE PROVIDED AT FACE OF WALL.
4. CHAIN LINK FENCE NOT SHOWN IN ELEVATION FOR CLARITY.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_HD(WALL_D-02).DWG Plotted on 13-Feb-2024 6:22 PM



WALL D-03 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
301+19.52 TO 303+62.54	0.45	22.6	10.2
303+62.54 TO 304+28.18		12.2	5.5

LEGEND:

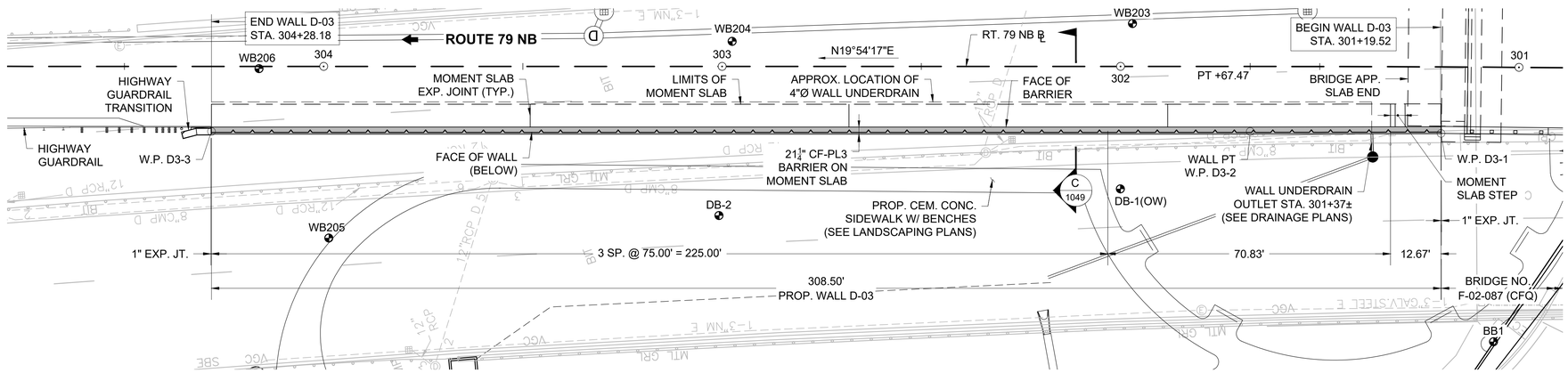
BB1 - LOCATION OF BORINGS

WALL D-03 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D3-1	301+19.52	16.37' LT.
W.P. D3-2	301+67.47	16.59' LT.
W.P. D3-3	304+28.18	16.59' LT.

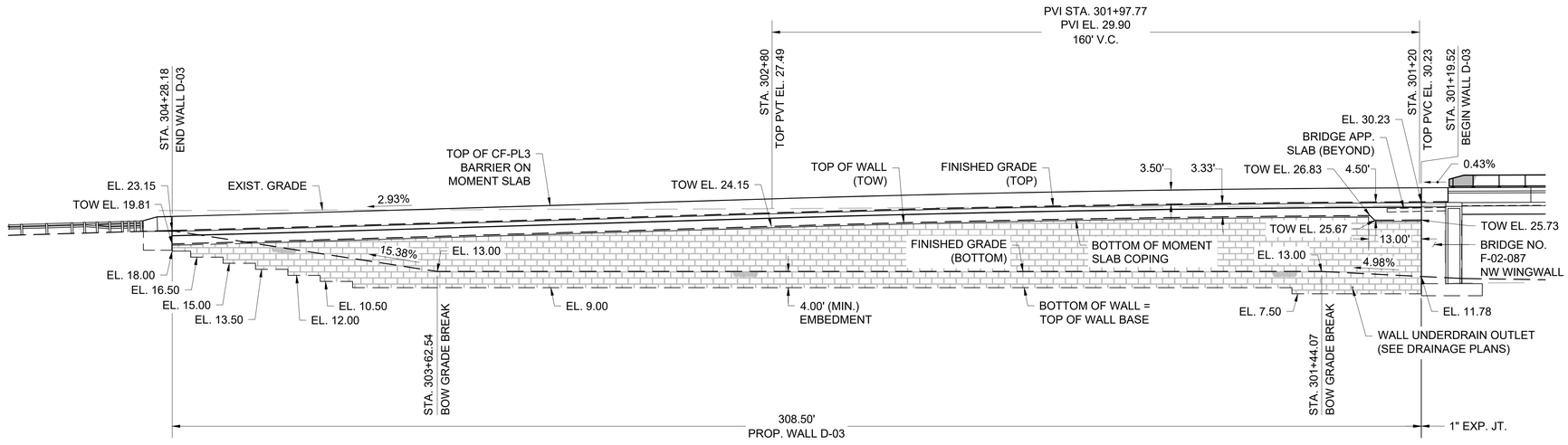
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1047	1094
PROJECT FILE NO. 608049			

RETAINING WALL PLANS
WALL D-03



PROP. WALL D-03 PLAN
SCALE: $\frac{1}{16}$" = 1'-0"



PROP. WALL D-03 ELEVATION
SCALE: $\frac{1}{16}$" = 1'-0"

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

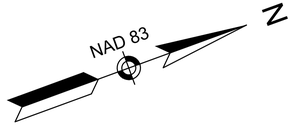
BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

1. PROPOSED WALL D-03 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
2. EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
3. WORK POINTS ARE PROVIDED AT FACE OF WALL.
4. FOR MOMENT SLAB DETAILS, SEE RETAINING WALL DETAILS 3.

608049_HD(WALL_D-03).DWG Plotted on 13-Feb-2024 6:25 PM



WALL D-04 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
301+19.22 TO 303+50.00	0.45	22.6	10.2
303+50.00 TO 304+25.00		12.2	5.5

LEGEND:

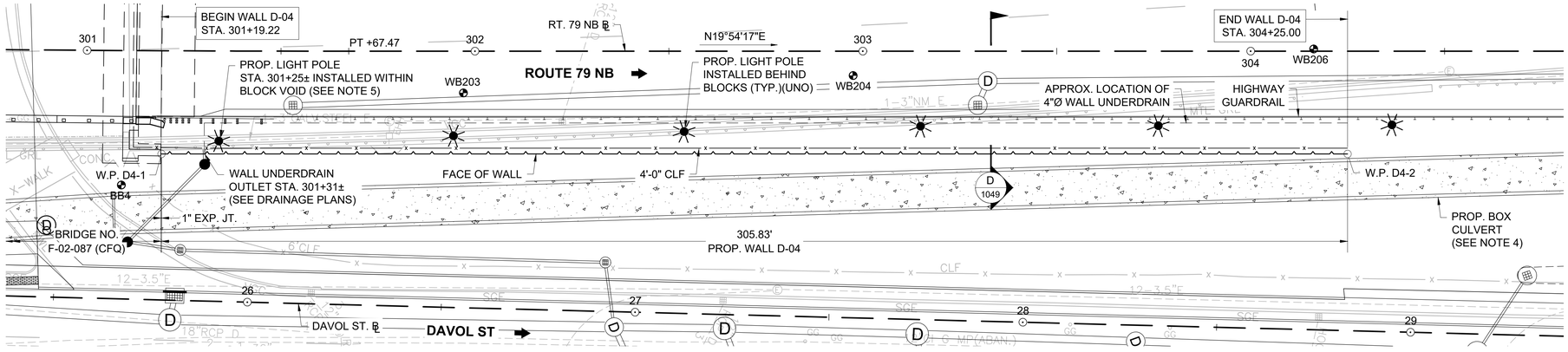
BB1 - LOCATION OF BORINGS

WALL D-04 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D4-1	301+19.22	26.62' RT.
W.P. D4-2	304+25.00	26.50' RT.

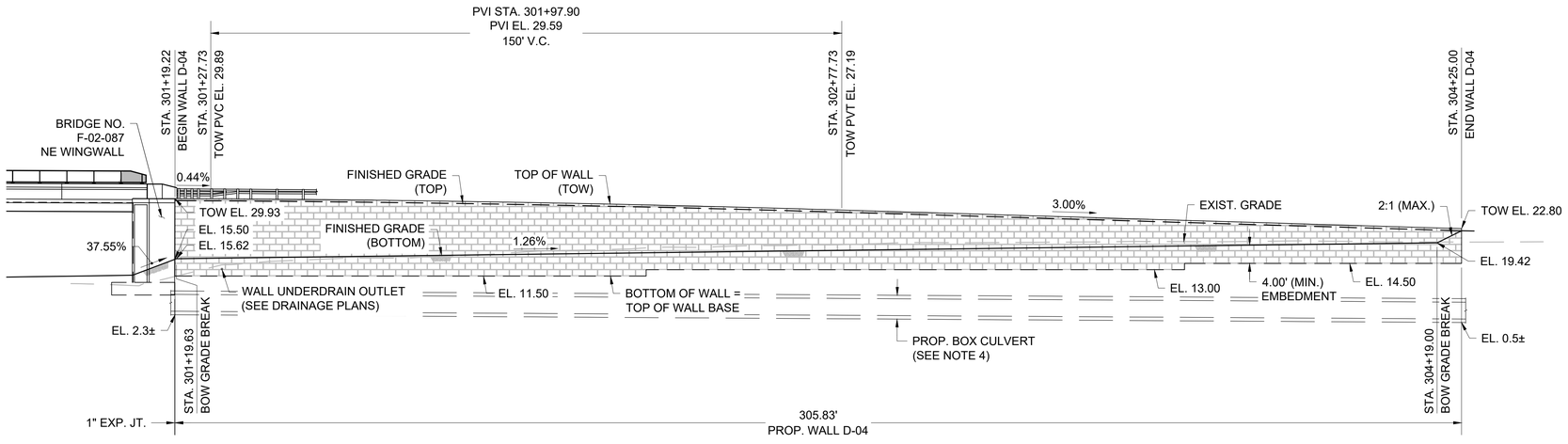
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1048	1094
PROJECT FILE NO.	608049		

RETAINING WALL PLANS
WALL D-04



PROP. WALL D-04 PLAN
SCALE: $\frac{1}{16}$" = 1'-0"



PROP. WALL D-04 ELEVATION
SCALE: $\frac{1}{16}$" = 1'-0"

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

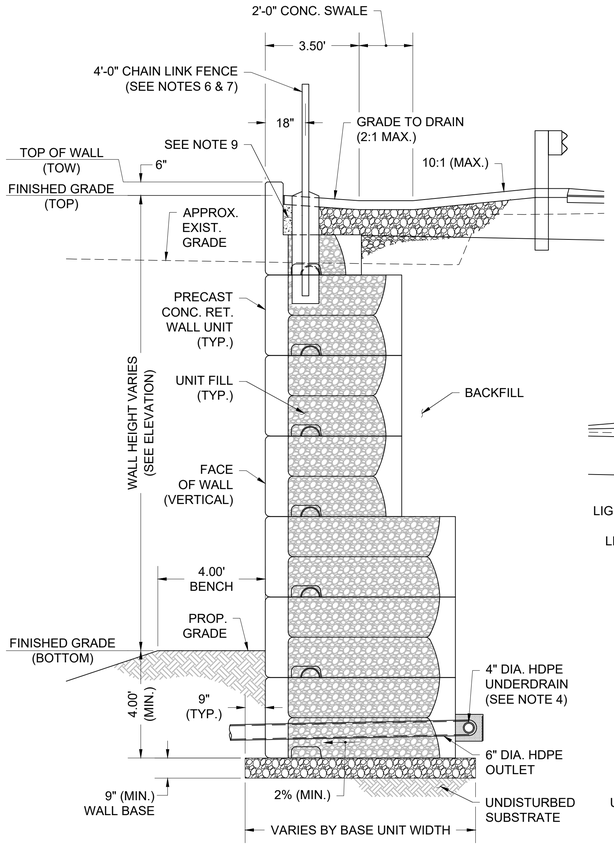
1. PROPOSED WALL D-04 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
2. EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
3. WORK POINTS ARE PROVIDED AT FACE OF WALL.
4. WALL D-04 SHALL BE CONSTRUCTED AFTER THE BOX CULVERT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. FOR LIGHT POLE DETAILS IN WALL BLOCK, SEE RETAINING WALL DETAILS 4.
6. CHAIN LINK FENCE OMITTED FROM ELEVATION FOR CLARITY.

608049_HD(WALL_D-04).DWG Plotted on 14-Feb-2024 12:56 PM

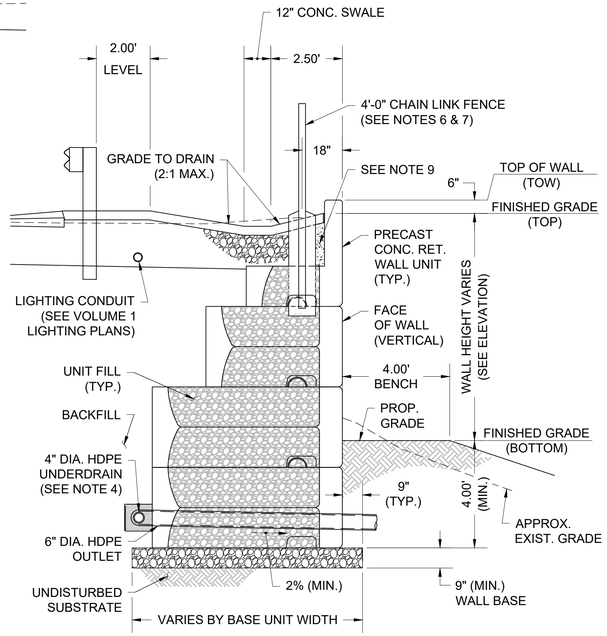
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1049	1094
PROJECT FILE NO.	608049		

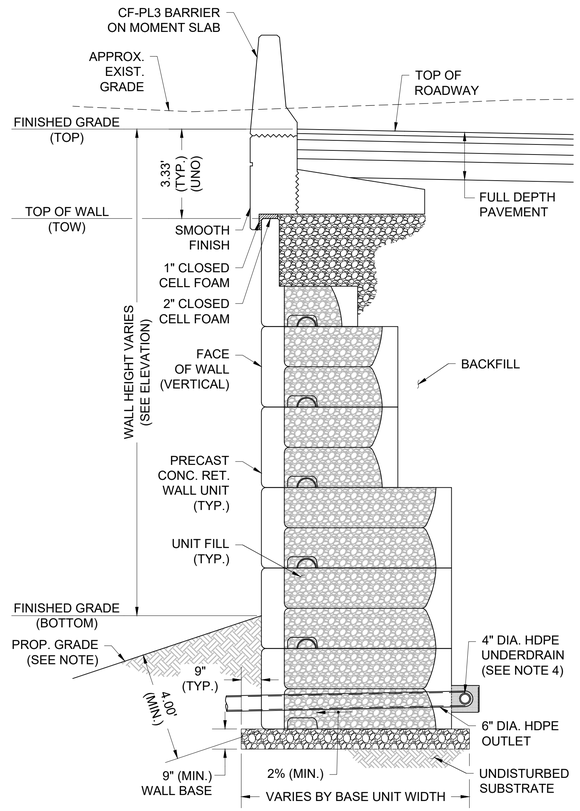
RETAINING WALL DETAILS 1



SECTION A - WALL D-01 TYPICAL SECTION
SCALE: 3/8" = 1'-0"

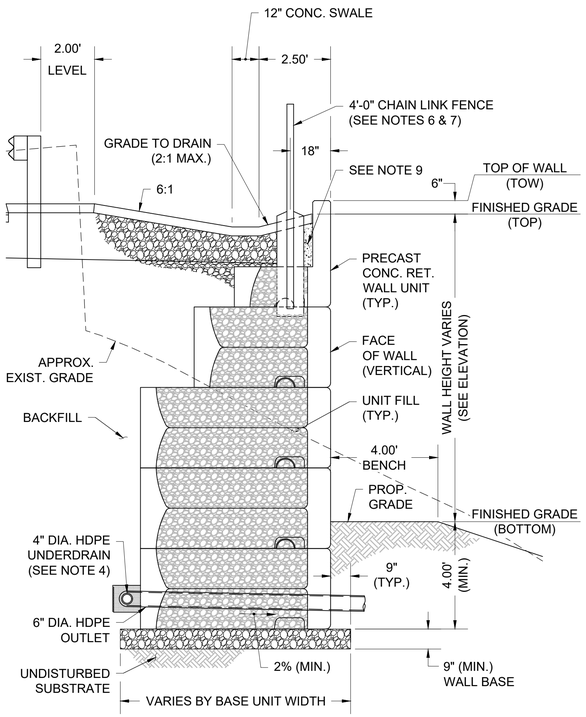


SECTION B - WALL D-02 TYPICAL SECTION
SCALE: 3/8" = 1'-0"



SECTION C - WALL D-03 TYPICAL SECTION
SCALE: 3/8" = 1'-0"

NOTE: PROPOSED GRADING AT FACE OF WALL VARIES FROM 3:1 SLOPE AS SHOWN TO 4 FOOT BENCH. SEE GRADING PLANS FOR LIMITS.



SECTION D - WALL D-04 TYPICAL SECTION
SCALE: 3/8" = 1'-0"

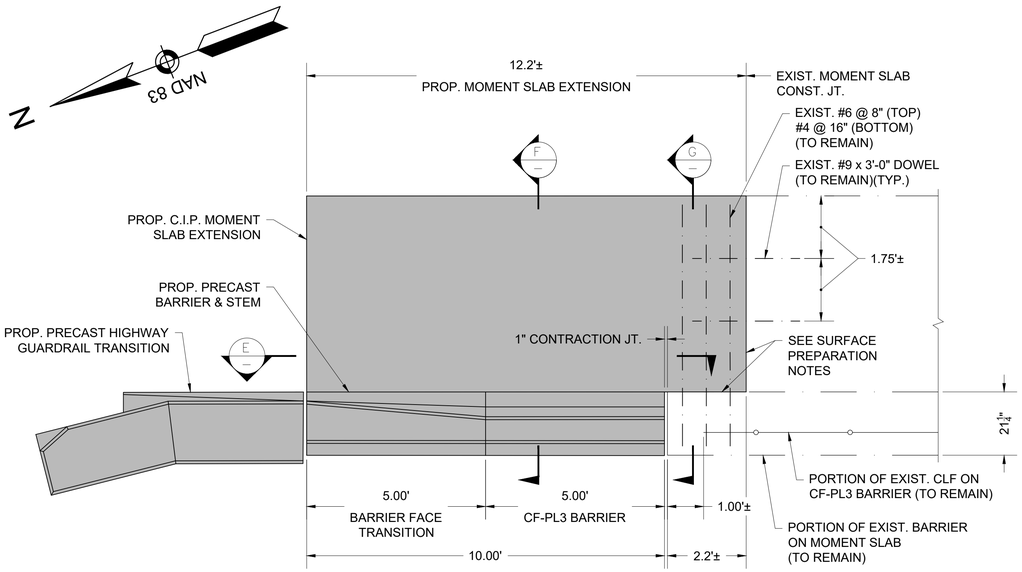
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

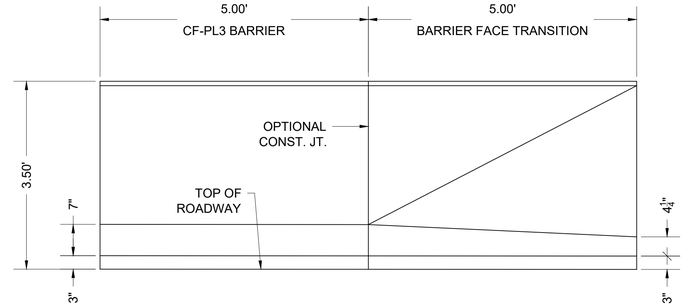
NOTES:

1. WALLS D-01, D-02, D-03, AND D-04 SHALL BE MANUFACTURER DESIGNED PROPRIETARY WALL SYSTEMS. DETAILS PROVIDED HEREIN ARE INTENDED TO BE A GUIDE. FINAL DETAILS TO BE DETERMINED BY THE WALL MANUFACTURER.
2. PRECAST MODULAR BLOCK GRAVITY WALL SHALL BE STONE STRONG BY MBO PRECAST.
3. ACTUAL BLOCK ARRANGEMENT AND DIMENSIONS SHALL BE DETERMINED BY THE MANUFACTURER.
4. WALL UNDERDRAINS SHALL HAVE A POSITIVE PITCH TOWARD THE OUTLETS TO THE CLOSED DRAINAGE SYSTEM. OUTLET PIPES SHALL BE SOLID AND NOT PERFORATED. FOR ADDITIONAL DETAILS, SEE DRAINAGE PLANS.
5. FOR ADDITIONAL RETAINING WALL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
6. CHAIN LINK FENCE POSTS SHALL BE SET IN CONCRETE FOUNDATIONS SPACED AT 8'-0" (MAX.) ON-CENTER. POSTS AND FOUNDATIONS SHALL EITHER BE LOCATED WITHIN PRECAST MODULAR BLOCK VOIDS OR BETWEEN PRECAST MODULAR BLOCKS.
7. CHAIN LINK FENCE SHALL BE SPRING TENSION WIRE, BLACK POWDER COATED, CONFORMING TO MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0. FOR ADDITIONAL FENCE DETAILS, SEE RETAINING WALL DETAILS 4.
8. RETAINING WALL CONSTRUCTION SHALL BE COORDINATED WITH ALL EXISTING AND PROPOSED DRAINAGE AND UTILITIES.
9. WHERE BACKFILL CANNOT BE PROPERLY COMPACTED BETWEEN FENCE FOUNDATIONS AND RETAINING WALL COPING, INSTALL CONTROLLED DENSITY FILL (TYPE 1 OR 2 NON-EXCAVATABLE) WITH A BOND BREAKER AT CDF AND COPING INTERFACE OR OTHER METHOD AS APPROVED BY THE ENGINEER.

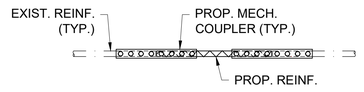
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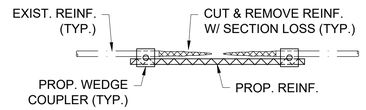
WALL D-01 MOMENT SLAB EXTENSION
DETAIL 1
SCALE: $\frac{1}{2}$" = 1'-0"



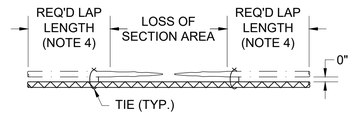
SECTION E - BARRIER FACE TRANSITION
SCALE: $\frac{3}{4}$" = 1'-0"



MECHANICAL COUPLER - OPTION 1



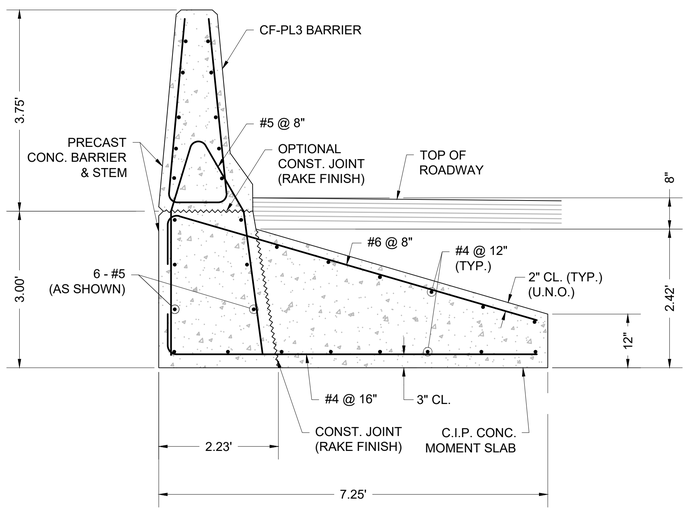
MECHANICAL COUPLER - OPTION 2



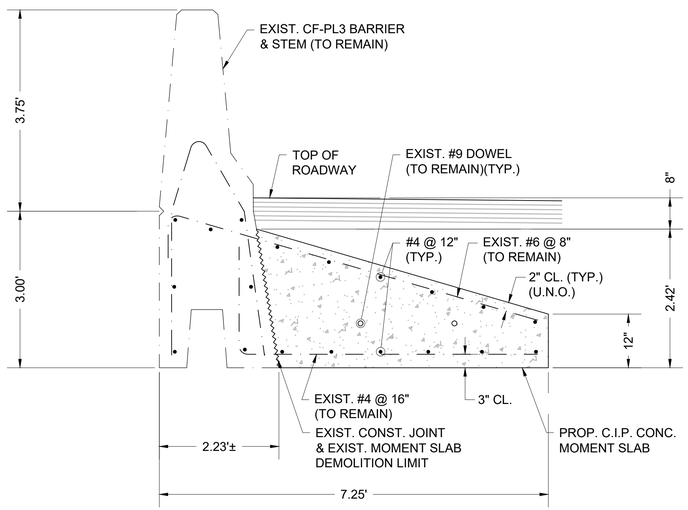
LAP SPLICE OPTION

NOTE:
COVER TO PROPOSED REINFORCING BAR SHALL NOT BE LESS THEN COVER TO EXISTING REINFORCING BAR.

REINFORCMENT REPAIR DETAILS
NOT TO SCALE



SECTION F
SCALE: $\frac{1}{2}$" = 1'-0"

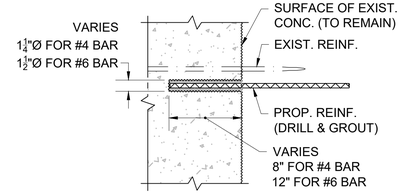


SECTION G
SCALE: $\frac{1}{2}$" = 1'-0"

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1050	1094
PROJECT FILE NO.	608049		

RETAINING WALL DETAILS 2



NOTE:
GROUT SHALL BE FIVE STAR GROUT OR APPROVED EQUAL NON-SHRINK GROUT FROM THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

DRILL & GROUT REINFORCEMENT REPAIR DETAIL
NOT TO SCALE

SURFACE PREPARATION NOTES:

1. AFTER REMOVAL OF EXISTING BARRIER AND MOMENT SLAB TO LIMITS SHOWN, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS.
2. CLEAN EXPOSED REINFORCING STEEL TO REMAIN BY MECHANICAL CLEANING AND HIGH PRESSURE WASHING. WHERE ACTIVE CORROSION OR DAMAGE HAS OCCURRED, SANDBLAST STEEL TO WHITE METAL FINISH.
3. IF THE EXISTING REINFORCING TO REMAIN EXHIBITS MORE THAN 20% SECTION LOSS OF ITS ORIGINAL DIAMETER, THE CONTRACTOR SHALL PROVIDE ADDITIONAL REINFORCING EQUAL IN DIAMETER TO EXISTING.
4. WHERE ADDITIONAL REINFORCEMENT IS REQUIRED, MECHANICAL COUPLERS OR LAP SPLICES SHALL BE PROVIDED. LAP SPLICES OF #4 BARS SHALL BE A MINIMUM OF 24". LAP SPLICES OF #6 BARS SHALL BE A MINIMUM OF 36". MECHANICAL COUPLERS SHALL BE INSTALLED AT LOCATIONS WHERE EXISTING REINFORCING DOESN'T EXHIBIT SECTION LOSS AND SHALL BE FROM THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST. THE PROPOSED CONCRETE SECTION SHALL BE BUILT OUT AS REQUIRED TO OBTAIN THE MINIMUM CLEAR COVER AT MECHANICAL COUPLER LOCATIONS.
5. DRILL AND GROUT REINFORCEMENT INTO EXISTING CONCRETE WHERE ADDITIONAL REINFORCEMENT IS REQUIRED AND MINIMUM LAP SPLICES CANNOT BE OBTAINED OR MECHANICAL COUPLERS CANNOT BE USED.
6. WHERE EPOXY COATING HAS BEEN DAMAGED OR REMOVED, APPLY EPOXY REPAIR PAINT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPAIR PAINT SHALL BE FOUND ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

NOTES:

1. FOR MOMENT SLAB MATERIAL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
2. FOR HIGHWAY GUARDRAIL TRANSITION AND CF-PL3 BARRIER DETAILS, SEE BRIDGE PLANS.
3. ALL BARRIER, STEM, AND MOMENT SLAB REINFORCEMENT SHALL BE EPOXY COATED.
4. PRECAST CONCRETE IN PRECAST BARRIER AND STEM SHALL BE 5000 PSI, $\frac{3}{4}$", 585 HP CEMENT CONCRETE.
5. CAST-IN-PLACE CONCRETE IN MOMENT SLAB SHALL BE 4000 PSI, $\frac{3}{4}$", 610 CEMENT CONCRETE.
6. FOR CONTRACTION JOINT DETAILS, SEE WALL DETAILS 3.

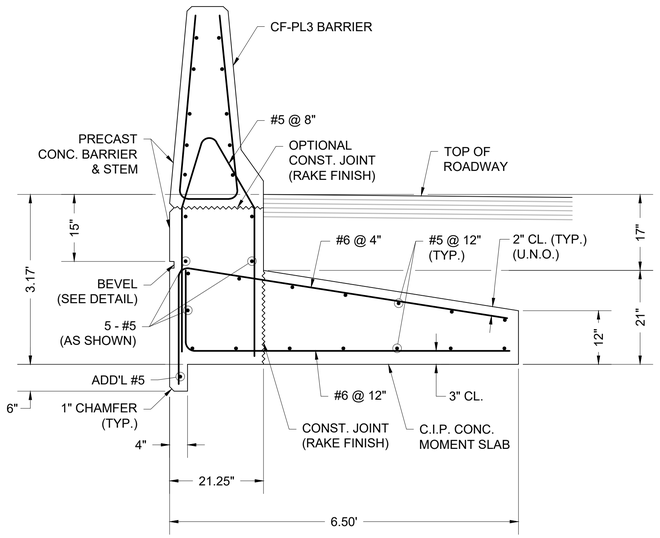
608049_HD(WALL DETAILS).DWG Plotted on 7-Mar-2024 9:48 PM

FALL RIVER
ROUTE 79

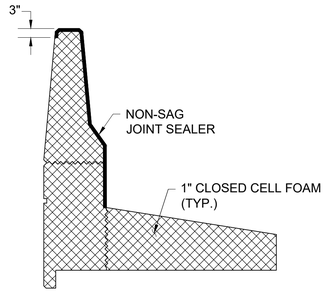
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1051	1094
PROJECT FILE NO.	608049		

RETAINING WALL DETAILS 3

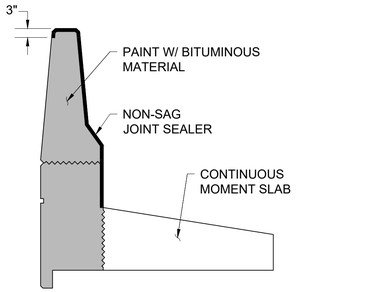
608049_HD(WALL DETAILS).DWG Plotted on 13-Feb-2024 7:13 PM



WALL D-03 TYPICAL MOMENT SLAB DETAIL
SCALE: $\frac{3}{4}$" = 1'-0"

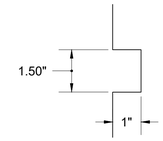


MOMENT SLAB EXPANSION JOINT DETAIL
SCALE: $\frac{1}{2}$" = 1'-0"

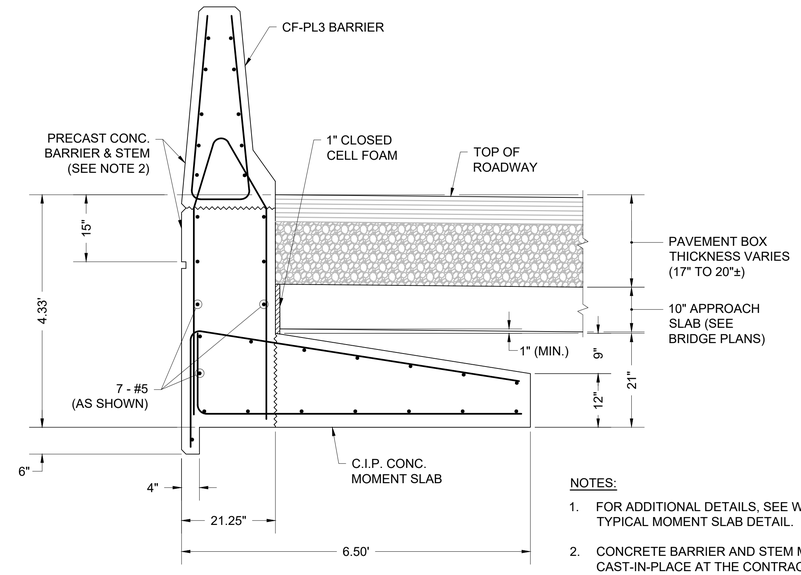


NOTE:
DETAIL APPLICABLE TO ALL PRECAST BARRIER/STEM JOINTS.

MOMENT SLAB CONTRACTION JOINT DETAIL
SCALE: $\frac{1}{2}$" = 1'-0"



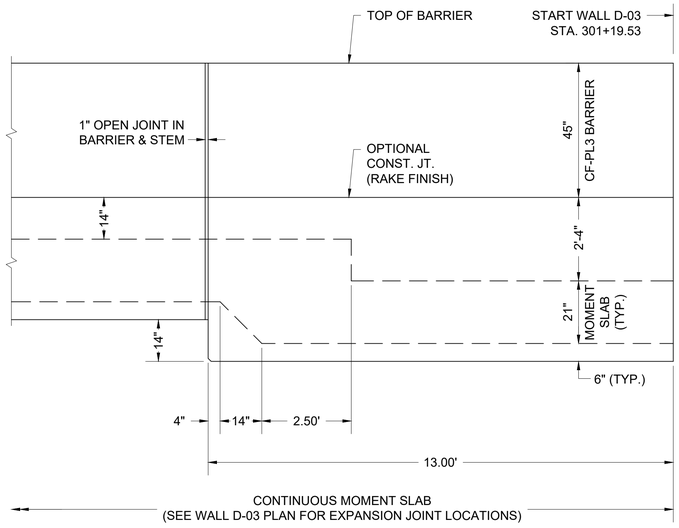
BEVEL DETAIL
NOT TO SCALE



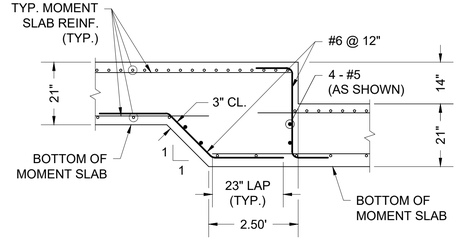
NOTES:

1. FOR ADDITIONAL DETAILS, SEE WALL D-03 TYPICAL MOMENT SLAB DETAIL.
2. CONCRETE BARRIER AND STEM MAY BE CAST-IN-PLACE AT THE CONTRACTOR'S OPTION. CAST-IN-PLACE BARRIER AND STEM CONCRETE SHALL BE 5000 PSI, $\frac{3}{4}$", 685 HP CEMENT CONCRETE.

WALL D-03 MOMENT SLAB DETAIL AT BRIDGE APPROACH SLAB
SCALE: $\frac{3}{4}$" = 1'-0"



WALL D-03 ELEVATION AT BRIDGE APPROACH SLAB
SCALE: $\frac{3}{4}$" = 1'-0"



MOMENT SLAB STEP DETAIL
SCALE: $\frac{3}{4}$" = 1'-0"

NOTES:

1. FOR BARRIER AND MOMENT SLAB NOTES, SEE RETAINING WALL DETAILS 2.

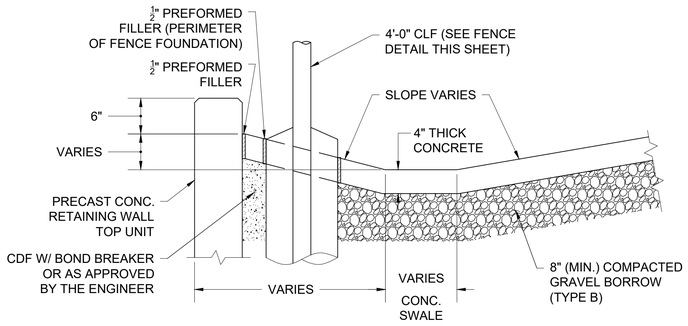
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1052	1094
PROJECT FILE NO.	608049		

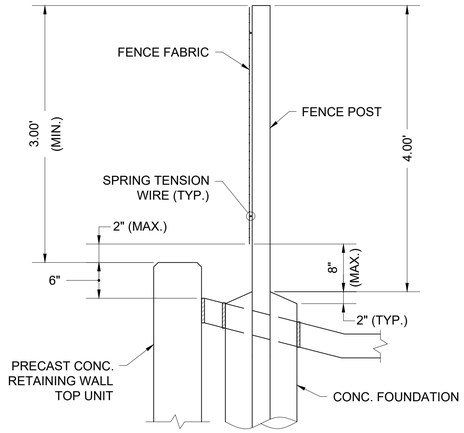
RETAINING WALL DETAILS 4



NOTES:

1. SWALE SHALL BE 4000 PSI, ¾", 610 CEMENT CONCRETE. FOR GRADING SEE VOLUME 1 CURB TIE & GRADE PLAN.
2. FOR ADDITIONAL SWALE DIMENSIONS AND DETAILS, REFER TO THE RETAINING WALL TYPICAL SECTIONS ON RETAINING WALL DETAILS 1 AND THE VOLUME 1 CURB TIE AND GRADE PLANS.

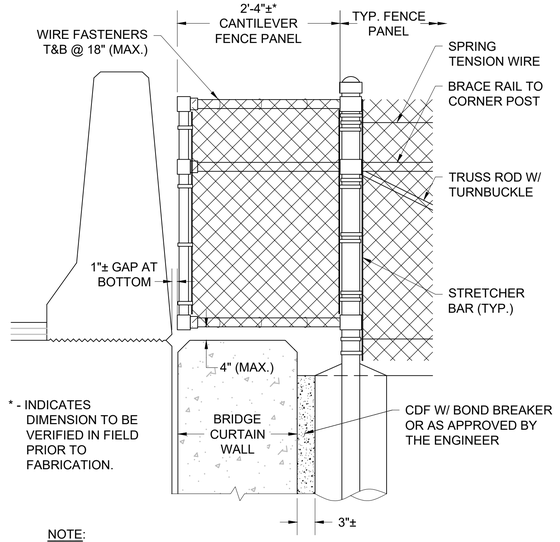
TYPICAL SWALE DETAIL
SCALE: 1" = 1'-0"



NOTES:

1. CHAIN LINK FENCE SHALL BE SPRING TENSION WIRE, BLACK POWDER COATED, CONFORMING TO MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0.
2. FOR ADDITIONAL FENCE DETAILS AND REQUIREMENTS, REFER TO RETAINING WALL DETAILS 1.

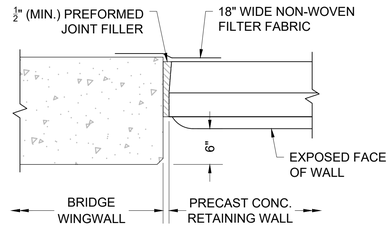
TYPICAL FENCE DETAIL
SCALE: 1" = 1'-0"



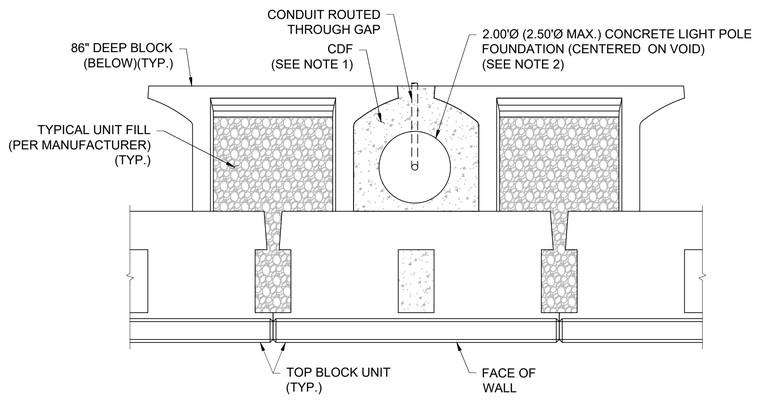
NOTE:

FOR ADDITIONAL DETAILS OF FENCE COMPONENTS, SEE MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0.

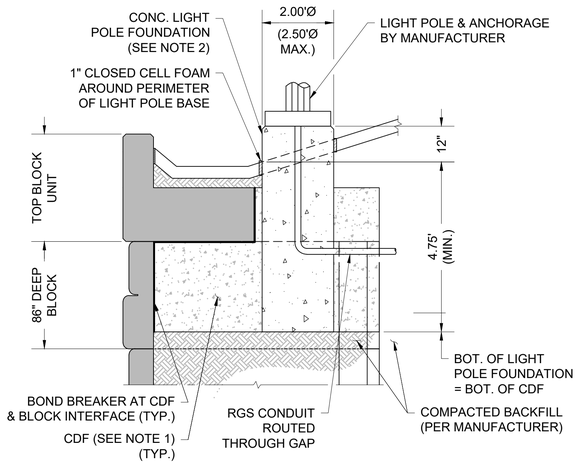
TYPICAL FENCE DETAIL AT BRIDGE CURTAIN WALL
SCALE: 1" = 1'-0"



TYPICAL EXPANSION JOINT DETAIL
SCALE: 1½" = 1'-0"

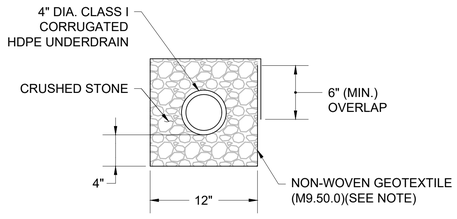


PLAN



SECTION

WALLS D-02 & D-04 LIGHT POLE IN BLOCK DETAIL
SCALE: ½" = 1'-0"



NOTE:
GEOTEXTILE SHALL BE INCLUDED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIAL LIST FOR SUBSURFACE DRAINAGE APPLICATIONS.

TYPICAL UNDERDRAIN DETAIL
SCALE: 1½" = 1'-0"

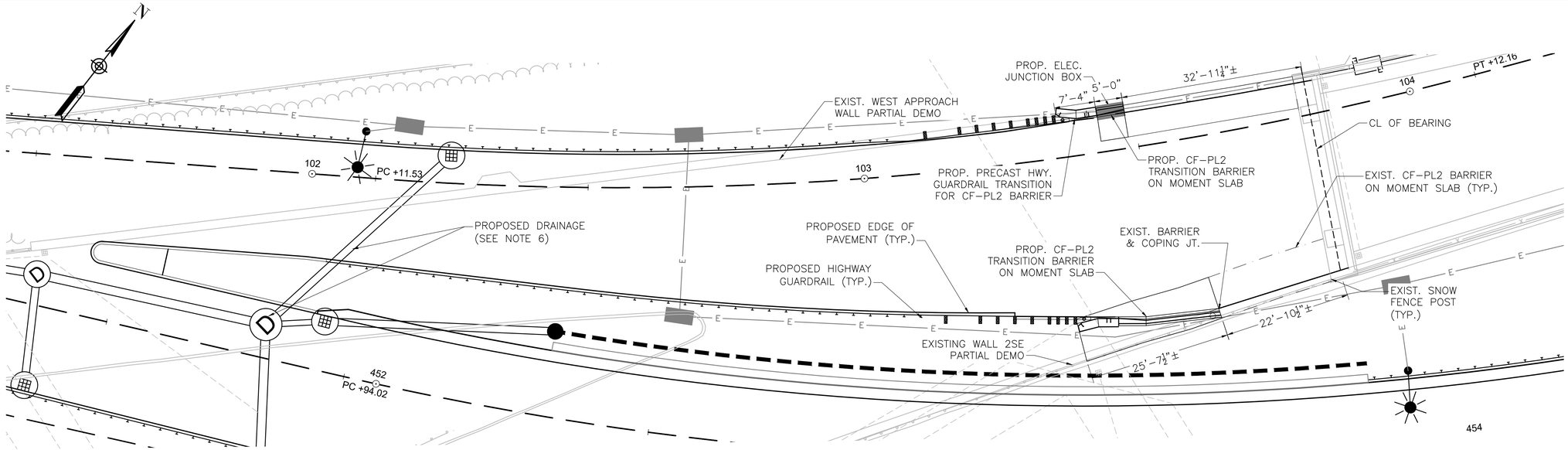
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

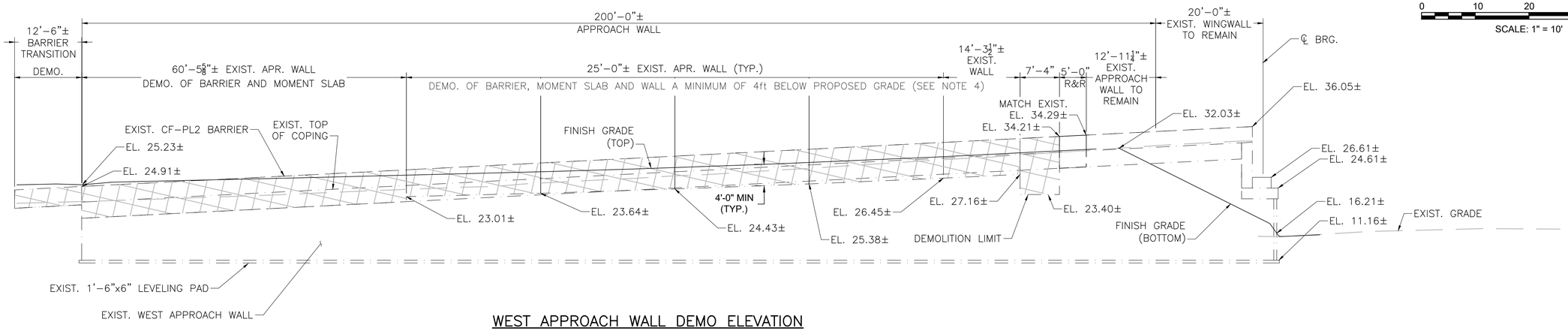
NOTES:

1. CONTROLLED DENSITY FILL (CDF) SHALL BE TYPE 1 OR 2 NON-EXCAVATABLE.
2. FOR DETAILS OF LIGHT POLE AND LIGHT POLE FOUNDATION, SEE VOLUME 1 LIGHTING PLANS.

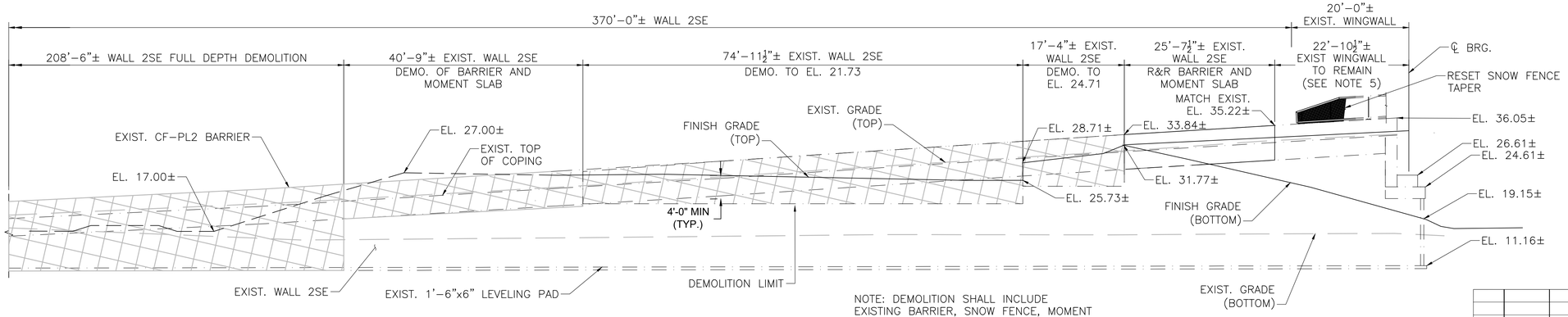
608049_HD(WALL DETAILS).DWG Plotted on 14-Feb-2024 12:41 PM



VMB RAMP W-S APPROACH WALLS PLAN



WEST APPROACH WALL DEMO ELEVATION



WALL 2SE DEMO ELEVATION

NOTE: DEMOLITION SHALL INCLUDE EXISTING BARRIER, SNOW FENCE, MOMENT SLAB, AND MSE WALL PANELS AND REINFORCING STRIPS. SNOW FENCE NOT SHOWN FOR CLARITY.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1053	1094
PROJECT FILE NO.	608049		

VMB RAMP W-S
APPROACH WALL PLAN & DEMO

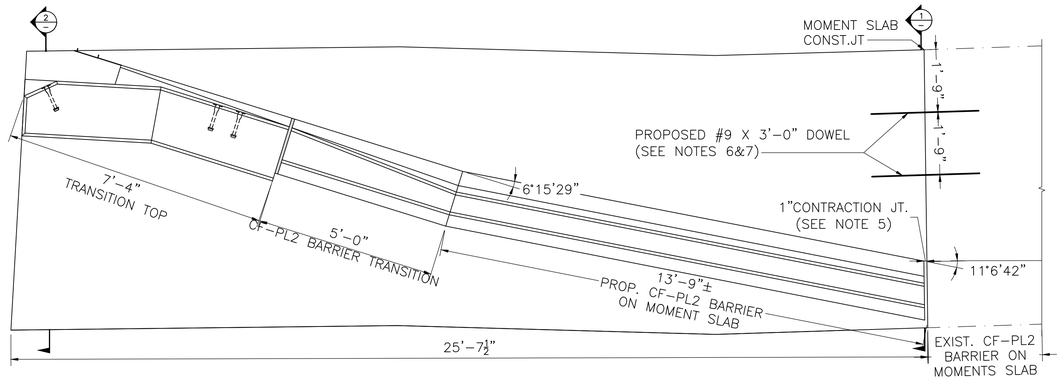
NOTES:
1. PROPOSED MOMENT SLAB AND BARRIER SHALL MATCH THE AESTHETIC OF THE EXISTING WALL 2SE INCLUDING THE COLOR AND COPING GEOMETRY.
2. THE ARCHITECTURAL DETAILS OF THE PROPOSED BARRIER AND SNOW FENCE SHALL MATCH EXISTING.
3. EXISTING WALL ELEVATIONS ARE TAKEN FROM RECORD PLANS (NGVD29) AND SUBTRACT 0.84FT TO OBTAIN THE CONTRACT PLAN ELEVATIONS (NAVD88).
4. WALL DEMO LIMITS SHALL BE 4FT BELOW PROPOSED GRADE. PROPOSED GRADES SHOWN ARE MINIMUMS. CONTRACTOR SHALL REMOVE FULL OR HALF M.S.E. WALL PANELS ONLY. PARTIAL PANEL REMOVAL IS NOT PERMITTED.
5. LENGTH OF WALL DEMO SHOWN IS A MINIMUM AND SHOULD EXTEND TO THE NEAREST PANEL JOINT.
6. LOCALIZED DEMO OF EXISTING MSE WALL AND SOIL REINFORCEMENT MAY BE REQUIRED AS NEEDED FOR THE INSTALLATION OF PROPOSED DRAINAGE STRUCTURES.

0 10 20 30 40
SCALE: 1" = 10'

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

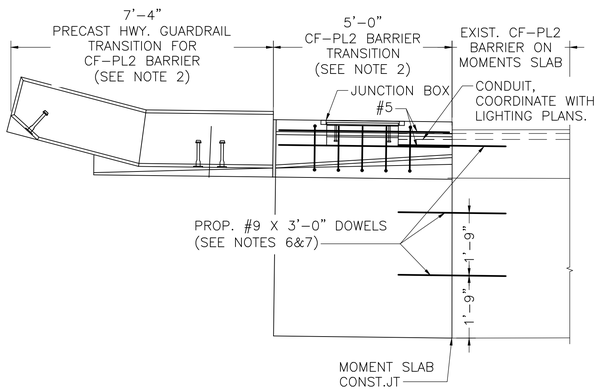
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_HD\VMB WALL DEMO PLAN).DWG Plotted on 13-Feb-2024 10:15 AM



WALL 2SE MOMENT SLAB PLAN

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



WEST APPROACH WALL MOMENT SLAB PLAN

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

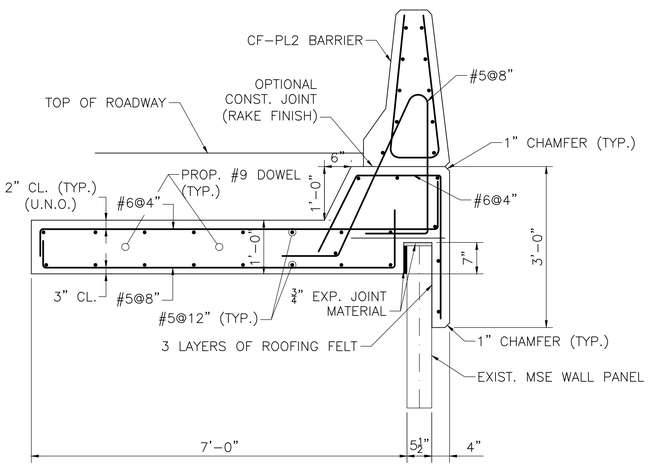
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1054	1094
PROJECT FILE NO.	608049		

VMB RAMP W-S
APPROACH WALL DETAILS

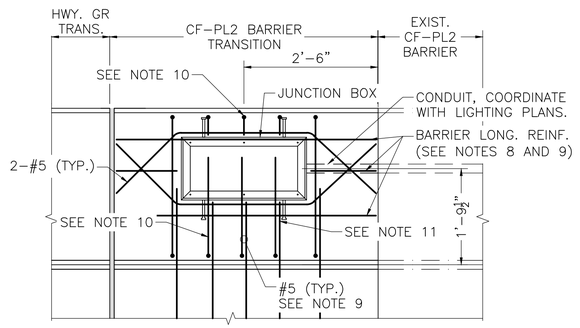
NOTES:

1. FOR MOMENT SLAB MATERIAL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
2. FOR CF-PL2 BARRIER, CF-PL2 BARRIER TRANSITION AND TRANSITION TOP DETAILS, SEE SHEET 1055.
3. ALL BARRIER, STEM, AND MOMENT SLAB REINFORCEMENT SHALL BE EPOXY COATED.
4. CAST-IN-PLACE CONCRETE IN MOMENT SLAB SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE.
5. FOR CONTRACTION JOINT DETAILS, SEE SHEET 1051.
6. FOR DRILL & GROUTED DOWELS, HOLE FOR DOWELS SHALL BE DRILLED, CLEANED AND PREPARED PER CHOSEN GROUT MANUFACTURER. FOR DRILLING AND GROUTING REQUIREMENTS, REFER TO SPECIAL PROVISION 912.5.
7. DRILL HOLE DIAMETER FOR GROUTED DOWELS SHALL BE 1" LARGER THAN DOWEL DIAMETER OR PER GROUT MANUFACTURERS RECOMMENDATIONS.
8. LONGITUDINAL AND TRANSVERSE BARRIER REINFORCING NOT SHOWN FOR CLARITY.
9. INTERRUPTED REINFORCING SHALL STOP 1½" CLEAR OF JUNCTION BOX ALL SIDES.
10. BAR SPACING MAY BE ADJUSTED TO ACCOMMODATE JUNCTION BOX SHEAR STUDS. BARS SHALL NOT BE OMITTED.
11. REINFORCING MAY BE FIELD BENT AS NECESSARY TO PROVIDED 1½" MINIMUM CLEARANCE TO JUNCTION BOX.



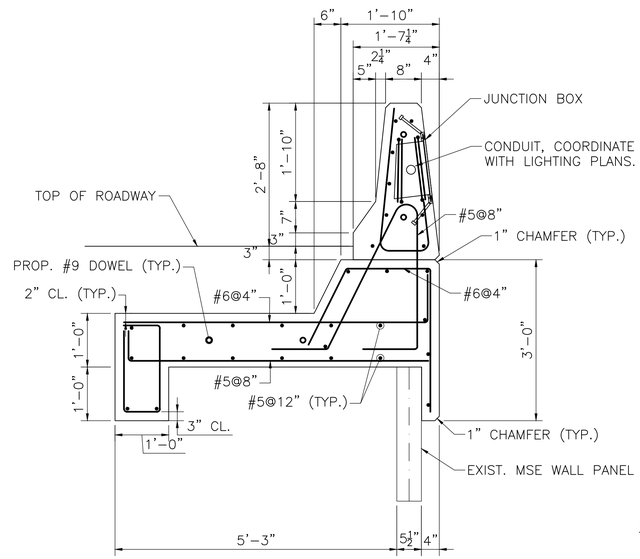
SECTION 1 – WALL 2SE CF–PL2 BARRIER ON MOMENT SLAB

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



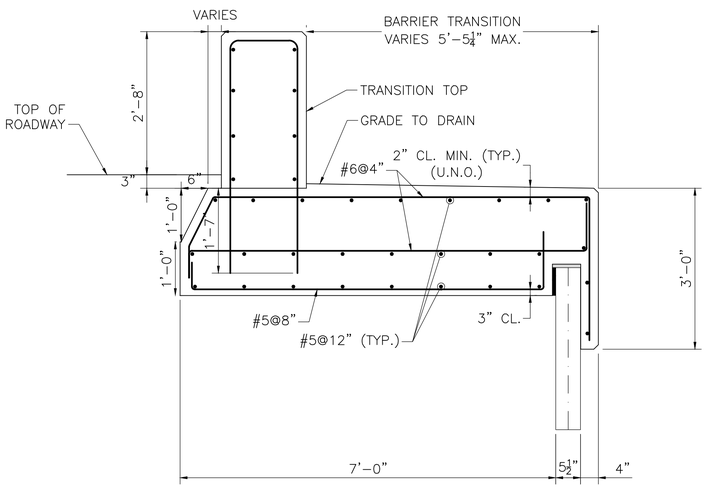
ELEVATION WEST APP. TRANS. BARRIER AT JUNCTION BOX

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



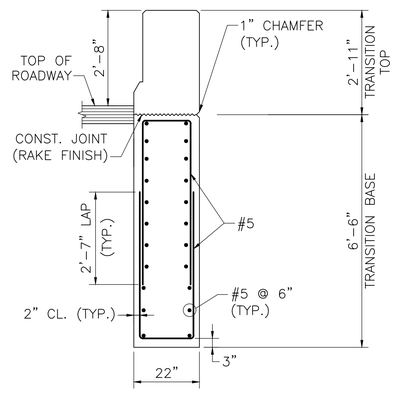
WEST APP. TRANS. BARRIER ON MOMENT SLAB DETAIL

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



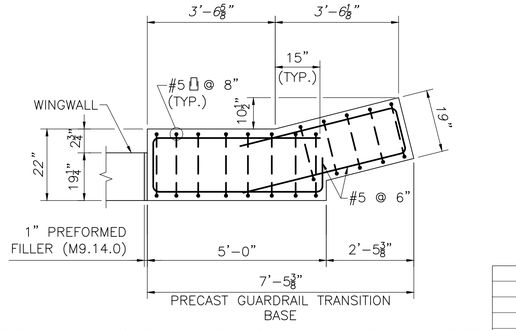
SECTION 2 – WALL 2SE HWY. TRANSITION BARRIER ON MOMENT SLAB

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



VERTICAL SECTION CF PL–2 TRANSITION BASE

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



HORIZONTAL SECTION CF PL–2 TRANSITION BASE

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

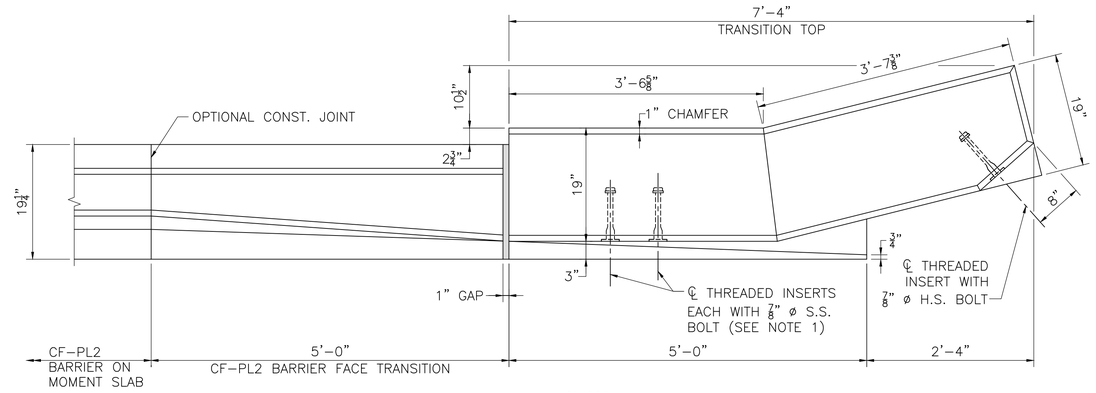
SURFACE PREPARATION NOTES:

1. PRIOR TO CONCRETE DEMO AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER, THE PERIMETER OF ALL PROPOSED CONCRETE REMOVAL SHALL BE SAWCUT 1/2" AROUND PERIMETER.
2. AFTER REMOVAL OF EXISTING BARRIER AND MOMENT SLAB TO LIMITS SHOWN, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS.
3. AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER, THE EXISTING CONCRETE SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
4. AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER,THE EXCAVATED AREAS OF CONCRETE SHALL THEN BE WETTED AND A TYPE II, GRADE 3, CLASS B AND C EPOXY BONDING AGENT ON THE MASSDOT LIST OF APPROVED MATERIALS LIST SHALL BE APPLIED PRIOR TO PLACEMENT OF PROPOSED MOMENT SLAB AND BARRIER.

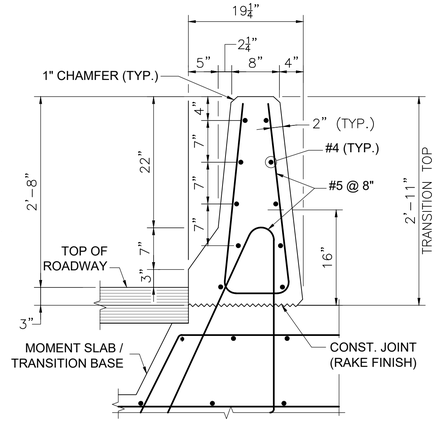
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

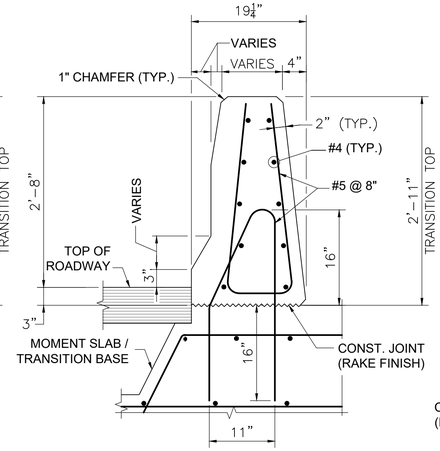
608049_HD\VMB WALL DEMO PLAN).DWG Plotted on 13-Feb-2024 10:19 AM



PLAN
SCALE: 1" = 1'-0"



SECTION 2
TYPICAL CF-PL2 BRIDGE BARRIER
SCALE: 1" = 1'-0"

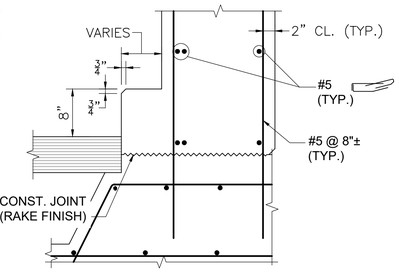


SECTION 3
SCALE: 1" = 1'-0"

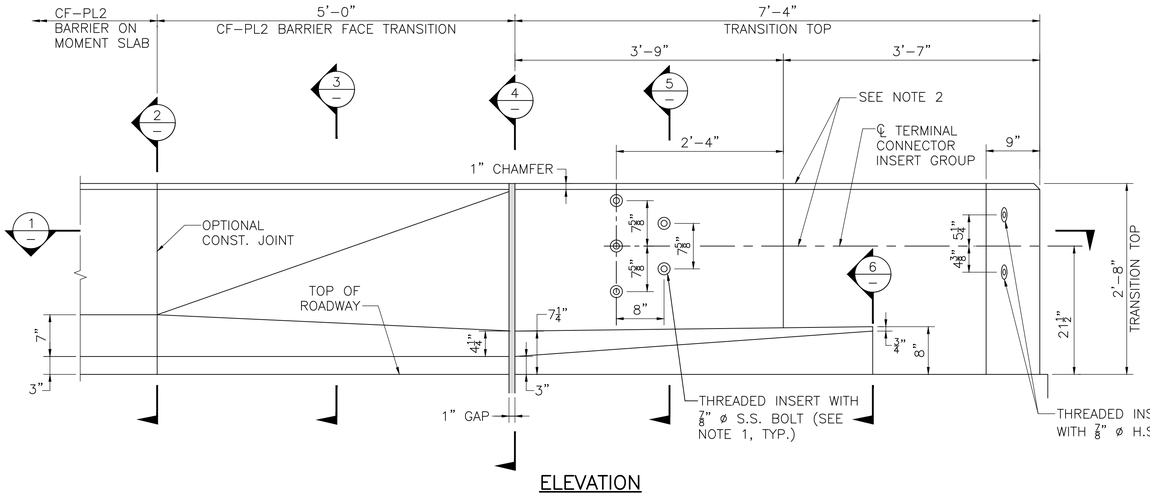
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1055	1094
PROJECT FILE NO.	608049		

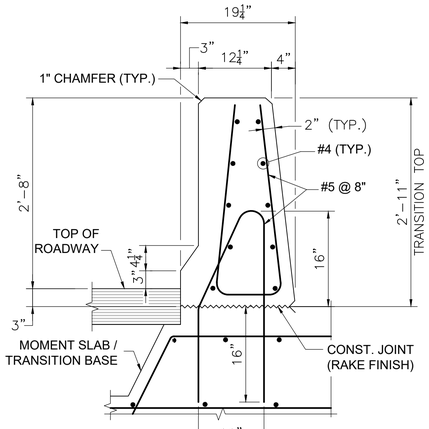
VMB RAMP W-S
BARRIER TRANSITION DETAILS



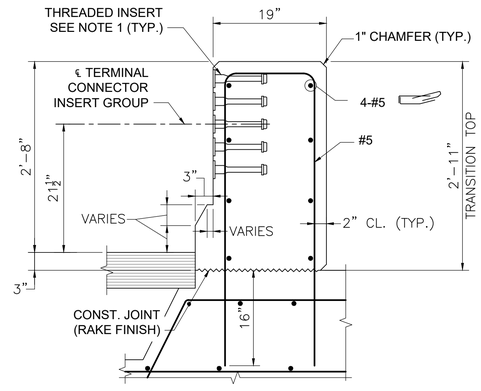
SECTION 6
SCALE: 1" = 1'-0"



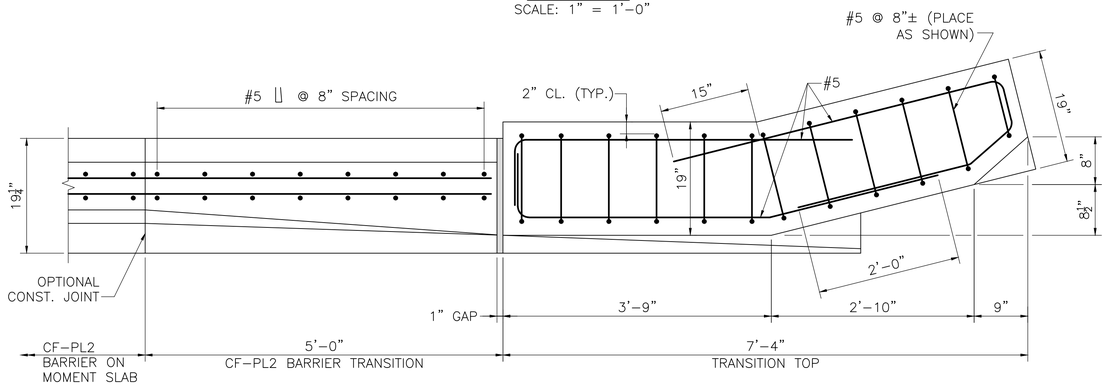
ELEVATION
SCALE: 1" = 1'-0"



SECTION 4
SCALE: 1" = 1'-0"



SECTION 5
SCALE: 1" = 1'-0"



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

NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER ⅞" ø S.S. BOLT. S.S. BOLTS SHALL BE ⅞" ø x 1½" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR ⅞" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
2. FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.

   FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF THE BRIDGE BARRIERS SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.
3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, ¾", 685 HP CEMENT CONCRETE.
5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1½" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR CF-PL2 BARRIER

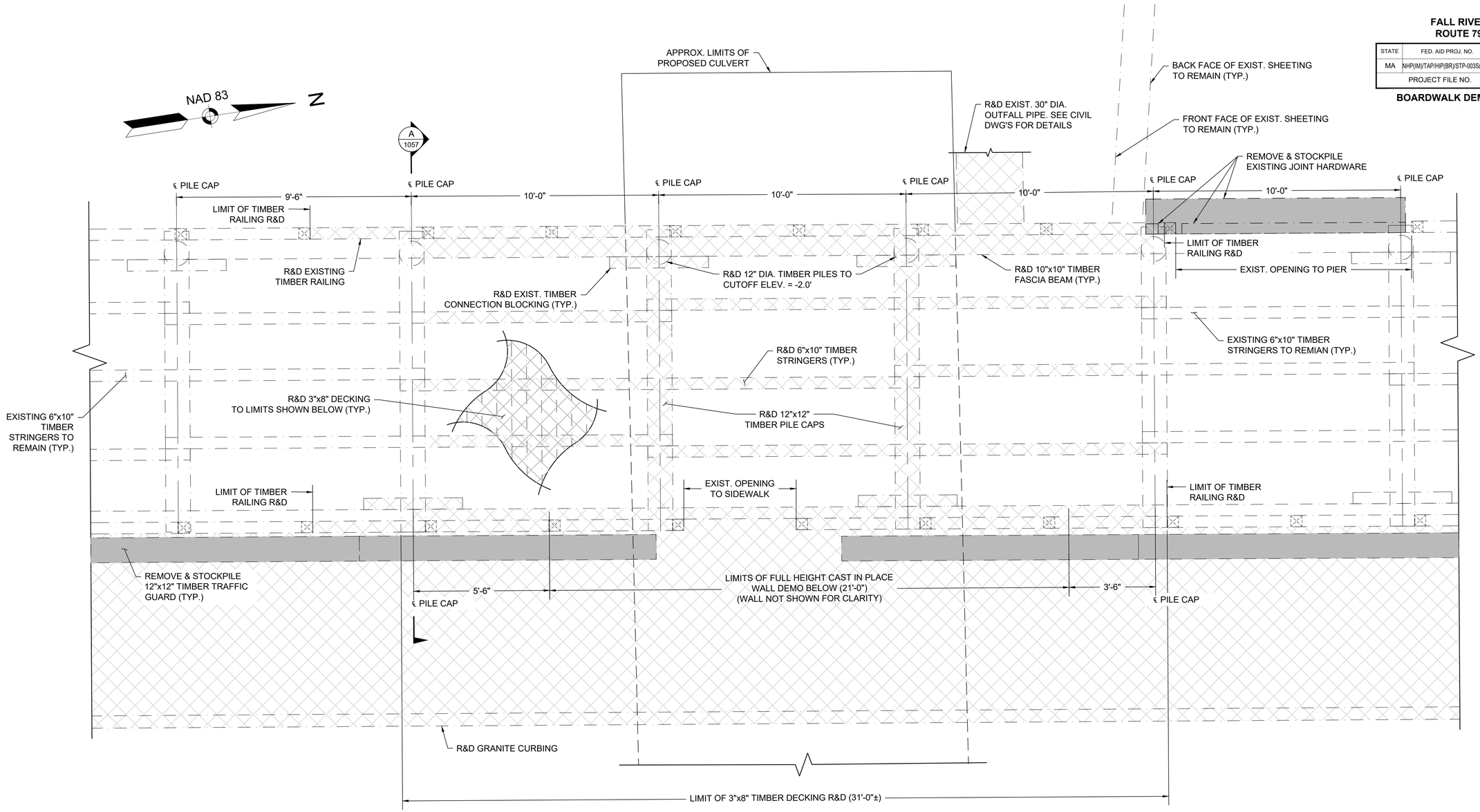
0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

608049_HD(VMB WALL DEMO PLAN).DWG Plotted on 13-Feb-2024 10:20 AM

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1056	1094
	PROJECT FILE NO. 608049		

BOARDWALK DEMO PLAN



DEMOLITION PLAN

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

NOTES:

1. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISIONS, TEMPORARY TRAFFIC CONTROL PLANS OUTLINED IN VOLUME 2.
2. LIMITS OF DEMOLITION AND RECONSTRUCTION SHOWN ON THE PLANS WERE DETERMINED BASED ON FIELD INFORMATION PROVIDED BY CONTRACTOR. CONTRACTOR TO NOTIFY ENGINEER IF THESE LIMITS CHANGE.
3. DAMAGE TO PORTIONS OF EXISTING STRUCTURE TO REMAIN RESULTING FROM DEMOLITION OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR REPLACED IN KIND AT NO ADDITIONAL COST TO THE STATE.
4. IF NOT REMOVED ENTIRELY, EXISTING PILES SHALL BE DEMOLISHED TO A MINIMUM OF TWO FEET BELOW BOTTOM OF PROPOSED BOX CULVERT.

LEGEND:

- DENOTES EXISTING STRUCTURE TO BE REMOVED & DISPOSED
- REMOVE & STOCKPILE

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

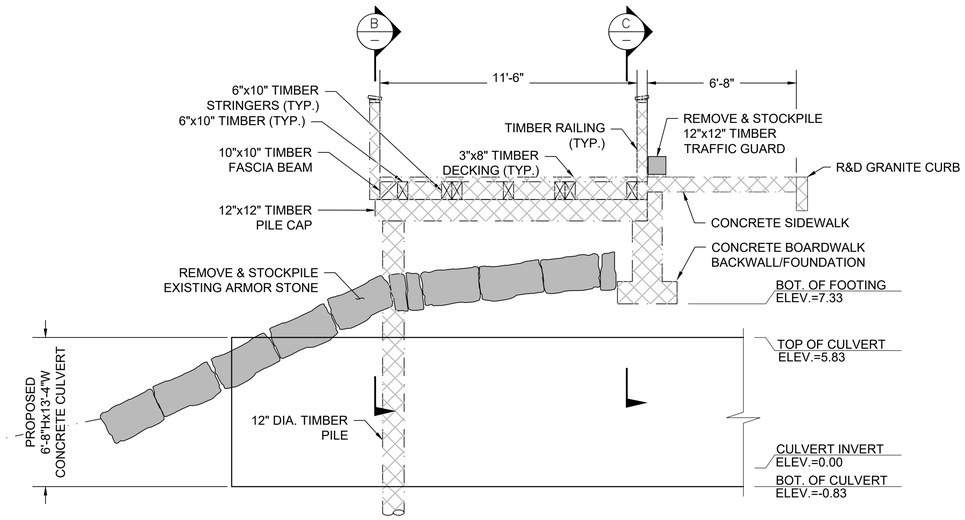
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_ST01(BOARDWALKDEMOPLAN).DWG Plotted on 18-Mar-2024 2:30 PM

FALL RIVER
ROUTE 79

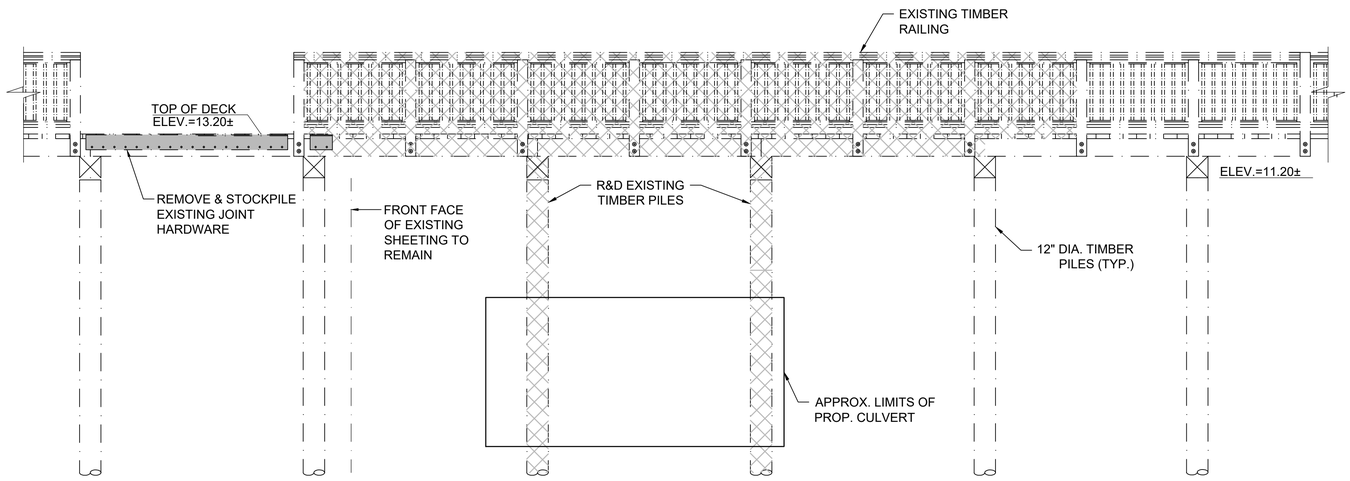
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1057	1094
	PROJECT FILE NO. 608049		

BOARDWALK DEMO DETAILS



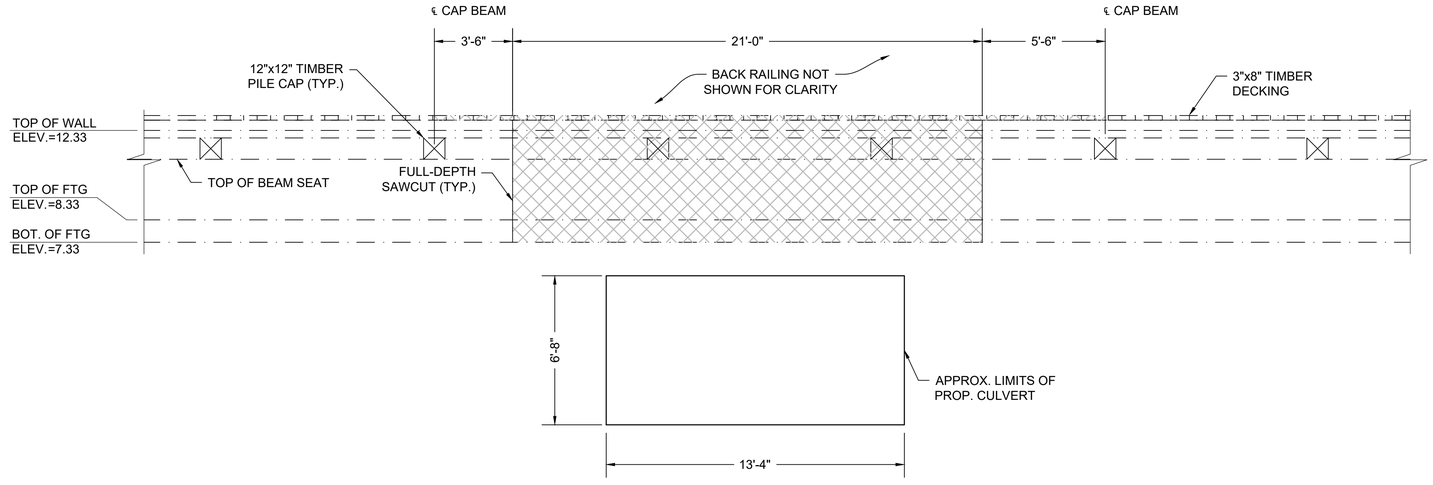
TRANSVERSE SECTION (LOOKING NORTH) A 1056

SCALE: 5/16" = 1'-0"



SECTION B -

SCALE: 5/16" = 1'-0"



SECTION C -

SCALE: 5/16" = 1'-0"

LEGEND:

LIMITS OF REMOVAL & DISPOSAL OF EXISTING BOARDWALK & SUPPORTING BOARDWALK COMPONENTS

REMOVE & STOCKPILE

NOTES:

1. SEE DEMOLITION SHEET 1056 FOR NOTES.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

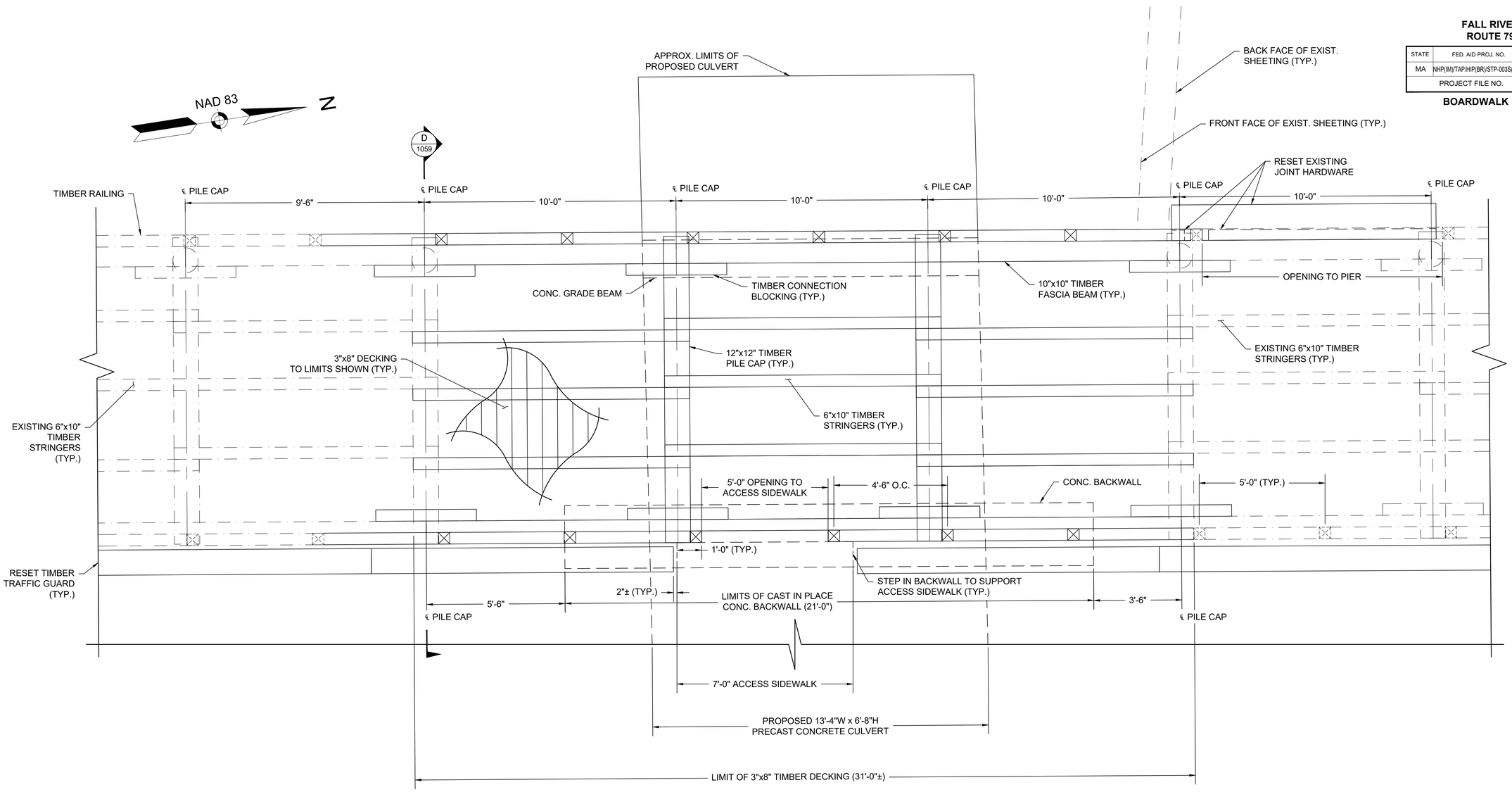
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_ST02(BOARDWALKDEMOSECTIONS).DWG Plotted on 18-Mar-2024 2:28 PM

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1058	1094
	PROJECT FILE NO. 608049		

BOARDWALK PLAN



BOARDWALK PLAN

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

NOTES:

1. PROPOSED LOCATIONS ARE BASED ON FIELD MEASURED CONDITIONS AND SHALL BE FIELD VERIFIED BY THE DESIGN BUILDER PRIOR TO THE START OF CONSTRUCTION.
2. SEE TIMBER NOTES SHEET NO. 1060 FOR TIMBER MATERIAL REQUIREMENTS.

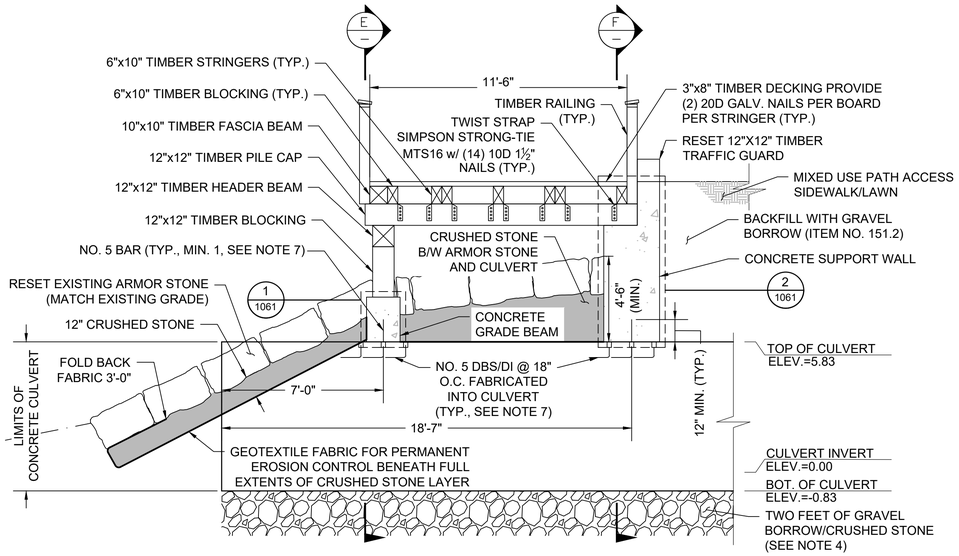
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_ST03(BOARDWALKPLAN).DWG Plotted on 18-Mar-2024 2:27 PM

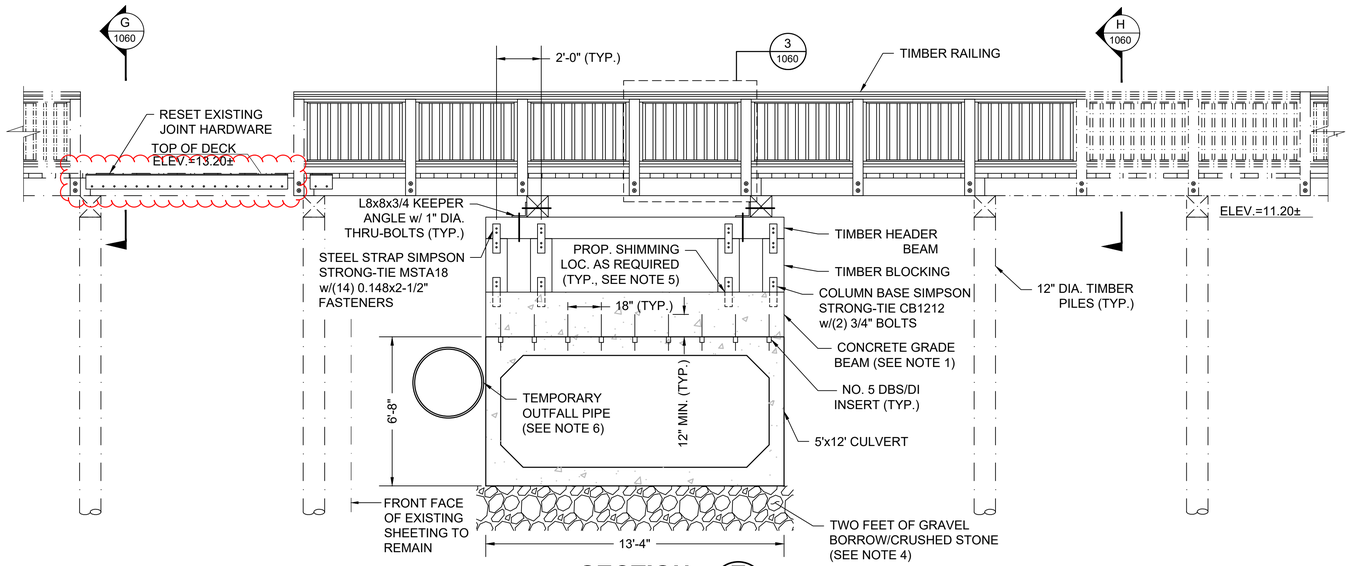
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1059	1094
	PROJECT FILE NO. 608049		

BOARDWALK SECTIONS



TRANSVERSE SECTION (LOOKING NORTH) D 1058

SCALE: 5/16" = 1'-0"



SECTION E -

SCALE: 5/16" = 1'-0"

CULVERT SUPPORTING THE BOARDWALK DESIGN CRITERIA (UNFACTORED LOADS)*	
VERTICAL LOADS (KLF)	**HORIZONTAL LOADS (KLF)**
DEAD LOAD	**LIVE LOAD**
GRADE BEAM: 0.70	SUPPORT WALL: 0.27
SUPPORT WALL: 2.44	**UNSATURATED EARTH**
LIVE LOAD	SUPPORT WALL: 0.74
GRADE BEAM: 1.29	**HYDROSTATIC LOAD**
SUPPORT WALL: 1.11	SUPPORT WALL: 0.79

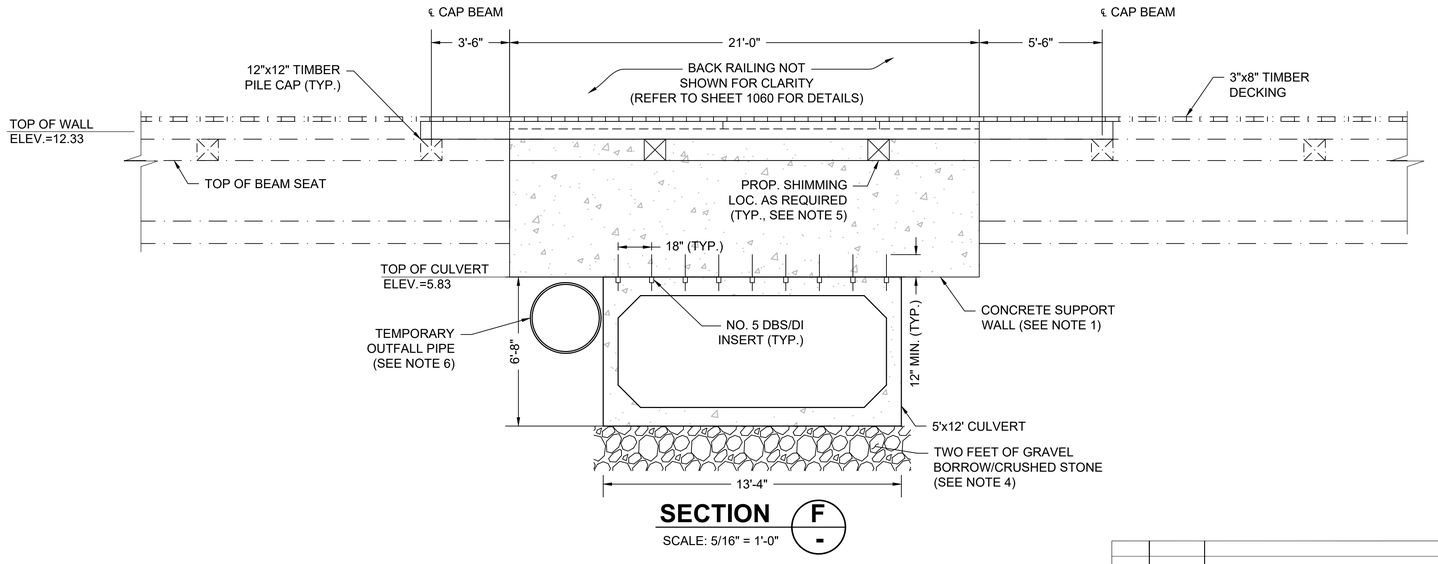
* LOADS DEVELOPED USING THE FOLLOWING:
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
- AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES
- MASSDOT LRFD BRIDGE MANUAL CHAPTER 3

ABBREVIATIONS

DBS = DOWEL BAR SPLICER
DI = DOWEL INSERT

NOTES:

1. CONCRETE GRADE BEAM AND BACKWALL SHALL BE CAST-IN-PLACE DIRECTLY ON SURFACE OF INSTALLED BOX CULVERT.
2. SEE TIMBER NOTES SHEET NO. 1060 FOR TIMBER REQUIREMENTS.
3. SEE NOTES SHEET NO. 1061 FOR CONCRETE AND REINFORCEMENT REQUIREMENTS.
4. CONTRACTOR SHALL PLACE/COMPACT UNIFORMLY 24" OF GRAVEL BORROW OR CRUSHED STONE PLACED BENEATH CULVERT STRUCTURE, WITH 1:1 SIDE SLOPE.
5. CONTRACTOR SHALL MARK SURVEY POINTS ON THE BOARDWALK AND MONITOR WEEKLY. PRIOR TO COMPLETION OF THE PROJECT, IF SETTLEMENT HAS OCCURRED THE CONTRACTOR SHALL SHIM TO FINAL PROPOSED GRADE. SHIMMING SHALL OCCUR AT THE TOP OF THE GRADE BEAM AND SUPPORT WALL AS REQUIRED.
6. REFER TO DRAINAGE PLANS FOR SIZE AND LOCATION OF TEMPORARY OUTFALL PIPE. SEE ERC OUTFALL PACKAGE, GENERAL NOTES, OUTFALL NOTE NO. 2 FOR FINAL CONDITION OF TEMPORARY OUTFALL PIPE.
7. FOR BOTH THE GRADE BEAM AND SUPPORT WALL A SINGLE ROW OF DBS/DIs ARE REQUIRED TO RESIST LATERAL LOADS, PER DESIGN.



SECTION F -

SCALE: 5/16" = 1'-0"

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

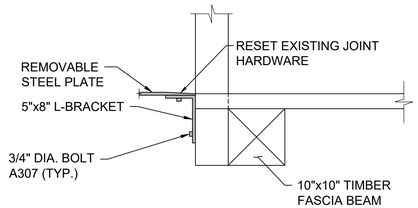
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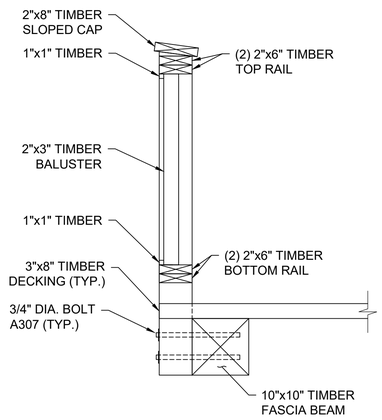
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1060	1094
	PROJECT FILE NO. 608049		

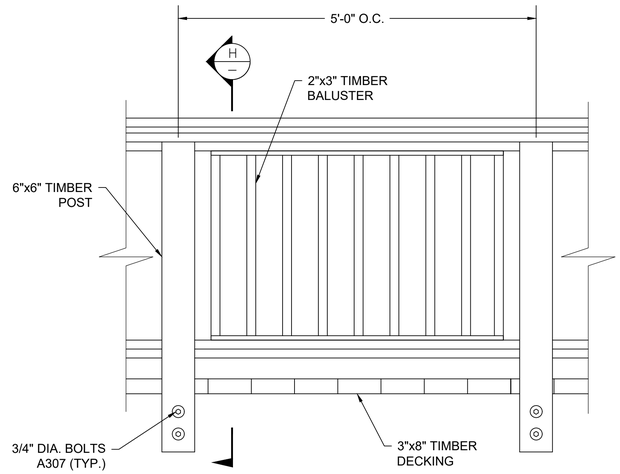
TIMBER DETAILS



SECTION G
SCALE: 1" = 1'-0"
1059



SECTION H
SCALE: 1" = 1'-0"
1059



TIMBER RAILING DETAIL 3
SCALE: 1" = 1'-0"
1059

TIMBER NOTES:

1. TIMBER SHALL BE SOLID SAWN LUMBER (S4S), SOUTHERN YELLOW PINE GRADE NO. 1 OR BETTER. TIMBER SHALL BE GRADEMARKED BY AN AGENCY ACCREDITED BY THE AMERICAN STANDARD LUMBER COMMITTEE (ASLC). ALL TIMBER SHALL MEET THE REQUIREMENTS SPECIFIED IN MASSDOT STANDARD SPECIFICATION 955 FOR TREATED TIMBER.
2. ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153 AS APPLICABLE.
3. ALL BOLTS FOR TIMBER CONNECTIONS SHALL BE ASTM A307 WITH WASHERS UNLESS OTHERWISE NOTED.
4. ALL TIMBER DECKING SHALL BE DRESSED, 4 SIDES (S4S) AND PLACED BARK SIDE UP.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION

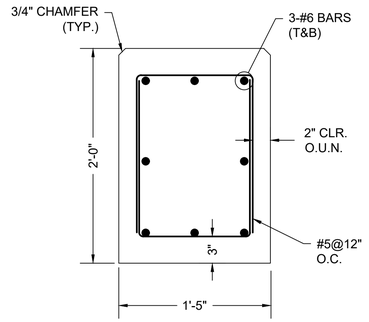
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT

608049_ST05(TIMBER DETAILS).DWG Plotted on 14-Feb-2024 10:41 AM

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1061	1094
	PROJECT FILE NO. 608049		

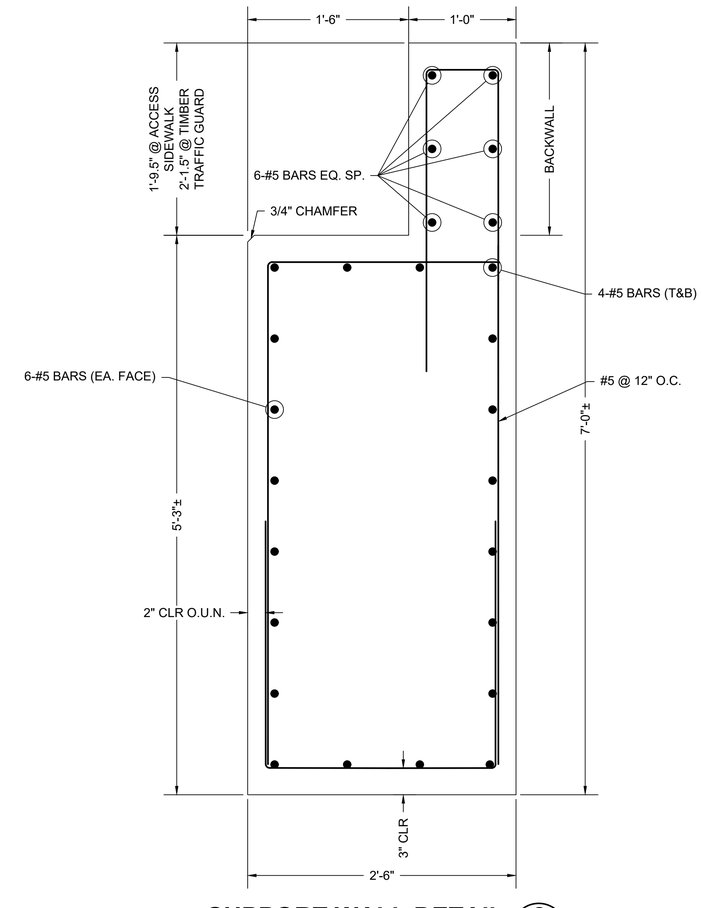
CONCRETE DETAILS

608049_ST06(CONCRETE DETAILS).DWG Plotted on 13-Feb-2024 4:52 PM



GRADE BEAM DETAIL 1/1059

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



SUPPORT WALL DETAIL 2/1059

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

NOTES:

1. ALL CONCRETE SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 585 HP CEMENT CONCRETE.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.
3. DOWEL BAR SPLICER LOCATIONS IN SUPPORT WALL AND GRADE BEAM ARE NOT SHOWN FOR CLARITY.
4. SUPPORT WALL DETAIL DIMENSIONS PROVIDED ARE BASED OFF OF EXISTING DOCUMENTS. CONTRACTOR SHALL SURVEY THE EXISTING BOARDWALK SEATS AND TOP OF BACKWALL TO DETERMINE THE FINAL DIMENSIONS.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1062	1094
PROJECT FILE NO.	608049		

608049_HD(CONSTRUCTION DETAILS).DWG Plotted on 7-Jul-2023 12:11 PM

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(SEE NOTES ON SHEET 261 FOR OVERHEAD GUIDE SIGN STRUCTURE AND FOUNDATION REQUIREMENTS.)

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1063	1094
PROJECT FILE NO.	608049		

608049_HD(CONSTRUCTION DETAILS).DWG Plotted on 7-Jul-2023 12:11 PM

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0	02/16/2024	ISSUED FOR CONSTRUCTION
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USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1064	1094
	PROJECT FILE NO.	608049	

608049_HD(CONSTRUCTION DETAILS).DWG Plotted on 7-Jul-2023 12:11 PM

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0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1065	1094
	PROJECT FILE NO. 608049		

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0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1066	1094
PROJECT FILE NO.	608049		

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0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHPI(IM)/TAP/HIP(BR)/STP-003S(191)	1067	1094
PROJECT FILE NO.	608049		

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0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		