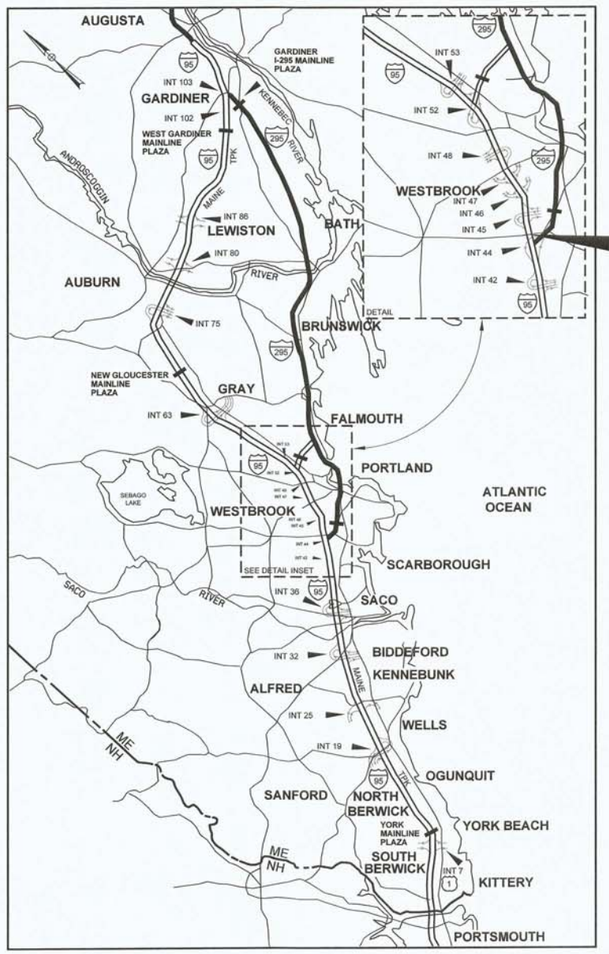

LOCATION MAP

CONTRACT 2018.19
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
(MM 44.6)

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
ROBERT D. STONE, VICE CHAIR
MICHAEL J. CIANCHETTE, MEMBER
JOHN E. DORITY, MEMBER
ANN R. ROBINSON, MEMBER
THOMAS J. ZUKE, MEMBER
KAREN S. DOYLE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

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CONTRACT 2018.19
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MM 44.6

APPROVED:
MAINE TURNPIKE AUTHORITY

Peter S. Merfeld — 9/19/18
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER — DATE

Stephen R. Tartre — 9/19/18
STEPHEN R. TARTRE, P.E., - DIRECTOR OF ENGINEERING & BUILDING MAINTENANCE — DATE

HNTB

STATE OF MAINE
ROLAND A. LAVALLEE
No. 6452
LICENSED
PROFESSIONAL ENGINEER

Roland A. Lavallee — 9/20/18
ROLAND A. LAVALLEE P.E., PLS — DATE
VICE PRESIDENT
DIRECTOR OF OPERATIONS

CONTRACT 2018.19

Date:9/18/2018

Filename: 001_MTATitle.dgn

Date:9/21/2018

ITEM NO.	ITEM DESCRIPTION	UNIT	CIVIL QUANTITY	BRIDGE QUANTITY	TOTAL QUANTITY
201.11	Clearing	AC	2		2
202.19	Removing Existing Bridge (Structural Steel = 112 Tons, Concrete = 580 CY)	LS		1	1
202.202	Removing Pavement Surface	SY	1120		1,120
203.20	Common Excavation	CY	18,600		18,600
203.24	Common Borrow	CY	10,000		10,000
203.25	Granular Borrow	CY	850	650	1,500
203.43	Geofoam Lightweight Fill	CY	5,400		5,400
203.45	Leveling Sand	CY	2,300		2,300
203.46	Sand Drainage Blanket	CY	3,800		3,800
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	CY		600	600
206.10	Structural Earth Excavation - Piers	CY		690	690
209.29	Prefabricated Vertical Drains	LF	183,000		183,000
304.10	Aggregate Subbase Course - Gravel	CY	4,050		4,050
304.14	Aggregate Base Course - Type A	CY	800		800
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	TON	950		950
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	TON	760	400	1,160
403.2084	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (sidewalks, drives, slands & incidentals)	TON	40		40
403.212	Hot Mix Asphalt, 475 mm Nominal Maximum Size	TON	30		30
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Course)	TON	570		570
409.15	Bituminous Tack Coat, Applied	GAL	430	160	590
419.30	Sawing Bituminous Pavement	LF	990		990
501.231	Dynamic Loading Test	EA		4	4
501.54	Steel H-beam Piles 117 lb/ft, delivered	LF		11,300	11,300
501.541	Steel H-beam Piles 117 lb/ft, in place	LF		10,600	10,600
501.90	Pile Tips	EA		112	112
501.91	Pile Splices	EA		336	336
501.92	Pile Driving Equipment Mobilization	LS		1	1
502.219	Structural Concrete, Abutments and Retaining Walls (635 CY)	LS		1	1
502.239	Structural Concrete, Piers (593 CY)	LS		1	1
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges (737 CY)	LS		1	1
502.264	Structural Concrete, Parapet (102 CY)	LS		1	1
502.31	Structural Concrete Approach Slab (107 CY)	LS		1	1
502.452	Structural Concrete Distribution Slab (350 CY)	LS		1	1
503.14	Epoxy-Coated Reinforcing Steel, Fabricated and Delivered	LB		479,900	479,900
503.15	Epoxy-Coated Reinforcing Steel, Placing	LB		479,900	479,900
503.17	Mechanical/Welded Splice	EA		330	330
504.702	Structural steel fabricated and delivered, welded (1190000 LB)	LS		1	1
504.71	Structural steel erection (1190000 LB)	LS		1	1
505.08	Shear Connectors (8176 EA)	LS		1	1
506.9104	Thermal Spray Coating (Shop Applied)	LS		1	1
507.091	Aluminum Bridge Railing, 1 Bar (882 LF)	LS		1	1
508.14	High Performance Waterproofing Membrane (2700 SY)	LS		1	1
511.091	Temporary Earth Support Systems	LS		1	1
513.09	Slope Protection - Portland Cement Concrete	SY		400	400
513.22	Crushed Stone Slope Protection	SY		320	320
514.06	Curing Box for Concrete Cylinders	EA		1	1

ITEM NO.	ITEM DESCRIPTION	UNIT	CIVIL QUANTITY	BRIDGE QUANTITY	TOTAL QUANTITY
515.202	Clear Protective Coating for Concrete Surfaces	SY		1,800	1,800
520.21	Expansion Device - Gland Seal (150 LF)	EA		2	2
523.52	Bearing Installation	EA		28	28
523.5401	Laminated Elastomeric Bearings, Fixed	EA		7	7
523.5402	Laminated Elastomeric Bearings, Expansion	EA		21	21
524.40	Protective Shielding - Steel Girders	SY		2,050	2,050
526.304	Temporary Concrete Barrier, Anchored (440 LF)	LS		1	1
526.306	Temporary Concrete Barrier, Type I - Suppled by Authority (2,860 LF)	LS	1		1
527.341	Work Zone Crash Cushions - TL-3	UN	2		2
527.342	Work Zone Crash Cushions - TL-2	UN	2		2
603.169	15 Inch Culvert Pipe Option III	LF	20		20
604.184	Rebuild Catch Basin to Grade - Type II	EA	1		1
604.301	Special Catch Basin - Bioscape Vault Basin	EA	1		1
604.302	Special Catch Basin - Standard Offline Basin	EA	2		2
605.10	6 inch Underdrain Outlet	LF	20		20
606.13	31" W-Beam Guardrail - Mid-Way Splice (7' Steel Post, 8" Offset Blocks, Single Faced)	LF	970		970
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangential Terminal (31" Height)	EA	2		2
606.1351	Terminal End - Anchored End - 31" W-Beam Guardrail	EA	2		2
606.1723	Bridge Transition Type III	EA	4		4
606.178	Guardrail Beam	LF	820		820
606.24	Guardrail Type 3d - Single Rail	LF	50		50
606.278	Terminal End - Anchored End	EA	2		2
606.352	Reflectorized Beam Guardrail Delineator	EA	7		7
606.356	Underdrain Delineator Post	EA	2		2
606.3561	Delineator Post - Remove and Reset	EA	9		9
606.3605	Guardrail - Remove, Modify and Reset Single Rail	LF	390		390
606.3606	Guardrail - Remove, Modify and Reset Double Rail	LF	220		220
606.47	Single Wood Post	EA	1		1
606.48	Single Galvanized Steel Post	EA	96		96
607.17	Chain Link Fence – 6 foot	LF	690		690
607.23	Chain Link Fence Gate	EA	2		2
607.32	Bracing Assembly Type I - Metal Posts	EA	6		6
607.33	Bracing Assembly Type II - Metal Posts	EA	8		8
609.11	Vertical Curb Type 1	LF	62		62
609.12	Vertical Curb Type 1 - Circular	LF	43		43
609.15	Slope Curb Type 1	LF		950	950
609.234	Terminal Curb Type 1 - 4 foot	EA	1		1
609.2341	Terminal Curb Type 1 - 4 foot - Circular	EA	1		1
609.31	Curb Type 3	LF	950		950
609.38	Reset Curb Type 1	LF	80		80
610.08	Plain Riprap	CY	250		250
610.181	Temporary Stone Check Dam	CY	2		2
613.319	Erosion Control Blanket	SY	6,150		6,150
615.07	Loam	CY	1,200		1,200
618.13	Seeding Method Number 1	UN	9		9

ITEM NO.	ITEM DESCRIPTION	UNIT	CIVIL QUANTITY	BRIDGE QUANTITY	TOTAL QUANTITY
618.14	Seeding Method Number 2	UN	87		87
619.1201	Mulch, Plan Quantity	UN	96		96
619.1202	Temporary Mulch	LS	1		1
620.58	Erosion Control Geotextile	SY	140		140
620.70	HDPE Geomembrane	SY	4,950		4,950
626.33	30 Inch Foundation, 8 feet or less Foundation	EA	2		2
627.712	White or Yellow Pavement Marking Line	LF	10,700		10,700
627.73	Temporary 6 Inch Pavement Marking Tape	LF	1,300		1,300
627.75	White or Yellow Pavement & Curb Marking	SF	130		130
627.77	Removing Existing Pavement Marking	SF	9,600		9,600
627.78	Temporary Pavement Marking Line, White or Yellow	LF	22,100		22,100
627.812	Temporary Raised Pavement Markers	EA	2,600		2,600
629.05	Hand Labor, Straight Time	HR	60		60
631.10	Air Compressor (including operator)	HR	20		20
631.11	Air Tool (including operator)	HR	40		40
631.12	All Purpose Excavator (including operator)	HR	10		10
631.171	Truck - small (including operator)	HR	35		35
631.172	Truck - large (including operator)	HR	35		35
631.22	Front end loader (Including Operator)	HR	35		35
631.32	Culvert Cleaner (including Operator)	HR	10		10
631.36	Foreman	HR	20		20
639.18	Field Office, Type A	EA	1		1
639.26	Instrumentation - Geotechnical	LS	1		1
645.272	Regulatory, Warning and Bridge Number Signs, Type I - Supplied by Authority	EA	2		2
645.292	Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II	EA	2		2
645.503	Remove and Reset Bridge Mounted Guide Sign to Ground Mounted	LS	1		1
645.504	Remove and Reset Mainline Sign	LS	1		1
646.091	Settlement Platforms	LS	1		1
652.30	Flashing Arrow	EA	2		2
652.312	Type III Barricades	EA	18		18
652.33	Drum	EA	170		170
652.34	Cone	EA	80		80
652.35	Construction Signs	SF	1,200		1,200
652.361	Maintenance of Traffic Control Devices	LS	1		1
652.38	Flaggers	HR	260		260
652.41	Portable-Changeable Message Sign	EA	3		3
652.45	Truck Mounted Attenuator	CD	130		130
652.452	Automated Trailer Mounted Speed Limit Sign	EA	2		2
656.50	Baled Hay, in place	EA	25		25
656.60	Temporary Berms	LF	2,100		2,100
656.62	Temporary Slope Drains	LF	200		200
656.632	30 inch Temporary Silt Fence	LF	6,000		6,000
659.10	Mobilization	LS	1		1

Filename: 002_Quantity Sheet.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

ESTIMATED QUANTITIES

SHEET NUMBER: EQ-01

CONTRACT:2018.19

EARTHWORK SUMMARY

PRELOAD AND SURCHARGE

COMMON EXCAVATION	PHASE 1	PHASE 2
COMMON EXCAVATION TO 6 INCHES BELOW BOTTOM OF GEOFOAM (A1)	210	0
DEDUCT GRUBBING IN CUT	170	0
TOTAL AVAILABLE COMMON EXCAVATION	40	0
TOTAL AVAILABLE NON-ROCK EXCAVATION TO USE AS PRELOAD (* x 0.85)	34	0
COMMON FILL		
FILL PLACED DURING PRELOAD TO REMAIN (B2)	4859	0
SURCHARGE (A3/B3)	4785	0
TOTAL FILL FOR PRELOAD/SURCHARGE	9644	0

TOTAL BORROW NEEDED FOR PRELOAD/SURCHARGE (ITEM 203.24) 9610

COMMON EXCAVATION FOR ESTIMATE

COMMON EXCAVATION	PHASE 1		PHASE 2	
SURCHARGE REMOVAL (A4/B4)	4785		0	
SAND DRAINAGE REMOVAL (A5)	627		0	
EXCAVATION FOR GEOFOAM AND LEVELING SAND (A6/B5)	1274		2018	
OTHER	3108		6246	
GRUBBING IN FILL (BORROW AND SAND)	139		22	
PAVEMENT REMOVAL IN FILL	10		120	
SUBTOTAL		9943		8406
COMMON EXCAVATION FROM PRELOAD		210		
SUBTOTAL		10153		
TOTAL COMMON EXCAVATION ITEM 203.20				18559

FILL FOR BORROW CALCULATIONS

	PHASE 1	PHASE 2	
COMMON FILL (FROM CROSS SECTIONS)	1012	533	
GRUBBING IN FILL (BORROW ONLY)	70	22	
SUBTOTAL	1082	555	
TOTAL FILL FOR BORROW			1637

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

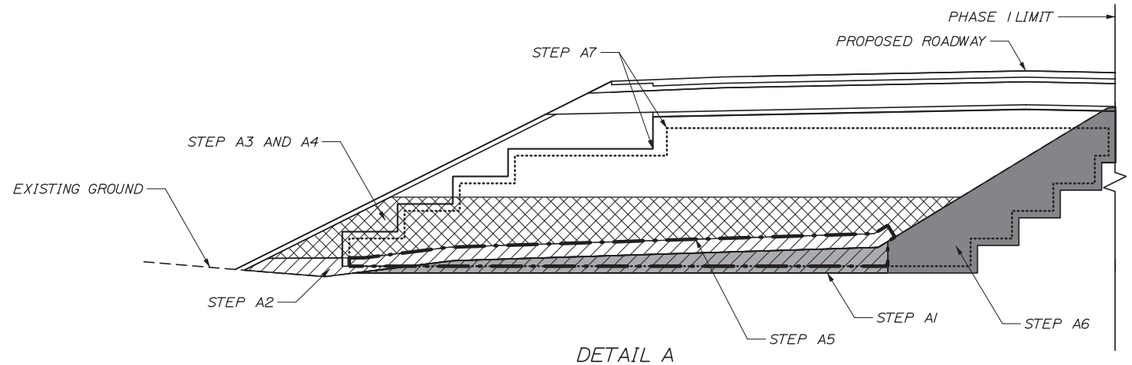
	PHASE 1	PHASE 2
(1) TOTAL COMMON EXCAVATION DEDUCTIONS:	10153	8406
GRUBBING IN FILL	139	22
GRUBBING IN CUT	714	489
EXISTING PAVEMENT REMOVAL	50	790
(2) TOTAL DEDUCTIONS:	903	1301
TOTAL AVAILABLE COMMON EXCAVATION	9250	7105
TOTAL AVAILABLE STRUCTURAL EXCAVATION	775	515
TOTAL AVAILABLE NON-ROCK EXCAVATION	10025	7620

COMPUTATION OF COMMON BORROW FOR ESTIMATE

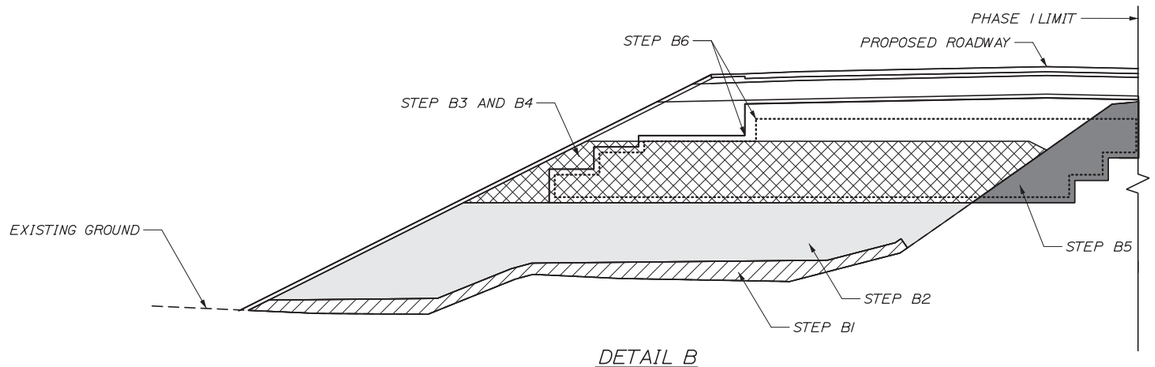
(3) TOTAL FILL	1082	555
TOTAL AVAILABLE NON-ROCK EXCAVATION (* x 0.85)	8521	6477
(4) TOTAL AVAILABLE EXCAVATION	8521	6477
(5) TOTAL AVAILABLE SURPLUS [(4) - (3)]	7439	5922
TOTAL PROJECT SURPLUS		13361

NOTES:

1. PRELOAD AND SURCHARGE EARTHWORK QUANTITIES FOR DETAIL A WERE DETERMINED USING THE FOLLOWING SEQUENCE OF CONSTRUCTION:
   - STEP A1: EXCAVATE AND GRUB EARTH TO 6 INCHES BELOW BOTTOM OF GEOFOAM.
   - STEP A2: PLACE SAND DRAINAGE BLANKET.
   - STEP A3: PLACE SURCHARGE ON TOP OF SAND DRAINAGE BLANKET.
   - STEP A4: ONCE SURCHARGE PERIOD IS COMPLETE, EXCAVATE SURCHARGE.
   - STEP A5: EXCAVATE SAND DRAINAGE BLANKET TO BOTTOM OF GEOFOAM ELEVATION.
   - STEP A6: EXCAVATE AND GRUB EARTH FOR GEOFOAM AND LEVELING SAND PLACEMENT.
   - STEP A7: PLACE GEOFOAM AND LEVELING SAND. KEEP SAND DRAINAGE BLANKET IN PLACE OF LEVELING SAND WHERE APPLICABLE.
2. PRELOAD AND SURCHARGE EARTHWORK QUANTITIES FOR DETAIL B WERE DETERMINED USING THE FOLLOWING SEQUENCE OF CONSTRUCTION:
   - STEP B1: PLACE SAND DRAINAGE BLANKET.
   - STEP B2: PLACE PRELOAD FILL TO REMAIN IN PLACE.
   - STEP B3: PLACE SURCHARGE ON TOP OF FILL TO REMAIN IN PLACE.
   - STEP B4: ONCE SURCHARGE PERIOD IS COMPLETE, EXCAVATE SURCHARGE.
   - STEP B5: EXCAVATE EARTH FOR GEOFOAM AND LEVELING SAND PLACEMENT.
   - STEP B6: PLACE GEOFOAM AND LEVELING SAND.



DETAIL A
N.T.S.



DETAIL B
N.T.S.

Date:9/21/2018

Filename: 003_Earthwork_Summary.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EARTHWORK SUMMARY

SHEET NUMBER: EW-01

CONTRACT:2018.19

GENERAL

1. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD DETAILS HIGHWAYS AND BRIDGES LATEST REVISION AND MAINE DEP BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL LATEST REVISION UNLESS OTHERWISE INCLUDED IN THESE PLANS.

2. CONTRACTOR IS REQUIRED TO MAINTAIN ACCESS TO ALL DRIVEWAYS AND SIDE ROADS DURING CONSTRUCTION UNLESS OTHERWISE SHOWN ON THE PLANS.

3. THE CONTRACTOR SHALL SUBMIT HIS PROPOSED STAGING AREA(S) AND FIELD TRAILER LOCATION TO THE RESIDENT FOR APPROVAL PRIOR TO STARTING WORK.

4. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THIS PLAN SET IS FOR THE BIDDER'S AND CONTRACTOR'S USE. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF ACTUAL SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION. THE AUTHORITY SHALL NOT BE RESPONSIBLE FOR THE BIDDER'S AND CONTRACTOR'S INTERPRETATIONS OF OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS CONTAINED IN THE PLAN SET PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.

EARTHWORK

1. CLEARING LIMITS SHALL BE 10' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT. THE ACTUAL CLEARING LINES SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND SHALL BE APPROVED BY THE RESIDENT PRIOR TO ANY CLEARING TAKING PLACE.

2. EXISTING INSLOPES STEEPER THAN 2:1 IN PROPOSED FILL AREAS SHALL BE BENCHED AS SHOWN IN THE DETAILS OR AS DIRECTED BY THE RESIDENT.

3. GRUBBING IN FILL AREAS HAS BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT. GRUBBING DEPTH HAS BEEN ESTIMATED AS 6" (12" IN WOODED AREAS).

4. WASTE MATERIALS SHALL BE DISPOSED OF OFF THE PROJECT SITE, IN ACCORDANCE WITH ALL ENVIRONMENTAL REGULATIONS.

5. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH OSHA SUBPART P OF 29 CFR PART 1926.650-652 (CONSTRUCTION STANDARDS FOR EXCAVATION).

6. REMOVAL OF EXISTING PAVEMENT SHALL BE PAID FOR AS COMMON EXCAVATION. EXISTING PAVEMENT THICKNESS HAS BEEN ESTIMATED TO BE 6".

7. ON SITE STOCKPILING RESTRICTIONS EXIST. SEE SPECIAL PROVISION SECTION 107.4.7 LIMITATIONS OF OPERATIONS FOR MORE INFORMATION.

8. COMMON BORROW SHALL BE COMPACTED TO 90% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR. GRANULAR BORROW AND AGGREGATE SHALL BE COMPACTED TO 95% OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR.

9. GRANULAR BORROW SHALL BE USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1' ABOVE WATER LEVEL OR OLD GROUND. GRANULAR BORROW SHALL MEET THE REQUIREMENTS OF GRANULAR BORROW-UNDERWATER BACKFILL AND WILL BE PAID FOR AS GRANULAR BORROW.

10. THE TERMS PRELOAD AND SURCHARGE ARE USED INTERCHANGEABLY THROUGHOUT THE CONTRACT.

LOCAL ROAD

1. PAVED ENTRANCES SHALL BE CONSTRUCTED WITH;
   2" HOT MIX ASPHALT, 12.5 MM
   12" AGGREGATE SUBBASE COURSE-GRAVEL.

2. COMMERCIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH;
   3" HOT MIX ASPHALT, 12.5 MM
   11" AGGREGATE SUBBASE COURSE GRAVEL

3. CHAIN LINK FENCE GATES SHALL BE 4' WIDE SINGLE GATES AND SHALL BE LOCATED ONE ON EACH SIDE OF THE TURNPIKE ROADWAY. EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE RESIDENT.

4. EXISTING ROW FENCE WITHIN THE LIMITS OF WORK, AS SHOWN ON THE PLANS OR DIRECTED BY THE RESIDENT, SHALL BE REMOVED AND DISPOSED. THIS WORK SHALL BE INCIDENTAL TO SECTION 607.

5. IF REQUIRED, CONNECTION FOR PROPOSED FENCE TO EXISTING FENCE SHALL BE INCIDENTAL TO THE PROPOSED FENCE ITEMS.

6. CONTRACTOR IS REQUIRED TO MAINTAIN ACCESS TO ALL DRIVEWAYS AND SIDE ROADS DURING CONSTRUCTION UNLESS OTHERWISE SHOWN ON THE PLANS.

UTILITY

1. EXISTING UTILITIES ON THESE PLANS WERE COMPILED FROM FIELD SURVEY AND VARIOUS OTHER SOURCES. LOCATIONS ARE NOT GUARANTEED TO BE ACCURATE NOR IS IT GUARANTEED THAT ALL UTILITIES ARE SHOWN. NO SEPARATE OR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR DUE TO ANY VARIANCE BETWEEN THE DATA SHOWN ON THE PLANS AND THE ACTUAL FIELD CONDITIONS ENCOUNTERED. NO WORK SHALL BE STARTED UNTIL THE OWNERS OF THE VARIOUS UTILITIES ARE NOTIFIED BY THE CONTRACTOR OF THE PROPOSED CONSTRUCTION. THE CONTRACTOR IS ALSO REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF THE WORK.

2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS NOTED.

3. THE UTILITIES INVOLVED IN THIS CONTRACT ARE:

   CENTRAL MAINE POWER
   CONSOLIDATED COMMUNICATIONS
   FIRSTLIGHT FIBER
   PORTLAND WATER DISTRICT
   SPECTRUM
   MCI WORLDCOM (VERIZON)

4. THE CONTRACTOR SHALL NOTIFY THE RESIDENT 10 DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL PROPOSED SIGN LOCATIONS AND EXCAVATION LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATION WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED ITS' UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THERE ARE NO UNDERGROUND UTILITIES IN THE MARKED AREAS. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE UTILITY LOCATIONS.

EROSION CONTROL

1. THE ANTICIPATED EROSION CONTROL DEVICES ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL PROPOSE ACTUAL TYPE AND LOCATION OF DEVICES FOR APPROVAL BY THE RESIDENT. ADDITIONAL MEASURES MAY BE PROPOSED BY THE CONTRACTOR DUE TO SITE OR WEATHER CONDITIONS. THE RESIDENT MAY DIRECT THE CONTRACTOR TO IMPLEMENT ADDITIONAL MEASURES. ANY ADDITIONAL MEASURES APPROVED BY THE RESIDENT WILL BE MEASURED FOR PAYMENT.

2. 4" LOAM HAS BEEN ESTIMATED FOR 100% OF THE DISTURBED SLOPE AREA UNLESS OTHERWISE SPECIFIED ON THE PLANS. ACTUAL PLACEMENT OF THE LOAM SHALL BE AS DESIGNATED BY THE RESIDENT.

3. NEWLY DISTURBED EARTH SHALL BE MULCHED BY THE END OF EACH WORK DAY. MULCH SHALL BE MAINTAINED ON A DAILY BASIS. THIS WORK SHALL BE PAID FOR UNDER ITEM 619.1202 TEMPORARY MULCH.

4. TEMPORARY SEED SHALL BE APPLIED TO ALL DISTURBED AREAS THAT WILL NOT BE COMPLETED WITHIN 30 DAYS.

5. ALL TEMPORARY AND PERMANENT EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION BEST MANAGEMENT PRACTICES.

6. TEMPORARY STONE CHECK DAMS SHALL BE INSTALLED IN ACCORDANCE WITH THE MAINE DEP BEST MANAGEMENT PRACTICES.

7. TEMPORARY BERMS AND TEMPORARY SLOPE DRAINS ARE ANTICIPATED AT ALL STONE DOWNSPOUT LOCATIONS WHILE GROWTH IS BEING ESTABLISHED ON SIDE SLOPES.

8. TEMPORARY EROSION CONTROL BLANKET, ITEM 613.319 SHALL BE INSTALLED IN ALL DITCHES AND 2:1 SLOPES FROM TOP TO TOE OF SLOPE. LOAM AND SEED SHALL BE PLACED PRIOR TO THE INSTALLATION OF THE EROSION CONTROL BLANKET. LIMITS OF THE EROSION CONTROL BLANKET IN DITCHES SHALL BE 6' WIDE OR AS DESIGNATED BY THE RESIDENT.

9. UNLESS OTHERWISE NOTED SEEDING METHOD NO. 1 SHALL BE UTILIZED ON ALL LAWNS AND DEVELOPED AREAS; SEEDING METHOD NO. 2 SHALL BE UTILIZED ON ALL OTHER AREAS.

DRAINAGE

1. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT. ABANDONED STRUCTURES TO REMAIN SHALL BE PLUGGED WITH BRICK AND MORTAR, INCIDENTAL TO SECTION 604 ITEMS.

2. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

3. ALL DITCH ELEVATIONS AND OFFSETS SHOWN ON THE CROSS SECTIONS ARE FOR THE FINISHED DITCH FLOW LINE.

4. EXISTING CULVERTS AND CATCH BASINS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATORS)

5. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO TAKE A PROPOSED PIPE WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCIDENTAL TO THE PROPOSED CULVERT ITEMS.

GUARDRAIL

1. AT THE END OF EACH WORK DAY, THE CONTRACTOR IS REQUIRED TO HAVE AN APPROVED CRASHWORTHY END TREATMENT ON ALL GUARDRAIL WITHIN ALL WORK AREAS THAT ARE ACCESSIBLE TO TRAFFIC.

2. CONNECTIONS FOR PROPOSED GUARDRAIL TO EXISTING GUARDRAIL SHALL BE INCIDENTAL TO THE PROPOSED GUARDRAIL ITEMS.

3. ALL PROPOSED GUARDRAIL AND RESET GUARDRAIL SHALL BE INSTALLED IN A MANNER TO AVOID DRAINAGE STRUCTURES, INCLUDING SPECIAL CATCH BASINS.

4. ALL EXISTING DELINEATOR AND MILE MARKER POSTS SHALL BE REMOVED AND RESET UPON COMPLETION OF THE CONTRACT. PAYMENT FOR RESETTING GUARDRAIL DELINEATOR POSTS AND MILE MARKER POSTS WILL BE MADE UNDER ITEM 606.3561. DELINEATOR POSTS SUPPLIED BY THE CONTRACTOR SHALL BE PAID FOR UNDER ITEM 606.356 AS UNDERDRAIN DELINEATOR POSTS.

5. PROPOSED MAILBOX POSTS SHALL BE A 4X4 WOOD POST SET 45" HIGH WITH A 2 FOOT EMBEDMENT. OFFSET SHALL BE A MINIMUM OF 1 FOOT BEYOND THE EDGE OF SHOULDER OR SIMILAR TO EXISTING, WHICHEVER IS GREATER. PAYMENT SHALL BE UNDER ITEM 606.47 SINGLE WOOD POST.

6. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING MAILBOXES TO ENSURE THAT THE MAIL WILL BE DELIVERABLE. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.

7. W-BEAM GUARDRAIL EXISTS ON THE PROJECT SITE.
THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE EXISTING W-BEAM GUARDRAIL. PAYMENT SHALL BE INCIDENTAL TO SECTION 606 GUARDRAIL ITEMS.

SIGNS

1. BRIDGE NAME SIGNS AND BRACKETS SHALL BE SUPPLIED BY THE MAINE TURNPIKE AUTHORITY. THE CONTRACTOR SHALL INSTALL THE SIGNS ON THE NORTHBOUND AND SOUTHBOUND FASCIA BEAMS. PAYMENT SHALL BE INCIDENTAL TO ITEM 504.71 AND SHALL FOLLOW THE BELOW REQUIREMENTS:

   A. LOCATION OF SIGN SUPPORT SHALL BE FIELD LOCATED BY THE RESIDENT.

   B. BOLTS SHALL BE $^{11}/_{32}$" DIAMETER, ASTM F3125, GRADE 4325, TYPE 1.

   C. SIGN BRACKETS SHALL BE LOCATED WITHIN TWO FEET OF SIGN ENDS. BRACKET SPACING SHALL BE FIVE FEET ON CENTER MAXIMUM.

2. REMOVE AND RESET OF ALL REGULATORY, WARNING, CONFIRMATION, ROUTE MARKER ASSEMBLY SIGN FOR CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 645 - HIGHWAY SIGNING. PAYMENT WILL BE INCIDENTAL TO RELATED CONTRACT ITEMS.

Date:9/21/2018

Filename: 004_General Notes.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

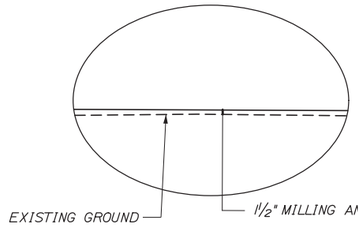
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

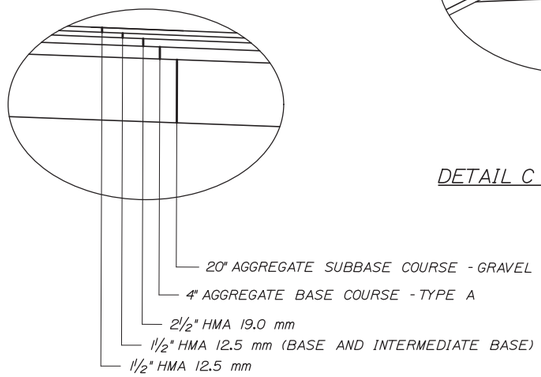
GENERAL NOTES

SHEET NUMBER: GN-01

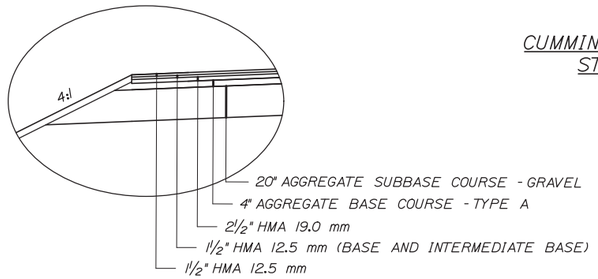
CONTRACT:2018.19



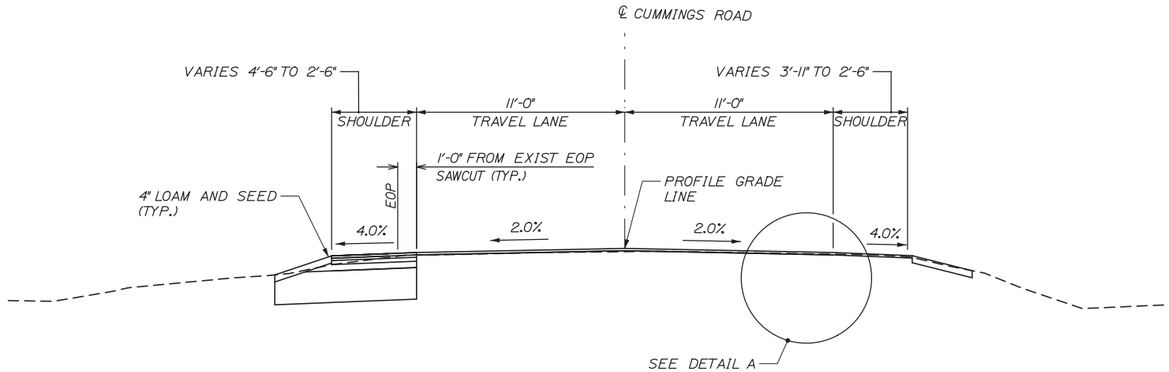
DETAIL A
½" = 1'-0"



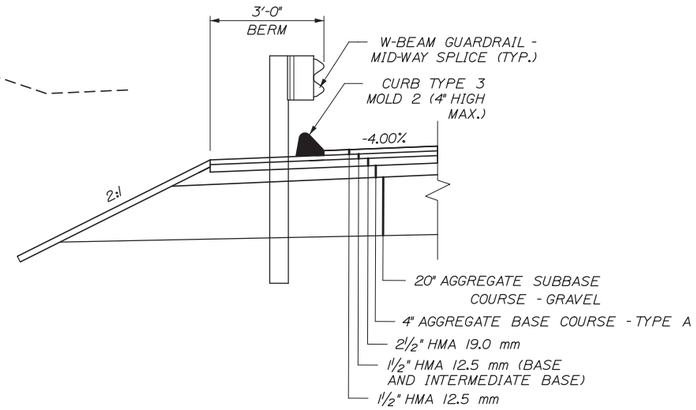
DETAIL B
½" = 1'-0"



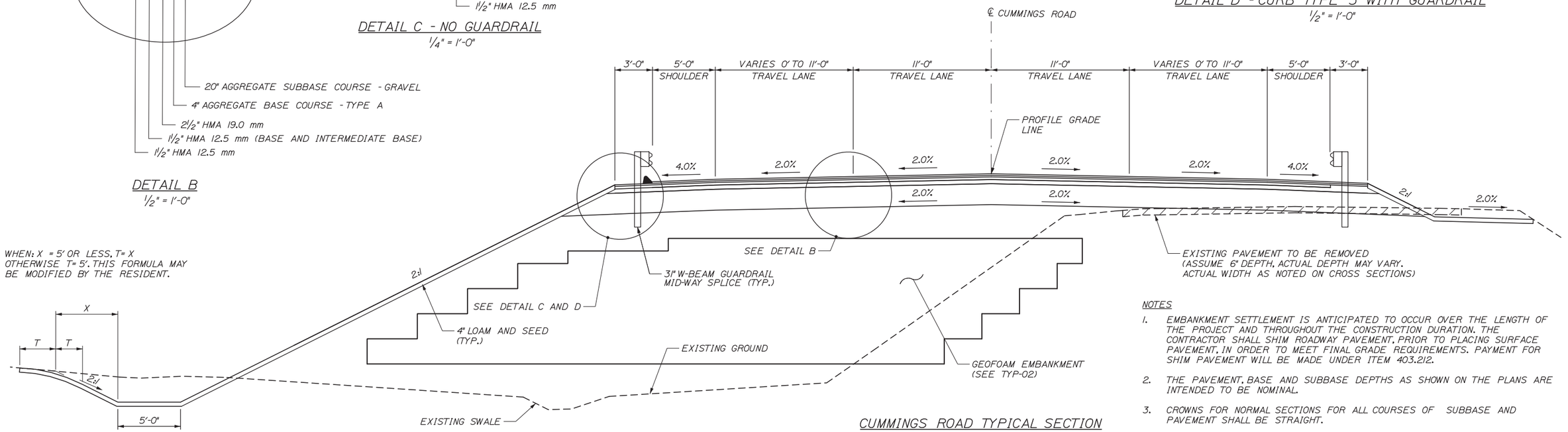
DETAIL C - NO GUARDRAIL
¼" = 1'-0"



CUMMINGS ROAD TYPICAL SECTION
STATION 78+00 TO 79+04
¼" = 1'-0"



DETAIL D - CURB TYPE 3 WITH GUARDRAIL
½" = 1'-0"



CUMMINGS ROAD TYPICAL SECTION
STA 63+36 TO 77+50
¼" = 1'-0"

NOTES

1. EMBANKMENT SETTLEMENT IS ANTICIPATED TO OCCUR OVER THE LENGTH OF THE PROJECT AND THROUGHOUT THE CONSTRUCTION DURATION. THE CONTRACTOR SHALL SHIM ROADWAY PAVEMENT, PRIOR TO PLACING SURFACE PAVEMENT, IN ORDER TO MEET FINAL GRADE REQUIREMENTS. PAYMENT FOR SHIM PAVEMENT WILL BE MADE UNDER ITEM 403.212.
2. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
3. CROWNS FOR NORMAL SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT.
4. ALL NECESSARY PAVEMENT CUTTING SHALL BE SAWCUT AND DONE IN SUCH A MANNER AS TO LEAVE A CLEAN, VERTICAL FACE.
5. THE STATIONING SHOWN UNDER EACH TYPICAL SECTION IS APPROXIMATE.

Date:9/21/2018

Filename: 005_Typical_01.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

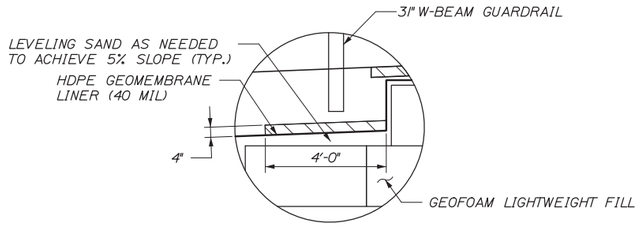
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

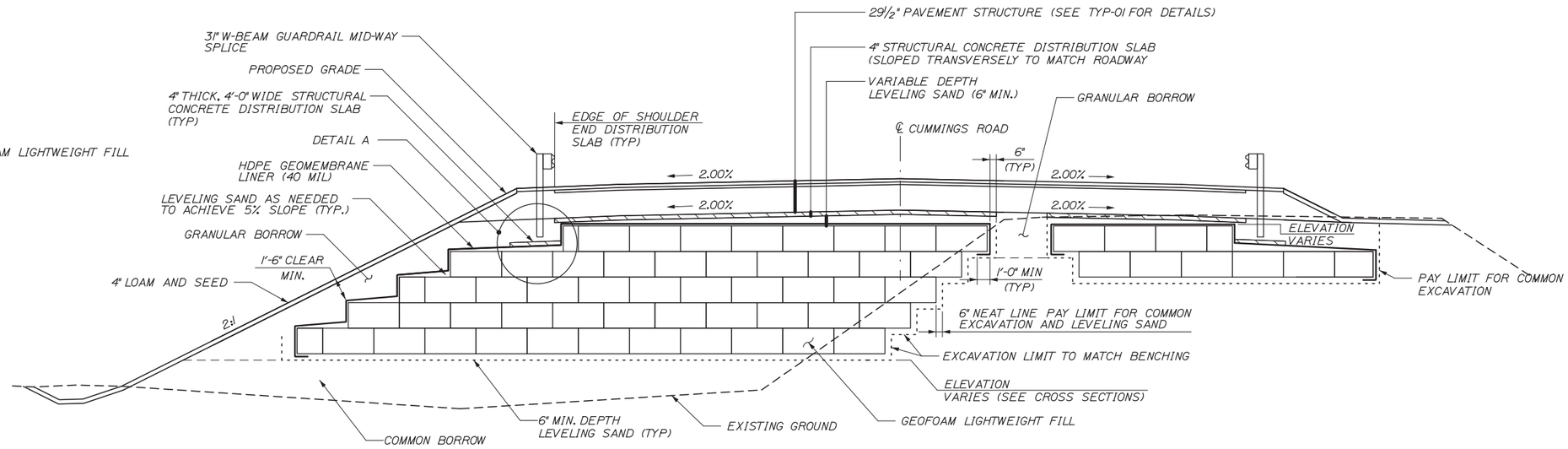
TYPICAL SECTIONS

SHEET NUMBER: TYP-01

CONTRACT:2018.19



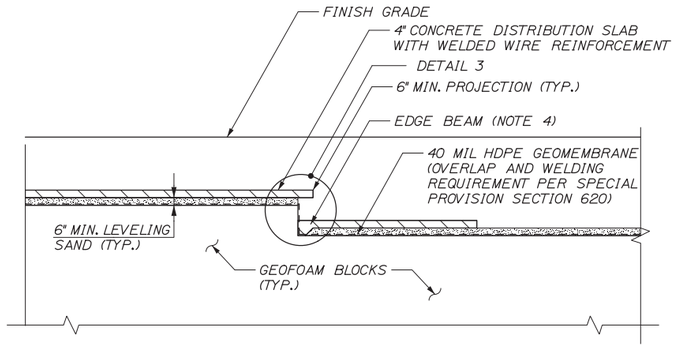
DETAIL A



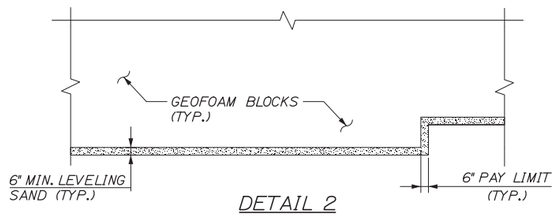
GEOFOAM TYPICAL SECTION
N.T.S.

GOEFOAM NOTES:

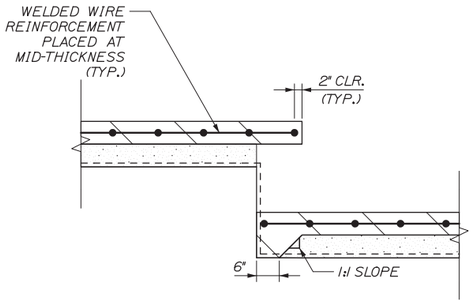
1. GEOFOAM LIGHTWEIGHT FILL SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIAL PROVISIONS.
2. WELDED WIRE REINFORCEMENT SHALL BE INCIDENTAL TO PAY ITEM 502.452, STRUCTURAL CONCRETE DISTRIBUTION SLAB.
3. STRUCTURAL WELDED WIRE REINFORCEMENT SHALL BE UNCOATED 6x6-W5.5xW5.5.
4. EDGE BEAMS SHALL BE FORMED AT ALL LONGITUDINAL STEPS IN GEOFOAM EMBANKMENT AND WHERE THE CONCRETE DISTRIBUTION SLAB ABUTS CONCRETE WINGWALLS AND ABUTMENTS.



DETAIL 1
N.T.S.



DETAIL 2
N.T.S.



DETAIL 3
N.T.S.

LONGITUDINAL DETAILS

(SEE SHEET GT-01 AND GT-02 FOR DETAIL LOCATION)

Date:9/21/2018

Filename: 006_Geofoam Special Details.dgn

Scale:			
No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	BAM	09\18	Checked	JKO	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

GEOFOAM SPECIAL DETAILS

SHEET NUMBER: TYP-02

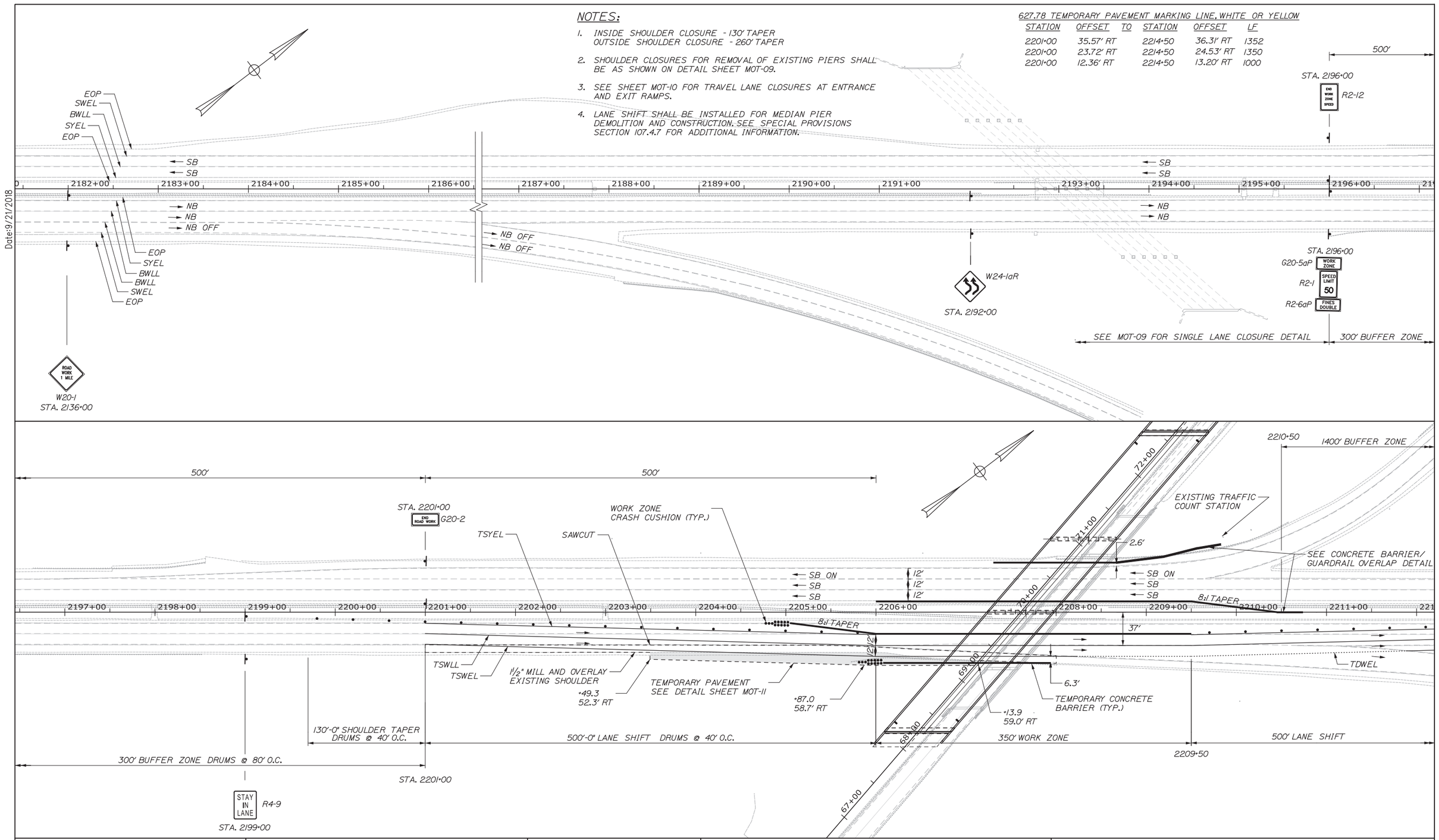
CONTRACT:2018.19

NOTES:

1. INSIDE SHOULDER CLOSURE - 130' TAPER
   OUTSIDE SHOULDER CLOSURE - 260' TAPER
2. SHOULDER CLOSURES FOR REMOVAL OF EXISTING PIERS SHALL BE AS SHOWN ON DETAIL SHEET MOT-09.
3. SEE SHEET MOT-10 FOR TRAVEL LANE CLOSURES AT ENTRANCE AND EXIT RAMPS.
4. LANE SHIFT SHALL BE INSTALLED FOR MEDIAN PIER DEMOLITION AND CONSTRUCTION. SEE SPECIAL PROVISIONS SECTION 107.4.7 FOR ADDITIONAL INFORMATION.

627.78 TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW

STATION	OFFSET	TO	STATION	OFFSET	LF
2201+00	35.57' RT		2214+50	36.31' RT	1352
2201+00	23.72' RT		2214+50	24.53' RT	1350
2201+00	12.36' RT		2214+50	13.20' RT	1000



Date:9/21/2018

Filename: 007_MOT 01.dgn

Scale: 50 0 50 100
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC MAINE TURNPIKE PLAN (1 OF 2)

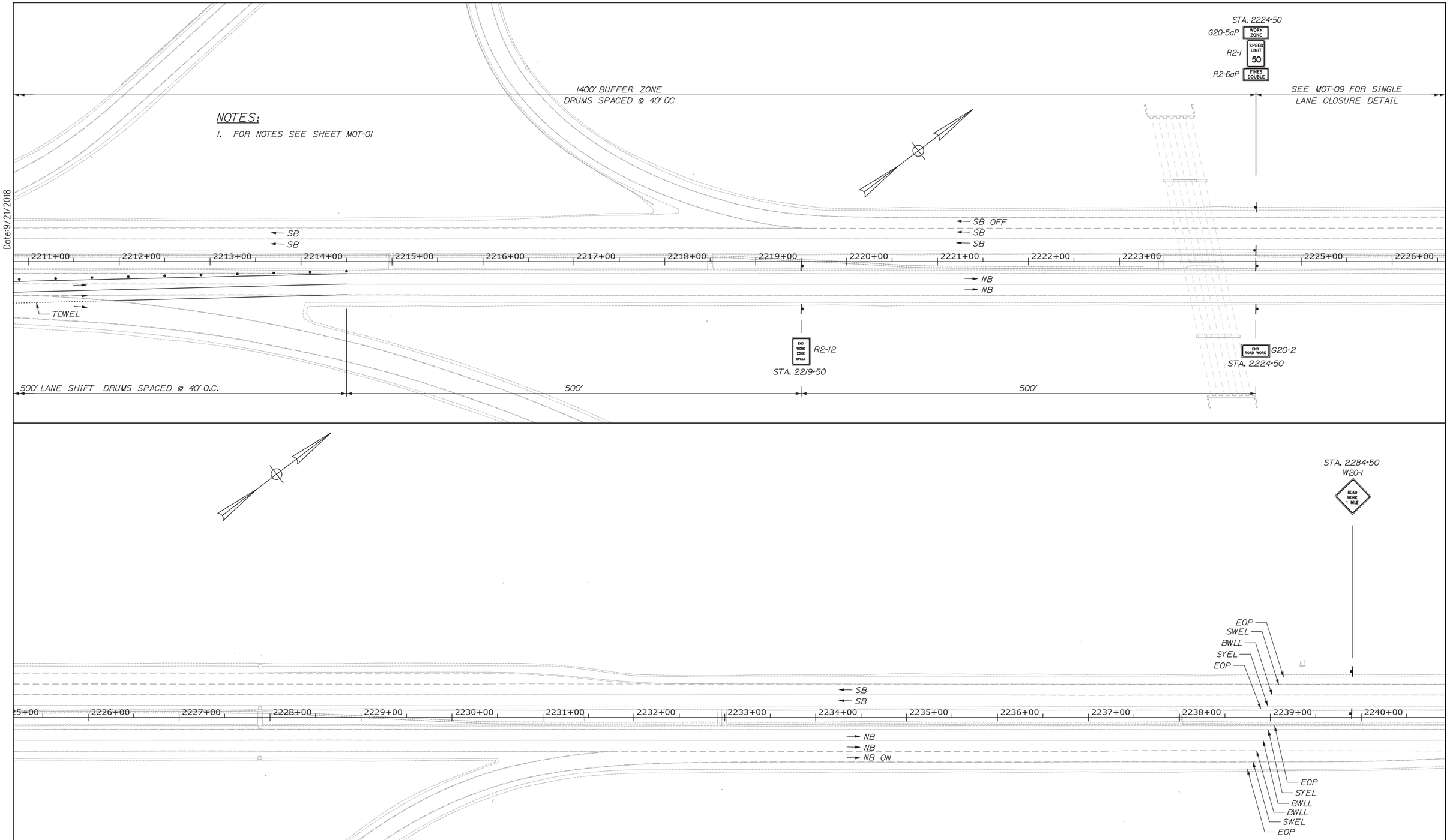
SHEET NUMBER: MOT-01

CONTRACT:2018.19

Date:9/21/2018

NOTES:

1. FOR NOTES SEE SHEET MOT-01



Filename: 008_MOT 02.dgn

Scale: 50 0 50 100
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC MAINE TURNPIKE PLAN (2 OF 2)

SHEET NUMBER: MOT-02

CONTRACT:2018.19

Date:9/21/2018

NOTES:

1. FOR BRIDGE PHASING SEE SHEETS S-12 THROUGH S-16

2. TEMPORARY CONCRETE BARRIER SHALL BE 2 FEET FROM SLOPE BREAK OR SHALL BE PINNED. PINNING OF BARRIER SHALL BE INCIDENTAL TO ITEM 526.306.

3. DUE TO ANTICIPATED SETTLEMENT, FINAL GUARDRAIL, CURB AND SURFACE PAVEMENT SHALL NOT BE INSTALLED UNTIL THE DATE NOTED IN SPECIAL PROVISION SECTION 107.4.6. FURTHER, GRADE CORRECTIONS MAY BE REQUIRED ALONG THE EXISTING ROADWAY. CONTRACTOR SHALL SHIM THE ROADWAY AS DIRECTED BY THE RESIDENT. PAYMENT SHALL BE INCIDENTAL TO RELATED CONTRACT ITEMS.

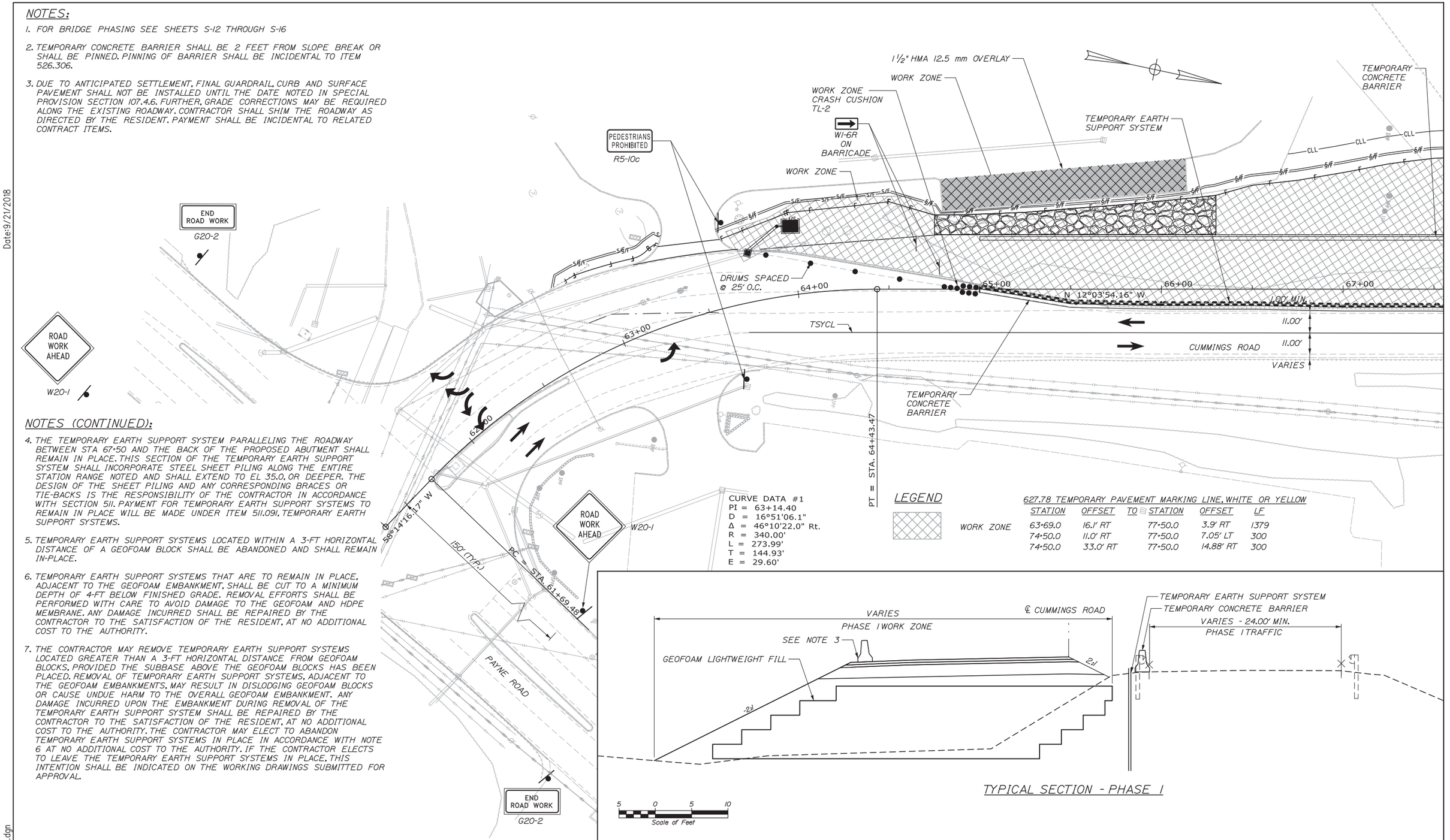
NOTES (CONTINUED):

4. THE TEMPORARY EARTH SUPPORT SYSTEM PARALLELING THE ROADWAY BETWEEN STA 67+50 AND THE BACK OF THE PROPOSED ABUTMENT SHALL REMAIN IN PLACE. THIS SECTION OF THE TEMPORARY EARTH SUPPORT SYSTEM SHALL INCORPORATE STEEL SHEET PILING ALONG THE ENTIRE STATION RANGE NOTED AND SHALL EXTEND TO EL 35.0, OR DEEPER. THE DESIGN OF THE SHEET PILING AND ANY CORRESPONDING BRACES OR TIE-BACKS IS THE RESPONSIBILITY OF THE CONTRACTOR IN ACCORDANCE WITH SECTION 511. PAYMENT FOR TEMPORARY EARTH SUPPORT SYSTEMS TO REMAIN IN PLACE WILL BE MADE UNDER ITEM 511.091, TEMPORARY EARTH SUPPORT SYSTEMS.

5. TEMPORARY EARTH SUPPORT SYSTEMS LOCATED WITHIN A 3-FT HORIZONTAL DISTANCE OF A GEOFOAM BLOCK SHALL BE ABANDONED AND SHALL REMAIN IN-PLACE.

6. TEMPORARY EARTH SUPPORT SYSTEMS THAT ARE TO REMAIN IN PLACE, ADJACENT TO THE GEOFOAM EMBANKMENT, SHALL BE CUT TO A MINIMUM DEPTH OF 4-FT BELOW FINISHED GRADE. REMOVAL EFFORTS SHALL BE PERFORMED WITH CARE TO AVOID DAMAGE TO THE GEOFOAM AND HDPE MEMBRANE. ANY DAMAGE INCURRED SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT, AT NO ADDITIONAL COST TO THE AUTHORITY.

7. THE CONTRACTOR MAY REMOVE TEMPORARY EARTH SUPPORT SYSTEMS LOCATED GREATER THAN A 3-FT HORIZONTAL DISTANCE FROM GEOFOAM BLOCKS, PROVIDED THE SUBBASE ABOVE THE GEOFOAM BLOCKS HAS BEEN PLACED. REMOVAL OF TEMPORARY EARTH SUPPORT SYSTEMS, ADJACENT TO THE GEOFOAM EMBANKMENTS, MAY RESULT IN DISLODGING GEOFOAM BLOCKS OR CAUSE UNDUE HARM TO THE OVERALL GEOFOAM EMBANKMENT. ANY DAMAGE INCURRED UPON THE EMBANKMENT DURING REMOVAL OF THE TEMPORARY EARTH SUPPORT SYSTEM SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE RESIDENT, AT NO ADDITIONAL COST TO THE AUTHORITY. THE CONTRACTOR MAY ELECT TO ABANDON TEMPORARY EARTH SUPPORT SYSTEMS IN PLACE IN ACCORDANCE WITH NOTE 6 AT NO ADDITIONAL COST TO THE AUTHORITY. IF THE CONTRACTOR ELECTS TO LEAVE THE TEMPORARY EARTH SUPPORT SYSTEMS IN PLACE, THIS INTENTION SHALL BE INDICATED ON THE WORKING DRAWINGS SUBMITTED FOR APPROVAL.



627.78 TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW

STATION	OFFSET	TO STATION	OFFSET	LF
63+69.0	16.1' RT	77+50.0	3.9' RT	1379
74+50.0	11.0' RT	77+50.0	7.05' LT	300
74+50.0	33.0' RT	77+50.0	14.88' RT	300

TYPICAL SECTION - PHASE I

Filename: 009_Phase1MOT_01.dgn

Scale: 25 0 25 50 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC CUMMINGS ROAD PHASE 1 PLAN 1

SHEET NUMBER: MOT-03

CONTRACT:2018.19

Date:9/21/2018

TEMPORARY CONCRETE BARRIER

CONNECT TEMPORARY CONCRETE BARRIER TO END POST (TYP). SEE NOTE 1 THIS SHEET.

2205+00

2206+00

EQUAL AHD 2206+02.18

EQUAL AHD 2206+02.31

2207+00

STA. 70+00.00 CUMMINGS ROAD ℄
= STA. 2207+60.54 MAINE TURNPIKE ℄

WORK ZONE

TEMPORARY CONCRETE BARRIER

67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

N 12°03'54.16" W

1.00' MIN.
11.00'
11.00'
VARIES

PHASE 1 ABUTMENT CONSTRUCTION

TSYCL

TEMPORARY EARTH SUPPORT SYSTEM

2208+00
N 37°14'53.31" E

TEMPORARY EARTH SUPPORT SYSTEM

TEMPORARY CONCRETE BARRIER

1.00'
64.5
36.0' RT

100'

PC = STA. 73+00.32

W24-1R

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

2209+00

MAINE TURNPIKE SB

MAINE TURNPIKE NB

EXIT 45 NB OFF RAMP

EXIT 45 SB ON RAMP

2210+00

LEGEND

WORK ZONE

NOTES:

1. UPON COMPLETION OF PHASE 1 CONSTRUCTION, PRIOR TO SWITCHING PHASE 2 TRAFFIC TO THE PHASE 1 BRIDGE, TEMPORARY CONCRETE BARRIER SHALL BE CONNECTED TO THE PROPOSED PHASE 1 END POSTS. CONNECTION TO THE END POSTS SHALL BE COMPLETED WITH THE PERMANENT THRIE BEAM CONNECTOR REQUIRED FOR THE BRIDGE TRANSITION AND A NESTED THRIE BEAM PANEL BOLTED TO THE TEMPORARY CONCRETE BARRIER. PAYMENT SHALL BE INCIDENTAL TO 526.306.

Filename: 010_Phase1MOT_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

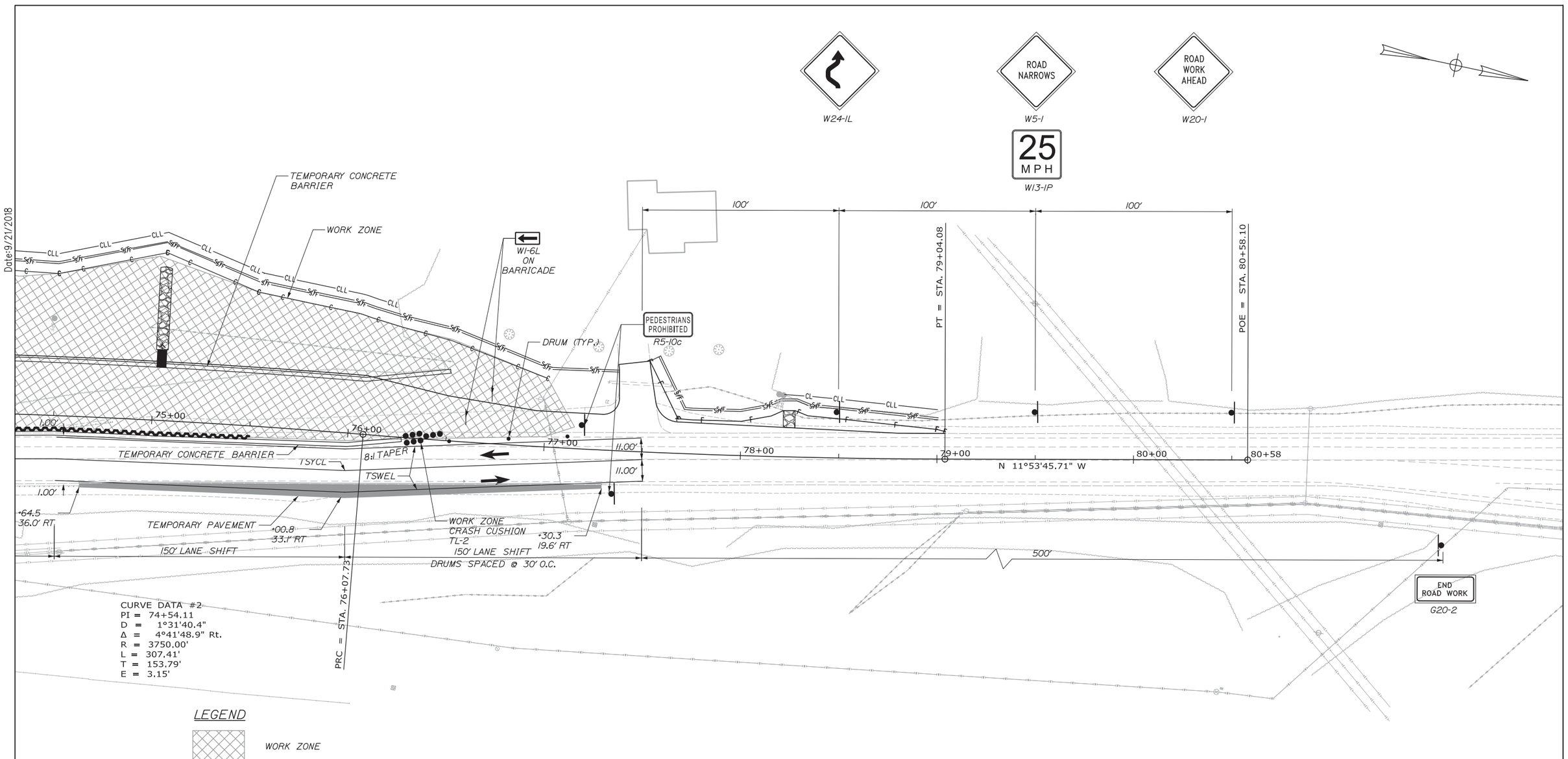
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC CUMMINGS ROAD PHASE 1 PLAN 2

SHEET NUMBER: MOT-04

CONTRACT:2018.19



Date:9/21/2018

Filename: 011_Phase1MOT_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MAINTENANCE OF TRAFFIC
CUMMINGS ROAD PHASE 1 PLAN 3

SHEET NUMBER: MOT-05

CONTRACT:2018.19

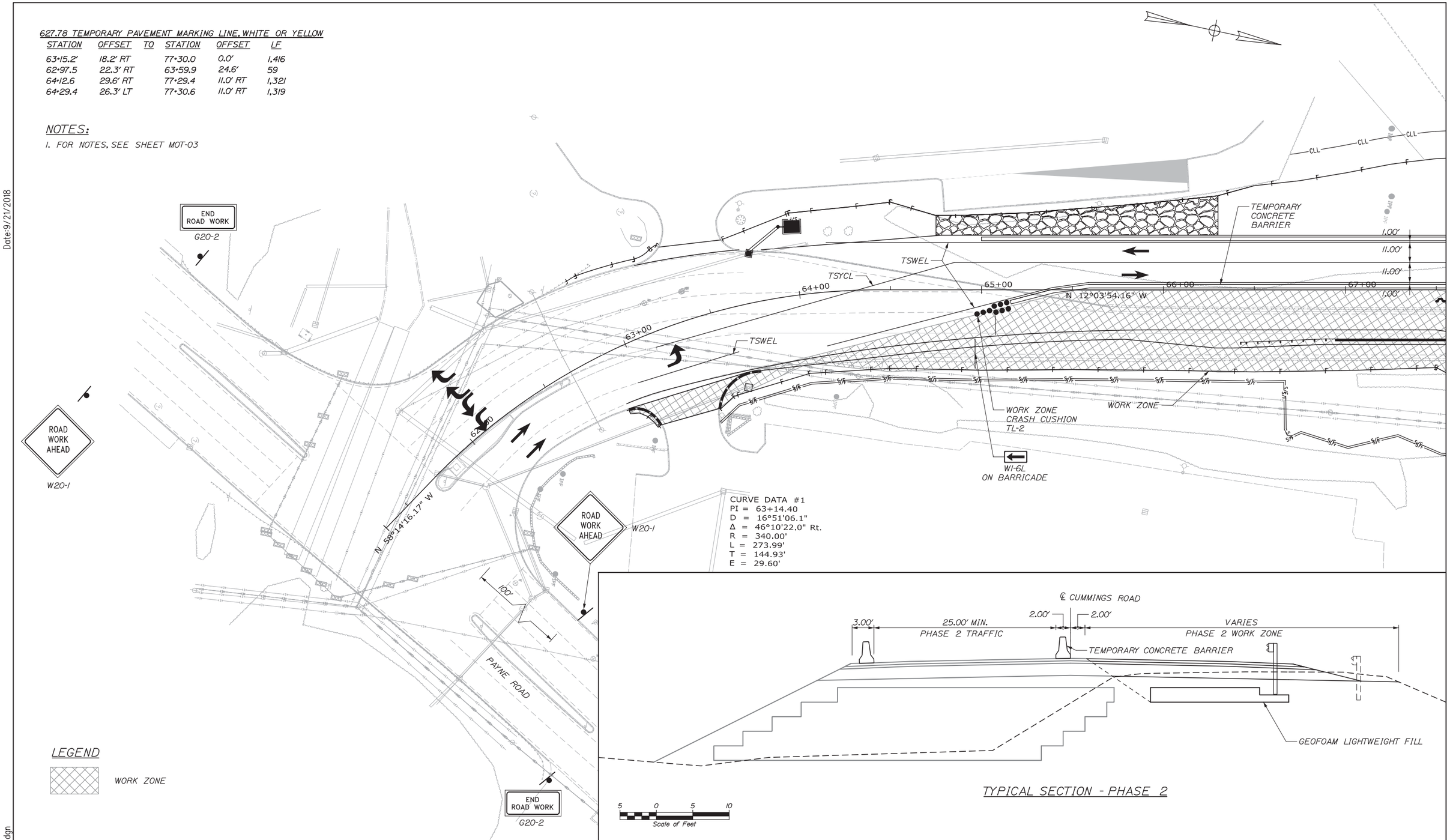
Date:9/21/2018

627.78 TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW

STATION	OFFSET	TO	STATION	OFFSET	LF
63+15.2'	18.2' RT		77+30.0	0.0'	1,416
62+97.5	22.3' RT		63+59.9	24.6'	59
64+12.6	29.6' RT		77+29.4	11.0' RT	1,321
64+29.4	26.3' LT		77+30.6	11.0' RT	1,319

NOTES:

1. FOR NOTES, SEE SHEET MOT-03



TYPICAL SECTION - PHASE 2

LEGEND

WORK ZONE

5 0 5 10
Scale of Feet

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

HNTB CORPORATION
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC CUMMINGS ROAD PHASE 2 PLAN 1

SHEET NUMBER: MOT-06

CONTRACT:2018.19

Filename: 012_Phase2MOT_01.dgn

Date:9/21/2018

2205+00
2206+00
2207+00
2208+00
2209+00
2210+00

BRIDGE TO BE STRIPED WITH TEMPORARY 6 INCH PAVEMENT MARKING TAPE

STA. 70+00.00 CUMMINGS ROAD ℄
= STA. 2207+60.54 MAINE TURNPIKE ℄

TEMPORARY EARTH SUPPORT SYSTEM

PHASE 2 ABUTMENT CONSTRUCTION

TSYCL

TSWEL

TEMPORARY CONCRETE BARRIER, ANCHORED

TEMPORARY EARTH SUPPORT SYSTEM

TEMPORARY CONCRETE BARRIER

1.00'
11.00'
11.00'
1.00'

67+00
68+00
69+00
70+00
71+00
72+00
73+00
74+00

N 12°03'54.16" W

N 37°14'53.31" E

WORK ZONE

MAINE TURNPIKE SB

MAINE TURNPIKE NB

EXIT 45 NB OFF RAMP

EXIT 45 SB ON RAMP

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

WI-4

LEGEND

WORK ZONE

Filename: 013_Phase2MOT_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

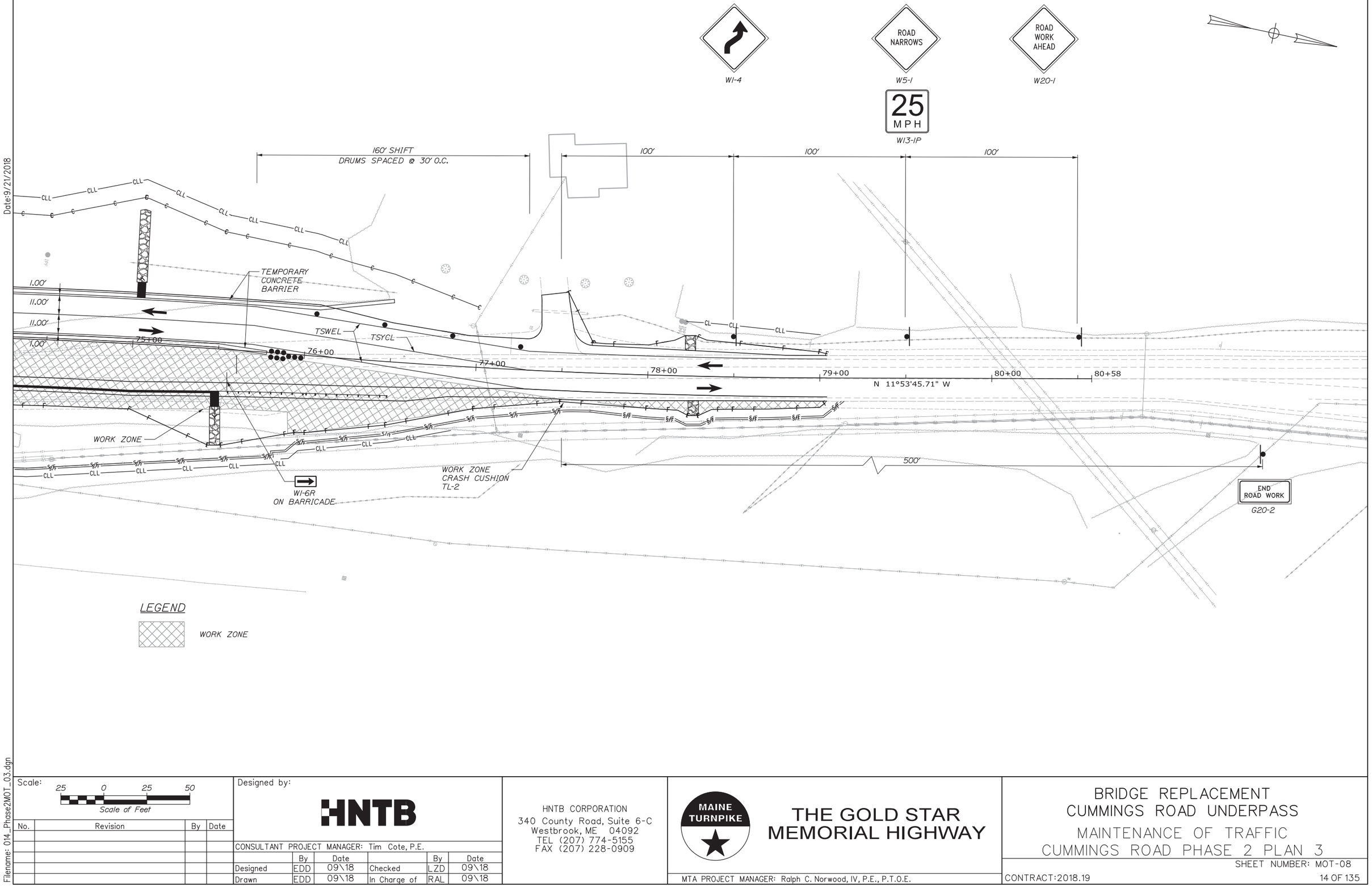
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC CUMMINGS ROAD PHASE 2 PLAN 2

SHEET NUMBER: MOT-07

CONTRACT:2018.19

Date:9/21/2018



Filename: 014_Phase2MOT_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

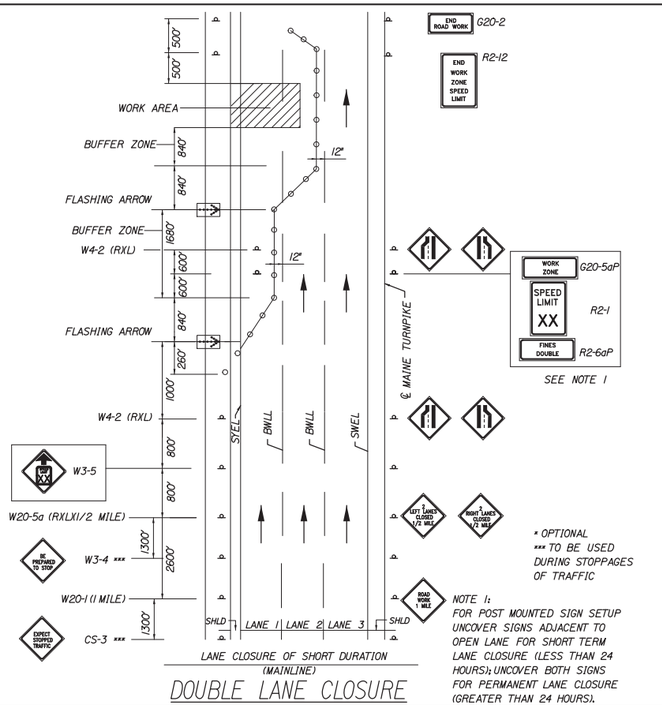
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC CUMMINGS ROAD PHASE 2 PLAN 3

SHEET NUMBER: MOT-08

CONTRACT:2018.19

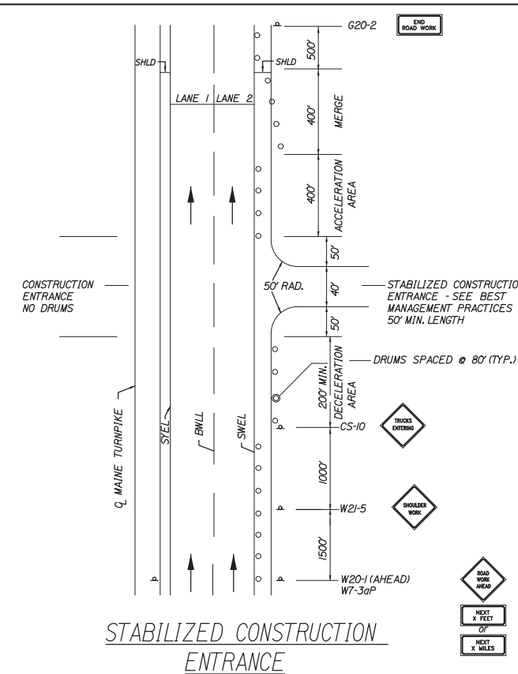
Date:9/21/2018



DOUBLE LANE CLOSURE

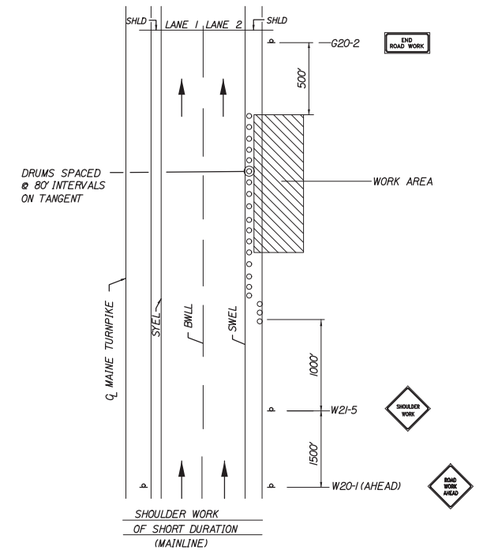
* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC

NOTE 1:
FOR POST MOUNTED SIGN SETUP UNCOVER SIGNS ADJACENT TO OPEN LANE FOR SHORT TERM LANE CLOSURE (LESS THAN 24 HOURS); UNCOVER BOTH SIGNS FOR PERMANENT LANE CLOSURE (GREATER THAN 24 HOURS).



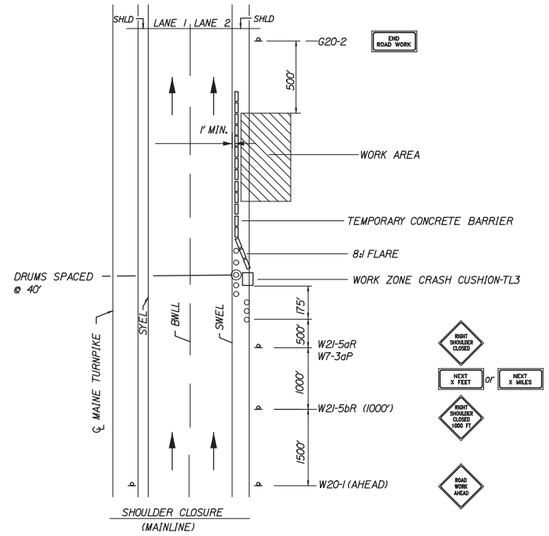
STABILIZED CONSTRUCTION ENTRANCE

1. SIGN G20-2 IS NOT REQUIRED IF ENTRANCE IS WITHIN THE WORK ZONE.



SHOULDER WORK

1. THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.

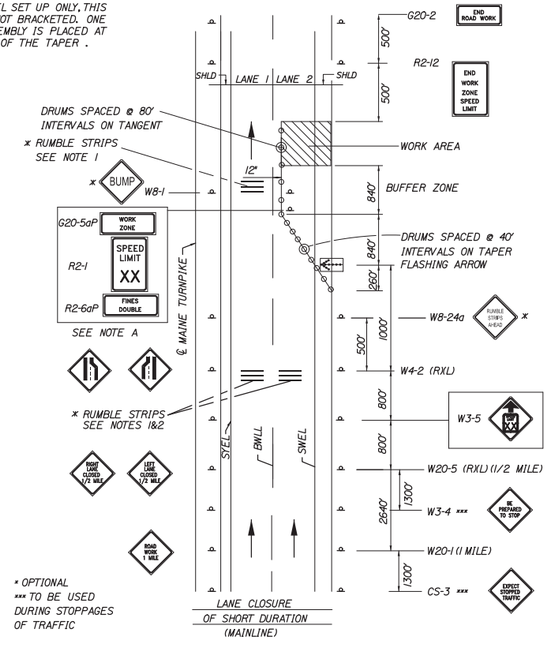


SHOULDER CLOSURE

1. THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.

2. ONLY ONE SHOULDER CLOSURE PERMITTED PER BOUND AT ONE TIME.

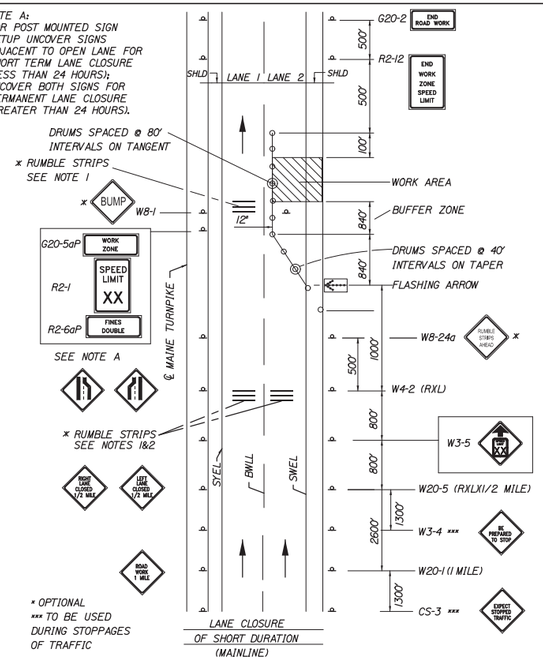
NOTE A:
FOR EASEL SET UP ONLY. THIS SIGN IS NOT BRACKETED. ONE SIGN ASSEMBLY IS PLACED AT THE END OF THE TAPER .



SINGLE LANE CLOSURE - SIGNS ON EASELS

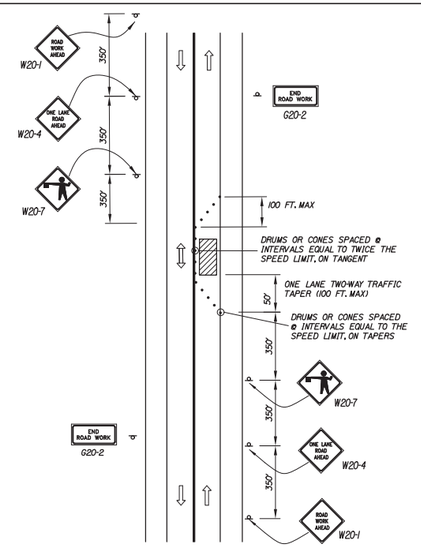
* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC

NOTE A:
FOR POST MOUNTED SIGN SETUP UNCOVER SIGNS ADJACENT TO OPEN LANE FOR SHORT TERM LANE CLOSURE (LESS THAN 24 HOURS); UNCOVER BOTH SIGNS FOR PERMANENT LANE CLOSURE (GREATER THAN 24 HOURS).



SINGLE LANE CLOSURE - POST MOUNTED SIGN SETUP

* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC



LOCAL ROAD SINGLE LANE CLOSURE

NOTES:
1. ROAD WORK AHEAD & END ROAD WORK SIGNS MAY BE OMITTED FOR SHORT DURATION OPERATIONS (LESS THAN 1 HOUR).

2. FLAGGERS SHALL BE LOCATED SO THEY ARE CLEARLY VISIBLE TO APPROACHING DRIVERS.

3. SIGN SPACING ASSUMES LOCAL ROAD SPEED IS 40 MPH OR LESS.

GENERAL MAINTENANCE OF TRAFFIC NOTES:

1. ALL PAVEMENT STRIPING & SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", U.S.D.O.T., F.H.W.A., LATEST EDITION.
2. THESE PLANS SHOW THE GENERAL CONDITION FOR TURNPIKE MAINLINE TRAFFIC CONTROL. DURING CONSTRUCTION, SLIGHT MODIFICATIONS IN CONSTRUCTION PROCEDURE MAY OCCUR AND MAY REQUIRE SOME MINOR ADJUSTMENTS TO BE MADE IN THE FIELD. ALL PROCEDURES MUST BE APPROVED BY THE RESIDENT.
3. THE CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND MUTCD. PAYMENT SHALL BE MADE UNDER ITEM 627.77 - REMOVING PAVEMENT MARKINGS.
4. EXPOSED BARRIER ENDS ON THE MAINE TURNPIKE SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.341 - WORK ZONE CRASH CUSHION - TL-3.
5. EXPOSED BARRIER ENDS ON CUMMINGS RD. SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.342 - WORK ZONE CRASH CUSHION - TL-2.
6. SPEED LIMIT, STOP, YIELD AND EXIT SIGNS SHALL BE A MINIMUM OF 5' ABOVE THE PAVEMENT.

ABBREVIATIONS FOR ALL M.O.T. PLANS

BWLL = BROKEN WHITE LANE LINE
SWEL = SOLID WHITE LANE LINE
SYEL = SOLID YELLOW LANE LINE
TBWLL = TEMPORARY BROKEN WHITE LANE LINE
TDWEL = TEMPORARY DOTTED WHITE EDGE LINE
TSWEL = TEMPORARY SOLID WHITE EDGE LINE
TSWLL = TEMPORARY SOLID WHITE LANE LINE
TSYCL = TEMPORARY SOLID YELLOW CENTER LINE

TEMPORARY RUMBLE STRIP NOTES

1. IF RUMBLE STRIPS ARE USED THEY SHALL BE PLACED IN ONE OF THE FOLLOWING CONFIGURATIONS:
   - ADJACENT TO THE WORK ZONE (1 UNIT)
   - UPSTREAM FROM THE TAPER FOR THE WORKZONE (2 UNITS)
   - BOTH ADJACENT TO THE WORKZONE AND PRIOR TO THE TAPER (3 UNITS)

   W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST RUMBLE STRIP AT ANY LOCATION. ONLY ONE SET OF W8-24a SIGNS ARE REQUIRED FOR ANY OF THE ABOVE CONFIGURATIONS.
2. RUMBLE STRIPS MAY BE PLACED UPSTREAM OF THE TAPER BETWEEN THE W3-5 SIGNS AND THE W4-2 SIGNS. IF RUMBLE STRIPS ARE INSTALLED PRIOR TO TAPER, W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST STRIP AND THE W8-24a SIGNS SHALL BE MOVED TO 400' AFTER THE W20-5 SIGNS.

Filename: 015_MOT DETAILS.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

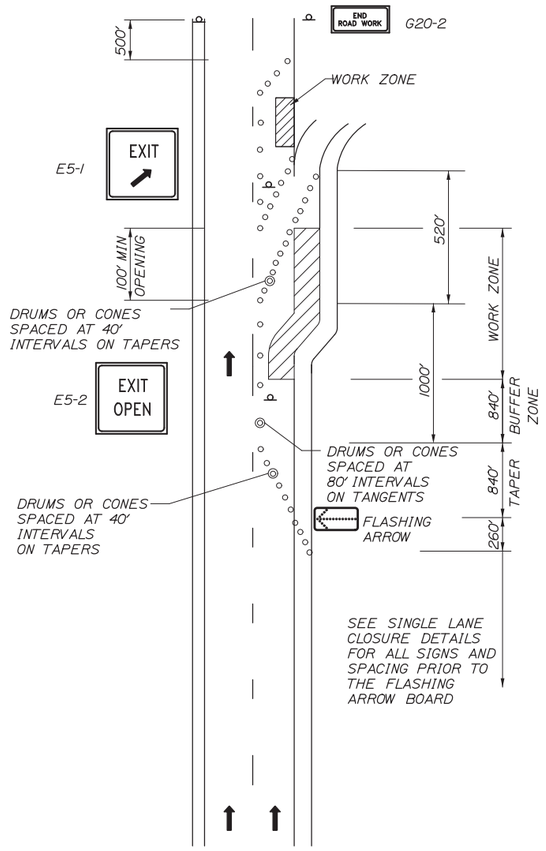
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

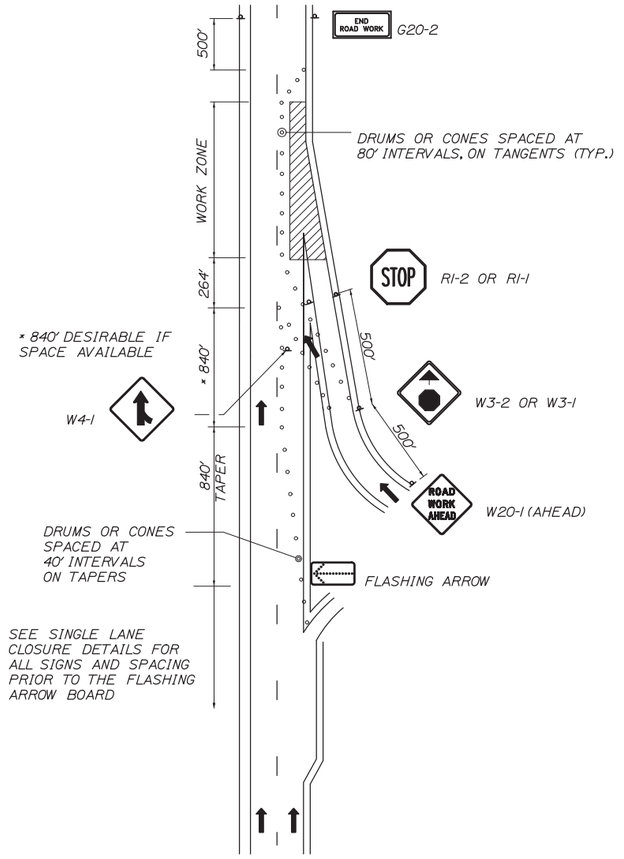
MAINTENANCE OF TRAFFIC DETAILS 1

SHEET NUMBER: MOT-09

CONTRACT:2018.19



TRAVEL LANE CLOSURE AT AN EXIT RAMP



TRAVEL LANE CLOSURE AT AN ENTRANCE RAMP

NOTES:

1. FOR SIGN DETAILS, SEE MAINTENANCE OF TRAFFIC SIGN SUMMARY SHEETS.
2. YIELD OR STOP CONDITION SHALL BE DETERMINED BY THE RESIDENT.
3. WHERE STOP SIGNS ARE USED, A TEMPORARY STOP LINE SHOULD BE PLACED ACROSS THE RAMP AT THE DESIRED STOP LOCATION.

LANE CLOSURES OF SHORT DURATION AT RAMPS
(MAINLINE)

Date:9/21/2018

Filename: 016_MOT DETAILS2.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim R. Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC DETAILS II

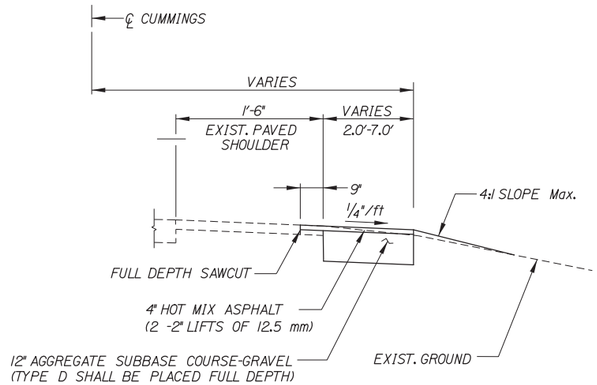
SHEET NUMBER: MOT-10

CONTRACT:2018.19

Date:9/21/2018

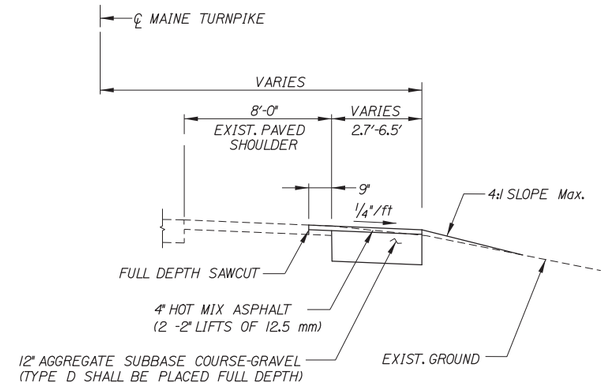
GENERAL MAINTENANCE OF TRAFFIC NOTES:

1. ALL WORK TO CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES, EXCEPT AS MODIFIED BY THE MAINE TURNPIKE AUTHORITY'S SUPPLEMENTAL AND SPECIAL PROVISIONS.
2. ALL PAVEMENT STRIPING & SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", U.S.D.O.T., F.H.W.A., LATEST EDITION.
3. THESE PLANS SHOW THE GENERAL CONDITION FOR TURNPIKE MAINLINE AND INTERCHANGE TRAFFIC CONTROL. DURING CONSTRUCTION, SLIGHT MODIFICATIONS IN CONSTRUCTION PROCEDURE MAY OCCUR AND MAY REQUIRE SOME MINOR ADJUSTMENTS TO BE MADE IN THE FIELD. ALL PROCEDURES MUST BE APPROVED BY THE RESIDENT.
4. THE CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND MUTCD. PAYMENT SHALL BE MADE UNDER ITEM 627.77 - REMOVING PAVEMENT MARKINGS.
5. TEMPORARY PAVEMENT MARKINGS SHALL BE PAINTED, UNLESS OTHERWISE NOTED. PAYMENT FOR MARKINGS ON THE MAINE TURNPIKE SHALL BE UNDER ITEM 627.78 - TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW.
6. EXPOSED BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.341 - WORK ZONE CRASH CUSHION - TL-3.
7. ALL BARRIER SHALL BE SET WITH A MINIMUM 8:1 TAPER. THE 8:1 TAPERED BARRIER LENGTH IS DEPENDENT ON THE LOCATION OF THE BARRIER RELATIVE TO THE MAINE TURNPIKE SHOULDERS OR LANES.
8. ONE COMPLETE LANE CLOSURE PACKAGE (LEFT OR RIGHT LANE - TURNPIKE), INCLUDING WORK ZONE SPEED SIGNS, HAS BEEN INCLUDED IN THE CONTRACT TO PERMIT SETUP AND REMOVAL OF THE PERMANENT WORK ZONE MAINTENANCE OF TRAFFIC CONTROL DEVICES. ONE ADDITIONAL ARROW BOARD IS ALSO INCLUDED IN THE CONTRACT TO PERMIT SETUP AND REMOVAL OF THE PERMANENT WORK ZONE MAINTENANCE OF TRAFFIC CONTROL DEVICES.



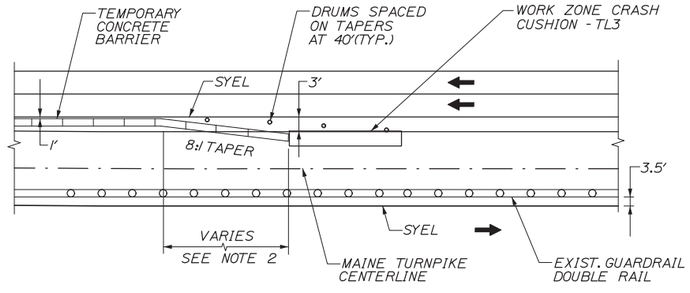
TEMPORARY PAVEMENT LIMITS
(SEE SHEET MOT-05)
NORTHBOUND
STA 74+64.5, 36.0' RT to
STA 77+30.3, 19.6' RT

CUMMINGS ROAD
TEMPORARY PAVEMENT
NOT TO SCALE

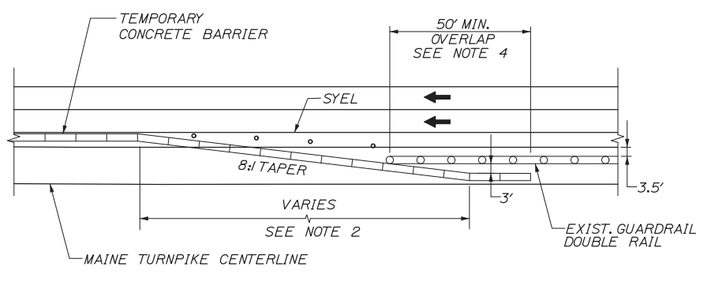


TEMPORARY PAVEMENT LIMITS
(SEE SHEET MOT-01)
NORTHBOUND
STA 2204+00, 53.6' RT to
STA 2206+50, 59.6' RT

MAINE TURNPIKE NB
TEMPORARY PAVEMENT
NOT TO SCALE



EXIST. GUARDRAIL ON FAR SIDE OF MEDIAN



EXIST. GUARDRAIL ON NEAR SIDE OF MEDIAN

NOTES

1. BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION (TL-3), OR LAPPED BEHIND GUARDRAIL. SEE DETAILS THIS SHEET.
2. 8:1 MINIMUM TAPERED BARRIER LENGTH DEPENDENT ON LOCATION OF BARRIER RELATIVE TO MAINE TURNPIKE SHOULDERS OR LANES.
3. IF A WORK ZONE CRASH CUSHION - TL3 IS USED FOR A MEDIAN SHOULDER CLOSURE, THE CRASH CUSHION SYSTEM MUST BE FOUNDED ON A LEVEL SURFACE. ANY WORK NECESSARY TO PROVIDE A LEVEL SURFACE WILL BE INCIDENTAL TO THE CRASH CUSHION ITEM.
4. IF THE 50' MIN. LENGTH OF OVERLAP CANNOT BE MET, THEN THE EXISTING GUARDRAIL END MUST BE ANCHORED IN ACCORDANCE WITH DRAWING SEW02a IN THE AASHTO-AGC-ARBTA JOINT COMMITTEE TASK FORCE 13 REPORT, DRAFTED MAY 1995.

CONCRETE BARRIER / GUARDRAIL OVERLAP DETAIL

NOT TO SCALE

Filename: 017_mpt notes.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
MAINTENANCE OF TRAFFIC NOTES AND MISCELLANEOUS DETAILS

SHEET NUMBER: MOT-11

CONTRACT:2018.19

Date:9/21/2018

RII-3b
BRIDGE OUT
0.1 MILES AHEAD
LOCAL TRAFFIC ONLY
M4-10R DETOUR
ON BARRICADES

CS-28
CUMMINGS ROAD
BRIDGE OUT
OVER TURNPIKE
USE DETOUR

CS-25
CUMMINGS ROAD
DETOUR M4-9

END DETOUR M4-8a

20' TEMPORARY CONCRETE BARRIER
PROJECT LOCATION
20' TEMPORARY CONCRETE BARRIER ON BARRICADES ACROSS FROM STORE ENTRANCE

RII-3b
BRIDGE OUT
0.2 MILES AHEAD
LOCAL TRAFFIC ONLY
DETOUR M4-10R

CUMMINGS ROAD

TOWN OF SCARBOROUGH

1000'
500'
500'

CS-25
CUMMINGS ROAD
DETOUR M4-9L

CS-28
CUMMINGS ROAD
BRIDGE OUT
OVER TURNPIKE
USE DETOUR

DETOUR AHEAD W20-2

END DETOUR M4-8a

RII-2
ROAD CLOSED
ON BARRICADES (BEYOND DRIVES)

RII-2
ROAD CLOSED
ON BARRICADES

CS-28
CUMMINGS ROAD
BRIDGE OUT
OVER TURNPIKE
USE DETOUR

CS-25
CUMMINGS ROAD
DETOUR M4-9

295

PAYNE ROAD

INTERCHANGE 45

RII-3b
BRIDGE OUT
0.3 MILES AHEAD
LOCAL TRAFFIC ONLY
M4-10L DETOUR
ON BARRICADES

MAINE TURNPIKE

RUNNING HILL ROAD

CITY OF SOUTH PORTLAND

CS-25
CUMMINGS ROAD
DETOUR M4-9R

ROUTE 703

703

95

MAINE MALL ROAD

CS-28
CUMMINGS ROAD
BRIDGE OUT
OVER TURNPIKE
USE DETOUR

CS-25
CUMMINGS ROAD
DETOUR M4-9L

GORHAM ROAD

NOTES:

1. BRIDGE CLOSURE REQUIRED DURING CLOSURE POUR. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
2. CUMMINGS ROAD CLOSURES MAY BE PERMITTED AT OTHER TIMES AS APPROVED BY THE AUTHORITY. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

Filename: 018_DetourMOT.dgn

Scale: 400 0 400 800
1" = 400'

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

CUMMINGS ROAD DETOUR PLAN

SHEET NUMBER: MOT-12

CONTRACT:2018.19

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET
CS-25	24"	12"	CUMMINGS ROAD	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			9	WHITE	BLACK		2.00 (18)
CS-28	60"	36"	CUMMINGS ROAD BRIDGE OUT OVER TURNPIKE USE DETOUR				5	ORANGE			15.0 (75)
G20-2	48" 36"	48" 18"	END ROAD WORK				4 5				16.00 (64) 4.50 (22.5)
G20-5aP	36"	24"	WORK ZONE				4				6.00 (24)
M4-8a	24"	18"	END DETOUR				2				3.00 (6)
M4-9 (R) (L) (UP)	30"	24"	DETOUR →				3 2 4				5.00 (15) 5.00 (10) 5.00 (20)
M4-10R (L) R-SHOWN L-OPPOSITE	48"	18"	DETOUR →				2 1				6.00 (12) 6.00
R1-1	48"	48"	STOP				1	RED	WHITE		13.30 (13.3)
R2-1	36"	48"	SPEED LIMIT 50				4	WHITE	BLACK		12.00 (48)

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET
R2-6aP	36"	24"	FINES DOUBLE	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			4	WHITE	BLACK		6.00 (24)
R2-12	36"	54"	END WORK ZONE SPEED				4				13.5 (54)
R4-9	36"	48"	STAY IN LANE				2				12.00 (24)
R5-10c	24"	12"	PEDESTRIANS PROHIBITED				4				2.00 (8.0)
R11-2	48"	36"	ROAD CLOSED				4				10.0 (40)
R11-3b (0.1) (0.2) (0.3)	60"	30"	BRIDGE OUT X.X MILES AHEAD LOCAL TRAFFIC ONLY				1 1 1				12.5 (37.5)
W1-4	36"	36"	↱				2	ORANGE			9.00 (18)
W1-6R (L) R-SHOWN L-OPPOSITE	48"	24"	→				2 2				8.00 (16) 8.00 (16)

Date:9/21/2018

Filename: 019_Const Sign Summary_01.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

HNTB CORPORATION
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC
SIGN SUMMARY I

SHEET NUMBER: MOT-13

CONTRACT:2018.19

CONSTRUCTION SIGN SUMMARY (CONTINUED)

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET
W3-1a	48"	48"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			1	ORANGE	BLACK		16.00 (16)
W3-5	48"	48"	SPEED LIMIT 50				4				16.00 (64)
W4-1R	48"	48"					1				16.00 (16)
W4-2R (L) R-SHOWN L-OPPOSITE	48"	48"					4 4				16.00 (64) (64)
W5-1	36"	36"	ROAD NARROWS				1				9.00
W13-1P	18"	18"	25 MPH				1				2.25 (2.25)
W20-1 (1 MILE) (AHEAD)	48" 36"	48" 36"	ROAD WORK XXXX				8 2				16.00 (128) 9.00 (18)

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET
W20-2	36"	36"	DETOUR AHEAD	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2000			1	ORANGE	BLACK		9.00
W20-4	36"	36"	ONE LANE ROAD AHEAD				2				9.00 (18)
W20-5L (R) (1/2 MILE)	48"	48"	LEFT LANE CLOSED XXXX [RIGHT]				4 4				16.00 (64) 16.00 (64)
W20-7	36"	36"					2				9.00 (18)
W24-1L	36"	36"					1				9.00
W24-1R	36"	36"					1				9.00
W24-1aR	48"	48"					2				16.00 (32)

Date:9/21/2018

Filename: 020_Const Sign Summary_02.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

MAINTENANCE OF TRAFFIC
SIGN SUMMARY II

SHEET NUMBER: MOT-14

CONTRACT:2018.19

DIMENSIONS FOR SLOPE OF 2:1

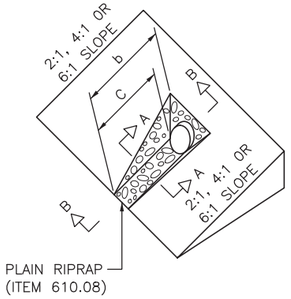
D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	4.00	3.00	2.00	6.00	1.00	1.50	1.30
15"	1.00	4.50	3.37	2.25	6.75	1.63	1.50	1.70
18"	1.00	5.00	3.75	2.50	7.50	2.25	1.50	2.09
21"	1.00	5.50	4.13	2.75	8.25	2.88	1.50	2.58
24"	1.00	6.00	4.50	3.00	9.00	3.50	1.50	3.12
30"	1.00	7.00	5.25	3.50	10.50	4.75	1.50	4.33
36"	1.00	8.00	6.00	4.00	12.00	6.00	1.50	5.75
42"	1.00	9.00	6.75	4.50	13.50	7.25	1.50	7.37
48"	1.00	10.00	7.50	5.00	15.00	8.50	1.50	9.18
54"	1.00	11.00	8.25	5.50	16.50	9.75	1.50	11.19
60"	1.00	12.00	9.00	6.00	18.00	11.00	1.50	13.40
66"	1.00	13.00	9.75	6.50	19.50	12.25	1.50	15.81
72"	1.00	14.00	10.50	7.00	21.00	13.50	1.50	18.41
84"	1.00	16.00	12.00	8.00	24.00	16.00	1.50	24.22

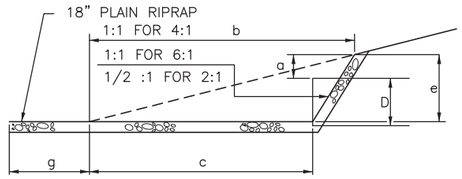
DIMENSIONS FOR SLOPE OF 4:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	8.00	6.00	2.00	6.00	0.00	1.50	2.20
15"	1.00	9.00	6.75	2.25	6.75	0.00	1.50	2.80
18"	1.00	10.00	7.50	2.50	7.50	0.00	1.50	3.40
21"	1.00	11.00	8.25	2.75	8.25	0.00	1.50	4.10
24"	1.00	12.00	9.00	3.00	9.00	0.00	1.50	4.86
30"	1.00	14.00	10.50	3.50	10.50	0.00	1.50	6.58
36"	1.00	16.00	12.00	4.00	12.00	0.00	1.50	8.56
42"	1.00	18.00	13.50	4.50	13.50	0.50	1.50	10.92
48"	1.00	20.00	15.00	5.00	15.00	1.00	1.50	13.57
54"	1.00	22.00	16.50	5.50	16.50	1.50	1.50	16.50
60"	1.00	24.00	18.00	6.00	18.00	2.00	1.50	19.72
66"	1.00	26.00	19.50	6.50	19.50	2.50	1.50	23.22
72"	1.00	28.00	21.00	7.00	21.00	3.00	1.50	27.01
84"	1.00	32.00	24.00	8.00	24.00	4.00	1.50	35.45

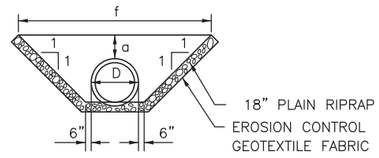
DIMENSIONS FOR SLOPE OF 6:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	0.50	9.00	7.50	1.50	4.50	0.00	1.50	2.30
15"	0.50	10.50	8.75	1.75	5.50	0.00	1.50	2.93
18"	0.50	12.00	10.00	2.00	6.50	0.00	1.50	3.57
21"	0.50	13.50	11.25	2.25	7.25	0.00	1.50	4.46
24"	0.50	15.00	12.50	2.50	8.00	0.00	1.50	5.44
30"	0.50	18.00	15.00	3.00	9.50	0.00	1.50	7.71
36"	0.50	21.00	17.50	3.50	11.00	0.00	1.50	10.37
42"	0.50	24.00	20.00	4.00	12.50	0.00	1.50	13.42
48"	0.50	27.00	22.50	4.50	14.00	0.00	1.50	16.87
54"	0.50	30.00	25.00	5.00	15.50	0.00	1.50	20.70
60"	0.50	33.00	27.50	5.50	17.00	0.00	1.50	24.93
66"	0.50	36.00	30.00	6.00	18.50	0.00	1.50	29.55
72"	0.50	39.00	32.50	6.50	20.00	0.00	1.50	34.56
84"	0.50	45.00	37.50	7.50	23.00	0.00	1.50	45.76





SECTION B-B

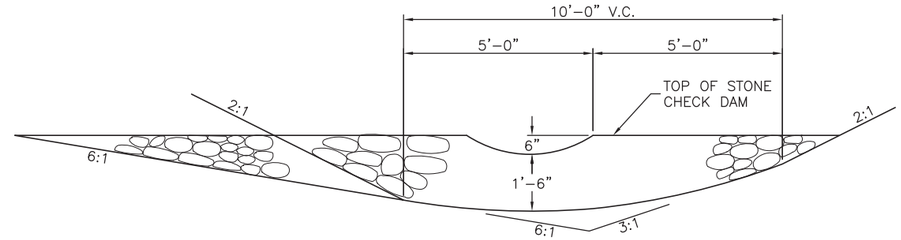


SECTION A-A

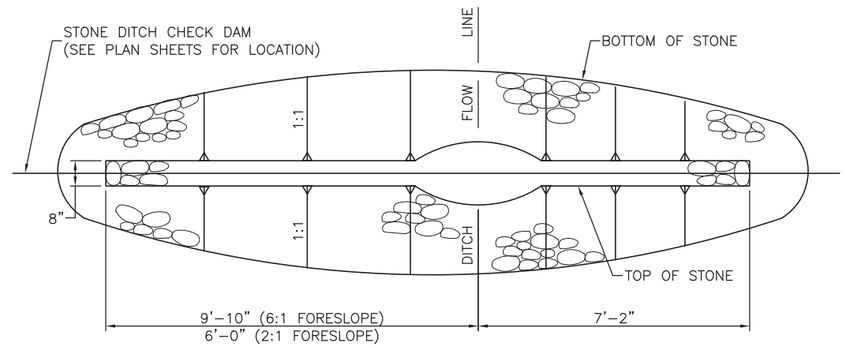
ROADWAY CULVERT END SLOPE TREATMENT

NOTES:

1. THE DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE MODIFIED BY THE RESIDENT.
2. STONE QUANTITIES ARE FOR ONE END OF THE PIPE.



SECTION



PLAN

STONE CHECK DAM

1" = 2-0"

FORESLOPE	BACKSLOPE	QUANTITY C.Y. STONE
6:1	3:1	2.5
2:1	3:1	2.0

NOTES:

1. STONE FOR TEMPORARY AND PERMANENT STONE CHECK DAMS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, STONE DITCH PROTECTION.
2. TEMPORARY STONE CHECK DAMS WILL BE PAID FOR UNDER ITEM 610.181.

Date:9/21/2018

Date:9/21/2018

Filename: 021_Erosion ControlDetail01.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

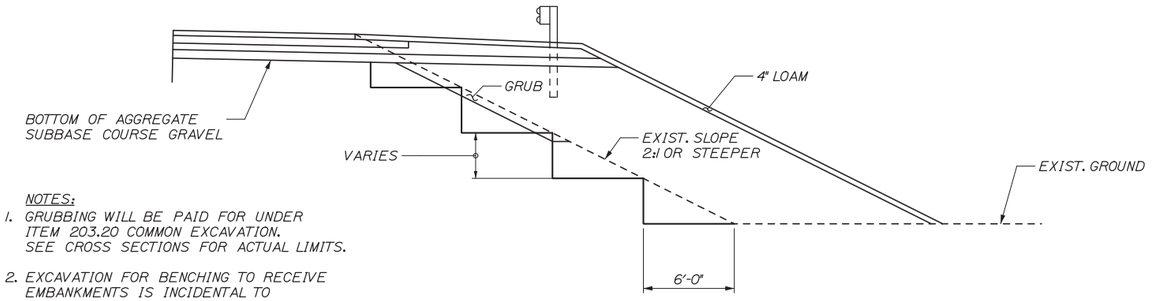
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EROSION CONTROL DETAILS I

SHEET NUMBER: MD-01

CONTRACT:2018.19

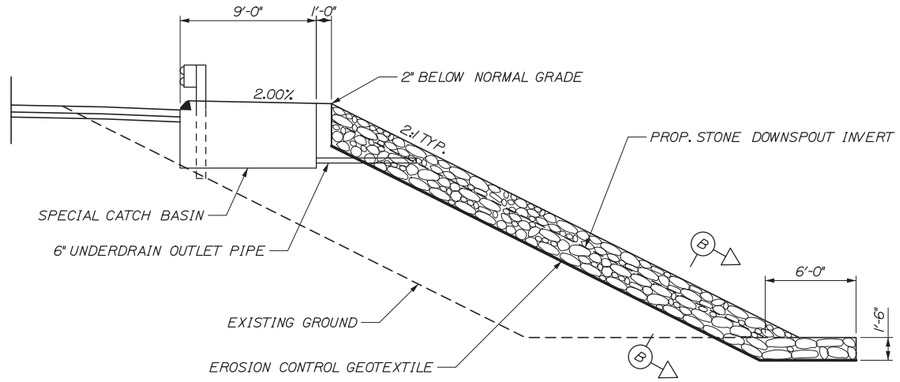


NOTES:

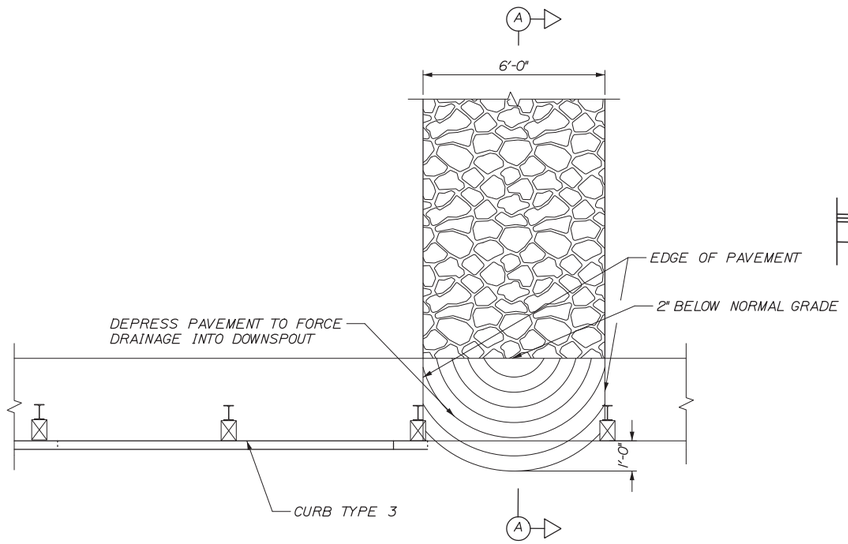
1. GRUBBING WILL BE PAID FOR UNDER ITEM 203.20 COMMON EXCAVATION. SEE CROSS SECTIONS FOR ACTUAL LIMITS.
2. EXCAVATION FOR BENCHING TO RECEIVE EMBANKMENTS IS INCIDENTAL TO ITEM 203.20 COMMON EXCAVATION.
3. BENCHING IS REQUIRED WHERE FILL IS TO BE PLACED ON EXISTING EMBANKMENTS WITH SLOPES 2:1 OR STEEPER.

BENCH DETAIL

N.T.S.



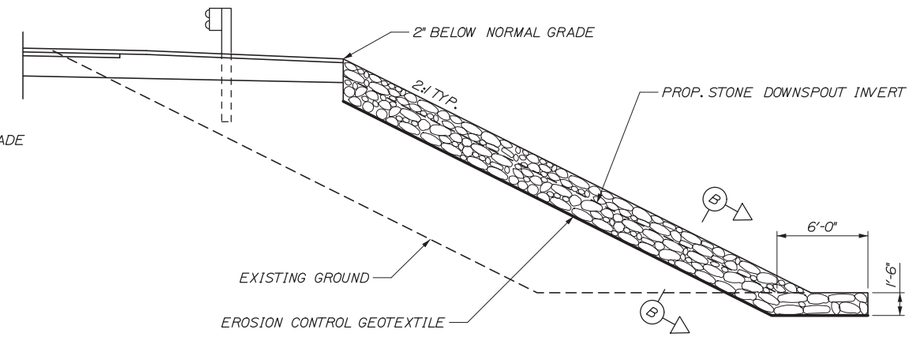
SECTION A-A
DOWNSPOUT WITH SPECIAL CATCH BASIN



PLAN VIEW

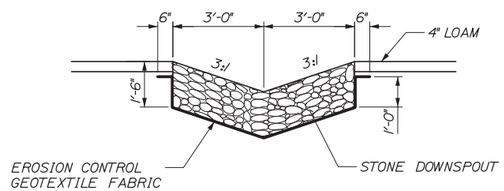
NTS

NOTE:
STONE FOR STONE DOWNSPOUTS SHALL MEET THE REQUIREMENTS OF MDOT SPECIFICATION 703.29, AND WILL BE PAID FOR UNDER ITEM 610.10, PLAIN RIPRAP.



SECTION A-A

NTS



SECTION B-B

NTS

1 LF of Downspout = 0.33 CY of Stone Ditch Protection
1 LF of Downspout = 1.04 SY of Erosion Control Geotextile Fabric

DOWNSPOUT DETAILS

Date:9/21/2018

Filename: 022_Erosion Control Detail02.dgn

No.	Revision	By	Date

Scale:

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

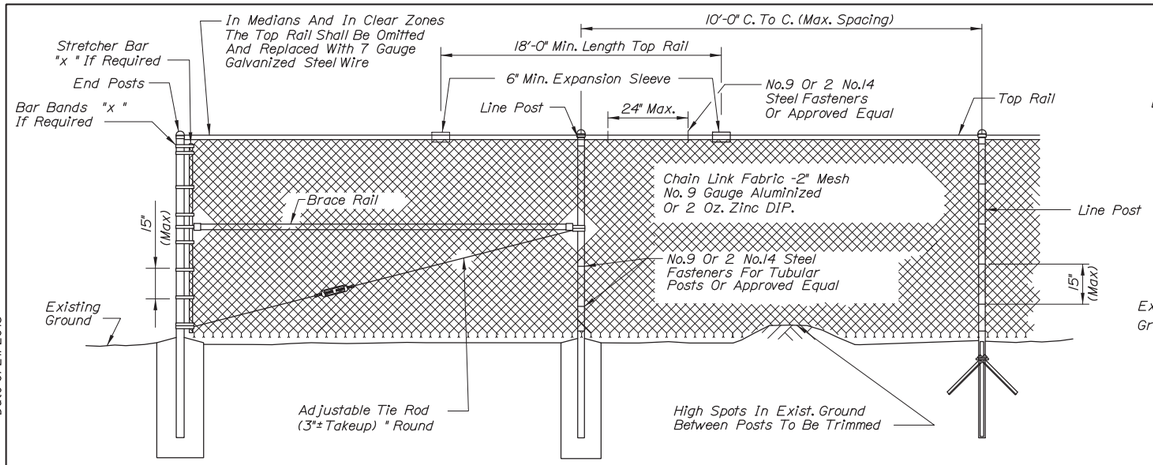
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

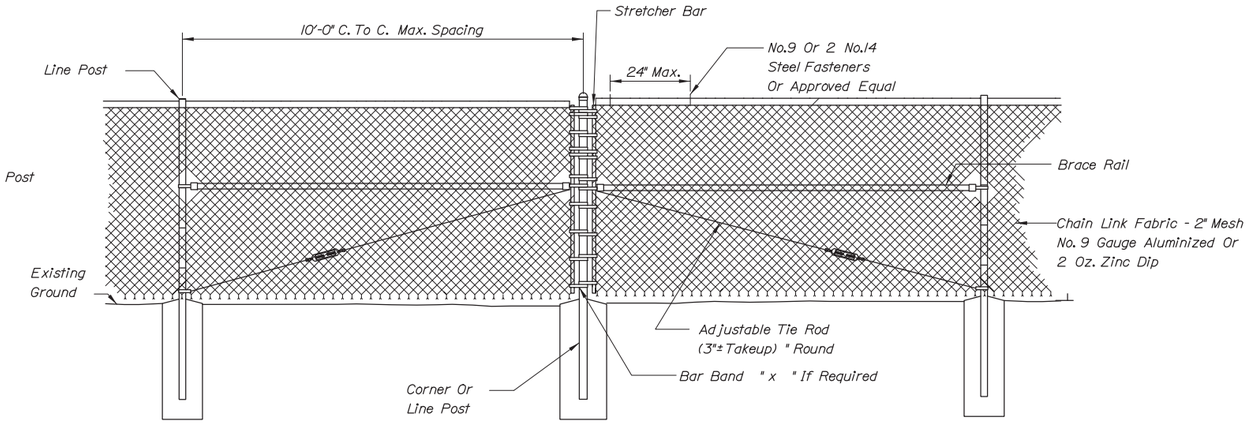
EROSION CONTROL DETAILS II

CONTRACT:2018.19

SHEET NUMBER: MD-02

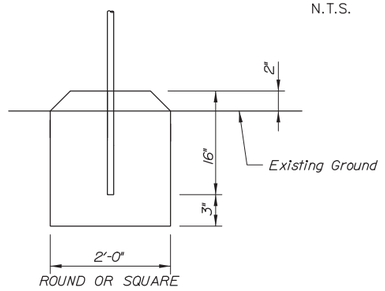


TYPICAL TYPE I END PANEL
N.T.S.

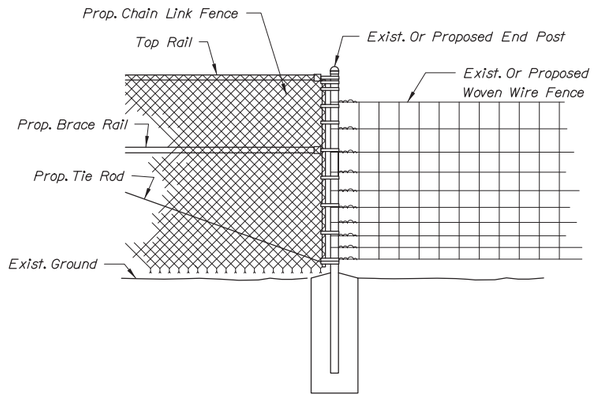


TYPICAL TYPE II BRACE PANEL
N.T.S.

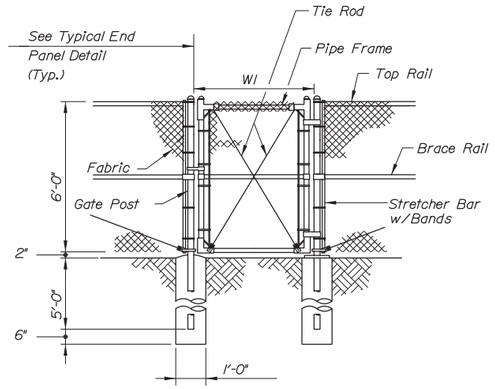
TYPICAL INTERMEDIATE PANEL
N.T.S.



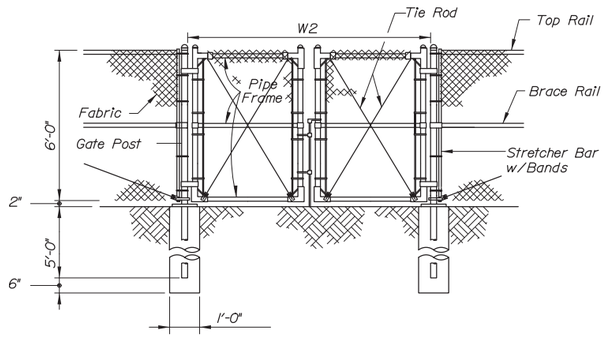
POST BASE ABOVE GEOFOAM DETAIL
N.T.S.



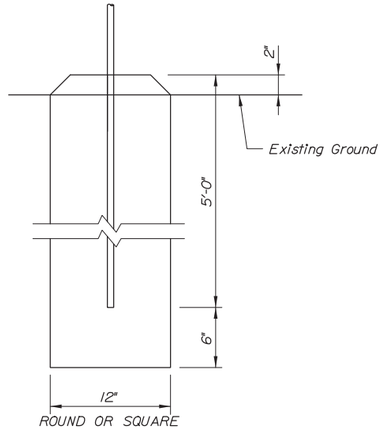
METHOD OF ATTACHING CHAIN LINK FENCE TO WOVEN WIRE FENCE
N.T.S.



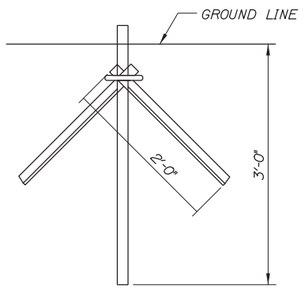
SINGLE GATE



DOUBLE GATE



BRACE, GATE AND END POST BASE DETAIL
N.T.S.



LINE POST DRIVE ANCHOR DETAIL
N.T.S.

Gate Width		Gate Post O.D.
W1	W2	
to 6'	to 12'	3"
6' to 12'	12' to 24'	4"
12' to 18'	24' to 36'	6"

BENDING MOMENTS BASED ON GRADE 1 (SCHEDULE 40 STEEL)

CHAIN LINK FENCE	SHAPE	NOMINAL SIZE (INCHES)	BENDING MOMENT* (LBS.–IN.)
END & CORNER POSTS	ø	2 I.D.	14,025
LINE POSTS	ø	1-1/2 I.D.	8,150
TOP & BRACE RAILS	ø	1-1/4 I.D.	5,875

* MATERIAL FOR GRADE 2 END, CORNER & LINE POSTS AND TOP & BRACE RAILS MUST MEET OR EXCEED BENDING MOMENTS FOR GRADE 1 STEEL AS NOTED ABOVE.

NOTES:

1. BRACE PANELS SHALL BE INSTALLED WHERE THE CHANGE IN GRADE BETWEEN ANY THREE POSTS EXCEEDS 15 PERCENT.
2. NO ADDITIONAL PAYMENT WILL BE MADE FOR LONGER POSTS NECESSITATED BY LARGE GRADE DIFFERENTIAL.
3. TYPE I BRACING WILL BE USED AT FENCE ENDS. TYPE II BRACING WILL BE USED AT CORNER POSTS.
4. WHEN LEDGE IS ENCOUNTERED, STEEL POSTS SHALL BE SET AND GROUTED 12" DEEP UNLESS THE POSTS PENETRATE THE GROUND TO THE DEPTH INDICATED ON THE DRAWINGS.
5. CONCRETE FOR POST FOUNDATION SHALL BE CLASS B.
6. BRACE, GATE AND END POSTS SHALL BE SET IN CONCRETE.
7. CHAIN LINK FENCE SHALL BE INSTALLED WITH BARBS DOWN.
8. ALL COMPONENTS OF CHAIN LINK FENCE SHALL BE IN ACCORDANCE WITH AASHTO M181.
9. FENCE POSTS LOCATED ABOVE GEOFOAM SHALL BE INSTALLED USING THE "POST BASE ABOVE GEOFOAM DETAIL". CARE SHALL BE TAKEN TO AVOID DAMAGING THE GEOMEMBRANE.

Date:9/21/2018

Filename: 023_Fence Details.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

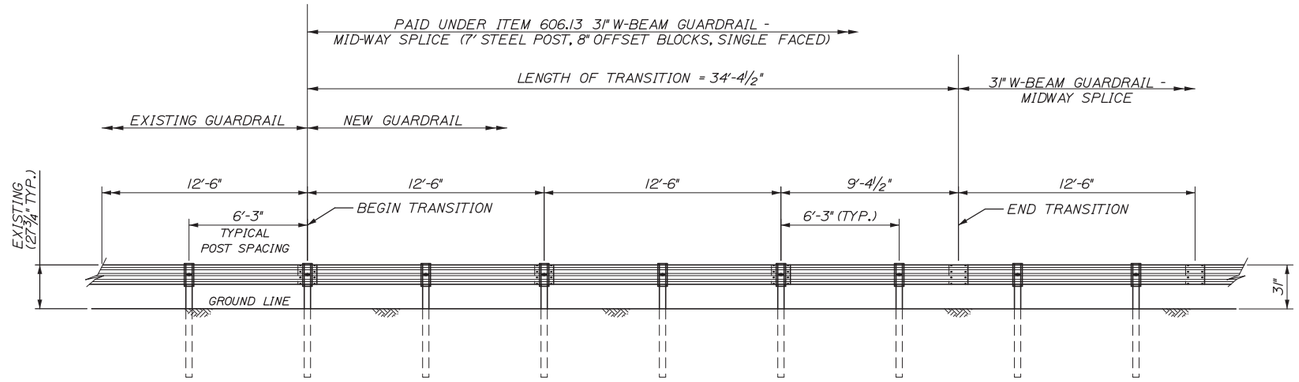
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CHAIN LINK FENCE DETAILS

SHEET NUMBER: MD-03

CONTRACT:2018.19

Date:9/21/2018

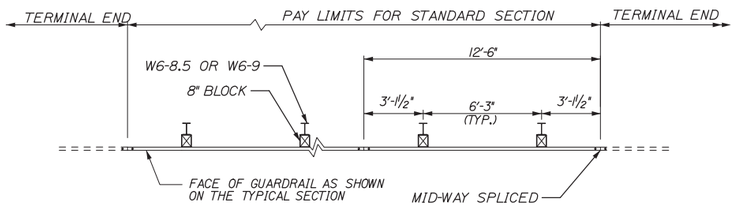


TRANSITION FROM EXISTING GUARDRAIL TO 31" MID-WAY SPLICED GUARDRAIL

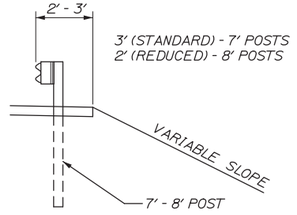
NOT TO SCALE

NOTES:

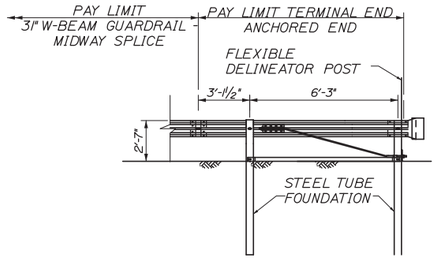
1. MAINTAIN STANDARD 1" CLEARANCE OF POST ABOVE PANEL THROUGHOUT THE ENTIRE LENGTH OF TRANSITION.
2. A MINIMUM OF ONE (1) 12'-6" PANEL SHALL BE PLACED BETWEEN THIS TRANSITION AND THE START OF ANY END TREATMENT OR ANCHORAGE.
3. ALL NEW POSTS SHALL BE 84" IN LENGTH UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.



PLAN - SINGLE FACED



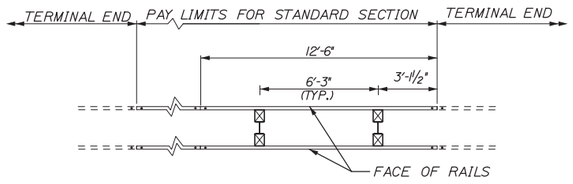
CROSS-SECTION



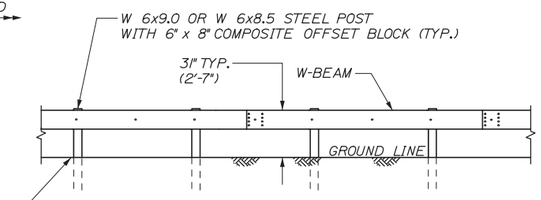
NOTES:
1. THIS DETAIL MODIFIES THE SEW31 DRAWING SUCH THAT W-BEAM DOES NOT EXTEND BEYOND THE LAST GUARDRAIL POST. THE RWM14a W-BEAM PANEL SHALL HAVE A LENGTH OF 9'-4½" MEASURED FROM THE CENTER OF THE MIDWAY SPLICE TO THE CENTER OF THE LAST GUARDRAIL POST.

TERMINAL END - ANCHORED END - 31" W-BEAM GUARDRAIL
(ITEM 606.1351)

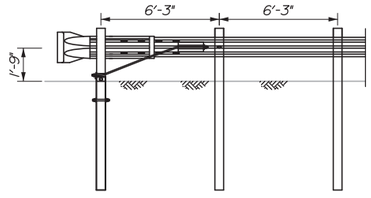
NOT TO SCALE



PLAN - DOUBLE FACED



ELEVATION



TERMINAL END - TRAILING END
(ITEM 606.278)

1" = 4'-0"

31" W-BEAM GUARDRAIL - MID-WAY SPLICE (8" OFFSET BLOCKS)
(ITEMS 606.13, 606.132)

NOT TO SCALE

Filename: 024_GuardrailDetails.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

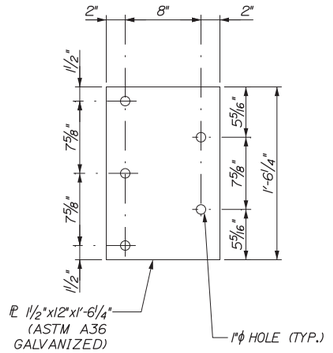
MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

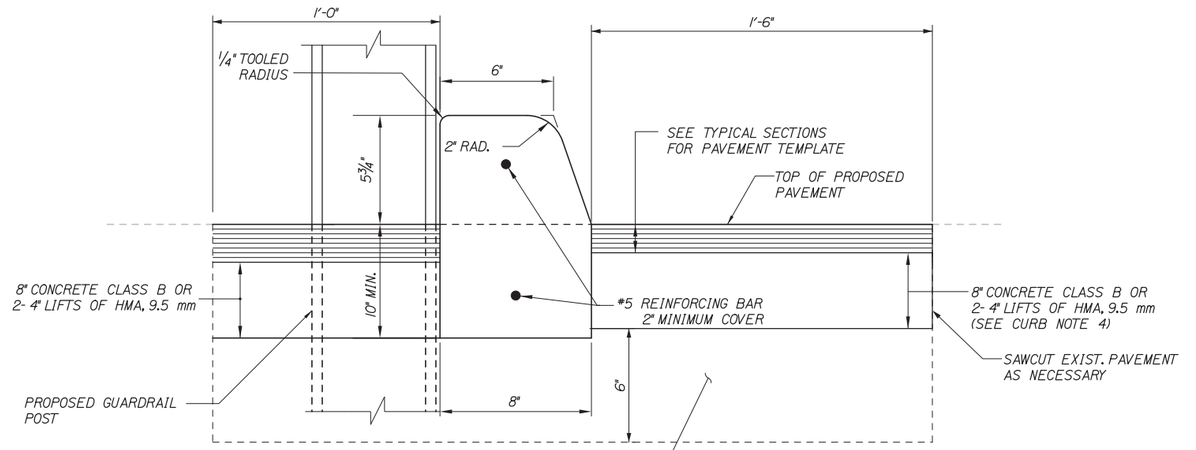
GUARDRAIL DETAILS

SHEET NUMBER: MD-04

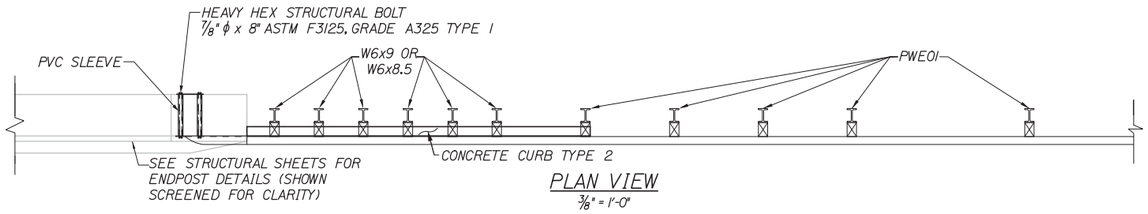
CONTRACT:2018.19



OFFSET PLATE
1½" = 1'-0"



CONCRETE CURB TYPE 2
3"=1'-0"



PLAN VIEW
⅜" = 1'-0"

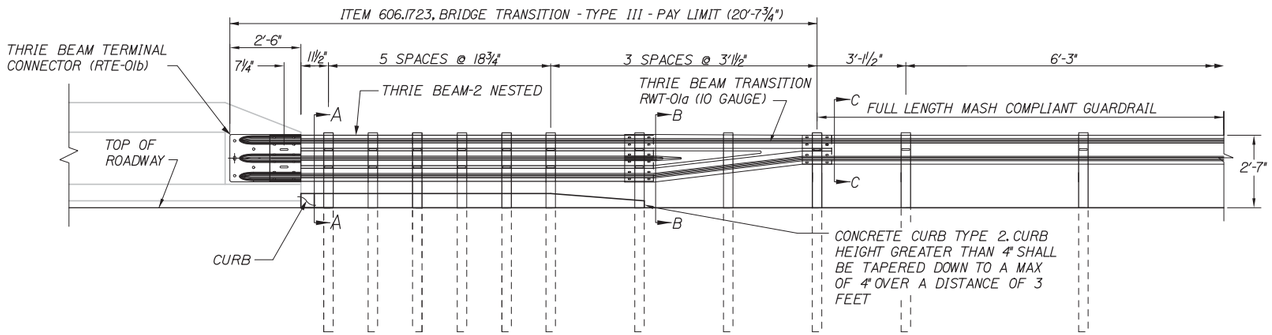
98% PLANS
AUGUST 10, 2018

CURB NOTES:

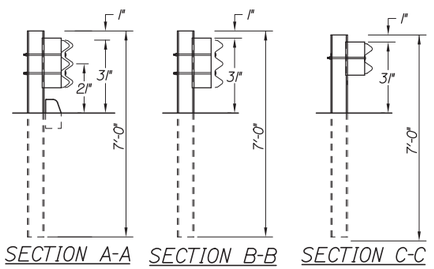
1. CURBING SHALL BE EITHER PRECAST CONCRETE, CAST-IN-PLACE CONCRETE OR GRANITE TO MEET DIMENSIONS SHOWN ON THE PLANS.
2. CONCRETE CURBS USED IN CONJUNCTION WITH THRIE-BEAM BRIDGE TRANSITION SHALL BE TYPE 2, SEE DETAILS THIS SHEET. CONCRETE CURBS SHALL BE SET TO FORM A CONTINUOUS GUTTERLINE WITHOUT ANY DRAINAGE OPENINGS.
3. CURB TRANSITION SHALL NOT BE PAID FOR DIRECTLY BUT SHALL BE INCIDENTAL TO THE BRIDGE TRANSITION PAY ITEM.
4. SAWCUTTING EXISTING PAVEMENT, CONCRETE FILL, AND PAVEMENT TO LIMITS SHOWN SHALL BE INCIDENTAL TO THE BRIDGE TRANSITION PAY ITEM.

GENERAL NOTES:

1. ADDITIONAL HOLES MAY BE MADE IN THE THRIE-BEAM PANELS BY DRILLING, PUNCHING, OR OTHER MEANS THAT PRODUCE A NEAT, CLEAN HOLE. BURNING HOLES WILL NOT BE ALLOWED.
2. THRIE BEAM SHALL BE PLACED WITH THE COMPOSITE BLOCKOUT FACE IN FRONT OF OR DIRECTLY ABOVE THE CURB FACE.
3. RAIL ELEMENT SHALL MEET ALL REQUIREMENTS OF AASHTO M-180 EXCEPT AS MODIFIED ON THE PLANS. THE THRIE BEAM TRANSITION TO W-BEAM SHALL BE OF THE SAME MATERIAL, BUT SHALL NOT BE LESS THAN 10 GAUGE.
4. AFTER INSTALLATION IS COMPLETE, UPSET THE THREAD ON THE ANCHOR BOLTS IN THREE PLACES AROUND EACH BOLT, AT THE JUNCTION OF THE NUT AND THE EXPOSED THREAD, WITH A CENTER PUNCH OR SIMILAR TOOL.
5. STANDARD BARRIER HARDWARE HAS BEEN USED TO DEVELOP THESE GUARDRAIL ATTACHMENTS. DESIGNATIONS PROVIDED IN PARENTHESIS RELATE TO STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED BARRIER RAIL HARDWARE." 1979. AASHTO-AGC-ARTBA JOINT COOPERATE COMMITTEE.
6. 1" HOLE IN CONCRETE SHALL BE FORMED BY A 1" I.D. PVC SLEEVE AS APPROVED BY THE ENGINEER.
7. GUARDRAIL HEIGHT SHALL BE ADJUSTED UNIFORMLY BETWEEN SECTION CALLOUTS.



BRIDGE TRANSITION - TYPE III
⅜" = 1'-0"



SECTION A-A

SECTION B-B

SECTION C-C

Date:9/21/2018

Filename: 025_Bridge Transition Details.dgn

Scale: NOT TO SCALE			
No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	JKO	09\18
Drawn	PEB	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, P.E., P.T.O.E.

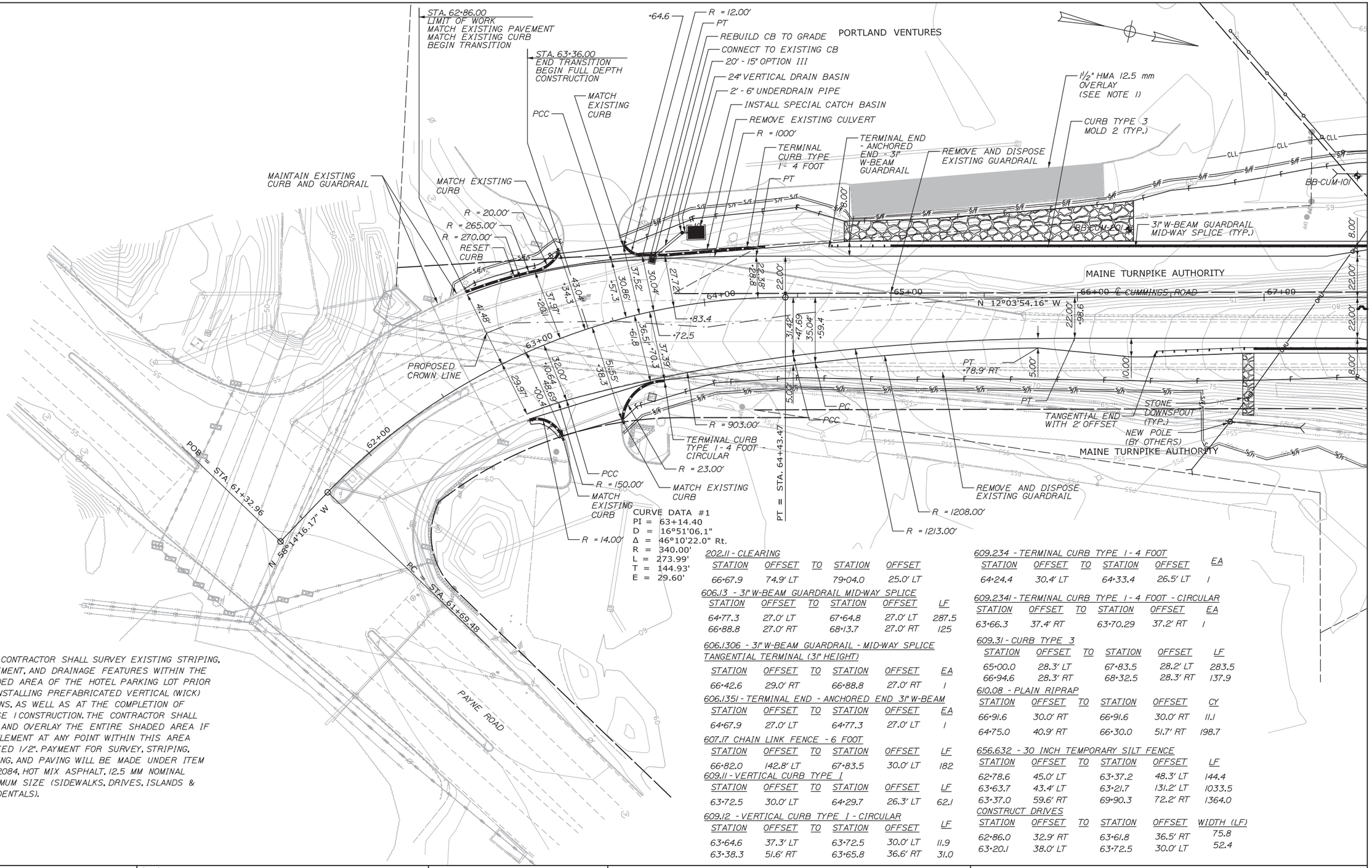
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

BRIDGE TRANSITION DETAILS

SHEET NUMBER: MD-05

CONTRACT:2018.19

Date:9/21/2018



NOTE:

1. THE CONTRACTOR SHALL SURVEY EXISTING STRIPING, PAVEMENT, AND DRAINAGE FEATURES WITHIN THE SHADED AREA OF THE HOTEL PARKING LOT PRIOR TO INSTALLING PREFABRICATED VERTICAL (WICK) DRAINS, AS WELL AS AT THE COMPLETION OF PHASE I CONSTRUCTION. THE CONTRACTOR SHALL MILL AND OVERLAY THE ENTIRE SHADED AREA IF SETTLEMENT AT ANY POINT WITHIN THIS AREA EXCEED 1/2". PAYMENT FOR SURVEY, STRIPING, MILLING, AND PAVING WILL BE MADE UNDER ITEM 403.2084, HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS).

202.11 - CLEARING

STATION	OFFSET	TO	STATION	OFFSET
66+67.9	74.9' LT		79+04.0	25.0' LT

606.13 - 31" W-BEAM GUARDRAIL MID-WAY SPLICE

STATION	OFFSET	TO	STATION	OFFSET	LF
64+77.3	27.0' LT		67+64.8	27.0' LT	287.5
66+88.8	27.0' RT		68+13.7	27.0' RT	125

606.1306 - 31" W-BEAM GUARDRAIL - MID-WAY SPLICE TANGENTIAL TERMINAL (31" HEIGHT)

STATION	OFFSET	TO	STATION	OFFSET	EA
66+42.6	29.0' RT		66+88.8	27.0' RT	1

606.1351 - TERMINAL END - ANCHORED END 31" W-BEAM

STATION	OFFSET	TO	STATION	OFFSET	EA
64+67.9	27.0' LT		64+77.3	27.0' LT	1

607.17 CHAIN LINK FENCE - 6 FOOT

STATION	OFFSET	TO	STATION	OFFSET	LF
66+82.0	142.8' LT		67+83.5	30.0' LT	182

609.11 - VERTICAL CURB TYPE I

STATION	OFFSET	TO	STATION	OFFSET	LF
63+72.5	30.0' LT		64+29.7	26.3' LT	62.1

609.12 - VERTICAL CURB TYPE I - CIRCULAR

STATION	OFFSET	TO	STATION	OFFSET	LF
63+64.6	37.3' LT		63+72.5	30.0' LT	11.9
63+38.3	51.6' RT		63+65.8	36.6' RT	31.0

609.234 - TERMINAL CURB TYPE I - 4 FOOT

STATION	OFFSET	TO	STATION	OFFSET	EA
64+24.4	30.4' LT		64+33.4	26.5' LT	1

609.2341 - TERMINAL CURB TYPE I - 4 FOOT - CIRCULAR

STATION	OFFSET	TO	STATION	OFFSET	EA
63+66.3	37.4' RT		63+70.29	37.2' RT	1

609.31 - CURB TYPE 3

STATION	OFFSET	TO	STATION	OFFSET	LF
65+00.0	28.3' LT		67+83.5	28.2' LT	283.5
66+94.6	28.3' RT		68+32.5	28.3' RT	137.9

610.08 - PLAIN RIPRAP

STATION	OFFSET	TO	STATION	OFFSET	CY
66+91.6	30.0' RT		66+91.6	30.0' RT	11.1
64+75.0	40.9' RT		66+30.0	51.7' RT	198.7

656.632 - 30 INCH TEMPORARY SILT FENCE

STATION	OFFSET	TO	STATION	OFFSET	LF
62+78.6	45.0' LT		63+37.2	48.3' LT	144.4
63+63.7	43.4' LT		63+21.7	131.2' LT	1033.5
63+37.0	59.6' RT		69+90.3	72.2' RT	1364.0

CONSTRUCT DRIVES

STATION	OFFSET	TO	STATION	OFFSET	WIDTH (LF)
62+86.0	32.9' RT		63+61.8	36.5' RT	75.8
63+20.1	38.0' LT		63+72.5	30.0' LT	52.4

Filename: 026_HDPlan_01.dgn

Scale: 25 0 25 50 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

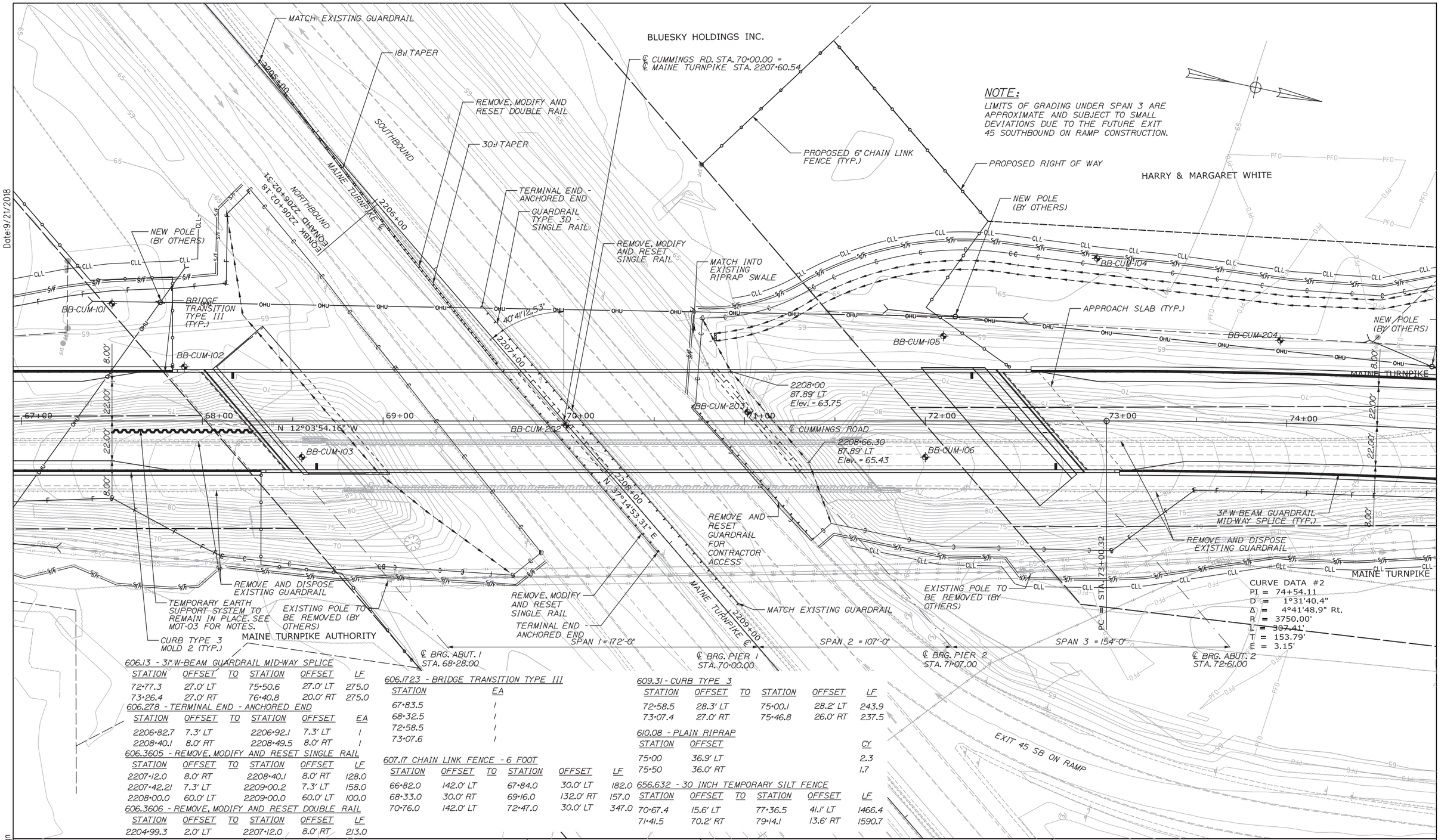
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

PLAN 1

SHEET NUMBER: PL-01

CONTRACT:2018.19

Date:9/21/2018



606.13 - 31" W-BEAM GUARDRAIL MID-WAY SPLICE

STATION	OFFSET	TO	STATION	OFFSET	LF
72+77.3	27.0' LT		75+50.6	27.0' LT	275.0
73+26.4	27.0' RT		76+40.8	20.0' RT	275.0

606.278 - TERMINAL END - ANCHORED END

STATION	OFFSET	TO	STATION	OFFSET	EA
2206+82.7	7.3' LT		2206+92.1	7.3' LT	1
2208+40.1	8.0' RT		2208+49.5	8.0' RT	1

606.3605 - REMOVE, MODIFY AND RESET SINGLE RAIL

STATION	OFFSET	TO	STATION	OFFSET	LF
2207+12.0	8.0' RT		2208+40.1	8.0' RT	128.0
2207+42.21	7.3' LT		2209+00.2	7.3' LT	158.0
2208+00.0	60.0' LT		2209+00.0	60.0' LT	100.0

606.3606 - REMOVE, MODIFY AND RESET DOUBLE RAIL

STATION	OFFSET	TO	STATION	OFFSET	LF
2204+99.3	2.0' LT		2207+12.0	8.0' RT	213.0

606.1723 - BRIDGE TRANSITION TYPE III

STATION	EA
67+83.5	1
68+32.5	1
72+58.5	1
73+07.6	1

607.17 CHAIN LINK FENCE - 6 FOOT

STATION	OFFSET	TO	STATION	OFFSET	LF
66+82.0	142.0' LT		67+84.0	30.0' LT	182.0
68+33.0	30.0' RT		69+16.0	132.0' RT	157.0
70+76.0	142.0' LT		72+47.0	30.0' LT	347.0

609.31 - CURB TYPE 3

STATION	OFFSET	TO	STATION	OFFSET	LF
72+58.5	28.3' LT		75+00.1	28.2' LT	243.9
73+07.4	27.0' RT		75+46.8	26.0' RT	237.5

610.08 - PLAIN RIPRAP

STATION	OFFSET	CY
75+00	36.9' LT	2.3
75+50	36.0' RT	1.7

656.632 - 30 INCH TEMPORARY SILT FENCE

STATION	OFFSET	TO	STATION	OFFSET	LF
70+67.4	15.6' LT		77+36.5	41.1' LT	1466.4
71+41.5	70.2' RT		79+14.1	13.6' RT	1590.7

Filename: 027_HDPlan_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

PLAN II

SHEET NUMBER: PL-02

CONTRACT:2018.19

HARRY & MARGARET WHITE

WILLOWDALE ROAD LLC.

CMP EASEMENT

PROPOSED RIGHT OF WAY

CURB TYPE 3 MOLD 2 (TYP.)

STONE DOWNSPOUT (TYP.)

6" UNDERDRAIN OUTLET PIPE

INSTALL SPECIAL CATCH BASIN

31" W-BEAM GUARDRAIL MID-WAY SPLICE (TYP.)

NEW POLE (BY OTHERS)

MAINE TURNPIKE

RR-CUM-205

UTILITY POLE TO REMAIN

R = 8.00'

REMOVE AND RESET MAILBOX

PROPOSED SWALE (TYP.)

TANGENTIAL END TERMINAL

11.00'

STA. 77+50.00
END FULL DEPTH CONSTRUCTION
BEGIN TRANSITION AND FULL DEPTH LT SHOULDER CONSTRUCTION

STA. 78+00.00
END TRANSITION
BEGIN MILL AND OVERLAY

STA. 79+04.00
LIMIT OF WORK
END MILL AND OVERLAY
MATCH EXISTING PAVEMENT

CURVE DATA #3
PI = 77+55.98
D = 1°31'40.4"
Δ = 4°31'40.4" Lt.
R = 3750.00'
L = 296.35'
T = 148.25'
E = 2.93'

STA. 78+50.00
END FULL DEPTH LT SHOULDER CONSTRUCTION

PT = STA. 79+04.08

POE = STA. 80+58.10

R = 12.00'

13.00'
+80.0

2.00'

11.00'

11.00'

2.50'

N 11°53'45.71" W

℄ CUMMINGS ROAD

75+00

76+00

77+00

78+00

79+00

80+00

80+58

13.50'
+80.0

STONE DOWNSPOUT (TYP.)

R = 3641.09'

INSTALL SPECIAL CATCH BASIN

6" UNDERDRAIN OUTLET PIPE

TERMINAL END - ANCHORED END 31" W-BEAM GUARDRAIL

R = 3918.40

REMOVE AND DISPOSE EXISTING GUARDRAIL

PRC = STA. 76+07.73

MAINE TURNPIKE

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

SCARBOROUGH
SOUTH PORTLAND

DAYTON HUDSON CORP.

CONSTRUCT DRIVES

STATION	OFFSET	TO	STATION	OFFSET	WIDTH (LF)
77+29.1	18.2' LT		77+67.6	16.0' LT	38.5

606.1306 - 31" W-BEAM GUARDRAIL - MID-WAY SPLICE TANGENTIAL TERMINAL (31" HEIGHT)

STATION	OFFSET	TO	STATION	OFFSET	EA
75+50.6	27.0' LT		75+60.0	27.0' LT	1

606.1351 - TERMINAL END - ANCHORED END 31" W-BEAM

STATION	OFFSET	TO	STATION	OFFSET	EA
76+40.8	21.7' RT		76+50.2	19.7' RT	1

610.08 - PLAIN RIPRAP

STATION	OFFSET	CY
75+00.0	33.0' LT	14.0
75+50.4	30.6' RT	6.7
78+25.5	14.9' LT	3.0
78+26.8	14.3' RT	3.0

656.632 - 30 INCH TEMPORARY SILT FENCE

STATION	OFFSET	TO	STATION	OFFSET	LF
77+57.4	49.2' LT		79+00.6	21.0' LT	318.9

Date:9/21/2018

Filename: 028_HDPlan_03.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

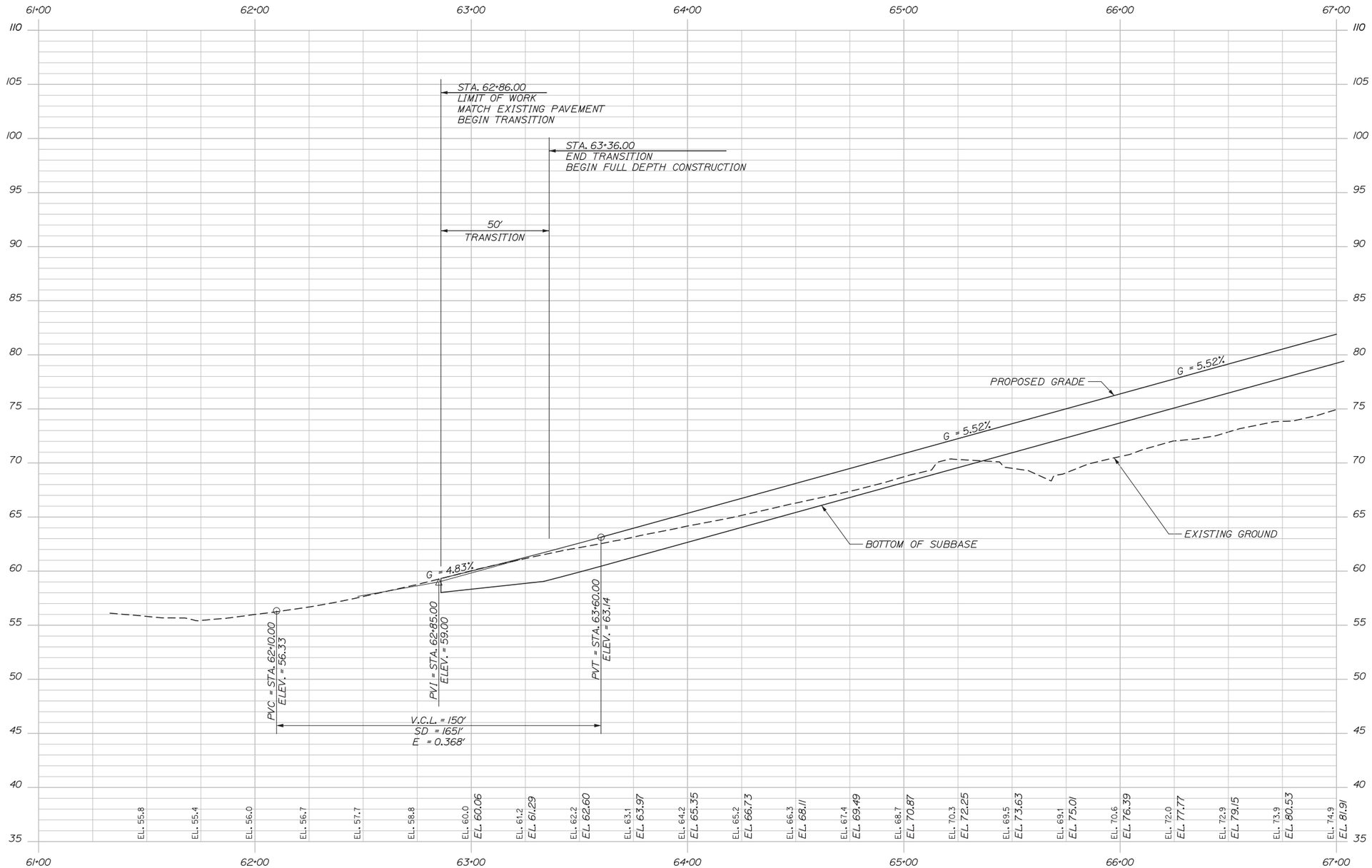
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

PLAN III

SHEET NUMBER: PL-03

CONTRACT:2018.19

Date:9/21/2018



PROFILE

Filename: 029_Profile_01.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

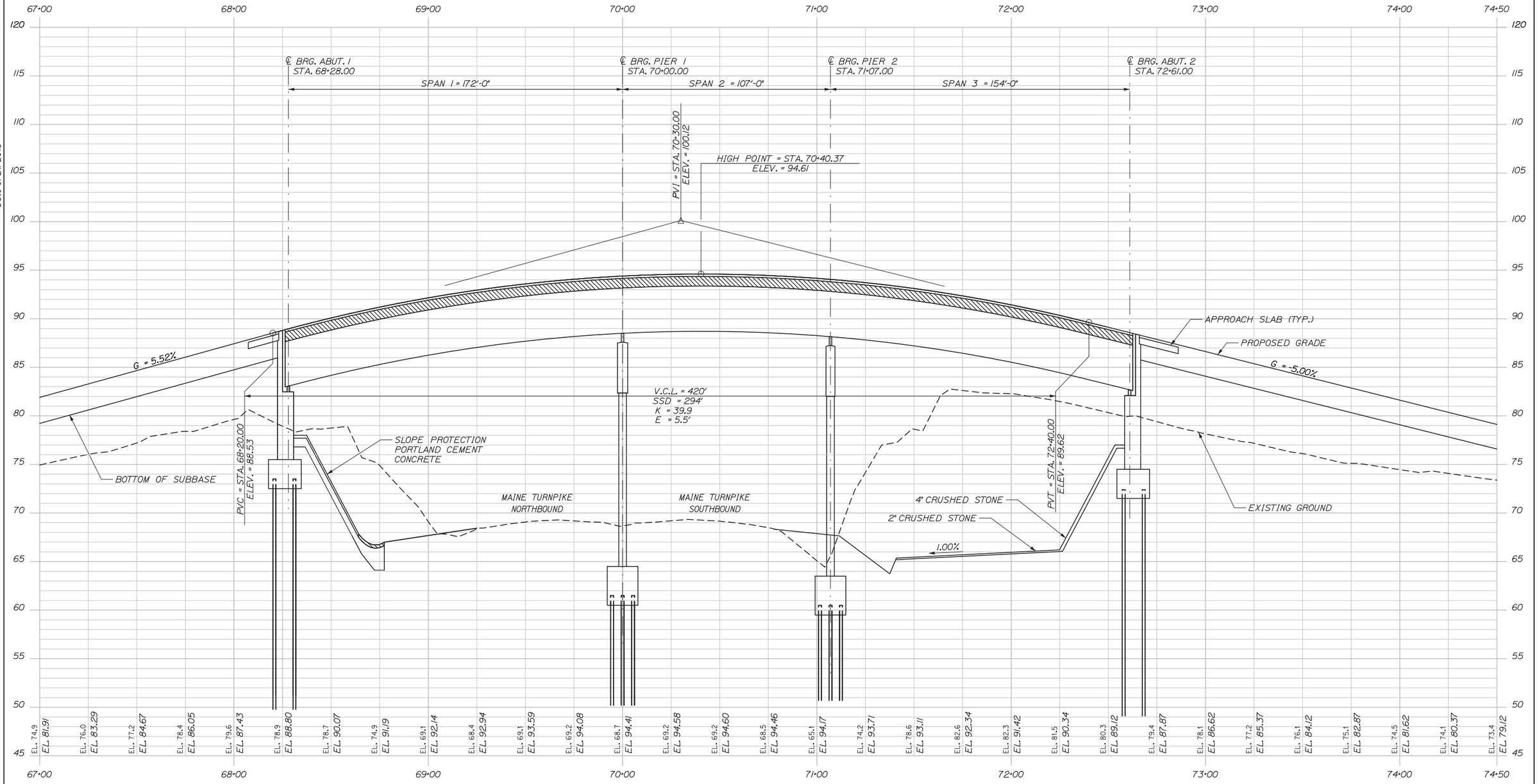
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PROFILE 1

SHEET NUMBER: PR-01

CONTRACT:2018.19

Date:9/21/2018



PROFILE

Filename: 030_Profile_02.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR
MEMORIAL HIGHWAY

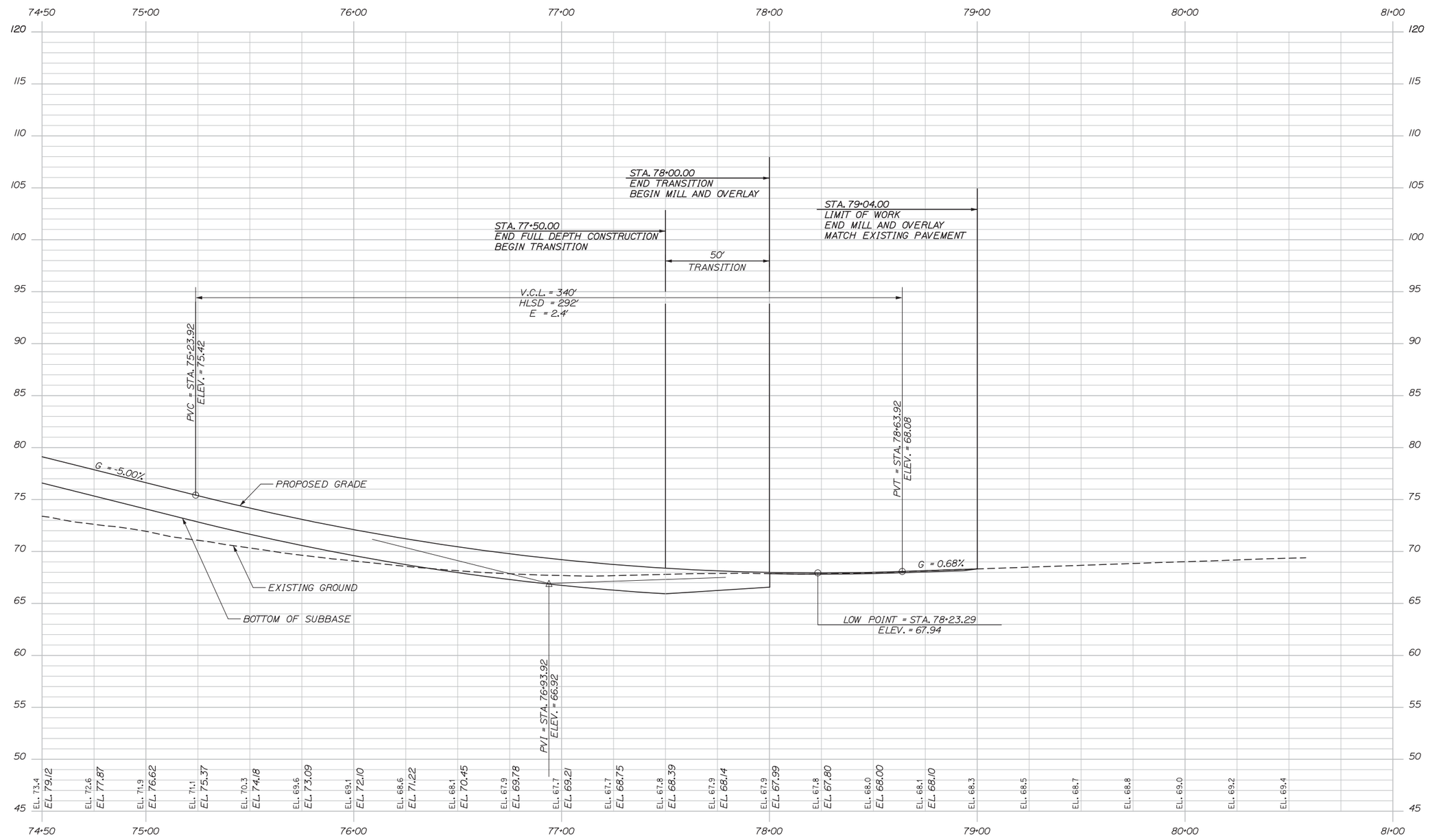
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PROFILE II

SHEET NUMBER: PR-02

CONTRACT:2018.19



PROFILE

Date:9/21/2018

Filename: 031_Profile_03.dgn

Scale: Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

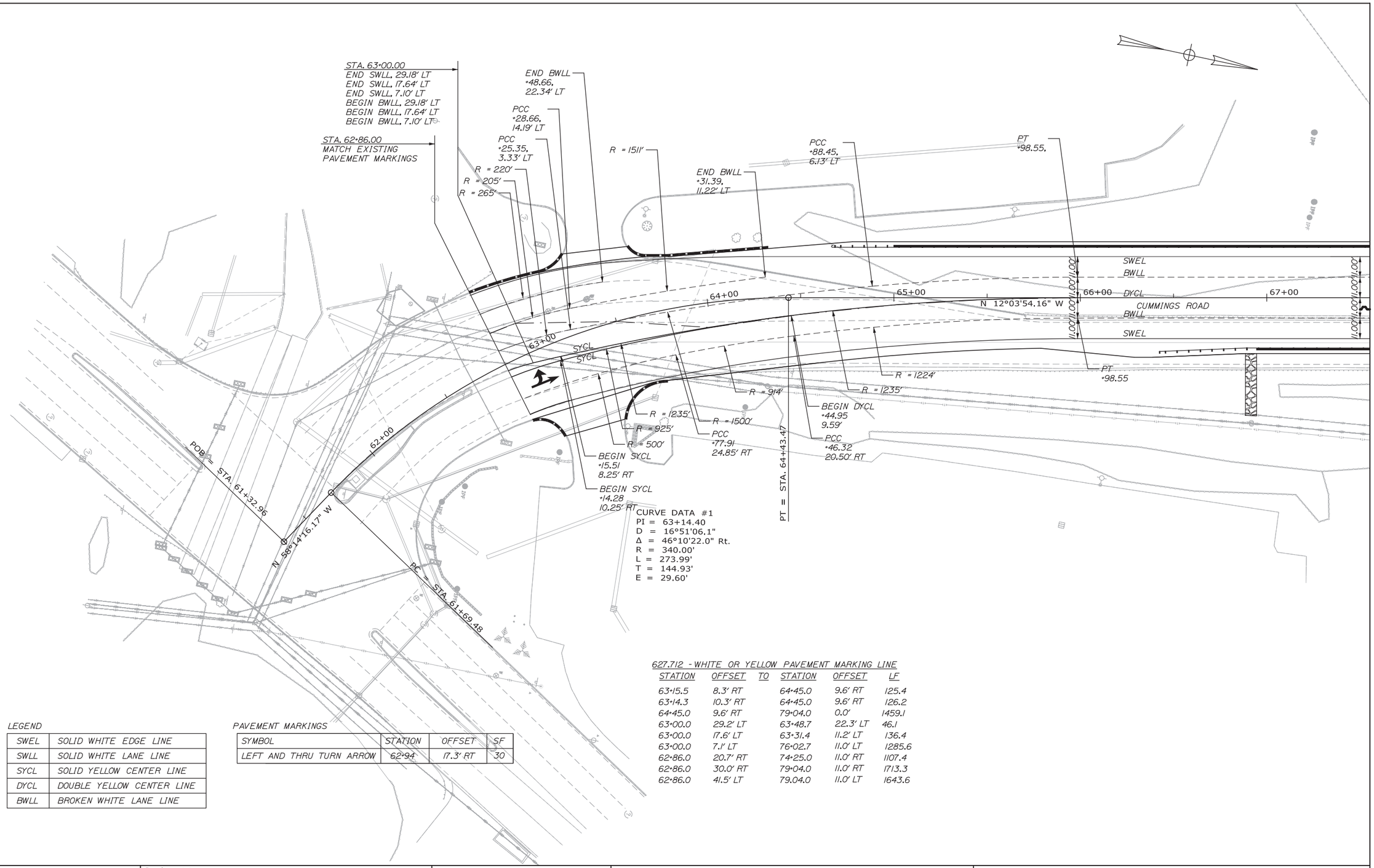
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PROFILE III

SHEET NUMBER: PR-03

CONTRACT:2018.19

Date:9/21/2018



LEGEND

SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
SYCL	SOLID YELLOW CENTER LINE
DYCL	DOUBLE YELLOW CENTER LINE
BWLL	BROKEN WHITE LANE LINE

PAVEMENT MARKINGS

SYMBOL	STATION	OFFSET	SF
LEFT AND THRU TURN ARROW	62+94	17.3' RT	30

627.712 - WHITE OR YELLOW PAVEMENT MARKING LINE

STATION	OFFSET	TO	STATION	OFFSET	LF
63+15.5	8.3' RT		64+45.0	9.6' RT	125.4
63+14.3	10.3' RT		64+45.0	9.6' RT	126.2
64+45.0	9.6' RT		79+04.0	0.0'	1459.1
63+00.0	29.2' LT		63+48.7	22.3' LT	46.1
63+00.0	17.6' LT		63+31.4	11.2' LT	136.4
63+00.0	7.1' LT		76+02.7	11.0' LT	1285.6
62+86.0	20.7' RT		74+25.0	11.0' RT	1107.4
62+86.0	30.0' RT		79+04.0	11.0' RT	1713.3
62+86.0	41.5' LT		79.04.0	11.0' LT	1643.6

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SIGNING AND STRIPING PLAN I

SHEET NUMBER: SS-01

CONTRACT:2018.19

32 OF 135

Filename: 032_Sign_01.dgn

Date:9/21/2018

TRANSITION TO 31" W-BEAM GUARDRAIL MID-WAY SPLICE

2205+00

REMOVE EXISTING SPRING STREET SIGN AND INSTALL PROPOSED CUMMINGS ROAD SIGN (ITEM 645.272)

EONBK 2206+02.18
EONAHD 2206+02.31

2206+00

℄ CUMMINGS RD. STA. 70+00.00 =
℄ MAINE TURNPIKE STA. 2207+60.54

GS-01
RESET BRIDGE MOUNTED GUIDE SIGN TO GROUND MOUNTED
STA.2206+50.
58.0' RT

2207+00

SWEL
BWLL
DYCL
BWLL
SWEL

67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00

N 12°03'54.16" W

110.00' 110.00' 110.00' 110.00' 22.00'

2208+00

N 37°14'53.31" E

GS-02
PARK/RIDE SIGN
TO BE RELOCATED
TO STA. 2197+00.
53' RT.

REMOVE EXISTING SPRING STREET SIGN AND INSTALL PROPOSED CUMMINGS ROAD SIGN (ITEM 645.272)

REMOVE AND RESET YIELD SIGN

2209+00

2210+00

W9-1

+25.00

PC = STA. 73+00.32

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

LEGEND

SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
SYCL	SOLID YELLOW CENTER LINE
DYCL	DOUBLE YELLOW CENTER LINE
BWLL	BROKEN WHITE LANE LINE

PAVEMENT MARKINGS

SYMBOL	STATION	OFFSET	SF
LANE REDUCTION ARROW	74+16	17.5' RT	50

Filename: 033_Sign_02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SIGNING AND STRIPING PLAN II

SHEET NUMBER: SS-02

CONTRACT:2018.19

Date:9/21/2018

CURVE DATA #3
PI = 77+55.98
D = 1°31'40.4"
Δ = 4°31'40.4" Lt.
R = 3750.00'
L = 296.35'
T = 148.25'
E = 2.93'

+02.71
R3-7R
RIGHT LANE
MUST
TURN RIGHT

+25.00

MATCH EXISTING
PAVEMENT MARKINGS

PT = STA. 79+04.08

POE = STA. 80+58.10

11.00'
22.00'
SWEL
BWLL
DYCL
SWEL
SWEL
SWEL
SWEL

75+00
76+00
77+00
78+00
79+00
80+00
80+58

N 11°53'45.71" W

+96.85'
R = 3641.09
PRC
+24.58
R = 3918.40
+25.00

PRC = STA. 76+07.73

CURVE DATA #2
PI = 74+54.11
D = 1°31'40.4"
Δ = 4°41'48.9" Rt.
R = 3750.00'
L = 307.41'
T = 153.79'
E = 3.15'

LEGEND

SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
SYCL	SOLID YELLOW CENTER LINE
DYCL	DOUBLE YELLOW CENTER LINE
BWLL	BROKEN WHITE LANE LINE

PAVEMENT MARKINGS

SYMBOL	STATION	OFFSET	SF
LANE REDUCTION ARROW	74+87	17.0' RT	50

Scale:
25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

SIGNING AND STRIPING PLAN III

SHEET NUMBER: SS-03

CONTRACT:2018.19

Filename: 034_Sign_03.dgn

REMOVE AND RESET SUMMARY

IDENTIFICATION NUMBER	DESCRIPTION	NOTES	EXISTING						PROPOSED							
			SIGN SIZE			NUMBER AND TYPE OF POSTS	DIRECTION (NB - NORTHBOUND) (SB - SOUTHBOUND)	STATION	NUMBER AND TYPE OF POSTS	POST SIZE	HEIGHT OF POST		FOUNDATION SIZE AND TYPE	BREAKAWAY DEVICE	STATION	PAY ITEM
			WIDTH (FEET)	HEIGHT (FEET)	AREA IN (SQ. FT.)						LEFT (FEET)	RIGHT (FEET)				
GS-01	MAINE MALL ROAD PAYNE ROAD	EXTRUDED ALUMINUM PLANK SIGN	17.5	13	227.5	BRIDGE MOUNTED	NB	2207+47	2- WBEAM	W14X30	TBD	TBD	30" CONCRETE	NO	2206+50	645.503
EXIT PLAQUE	EXIT 45	EXTRUDED ALUMINUM PLANK SIGN	8	2.5	20.0	BRIDGE MOUNTED	NB	2207+47	MAINTAIN WITH GS-01							
GS-02	PARK - RIDE NEXT 3 EXITS	EXTRUDED ALUMINUM PLANK SIGN	12.5	5.5	68.75	2 - 6X6 WOOD POST	NB	2207+19	2- WOOD	6X6	TBD	TBD		NO	2197+00	645.504
RI-2	YIELD	TYPE II SHEET ALUMINUM	5'	5'	5' 12.5'	1 - 4X4 WOOD POST	SB	2208+75	1- WOOD	4X4	TBD	TBD		NO	2208+75	645.109

PROPOSED SIGN SUMMARY

IDENTIFICATION NUMBER	DESCRIPTION	NOTES	SIGN SIZE			NUMBER AND TYPE OF POSTS	POST SIZE	HEIGHT OF POST (FT)	FOUNDATION SIZE AND TYPE	BREAKAWAY DEVICE	LOCATION
			WIDTH (FEET)	HEIGHT (FEET)	TOTAL AREA (SQ. FT.)						
W4-2R		TYPE II	3	3	9	1-WOOD	4X6	TBD	BURIED IN GROUND	NO	CUMMINGS ROAD STA. 74+00 RT
R3-7R		TYPE II	3	3	9	1-WOOD	4X6	TBD	BURIED IN GROUND	NO	CUMMINGS ROAD STA. 75+90 LT

Date:9/21/2018

Filename: 035_Sign Summary.dgn

No.	Revision	By	Date

Scale:

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LZD	09\18	Checked	RWH	09\18
Drawn	SLS	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood IV, P.E., P.T.O.E.

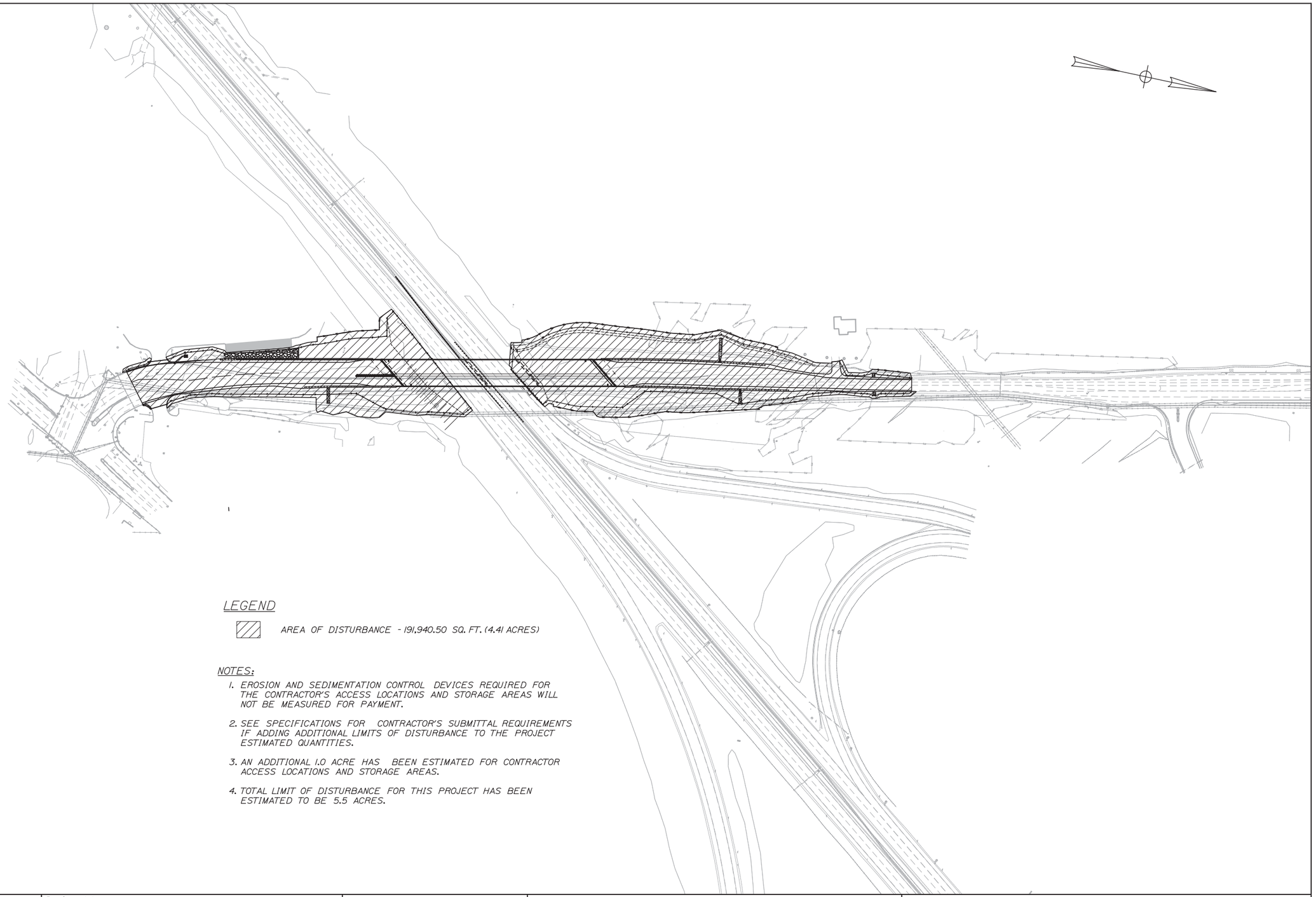
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

REMOVE AND RESET SIGN SUMMARY
PROPOSED SIGN SUMMARY

SHEET NUMBER: SS-04

CONTRACT:2018.19

Date:9/21/2018



LEGEND

AREA OF DISTURBANCE - 191,940.50 SQ. FT. (4.41 ACRES)

NOTES:

1. EROSION AND SEDIMENTATION CONTROL DEVICES REQUIRED FOR THE CONTRACTOR'S ACCESS LOCATIONS AND STORAGE AREAS WILL NOT BE MEASURED FOR PAYMENT.
2. SEE SPECIFICATIONS FOR CONTRACTOR'S SUBMITTAL REQUIREMENTS IF ADDING ADDITIONAL LIMITS OF DISTURBANCE TO THE PROJECT ESTIMATED QUANTITIES.
3. AN ADDITIONAL 1.0 ACRE HAS BEEN ESTIMATED FOR CONTRACTOR ACCESS LOCATIONS AND STORAGE AREAS.
4. TOTAL LIMIT OF DISTURBANCE FOR THIS PROJECT HAS BEEN ESTIMATED TO BE 5.5 ACRES.

Filename: 036_LimitOfDisturbancePlan.dgn

Scale: 100 0 100 200
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

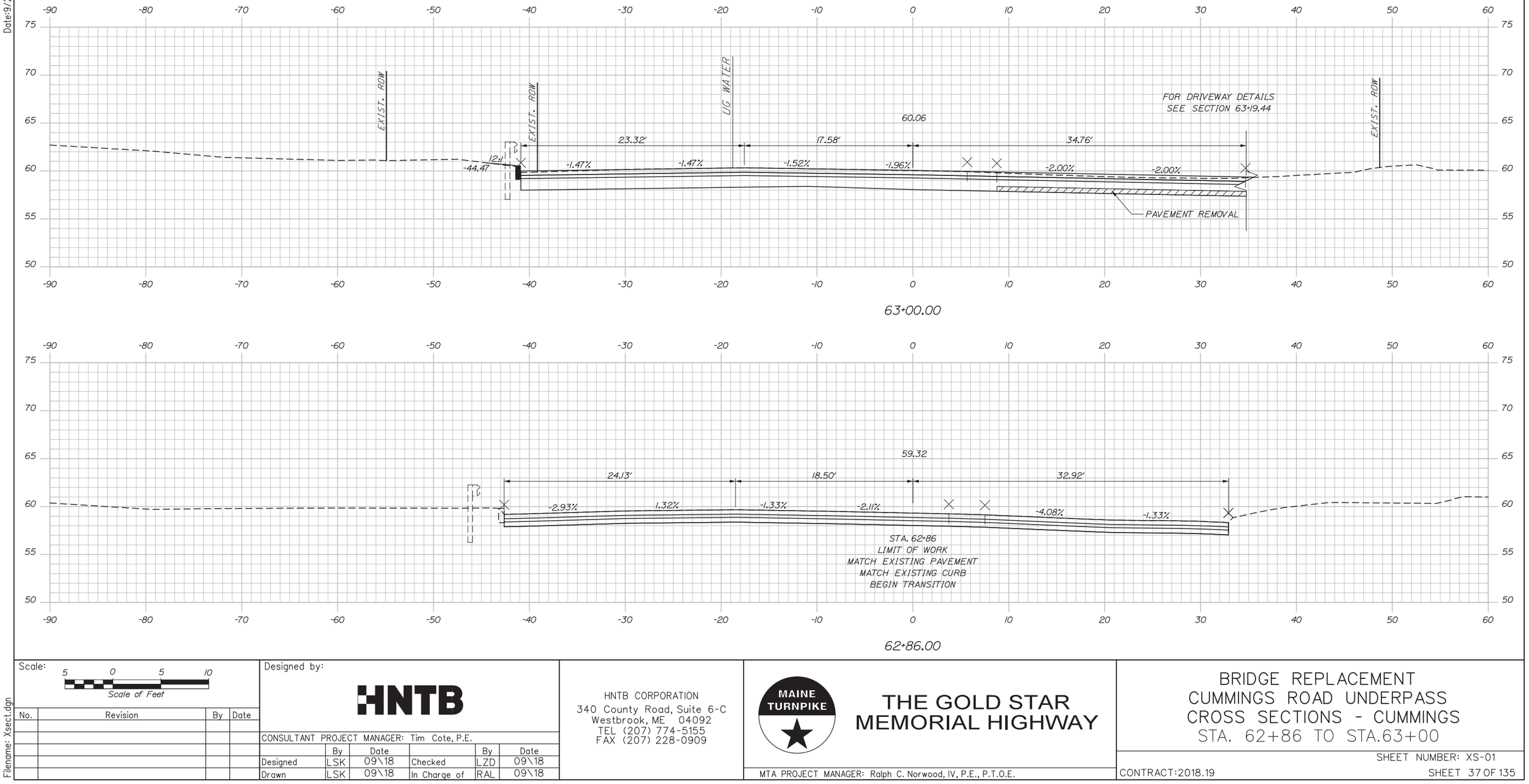
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

LIMIT OF DISTURBANCE

SHEET NUMBER: LOD-01

CONTRACT:2018.19

Date:9/21/2018



63+00.00

62+86.00

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

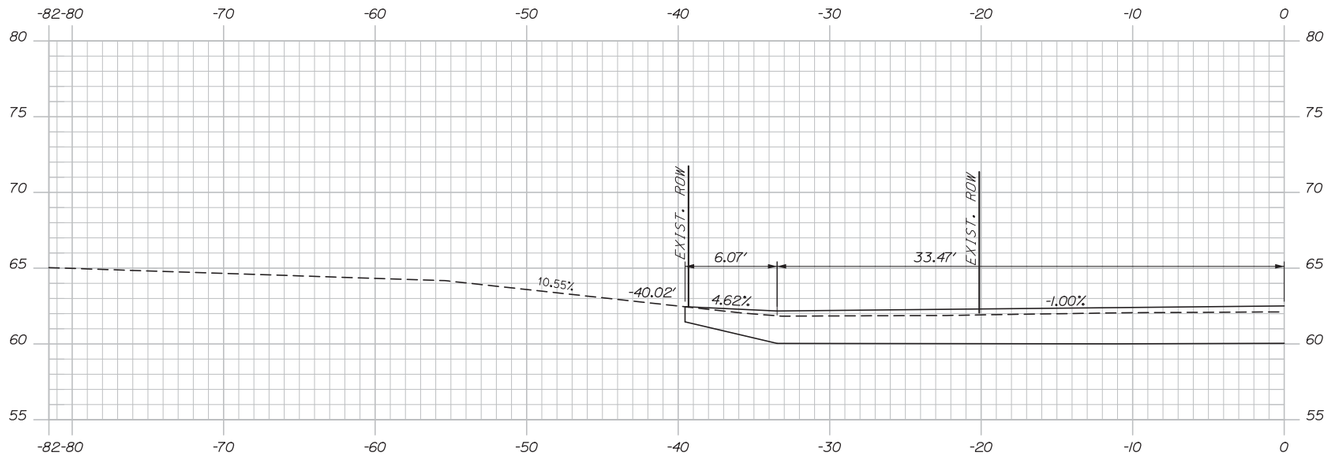
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 62+86 TO STA.63+00

SHEET NUMBER: XS-01

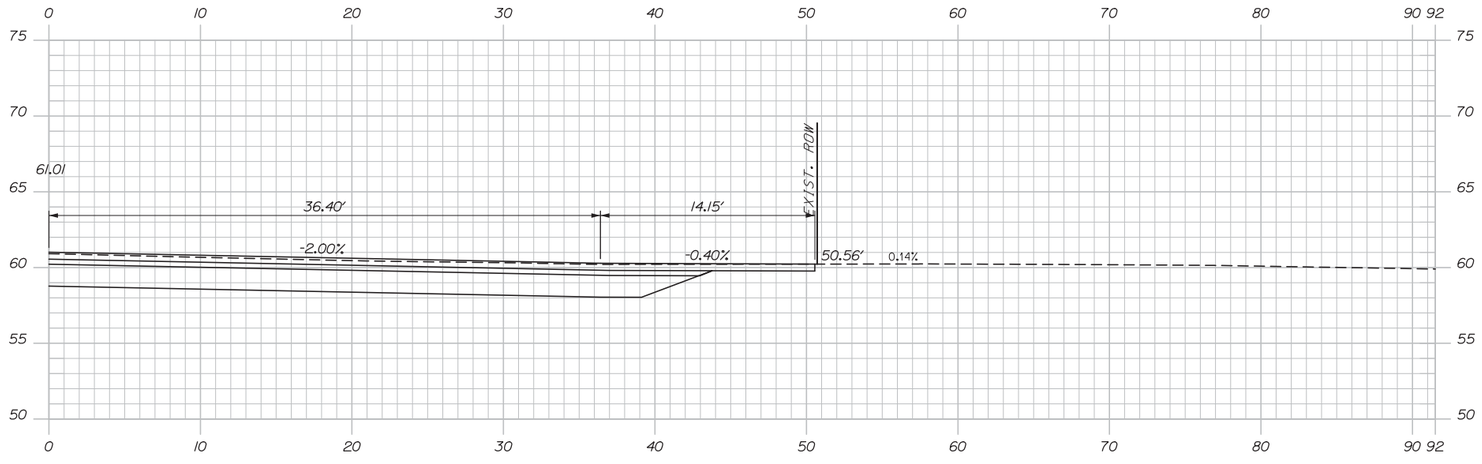
CONTRACT:2018.19

Date:9/21/2018



63+48.30

STA 63+36
END TRANSITION
BEGIN FULL DEPTH CONSTRUCTION



63+19.44

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

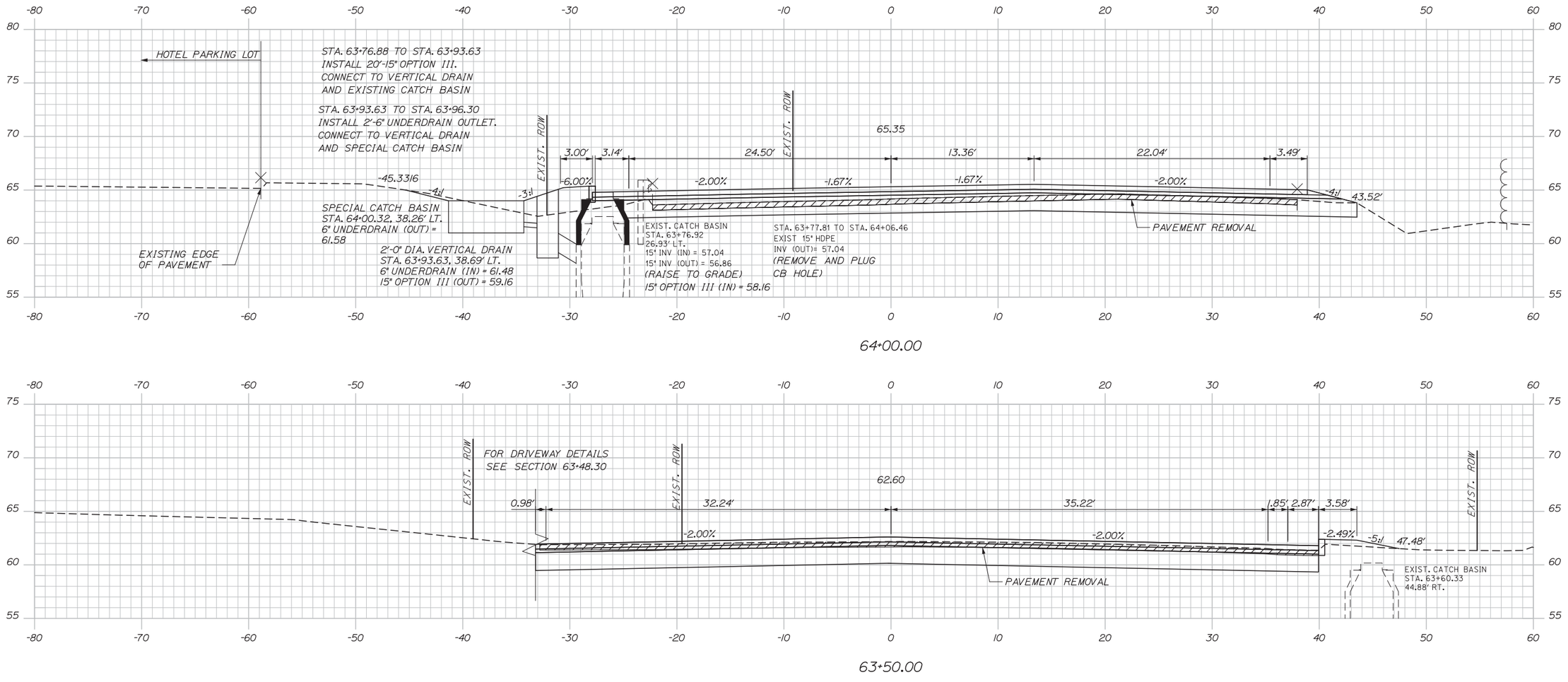
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 63+19 AND STA.63+48

SHEET NUMBER: XS-02

CONTRACT:2018.19

NOTE:
1. LEFT SHOULDER SLOPE TRANSITIONS FROM 2.00% TO 4.00% AT STATIONS 64+07 AND 64+50 RESPECTIVELY.



64+00.00

63+50.00

Date:9/21/2018

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

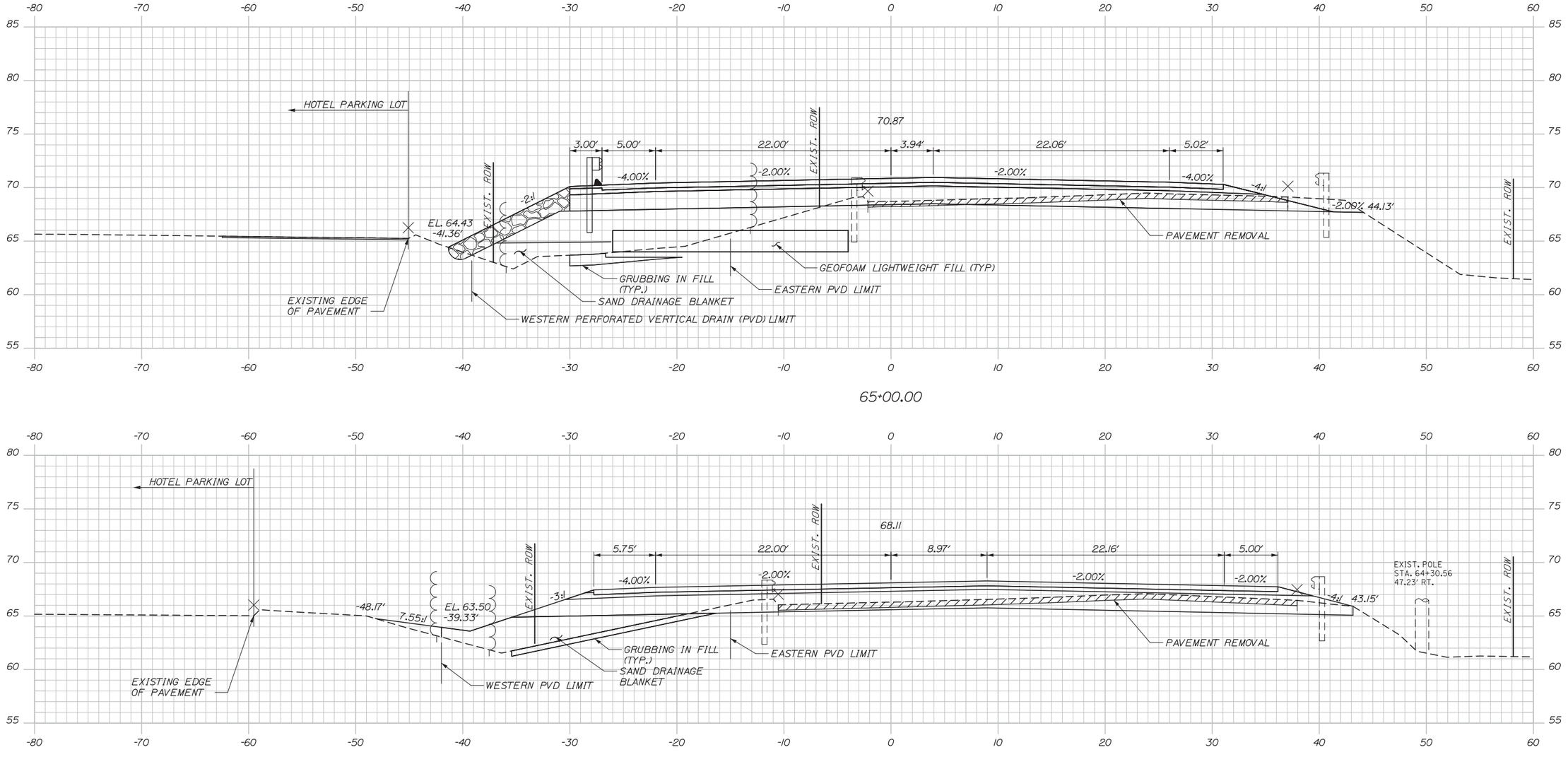
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 63+50 TO STA.64+00

SHEET NUMBER: XS-03

CONTRACT:2018.19

NOTES:
1. LEFT SHOULDER SLOPE TRANSITIONS FROM 2.00% TO 4.00% AT STATIONS 64+07 AND 64+50 RESPECTIVELY.



Date:9/21/2018

Filename: Xsect.dgn

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

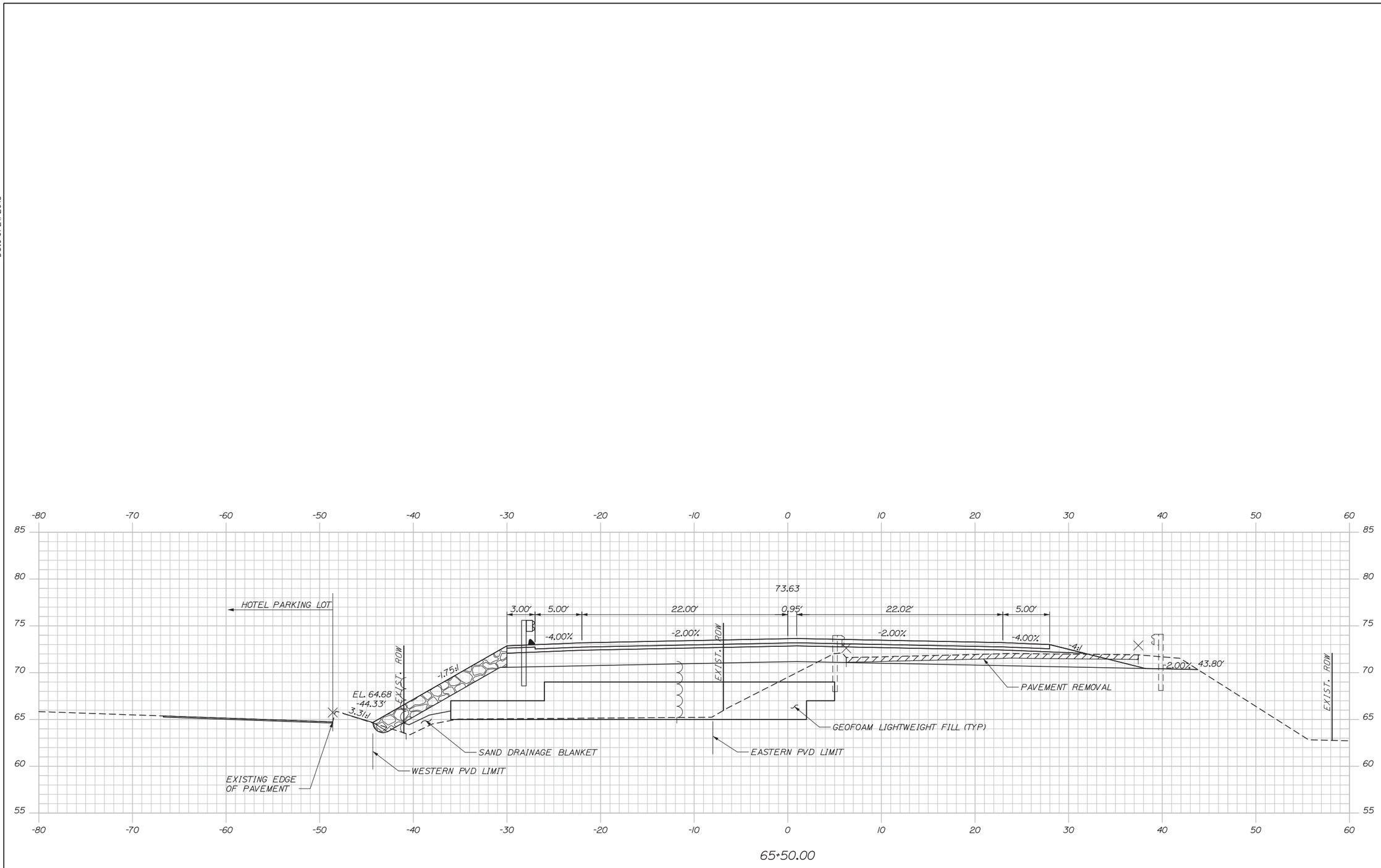
THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 64+50 TO STA.65+00

SHEET NUMBER: XS-04

CONTRACT:2018.19

Date:9/21/2018



65+50.00

Filename: Xsect.dgn

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

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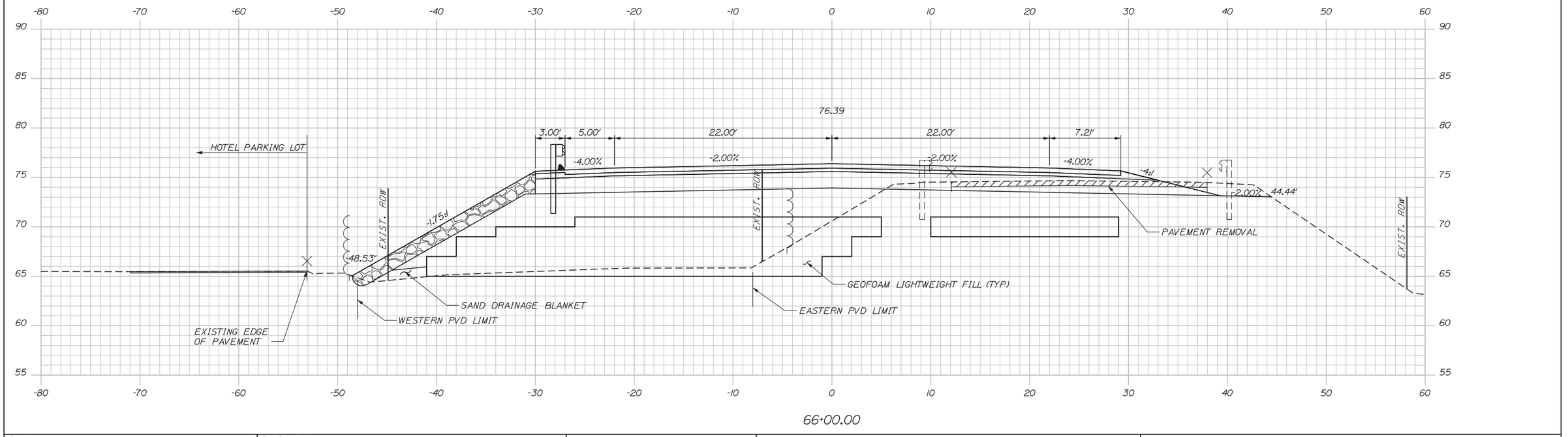
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 65+50

SHEET NUMBER: XS-05

CONTRACT:2018.19

SHEET 41 OF 135

NOTES:
1. LEFT FILL SLOPE TRANSITIONS FROM 1.75 TO 2:1 AT STATIONS 66+30 AND 66+50 RESPECTIVELY.



66+00.00

Date:9/21/2018

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

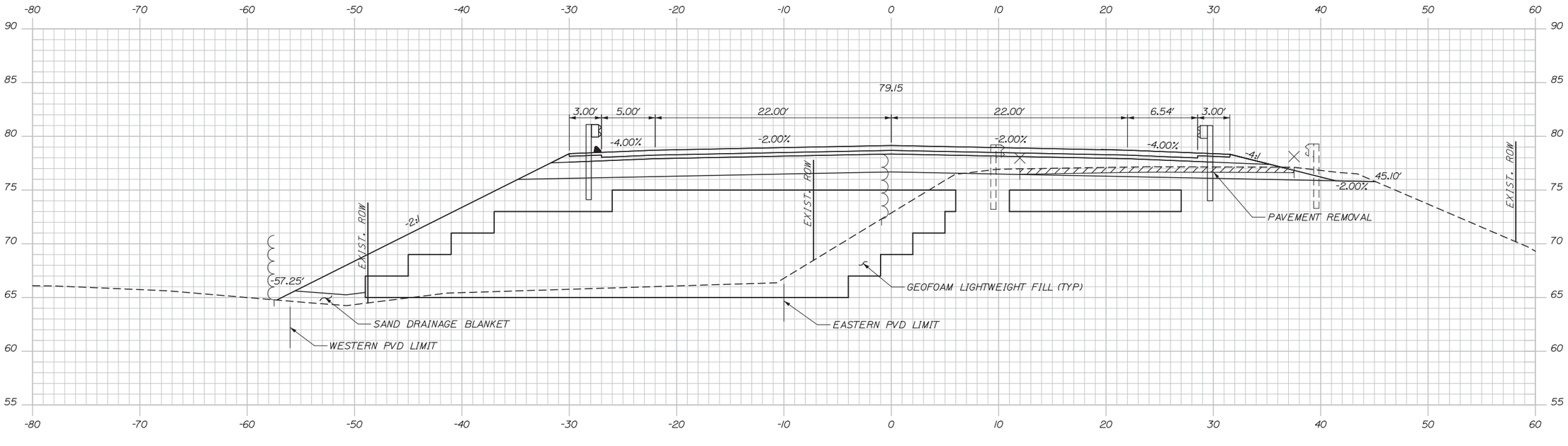
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 66+00

SHEET NUMBER: XS-06

CONTRACT:2018.19

Date:9/21/2018



66+50.00

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 66+50

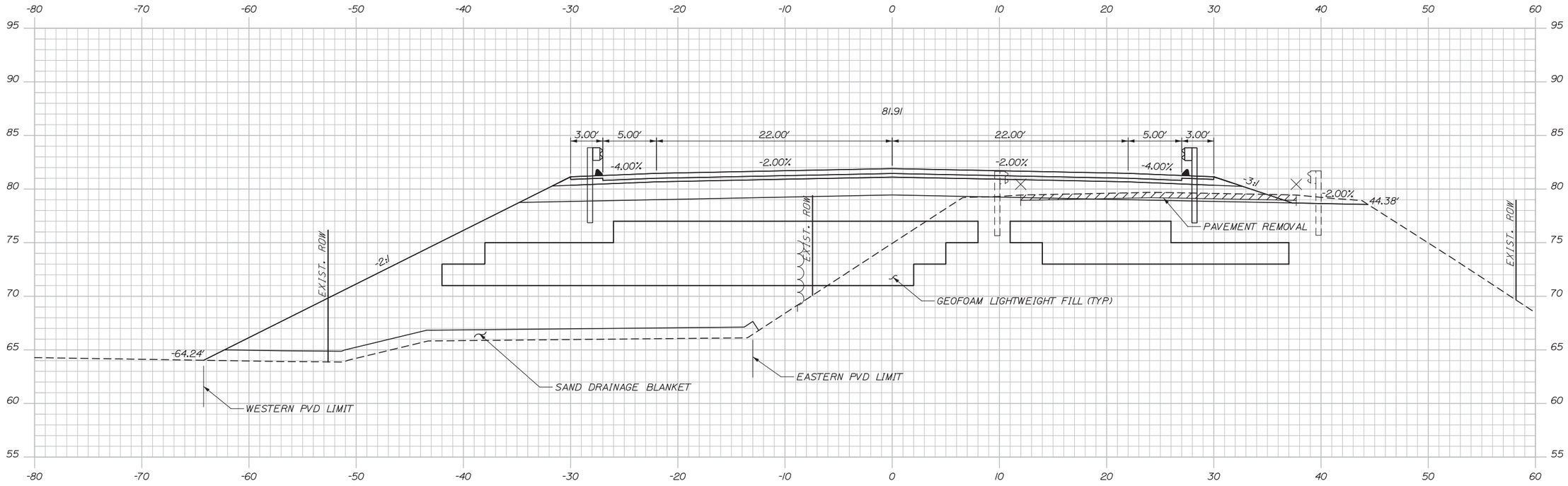
SHEET NUMBER: XS-07

CONTRACT:2018.19

SHEET 43 OF 135

Filename: Xsect.dgn

Date:9/21/2018



67+00.00

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

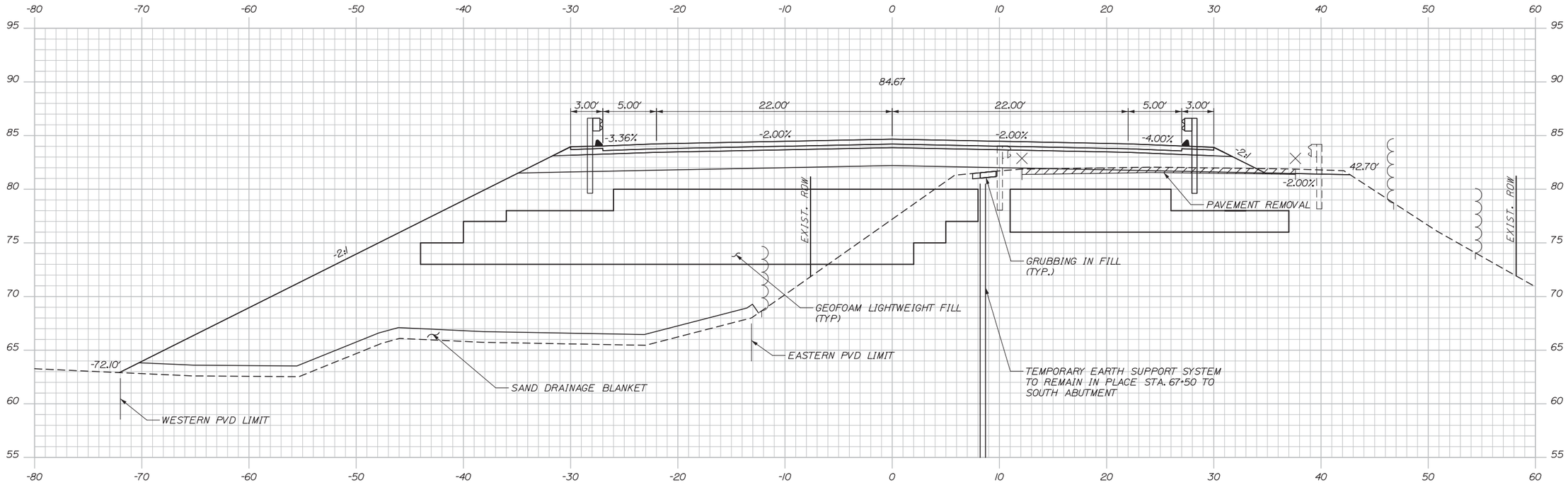
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 67+00

SHEET NUMBER: XS-08

CONTRACT:2018.19

NOTES:
1. LEFT SHOULDER SLOPE TRANSITIONS FROM 4.00% TO 2.00% AT STATIONS 67+34 AND 67+84 RESPECTIVELY.



67+50.00

Date:9/21/2018

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

HNTB CORPORATION
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FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS CROSS SECTIONS - CUMMINGS STA. 67+50

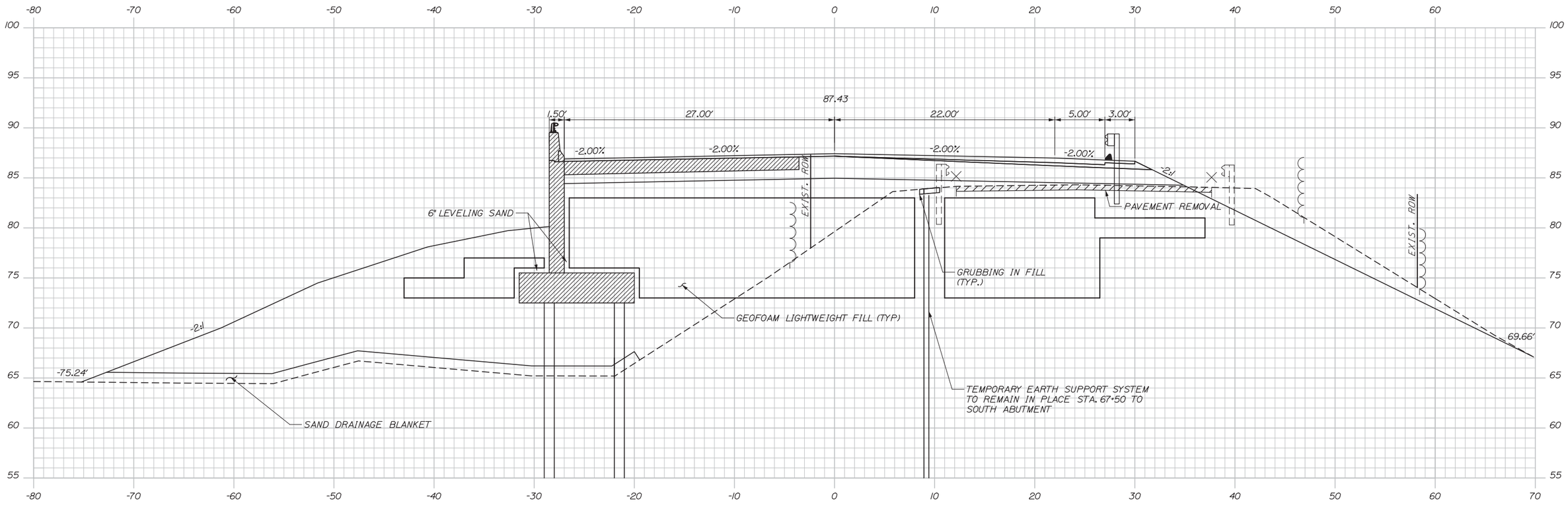
SHEET NUMBER: XS-09

CONTRACT:2018.19

Date:9/21/2018

NOTES:
1. RIGHT SHOULDER SLOPE TRANSITIONS FROM 4.00% TO 2.00% AT STATIONS 67+83 AND 68+33 RESPECTIVELY.

BRIDGE STATIONS 68+28.00 TO 72+61.00



68+00.00

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS CROSS SECTIONS - CUMMINGS STA. 68+00

CONTRACT:2018.19

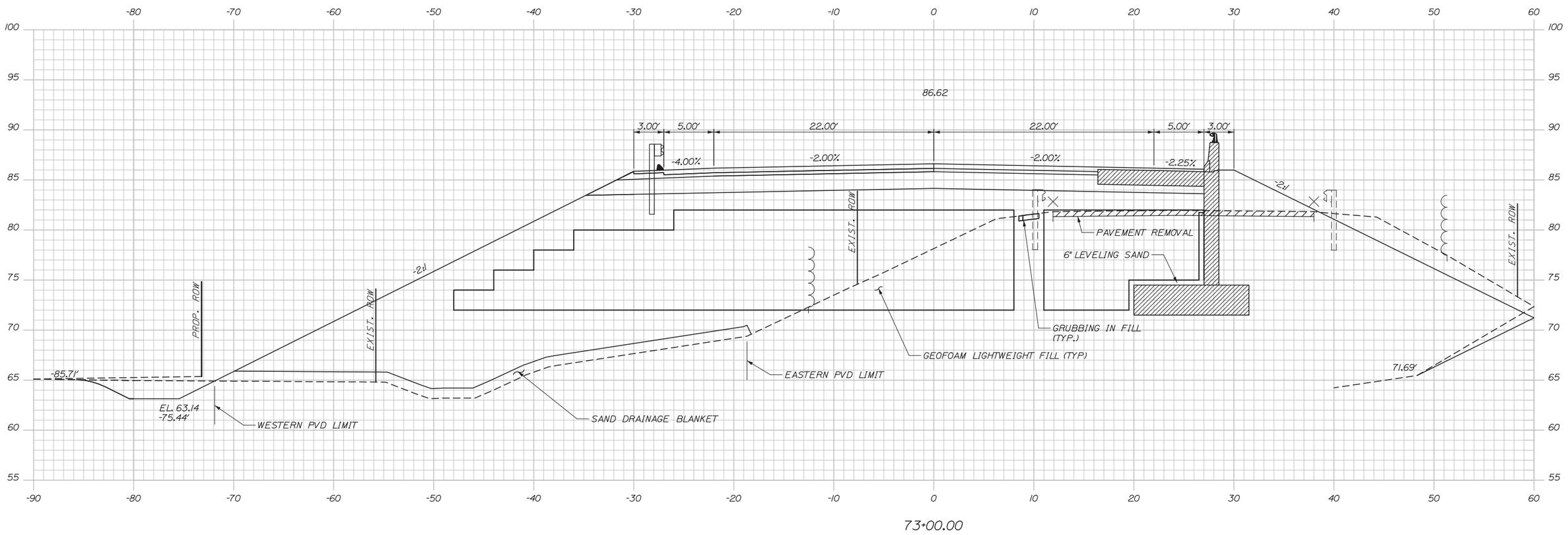
SHEET NUMBER: XS-10

Filename: Xsect.dgn

Date:9/21/2018

NOTES:
1. LEFT SHOULDER SLOPE TRANSITIONS FROM 2.00% TO 4.00% AT STATIONS 72+45 AND 72+95 RESPECTIVELY.

2. RIGHT SHOULDER SLOPE TRANSITIONS FROM 2.00% TO 4.00% AT STATIONS 72+92 AND 73+42 RESPECTIVELY.



73+00.00

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

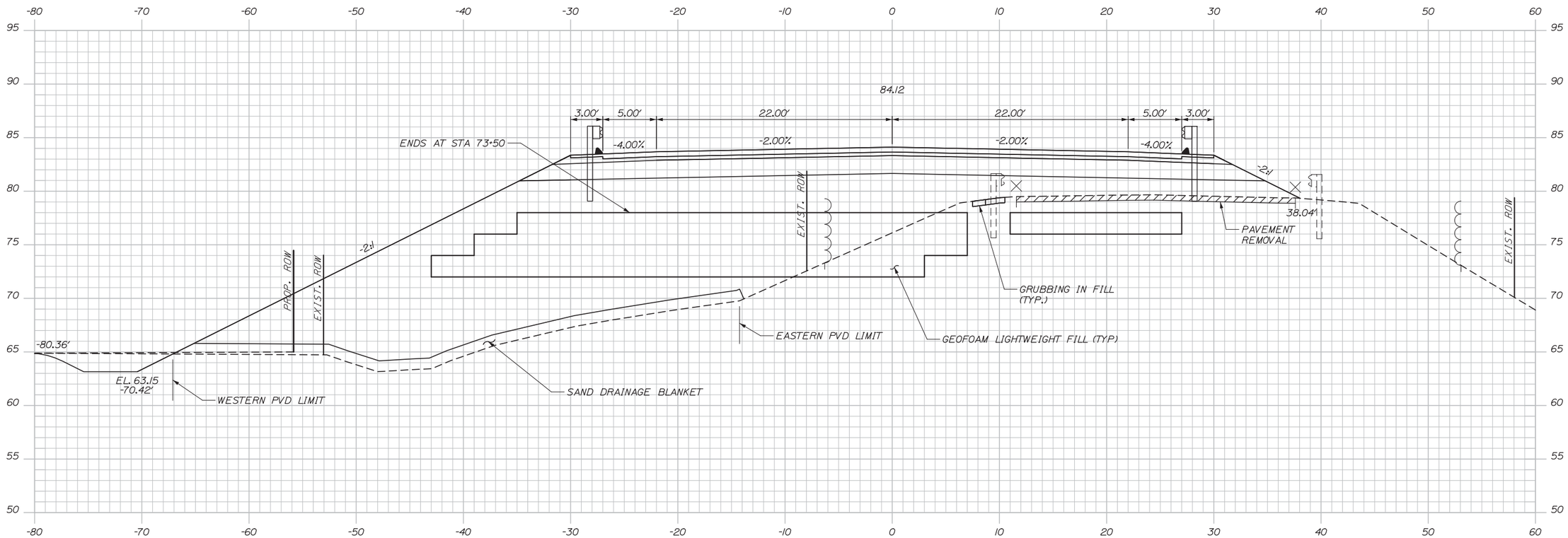
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 73+00

SHEET NUMBER: XS-11

CONTRACT:2018.19

Filename: Xsect.dgn

Date:9/21/2018



73+50.00

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 73+50

SHEET NUMBER: XS-12

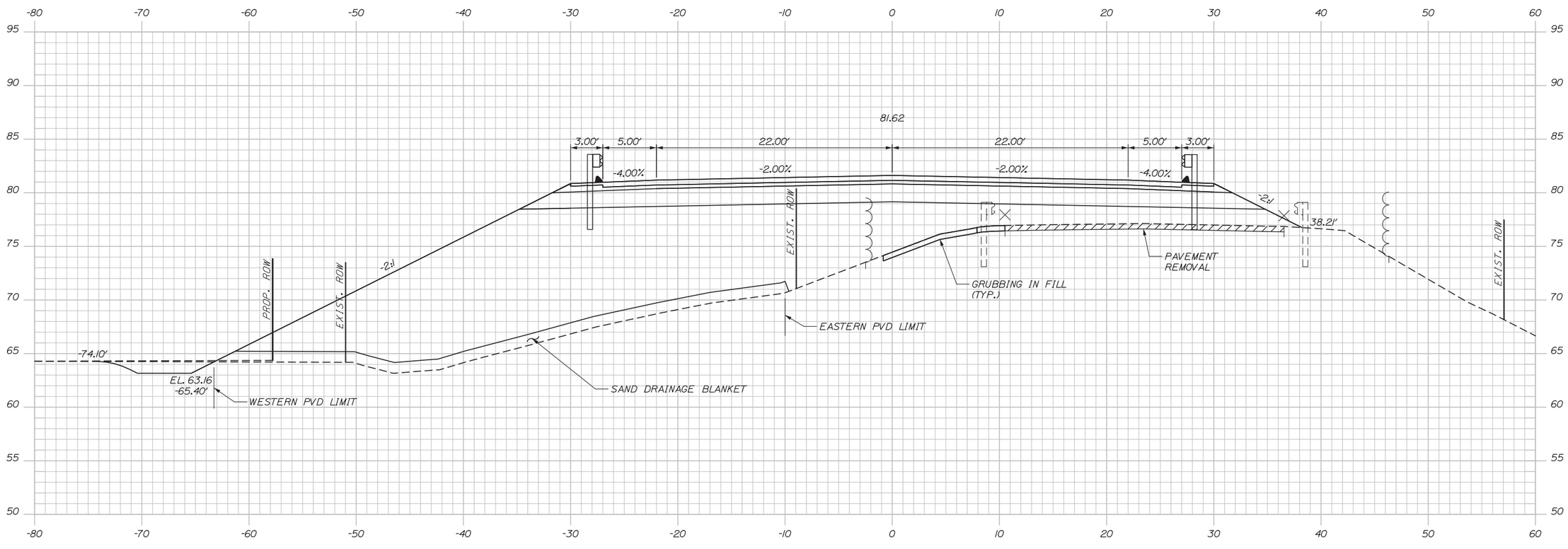
CONTRACT:2018.19

SHEET 48 OF 135

Filename: Xsect.dgn

Date:9/21/2018

NOTES:
1. LEFT FILL SLOPE TRANSITIONS FROM 2:1 TO 3:1 AT STATIONS 74+30 AND 74+80 RESPECTIVELY.



74+00.00

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

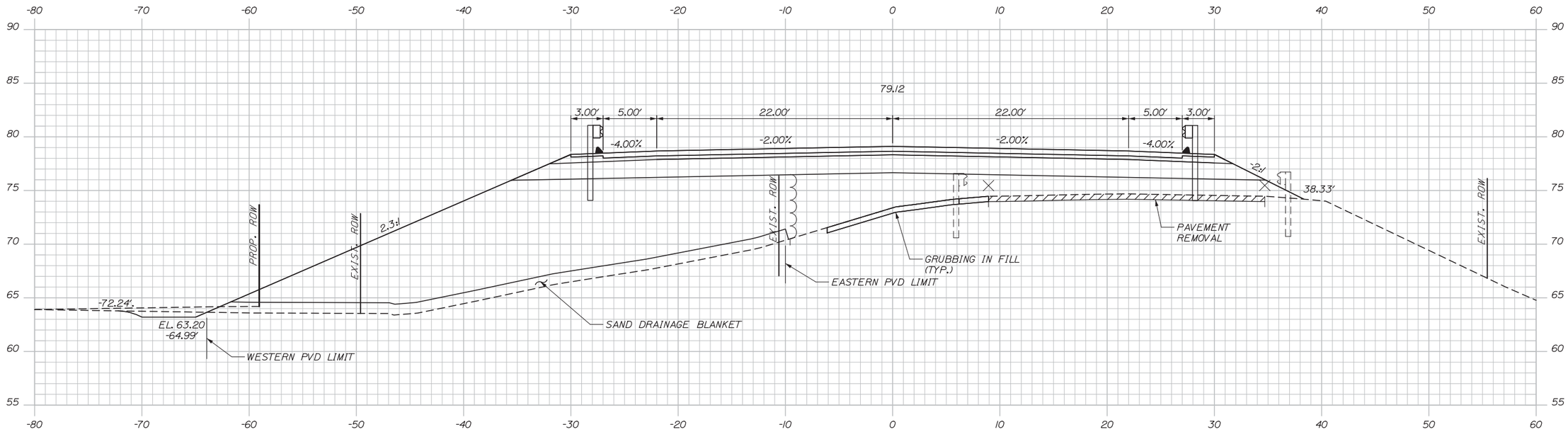
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 74+00

SHEET NUMBER: XS-13

CONTRACT:2018.19

Filename: Xsect.dgn

NOTES:
1. LEFT FILL SLOPE TRANSITIONS FROM 2:1 TO 3:1 AT STATIONS 74+30 AND 74+80 RESPECTIVELY.



74+50.00

Date:9/21/2018

Filename: Xsect.dgn

Scale: 5 0 5 10 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

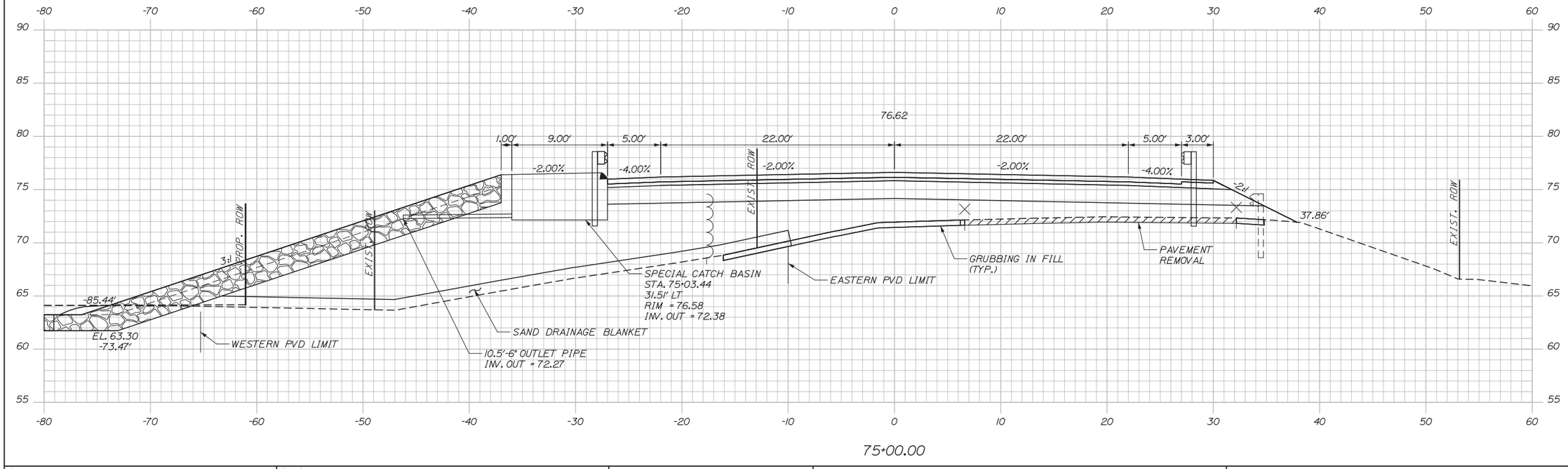
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS CROSS SECTIONS - CUMMINGS STA. 74+50

SHEET NUMBER: XS-14

CONTRACT:2018.19

SHEET 50 OF 135

Date:9/21/2018



75+00.00

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 75+00

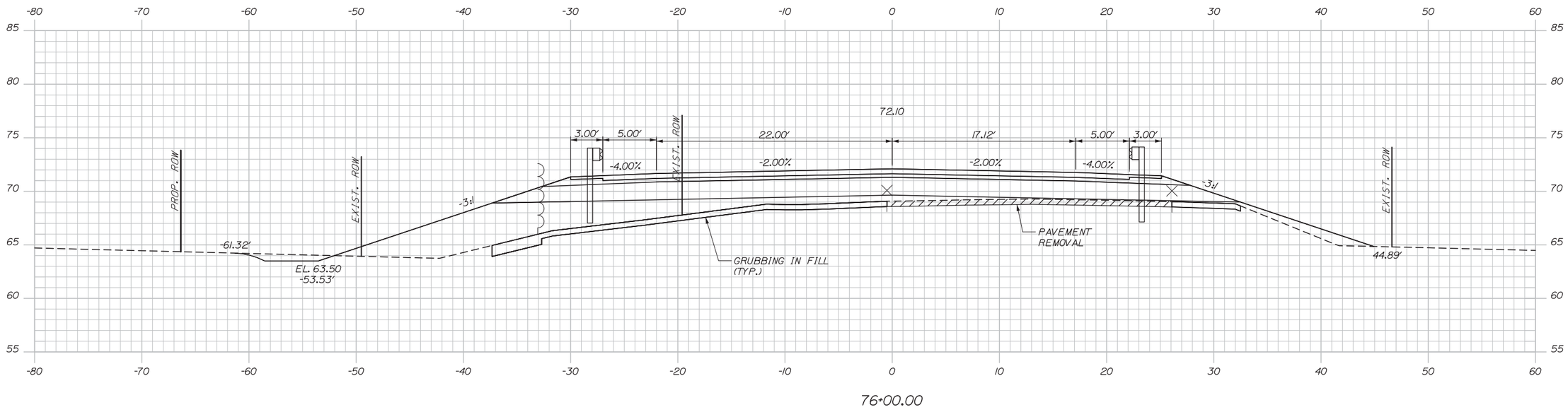
SHEET NUMBER: XS-15

CONTRACT:2018.19

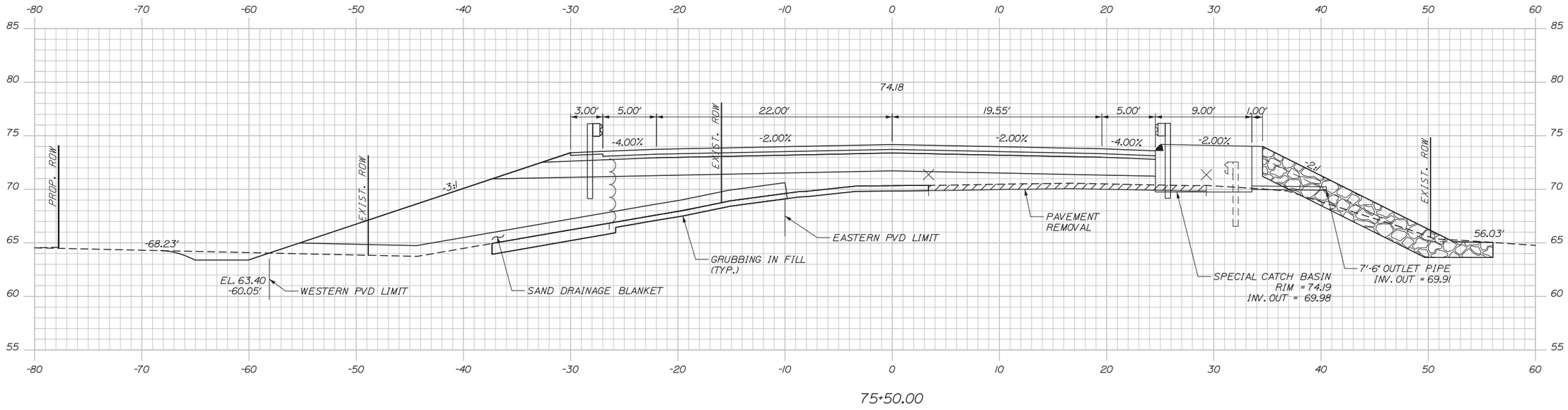
SHEET 51 OF 135

Filename: Xsect.dgn

Date:9/21/2018



76+00.00



75+50.00

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

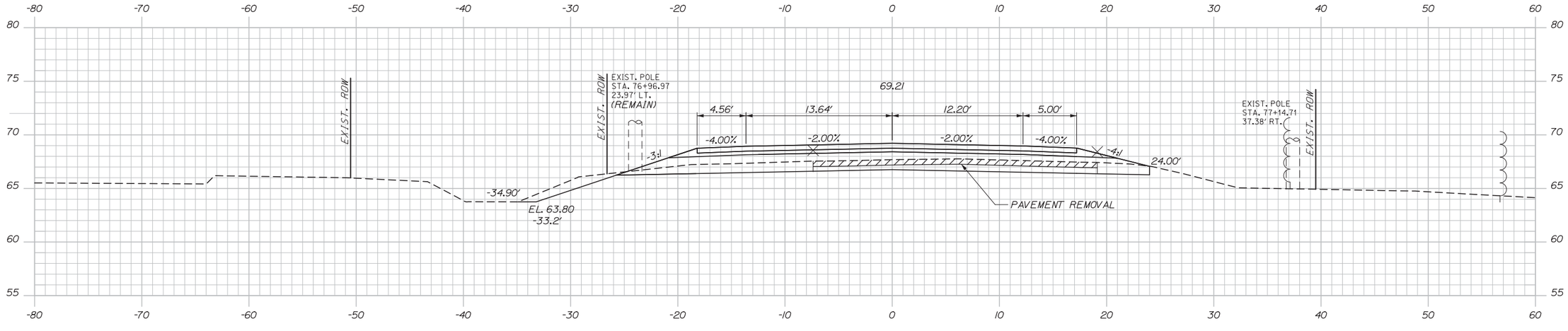
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 75+50 TO STA.76+00

SHEET NUMBER: XS-16

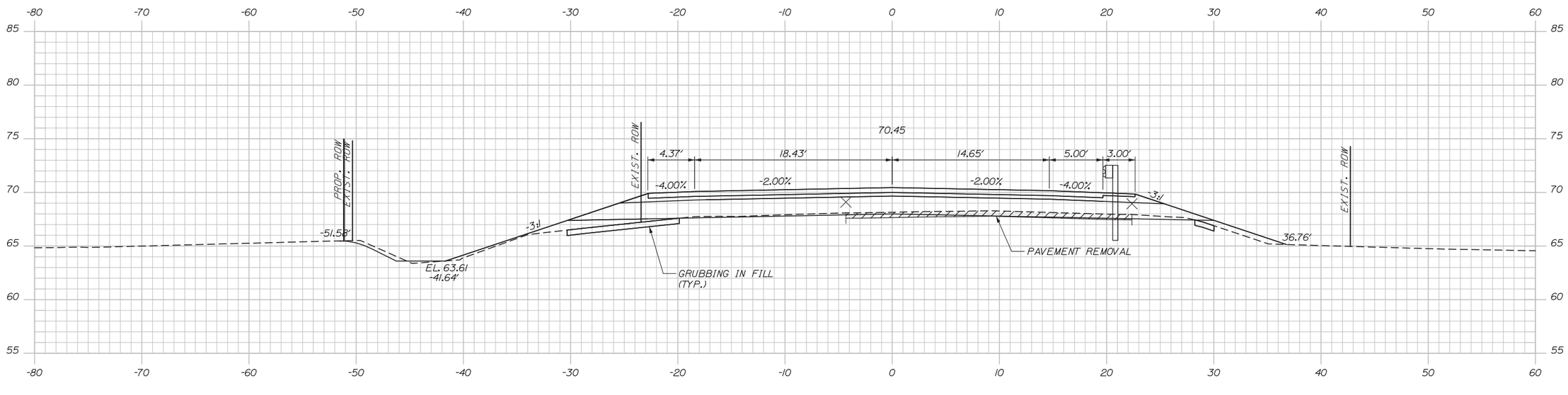
CONTRACT:2018.19

SHEET 52 OF 135

Date:9/21/2018



77+00.00



76+50.00

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

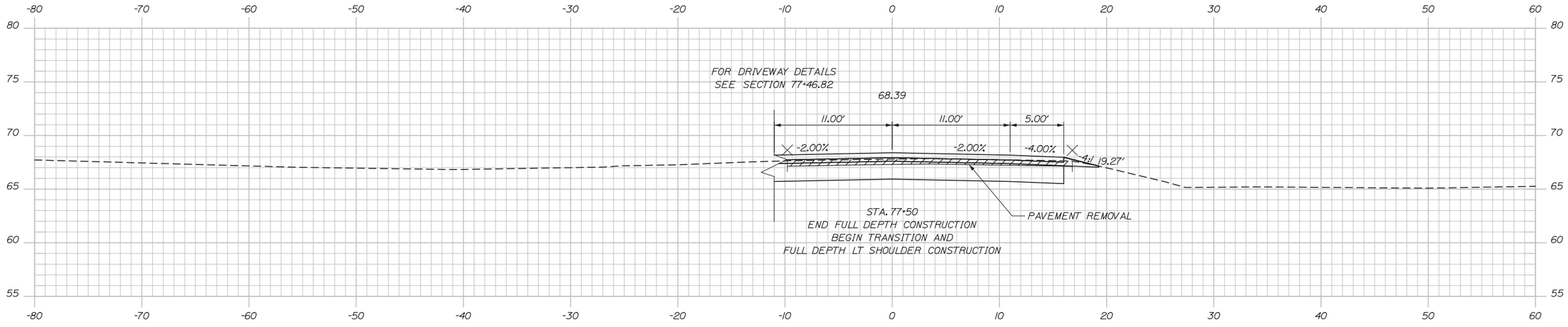
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 76+50 TO STA.77+00

SHEET NUMBER: XS-17

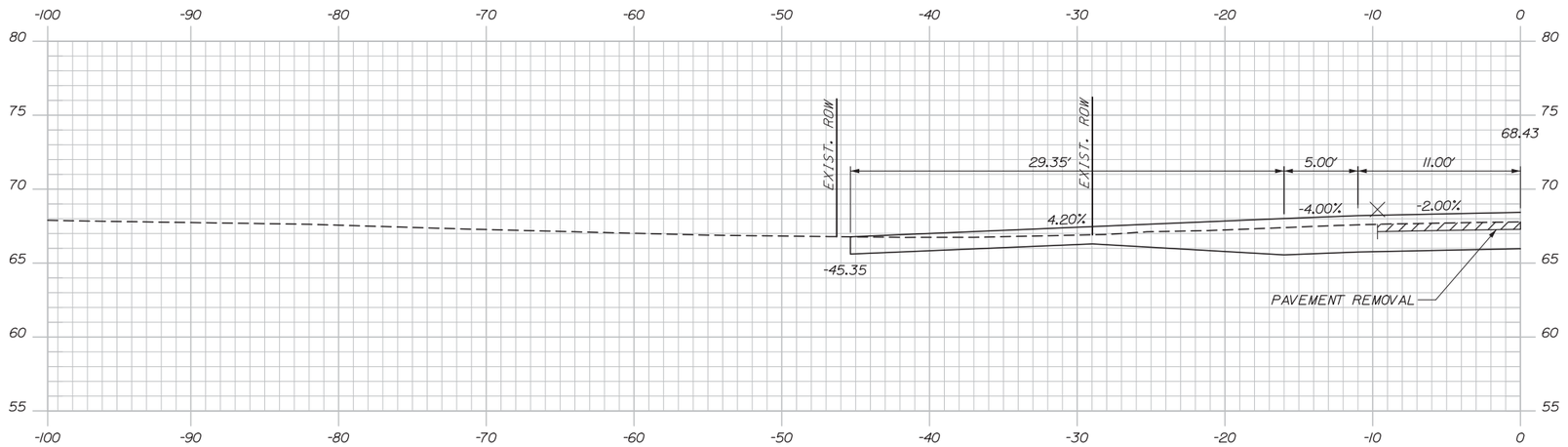
CONTRACT:2018.19

SHEET 53 OF 135

Date:9/21/2018



77+50.00



77+46.82

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

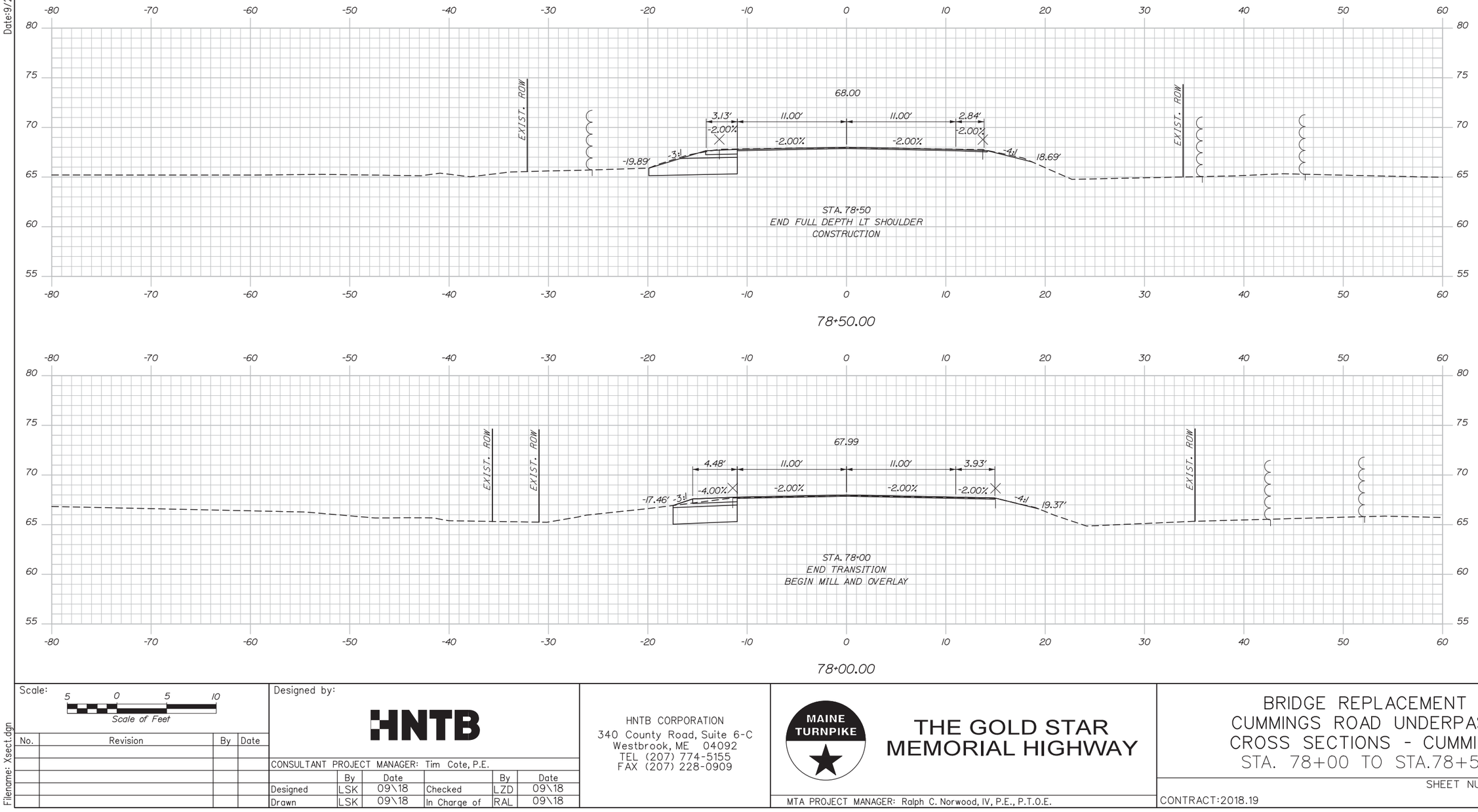
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 77+46.82 TO STA.77+50

SHEET NUMBER: XS-18

CONTRACT:2018.19

Date:9/21/2018



78+50.00

78+00.00

Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

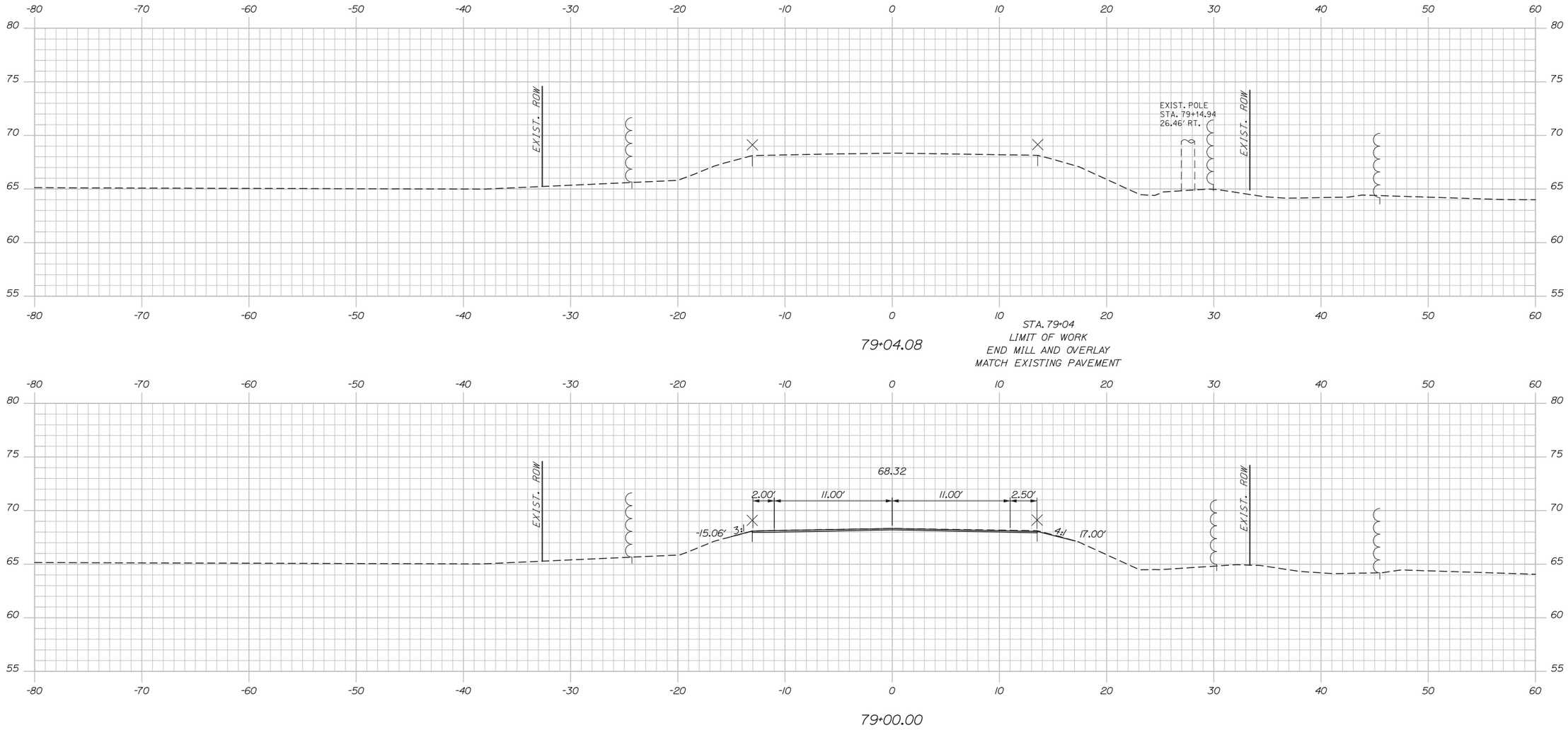
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 78+00 TO STA.78+50

SHEET NUMBER: XS-19

CONTRACT:2018.19

Date:9/21/2018



Filename: Xsect.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

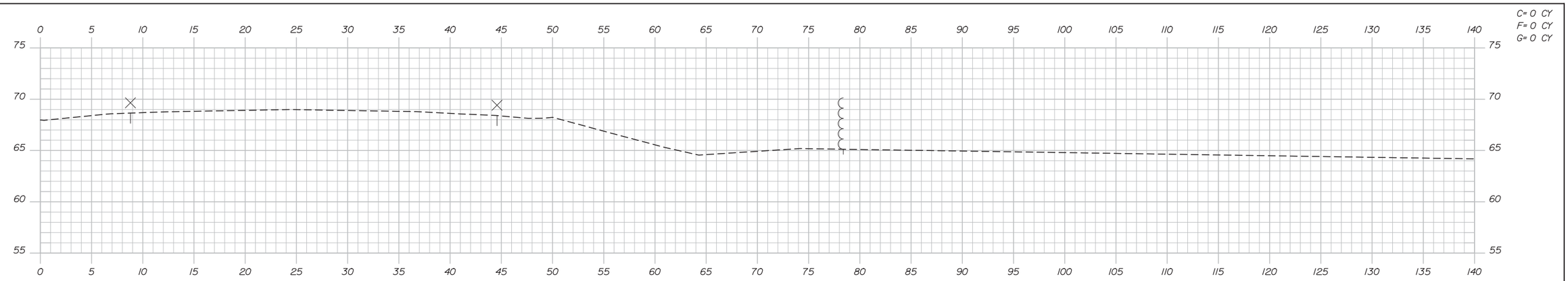
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

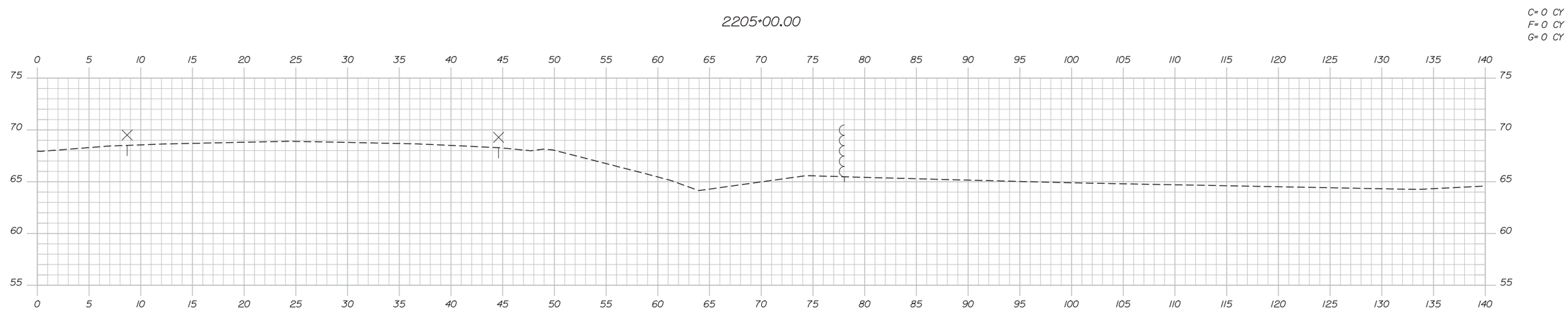
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - CUMMINGS
STA. 79+00 TO STA.79+04

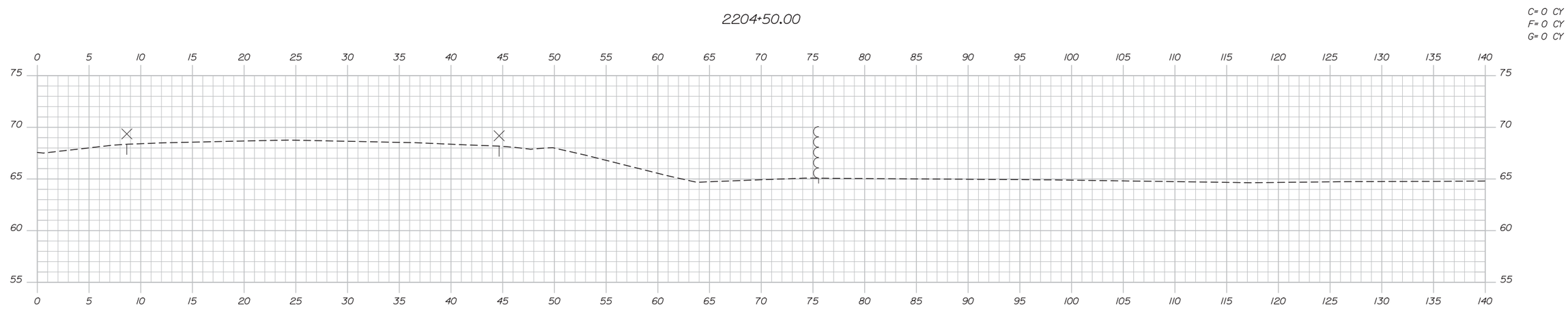
SHEET NUMBER: XS-20

CONTRACT:2018.19

Date:9/21/2018







98% PLANS
AUGUST 10, 2018

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE NB

STA. 2204+00 TO STA.2205+00

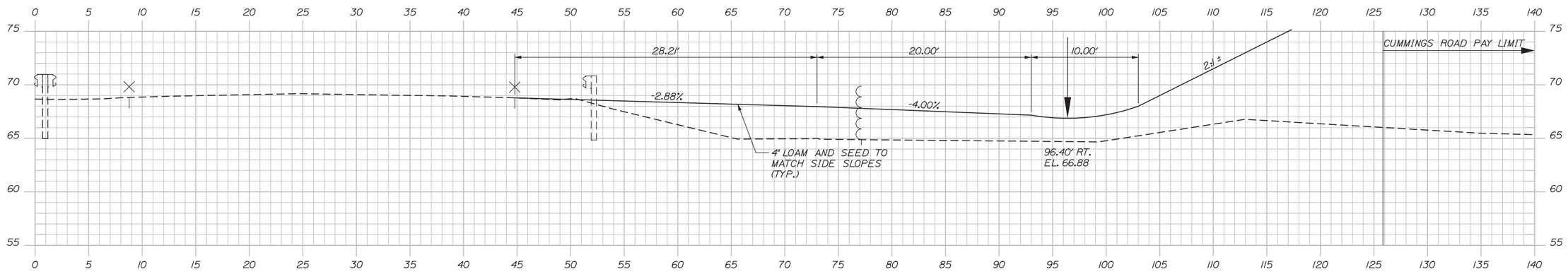
SHEET NUMBER: XS-21

CONTRACT:2018.19

Date:9/21/2018

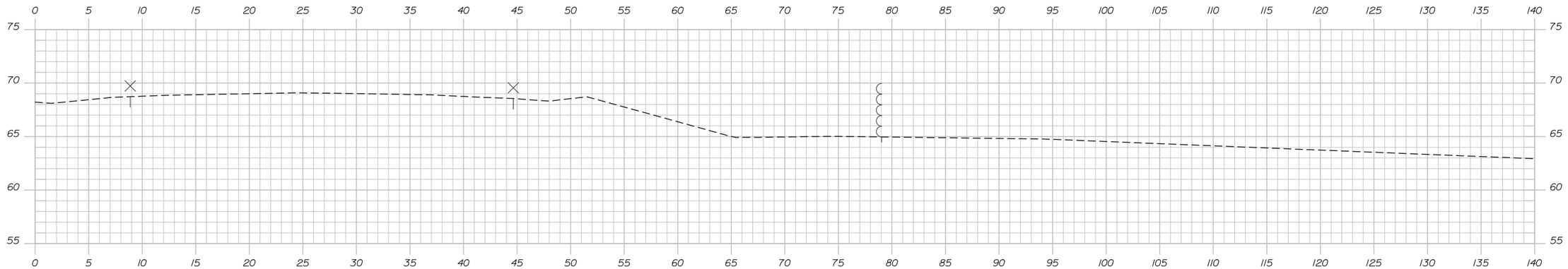
GEOFOAM LIMITS NOT SHOWN

C= 2 CY
F= 236 CY
G= 0 CY



2206+00.00

C= 0 CY
F= 0 CY
G= 0 CY



2205+50.00

98% PLANS
AUGUST 10, 2018

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

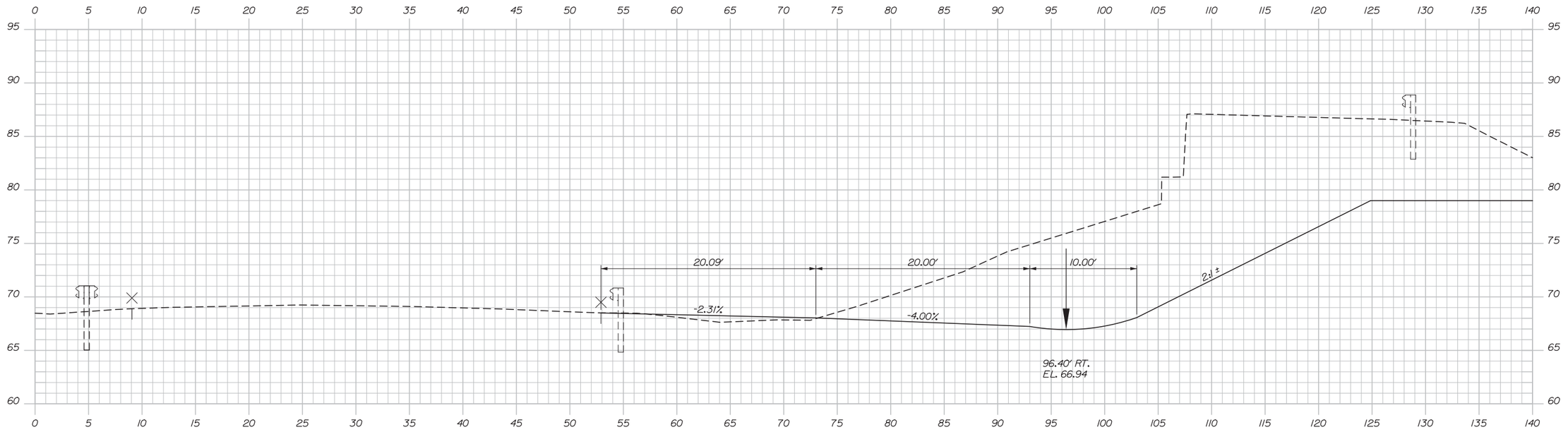
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE NB

STA. 2205+50 TO STA.2206+00

SHEET NUMBER: XS-22

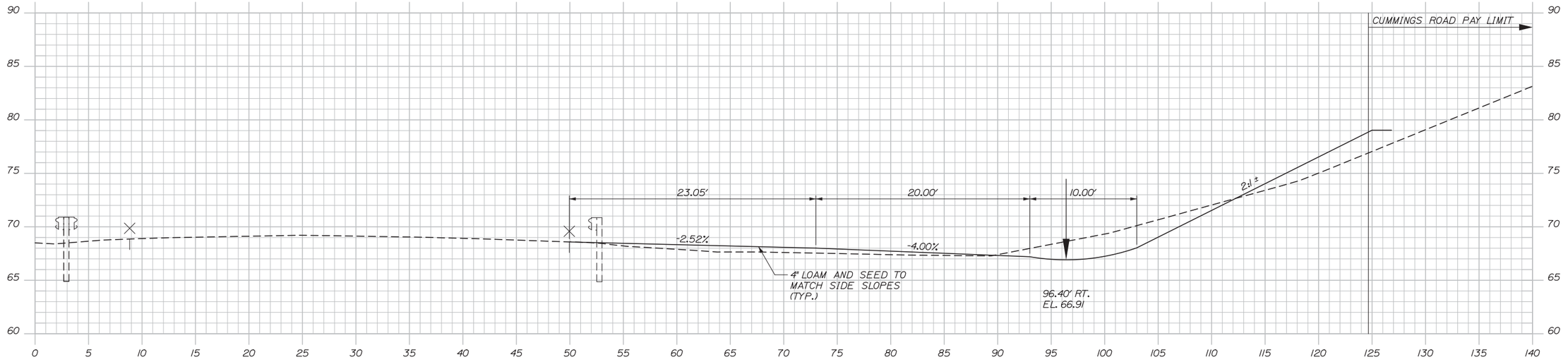
CONTRACT:2018.19



2207+00.00

GEOFOAM LIMITS NOT SHOWN

C= 39 CY
F= 251 CY
G= 0 CY



2206+50.00

98% PLANS
AUGUST 10, 2018

Date:9/21/2018

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

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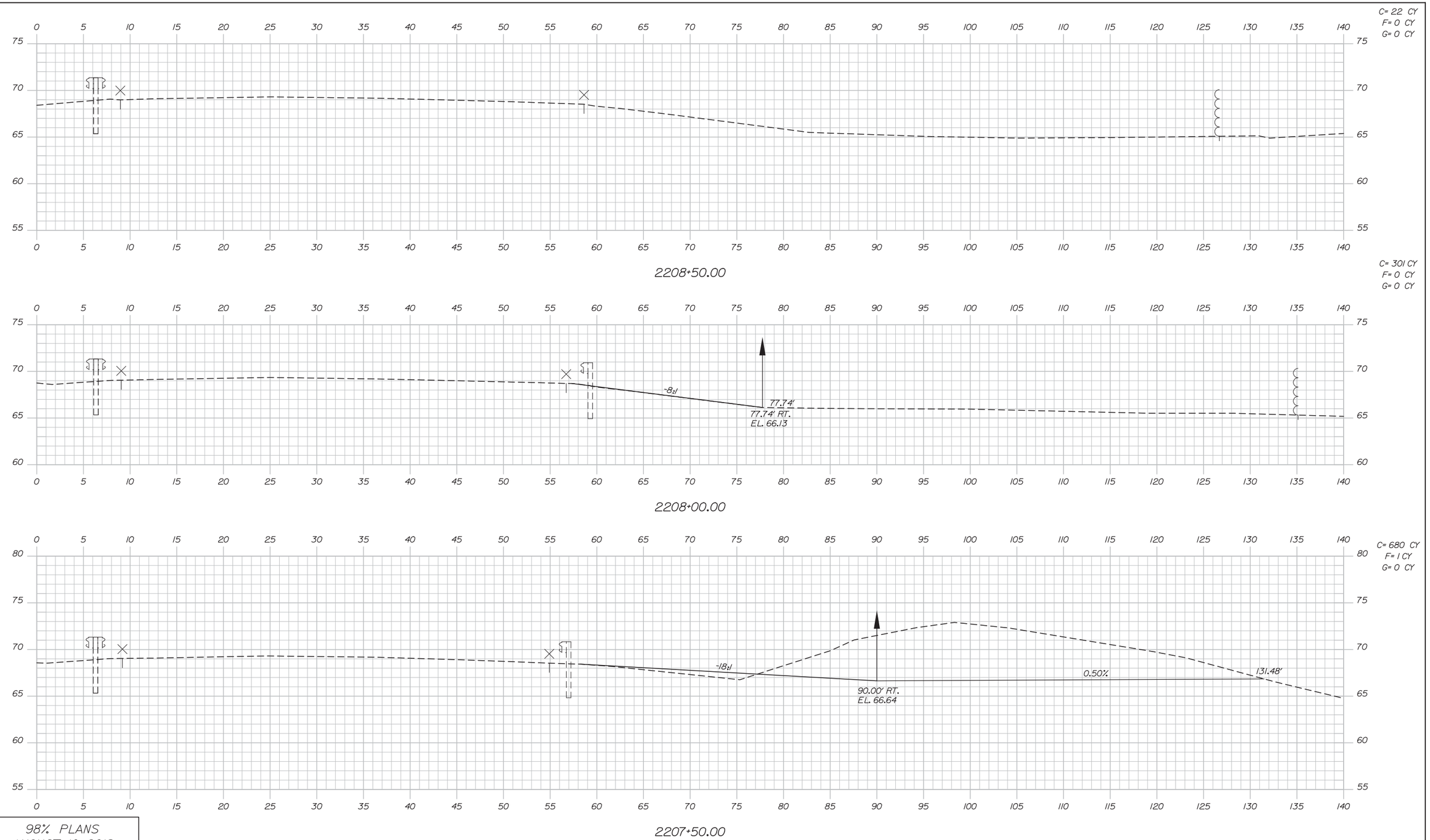
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE NB

STA. 2206+50 TO STA.2207+00

SHEET NUMBER: XS-23

CONTRACT:2018.19



98% PLANS
AUGUST 10, 2018

Date:9/21/2018

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

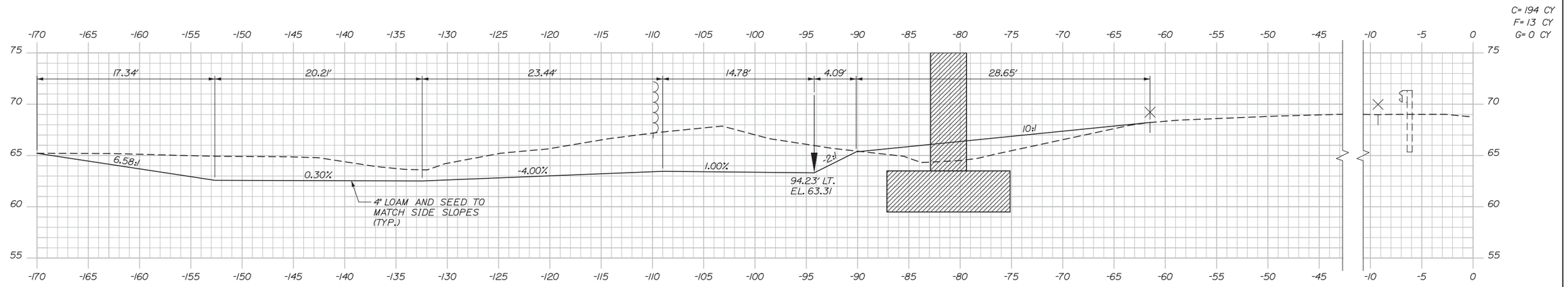
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE NB

STA. 2207+50 TO STA.2208+50

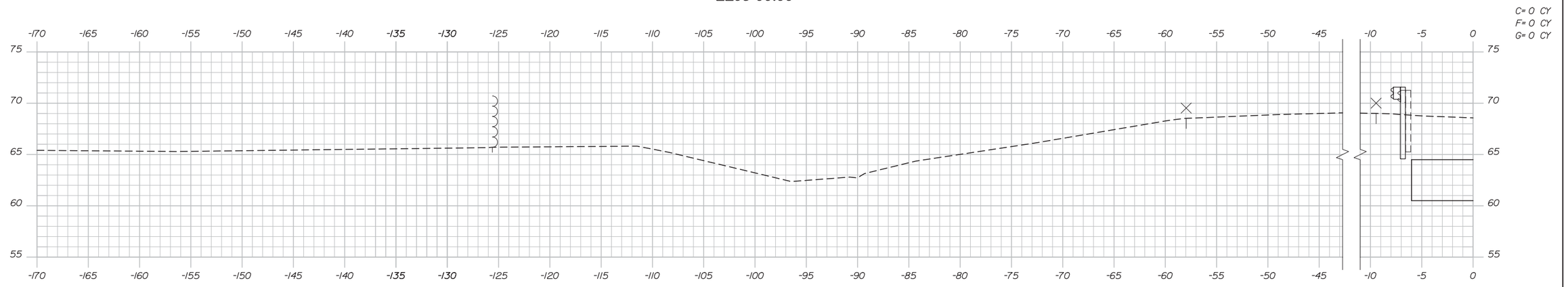
SHEET NUMBER: XS-24

CONTRACT:2018.19

Date:9/21/2018



2208+00.00



2207+50.00

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

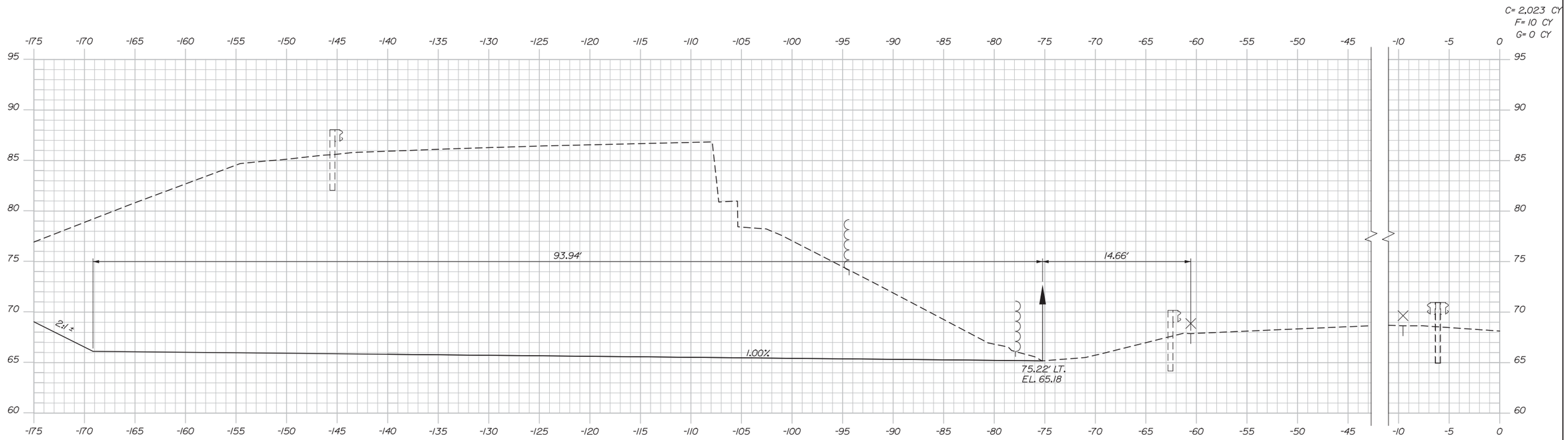
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE SB
STA. 2207+50 TO STA. 2208+00

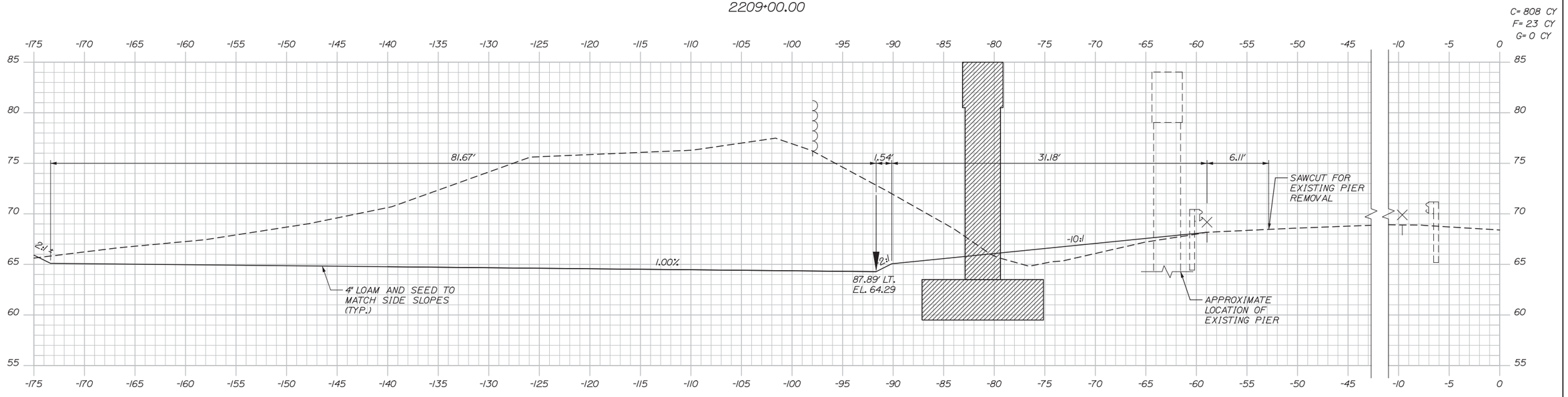
SHEET NUMBER: XS-25

CONTRACT:2018.19

SHEET 61OF 135



2209+00.00



2208+50.00

Date:9/21/2018

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE SB

STA. 2208+50 TO STA. 2209+00

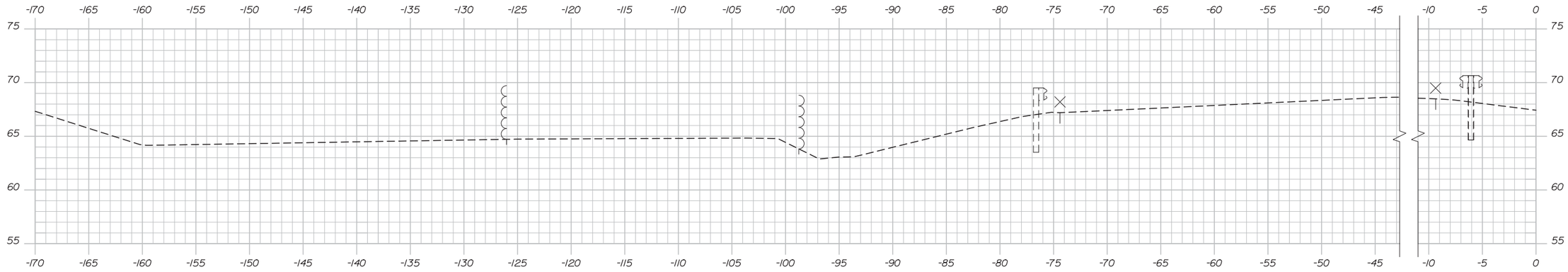
SHEET NUMBER: XS-26

CONTRACT:2018.19

SHEET 62 OF 135

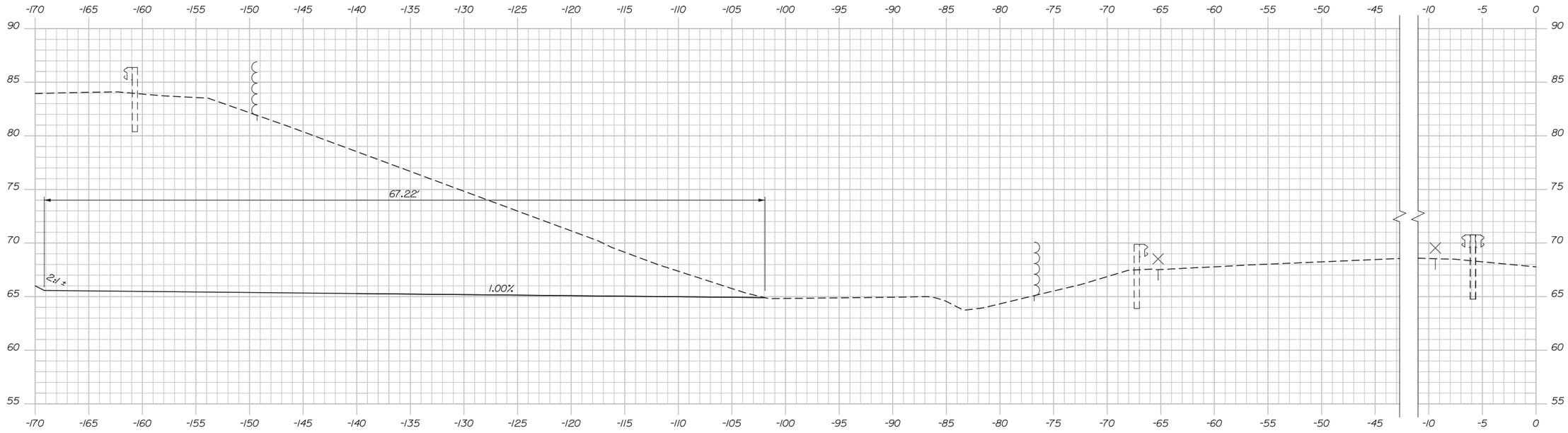
Date:9/21/2018

C= 723 CY
F= 0 CY
G= 0 CY



2210+00.00

C= 2,132 CY
F= 0 CY
G= 0 CY



2209+50.00

Filename: Xsect_Mainline.dgn

Scale: 5 0 5 10
Scale of Feet

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	EDD	09\18	Checked	LZD	09\18
Drawn	EDD	09\18	In Charge of	RAL	09\18

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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

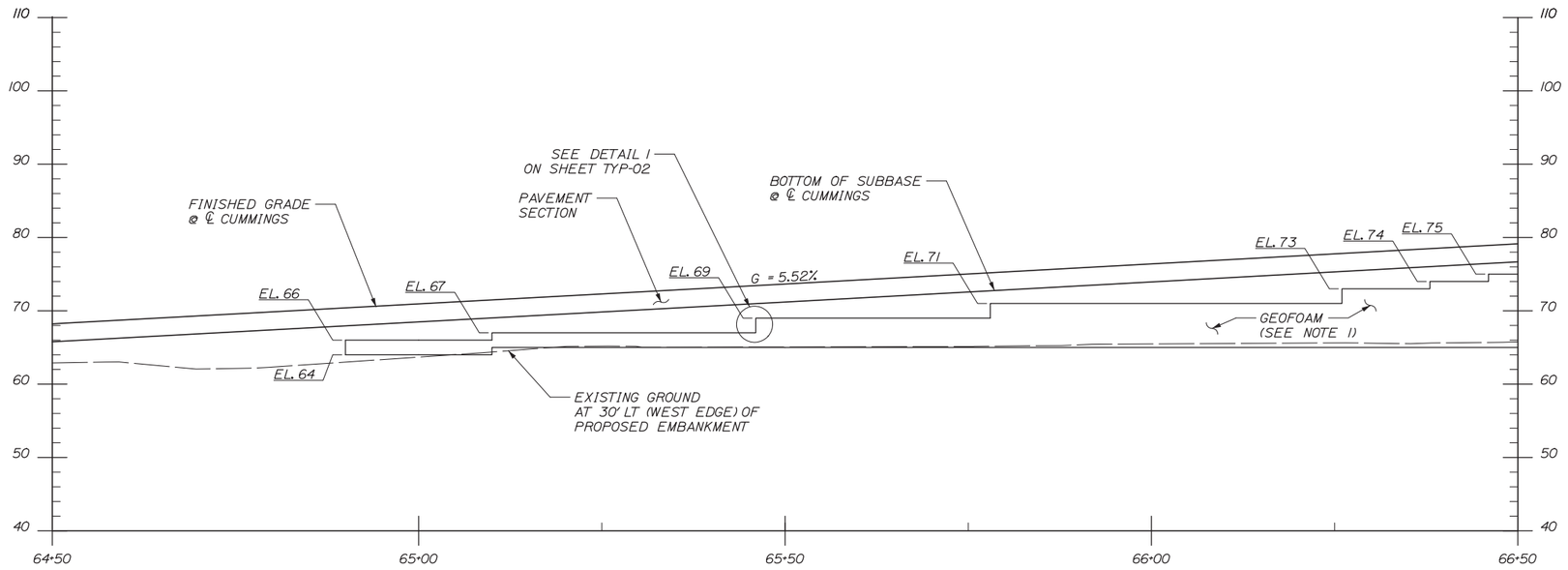
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS
CROSS SECTIONS - TURNPIKE MAINLINE SB

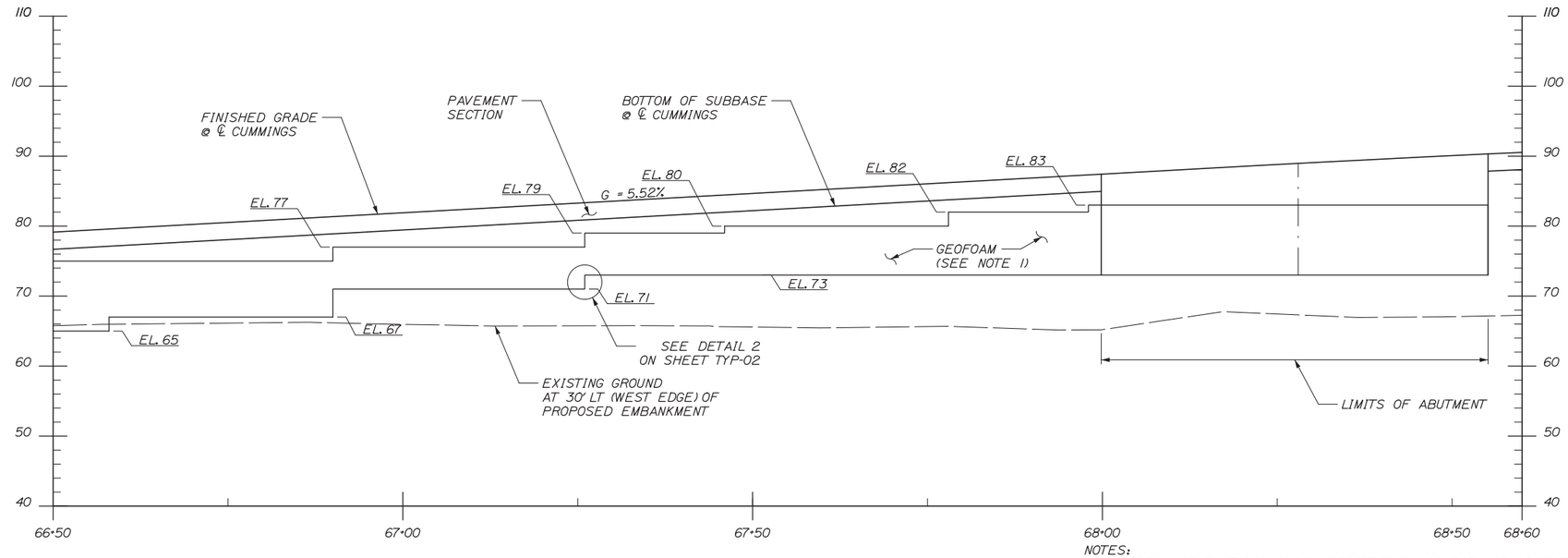
STA. 2209+50 TO STA. 2210+00

SHEET NUMBER: XS-27

CONTRACT:2018.19

SHEET 63 OF 135





GEOFOAM LONGITUDINAL PROFILE
SOUTH EMBANKMENT

NOTES:
1. GEOFOAM ELEVATIONS SHOWN DEPICT THE HIGHEST AND LOWEST ELEVATIONS AT WHICH GEOFOAM IS TO BE PLACED FOR THE GIVEN STATIONING. THE TRANSVERSE OFFSET AT WHICH THE HIGHEST AND LOWEST ELEVATIONS OF GEOFOAM OCCURS VARIES. FOR REPRESENTATION OF TRANSVERSE LIMITS, REFER TO GEOFOAM LAYOUT DRAWINGS GT-03 THROUGH GT-08.
2. FOR GEOFOAM TYPICAL SECTION SEE SHEET TYP-02.

Scale: Horiz. 10 0 10 20
Vert. 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JDZ	09\18	Checked	BAM	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

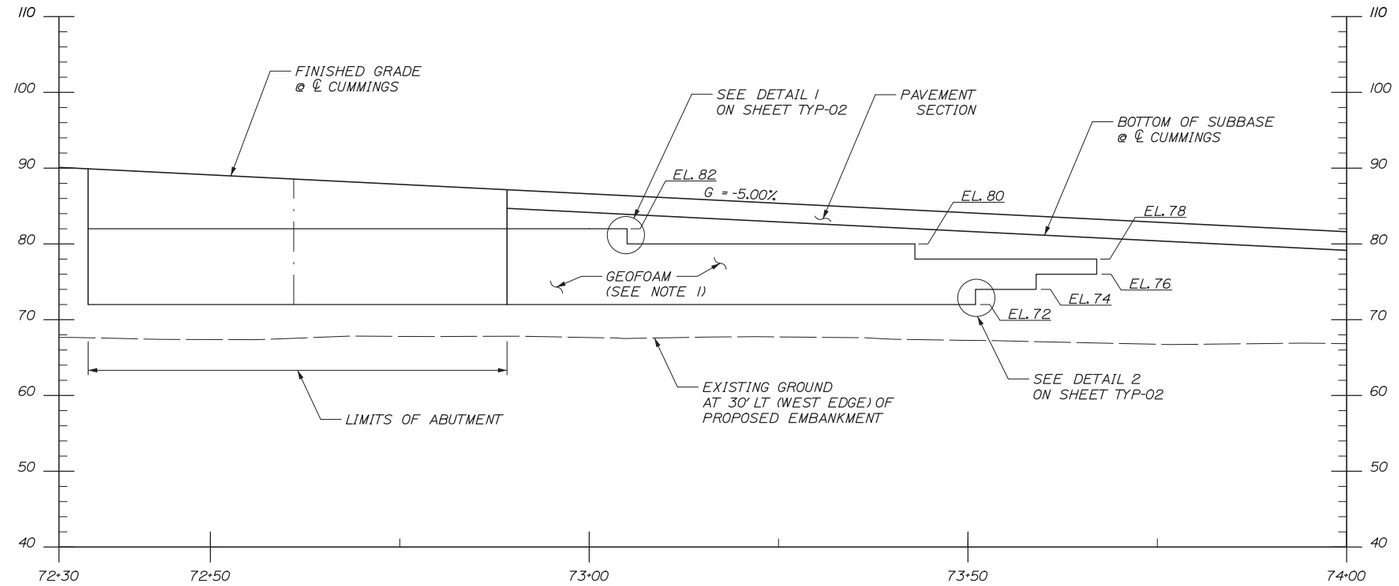
GEOFOAM LONGITUDINAL PROFILE

SHEET NUMBER: GT-01

CONTRACT:2018.19

Date:9/21/2018

Filename: 064_GeoFoamProfile_01.dgn



GEOFOAM LONGITUDINAL PROFILE
NORTH EMBANKMENT

NOTES:
1. GEOFOAM ELEVATIONS SHOWN DEPICT THE HIGHEST AND LOWEST ELEVATIONS AT WHICH GEOFOAM IS TO BE PLACED FOR THE GIVEN STATIONING. THE TRANSVERSE OFFSET AT WHICH THE HIGHEST AND LOWEST ELEVATIONS OF GEOFOAM OCCURS VARIES. FOR REPRESENTATION OF TRANSVERSE LIMITS, REFER TO GEOFOAM LAYOUT DRAWINGS GT-03 THROUGH GT-08.
2. FOR GEOFOAM TYPICAL SECTION SEE SHEET TYP-02.

Date:9/21/2018

Filename: 065_GeoFoamProfile_02.dgn

Scale: Horiz. 10 0 10 20
Vert. 10 0 10 20
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JDZ	09\18	Checked	BAM	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

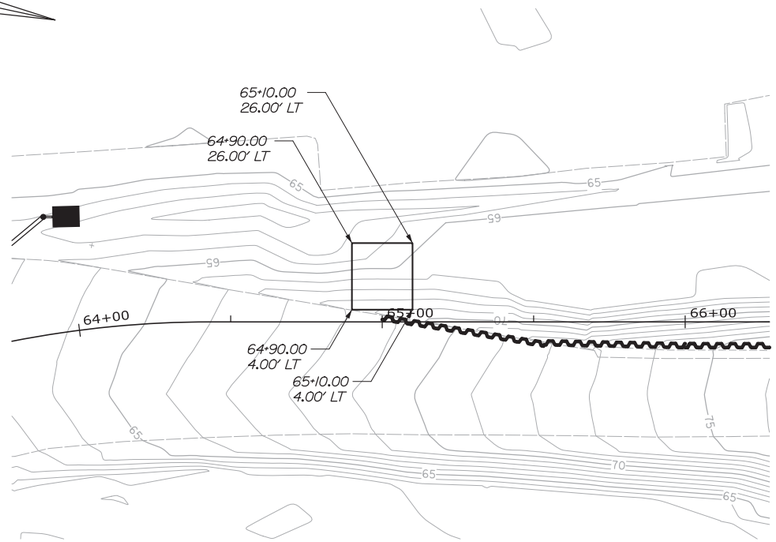
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

GEOFOAM LONGITUDINAL PROFILE

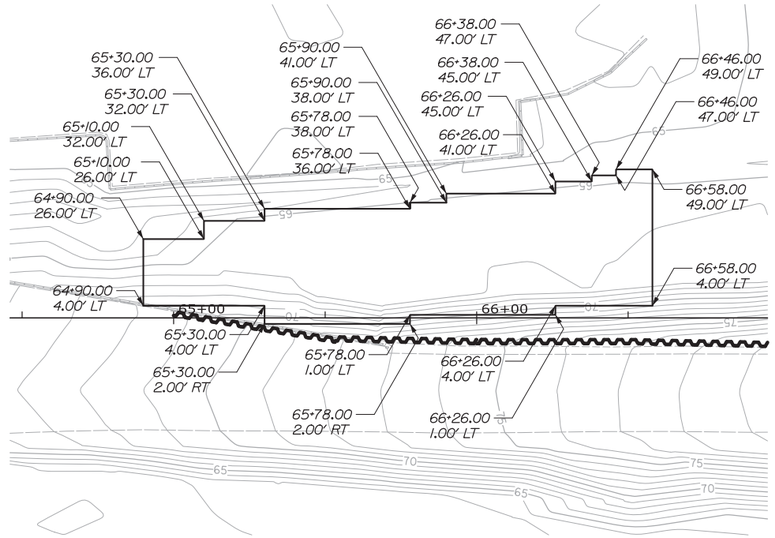
SHEET NUMBER: GT-02

CONTRACT:2018.19



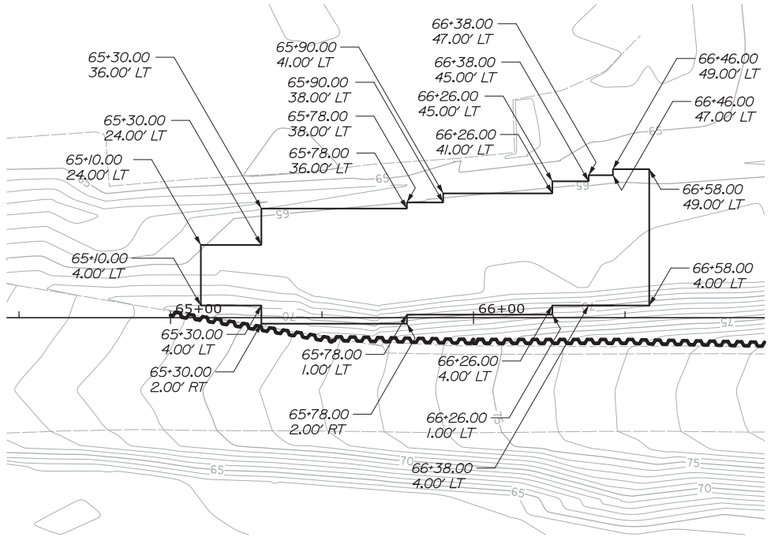
LAYER 1

BOTTOM ELEVATION - EL. 64
TOP ELEVATION - EL. 65



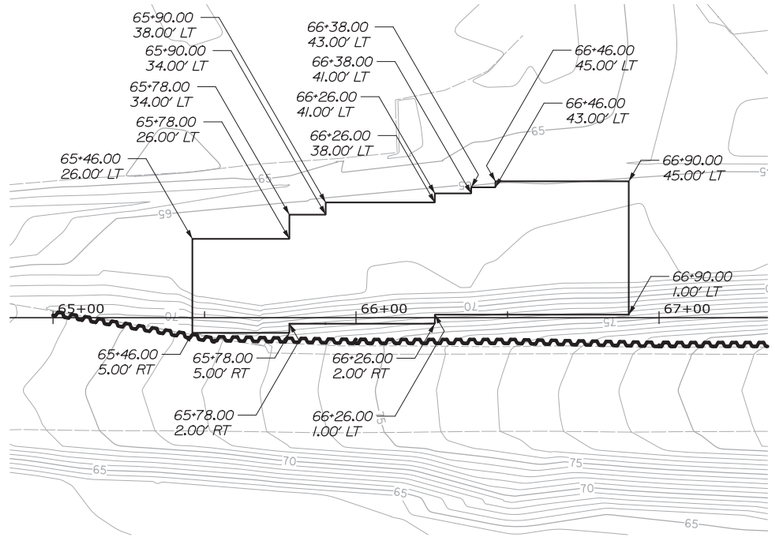
LAYER 2

BOTTOM ELEVATION - EL. 65
TOP ELEVATION - EL. 66



LAYER 3

BOTTOM ELEVATION - EL. 66
TOP ELEVATION - EL. 67



LAYER 4

BOTTOM ELEVATION - EL. 67
TOP ELEVATION - EL. 69

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

GEOFOAM LAYOUT SOUTH APPROACH

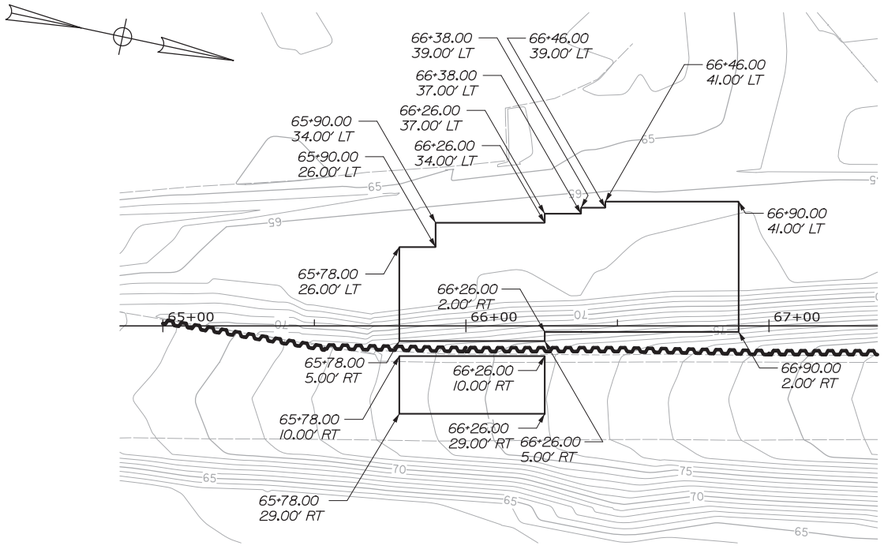
SHEET NUMBER: GT-03

CONTRACT:2018.19

66 OF 135

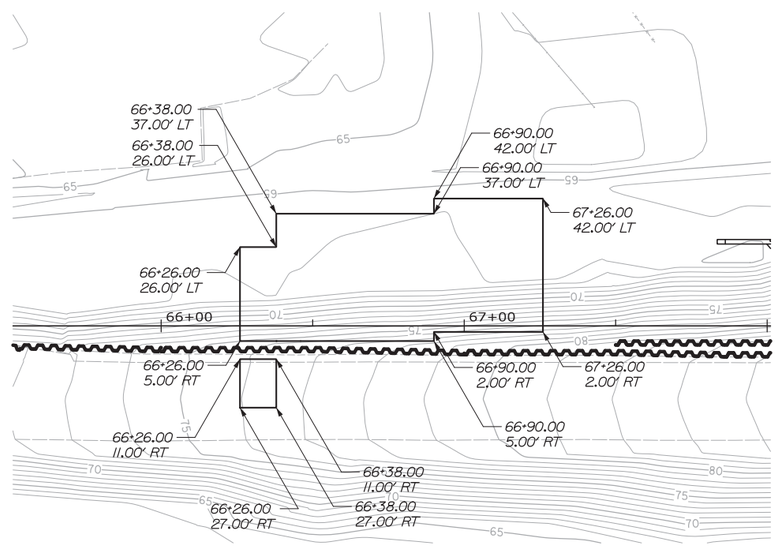
Date:9/21/2018

Filename: 066_Geofoam Layout South_Plan.dgn



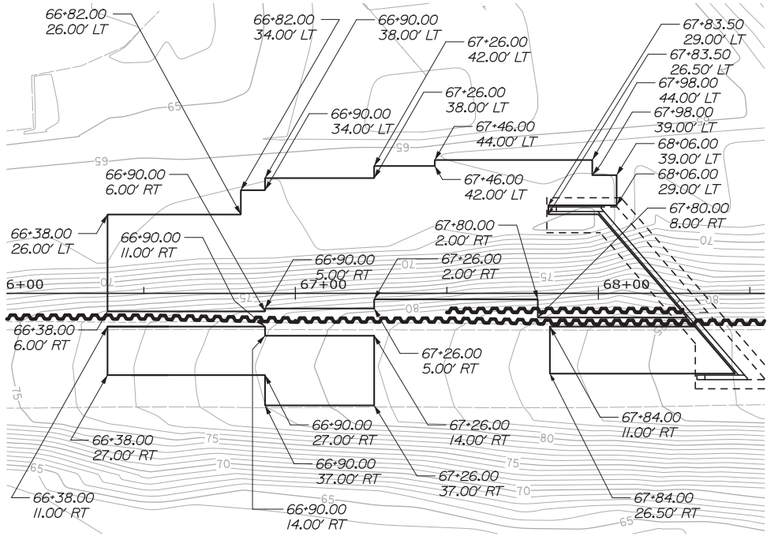
LAYER 5

BOTTOM ELEVATION - EL. 69
TOP ELEVATION - EL. 71



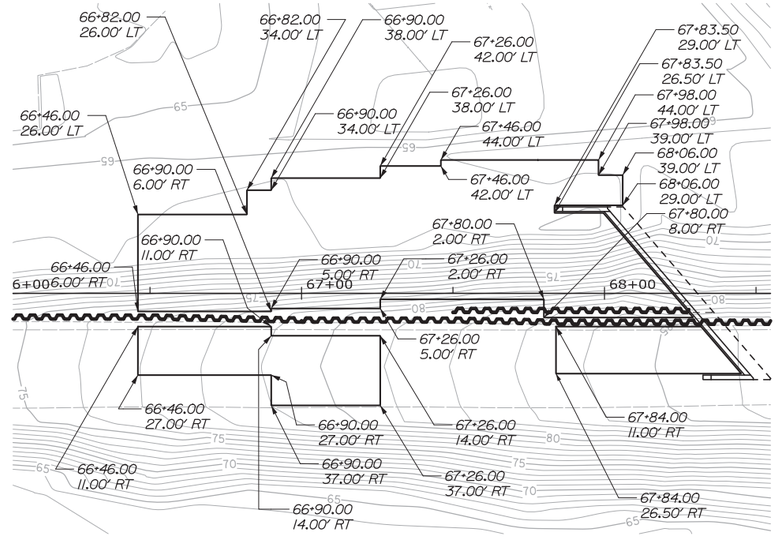
LAYER 6

BOTTOM ELEVATION - EL. 71
TOP ELEVATION - EL. 73



LAYER 7

BOTTOM ELEVATION - EL. 73
TOP ELEVATION - EL. 74



LAYER 8

BOTTOM ELEVATION - EL. 74
TOP ELEVATION - EL. 75

NOTES:

1. NOTCH GEOFOAM OVER/AROUND ABUTMENT PILE CAP, WALL AND WINGWALLS
2. THE CONTRACTOR MAY MAKE MINOR ALTERATIONS TO THE GEOFOAM LAYOUT DEPICTED ON THE PLANS TO MEET THEIR CONSTRUCTION MEANS AND METHODS. ANY SUCH MODIFICATIONS SHALL BE SUBMITTED FOR APPROVAL WITH THE SHOP DRAWINGS.

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

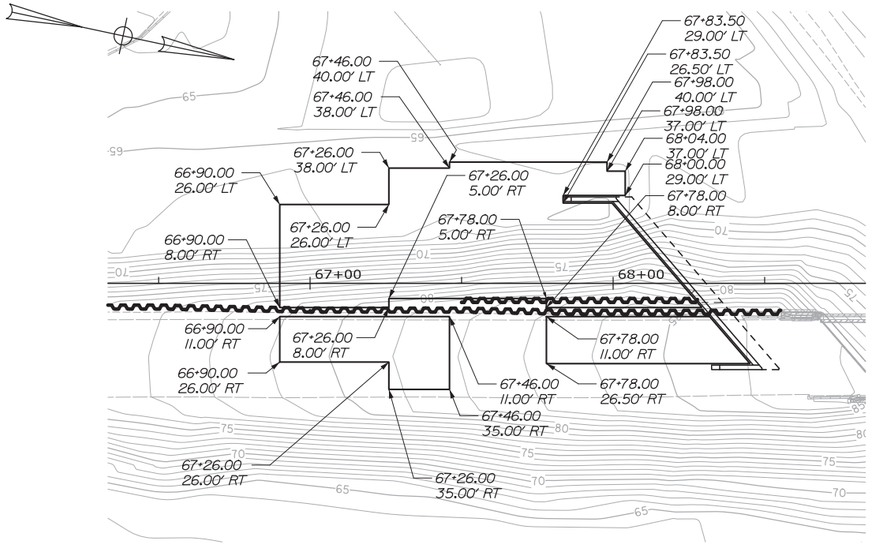
GEOFOAM LAYOUT SOUTH APPROACH

SHEET NUMBER: GT-04

CONTRACT:2018.19

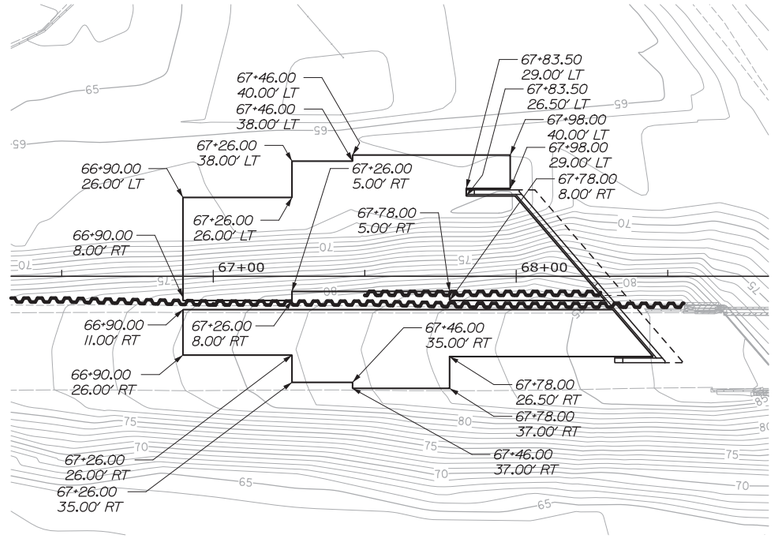
Date:9/21/2018

Filename: 067_Geofoam Layout South_Plan02.dgn



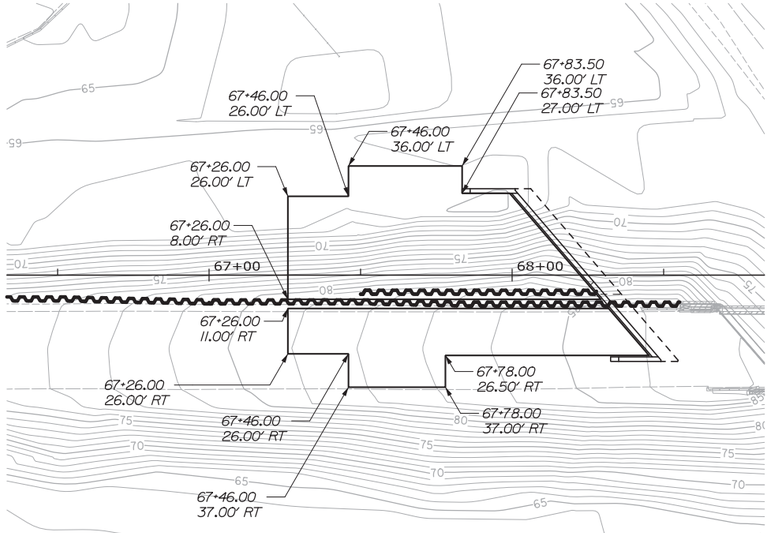
LAYER 9

BOTTOM ELEVATION - EL. 75
TOP ELEVATION - EL. 76



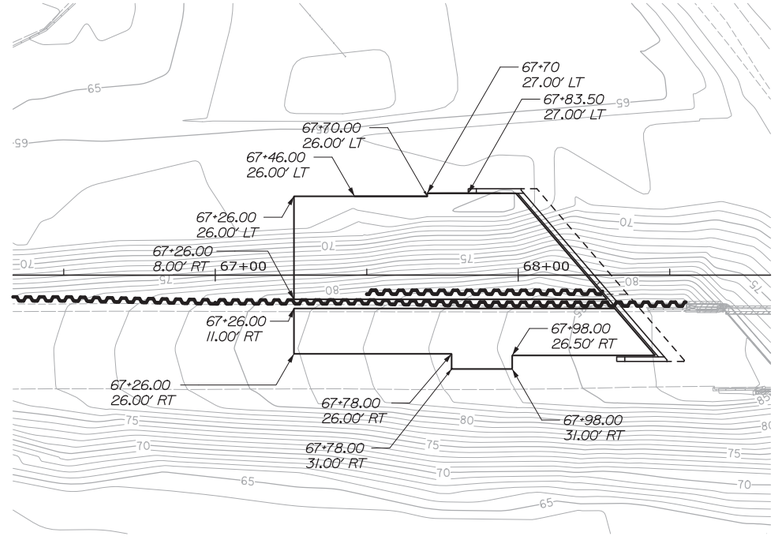
LAYER 10

BOTTOM ELEVATION - EL. 76
TOP ELEVATION - EL. 77



LAYER 11

BOTTOM ELEVATION - EL. 77
TOP ELEVATION - EL. 78



LAYER 12

BOTTOM ELEVATION - EL. 78
TOP ELEVATION - EL. 79

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

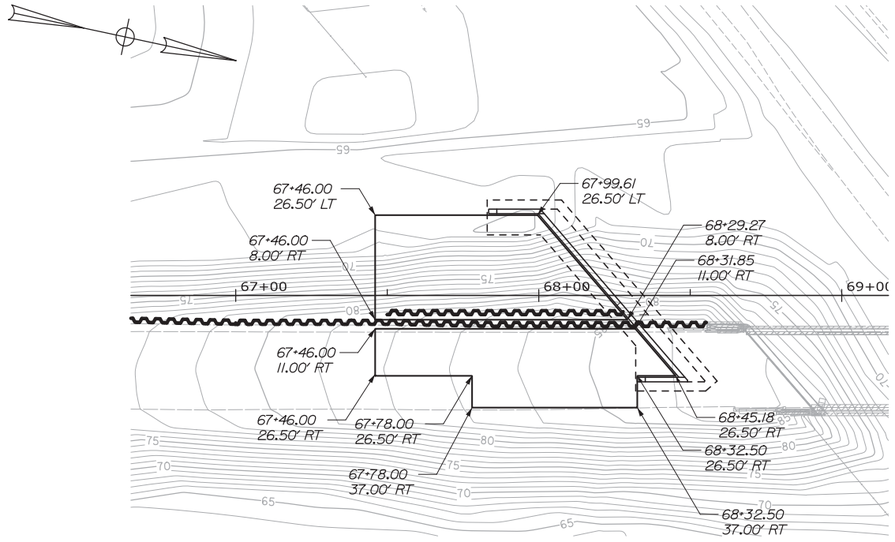
GEOFOAM LAYOUT SOUTH APPROACH

SHEET NUMBER: GT-05

CONTRACT:2018.19

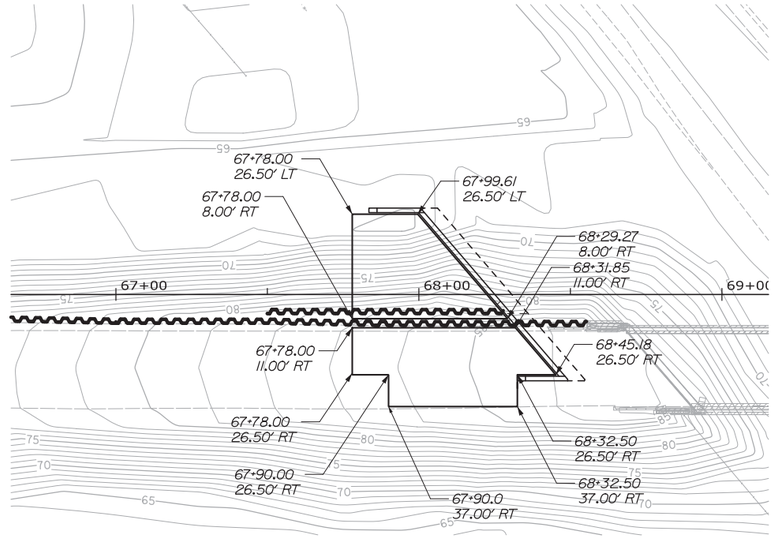
Date:9/21/2018

Filename: 068_Geofoam Layout South_Plan03.dgn



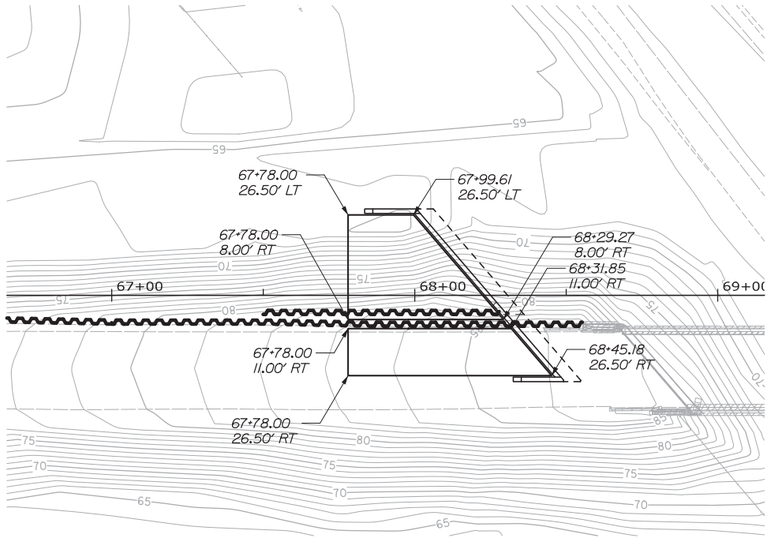
LAYER 13

BOTTOM ELEVATION - EL. 79
TOP ELEVATION - EL. 80



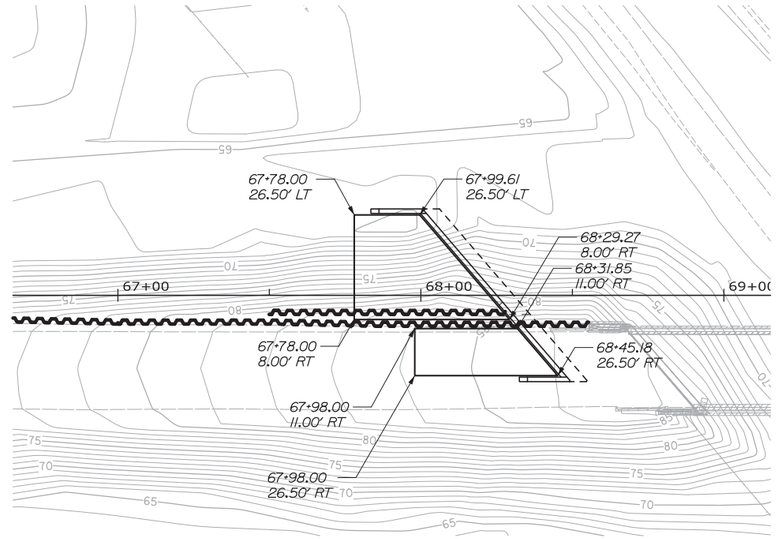
LAYER 14

BOTTOM ELEVATION - EL. 80
TOP ELEVATION - EL. 81



LAYER 15

BOTTOM ELEVATION - EL. 81
TOP ELEVATION - EL. 82



LAYER 16

BOTTOM ELEVATION - EL. 82
TOP ELEVATION - EL. 83

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

GEOFOAM LAYOUT SOUTH APPROACH

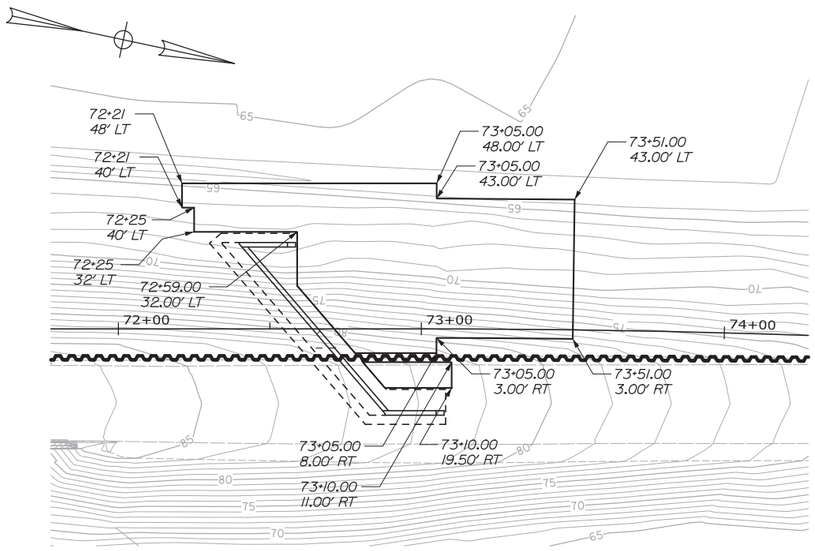
SHEET NUMBER: GT-06

CONTRACT:2018.19

69 OF 135

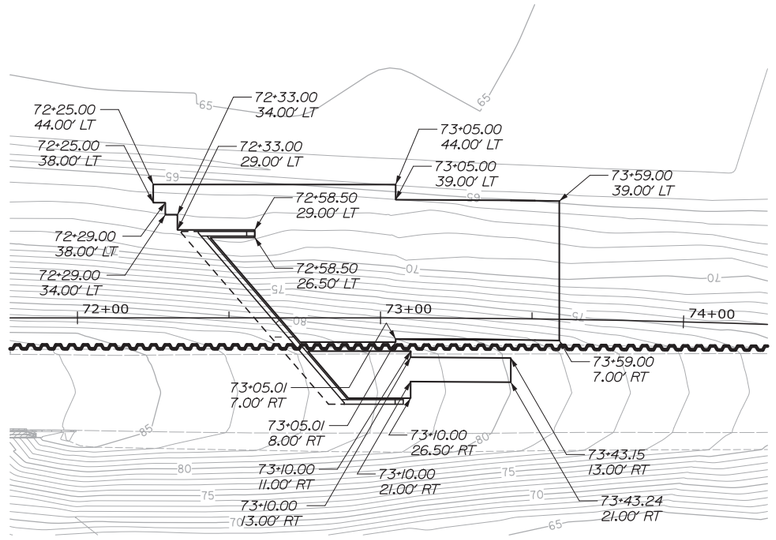
Date:9/21/2018

Filename: 069_Geofoam Layout South_Plan04.dgn



LAYER 1

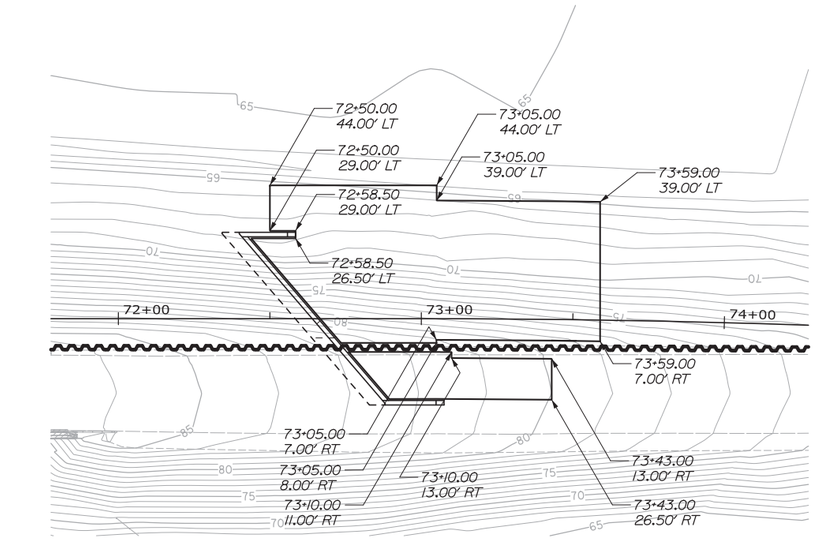
BOTTOM ELEVATION - EL. 72
TOP ELEVATION - EL. 74



LAYER 2

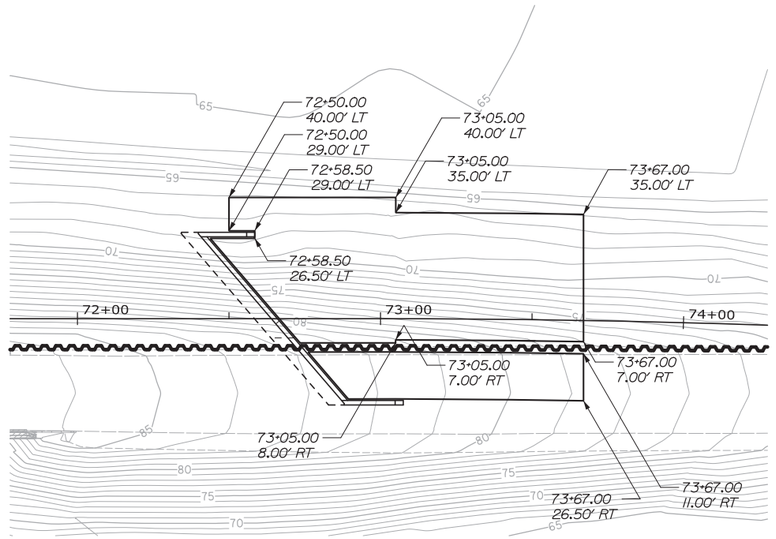
BOTTOM ELEVATION - EL. 74
TOP ELEVATION - EL. 75

NOTE: NOTCH GEOFOAM OVER/AROUND ABUTMENT PILE CAP



LAYER 3

BOTTOM ELEVATION - EL. 75
TOP ELEVATION - EL. 76



LAYER 4

BOTTOM ELEVATION - EL. 76
TOP ELEVATION - EL. 78

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

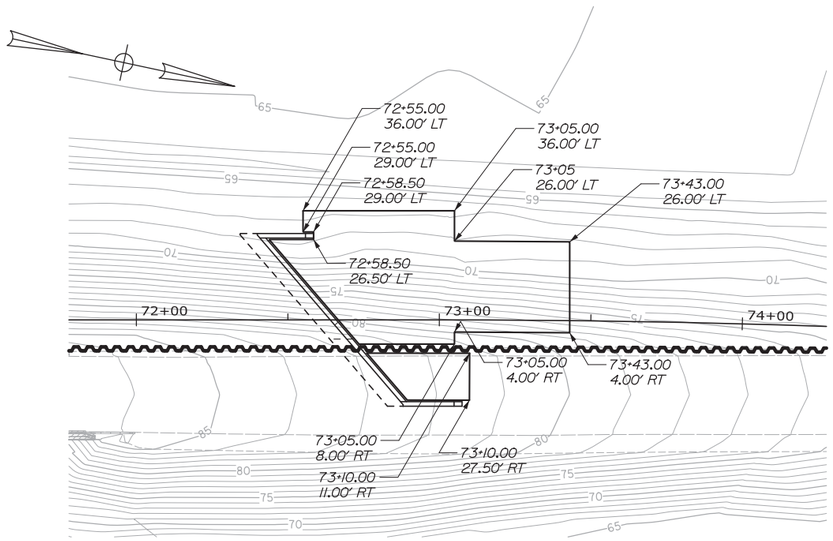
GEOFOAM LAYOUT NORTH APPROACH

SHEET NUMBER: GT-07

CONTRACT: 2018.19

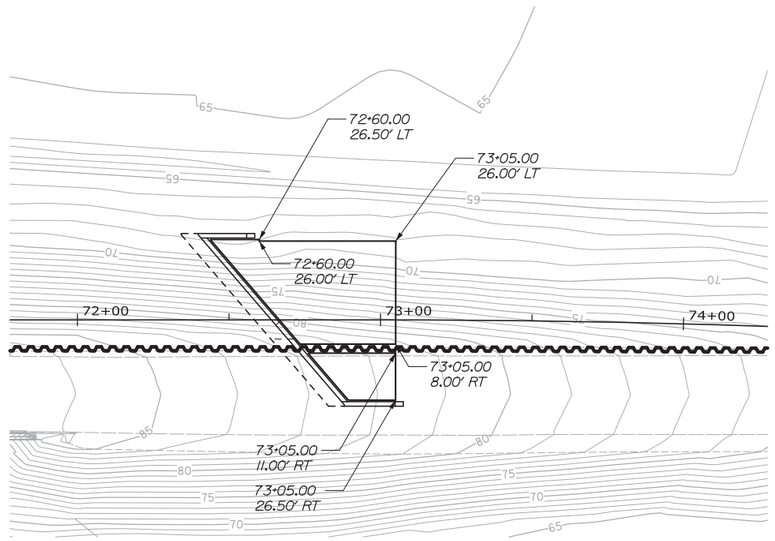
Date: 9/21/2018

Filename: 070_Geofoam Layout North_Plan.dgn



LAYER 5

BOTTOM ELEVATION - EL. 78
TOP ELEVATION - EL. 80



LAYER 6

BOTTOM ELEVATION - EL. 80
TOP ELEVATION - EL. 82

Date:9/21/2018

Filename: 071_Geofoam Layout North_Plan02.dgn

Scale: 25 0 25 50
Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	LSK	09\18	Checked	LZD	09\18
Drawn	LSK	09\18	In Charge of	RAL	09\18

HNTB CORPORATION
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

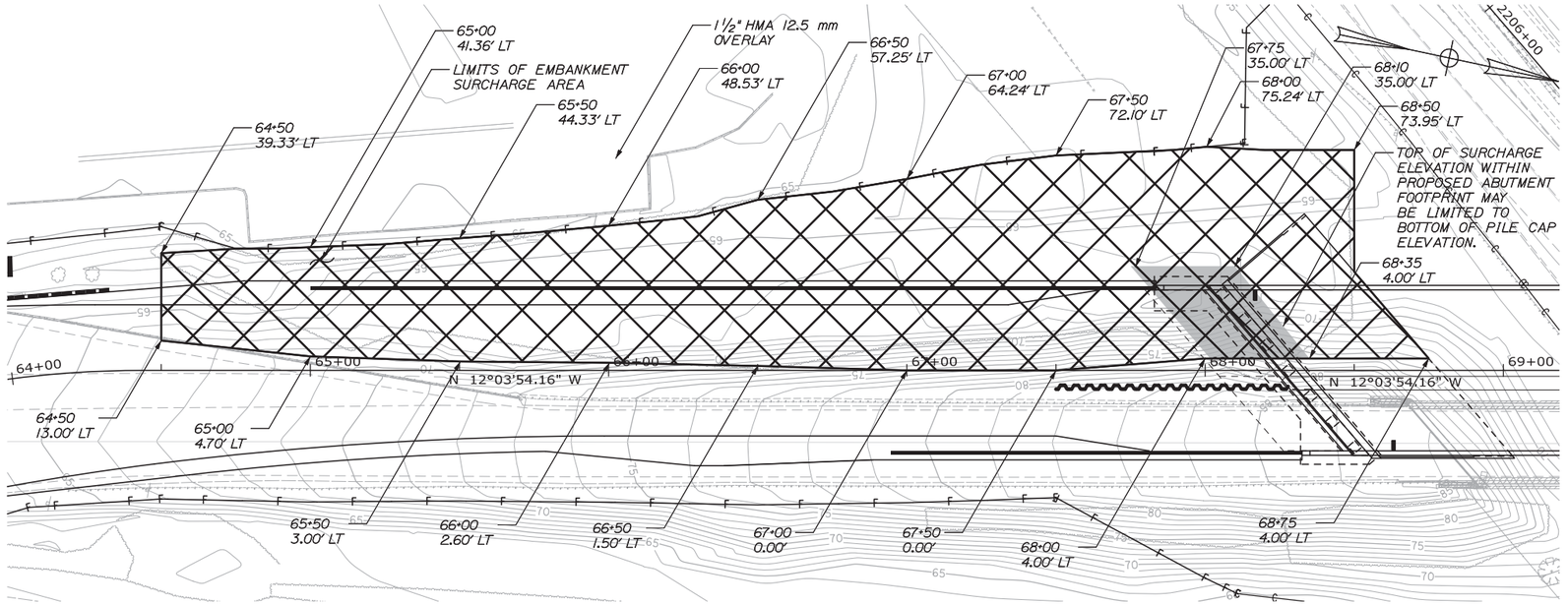
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

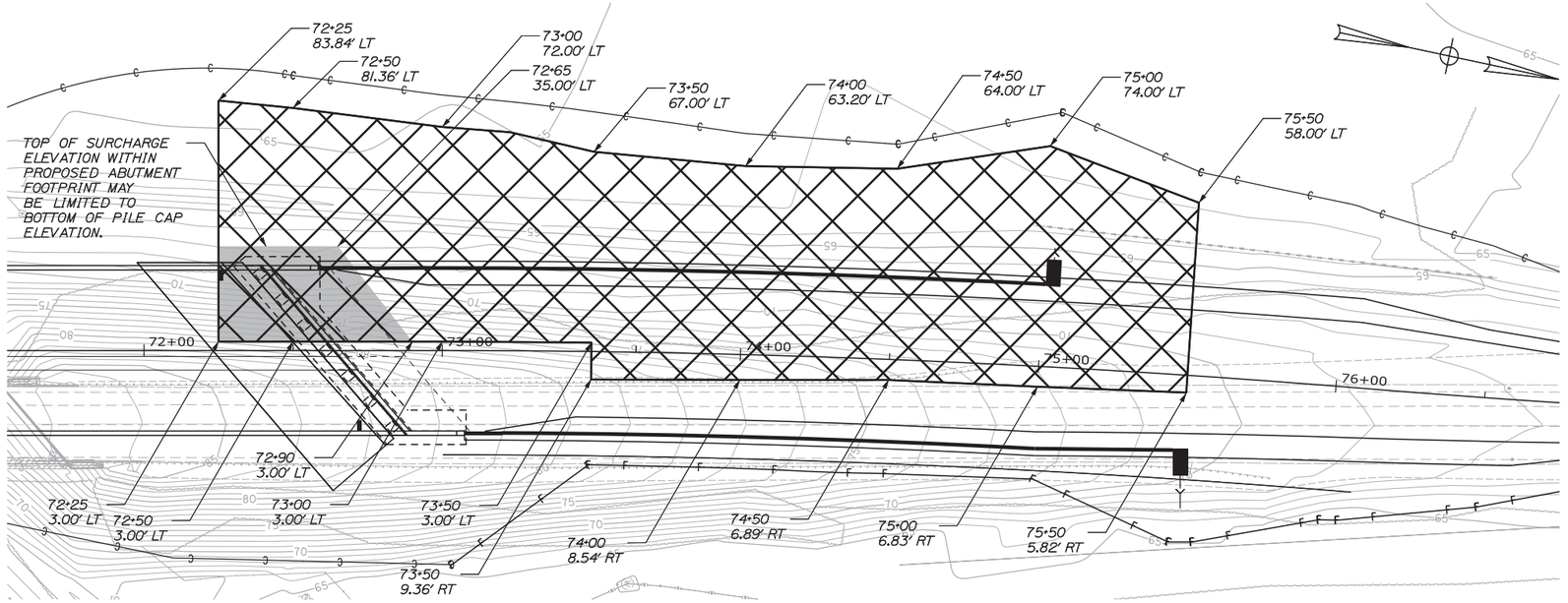
GEOFOAM LAYOUT NORTH APPROACH

SHEET NUMBER: GT-08

CONTRACT:2018.19



SOUTH APPROACH



NORTH APPROACH

LEGEND:

LIMITS OF GROUND IMPROVEMENT SURCHARGE PLACEMENT.

NOTES:

1. FOR LIMITS OF PREFABRICATED VERTICAL DRAIN INSTALLATION AREA, REFER TO SHEET NUMBER GT-12.
2. REFER TO SHEET NUMBER GT-10 AND GT-11 FOR TOP AND BOTTOM ELEVATION LIMITS OF SURCHARGE.

Scale: 25 0 25 50 Scale of Feet

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	BAM	09\18	Checked	MDR	09\18
Drawn	SAZ	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

GROUND IMPROVEMENT DETAILS I

SHEET NUMBER: GT-09

CONTRACT:2018.19

Date:9/21/2018

Filename: 072_Ground Improve Details 01.dgn

Date:9/21/2018

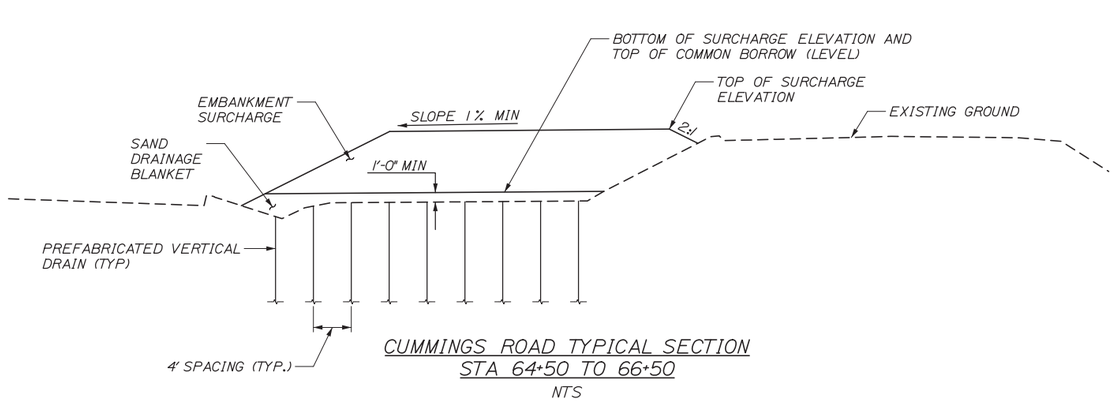
SUMMARY OF SURCHARGE ELEVATIONS - SOUTH APPROACH

BEGIN STATION	END STATION	TOP OF SURCHARGE ELEVATION (FT)	BOTTOM OF SURCHARGE ELEVATION (FT)	BOTTOM OF GEOFOAM ELEVATION (FT)
64+50	64+90	69	3PB	NA
64+90	65+10	69	63.5	64
65+10	66+55	70	64.5	65
66+55	66+90	72	66.5	67
66+90	67+00	76	70.5	71
67+00	ABUT 1	78	72.5	73
ABUT 1	68+75	78	FPG	NA

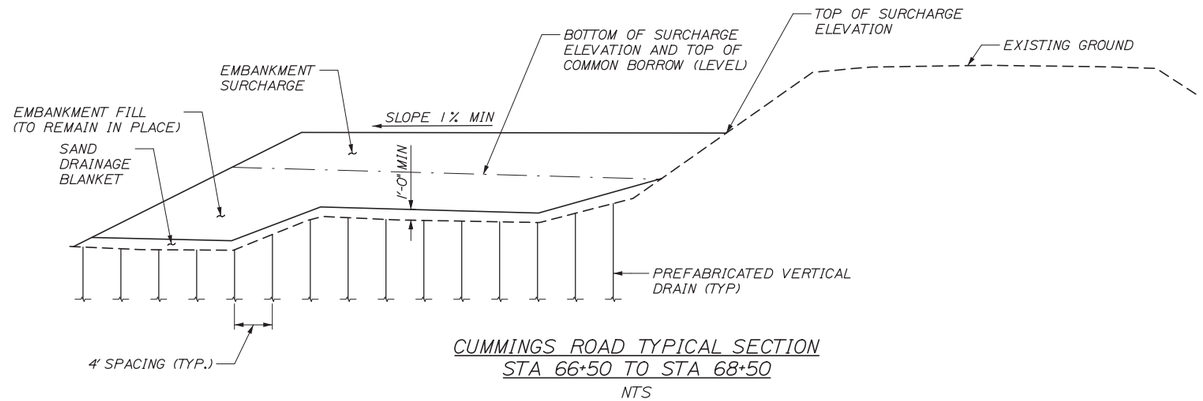
NOTES:
1. BPB IS THE BOTTOM OF PAVEMENT SUBBASE
2. FPG IS THE FINAL PROPOSED GRADING IN FRONT OF ABUTMENT (ELEVATION VARIABLE)

SURCHARGE AND PREFABRICATED VERTICAL DRAIN NOTES:

1. COMPLETION OF SURCHARGE PERIOD SHALL BE DETERMINED BY THE ENGINEER AND BASED ON FIELD MEASUREMENTS OF SETTLEMENT PLATFORMS AND VIBRATING WIRE PIEZOMETER RESULTS. ALL SURCHARGE IS TO REMAIN IN PLACE UNTIL DIRECTED BY THE RESIDENT TO REMOVE.
2. SETTLEMENT PLATFORMS AND VIBRATING WIRE PIEZOMETERS WILL BE MONITORED BY THE AUTHORITY IN ACCORDANCE WITH SPECIAL PROVISION 646 AND 639. SETTLEMENT PLATFORMS AND INSTRUMENTATION.
3. THE DURATION OF THE SURCHARGE PERIOD IS ESTIMATED TO LAST APPROXIMATELY 4 MONTHS FROM THE TIME THE SURCHARGE IS PLACED AT ITS FINAL ELEVATION. THE ACTUAL DURATION OF THE SURCHARGE PERIOD MAY LAST LONGER THAN 4 MONTHS AND WILL BE DETERMINED BY THE ENGINEER FROM INSTRUMENTATION RESULTS.
4. THE TOP OF SURCHARGE SHALL NOT BE PLACED HIGHER THAN INDICATED HEREIN WITHOUT THE APPROVAL OF THE ENGINEER.
5. PREFABRICATED VERTICAL DRAINS SHALL BE INSTALLED TO THE BOTTOM OF THE SOFT COMPRESSIBLE LAYERS. ESTIMATED PREFABRICATED VERTICAL DRAIN TIP ELEVATIONS ARE INCLUDED ON SHEET NUMBER GT-12.
6. GROUND IMPROVEMENTS IDENTIFIED ON THE PLANS SHALL BE PERFORMED IN THE FOLLOWING SEQUENCE UNLESS OTHERWISE APPROVED BY THE RESIDENT.
   a. CLEAR SITE OF VEGETATION AND EXISTING FEATURES.
   b. INSTALL WORKING PLATFORM AS NEEDED TO FACILITATE INSTALLATION OF GROUND IMPROVEMENTS.
   c. INSTALL VIBRATING WIRE PIEZOMETERS AND SETTLEMENT PLATFORMS AT LOCATIONS DESIGNATED ON SHEET NUMBER GT-12.
   d. INSTALL SAND DRAINAGE BLANKET TO FACILITATE HORIZONTAL DRAINAGE FROM THE PREFABRICATED VERTICAL DRAINS AWAY FROM THE EXISTING EMBANKMENT.
   e. INSTALL PREFABRICATED VERTICAL DRAINS.
   f. EMBANKMENT FILL TO REMAIN IN PLACE AND SURCHARGE SHALL BE PLACED STARTING FROM THE TOE OF THE EXISTING EMBANKMENT AND CONTINUING AWAY FROM THE EXISTING EMBANKMENT TO THE TOE OF PROPOSED EMBANKMENT. FILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 2 FEET.
7. BORROW, SAND, AND/OR SUBBASE MATERIAL PLACED AS PART OF THE SURCHARGE, AND WILL SUBSEQUENTLY BE LEFT IN PLACE TO FORM THE ROADWAY EMBANKMENT, SHALL BE PLACED IN ACCORDANCE WITH SECTIONS 200 AND 300, AS APPLICABLE.
8. SURCHARGE MAY BE REMOVED OR EXCLUDED FROM THE FOOTPRINT OF THE PROPOSED ABUTMENT PILE CAPS PRIOR TO THE COMPLETION OF THE SURCHARGE PERIOD WITH THE APPROVAL OF THE ENGINEER TO ALLOW FOR CONSTRUCTION OF THE ABUTMENTS CONCURRENTLY WITH SURCHARGE.
9. THE EMBANKMENT FILL (TO REMAIN IN PLACE) AND THE EMBANKMENT SURCHARGE MAY SETTLE OVER THE DURATION OF PLACEMENT BY AS MUCH AS 4 INCHES. THE CONTRACTOR SHALL ACCOUNT FOR THE ADDITIONAL MATERIAL THAT MAY NEED TO BE PLACED SO THAT THE EMBANKMENT SURCHARGE IS CONSTRUCTED TO THE ELEVATIONS SHOWN ON SHEET NO. GT-10 AND GT-11. PAYMENT WILL BE MADE PER CUBIC YARD UNDER THE APPROPRIATE CONTRACT ITEMS.
10. SAND DRAINAGE BLANKET SHALL GENERALLY FOLLOW EXISTING TOPOGRAPHY, MINOR DEPRESSIONS MAY BE FILLED AS APPROVED BY THE RESIDENT.
11. GEOFOAM SHALL BE PLACED DIRECTLY ON THE SAND DRAINAGE BLANKET RATHER THAN REMOVING AND REPLACING WITH LEVELING SAND WHEN APPLICABLE. NO ADDITIONAL PAYMENT WILL BE MADE FOR LEVELING SAND UNDER THESE CIRCUMSTANCES.



CUMMINGS ROAD TYPICAL SECTION
STA 64+50 TO 66+50
NTS



CUMMINGS ROAD TYPICAL SECTION
STA 66+50 TO STA 68+50
NTS

Filename: 073_Ground Improve Details 02.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	BAM	09\18	Checked	MDR	09\18
Drawn	SAZ	09\18	In Charge of	RAL	09\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

GROUND IMPROVEMENT DETAILS II

SHEET NUMBER: GT-10

CONTRACT:2018.19

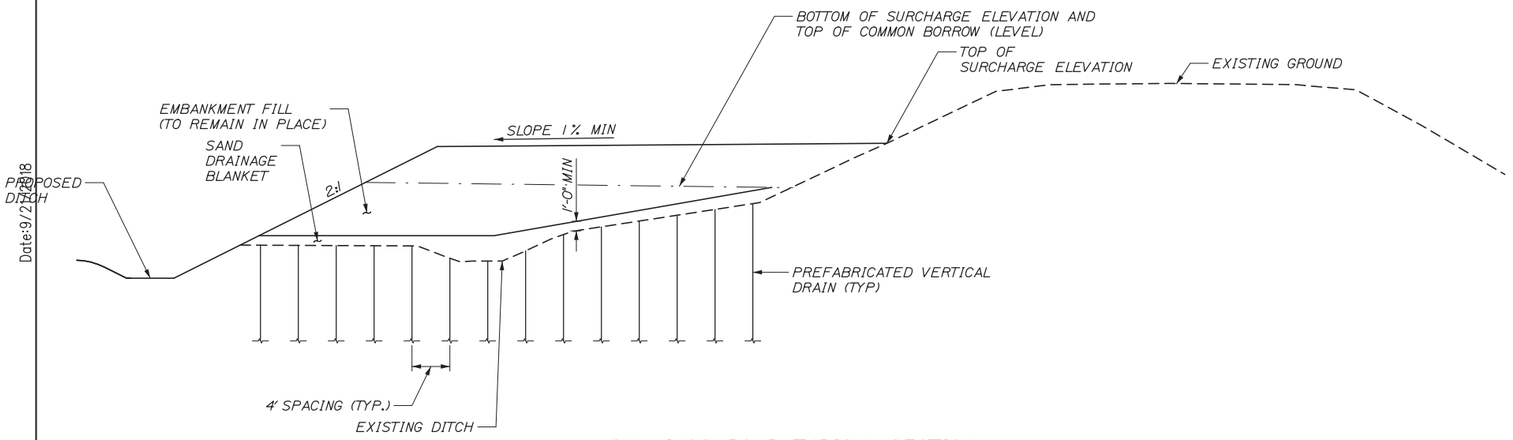
SURCHARGE AND PREFABRICATED VERTICAL DRAIN NOTES:

1. REFER TO SHEET NUMBER GT-10, FOR SURCHARGE AND PREFABRICATED VERTICAL DRAIN NOTES.

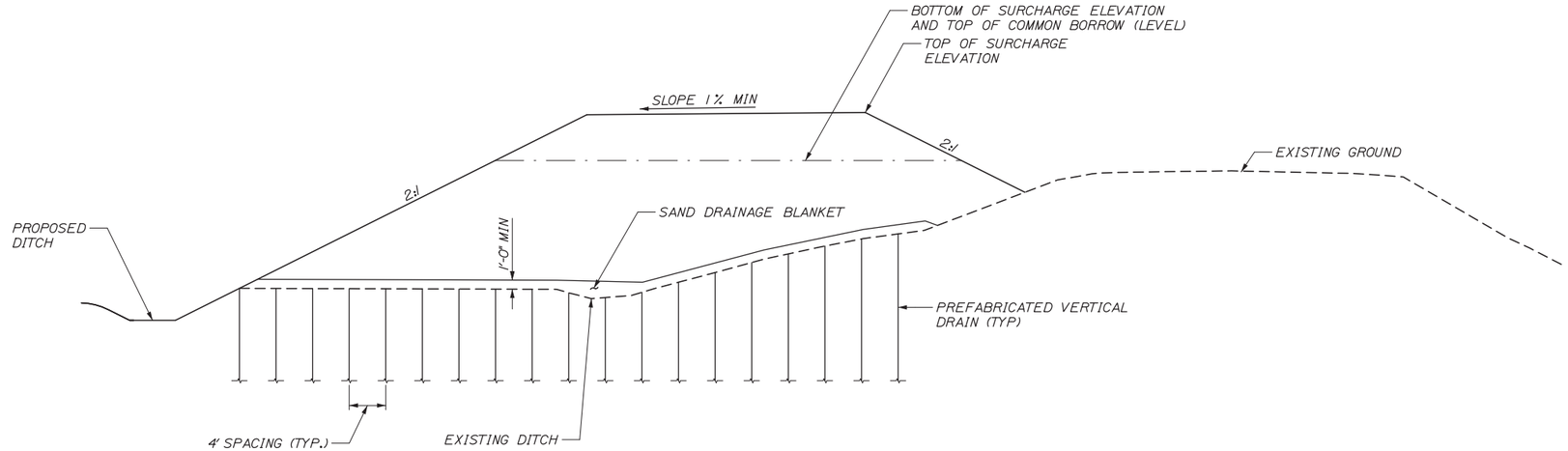
SUMMARY OF SURCHARGE ELEVATIONS - NORTH APPROACH

BEGIN STATION	END STATION	TOP OF SURCHARGE ELEVATION (FT)	BOTTOM OF SURCHARGE ELEVATION (FT)	BOTTOM OF GEOFOAM ELEVATION (FT)
72+25	ABUT 2	77	FPG	NA
ABUT 2	73+50	77	71.5	72
73+50	73+59	77	73.5	74
73+59	73+67	77	75.5	76
73+67	76+00	FPG + 2 FT	BPB	NA

NOTES:
1. BPB IS THE BOTTOM OF PAVEMENT SUBBASE
2. FPG IS THE FINAL PROPOSED GRADING IN FRONT OF ABUTMENT (ELEVATION VARIABLE)



CUMMINGS ROAD TYPICAL SECTION
STA 72+25 TO 73+67
NTS



NOTE:

1. PROPOSED DITCH SHALL BE CONSTRUCTED PRIOR TO FILLING OF EXISTING DITCH.

CUMMINGS ROAD TYPICAL SECTION
STA 73+67 TO 75+50
NTS

Scale: AS NOTED	Designed by: HNTB	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	BAM	09\18	Checked	MDR	09\18
Drawn	SAZ	09\18	In Charge of	RAL	09\18

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

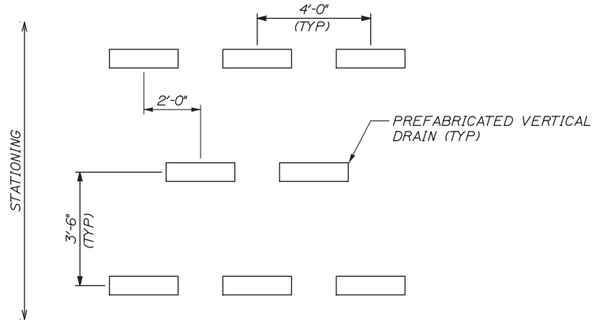
GROUND IMPROVEMENT DETAILS III

SHEET NUMBER: GT-11

CONTRACT:2018.19

Date:9/21/2018

Filename: 074_Ground Improve Details 03.dgn



PREFABRICATED VERTICAL DRAIN PLAN (TYP.)

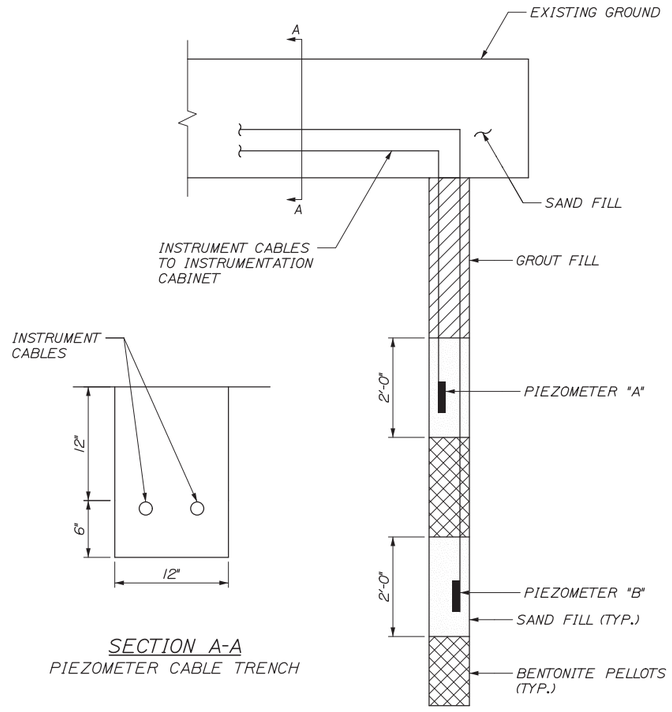
N.T.S

SUMMARY OF ESTIMATED PVD LENGTH AND LIMITS

STATION	ESTIMATED INSTALATION GRADE (FT)	ESTIMATED PVD TIP ELEVATION (FT)	ESTIMATED PVD LENGTH (FT)	LIMITS OF WICK DRAIN INSTALLATION
64+50	65	20	45	15 TO 40 LT
65+00	65	20	45	15 TO 42 LT
65+50	65	20	45	8 TO 45 LT
66+00	65	20	45	8 TO 48 LT
66+50	67	17	50	10 TO 58 LT
67+00	67	10	57	13 TO 64 LT
67+50	67	3	64	13 TO 72 LT
68+00	67	3	64	20 TO 75 LT
68+25	67	3	64	20 TO 75 LT
72+50	70	-37	107	18 TO 84 LT
73+00	70	-33	103	18 TO 72 LT
73+50	70	-27	97	14 TO 67 LT
74+00	70	-25	95	10 TO 63 LT
74+50	70	-27	97	10 TO 65 LT
75+00	70	-30	100	10 TO 66 LT
75+50	70	-33	103	10 TO 54 LT

INSTRUMENTATION NOTES:

1. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THE INSTALLED INSTRUMENTATION AND REPLACE DAMAGED EQUIPMENT AT NO ADDITIONAL COST TO THE AUTHORITY.
2. THE CONTRACTOR SHALL CLEARLY MARK THE LOCATIONS OF INSTALLED PIEZOMETERS AND PIEZOMETER CABLES TO AVOID CONFLICTS WITH THE INSTALLATION OF PREFABRICATED VERTICAL DRAINS.
3. THE CONTRACTOR SHALL CLEARLY MARK THE LOCATION OF ALL SETTLEMENT PLATES AND PLACE A BARRICADE AROUND ALL SETTLEMENT PLATFORMS TO PROTECT THEM FROM DAMAGE DURING THE PLACEMENT OF SURCHARGE.



SECTION A-A

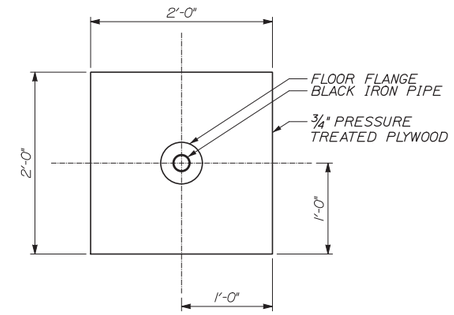
PIEZOMETER CABLE TRENCH

PIEZOMETER DETAIL

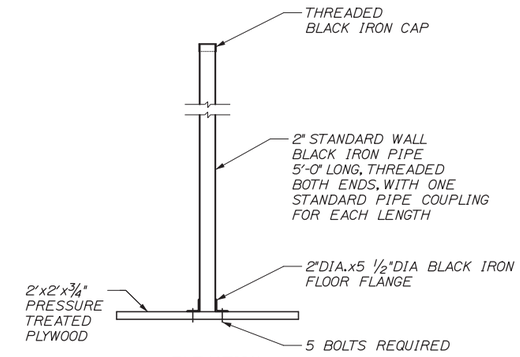
N.T.S

SUMMARY OF PIEZOMETER LOCATIONS

PIEZOMETER ID	STATION	OFFSET	POSITION	ELEVATION (FT)
PS-01	66+50	25 LT	A	45
			B	35
PS-02	67+25	30 LT	A	40
			B	30
PS-03	67+75	35 LT	A	35
			B	25
PN-01	73+00	40 LT	A	17.5
			B	7.5
PN-02	74+00	35 LT	A	20
			B	10



PLAN



ELEVATION

SETTLEMENT PLATFORM DETAIL

N.T.S

SUMMARY OF SETTLEMENT PLATFORM LOCATIONS (SOUTH)

SETTLEMENT PLATE ID	STATION	OFFSET
SPS-01	64+50	30 LT
SPS-02	65+00	20 LT
SPS-03	65+50	15 LT
SPS-04	66+00	15 LT
SPS-05	66+50	15 LT
SPS-06	67+25	25 LT
SPS-07	67+75	30 LT
SPS-08	68+00	40 LT

SUMMARY OF SETTLEMENT PLATFORM LOCATIONS (NORTH)

SETTLEMENT PLATE ID	STATION	OFFSET
SPN-01	73+00	30 LT
SPN-02	73+50	30 LT
SPN-03	74+00	30 LT
SPN-04	74+50	30 LT
SPN-05	75+00	35 LT
SPN-06	75+50	40 LT

Date:9/21/2018

Filename: 075_Ground Improve Details 04.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	BAM	09\18	Checked	MDR	09\18
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THE GOLD STAR MEMORIAL HIGHWAY

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BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

GROUND IMPROVEMENT DETAILS IV

SHEET NUMBER: GT-12

CONTRACT:2018.19

SPECIFICATIONS

DESIGN

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 8TH EDITION

CONSTRUCTION

STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, HIGHWAYS AND BRIDGES, REVISION OF NOVEMBER 2014.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS FOR HIGHWAYS AND BRIDGES, REVISION OF NOVEMBER 2014, WITH ALL REVISIONS THERETO.

AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, 4TH EDITION.

DESIGN LOADING

LIVE LOAD - HL-93 MODIFIED FOR STRENGTH I

MATERIALS

CONCRETE

DECK CONCRETE - CLASS AAA-DECK
ALL OTHER CONCRETE SHALL BE CLASS AAA, U.O.N.

REINFORCING STEEL

AASHTO M31, GRADE 60
ALL REINFORCING SHALL BE EPOXY-COATED.

ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM F1554, GRADE 105 AND SHALL BE SWEDGED OR THREADED ON THE EMBEDDED PORTION OF THE ROD.

STRUCTURAL STEEL

WELDED GIRDERS: FLANGES, WEBS, SPLICE PLATES, FILLER PLATES, CONNECTION PLATES, CROSS FRAMES AND BEARING STIFFENERS SHALL BE AASHTO M270, GRADE 50.

H-PILE MATERIAL SHALL BE ASTM A572, GRADE 50.

ALL OTHER STRUCTURAL STEEL SHALL BE AASHTO M270, GRADE 50 U.O.N.

HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325, TYPE 1.

PROTECTIVE COATING

GIRDER PLATES, INCLUDING FLANGES, WEBS, CONNECTION PLATES, BEARING STIFFENERS, FIELD SPLICE PLATES, AND INTERMEDIATE STIFFENERS, SHALL BE METALLIZED AFTER FABRICATION IN ACCORDANCE WITH SPECIAL PROVISION SECTION 506, SHOP APPLIED PROTECTIVE COATING - STEEL (THERMAL SPRAY COATING - SHOP APPLIED). CROSSFRAMES SHALL EITHER BE METALLIZED OR HOT-DIPPED GALVANIZED AFTER FABRICATION. PAYMENT FOR METALLIZING AND/OR GALVANIZING, AS APPLICABLE, SHALL BE MADE UNDER ITEM 506.9104, THERMAL SPRAY COATING (SHOP APPLIED).

BASIC DESIGN STRESSES

CONCRETE

CLASS AAA-DECK, f'c = 4,500 P.S.I.
CLASS AAA, f'c = 4,500 P.S.I.
fy = 60,000 P.S.I.

REINFORCING STEEL

STRUCTURAL STEEL

AASHTO M270 (ASTM 709) GRADE 50, Fy = 50,000 P.S.I., U.O.N.

NOTES:

1. FOR ADDITIONAL DETAILS REFERENCED OR NOT SHOWN IN THESE DRAWINGS, SEE THE STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, HIGHWAYS AND BRIDGES, NOVEMBER 2014 WITH UPDATES.

2. COPIES OF THE AS-BUILT PLANS ARE ON FILE AT THE MAINE TURNPIKE AUTHORITY. A PORTION OF THESE PLANS ARE INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR'S CONVENIENCE. THE COMPLETENESS AND ACCURACY OF THESE PLANS IS NOT GUARANTEED.

3. REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE NOTED.

4. CHAMFER ALL EXPOSED CONCRETE EDGES ¾" UNLESS OTHERWISE NOTED.

5. THE CONTRACTOR SHALL SURVEY THE TOPS OF THE GIRDERS BEFORE DECK FORMWORK ERECTION BEGINS FOR DETERMINATION OF BLOCKING HEIGHTS. THE CONTRACTOR SHALL SUBMIT SURVEYED ELEVATIONS AND PROPOSED BLOCKING HEIGHT VALUES TO THE RESIDENT FOR APPROVAL A MINIMUM OF FIVE (5) WORKING DAYS BEFORE ERECTING DECK FORMWORK.

6. ALL SUBSTRUCTURE SHEAR KEY'S SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL 502(01).

7. COVER JOINTS WHERE WATERSTOPS ARE NOT REQUIRED IN ACCORDANCE WITH 502(01).

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ORIGINAL CONSTRUCTION PLANS

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135 OF 135	WINGWALL & BACKWALL MODIFICATIONS	1990

QUANTITY TABLE

ITEM NO.	DESCRIPTION	REFERENCE QUANTITY	UNIT	STRUCTURAL QUANTITY
202.19	REMOVING EXISTING BRIDGE	112 TONS STEEL, 580 CY CONCRETE	LS	1
203.25	GRANULAR BORROW		CY	650
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY		CY	600
206.10	STRUCTURAL EARTH EXCAVATION - PIERS		CY	690
403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE		TON	400
409.15	BITUMINOUS TACK COAT, APPLIED		GAL	160
501.231	DYNAMIC LOADING TEST		EA	4
501.54	STEEL H-BEAM PILES 117 LB/FT, DELIVERED		LF	11,300
501.541	STEEL H-BEAM PILES 117 LB/FT, IN PLACE		LF	10,600
501.90	PILE TIPS		EA	112
501.91	PILE SPLICES		EA	336
501.92	PILE DRIVING EQUIPMENT MOBILIZATION		LS	1
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	635 CY	LS	1
502.239	STRUCTURAL CONCRETE, PIERS	593 CY	LS	1
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON STEEL BRIDGES	737 CY	LS	1
502.264	STRUCTURAL CONCRETE, PARAPET	102 CY	LS	1
502.31	STRUCTURAL CONCRETE APPROACH SLAB	107 CY	LS	1
502.452	STRUCTURAL CONCRETE DISTRIBUTION SLAB	311 CY	LS	1
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED		LB	479,900
503.15	EPOXY-COATED REINFORCING STEEL, PLACING		LB	479,900
503.17	MECHANICAL/WELDED SPLICE		EA	330
504.702	STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED	1,190,000 LB	LS	1
504.71	STRUCTURAL STEEL ERECTION	1,190,000 LB	LS	1
505.08	SHEAR CONNECTORS	8176 EA	LS	1
506.9104	THERMAL SPRAY COATING (SHOP APPLIED)		LS	1
507.091	ALUMINUM BRIDGE RAILING, 1 BAR	882 LF	LS	1
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE	2700 SY	LS	1
511.091	TEMPORARY EARTH SUPPORT SYSTEMS		LS	1
513.09	SLOPE PROTECTION - PORTLAND CEMENT CONCRETE		SY	400
513.22	CRUSHED STONE SLOPE PROTECTION		SY	320
514.06	CURING BOX FOR CONCRETE CYLINDERS		EA	1
515.202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES		SY	1,800
520.21	EXPANSION DEVICE - GLAND SEAL	150 LF	EA	2
523.52	BEARING INSTALLATION		EA	28
523.5401	LAMINATED ELASTOMERIC BEARINGS, FIXED		EA	7
523.5402	LAMINATED ELASTOMERIC BEARINGS, EXPANSION		EA	21
524.40	PROTECTIVE SHIELDING - STEEL GIRDERS		SY	2,050
526.304	TEMPORARY CONCRETE BARRIER, ANCHORED	440 LF	LS	1
609.15	SLOPE CURB TYPE 1		LF	950

LIST OF ABBREVIATIONS

ABUT. - ABUTMENT
ADDL. - ADDITIONAL
ALT. - ALTERNATE
APPROX. - APPROXIMATELY
BOT. - BOTTOM
BRG. - BEARING
CL. - CLEAR
℄ - CENTERLINE
CONC. - CONCRETE
CONSTR. - CONSTRUCTION
C.Y. - CUBIC YARD
DEMO. - DEMOLITION
DIA. - DIAMETER
EA. - EACH
EB - EASTBOUND
E.F. - EACH FACE
EL. - ELEVATION
EQ. - EQUAL
EXIST. - EXISTING
EXP. - EXPANSION
F.F. - FAR FACE
JT. - JOINT
MAX. - MAXIMUM
MEDOT - MAINE DEPARTMENT OF TRANSPORTATION
MIN. - MINIMUM
MTA - MAINE TURNPIKE AUTHORITY
NB - NORTHBOUND
N.F. - NEAR FACE
N.T.S. - NOT TO SCALE
PED. - PEDESTAL
PGL - PROFILE GRADE LINE
℄ - PLATE
PROP. - PROPOSED
P.S.I. - POUNDS per SQUARE INCH
RDWY. - ROADWAY
SHLDR. - SHOULDER
SB - SOUTHBOUND
SF - SQUARE FEET
SP. - SPACES
STA. - STATION
T.&B. - TOP & BOTTOM
TPKE. - TURNPIKE
TYP. - TYPICAL
U.O.N. - UNLESS OTHERWISE NOTED
VERT. - VERTICAL
WB - WESTBOUND
W.P. - WORKING POINT
WW - WINGWALL

Date:9/21/2018

Filename: 076_General Notes, Index and Quantities.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

HNTB CORPORATION
340 County Road, Suite 6-C
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TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

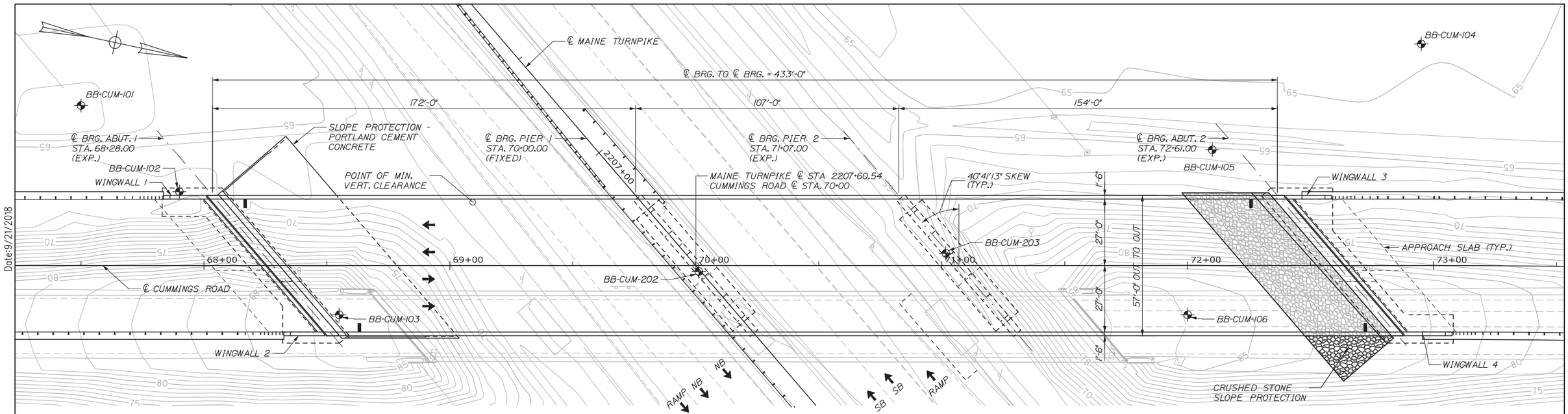
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

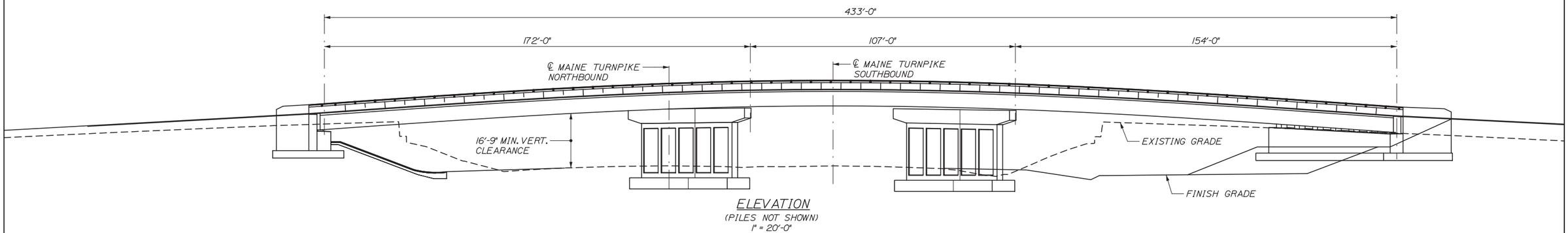
GENERAL NOTES, INDEX AND QUANTITIES

SHEET NUMBER: S-01

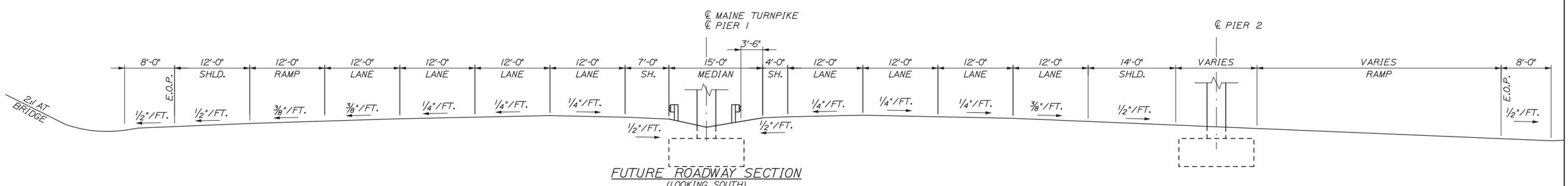
CONTRACT:2018.19



PLAN
1" = 20'-0"



ELEVATION
(PILES NOT SHOWN)
1" = 20'-0"



FUTURE ROADWAY SECTION
(LOOKING SOUTH)

Filename: 077_GeneralPlan and Elevation.dgn

Date:9/21/2018

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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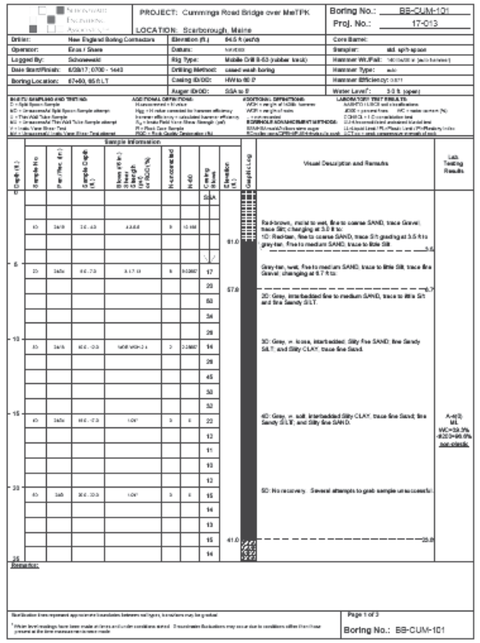
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

GENERAL PLAN AND ELEVATION

SHEET NUMBER: S-02

CONTRACT:2018.19

Date:9/21/2018



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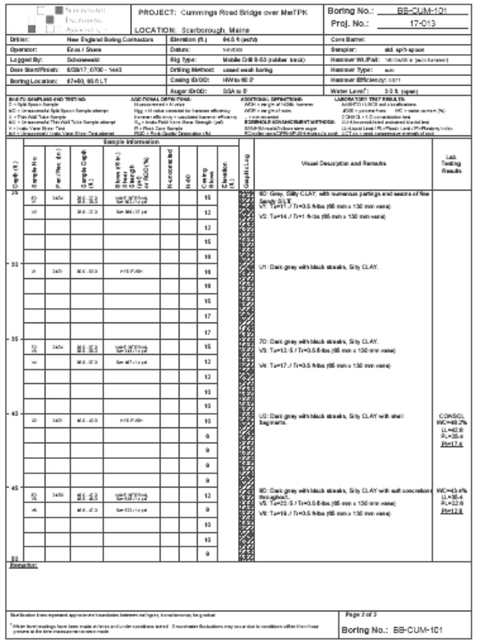

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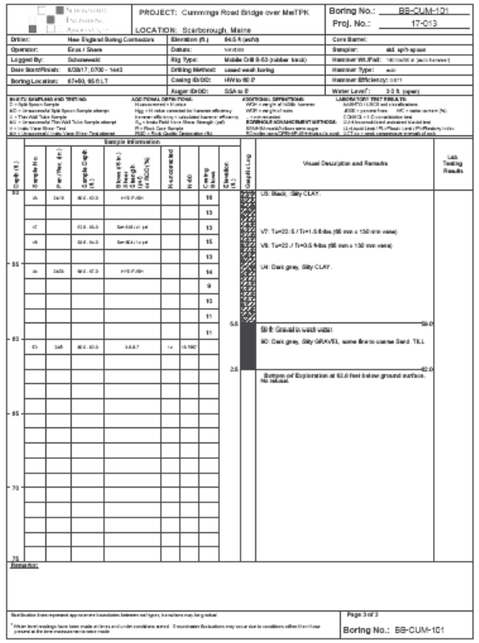

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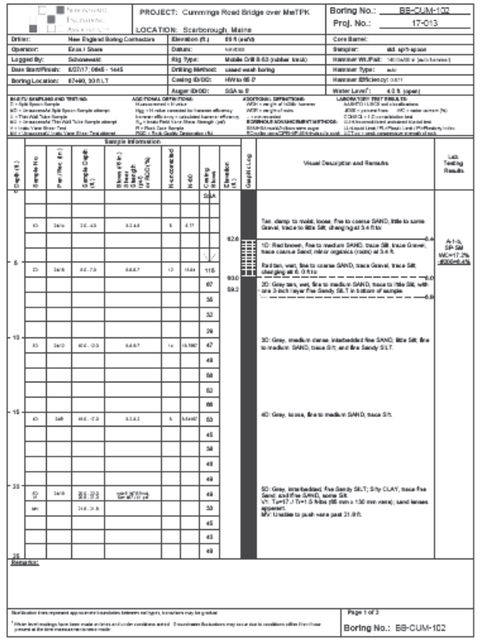

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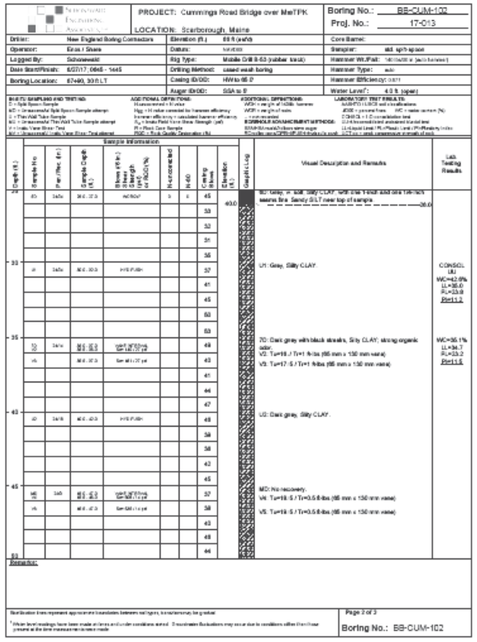

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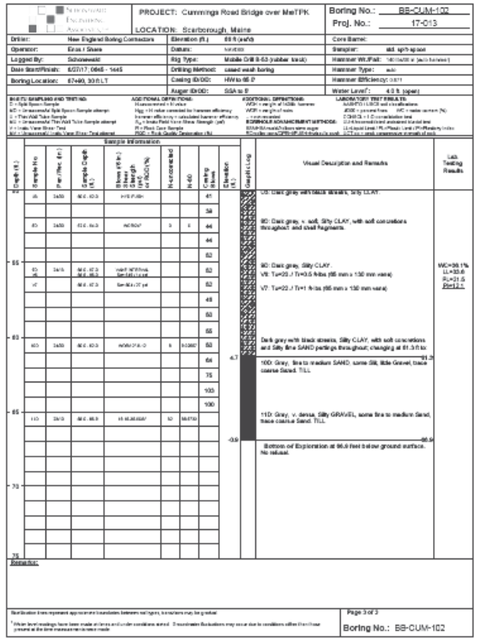

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Filename: 078_Boring Logs 1.dgn

Scale:

Designed by:

HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS I

SHEET NUMBER: S-03

CONTRACT:2018.19

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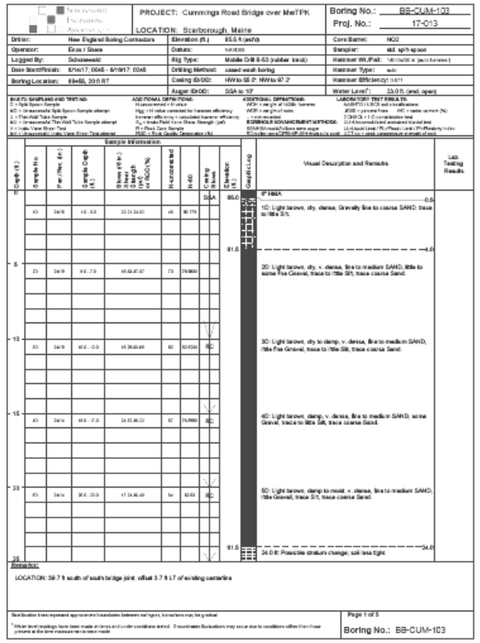

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine
Boring No.: BB-CUM-103
Proj. No.: 17-013

Driller: New England Boring Contractors — Elevation (ft.): 85.5 ft (est'd) — Core Barrel: HQ3
Operator: Ezra I. Sloan — Datum: NAVD88 — Sampler: std. split-spoon
Logged By: Schoenewald — Rig Type: Mobile Drill B-53 (rubber track) — Hammer Wt./Fall: 140 lbs/30 in. (auto-hammer)
Date Start/Finish: 8/14/17; 0045 - 8/16/17; 0345 — Drilling Method: cased wash boring — Hammer Type: auto
Boring Location: 69+55, 33 ft RT — Casing ID/OD: HW to 58.0'; HW to 67.2' — Hammer Efficiency*: 0.971
Auger ID/OD: SSA to 10' — Water Level*: 23.0 ft. (end, open)

Sample information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Sheer Strength (psf) or RQD(%)	Hor. Consolidated	N-60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab. Testing Results
0										6" ASPHALT.	
	S1	24/16	0.5 - 2.5	23-31-34-50	ok	65	179			1C: Light brown, dry, dense, Gravelly fine to coarse SAND; trace to little Silt.	
								81.5			
5	S2	24/18	5.0 - 7.0	18-50-67-67	73	117	3660			2C: Light brown, dry, v. dense, fine to medium SAND, little to some Fine Gravel, trace to little Silt, trace coarse Sand.	
10	S3	24/18	10.0 - 12.0	18-36-50-50	82	86	4334			3C: Light brown, dry to damp, v. dense, fine to medium SAND, little Fine Gravel, trace to little Silt, trace coarse Sand.	BC
15	S4	24/14	15.0 - 17.0	24-31-36-33	57	67	3660			4C: Light brown, damp, v. dense, fine to medium SAND, some Gravel, trace to little Silt, trace coarse Sand.	BC
20	S5	24/14	20.0 - 22.0	17-24-36-40	54	60	3660			5C: Light brown, damp to moist, v. dense, fine to medium SAND, little Gravel, trace Silt, trace coarse Sand.	BC
								61.5			
										24.0 ft: Possible stratum change; soil less tight.	

Remarks:
LOCATION: 39.7 ft south of south bridge joint; offset 3.7 ft LT of existing centerline

Note: Stratification lines represent approximate boundaries between soil types, transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Fluctuations in water levels may occur due to conditions other than those present at the time measurements were made.

Page 1 of 5
Boring No.: BB-CUM-103

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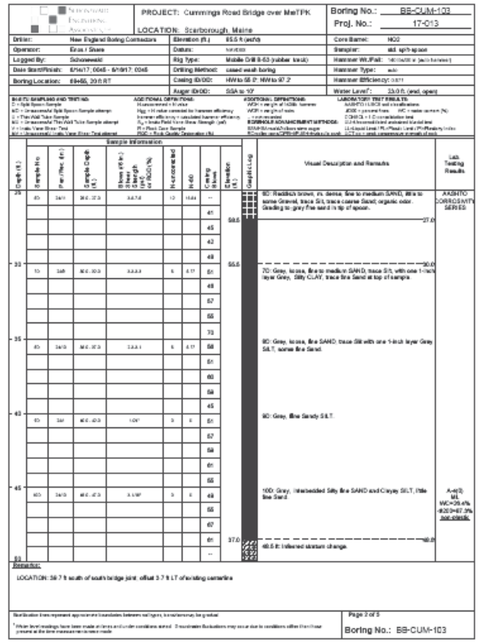

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Proj. No.: 17-013

Driller: New England Boring Contractors — Elevation (ft.): 85.5 ft (est'd) — Core Barrel: HQ3
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Boring Location: 69+55, 33 ft RT — Casing ID/OD: HW to 58.0'; HW to 67.2' — Hammer Efficiency*: 0.971
Auger ID/OD: SSA to 10' — Water Level*: 23.0 ft. (end, open)

Sample information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Sheer Strength (psf) or RQD(%)	Hor. Consolidated	N-60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab. Testing Results
30	S6	24/18	30.0 - 32.0	3-4-5-6	12	10.69	--	58.5		6C: Reddish brown, m. dense, fine to medium SAND, little to some Gravel, trace Silt; trace coarse Sand; organic odor. Grading to grey Fine sand in tip of spoon.	AASHTO CORROSANTY SERIES:
								27.0			
35	S7	10/8	35.0 - 37.0	3-3-3-3	6	8.17	51			7C: Grey, loose, fine to medium SAND, trace Silt, with one 1-inch layer Grey Silty CLAY; trace Fine Sand at top of sample.	
	S8	24/18	38.0 - 40.0	2-3-3-3	6	8.17	51	55.5		8C: Grey, loose, fine SAND; trace Silt with one 1-inch layer Grey SILT, some Fine Sand.	
40	S9	24/0	40.0 - 42.0	1-0-0	3	4	51			9C: Grey, fine Sandy SILT.	
45	S10	24/18	45.0 - 47.0	3-3-WH	5	6	68			10C: Grey; interbedded Silty fine SAND and Clayey SILT, little fine Sand.	A-4(0) ML WC=29.4% #200=67.3% non-plastic
								37.0			
50										48.5 ft: Inferred stratum change.	

Remarks:
LOCATION: 39.7 ft south of south bridge joint; offset 3.7 ft LT of existing centerline

Note: Stratification lines represent approximate boundaries between soil types, transitions may be gradual.
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Boring No.: BB-CUM-103

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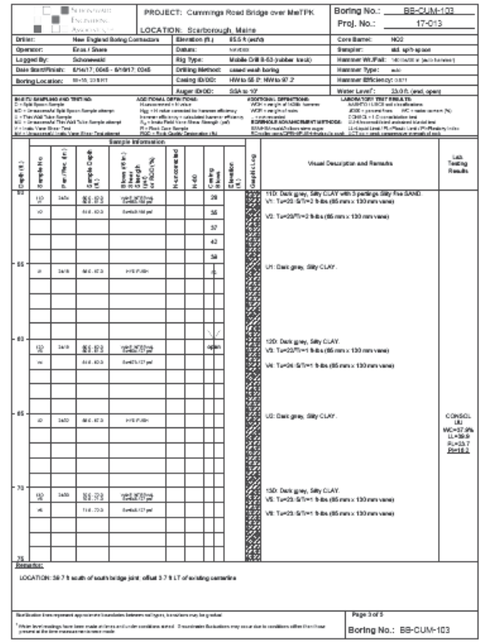

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine
Boring No.: BB-CUM-103
Proj. No.: 17-013

Driller: New England Boring Contractors — Elevation (ft.): 85.5 ft (est'd) — Core Barrel: HQ3
Operator: Ezra I. Sloan — Datum: NAVD88 — Sampler: std. split-spoon
Logged By: Schoenewald — Rig Type: Mobile Drill B-53 (rubber track) — Hammer Wt./Fall: 140 lbs/30 in. (auto-hammer)
Date Start/Finish: 8/14/17; 0045 - 8/16/17; 0345 — Drilling Method: cased wash boring — Hammer Type: auto
Boring Location: 69+55, 33 ft RT — Casing ID/OD: HW to 58.0'; HW to 67.2' — Hammer Efficiency*: 0.971
Auger ID/OD: SSA to 10' — Water Level*: 23.0 ft. (end, open)

Sample information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Sheer Strength (psf) or RQD(%)	Hor. Consolidated	N-60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab. Testing Results
60										11D: Dark grey, Silty CLAY with 3 partings Silty Fine SAND.	
	S11	24/24	60.5 - 62.5	vane 6.5/7.5 vane 6.5/7.5 psf			28			V1: Tv=2.0; S/Tv=2 5 tbls (65 mm x 130 mm vane)	
	S12		62.5 - 64.5	5-wt-WH			35			V2: Tv=2.0/Tf=2 5 tbls (65 mm x 130 mm vane)	
65	S13	24/18	65.0 - 67.0	WH-PUSH			45			U1: Dark grey, Silty CLAY.	
70	S14	24/24	70.5 - 72.5	vane 6.5/7.5 vane 6.5/7.5 psf			42			12D: Dark grey, Silty CLAY. V3: Tv=2.0/Tf=1 5 tbls (65 mm x 130 mm vane)	
	S15		72.5 - 74.5	5-wt-WH			38			V4: Tv=2.0; S/Tv=1 5 tbls (65 mm x 130 mm vane)	
75	S16	24/20	75.0 - 77.0	WH-PUSH			38			U2: Dark grey, Silty CLAY.	CONSOL U2 WC=37.4% LL=36.9 PI=13.7 Pm=16.2
80	S17	24/24	80.5 - 82.5	vane 6.5/7.5 vane 6.5/7.5 psf			38			13D: Dark grey, Silty CLAY. V5: Tv=2.0; S/Tv=1 5 tbls (65 mm x 130 mm vane)	
	S18		82.5 - 84.5	5-wt-WH			38			V6: Tv=2.0; S/Tv=1 5 tbls (65 mm x 130 mm vane)	
85											

Remarks:
LOCATION: 39.7 ft south of south bridge joint; offset 3.7 ft LT of existing centerline

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Boring No.: BB-CUM-103

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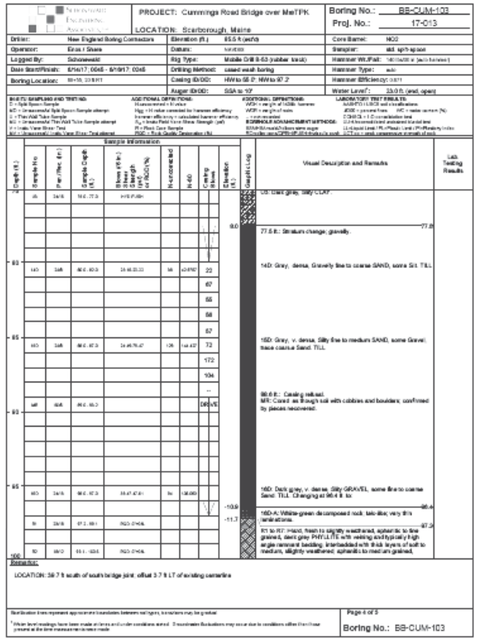

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine
Boring No.: BB-CUM-103
Proj. No.: 17-013

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Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Sheer Strength (psf) or RQD(%)	Hor. Consolidated	N-60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab. Testing Results
100										14C: Dark grey, Silty CLAY.	
	S19	24/18	100.5 - 102.5	WH-PUSH				77.5		77.5 ft: Stratum change; gravelly.	
105	S20	24/18	105.0 - 107.0	24-50-50-50	98	>3 PSF	20			15D: Grey, v. dense, Silty fine to medium SAND, some Gravel; trace coarse Sand; TILL.	
	S21		107.0 - 109.0	24-50-50-50	98	>3 PSF	67				
	S22		109.0 - 111.0	24-50-50-50	98	>3 PSF	68				
110	S23	24/18	110.0 - 112.0	24-50-75-87	125	>4.5 PSF	72			16D: Grey, v. dense, Silty fine to medium SAND, some Gravel; trace coarse Sand; TILL.	
	S24		112.0 - 114.0	24-50-75-87	125	>4.5 PSF	172				
	S25		114.0 - 116.0	24-50-75-87	125	>4.5 PSF	194				
115	S26	24/8	115.0 - 116.0	24-50-100/2"			Diff. to Pull			86.5 ft: Casing refusal. MR: Cored as Bragg's cut with cobbles and boulders; confirmed by pieces recovered.	
	S27	24/8	116.0 - 118.0	24-50-100/2"			Diff. to Pull				
120	S28	24/18	120.0 - 122.0	24-47-61-	5a	136.69				16D: Dark grey, v. dense, Silty GRAVEL, some fine to coarse Sand; TILL. Changing at 86.4 ft. to	
								-10.9			86.4
								-11.7		16D-A: White-green decomposed rock: talc-like; very thin laminations.	87.2
	S29	24/18	127.3 - 129.1	RQD-0*40%						R1 to R7: Hard, fresh to slightly weathered, sphene to fine grained, dark grey PHYLLITE with wekking and typically high angle remnant bedding, interbedded with thick layers of soft to medium, slightly weathered, sphenitic to mediu ark grained.	
130	S30	24/0	133.1 - 133.5	RQD-0*40%							UCT qu = 4.94 ksi

Remarks:
LOCATION: 39.7 ft south of south bridge joint; offset 3.7 ft LT of existing centerline

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Page 4 of 5
Boring No.: BB-CUM-103

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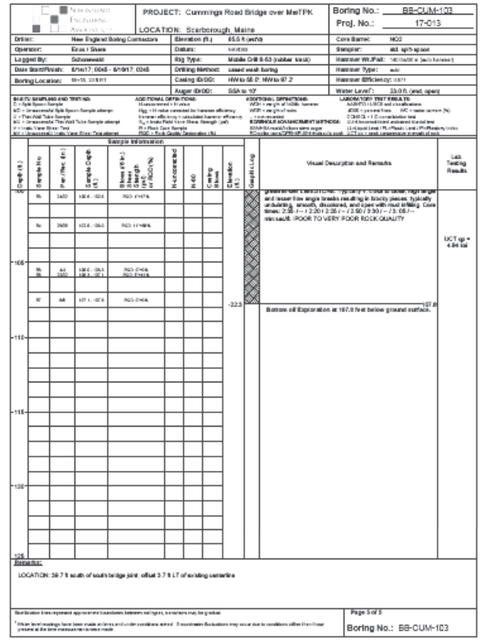

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine
Boring No.: BB-CUM-103
Proj. No.: 17-013

Driller: New England Boring Contractors — Elevation (ft.): 85.5 ft (est'd) — Core Barrel: HQ3
Operator: Ezra I. Sloan — Datum: NAVD88 — Sampler: std. split-spoon
Logged By: Schoenewald — Rig Type: Mobile Drill B-53 (rubber track) — Hammer Wt./Fall: 140 lbs/30 in. (auto-hammer)
Date Start/Finish: 8/14/17; 0045 - 8/16/17; 0345 — Drilling Method: cased wash boring — Hammer Type: auto
Boring Location: 69+55, 33 ft RT — Casing ID/OD: HW to 58.0'; HW to 67.2' — Hammer Efficiency*: 0.971
Auger ID/OD: SSA to 10' — Water Level*: 23.0 ft. (end, open)

Sample information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) Sheer Strength (psf) or RQD(%)	Hor. Consolidated	N-60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab. Testing Results
130	S31	24/20	133.5 - 135.5	RQD-0*40%						grained dark grey PHYLLITE. Typically 1 - 3 mm to 5cm, high angle and lesser low angle breaks resulting in blocky pieces, typically unbuilding, smooth, discolored, and open with mud infilling. Core times: 2:58 / -- / 2:20 / 2:26 / -- / 2:50 / 3:30 / -- / 3:06 / -- min/ea/ft. POOR TO VERY POOR ROCK QUALITY	
	S32	24/20	135.5 - 137.5	RQD-0*40%							
135	S33	24/20	137.5 - 139.5	RQD-0*40%				-52.5			
	S34	24/8	139.5 - 141.5	RQD-0*40%						Bottom of Exploration at 187.8 feet below ground surface.	
140											
145											
150											
155											
160											
165											
170											
175											
180											
185											

Remarks:
LOCATION: 39.7 ft south of south bridge joint; offset 3.7 ft LT of existing centerline

Note: Stratification lines represent approximate boundaries between soil types, transitions may be gradual.
* Water level readings have been made at times and under conditions stated. Fluctuations in water levels may occur due to conditions other than those present at the time measurements were made.

Page 5 of 5
Boring No.: BB-CUM-103

Page 16, 10/13/2017

Date:9/21/2018

Filename: 079_Boring Logs 2.dgn

Scale:

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS II

SHEET NUMBER: S-04

CONTRACT:2018.19

Date:9/21/2018

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-104 OW
Proj. No.: 17-013

Driller: New England Boring Contractors | Elevation (ft.): 65.9 (est'd) | Core Barrel:
Operator: Schaefer / Titus | Datum: NAVD88 | Sampler: std. split-spoon
Logged By: Schoenewald | Rig Type: Mobile Drill B-61 (truck) | Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 6/21/17; 1125 - 6/22/17; 1530 | Drilling Method: cased wash boring | Hammer Type: Safe ft. rod hoist
Boring Location: 7344ft, 90ft LT | Casing ID/OD: HW to 60.0' | Hammer Efficiency: 0.80
Auger ID/OD: SSA to 9' | Water Level*: 4.2 ft. (open)

SAMPLING AND TESTING: D = Split Spoon Sample; SC = Unsuccessful Split Spoon Sample attempt; PC = Pitcher Sample; SU = Unsuccessful Thin Wall Tube Sample attempt; H = Hvorslev Vane Shear Test; SU = Unsuccessful Hvorslev Vane Shear Test attempt

ADDITIONAL DEFINITIONS: Hydraulic Hammer = H value; Hpg = H value corrected for hammer efficiency; N_{60} = Blows/ft. corrected for hammer efficiency; S_u = Intact Field Vane Shear Strength (psf); PI = Plastic Core Sample; RQD = Rock Quality Designation (%)

ADDITIONAL DEFINITIONS: WOR = weight of rods; WOH = weight of hammer; SSA = hollow stem auger

LABORATORY TEST RESULTS: AASHTO T 88/ D 422 and classifications; MC = water content (%); LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; CONSOL = one dimensional consolidation test; UC = unconfined compressive strength (psi)

SUBSURFACE ENHANCEMENT METHODS: CI = Chemical Injection; GJ = Grout Jetting; RI = Recompaction; SS = Soil Stabilization

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Strata Change (Depth (ft.) of RQD) (%)	Hydraulic Hammer	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
0											
5	S1	24/0	5.0 - 6.5	3-4-4-4		8				1D: Red brown, loose, fine to coarse SAND, trace Silt.	
10	S2	24/11	10.0 - 12.0	3-4-4-4		8				2D: Red tan grading to grey, loose, fine to coarse SAND, trace Gravel, trace Silt.	
15											
20											

93.0 — 15.0

Bottom of Exploration at 15.0 feet below ground surface. No refusal.

Remarks:

Boring advanced for the installation of a groundwater level observation well. Observation well: 1-inch dia. PVC well screen 14.5 to 9.5 ft BGS; riser to 3 ft stick up. Filter sand: 15.0 to 7.0 ft BGS; bentonite plug 7.0 to 2.5 ft BGS. Locking protective casing set; stick up without cover 3.21 ft.

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
Boring No.: BB-CUM-104 OW

Page 17, 10/13/2017

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-104
Proj. No.: 17-013

Driller: New England Boring Contractors | Elevation (ft.): 65.9 (est'd) | Core Barrel:
Operator: Schaefer / Titus | Datum: NAVD88 | Sampler: std. split-spoon
Logged By: Schoenewald | Rig Type: Mobile Drill B-61 (truck) | Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 6/21/17; 1125 - 6/22/17; 1530 | Drilling Method: cased wash boring | Hammer Type: Safe ft. rod hoist
Boring Location: 7344ft, 90ft LT | Casing ID/OD: HW to 60.0' | Hammer Efficiency: 0.80
Auger ID/OD: SSA to 9' | Water Level*: 4.2 ft. (open)

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Strata Change (Depth (ft.) of RQD) (%)	Hydraulic Hammer	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
0							SSA				
	S3	24/16	2.5 - 4.0	11-14-20-10	x5	x8				1D: Dark red brown, moist, dense, fine to coarse SAND; trace to little Silt, trace fine Gravel.	
5	S4	24/14	4.5 - 7.0	3-1-1-2	2	2	push			2D: Red tan, wet, v. loose, fine to coarse SAND, trace Silt, trace fine Gravel.	A-1-b, SP, MC=21.8%, #200=4.8%
							4				
							7				
							6				
10	S5	24/10	9.5 - 11.0	3-4-4-4	7	7	8			3D: Red tan, loose, fine to coarse SAND, trace Silt, trace fine Gravel, grading to fine to medium SAND	
							9				
							15				
							15	51.8			
15	S6	24/12	14.5 - 16.0	4-8-16-10	18	18	24			4D: Grey, medium dense, fine to medium SAND, trace Silt	
							25				
							21				
							16				
20	S7	24/0	19.5 - 21.0	3-4-4-4	8	8	10	45.0		5D: Grey, loose, fine SAND, trace Silt, with two 1-inch layers fine Sandy SILT.	
							12				
							12				
							13				
							12				
25											

13.0 — 20.0

Remarks:

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 4
Boring No.: BB-CUM-104

Page 18, 10/13/2017

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-104
Proj. No.: 17-013

Driller: New England Boring Contractors | Elevation (ft.): 65.9 (est'd) | Core Barrel:
Operator: Schaefer / Titus | Datum: NAVD88 | Sampler: std. split-spoon
Logged By: Schoenewald | Rig Type: Mobile Drill B-61 (truck) | Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 6/21/17; 1125 - 6/22/17; 1530 | Drilling Method: cased wash boring | Hammer Type: Safe ft. rod hoist
Boring Location: 7344ft, 90ft LT | Casing ID/OD: HW to 60.0' | Hammer Efficiency: 0.80
Auger ID/OD: SSA to 9' | Water Level*: 4.2 ft. (open)

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Strata Change (Depth (ft.) of RQD) (%)	Hydraulic Hammer	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
25	S8	24/0	24.5 - 27.5	3-1-WH	3	3	13			6D: Grey, v. soft, interbedded Silty CLAY and Silty Fine SAND.	
							13				
							14				
							13				
							12				
30	S9	24/0	29.5 - 30.5	1-WH	1	1	13			7D: Grey, v. soft, interbedded Silty CLAY, Fine Sandy SILT, and fine SAND; trace Silt	
							12				
							12				
							11				
							9				
35	S10	24/0	34.5 - 37.5	WOR/WH	1	1	11			8D: Grey, v. soft, Silty CLAY with partings and two 1-inch layers Silty fine SAND.	
							11				
							15				
							16				
							17				
40	S11	24/0	39.5 - 42.5	WOR/WH	1	1	12			9D: Grey, w. to loss, interbedded Silty fine SAND and Silty CLAY, trace Fine Shell.	A-4(0), ML, MC=27.1%, #200=90.5%, Jar sample.
							11				
							15				
							20				
45	S12	24/0	44.5 - 47.5	WOR/WH	1	1	13			10D: Grey, v. soft, Silty CLAY, with one 1-inch layer Fine Sandy SILT.	
							8				
							9	18.0			
							7				
							7				
50							8				

47.9

Remarks:

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 2 of 4
Boring No.: BB-CUM-104

Page 19, 10/13/2017

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-104
Proj. No.: 17-013

Driller: New England Boring Contractors | Elevation (ft.): 65.9 (est'd) | Core Barrel:
Operator: Schaefer / Titus | Datum: NAVD88 | Sampler: std. split-spoon
Logged By: Schoenewald | Rig Type: Mobile Drill B-61 (truck) | Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 6/21/17; 1125 - 6/22/17; 1530 | Drilling Method: cased wash boring | Hammer Type: Safe ft. rod hoist
Boring Location: 7344ft, 90ft LT | Casing ID/OD: HW to 60.0' | Hammer Efficiency: 0.80
Auger ID/OD: SSA to 9' | Water Level*: 4.2 ft. (open)

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Strata Change (Depth (ft.) of RQD) (%)	Hydraulic Hammer	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
50	S13	24/0	49.5 - 52.5	WOR/WH			push			11D: Dark grey with thin black streaks, v. soft, Silty CLAY.	
55	S14	24/0	54.5 - 57.5	WOR/WH			push			12D: Dark grey with black streaks, Silty CLAY, with	
										V1: Tv=18.5 / Tr=0.5 ft-lbs (66 mm x 130 mm vane);	
	x5		54.5 - 57.5	Sw=47.1 psf						V3: Tv=17.7 / Tr=0.5 ft-lbs (66 mm x 130 mm vane);	
60	S15	24/0	59.5 - 62.5	WOR/WH			push			13D: Dark grey, Silty CLAY, with fine Sand partings.	CONSOL (4); MC=37.9%, LL=39.0, PL=23.0, PI=16.0
	x6		59.5 - 62.5	Sw=50.1 psf			push			V5: Tv=20.5 / Tr=0.5 ft-lbs (66 mm x 130 mm vane);	
	x7		59.5 - 62.5	Sw=50.4 psf						V6: Tv=22.1 / Tr=0 ft-lbs (66 mm x 130 mm vane);	
65	S16	24/0	64.5 - 67.5	WOR/WH			push			15D: Dark grey with black streaks, Silty CLAY;	MC=--, LL=32.0, PL=21.0, PI=11.0
	x8		64.5 - 67.5	Sw=74.0 psf						V5: Tv=26.5 / Tr=0 ft-lbs (66 mm x 130 mm vane);	
										V6: Tv=27.7 / Tr=0 ft-lbs (66 mm x 130 mm vane)	
70											

Remarks:

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 3 of 4
Boring No.: BB-CUM-104

Page 20, 10/13/2017

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-104
Proj. No.: 17-013

Driller: New England Boring Contractors | Elevation (ft.): 65.9 (est'd) | Core Barrel:
Operator: Schaefer / Titus | Datum: NAVD88 | Sampler: std. split-spoon
Logged By: Schoenewald | Rig Type: Mobile Drill B-61 (truck) | Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 6/21/17; 1125 - 6/22/17; 1530 | Drilling Method: cased wash boring | Hammer Type: Safe ft. rod hoist
Boring Location: 7344ft, 90ft LT | Casing ID/OD: HW to 60.0' | Hammer Efficiency: 0.80
Auger ID/OD: SSA to 9' | Water Level*: 4.2 ft. (open)

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Strata Change (Depth (ft.) of RQD) (%)	Hydraulic Hammer	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
70	S17	24/0	69.5 - 72.5	WOR/WH			push			16D: Dark grey with black streaks, Silty CLAY;	
75	S18	24/0	74.5 - 77.5	WOR/WH			push			17D: Dark grey with black streaks, Silty CLAY, with salt	
										V1: Tv=38.7 / Tr=0 ft-lbs (66 mm x 130 mm vane);	
	x9		74.5 - 77.5	Sw=98.0 psf						V3: Tv=38.7 / Tr=0 ft-lbs (66 mm x 130 mm vane)	
80	S19	24/0	79.5 - 82.5	WOR/WH			push			18D: Dark grey, v.soft, Silty CLAY, with few salt concretions;	
										broken shells in tip of spoon.	
										MV: Unstable to push rod to 85.5 ft.	
								-32.6			
										BT 5 ft: Roller cone on dense/ granular material.	87.5 ft
85											
										19D: Grey, dense, Silty GRAVEL, some fine to coarse Sand.	
	S20	24/0	84.5 - 87.5	WOR/WH	50	50		-37.6		TILL	
90										Bottom of Exploration at 92.0 feet below ground surface.	92.0 ft
										No refusal.	
95											
100											

Remarks:

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.

* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 4 of 4
Boring No.: BB-CUM-104

Page 21, 10/13/2017

Filename: 080_Boring Logs 3.dgn

Scale:

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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Westbrook, ME 04092
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

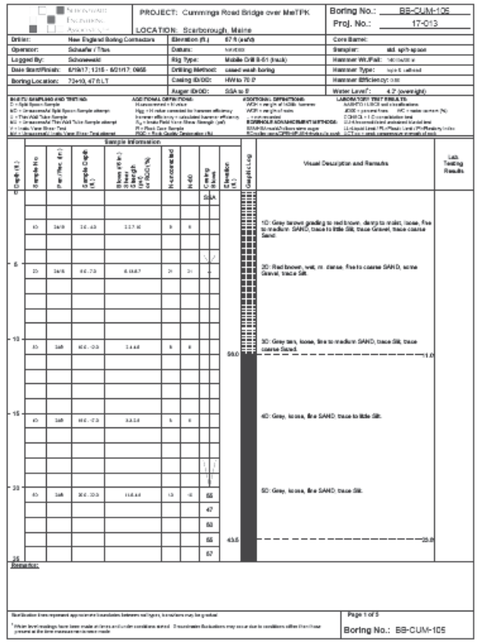
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS III

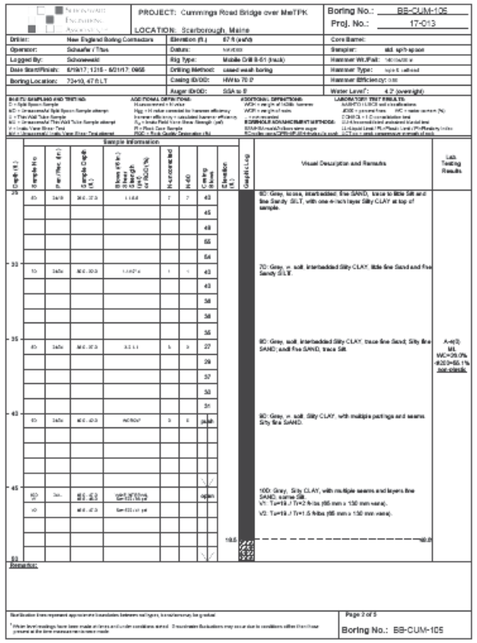
SHEET NUMBER: S-05

CONTRACT:2018.19

Date:9/21/2018



Page 22, 10/13/2017



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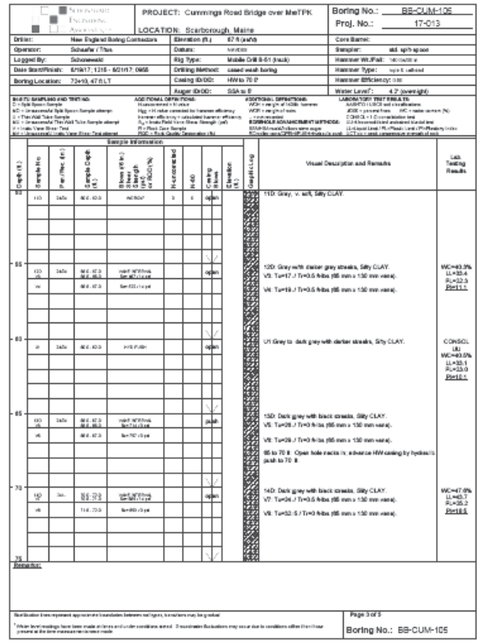
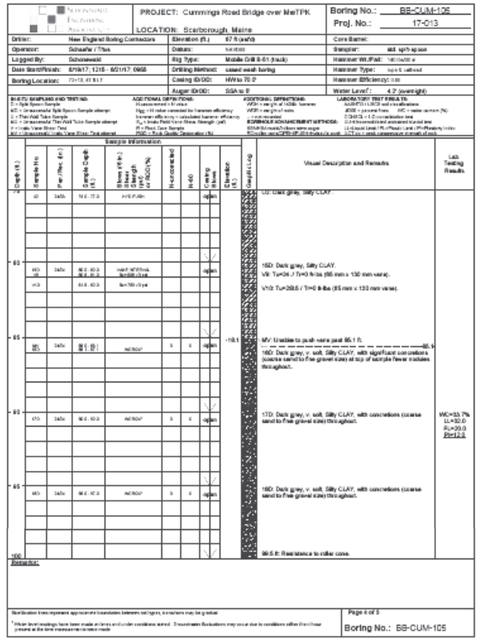
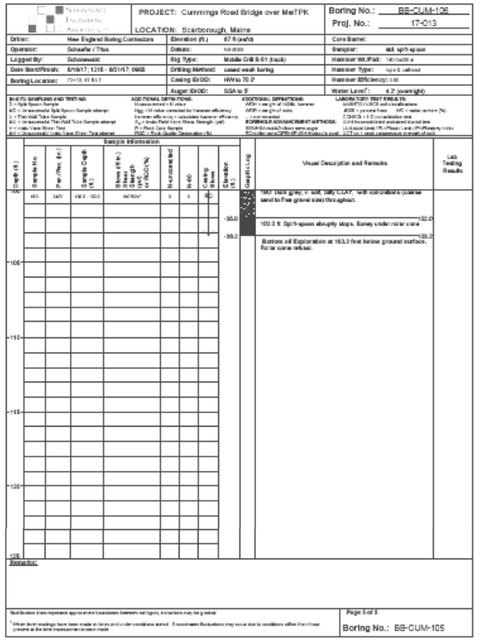


Page 24, 10/13/2017



Page 25, 10/13/2017

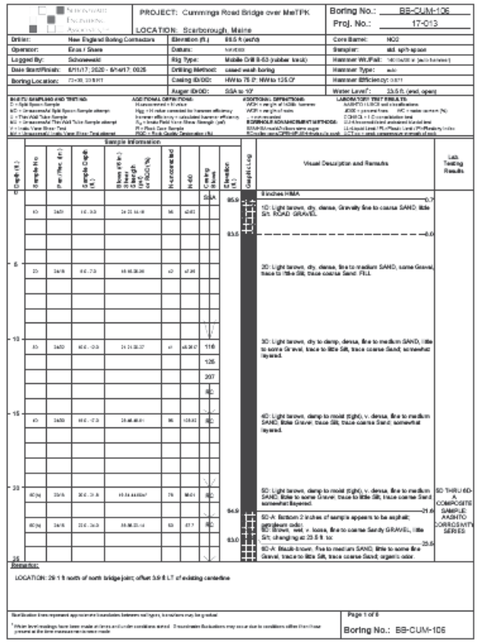


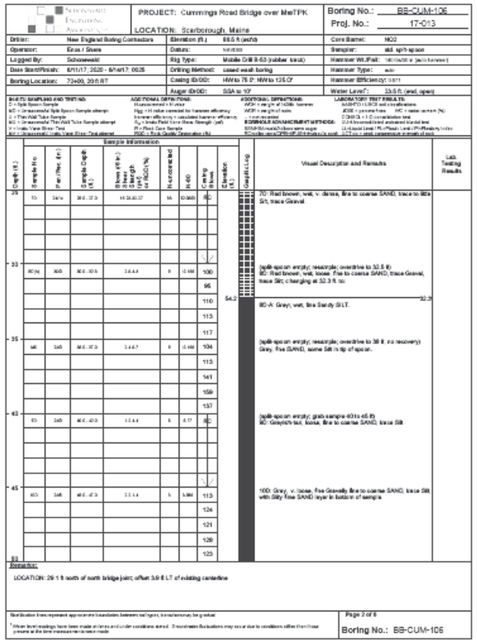
Page 26, 10/13/2017

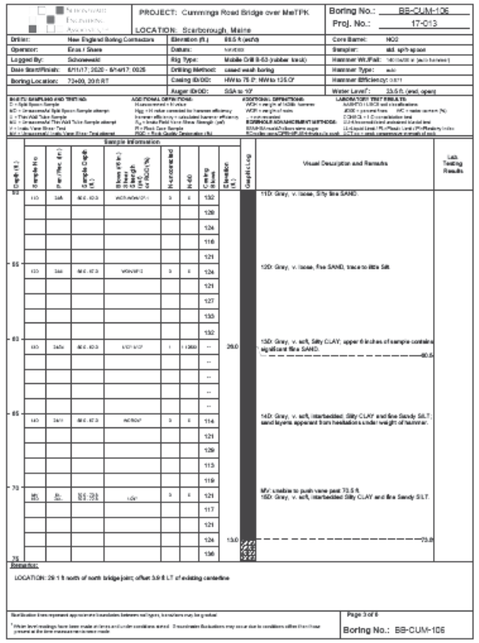
Filename: 081_Boring Logs 4.dgn

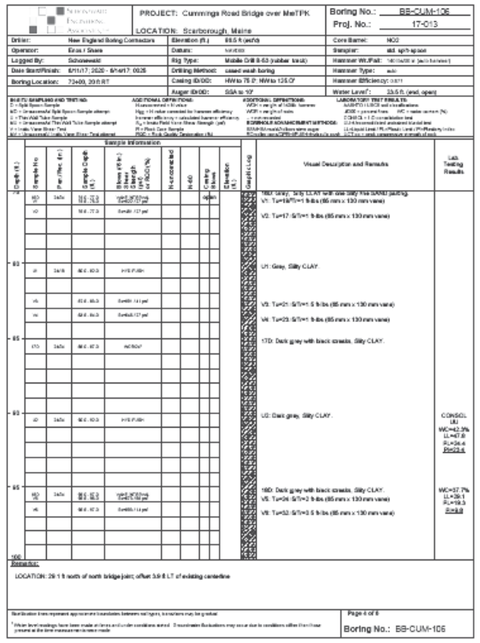
Scale:				Designed by: HNTB	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS BORING LOGS IV
No.	Revision	By	Date					
				CONSULTANT PROJECT MANAGER: Tim Cote, P.E.			MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.	SHEET NUMBER: S-06
				By Date By Date				CONTRACT:2018.19
				Designed JKO 08\18 Checked TJP 08\18				81OF 135
				Drawn PEB 08\18 In Charge of RAL 08\18				

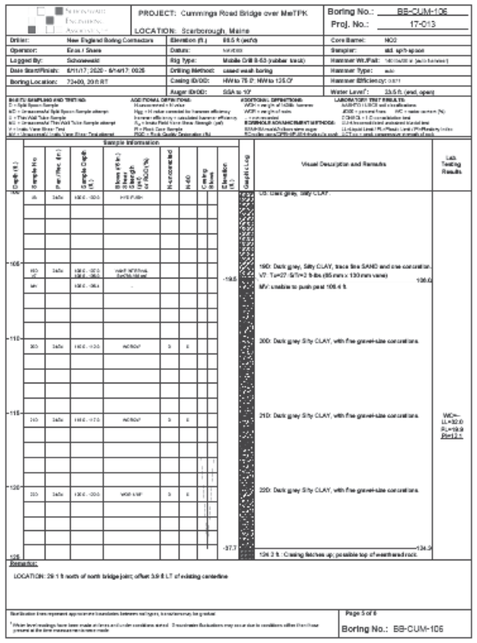
Date:9/21/2018

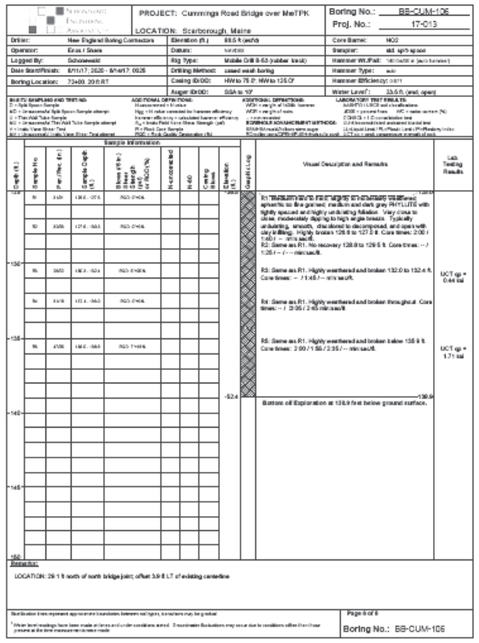












Filename: 082_Boring Logs 5.dgn

Scale:

Designed by:

HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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Westbrook, ME 04092
TEL (207) 774-5155
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

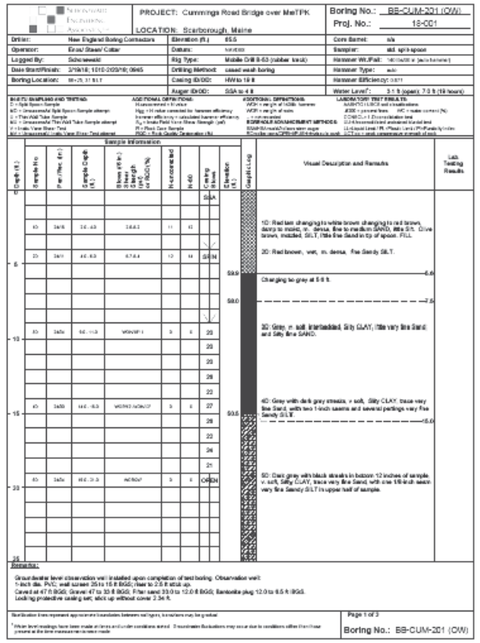
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS V

SHEET NUMBER: S-07

CONTRACT:2018.19

Date:9/21/2018



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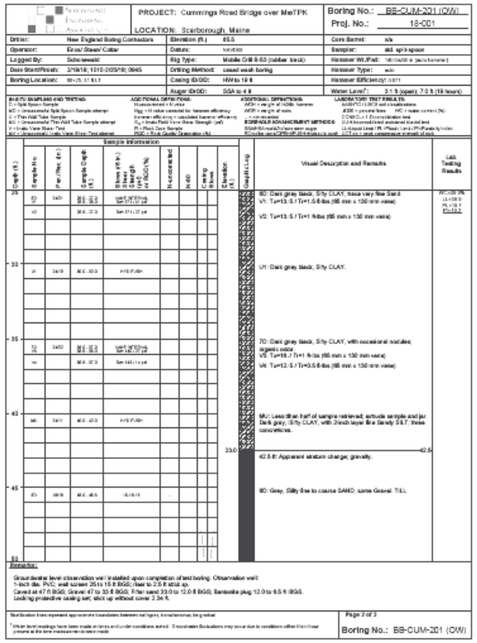

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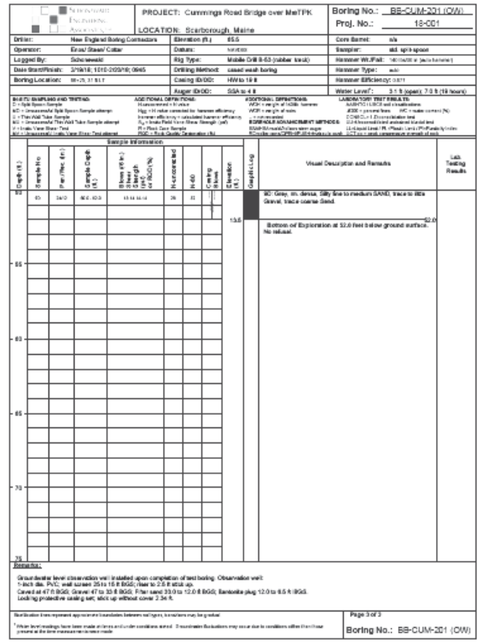

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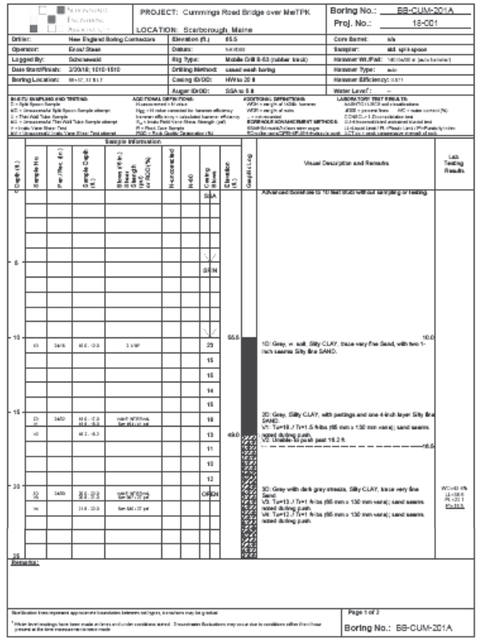

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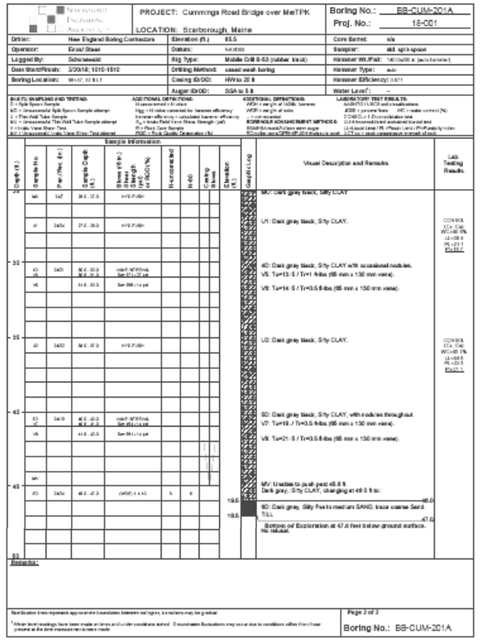


Page 6

Filename: 083_Boring Logs 6.dgn

Scale:	Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

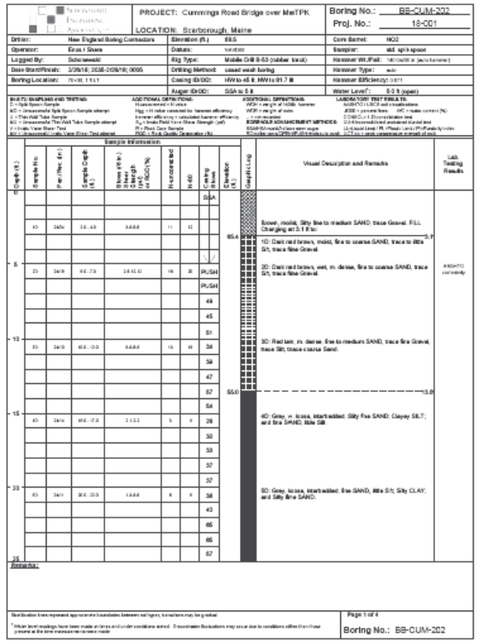
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS VI

SHEET NUMBER: S-08

CONTRACT:2018.19

Date:9/21/2018



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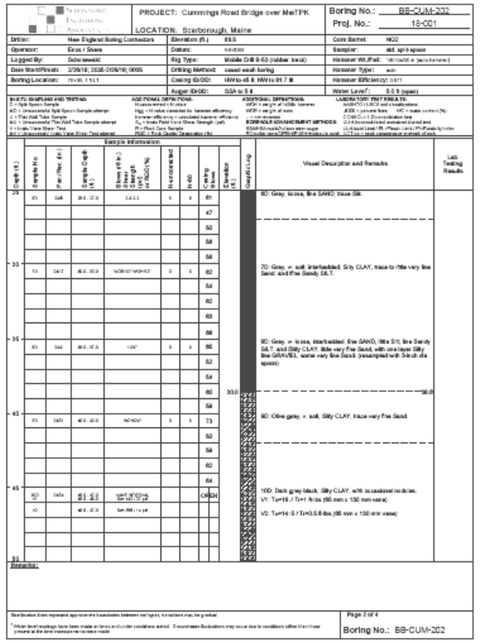

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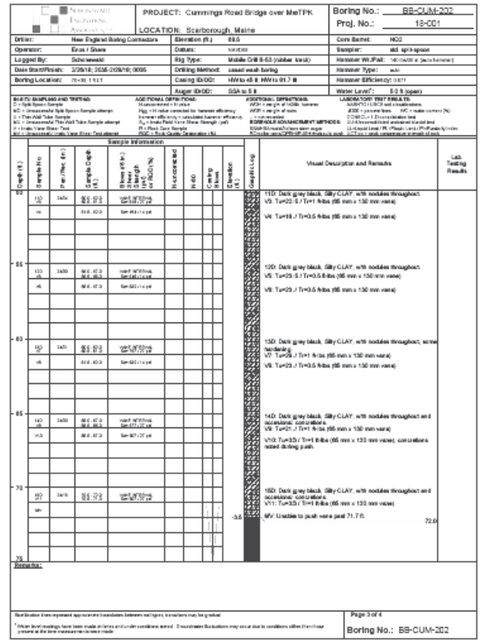

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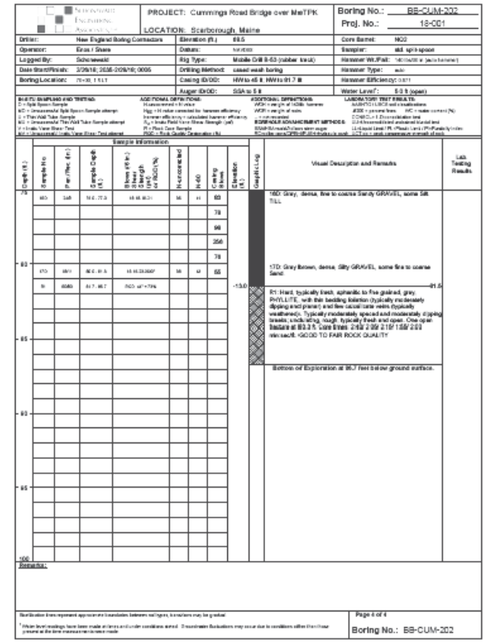

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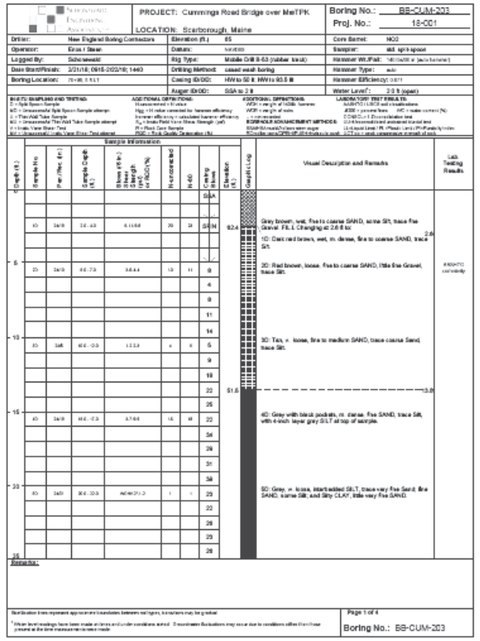

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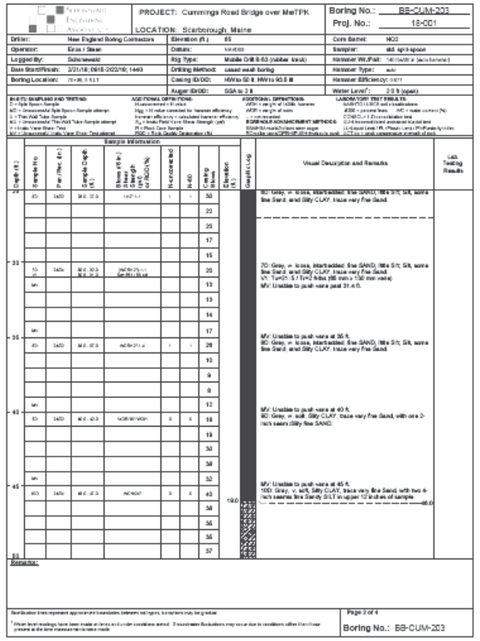

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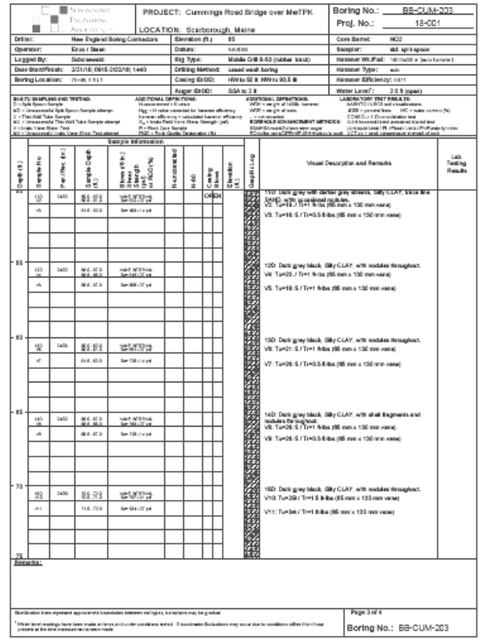

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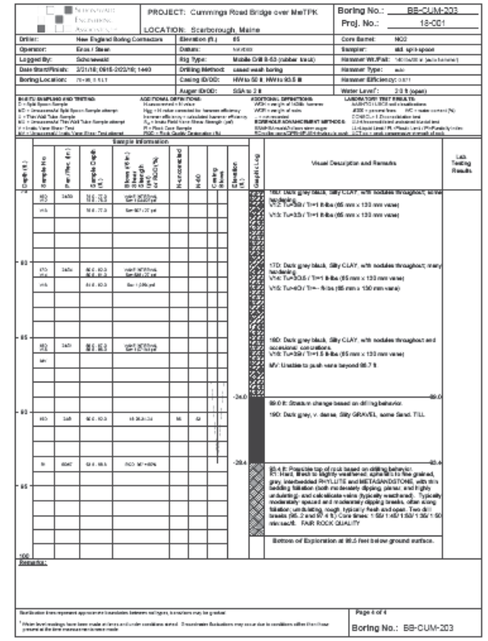

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Filename: 084_Boring Logs 7.dgn

Scale:				Designed by:
No.	Revision	By	Date	

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BORING LOGS VII

SHEET NUMBER: S-09

CONTRACT:2018.19

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-204 (OW)
Proj. No.: 18-001

Driller:	New England Boring Contractors	Elevation (ft.): 69.5	Core Barrel: n/a
Operator:	Ekaia / Colter	Datum: NAVD88	Sampler: std. split spoon
Logged By:	Schenewerk	Rig Type: Mobile Drill B-53 (rubber track)	Hammer Wt./Fall: 140 lb/30 in (auto-hammer)
Date Start/Finish:	2/15/18; 1306-2/16/18; 1410	Drilling Method: cased wash boring	Hammer Type: auto
Boring Location:	74+15, 33 Rt.1	Casing ID/OD: HW to 48 ft	Hammer Efficiency: 0.1611
		Auger ID/OD: SSA to 8 ft	Water Level*: 3.0 ft (open)

SHELBY SAMPLING AND TESTING: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; PH = Hydraulic Piston Sample; WO = Unsuccessful Thin-Wall Tube Sample attempt; H = Hydraulic Vane Shear Test; WO = Unsuccessful Vane Shear Test attempt

ADDITIONAL DATA IN FIONS: Measurements in ft. unless noted; Hpg = Hammer efficiency; N = Blows per foot; Pp = Hand-Held Pocket Penetrometer Strength (tsf); Pv = Hand-Held Vane Shear Strength (psf); PI = Plastic Core Sample; RQD = Rock Quality Designation (%)

ADDITIONAL DEFINITIONS: WOR = weight of rods; WOH = weight of hammer; WOP = weight of casing; Sieve = % material passing #200 sieve; Hydrometer = % silt & clay; Clay = % clay size; Cc = coefficient of curvature; Cu = coefficient of uniformity; Gravel = % gravel; Moisture = moisture content (%); LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; OC = Organic content (%); Consolidation = 1-D Consolidation test; Chemical = Chemical analysis; Corrosion = Corrosion series

ENGINEER ADVANCEMENT METHODS: SSA=Solid Stem Auger; HSA=Hollow Stem Auger; W=Wash; R=Roller Bit; D=Downhole Hammer; C=Casing; A=Auger; B=Barrel; HW=4 inch casing; HSA=Hollow Stem Auger; SSA=Solid Stem Auger; NQ=2.5 inch core barrel; HQ=3.5 inch core barrel; NW=3 inch casing; HW=4 inch casing

LABORATORY TEST RESULTS: AASHTO T145 Soil Classification; ASTM D2487 Soil Classification; ASTM D422 Particle-Size Analysis of Soils; ASTM D1140 Amount of Material in Soils Finer than the No. 200 (75-µm) Sieve; ASTM D2216 Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass; ASTM D4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils; ASTM D2435 One-Dimensional Consolidation Properties of Soils Using Incremental Loading; ASTM D2974 Moisture, Ash, and Organic Matter of Peat and Other Organic Soils; ASTM D4972 pH of Soils; ASTM D4327 Anions in Water by Suppressed Ion Chromatography; ASTM D4329 Fluorescent Penetrant Examination Using Water-Washable Dyes; ASTM D4373 Rapid Determination of Carbonate Content of Soils; ASTM D4427 Classification of Peat Samples by Laboratory Testing; ASTM D4546 One-Dimensional Swell or Collapse of Soils; ASTM D4643 Determination of Water (Moisture) Content of Soil and Rock by Microwave Oven Heating; ASTM D5084 Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter; ASTM D5333 Measurement of Collapse Potential of Soil; ASTM D5778 Performing Electronic Friction Cone and Piezocone Penetration Testing of Soils; ASTM D6913 Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis; ASTM D7263 Laboratory Determination of Density (Unit Weight) of Soil Specimens; ASTM D7928 Particle-Size Distribution (Gradation) of Fine-Grained Soils Using the Sedimentation (Hydrometer) Analysis; ASTM D8296 Minimum Requirements for Agencies Testing Soil and Rock for Use in Pavement Systems

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Pressure (psi); Length of Core Run (in.) or RQD (%)	Recovered (in.)	N-60	Casing Blows (#/ft.)	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
0							SSA				
										Top: moist, m. dense, fine to medium SAND, trace Silt; changing at 3.5 ft to: 1D: Dark red brown, wet, Fine to coarse SAND, trace to little Silt.	
	S1	24/6	2.0 - 4.0	8-4-8-8	12	12					
5											
	S2	24/6	4.0 - 7.0	14-8-8-8	14	16	SPT-N			2D: Dark red Brown, wet, m. dense, fine to coarse SAND, trace Silt, trace fine Gravel.	
	S3	24/7	9.0 - 11.0	1-1-1-2	5	2	55			3D: Red/dark v. loose, fine to medium SAND, trace fine Gravel, trace Silt.	
10							26				
							45				
							58	54.0			
							66				
	S4	24/7	14.0 - 16.0	1-1-WOH-3	1	1	30			4D: Grey, v. loose, interbedded fine SAND, trace to little Silt; Silty very fine SAND; and SILT, little to some very fine Sand.	
15							35				
							35				
							60				
							49				
	S5	24/6	19.0 - 21.0	WOH-1-3-3	4	6	43			5D: Grey with two dark grey pockets, v. loose, fine SAND, trace to little Silt; organic odor.	
20							43				
							45				
							50				
							51				
25	S6	24/6	24.0 - 26.0	1-1-1-1	3	2	30			6D: Grey with two dark grey seams, v. loose, fine SAND, trace Silt; organic odor.	

Remarks:
Grout-bentonite level observation well installed upon completion of test boring. Observation well:
2-inch dia. PVC; well screen 25 to 15 ft BGS; riser to 2.5 ft stick up.
Bentonite plug 49 to 38.6 ft BGS. Filter sand 38.6 to 4.0 ft BGS.
Locking protective casing set; stick up without cover 2.50 ft.

Stratification lines represent approximate boundaries between soil types, transitions may be gradual.
*Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made

PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-204 (OW)
Proj. No.: 18-001

Driller:	New England Boring Contractors	Elevation (ft.): 69.5	Core Barrel: n/a
Operator:	Ekaia / Colter	Datum: NAVD88	Sampler: std. split spoon
Logged By:	Schenewerk	Rig Type: Mobile Drill B-53 (rubber track)	Hammer Wt./Fall: 140 lb/30 in (auto-hammer)
Date Start/Finish:	2/15/18; 1306-2/16/18; 1410	Drilling Method: cased wash boring	Hammer Type: auto
Boring Location:	74+15, 33 Rt.1	Casing ID/OD: HW to 48 ft	Hammer Efficiency: 0.1611
		Auger ID/OD: SSA to 8 ft	Water Level*: 3.0 ft (open)

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Pressure (psi); Length of Core Run (in.) or RQD (%)	Recovered (in.)	N-60	Casing Blows (#/ft.)	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
30							48				
							48				
							49				
							58				
	S7	24/9	29.0 - 31.0	WOH-1-WOH	1	1	54	39.5		7D: Grey, v. soft, interbedded, Silty CLAY, trace very fine Sand; and fine SAND, little to some Silt	
35							60				
							50				
							52				
							43				
	S8	24/9	34.0 - 36.0	WOH-WOH-WOH	0	0	50			8D: Grey, v. loose, interbedded, Silty fine SAND; Silty CLAY, trace to little fine Sand; and fine to medium SAND, little to some Silt.	
							43				
							58				
							53				
40							52				
	S9	24/12	39.0 - 41.0	WOH-WOH	0	0	49			9D: Grey, v. soft, Silty CLAY, trace fine Sand, with two 3-inch seams fine SAND, some Silt.	
							44	28.5			
							48				
							58				
							52				
45	S10	24/6	44.0 - 46.0	WOH-WOH-1	0	0	52			10D: Grey, v. soft, Silty CLAY, trace fine Sand, with occasional seams and pockets fine Sandy SILT	
							58				
							58				
							53				
							58				
50							WOH				

Remarks:
Grout-bentonite level observation well installed upon completion of test boring. Observation well:
2-inch dia. PVC; well screen 25 to 15 ft BGS; riser to 2.5 ft stick up.
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PROJECT: Cummings Road Bridge over MeTPK
LOCATION: Scarborough, Maine

Boring No.: BB-CUM-204 (OW)
Proj. No.: 18-001

Driller:	New England Boring Contractors	Elevation (ft.): 69.5	Core Barrel: n/a
Operator:	Ekaia / Colter	Datum: NAVD88	Sampler: std. split spoon
Logged By:	Schenewerk	Rig Type: Mobile Drill B-53 (rubber track)	Hammer Wt./Fall: 140 lb/30 in (auto-hammer)
Date Start/Finish:	2/15/18; 1306-2/16/18; 1410	Drilling Method: cased wash boring	Hammer Type: auto
Boring Location:	74+15, 33 Rt.1	Casing ID/OD: HW to 48 ft	Hammer Efficiency: 0.1611
		Auger ID/OD: SSA to 8 ft	Water Level*: 3.0 ft (open)

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Pressure (psi); Length of Core Run (in.) or RQD (%)	Recovered (in.)	N-60	Casing Blows (#/ft.)	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
70	S11	24/6	69.0 - 71.0	WOH-1-1-2	3	2	30			11D: Dark grey, Silty CLAY;	
75	S12	24/9	74.0 - 76.0	WOH-WOH-WOH	0	0	30			12D: Dark grey black, Silty CLAY, with nodules throughout. V3: Tv=23.5 / Tr=3.5 ft-lbs (65 mm x 130 mm vane); V4: Tv=21 / Tr=3.5 ft-lbs (65 mm x 130 mm vane);	
80	S13	24/9	79.0 - 81.0	WOH-WOH-WOH	0	0	30			13D: Dark grey black, Silty CLAY, with large nodules throughout. V5: Tv=26 / Tr=1.5 ft-lbs (65 mm x 130 mm vane); V6: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane);	
85	S14	24/9	84.0 - 86.0	WOH-WOH-WOH	0	0	30			14D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V7: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V8: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
	S15	24/9	89.0 - 91.0	WOH-WOH-WOH	0	0	30			15D: Dark grey black, Silty CLAY, with large nodules throughout. V9: Tv=30 / Tr=1.5 ft-lbs (65 mm x 130 mm vane); V10: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane);	
90											
	S16	24/9	94.0 - 96.0	WOH-WOH-WOH	0	0	30			16D: Dark grey black, Silty CLAY, with nodules throughout. V11: Tv=30 / Tr=1.5 ft-lbs (65 mm x 130 mm vane); V12: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane);	
95											
	S17	24/9	99.0 - 101.0	WOH-WOH-WOH	0	0	30			17D: Dark grey black, Silty CLAY, with nodules throughout. V13: Tv=30 / Tr=1.5 ft-lbs (65 mm x 130 mm vane); V14: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane);	
100											

Remarks:
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LOCATION: Scarborough, Maine

Boring No.: BB-CUM-204 (OW)
Proj. No.: 18-001

Driller:	New England Boring Contractors	Elevation (ft.): 69.5	Core Barrel: n/a
Operator:	Ekaia / Colter	Datum: NAVD88	Sampler: std. split spoon
Logged By:	Schenewerk	Rig Type: Mobile Drill B-53 (rubber track)	Hammer Wt./Fall: 140 lb/30 in (auto-hammer)
Date Start/Finish:	2/15/18; 1306-2/16/18; 1410	Drilling Method: cased wash boring	Hammer Type: auto
Boring Location:	74+15, 33 Rt.1	Casing ID/OD: HW to 48 ft	Hammer Efficiency: 0.1611
		Auger ID/OD: SSA to 8 ft	Water Level*: 3.0 ft (open)

Sample Information

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (#/in.) or Pressure (psi); Length of Core Run (in.) or RQD (%)	Recovered (in.)	N-60	Casing Blows (#/ft.)	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Lab Testing Results
70	S18	24/9	104.0 - 106.0	WOH-WOH						18D: Dark grey, Silty CLAY;	CC=1.1%; WC=40.7%; LL=42.0; PL=22.4; PI=19.6
	S19		109.0 - 111.0	WOH-WOH-WOH						19D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V15: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V16: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
110											
	S20	24/9	114.0 - 116.0	WOH-WOH-WOH						20D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V17: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V18: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
115											
	S21	24/9	119.0 - 121.0	WOH-WOH-WOH						21D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V19: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V20: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
120											
	S22	24/9	124.0 - 126.0	WOH-WOH-WOH						22D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V21: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V22: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
125											
	S23	24/9	129.0 - 131.0	WOH-WOH-WOH						23D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V23: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V24: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
130											
	S24	24/9	134.0 - 136.0	WOH-WOH-WOH						24D: Dark grey black, Silty CLAY, with few concretions and nodules throughout. V25: Tv=32 / Tr=1 ft-lbs (65 mm x 130 mm vane); V26: Tv=28 / Tr=2 ft-lbs (65 mm x 130 mm vane);	
135											

Remarks:
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Scale:

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

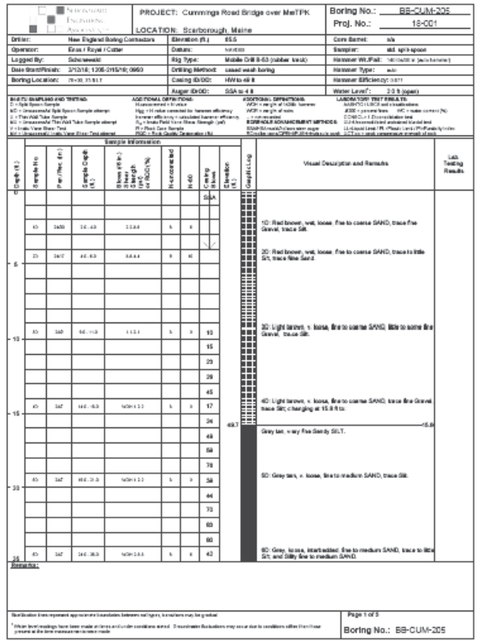
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

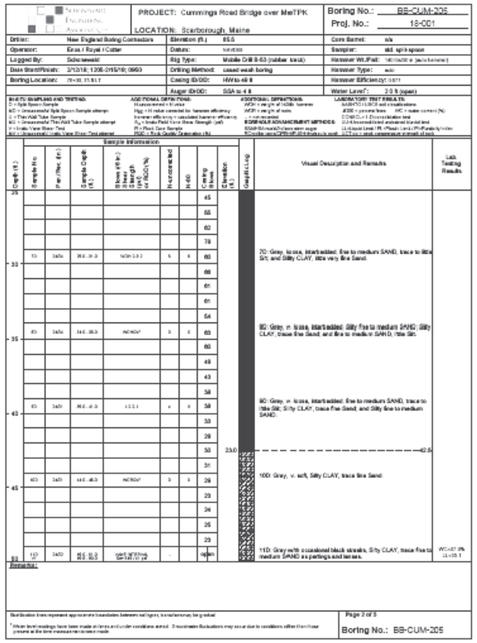
BORING LOGS VIII

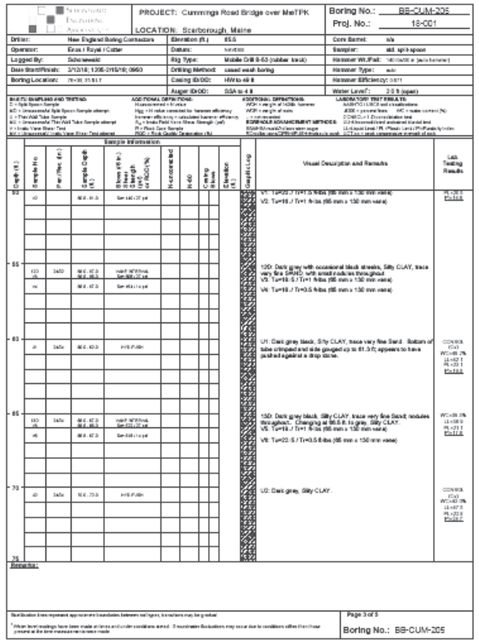
SHEET NUMBER: S-10

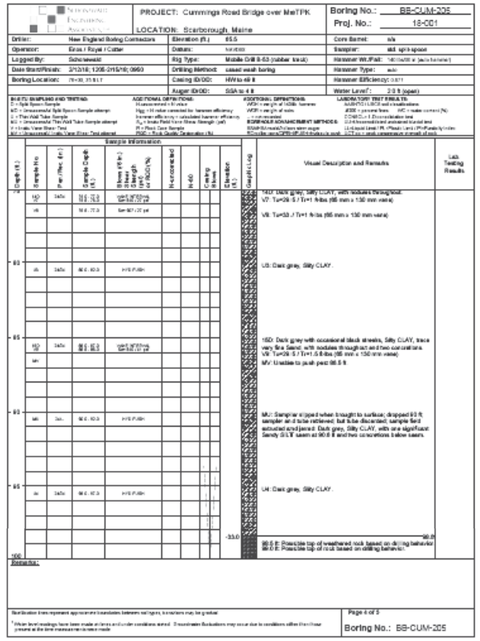
CONTRACT:2018.19

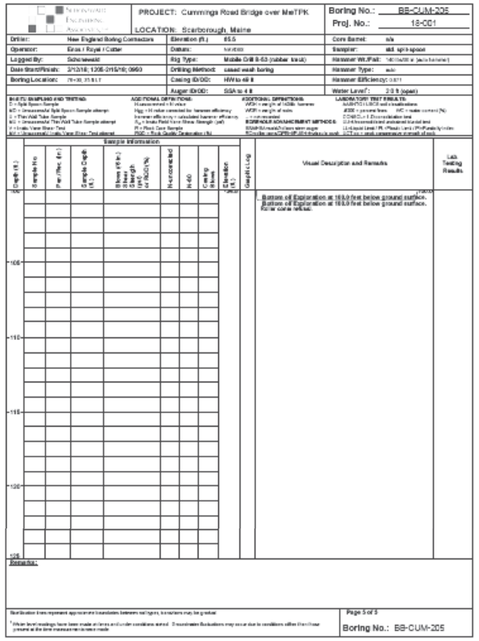
Date:9/21/2018





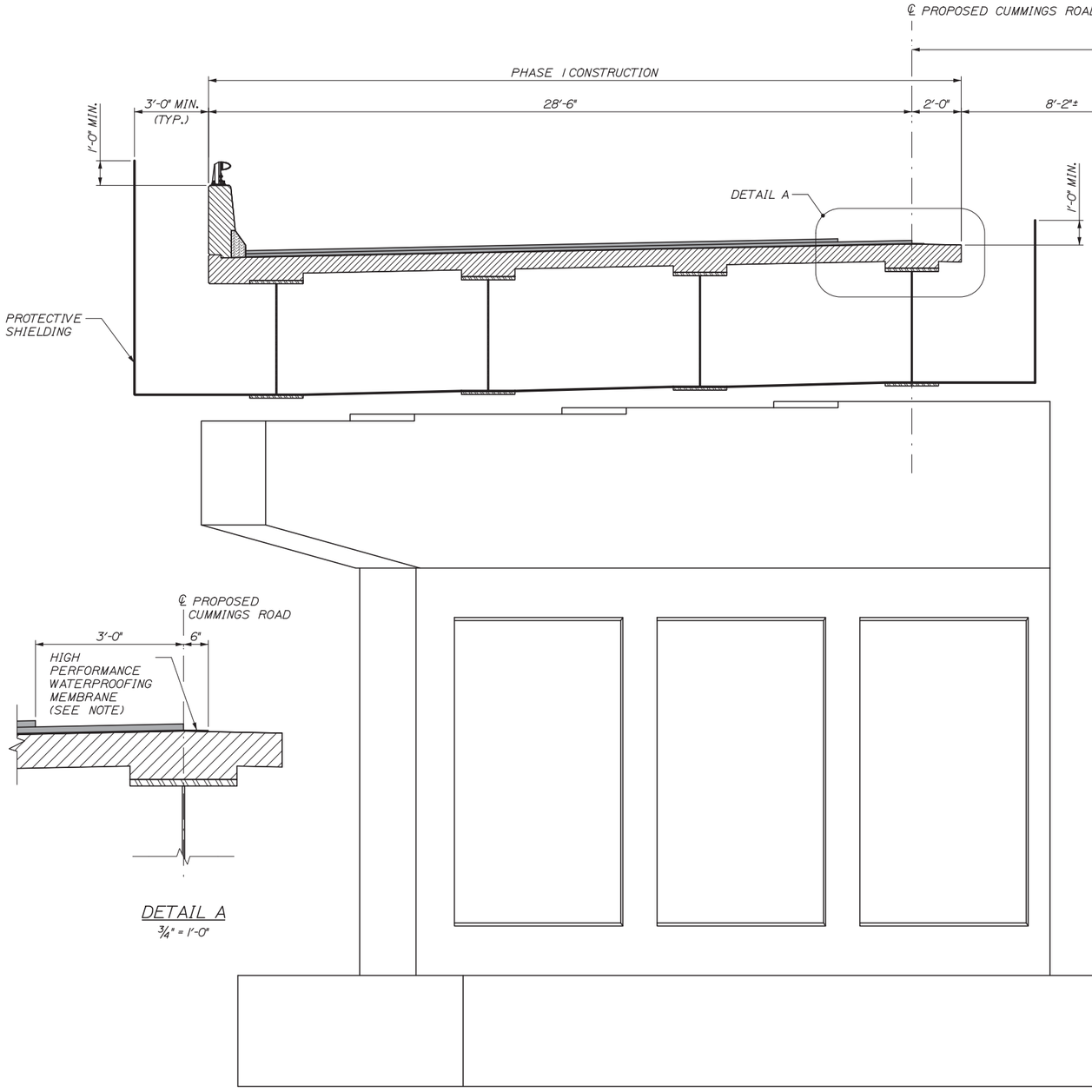






Filename: 086_Boring Logs 9.dgn

Scale:				Designed by: HNTB	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS BORING LOGS IX
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.			MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.	SHEET NUMBER: S-11
				By Date / By Date				CONTRACT:2018.19 86 OF 135
				Designed JKO 08\18 / Checked TJP 08\18				
				Drawn PEB 08\18 / In Charge of RAL 08\18				



DETAIL A

3/4" = 1'-0"

PHASE I - CONSTRUCTION

3/8" = 1'-0"

NOTE: THE CONTRACTOR SHALL PROTECT THE EXPOSED PORTION OF THE MEMBRANE FROM DAMAGE AND UV EXPOSURE FOR THE DURATION OF REMAINING CONSTRUCTION ACTIVITIES. PAYMENT FOR PROTECTION IS INCIDENTAL TO ITEM 508.14, HIGH PERFORMANCE WATERPROOFING MEMBRANE.

Date: 9/21/2018

Filename: 087_Construction Phasing 1.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

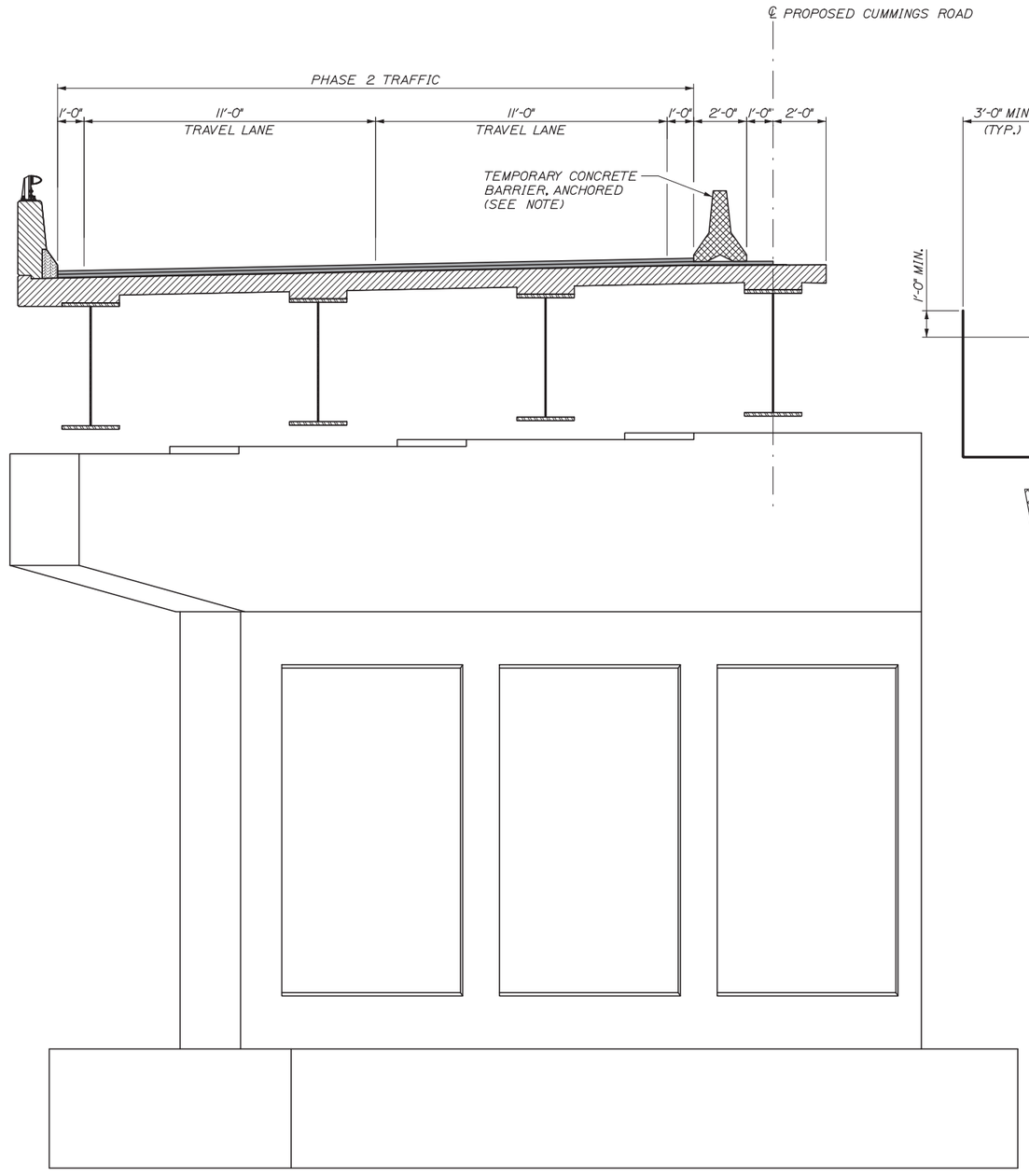
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

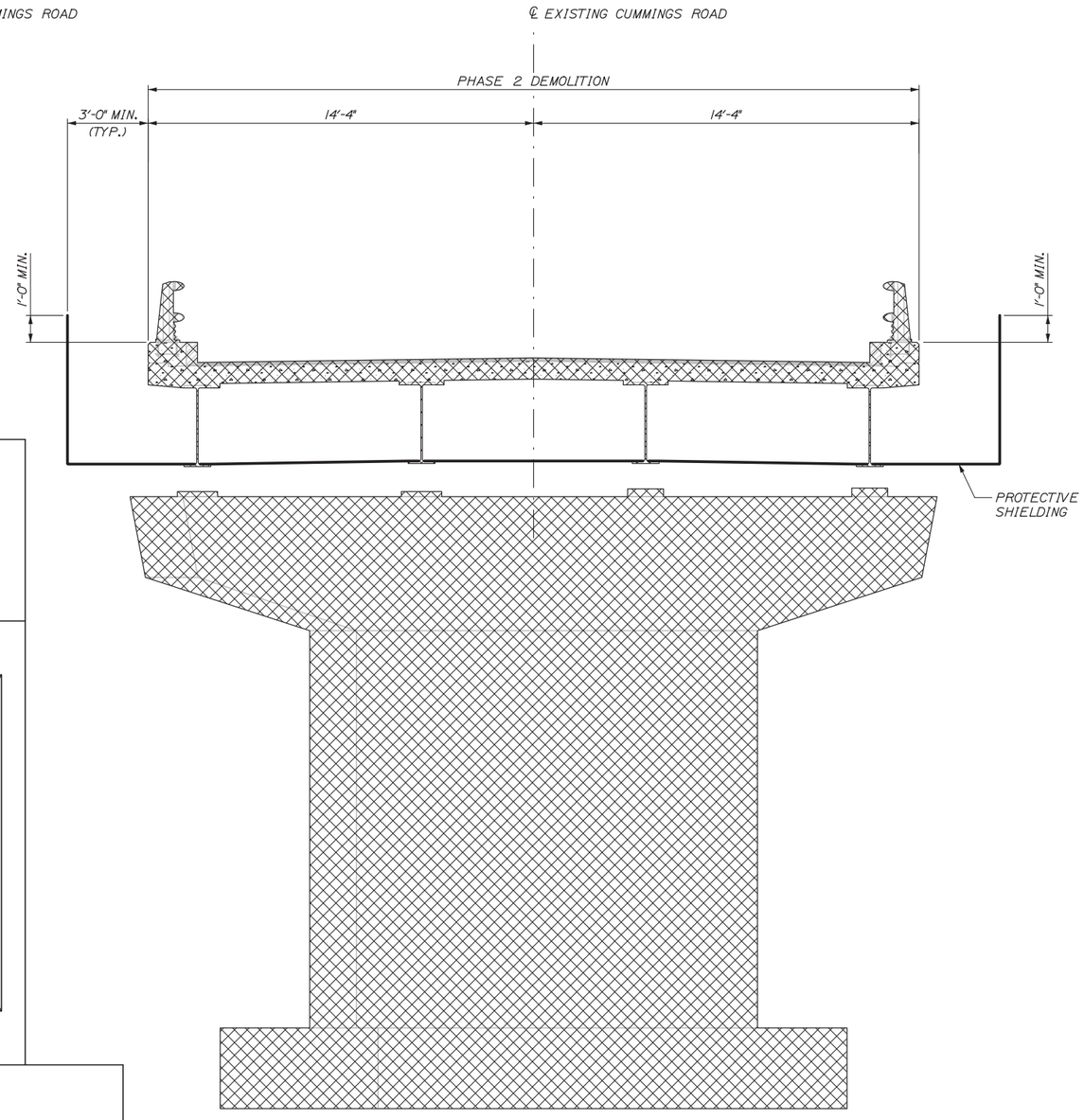
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CONSTRUCTION PHASING I

SHEET NUMBER: S-12

CONTRACT: 2018.09





NOTE: THE USE OF THRU-BOLTING WILL NOT BE PERMITTED.

PHASE 2A - DEMOLITION

3/8" = 1'-0"

Date: 9/21/2018

Filename: 088_Construction Phasing II.dgn

Scale: AS NOTED				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
					By	Date		By	Date
				Designed	HJW	08\18	Checked	TJP	08\18
				Drawn	PEB	08\18	In Charge of	RAL	08\18

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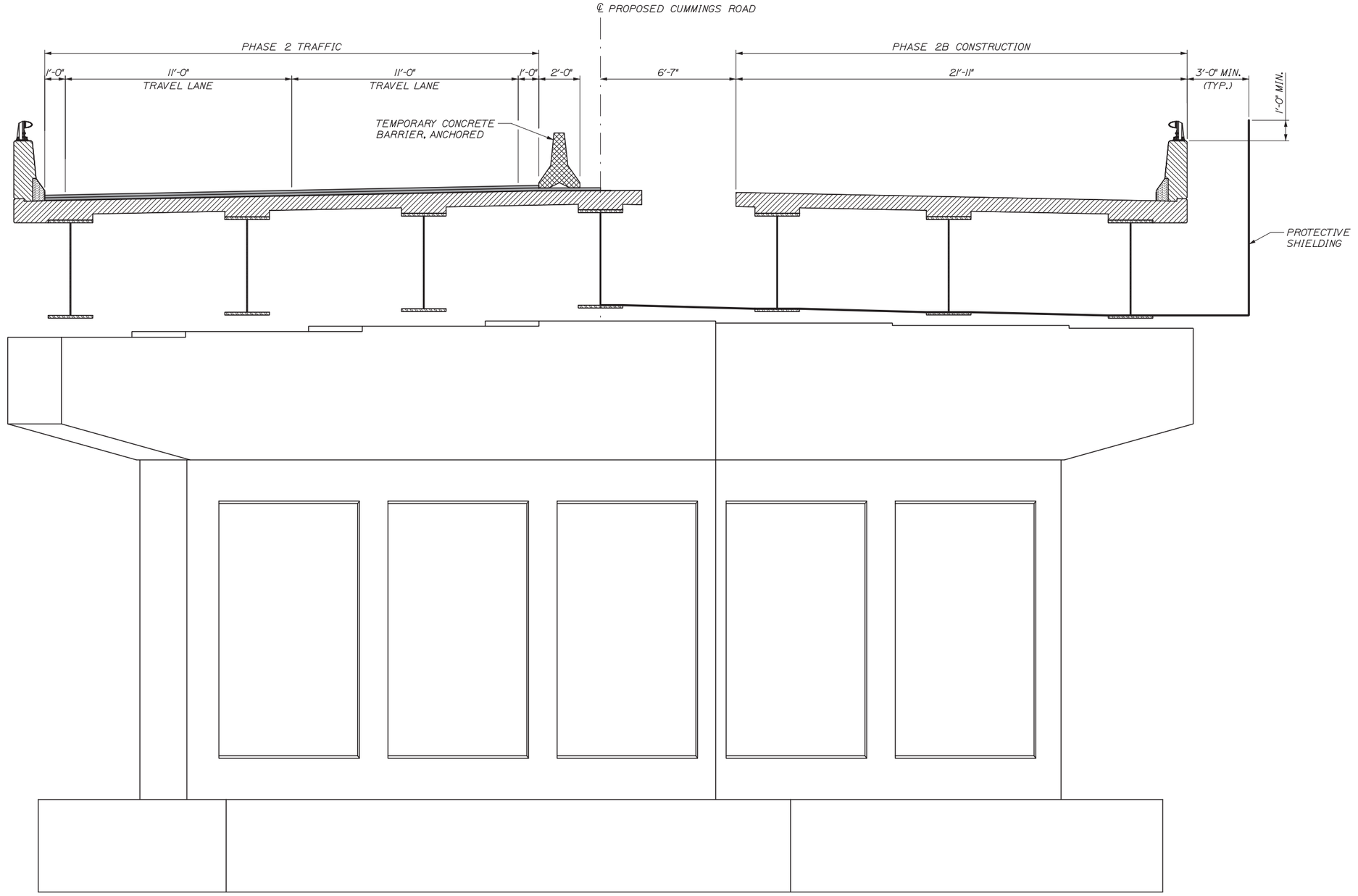
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CONSTRUCTION PHASING II

SHEET NUMBER: S-13

CONTRACT: 2018.09



PHASE 2B - CONSTRUCTION

3/8" = 1'-0"

Date:9/21/2018

Filename: 089_Construction Phasing III.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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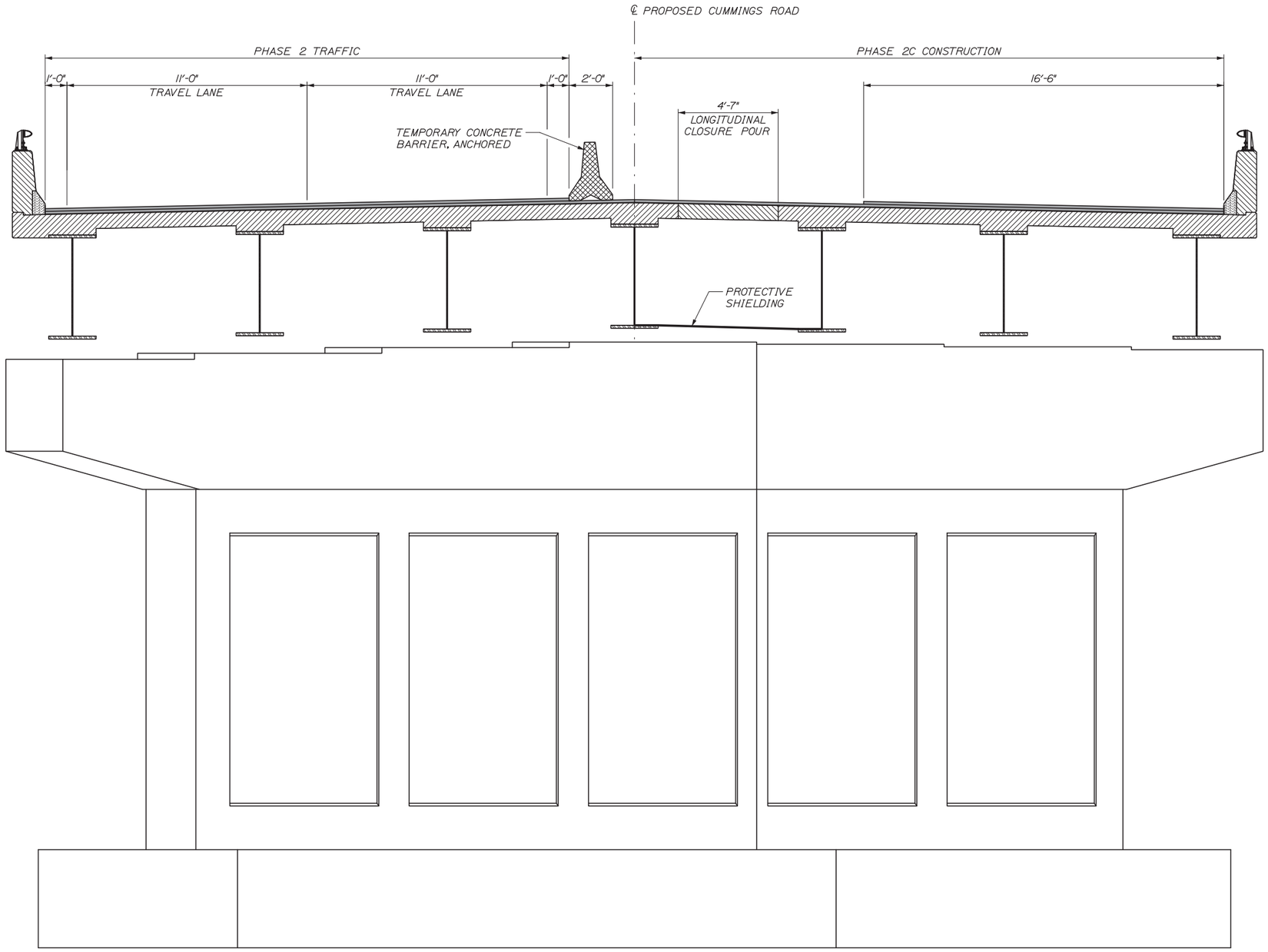
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CONSTRUCTION PHASING III

SHEET NUMBER: S-14

CONTRACT:2018.09



NOTE: THE BRIDGE SHALL BE CLOSED TO TRAFFIC DURING THE CASTING OPERATIONS AND THE INITIAL CURE PERIOD OF THE LONGITUDINAL CLOSURE POUR. SEE SPECIAL PROVISION SUBSECTION 107.4.6 FOR ADDITIONAL INFORMATION.

PHASE 2C - CONSTRUCTION

3/8" = 1'-0"

Date:9/21/2018

Filename: 090_Construction Phasing IV.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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Designed	HJW	08\18	Checked	TJP	08\18
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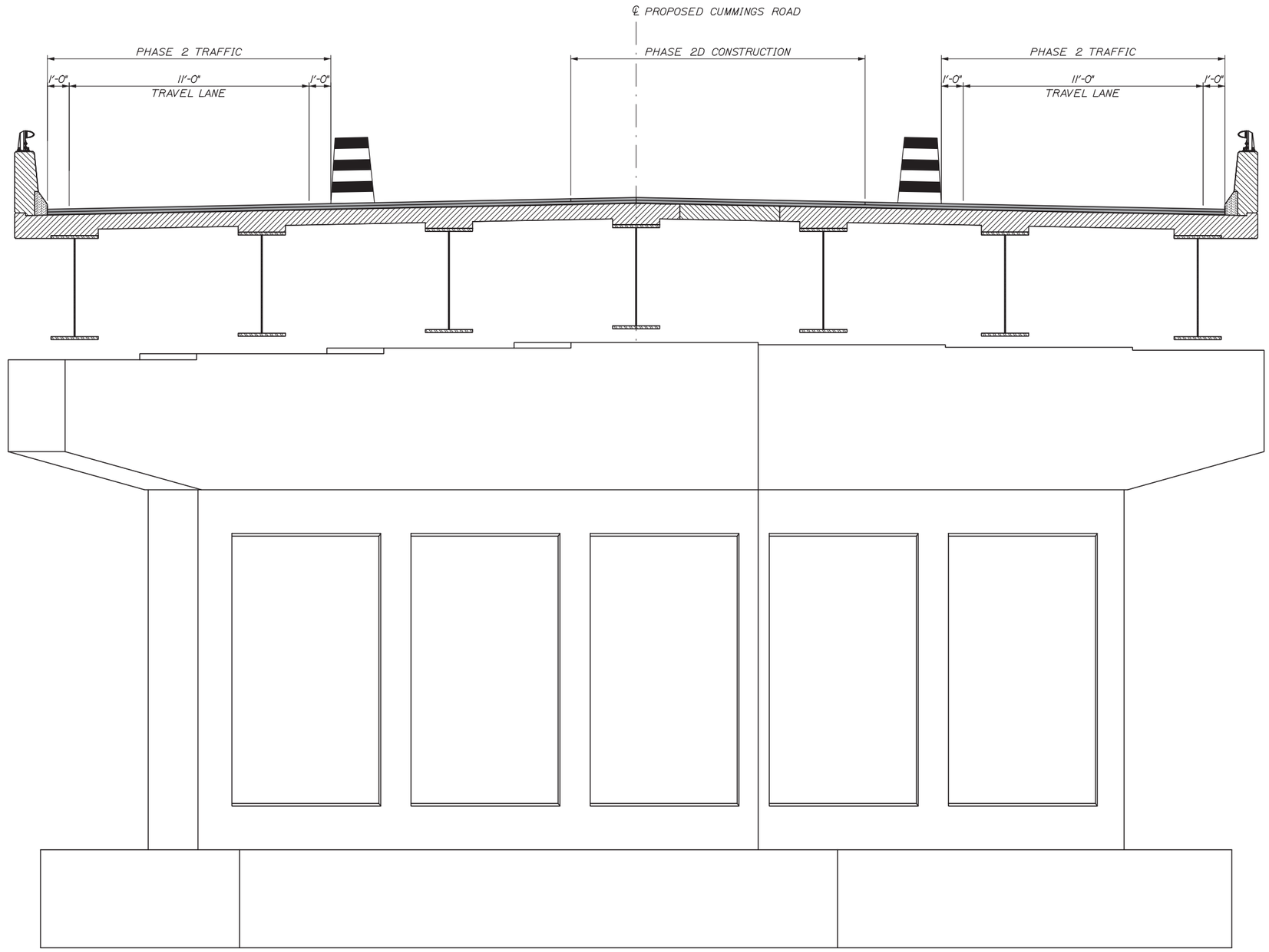
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CONSTRUCTION PHASING IV

SHEET NUMBER: S-15

CONTRACT:2018.09



PHASE 2D - CONSTRUCTION

3/8" = 1'-0"

Date:9/21/2018

Filename: 091_Construction Phasing V.dgn

Scale: AS NOTED

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
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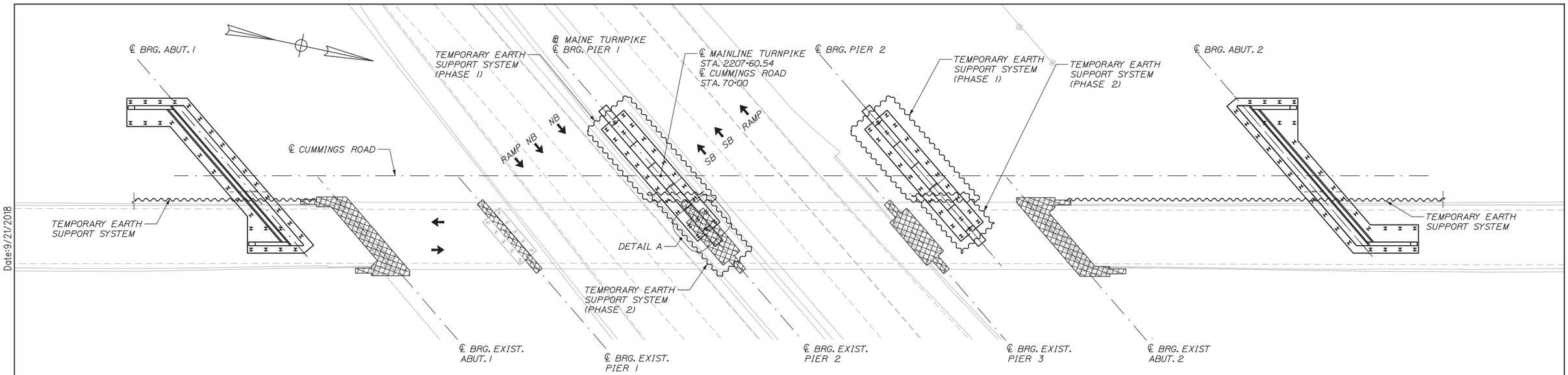
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

CONSTRUCTION PHASING V

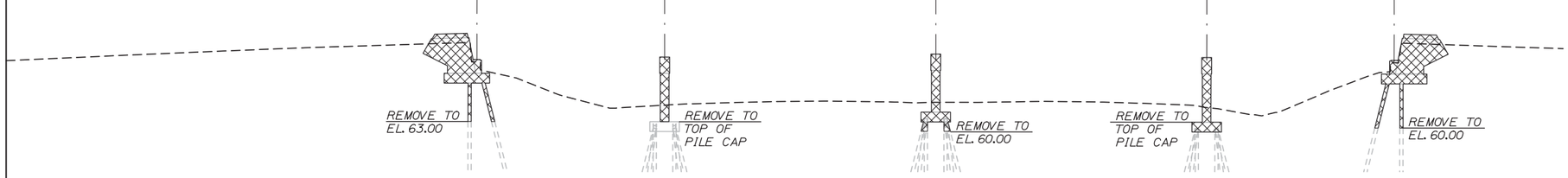
SHEET NUMBER: S-16

CONTRACT:2018.09



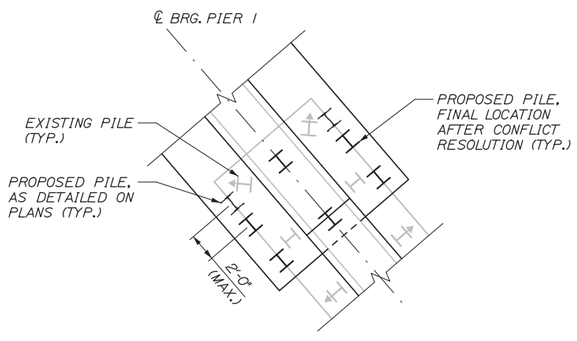
SUBSTRUCTURE DEMOLITION PLAN

1" = 20'-0"



SUBSTRUCTURE DEMOLITION ELEVATION

1" = 20'-0"



DETAIL A

3/16" = 1'-0"

(PIER 1 PILE CONFLICT SHOWN. OTHER LOCATIONS MAY EXIST)

NOTES:

1. ALL EXISTING SUBSTRUCTURES, FOUNDATIONS, AND PORTIONS OF PILES CONTAINED THEREIN SHALL BE REMOVED TO THE LIMITS IDENTIFIED ON THIS SHEET. THE RESULTING DEPRESSIONS SHALL BE BACKFILLED WITH GRAVEL BORROW AND COMPACTED TO 95% OF MAXIMUM DENSITY. EXCAVATION AND REMOVAL OF EXISTING FOUNDATIONS, AS WELL AS THE COST OF FURNISHING, PLACING, AND COMPACTING GRAVEL BORROW, SHALL BE INCIDENTAL TO ITEM 202.19 - "REMOVING EXISTING BRIDGE".

2. THE EXISTING PILES SHALL BE CUT OFF AT OR BELOW THE ELEVATION NOTED. CUTTING AND DISPOSAL OF THE EXISTING PILES SHALL BE INCIDENTAL TO ITEM 202.19 - "REMOVING EXISTING BRIDGE". REMOVAL BEYOND THE LIMITS SHOWN SHALL BE AT THE CONTRACTORS EXPENSE.

3. TEMPORARY EARTH SUPPORT STRUCTURES SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH SPECIAL PROVISION SECTION 511. PAYMENT FOR TEMPORARY EARTH SUPPORT STRUCTURES SHALL BE MADE UNDER ITEM 511.091 - "TEMPORARY EARTH SUPPORT SYSTEMS".

4. THE CONTRACTOR SHOULD ANTICIPATE PILE INSTALLATION CONFLICTS WITH EXISTING PILE FOUNDATIONS. PROPOSED PILE LOCATIONS MAY BE ADJUSTED A MAXIMUM OF 2'-0" TO PREVENT INSTALLATION CONFLICTS, MEASURED PARALLEL WITH THE CENTERLINE OF BEARING. RELOCATED PILES SHALL MAINTAIN A MINIMUM CENTER TO CENTER DISTANCE OF 3'-0" BETWEEN PROPOSED PILES AND A MINIMUM DISTANCE OF 1'-6" FROM THE CENTER OF PILE TO THE EDGE OF A PILE CAP. PAYMENT FOR REMOVAL, ABANDONMENT, OR OTHER CONFLICT MITIGATION TECHNIQUES WILL NOT BE MADE SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS.

5. DAMAGE TO THE MAINLINE PAVEMENT RESULTING FROM THE CONTRACTORS DEMOLITION EFFORTS SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. DAMAGED PAVEMENT SHALL BE SAWCUT, REMOVED, AND REPLACED TO A TOTAL PAVEMENT THICKNESS MATCHING EXISTING CONDITIONS. PAYMENT WILL BE CONSIDERED INCIDENTAL TO ITEM 202.19 - "REMOVING EXISTING BRIDGE".

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
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Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

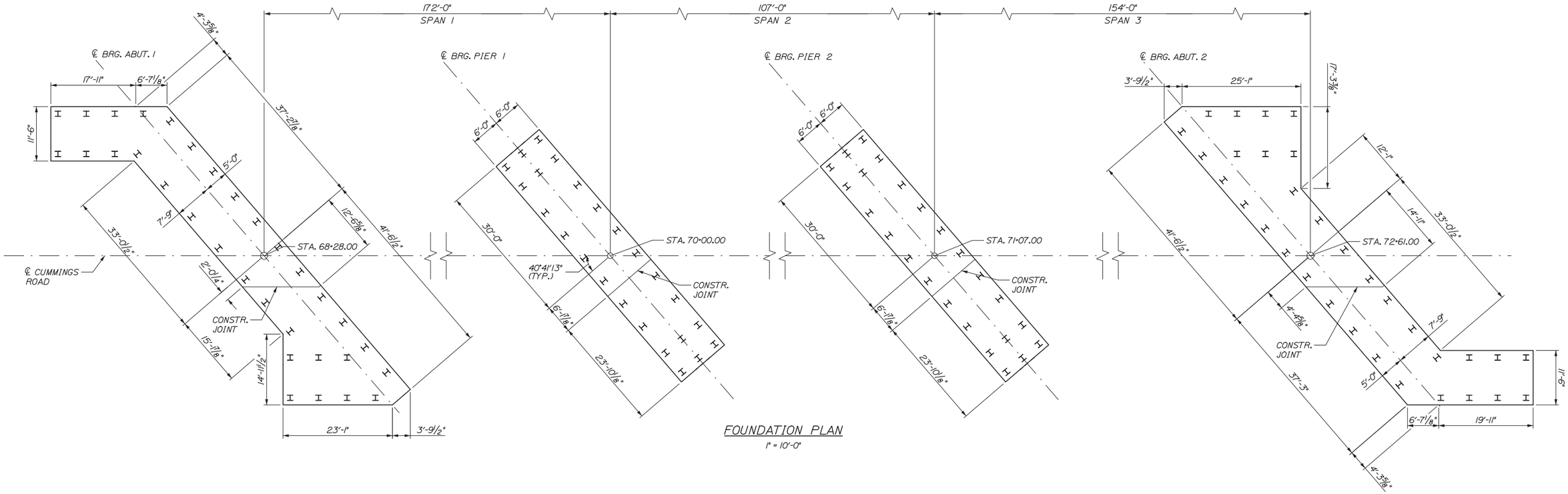
SUBSTRUCTURE DEMOLITION PLAN

SHEET NUMBER: S-17

CONTRACT: 2018.19

Date: 9/21/2018

Filename: 092_Substructure Demolition Plan.dgn



FOUNDATION PLAN

1" = 10'-0"

PILE NOTES:

1. SEE SHEETS S-19, S-22, AND S-28 FOR PILE LAYOUTS.

2. THE MAXIMUM CALCULATED FACTORED AXIAL PILE LOADS ARE:

ABUTMENT NO. 1:	450 KIPS (INCLUDING 145 KIPS ALLOWED FOR DOWNDRAG)
ABUTMENT NO. 2:	425 KIPS (INCLUDING 155 KIPS ALLOWED FOR DOWNDRAG)
PIER NO. 1:	455 KIPS
PIER NO. 2:	455 KIPS

3. PILES SHALL BE DRIVEN TO THE FOLLOWING NOMINAL DRIVING RESISTANCES:

ABUTMENT NO. 1:	815 KIPS
ABUTMENT NO. 2:	785 KIPS
PIER NO. 1:	700 KIPS
PIER NO. 2:	700 KIPS

4. ESTIMATE OF PILES REQUIRED:

ABUTMENT NO. 1:	32 ~ HP 14x117 @ 84 FEET
ABUTMENT NO. 2:	32 ~ HP 14x117 @ 112 FEET
PIER NO. 1:	24 ~ HP 14x117 @ 84 FEET
PIER NO. 2:	24 ~ HP 14x117 @ 94 FEET

5. ALL PILES SHALL BE EQUIPPED WITH A PILE TIP IN ACCORDANCE WITH STANDARD SPECIFICATIONS SUBSECTION 501.048, PREFABRICATED PILE TIPS.

6. A FRICTION REDUCING COATING, SUCH AS SLICKCOAT OR AN APPROVED EQUAL, SHALL BE APPLIED TO THE BOTTOM 20 FEET OF ALL PILES AT ABUTMENT 1 AND THE BOTTOM 50 FEET OF ALL PILES AT ABUTMENT 2. THE FRICTION REDUCING COATING SHALL BE APPROVED BY THE RESIDENT AND APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. TOUCH-UP APPLICATIONS AT FIELD SPLICE LOCATIONS ARE NOT REQUIRED. PAYMENT FOR OF THE COATING WILL BE MADE UNDER ITEM 501.54, STEEL H-BEAM PILES 117 LB/FT, DELIVERED.

7. THE CONTRACTOR SHALL PERFORM AND SUBMIT A WAVE EQUATION ANALYSIS FOR REVIEW AND ACCEPTANCE BY THE RESIDENT. THE MAXIMUM ALLOWABLE DRIVING STRESS IS 0.90 TIMES FY. THE SUBMITTAL ANALYSES SHALL INCLUDE THE PROPOSED STOPPING CRITERIA BASED ON THE WAVE EQUATION ANALYSIS AND THE PROPOSED DRIVING SYSTEM. THE STOPPING CRITERIA SHALL INCLUDE THE BLOWS PER INCH AND THE NUMBER OF 1-IN. INTERVALS AT WHICH PILE INSTALLATION MAY BE TERMINATED. THE COST OF PERFORMING THE WAVE EQUATION ANALYSIS WILL BE CONSIDERED INCIDENTAL TO ITEM NO. 501.92, PILE DRIVING EQUIPMENT MOBILIZATION.

8. THE CONTRACTOR SHALL PERFORM 4 DYNAMIC LOAD TESTS, ONE AT EACH SUBSTRUCTURE LOCATION, TO CONFIRM THE NOMINAL DRIVING RESISTANCES HAVE BEEN MET. THE DYNAMIC TESTS SHALL BE PERFORMED ON THE FIRST PRODUCTION PILE DRIVEN AT EACH SUBSTRUCTURE. MINIMUM 24 HOUR PILE RESTRIKES SHALL BE CONDUCTED ON ALL TEST PILES IN ORDER TO ENSURE THE REQUIRED NOMINAL RESISTANCE HAS BEEN ACHIEVED AND VERIFY PILE RELAXATION HAS NOT OCCURRED. THE CONTRACTOR MAY DRIVE PRODUCTION PILES TO THE PRELIMINARY DRIVING CRITERIA, HOWEVER PILE CUT-OFF WILL NOT BE PERMITTED UNTIL COMPLETION OF RESTRIKE TESTING AND ESTABLISHMENT OF FINAL DRIVING CRITERIA.

Date:9/21/2018

Filename: 093_Foundation Plan.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	TJP	08\18	Checked	HJW	08\18
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THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

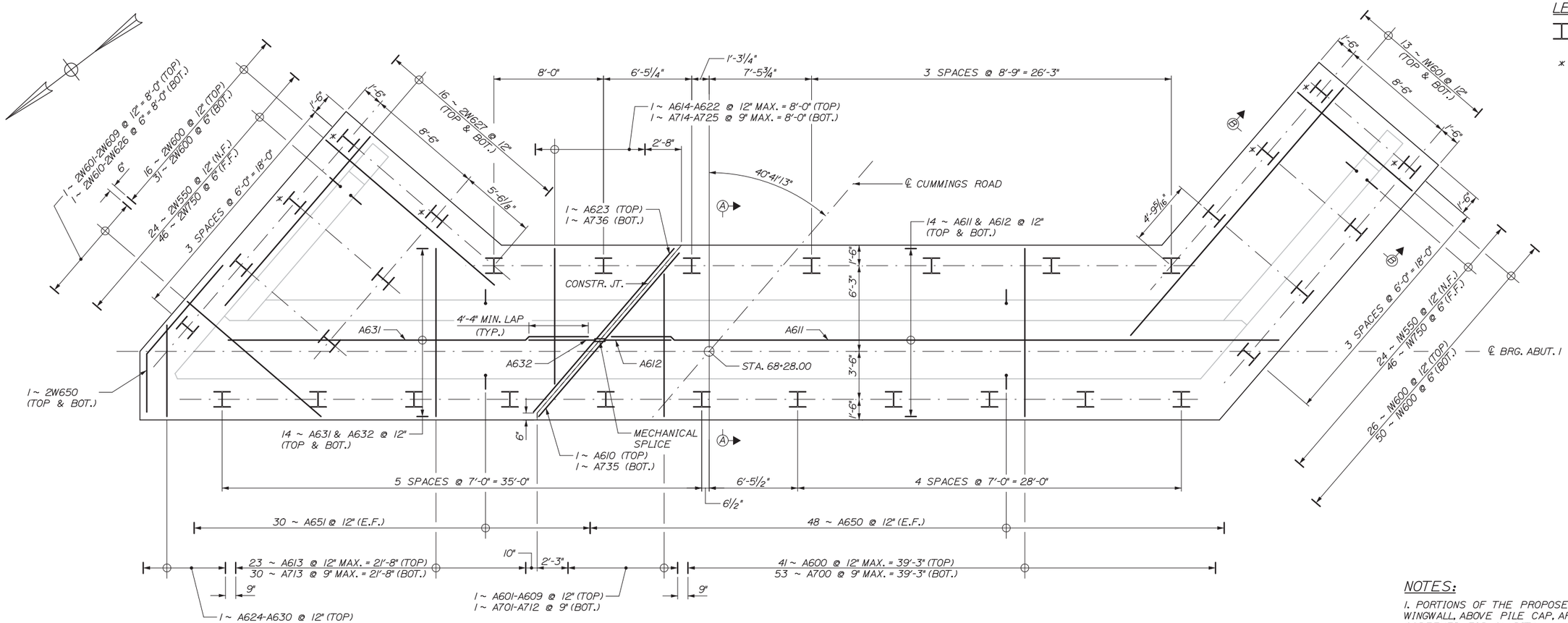
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

FOUNDATION PLAN

SHEET NUMBER: S-18

CONTRACT:2018.19

Date:9/21/2018



REINFORCEMENT AND PILE LAYOUT PLAN

1/4" = 1'-0"

LEGEND

= PLUMB PILE

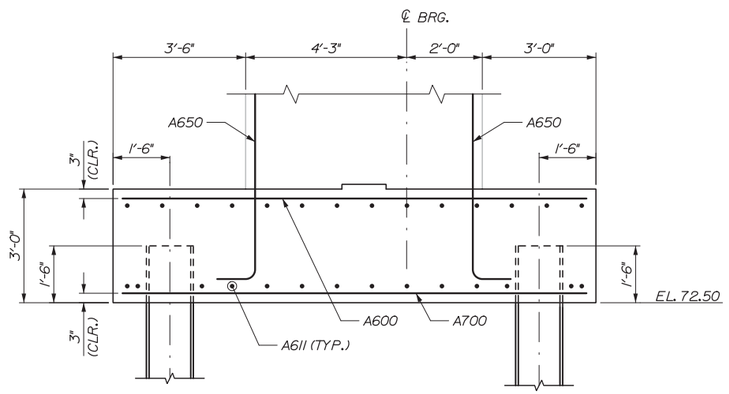
* = PILE ANCHORAGE NEEDED (SEE PILE ANCHORAGE DETAIL)

NOTES:

1. PORTIONS OF THE PROPOSED ABUTMENT AND WINGWALL, ABOVE PILE CAP, ARE SHOWN SCREENED FOR CLARITY.

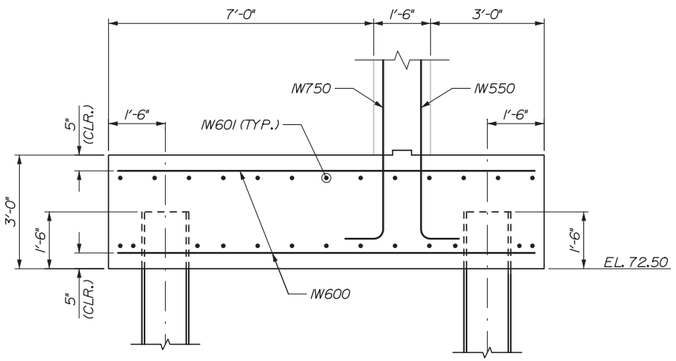
2. WINGWALL BARS WITH A PREFIX OF 1W OR 2W SHALL MAINTAIN 5" CLEAR COVER FROM THE TOP AND BOTTOM OF THE PILE CAP.

3. BARS MAY BE ADJUSTED TO AVOID CONFLICTS WITH PILES, AS APPROVED BY THE RESIDENT.



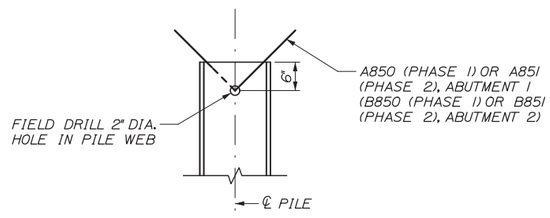
SECTION A-A

1/2" = 1'-0"



SECTION B-B

1/2" = 1'-0"



PILE ANCHORAGE DETAIL

3/4" = 1'-0"

Filename: 094_Abutment 1 Foundation.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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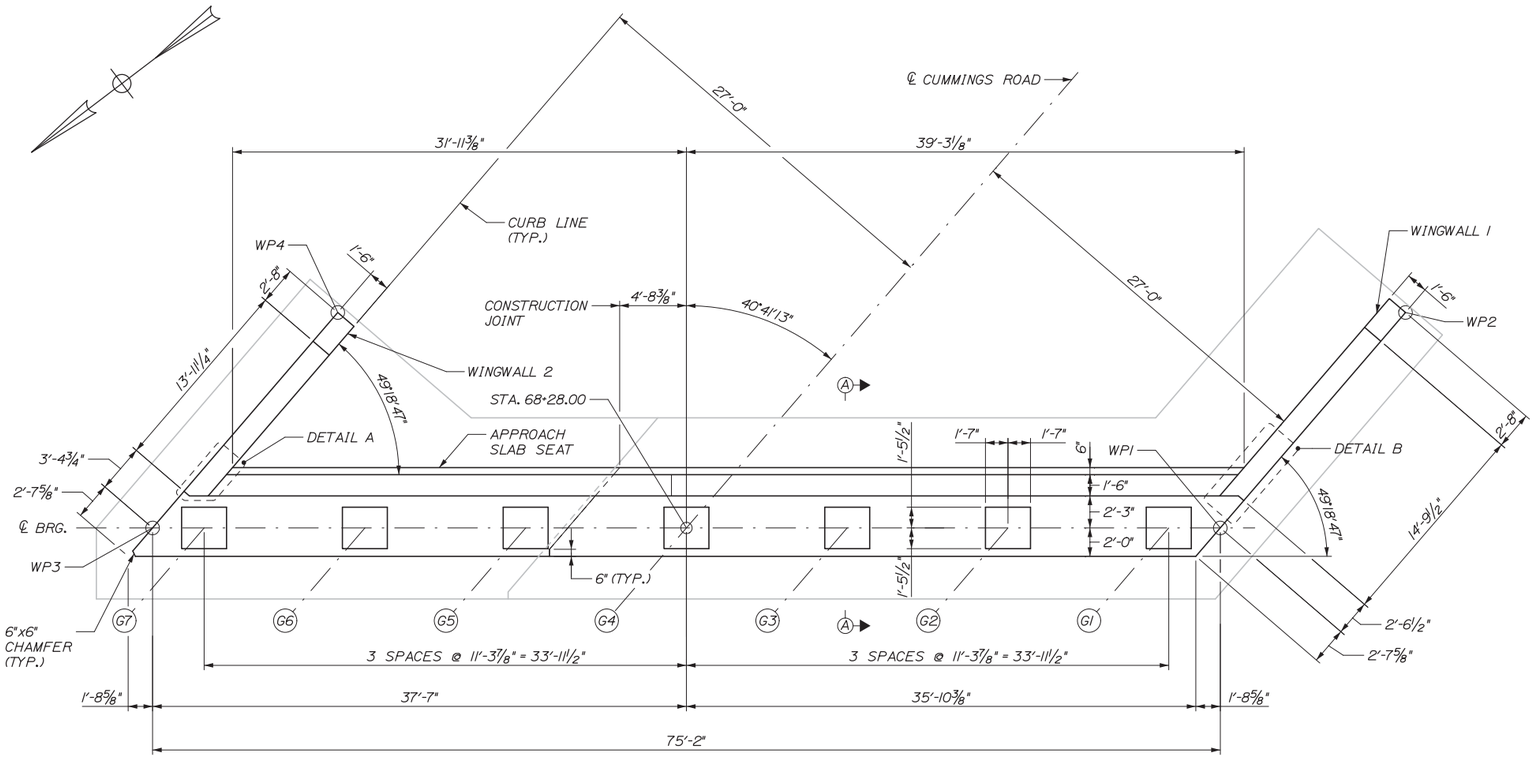
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 1 FOUNDATION

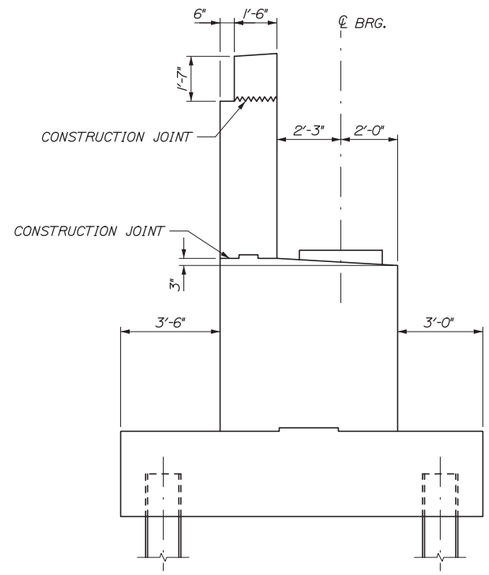
SHEET NUMBER: S-19

CONTRACT:2018.19



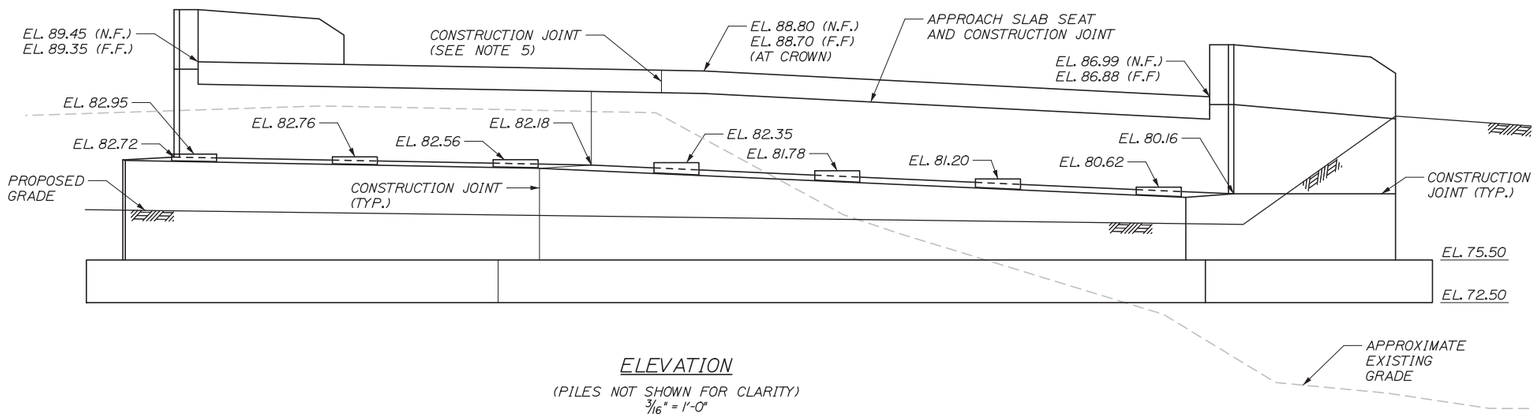
PLAN

(PILES NOT SHOWN FOR CLARITY)
(PILE CAP SCREENED FOR CLARITY)
3/16" = 1'-0"



SECTION A-A

3/8" = 1'-0"



ELEVATION

(PILES NOT SHOWN FOR CLARITY)
3/16" = 1'-0"

TABLE OF WORKING POINTS		
WORK POINT	STATION	OFFSET
WP1	68+03.50	28.50L
WP2	67+83.50	28.50L
WP3	68+52.50	28.50R
WP4	68+32.50	28.50R

ABUTMENT NOTES:

1. SEE S-23 FOR DETAILS A AND B.
2. SEE S-26 FOR WINGWALL ELEVATIONS, SECTIONS, AND DETAILS.
3. ALL EXPOSED ABUTMENT SURFACES SHALL BE COATED WITH CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES, AFTER CONSTRUCTION IS COMPLETED AND CONCRETE HAS CURED.
4. ABUTMENT REINFORCING STEEL SHALL HAVE 2 INCHES MINIMUM COVER UNLESS OTHERWISE NOTED.
5. THE LOCATION OF THE BACKWALL HEADER CONSTRUCTION JOINT SHALL BE COORDINATED WITH THE EXPANSION JOINT FIELD SPLICE. SEE S-46 - S-48 FOR EXPANSION JOINT DETAILS.
6. PLACE 4 IN. DIAMETER DRAINS IN BREASTWALL AND WINGS AT 10 FT. MAXIMUM SPACING. EXACT LOCATION TO BE DETERMINED BY THE RESIDENT IN THE FIELD.

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 1 PLAN AND ELEVATION

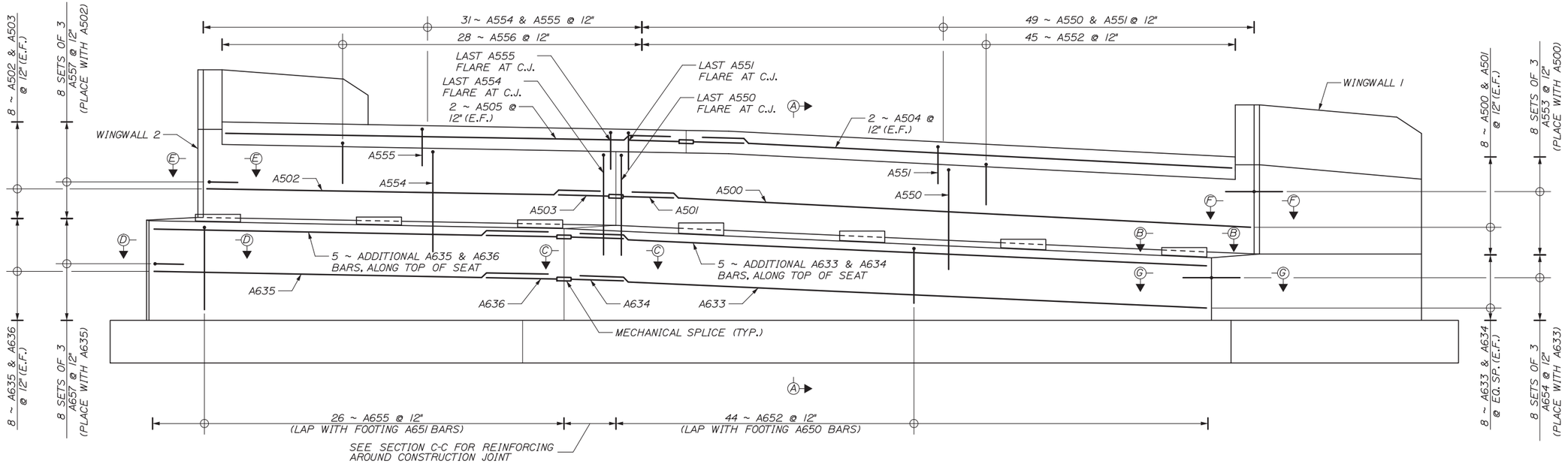
SHEET NUMBER: S-20

CONTRACT:2018.19

Date:9/21/2018

Filename: 095_Abutment 1 Plan and Elevation.dgn

Date:9/21/2018

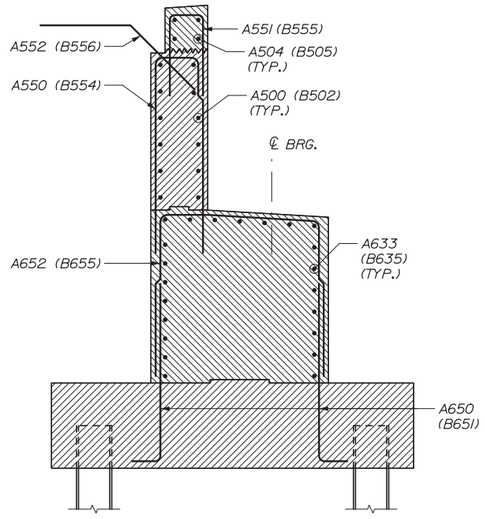


ABUTMENT 1 ELEVATION

(PILES, FOOTING REINFORCING, AND WINGWALL REINFORCING NOT SHOWN FOR CLARITY)
1/4" = 1'-0"

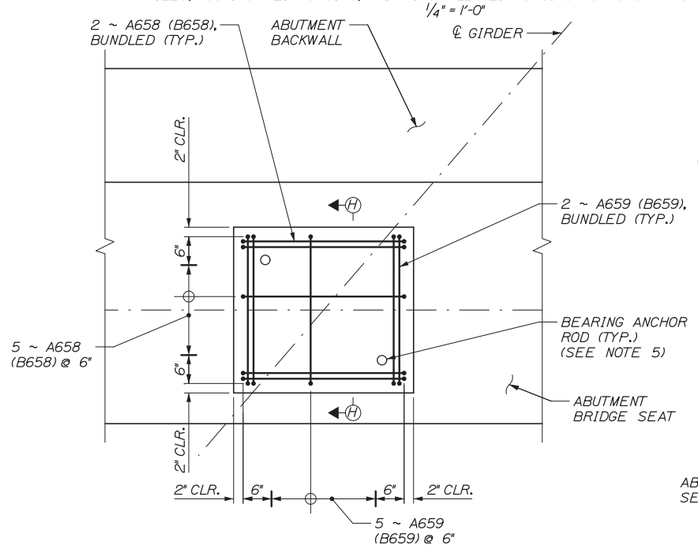
NOTES:

1. SEE S-24 FOR SECTIONS D-D, E-E, F-F, AND G-G.
2. FOR PILE CAP REINFORCEMENT, SEE S-19.
3. FOR WINGWALL REINFORCEMENT, SEE S-26.
4. MINIMUM LAPS SHALL BE:
   #5 = 2'-3" (VERTICAL)
   #5 = 2'-11" (HORIZONTAL)
   #6 = 3'-4" (VERTICAL)
   #6 = 4'-4" (HORIZONTAL)
5. REINFORCEMENT SHALL BE SHIFTED TO AVOID BEARING ANCHORS.



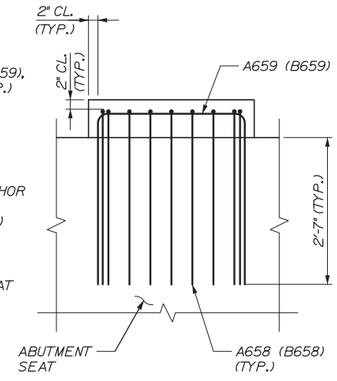
SECTION A-A

(FOOTING REINFORCING NOT SHOWN FOR CLARITY)
(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/8" = 1'-0"



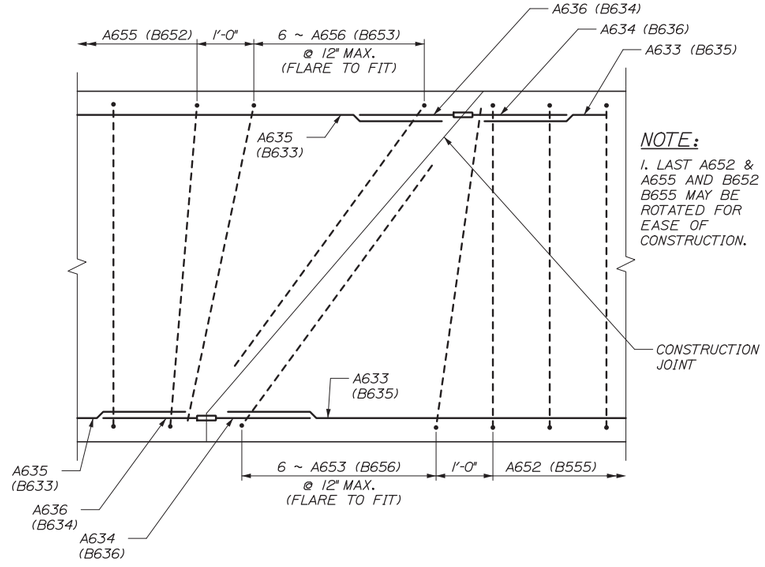
SECTION B-B

(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"



SECTION H-H

3/4" = 1'-0"



SECTION C-C

(BACKWALL REINFORCING NOT SHOWN FOR CLARITY)
(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"

Filename: 096_Abutment 1 Reinforcement.dgn

Scale:	Designed by: HNTB

No.	Revision	By	Date

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	By	Date		By	Date
Designed	TJP	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

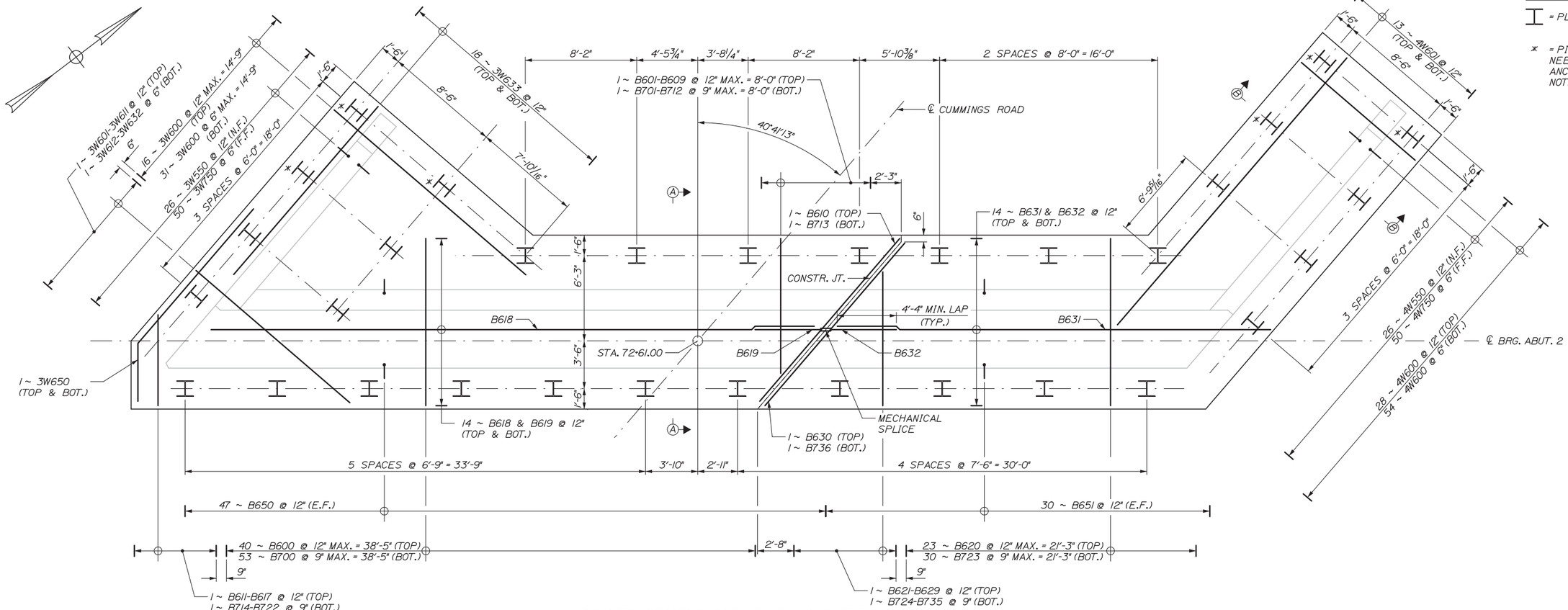
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 1 REINFORCEMENT

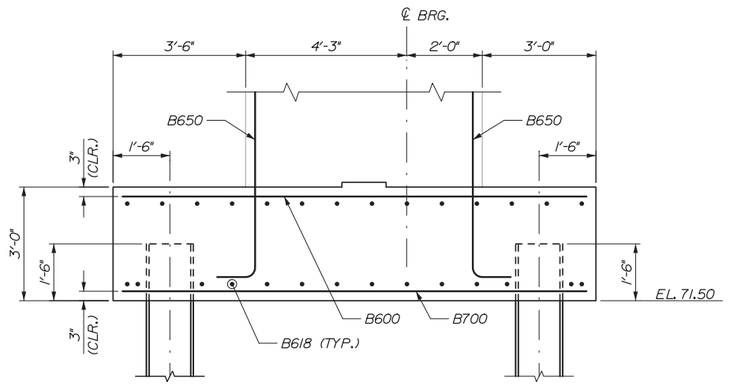
SHEET NUMBER: S-21

CONTRACT:2018.19



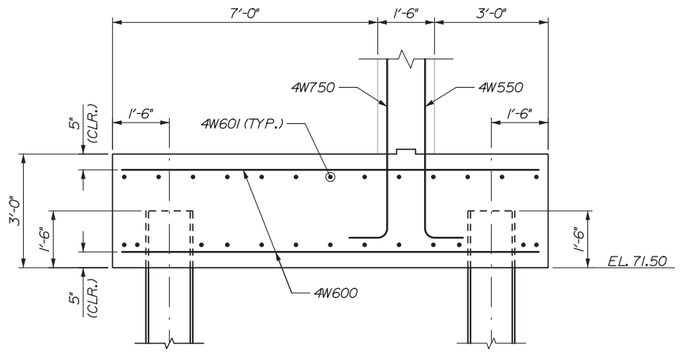
REINFORCEMENT AND PILE LAYOUT PLAN

1/4" = 1'-0"



SECTION A-A

1/2" = 1'-0"



SECTION B-B

1/2" = 1'-0"

NOTE:

1. PORTIONS OF THE PROPOSED ABUTMENT AND WINGWALL, ABOVE THE PILE CAP, ARE SHOWN SCREENED FOR CLARITY.

2. SEE S-19 FOR PILE ANCHORAGE DETAIL.

3. WINGWALL BARS WITH A PREFIX OF 3W OR 4W SHALL MAINTAIN 5" CLEAR COVER FROM THE TOP AND BOTTOM OF THE PILE CAP.

4. BARS MAY BE ADJUSTED TO AVOID CONFLICTS WITH PILES, AS APPROVED BY THE RESIDENT.

Date:9/21/2018

Filename: 097_Abutment 2 Foundation.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	TJP	08\18	Checked	HJW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

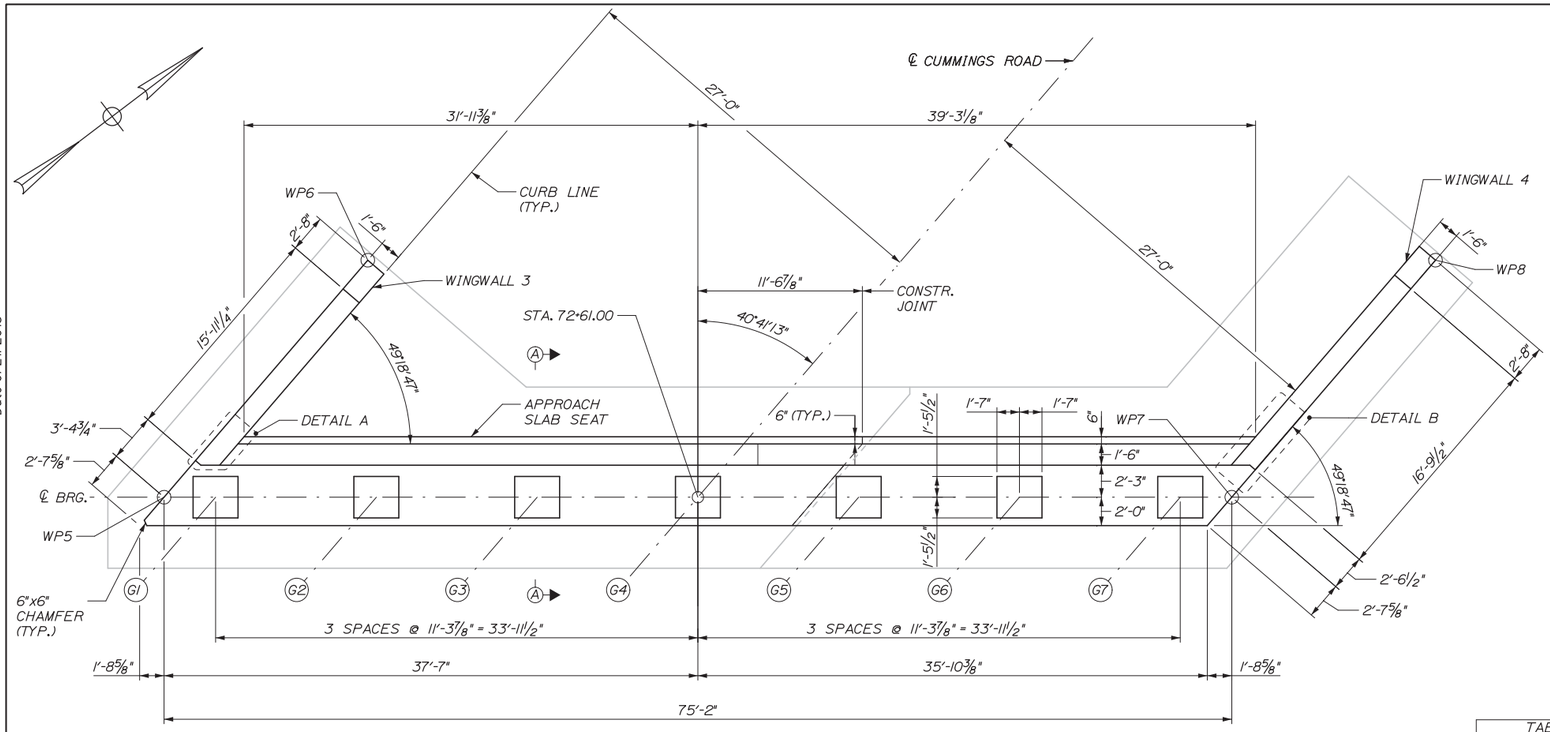
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 2 FOUNDATION

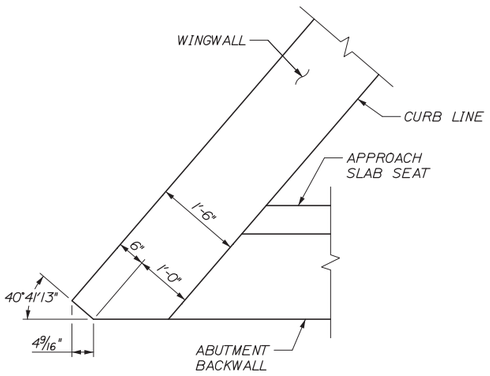
SHEET NUMBER: S-22

CONTRACT:2018.19



PLAN

(PILES NOT SHOWN FOR CLARITY)
(PILE CAP SCREENED FOR CLARITY)
3/16" = 1'-0"



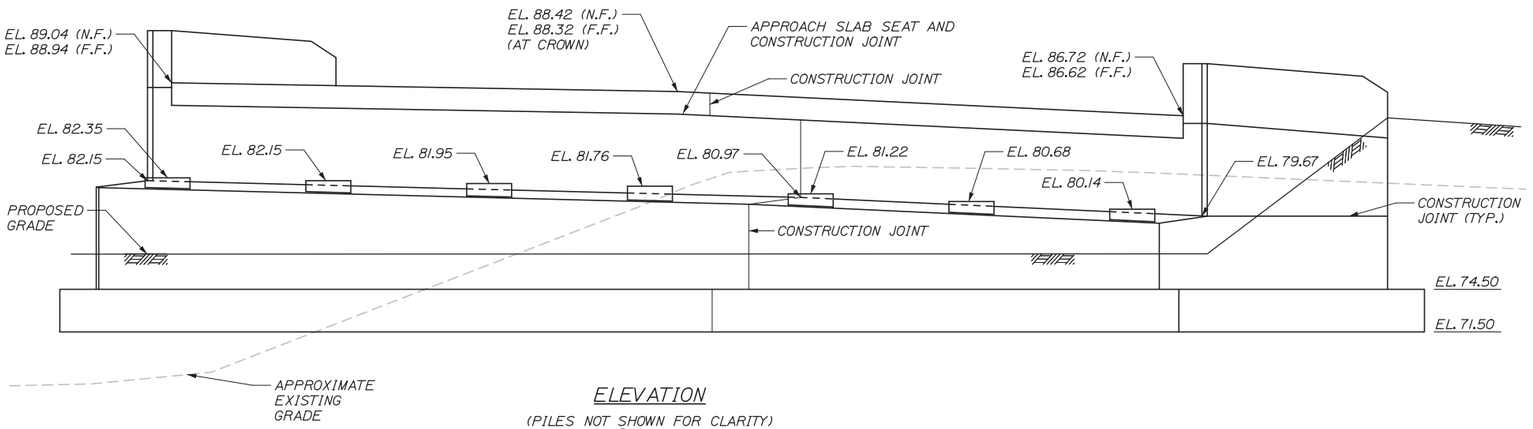
DETAIL A

¾" = 1'-0"

TABLE OF WORKING POINTS		
WORK POINT	STATION	OFFSET
WP5	72+36.50	28.50L
WP6	72+58.50	28.50L
WP7	72+85.50	28.50R
WP8	73+07.55	28.49R

DETAIL B

¾" = 1'-0"



ELEVATION

(PILES NOT SHOWN FOR CLARITY)
3/16" = 1'-0"

NOTE:

1. SEE S-20 FOR SECTION A-A.

2. SEE S-26 FOR WINGWALL ELEVATIONS, SECTION, AND DETAILS.

Date:9/21/2018

Filename: 098_Abutment 2 Plan and Elevation.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
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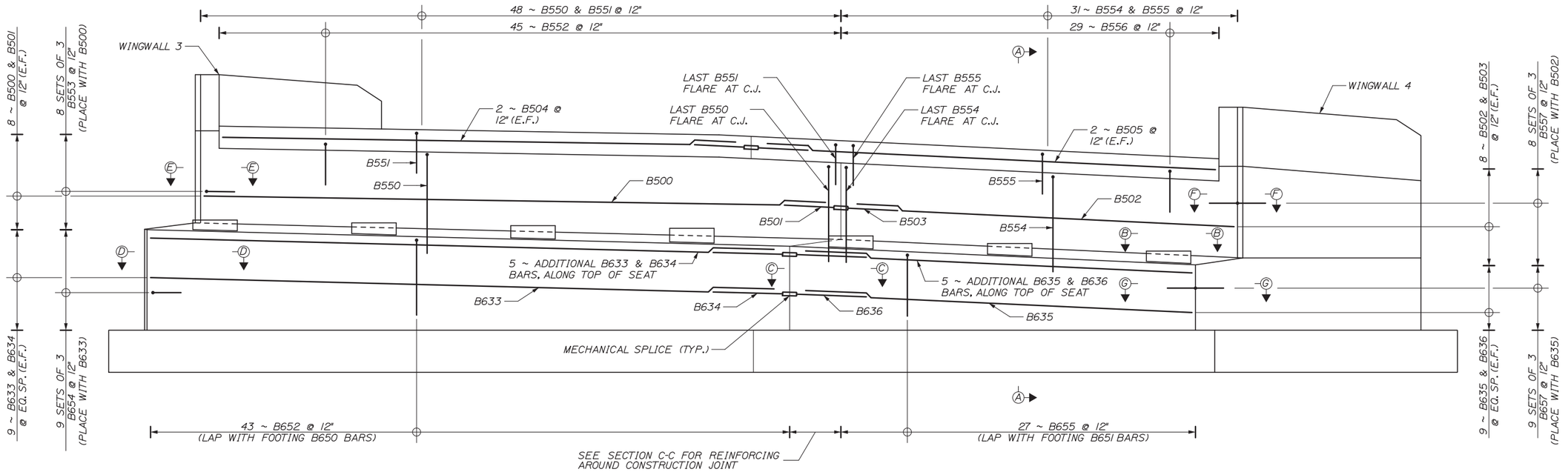
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 2 PLAN AND ELEVATION

SHEET NUMBER: S-23

CONTRACT:2018.19

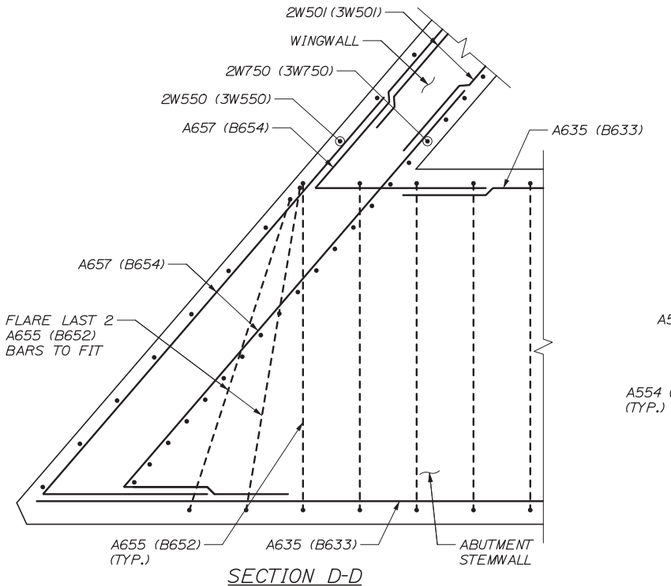


ABUTMENT 2 ELEVATION

(PILES, FOOTING REINFORCING, AND WINGWALL REINFORCING NOT SHOWN FOR CLARITY)
1/4" = 1'-0"

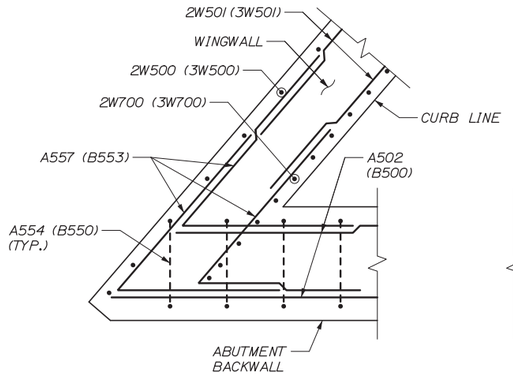
NOTES:

1. SEE S-21 FOR SECTIONS A-A, B-B, AND C-C.
2. FOR PILE CAP REINFORCEMENT S-22.
3. FOR WINGWALL REINFORCEMENT, SEE S-26.
4. MIN LAPS SHALL BE:
   - #5 = 2'-3" (VERTICAL)
   - #5 = 2'-11" (HORIZONTAL)
   - #6 = 3'-4" (VERTICAL)
   - #6 = 4'-4" (HORIZONTAL)
5. REINFORCING STEEL SHALL BE SHIFTED TO AVOID BEARING ANCHORS.



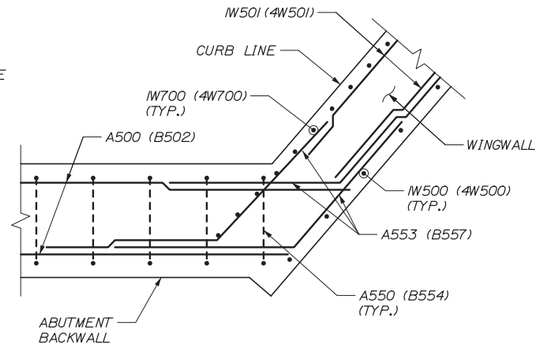
SECTION D-D

(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"



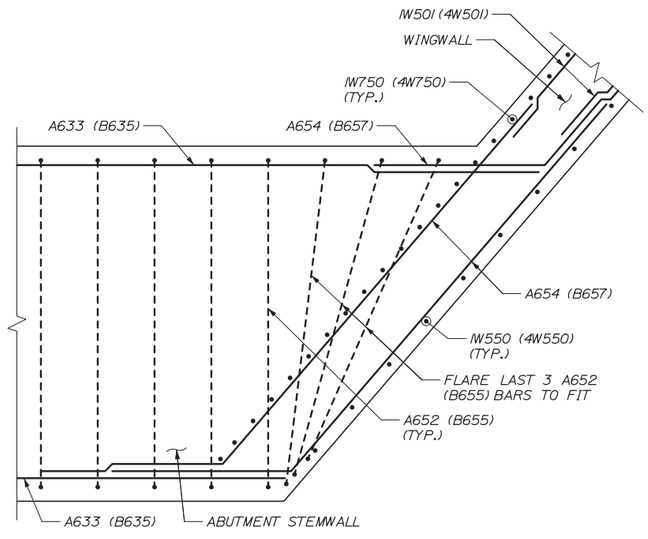
SECTION E-E

(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"



SECTION F-F

(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"



SECTION G-G

(ABUTMENT 1 CALLOUTS SHOWN, ABUTMENT 2 CALLOUTS SHOWN IN PARENTHESES)
3/4" = 1'-0"

Date:9/21/2018

Filename: 099_Abutment 2 Reinforcement.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

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Designed	TJP	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

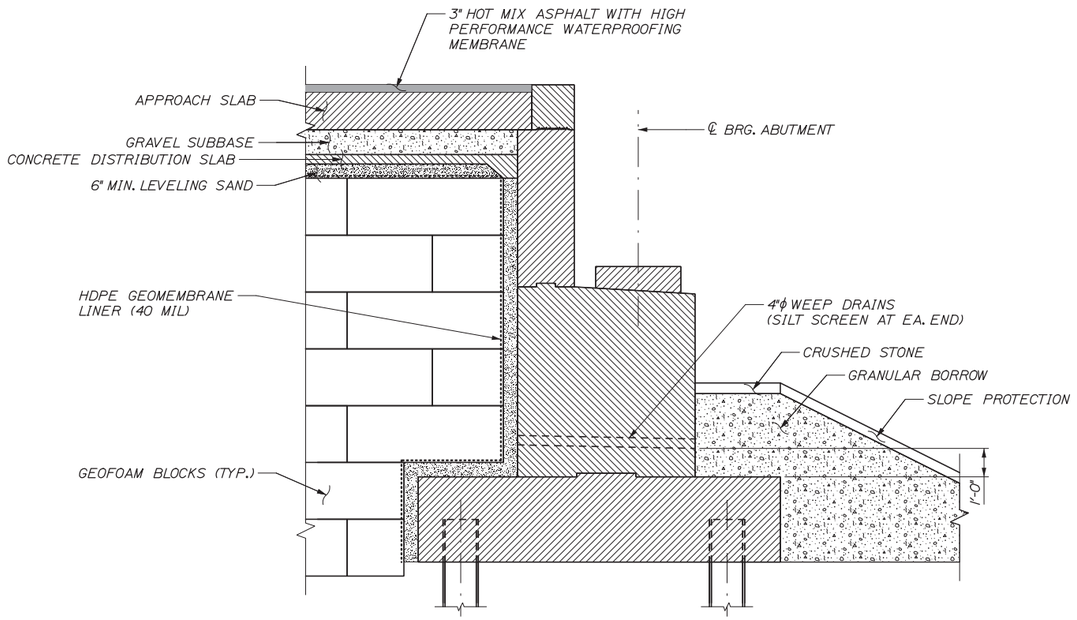
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT 2 REINFORCEMENT

SHEET NUMBER: S-24

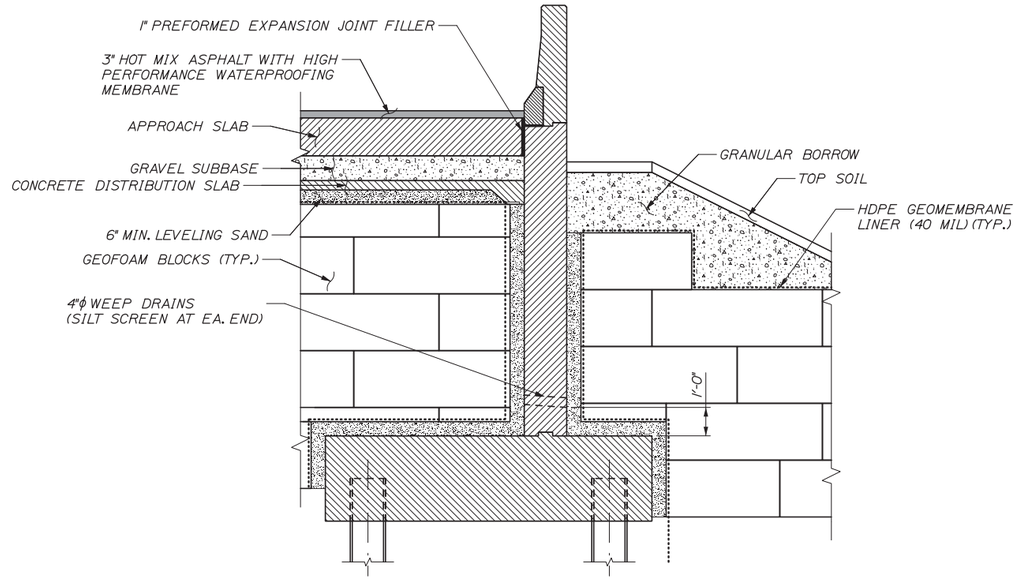
CONTRACT:2018.19

Date:9/21/2018



ABUTMENT SECTION

3/8" = 1'-0"



WINGWALL SECTION

3/8" = 1'-0"

NOTES:

1. GEOFOAM SHOWN SCHEMATICALLY, SEE GEOFOAM LAYOUT PLANS FOR ACTUAL LIMITS.

Filename: 100_Abutment and Wingwall Details.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
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				Designed	TJP	08\18	Checked	JKO	08\18
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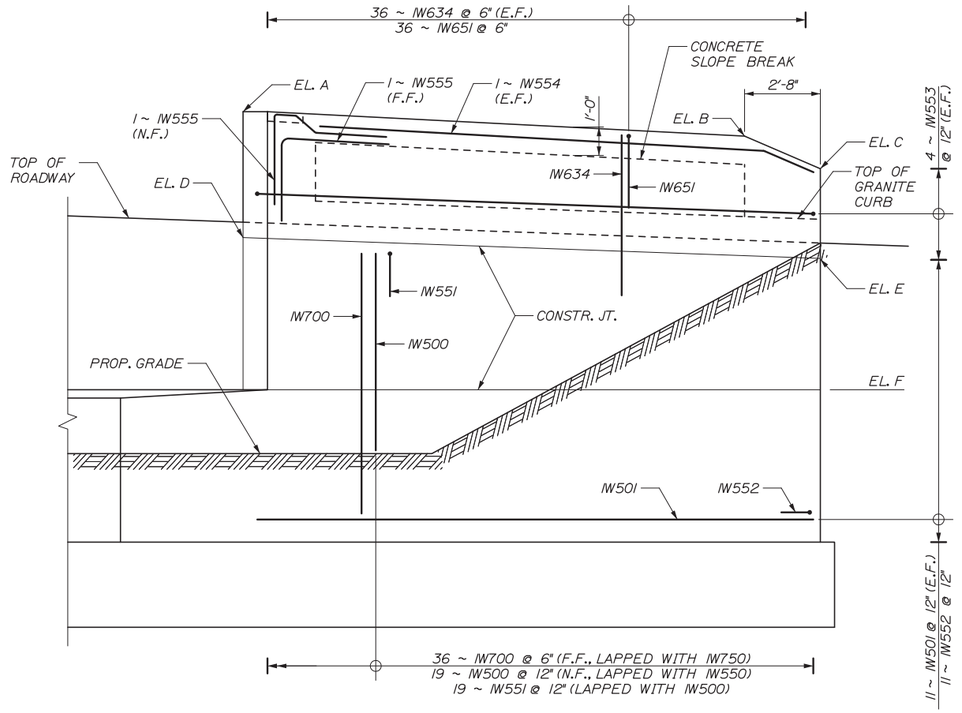
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

ABUTMENT AND WINGWALL DETAILS

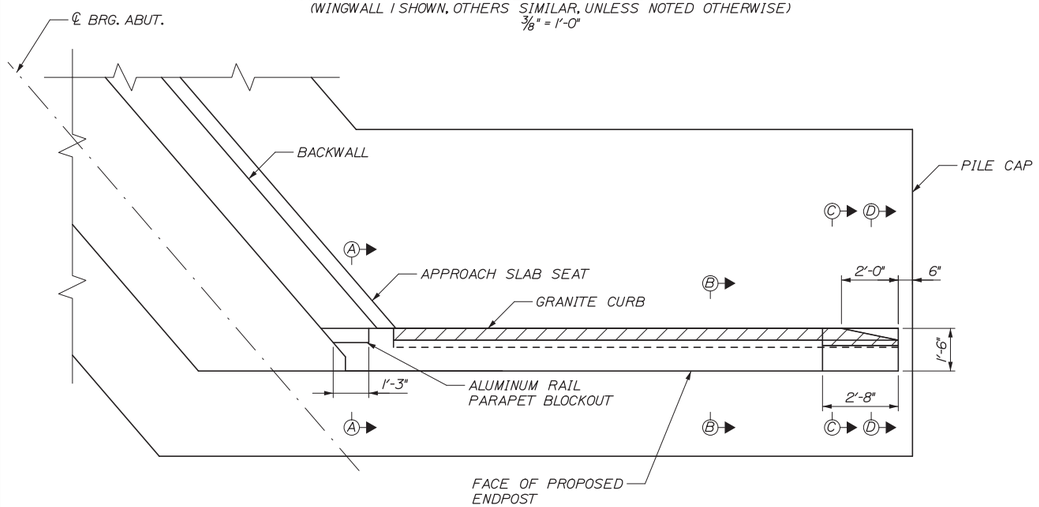
SHEET NUMBER: S-25

CONTRACT:2018.19



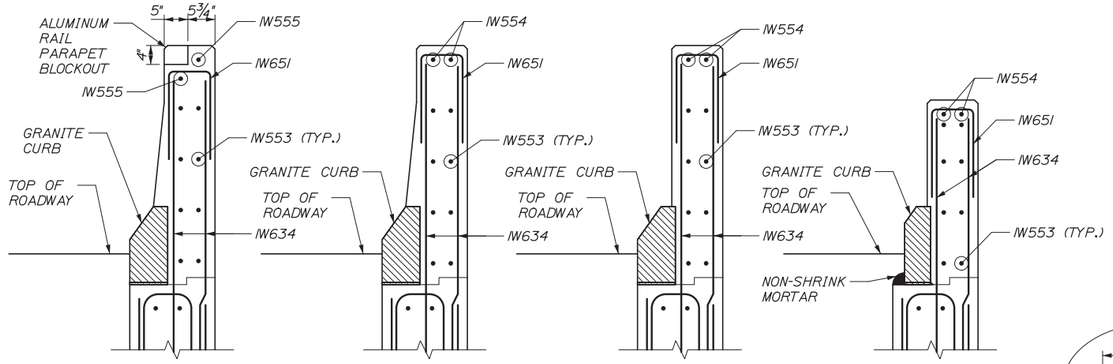
ELEVATION OF WINGWALL

(PILES NOT SHOWN FOR CLARITY)
(FOUNDATION AND ABUTMENT REINFORCEMENT NOT SHOWN FOR CLARITY)
(WINGWALL 1 SHOWN, OTHERS SIMILAR, UNLESS NOTED OTHERWISE)
3/8" = 1'-0"



WINGWALL PLAN

3/8" = 1'-0"



SECTION A-A

(WINGWALL 1 SHOWN, OTHERS SIMILAR)
3/4" = 1'-0"

SECTION B-B

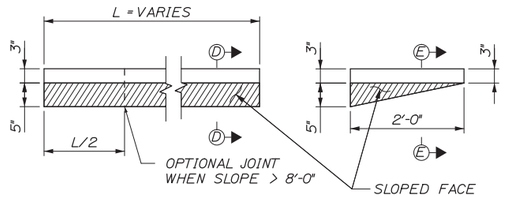
(WINGWALL 1 SHOWN, OTHERS SIMILAR)
3/4" = 1'-0"

SECTION C-C

(WINGWALL 1 SHOWN, OTHERS SIMILAR)
3/4" = 1'-0"

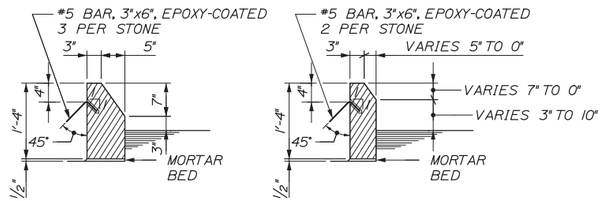
SECTION D-D

(WINGWALL 1 SHOWN, OTHERS SIMILAR)
3/4" = 1'-0"



PLAN

PLAN AT END OF ENDPOST



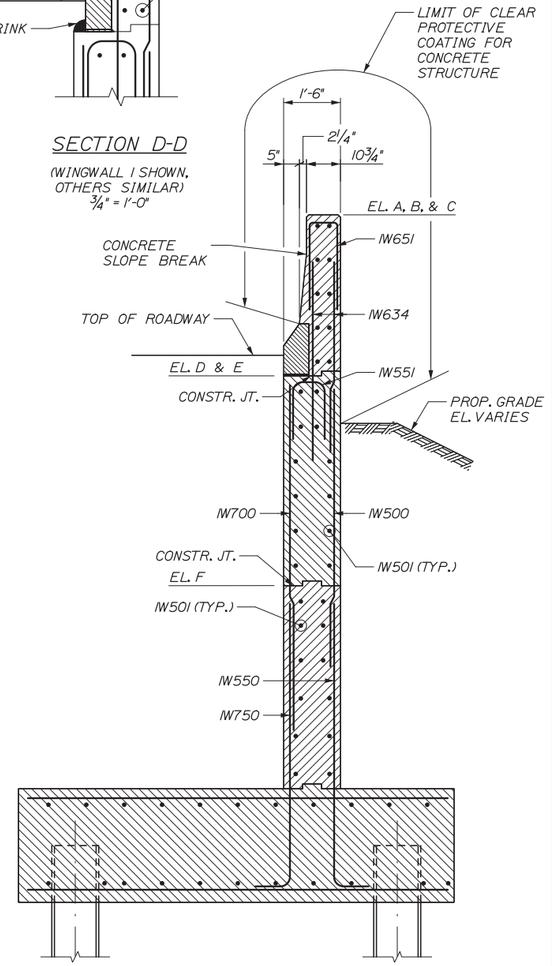
SECTION D-D

SECTION E-E

ENDPOST GRANITE CURB DETAILS

3/4" = 1'-0"

WINGWALL	ELEVATIONS					
	A	B	C	D	E	F
1	90.65	89.79	88.64	86.44	85.43	80.16
2	93.12	92.47	91.33	88.91	88.12	82.72
3	92.71	91.96	90.82	88.50	87.61	82.15
4	90.39	89.50	88.37	86.18	85.16	79.67



WINGWALL TYPICAL SECTION

(WINGWALL 1 SHOWN, OTHERS SIMILAR)
1/2" = 1'-0"

Date:9/21/2018

Filename: 101_Wingwall Details.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
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				Drawn	PEB	08\18	In Charge of	RAL	08\18

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THE GOLD STAR MEMORIAL HIGHWAY

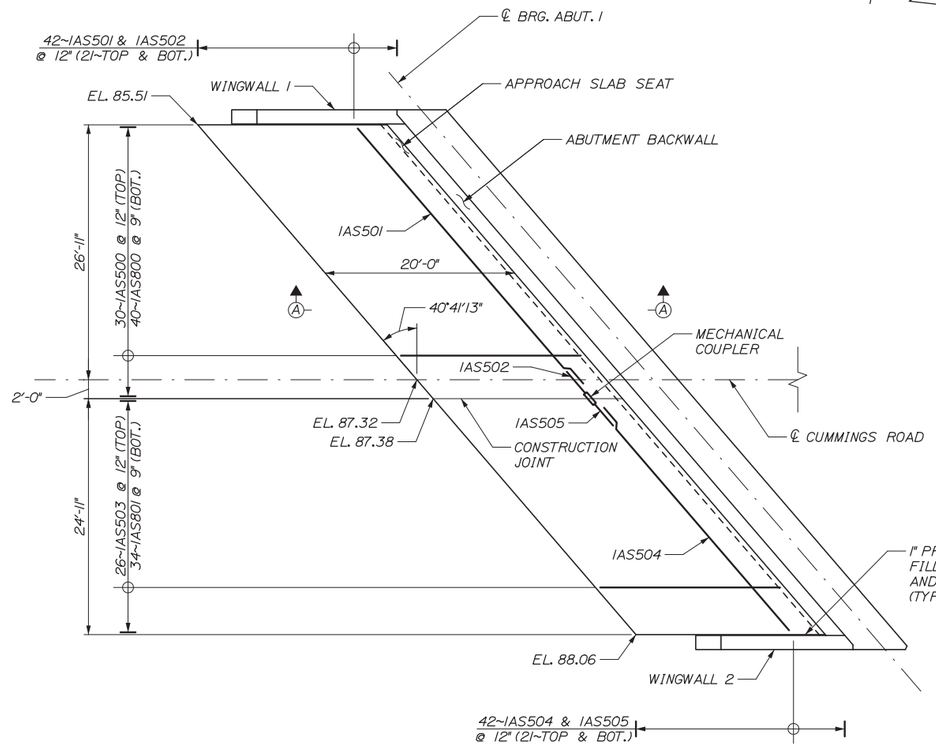
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

WINGWALL DETAILS

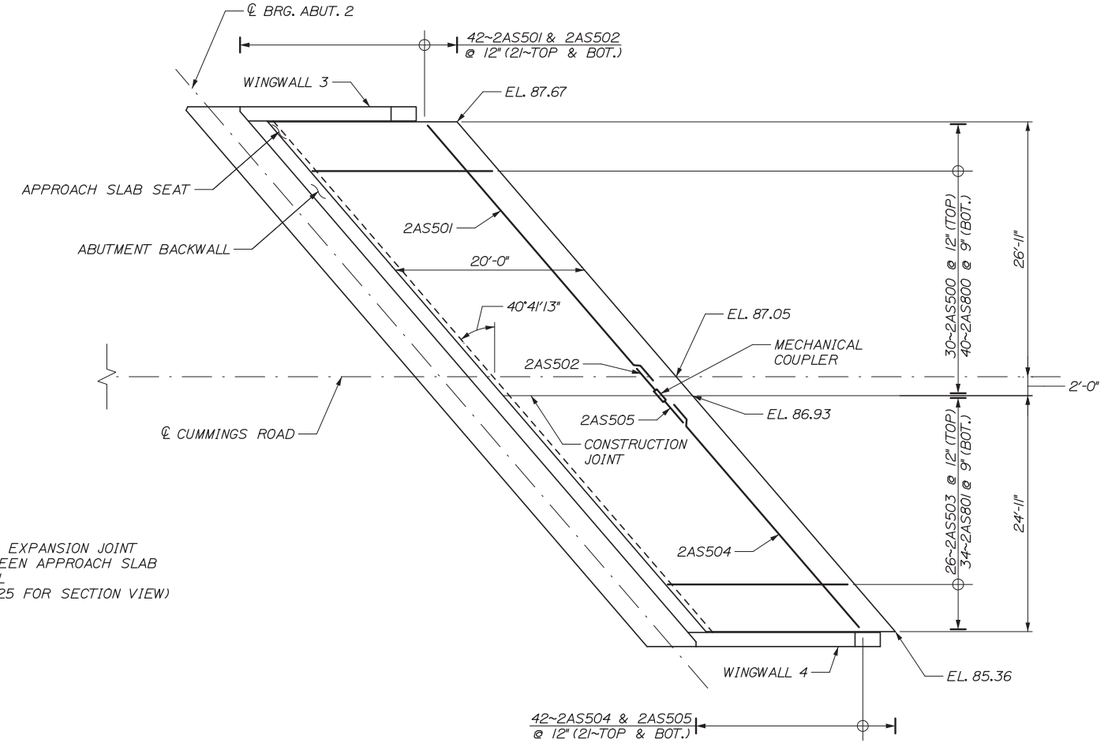
SHEET NUMBER: S-26

CONTRACT:2018.19



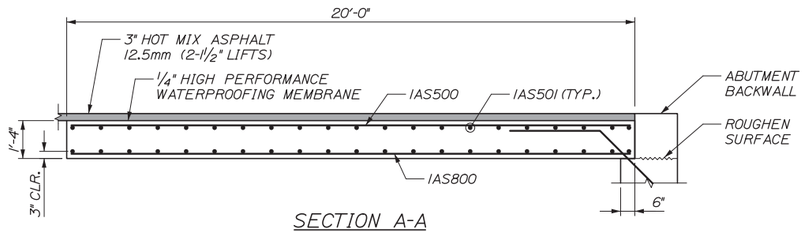
APPROACH SLAB PLAN - ABUTMENT 1

1/8" = 1'-0"



APPROACH SLAB PLAN - ABUTMENT 2

1/8" = 1'-0"



SECTION A-A

(APPROACH SLAB 1 SHOWN, APPROACH SLAB 2 SILMILAR)

3/8" = 1'-0"

NOTE:

ELEVATIONS ARE TO TOP OF APPROACH SLAB.

Date:9/21/2018

Filename: 102_Approach Slab Details.dgn

No.	Revision	By	Date

Scale:

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	TJP	08\18	Checked	HJW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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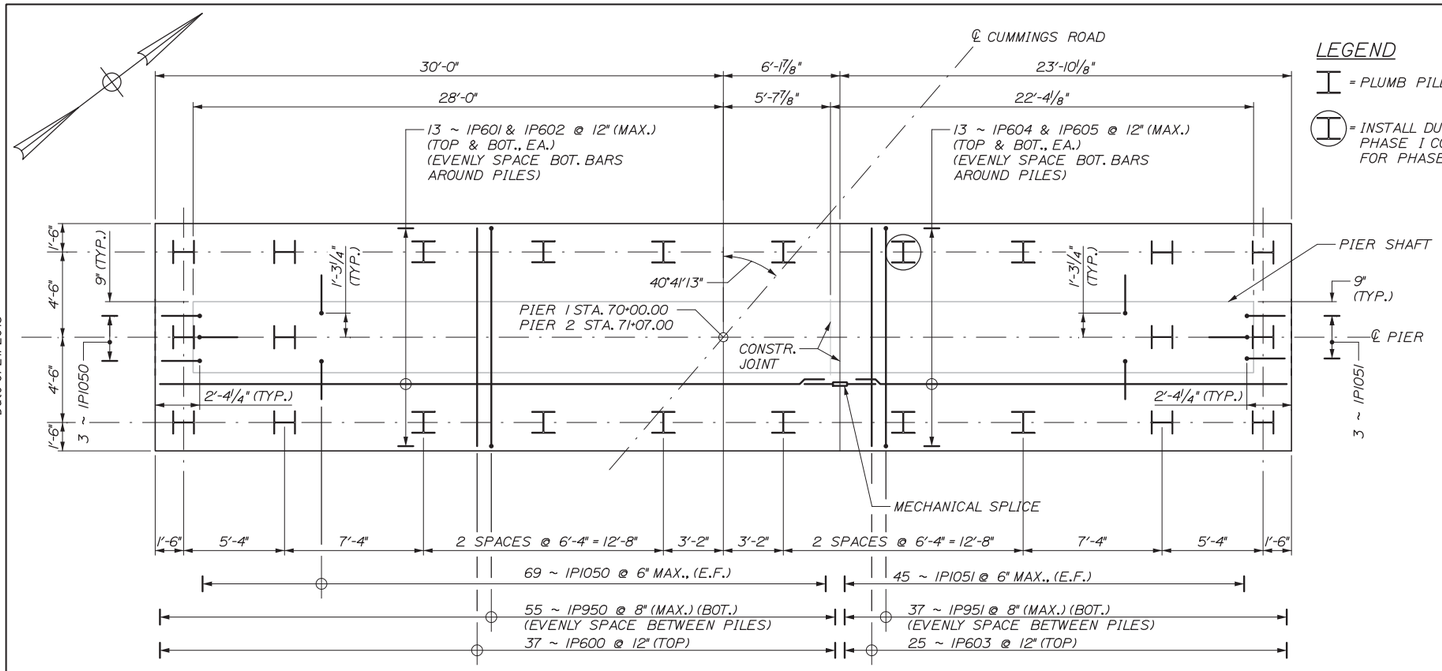
BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

APPROACH SLAB DETAILS

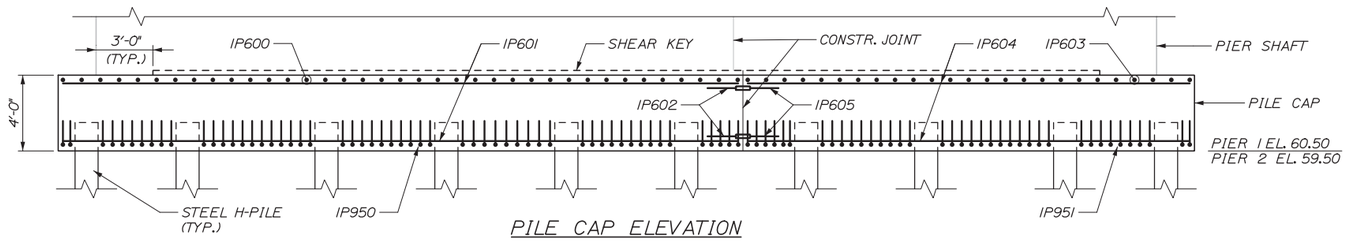
SHEET NUMBER: S-27

CONTRACT:2018.19



LAYOUT PLAN

(PIER SHAFT SCREENED FOR CLARITY)
(REINFORCEMENT SETS "A" & "B" NOT SHOWN FOR CLARITY)
1/4" = 1'-0"



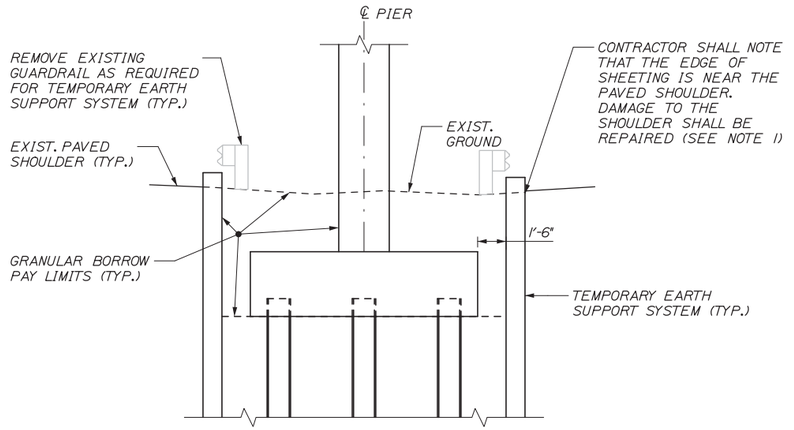
PILE CAP ELEVATION

(PIER SHAFT SCREENED FOR CLARITY)
(REINFORCEMENT SETS "A" & "B" NOT SHOWN FOR CLARITY)
1/4" = 1'-0"

LEGEND

= PLUMB PILE

= INSTALL DURING PHASE I CONSTRUCTION FOR PHASE II PILE CAP



TEMPORARY EARTH SUPPORT SYSTEM DETAIL

N.T.S.

TYPICAL SECTION

1/2" = 1'-0"

NOTES:

1. ON EACH SIDE OF PIER 1, THE CONTRACTOR SHALL SURVEY THE SOLID YELLOW LANE LINES OF THE MAINE TURNPIKE AT 10 FOOT INTERVALS EXTENDING 80 FEET EAST AND WEST OF THE CUMMINGS ROAD CENTERLINE, MEASURED ALONG THE TURNPIKE, PRIOR TO INSTALLATION OF THE TEMPORARY EARTH SUPPORT STRUCTURES. THE POINTS SHALL BE RE-SURVEYED AFTER PIER CONSTRUCTION IS COMPLETE AND THE TEMPORARY EARTH SUPPORT STRUCTURE IS REMOVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY SETTLEMENT OF THE NORTHBOUND AND SOUTHBOUND ROADWAY GREATER THAN 1/2-INCH RESULTING FROM MOVEMENT, INSTALLATION, OR REMOVAL OF THE TEMPORARY EARTH SUPPORT STRUCTURE TO ADEQUATELY SUPPORT THE TURNPIKE SUBBASE MATERIAL. SETTLEMENT WILL BE DETERMINED FROM THE PRE- AND POST-CONSTRUCTION SURVEY ELEVATIONS. ANY REPAIRS REQUIRED WILL BE COMPLETED TO THE SATISFACTION OF THE AUTHORITY AT NO ADDITIONAL COST TO THE AUTHORITY. SURVEY IS INCIDENTAL TO THE RELATED CONTRACT ITEMS.

2. SEE S-32 FOR REBAR SETS "A" AND "B" DETAILS.

3. PIER 1 BAR MARKS SHOWN; PIER 2 BAR MARKS SIMILAR.

4. PIER 1 TIES (IP550 & IP552) AND PIER 2 TIES (2P550 & 2P552) MAY BE OMITTED FROM SETS "A" & "B" WITHIN THE PILE CAP WHERE CONFLICT WITH PILES OCCUR.

Date:9/21/2018

Filename: 103_Pier Foundation.dgn

Scale:			
No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

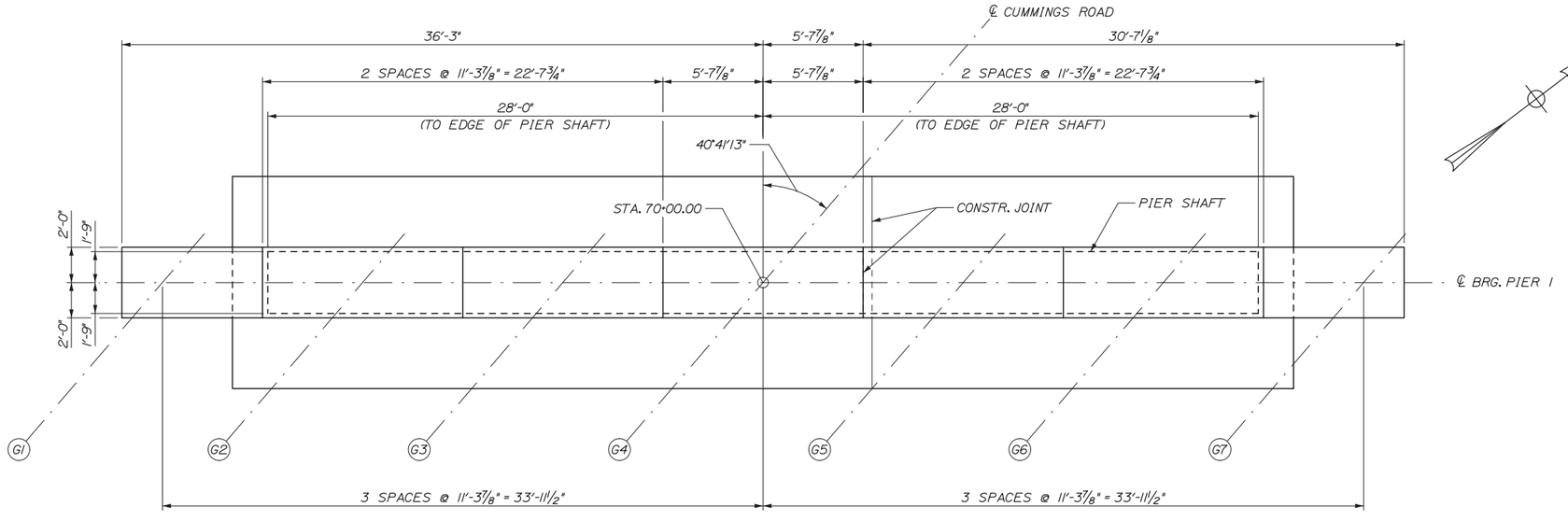
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PIER FOUNDATION

SHEET NUMBER: S-28

CONTRACT:2018.19



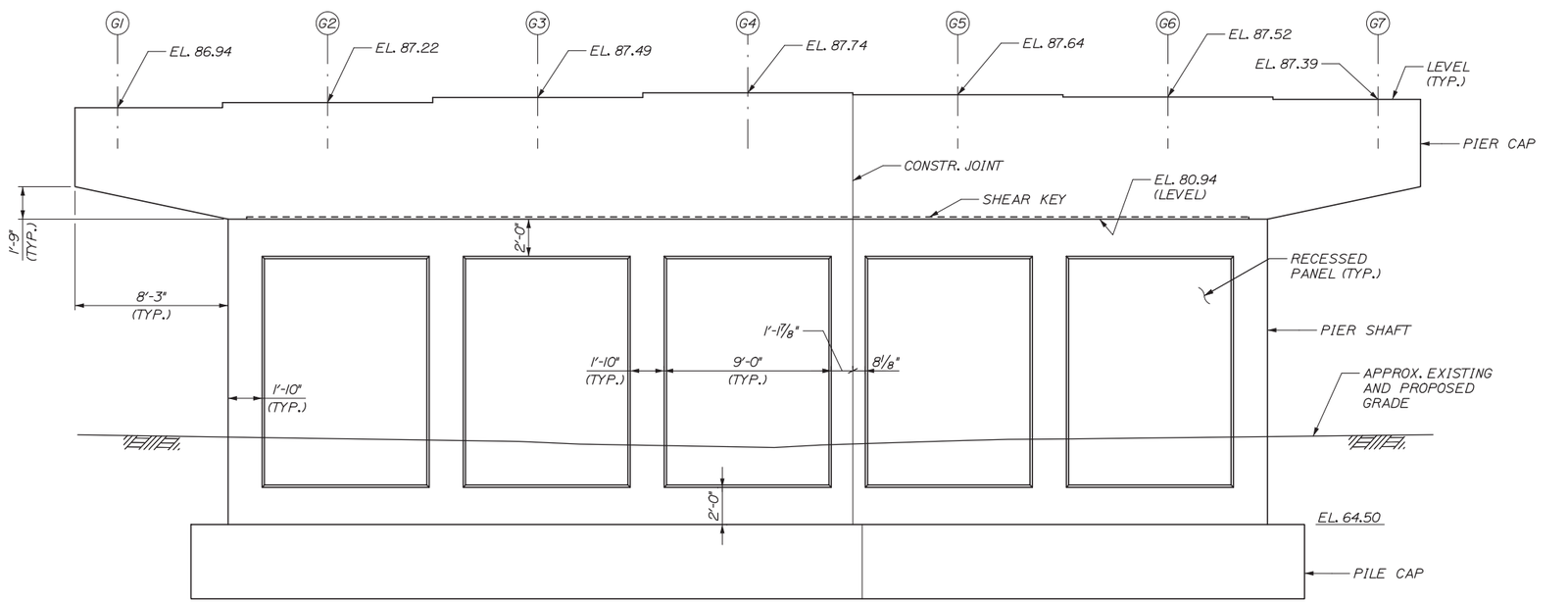
PLAN

1/4" = 1'-0"

PIER NOTES:

1. ALL EXPOSED PIER SURFACES SHALL BE COATED WITH CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES, AFTER CONSTRUCTION IS COMPLETED AND CONCRETE HAS CURED.

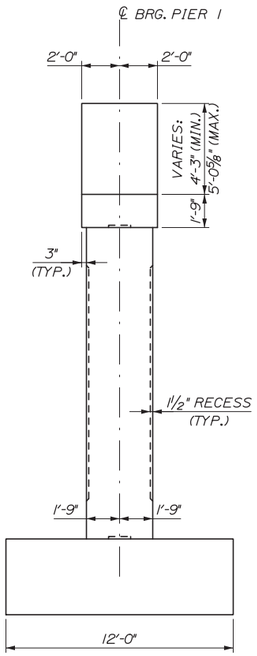
2. PIER REINFORCING STEEL SHALL HAVE 3 INCHES MINIMUM COVER UNLESS OTHERWISE NOTED. BOTTOM MAT OF REINFORCING STEEL WITHIN THE PILE CAPS SHALL HAVE 4 INCHES MINIMUM COVER.



ELEVATION

(PILES NOT SHOWN FOR CLARITY)

1/4" = 1'-0"



SIDE ELEVATION

(PILES NOT SHOWN FOR CLARITY)

1/4" = 1'-0"

Date:9/21/2018

Filename: 104_Pier 1 Plan and Elevation.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

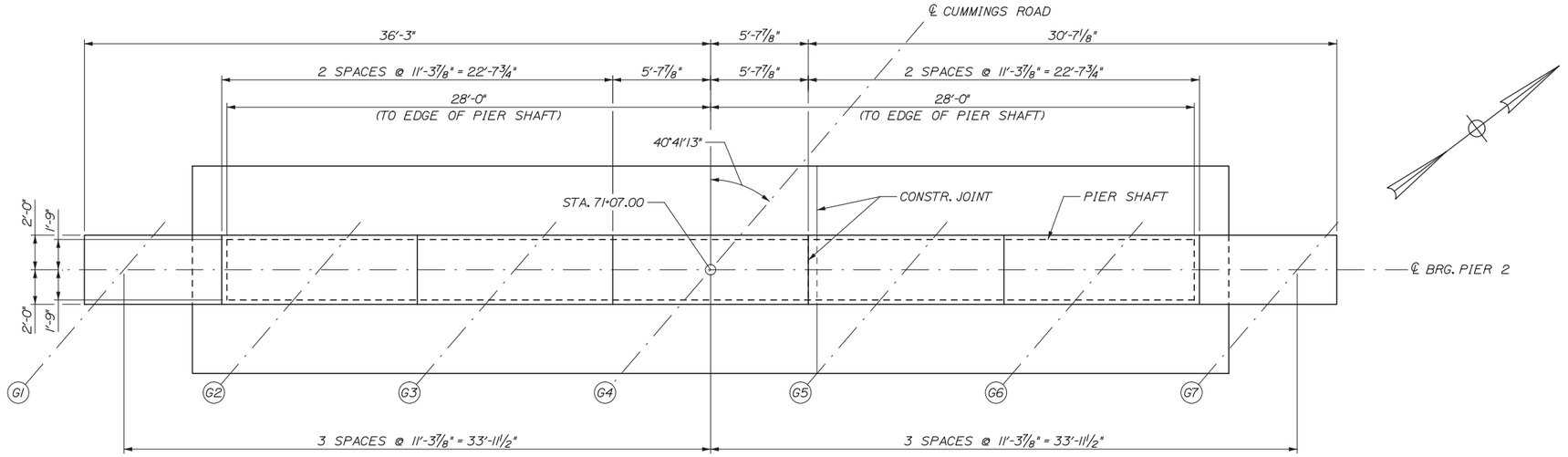
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

PIER 1 PLAN AND ELEVATION

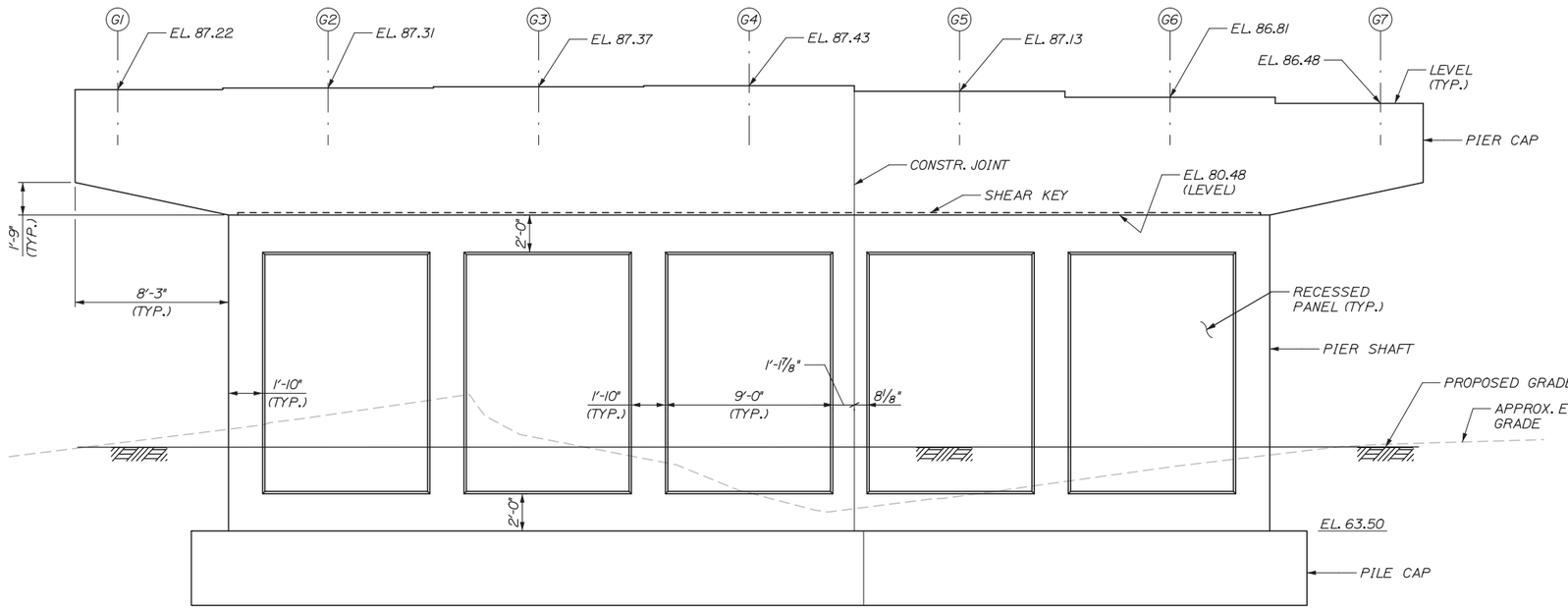
SHEET NUMBER: S-29

CONTRACT:2018.19



PLAN

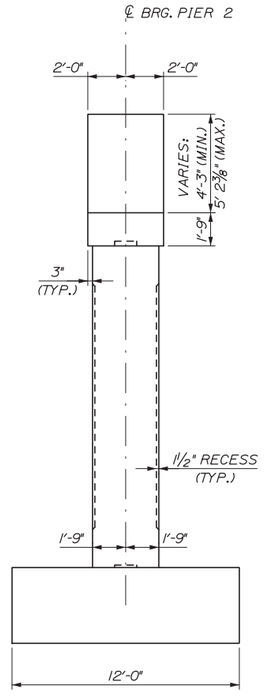
1/4" = 1'-0"



ELEVATION

(PILES NOT SHOWN FOR CLARITY)

1/4" = 1'-0"



SIDE ELEVATION

(PILES NOT SHOWN FOR CLARITY)

1/4" = 1'-0"

Date:9/21/2018

Filename: 105_Pier 2 Plan and Elevation.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JKO	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

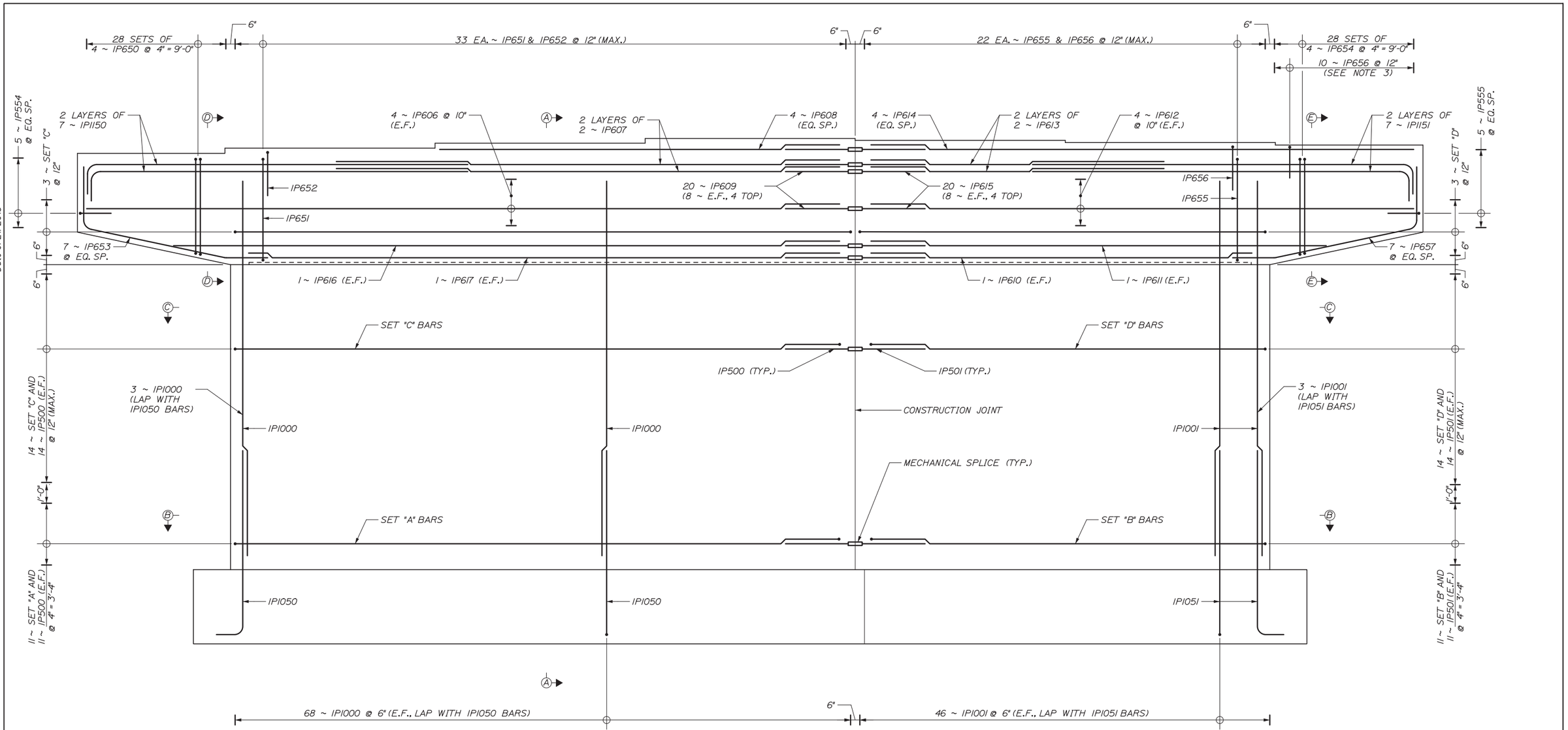
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

PIER 2

PLAN AND ELEVATION

SHEET NUMBER: S-30

CONTRACT:2018.19



NOTES:

1. SEE S-32 FOR SECTIONS A-A, B-B, C-C, D-D, AND E-E.
2. PIER 1 BAR MARKS SHOWN; PIER 2 BAR MARKS SIMILAR.
3. BARS IP656, SHOWN IN PIER 1 PIER CAP OVERHANG, ARE REQUIRED FOR PHASE II CONSTRUCTION. EQUIVALENT 2P656 BARS ARE REQUIRED IN OPPOSITE PIER CAP OVERHANG, DURING PHASE I CONSTRUCTION.

PIER REINFORCING ELEVATION

(RECESSED PANELS AND PILE CAP REINFORCMENT NOT SHOWN FOR CLARITY)
3/16" = 1'-0"

Date:9/21/2018

Filename: 106_Pier Reinforcement.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
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				Designed	JKO	08\18	Checked	TJP	08\18
				Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

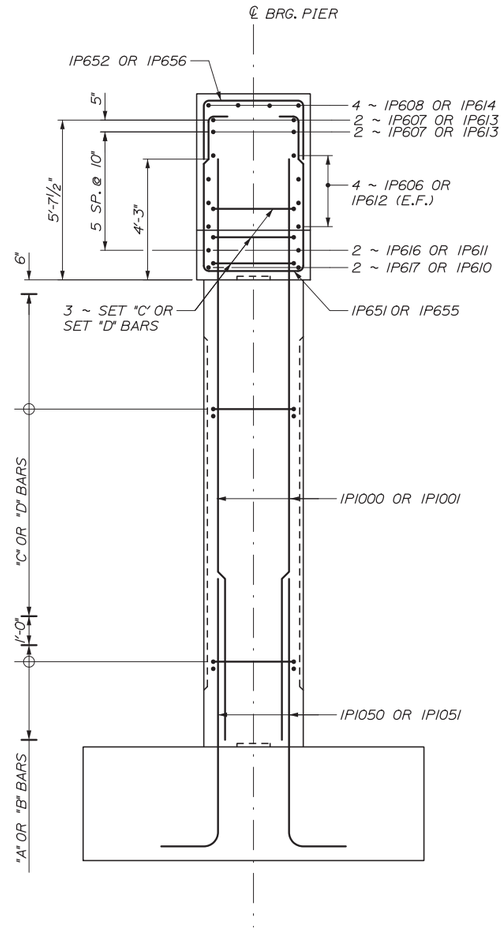
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

PIER REINFORCMENT

SHEET NUMBER: S-31

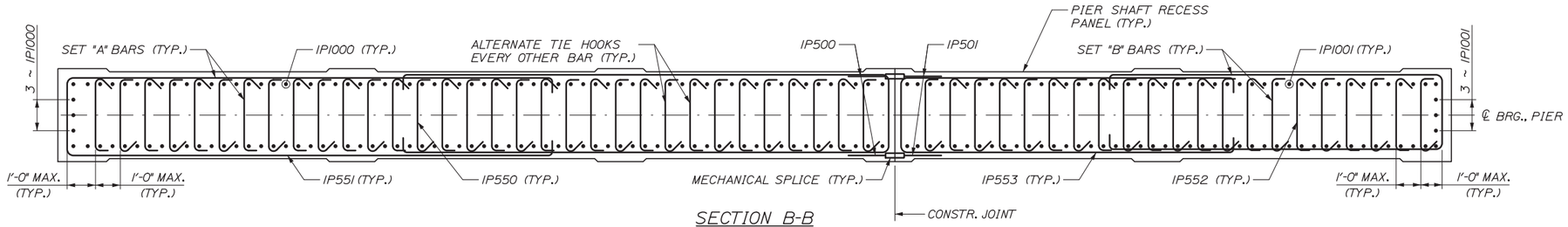
CONTRACT:2018.19



SECTION A-A

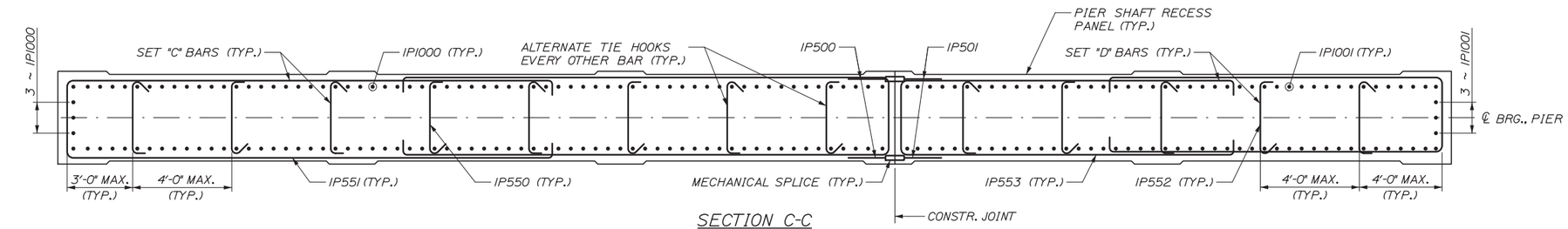
(PILE CAP REINFORCEMENT AND PILES NOT SHOWN FOR CLARITY)

⅜" = 1'-0"



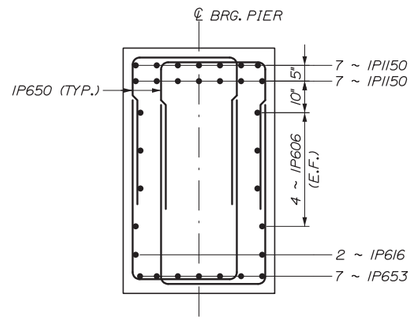
SECTION B-B

⅜" = 1'-0"



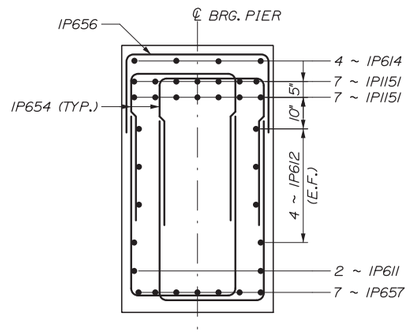
SECTION C-C

⅜" = 1'-0"



SECTION D-D

½" = 1'-0"



SECTION E-E

½" = 1'-0"

NOTES:

1. FOR PIER PILE CAP REINFORCEMENT SEE SHEET S-28.

2. MINIMUM LAPS SHALL BE:
   - #5 = 2'-3" (VERTICAL)
   - #5 = 2'-11" (HORIZONTAL)
   - #6 = 3'-4" (VERTICAL)
   - #6 = 4'-4" (HORIZONTAL)
   - #10 BAR = 5'-8" (VERTICAL)
   - #11 BAR = 7'-1" (HORIZONTAL)

3. PIER 1 BAR MARKS ARE SHOWN; PIER 2 BAR MARKS SIMILAR.

4. ADJUST PIER CAP BARS TO AVOID CONFLICTS WITH BEARING ANCHOR RODS, AS APPROVED BY THE RESIDENT.

REINFORCEMENT NOTES:

SET "A" = 2 ~ IP551
32 ~ IP550

SET "B" = 2 ~ IP553
21 ~ IP552

SET "C" = 2 ~ IP551
8 ~ IP550

SET "D" = 2 ~ IP553
5 ~ IP552

Date:9/21/2018

Filename: 107_Pier Sections & Details.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

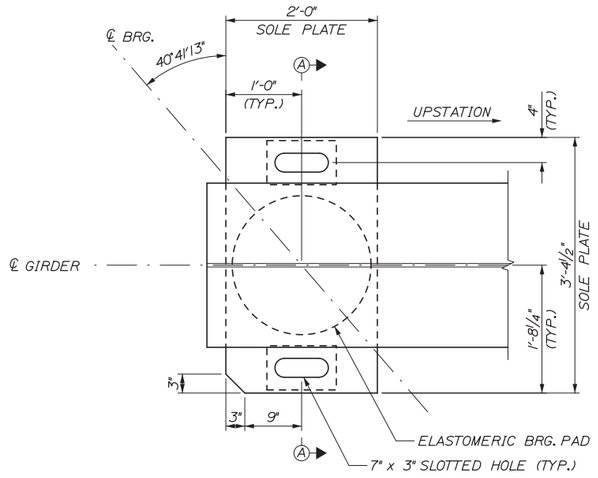
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

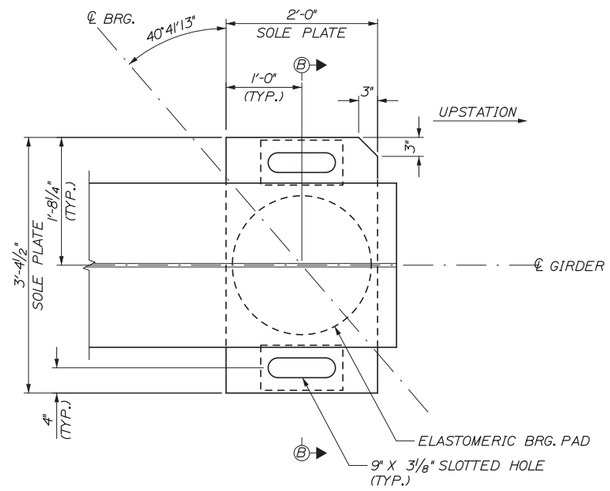
PIER SECTIONS AND DETAILS

SHEET NUMBER: S-32

CONTRACT:2018.19



PLAN
1" = 1'-0"



PLAN
1" = 1'-0"

BEARING NOTES:

1. ELASTOMER SHALL BE 100% POLYCHLOROPRENE (NEOPRENE) WITH DUROMETER HARDNESS OF 50. THE SHEAR MODULUS OF THE ELASTOMER SHALL BE BETWEEN 95 AND 130 PSI.

2. SOLE PLATE AND SHEAR BLOCK SHALL BE AASHTO M270 GRADE 50 OR 50W. NUTS SHALL BE ASTM A563. WASHERS SHALL BE ASTM F436. ALL STEEL COMPONENTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 OR A153, AS APPLICABLE.

3. CONTRACTOR SHALL RE-FINISH GALVANIZING, IN ACCORDANCE WITH ASTM A780, AFTER WELDING.

4. BEARING PADS WERE DESIGNED USING "METHOD A" FROM THE AASHTO LRFD SPECIFICATIONS AND SHALL BE SUBSEQUENTLY TESTED IN ACCORDANCE WITH THE SPECIFICATIONS.

5. ANCHOR RODS SHALL MEET THE REQUIREMENTS OF ASTM F1554, GRADE 105, AND SHALL BE SWEDGED OR THREADED ON THE EMBEDDED PORTION OF THE ROD.

6. ALL STEEL REINFORCING PLATES SHALL MEET THE REQUIREMENTS OF ASTM A36 UNLESS OTHERWISE NOTED AND SHALL BE DEBURRED PRIOR TO MOLDING THE BEARING.

7. VULCANIZING ELASTOMER TO STEEL PLATES SHALL BE DONE DURING THE PRIMARY MOLD PROCESS.

8. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.

9. BEARINGS SHALL BE COVERED DURING TRANSIT.

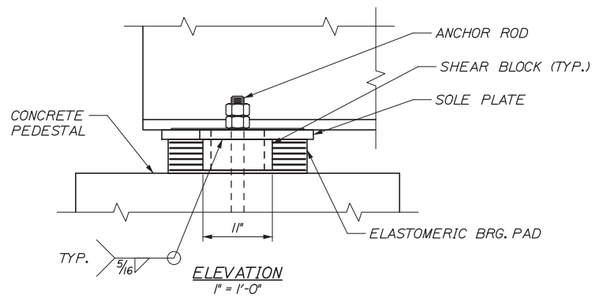
10. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 40°F AND 90°F.

11. ALL PRECAUTIONS NECESSARY SHALL BE TAKEN TO PROTECT BEARING COMPONENTS FROM FIELD WELD FLASH AND SPATTER. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE OF STEEL ADJACENT TO THE ELASTOMER TO 200°F THROUGH USE OF TEMPERATURE INDICATING CRAYONS OR OTHER SUITABLE MEANS.

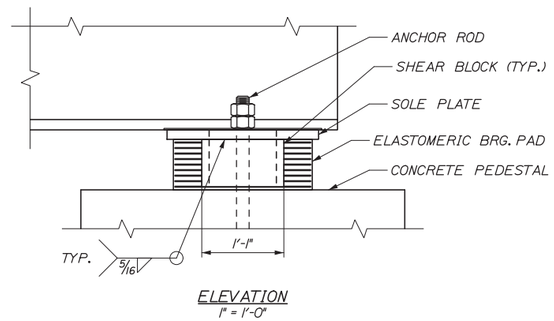
12. UPSET THE THREADS ON THE ANCHOR RODS AFTER ASSEMBLY.

13. ANCHOR ROD EMBEDMENT SHALL BE MEASURED FROM TOP OF PIER CAP OR ABUTMENT SEAT, INCLUDING DEPTH OF PEDESTAL.

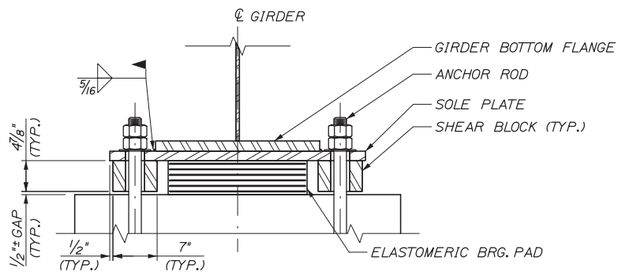
BEARING DESIGN CRITERIA				
CRITERIA	ABUT. 1	PIER 1	PIER 2	ABUT. 2
UNFACTORED DEAD LOAD (KIPS)	137	345	294	125
UNFACTORED LIVE LOAD (KIPS)	107	194	188	102
MAX. LONGITUDINAL DISPL. (IN.)	2.14	0.00	1.15	3.02



ELEVATION
1" = 1'-0"

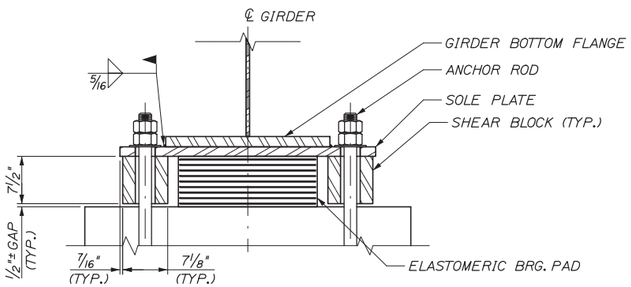


ELEVATION
1" = 1'-0"



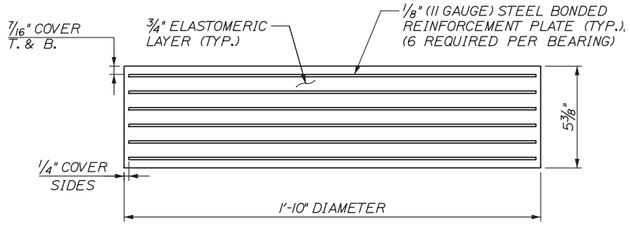
SECTION A-A
1" = 1'-0"

ABUTMENT 1 BEARING DETAILS

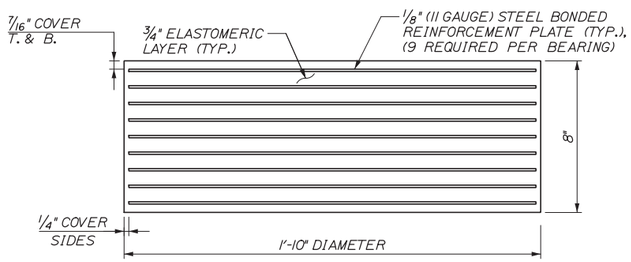


SECTION B-B
1" = 1'-0"

ABUTMENT 2 BEARING DETAILS



ABUTMENT 1 ELASTOMERIC BEARING PAD
(7 REQUIRED)
3" = 1'- 0"



ABUTMENT 2 ELASTOMERIC BEARING PAD
(7 REQUIRED)
3" = 1'- 0"

Date:9/21/2018

Filename: 108_Bearing Details 1.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
					By	Date		By	Date
				Designed	HJW	08\18	Checked	JKO	08\18
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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

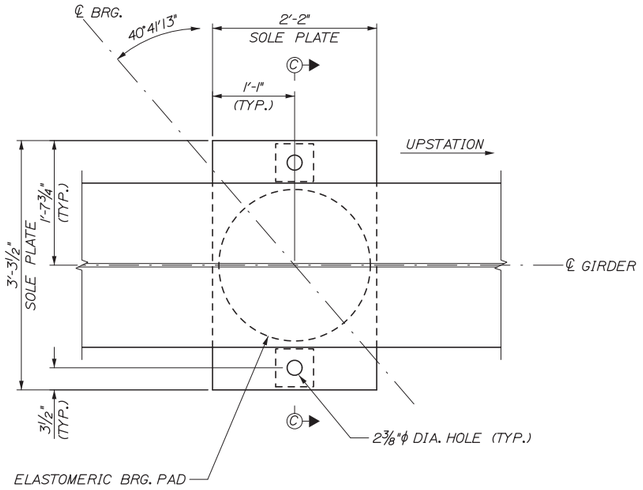
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

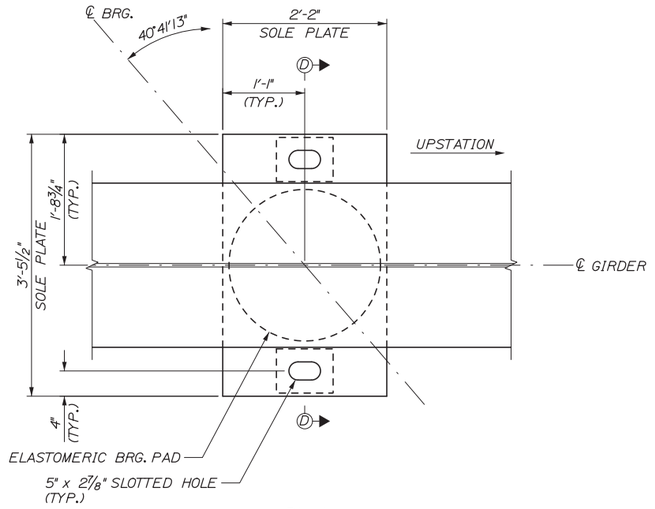
BEARING DETAILS 1

SHEET NUMBER: S-33

CONTRACT:2018.19



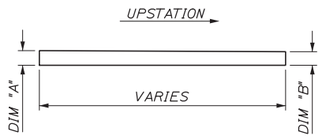
PLAN
1" = 1'-0"



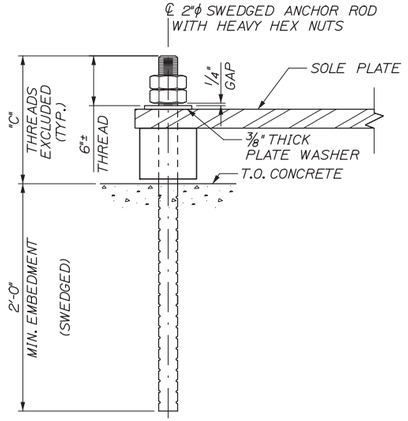
PLAN
1" = 1'-0"

SOLE PLATE THICKNESS TABLE (INCHES)								
LOCATION	DIM	GIRDER						
		G1	G2	G3	G4	G5	G6	G7
ABUT. 1	DIM "A"	1.34	1.34	1.34	1.36	1.38	1.41	1.43
	DIM "B"	2.66	2.66	2.66	2.64	2.62	2.59	2.57
PIER 1	DIM "A"	1.55	1.57	1.59	1.62	1.64	1.67	1.69
	DIM "B"	1.95	1.93	1.91	1.88	1.86	1.83	1.81
PIER 2	DIM "A"	1.89	1.92	1.94	1.97	1.99	2.02	2.04
	DIM "B"	1.61	1.58	1.56	1.53	1.51	1.48	1.46
ABUT. 2	DIM "A"	2.60	2.60	2.60	2.60	2.60	2.60	2.60
	DIM "B"	1.40	1.40	1.40	1.40	1.40	1.40	1.40

ANCHOR ROD AND PLATE WASHER DIMENSIONS		
LOCATION	"C"	"D"
ABUT. 1	14"	1'-9"
PIER 1	14"	4"
PIER 2	14"	9"
ABUT. 2	15½"	2'-1"



ELEVATION - SOLE PLATE
1½" = 1'-0"



ANCHOR ROD DETAIL
1½" = 1'-0"

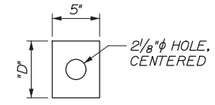
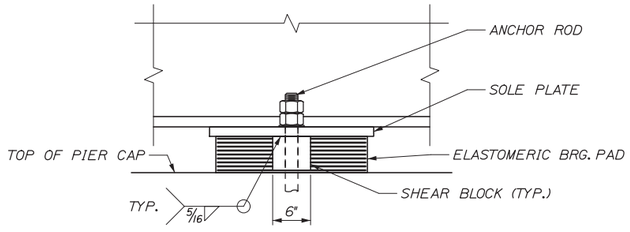
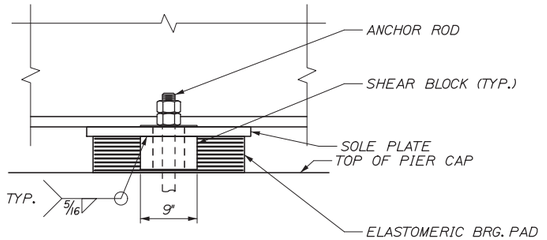


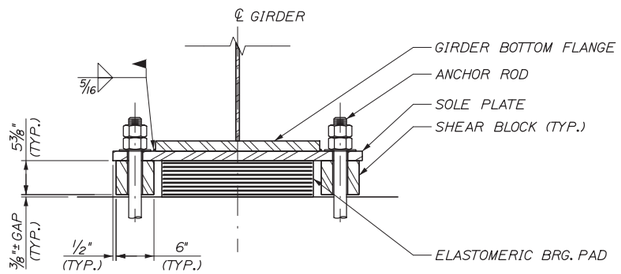
PLATE WASHER DETAIL
1½" = 1'-0"



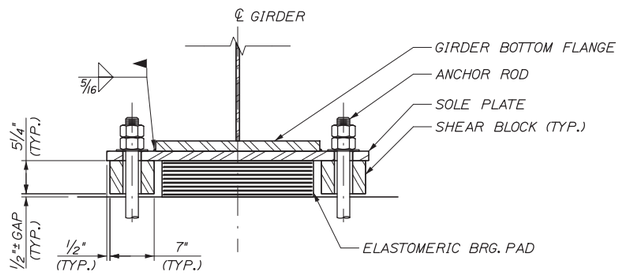
ELEVATION
1" = 1'-0"



ELEVATION
1" = 1'-0"



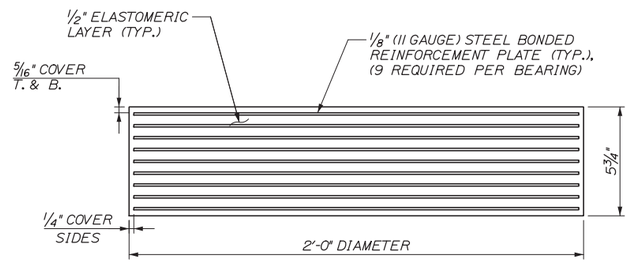
SECTION C-C
1" = 1'-0"



SECTION D-D
1" = 1'-0"

PIER 1 BEARING DETAILS

PIER 2 BEARING DETAILS



PIER ELASTOMERIC BEARING PAD
(14 REQUIRED)
3" = 1'-0"

Date:9/21/2018

Filename: 109_Bearing Details 2.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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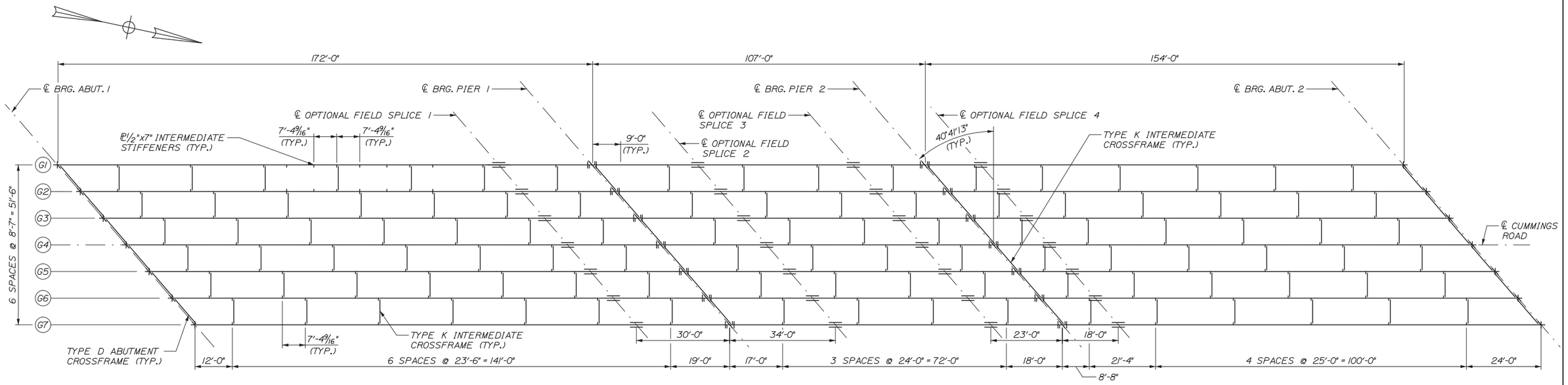
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

BEARING DETAILS II

SHEET NUMBER: S-34

CONTRACT:2018.19



FRAMING PLAN

1/16" = 1'-0"

Date:9/21/2018

STRUCTURAL STEEL NOTES:

1. CAMBER ORDINATES ARE COMPUTED TO COMPENSATE FOR ALL DEAD LOAD DEFLECTIONS AND VERTICAL CURVE PROFILES.

2. BUTT-WELD SPLICES IN FLANGES SHALL BE NOT LESS THAN 1 FOOT FROM TRANSVERSE BUTT-WELDS IN THE WEB PLATES AND NO TRANSVERSE WEB OR FLANGE BUTT-WELDS SHALL BE LOCATED WITHIN 6 INCHES OF OTHER TRANSVERSE WELDS (E.G. CONNECTION PLATES TO WEB WELDS) ON EITHER FLANGE OR WEB.

3. BUTT WELDS AT WEB SPLICES AND FLANGE SPLICES SHALL BE GROUND FLUSH IN LONGITUDINAL DIRECTION OF GIRDER.

4. SECTIONS OF FLANGE PLATES OR WEB PLATES BETWEEN TRANSVERSE SHOP SPLICES OR BETWEEN A TRANSVERSE SHOP SPLICE AND A FIELD SPLICE SHALL BE NOT LESS THAN 20 FEET IN LENGTH UNLESS OTHERWISE SHOWN ON THE PLANS.

5. BEARING STIFFENERS SHALL BE PLUMB AFTER ERECTION AND DEAD LOADING OF THE STRUCTURE. INTERMEDIATE WEB STIFFENERS AND CROSSFRAME CONNECTION PLATES MAY BE EITHER PLUMB OR NORMAL TO THE TOP FLANGE.

6. CROSSFRAME DETAILS SHALL BE IN ACCORDANCE WITH MAINEDOT STANDARD DETAILS 504(02), 504(04), AND 504(07).

7. BEARING STIFFNERS SHALL BE MILL-TO-BEAR ON THE BOTTOM FLANGE AND TIGHT FIT TO THE TOP FLANGE. BEARING STIFFENERS USED AS CONNECTION PLATES SHALL BE DETAILED AS CONNECTION PLATES.

8. CONNECTION PLATES SHALL BE FULL WEB DEPTH AND WELDED TO THE WEB AND FLANGES ON BOTH SIDES OF THE PLATES. WELDS SHALL TERMINATE 5/8"±1/8" FROM THE ENDS OF THE PLATES.

9. INTERMEDIATE STIFFENERS SHALL BE WELDED WITH 5/16" FILLET WELDS BOTH SIDES OF THE STIFFENER FOR THE FULL WEB DEPTH AND TIGHT FIT WITH THE FLANGES.

10. CROSSFRAMES BETWEEN GIRDER G4 AND G5 SHALL BE CONNECTED TO G5 AFTER PHASE 2B DECK PLACEMENT AND PRIOR TO PHASE 2C DECK PLACEMENT. ALL CROSSFRAME CONNECTION HOLES SHALL BE OVERSIZED.

11. PRIOR TO ERECTION OF STRUCTURAL STEEL, THE CONTRACTOR SHALL SUBMIT A DETAILED ERECTION PLAN FOR APPROVAL.

12. ALL BOLTS SHALL BE 7/8" HIGH STRENGTH BOLTS. HOLES SHALL BE 15/16" UNLESS OTHERWISE NOTED. BOLTS SHALL BE INSTALLED WITH HEADS DOWN AT ALL BOTTOM FLANGE CONNECTIONS AND HEADS UP AT ALL TOP FLANGE CONNECTIONS.

13. STIFFENER GEOMETRY AT SUPPORTS SHOWN SCHEMATICALLY: SEE SHEET S-36 FOR DETAILS.

Filename: 110_Framing Plan.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

HNTB CORPORATION
340 County Road, Suite 6-C
Westbrook, ME 04092
TEL (207) 774-5155
FAX (207) 228-0909

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

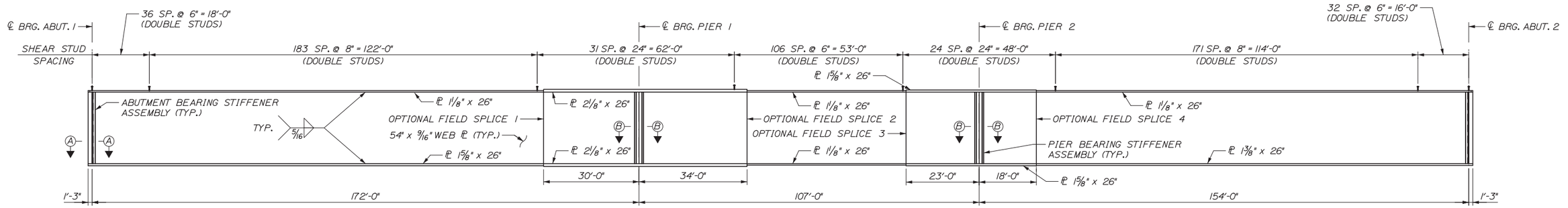
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

FRAMING PLAN

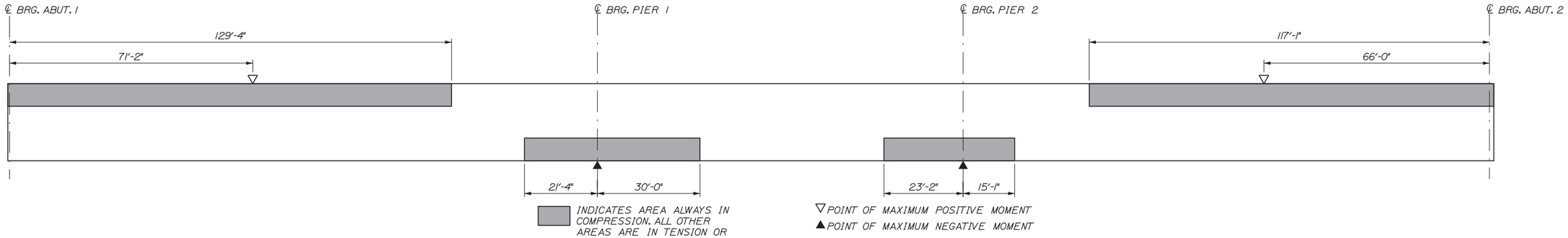
SHEET NUMBER: S-35

CONTRACT:2018.19



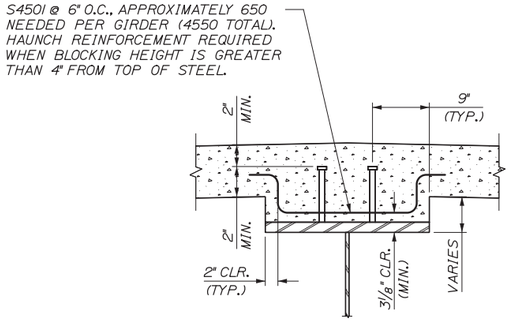
GIRDER ELEVATION

(1168 STUDS PER GIRDER)
N.T.S.



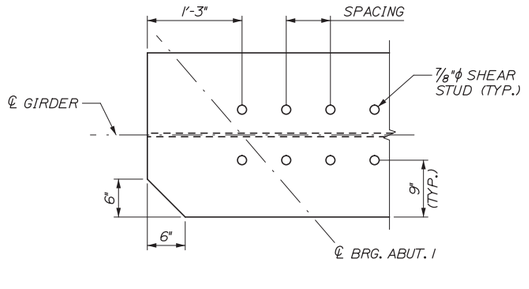
GIRDER STRESS DIAGRAM

N.T.S.



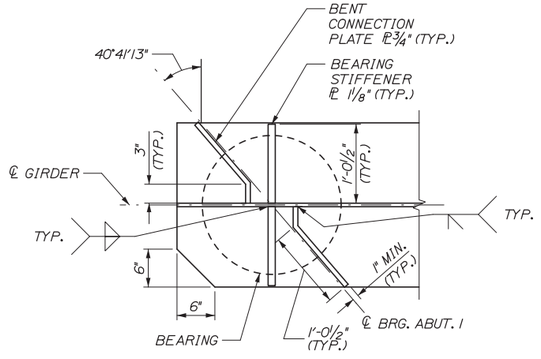
SHEAR CONNECTOR DETAIL

1" = 1'-0"



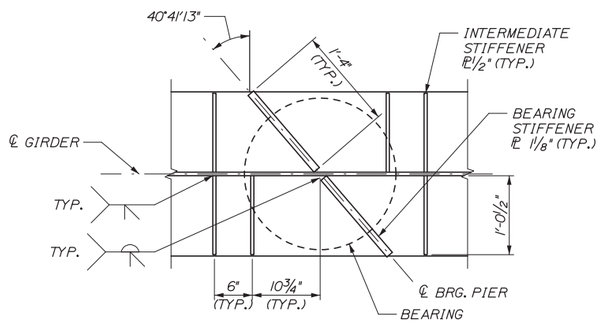
SHEAR STUD PLAN

(2 STUDS PER ROW)
1" = 1'-0"



SECTION A-A

(ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR)
(OMIT BENT PLATE ON FASCIA SIDE OF BEAMS 1 AND 7)
1" = 1'-0"



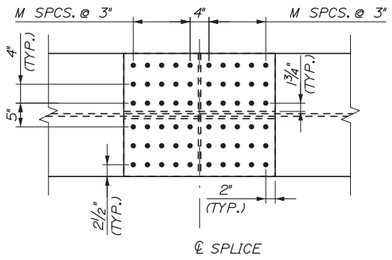
SECTION B-B

1" = 1'-0"

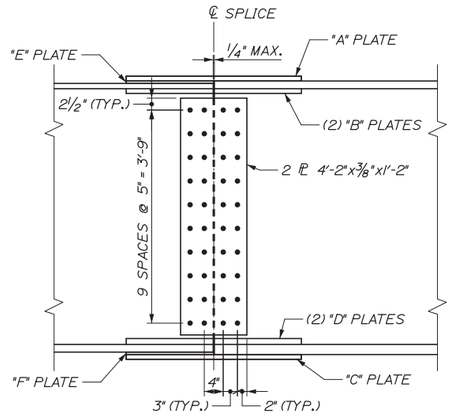
Scale:				Designed by: HNTB	HNTB CORPORATION 340 County Road, Suite 6-C Westbrook, ME 04092 TEL (207) 774-5155 FAX (207) 228-0909	MAINE TURNPIKE	THE GOLD STAR MEMORIAL HIGHWAY	BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.			MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.	STRUCTURAL STEEL DETAILS 1
				By / Date / By / Date				SHEET NUMBER: S-36
				Designed HJW 08\18 Checked TJP 08\18				CONTRACT:2018.19 111 OF 135
				Drawn PEB 08\18 In Charge of RAL 08\18				

Date:9/21/2018

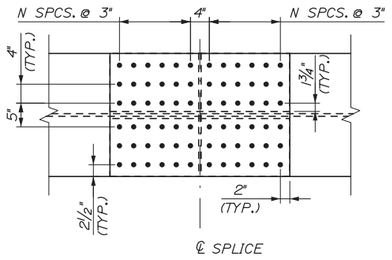
Filename: 111_Structural Steel Details 1.dgn



TOP FLANGE PLAN



ELEVATION



BOTTOM FLANGE PLAN

UPSTATION

BOLTED FIELD SPLICE

(FIELD SPLICES 1 & 3 SHOWN, FIELD SPLICES 2 & 4 OPPOSITE HAND)
N.T.S.

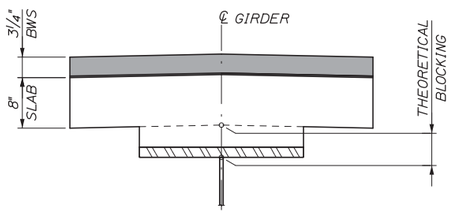
FIELD SPLICE DIMENSIONS TABLE				
	FIELD SPLICE NUMBER			
PLATE LABEL	1	2	3	4
"A" PLATE	26"x⅝"x2'-8"	26"x⅝"x2'-8"	26"x⅝"x2'-8"	26"x⅝"x2'-8"
"B" PLATE	12¼"x11/16"x2'-8"	12¼"x11/16"x2'-8"	12¼"x11/16"x2'-8"	12¼"x11/16"x2'-8"
"C" PLATE	26"x⅞"x3'-2"	26"x⅝"x2'-8"	26"x⅝"x2'-8"	26"x¾"x2'-8"
"D" PLATE	12¼"x15/16"x3'-2"	12¼"x11/16"x2'-8"	12¼"x11/16"x2'-8"	12¼"x13/16"x2'-8"
"E" PLATE	26"x1"x1'-3⅜"	26"x1"x1'-3⅜"	26"x1½"x1'-3⅜"	26"x1½"x1'-3⅜"
"F" PLATE	26"x1½"x1'-6⅜"	26"x1"x1'-3⅜"	26"x1½"x1'-3⅜"	26"x1¼"x1'-3⅜"
M	4 SPACES	4 SPACES	4 SPACES	4 SPACES
N	5 SPACES	4 SPACES	4 SPACES	4 SPACES

BOTTOM OF SLAB ELEVATIONS AT BLOCKING POINTS

	℄ BRG ABUT. 1	SPAN 1 = 172.0'																	℄ BRG PIER 1
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
DISTANCE	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0	160.0	170.0	172.0
G1	86.30	86.98	87.65	88.29	88.89	89.44	89.95	90.41	90.82	91.18	91.49	91.76	91.98	92.17	92.32	92.45	92.56	92.65	92.67
G2	86.87	87.56	88.22	88.84	89.41	89.95	90.44	90.88	91.27	91.61	91.90	92.15	92.35	92.52	92.66	92.77	92.86	92.94	92.95
G3	87.45	88.13	88.77	89.37	89.93	90.45	90.92	91.34	91.71	92.03	92.30	92.53	92.71	92.87	92.98	93.07	93.15	93.21	93.22
G4	88.02	88.68	89.30	89.89	90.43	90.93	91.38	91.78	92.13	92.43	92.69	92.90	93.06	93.19	93.29	93.37	93.42	93.46	93.47
G5	88.24	88.88	89.49	90.06	90.59	91.08	91.52	91.90	92.24	92.52	92.76	92.95	93.09	93.20	93.27	93.32	93.35	93.36	93.37
G6	88.44	89.06	89.65	90.20	90.71	91.18	91.59	91.96	92.27	92.53	92.75	92.92	93.05	93.14	93.20	93.23	93.25	93.25	93.25
G7	88.63	89.23	89.79	90.33	90.81	91.26	91.65	92.00	92.29	92.53	92.73	92.89	93.00	93.07	93.12	93.14	93.14	93.12	93.12

	℄ BRG PIER 1	SPAN 2 = 107.0'									℄ BRG PIER 2
		1	2	3	4	5	6	7	8	9	10	
DISTANCE	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	107.0
G1	92.67	92.76	92.83	92.89	92.94	92.98	93.00	93.01	93.00	92.98	92.94	92.91
G2	92.95	93.02	93.08	93.12	93.15	93.17	93.17	93.16	93.13	93.09	93.04	92.99
G3	93.22	93.27	93.31	93.33	93.35	93.34	93.33	93.30	93.25	93.19	93.12	93.06
G4	93.47	93.50	93.53	93.53	93.53	93.51	93.47	93.42	93.35	93.28	93.19	93.12
G5	93.37	93.37	93.38	93.36	93.34	93.30	93.25	93.19	93.10	93.01	92.90	92.82
G6	93.25	93.24	93.22	93.19	93.15	93.09	93.02	92.94	92.84	92.72	92.60	92.50
G7	93.12	93.09	93.06	93.01	92.95	92.87	92.78	92.67	92.55	92.42	92.28	92.17

	℄ BRG PIER 2	SPAN 3 = 154.0'															℄ BRG ABUT. 2
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
DISTANCE	0.0	10.0	20.0	30.0	40.0	50.0	60.0	70.0	80.0	90.0	100.0	110.0	120.0	130.0	140.0	150.0	154.0
G1	92.91	92.85	92.78	92.69	92.57	92.41	92.22	91.98	91.70	91.37	90.99	90.57	90.10	89.60	89.05	88.46	88.22
G2	92.99	92.92	92.83	92.72	92.58	92.41	92.20	91.94	91.64	91.29	90.90	90.46	89.97	89.44	88.87	88.27	88.03
G3	93.06	92.97	92.87	92.74	92.59	92.40	92.17	91.90	91.58	91.21	90.80	90.33	89.83	89.28	88.69	88.08	87.83
G4	93.12	93.01	92.89	92.75	92.58	92.37	92.13	91.84	91.50	91.11	90.68	90.20	89.67	89.10	88.49	87.88	87.63
G5	92.82	92.69	92.55	92.39	92.20	91.97	91.71	91.40	91.04	90.64	90.19	89.69	89.15	88.56	87.95	87.34	87.09
G6	92.50	92.36	92.20	92.02	91.81	91.57	91.28	90.95	90.58	90.16	89.69	89.17	88.61	88.02	87.41	86.80	86.55
G7	92.17	92.01	91.84	91.64	91.41	91.15	90.84	90.50	90.10	89.66	89.17	88.63	88.06	87.47	86.87	86.26	86.01



BLOCKING DETAIL

THEORETICAL BLOCKING = 5⅛" AT ℄ BRG. LOCATIONS
(DO NOT USE THEORETICAL BLOCKING TO SET FORMS)
1" = 1'-0"

Date:9/21/2018

Filename: 112_Structural Steel Details 2.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

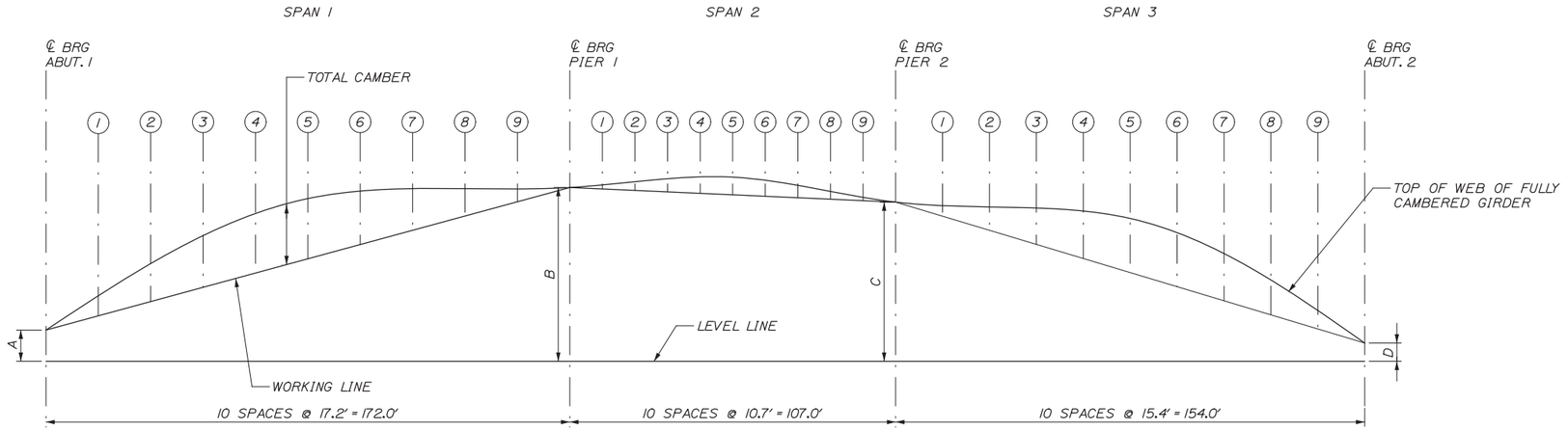
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

STRUCTURAL STEEL DETAILS II

SHEET NUMBER: S-37

CONTRACT:2018.19



CAMBER ORDINATES

GIRDER	"A"	"B"	"C"	"D"
1	3 1/16"	6'-7 7/8"	6'-10 13/16"	2'-2 9/16"
2	10 3/8"	6'-11 1/4"	6'-11 3/4"	2'-0 3/16"
3	1'-5 5/16"	7'-2 7/16"	7'-0 5/8"	1'-9 3/16"
4	2'-0 3/16"	7'-5 1/2"	7'-1 1/4"	1'-7 7/16"
5	2'-2 3/4"	7'-4 1/4"	6'-9 11/16"	1'-1"
6	2'-5 1/8"	7'-2 13/16"	6'-5 7/8"	6 1/2"
7	2'-7 3/8"	7'-1 1/4"	6'-1 5/16"	0"

CAMBER ORDINATES (IN)

GIRDER		℄ BRG ABUT. 1	SPAN 1 = 172.0'									℄ BRG PIER 1	SPAN 2 = 107.0'									℄ BRG PIER 2	SPAN 3 = 154.0'									℄ BRG ABUT. 2
			1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	
	DISTANCE FROM ABUT. 1 (FT)	0.000	17.20	34.40	51.60	68.80	86.00	103.20	120.40	137.60	154.80	172.00	182.70	193.40	204.10	214.80	225.50	236.20	246.90	257.60	268.30	279.00	294.40	309.80	325.20	340.60	356.00	371.40	386.80	402.20	417.60	433.00
G1	STEEL DEAD LOAD	0.000	0.85	1.62	2.16	2.46	2.47	2.23	1.78	1.18	0.55	0.000	-0.23	-0.38	-0.52	-0.58	-0.60	-0.56	-0.49	-0.36	-0.20	0.000	0.41	0.86	1.27	1.58	1.74	1.72	1.51	1.13	0.61	0.000
	CONCRETE DEAD LOAD	0.000	2.17	4.06	5.44	6.18	6.23	5.60	4.45	2.94	1.37	0.000	-0.58	-1.00	-1.30	-1.48	-1.51	-1.43	-1.25	-0.94	-0.53	0.000	1.07	2.26	3.36	4.20	4.64	4.60	4.04	3.01	1.61	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.52	0.96	1.31	1.48	1.50	1.37	1.09	0.73	0.34	0.000	-0.16	-0.26	-0.34	-0.37	-0.38	-0.37	-0.31	-0.24	-0.13	0.000	0.25	0.54	0.80	1.00	1.09	1.08	0.95	0.71	0.38	0.000
	VERTICAL CURVE	0.000	3.73	6.87	9.12	10.49	10.96	10.55	9.25	7.05	3.98	0.000	1.55	2.76	3.62	4.13	4.30	4.13	3.61	2.75	1.55	0.000	3.20	5.70	7.49	8.55	8.90	8.55	7.48	5.70	3.21	0.000
	TOTAL CAMBER	0.000	7.27	13.51	18.03	20.61	21.16	19.75	16.57	11.90	6.24	0.000	0.58	1.12	1.46	1.70	1.81	1.77	1.56	1.21	0.69	0.000	4.93	9.36	12.92	15.33	16.37	15.95	13.98	10.55	5.81	0.000
G2	STEEL DEAD LOAD	0.000	0.86	1.61	2.15	2.45	2.46	2.21	1.74	1.16	0.54	0.000	-0.23	-0.38	-0.49	-0.58	-0.59	-0.56	-0.48	-0.37	-0.22	0.000	0.41	0.88	1.28	1.60	1.76	1.74	1.52	1.14	0.61	0.000
	CONCRETE DEAD LOAD	0.000	2.11	3.95	5.28	5.98	6.00	5.38	4.26	2.81	1.30	0.000	-0.55	-0.94	-1.21	-1.38	-1.43	-1.37	-1.20	-0.91	-0.52	0.000	1.07	2.23	3.34	4.16	4.57	4.52	3.97	2.96	1.58	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.58	1.08	1.46	1.68	1.70	1.55	1.22	0.83	0.38	0.000	-0.17	-0.31	-0.41	-0.46	-0.46	-0.44	-0.37	-0.29	-0.16	0.000	0.30	0.62	0.92	1.15	1.27	1.26	1.10	0.82	0.44	0.000
	VERTICAL CURVE	0.000	3.93	7.06	9.29	10.62	11.08	10.64	9.31	7.10	4.00	0.000	1.56	2.76	3.62	4.13	4.31	4.14	3.61	2.76	1.55	0.000	3.21	5.69	7.47	8.53	8.89	8.52	7.45	5.65	3.15	0.000
	TOTAL CAMBER	0.000	7.48	13.70	18.18	20.73	21.24	19.78	16.53	11.90	6.22	0.000	0.61	1.13	1.51	1.71	1.83	1.77	1.56	1.19	0.65	0.000	4.99	9.42	13.01	15.44	16.49	16.04	14.04	10.57	5.78	0.000
G3	STEEL DEAD LOAD	0.000	0.86	1.60	2.14	2.42	2.44	2.18	1.72	1.13	0.53	0.000	-0.22	-0.37	-0.48	-0.56	-0.59	-0.56	-0.48	-0.37	-0.22	0.000	0.41	0.88	1.30	1.61	1.78	1.75	1.54	1.14	0.61	0.000
	CONCRETE DEAD LOAD	0.000	2.03	3.78	5.03	5.68	5.70	5.10	4.02	2.64	1.22	0.000	-0.52	-0.89	-1.16	-1.33	-1.37	-1.32	-1.16	-0.90	-0.52	0.000	1.04	2.18	3.24	4.03	4.43	4.37	3.82	2.84	1.52	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.70	1.31	1.76	2.00	2.04	1.82	1.45	0.96	0.46	0.000	-0.20	-0.35	-0.46	-0.50	-0.52	-0.49	-0.42	-0.32	-0.18	0.000	0.36	0.76	1.15	1.43	1.58	1.57	1.37	1.03	0.55	0.000
	VERTICAL CURVE	0.000	3.99	7.11	9.33	10.67	11.11	10.67	9.33	7.11	4.00	0.000	1.55	2.76	3.61	4.14	4.31	4.13	3.62	2.75	1.56	0.000	3.18	5.64	7.40	8.45	8.77	8.39	7.29	5.48	2.96	0.000
	TOTAL CAMBER	0.000	7.58	13.80	18.26	20.77	21.29	19.77	16.52	11.84	6.21	0.000	0.61	1.15	1.51	1.75	1.83	1.76	1.56	1.16	0.64	0.000	4.99	9.46	13.09	15.52	16.56	16.08	14.02	10.49	5.64	0.000
G4	STEEL DEAD LOAD	0.000	0.85	1.60	2.11	2.39	2.40	2.15	1.69	1.12	0.50	0.000	-0.22	-0.37	-0.49	-0.56	-0.59	-0.56	-0.49	-0.37	-0.22	0.000	0.42	0.89	1.32	1.63	1.78	1.75	1.54	1.13	0.61	0.000
	CONCRETE DEAD LOAD	0.000	1.90	3.52	4.68	5.29	5.29	4.74	3.73	2.45	1.14	0.000	-0.49	-0.85	-1.13	-1.30	-1.37	-1.31	-1.15	-0.88	-0.50	0.000	0.98	2.08	3.07	3.79	4.16	4.09	3.58	2.66	1.42	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.88	1.66	2.20	2.47	2.47	2.22	1.74	1.14	0.53	0.000	-0.20	-0.35	-0.46	-0.52	-0.52	-0.52	-0.47	-0.36	-0.20	0.000	0.46	0.98	1.48	1.85	2.03	2.00	1.75	1.31	0.70	0.000
	VERTICAL CURVE	0.000	4.00	7.11	9.33	10.67	11.11	10.68	9.34	7.11	4.00	0.000	1.55	2.75	3.62	4.13	4.30	4.12	3.61	2.75	1.55	0.000	3.14	5.57	7.28	8.29	8.57	8.16	7.01	5.17	2.66	0.000
	TOTAL CAMBER	0.000	7.63	13.89	18.32	20.82	21.27	19.79	16.50	11.82	6.17	0.000	0.64	1.18	1.54	1.75	1.82	1.73	1.50	1.14	0.63	0.000	5.00	9.52	13.15	15.56	16.54	16.00	13.88	10.27	5.39	0.000
G5	STEEL DEAD LOAD	0.000	0.85	1.60	2.15	2.44	2.46	2.22	1.78	1.18	0.54	0.000	-0.23	-0.38	-0.50	-0.58	-0.59	-0.56	-0.48	-0.36	-0.20	0.000	0.41	0.85	1.26	1.57	1.74	1.72	1.50	1.12	0.60	0.000
	CONCRETE DEAD LOAD	0.000	1.87	3.50	4.69	5.34	5.39	4.86	3.86	2.56	1.19	0.000	-0.50	-0.89	-1.16	-1.31	-1.36	-1.28	-1.12	-0.84	-0.47	0.000	0.94	1.96	2.92	3.64	4.01	3.96	3.48	2.59	1.39	0.000
	SUPERIMPOSED DEAD LOAD	0.000	1.00	1.86	2.48	2.83	2.86	2.58	2.05	1.36	0.62	0.000	-0.26	-0.43	-0.54	-0.60	-0.61	-0.58	-0.52	-0.40	-0.22	0.000	0.46	1.00	1.51	1.91	2.10	2.10	1.85	1.38	0.74	0.000
	VERTICAL CURVE	0.000	4.00	7.11	9.34	10.68	11.11	10.67	9.33	7.12	4.00	0.000	1.56	2.76	3.62	4.14	4.30	4.13	3.62	2.75	1.55	0.000	3.09	5.46	7.12	8.07	8.30	7.83	6.65	4.74	2.37	0.000
	TOTAL CAMBER	0.000	7.72	14.07	18.66	21.29	21.82	20.33	17.02	12.22	6.35	0.000	0.57	1.06	1.42	1.65	1.74	1.71	1.50	1.15	0.66	0.000	4.90	9.27	12.81	15.19	16.15	15.61	13.48	9.83	5.10	0.000
G6	STEEL DEAD LOAD	0.000	0.85	1.58	2.14	2.42	2.44	2.18	1.73	1.14	0.53	0.000	-0.23	-0.37	-0.49	-0.55	-0.58	-0.55	-0.48	-0.37	-0.22	0.000	0.41	0.86	1.30	1.61	1.75	1.73	1.51	1.13	0.61	0.000
	CONCRETE DEAD LOAD	0.000	1.99	3.72	4.98	5.64	5.68	5.10	4.03	2.66	1.22	0.000	-0.52	-0.90	-1.16	-1.32	-1.37	-1.31	-1.15	-0.88	-0.49	0.000	1.01	2.14	3.19	3.98	4.38	4.32	3.80	2.83	1.52	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.83	1.55	2.04	2.32	2.33	2.08	1.64	1.07	0.49	0.000	-0.22	-0.38	-0.49	-0.58	-0.58	-0.55	-0.49	-0.38	-0.23	0.000	0.41	0.88	1.28	1.58	1.75	1.72	1.49	1.09	0.59	0.000
	VERTICAL CURVE	0.000	4.00	7.12	9.34	10.67	11.12	10.68	9.33	7.11	4.01	0.000	1.54	2.75	3.61	4.13	4.30	4.13	3.61	2.76	1.55	0.000	3.01	5.31	6.91	7.78	7.95	7.40	6.14	4.20	2.10	0.000
	TOTAL CAMBER	0.000	7.67	13.97	18.50	21.05	21.57	20.04	16.73	11.98	6.25	0.000	0.57	1.10	1.47	1.68	1.77	1.72	1.49	1.13	0.61	0.000	4.84	9.19	12.68	14.95	15.83	15.17	12.94	9.25	4.82	0.000
G7	STEEL DEAD LOAD	0.000	0.85	1.58	2.11	2.38	2.38	2.14	1.68	1.10	0.50	0.000	-0.22	-0.37	-0.48	-0.56	-0.58	-0.56	-0.48	-0.37	-0.22	0.000	0.42	0.88	1.31	1.62	1.78	1.75	1.52	1.13	0.61	0.000
	CONCRETE DEAD LOAD	0.000	2.10	3.92	5.22	5.89	5.89	5.28	4.14	2.72	1.25	0.000	-0.53	-0.92	-1.19	-1.38	-1.43	-1.38	-1.22	-0.95	-0.54	0.000	1.09	2.32	3.44	4.28	4.70	4.63	4.04	3.00	1.61	0.000
	SUPERIMPOSED DEAD LOAD	0.000	0.67	1.25	1.66	1.87	1.88	1.68	1.33	0.88	0.41	0.000	-0.19	-0.32	-0.43	-0.49	-0.52	-0.49	-0.43	-0.32	-0.19	0.000	0.36	0.73	1.08	1.32	1.44	1.42	1.22	0.90	0.48	0.000
	VERTICAL CURVE	0.000	3.99	7.11	9.33	10.66	11.12	10.67	9.34	7.11	4.00	0.000	1.54	2.75	3.61	4.13	4.30	4.13	3.61	2.75	1.54	0.000	2.93	5.14	6.64	7.43	7.51	6.87	5.53	3.69	1.85	0.000
	TOTAL CAMBER	0.000	7.61	13.86	18.32	20.80	21.27	19.77	16.49	11.81	6.16	0.000	0.60	1.14	1.51	1.70	1.77	1.70	1.48	1.11	0.59	0.000	4.80	9.07	12.47	14.65	15.43	14.67	12.31	8.72	4.55	0.000

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
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Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

STRUCTURAL STEEL DETAILS III

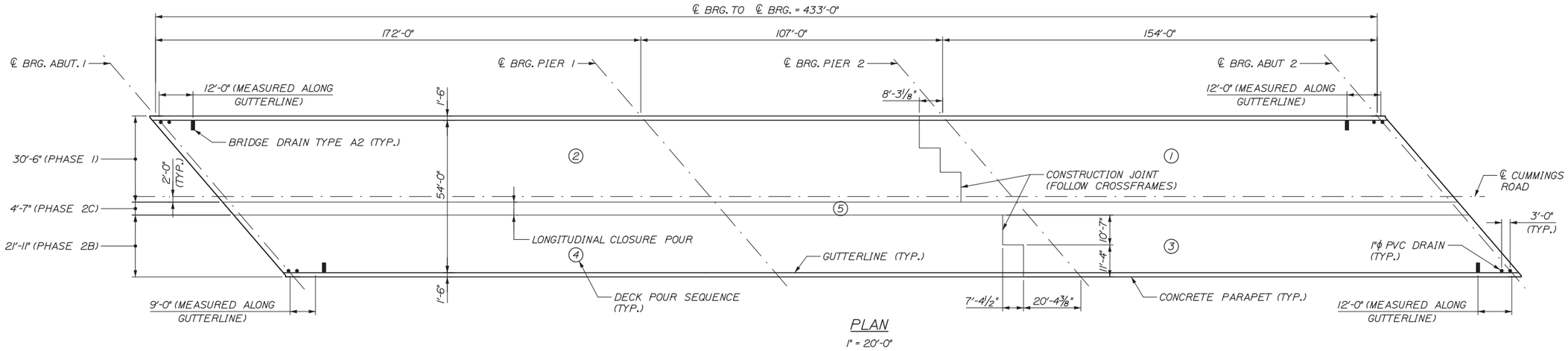
SHEET NUMBER: S-38

CONTRACT: 2018.19

113 OF 135

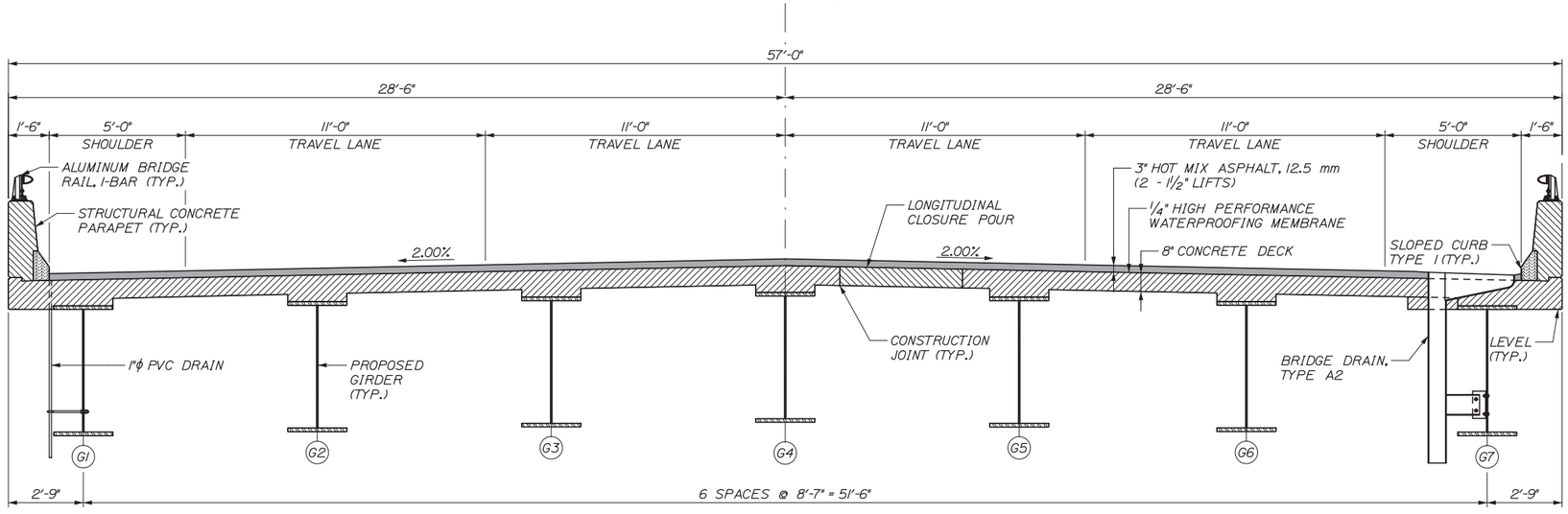
Date: 9/21/2018

Filename: 113_Structural Steel Details 3.dgn



PLAN

1" = 20'-0"



TYPICAL SECTION

3/8" = 1'-0"

SUPERSTRUCTURE NOTES:

1. THE USE OF PRECAST DECK PANELS IS PROHIBITED.

2. CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE SHALL BE APPLIED TO THE FOLLOWING AREAS: PARAPET SURFACES, FASCIA DOWN TO DRIP NOTCH AND ALL EXPOSED CONCRETE SURFACES ON THE END POSTS.

3. ALL BRIDGE PARAPET CONCRETE, INCLUDING INSIDE FACE, TOP FACE AND END POSTS SHALL HAVE A RUBBED FINISH PRIOR TO THE APPLICATION OF THE CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE.

4. THE CONCRETE DECK SHALL BE GIVEN A SMOOTH BULL FLOAT OR WOOD FLOAT FINISH.

5. SHOP DRAWINGS FOR BAR CHAIRS USED WITH REINFORCING STEEL IN SLAB CONSTRUCTION SHALL BE SUBMITTED WITH REQUIRED SPACING TO THE RESIDENT FOR APPROVAL. BAR CHAIRS SHALL BE EPOXY-COATED OR PLASTIC PROTECTED.

6. FORM A 1" V-GROOVE ON THE FASCIAS AT THE HORIZONTAL JOINT BETWEEN THE PARAPET AND SLAB.

7. ADJUST REINFORCEMENT TO FIT AROUND THE BRIDGE DRAINS IN A MANNER APPROVED BY THE RESIDENT. DO NOT CUT TRANSVERSE REINFORCEMENT. PROVIDE BRIDGE DRAIN REINFORCING BARS IN ACCORDANCE WITH MAINEDOT STANDARD DETAIL 502(23).

8. CONCRETE USED IN THE LONGITUDINAL CLOSURE POUR SHALL UTILIZE A TYPE III PORTLAND CEMENT AND INCORPORATE A SHRINKAGE REDUCING ADMIXTURE FROM THE MAINEDOT QUALIFIED PRODUCT LIST.

9. UNLESS THE SUPERSTRUCTURE SLAB IS PLACED IN ONE CONTINUOUS OPERATION, THE SLAB, PER PHASE, SHALL BE CAST IN TWO CONSECUTIVE PLACEMENTS WITH THE INITIAL PLACEMENT BEGINNING AT ABUTMENT 2 AND CONTINUING TO THE TRANSVERSE CONSTRUCTION DOWNSTATION OF PIER 2. A MINIMUM OF 5 DAYS SHALL ELAPSE BETWEEN SUCCESSIVE PARTIAL PLACEMENTS. THE SUPERSTRUCTURE SLAB CONCRETE PLACEMENT SEQUENCE SHALL BE APPROVED BY THE RESIDENT.

10. FOR EACH PHASE OF CONSTRUCTION, THE EXPANSION JOINT CONCRETE HEADERS SHALL BE CAST AFTER THE REMAINING PORTIONS OF THE DECK HAS CURED AND THE EXPANSION DEVICES HAVE BEEN SET.

11. THE FORMWORK AND ITS SUPPORTS, OVER THE FULL WIDTH OF THE STRUCTURAL SLAB, SHALL REMAIN IN PLACE UNTIL A MINIMUM OF 48 HOURS HAS ELAPSED AFTER PLACEMENT OF THE FINAL SECTION OF THE SLAB. AFTER THIS PERIOD, REMOVAL OF FORMWORK FOR SECTIONS MEETING THE REQUIREMENTS FOR FORM REMOVAL OF STANDARD SPECIFICATIONS SECTION 502, STRUCTURAL CONCRETE, MAY PROCEED.

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

TRANSVERSE SECTION AND SUPERSTRUCTURE PLAN

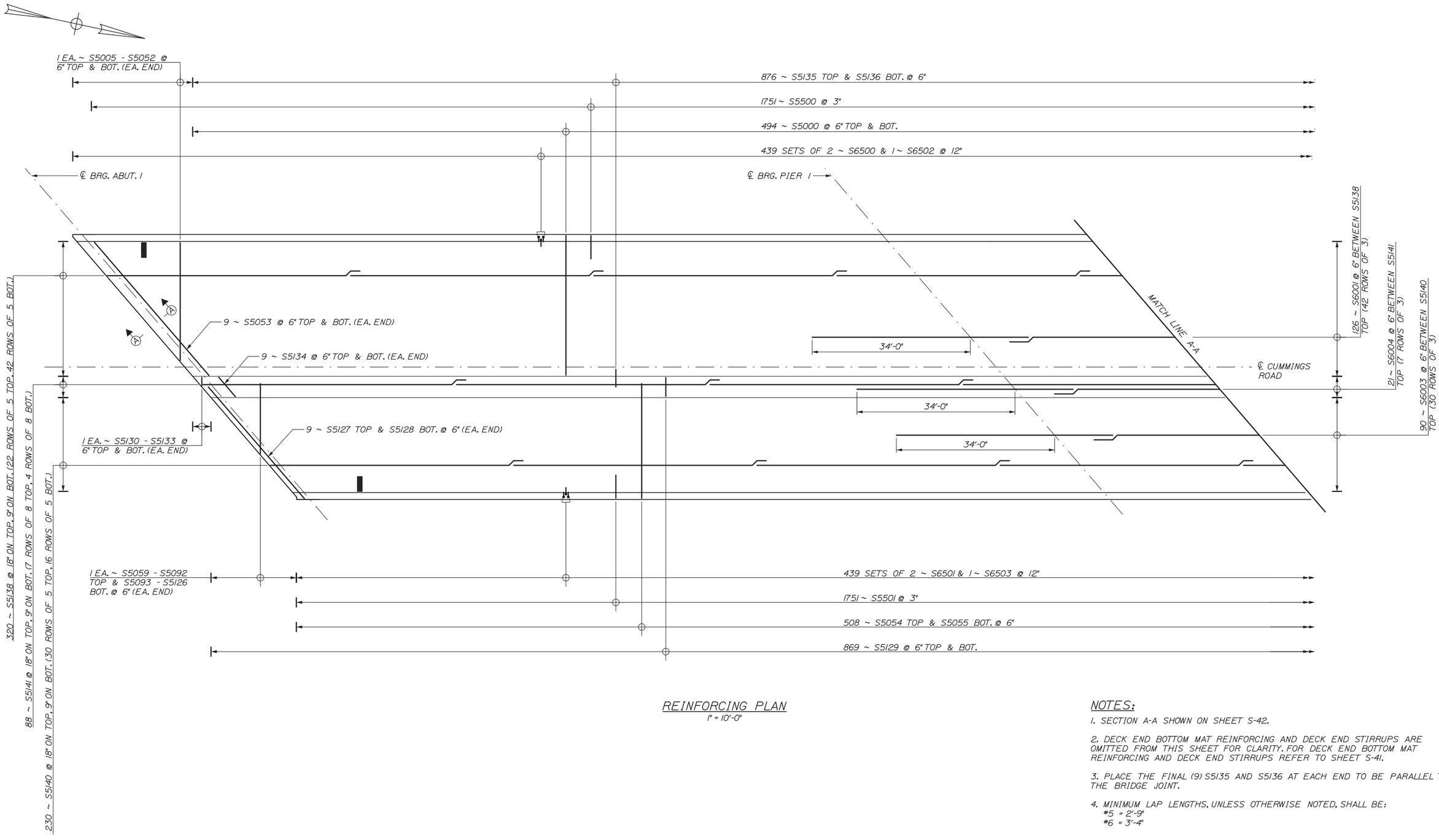
SHEET NUMBER: S-39

CONTRACT: 2018.19

Date: 9/21/2018

Filename: 114_Transverse Section and Superstructure Plan.dgn

Date:9/21/2018



REINFORCING PLAN

1" = 10'-0"

NOTES:

1. SECTION A-A SHOWN ON SHEET S-42.
2. DECK END BOTTOM MAT REINFORCING AND DECK END STIRRUPS ARE OMITTED FROM THIS SHEET FOR CLARITY. FOR DECK END BOTTOM MAT REINFORCING AND DECK END STIRRUPS REFER TO SHEET S-41.
3. PLACE THE FINAL (9) S5135 AND S5136 AT EACH END TO BE PARALLEL TO THE BRIDGE JOINT.
4. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE:
   #5 = 2'-9"
   #6 = 3'-4"

Filename: 115_Superstructure Reinforcing Plan 1.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

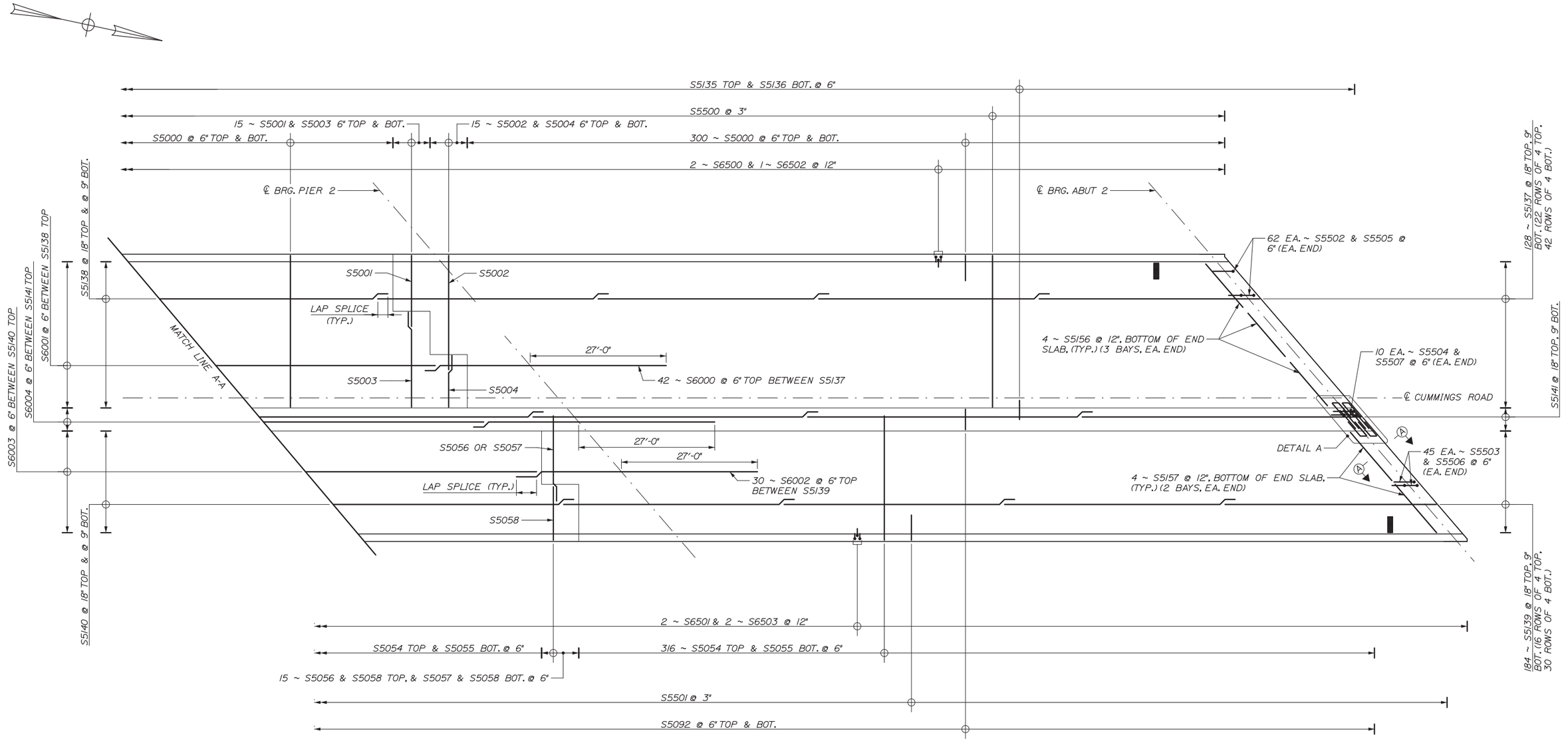
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SUPERSTRUCTURE REINFORCING PLAN 1

SHEET NUMBER: S-40

CONTRACT:2018.19

115 OF 135



REINFORCING PLAN

1" = 10'-0"

NOTES:

1. SECTION A-A AND DETAIL A SHOWN ON SHEET S-42.
2. SKEWED END REINFORCING AND INCREMENTAL LENGTH TRANSVERVSE BARS ARE OMITTED FROM THIS SHEET FOR CLARITY. FOR SKEWED END REINFORCING AND INCREMENTAL LENGTH TRANSVERSE BARS REFER TO SHEET S-40.
3. PLACE THE FINAL (9) S5135 AND S5136 AT EACH END TO BE PARALLEL TO THE BRIDGE JOINT.
4. MINIMUM LAP LENGTHS, UNLESS OTHERWISE NOTED, SHALL BE:
   #5 = 2'-9"
   #6 = 3'-4"

Date:9/21/2018

Filename: 116_Superstructure Reinforcing Plan 2.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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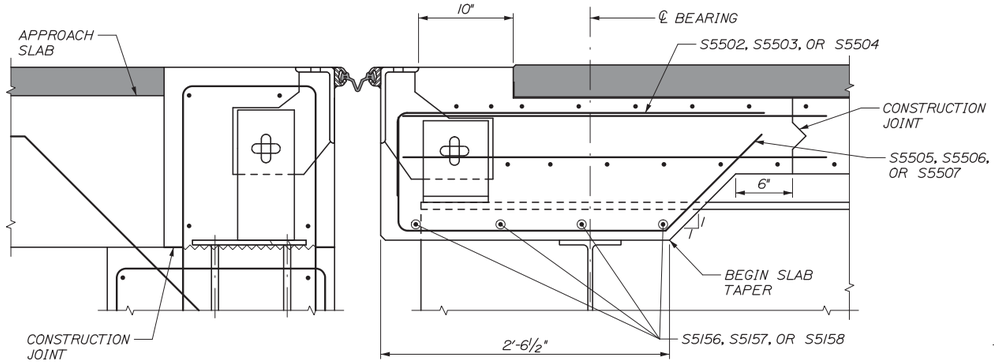
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SUPERSTRUCTURE REINFORCING PLAN II

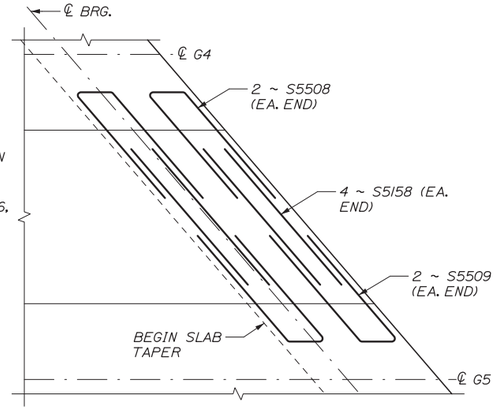
SHEET NUMBER: S-41

CONTRACT:2018.19



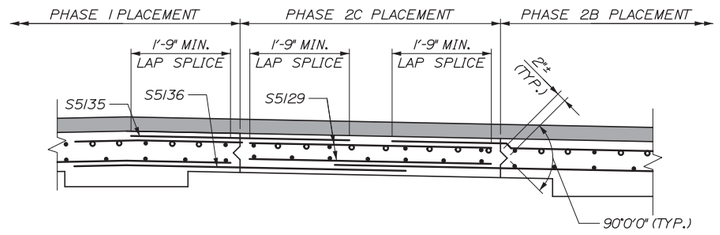
SECTION A-A

(NORMAL TO ℄ BRG.)
1 1/2" = 1'-0"



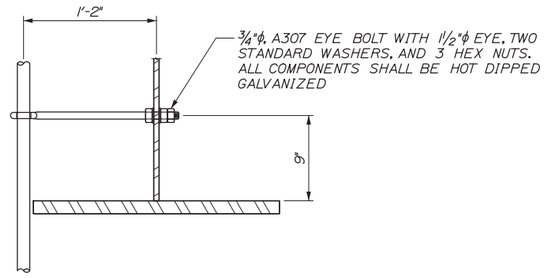
DETAIL A

1/2" = 1'-0"



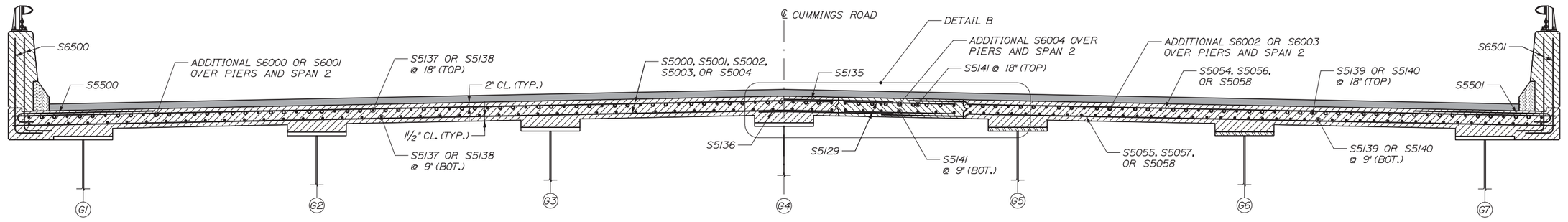
DETAIL B

3/4" = 1'-0"



PVC DRAIN CLIP DETAIL

1 1/2" = 1'-0"



REINFORCING SECTION

1/2" = 1'-0"

Date:9/21/2018

Filename: 117_Superstructure Reinforcing Details.dgn

Scale:			
No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
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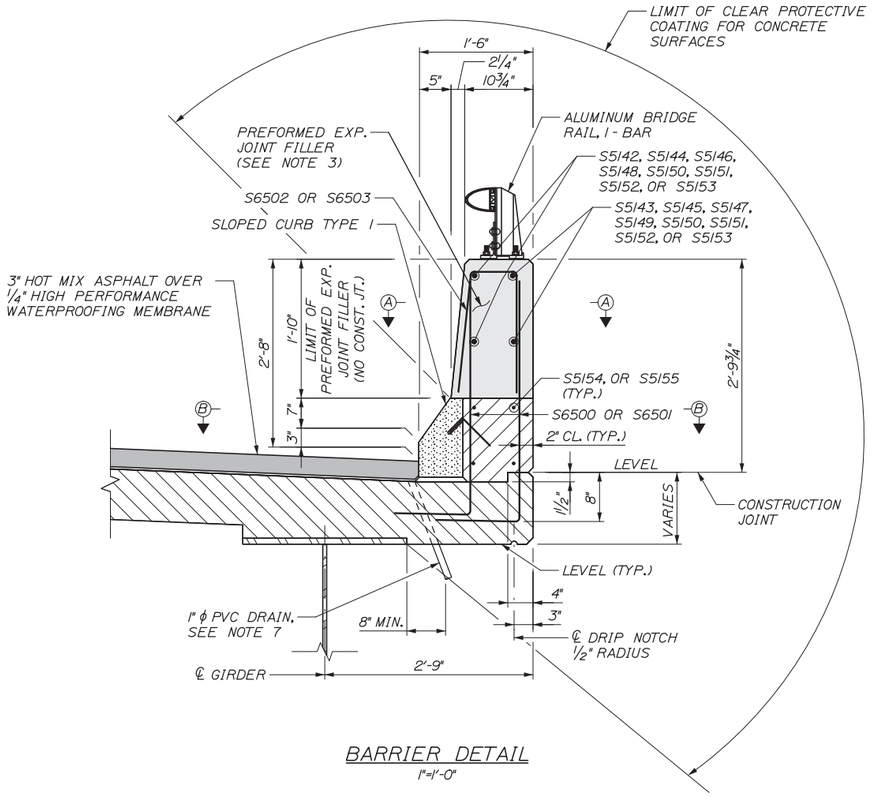
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

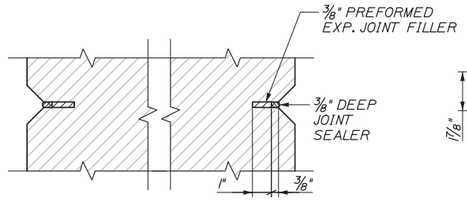
SUPERSTRUCTURE REINFORCING DETAILS

SHEET NUMBER: S-42

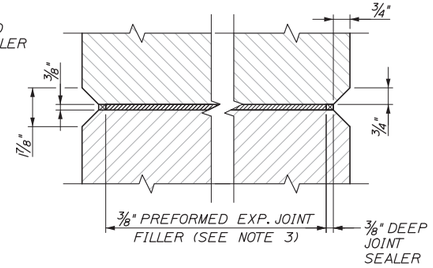
CONTRACT:2018.19



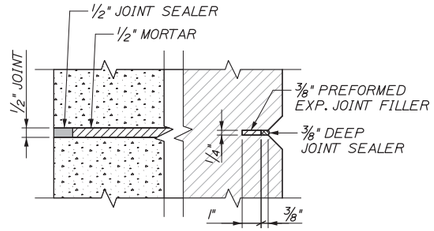
BARRIER DETAIL
1"=1'-0"



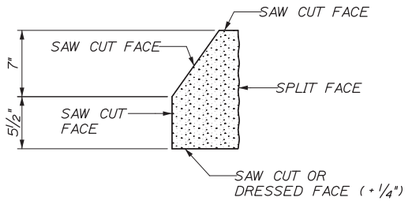
SECTION A-A
(AT DUMMY JOINT)
3" = 1'-0"



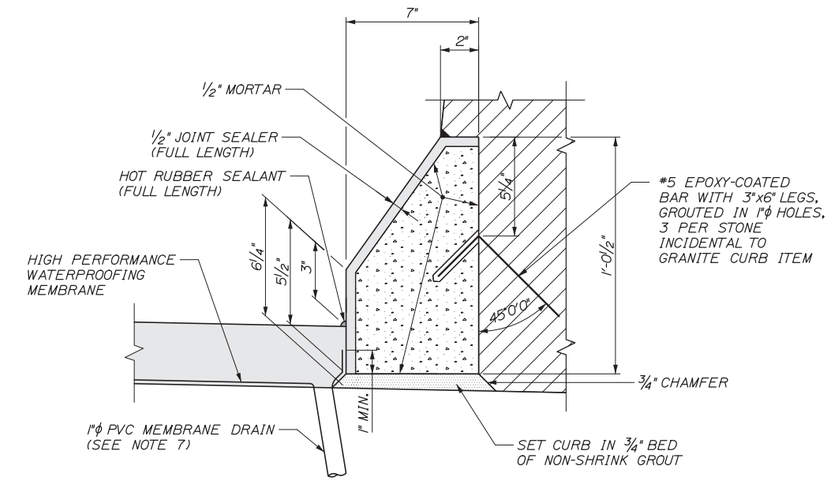
SECTION A-A
(AT PARAFFIN JOINT)
3" = 1'-0"



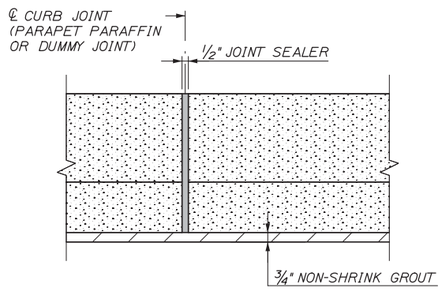
SECTION B-B
(AT DUMMY AND PARAFFIN JOINT LOCATIONS)
3" = 1'-0"



SLOPED CURB TYPE I - CUT DETAIL
1½" = 1'-0"



SLOPED CURB TYPE I
3" = 1'-0"



BRIDGE CURB ELEVATION
2" = 1'-0"

PARAPET NOTES

1. CONSTRUCTION OF PARAFFIN AND DUMMY JOINTS, INCLUDING PREFORMED EXPANSION JOINT FILLER, SHALL BE INCIDENTAL TO RELATED STRUCTURAL CONCRETE PAY ITEM.

2. CONCRETE SHALL BE PLACED SIMULTANEOUSLY ON BOTH SIDES OF THE PARAFFIN JOINT. THE PARAFFIN JOINTS SHALL REMAIN PLUMB AND STRAIGHT. A THIN STEEL PLATE, FREE OF RUST AND DEBRIS, MAY BE USED TO SUPPORT THE JOINT DURING CONCRETE PLACEMENT. THE PLATE SHALL BE CAREFULLY REMOVED WHILE THE CONCRETE IS PLASTIC.

3. PREFORMED EXPANSION JOINT FILLER SHALL CONFORM TO ASTM DESIGNATION D1752, TYPE 1 OR ASTM D5249, TYPE 2. PREFORMED EXPANSION JOINT FILLER SHALL BE A NON STAINING, NON BLEEDING TYPE. PRODUCTS SUCH AS 'CERAMAR', MANUFACTURED BY W. R. MEADOWS, OR AN APPROVED EQUAL WILL BE ACCEPTABLE. CORK IS NOT AN ACCEPTABLE PREFORMED EXPANSION JOINT FILLER MATERIAL.

4. JOINT SEALER SHALL CONFORM WITH SUBSECTION 714.04 OF THE SPECIFICATIONS AND SHALL BE INCIDENTAL TO RELATED CONTRACT PAY ITEMS.

5. MORTAR FOR BEDDING AND FOR JOINTS IN THE GRANITE CURB SHALL CONTAIN A NON-SHRINK ADDITIVE.

6. GRANITE CURB JOINTS SHALL LINE UP WITH PARAFFIN AND DUMMY JOINTS.

7. PVC DRAINS SHALL BE PLACED AT THE LOW CORNERS OF THE BRIDGE, AS SHOWN ON SHEET S-39 OR AS DIRECTED BY THE RESIDENT, AND SHALL EXTEND 2-FT BELOW THE BOTTOM OF GIRDER. PAYMENT FOR PVC DRAINS AND DRAIN CLIPS WILL BE MADE UNDER ITEM 502.26, STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON STEEL BRIDGES.

Date:9/21/2018

Filename: 118_Superstructure Details 1.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	TJP	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

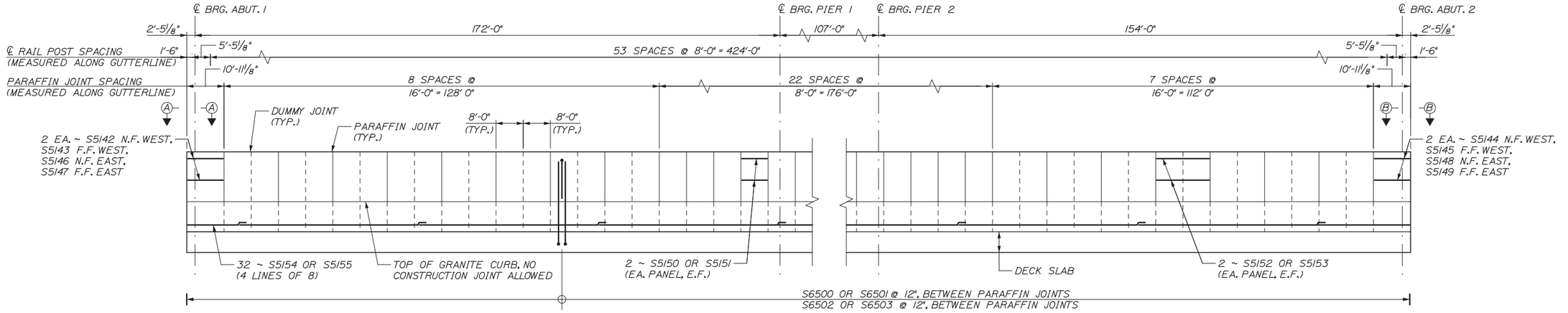
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SUPERSTRUCTURE DETAILS 1

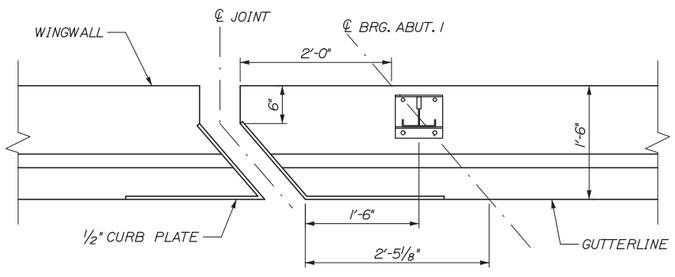
SHEET NUMBER: S-43

CONTRACT:2018.19



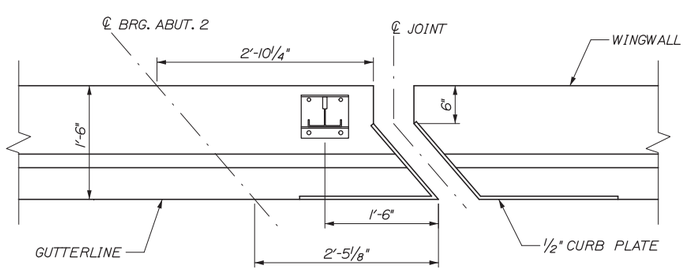
PARAPET ELEVATION

(WEST PARAPET SHOWN, EAST PARAPET SIMILAR)
HORIZ. 1/16" = 1'-0"
VERT. 1/4" = 1'-0"



VIEW A-A

1" = 1'-0"



VIEW B-B

1" = 1'-0"

Date:9/21/2018

Filename: 119_Superstructure Details 2.dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
					By	Date		By	Date
				Designed	HJW	08\18	Checked	JKO	08\18
				Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

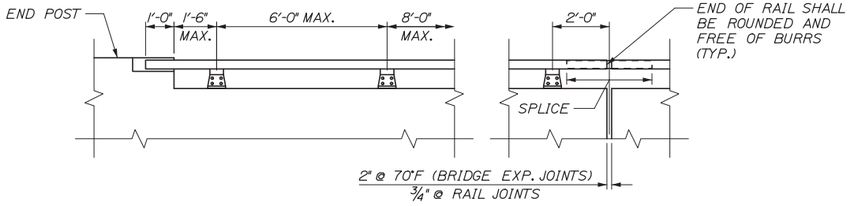
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

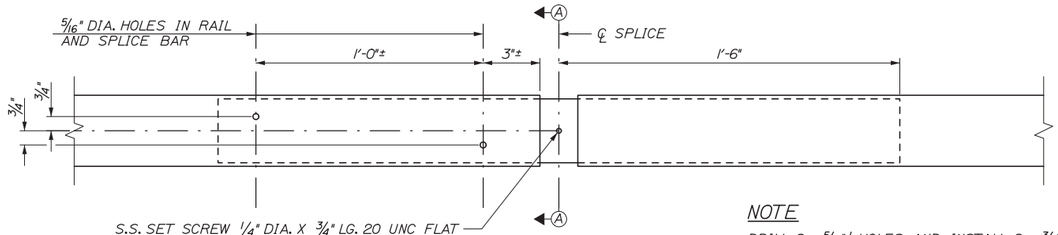
SUPERSTRUCTURE DETAILS II

SHEET NUMBER: S-44

CONTRACT:2018.19

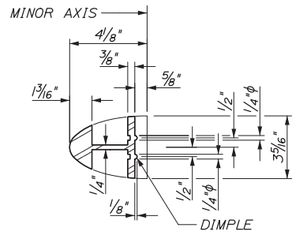


RAILING ELEVATION
3/8" = 1'-0"

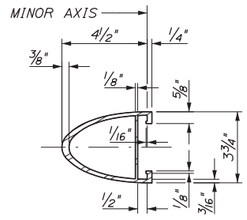


SPLICE DETAIL
3" = 1'-0"

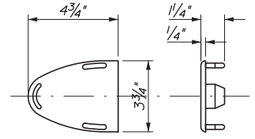
NOTE
DRILL 2 - 5/16"ϕ HOLES AND INSTALL 2 - 3/8"ϕ X 1", TYPE F, HEX. WASHER HEAD TAPPING SCREWS (STAINLESS).



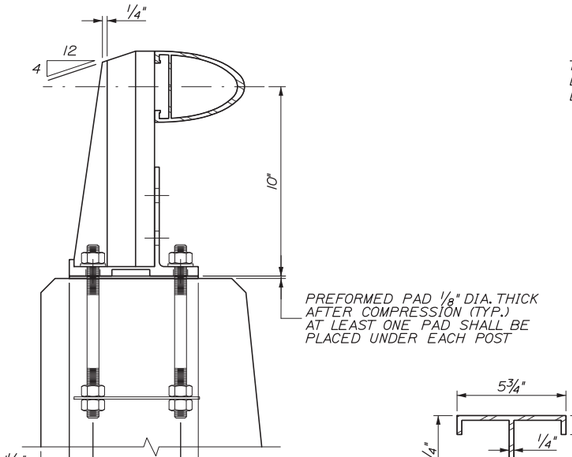
SECTION A-A
3" = 1'-0"



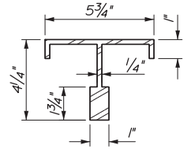
RAIL MEMBER
3" = 1'-0"



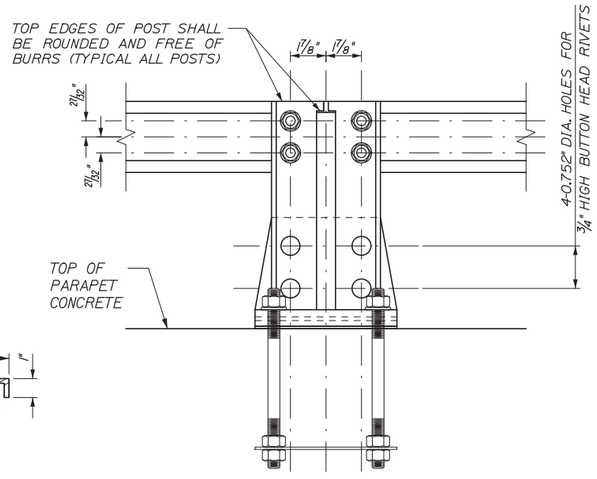
CAST ALUMINUM DRIVE FIT RAIL CAP
3" = 1'-0"



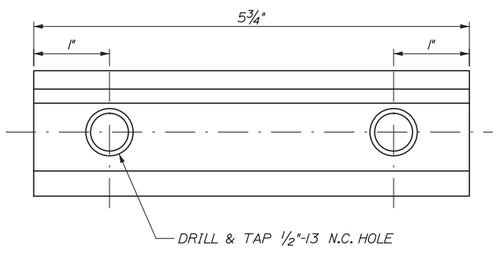
BRIDGE RAILING ASSEMBLY
3" = 1'-0"

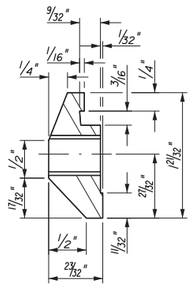


POST SECTION
3" = 1'-0"

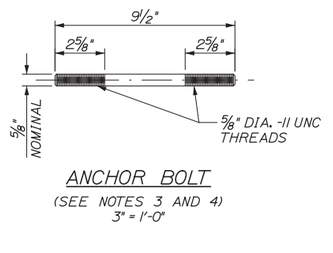


OUTSIDE ELEVATION OF POST
3" = 1'-0"

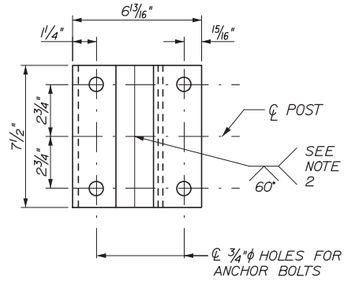




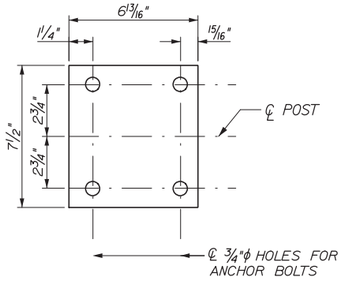
CLAMP BAR DETAILS
1'-0" = 1'-0"



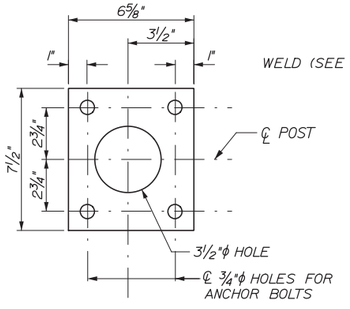
ANCHOR BOLT
(SEE NOTES 3 AND 4)
3" = 1'-0"



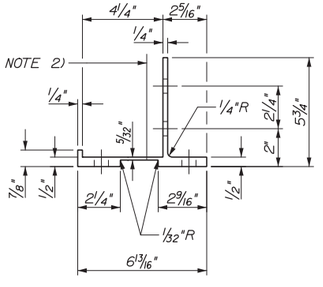
POST BASE (BOTTOM VIEW)
3" = 1'-0"



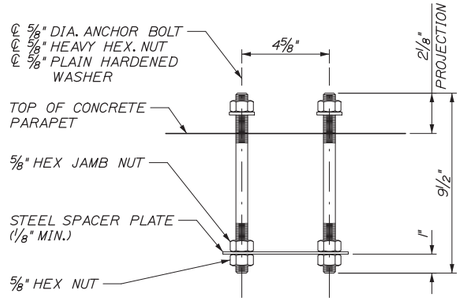
PREFORMED PAD
3" = 1'-0"



STEEL SPACER PLATE (FOR ANCHORAGE)
3" = 1'-0"



POST BASE SECTION
3" = 1'-0"



RAIL POST ANCHORAGE (ASSEMBLY)
3" = 1'-0"

NOTES:

1. LENGTHS OF RAIL SHALL BE ATTACHED TO A MIN. OF FOUR (4) RAIL POSTS WHENEVER POSSIBLE AND, IN ANY CASE, NEVER LESS THAN TWO (2). RAIL POSTS ARE TO BE SET NORMAL TO GRADE, UNLESS OTHERWISE SHOWN ON THE BRIDGE PLANS.

2. ONE-PIECE BASE PLATE MAY BE SUBSTITUTED, PROVIDED THAT THE REQUIRED LENGTH IS CUT FROM A ONE-PIECE EXTRUSION AND HAS THE GEOMETRIC SHAPE OF THE TWO-PIECE BASE PLATE.

3. IF CUT THREADS ARE USED TO FABRICATE ANCHOR BOLTS, THE BODY DIAMETER SHALL NOT BE LESS THAN THE NOMINAL DIAMETER. IF ROLLED THREADS ARE USED, THE BODY DIAMETER SHALL NOT BE LESS THAN THE PITCH DIAMETER OF THE THREADS.

4. FOUR (4) BOLT, NUT, AND WASHER SETS ARE REQUIRED PER ASSEMBLY. ALL HARDWARE SHALL BE GALVANIZED.

Date:9/21/2018

Filename: 120_Aluminum Railing Details (1 Bar).dgn

Scale:				Designed by: HNTB					
No.	Revision	By	Date	CONSULTANT PROJECT MANAGER: Tim Cote, P.E.					
					By	Date		By	Date
				Designed	HJW	08\18	Checked	JKO	08\18
				Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

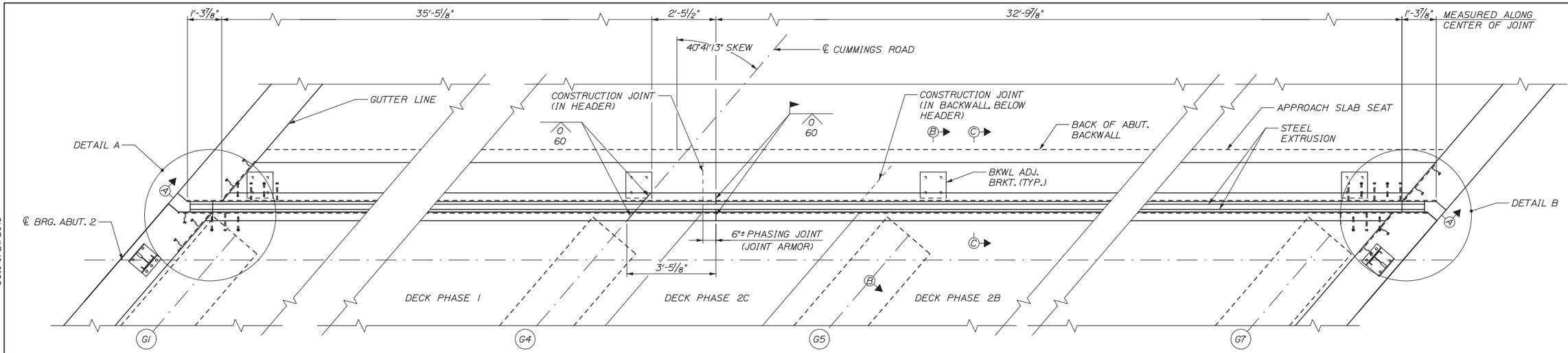
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

ALUMINUM BRIDGE RAILING (1 BAR)

SHEET NUMBER: S-45

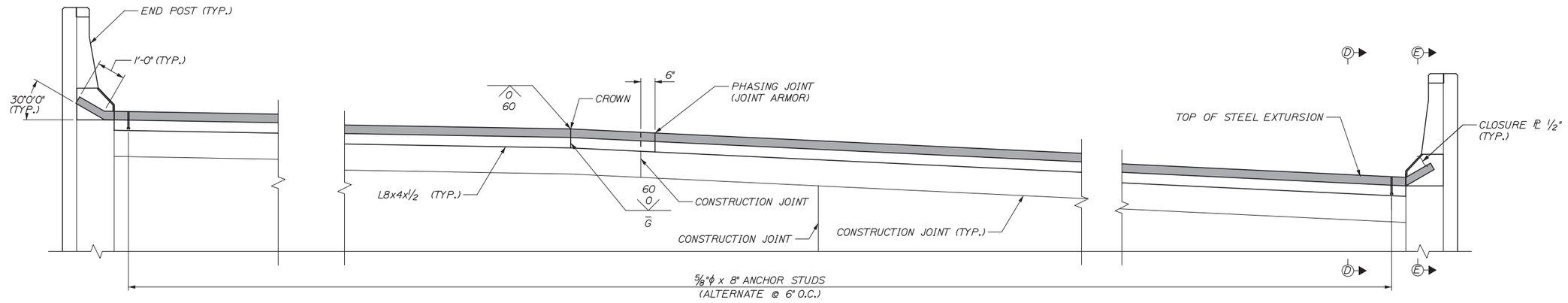
CONTRACT:2018.19



PLAN

(ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)

½" = 1'-0"



SECTION A-A

(ABUTMENT 2 SHOWN, ABUTMENT 1 SIMILAR)

½" = 1'-0"

EXPANSION JOINT NOTES:

1. SHOP DRAWINGS OF THE EXPANSION DEVICE SHALL BE SUBMITTED FOR APPROVAL BY THE RESIDENT

2. THE EXPANSION DEVICE SHALL BE SET TO AN OPENING OF 2⅜ INCHES IN THE FABRICATION SHOP AND SHALL BE SECURED TO THE GIRDER AND/OR ANCHOR BOLTS WHEN THE AMBIENT TEMPERATURE IS BETWEEN 40° AND 80°F. THE OPENING SHALL BE ADJUSTED TO REFLECT THE TEMPERATURE OF THE STRUCTURE AT THE TIME OF INSTALLATION. SEE TABLE FOR THE OPENING DIMENSIONS. JOINT OPENING SHALL BE MEASURED NORMAL TO THE CENTERLINE OF BEARING.

3. THE CONTRACTOR SHALL APPLY AN EPOXY BONDING AGENT SELECTED FROM MAINEDOT'S QUALIFIED PRODUCTS LIST TO ALL STEEL SURFACES OF THE EXPANSION JOINT THAT WILL BE EMBEDDED IN THE CONCRETE BEFORE PLACING THE DECK AND BACKWALL CONCRETE.

4. ALL STEEL COMPONENTS SHALL BE AASHTO M270 GRADE 36, UNLESS OTHERWISE NOTED. THE EXPANSION JOINT ASSEMBLY AND ASSOCIATED HARDWARE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

Date:9/21/2018

Filename: 121_Expansion Joint Details 1.dgn

Scale:			
No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

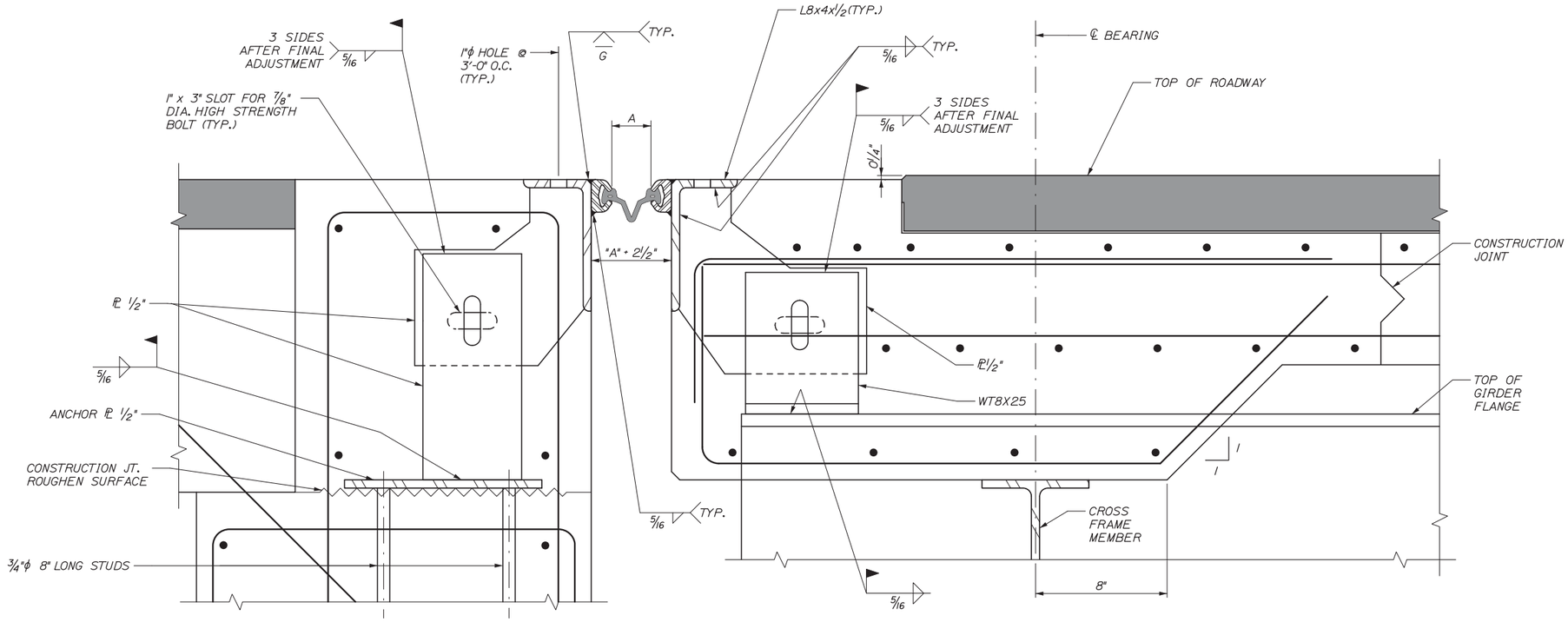
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

EXPANSION JOINT DETAILS 1

SHEET NUMBER: S-46

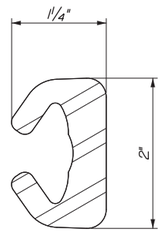
CONTRACT:2018.19



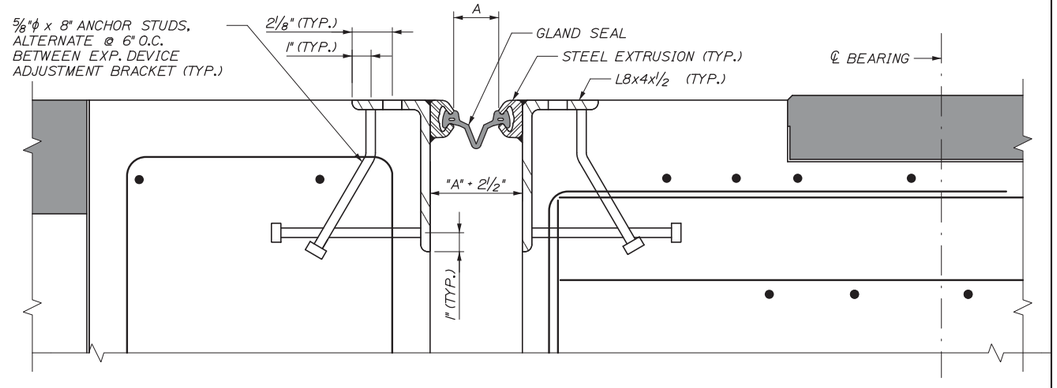
EXPANSION JOINT SETTING TABLE		
TEMPERATURE	DIMENSION "A"	
	ABUT. 1	ABUT. 2
25°F	2 9/16"	2 11/16"
35°F	2 1/2"	2 1/2"
45°F	2 3/8"	2 3/8"
55°F	2 1/4"	2 1/4"
65°F	2 3/16"	2 1/16"
75°F	2 1/16"	1 15/16"
85°F	1 15/16"	1 3/4"

DIMENSION "A" IS NORMAL TO CENTERLINE OF BEARING

SECTION B-B
3" = 1'-0"



STEEL EXTRUSION
N.T.S.



SECTION C-C
3" = 1'-0"

Date:9/21/2018

Filename: 122_Expansion Joint Details 2.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

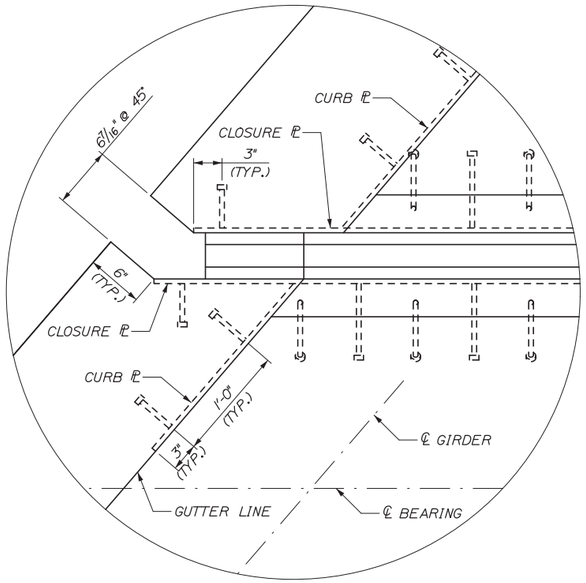
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

EXPANSION JOINT DETAILS II

SHEET NUMBER: S-47

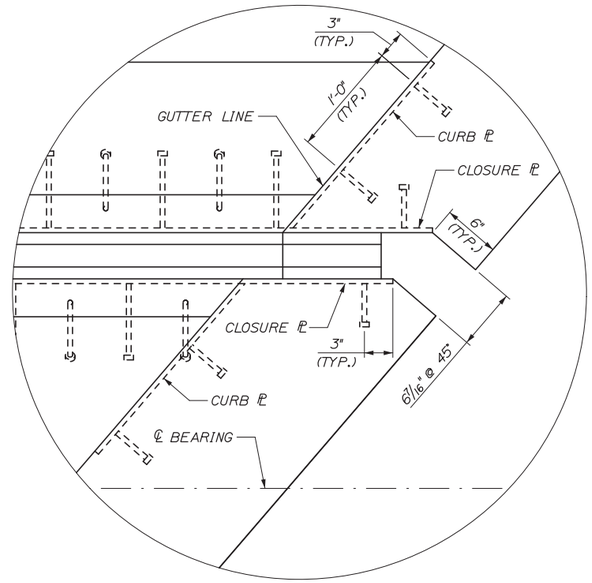
CONTRACT:2018.19



DETAIL A

(ADJUSTMENTS BRACKETS NOT SHOWN)

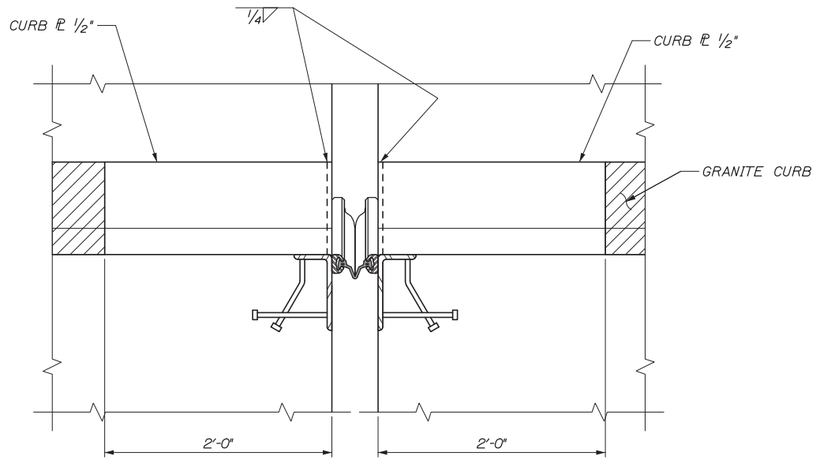
1½" = 1'-0"



DETAIL B

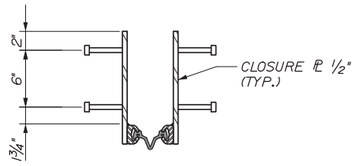
(ADJUSTMENTS BRACKETS NOT SHOWN)

1½" = 1'-0"



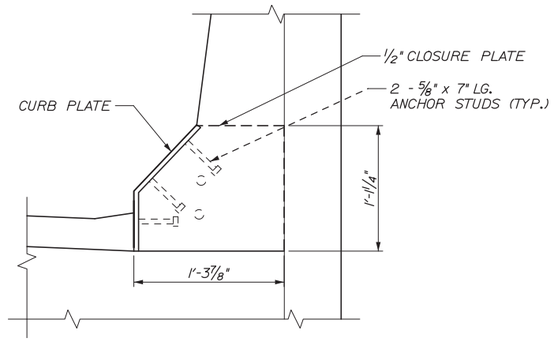
SECTION D-D

1½" = 1'-0"



SECTION E-E

1½" = 1'-0"



END DECK PARAPET ELEVATION

END POST END ELEVATION SIMILAR

1½" = 1'-0"

Scale:

Designed by: HNTB

No.	Revision	By	Date

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	HJW	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

EXPANSION JOINT DETAILS III

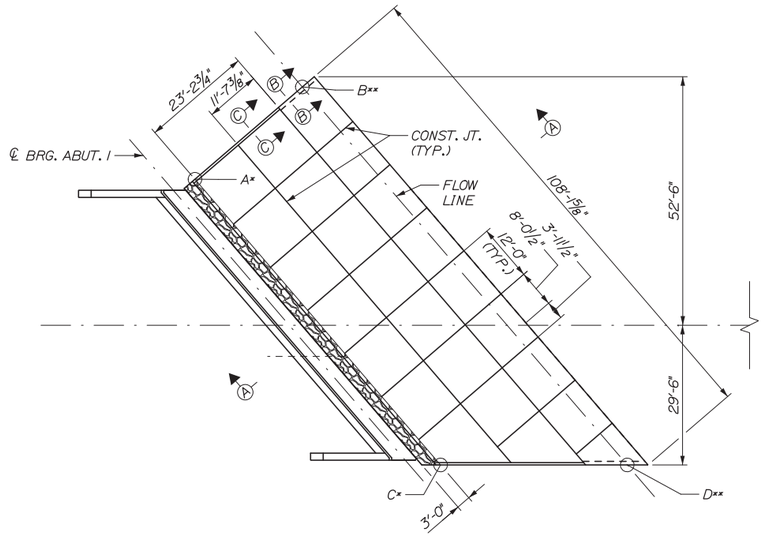
SHEET NUMBER: S-48

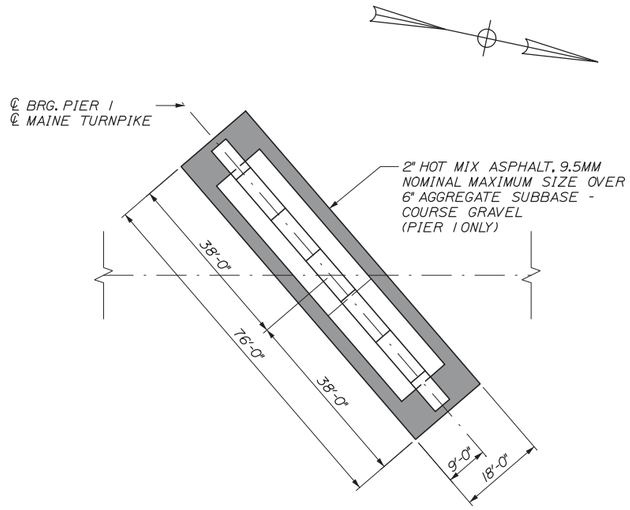
CONTRACT:2018.19

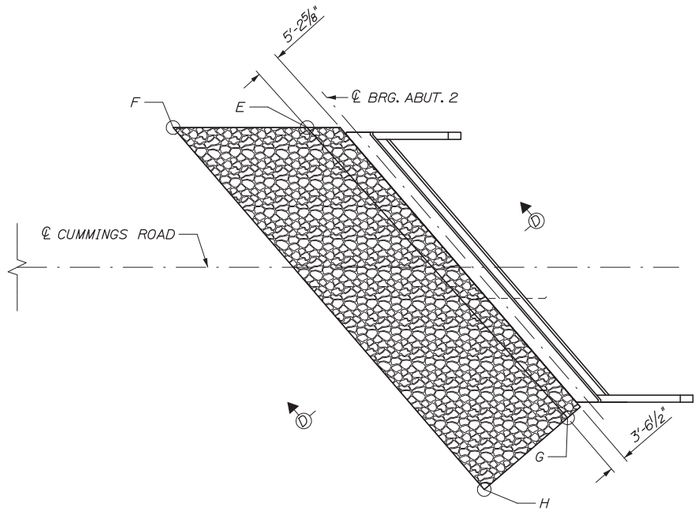
123 OF 135

Date:9/21/2018

Filename: 123_Expansion Joint Details 3.dgn



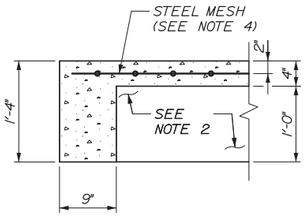




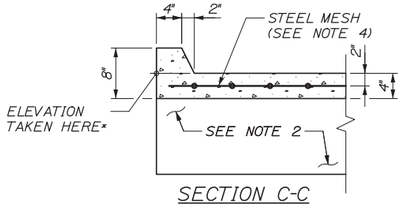
SLOPE PROTECTION PLAN
(PIER 2 NOT SHOWN)
1/16" = 1'-0"

SLOPE PROTECTION LAYOUT TABLE			
	STATION	OFFSET	ELEVATION
A	2206+12.05	125.42' RT	78.00
B	2206+12.05	95.53' RT	66.90
C	2206+91.62	125.43' RT	79.10
D	2207+17.32	95.53' RT	67.00
E	2208+85.51	190.61' LT	77.00
F	2208+67.06	169.15' LT	66.10
G	2209+67.88	192.37' LT	77.00
H	2209+67.88	169.15' LT	65.40

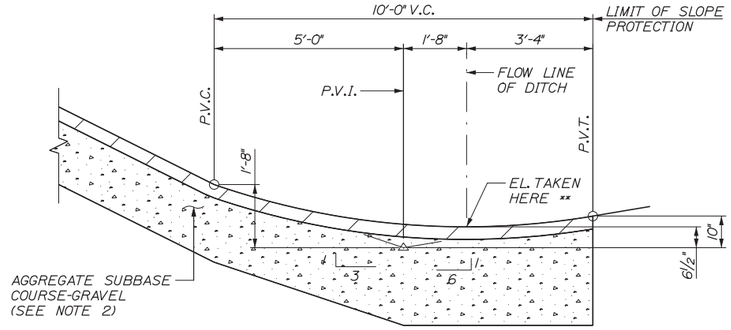
(STATIONS AND OFFSETS ARE MEASURED FROM ℄ MAINE TURNPIKE)



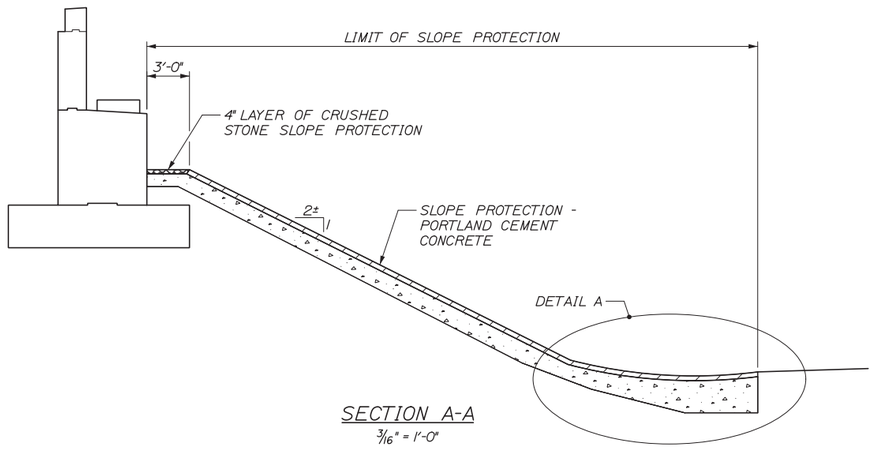
SECTION B-B
1" = 1'-0"



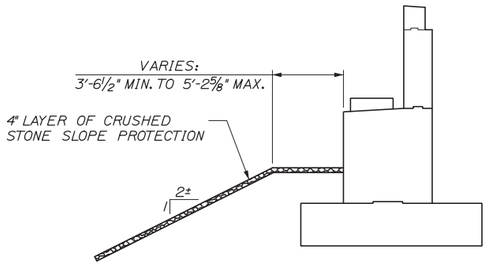
SECTION C-C
1" = 1'-0"



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



SECTION A-A
3/16" = 1'-0"



SECTION D-D
3/16" = 1'-0"

SLOPE PROTECTION NOTES:

1. ALL ELEVATIONS SHOWN ARE TAKEN AT TOP OF SLOPE PROTECTION.
2. THE 1'-0" OF AGGREGATE SUBBASE COURSE-GRAVEL UNDER SLOPE PROTECTION, MAY BE REDUCED OR OMITTED IF, IN THE OPINION OF THE ENGINEER, THE EXISTING MATERIAL IS SUITABLE.
3. BREAK BOND AT CONSTRUCTION JOINTS WITH A COAT OF ASPHALT PAINT.
4. REINFORCE WITH EPOXY-COATED WWF6X6-W2XW2, NOT TO PASS THRU CONSTRUCTION JOINTS.
5. EDGES OF CONSTRUCTION JOINTS SHALL BE FINISHED WITH A SIDEWALK EDGING TOOL TO A DEPTH OF 1/4".

× ELEVATIONS TAKEN AT TOP OF 4" CONCRETE SLAB.
×× ELEVATIONS TAKEN AT LOW POINT OF DITCH.

Date:9/21/2018

Filename: 124_Slope Protection Plan and Details.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	TJP	08\18	Checked	JKO	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

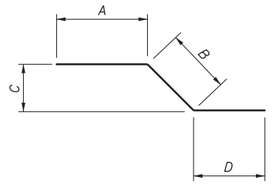
BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

SLOPE PROTECTION PLAN AND DETAILS

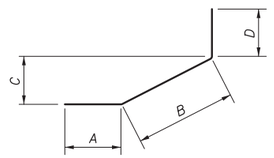
SHEET NUMBER: S-49

CONTRACT:2018.19

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
ABUTMENT NO. 1										
A500	5	12	45' - 0"	STR						Backwall Horizontal, Phase 1
A501	5	16	3' - 6"	STR						Backwall Horizontal, Phase 1 Coupler
A502	5	12	28' - 8"	STR						Backwall Horizontal, Phase 2
A503	5	16	3' - 6"	STR						Backwall Horizontal, Phase 2 Coupler
A504	5	4	43' - 3"	STR						Header Horizontal, Phase 1
A505	5	4	30' - 2"	STR						Header Horizontal, Phase 2
A550	5	48	16' - 1"	129	1'-8"	7'-2"				Backwall Vertical, Phase 1
A551	5	49	7' 11"	106	3' 4"	3' 5"	1' 2"	1' 2"		Backwall Vertical, Above Approach Slab Seal Phase 1
A552	5	45	6' - 8"	119	3'-2"	3'-5"	2'-8"			Approach Slab, Phase 1
A553	5	24	9' 6"	103	3' 5"	6' 1"	4' 0"	0' 0"		Backwall to WW Corner, Phase 1
A554	5	31	7' - 11"	106	3'-4"	3'-5"	1'-2"	1'-2"		Backwall Vertical above Approach Slab Seal Phase 1
A555	5	31	16' 1"	129	1' 8"	7' 2"				Backwall Vertical, Phase 2
A556	5	28	6' - 8"	119	3'-2"	3'-5"	2'-8"			Approach Slab, Phase 2
A557	5	24	11' - 6"	114	5'-5"	0'-0"	3'-11"	6'-1"		Backwall to WW Corner, Phase 2
A600	6	41	12' - 5"	STR						Footing Longitudinal, Phase 1, Top
A601	6	1	11' - 6"	STR						Footing Longitudinal, Phase 1, Top
A602	6	1	10' - 4"	STR						Footing Longitudinal, Phase 1, Top
A603	6	1	9' - 2"	STR						Footing Longitudinal, Phase 1, Top
A604	6	1	8' - 0"	STR						Footing Longitudinal, Phase 1, Top
A605	6	1	6' - 10"	STR						Footing Longitudinal, Phase 1, Top
A606	6	1	5' - 8"	STR						Footing Longitudinal, Phase 1, Top
A607	6	1	4' 6"	STR						Footing Longitudinal, Phase 1, Top
A608	6	1	3' - 4"	STR						Footing Longitudinal, Phase 1, Top
A609	6	1	2' 2"	STR						Footing Longitudinal, Phase 1, Top
A610	6	1	16' - 4"	S1R						Footing Longitudinal, Phase 1, Construction Joint, Top
A611	6	28	49' 5"	STR						Footing Transverse, Phase 1, Top and Bottom
A612	6	28	3' - 8"	S1R						Footing Transverse, Phase 1, Top and Bottom Coupler
A613	6	23	12' - 5"	STR						Longitudinal, Phase 2, Top
A614	6	1	11' - 11"	S1R						Footing Longitudinal, Phase 2, Top
A615	6	1	10' - 9"	STR						Footing Longitudinal, Phase 2, Top
A616	6	1	9' - 7"	S1R						Footing Longitudinal, Phase 2, Top
A617	6	1	8' - 5"	STR						Footing Longitudinal, Phase 2, Top
A618	6	1	7' - 3"	STR						Footing Longitudinal, Phase 2, Top
A619	6	1	6' - 1"	STR						Footing Longitudinal, Phase 2, Top
A620	6	1	4' - 11"	STR						Footing Longitudinal, Phase 2, Top
A621	6	1	3' - 8"	STR						Footing Longitudinal, Phase 2, Top
A622	6	1	2' - 7"	STR						Footing Longitudinal, Phase 2, Top
A623	6	1	16' - 4"	STR						Footing Longitudinal, Phase 2, Construction Joint, Top
A624	6	1	11' 10"	STR						Footing Longitudinal, Phase 2, Top
A625	6	1	10' - 8"	STR						Footing Longitudinal, Phase 2, Top
A626	6	1	9' 6"	STR						Footing Longitudinal, Phase 2, Top
A627	6	1	8' - 4"	S1R						Footing Longitudinal, Phase 2, Top
A628	6	1	7' - 2"	STR						Footing Longitudinal, Phase 2, Top
A629	6	1	6' - 0"	STR						Footing Longitudinal, Phase 2, Top
A630	6	1	4' - 10"	STR						Footing Longitudinal, Phase 2, Top
A631	6	28	28' - 7"	STR						Footing Transverse, Phase 2, Top and Bottom
A632	6	28	3' - 8"	S1R						Footing Transverse, Phase 2, Top and Bottom Coupler
A633	6	21	45' 0"	STR						Transverse Stem Wall, Phase 1
A634	6	21	4' - 11"	STR						Transverse Stem Wall, Phase 1, Coupler
A635	6	21	28' 8"	STR						Transverse Stem Wall, Phase 2
A636	6	21	4' - 11"	STR						Transverse Stem Wall, Phase 2, Coupler
A650	6	96	8' - 5"	118	7'-5"	1'-0"				Footing to Stem Wall Dowel, Phase 1
A651	6	60	10' 6"	118	9' 6"	1' 0"				Footing to Stem Wall Dowel, Phase 2
A652	6	44	14' - 4"	106	4'-1"	4'-4"	5'-11"	5'-11"		Stem Wall Stirrup, Phase 1
A653	6	6	10' - 0"	118	4'-1"	5'-11"				Seat Vertical, Phase 1, Construction Joint
A654	6	24	17' - 3"	103	6'-10"	10'-5"	6'-9"	0'-0"		Seat Obtuse Corner, Phase 1
A655	6	26	18' - 6"	106	6'-2"	6'-5"	5'-11"	5'-11"		Stem Wall Stirrup, Phase 2
A656	6	6	12' - 1"	118	6'-2"	5'-11"				Vertical Seat, Phase 2, Construction Joint
A657	6	24	17' - 3"	114	6'-10"	0'-0"	6'-9"	10'-5"		Seat Acute Corner Bar, Phase 2
A658	6	63	9' - 4"	129	2'-10"	3'-3"				Pedestal Reinforcement
A659	6	63	9' - 1"	129	2'-7"	3'-3"				Pedestal Reinforcement



TYPE 103



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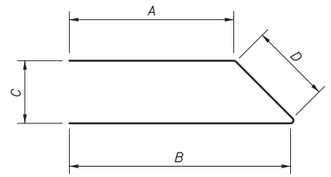

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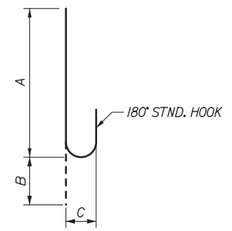

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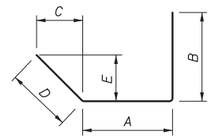

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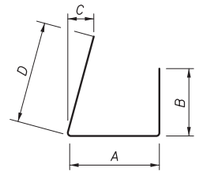
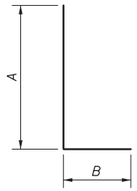


TYPE 114



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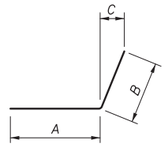

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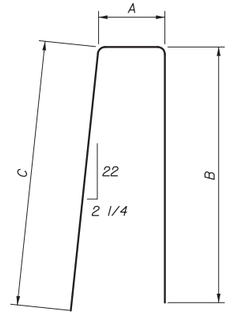

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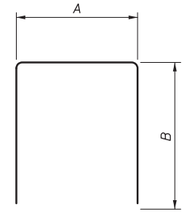

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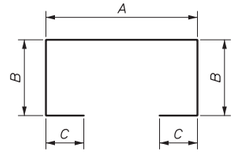

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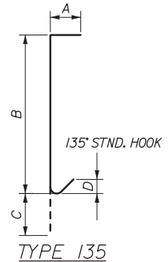
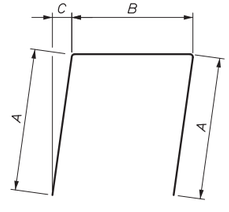


TYPE 135



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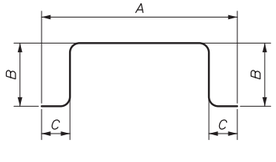

TYPE 145

Date:9/21/2018

Filename: 125_Reinforcing Steel Schedule 1.dgn

Scale:			
No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE I

SHEET NUMBER: S-50

CONTRACT:2018.19

Date:9/21/2018

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
ABUTMENT NO. 1										
A700	7	54	12' - 5"	STR						Footing Longitudinal, Phase 1, Bottom
A701	7	1	11' - 6"	STR						Footing Longitudinal, Phase 1, Bottom
A702	7	1	10' - 7"	STR						Footing Longitudinal, Phase 1, Bottom
A703	7	1	9' - 9"	STR						Footing Longitudinal, Phase 1, Bottom
A704	7	1	8' - 10"	STR						Footing Longitudinal, Phase 1, Bottom
A705	7	1	8' - 0"	STR						Footing Longitudinal, Phase 1, Bottom
A706	7	1	7' 1"	STR						Footing Longitudinal, Phase 1, Bottom
A707	7	1	6' - 3"	STR						Footing Longitudinal, Phase 1, Bottom
A708	7	1	5' 4"	STR						Footing Longitudinal, Phase 1, Bottom
A709	7	1	4' - 6"	STR						Footing Longitudinal, Phase 1, Bottom
A710	7	1	3' 7"	STR						Footing Longitudinal, Phase 1, Bottom
A711	7	1	2' - 9"	STR						Footing Longitudinal, Phase 1, Bottom
A712	7	1	1' 10"	STR						Footing Longitudinal, Phase 1, Bottom
A713	7	30	12' - 5"	STR						Footing Longitudinal, Phase 2, Bottom
A714	7	1	11' - 11"	STR						Footing Longitudinal, Phase 2, Bottom
A715	7	1	11' - 0"	STR						Footing Longitudinal, Phase 2, Bottom
A716	7	1	10' - 2"	STR						Footing Longitudinal, Phase 2, Bottom
A717	7	1	9' - 3"	STR						Footing Longitudinal, Phase 2, Bottom
A718	7	1	8' - 5"	STR						Footing Longitudinal, Phase 2, Bottom
A719	7	1	7' - 6"	STR						Footing Longitudinal, Phase 2, Bottom
A720	7	1	6' - 8"	STR						Footing Longitudinal, Phase 2, Bottom
A721	7	1	5' - 9"	STR						Footing Longitudinal, Phase 2, Bottom
A722	7	1	4' - 11"	STR						Footing Longitudinal, Phase 2, Bottom
A723	7	1	4' 0"	STR						Footing Longitudinal, Phase 2, Bottom
A724	7	1	3' - 2"	STR						Footing Longitudinal, Phase 2, Bottom
A725	7	1	2' 3"	STR						Footing Longitudinal, Phase 2, Bottom
A726	7	1	11' - 10"	STR						Footing Longitudinal, Phase 2, Bottom
A727	7	1	10' 11"	STR						Footing Longitudinal, Phase 2, Bottom
A728	7	1	10' - 1"	STR						Footing Longitudinal, Phase 2, Bottom
A729	7	1	9' - 2"	STR						Footing Longitudinal, Phase 2, Bottom
A730	7	1	8' - 4"	STR						Footing Longitudinal, Phase 2, Bottom
A731	7	1	7' - 5"	STR						Footing Longitudinal, Phase 2, Bottom
A732	7	1	6' - 7"	STR						Footing Longitudinal, Phase 2, Bottom
A733	7	1	5' - 8"	STR						Footing Longitudinal, Phase 2, Bottom
A734	7	1	4' - 10"	STR						Footing Longitudinal, Phase 2, Bottom
A735	7	1	16' - 4"	STR						Footing Longitudinal, Phase 1, Construction Joint Bottom
A736	7	1	16' - 4"	STR						Footing Longitudinal, Phase 2, Construction Joint Bottom
A850	8	3	3' - 0"	118	1'-6"	1'-6"				Pile Anchorage, Phase 1
A851	8	3	3' - 0"	118	1'-6"	1'-6"				Pile Anchorage, Phase 2
1W500	5	19	9' - 1"	STR						Wingwall 1, Near Face
1W501	5	22	16' 11"	STR						Wingwall 1, Horizontal
1W550	5	24	7' - 10"	118	7'-0"	0'-10"				Wingwall 1, Near Face
1W551	5	19	3' - 2"	129	1'-2"	1'-0"				Wingwall 1, Bottom of End Post
1W552	5	11	3' - 2"	129	1'-2"	1'-0"				Wingwall 1, Horizontal End
1W553	5	8	18' - 1"	129	17'-1"	0'-8"				Wingwall 1, Horizontal End Post
1W554	5	2	16' - 0"	118	13'-2"	2'-10"	2'-8"			Wingwall 1, Top of End Post Horizontal
1W555	5	2	8' 2"	118	3' 6"	4' 8"				Wingwall 1, Outside Face Corner Bar
1W600	6	76	11' 2"	STR						Wingwall 1, Longitudinal Footing Top and Bottom
1W601	6	26	24' - 2"	STR						Wingwall 1, Transverse Footing, Top and Bottom
1W634	6	72	7' 3"	STR						Wingwall 1, End Post Vertical
1W651	6	36	3' - 4"	129	0'-6"	1'-5"				Wingwall 1, End Post Top Stirrup
1W700	7	36	9' - 7"	STR						Wingwall 1, Far Face
1W750	7	46	8' - 2"	118	7'-0"	1'-2"				Wingwall 1, Far Face
2W500	5	18	9' - 0"	STR						Wingwall 2, Vertical
2W501	5	32	15' - 4"	STR						Wingwall 2, Horizontal
2W550	5	24	10' - 5"	118	9'-7"	0'-10"				Wingwall 2, Footing Vertical
2W551	5	18	3' - 2"	129	1'-2"	1'-0"				Wingwall 2, Bottom of End Post
2W552	5	16	3' 2"	129	1' 2"	1' 0"				Wingwall 2, Horizontal End Stirrup
2W553	5	8	16' - 4"	129	15'-4"	0'-8"				Wingwall 2, Horizontal End Post
2W554	5	2	11' 9"	119	8' 11"	2' 10"	2' 8"			Wingwall 2, Top Face Horizontal
2W555	5	2	8' - 2"	118	3'-6"	4'-0"				Wingwall 2, Outside Face Corner Bar

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
ABUTMENT NO. 1										
2W600	6	47	16' - 3"	STR						Wingwall 2, Longitudinal, Top and Bottom
2W601	6	1	15' - 8"	STR						Wingwall 2, Longitudinal, Top
2W602	6	1	14' - 6"	STR						Wingwall 2, Longitudinal, Top
2W603	6	1	13' - 4"	STR						Wingwall 2, Longitudinal, Top
2W604	6	1	12' - 2"	STR						Wingwall 2, Longitudinal, Top
2W605	6	1	11' - 0"	STR						Wingwall 2, Longitudinal, Top
2W606	6	1	9' 10"	STR						Wingwall 2, Longitudinal, Top
2W607	6	1	8' - 8"	STR						Wingwall 2, Longitudinal, Top
2W608	6	1	7' 6"	STR						Wingwall 2, Longitudinal, Top
2W609	6	1	5' - 2"	STR						Wingwall 2, Longitudinal, Top
2W610	6	1	15' 8"	STR						Wingwall 2, Longitudinal, Bottom
2W611	6	1	15' - 1"	STR						Wingwall 2, Longitudinal, Bottom
2W612	6	1	14' 6"	STR						Wingwall 2, Longitudinal, Bottom
2W613	6	1	13' - 11"	STR						Wingwall 2, Longitudinal, Bottom
2W614	6	1	13' - 4"	STR						Wingwall 2, Longitudinal, Bottom
2W615	6	1	12' - 9"	STR						Wingwall 2, Longitudinal, Bottom
2W616	6	1	12' - 2"	STR						Wingwall 2, Longitudinal, Bottom
2W617	6	1	11' - 7"	STR						Wingwall 2, Longitudinal, Bottom
2W618	6	1	11' - 0"	STR						Wingwall 2, Longitudinal, Bottom
2W619	6	1	10' - 5"	STR						Wingwall 2, Longitudinal, Bottom
2W620	6	1	9' - 10"	STR						Wingwall 2, Longitudinal, Bottom
2W621	6	1	9' - 3"	STR						Wingwall 2, Longitudinal, Bottom
2W622	6	1	8' - 8"	STR						Wingwall 2, Longitudinal, Bottom
2W623	6	1	8' 1"	STR						Wingwall 2, Longitudinal, Bottom
2W624	6	1	6' - 11"	STR						Wingwall 2, Longitudinal, Bottom
2W625	6	1	5' 9"	STR						Wingwall 2, Longitudinal, Bottom
2W626	6	1	4' - 7"	STR						Wingwall 2, Longitudinal, Bottom
2W627	6	32	16' 4"	STR						Wingwall 2, Transverse, Top and Bottom
2W634	6	68	7' - 4"	STR						Wingwall 2, End Post Vertical
2W650	6	2	15' - 9"	119	4'-8"	11'-1"	7'-3"			Wingwall 2, Footing Horizontal Intersection Bar
2W651	6	34	3' - 4"	129	0'-6"	1'-5"				Wingwall 2, Top of End Post
2W700	7	46	10' - 7"	STR						Wingwall 2, Vertical Wall
2W750	7	46	10' - 9"	118	9'-7"	1'-2"				Wingwall 2, Footing to Wall
ABUTMENT NO. 2										
B500	5	12	45' - 4"	STR						Backwall Horizontal, Phase 1
B501	5	16	3' - 6"	STR						Backwall, Phase 1 Coupler
B502	5	12	28' 8"	STR						Backwall, Phase 2
B503	5	16	3' - 6"	STR						Backwall, Phase 2 Coupler
B504	5	4	41' 1"	STR						Header Horizontal, Phase 1
B505	5	4	32' - 2"	STR						Header Horizontal, Phase 2
B550	5	48	16' - 6"	129	1'-8"	7'-5"				Backwall Vertical, Phase 1
B551	5	48	7' - 11"	106	3'-4"	3'-5"	1'-2"	1'-2"		Backwall Vertical, Above Approach Slab Seal
B552	5	45	6' - 8"	119	3'-2"	3'-6"	2'-8"			Approach Slab, Phase 1
B553	5	24	9' - 6"	114	3'-5"	0'-0"	4'-0"	6'-1"		Backwall to Wingwall Corner, Phase 1
B554	5	31	16' 6"	129	1' 8"	7' 5"				Backwall Vertical, Phase 2
B555	5	31	7' - 11"	106	3'-4"	3'-5"	1'-2"	1-2"		Backwall Vertical above Approach Slab Seal Phase 2
B556	5	29	6' 8"	119	3' 2"	3' 6"	2' 8"			Approach Slab, Phase 2
B557	5	24	9' - 6"	103	3'-5"	6'-1"	4'-0"	0'-0"		Backwall to Wingwall Corner, Phase 2
B600	6	40	12' - 5"	STR						Footing Longitudinal, Phase 1, Top
B601	6	1	11' - 6"	STR						Footing Longitudinal, Phase 1, Top
B602	6	1	10' - 4"	STR						Footing Longitudinal, Phase 1, Top
B603	6	1	9' - 2"	STR						Footing Longitudinal, Phase 1, Top
B604	6	1	8' - 0"	STR						Footing Longitudinal, Phase 1, Top
B605	6	1	6' - 10"	STR						Footing Longitudinal, Phase 1, Top
B606	6	1	5' - 8"	STR						Footing Longitudinal, Phase 1, Top
B607	6	1	4' - 6"	STR						Footing Longitudinal, Phase 1, Top
B608	6	1	3' - 4"	STR						Footing Longitudinal, Phase 1, Top
B609	6	1	2' - 2"	STR						Footing Longitudinal, Phase 1, Top
B610	6	1	16' - 4"	STR						Footing Longitudinal, Phase 1 Construction Joint, Top
B611	6	1	11' - 10"	STR						Footing Longitudinal, Phase 1, Top
B612	6	1	10' 8"	STR						Footing Longitudinal, Phase 1, Top
B613	6	1	9' - 6"	STR						Footing Longitudinal, Phase 1, Top
B614	6	1	8' 4"	STR						Footing Longitudinal, Phase 1, Top
B615	6	1	7' - 2"	STR						Footing Longitudinal, Phase 1, Top

Filename: 126_Reinforcing Steel Schedule 2.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE II

SHEET NUMBER: S-51

CONTRACT:2018.19

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
ABUTMENT NO. 2										
B616	6	1	6' - 0"	STR						Footing Longitudinal, Phase 1, Top
B617	6	1	4' - 10"	STR						Footing Longitudinal, Phase 1, Top
B618	6	28	46' - 8"	STR						Footing Transverse, Phase 1, Top and Bottom
D619	6	28	5' - 0"	STR						Footing Transverse, Phase 1, Top and Bottom, Coupler
B620	6	23	12' - 5"	STR						Footing Longitudinal, Phase 2, Top
D621	6	1	11' - 11"	STR						Footing Longitudinal, Phase 2, Top
B622	6	1	10' - 9"	STR						Footing Longitudinal, Phase 2, Top
D623	6	1	9' - 7"	STR						Footing Longitudinal, Phase 2, Top
B624	6	1	8' - 5"	STR						Footing Longitudinal, Phase 2, Top
B625	6	1	7' - 3"	STR						Footing Longitudinal, Phase 2, Top
B626	6	1	6' - 1"	STR						Footing Longitudinal, Phase 2, Top
B627	6	1	4' - 11"	STR						Footing Longitudinal, Phase 2, Top
B628	6	1	3' - 9"	STR						Footing Longitudinal, Phase 2, Top
B629	6	1	2' - 7"	STR						Footing Longitudinal, Phase 2, Top
B630	6	1	16' - 4"	STR						Footing Longitudinal, Phase 2 Construction Joint, Top
B631	6	28	32' - 6"	STR						Footing Transverse, Phase 2, Top and Bottom
D632	6	28	5' - 0"	STR						Footing Transverse, Phase 2, Top and Bottom, Coupler
B633	6	23	46' - 4"	STR						Transverse Stem Wall, Phase 1
D634	6	23	4' - 11"	STR						Transverse Stem Wall, Phase 1 Connector
B635	6	23	28' - 8"	STR						Transverse Stem Wall, Phase 2
D636	6	23	4' - 11"	STR						Transverse Stem Wall, Phase 2 Connector
B650	6	94	9' - 9"	118	8' 9"	1' 0"				Footing to Stem Wall Dowel, Phase 1
B651	6	60	8' - 6"	118	7'-6"	1'-0"				Footing to Stem Wall Dowel, Phase 2
B652	6	43	18' - 0"	106	5' 11"	6' 2"	5' 11"	5' 11"		Stem Wall Stirrup, Phase 1
B653	6	6	11' - 8"	118	5-11"	5'-9"				Vertical Seat, Phase 1 Construction Joint
B654	6	27	15' - 3"	114	4' 10"	0' 0"	8' 9"	10' 5"		Seat Acute Corner Bar, Phase 1
B655	6	27	15' - 6"	106	4'-8"	4'-11"	5-11"	5'-11"		Stem Wall Stirrup, Phase 2
B656	6	6	10' - 5"	118	4'-8"	5'-9"				Seat Vertical, Phase 2 Construction Joint
B657	6	27	15' - 3"	103	4'-10"	10'-5"	8'-9"	0'-0"		Seat Obtuse Corner, Phase 2
B658	6	63	3' - 4"	129	2'-10"	3'-3"				Pedestal Reinforcement
B659	6	63	9' - 1"	129	2'-7"	3'-3"				Pedestal Reinforcement
D700	7	53	12' - 5"	STR						Footing Longitudinal, Phase 1
B701	7	1	11' - 6"	STR						Footing Longitudinal, Phase 1, Bottom
D702	7	1	10' - 7"	STR						Footing Longitudinal, Phase 1, Bottom
B703	7	1	9' - 8"	STR						Footing Longitudinal, Phase 1, Bottom
B704	7	1	8' - 10"	STR						Footing Longitudinal, Phase 1, Bottom
B705	7	1	8' - 0"	STR						Footing Longitudinal, Phase 1, Bottom
B706	7	1	7' - 1"	STR						Footing Longitudinal, Phase 1, Bottom
B707	7	1	6' - 3"	STR						Footing Longitudinal, Phase 1, Bottom
B708	7	1	5' - 4"	STR						Footing Longitudinal, Phase 1, Bottom
B709	7	1	4' - 6"	STR						Footing Longitudinal, Phase 1, Bottom
B710	7	1	3' - 7"	STR						Footing Longitudinal, Phase 1, Bottom
B711	7	1	2' - 9"	STR						Footing Longitudinal, Phase 1, Bottom
B712	7	1	1' - 10"	STR						Footing Longitudinal, Phase 1, Bottom
B713	7	1	16' - 4"	STR						Footing Longitudinal, Phase 1 Construction Joints, Bottom
B714	7	1	11' - 10"	STR						Footing Longitudinal, Phase 1, Bottom
B715	7	1	10' - 11"	STR						Footing Longitudinal, Phase 1, Bottom
B716	7	1	10' - 1"	STR						Footing Longitudinal, Phase 1, Bottom
B717	7	1	9' - 2"	STR						Footing Longitudinal, Phase 1, Bottom
B718	7	1	8' - 4"	STR						Footing Longitudinal, Phase 1, Bottom
B719	7	1	7' - 5"	STR						Footing Longitudinal, Phase 1, Bottom
D720	7	1	6' - 7"	STR						Footing Longitudinal, Phase 1, Bottom
B721	7	1	5' - 8"	STR						Footing Longitudinal, Phase 1, Bottom
D722	7	1	4' - 10"	STR						Footing Longitudinal, Phase 1, Bottom
B723	7	30	12' - 5"	STR						Footing Longitudinal, Phase 1, Bottom
D724	7	1	11' - 11"	STR						Footing Longitudinal, Phase 2, Bottom
B725	7	1	11' - 0"	STR						Footing Longitudinal, Phase 2, Bottom
B726	7	1	10' - 2"	STR						Footing Longitudinal, Phase 2, Bottom
B727	7	1	9' - 3"	STR						Footing Longitudinal, Phase 2, Bottom
B728	7	1	8' - 5"	STR						Footing Longitudinal, Phase 2, Bottom
B729	7	1	7' - 6"	STR						Footing Longitudinal, Phase 2, Bottom
B730	7	1	6' - 8"	STR						Footing Longitudinal, Phase 2, Bottom
B731	7	1	5' - 9"	STR						Footing Longitudinal, Phase 2, Bottom
B732	7	1	4' - 11"	STR						Footing Longitudinal, Phase 2, Bottom
D733	7	1	4' - 0"	STR						Footing Longitudinal, Phase 2, Bottom
B734	7	1	3' - 2"	STR						Footing Longitudinal, Phase 2, Bottom
D735	7	1	2' - 3"	STR						Footing Longitudinal, Phase 2, Bottom
B736	7	1	16' - 4"	STR						Footing Longitudinal, Phase 2 Construction Joint, Bottom
B850	8	3	3' - 0"	118	1'-6"	1'-6"				Pile Anchorage, Phase 1
B851	8	3	3' 0"	118	1' 6"	1' 6"				Pile Anchorage, Phase 2
3W500	5	20	9' 0"	STR						Wingwall 3, Vertical
3W501	5	32	17' - 4"	SIR						Wingwall 3, Horizontal

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
ABUTMENT NO. 2										
3W550	5	26	11' - 0"	118	10'-2"	0'-10"				Wingwall 3, Footing Vertical
3W551	5	20	3' - 2"	129	1'-2"	1'-0"				Wingwall 3, Bottom of End Post
3W552	5	16	3' - 2"	129	1'-0"	1'-2"				Wingwall 3, Horizontal End Stirrup
3W553	5	8	18' - 4"	129	17'-4"	0'-6"				Wingwall 3, Horizontal End Post
3W554	5	2	13' - 9"	119	10'-11"	2'-10"	2'-8"			Wingwall 3, Top Face Horizontal
3W555	5	2	8' - 2"	118	3'-6"	4'-8"				Wingwall 3, Edge Vertical
3W600	6	47	18' - 8"	STR						Wingwall 3, Longitudinal, Top and Bottom
3W601	6	1	18' - 1"	STR						Wingwall 3, Longitudinal, Top
3W602	6	1	16' 11"	STR						Wingwall 3, Longitudinal, Top
3W603	6	1	15' - 9"	STR						Wingwall 3, Longitudinal, Top
3W604	6	1	14' 7"	STR						Wingwall 3, Longitudinal, Top
3W605	6	1	13' - 5"	SIR						Wingwall 3, Longitudinal, Top
3W606	6	1	12' 3"	STR						Wingwall 3, Longitudinal, Top
3W607	6	1	11' - 1"	SIR						Wingwall 3, Longitudinal, Top
3W608	6	1	9' - 11"	STR						Wingwall 3, Longitudinal, Top
3W609	6	1	8' - 9"	STR						Wingwall 3, Longitudinal, Top
3W610	6	1	7' - 7"	STR						Wingwall 3, Longitudinal, Top
3W611	6	1	5' 9"	STR						Wingwall 3, Longitudinal, Top
3W612	6	1	18' - 1"	STR						Wingwall 3, Longitudinal, Bottom
3W613	6	1	17' - 6"	STR						Wingwall 3, Longitudinal, Bottom
3W614	6	1	16' - 11"	STR						Wingwall 3, Longitudinal, Bottom
3W615	6	1	16' 4"	STR						Wingwall 3, Longitudinal, Bottom
3W616	6	1	15' - 9"	STR						Wingwall 3, Longitudinal, Bottom
3W617	6	1	15' 2"	STR						Wingwall 3, Longitudinal, Bottom
3W618	6	1	14' - 7"	SIR						Wingwall 3, Longitudinal, Bottom
3W619	6	1	14' 0"	STR						Wingwall 3, Longitudinal, Bottom
3W620	6	1	13' - 5"	SIR						Wingwall 3, Longitudinal, Bottom
3W621	6	1	12' - 10"	STR						Wingwall 3, Longitudinal, Bottom
3W622	6	1	12' - 3"	SIR						Wingwall 3, Longitudinal, Bottom
3W623	6	1	11' - 8"	STR						Wingwall 3, Longitudinal, Bottom
3W624	6	1	11' - 1"	STR						Wingwall 3, Longitudinal, Bottom
3W625	6	1	10' - 6"	STR						Wingwall 3, Longitudinal, Bottom
3W626	6	1	9' - 11"	STR						Wingwall 3, Longitudinal, Bottom
3W627	6	1	9' - 4"	STR						Wingwall 3, Longitudinal, Bottom
3W628	6	1	8' - 9"	STR						Wingwall 3, Longitudinal, Bottom
3W629	6	1	8' - 2"	STR						Wingwall 3, Longitudinal, Bottom
3W630	6	1	7' 7"	STR						Wingwall 3, Longitudinal, Bottom
3W631	6	1	6' - 10"	STR						Wingwall 3, Longitudinal, Bottom
3W632	6	1	5' 9"	STR						Wingwall 3, Longitudinal, Bottom
3W633	6	32	16' - 5"	SIR						Wingwall 3, Transverse, Top and Bottom
3W634	6	76	8' 1"	STR						Wingwall 3, End Post Vertical
3W650	6	2	17' - 8"	119	4'-9"	13'-0"	9'-10"			Wingwall 3/Footing Horizontal Intersection Bar
3W651	6	38	3' - 4"	129	0'-6"	1'-5"				Wingwall 3, Top of End Post
3W700	7	38	10' 8"	STR						Wingwall 3, Vertical Wall
3W750	7	50	11' 4"	118	10' 2"	1' 2"				Wingwall 3, Footing to Wall
4W500	5	21	9' 2"	STR						Wingwall 4, Near Face
4W501	5	26	19' - 1"	SIR						Wingwall 4, Horizontal
4W550	5	26	8' - 6"	118	7'-8"	0'-10"				Wingwall 4, Near Face Wingwall
4W551	5	21	3' - 2"	118	1'-2"	1'-0"				Wingwall 4, Bottom of End Post
4W552	5	13	3' - 2"	118	1'-2"	1'-0"				Wingwall 4, Horizontal End
4W553	5	8	20' - 1"	129	19'-1"	0'-6"				Wingwall 4, Horizontal End Post
4W554	5	2	18' - 0"	119	15'-2"	2'-10"	2'-8"			Wingwall 4, Top of End Post Horizontal
4W555	5	2	8' - 2"	118	3'-6"	4'-8"				Wingwall 4, Outside Face Corner Bar
4W600	6	82	11' - 2"	STR						Wingwall 4, Longitudinal Footing, Top and Bottom
4W601	6	26	26' 2"	STR						Wingwall 4, Transverse Footing, Top and Bottom
4W634	6	80	7' - 5"	SIR						Wingwall 4, End Post Vertical
4W651	6	40	3' - 4"	129	0'-6"	1'-5"				Wingwall 4, End Post Top Stirrup
4W700	7	40	10' - 4"	SIR						Wingwall 4, Far Face
4W750	7	50	8' - 10"	118	7'-8"	1'-2"				Wingwall 4, Far Face Wingwall

Date:9/21/2018

Filename: 127_Reinforcing Steel Schedule 3.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE III

SHEET NUMBER: S-52

CONTRACT:2018.19

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
PIER 1										
1P500	5	74	3' - 2"	STR						Phase 1, Longitudinal Hoop Coupler
1P501	5	74	3' - 2"	STR						Phase 2, Longitudinal Hoop Coupler
1P550	5	872	3' 8 1/2"	135	0' 6"	2' 9"	0' 5 1/2"	0' 3 3/4"		Phase 1, Tie Hooks
1P551	5	90	40' - 11"	132	2'-9"	18'-3"	0'-10"			Phase 1, Longitudinal Hoop
1P552	5	568	3' 8 1/2"	135	0' 6"	2' 9"	0' 5 1/2"	0' 3 3/4"		Phase 2, Tie Hooks
1P553	5	90	29' - 11"	132	2'-9"	12'-9"	0'-10"			Phase 2, Longitudinal Hoop
1P554	5	5	9' - 4"	129	3'-6"	2'-11"				Phase 1, Horizontal Cap Top End
1P555	5	5	9' - 4"	129	3'-6"	2'-11"				Phase 2, Horizontal Cap Top End
1P600	6	37	11' - 6"	STR						Phase 1, Footing Transverse, Top
1P601	6	26	35' - 7"	STR						Phase 1, Footing Longitudinal, Top and Bottom
1P602	6	26	3' - 7"	STR						Phase 1, Footing Longitudinal Coupler, Top and Bottom
1P603	6	25	11' - 6"	STR						Phase 2, Footing Transverse, Top
1P604	6	26	23' - 4"	STR						Phase 2, Longitudinal, Top and Bottom
1P605	6	26	3' - 7"	STR						Phase 2, Longitudinal Coupler, Top and Bottom
1P606	6	8	41' - 3"	STR						Phase 1, Longitudinal Cap
1P607	6	4	27' - 4"	STR						Phase 1, Longitudinal, Top Cap
1P608	6	4	10' - 9"	STR						Phase 1, Longitudinal Cap Seat
1P609	6	20	4' - 7"	STR						Phase 1, Longitudinal Coupler Cap
1P610	6	2	21' - 10"	STR						Phase 2, Longitudinal Cap Bottom
1P611	6	2	25' - 4"	STR						Phase 2, Longitudinal Cap Mid
1P612	6	8	30' - 0"	STR						Phase 2, Longitudinal Cap
1P613	6	4	16' - 1"	STR						Phase 2, Longitudinal Cap Top
1P614	6	4	10' - 9"	STR						Phase 2, Longitudinal Cap Seat
1P615	6	20	4' - 7"	STR						Phase 2, Longitudinal Coupler Cap
1P616	6	2	36' - 8"	STR						Phase 1, Longitudinal Cap Mid
1P617	6	2	33' - 1"	STR						Phase 1, Longitudinal Cap Bottom
1P650	6	112	8' 10"	129	2' 10"	3' 0"				Phase 1, Cap Hammer Vertical
1P651	6	33	15' - 6"	132	3'-6"	5'-0"	1'-0"			Phase 1, Cap Bottom Vertical
1P652	6	33	7' 1"	129	3' 6"	1' 9 1/2"				Phase 1, Cap Top Vertical
1P653	6	7	15' - 8"	105	4'-4"	8'-1"	1'-3"	3'-3"		Phase 1, Cap Hammer Underside
1P654	6	112	8' 10"	129	2' 10"	3' 0"				Phase 2, Cap Hammer Vertical
1P655	6	22	15' - 6"	132	3'-6"	5'-0"	1'-0"			Phase 2, Cap Bottom Vertical
1P656	6	32	7' - 1"	129	3'-6"	1'-9 1/2"				Phase 2, Cap Top Vertical
1P657	6	7	15' - 8"	105	4'-4"	8'-1"	1'-3"	3'-3"		Phase 2, Cap Hammer Underside
1P950	9	55	14' - 8"	129	11'-6"	1'-7"				Phase 1, Footing Transverse, Bottom
1P951	9	37	14' - 8"	129	11'-6"	1'-7"				Phase 2, Footing Transverse, Bottom
1P1000	10	139	20' - 6"	STR						Phase 1, Footing Vertical Stem
1P1001	10	95	20' - 5"	STR						Phase 2, Footing Vertical Stem
1P1050	10	139	11' - 7"	118	9'-9"	1'-10"				Phase 1, Footing Vertical Leg
1P1051	10	95	11' - 7"	118	9'-9"	1-10"				Phase 2, Footing Vertical Leg
1P1150	11	14	23' - 4"	118	21'-4"	2'-0"				Phase 1, Cap End Longitudinal, Top
1P1151	11	14	23' - 4"	118	21'-4"	2'-0"				Phase 2, Cap End Longitudinal, Top
PIER 2										
2P500	5	74	3' 2"	STR						Phase 1, Longitudinal Hoop Coupler
2P501	5	74	3' - 2"	STR						Phase 2, Longitudinal Hoop Coupler
2P550	5	872	3' - 8 1/2"	135	0'-6"	2'-9"	0'-5 1/2"	0'-3 3/4"		Phase 1, Tie Hooks
2P551	5	90	40' - 11"	132	2'-9"	18'-3"	0'-10"			Phase 1, Longitudinal Hoop
2P552	5	568	3' - 8 1/2"	135	0'-6"	2'-9"	0'-5 1/2"	0'-3 3/4"		Phase 2, Tie Hooks
2P553	5	90	29' - 11"	132	2'-9"	12'-9"	0'-10"			Phase 2, Longitudinal Hoop
2P554	5	5	9' - 4"	129	3'-6"	2'-11"				Phase 1, Horizontal Cap Top End
2P555	5	5	9' - 4"	129	3'-6"	2'-11"				Phase 2, Horizontal Cap Top End
2P600	6	37	11' - 6"	STR						Phase 1, Footing Transverse, Top
2P601	6	26	35' - 7"	STR						Phase 1, Footing Longitudinal, Top and Bottom
2P602	6	26	3' 7"	STR						Phase 1, Footing Longitudinal Coupler, Top and Bottom
2P603	6	25	11' 6"	STR						Phase 2, Footing Transverse, Top
2P604	6	26	23' - 4"	STR						Phase 2, Longitudinal, Top and Bottom
2P605	6	26	3' 7"	STR						Phase 2, Longitudinal Coupler, Top and Bottom
2P606	6	8	41' - 3"	STR						Phase 1, Longitudinal Cap
2P607	6	4	27' - 4"	STR						Phase 1, Longitudinal, Top Cap
2P608	6	4	10' - 9"	STR						Phase 1, Longitudinal Cap Seat
2P609	6	20	4' - 7"	STR						Phase 1, Longitudinal Coupler Cap
2P610	6	2	21' - 10"	STR						Phase 2, Longitudinal Cap Bottom

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
PIER 2										
2P611	6	2	25' - 4"	STR						Phase 2, Longitudinal Cap Mid
2P612	6	8	30' - 0"	STR						Phase 2, Longitudinal Cap
2P613	6	4	16' - 1"	STR						Phase 2, Longitudinal Cap Top
2P614	6	4	10' - 9"	STR						Phase 2, Longitudinal Cap Seat
2P615	6	20	4' - 7"	STR						Phase 2, Longitudinal Coupler Cap
2P616	6	2	36' - 8"	STR						Phase 1, Longitudinal Cap Mid
2P617	6	2	33' - 1"	STR						Phase 1, Longitudinal Cap Bottom
2P650	6	112	8' - 10"	129	2'-10"	3'-0"				Phase 1, Cap Hammer Vertical
2P651	6	33	15' - 6"	132	3'-6"	5'-0"	1'-0"			Phase 1, Cap Bottom Vertical
2P652	6	33	7' - 1"	129	3'-6"	1'-9 1/2"				Phase 1, Cap Top Vertical
2P653	6	7	15' - 8"	105	4' 4"	8' 1"	1' 3"	3' 3"		Phase 1, Cap Hammer Underside
2P654	6	112	8' - 10"	129	2'-10"	3'-0"				Phase 2, Cap Hammer Vertical
2P655	6	22	15' - 6"	132	3' 6"	5' 0"	1' 0"			Phase 2, Cap Bottom Vertical
2P656	6	32	7' - 1"	129	3'-6"	1'-9 1/2"				Phase 2, Cap Top Vertical
2P657	6	7	15' - 8"	105	4'-4"	8'-1"	1'-3"	3'-3"		Phase 2, Cap Hammer Underside
2P950	9	55	14' - 8"	129	11'-6"	1'-7"				Phase 1, Footing Transverse, Bottom
2P951	9	37	14' - 8"	129	11'-6"	1'-7"				Phase 2, Footing Transverse, Bottom
2P1000	10	139	20' - 5"	STR						Phase 1, Footing Vertical Stem
2P1001	10	95	20' - 5"	STR						Phase 2, Footing Vertical Stem
2P1050	10	139	11' - 7"	118	9'-9"	1'-10"				Phase 1, Footing Vertical Leg
2P1051	10	95	11' 7"	118	9' 9"	1 10"				Phase 2, Footing Vertical Leg
2P1150	11	14	23' 4"	118	21' 4"	2' 0"				Phase 1, Cap End Longitudinal, Top
2P1151	11	14	23' - 4"	118	21'-4"	2'-0"				Phase 2, Cap End Longitudinal, Top
SUPERSTRUCTURE										
S4501	4	4550	3' - 7"	145	1'-10"	0'-6"	0'-4 1/2"			Haunch Stirrup
S5000	5	1569	30' - 3"	STR						Deck Transverse Reinforcing (Phase 1), Full Length
S5001	5	30	14' 2"	STR						Deck Transverse Reinforcing (Phase 1), (Sequence 1) Fascia Bay
S5002	5	30	22' - 9"	STR						Deck Transverse Reinforcing (Phase 1), (Sequence 1) Middle Bay
S5003	5	30	18' - 10"	STR						Deck Transverse Reinforcing (Phase 1), (Sequence 2) Lap with Fascia
S5004	5	30	10' - 3"	STR						Deck Transverse Reinforcing (Phase 1), (Sequence 2) Lap with Mid Bay
S5005	5	4	2' - 3"	STR						Deck Transverse (Phase 1) Ends
S5006	5	4	2' - 10"	STR						Deck Transverse (Phase 1) Ends
S5007	5	4	3' - 5"	STR						Deck Transverse (Phase 1) Ends
S5008	5	4	4' - 0"	STR						Deck Transverse (Phase 1) Ends
S5009	5	4	4' - 7"	STR						Deck Transverse (Phase 1) Ends
S5010	5	4	5' - 2"	STR						Deck Transverse (Phase 1) Ends
S5011	5	4	5' - 9"	STR						Deck Transverse (Phase 1) Ends
S5012	5	4	6' - 4"	STR						Deck Transverse (Phase 1) Ends
S5013	5	4	6' - 11"	STR						Deck Transverse (Phase 1) Ends
S5014	5	4	7' - 6"	STR						Deck Transverse (Phase 1) Ends
S5015	5	4	8' - 1"	STR						Deck Transverse (Phase 1) Ends
S5016	5	4	8' - 8"	STR						Deck Transverse (Phase 1) Ends
S5017	5	4	9' - 3"	STR						Deck Transverse (Phase 1) Ends
S5018	5	4	9' - 10"	STR						Deck Transverse (Phase 1) Ends
S5019	5	4	10' 5"	STR						Deck Transverse (Phase 1) Ends
S5020	5	4	11' - 0"	STR						Deck Transverse (Phase 1) Ends
S5021	5	4	11' 7"	STR						Deck Transverse (Phase 1) Ends
S5022	5	4	12' - 2"	STR						Deck Transverse (Phase 1) Ends
S5023	5	4	12' 9"	STR						Deck Transverse (Phase 1) Ends
S5024	5	4	13' - 4"	STR						Deck Transverse (Phase 1) Ends
S5025	5	4	13' - 11"	STR						Deck Transverse (Phase 1) Ends
S5026	5	4	14' - 6"	STR						Deck Transverse (Phase 1) Ends
S5027	5	4	15' - 1"	STR						Deck Transverse (Phase 1) Ends
S5028	5	4	15' - 8"	STR						Deck Transverse (Phase 1) Ends
S5029	5	4	16' - 3"	STR						Deck Transverse (Phase 1) Ends
S5030	5	4	16' - 10"	STR						Deck Transverse (Phase 1) Ends
S5031	5	4	17' - 5"	STR						Deck Transverse (Phase 1) Ends
S5032	5	4	18' - 0"	STR						Deck Transverse (Phase 1) Ends
S5033	5	4	18' - 7"	STR						Deck Transverse (Phase 1) Ends
S5034	5	4	19' 2"	STR						Deck Transverse (Phase 1) Ends
S5035	5	4	19' - 9"	STR						Deck Transverse (Phase 1) Ends
S5036	5	4	20' 4"	STR						Deck Transverse (Phase 1) Ends
S5037	5	4	20' - 11"	STR						Deck Transverse (Phase 1) Ends
S5038	5	4	21' 6"	STR						Deck Transverse (Phase 1) Ends
S5039	5	4	22' - 1"	STR						Deck Transverse (Phase 1) Ends
S5040	5	4	22' - 8"	STR						Deck Transverse (Phase 1) Ends

Date:9/21/2018

Filename: 128_Reinforcing Steel Schedule 4.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE IV

SHEET NUMBER: S-53

CONTRACT:2018.19

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
SUPERSTRUCTURE										
S5041	5	4	23' - 3"	STR						Deck Transverse (Phase 1) Ends
S5042	5	4	23' - 10"	STR						Deck Transverse (Phase 1) Ends
S5043	5	4	24' - 5"	STR						Deck Transverse (Phase 1) Ends
S5044	5	4	25' - 0"	STR						Deck Transverse (Phase 1) Ends
S5045	5	4	25' - 7"	STR						Deck Transverse (Phase 1) Ends
S5046	5	4	26' - 2"	STR						Deck Transverse (Phase 1) Ends
S5047	5	4	26' - 9"	STR						Deck Transverse (Phase 1) Ends
S5048	5	4	27' - 4"	STR						Deck Transverse (Phase 1) Ends
S5049	5	4	27' - 11"	STR						Deck Transverse (Phase 1) Ends
S5050	5	4	28' - 6"	STR						Deck Transverse (Phase 1) Ends
S5051	5	4	29' - 1"	STR						Deck Transverse (Phase 1) Ends
S5052	5	4	29' - 8"	STR						Deck Transverse (Phase 1) Ends
S5053	5	36	38' - 11"	STR						Deck Skewed Corner Phase 1
S5054	5	824	23' - 9"	STR						Deck Transverse (Phase 2) Top
S5055	5	824	24' - 9"	STR						Deck Transverse (Phase 2) Bottom
S5056	5	15	15' - 7"	STR						Deck Transverse (Phase 2) Seq 3 Top
S5057	5	15	16' - 7"	STR						Deck Transverse (Phase 2) Seq 3 Bottom
S5058	5	30	11' - 0"	STR						Deck Transverse (Phase 2) Seq 4
S5059	5	2	3' - 11"	STR						Deck Transverse Phase 2 Ends Top
S5060	5	2	4' - 6"	STR						Deck Transverse Phase 2 Ends Top
S5061	5	2	5' - 1"	STR						Deck Transverse Phase 2 Ends Top
S5062	5	2	5' - 8"	STR						Deck Transverse Phase 2 Ends Top
S5063	5	2	6' - 3"	STR						Deck Transverse Phase 2 Ends Top
S5064	5	2	6' - 10"	STR						Deck Transverse Phase 2 Ends Top
S5065	5	2	7' - 5"	STR						Deck Transverse Phase 2 Ends Top
S5066	5	2	8' - 0"	STR						Deck Transverse Phase 2 Ends Top
S5067	5	2	8' - 7"	STR						Deck Transverse Phase 2 Ends Top
S5068	5	2	9' - 2"	STR						Deck Transverse Phase 2 Ends Top
S5069	5	2	9' - 9"	STR						Deck Transverse Phase 2 Ends Top
S5070	5	2	10' - 4"	STR						Deck Transverse Phase 2 Ends Top
S5071	5	2	10' - 11"	STR						Deck Transverse Phase 2 Ends Top
S5072	5	2	11' - 6"	STR						Deck Transverse Phase 2 Ends Top
S5073	5	2	12' - 1"	STR						Deck Transverse Phase 2 Ends Top
S5074	5	2	12' - 8"	STR						Deck Transverse Phase 2 Ends Top
S5075	5	2	13' - 3"	STR						Deck Transverse Phase 2 Ends Top
S5076	5	2	13' - 10"	STR						Deck Transverse Phase 2 Ends Top
S5077	5	2	14' - 5"	STR						Deck Transverse Phase 2 Ends Top
S5078	5	2	15' - 0"	STR						Deck Transverse Phase 2 Ends Top
S5079	5	2	15' - 7"	STR						Deck Transverse Phase 2 Ends Top
S5080	5	2	16' - 2"	STR						Deck Transverse Phase 2 Ends Top
S5081	5	2	16' - 9"	STR						Deck Transverse Phase 2 Ends Top
S5082	5	2	17' - 4"	STR						Deck Transverse Phase 2 Ends Top
S5083	5	2	17' - 11"	STR						Deck Transverse Phase 2 Ends Top
S5084	5	2	18' - 6"	STR						Deck Transverse Phase 2 Ends Top
S5085	5	2	19' - 1"	STR						Deck Transverse Phase 2 Ends Top
S5086	5	2	19' - 8"	STR						Deck Transverse Phase 2 Ends Top
S5087	5	2	20' - 3"	STR						Deck Transverse Phase 2 Ends Top
S5088	5	2	20' - 10"	STR						Deck Transverse Phase 2 Ends Top
S5089	5	2	21' - 5"	STR						Deck Transverse Phase 2 Ends Top
S5090	5	2	22' - 0"	STR						Deck Transverse Phase 2 Ends Top
S5091	5	2	22' - 7"	STR						Deck Transverse Phase 2 Ends Top
S5092	5	2	23' - 2"	STR						Deck Transverse Phase 2 Ends Top
S5093	5	2	4' - 11"	STR						Deck Transverse Phase 2 Ends Bottom
S5094	5	2	5' - 6"	STR						Deck Transverse Phase 2 Ends Bottom
S5095	5	2	6' - 1"	STR						Deck Transverse Phase 2 Ends Bottom
S5096	5	2	6' - 8"	STR						Deck Transverse Phase 2 Ends Bottom
S5097	5	2	7' - 3"	STR						Deck Transverse Phase 2 Ends Bottom
S5098	5	2	7' - 10"	STR						Deck Transverse Phase 2 Ends Bottom
S5099	5	2	8' - 5"	STR						Deck Transverse Phase 2 Ends Bottom
S5100	5	2	9' - 0"	STR						Deck Transverse Phase 2 Ends Bottom
S5101	5	2	9' - 7"	STR						Deck Transverse Phase 2 Ends Bottom
S5102	5	2	10' - 2"	STR						Deck Transverse Phase 2 Ends Bottom
S5103	5	2	10' - 9"	STR						Deck Transverse Phase 2 Ends Bottom
S5104	5	2	11' - 4"	STR						Deck Transverse Phase 2 Ends Bottom
S5105	5	2	11' - 11"	STR						Deck Transverse Phase 2 Ends Bottom
S5106	5	2	12' - 6"	STR						Deck Transverse Phase 2 Ends Bottom
S5107	5	2	13' - 1"	STR						Deck Transverse Phase 2 Ends Bottom
S5108	5	2	13' - 8"	STR						Deck Transverse Phase 2 Ends Bottom
S5109	5	2	14' - 3"	STR						Deck Transverse Phase 2 Ends Bottom
S5110	5	2	14' - 10"	STR						Deck Transverse Phase 2 Ends Bottom

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
SUPERSTRUCTURE										
S5111	5	2	15' - 5"	STR						Deck Transverse Phase 2 Ends Bottom
S5112	5	2	16' - 0"	STR						Deck Transverse Phase 2 Ends Bottom
S5113	5	2	16' - 7"	STR						Deck Transverse Phase 2 Ends Bottom
S5114	5	2	17' - 2"	STR						Deck Transverse Phase 2 Ends Bottom
S5115	5	2	17' - 9"	STR						Deck Transverse Phase 2 Ends Bottom
S5116	5	2	18' - 4"	STR						Deck Transverse Phase 2 Ends Bottom
S5117	5	2	18' - 11"	STR						Deck Transverse Phase 2 Ends Bottom
S5118	5	2	19' - 6"	STR						Deck Transverse Phase 2 Ends Bottom
S5119	5	2	20' - 1"	STR						Deck Transverse Phase 2 Ends Bottom
S5120	5	2	20' - 8"	STR						Deck Transverse Phase 2 Ends Bottom
S5121	5	2	21' - 3"	STR						Deck Transverse Phase 2 Ends Bottom
S5122	5	2	21' - 10"	STR						Deck Transverse Phase 2 Ends Bottom
S5123	5	2	22' - 5"	STR						Deck Transverse Phase 2 Ends Bottom
S5124	5	2	23' - 0"	STR						Deck Transverse Phase 2 Ends Bottom
S5125	5	2	23' - 7"	STR						Deck Transverse Phase 2 Ends Bottom
S5126	5	2	24' - 2"	STR						Deck Transverse Phase 2 Ends Bottom
S5127	5	18	30' - 9"	STR						Deck Skewed Corner (Phase 2) Top
S5128	5	18	31' - 9"	STR						Deck Skewed Corner (Phase 2) Bottom
S5129	5	1738	4' - 5"	STR						Deck Transverse (Closure Pour) Construction Joint
S5130	5	4	2' - 1"	STR						Deck Transverse Closure Pour Ends
S5131	5	4	2' - 8"	STR						Deck Transverse Closure Pour Ends
S5132	5	4	3' - 3"	STR						Deck Transverse Closure Pour Ends
S5133	5	4	3' - 10"	STR						Deck Transverse Closure Pour Ends
S5134	5	36	5' - 10"	STR						Deck Skewed Corner, Phase 3
S5135	5	876	3' - 9"	STR						Deck Transverse Splice Bar Top (Construction Joint 1)
S5136	5	876	5' - 10"	STR						Deck Transverse Splice Bar Bottom (Construction Joint 1)
S5137	5	256	47' - 0"	STR						Deck Longitudinal (Phase 1), Sequence 1
S5138	5	320	57' - 0"	STR						Deck Longitudinal Phase 1 Sequence 2
S5139	5	184	47' - 0"	STR						Deck Longitudinal Phase 2 Sequence 3
S5140	5	230	56' - 9"	STR						Deck Longitudinal Phase 2 Sequence 4
S5141	5	88	57' - 3"	STR						Deck Longitudinal Phase 3
S5142	5	2	10' - 9"	STR						End Parapet Longitudinal (Phase 1)
S5143	5	2	11' - 5"	STR						End Parapet Longitudinal (Phase 1)
S5144	5	2	10' - 4"	STR						End Parapet Longitudinal (Phase 1)
S5145	5	2	9' - 8"	STR						End Parapet Longitudinal (Phase 1)
S5146	5	2	10' - 4"	STR						End Parapet Longitudinal (Phase 2)
S5147	5	2	9' - 8"	STR						End Parapet Longitudinal (Phase 2)
S5148	5	2	10' - 9"	STR						End Parapet Longitudinal (Phase 2)
S5149	5	2	11' - 5"	STR						End Parapet Longitudinal (Phase 2)
S5150	5	88	7' - 8"	STR						8" Parapet Longitudinal (Phase 1)
S5151	5	88	7' - 8"	STR						8" Parapet Longitudinal (Phase 2)
S5152	5	80	15' - 8"	STR						16" Parapet Longitudinal (Phase 1)
S5153	5	80	15' - 8"	STR						16" Parapet Longitudinal (Phase 2)
S5154	5	32	57' - 3"	STR						Curb Longitudinal (Phase 1)
S5155	5	32	57' - 3"	STR						Curb Longitudinal (Phase 2)
S5156	5	24	8' - 0"	STR						End Deck Transverse (Phase 1)
S5157	5	16	8' - 0"	STR						End Deck Transverse (Phase 2)
S5158	5	8	5' - 7"	STR						End Deck Bottom Transverse (Closure Pour)
S5500	5	1751	7' - 10"	108	7'-3"	0'-7"	0'-5"			Deck Overhang (Phase 1)
S5501	5	1751	7' - 10"	108	7'-3"	0'-7"	0'-5"			Deck Overhang (Phase 2)
S5502	5	84	5' - 3"	118	4'-3"	1'-0"				Deck Thickened Slab (Phase 1)
S5503	5	82	5' - 3"	118	4'-3"	1'-0"				Deck Thickened Slab (Phase 2)
S5504	5	14	5' - 3"	118	4'-3"	1'-0"				Deck Thickened Slab (Closure Pour)
S5505	5	84	5' - 6 1/2"	109	3'-2"	1'-0"	1'-1"	1'-4 1/2"	0'-10"	Deck Thickened Slab (Phase 1)
S5506	5	82	5' - 6 1/2"	109	3'-2"	1'-0"	1'-1"	1'-4 1/2"	0'-10"	Deck Thickened Slab (Phase 2)
S5507	5	14	5' - 6 1/2"	109	3'-2"	1'-0"	1'-1"	1'-4 1/2"	0'-10"	Deck Thickened Slab (Closure Pour)
S5508	5	4	11' - 0"	144	5'-0"	1'-0"	3'-3"			End of Slab, Thickened Bot Mat (Phase 1)
S5509	5	4	11' - 0"	144	5'-0"	1'-0"	3'-3"			End of Slab, Thickened Bot Mat (Phase 2)
S6000	6	42	51' - 9"	STR						Deck Longitudinal Top Mat (Phase 1) over Piers and Span 2, Sequence 1
S6001	6	126	47' - 2"	STR						Deck Longitudinal Top Mat (Phase 1) over Piers and Span 2, Sequence 2
S6002	6	30	52' - 5"	STR						Deck Longitudinal Top Mat (Phase 2) over Piers and Span 2, Sequence 3
S6003	6	90	47' - 0"	STR						Deck Longitudinal Top Mat (Phase 2) over Piers and Span 2, Sequence 4
S6004	6	21	59' - 0"	STR						Deck Longitudinal Top Mat (Closure Pour) over Piers and Span 2
S6500	6	878	4' - 3"	118	3'-3"	1'-0"				Parapet Vertical (Phase 1)
S6501	6	878	4' - 4"	118	3'-4"	1'-0"				Parapet Vertical (Phase 2)
S6502	6	438	3' - 6"	127	0'-6"	1'-6"	1'-6"			Parapet Top (Phase 1)
S6503	6	439	3' - 6"	127	0'-6"	1'-6"	1'-6"			Parapet Top (Phase 2)

Date:9/21/2018

Filename: 129_Reinforcing_Steel Schedule_5.dgn

Scale:

No.	Revision	By	Date

Designed by: HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE V

SHEET NUMBER: S-54

CONTRACT:2018.19

MARK	SIZE	NO.	LENGTH	TYPE	A	B	C	D	E	REMARKS
APPROACH SLAB										
1AS500	5	30	19' - 8"	STR						Longitudinal Phase 1 Top
1AS501	5	42	37' - 8"	STR						Transverse Phase 1 Top and Bottom
1AS502	5	42	3' - 4"	STR						Transverse Phase 1 Top and Bottom
1AS503	5	26	19' - 8"	STR						Longitudinal Phase 2 Top
1AS504	5	42	32' - 5"	STR						Transverse Phase 2 Top and Bottom
1AS505	5	42	3' - 4"	STR						Transverse Phase 2 Top and Bottom
1AS800	8	40	19' - 8"	STR						Longitudinal Phase 1 Bottom
1AS801	8	34	19' - 8"	STR						Longitudinal Phase 2 Bottom
2AS500	5	30	19' - 8"	STR						Longitudinal Phase 1 Top
2AS501	5	42	37' - 8"	STR						Transverse Phase 1 Top and Bottom
2AS502	5	42	3' - 4"	STR						Transverse Phase 1 Top and Bottom
2AS503	5	26	19' - 8"	STR						Longitudinal Phase 2 Top
2AS504	5	42	32' - 5"	STR						Transverse Phase 2 Top and Bottom
2AS505	5	42	3' - 4"	STR						Transverse Phase 2 Top and Bottom
2AS800	8	40	19' - 8"	STR						Longitudinal Phase 1 Bottom
2AS801	8	34	19' - 8"	STR						Longitudinal Phase 2 Bottom

Date:9/21/2018

Filename: 130_Reinforcing Steel Schedule 6.dgn

Scale:

No.	Revision	By	Date

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Tim Cote, P.E.

	By	Date		By	Date
Designed	JSM	08\18	Checked	NMW	08\18
Drawn	PEB	08\18	In Charge of	RAL	08\18

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

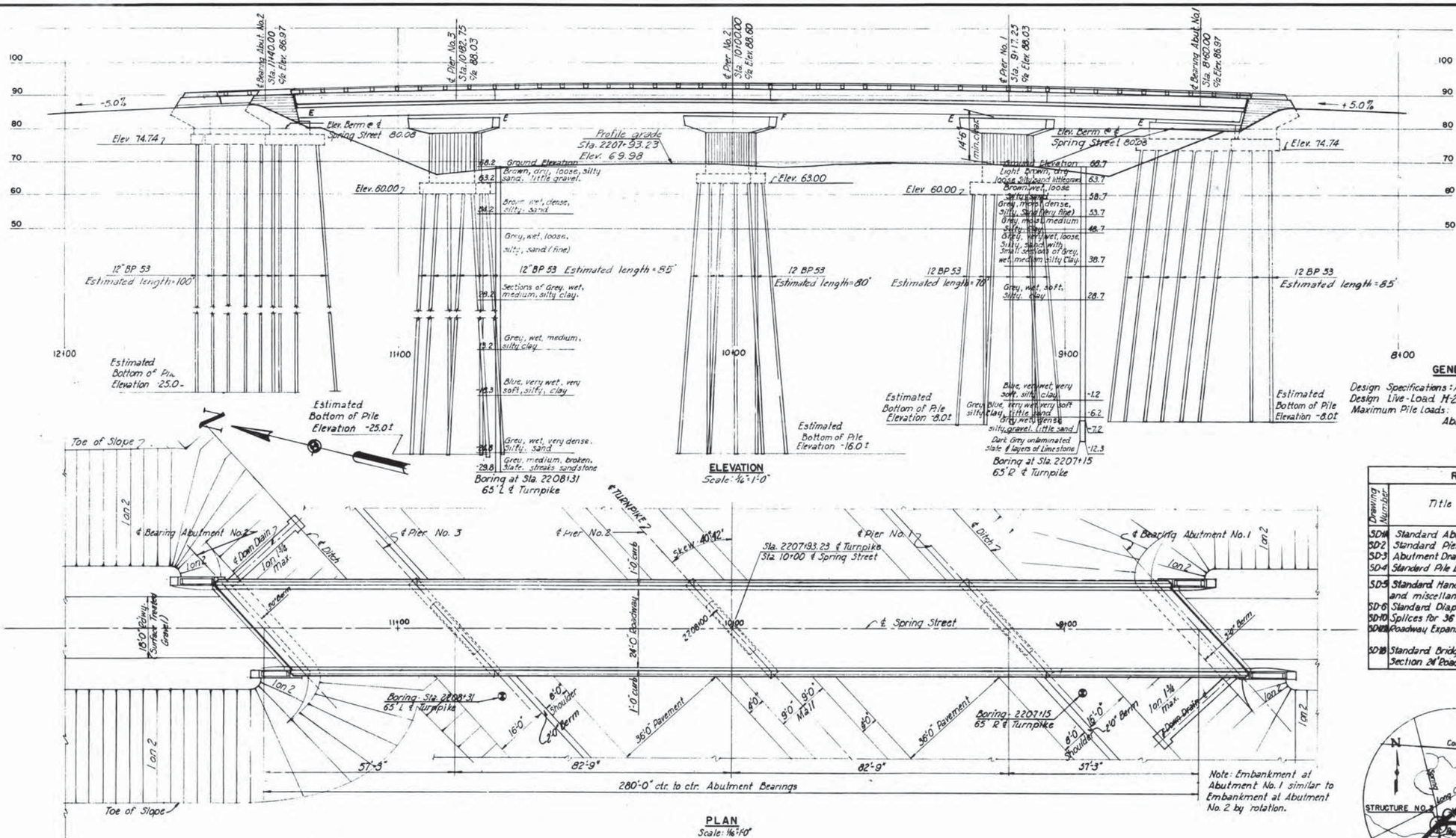
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

BRIDGE REPLACEMENT
CUMMINGS ROAD UNDERPASS

REINFORCING STEEL SCHEDULE VI

SHEET NUMBER: S-55

CONTRACT:2018.19



REFERENCES

Drawing Number	Title	Substruct.	Superstructure: Steel Fab.	Superstructure: Steel Erection	Superstructure: Floor Portions
SD-1	Standard Abutment Details	✓	✓	✓	✓
SD-2	Standard Pier Details	✓	✓	✓	
SD-3	Abutment Drainage Details	✓			
SD-4	Standard Pile Details	✓			
SD-5	Standard Handrail, Shoes and miscellaneous Details	✓	✓	✓	✓
SD-6	Standard Diaphragm Details		✓	✓	✓
SD-10	Splices for 36" W. Beams		✓	✓	
SD-12a	Roadway Expansion Joint - Type "E"	✓	✓	✓	✓
SD-13	Standard Bridge Floor Cross-Section 24' Roadway.	✓	✓	✓	✓

DRAWING 3.01.03	BY	DATE
MADE	L.L.D	11-14-53
TRACED		
CHECKED	H.J.G	11-24-53
IN CHARGE OF	I.D.S.K.	

No.	REVISION	BY	DATE
4	As-Built	HBV	4-21-56
3	Abut. Fig. & Berm Elevations	DHL	6-16-54
2	Changed Abut. Fig. Dimensions.	HCH	3-17-54
1	Changed Loading	H.J.G	2-6-54

MAINE TURNPIKE AUTHORITY

MAINE TURNPIKE

SECTION 2— PORTLAND TO AUGUSTA

STRUCTURE NO. 3 TURNPIKE UNDER

SPRING STREET

STA. 2207+93.23

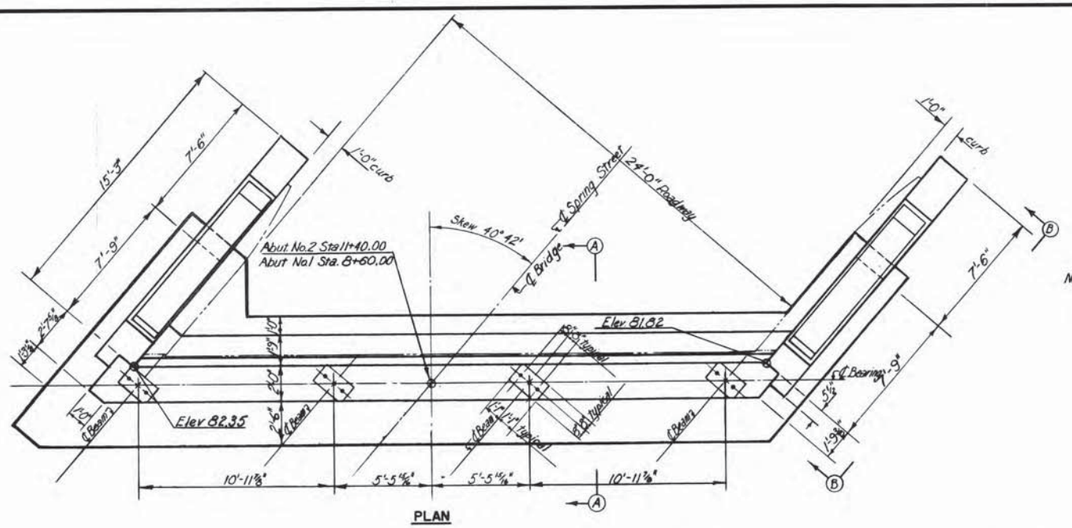
GENERAL PLAN AND ELEVATION

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK KANSAS CITY

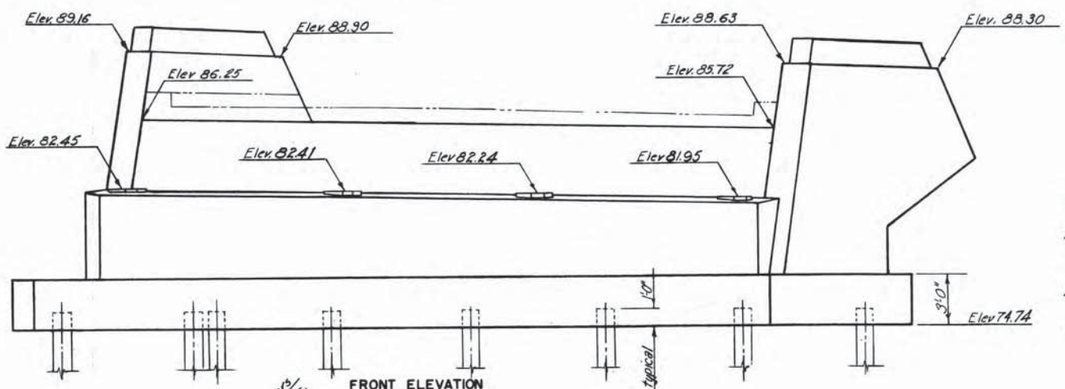
SCALE: as shown

CONTRACT NO.

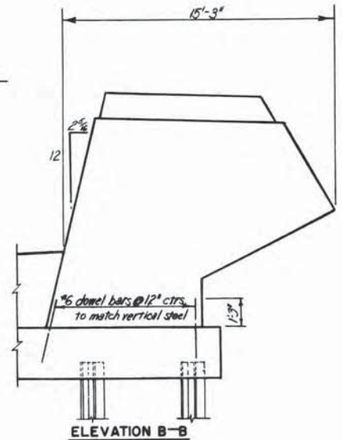
SHEET NO. 39 OF 392



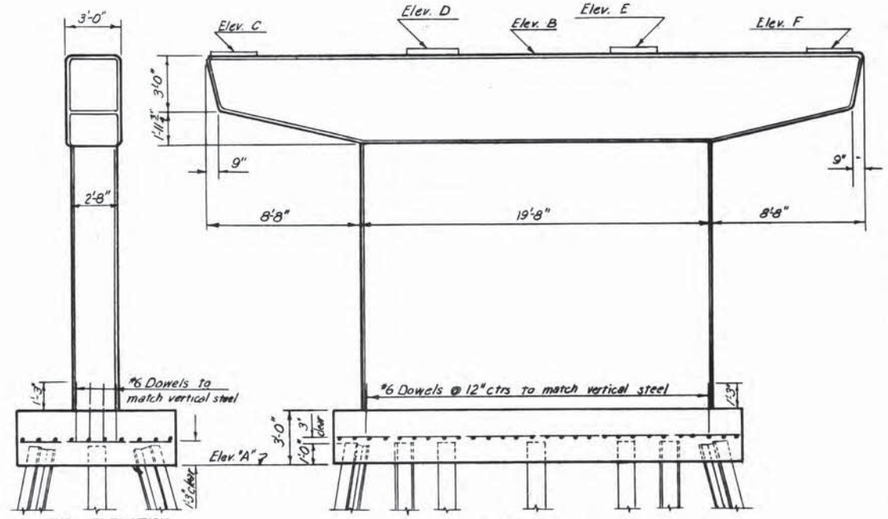
PLAN



FRONT ELEVATION

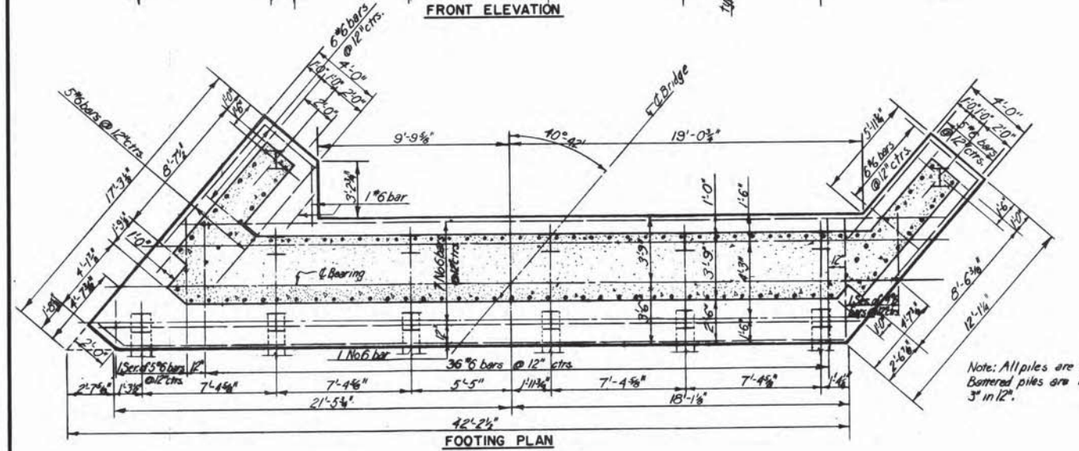


ELEVATION B—B

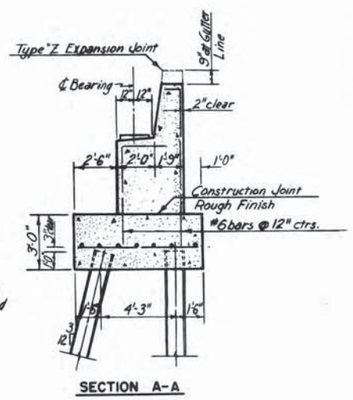


END ELEVATION

ELEVATION



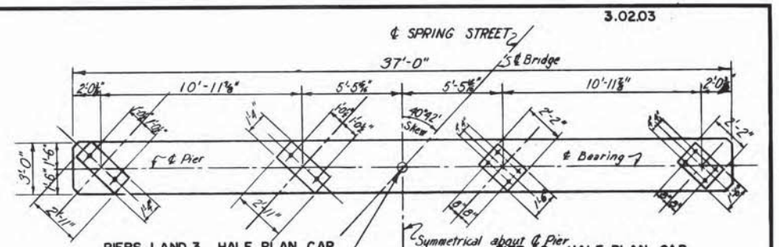
FOOTING PLAN



SECTION A-A

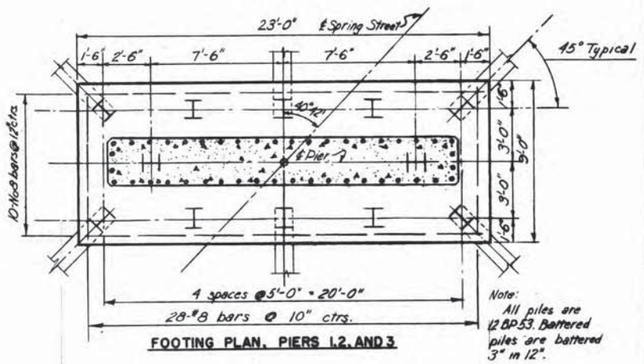
ELEVATIONS			
Elev.	Pier No.1	Pier No.2	Pier No.3
A	60.00	63.00	60.00
B	82.75	83.73	82.75
C	83.07	83.75	82.77
D	83.04	83.82	82.94
E	82.94	83.82	83.04
F	82.77	83.75	83.07

Note: At Abutments 1 and 2 and Piers 1 and 3 clip the south-east and north-west corners of shoe masonry plates as shown on Standard Drawing No. 5



PIERS 1 AND 3, HALF PLAN CAP

PIER 2, HALF PLAN CAP



FOOTING PLAN, PIERS 1, 2, AND 3

PIERS NO. 1, 2, AND 3

ABUTMENTS NO. 1 AND 2

DRAWING NO. 3.02.03

	BY	DATE
MADE	LLD	11-18-53
TRACED		
CHECKED	HJG	11-25-53
IN CHARGE OF	IDSK	

No.	REVISION	BY	DATE
3	As-Built	HBW	1-24-56
2	Elev. change	D.H.L.	6-16-54
1	Redrew Abuts	HCH	3-17-54

MAINE TURNPIKE AUTHORITY

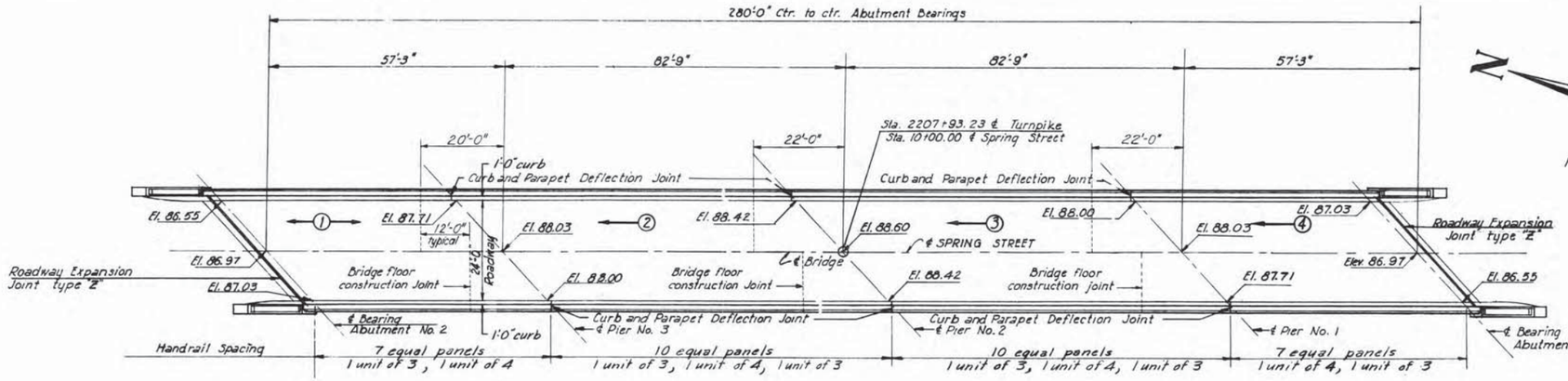
MAINE TURNPIKE

SECTION 2 — PORTLAND TO AUGUSTA

STRUCTURE NO. 3 TURNPIKE UNDER
SPRING STREET
STA. 2207 + 99.23
SUBSTRUCTURE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK KANSAS CITY

SCALE: ¼" = 1'-0"
CONTRACT NO.
SHEET NO. 40 OF 382

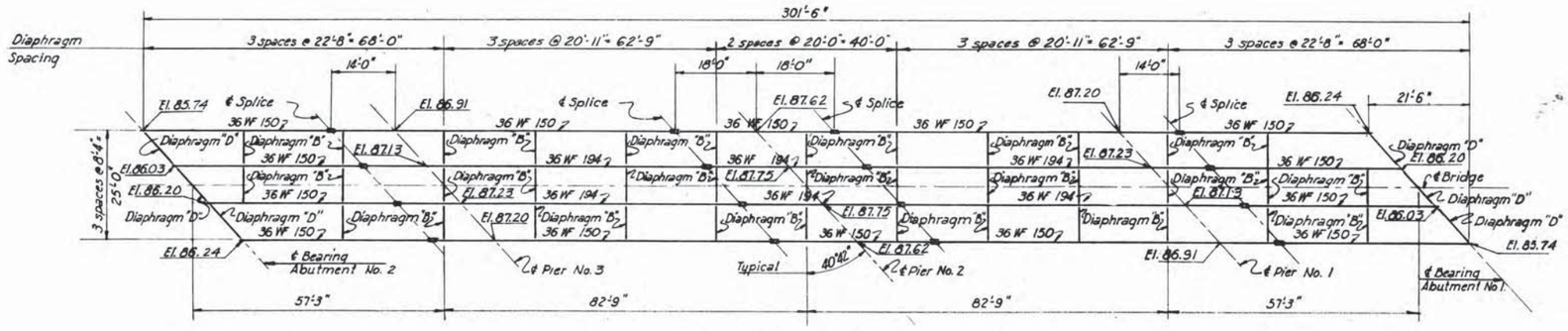


PLAN
Scale: 1/16" = 1'-0"

Notes: Use 6½" bridge Floor with a 2" Bituminous Wearing Surface as shown on Standard Drawing No. 18 for 24'-0" Roadway, for non-composite design.

Slab pouring sequence and direction of pour is indicated by: ←(N)

Elevations shown are to top of wearing surface at ℄ Spring Street and Gutter lines at ℄ Bearings.

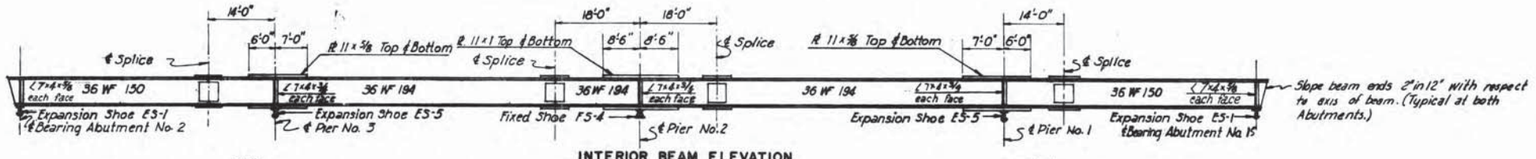


FRAMING PLAN
Scale 1/16" = 1'-0"

FRAMING NOTES

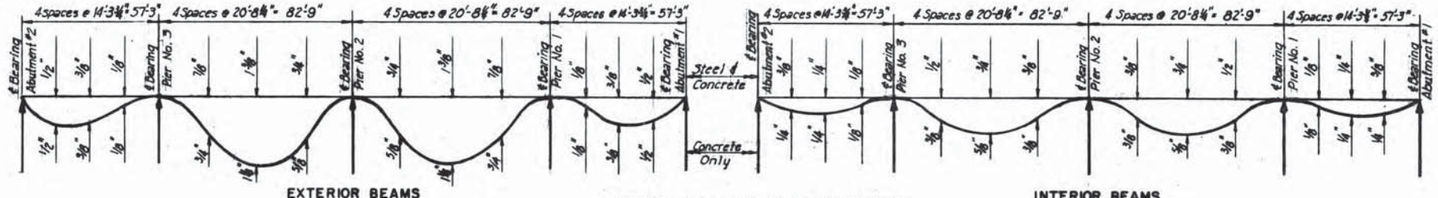
Elevations shown are to top of Beam flange at the supports.

Angles noted on beam elevations are bearing stiffeners with short leg against beam web.



INTERIOR BEAM ELEVATION

EXTERIOR BEAM ELEVATION



EXTERIOR BEAMS

CALCULATED DEAD LOAD DEFLECTIONS
No Scale

INTERIOR BEAMS

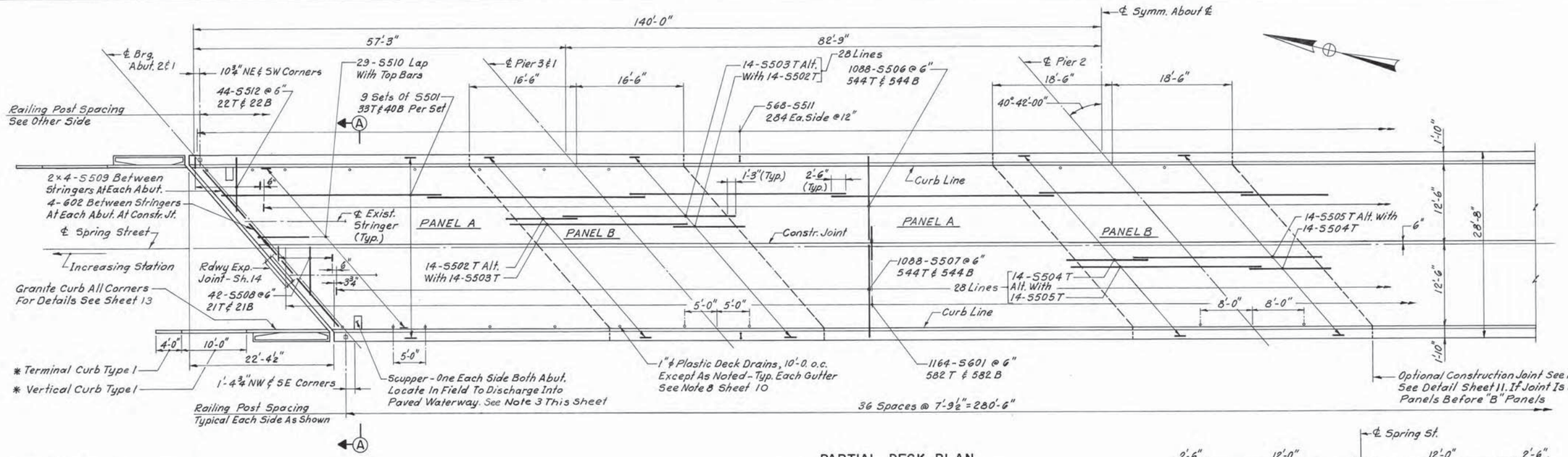
DRAWING 3. 03. 03

	BY	DATE				
MADE	LLD	11-17-53				
TRACED			2	As-Built	HBH	4-24-56
CHECKED	M.J.G.	11-25-53	1	Mat. Beam Stiffener &	MCM	2-3-54
IN CHARGE OF	103K		No.	REVISION	BY	DATE

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE
SECTION 2— PORTLAND TO AUGUSTA
STRUCTURE NO. 3 TURNPIKE UNDER
SPRING STREET
STA. 2207 + 93.23
SUPERSTRUCTURE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
NEW YORK KANSAS CITY

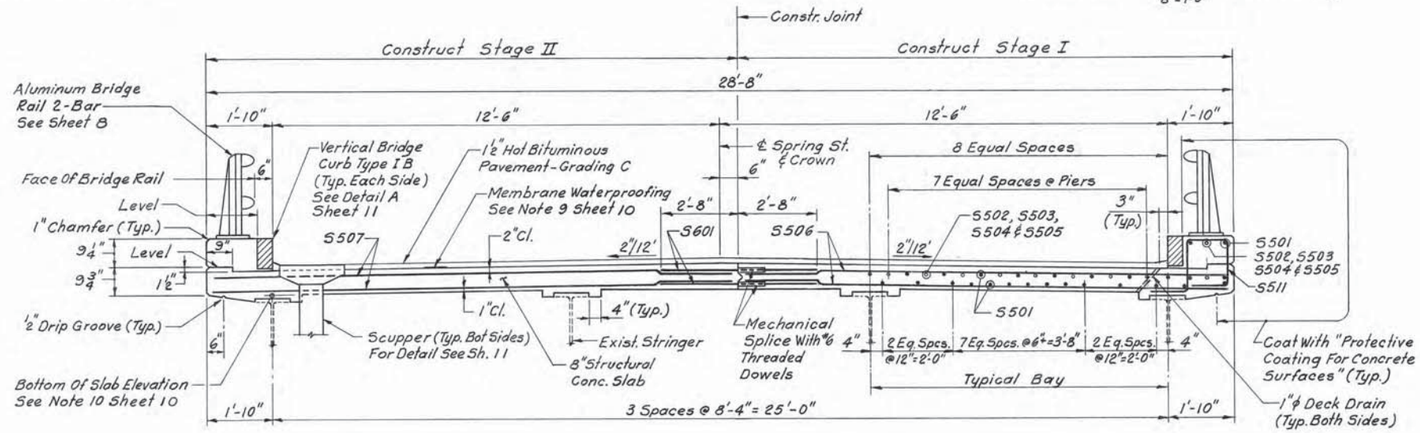
SCALE: as shown
CONTRACT NO.
SHEET NO. 41 OF 382



* Typical All Four Wingwalls

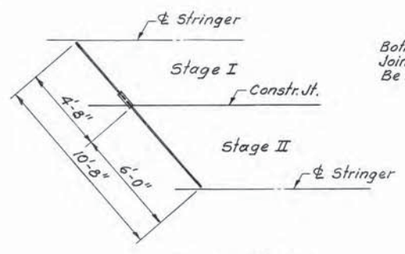
PARTIAL DECK PLAN

(Portion Not Shown Similar By Rotation)
⅛" = 1'-0"



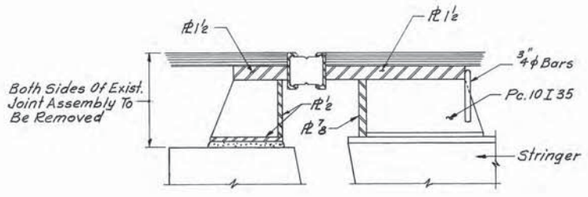
SECTION A-A

½" = 1'-0"



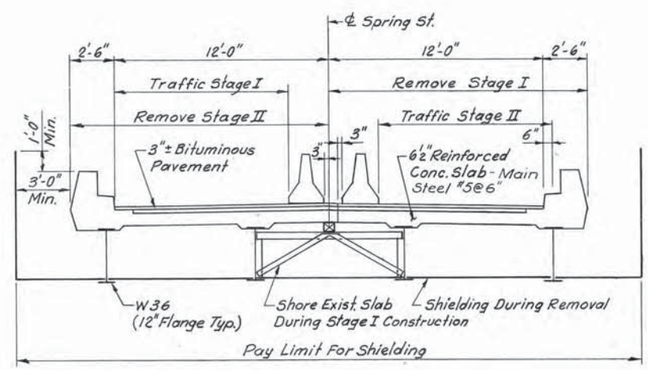
DETAIL OF S602

¼" = 1'-0"



EXISTING ABUTMENT JOINT

1½" = 1'-0"



EXISTING DECK REMOVAL

No Scale

NOTES

1. Payment For Scuppers And 1" ℄ Drains Will Be Incidental To Item 502.261.
2. For General Notes See Sheet 10.
3. Adjust Reinforcing Steel To Fit Around The Scuppers In A Manner Approved By The Engineer. Do Not Cut Transverse Reinforcing Bars.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	T.C.G.	2/90
DRAWN:	E.K.	2/90
CHECKED:	I.S.	2/90
IN CHARGE OF	R.A.L.	

MAINE TURNPIKE AUTHORITY

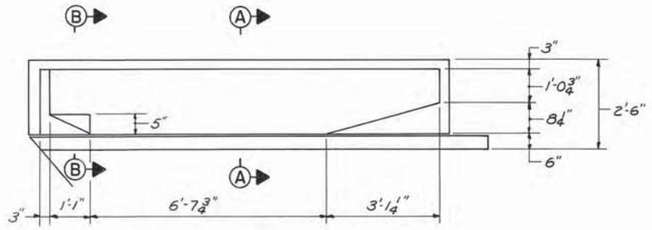
MAINE TURNPIKE

SPRING STREET DECK REINFORCING

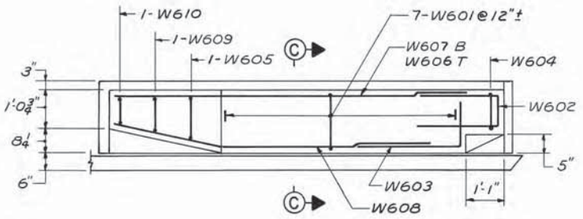
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
ARCHITECTS ENGINEERS PLANNERS
BOSTON

SCALE: AS NOTED

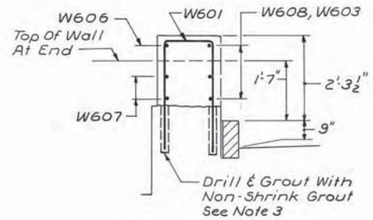
SHEET NO. 12



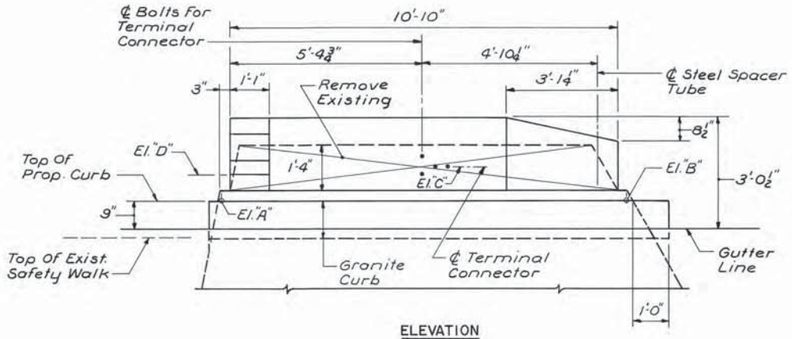
PLAN



PLAN
1/2" = 1'-0"

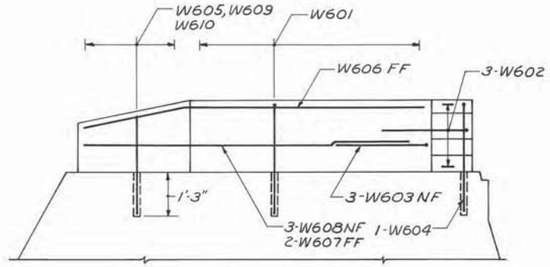


SECTION C-C
1/2" = 1'-0"

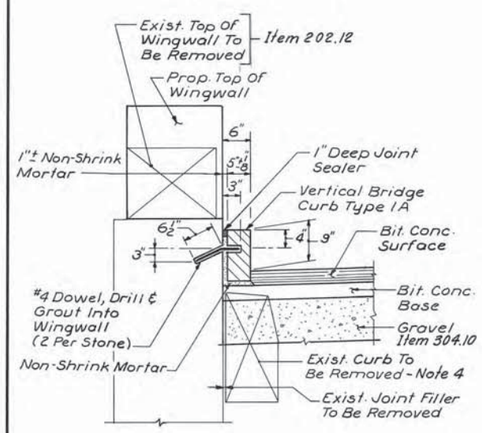


ELEVATION

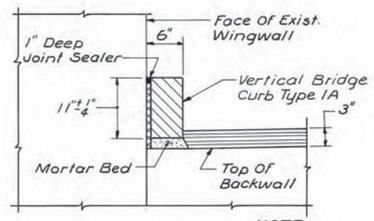
WINGWALL MODIFICATION
1/2" = 1'-0"



ELEVATION
1/2" = 1'-0"



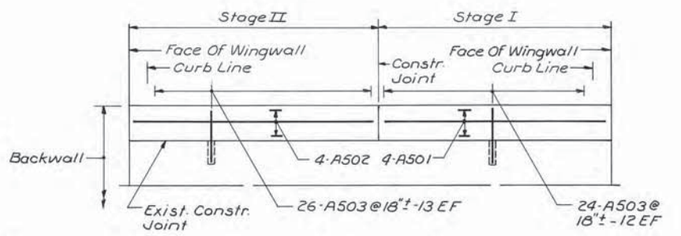
SECTION A-A
3/4" = 1'-0"



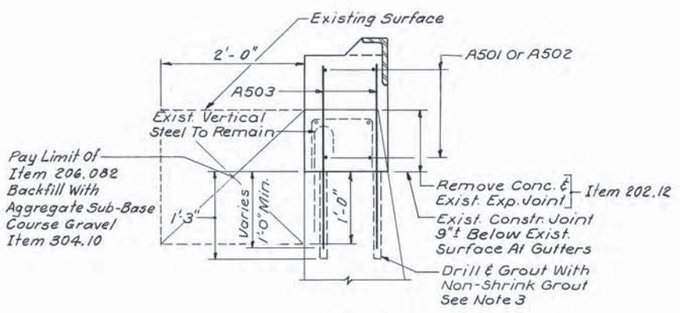
SECTION B-B
1" = 1'-0"

NOTE:
See Section A-A For Data Not Shown Or Noted.

ELEV.	WINGWALL			
	NE	NW	SE	SW
A	100.07	100.61	100.51	99.94
B	99.75	100.34	100.23	99.62
C	100.91	101.48	101.38	100.79
D	100.80	101.34	101.24	100.67



ELEVATION



SECTION

BACKWALL MODIFICATION
No Scale

NOTES:
1. See Standard Detail Sh. BD-201-89 For Additional Details. (Sheet 9)
2. Top Of Proposed Wall To Be Constructed Parallel To Proposed Profile.
3. Payments For Drilling And Grouting To Be Incidental To Item 503.15.
4. Incidental To Contract Items.

NO.	REVISION	BY	DATE

	BY	DATE
DESIGNED:	I.S.	2-90
DRAWN:	R.D.F.	2-90
CHECKED:	T.C.G.	3-90
IN CHARGE OF	R.A.L.	

MAINE TURNPIKE AUTHORITY
MAINE TURNPIKE

SPRING STREET
WINGWALL & BACKWALL MODIFICATIONS

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
ARCHITECTS ENGINEERS PLANNERS
BOSTON

SCALE: AS NOTED

SHEET NO. 13