

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



HOULTON
AROOSTOOK COUNTY
PEARCE BROOK NO. 6 BRIDGE
OVER
PEARCE BROOK
GREEN STREET
STP-2169(400)
PROJECT LENGTH 0.056 mi.
BRIDGE NO. 5019

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2018) AADT	790
Future (2038) AADT	870
DHV - % of AADT	13
Design Hour Volume	113
Heavy Trucks (% of AADT)	8
Heavy Trucks (% of DHV)	8
Directional Distribution (% of DHV)	65
18 kip Equivalent P 2.0	20
18 kip Equivalent P 2.5	19
Design Speed (mph)	25

HYDROLOGIC DATA

Drainage Area	9.1 sq mi
Design Discharge (Q50)	1180 cfs
Check Discharge (Q100)	1410 cfs
Headwater Elevation (Q1.1)	342.2 ft
Headwater Elevation (Q25)	351.5 ft
Headwater Elevation (Q50)	352.9 ft
Headwater Elevation (Q100)	353.4 ft
Discharge Velocity (Q1.1)	3.30 fps
Discharge Velocity (Q50)	2.13 fps
Discharge Velocity (Q100)	2.27 fps

MATERIALS

Concrete:	
Curb/Headwall and Bridge Rail	Class "LP"
Precast	Class "P"
Seal	Class "S"
All Other	Class "A"
Reinforcing Steel	ASTM A 615/A 615M, Grade 60

BASIC DESIGN STRESSES

Concrete	
Class "A"	f 'c = 4,000 psi
Class "LP"	f 'c = 5,000 psi
Precast Concrete	f 'c = 5,000 psi
Reinforcing Steel	f y = 60,000 psi

LIST OF DRAWINGS

Title Sheet	1
Estimated Quantities & General Construction Notes	2
General Plan	3
Profile	4
Boring Location Plan and Interpretive Subsurface Profile	5
Boring Logs	6
Highway Approach Cross - Sections	7-12
Footing Plan	13
Stemwall and Wingwall Plan	14
Precast Concrete Frame Details	15
Wingwall Details	16
Reinforcing Steel Details	17
Headwall Details	18
Right of Way Map	19

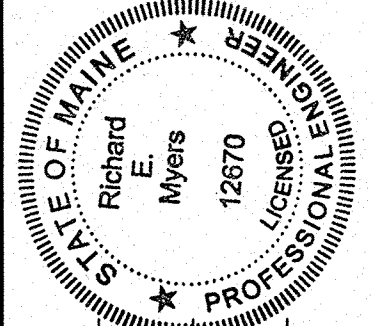
UTILITIES

Houlton Water Company	Charter Communications
Town of Houlton	Consolidated Communications

MAINTENANCE OF TRAFFIC

The bridge will be closed to traffic using a signed detour route.

PROJECT LOCATION	In Houlton, on Green Street, 0.11 miles north of Route 1. Lat./Long. 46°07'11.0" N 67°50'30.4" W
PROGRAM AREA	Highway Bridges - Minor Spans
OUTLINE OF WORK	Bridge Replacement



Richard E. Myers
SIGNATURE
12 670
P.E. NUMBER
November 6, 2019
DATE

PROJECT INFORMATION				
PROGRAM	Bridge Program	PROJECT MANAGER	Michael Wight	
DESIGNER	Ahmed Sikora			
CONSULTANT	N/A	PROJECT RESIDENT		
CONTRACTOR		PROJECT COMPLETION DATE		

HOULTON PEARCE BROOK NO. 6 BRIDGE	TITLE SHEET
--------------------------------------	-------------

SHEET NUMBER
1
OF 19

WIN021694.00

STP-2169(400)

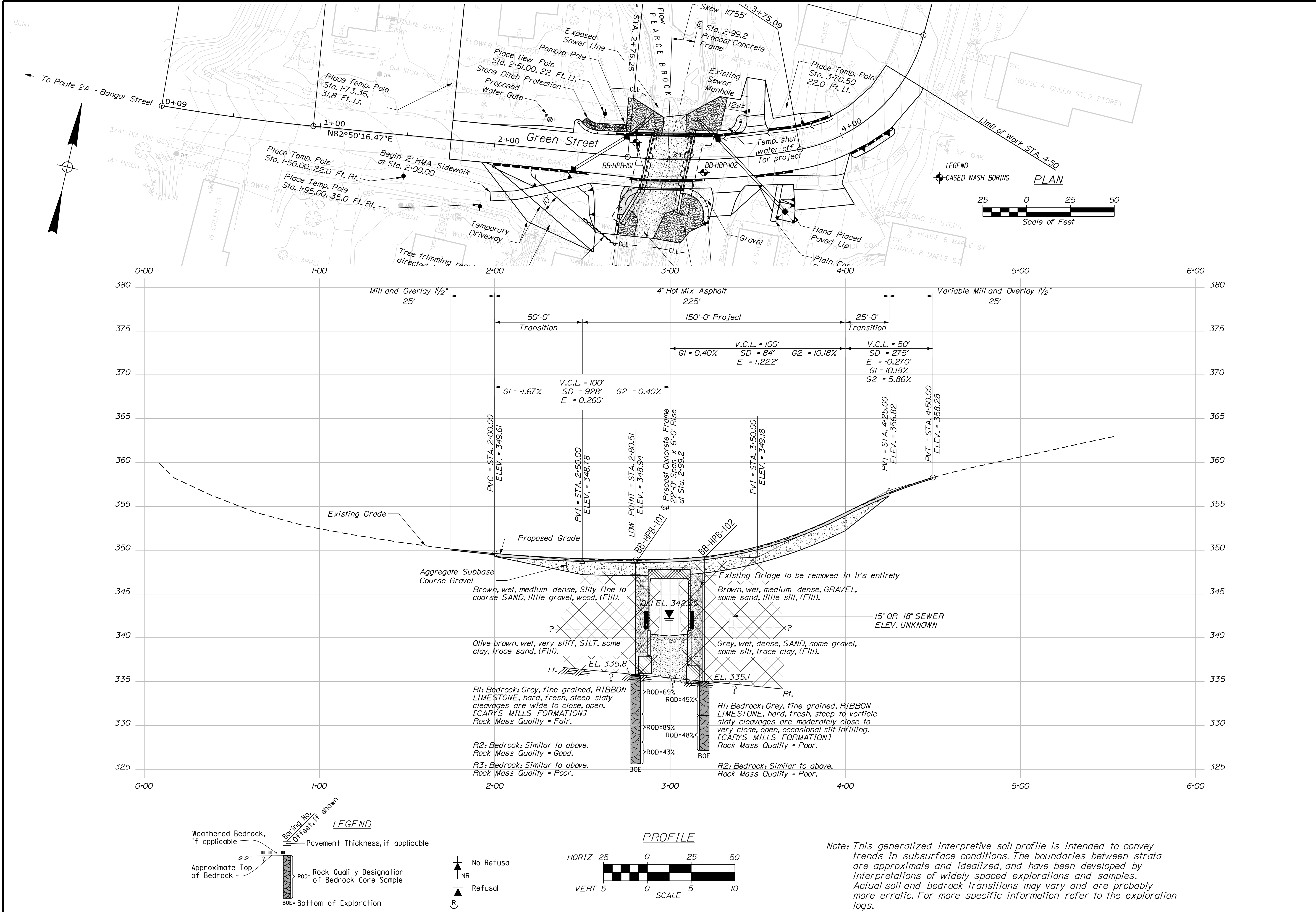
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER: <i>[Signature]</i>		11-22-19
CHIEF ENGINEER: <i>[Signature]</i>		11-21-19

Date:11/6/2019

Username: armand.j.paradis

Division: BRIDGE

Filename: \\00\BRIDGE\MSTAN001_Title.dgn

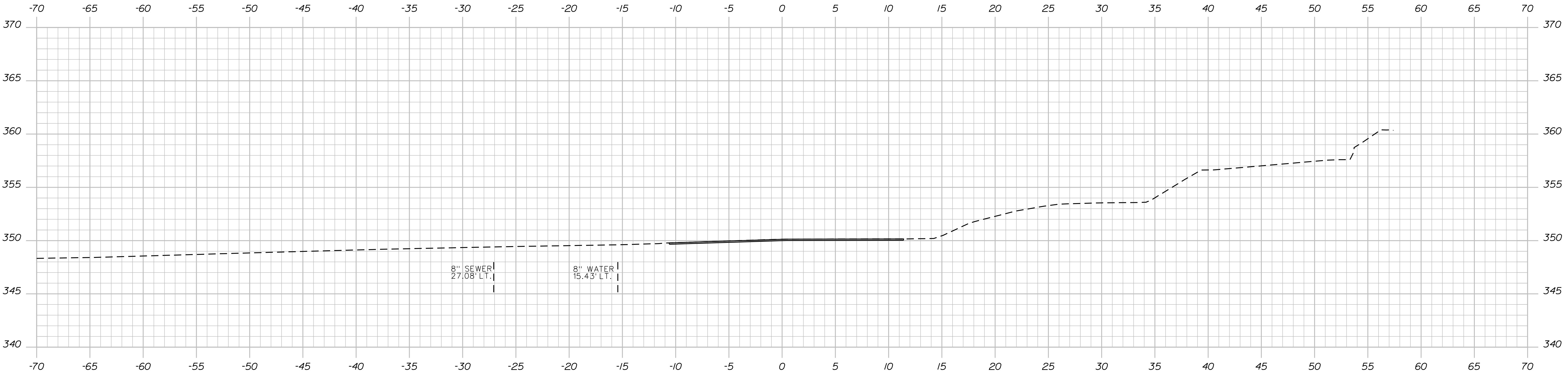


PEARCE BROOK NO. 6 BRIDGE										STATE OF MAINE									
PEARCE BROOK										DEPARTMENT OF TRANSPORTATION									
HOULTON AROOSTOOK COUNTY										STP-2169(400)									
BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE										PROJ. MANAGER		BY		DATE		SIGNATURE		P.E. NUMBER	
										DESIGN-DETAILED									
										CHECKED-REVIEWED									
										DESIGN2-DETAILED2		L. KRUSINSKI		JUL 2019					
										DESIGN3-DETAILED3									
REVISIONS 1																			
REVISIONS 2																			
REVISIONS 3																			
REVISIONS 4																			
FIELD CHANGES																			
SHEET NUMBER										BRIDGE NO. 5019		WIN		BRIDGE PLANS					
5										21694.00									
OF 19																			

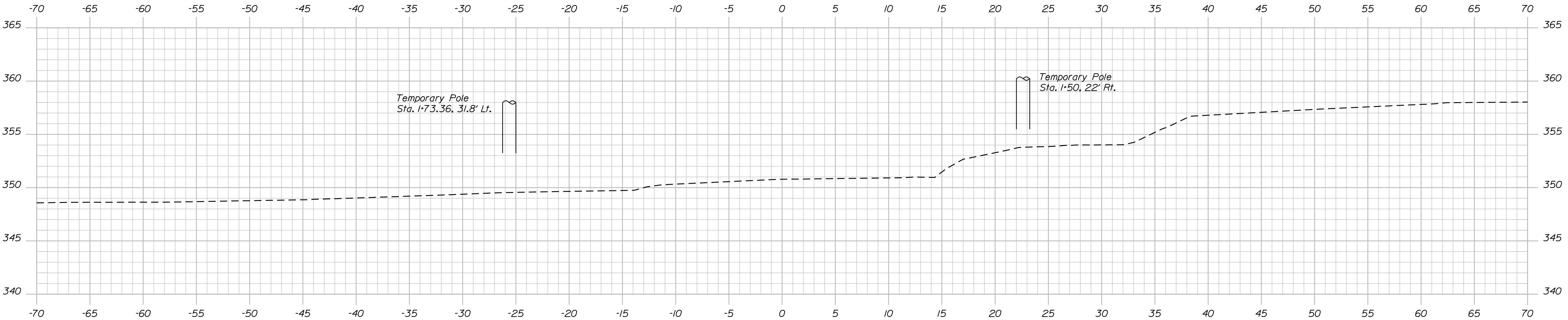
Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Pearce Brook No. 6 Bridge #5019 carries Green Road over Pearce Location: Houlton, Maine										Boring No.: BB-HPB-101									
										WIN: 21694.00																			
Driller: MaineDOT					Elevation (ft.): 348.5					Auger ID/OD: 5" Solid Stem																			
Operator: Travis/James/Rick					Datum: NAVD88					Sampler: Standard Split Spoon																			
Logged By: B. Wilder					Rig Type: CME 45C					Hammer Wt./Fall: 140#/30"																			
Date Start/Finish: 5/11/2017: 08:30-11:30					Drilling Method: Cased Wash Boring					Core Barrel: NQ-2"																			
Boring Location: 2+80.4+ 8.5 ft Lt.					Casing ID/OD: NW-3"					Water Level*: 9.0 ft bgs.																			
Hammer Efficiency Factor: 0.854										Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐																			
Definitions: R = Rock Core Sample S _u = Peak/Remained Field Vane Undrained Shear Strength (psf) T _v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S _u (lab) = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q _u = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt WH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test PP = Pocket Penetrometer WRC = Weight of Rod or Casing N ₆₀ = SPT Uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MW = Unsuccessful Field Vane Shear Test Attempt WGP = Weight of One Person N ₆₀ = Hammer Efficiency Factor/60%WH-uncorrected C = Consolidation Test																													
Sample Information										Visual Description and Remarks										Laboratory Testing Results/ AASHTO and Unified Class									
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (psf) or ROD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log																				
0								347.3		15" HMA.										1.3									
5	10	24/14	5.00 - 7.00	7/9/5/3	14	20	26			Brown, wet, medium dense, Silty fine to coarse SAND, little gravel, wood. (Fill).										GH304376 A=4, ML WC=24.2% LL=26 PL=25 PI=1									
10	20	24/20	9.00 - 11.00	7/9/10/13	19	27	20			Olive-brown, wet, very stiff, SILT, some clay, trace sand, (Fill).										GH304378 A=2-4, SC=SM WC=11.8%									
	R1	52.8/ 52.8	12.80 - 17.20	ROD = 69%				335.8		940 blows for 0.7 ft.										12.7									
15	R2	38.4/36	17.20 - 20.40	ROD = 89%						Top of Bedrock at Elev. 335.8 ft. Roller Coned ahead to 12.8 ft bgs. R1: Bedrock: Grey, fine grained, RIBBON LIMESTONE, hard, fresh, steep slaty cleavage are wide to close, tight, rough, undulating. One horizontal to low angle joint. [CARYS MILLS FORMATION] Rock Mass Quality = Fair. R1: Core Times (min:sec) 12.8-13.8 ft (3:30) 13.8-14.8 ft (3:28) 14.8-15.8 ft (3:51) 15.8-16.8 ft (4:00) 16.8-17.2 ft (3:00) 100% Recovery R2: Bedrock: Similar to above. Rock Mass Quality = Good. R2: Core Times (min:sec) 17.2-18.2 ft (2:45) 18.2-19.2 ft (2:40) 19.2-20.2 ft (3:00) 20.2-20.4 ft (3:00) 95% Recovery R3: Bedrock: Similar to above. Rock Mass Quality = Poor. R3: Core Times (min:sec) 20.4-21.4 ft (3:15) 21.4-22.4 ft (3:06) 22.4-22.9 ft (2:15) 100% Recovery										22.9									
20	R3	30/30	20.40 - 22.90	ROD = 43%				325.6		Bottom of Exploration at 22.9 feet below ground surface.										25									
Remarks:																													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				Page 1 of 1									
* 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.																				Boring No.: BB-HPB-101									

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS										Project: Pearce Brook No. 6 Bridge #5019 carries Green Road over Pearce Location: Houlton, Maine										Boring No.: BB-HPB-102									
										WIN: 21694.00																			
Driller: MaineDOT					Elevation (ft.): 349.2					Auger ID/OD: 5" Solid Stem																			
Operator: Travis/James/Rick					Datum: NAVD88					Sampler: Standard Split Spoon																			
Logged By: B. Wilder					Rig Type: CME 45C					Hammer Wt./Fall: 140#/30"																			
Date Start/Finish: 5/11/2017: 11:30-14:30					Drilling Method: Cased Wash Boring					Core Barrel: NQ-2"																			
Boring Location: 3+19.6+ 7.4 ft Rt.					Casing ID/OD: NW-3"					Water Level*: 7.6 ft bgs.																			
Hammer Efficiency Factor: 0.854										Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐																			
Definitions: R = Rock Core Sample S _u = Peak/Remained Field Vane Undrained Shear Strength (psf) T _v = Pocket Torvane Shear Strength (psf) D = Split Spoon Sample SSA = Solid Stem Auger S _u (lab) = Lab Vane Undrained Shear Strength (psf) WC = Water Content, percent MD = Unsuccessful Split Spoon Sample Attempt HSA = Hollow Stem Auger q _u = Unconfined Compressive Strength (ksf) LL = Liquid Limit U = Thin Wall Tube Sample RC = Roller Cone N-uncorrected = Raw Field SPT N-value PL = Plastic Limit MU = Unsuccessful Thin Wall Tube Sample Attempt WH = Weight of 140lb. Hammer Hammer Efficiency Factor = Rig Specific Annual Calibration Value PI = Plasticity Index V = Field Vane Shear Test PP = Pocket Penetrometer WRC = Weight of Rod or Casing N ₆₀ = SPT Uncorrected Corrected for Hammer Efficiency G = Grain Size Analysis MW = Unsuccessful Field Vane Shear Test Attempt WGP = Weight of One Person N ₆₀ = Hammer Efficiency Factor/60%WH-uncorrected C = Consolidation Test																													
Sample Information										Visual Description and Remarks										Laboratory Testing Results/ AASHTO and Unified Class									
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows /6 in. Shear Strength (psf) or ROD (%)	N-uncorrected	N ₆₀	Casing Blows	Elevation (ft.)	Graphic Log																				
0								348.7		6" HMA.										0.5									
5	10	24/13	5.00 - 7.00	9/17/5/17	22	31				Brown, wet, medium dense, GRAVEL, some sand, little silt, (Fill).										GH304377 A=1-a, GW=GM WC=10.8%									
10	20	24/17	10.00 - 12.00	9/11/18/20	29	41	36			Grey, wet, dense, SAND, some gravel, some silt, trace clay, (Fill).										GH304378 A=2-4, SC=SM WC=11.8%									
15	R1	46.8/44	14.10 - 18.00	ROD = 45%				335.1		950 blows for 0.1 ft.										14.1									
	R2	48/48	18.00 - 22.00	ROD = 48%						Top of Bedrock at Elev. 335.1 ft. R1: Bedrock: Grey, fine grained, RIBBON LIMESTONE, hard, fresh, steep to vertical slaty cleavages are moderately close to very close, tight to open, occasional silt infilling, rough, undulating. Infrequent horizontal to low angle healed joints. [CARYS MILLS FORMATION] Rock Mass Quality = Poor. R1: Core Times (min:sec) 14.1-15.1 ft (2:30) 15.1-16.1 ft (2:08) 16.1-17.1 ft (3:21) 17.1-18.0 ft (3:45) 94% Recovery R2: Bedrock: Similar to above. Rock Mass Quality = Poor. R2: Core Times (min:sec) 18.0-19.0 ft (3:15) 19.0-20.0 ft (3:26) 20.0-21.0 ft (4:01) 21.0-22.0 ft (4:08) 100% Recovery										22.0									
20								327.2		Bottom of Exploration at 22.0 feet below ground surface.										25									
Remarks:																													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																				Page 1 of 1									
* 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.																				Boring No.: BB-HPB-102									

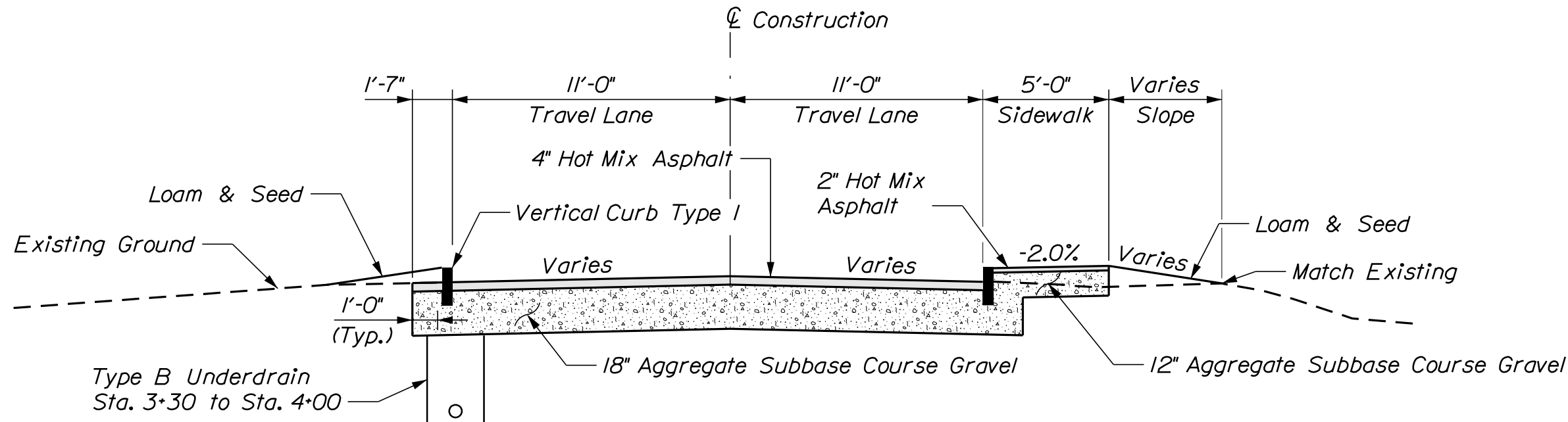
STATE OF MAINE DEPARTMENT OF TRANSPORTATION										STP-2169(400)										BRIDGE NO. 5019 WIN 21694.00 BRIDGE PLANS									
PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON										AROOSTOOK COUNTY										BORING LOGS									
SHEET NUMBER										6										OF 19									
PROJECT MANAGER										BY										DATE									
DESIGN-DETAILED										T. WHITE										JUL 2019									
DESIGN-REVIEWED										L. KRUSINSKI										SIGNATURE									
DESIGN-DETAILED										P.E. NUMBER										DATE									
REVISIONS 1																													
REVISIONS 2																													
REVISIONS 3																													
REVISIONS 4																													
FIELD CHANGES																													



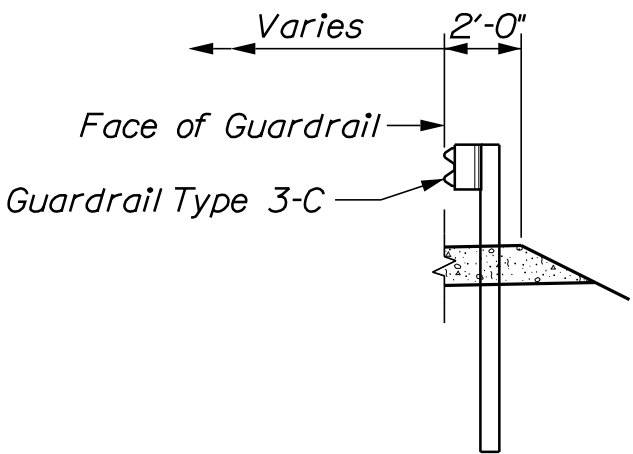
1+75.00
 Begin Mill and Overlay



1+50.00

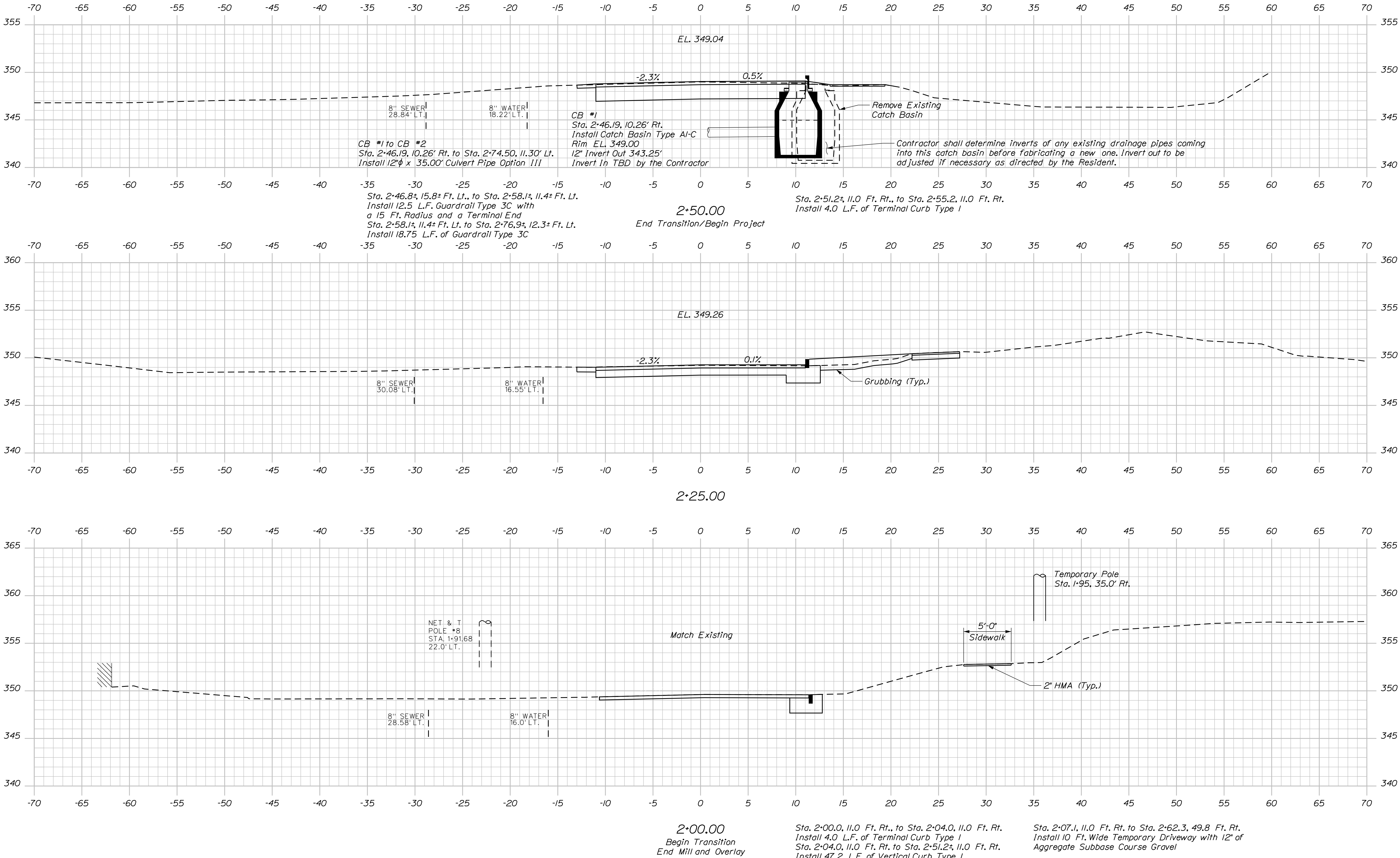


TYPICAL APPROACH SECTION



TYPICAL GUARDRAIL BERM

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
PEARCE BROOK NO. 6 BRIDGE		STP-2169(400)	
PEARCE BROOK		WIN	
HOULTON		021694.00	
AROOSTOOK COUNTY		BRIDGE NO. 5019	
CROSS SECTIONS		BRIDGE PLANS	
SHEET NUMBER		2	
OF 19		Sta. 1+50.00 to Sta. 1+75.00	



STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

STP-2169(400)

WIN 021694.00

BRIDGE NO. 5019

BRIDGE PLANS

PEARCE BROOK NO. 6 BRIDGE

PEARCE BROOK

AROOSTOOK COUNTY

HOULTON

CROSS SECTIONS

SHEET NUMBER

8

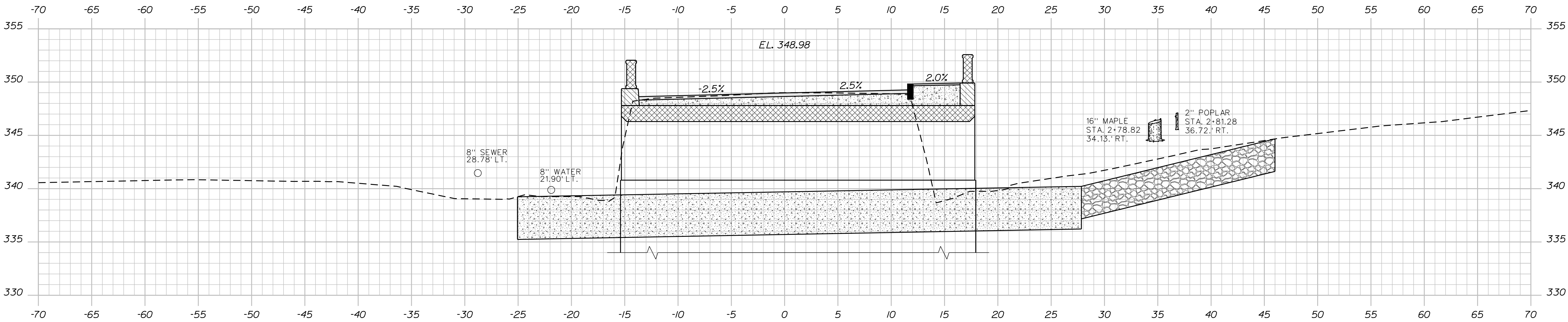
OF 19

Date:11/7/2019

Username: armand.i.paradis

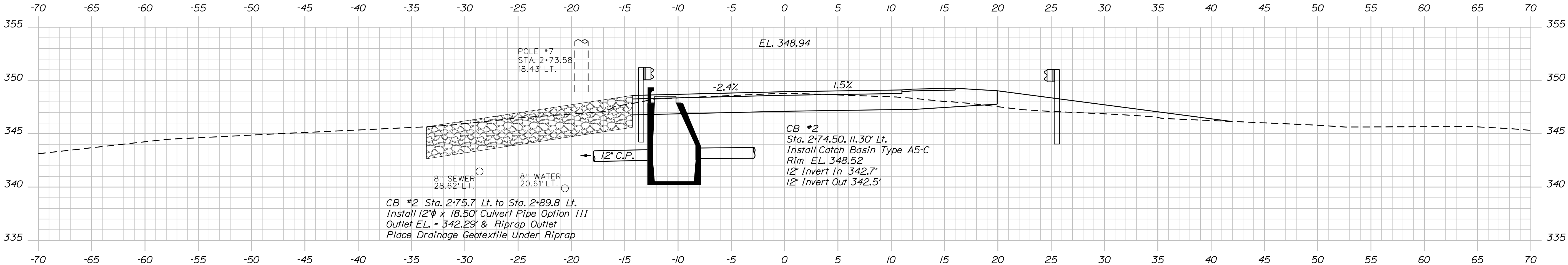
Division: BRIDGE

Filename: ... \MSTAD09_XSECT_2+66_003.dgn



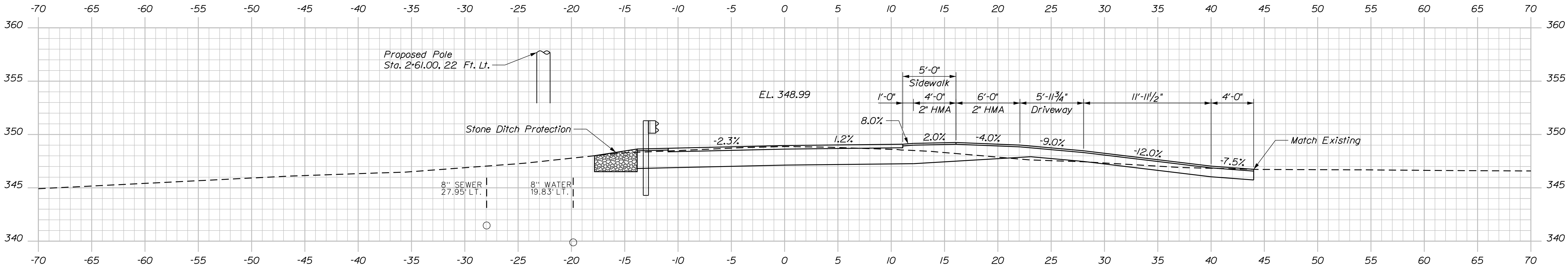
3+00.00

Bridge to Sta. 3+18.40, 21.5 Ft. Rt.
 Install Bridge Transition - Type 2 Modified, 15' Radius



2+75.00

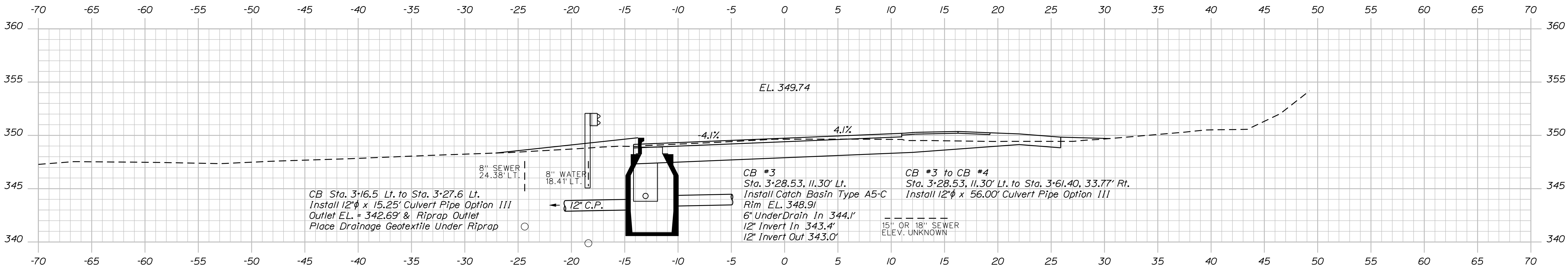
Sta. 2+78.5±, 11.6± Ft. Rt., to Sta. 2+86.3±, 11.7± Ft. Rt.
 Install 8.0 L.F. of Terminal Curb Type I
 Sta. 2+86.3±, 11.7± Ft. Rt. to Sta. 3+12.1±, 11.1± Ft. Rt.
 Install 26.9 L.F. of Vertical Curb Type I
 Sta. 2+74.5±, 29.2± Ft. Rt. to Sta. 2+75.5±, 23.1± Ft. Rt.
 Install 6.25 L.F. of Guardrail Type 3C with 11 Ft. Radius and a Terminal End
 Sta. 2+75.5±, 23.1± Ft. Rt. to Bridge
 Install Bridge Transition - Type 2 Modified, 11 Ft. Radius



2+66.32

Sta. 2+68.5±, 11.9± Ft. Lt. to Sta. 2+72.5±, 12.1± Ft. Lt.
 Install 4.0 L.F. of Terminal Curb Type I

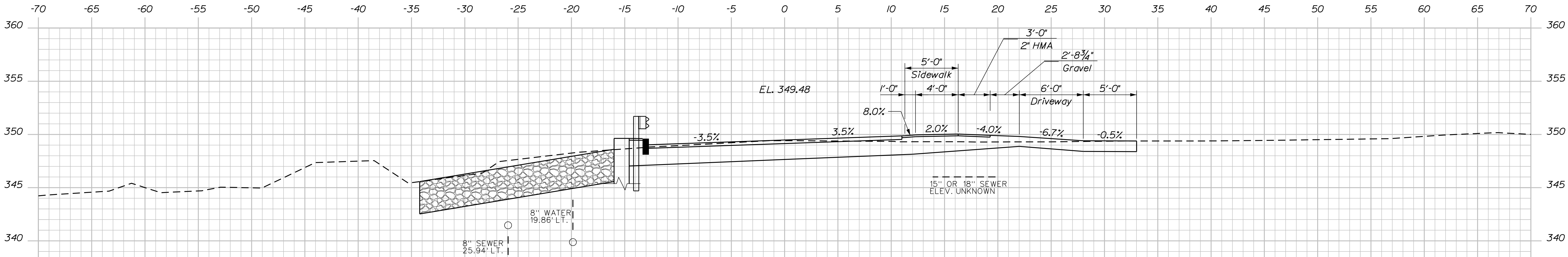
PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	A. SHARA	NOV. 2019			
CHECKED-REVIEWED	R. MYERS	NOV. 2019			
DESIGN-DETAILED	L. KRUSINSKI	JUL. 2019			
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					



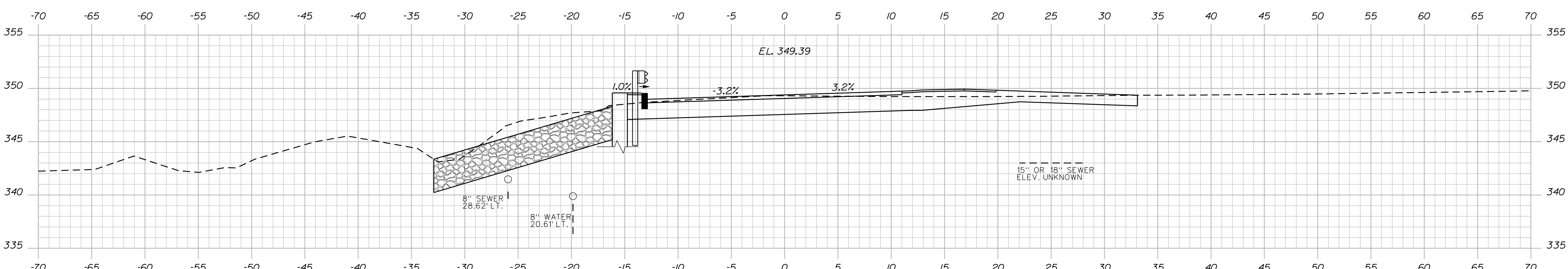
Sta. 3+27.0±, 12.7± Ft. Lt., to Sta. 3+33.5±, 13.1± Ft. Lt.
Install 6.25 L.F. of Guardrail - Type 3C
Sta. 3+33.5±, 13.1± Ft. Lt. to Sta. 3+43.2±, 20.2± Ft. Lt.
Install 12.5 L.F. of Guardrail Type - 3C with a 10 Ft. Radius and Terminal End

Sta. 3+30.00 Lt., to Sta. 4+00.00 Lt.
Install 6' x 65.5' UnderDrain Type B
Sta. 3+38.5±, 13.3± Ft. Lt. to Sta. 3+42.6±, 13.4± Ft. Lt.
Install 4.0 L.F. of Terminal Curb Type I

3+35.00



3+28.00



Bridge to Sta. 3+27.0±, 12.7± Ft. Lt.
Install Bridge Transition - Type 2

Bridge to Sta. 3+27.0±, 12.7± Ft. Lt. to Sta. 3+38.5±, 13.3± Ft. Lt.
Install 23.0 L.F. of Vertical Curb Type I

3+25.00

Sta. 3+12.1±, 11.1± Ft. Rt. to Sta. 3+20.0±, 11.0± Ft. Rt.
Install 8.0 L.F. of Terminal Curb Type I

Bridge to Sta. 3+18.4±, 21.5± Ft. Rt.
Install Bridge Transition Type 2 Modified, 15 Ft. Radius
Sta. 3+18.4±, 21.5± Ft. Rt. to Sta. 3+21.5±, 32.5± Ft. Rt.
Install 12.5 L.F. of Guardrail Type 3C with 15 Ft. Radius and Terminal End

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	STP-2169(400)		BRIDGE NO. 5019 WIN 021694.00 BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN-DETAILED	A. SHARAF	A. PARADIS	NOV. 2019
CHECKED-REVIEWED	R. MYERS	T. WHITE	NOV. 2019
DESIGN-DETAILED	L. KRUSINSKI		JUL. 2019
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE	P.E. NUMBER	DATE

PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON AROOSTOOK COUNTY	CROSS SECTIONS

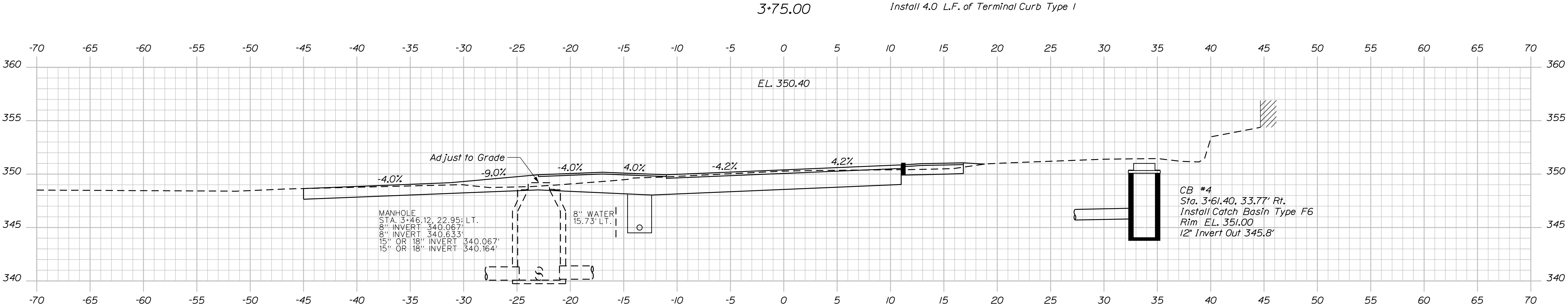
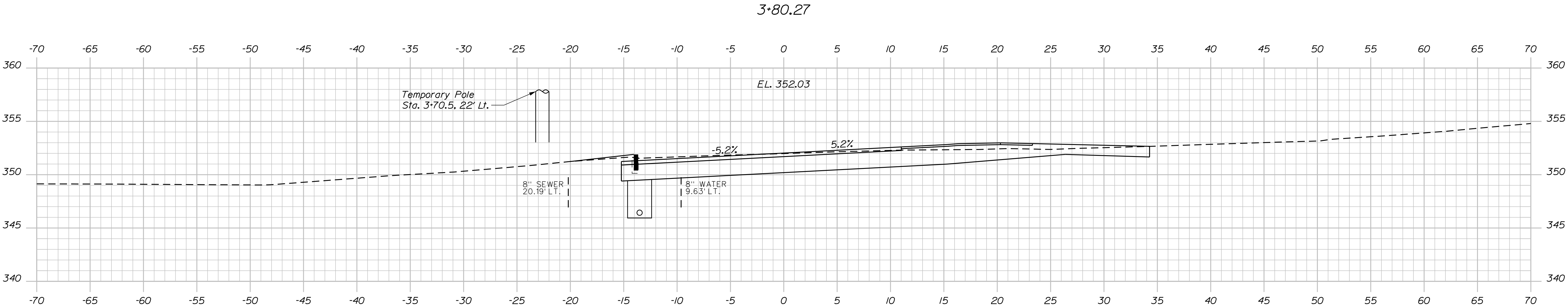
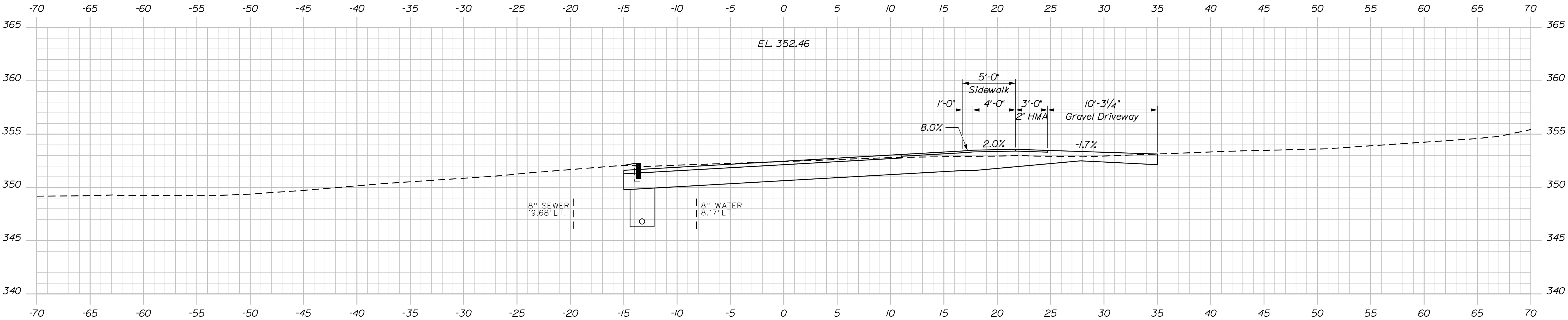
SHEET NUMBER
10
OF 19

Date:11/7/2019

Username: armand.i.paradis

Division: BRIDGE

Filename: ... \011_XSECT_3+50-3+80.27.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2169(400)

WIN
021694.00
BRIDGE NO. 5019
BRIDGE PLANS

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED: A. SHARA	NOV 2019	SIGNATURE
CHECKED-REVIEWED: R. MYERS	NOV 2019	P.E. NUMBER
DESIGN-DETAILED: L. KRUSINSKI	JUL 2019	DATE
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PEARCE BROOK NO. 6 BRIDGE
PEARCE BROOK
HOULTON AROOSTOOK COUNTY

CROSS SECTIONS

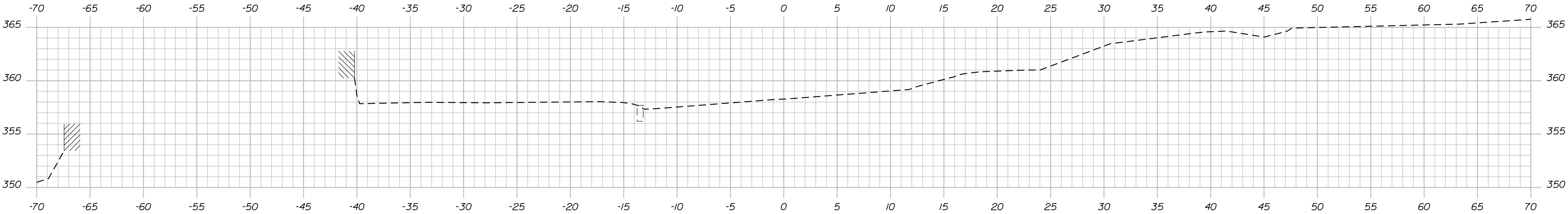
SHEET NUMBER
11
OF 19

Username: armand.i.paradis

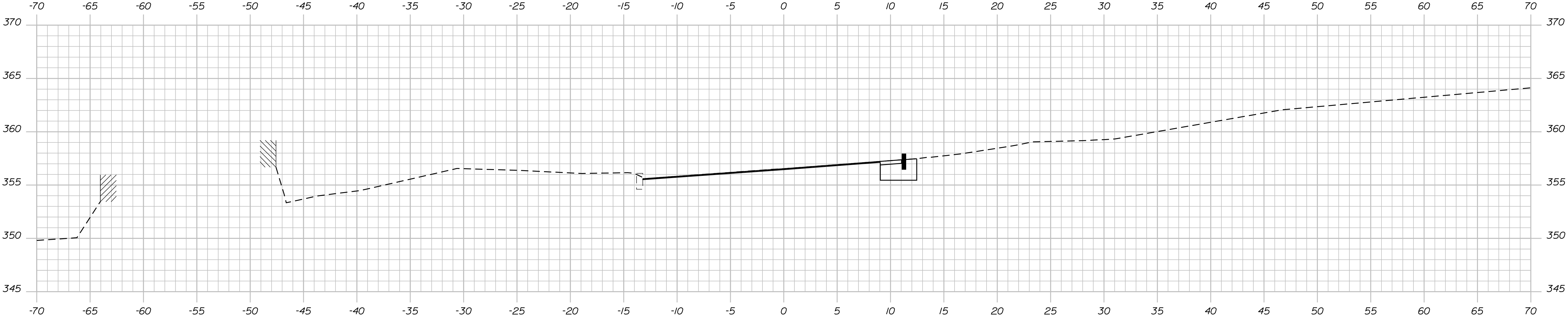
Date:11/7/2019

Division: BRIDGE

Filename: ... \MSTAO12_XSECT_4+00-4+50.dgn

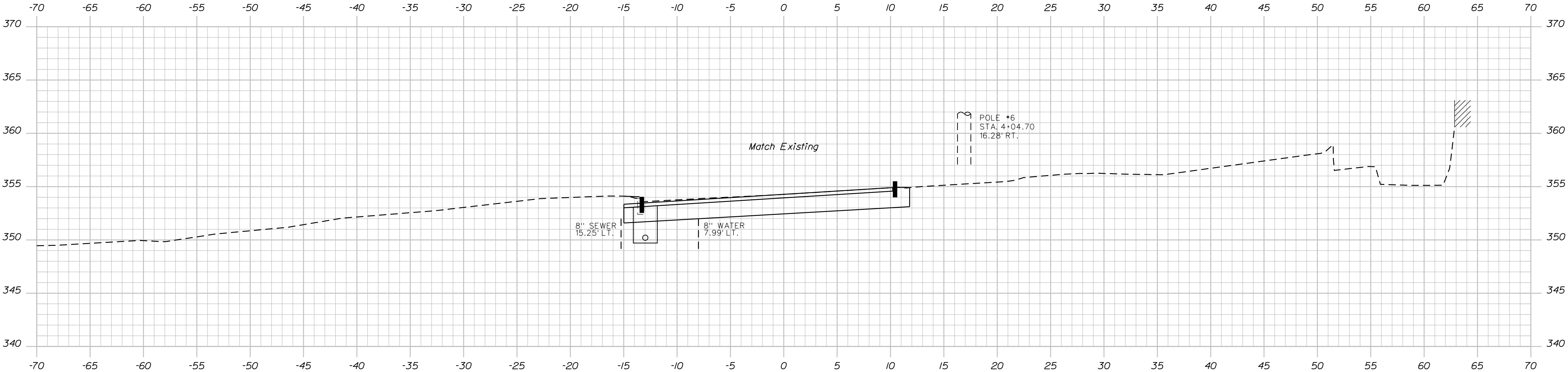


4+50.00
End Mill and Overlay



4+25.00
End Transition
Begin Mill and Overlay

Sta. 4+21.5±, 12.2± Ft. Rt. to 4+25.0±, 12.4± Ft. Rt.
Install 4.0 L.F. of Terminal Curb Type I



4+00.00
End Project
Begin Transition

Sta. 4+00.0, 11.0 Ft. Rt., to Sta. 4+03.6±, 11.0 Ft. Rt
Install 4.0 L.F. of Terminal Curb Type I
Sta. 4+03.6±, 11.0 Ft. Rt to Sta. 4+21.5±, 12.2± Ft. Rt.
Install 20.3 L.F. of Vertical Curb Type I

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	STP-2169(400)		BRIDGE NO. 5019	WIN	021694.00	BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE	SIGNATURE
DESIGNED-DETAILED	A. SHARAF	A. PARADIS	NOV. 2019	
CHECKED-REVIEWED	R. MYERS	T. WHITE	JUL. 2019	
DESIGNED-DETAILED	L. KRUSINSKI			
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

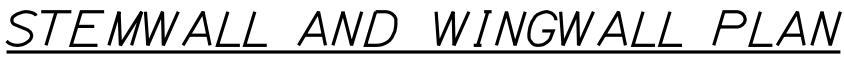
PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON	AROOSTOOK COUNTY	CROSS SECTIONS

SHEET NUMBER
12
OF 19



1. The precast units shall be designed to carry construction loadings with no fill cover over the top of the units.
2. The construction, handling, and assembly of the precast units shall be in accordance with Special Provisions Section 534, Precast Structural Concrete, and with the manufacturer's specifications as applicable.
3. Install standard membrane waterproofing over the top and to 12 inches down the exterior sides of the precast units & up the sides of curbs.
4. Precast Concrete Frame design shall consider effects from a TL-2 collision load on the bridge rail.

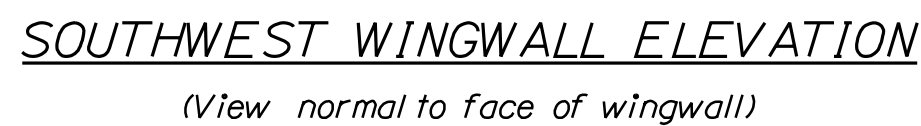
1. The maximum factored applied footing pressure is 5.2 ksf for the strength limit state.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches in the footings unless otherwise noted.
3. Place 4-in. diameter drains in the wingwalls at 10-ft maximum spacing. The exact location will be determined by the Resident.
4. Cover joints where waterstops are not required in accordance with Standard Details Section 502.
5. Construct French Drains along sides of the Precast Concrete Frame and behind the wingwalls in accordance with Standard Specifications Section 512, French Drains.
6. Frame, stemwalls, wingwalls and their footings shall be backfilled with Granular Borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 10 feet behind the walls in fill areas.
7. When bedrock protrudes above the bottom of footing shown, the footing may be raised and the vertical reinforcing may be cut in the field with the approval of the Resident. The minimum footing elevations are shown on the Plans and shall not be lowered without prior approval of the Engineer of Record. Payment for adjusting the footing elevations and reinforcing steel will be considered incidental to the related Contract Items. No separate payment will be made.
8. At the option of the Resident, bedrock which protrudes above a horizontal plane 12 inches below the proposed bottom of footing elevation may be removed. Payment for bedrock removal shall be made under Item No. 206.092 Structural Rock Excavation - Major Structures.
9. Footing concrete shall be placed on bedrock cleaned of all loose rock, highly weathered rock and soil. The bedrock subgrade shall be confirmed to be relatively level. Where the bedrock slope exceeds 4H:1V, the bedrock surface shall be benched to create level steps or made completely level. The Resident shall approve the bedrock subgrade prior to the placement of the footing concrete.
10. Footing dowels to be drilled and grouted with an anchoring material on the Qualified Product List a minimum of 12 inches into bedrock.



PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON AROOSTOOK COUNTY	PROJ. MANAGER CHECKED-REVIEWED DESIGN2-DETAILED2 DESIGN3-DETAILED3	M. WIGHT A. SHKARA R. WYERS L. KRUSINSKI	BY NOV. 2019 NOV. 2019 T. WHITE	DATE NOV. 2019 NOV. 2019 JUL. 2019	STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2169(400) WIN 021694.00
	REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4			P.E. NUMBER DATE	
	FIELD CHANGES			BRIDGE NO. 5019	
	STEMWALL AND WINGWALL PLAN			BRIDGE PLANS	
	SHEET NUMBER 14 OF 19			BRIDGE PLANS	



15 OF 19	SHEET NUMBER		PEARCE BROOK NO. 6 BRIDGE						PROJ. MANAGER	M. WIGHT	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
			PEARCE BROOK						DESIGN-DETAILED	A. SHKARA	A. PARADIS	NOV. 2019	
			HOULTON						CHECKED-REVIEWED	R. MYERS			SIGNATURE
			AROOSTOOK COUNTY						DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUL. 2019	
									DESIGN3-DETAILED3				P.E. NUMBER
			PRECAST CONCRETE						REVISIONS 1				
									REVISIONS 2				
									REVISIONS 3				
									REVISIONS 4				DATE
			FRAME DETAILS						FIELD CHANGES				



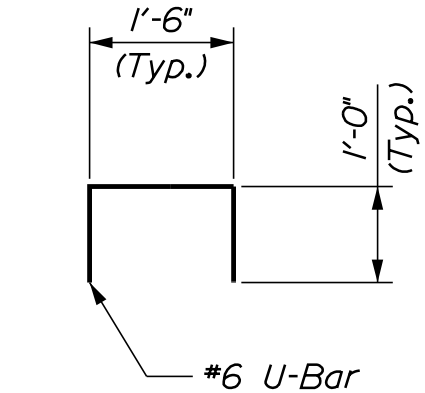
SHEET NUMBER 16 OF 19	PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON AROOSTOOK COUNTY				PROJ. MANAGER	M. WIGHT	BY	DATE
	WINGWALL DETAILS				DESIGN-DETAILED	A. SHIKARA	A. PARADIS	NOV. 2019
					CHECKED-REVIEWED	R. WYERS		
					DESIGN-DETAILED2	L. KRUSINSKI	I. WHITE	NOV. 2019
					DESIGN-DETAILED3			JUL. 2019
				REVISIONS 1			P.E. NUMBER	
				REVISIONS 2				
				REVISIONS 3				
				REVISIONS 4			DATE	
				FIELD CHANGES				
STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2169(400) BRIDGE NO. 5019 WIN 021694.00 BRIDGE PLANS								

Date:11/7/2019

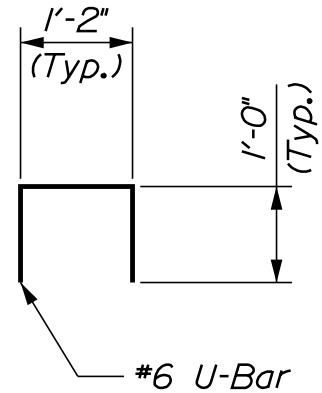
Username: armand.i.paradis

Division: BRIDGE

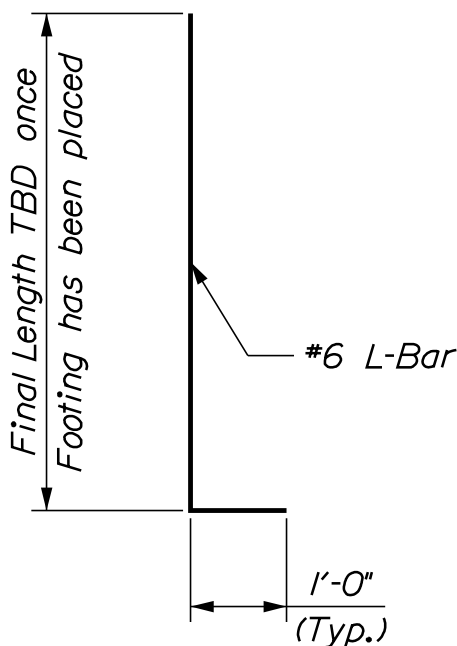
Filename: ... \MSTAO17_Rebar_Details.dgn



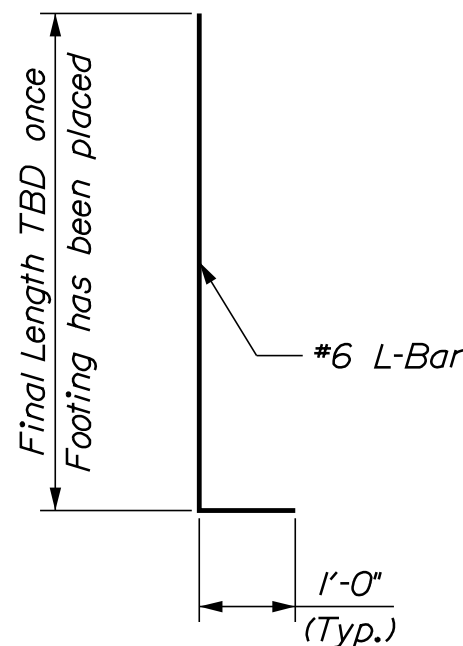
U-BAR(A) DETAIL



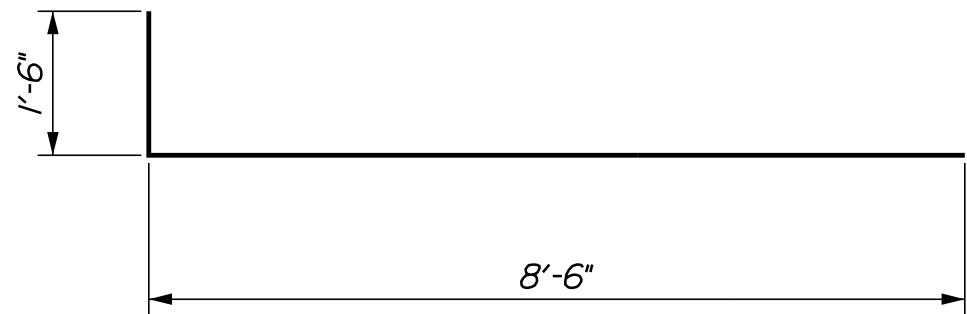
U-BAR(B) DETAIL



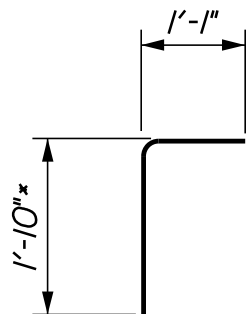
L-BAR(A) DETAIL



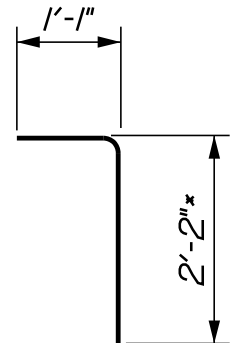
L-BAR(B) DETAIL



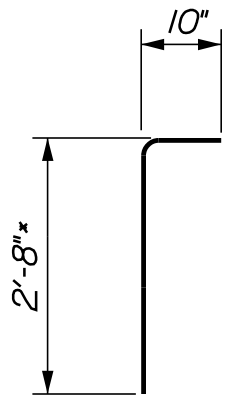
L-BAR(C) DETAIL



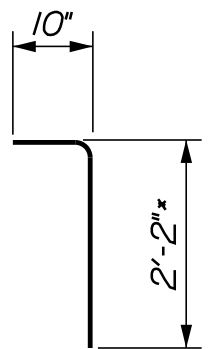
L-BAR(D) DETAIL
* Length to be verified by Contractor



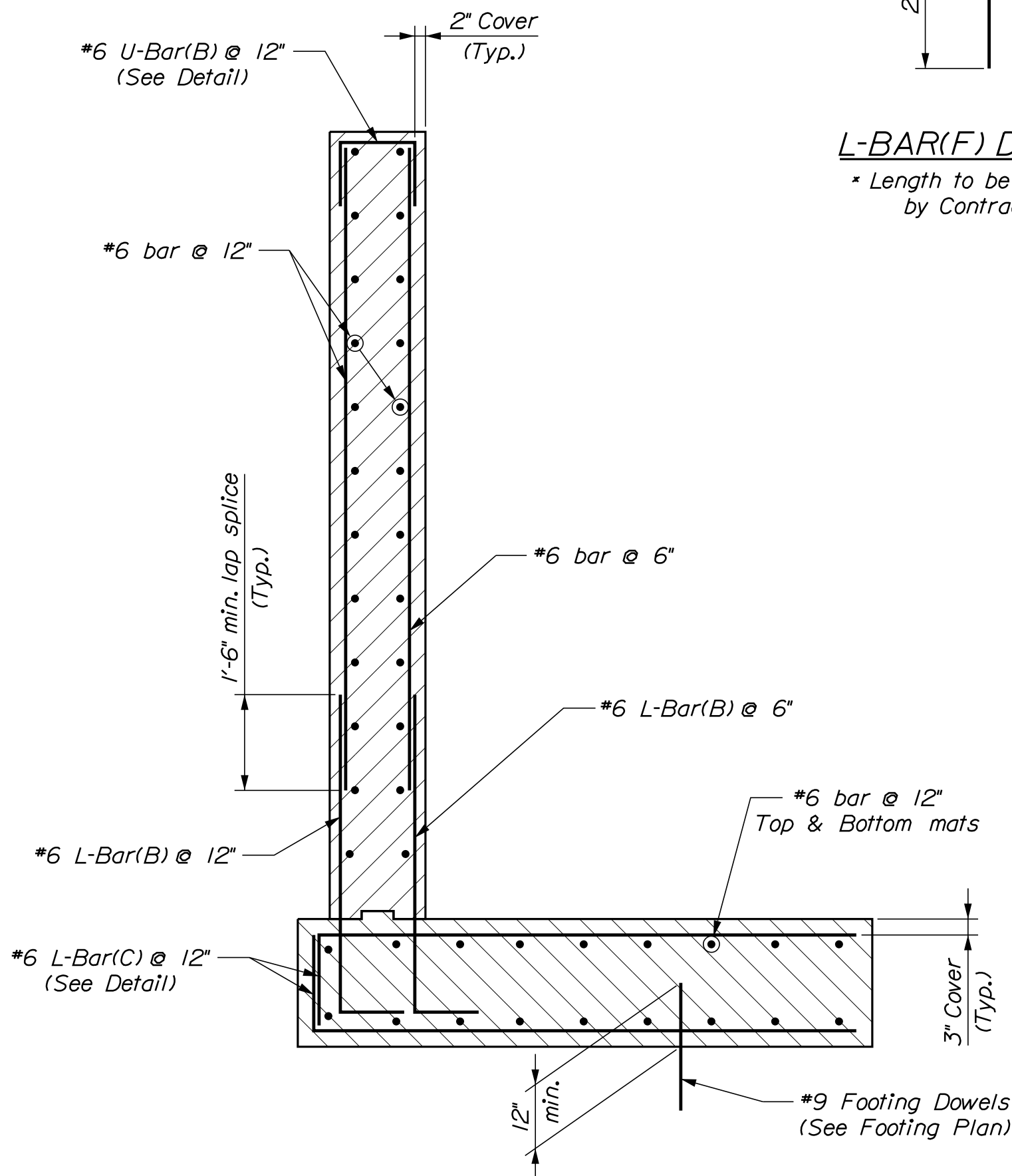
L-BAR(E) DETAIL
* Length to be verified by Contractor



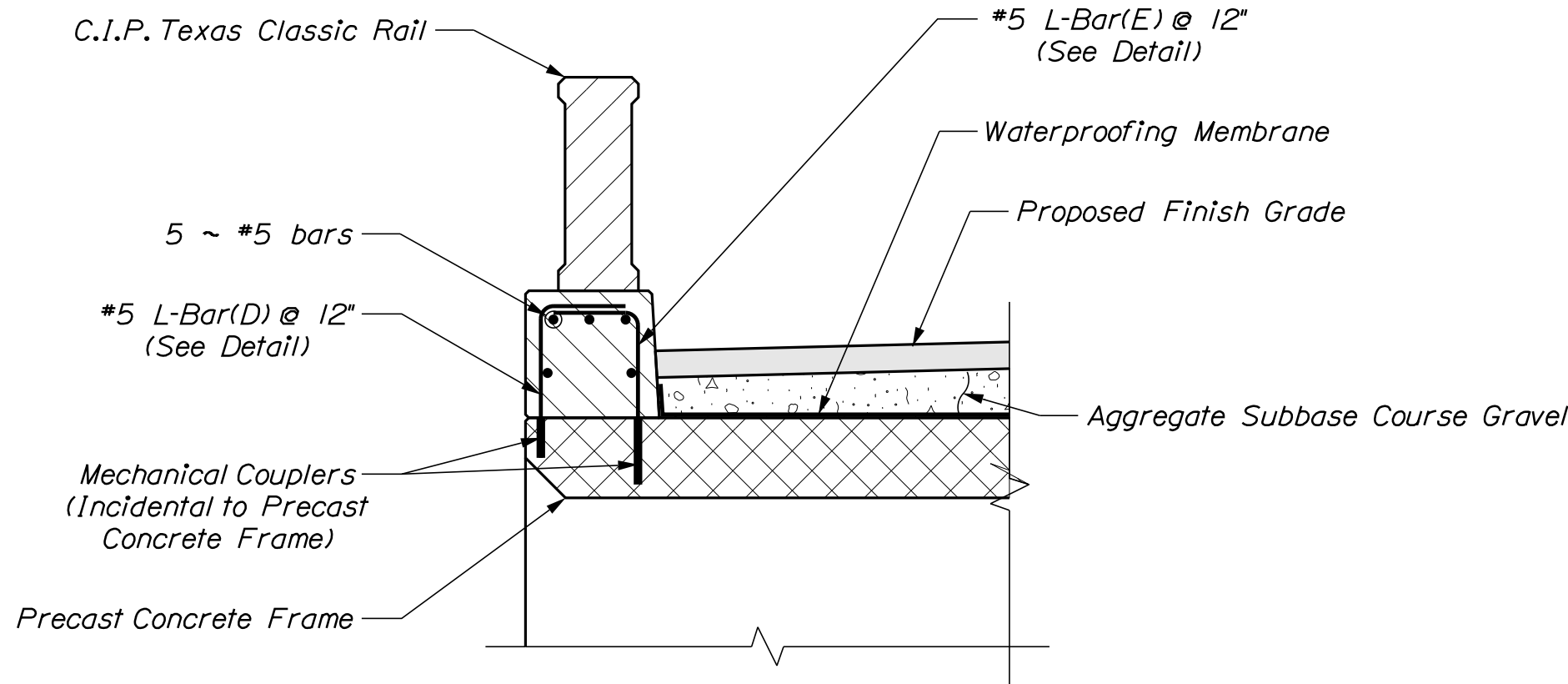
L-BAR(F) DETAIL
* Length to be verified by Contractor



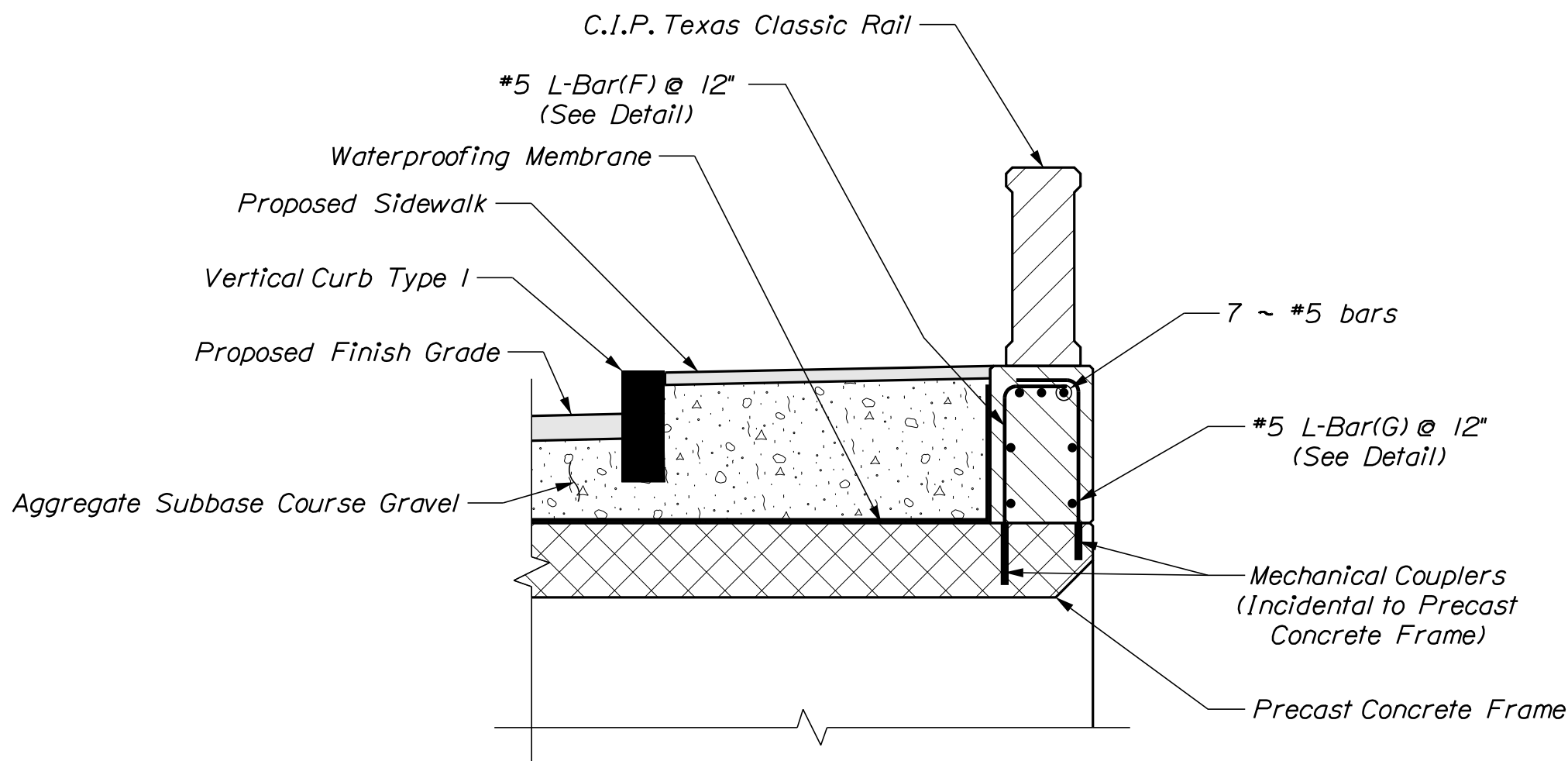
L-BAR(G) DETAIL
* Length to be verified by Contractor



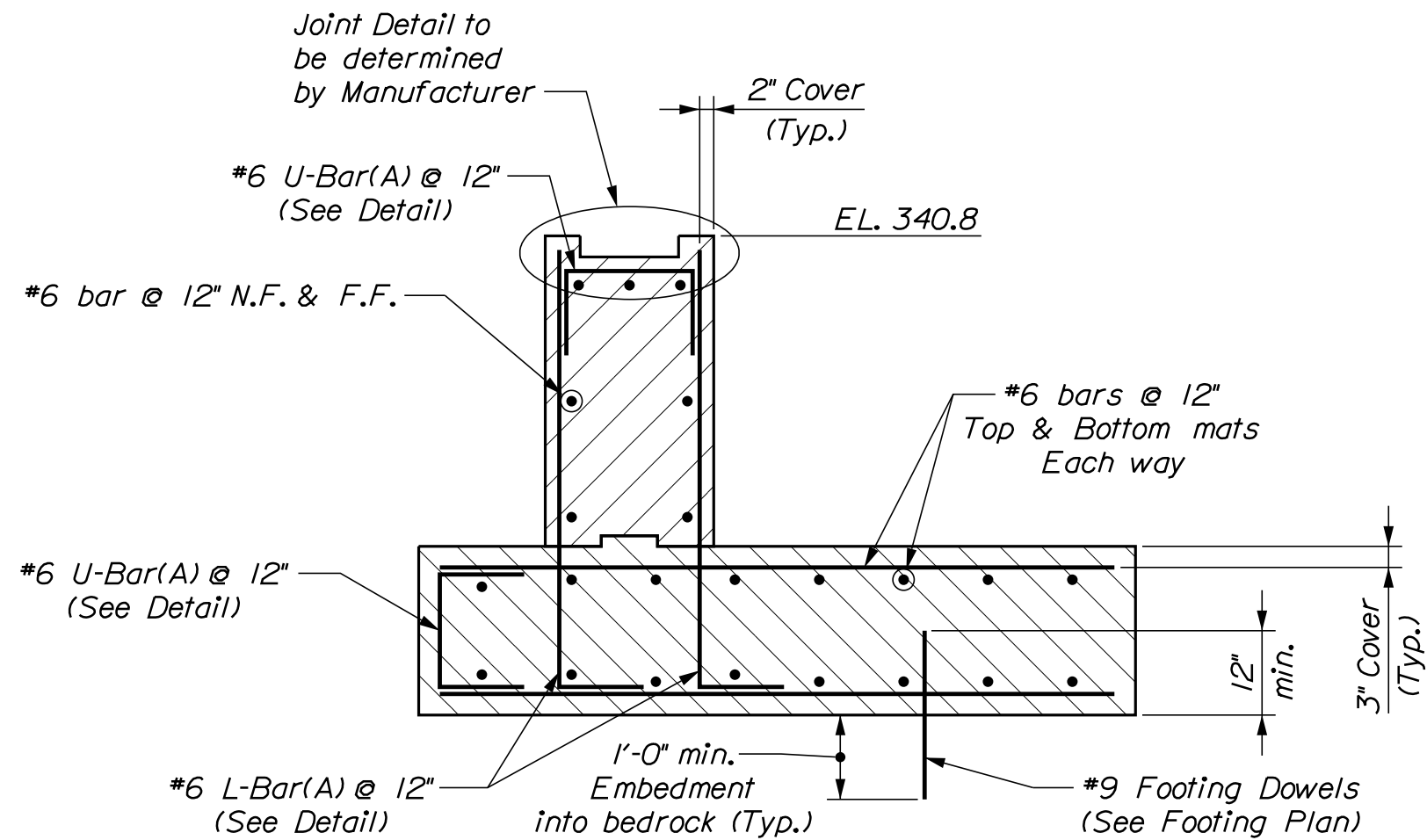
TYPICAL DOWNSTREAM WINGWALL REBAR SECTION
(Northwest Wingwall shown, Northeast Wingwall similar)



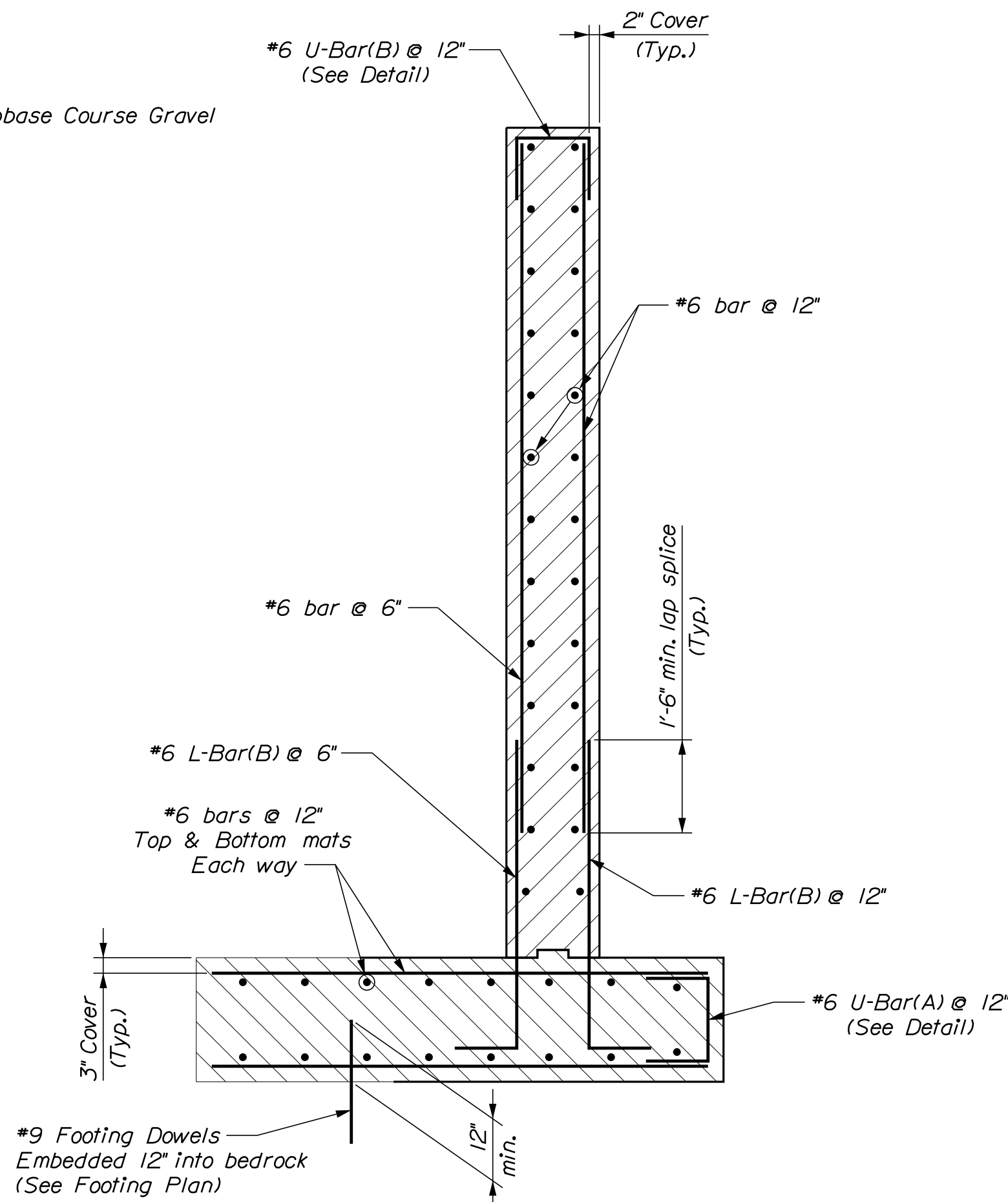
DOWNSTREAM CURB REBAR DETAIL



UPSTREAM CURB REBAR DETAIL



TYPICAL REBAR STEMWALL/FOOTING SECTION



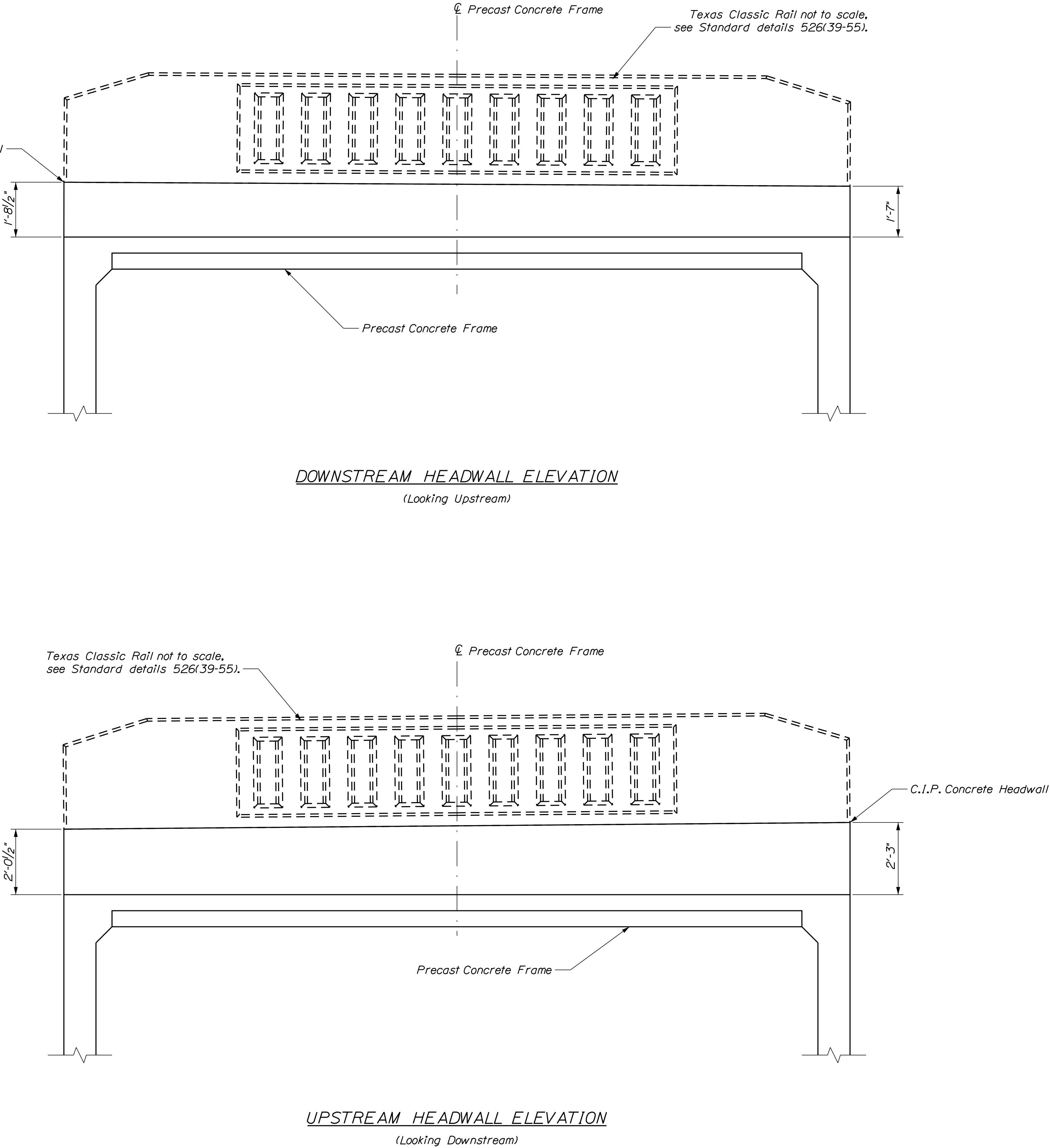
TYPICAL UPSTREAM WINGWALL REBAR SECTION
(Southwest Wingwall shown, Southeast Wingwall similar)

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
STP-2169(400)	
BRIDGE NO. 5019	WIN
021694.00	
BRIDGE PLANS	

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE
DESIGNED-Detailed	NOV 2019	A. PARADIS	NOV 2019	
CHECKED-Reviewed	NOV 2019	A. PARADIS	NOV 2019	
DESIGNED-Detailed	JUL 2019	T. WHITE	JUL 2019	
DESIGNED-Detailed				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

PEARCE BROOK NO. 6 BRIDGE	
PEARCE BROOK	
AROOSTOOK COUNTY	
HOULTON	
REINFORCING STEEL DETAILS	

SHEET NUMBER
17
OF 19



PEARCE BROOK NO. 6 BRIDGE PEARCE BROOK HOULTON AROOSTOOK COUNTY					PROJ. MANAGER		M. WIGHT	BY	DATE		
					DESIGN-DETAILED		A. SHARA	A. PARADIS	NOV. 2019		
HEADWALL DETAIL					CHECKED-REVIEWED		R. MYERS				
					DESIGN2-DETAILED2		L. KRUSINSKI	T. WHITE	JUL. 2019		
					DESIGN3-DETAILED3						
					REVISIONS 1						
					REVISIONS 2						
					REVISIONS 3						
					REVISIONS 4						
					FIELD CHANGES						
SHEET NUMBER					STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2169(400)						
18					BRIDGE NO. 5019					WIN 021694.00	BRIDGE PLANS
OF 19											

Filename: ... \00\ROW\MSTA001_RWP\PLAN1.dgn Division: BRIDGE Username: armand.i.paradis Date:11/7/2019

