

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

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

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2018) AADT	900
Future (2038) AADT	1080
DHV - % of AADT	11
Design Hour Volume	119
Heavy Trucks (% of AADT)	9
Heavy Trucks (% of DHV)	9
Directional Distribution (% of DHV)	54
18 kip Equivalent P 2.0	52
18 kip Equivalent P 2.5	50
Design Speed (mph)	40

HYDROLOGIC DATA

Drainage Area	32.5 sq mi
Design Discharge (Q50)	2293 cfs
Check Discharge (Q100)	2684 cfs
Headwater Elevation (Q1.1)	337.69 ft
Headwater Elevation (Q50)	343.15 ft
Headwater Elevation (Q100)	343.74 ft
Discharge Velocity (Q1.1)	1.6 fps
Discharge Velocity (Q50)	4.5 fps
Discharge Velocity (Q100)	5.8 fps

MATERIALS

Concrete:	
Curbs & Transition Barriers	Class "LP"
Precast/Prestressed Beams	Class "P"
All Other	Class "A"
Reinforcing Bars:	
Plain	ASTM A 615, Grade 60
Glass Fiber Reinforced Polymer	CSA S807-10, ACI 440.1R-15
Stainless Steel	ASTM A 955, Grade 75
Anchor Rods	ASTM F1554, Grade 105
Prestressing Strands	AASHTO M203 (ASTM A416), Grade 270, Low Relaxation

BASIC DESIGN STRESSES

Concrete	
Class "LP"	f 'c = 5,000 psi
Class "P"	f 'c = 8,000 psi
	f 'ci = 6,400 psi
Class "A"	f 'c = 4,000 psi
Plain Reinforcing Steel	f y = 60,000 psi
Stainless Reinforcing Steel	f y = 75,000 psi
Structural Steel:	
ASTM F1554	Fu = 120,000 psi
Glass Fiber Reinforced Polymer:	
#5 Bar	Fu = 95,000 psi
Minimum Elastic Modulus	E = 6,150,000 psi
Minimum Nominal Design Tensile Strain	εfu = 1.226%
Prestressing Strand	Fu = 270,000 psi

CHESTERVILLE
FRANKLIN COUNTY
DUTCH GAP BRIDGE
OVER
LITTLE
NORRIDGEWOCK STREAM
DUTCH GAP ROAD
PROJECT NO. STP-2168(800)
PROJECT LENGTH 0.052 mi.
BRIDGE NO. 3951



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UTILITIES

Central Maine Power Company
Consolidated Communications
Time Warner Cable

MAINTENANCE OF TRAFFIC

Maintain one 18'-0" wide lane of alternating one - way traffic, on a temporary detour bridge, using traffic signals.

PROJECT LOCATION:	Dutch Gap Bridge #3951 over Little Norridgewock Stream. Located 1.19 miles north of Zions Hill Road. Lat./Long. 44°34'05.0"N 70°05'13.6"W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Bridge Replacement

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED
[Signature]
COMMISSIONER

DATE
11-16-18
CHIEF ENGINEER
[Signature]

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROFESSIONAL ENGINEER
Steven M. Hodgdon
11206

[Signature]
SIGNATURE
11206

October 30, 2018
P.E. NUMBER
DATE

PROJECT INFORMATION

PROGRAM
PROJECT MANAGER
DESIGNER
CONSULTANT
PROJECT RESIDENT
CONTRACTOR

Bridge
Devon C. Edton
Steve Hodgdon
Hoyle, Tanner & Assoc., Inc.

PROJECT COMPLETION DATE

STP-2168(800)

CHESTERVILLE
DUTCH GAP BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 28

WIN 021688.00

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.202	REMOVING PAVEMENT SURFACE	362	SY
203.20	COMMON EXCAVATION	930	CY
203.24	COMMON BORROW	200	CY
203.25	GRANULAR BORROW	990	CY
203.33	SPECIAL FILL	200	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	2205	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	480	CY
403.208	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE	110	T
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	130	T
409.15	BITUMINOUS TACK COAT, APPLIED	110	G
461.131	TEMPORARY PAVEMENT	130	T
501.231	DYNAMIC LOADING TEST	2	EA
501.50	STEEL H-BEAM PILES 89 LB/FT, DELIVERED	370	LF
501.501	STEEL H-BEAM PILES 89 LB/FT, IN PLACE	332	LF
501.90	PILE TIPS	8	EA
501.91	PILE SPLICES	8	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	(81 CY)	1 LS
502.261	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON CONCRETE BRIDGES	(84 CY)	1 LS
502.291	SAW CUT GROOVING	(1760 SF)	1 LS
502.31	STRUCTURAL CONCRETE APPROACH SLAB	(118 CY)	1 LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS	(7 CY)	1 LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	13850	LB
503.13	REINFORCING STEEL, PLACING	13850	LB
503.26	STAINLESS STEEL REINFORCEMENT, FABRICATED AND DELIVERED	4560	LB
503.27	STAINLESS STEEL REINFORCEMENT, PLACING	4560	LB
507.0821	STEEL BRIDGE RAILING, 3 BAR	(134 LF)	1 LS
510.10	SPECIAL DETOUR, 18 FOOT ROADWAY WIDTH VEHICULAR AND PEDESTRIAN TRAFFIC NOT SEPARATED	1	LS
511.07	COFFERDAM: ABUTMENT NO. 1	1	LS
511.07	COFFERDAM: ABUTMENT NO. 2	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES	(310 SY)	1 LS
526.301	TEMPORARY CONCRETE BARRIER, TYPE 1	(600 LF)	1 LS
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	EA
527.34	WORK ZONE CRASH CUSHIONS	4	UN
530.30	GFRP, REINFORCEMENT BARS, FABRICATED & DELIVERED	15550	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	15550	LF
535.622	PRESTRESSED STRUCTURAL CONCRETE NEXT BEAM	(80 CY)	1 LS

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
603.16	15 INCH CULVERT PIPE OPTION 1	42	LF
606.1301	31" W-BEAM GUARDRAIL - MID-WAY SPLICE (STEEL POST, 8" OFFSET BLOCKS, SINGLE FACED)	300	LF
606.1305	31" W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL (31" HEIGHT)	4	EA
606.1307	BRIDGE TRANSITION (ASYMMETRICAL) - TYPE 1	4	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
610.08	PLAIN RIPRAP	710	CY
610.18	STONE DITCH PROTECTION	58	CY
613.319	EROSION CONTROL BLANKET	470	SY
615.07	LOAM	74	CY
618.14	SEEDING METHOD NUMBER 2	12	UN
619.12	MULCH	12	UN
619.14	EROSION CONTROL MIX	148	CY
620.58	EROSION CONTROL GEOTEXTILE	930	SY
620.66	DRAINAGE GEOCOMPOSITE	53	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	600	LF
627.77	REMOVING EXISTING PAVEMENT MARKING	200	SF
627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	1200	LF
629.05	HAND LABOR, STRAIGHT TIME	35	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.14	GRADER (INCLUDING OPERATOR)	20	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	20	HR
631.172	TRUCK-LARGE (INCLUDING OPERATOR)	20	HR
637.071	DUST CONTROL	1	LS
639.18	FIELD OFFICE, TYPE A	0.5	EA
643.72	TEMPORARY TRAFFIC SIGNAL: DUTCH GAP ROAD	1	LS
652.312	TYPE III BARRICADES	4	EA
652.33	DRUM	50	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	270	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	(180 CD)	1 LS
652.38	FLAGGERS	480	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2168(800)

BRIDGE NO. 3951
WIN
21688.00
BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

DESIGN-DETAILED: R. McMullen
CHECKED-REVIEWED: R. Wood
DESIGN-DETAILED: S. Hodgdon

DATE: Sept. 2018
Sept. 2018

DESIGN-DETAILED: S. Hodgdon

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

DUTCH GAP BRIDGE
LITTLE NORRIDGEWOCK STREAM
CHESTERVILLE
FRANKLIN COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER

2

OF 28

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to Right of Way Map.

2. The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.

3. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.

4. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.

5. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.

6. Construct the riprap shelf at Abutment No. 1 at El. 342.0 and Abutment No. 2 at El. 343.5.
18. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:

a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.

b. If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.

c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

7. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.

8. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item No. 619.14, Erosion Control Mix.

9. Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.

10. The guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

11. Extended-use Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion. Payment will be made under the appropriate Contract items.

12. Protective Coating for Concrete Surfaces shall be applied to the following areas:

All exposed surfaces of concrete curbs and fascias down to the drip notch,
All exposed surfaces of Concrete Transition Barriers,
Concrete wearing surfaces,
Top of abutment backwalls and to one foot below the top of backwalls on the back side.

13. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.

14. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

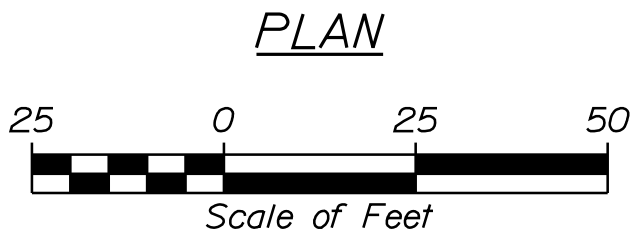
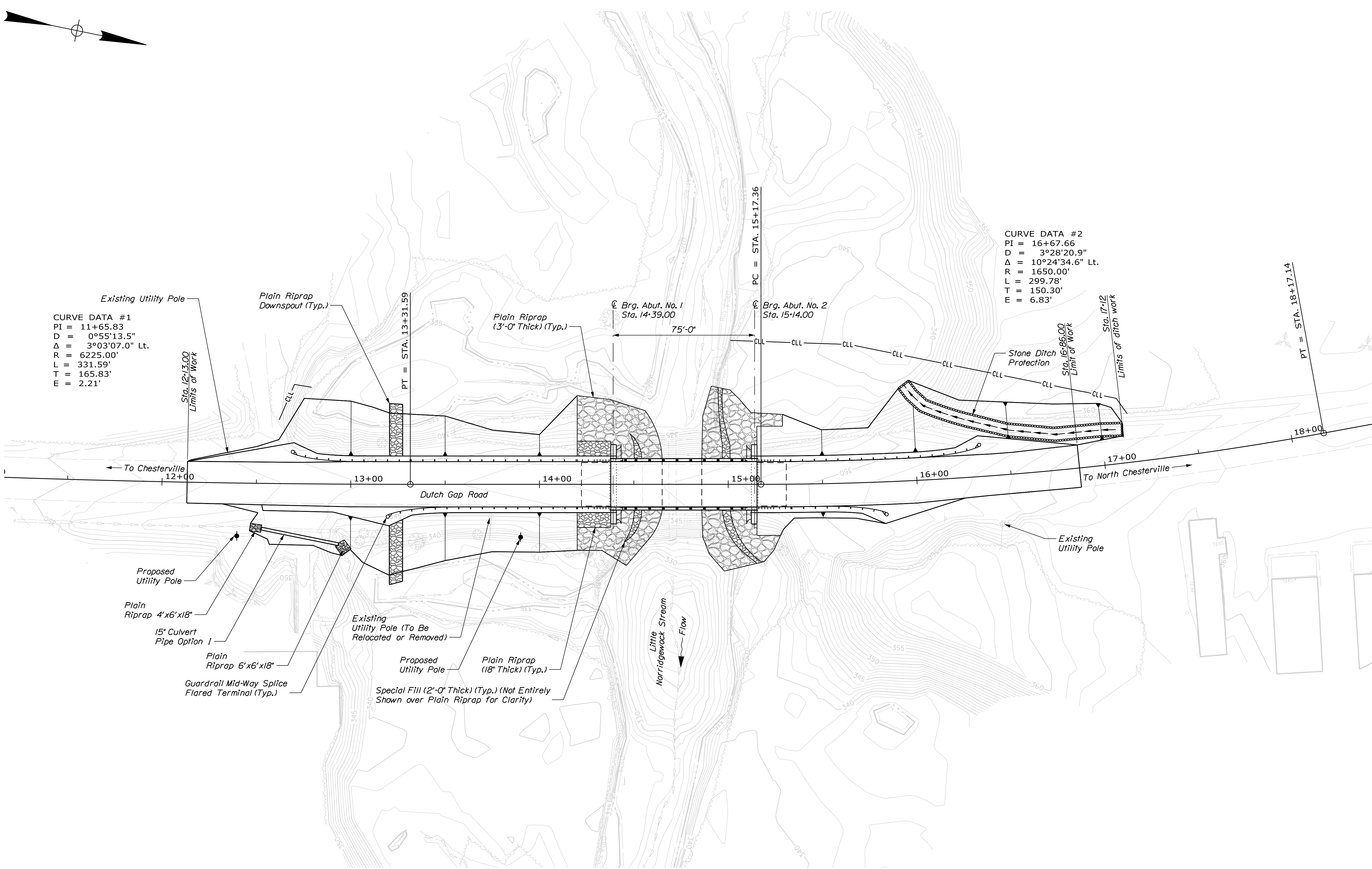
15. The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.

16. The project geotechnical report titled: Soils Report 2018-14, Chesterville, Franklin County, 21688.00 Federal No. STP 2168 (800), Dutch Gap Bridge carries Dutch Gap Road over Little Norridgewock Stream, March 3, 2018 may be accessed at the MaineDOT web address.

17. Geotechnical information furnished or referred to in this plan set is for the use of the Bidders and the Contractor. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the construction site. MaineDOT will not be responsible for the Bidders' or 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 the boring locations.

19. All waste material not used on the project shall be disposed of off the project in acceptable waste areas reviewed by the Resident. Grading, seeding, and mulching of waste areas shall be considered incidental.

SHEET NUMBER <div>3</div> <div>OF 28</div>	DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERVILLE FRANKLIN COUNTY				PROJ. MANAGER	D. Edon	BY	DATE
	GENERAL NOTES				DESIGN-DET-TAILED	R. McMullen	P. Dustin	Sept. 2018
					CHECKED-REVIEWED	R. Wood	S. Hodgdon	Sept. 2018
					DESIGN2-DET-TAILED2			
					DESIGN3-DET-TAILED3			
					REVISIONS 1			
					REVISIONS 2			
					REVISIONS 3			
					REVISIONS 4			
		FIELD CHANGES						
				STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2168(800)				
				BRIDGE NO. 3951WIN21688.00BRIDGE PLANS				



NOTE:
Utility pole locations are subject to change.

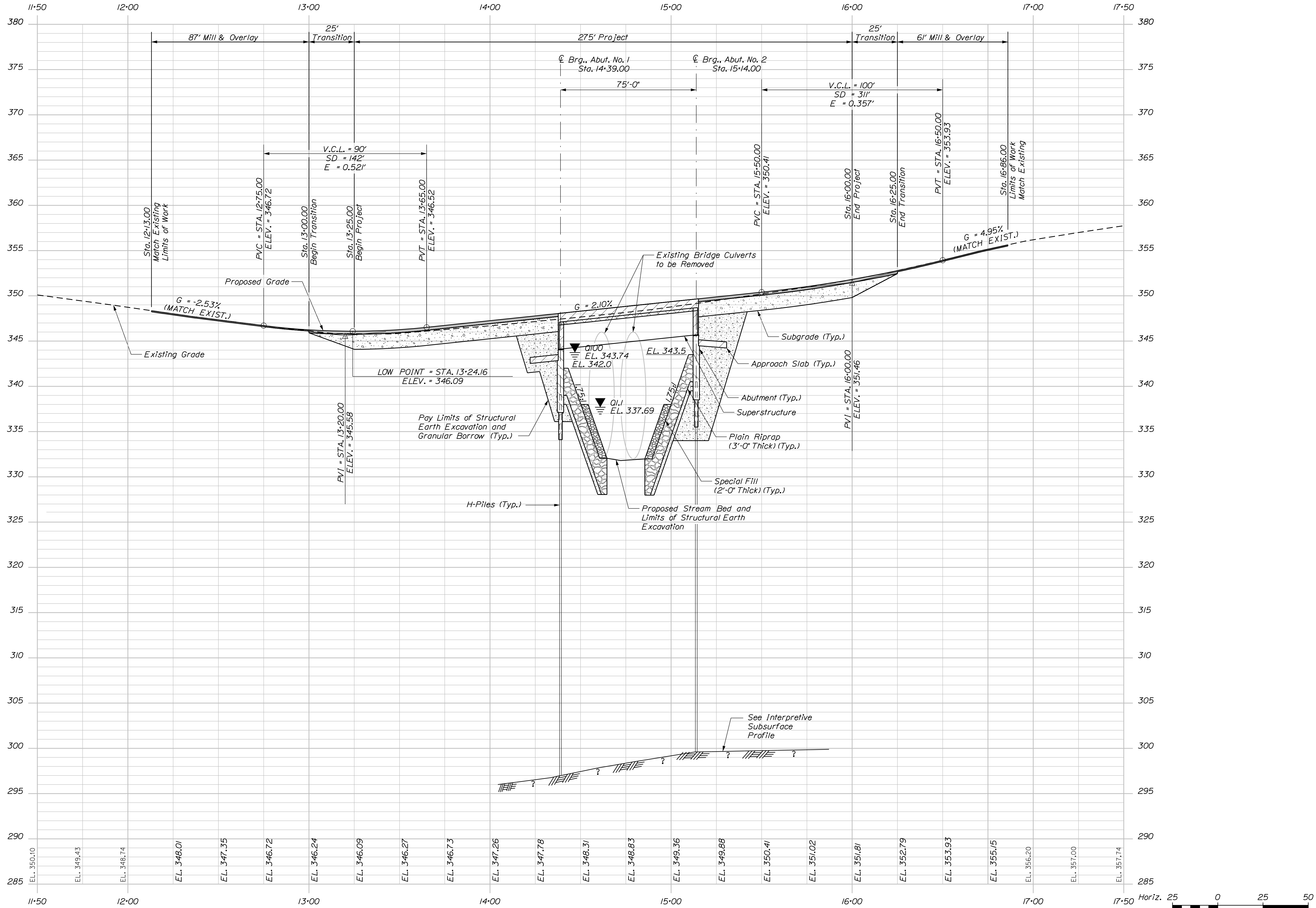
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	Hoyle, Tanner & Associates, Inc.	BRIDGE PLANS	
		BRIDGE NO. 3951	WIN 21688.00
DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERVILLE FRANKLIN COUNTY		SHEET NUMBER 4 OF _	
GENERAL PLAN		021688.00	

Date: 10/30/2018

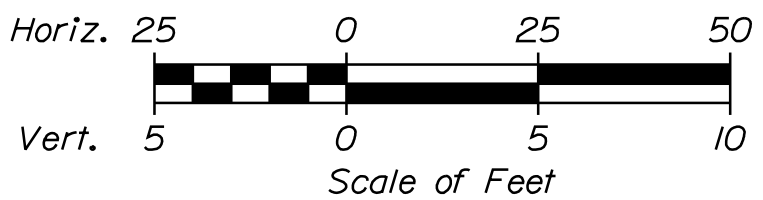
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Division: BRIDGE

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PROFILE



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2168(800)

BRIDGE NO. 3951
WIN
21688.00
BRIDGE PLANS

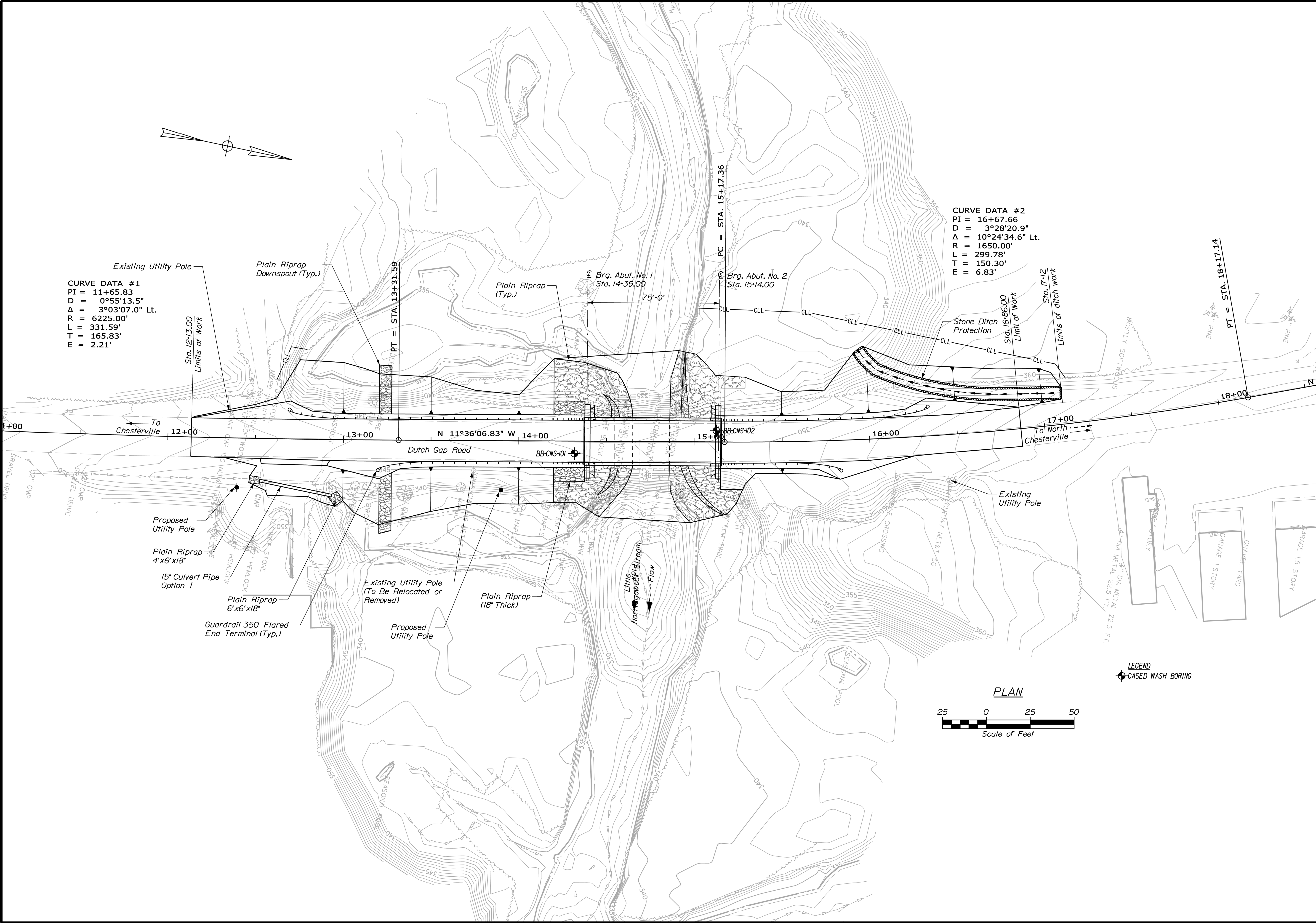
Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER	D. Epton	BY	DATE
DESIGN-DETAILED	J. Sparkovich	S. Sparkovich	Sep. 2018
CHECKED-REVIEWED	T. Quinn	S. Sparkovich	Sep. 2018
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

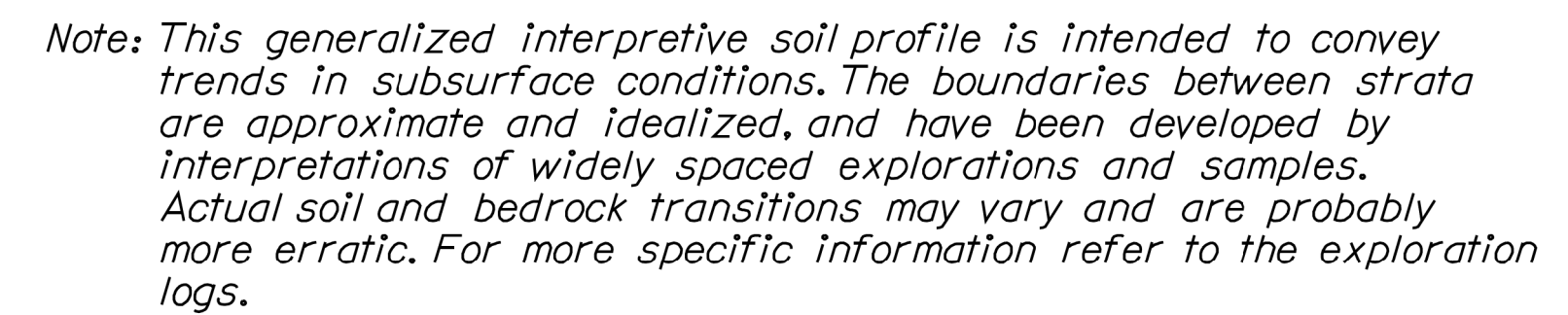
DUTCH GAP BRIDGE
LITTLE NORRIDGEWOCK STREAM
CHESTERVILLE
FRANKLIN COUNTY

PROFILE

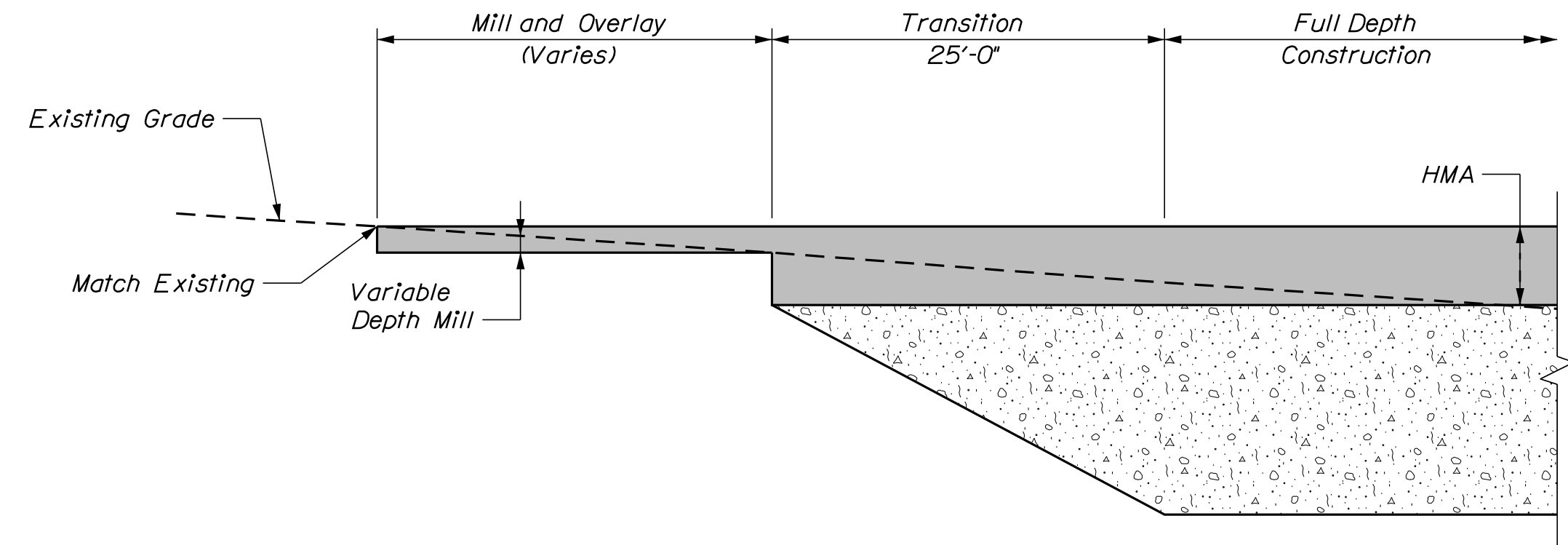
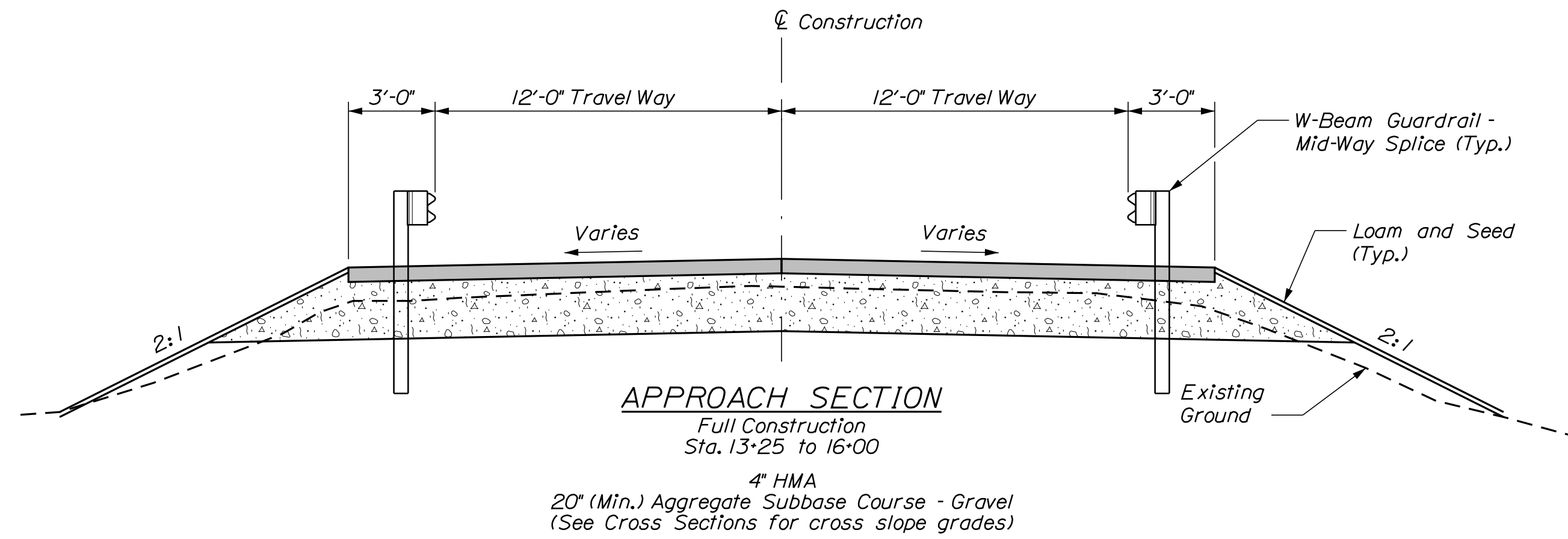
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5
OF 28



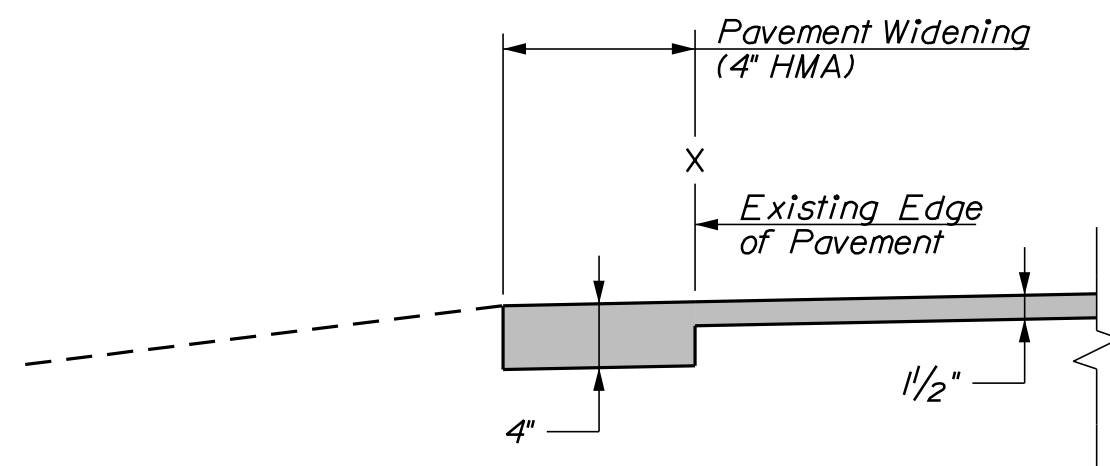
STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
	021688.00			
	WIN 21688.00 BRIDGE NO. 3951			
DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERTVILLE FRANKLIN COUNTY	PROJ. MANAGER	JUSTI WELLS	BY	DATE
	DESIGN-DETAILED			
	CHECKED-REVIEWED			
	DESIGN-DETAILED	VANBUSKIRK	T. WHITE	DEC. 2017
	DESIGN-DETAILED			
BORING LOCATION PLAN	REVISIONS 1			
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
	FIELD CHANGES			
SHEET NUMBER	6			
OF 28				



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MILL AND OVERLAY DETAIL



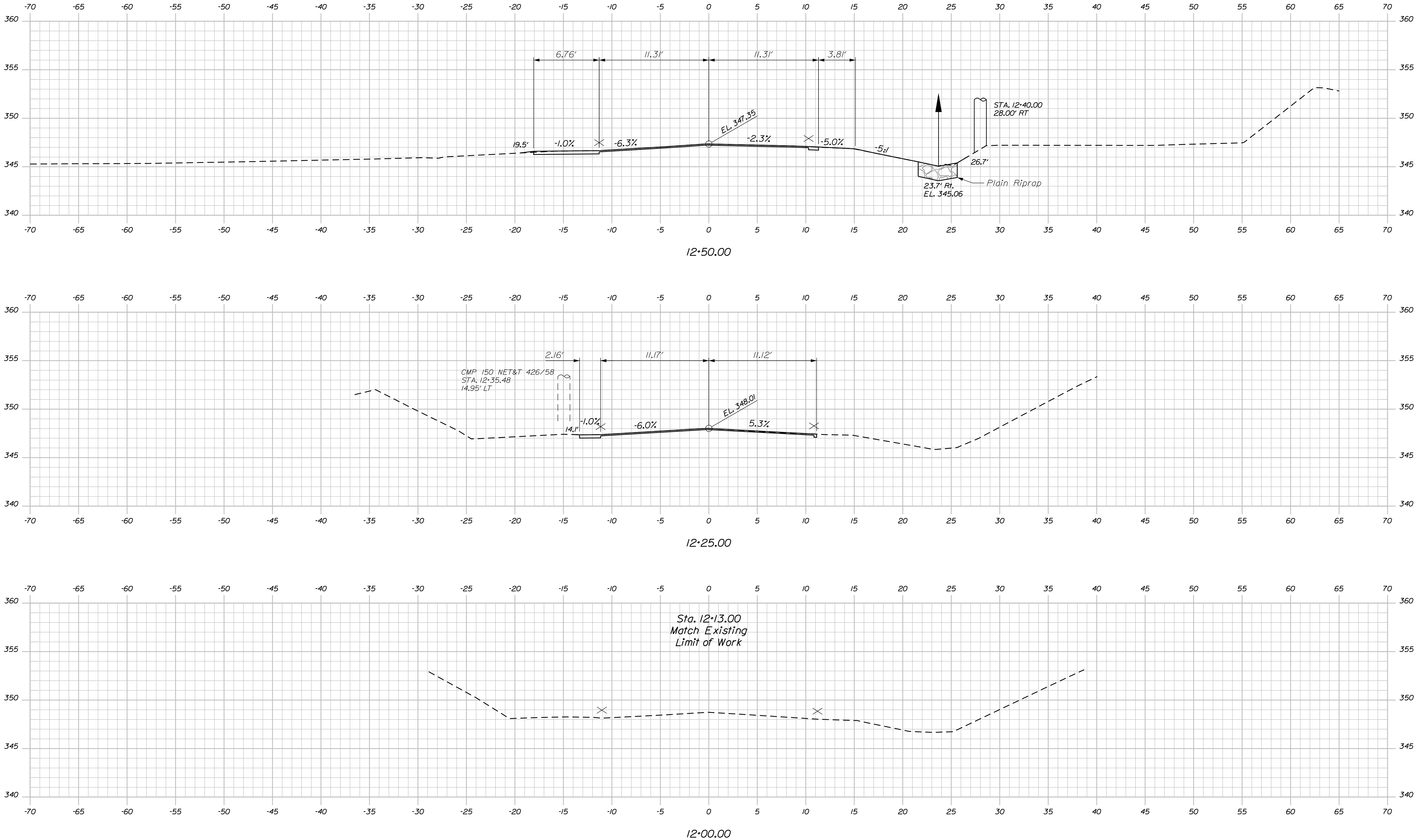
MINOR PAVEMENT WIDENING

Date:10/30/2018

Username:

Division: BRIDGE

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2168(800)

BRIDGE NO. 3951

WIN
21688.00

BRIDGE PLANS

Hoyle, Tanner
& Associates, Inc.

PROJ. MANAGER	D. EDITION	BY	DATE
DESIGN-DETAILED	J. Sparkovich	S. Sparkovich	Sep. 2018
CHECKED-REVIEWED	T. Quinn	S. Hodgson	Sep. 2018
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

DUTCH GAP BRIDGE
LITTLE NORRIDGEWOCK STREAM
CHESTERVILLE
FRANKLIN COUNTY

CROSS SECTIONS

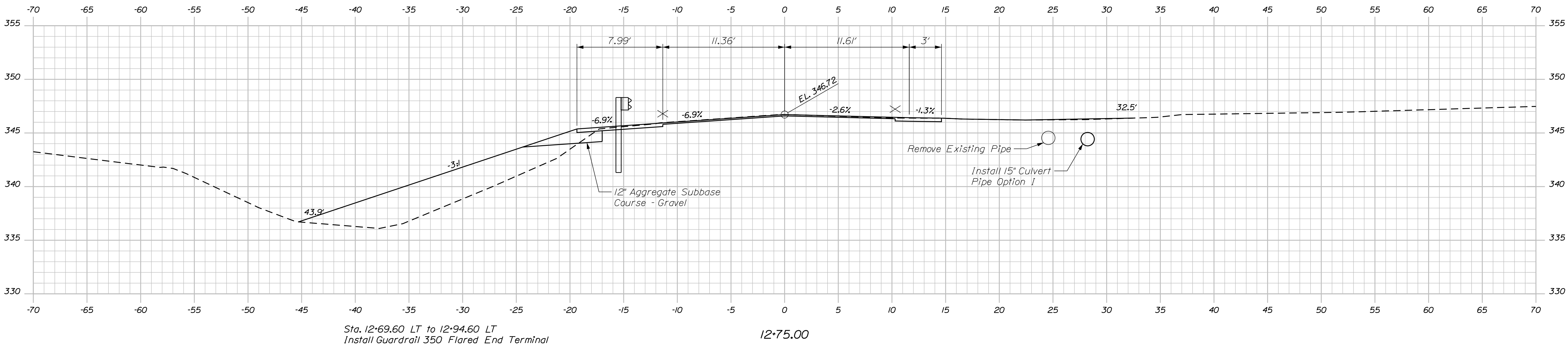
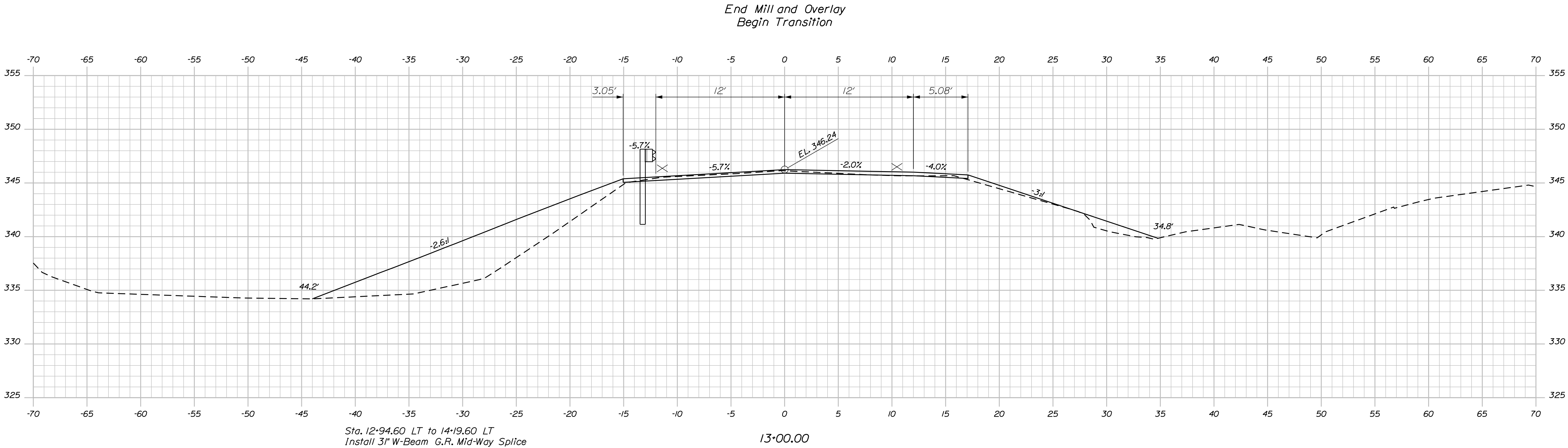
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OF 28

Date:10/30/2018

Username:

Division: BRIDGE

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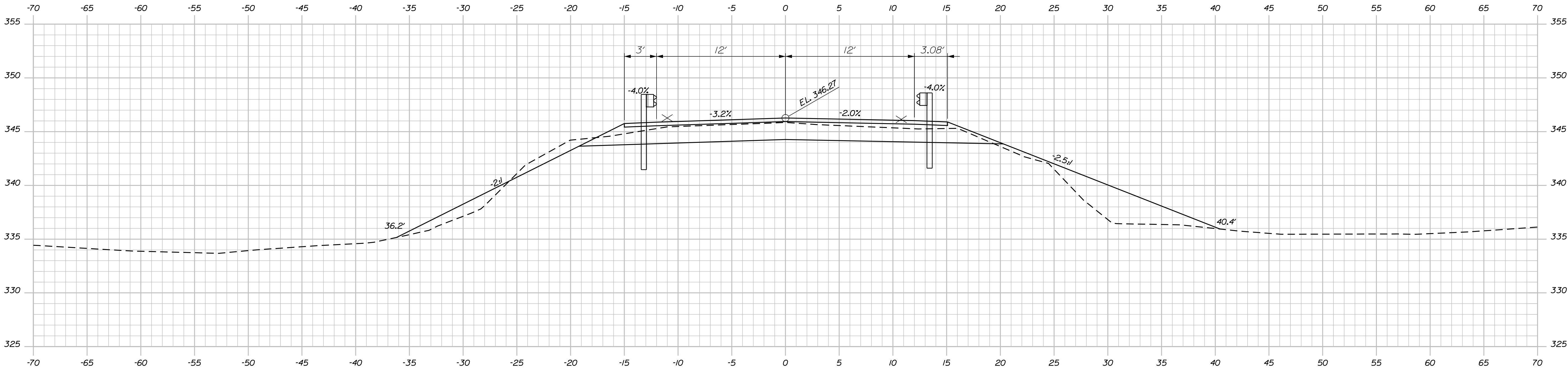
PROJ. MANAGER	D. Ector	BY	DATE
DESIGN-DETAILED	J. Sparkovich	S. Hodgdon	Sep. 2018
CHECKED-REVIEWED	T. Quinn		Sep. 2018
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

Date:10/30/2018

Username:

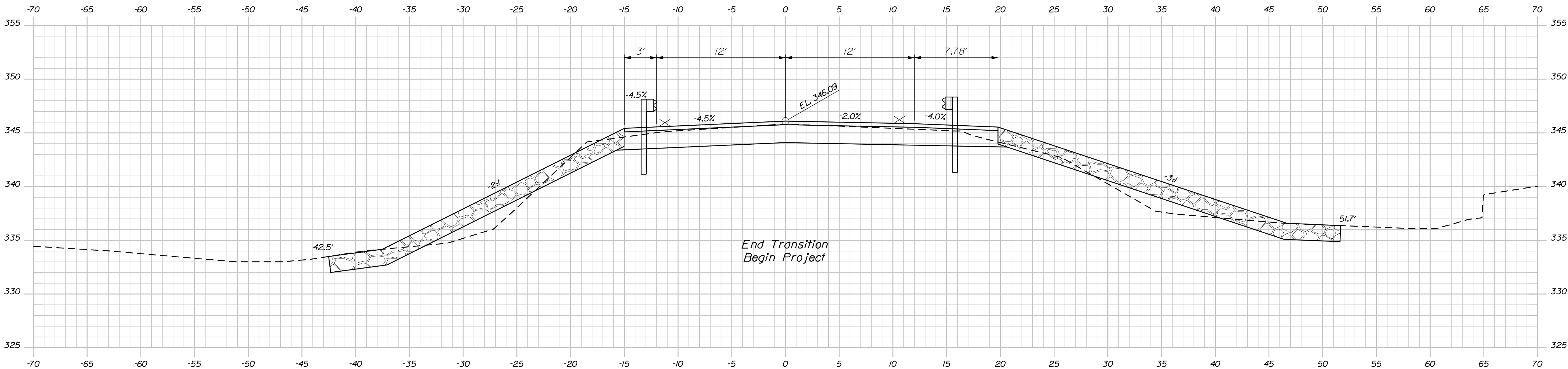
Division: BRIDGE

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13+50.00

Sta. 13+44.60 RT to 14+19.60 RT
Install 3' W-Beam G.R. Mid-Way Splice

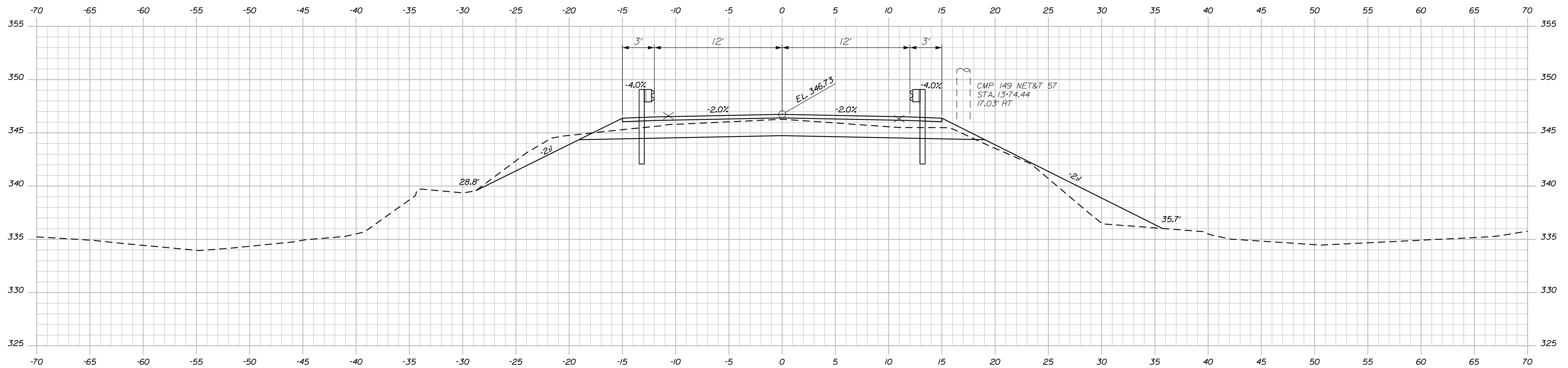


13+25.00

Sta. 13+19.60 RT to 13+44.60 RT
Install Guardrail 350 Flared End Terminal

PROJ. MANAGER	D. Editor	BY	DATE
DESIGN-DETAILED	J. Sparkovich	J. Sparkovich	Sep. 2018
CHECKED-REVIEWED	T. Quinlan	S. Hodgson	Sep. 2018
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

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PROJ. MANAGER	CHECKED	REVIEWED	BY	DATE
DESIGN-OF-TAIL 2	J. Sparkowich	J. Sparkowich		Sep. 2018
DESIGN2-Detailed2	T. Quillen	S. Haddon		Sep. 2018
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SHEET NUMBER

13

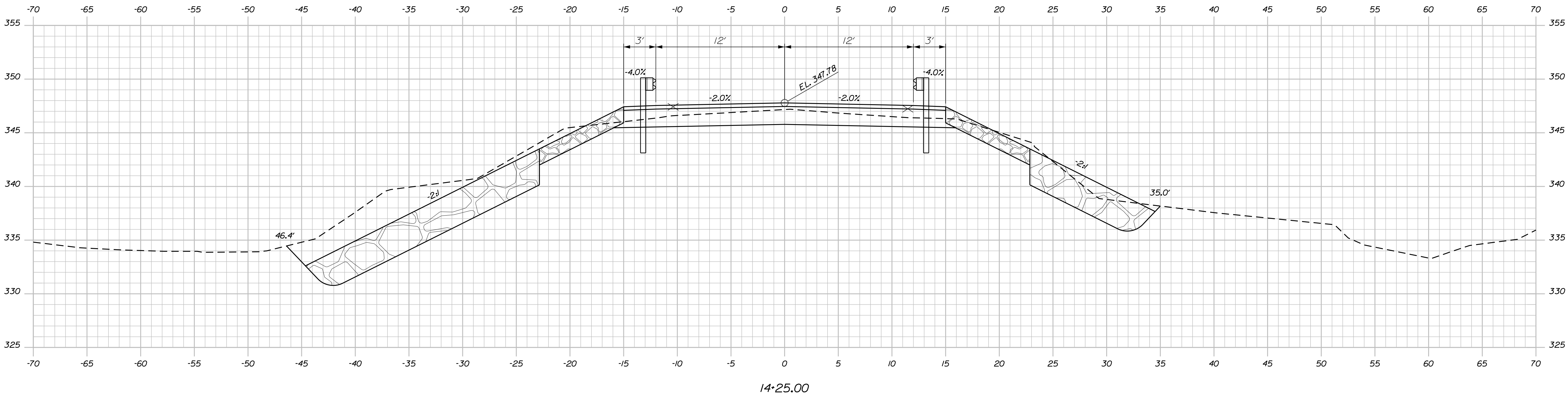
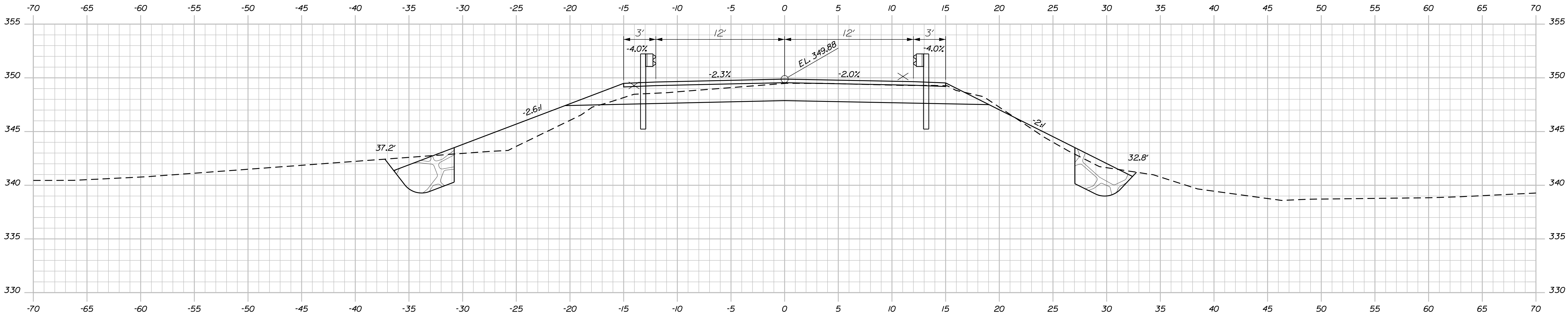
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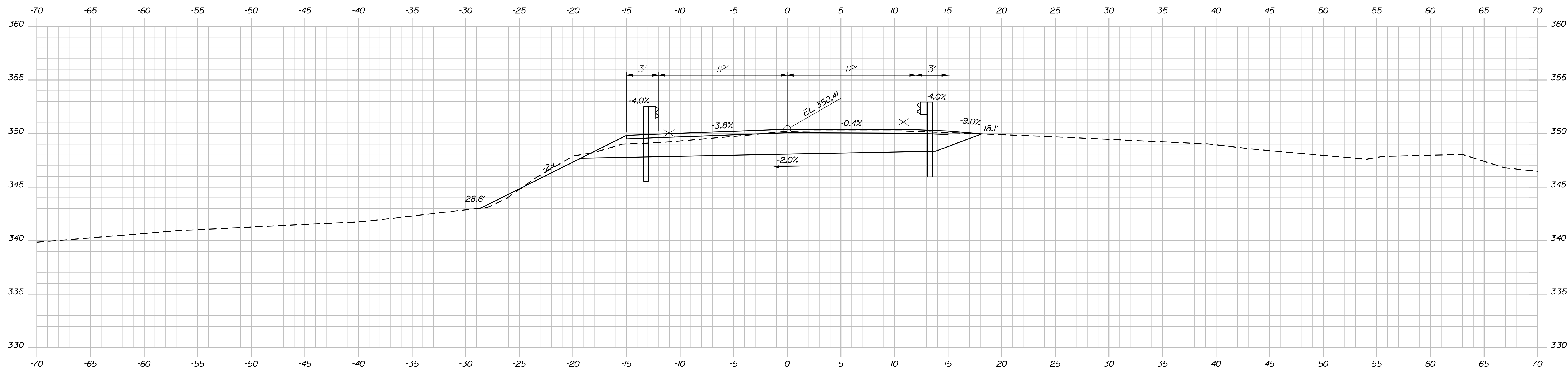
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DESIGN-DETAILED	J. Sparkovich	S. Hodgdon	Sep. 2018
CHECKED-REVIEWED	T. Quinn		
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

Filename: ... \MSTA\015_XSECT_15+50_006.dgn



Sta. 15+33.40 RT to 15+58.40 RT
Install 31" W-Beam G.R. Mid-Way Splice

BRIDGE NO. 3951

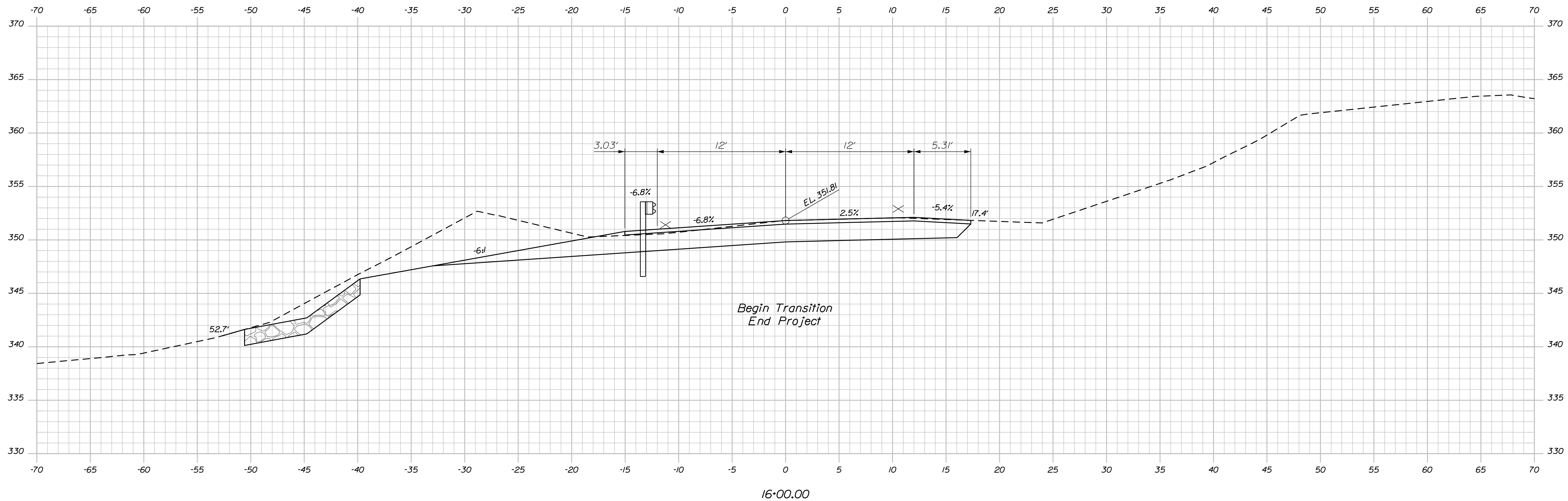
PROJ. MANAGER	D. Eaton	BY	DATE
DESIGN-DET AILED	J. Sporkowich	J. Sporkowich	Sep. 2018
CHECKED-REVIEWED	T. Quinlan	S. Hodgdon	Sep. 2018
DESIGNS-DET AILED2			
DESIGNS-DET AILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CROSS SECTIONS

OF 28

Sta. 15+50.00 to Sta. 15+75.00

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SHEET NUMBER

16

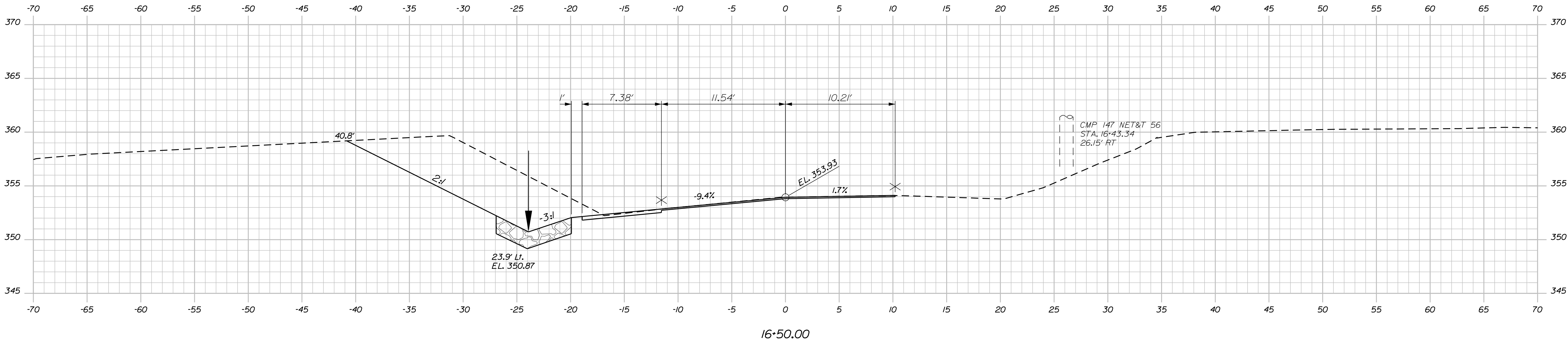
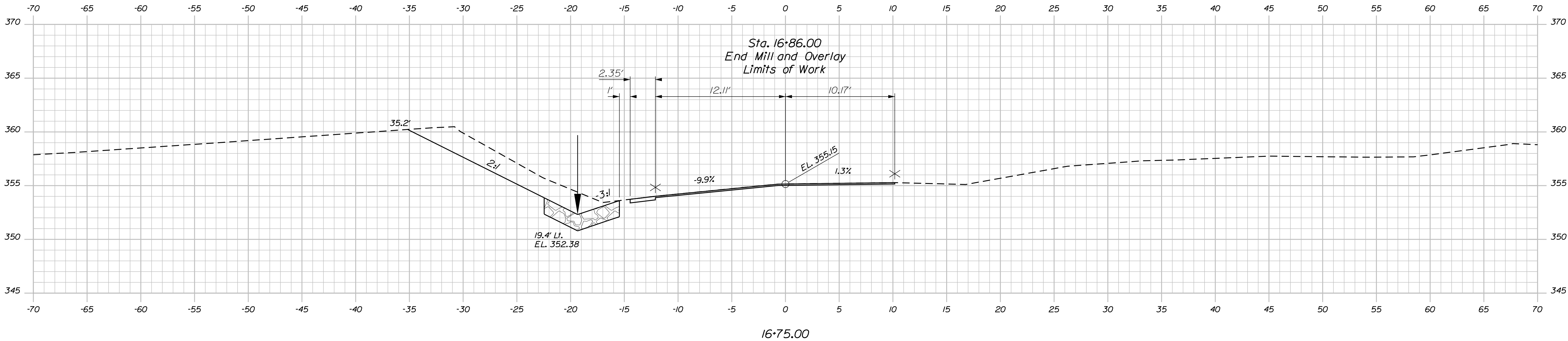
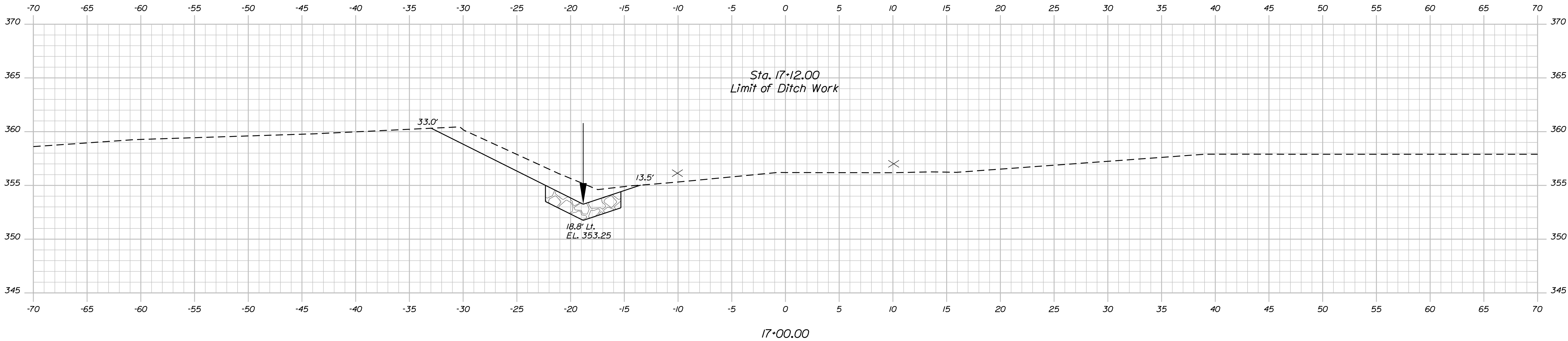
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Date:10/30/2018

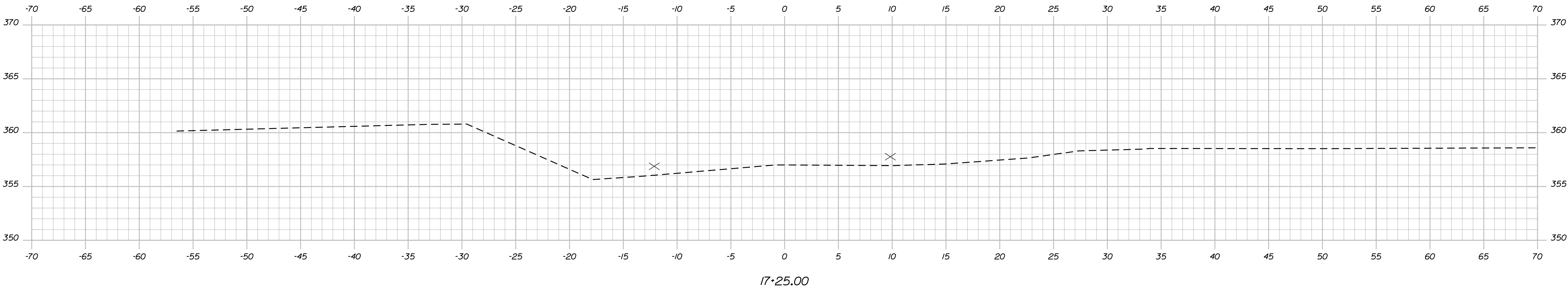
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PROJ. MANAGER	D. Ector	BY	DATE
DESIGN-DETAILED	J. Sparkovich	S. Hodgdon	Sep. 2018
CHECKED-REVIEWED	T. Quinn		Sep. 2018
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



STATE OF MAINE			
DEPARTMENT OF TRANSPORTATION			
STP-2168(800)			
BRIDGE NO. 3951	WIN	21688.00	BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER	D. Eaton	BY	DATE
DESIGNED-DETAILED	J. Sparkowich	Sparkowich	Sep. 2018
CHECKED-REVIEWED	T. Quinlan	S. Hodgdon	Sep. 2018
DESIGNS-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

DUTCH GAP BRIDGE

LITTLE NORRIDGEWOCK STREAM

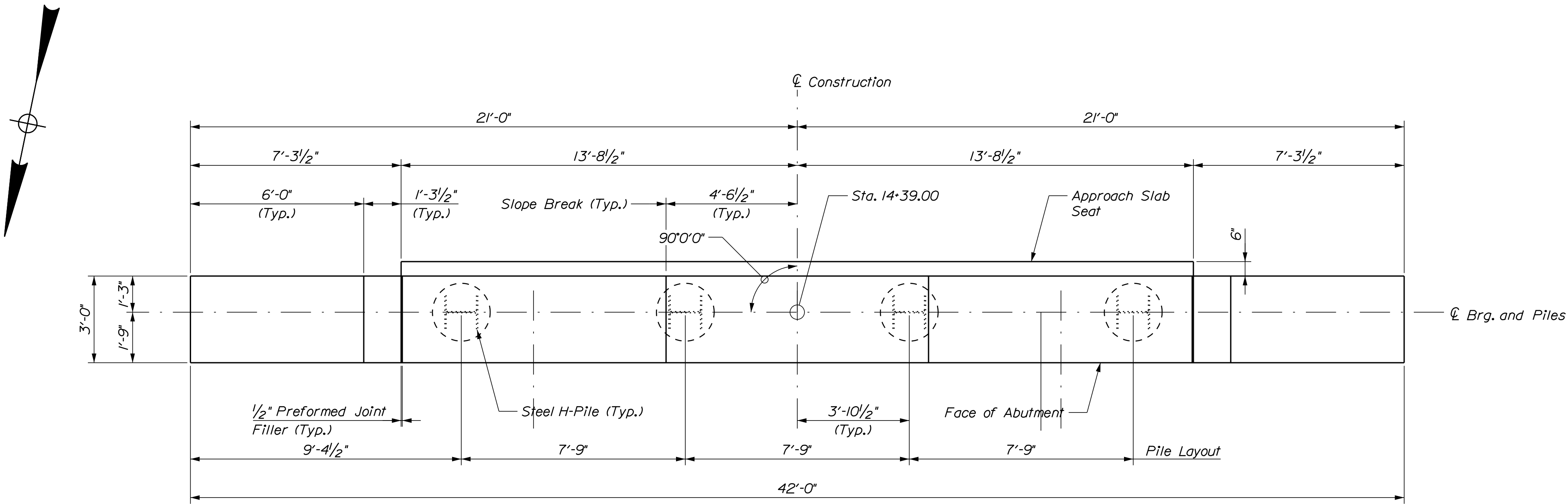
CHESTERVILLE FRANKLIN COUNTY

CROSS SECTIONS

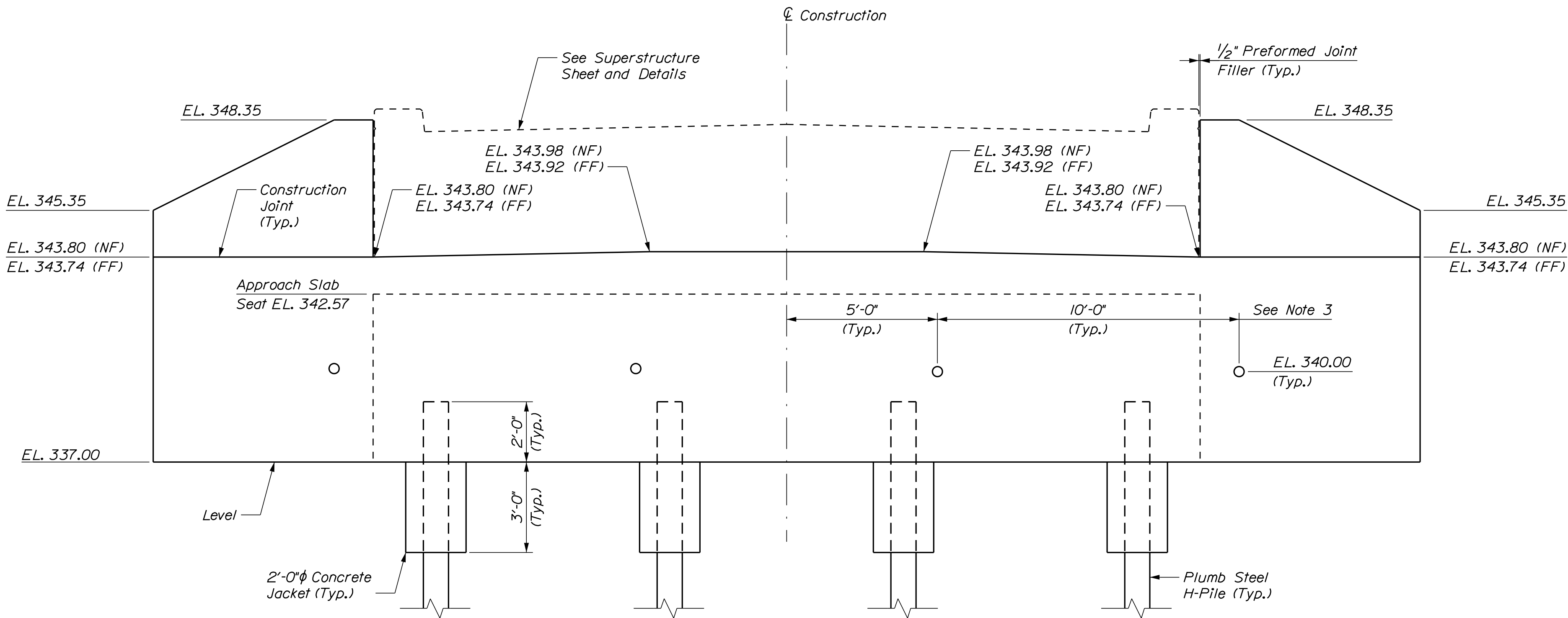
SHEET NUMBER

18

OF 28



ABUTMENT NO. 1 PLAN
(Anchor Dowels not Shown)



ABUTMENT NO. 1 ELEVATION

ABUTMENT NOTES

1. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
2. Place 4-in. diameter drains in abutment and wingwalls at 10-ft maximum spacing. The exact location will be determined by the Resident.
3. Cover joints where waterstops are not required in accordance with Standard Details Section 502.
4. Place the wingwall portions above the horizontal construction joint after the beams are erected to ensure an accurate match with the superstructure.
5. Abutments and wingwalls shall be backfilled with Granular Borrow for Underwater Backfill. Pay limits will be the structural earth excavation limits as shown on the Profile sheet.
6. Payment for concrete jacket around the tops of the H-piles will not be paid for directly, payment shall be incidental to Item 502.219, Structural Concrete Abutment and Retaining Walls. Fill concrete may be used for the concrete jackets.
7. Anchor dowels shall be installed plumb and may either be cast-in or drilled and anchored in accordance with Subsection 503.06. See Abutment No. 2 sheet for typical details and layout. Payment for anchor dowels shall be incidental to related Contract Items.

KEY

NF = Near Face
FF = Far Face

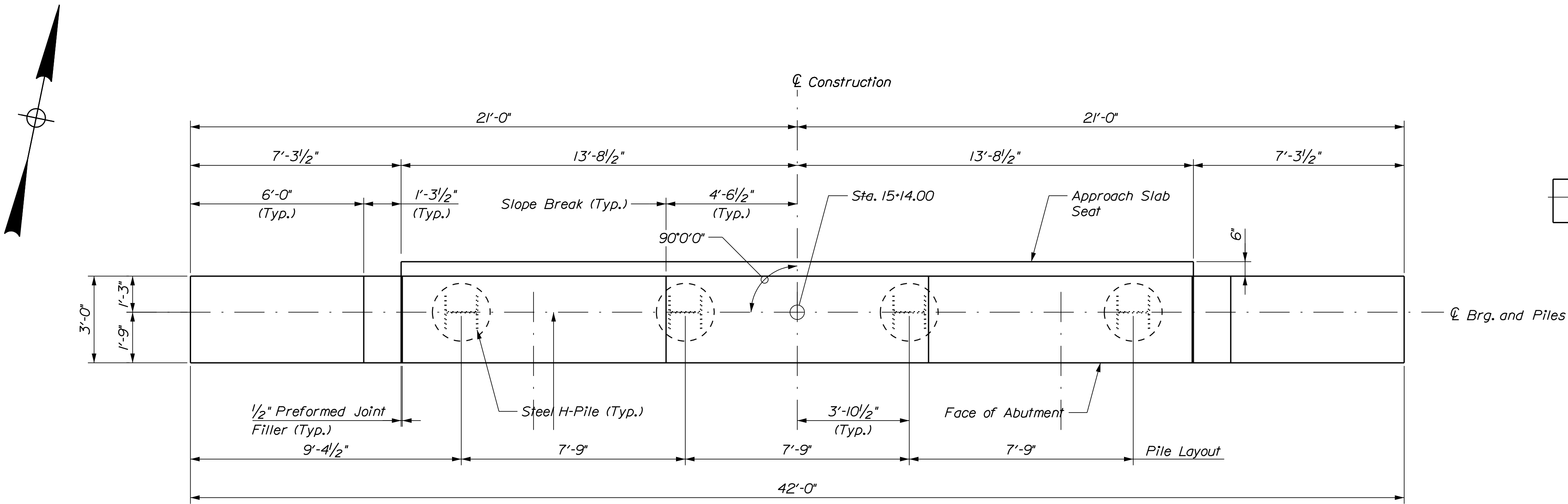
STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2168(800)	Hoyle, Tanner & Associates, Inc.	PROJ. MANAGER	D. Eaton	BY	P. Duffin	DATE	Sept. 2018
		CHECKED-REVIEWED	R. Wood	S. Hodgson	S. Hodgson	DATE	Sept. 2018
DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM FRANKLIN COUNTY CHESTERVILLE ABUTMENT NO. 1		DESIGN-DETAILED					
		DESIGNS-DETAILED					
		REVISIONS 1					
		REVISIONS 2					
SHEET NUMBER 19 OF 28		REVISIONS 3					
		REVISIONS 4					
BRIDGE NO. 3951		WIN		21688.00		BRIDGE PLANS	

Date:10/30/2018

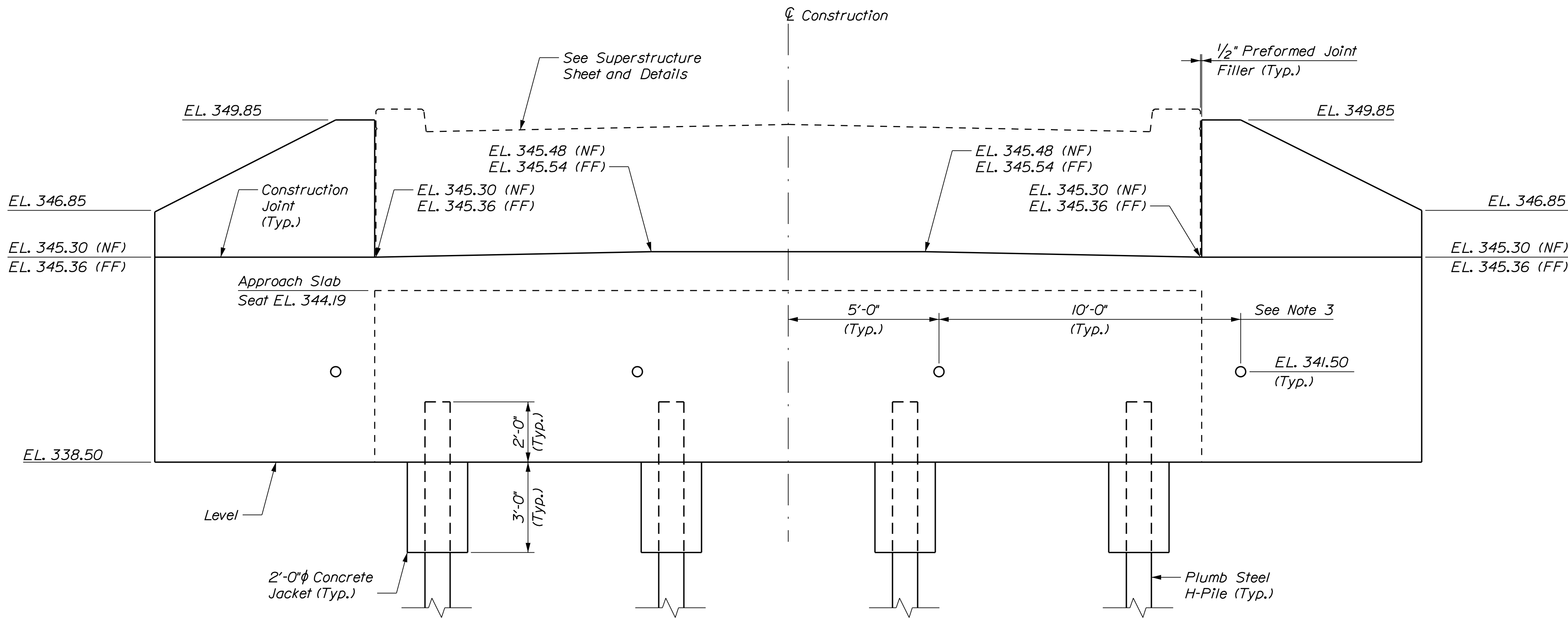
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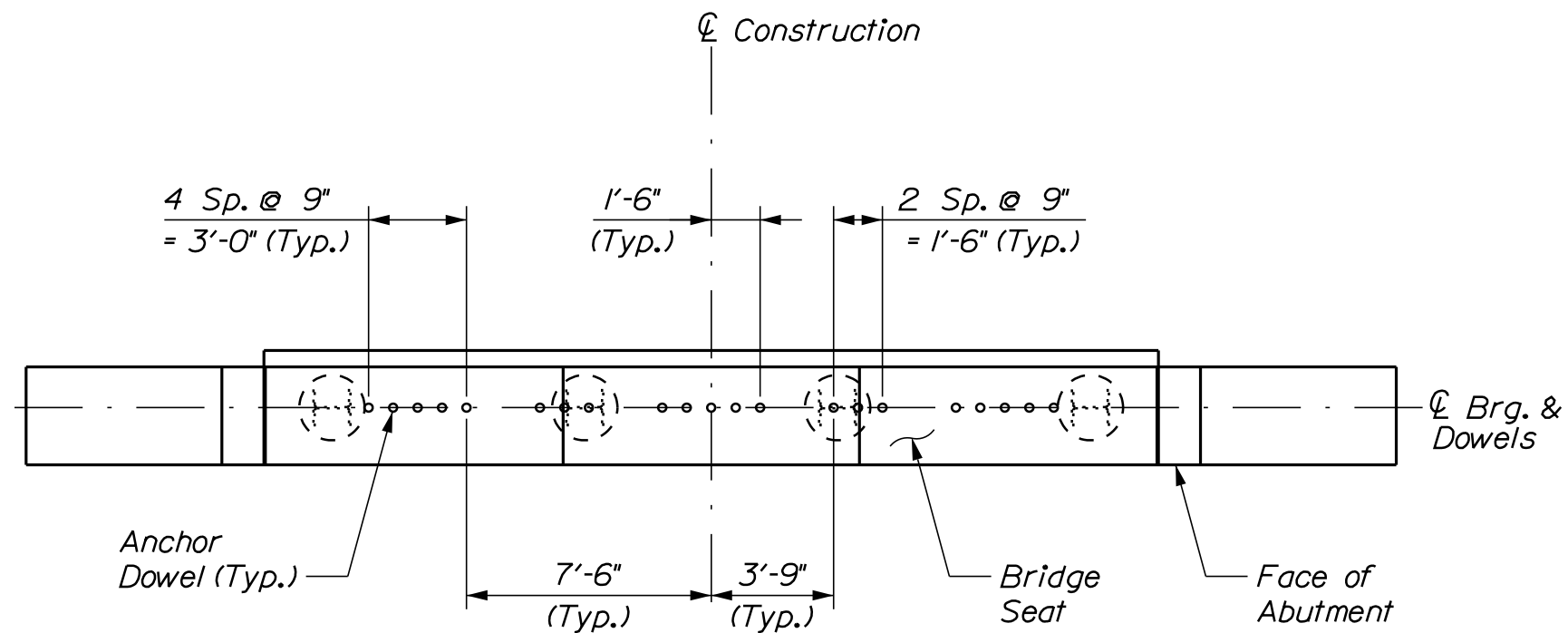
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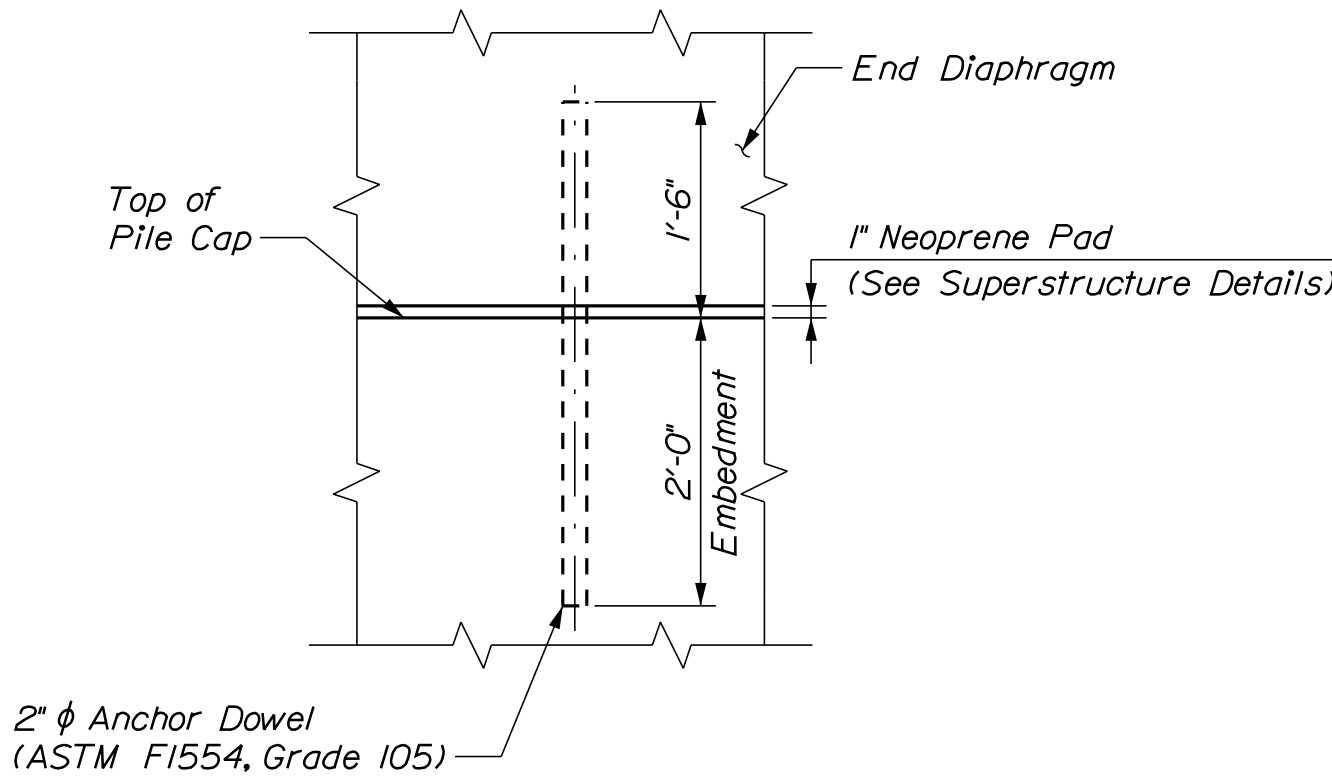
ABUTMENT NO. 2 PLAN
(Anchor Dowels not Shown)



ABUTMENT NO. 2 ELEVATION



ANCHOR DOWEL LAYOUT
(21 Per Abutment)
(See Notes)



ANCHOR DOWEL DETAIL

PILE NOTES

- The maximum factored pile load is 324 kips at the Strength Limit State.
- H-pile material shall be ASTM A 572, Grade 50.
- Estimate of in-place piles required:
Abutment No. 1: 4 ~ HP 14x89 @ 42 feet
Abutment No. 2: 4 ~ HP 14x89 @ 41 feet
- The order lengths of the piles shall include an additional 5 feet of length for each test pile to accommodate dynamic pile testing equipment.
- Piles shall be driven to the required resistance on or within bedrock in accordance with Standard Specification Section 501.
- Piles shall not be out of position shown by more than 2 inches in any direction.
- All piles shall be equipped with a pile tip in accordance with Standard Specifications Subsections 501.048, Prefabricated Pile Tips and 711.10, H-Beam Piles, Spliced and Tips.
- 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 F_y . The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.
- The Contractor shall perform 2 dynamic load tests with minimum 24-hour restrike tests to confirm the nominal resistance of the piles. The dynamic tests shall be performed on the first production pile driven at each abutment. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications.

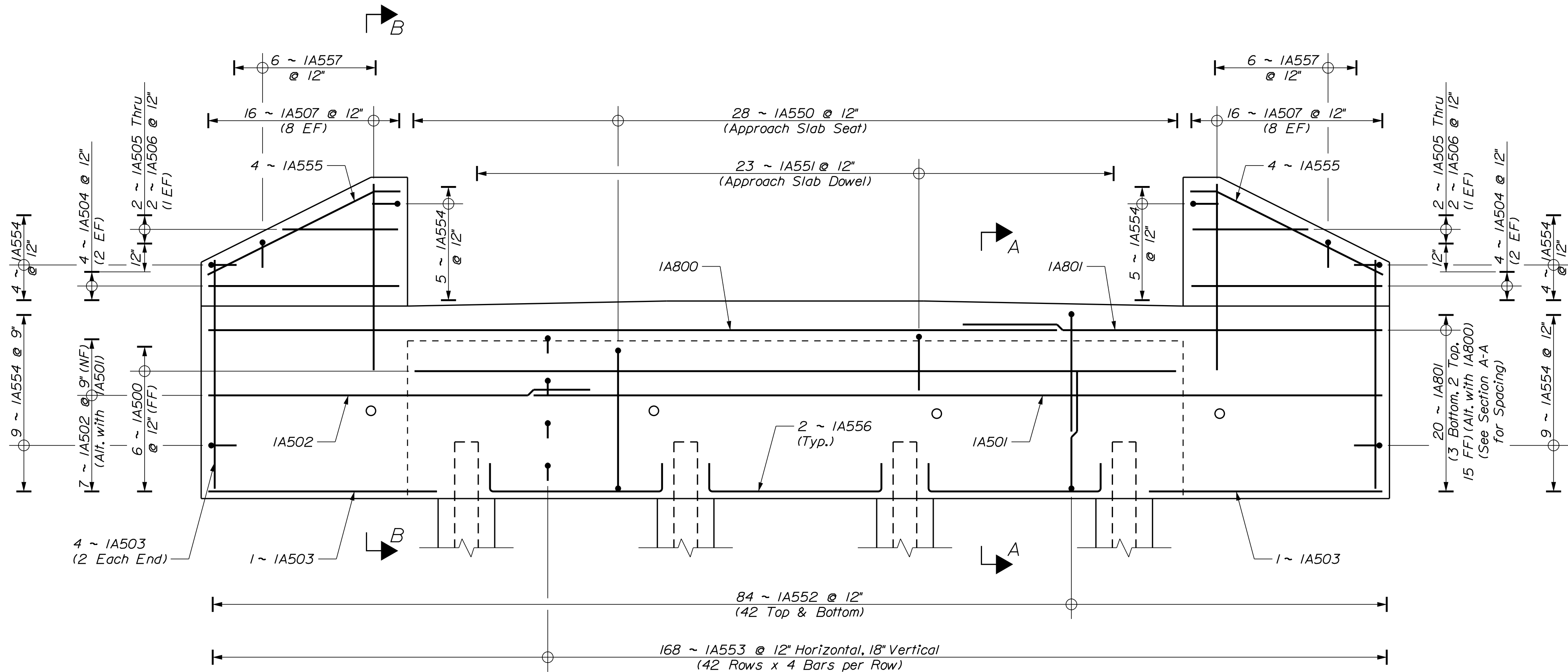
DRILLED AND ANCHORED DOWEL NOTES

- For drilling and anchoring dowels size 7/8-in. diameter or greater, the anchoring material shall be chosen from the MaineDOT prequalified list and shall be submitted to the Resident for approval.
- Drill holes for anchor dowels using the preformed holes in bearing pads as a template.
- Anchor dowels, furnished and installed, will not be measured for payment but shall be considered incidental to related contract items.

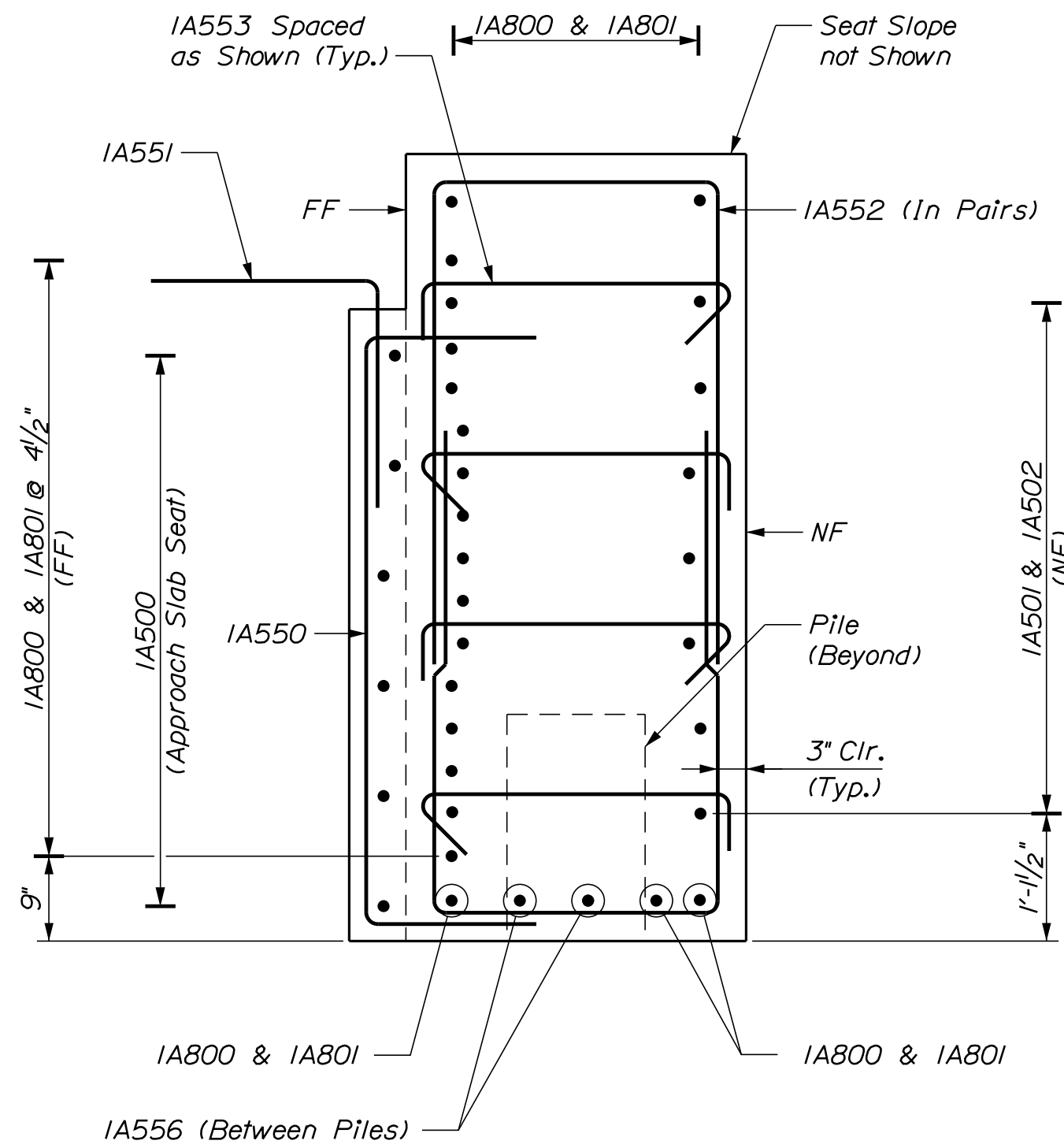
KEY

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FF = Far Face

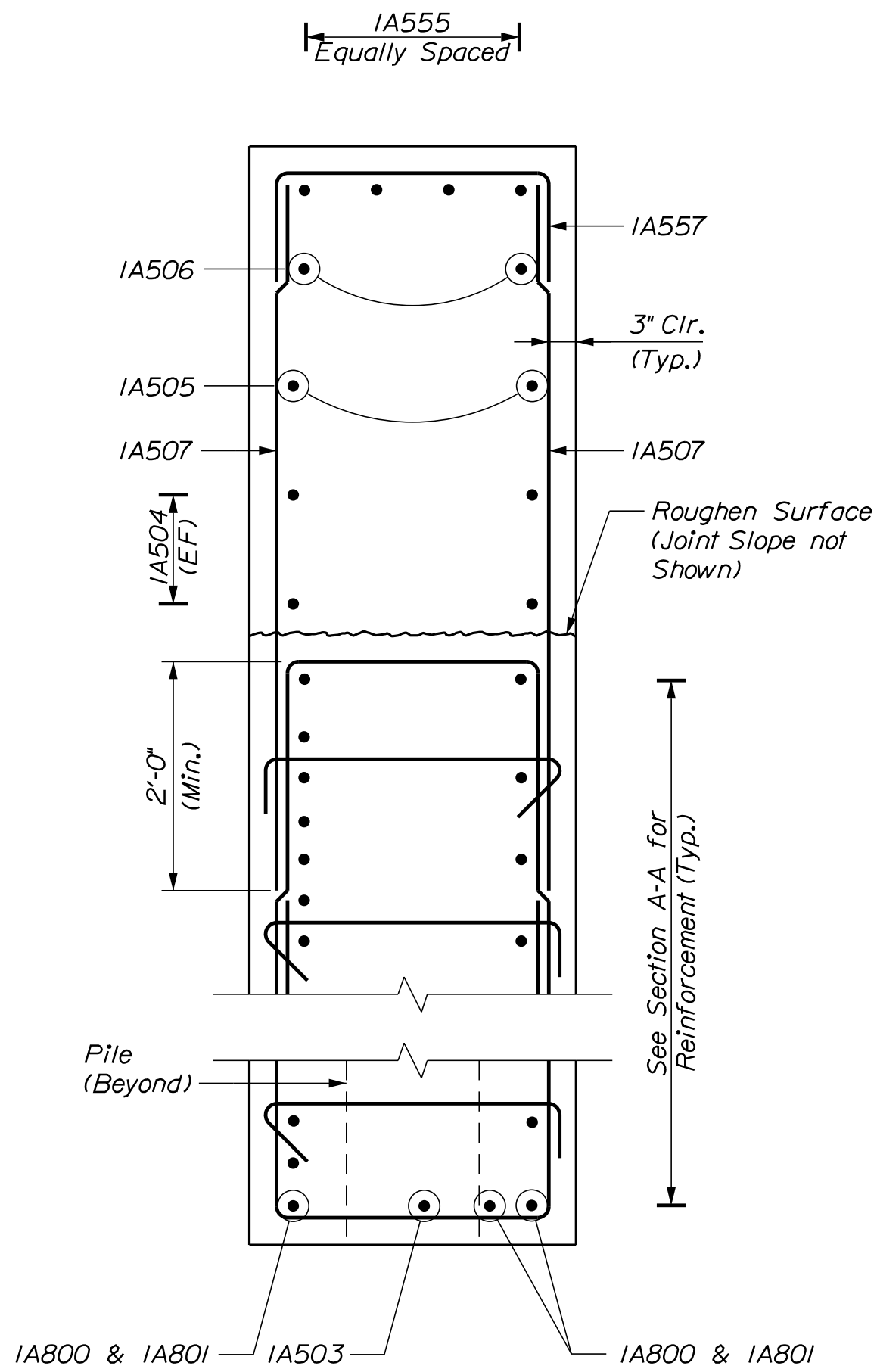
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CHECKED-DETAILED	R. McMullen	P. Duffin	Sept. 2018
CHECKED-REVIEWED	R. Wood	S. Hodgson	Sept. 2018
DESIGNS-DETAILED			
DESIGNS-REVIEWED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			



ELEVATION
(Abutment No. 1 Shown, Abutment No. 2 Similar)



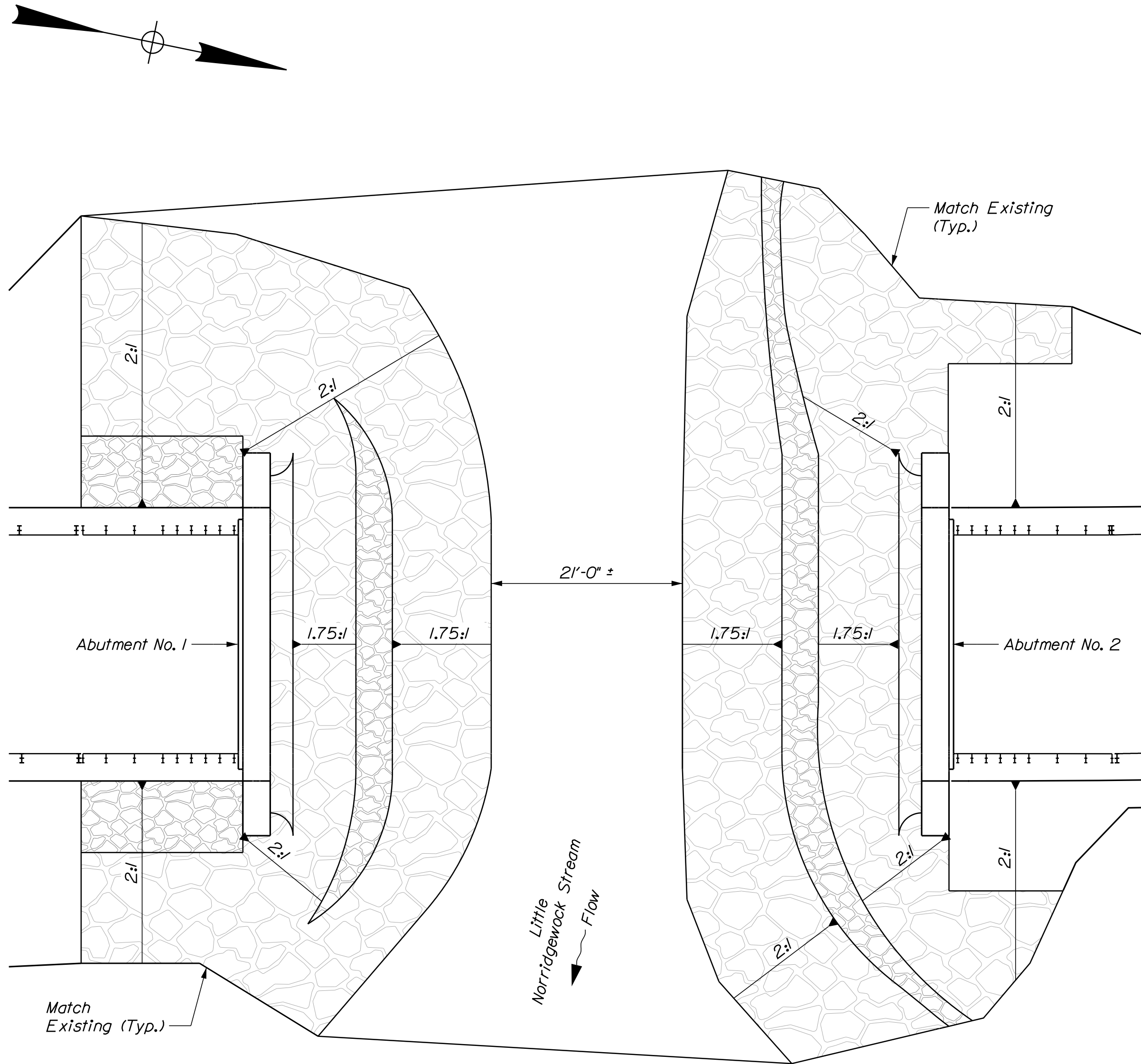
SECTION A-A



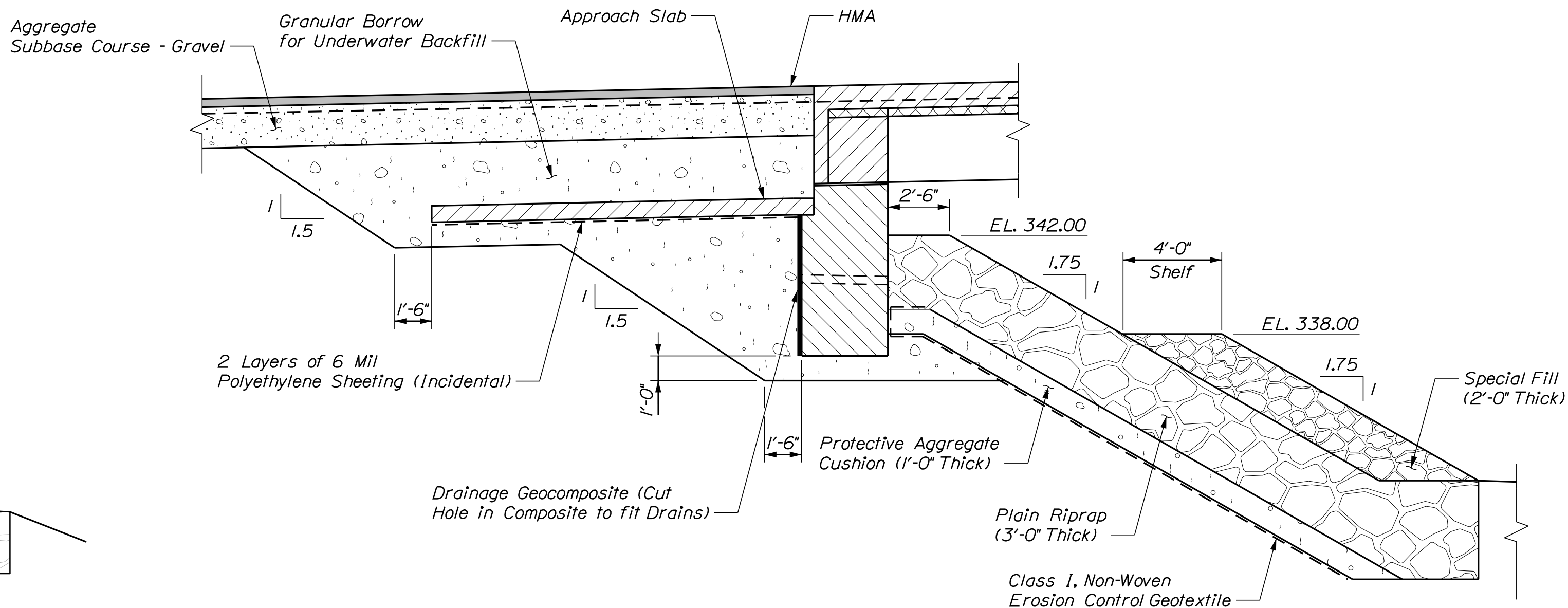
SECTION B-B

KEY
NF = Near Face
FF = Far Face
EF = Each Face

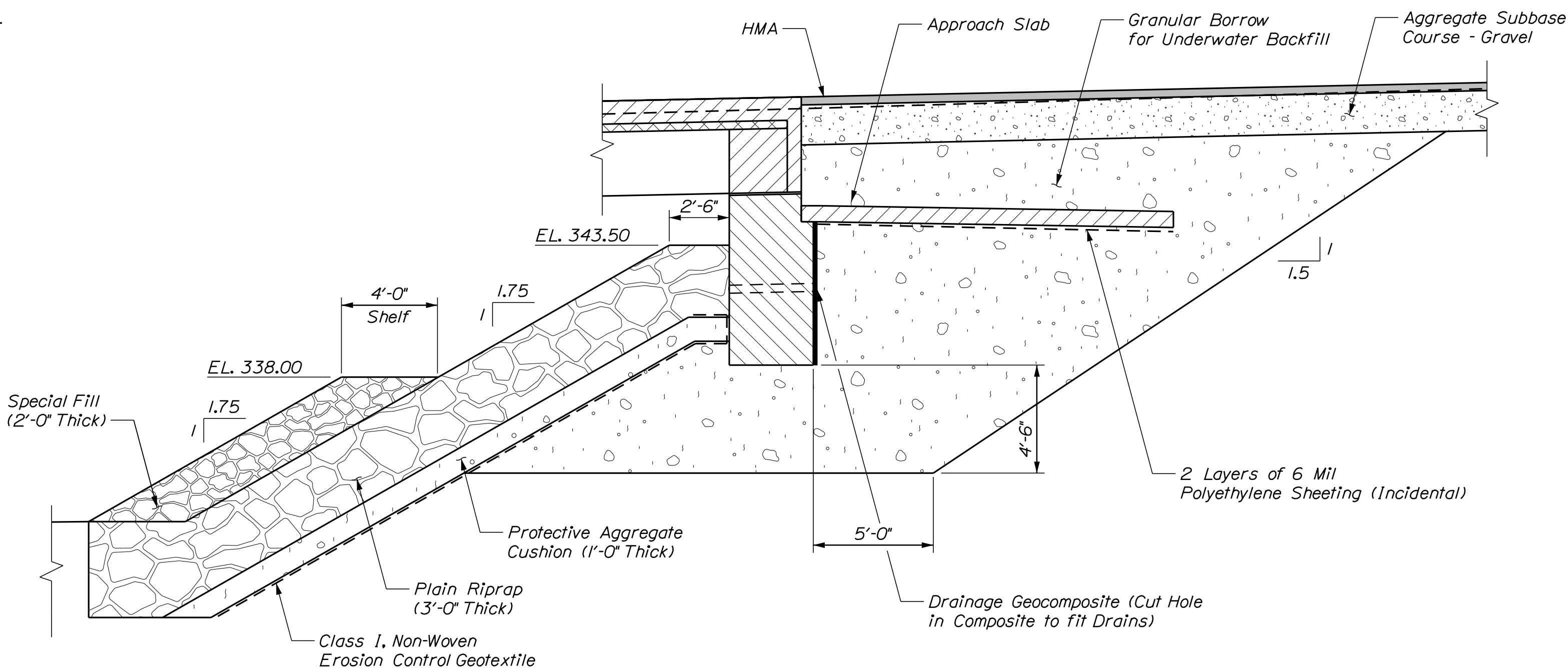
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	STP-2168(800)	BRIDGE NO. 3951	WIN 21688.00	BRIDGE PLANS
Hoyle, Tanner & Associates, Inc.				
DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERVILLE FRANKLIN COUNTY				
ABUTMENT REINFORCING				
SHEET NUMBER 21 OF 28				



GRADING PLAN
(Special Fill below Shelf not Shown for Clarity)

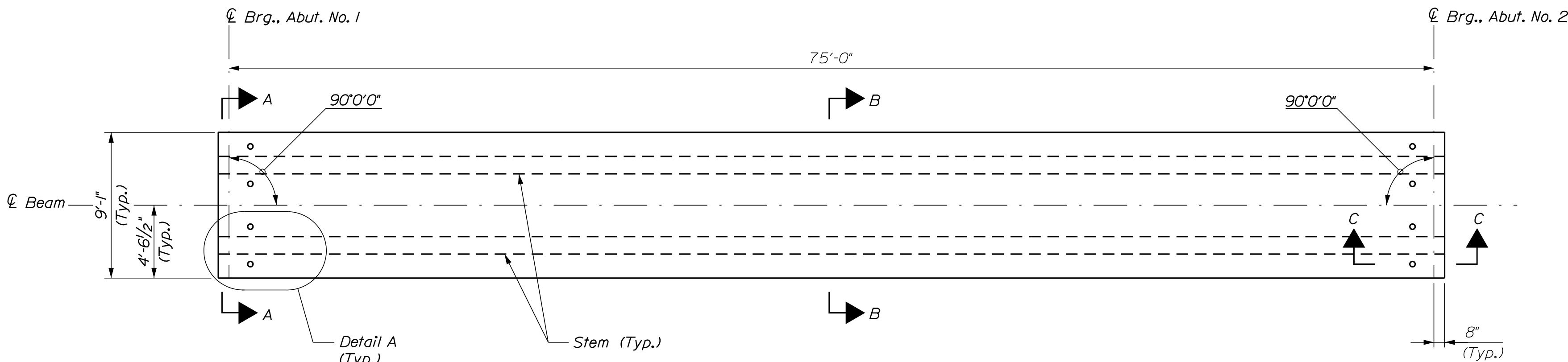


ABUTMENT NO. 1 BACKFILL AND EMBANKMENT DETAIL
(Piles Not Shown)

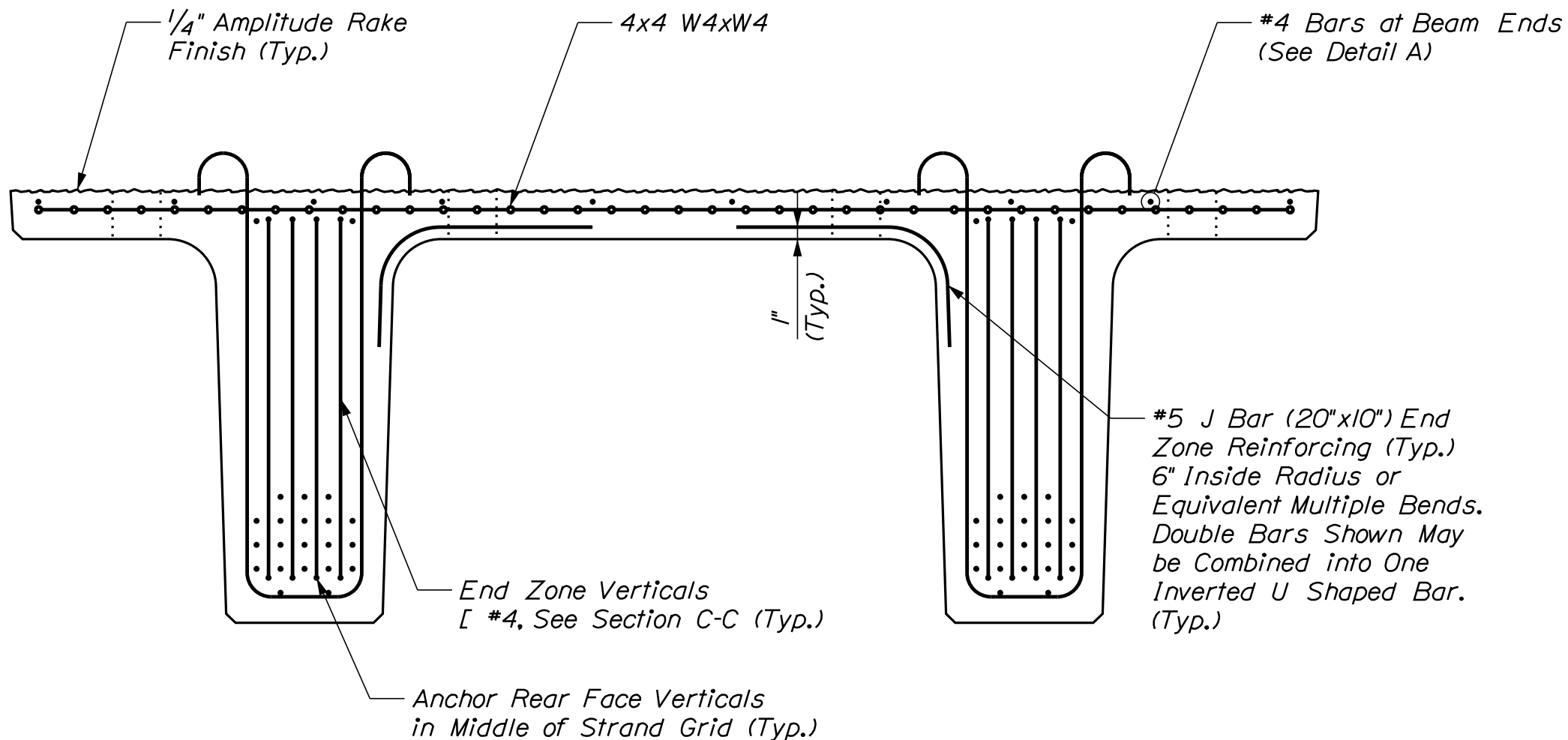


ABUTMENT NO. 2 BACKFILL AND EMBANKMENT DETAIL
(Piles Not Shown)

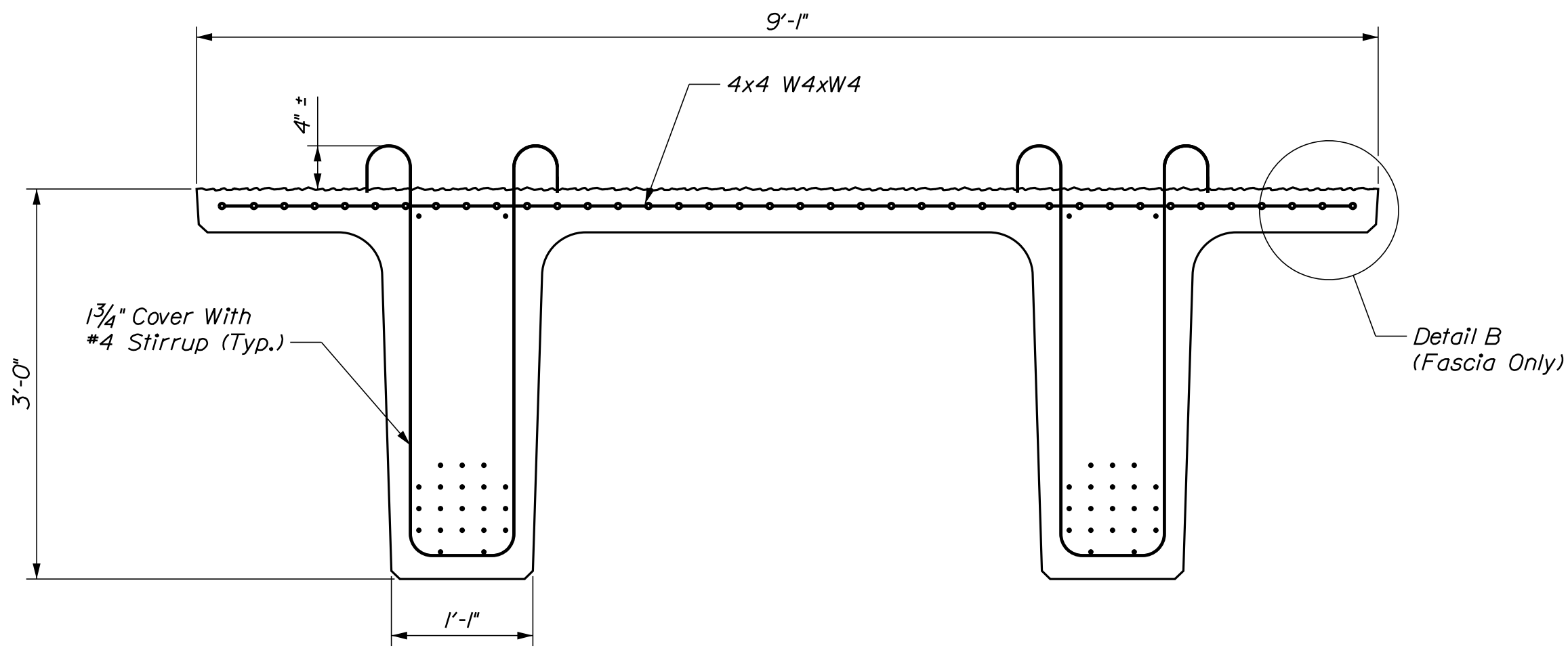
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	Hoyle, Tanner & Associates, Inc.					
	SHEET NUMBER <div>22</div> OF 28					
DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERVILLE FRANKLIN COUNTY		ABUTMENT DETAILS				



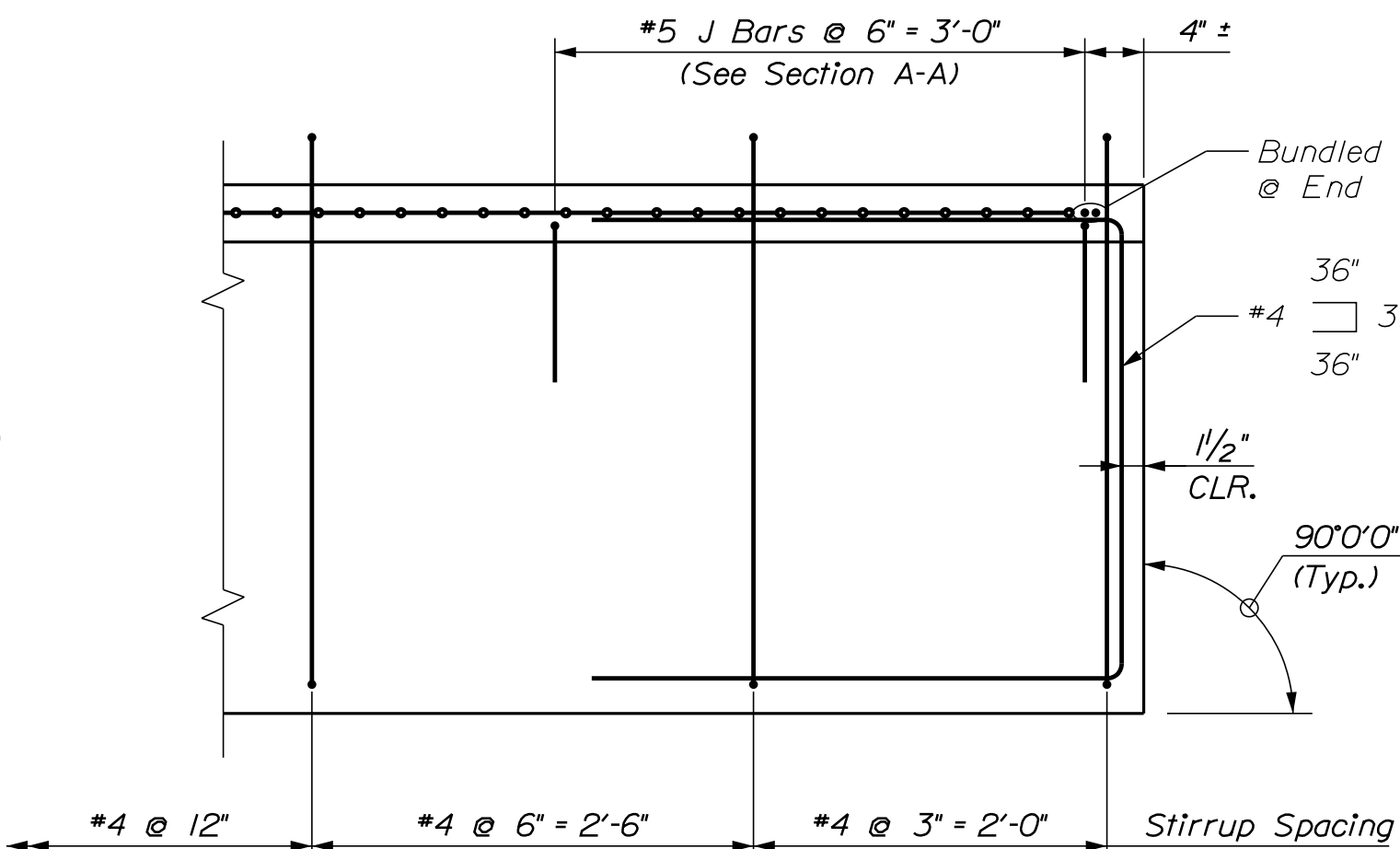
NEXT 36F PLAN



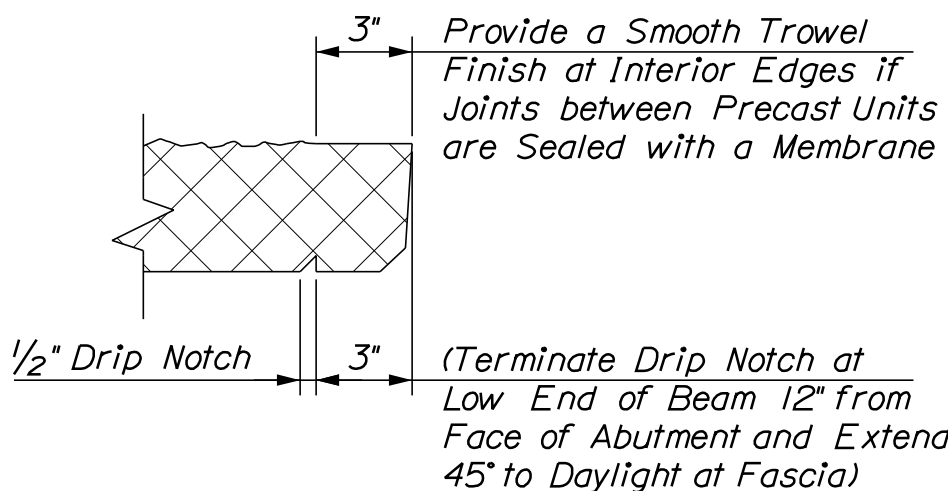
SECTION A-A



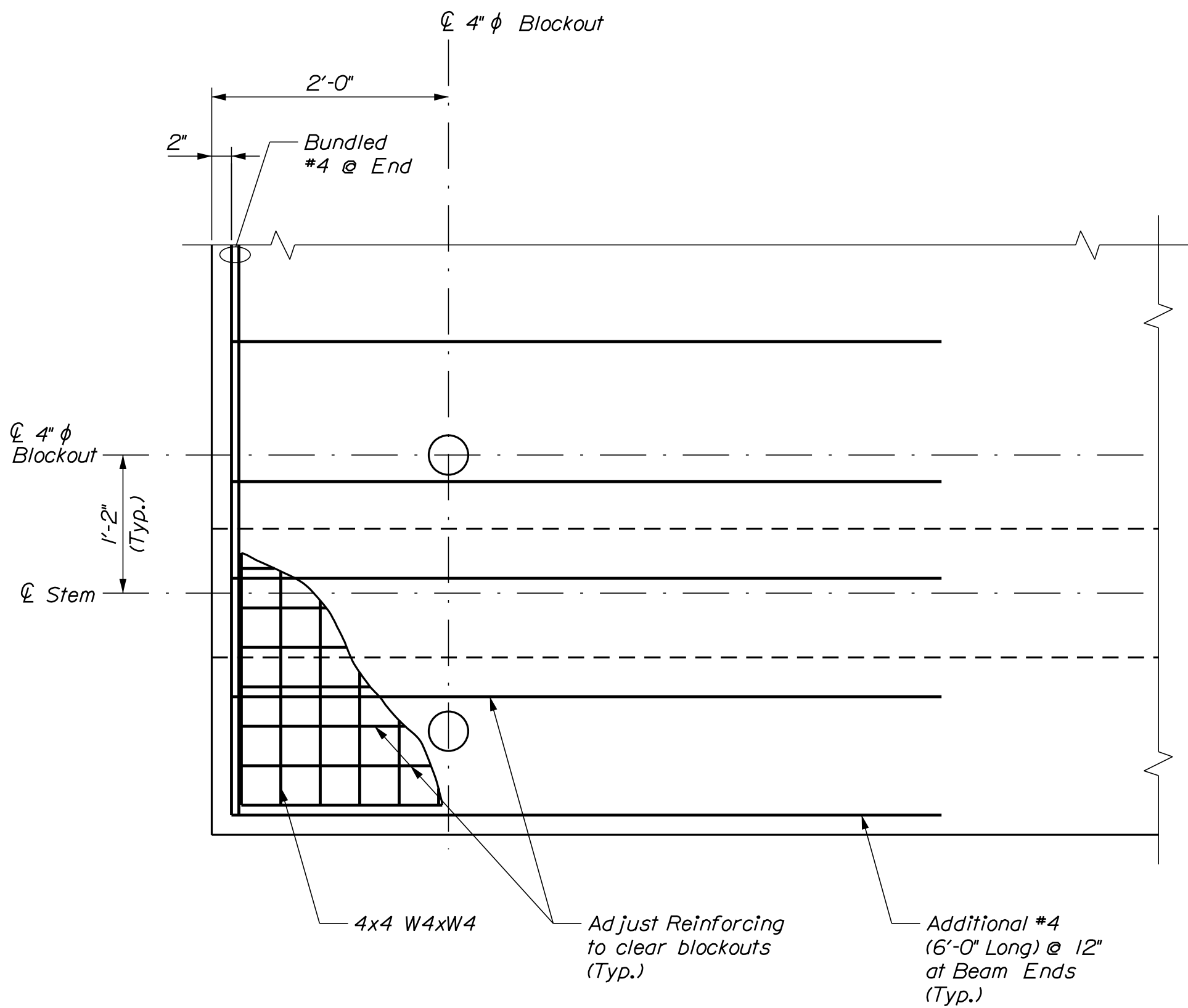
SECTION B-B



VIEW C-C



DETAIL B

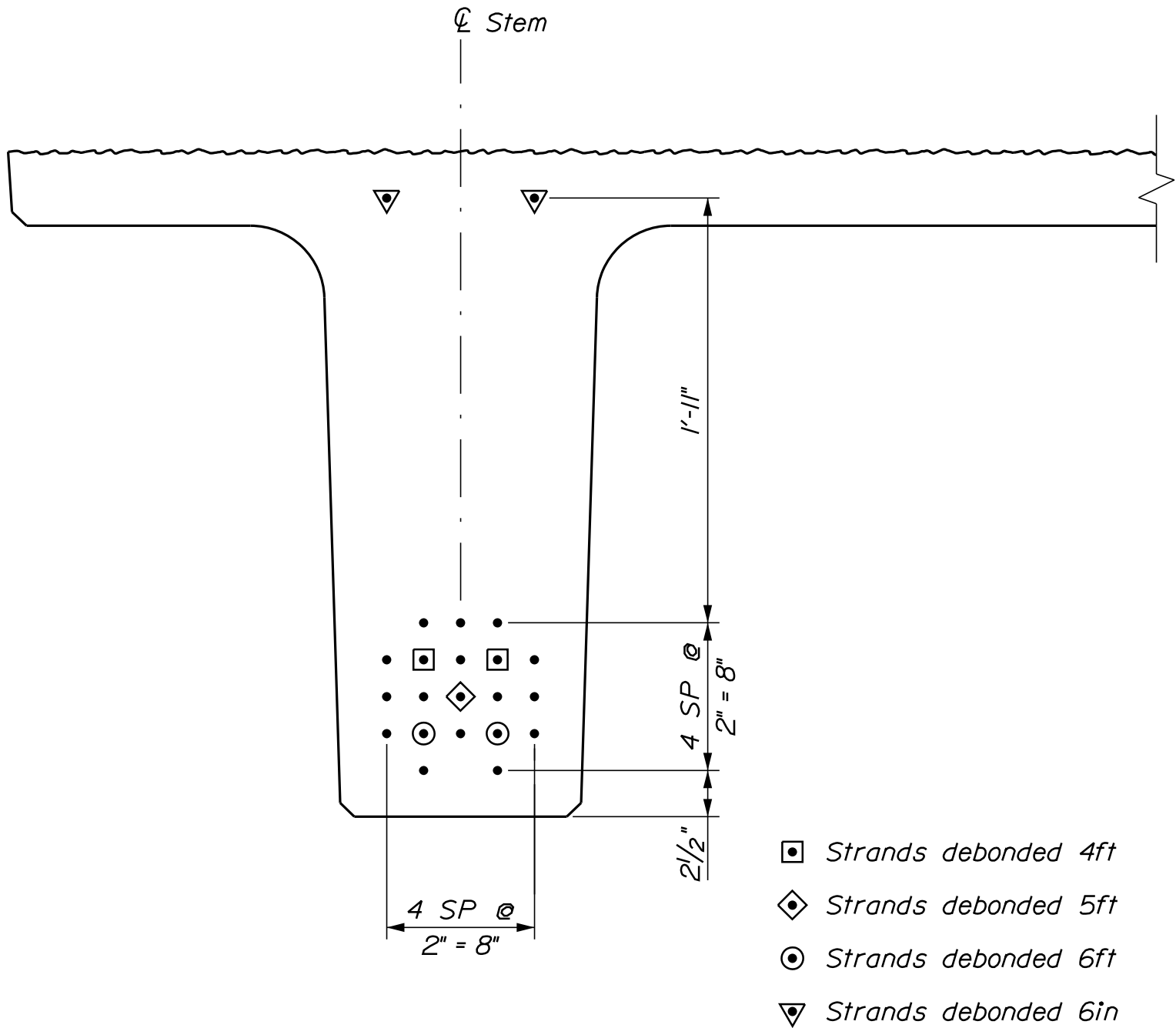


DETAIL A
(Stirrups Not Shown)

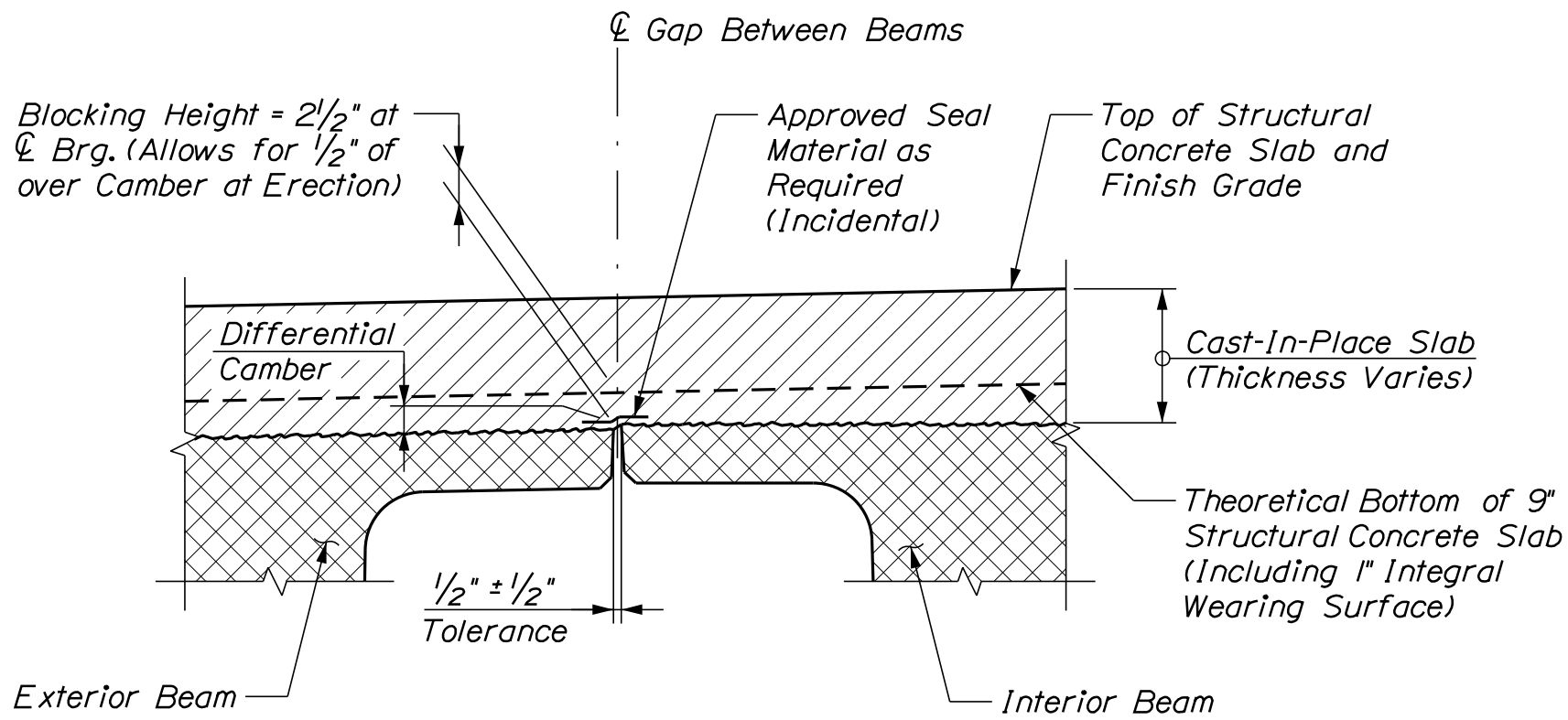
PRECAST NEXT BEAM NOTES

1. NEXT F Beams are a non-proprietary shape developed by PCI Northeast (PCINE). Standardized section properties and details may be found at <http://www.pcine.org>.
2. The estimated camber at release is 1.7 inches and the estimated camber at erection is 2.9 inches. The estimated deflection from the cast-in-place slab is 0.7 inches at mid span. The estimated deflection from curbs and railings is 0.2 inches at mid span.
3. Prestressing strands shall be 0.6 inch diameter. The tensioning force is 44 kips per prestressing strand, including the top strands.
4. All mild reinforcing shall be stainless steel conforming to ASTM A955. Welded wire fabric shall conform to ASTM A1022.
5. A mat of mild reinforcing steel, #4 bars at 12 inches in both directions, may be substituted for the welded wire fabric. Reinforcing shall be stainless steel conforming to ASTM A955.
6. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
7. The drilling of holes in the prestressed beams and the use of powder actuated tools on the beams will not be permitted.
8. Concrete retarding admixture shall be applied to the form surfaces of the NEXT beam stems that will come in contact with the cast-in-place concrete end diaphragms. All such surfaces shall be power washed with water prior to installation to provide a nominal 1/8-inch roughened surface with exposed aggregate. Alternate methods of achieving an equivalent roughened surface may be proposed. Payment for achieving the surface finish will be considered incidental to related contract items.
9. Neoprene pads shall be either polychloroprene or natural polyisoprene with a shear modulus of 0.160 ksi and shall conform to the requirements of Section 18.2 of the LRFD Bridge Construction Specifications, 4th Edition. Neoprene pads will not be paid for directly but will be considered incidental to related contract items.
10. Neoprene Pad seams perpendicular to the centerline of bearing will be allowed, provided that the seams are located approximately half way between NEXT Beam stems.
11. Lifting loops and temporary/storage/shipping dunnage shall be a maximum of 2 feet from each beam end.

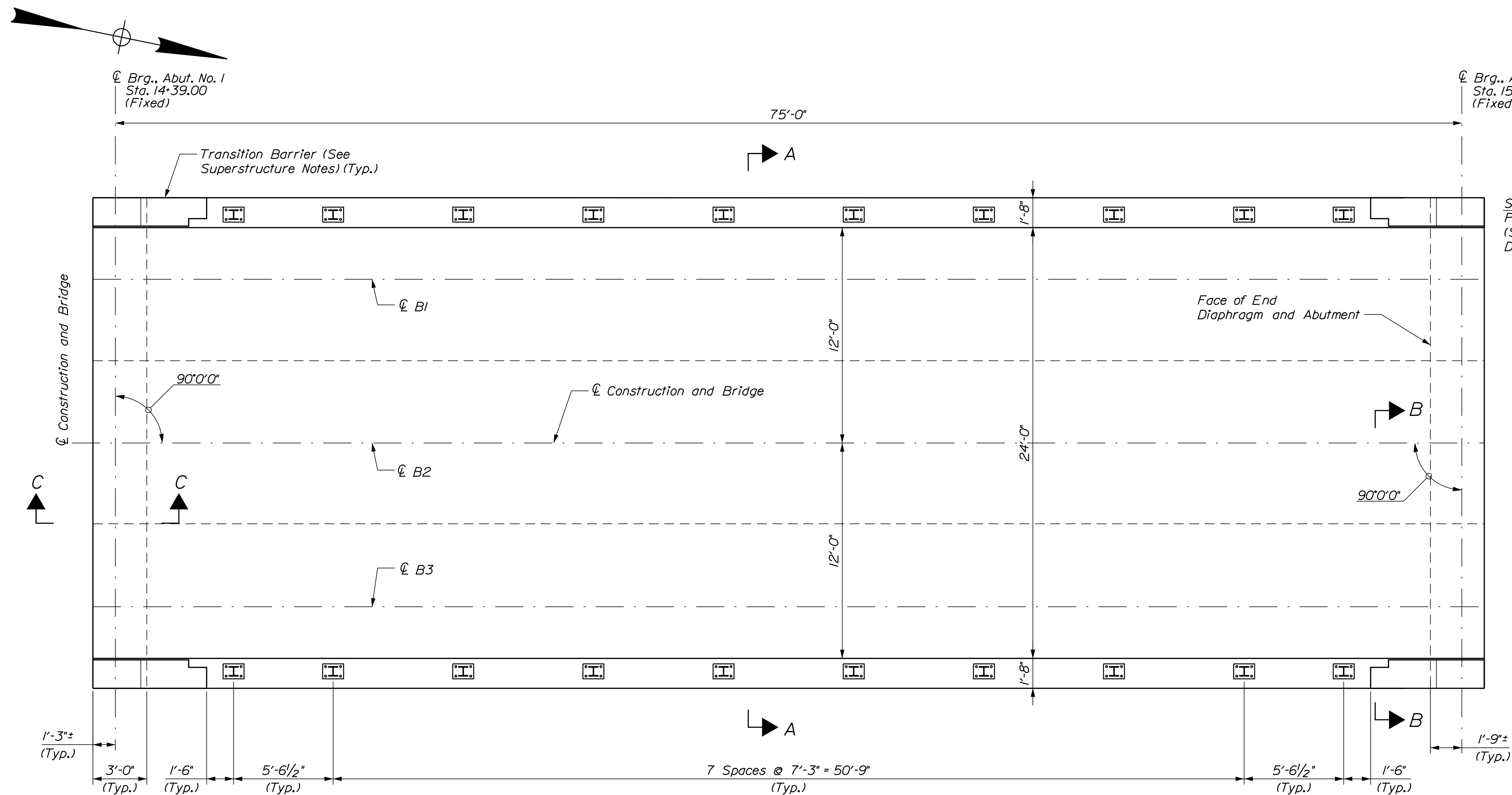
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		STP-2168(800)		BRIDGE NO. 3951		WIN 21688.00		BRIDGE PLANS	
DUTCH GAP BRIDGE		LITTLE NORRIDGEWOCK STREAM		FRANKLIN COUNTY		CHESTERVILLE		BEAM DETAILS (1 OF 2)		SHEET NUMBER	
23		OF 28									



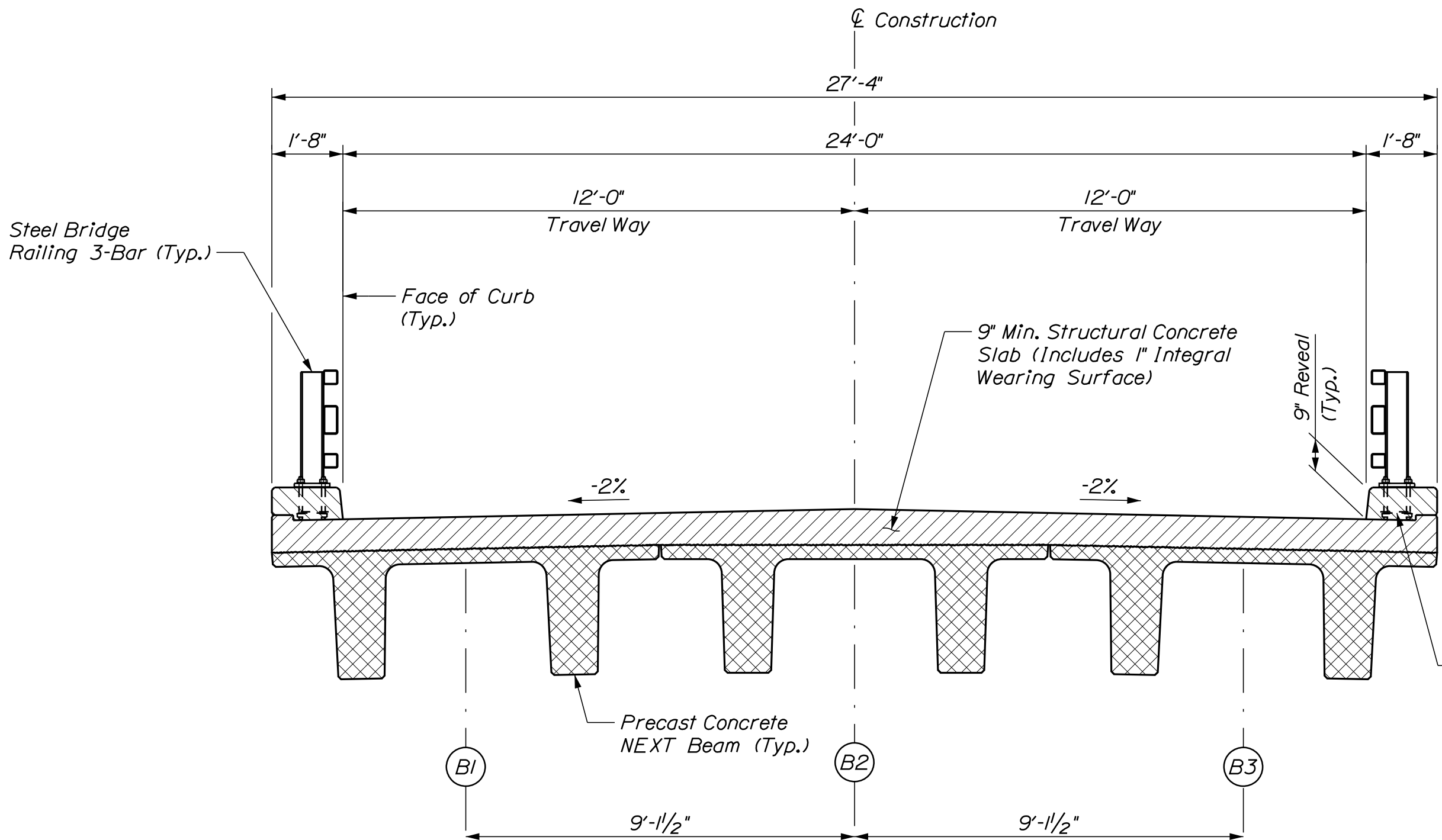
STRAND PATTERN
(44 Per Beam, 22 Per Stem)



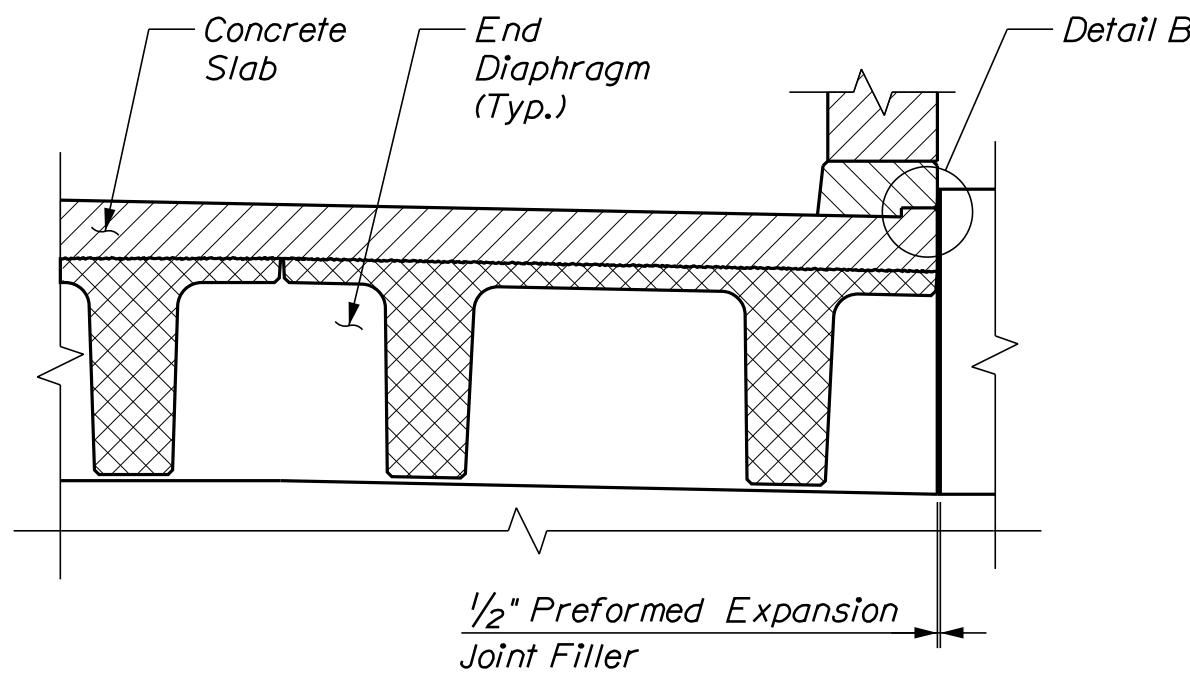
BLOCKING AND GAP FORM DETAIL



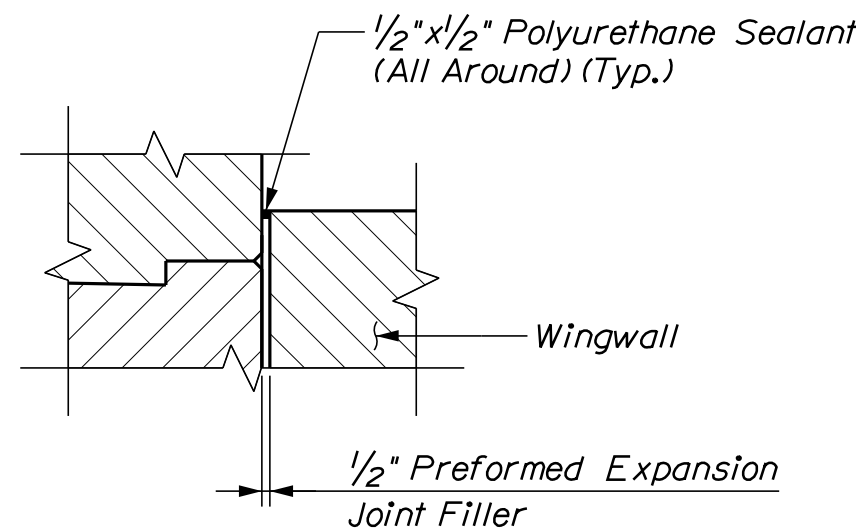
SUPERSTRUCTURE PLAN



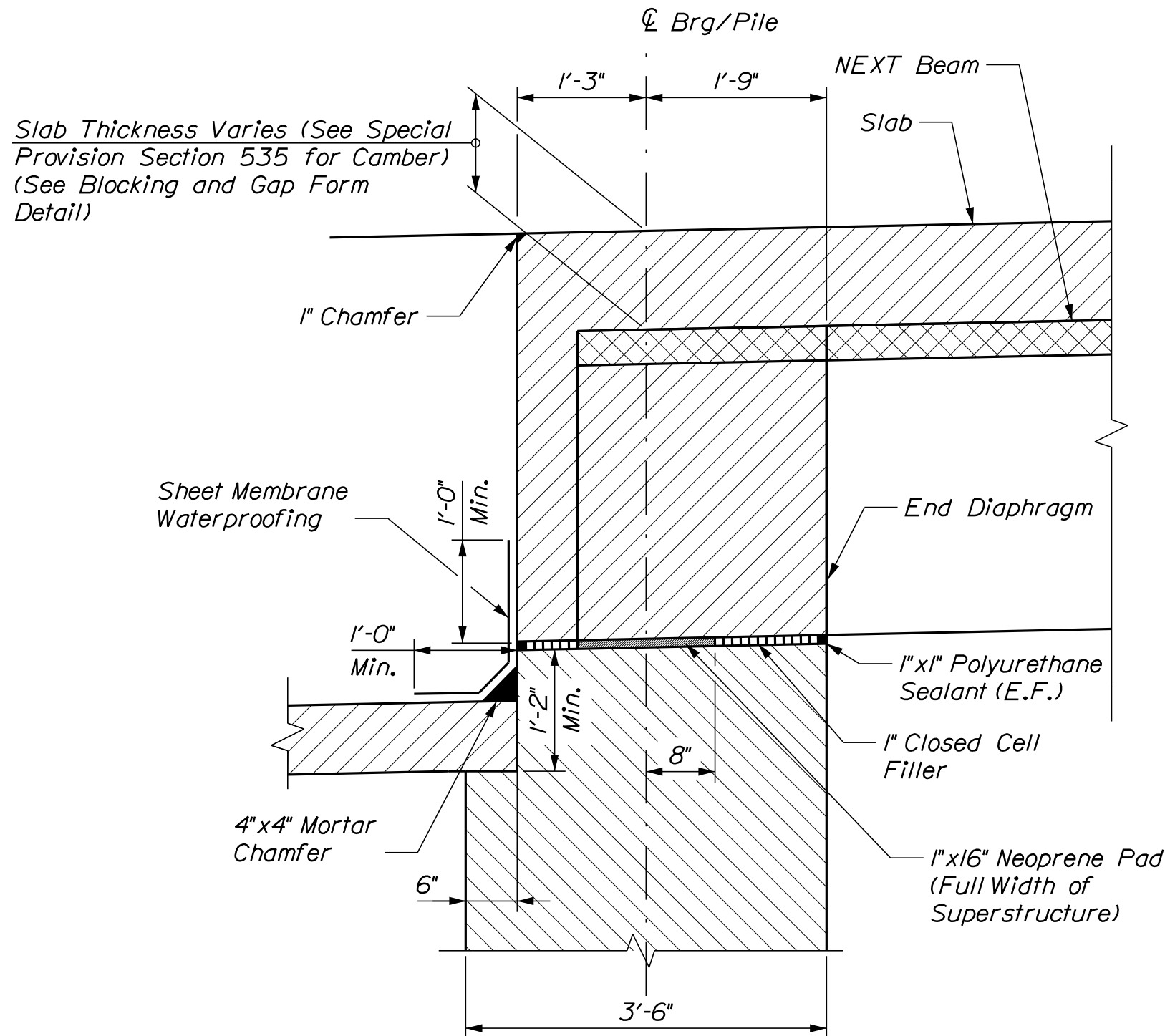
SECTION A-A



VIEW B-B




DETAIL B



SECTION C-C

SUPERSTRUCTURE NOTES

1. Form a one inch V-groove on the fascias the horizontal joint between the curb and slab.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. The superstructure slab and end diaphragm concrete shall be placed in one continuous operation and shall be kept plastic until the entire placement has been made.
4. Payment for End Diaphragm Concrete will be made under Item No. 502.261, Structural Concrete Roadway and Sidewalk Slabs on Concrete Bridges.
5. The Contractor shall install Permanent Concrete Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb concrete.
6. Payment for Sheet Waterproofing Membrane and Mortared Chamfer will not be made directly and shall be considered incidental to related Contract items.
7. Bars TB651 and TB652 detailed in Standard Detail 526 (37) shall be reduced in height by 3-inches to account for the difference in curb height between a bare deck and one with HMA overly. The corrected dimensions are provided on the Reinforcing Schedule sheet. All reinforcement in transition barriers shall be stainless steel conforming to ASTM A955. The cost for reinforcement is included in the Permanent Concrete Transition Barrier item.
8. Payment for Polyurethane Sealant, 1" Closed Cell Filler and 1/2" Preformed Expansion Joint Filler will not be made directly but incidental to related Contract Items.

DUTCH GAP BRIDGE LITTLE NORRIDGEWOCK STREAM CHESTERVILLE FRANKLIN COUNTY					PROJ. MANAGER		D. Eaton	BY	DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION		
SUPERSTRUCTURE DETAILS					DESIGN-DETAILED		R. McMullen	P. Duffin	Sept. 2018		STP-2168(800)		
					CHECKED-REVIEWED		R. Wood	S. Hodgson	Sept. 2018				
					DESIGN-DETAILED2								
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					REVISIONS 3								
					REVISIONS 4								
					FIELD CHANGES								
SHEET NUMBER					25								
OF 28													

Date:10/30/2018

Username: Devon.C.Eaton

Division: BRIDGE

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