

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition 2017, with 2018 interim revisions.

DESIGN LOADING

Live Load..... HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2018) AADT 1490
Future (2038) AADT 1790
DHV - % of AADT 10%
Design Hour Volume 179
Heavy Trucks (% of AADT) 5%
Heavy Trucks (% of DHV) 2%
Directional Distribution (% of DHV) 64%
18 kip Equivalent P 2.0 33
18 kip Equivalent P 2.5 31
Design Speed (mph) 45

HYDROLOGIC DATA

Drainage Area 6.28 sq mi
Design Discharge (Q50) 544.3 cfs
Check Discharge (Q100) 637.8 cfs
Headwater Elevation (Q1.1) 132.0 ft
Headwater Elevation (Q25) 135.2 ft
Headwater Elevation (Q50) 135.7 ft
Headwater Elevation (Q100) 136.3 ft
Discharge Velocity (Q1.1) 4.3 fps
Discharge Velocity (Q50) 9.6 fps
Discharge Velocity (Q100) 10.1 fps

MATERIALS

Concrete:
Precast Class "P"
All Other Class "A"
Reinforcing Steel ASTM A 615/A 615M, Grade 60
Welded Wire Reinforcement ASTM A1064/A1064M

BASIC DESIGN STRESSES

Concrete f'c = 4000 psi
Precast Concrete f'c = 5000 psi
Reinforcing Steel fy = 60,000 psi
Welded Wire Reinforcement fy = 65,000 psi

LIST OF DRAWINGS

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BELFAST
WALDO COUNTY
SHELDON BRIDGE
OVER
WARREN BROOK
POORS MILL ROAD
FEDERAL AID PROJECT NO. STP-2166(600)
PROJECT LENGTH 0.076 mi.
BRIDGE NO. 5557

UTILITIES

Central Maine Power
Fairpoint Communications
Spectrum Communications (TWC)

MAINTENANCE OF TRAFFIC

The bridge will be closed during construction
with traffic detoured onto local roads.

PROJECT LOCATION	Sheldon Bridge # 5557 in Belfast carrying Poors Mill Road over Warren Brook, located 0.93 of a mile west of Marsh Road. Lat./Long. 44° 25' 42.57" N -69° 4' 14.84" W
PROGRAM AREA	Highway Bridges - Traditional.
OUTLINE OF WORK	Bridge Culvert replacement of Sheldon Bridge # 5557 in Belfast with 402' of approaches.

STP-2166(600) WIN 021666.00

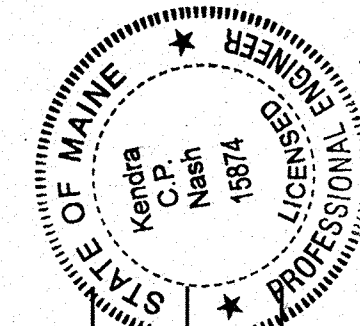
BELFAST
SHELDON BRIDGE

TITLE SHEET

SHEET NUMBER

1

OF 17



SIGNATURE
15874
P.E. NUMBER
4/1/2020
DATE

PROGRAM	BRIDGE
PROJECT MANAGER	D. EASTON
DESIGNER	K. MASH
CONSULTANT	STANTEC
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER
CHIEF ENGINEER

DATE
4-17-2020
4-16-2020

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.202	REMOVING PAVEMENT SURFACE	250	SY
203.20	COMMON EXCAVATION	650	CY
203.2318	DISPOSAL OF SPECIAL WASTE	300	T
203.24	COMMON BORROW	50	CY
203.25	GRANULAR BORROW	350	CY
203.33	SPECIAL FILL	100	CY
206.061	STRUCTURAL EARTH EXCAVATION - DRAI & MIN STR,BELOW GRADE	12	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	650	CY
403.2081	12.5 MM POLYMER MODIFIED HOT MIX ASPHALT	130	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	170	T
409.15	BITUMINOUS TACK COAT - APPLIED	49	G
508.13	SHEET WATERPROOFING MEMBRANE (220 SY)	1	LS
511.07	COFFERDAM: UPSTREAM	1	LS
511.07	COFFERDAM: DOWNSTREAM	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (50 SY)	1	LS
526.301	TEMPORARY CONCRETE BARRIER TYPE 1 (40 LF)	1	LS
534.101	PRECAST CONCRETE BOX CULVERT - STATE SUPPLIED	1	LS
606.1301	31" W-BM GR,MID-WAY SPLICE-SGL FACED	288	LF
606.1305	31" W-BM GR,MID-WAY SPLICE FLARED TERMINAL	4	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
610.08	PLAIN RIPRAP	200	CY
610.210	STREAM CHANNEL ROCK	125	CY
613.319	EROSION CONTROL BLANKET	100	SY
615.07	LOAM	51	CY
618.14	SEEDING METHOD NUMBER 2	9	UN
619.12	MULCH	9	UN
619.14	EROSION CONTROL MIX	102	CY
620.58	EROSION CONTROL GEOTEXTILE	200	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1206	LF
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	20	HR
639.18	FIELD OFFICE TYPE A	0.5	EA
652.312	TYPE III BARRICADE	6	EA
652.33	DRUM	25	EA
652.34	CONE	50	EA
652.35	CONSTRUCTION SIGNS	400	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGER	100	HR
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	2	EA
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

1. During construction, the road will be closed to traffic for a time period specified in the Special Provisions.
2. For easements, construction limits and right of way lines, refer to Right of Way Map.
3. 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.
4. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
5. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
6. 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.
7. All embankment material, except as otherwise shown, placed below EL.135.5 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
8. Place riprap on sideslopes up to EL.136.00.
9. Stones which cannot be rolled or compacted into the surface of the shoulder shall be removed by hand raking. Payment for hand raking will be considered incidental to Item No. 304.10, Aggregate Subbase Course - Gravel.
10. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
11. 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. 619.1401, Erosion Control Mix.
12. Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the culvert walls.
13. Guardrail posts shall be modified from a length of 7 feet to a length of 8 feet with an embedment of 5.5 feet. Payment will be considered incidental to the guardrail pay items.
14. Extended-use Erosion Control Blanket 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.
15. Protective Coating for Concrete Surfaces shall be applied to the following areas:

On all concrete headwalls and box surfaces that are exposed and to limit lines, one foot beyond intersections of surfaces and ground.
16. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.
17. 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.
18. 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.
19. The project geotechnical report titled: Geotechnical Design Report for the Replacement of Sheldon Bridge over Warren Brook, Soils Report 2018-07, dated February 6, 2018 may be accessed at the MaineDOT web address.
20. 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.
21. 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.
22. Riprap adjacent to the box culvert shall be placed so as not to damage the culvert. Any damage to the box culvert during construction shall be repaired or replaced as determined by the Resident at the Contractor's expense.

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

STP-2166(600)

WIN

021666.00

BRIDGE NO. 5557

BRIDGE PLANS

SHELDON BRIDGE

WARREN BROOK

BELFAST

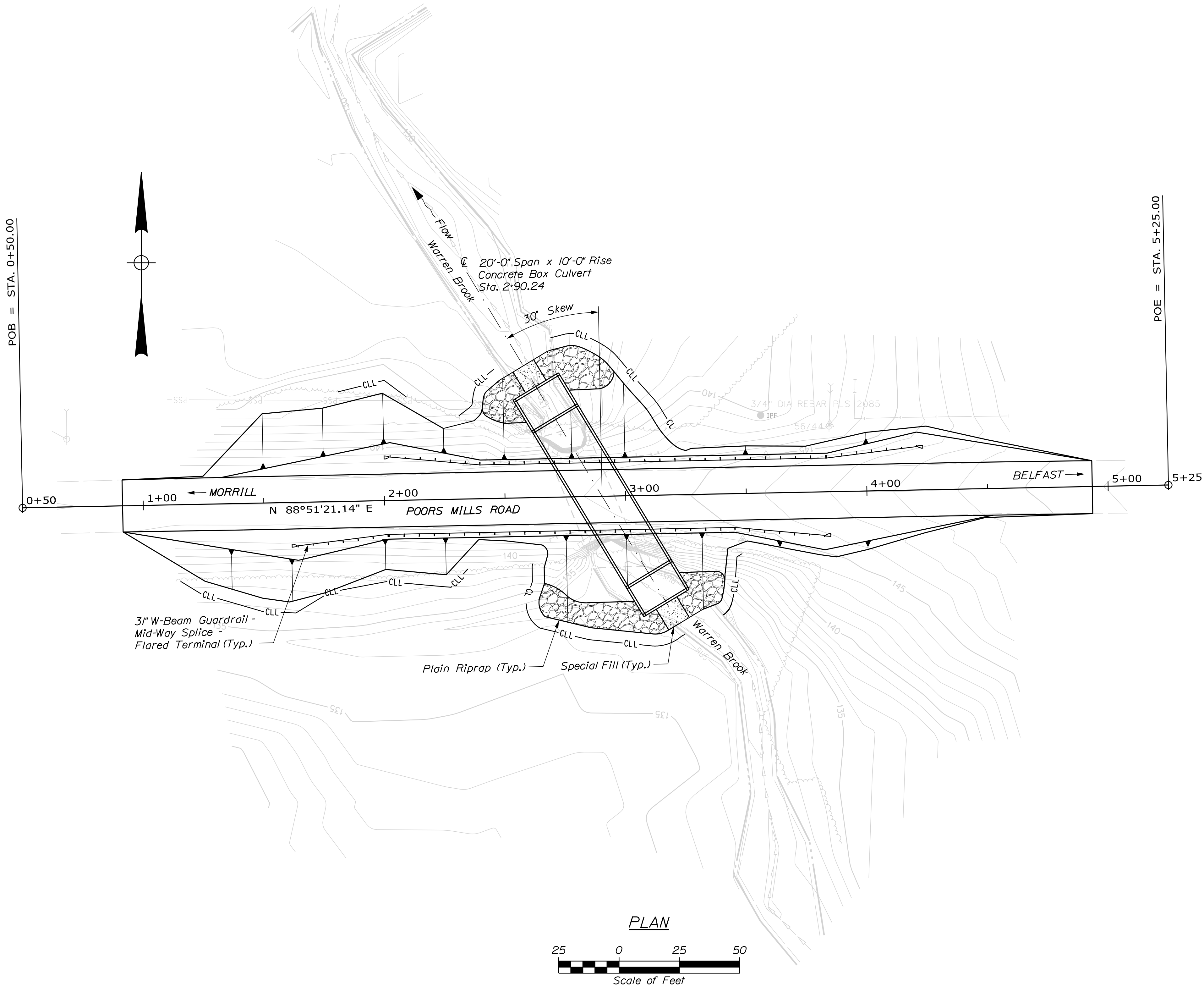
WALDO COUNTY

ESTIMATED QUANTITIES & CONSTRUCTION NOTES

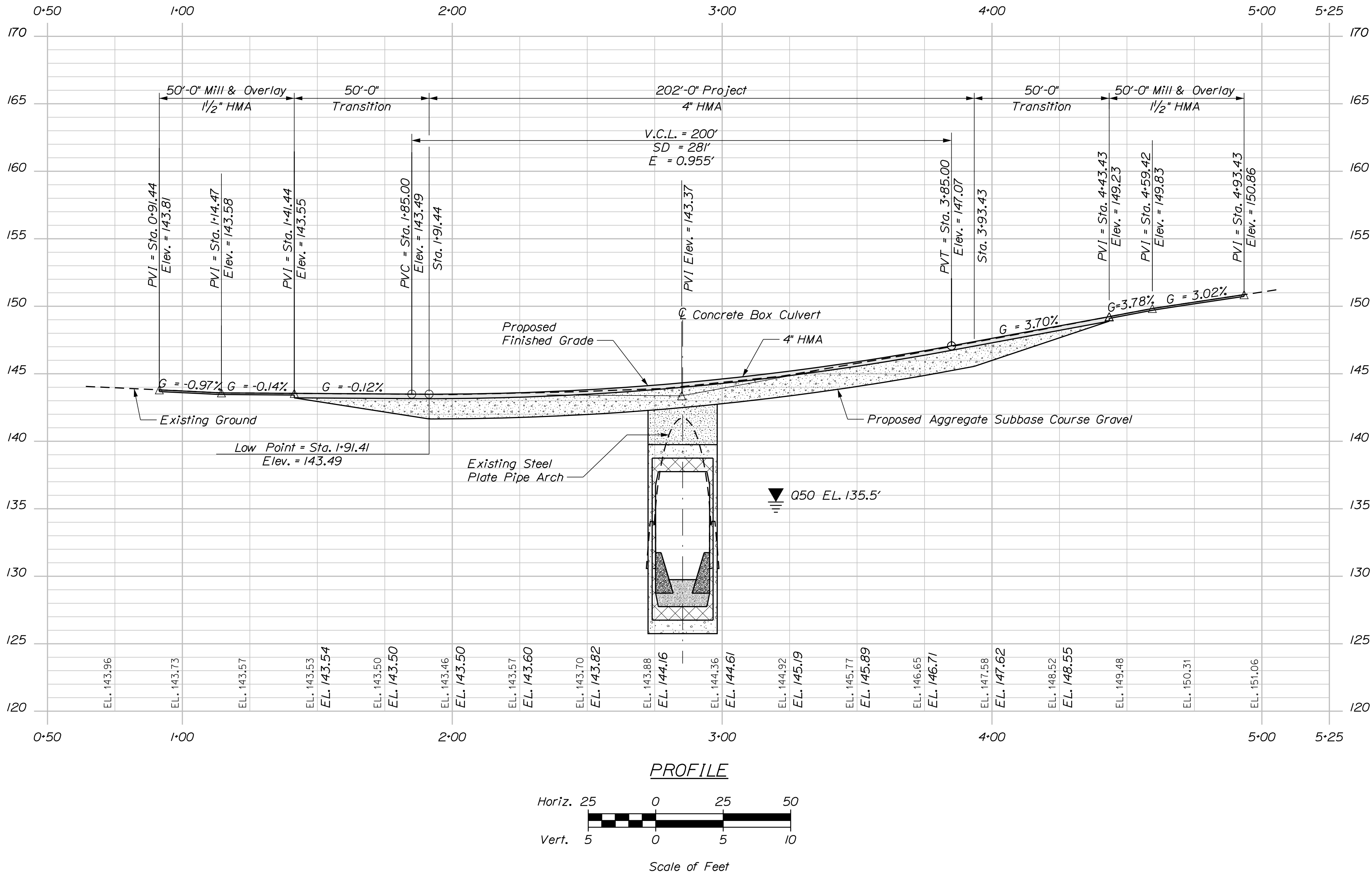
SHEET NUMBER

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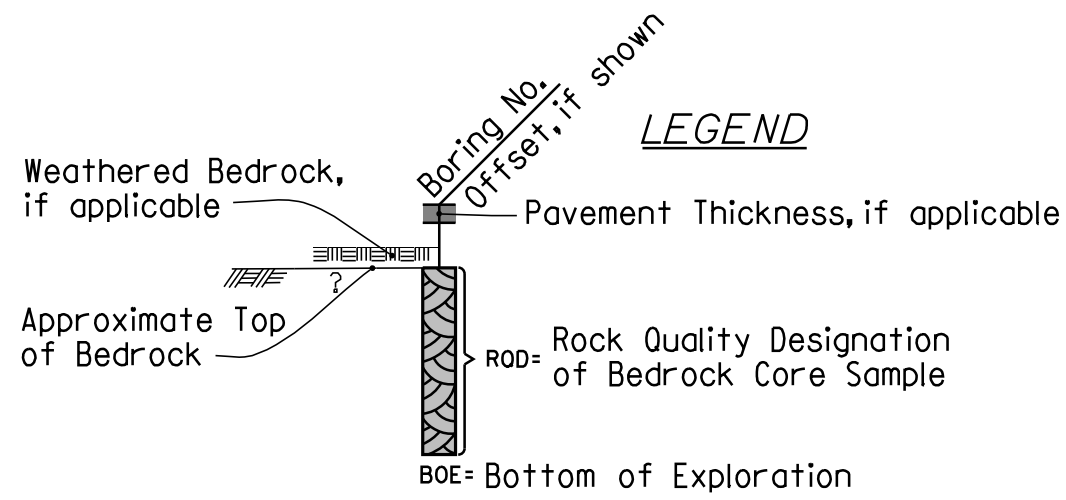
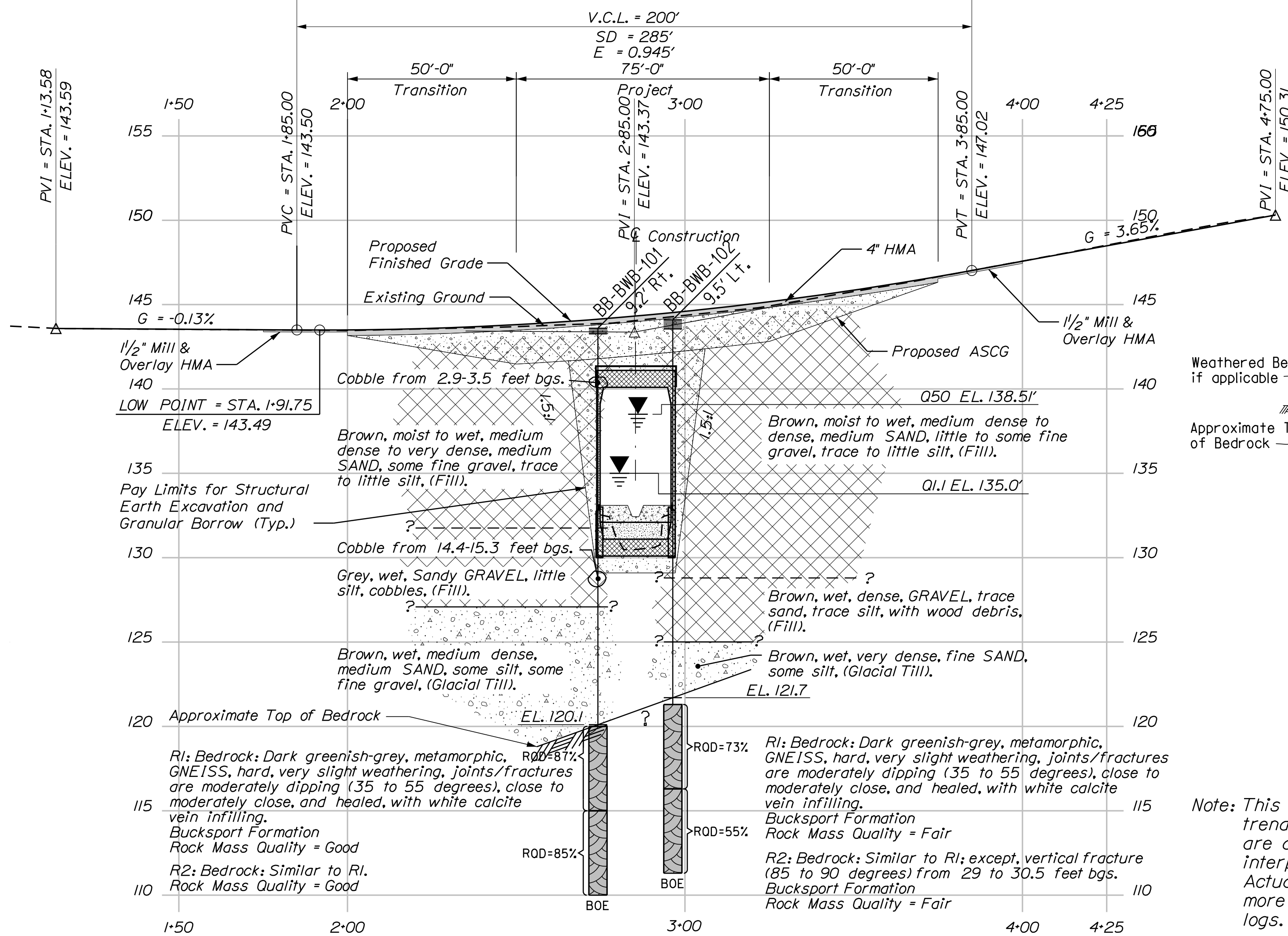
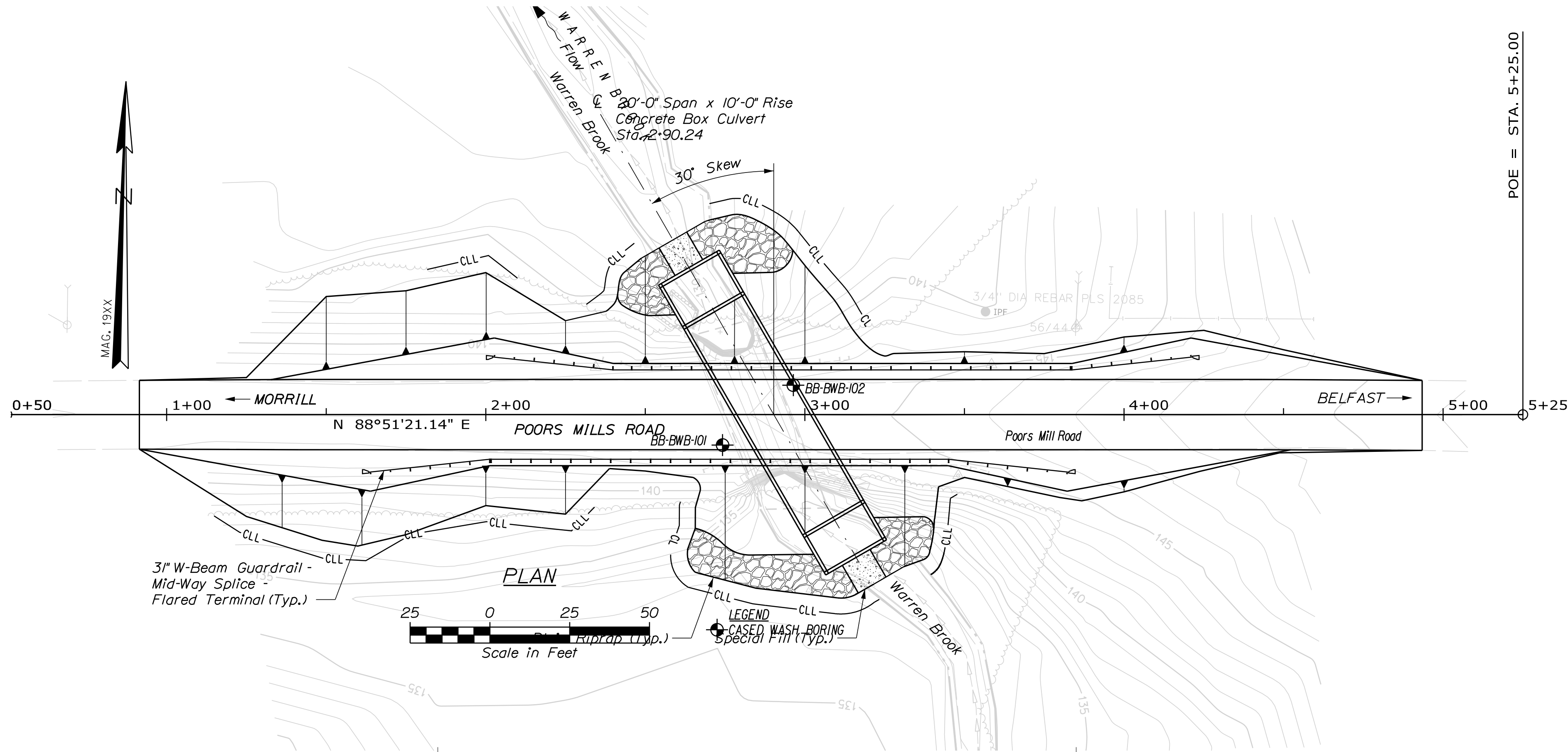
OF 17



STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2166(600)	SHEET NUMBER				BRIDGE PLANS			
	3				OF 17			
	BRIDGE NO. 5557				WIN 021666.00			
SHELDON BRIDGE WARREN BROOK WALDO COUNTY BELFAST	PROJ. MANAGER	D. EATON	BY	DATE	SIGNATURE			
	CHECKED-DETAILED	STANTEC	STANTEC	MAR 2018	P.E. NUMBER			
	DESIGNED-REVIEWED	K. NASH	MRP	FEB 2020	DATE			
	DESIGNS DETAILING							
GENERAL PLAN								



SHEET NUMBER <div>4</div> OF 17	BELFAST WARREN BROOK WALDO COUNTY				STATE OF MAINE DEPARTMENT OF TRANSPORTATION STP-2166(600) WIN 021666.00 BRIDGE NO. 5557 BRIDGE PLANS			
	PROFILE				SIGNATURE P.E. NUMBER DATE			
	FIELD CHANGES				REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4			



PROFILE

HORIZ 25 0 25 50
VERT 5 0 5 10
SCALE

Note: This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil and bedrock transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2166(600)		SIGNATURE	
WIN		P.E. NUMBER	
21666.00		DATE	
BRIDGE NO. 5557		FIELD CHANGES	
SHELDON BRIDGE		WALDO COUNTY	
WARREN BROOK		BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE	
BELFAST		SHEET NUMBER	
5		OF 17	

Boring No.: BB-BWB-101

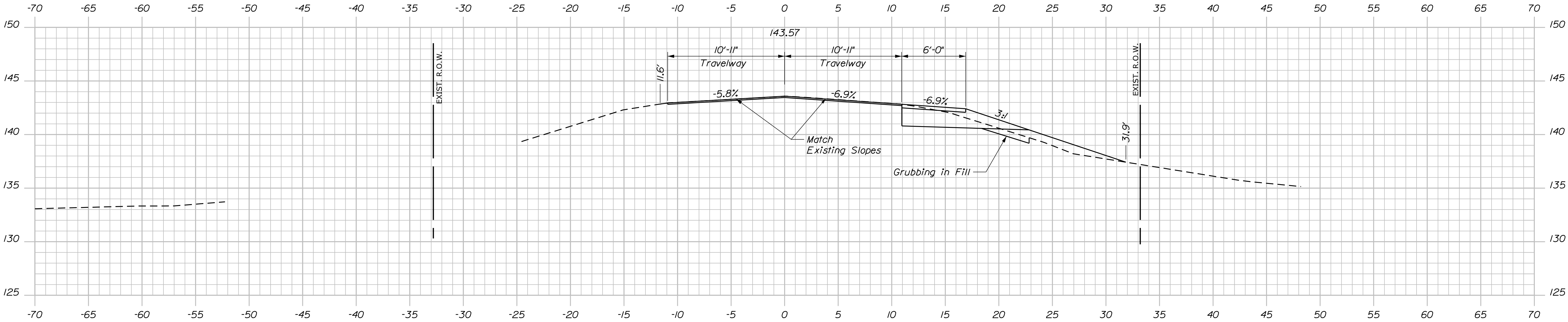
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Date:4/2/2020

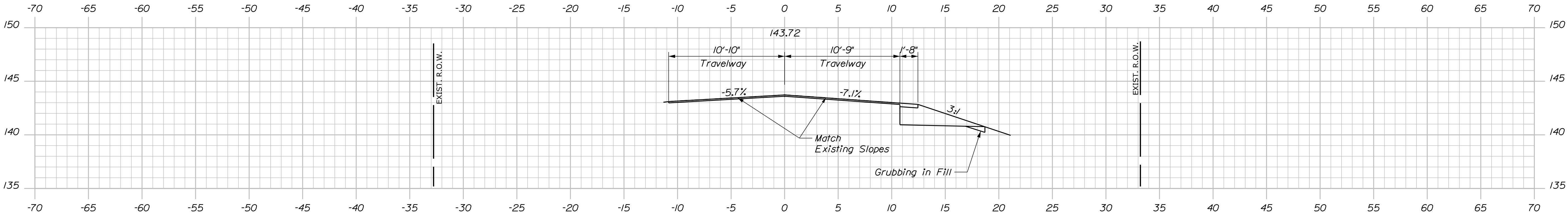
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Division: BRIDGE

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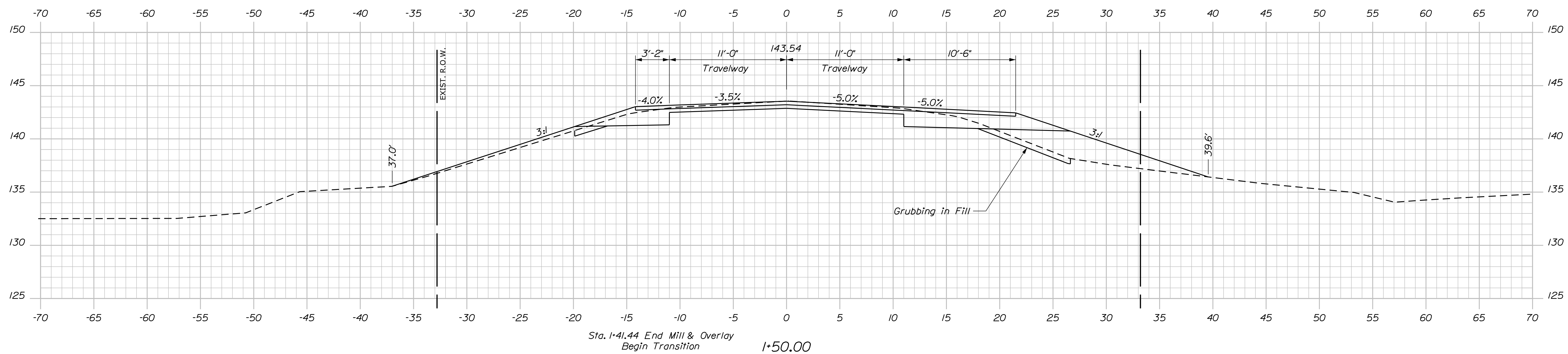
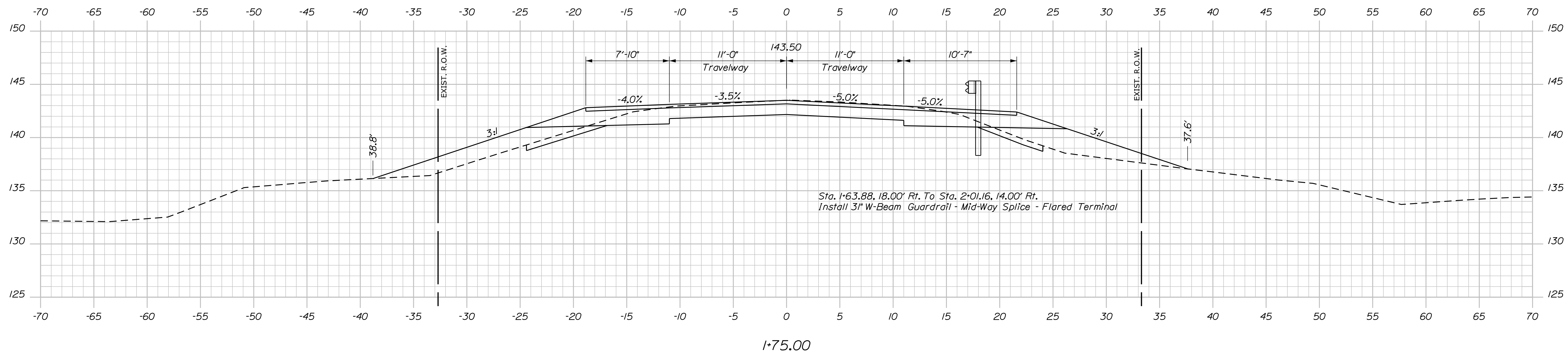
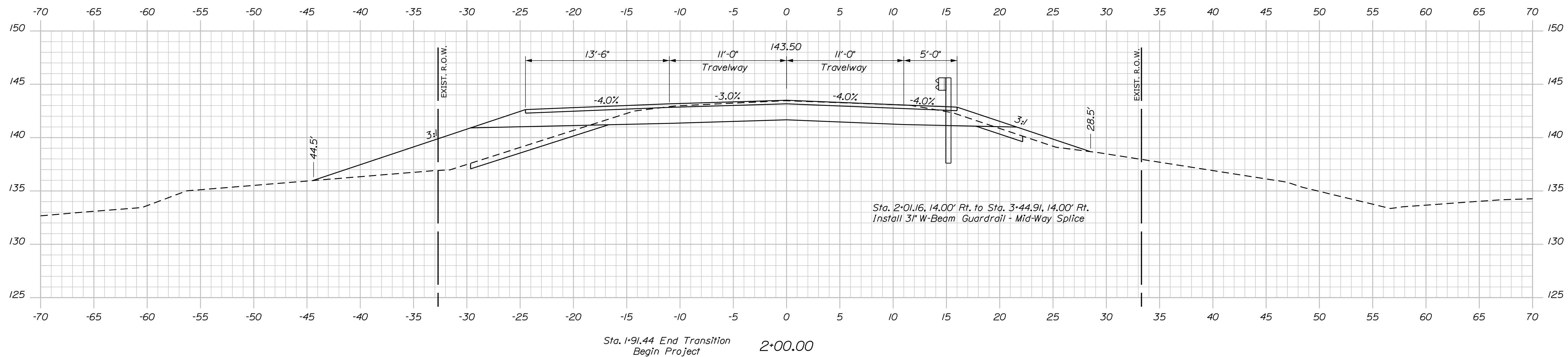
1+25.00



Sta. 0+91.44 Match Existing
 Begin Mill & Overlay

1+00.00

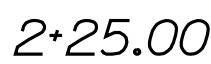
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
STP-2166(600)		SIGNATURE	
WIN		P.E. NUMBER	
021666.00		DATE	
BRIDGE NO. 5557		FIELD CHANGES	
BRIDGE PLANS		CROSS SECTIONS	
SHEET NUMBER		9	
OF 17		9	

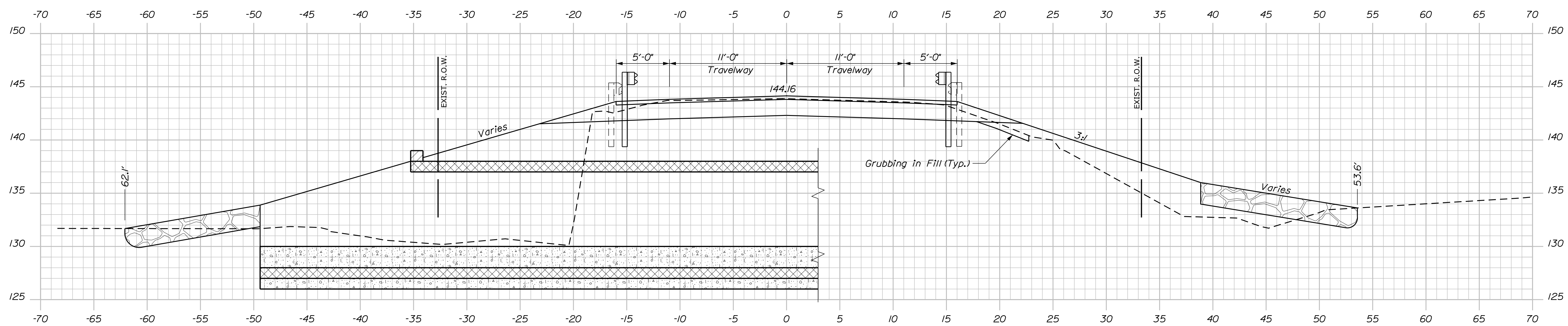
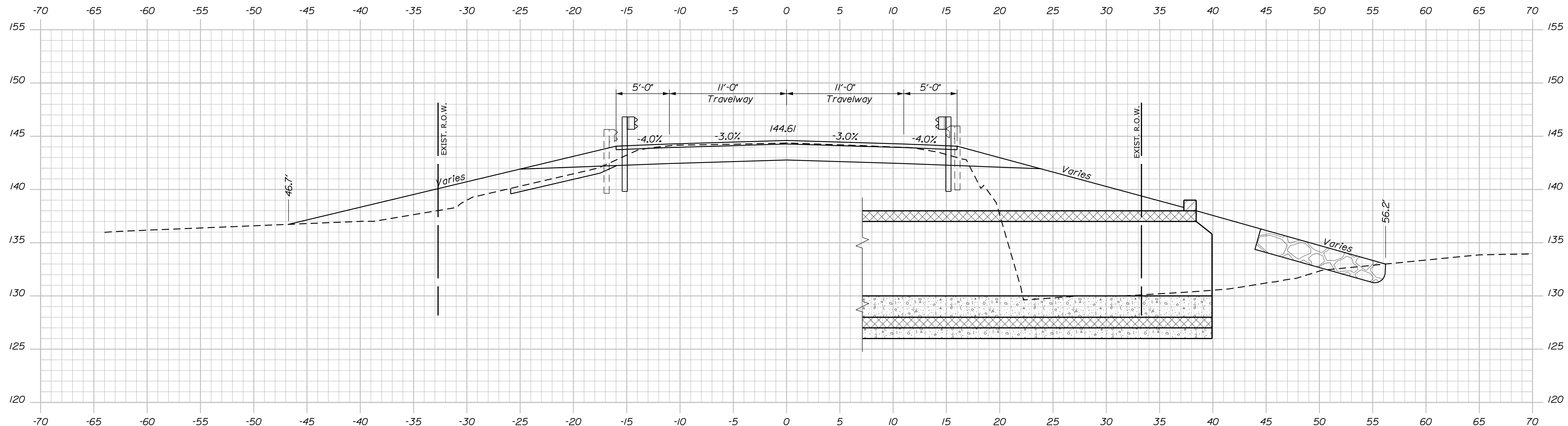


PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	STANTEC	STANTEC	MAR 2018
CHECKED-REVIEWED			SIGNATURE
DESIGN2-DETAILED2	K. NASH	MRP	FEB 2020
DESIGN3-DETAILED3			P.E. NUMBER
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			DATE
FIELD CHANGES			

BELFAST	SHELDON BRIDGE WARREN BROOK WALDO COUNTY
CROSS SECTIONS	

SHEET NUMBER
10
OF 17



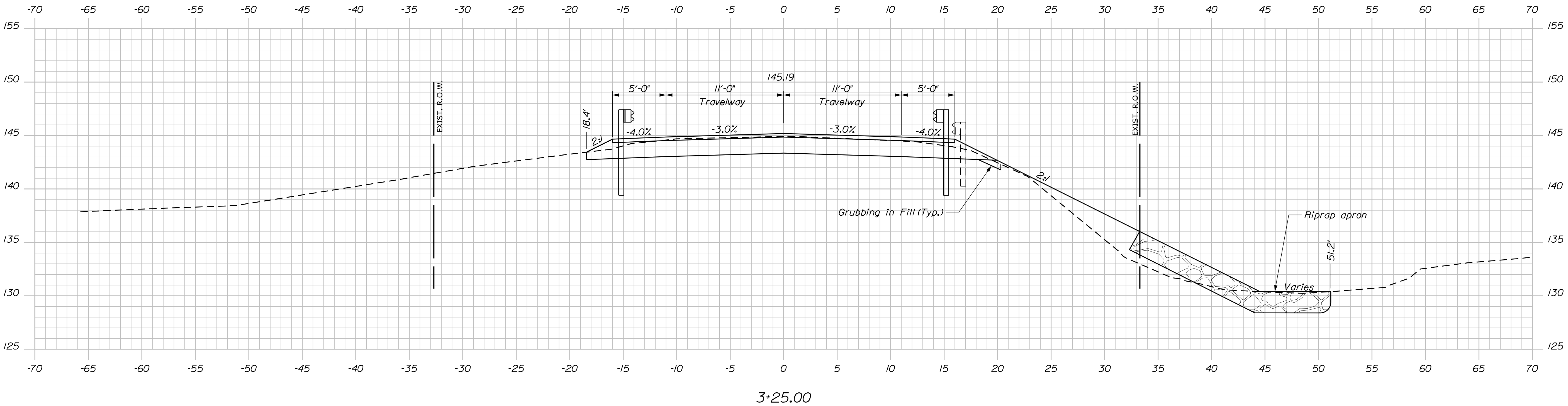
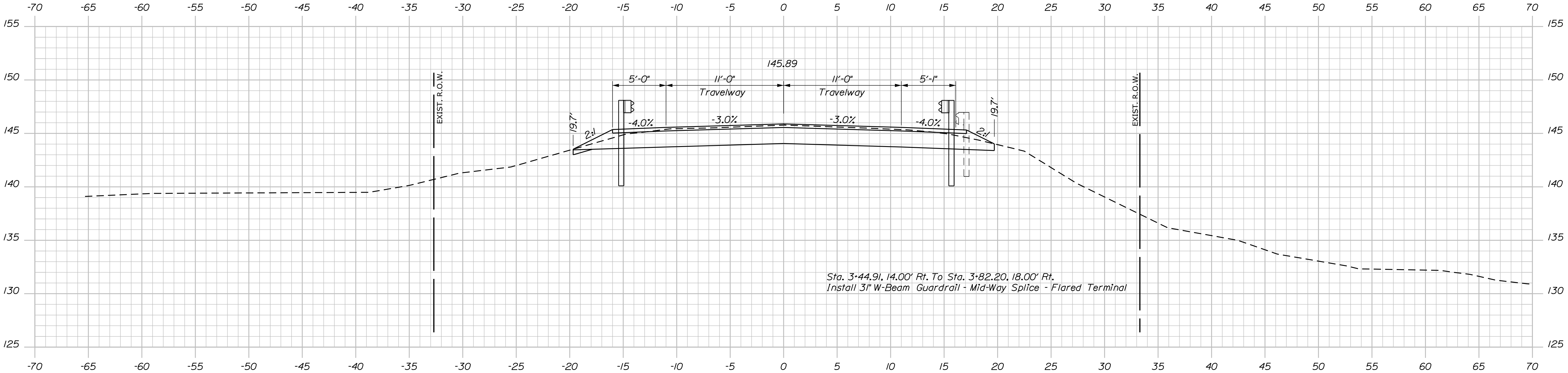


Date:4/2/2020

Username: Mark Poulin

Division: BRIDGE

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PROJ. MANAGER	D. EATON	BY	DATE
CHECKED-REVIEWED	STANTEC	STANTEC	MAR 2018
DESIGN-DETAILED	K. NASH	MRP	FEB 2020
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

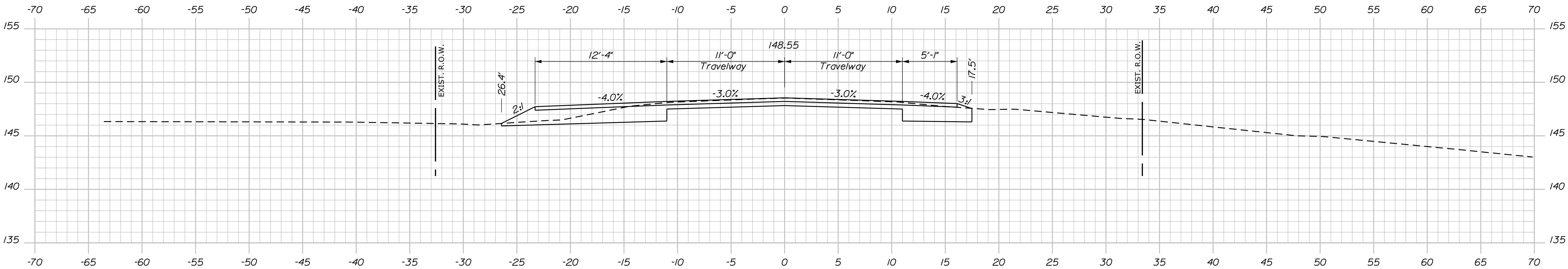
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Date:4/2/2020

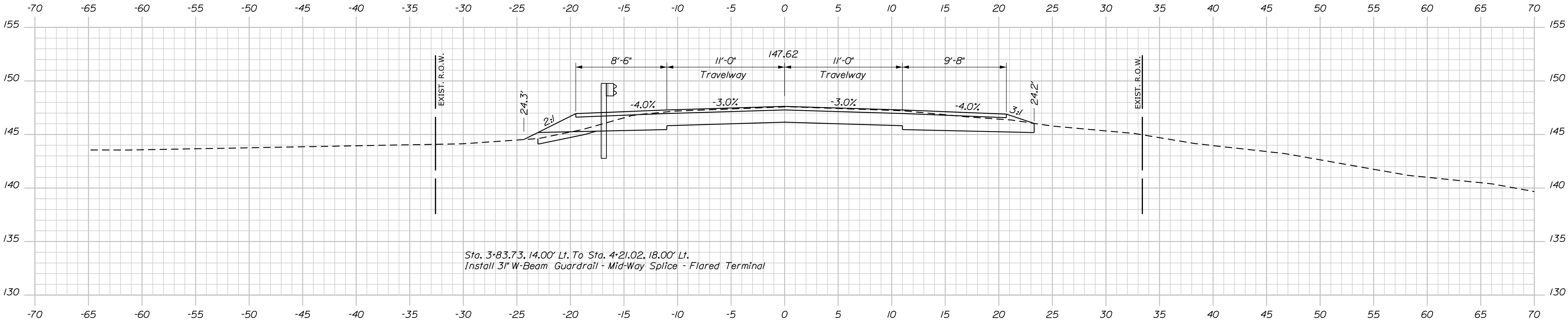
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Division: BRIDGE

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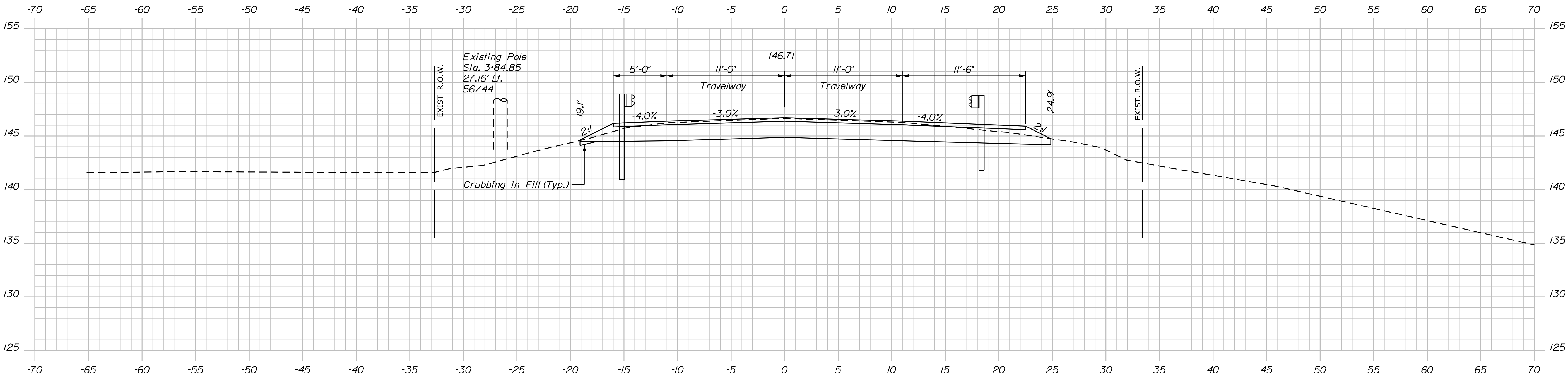


4+25.00



Sta. 3+83.73, 14.00' Lt. To Sta. 4+21.02, 18.00' Lt.
Install 31" W-Beam Guardrail - Mid-Way Splice - Flared Terminal

Sta. 3+93.43 End Project
Begin Transition 4+00.00



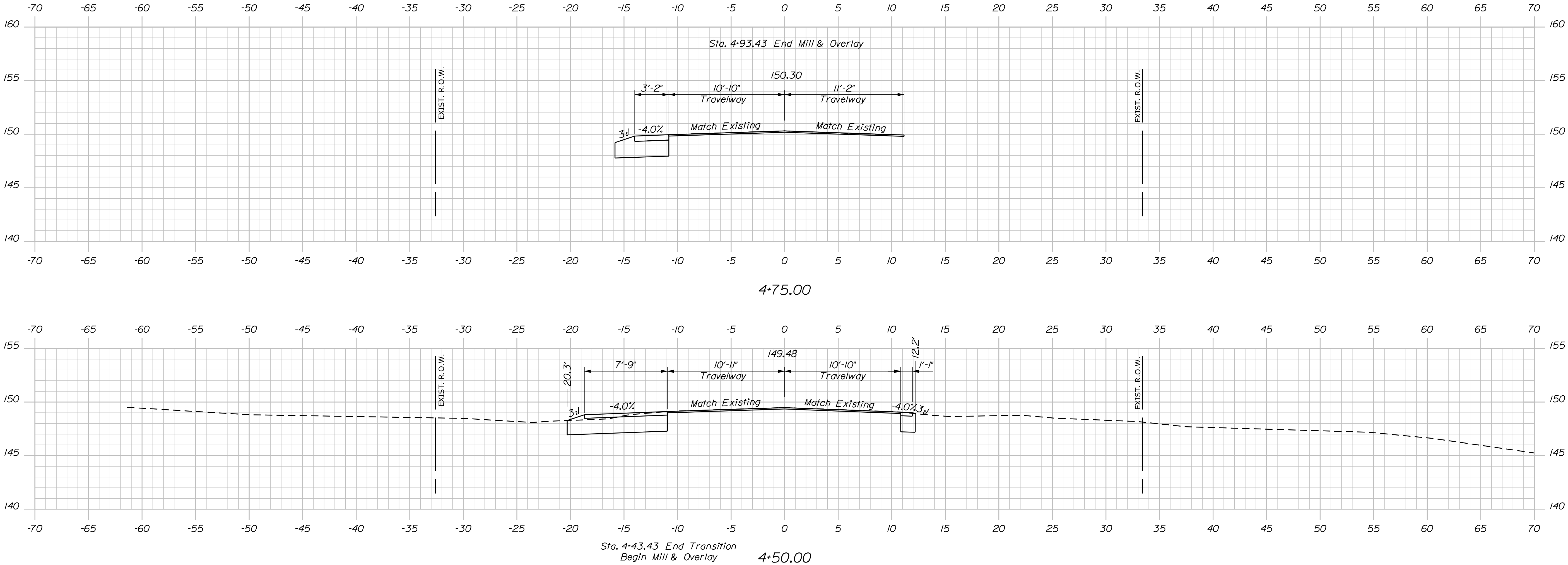
3+75.00

PROJ. MANAGER	D. EATON	BY	DATE
DESIGNED-DETAILED	STANTEC	STANTEC	MAR 2018
CHECKED-REVIEWED	STANTEC	MRP	FEB 2020
DESIGNED-DETAILED	K. NASH		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

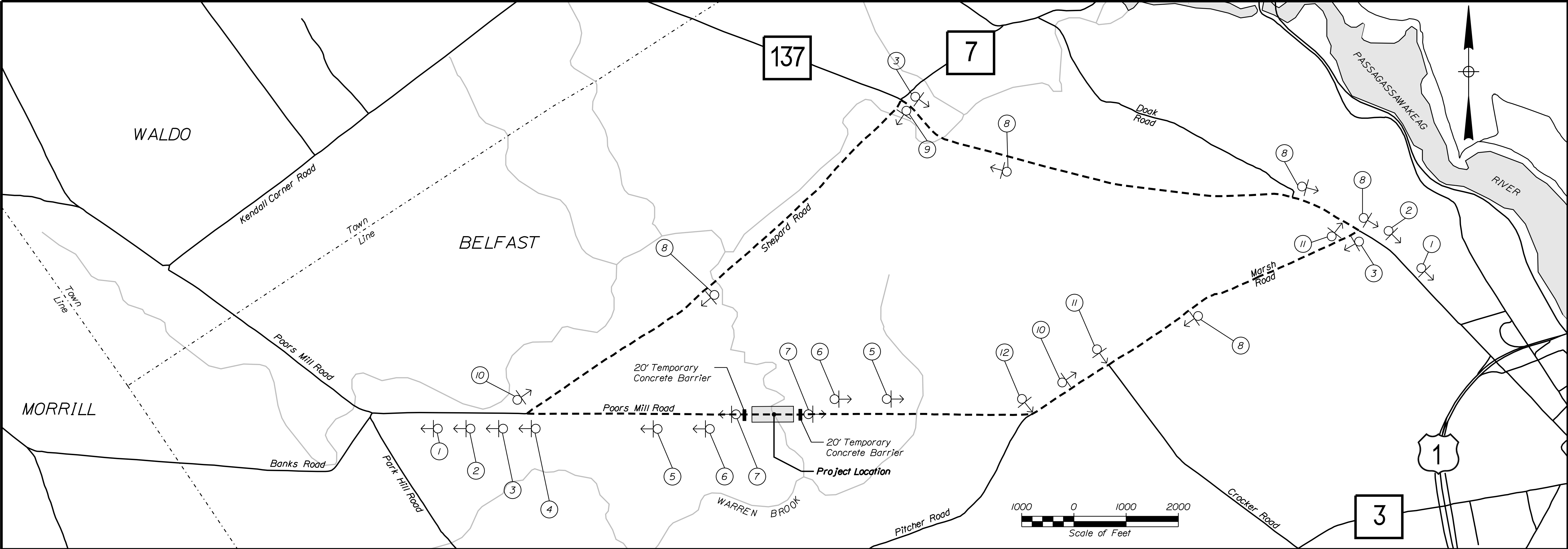


STATE OF MAINE DEPARTMENT OF TRANSPORTATION	SIGNATURE		DATE
	STP-2166(600)		P.E. NUMBER
	WIN		DATE
BRIDGE NO. 5557		021666.00	
BRIDGE PLANS			

PROJ. MANAGER	D. EATON	BY	DATE
CHECKED-REVIEWED	STATTEC	STATTEC	MAR 2018
DESIGNED-DETAILED	K. NASH	MRP	FEB 2020
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHELDON BRIDGE WARREN BROOK BELFAST	WALDO COUNTY
CROSS SECTIONS	

SHEET NUMBER
15
OF 17



1		W20-3	7		R11-2 On Type III Barricades
2		W20-2	8		D3-1 M4-9S
3		D3-1 M4-9L	9		D3-1 M4-9R
4		R11-3a M4-10L	10		M4-8a
5		W20-3	11		CS-1 M4-10R
6		W20-3	12		R11-3a M4-10R

ROAD CLOSURE & DETOUR SIGN SUMMARY			
Text	ID Number	Size	Quantity & Color
	CS-1	60" X 30"	2 - Black on White
	D3-1	42" X 8"	9 - Black on Orange
	M4-8a	24" X 18"	2 - Black on Orange
	M4-9R	30" X 24"	1 - Black on Orange
	M4-9L	30" X 24"	3 - Black on Orange
	M4-9S	30" X 24"	5 - Black on Orange
	M4-10R	48" X 18"	3 - Black on Orange
	M4-10L	48" X 18"	1 - Black on Orange
	R11-2	48" X 30"	2 - Black on White
	R11-3a	60" X 30"	2 - Black on White
	W20-2	36" X 36"	2 - Black on Orange
	W20-3	36" X 36"	6 - Black on Orange

Notes:
1. Contractor shall cover all existing signs that conflict with construction signing. This shall be incidental to 652.35 Construction Signs.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-2166(600)

BRIDGE NO. 5557
WIN
021666.00
BRIDGE PLANS

PROJ. MANAGER
D. EATON

CHECKED-REVIEWED
STANTEC

DESIGNED-DETAILED
K. NASH

REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE
MAR 2018
FEB 2020

BY
STANTEC
MRP

SIGNATURE
P.E. NUMBER
DATE

SHELDON BRIDGE
WARREN BROOK
BELFAST

WALDO COUNTY

DETOUR MAP

SHEET NUMBER

16

OF 17

Date:4/2/2020

Username: Mark Poulin

Division: BRIDGE

Filename: ... \00\ROW\MSTA001_RWP\PLAN1.dgn

