

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Fifth Edition 2010.

DESIGN LOADING

Live Load HL - 93 Modified

TRAFFIC DATA

Current (2010) AADT430
Future (2030) AADT650
DHV - % of AADT 10
Design Hour Volume 65
Heavy Trucks (% of AADT)..... 9
Heavy Trucks (% of DHV)..... 7
Directional Distribution (% of DHV)..... 60
18 kip Equivalent P 2.0 17
18 kip Equivalent P 2.5 16
Design Speed (mph) 40

HYDROLOGIC DATA

Drainage Area14.3 sq mi
Design Discharge (Q50) 627.6 cfs
Check Discharge (Q100) 717.4 cfs
Headwater Elevation (Q50) 552.00 ft
Headwater Elevation (Q100) 552.57 ft
Discharge Velocity (Q50) 10.9 fps
Discharge Velocity (Q100)..... 11.4 fps

MATERIALS

Concrete:
Precast Class "P"
Fill "Fill"
Reinforcing Steel ASTM A 615/A 615M, Grade 60
Prestressing Strands AASHTO 203 (ASTM A 416),
Grade 270, Low Relaxation
Structural Steel:
All Material (except as noted) ASTM A 709, Grade 50W (unpainted)
High Strength Bolts ASTM A 325, Type 3

BASIC DESIGN STRESSES

CIP Concrete f 'c = 4,350 psi
Precast Concrete f 'c = 6,000 psi
Reinforcing Steel f y = 60,000 psi
Prestressing Strand F pu = 270,000 psi

UTILITIES

Central Maine Power Company
Fairpoint Communications
Metrocast Cablevision

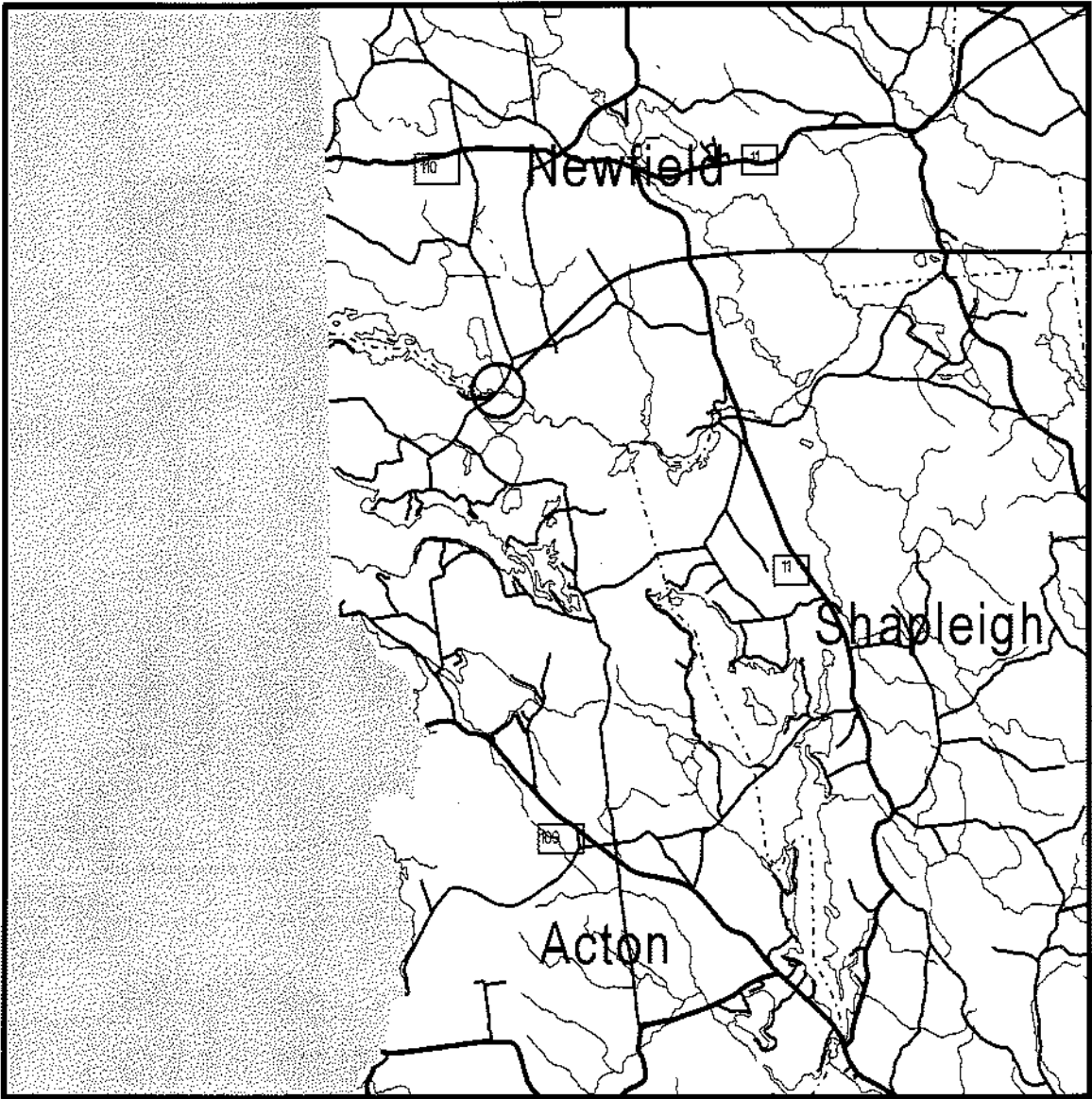
MAINTENANCE OF TRAFFIC

Traffic will be maintained utilizing a combination of a bridge closure (for a maximum of two weeks) and then staged construction for the remainder of the project.

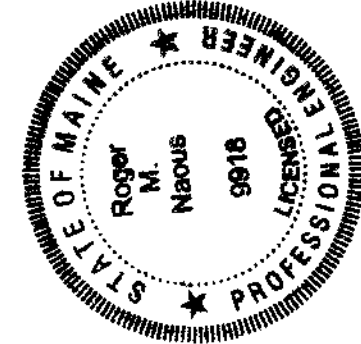
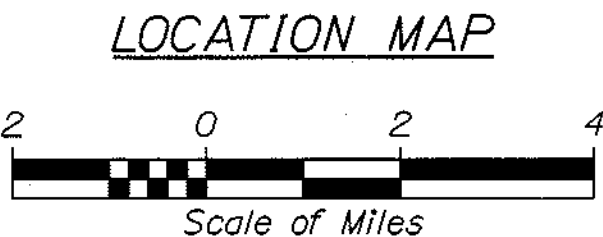
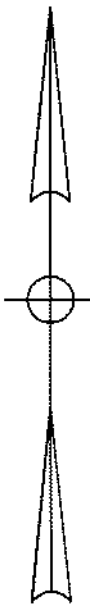
LIST OF DRAWINGS

Title Sheet	1
Quantities & Notes	2
General Plan	3
Profile	4
Highway Approach Cross - Sections.....	5-11
Precast Box Culvert Plan.....	12
Precast Box Culvert Elevation & Section.....	13
Stage Construction	14
Temporary Detour.....	15
Right of Way Map.....	16

ACTON
YORK COUNTY
BALCH MILLS BRIDGE
OVER
LITTLE OSSIPEE RIVER
ACTON BRIDGE ROAD
PROJECT NUMBER BR-1667(600)X
BRIDGE CULVERT REPLACEMENT
PROJECT LENGTH 0.014 mi.
BRIDGE NO. 3300



PROJECT



SIGNATURE
P.E. NUMBER
DATE

PROGRAM	BRIDGE PROGRAM
PROJECT MANAGER	NATE BENDIT
DESIGNER	ROGER NADEAU
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

ACTON
BALCH MILLS BRIDGE
TITLE SHEET

SHEET NUMBER

1

OF 16

BR-1667(600)X PIN 16676.00

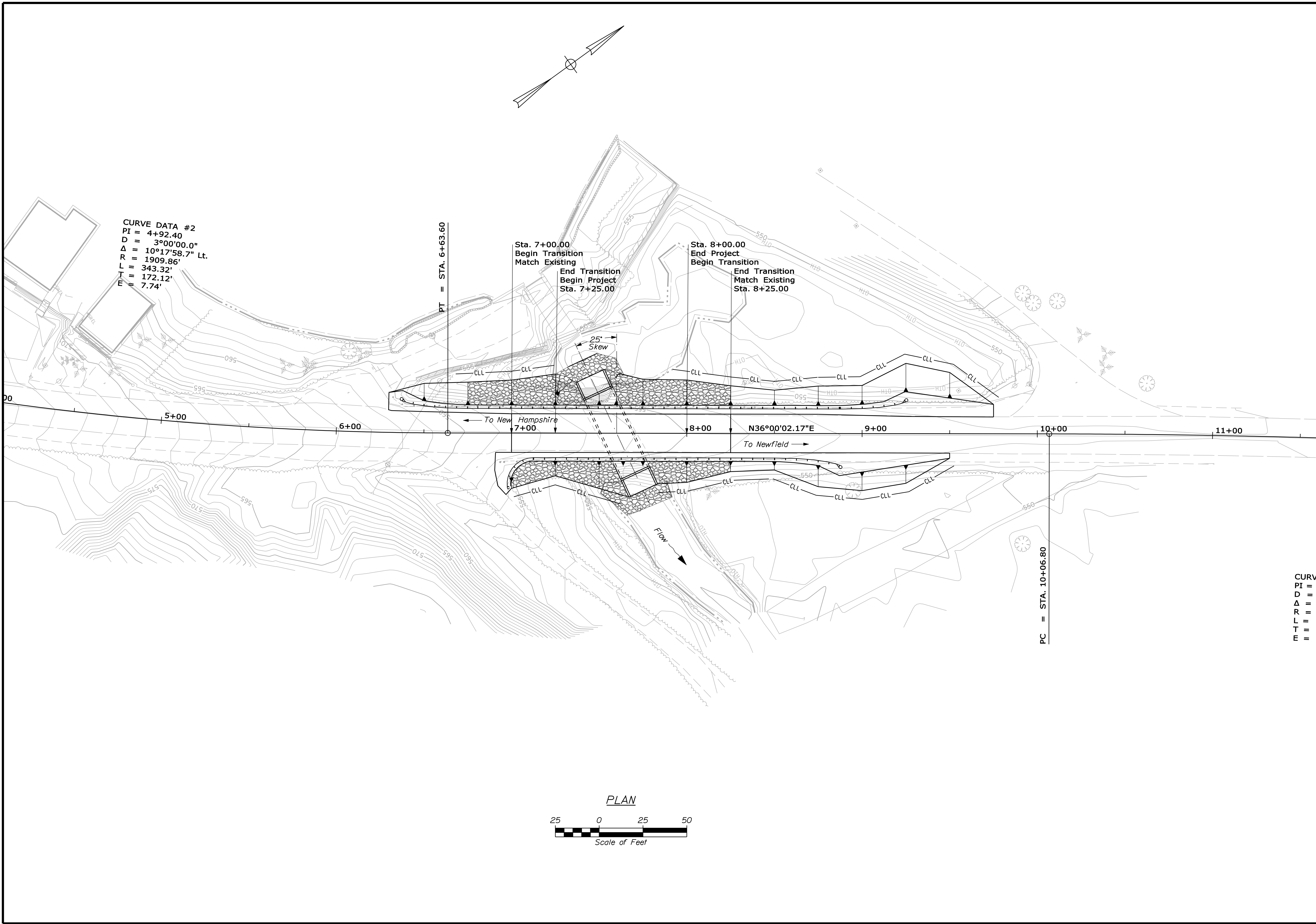
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	DATE 11/1/10
APPROVED	11/6/10
COMMISSIONER:	
CHIEF ENGINEER:	

Date:11/4/2010

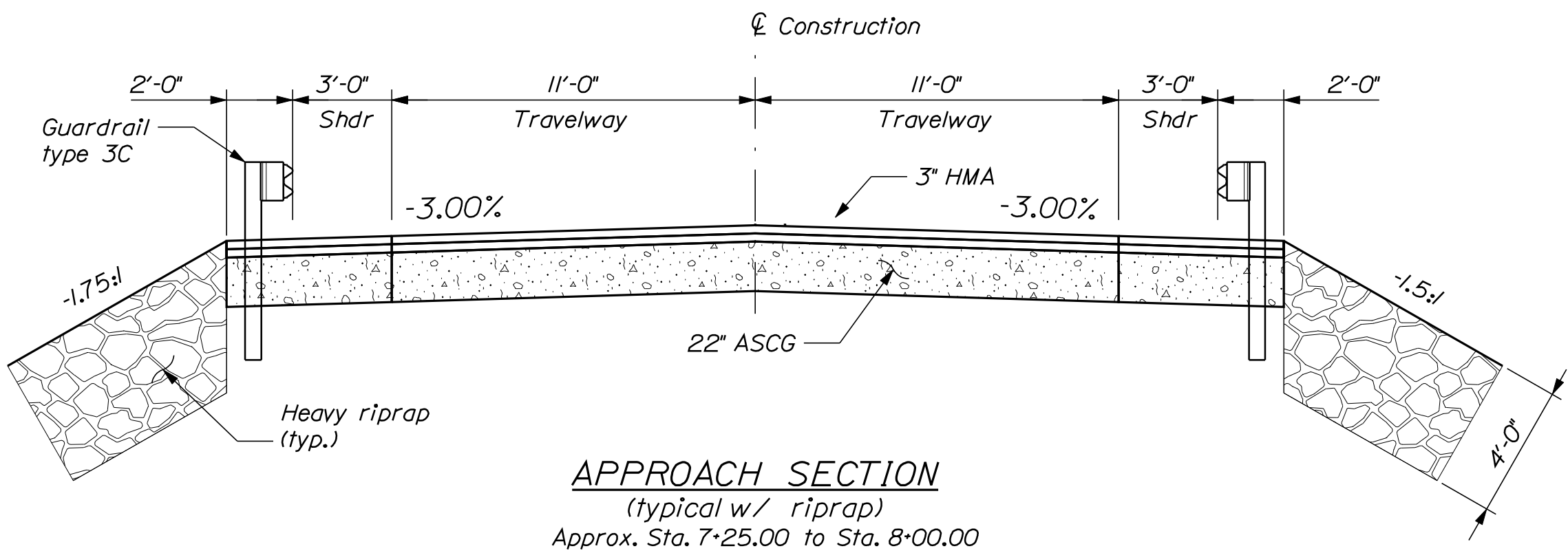
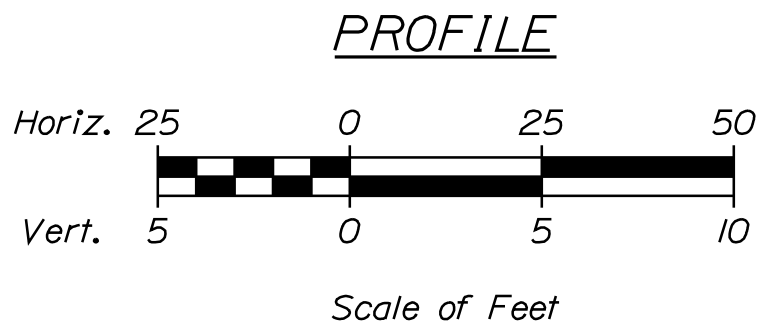
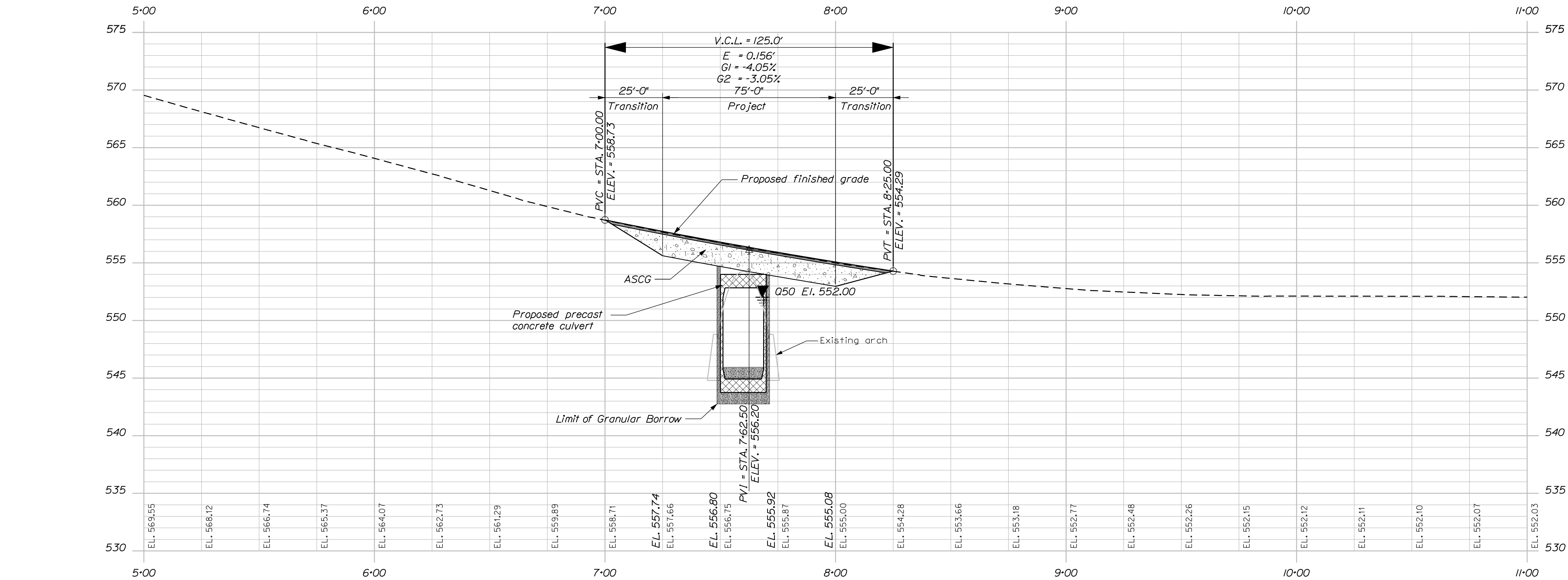
Username: dlon.nadeau

Division: BRIDGE

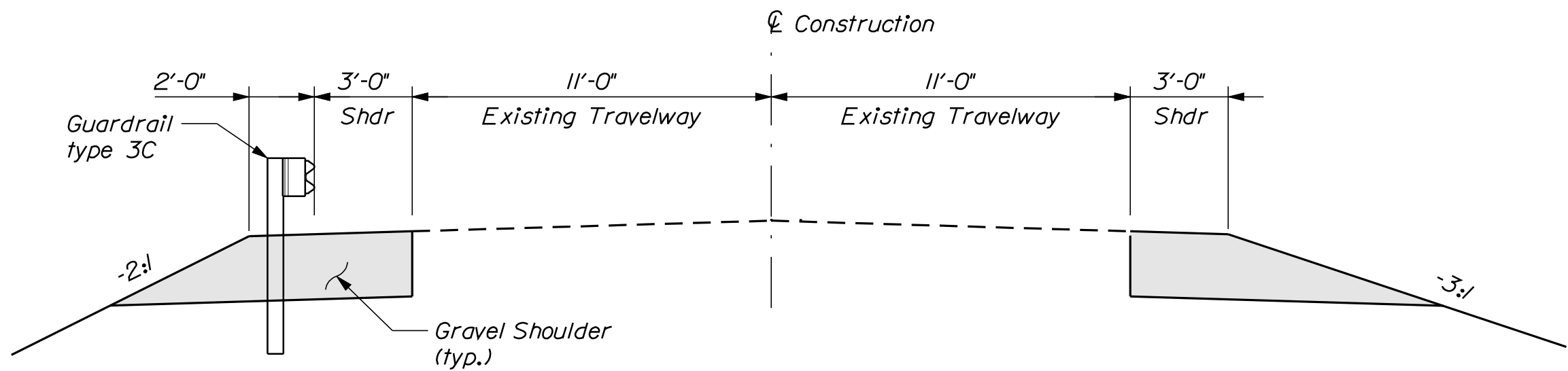
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SHEET NUMBER 3 OF 16	BALCH MILLS BRIDGE LITTLE OSSIPEE RIVER ACTON YORK COUNTY PRELIMINARY DESIGN	PROJ. MANAGER		N. Benoit	BY	DATE		
		DESIGN-DETAILED		RN	ADN			
		CHECKED-REVISED						
		DESIGN2-DETAILED2		MAP				
		DESIGN3-DETAILED3						
		REVISIONS 1				P.E. NUMBER		
		REVISIONS 2						
		REVISIONS 3						
		REVISIONS 4				DATE		
		FIELD CHANGES						
			BRIDGE NO. 3300				PIN 16676.00	BRIDGE PLANS
							BR-1667(600)X	
							STATE OF MAINE DEPARTMENT OF TRANSPORTATION	



APPROACH SECTION
(typical w/ riprap)
Approx. Sta. 7+25.00 to Sta. 8+00.00



Approx. Left
Sta. 6+25.00 to Sta. 7+25.00,
Sta. 8+00.00 to Sta. 9+90.00

APPROACH SECTION
(shoulder work only - typical)

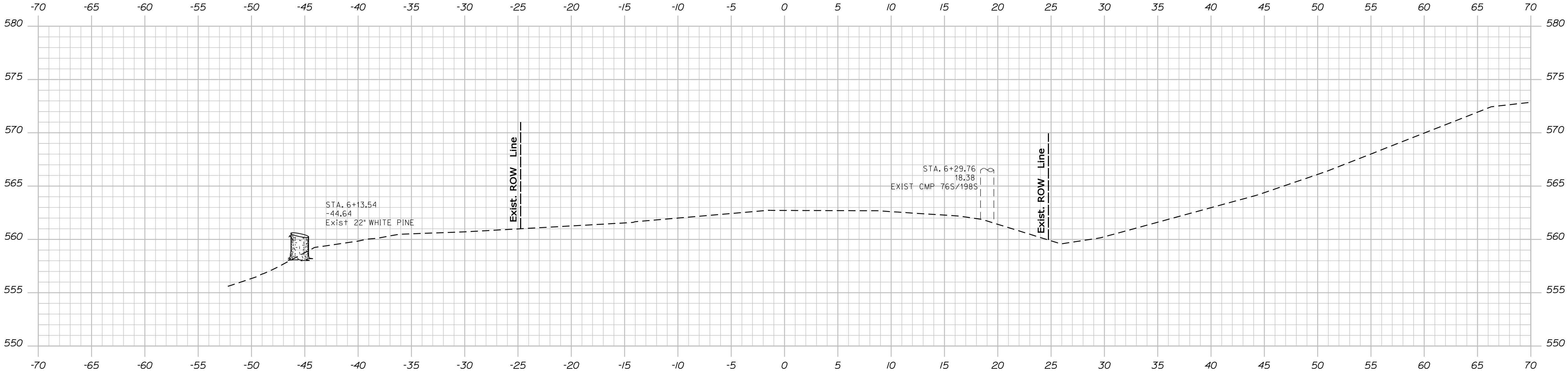
Approx. Right
Sta. 6+90.00 to Sta. 7+25.00,
Sta. 8+00.00 to Sta. 9+50.00

Date:11/3/2010

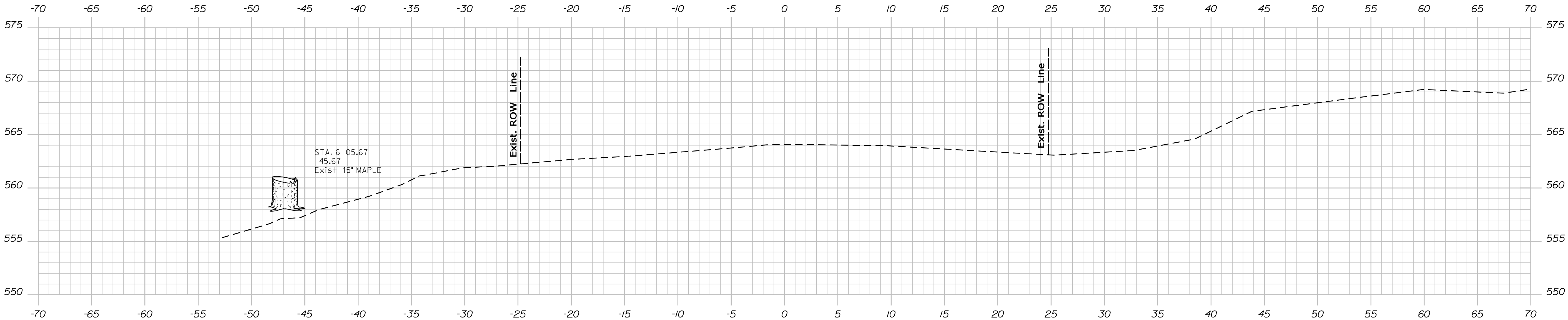
Username: alan.nadeau

Division: BRIDGE

Filename: ... \msta\005_XSECT_6+00_001.dgn



Sta. 6+37.65, 17.99' Lt.. to Sta. 6+75.00, 14.00' Lt..
 Install Low Volume Guard Rail End Type 3C



6+00.00

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
BR-1667(600)X	
BRIDGE NO. 3300	PIN 16676.00
BRIDGE PLANS	

PROJ. MANAGER	N. Benoit	BY	DATE
CHECKED-DETAILED	RN	ADN	
DESIGNED-DETAILED	MAP		SIGNATURE
REVISIONS 1			P.E. NUMBER
REVISIONS 2			DATE
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BALCH MILLS BRIDGE	
LITTLE OSSISPEE RIVER	
YORK COUNTY	
ACTON	
CROSS SECTIONS	

SHEET NUMBER
5
OF 16

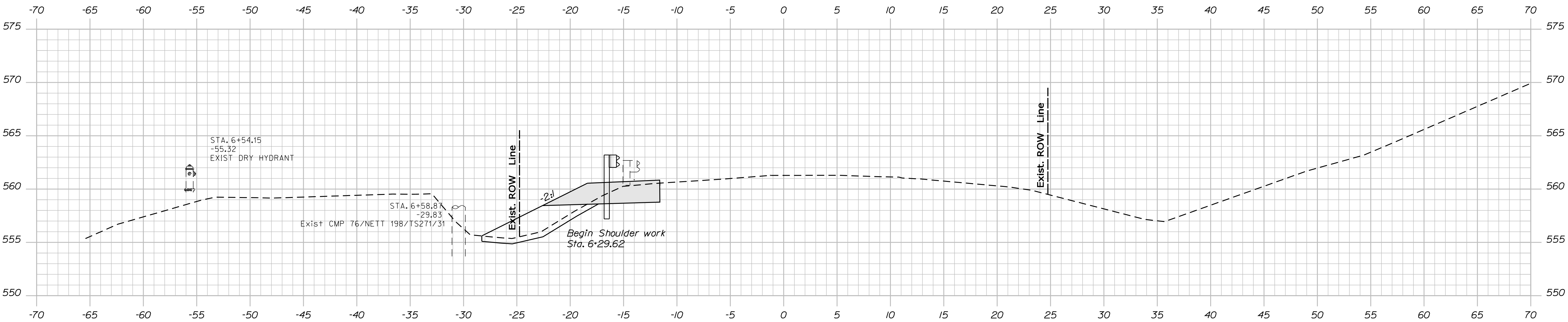
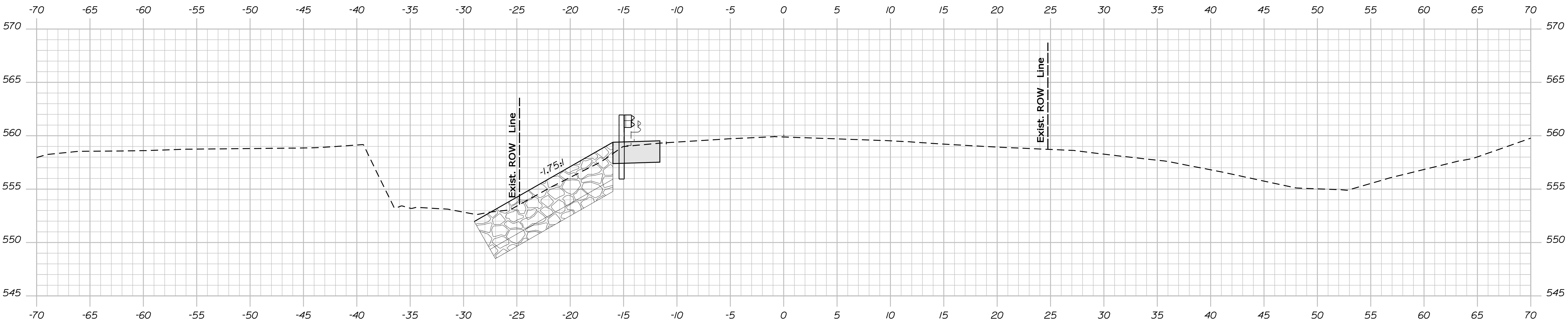
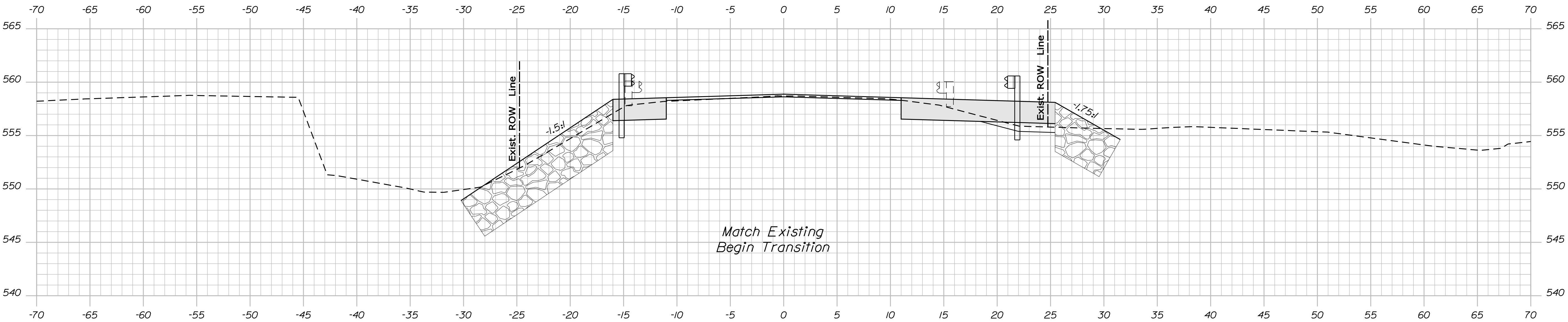
Sta. 6+00.00 to Sta. 6+25.00

Date:11/3/2010

Username: alan.nadeau

Division: BRIDGE

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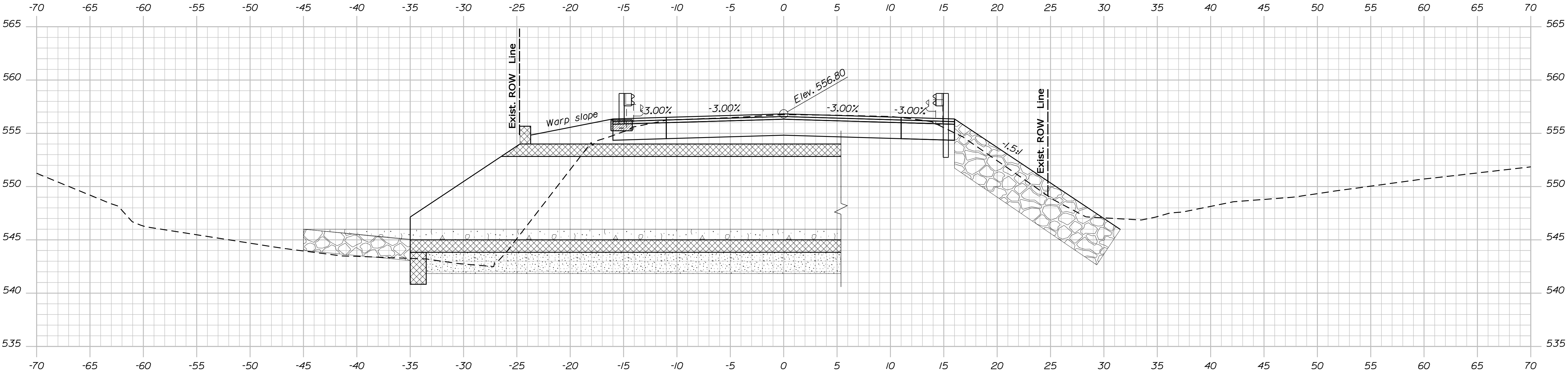
STATE OF MAINE				DEPARTMENT OF TRANSPORTATION			
BR-1667(600)X				BRIDGE NO. 3300			
PIN				16676.00			
BRIDGE PLANS							
PROJECT NAME		PROJECT NO.		DATE		SIGNATURE	
BALCH MILLS BRIDGE		YORK COUNTY		BY		P.E. NUMBER	
LITTLE OSSIPPEE RIVER		ACTON		DATE		DATE	
CROSS SECTIONS		SHEET NUMBER		FIELD CHANGES		REVISIONS 1	
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		OF 16				REVISIONS 3	
						REVISIONS 4	

Date:11/3/2010

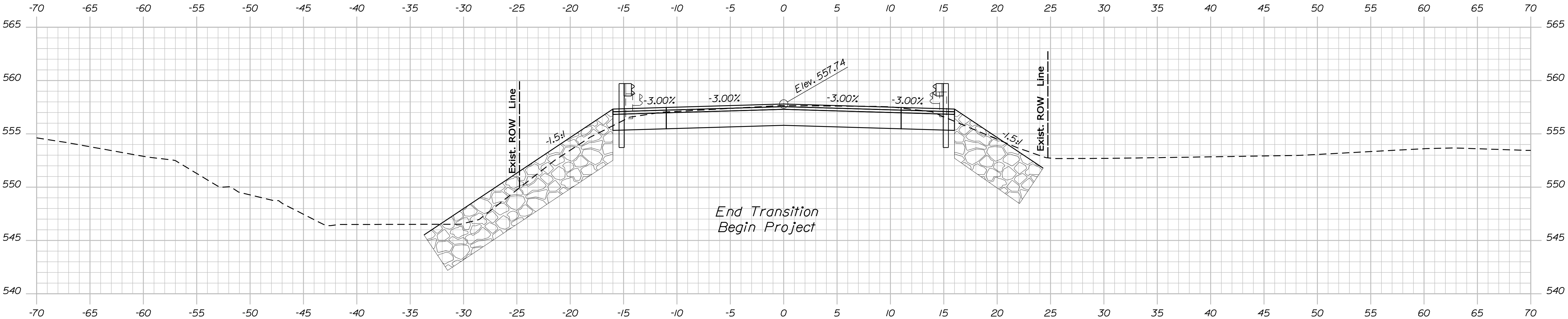
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Division: BRIDGE

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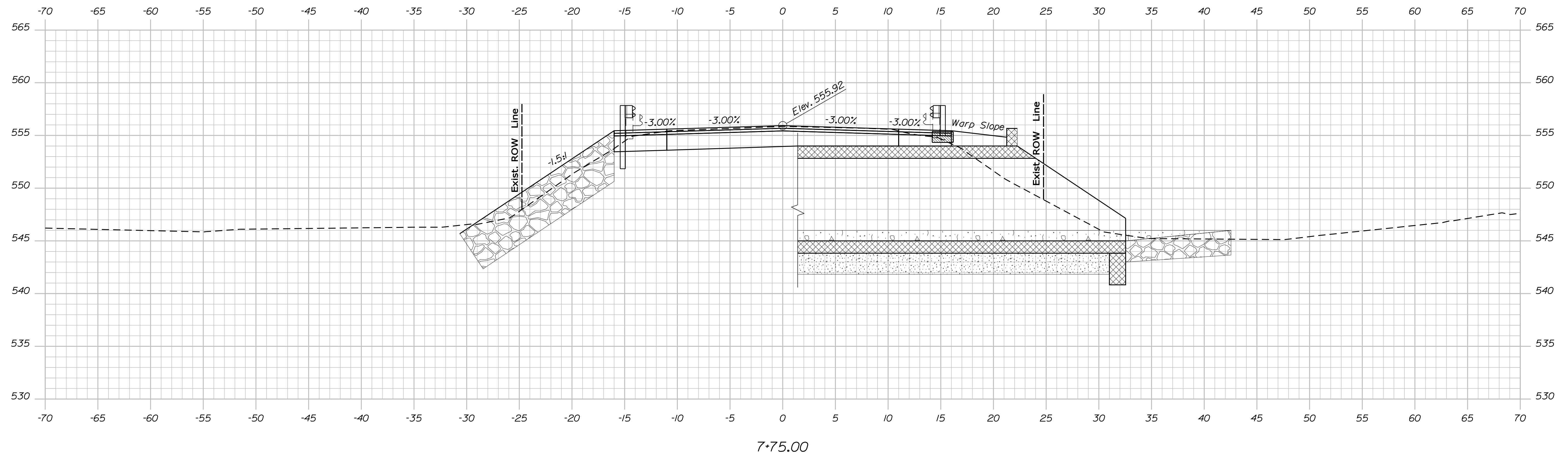
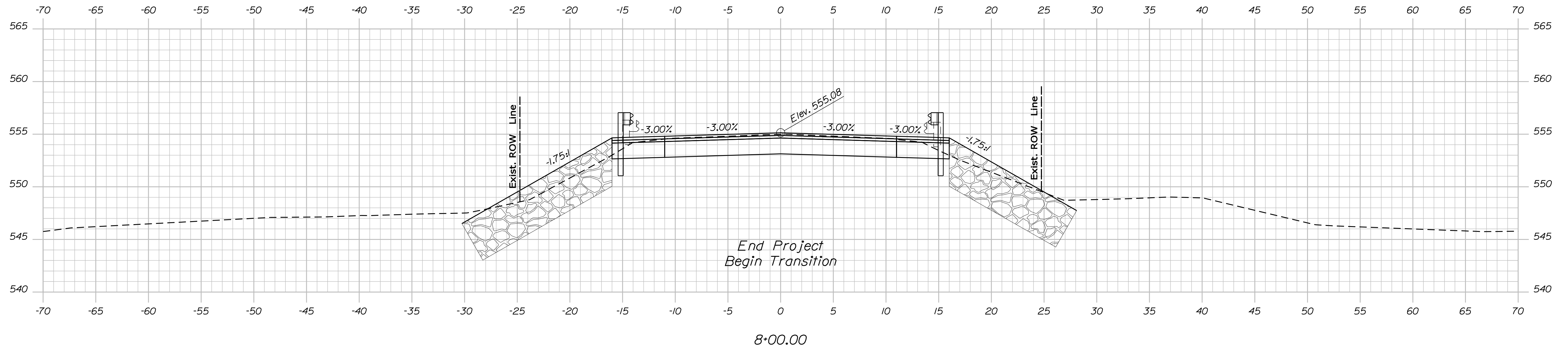
7+50.00



End Transition
Begin Project

7+25.00

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		BR-1667(600)X	
BRIDGE NO. 3300		PIN		16676.00	
BRIDGE PLANS					
BALCH MILLS BRIDGE		LITTLE OSSIPPEE RIVER		YORK COUNTY	
ACTON		CROSS SECTIONS			
SHEET NUMBER					
7					
OF 16					



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1667(600)X

BRIDGE NO. 3300	16676.00	BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE _____

DESIGN-DETAILED	RN	AIN
CHECKED-REVIEWED		
CHECKED-DETAILED2	MAP	
DESIGN-3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

ACTON
LITTLE OSSISPEE RIVER
DALCH MILLS BRIDGE
YORK COUNTY

CROSS SECTIONS

SHEET NUMBER

3

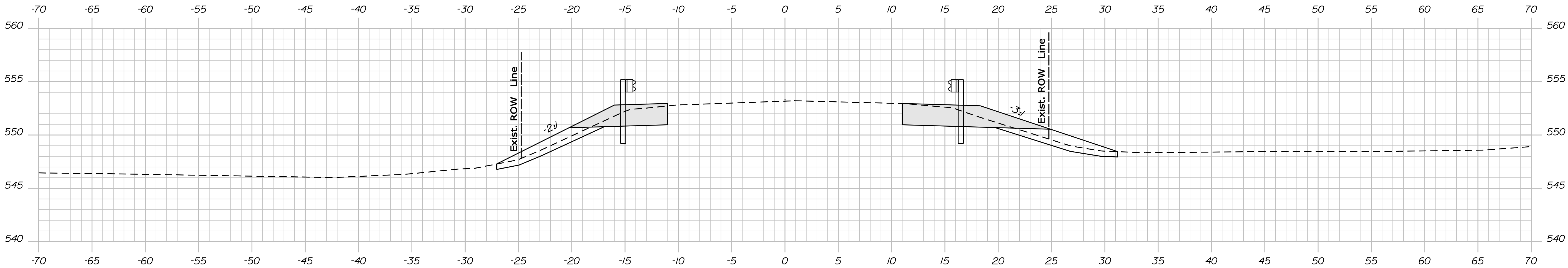
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Date:11/3/2010

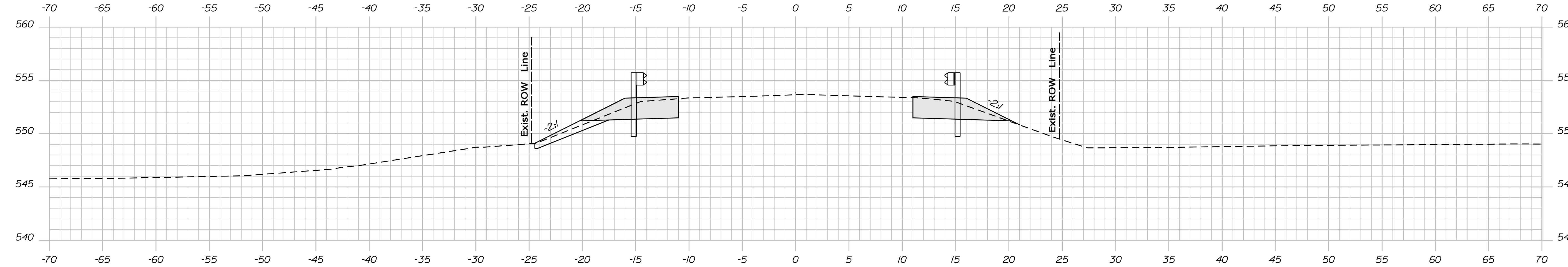
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Division: BRIDGE

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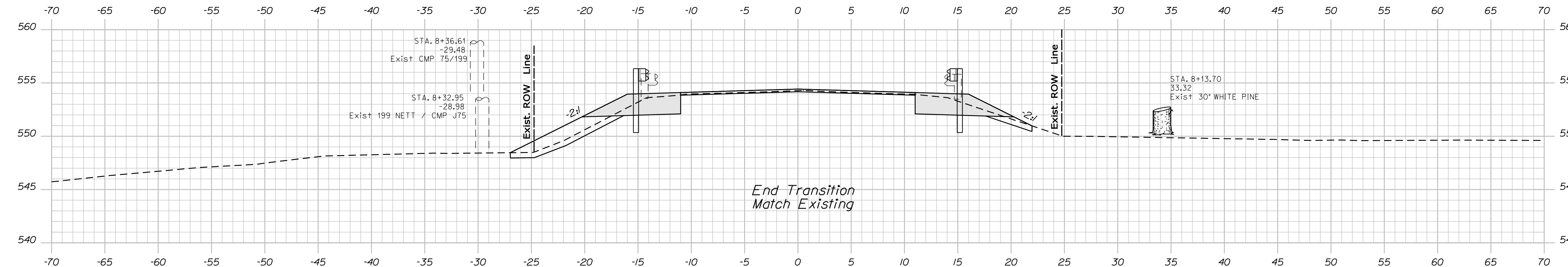


8+75.00



8+50.00

Sta. 8+50.00, 14.00' Rt. to Sta. 8+87.13, 18.00' Rt.
Install Low Volume Guardrail End Type 3C



End Transition
Match Existing

8+25.00

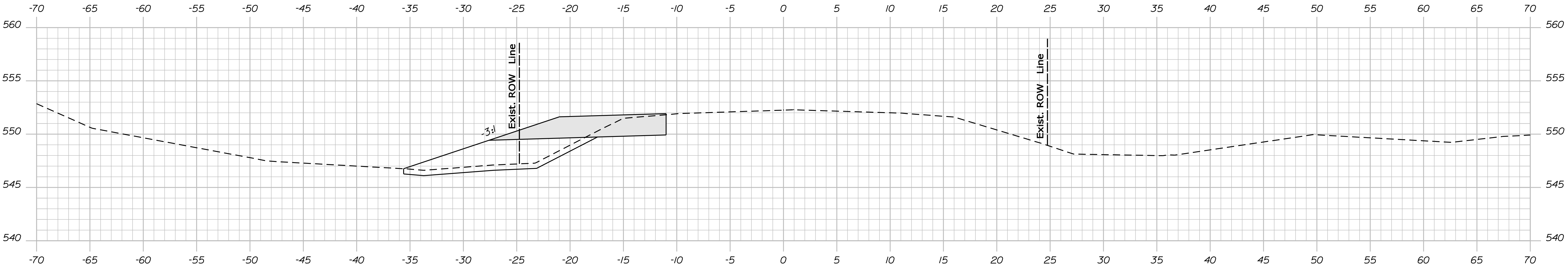
STATE OF MAINE			
DEPARTMENT OF TRANSPORTATION			
BR-1667(600)X			
BRIDGE NO. 3300		PIN 16676.00	
BRIDGE PLANS			
PROJECT MANAGER		BY	
DESIGN-DETAILED		ADN	
CHECKED-REVIEWED		RN	
DESIGN2-DETAILED2		MAP	
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
BALCH MILLS BRIDGE		YORK COUNTY	
LITTLE OSSIPPEE RIVER			
ACTON			
CROSS SECTIONS			
SHEET NUMBER		9	
OF 16			

Date:11/3/2010

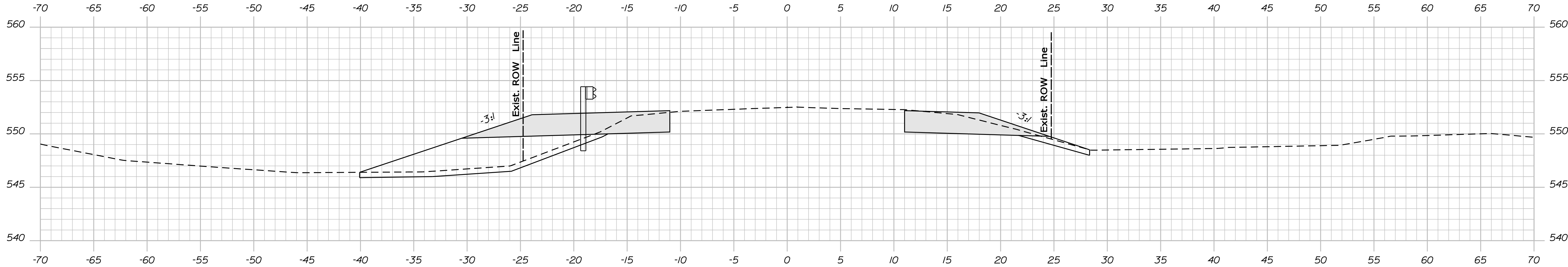
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Division: BRIDGE

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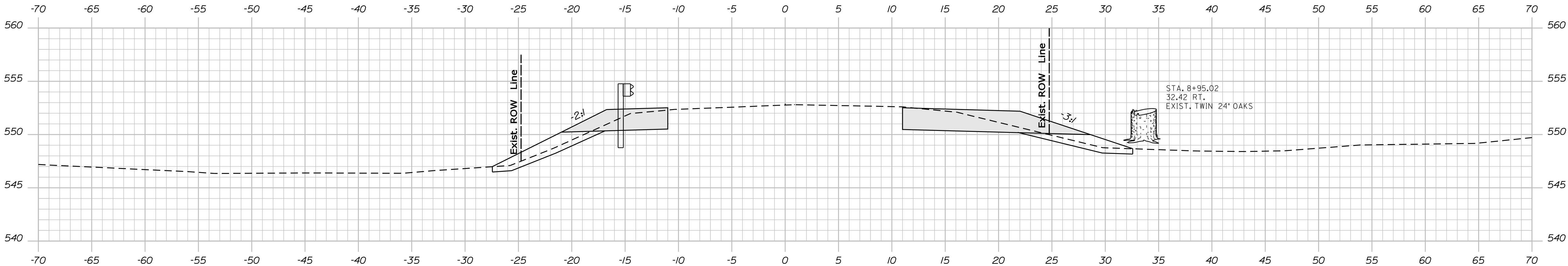


9+50.00



9+25.00

Sta. 8+75.00, 14.00 Lt.. to Sta. 9+25.00, 18.00 Lt.
Install Guardrail End 350 Flair Type 3C



9+00.00

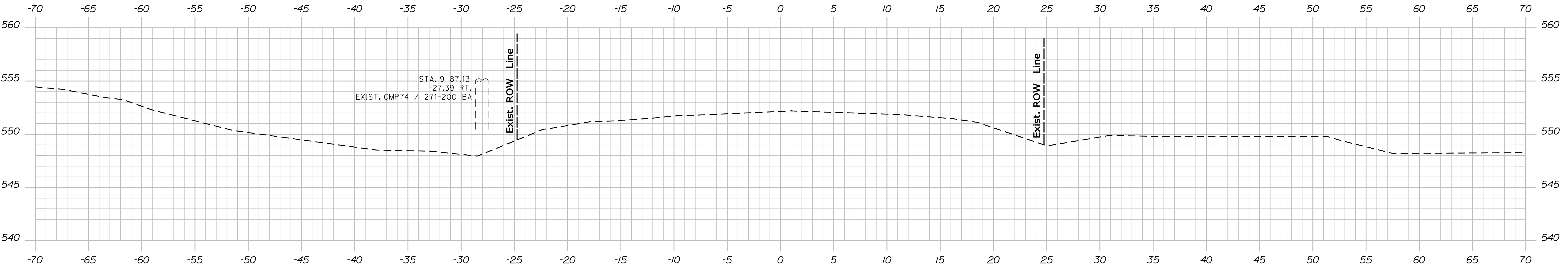
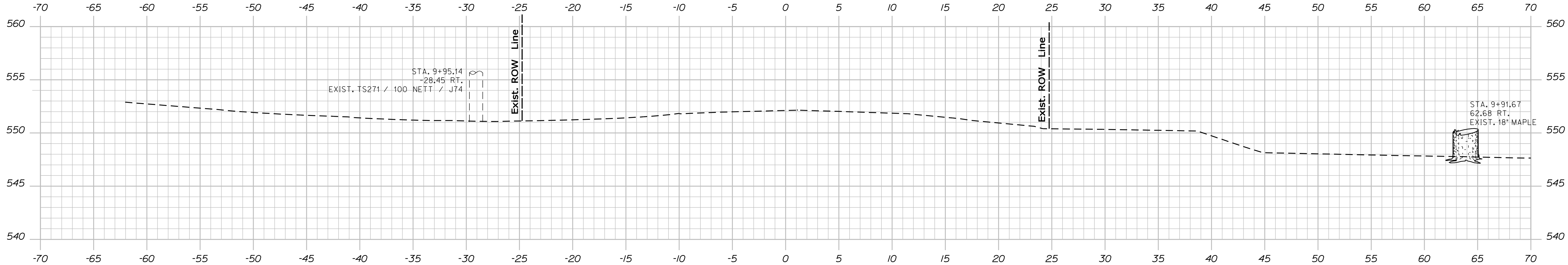
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1667(600)X	
	BRIDGE NO. 3300	PIN 16676.00
	BRIDGE PLANS	
BALCH MILLS BRIDGE LITTLE OSSIPPEE RIVER YORK COUNTY ACTON	PROJ. MANAGER	N. Benoit
	CHECKED-REVIEWED	RN
	DESIGN-DETAILED	MAP
	DESIGN-DETAILED	MAP
CROSS SECTIONS	REVISIONS 1	
	REVISIONS 2	
	REVISIONS 3	
	REVISIONS 4	
SHEET NUMBER 10 OF 16	DATE	
	BY	
	DATE	
	BY	

Date:11/3/2010

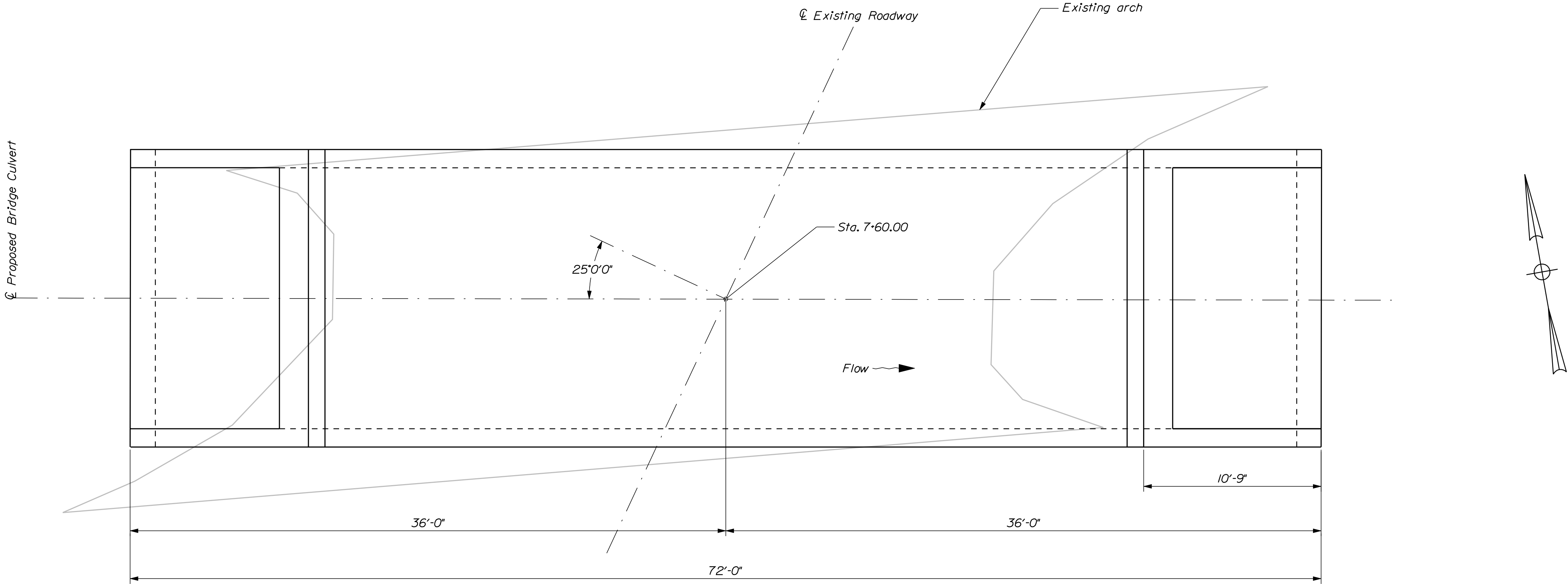
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Division: BRIDGE

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BALCH MILLS BRIDGE LITTLE OSSISPEE RIVER YORK COUNTY												SHEET NUMBER 11 OF 16															
ACTON												CROSS SECTIONS															
PROJ. MANAGER				N. Benoit				BY				DATE				SIGNATURE				P.E. NUMBER				DATE			
DESIGN-DETAILED				RN				ADN																			
CHECKED-REVIEWED				MAP																							
DESIGN-DETAILED																											
REVISIONS 1																											
REVISIONS 2																											
REVISIONS 3																											
REVISIONS 4																											
FIELD CHANGES																											



BOX CULVERT PLAN

PRECAST CONCRETE BOX NOTES

1. The precast units shall be designed to carry construction loadings with a minimum fill cover of 25 inches 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 post-tensioning strands in the corners of culvert units. There shall be a minimum of 4 - 0.6" low relaxation strands post tensioned to 44 Kips each.

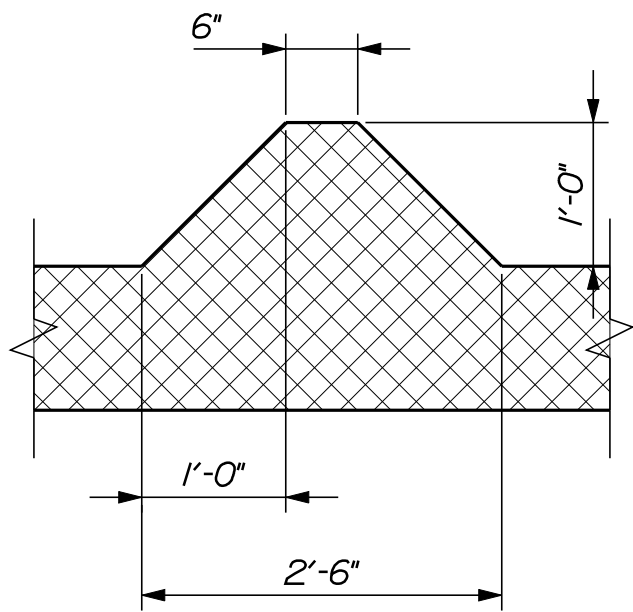
BALCH MILLS BRIDGE LITTLE OSSIPPEE RIVER YORK COUNTY ACTON				PROJ. MANAGER N. Benoit		BY ADN	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION			
PRECAST BOX CULVERT PLAN				DESIGN-DETAILED RN				SIGNATURE			
				CHECKED-REVIEWED MAP							
				DESIGN3-DETAILED3							
				REVISIONS 1			P.E. NUMBER				
				REVISIONS 2							
				REVISIONS 3				DATE			
				REVISIONS 4							
				FIELD CHANGES							
SHEET NUMBER								BRIDGE NO. 3300		PIN 16676.00	BRIDGE PLANS
12											
OF 16											

Date:11/3/2010

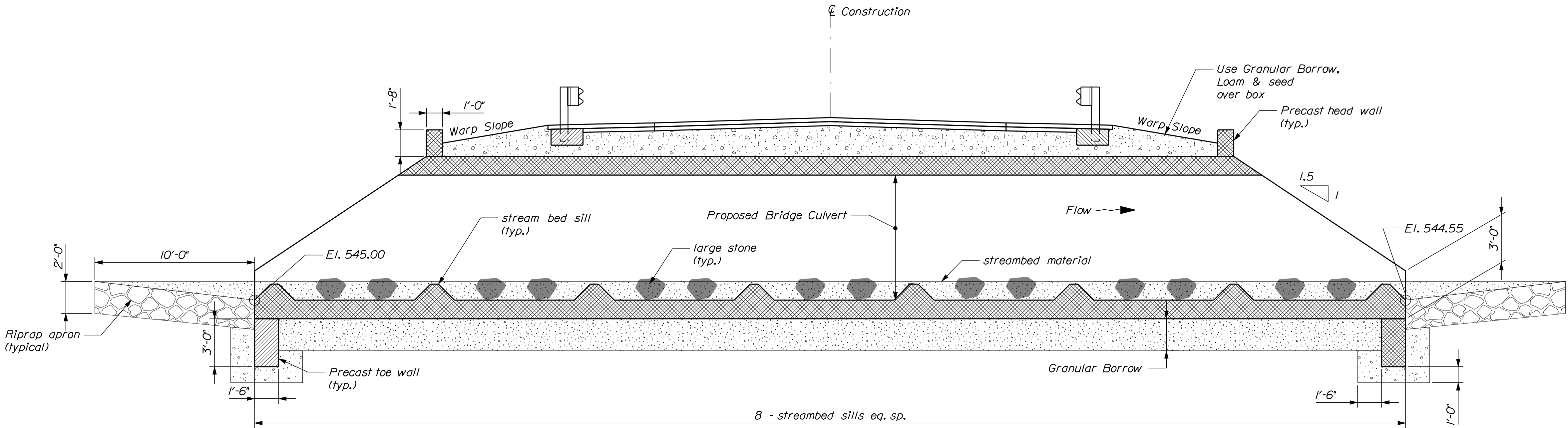
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Division: BRIDGE

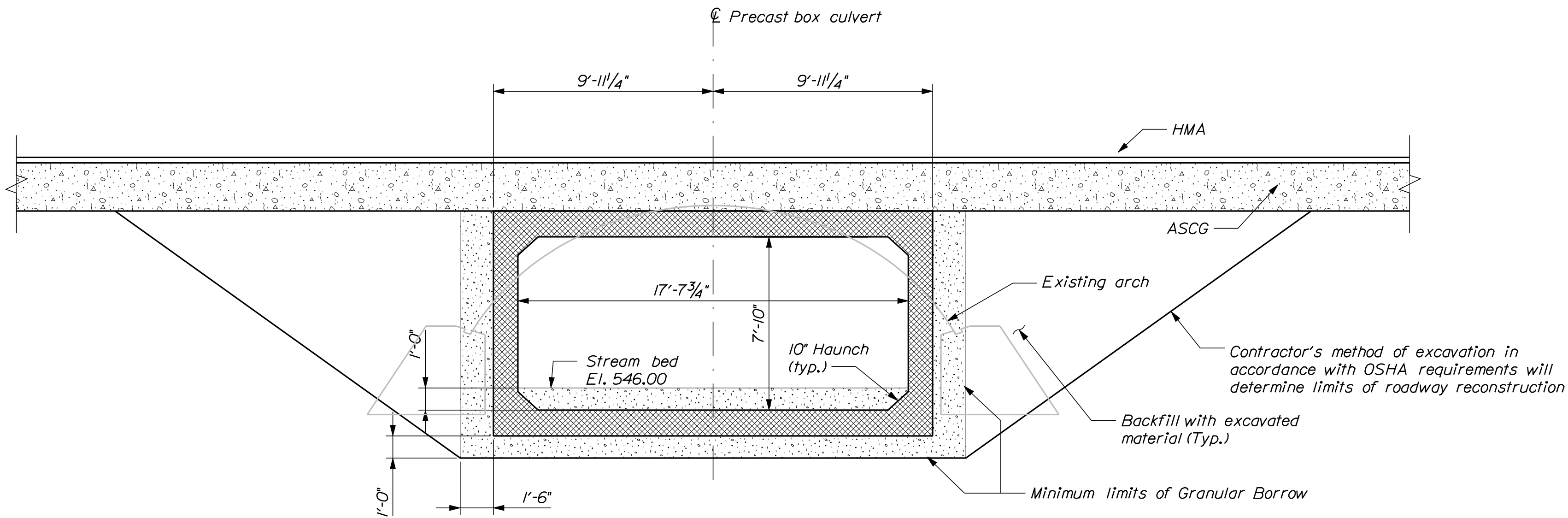
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STREAMBED SILL
(typical)



TRANSVERSE SECTION
(along centerline of Box Culvert)

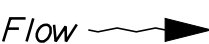


BRIDGE CULVERT SECTION
(along centerline of Construction)

STATE OF MAINE DEPARTMENT OF TRANSPORTATION BR-1667(600)X	BRIDGE NO. 3300 PIN 16676.00 BRIDGE PLANS	
	PROJECT MANAGER CHECKED-REVIEWED DESIGNED-DETAILED DESIGNED-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	DATE BY ADN MAP DATE DATE DATE DATE DATE
	SIGNATURE P.E. NUMBER DATE	
BALCH MILLS BRIDGE LITTLE OSSISPEE RIVER YORK COUNTY ACTON PRECAST ELEV. & SECT.		
SHEET NUMBER 13 OF 16		



STAGE 1



STAGE II



STAGE III

STAGE CONSTRUCTION NOTES

STAGE 1

Close bridge to traffic during removal.

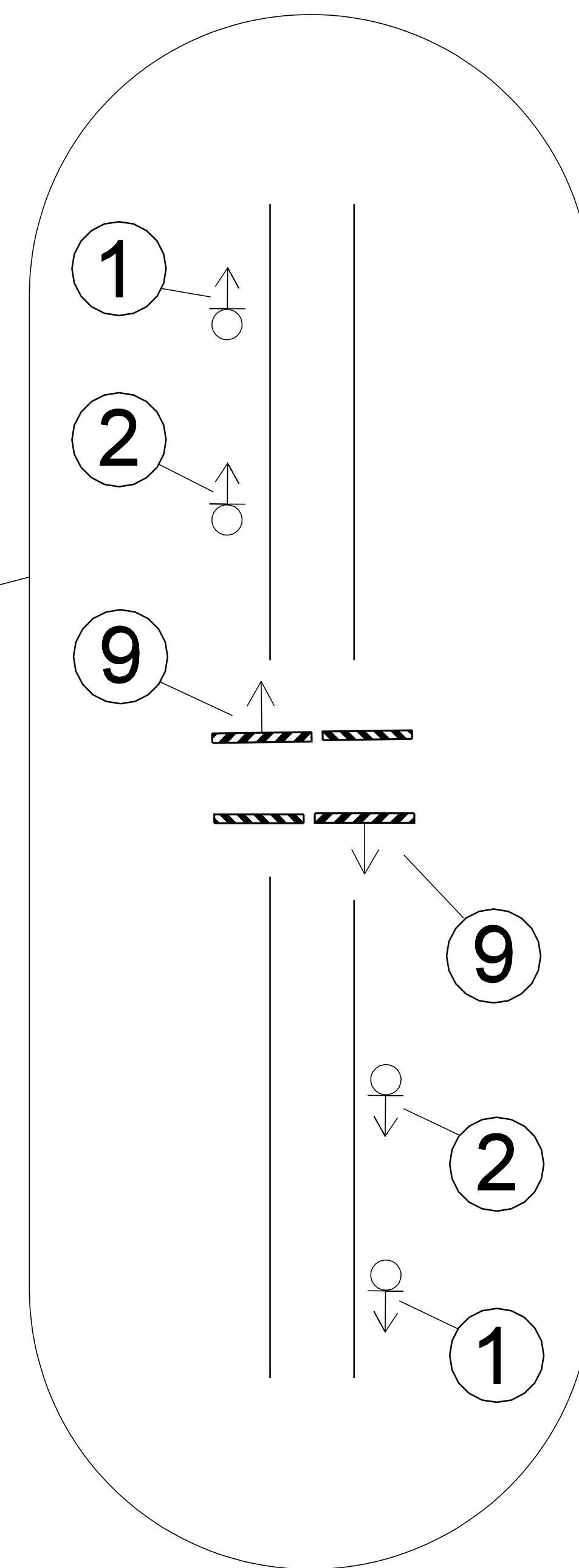
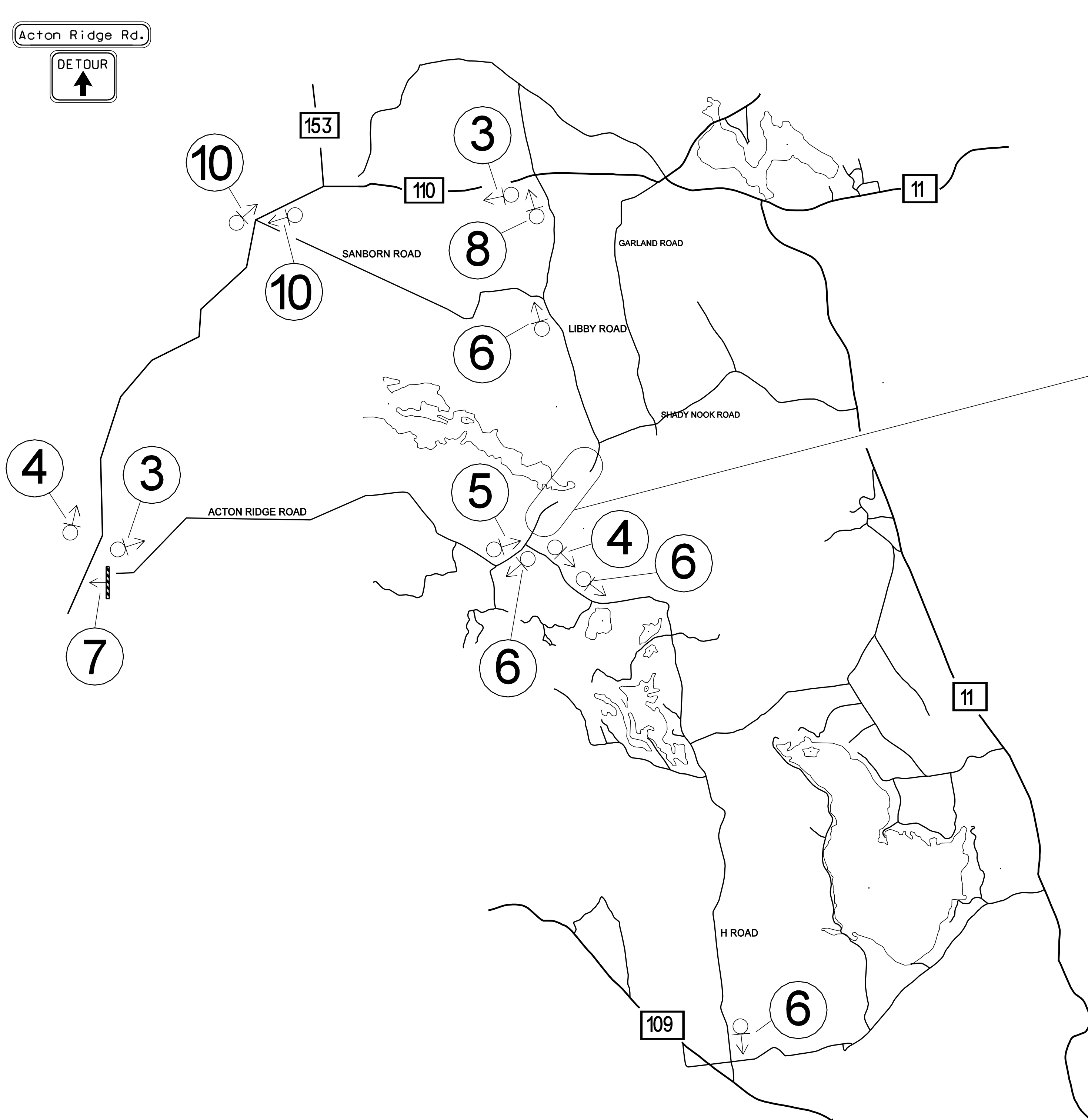
STAGE II

Once existing structure is removed, Maintain one lane of traffic while constructing the other side of the bridge.

STAGE III

Construct the remaining part of the bridge.
Open the road to two lanes of traffic.

SHEET NUMBER 14 OF 16	BALCH MILLS BRIDGE LITTLE OSSISPEE RIVER ACTON YORK COUNTY	PROJ. MANAGER N. Benoit	BY ADN	DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION
		DESIGN-DETAILED CHECKED-REVISED	RN			
		DESIGN2-DETAILED2 DESIGN3-DETAILED3	MAP			
		REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4				BR-1667(600)X
		FIELD CHANGES				
						PIN 16676.00
						BRIDGE NO. 3300 BRIDGE PLANS



NOT TO SCALE

15		SHEET NUMBER		BALCH MILLS BRIDGE LITTLE OSSISPEE RIVER ACTON YORK COUNTY				PROJ. MANAGER		N. Benoit	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
								DESIGN-DETAILED		RN	ADN			
OF 16				PLANS		DESIGN2-DETAILED2		MAP						16676.00
						DESIGN3-DETAILED3						P.E. NUMBER		
						REVISIONS 1								
						REVISIONS 2								
						REVISIONS 3							PIN	BRIDGE PLANS
						REVISIONS 4								
						FIELD CHANGES								
													BRIDGE NO. 3300	16676.00

LAND SURVEYED
FOR SHADY NOOK IMPROVEMENT ASSOCIATION, INC.
BY THOMAS W. BULLARD
PLAN DATE - JULY 1991
RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS
PLAN BOOK 202 PAGE 15
RECORDING DATE - AUGUST 13, 1991

BALCH LAKE

TAX MAP/
BOOK/PAGE
POR. NO. -

**SHADY NOOK IMPROVEMENT
ASSOCIATION, INC.**
TAX MAP/LOT - 61/53
BOOK/PAGE - 2428/194
POR. NO. - 9

PLAN
CUMBERLAND COUNTY POWER & LIGHT (C.C.P. & L.)
CLASS OF WORK - POWER & LIGHT
IN THE TOWNS OF ACTON & NEWFIELD
DESCRIPTION OF WORK - DAM AT BALCH POND
PLAN DATE - JANUARY 20, 1948

CURVE DATA #3
PI = 11+60.13
D = 1°00'00.0"
Δ = 3°03'57.4" Rt.
R = 5729.58'
L = 306.60'
T = 153.33'
E = 2.05'

EDWARD LENKIEWICZ
TAX MAP/LOT - 61/4
BOOK/PAGE - 8212/301
POR. NO. - 7

EXISTING RIGHT OF WAY

TOWN OF ACTON

- 1) ACTON RIDGE ROAD
 - A) STATE OF MAINE HIGHWAY COMMISSION PLANS OF PROPOSED RELOCATION THIRD CLASS HIGHWAY NO. 3 TOWN OF ACTON COUNTY OF YORK PLAN DATE - FEBRUARY 1936 S.H.C. FILE NO. S-16-4
 - B) PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)
- 2) OTHER R/W INFORMATION WITHIN PROJECT LIMITS
 - A) YORK COUNTY COMMISSIONERS RECORDS VOLUME 13 PAGE 321
1797 3 & 4 RODS WIDE (49.5' & 66')
 - B) YORK COUNTY COMMISSIONERS RECORDS VOLUME 30 PAGE 107
DISCONTINUED OCTOBER 1971
 - C) YORK COUNTY COMMISSIONERS RECORDS VOLUME 13 PAGE 158
1795 4 RODS WIDE (66')
 - D) YORK COUNTY COMMISSIONERS RECORDS VOLUME 28 PAGE 307
DISCONTINUED JULY 2, 1947
 - E) YORK COUNTY COMMISSIONERS RECORDS VOLUME 13 PAGE 158
1795 4 RODS WIDE (66')
 - F) YORK COUNTY COMMISSIONERS RECORDS VOLUME 28 PAGE 307
DISCONTINUED JULY 2, 1947

BENZ FAMILY SERIES LLC
ITEM NO. (1)
CONST. & MAINT. EASE. = 1,020± S.F. (2)
SLOPE EASE. = 612± S.F. (1)
TOTAL AREA 32.8± AC. (PER DEED)

TAX MAP/LOT - 207/4
BOOK/PAGE - 15538/734
POR. NO. - 1

CONTROL INFORMATION
A) HORIZONTAL CONTROL - US STATE PLANE NAD83(1996)
ZONE - MAINE 2000 WEST ZONE
VERTICAL DATUM - NAVD 88
COMBINED SCALE FACTOR - 0.9999785

BRIDGE AS-BUILT PLANS
A) STATE HIGHWAY COMMISSION - BRIDGE DIVISION
BALCH MILLS BRIDGE OVER LITTLE OSSISPEE RIVER
BETWEEN THE TOWNS OF ACTON AND NEWFIELD
PLAN DATES - MAY 1957 & DECEMBER 1935
REEL 25, PLAN NUMBER 66:159-161

TAX MAPS
A) TOWN OF ACTON
TAX MAP 106
B) TOWN OF NEWFIELD
TAX MAP 61

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY _____
RECEIVED _____,
at _____h_____m_____M and recorded in
Plan Book _____, Page _____
Attest: _____
REGISTER

To the best of my knowledge and belief the Highway Right of Way lines depicted hereon are based upon a survey conforming to the Standards of Practice promulgated by the Maine Board of Licensure for Professional Land Surveyors 02-360 CMR, Chapter 90; Exceptions: (1) No separate survey report, (2) Monumentation only as shown on plan. See sheet X of this plan set for coordinates. (3) Other boundary lines, including lines between abutters are approximate and for general reference purposes only.

PIN 16676.00

REVISIONS				PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD							ACTON RIDGE ROAD\SHADY NOOK ROAD			SHEET NUMBER
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE		TOWN WAYS			
											ACTON\NEWFIELD YORK COUNTY			16
											FEDERAL AID PROJECT NO. BR-1667(600)X			
													OF 16	
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