STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Sixth Edition 2012 with 2013 interims.

DESIGN LOADING

Live Load ..... HL - 93 Modified

TRAFFIC DATA

Current (2013) AADT	570
Future (2033) AADT	680
DHV - % of AADT	11%
Design Hour Volume	75
Heavy Trucks (% of AADT)	21%
Heavy Trucks (% of DHV)	21%
Directional Distribution (% of DHV)	52%
18 kip Equivalent P 2.0	153
18 kip Equivalent P 2.5	146
Design Speed (mph)	45

HYDROLOGIC DATA

Drainage Area	1.2 sq mi
Design Discharge (Q50)	332.1 cfs
Check Discharge (Q100)	397.8 cfs
Headwater Elevation (Q50)	1073.58 ft
Headwater Elevation (Q100)	1074.07 ft
Discharge Velocity (Q50)	8.1 fps
Discharge Velocity (Q100)	8.6 fps
Headwater Elevation (Q1.1)	1070.73 ft
Discharge Velocity (Q1.1)	3.9 fps
Headwater Elevation (Q25)	1073.13 ft

MATERIALS

Concrete:	
Precast	Class "P"
All Other	Class "A"
Reinforcing Steel	ASTM A615/A615M, Grade 60
Welded Wire Reinforcement	ASTM A185/A185M or ASTM A497/A497M

BASIC DESIGN STRESSES

Precast Concrete	f 'c = 5,000 psi min.
Reinforcing Steel	f y = 60,000 psi
Welded Wire Reinforcement	f y = 65,000 psi min.

KINGSBURY
PISCATAQUIS COUNTY
BOTTLE BROOK BRIDGE
OVER
BOTTLE BROOK
ROUTE 16
STATE PROJECT NO. 19179.00
PROJECT LENGTH 0.019 mi.
BRIDGE NO. 6467

LIST OF DRAWINGS

Title Sheet	1
Estimate & Notes	2
Plan & Profile	3
Boring Locations & Imperative Subsurface Profile	4
Boring Logs	5
Cross Sections	6 - 10
Precast Concrete Box Culvert	11
Stage Construction	12 - 13
Right of Way Map	14

UTILITIES

None

MAINTENANCE OF TRAFFIC

Maintain one 12'-0" wide lane of alternating two - way traffic using traffic signals.

PROJECT LOCATION:	5 miles East of Mayfield/Kingsbury townline Lat = 45° 9' 29.87" Long = -69° 35' 58.41"
PROGRAM AREA:	Bridge Program
OUTLINE OF WORK:	Replace existing twin 4' x 43' CMPs with a Concrete Box Culvert

WIN 19179.00

19179.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: DATE 12/20/14
CHIEF ENGINEER: 2-20-14

STATE OF MAINE · Michael Harry Wright · 8089 · LICENSED · PROFESSIONAL ENGINEER

SIGNATURE 8089
P.E. NUMBER
DATE 2/14/2014

PROJECT INFORMATION

PROGRAM	BRIDGE
PROJECT MANAGER	STEVE BODGE
DESIGNER	JON BUCK
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

KINGSBURY
BOTTLE BROOK BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 14

Filename:\\DO\BRIDGE\MSTA\001_Title.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.20	COMMON EXCAVATION	370	CY
203.24	COMMON BORROW	8	CY
203.25	GRANULAR BORROW	180	CY
203.33	SPECIAL FILL	120	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	320	CY
403.207	HOT MIX ASPHALT 19.0 MM HMA	100	T
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	70	T
409.15	BITUMINOUS TACK COAT - APPLIED	16	G
508.13	MEMBRANE WATERPROOFING (170 SY)	1	LS
511.07	COFFERDAM: UPSTREAM	1	LS
511.07	COFFERDAM: DOWNSTREAM	1	LS
513.22	CRUSHED STONE SLOPE PROTECTION	45	SY
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (40 SY)	1	LS
524.301	TEMPORARY STRUCTURAL SUPPORT	1	LS
526.301	TEMPORARY CONCRETE BARRIER TYPE 1 (400 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	4	UN
534.71	PRECAST CONCRETE BOX CULVERT (180 CY)	1	LS
606.23	GUARDRAIL TYPE 3C - SINGLE RAIL	262.5	LF
606.231	GUARDRAIL TYPE 3C - 15 FOOT RADIUS AND LESS	25	LF
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	1	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.79	GUARDRAIL 350 FLARED TERMINAL	3	EA
610.08	PLAIN RIPRAP	360	CY
613.319	EROSION CONTROL BLANKET	33	SY
615.07	LOAM	20	CY
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	3	UN
619.1201	MULCH - PLAN QUANTITY	3	UN
619.1401	EROSION CONTROL MIX	40	CY
620.58	EROSION CONTROL GEOTEXTILE	400	SY
627.733	4 INCH WHITE OR YELLOW PAINTED PAVE MRK LINE	400	LF
629.05	HAND LABOR, STRAIGHT TIME	10	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	10	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	10	HR
631.171	TRUCK - SMALL (INCLUDING OPERATOR)	10	HR
639.19	FIELD OFFICE TYPE B	1	EA
643.72	TEMPORARY TRAFFIC SIGNAL	1	LS
652.312	TYPE III BARRICADE	6	EA
652.33	DRUM	20	EA
652.34	CONE	40	EA
652.35	CONSTRUCTION SIGNS	170	SF
652.36	MAINTENANCE OF TRAFFIC CONTROL DEVICES	60	CD
652.38	FLAGGER	80	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

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. All embankment material, except as otherwise shown, placed below EL. 1068.44 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.

7. Place riprap on sideslopes up to EL. 1073.52.

8. 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 expence.

9. The riprap slope protection shall be constructed as shown in MaineDOT Standard Detail 610(02). The protective aggregate cushion layer shall be 12 inches thick. A class 1 non woven erosion control geotextile shall be used under the protective aggregate cushion layer.

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.

13. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 6 feet to a length of 7 feet with an embedment of 4.5 feet. Payment will be considered incidental to the guardrail pay items.

14. An NCHRP350 compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.

15. 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.

16. 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 with ground.

17. Project information referred to below may be accessed at the following MaineDOT web address: http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php.

18. The project geotechnical report titled: Soils Report 2014-01, Geotechnical Design Report for the Replacement of Bottle Brook Bridge, Kingsbury Plantation, January 13, 2014 may be accessed at the MaineDOT web address.

19. 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.

20. 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.

21. Common borrow over the concrete box culvert shall meet the requirements and be compacted in accordance with Section 203 of the Standard Specifications.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

PROJ. MANAGER	S. Bodge	BY	DATE
DESIGN-DETAILED	B. Reeves	D. Sullivan	------
CHECKED-REVIEWED	------	G. Libby	JAN 2014
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JUN 2013
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

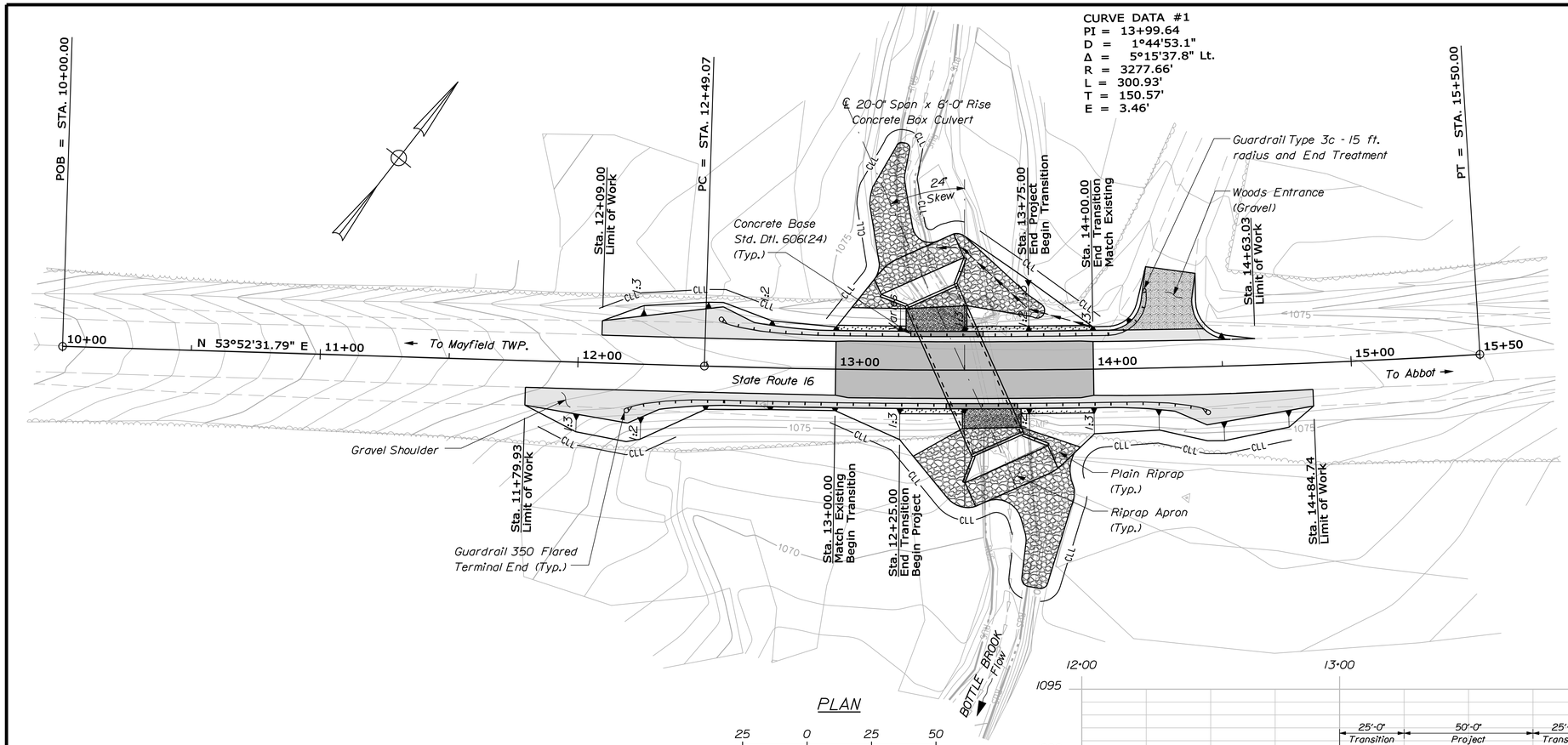
BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER
2
OF 14

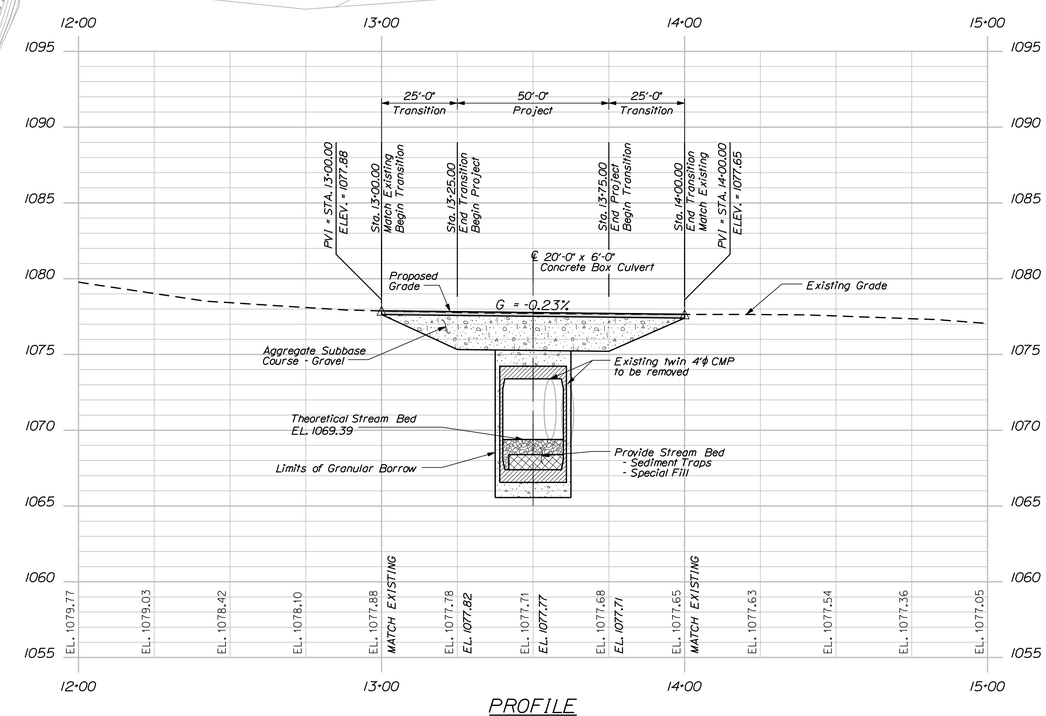
Filename: ...\bridge\msta\002_Estimate.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

CURVE DATA #1
PI = 13+99.64
D = 1°44'53.1"
Δ = 5°15'37.8" Lt.
R = 3277.66'
L = 300.93'
T = 150.57'
E = 3.46'



PLAN

25 0 25 50
Scale in Feet



PROFILE

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

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	S. Bedge		
DESIGN-DETAILED	B. Reeves	D. Sullivan	
CHECKED-REVIEWED		G. Libby	JAN 2014
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JUN 2013
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE

KINGSBURY PISCATAQUIS COUNTY

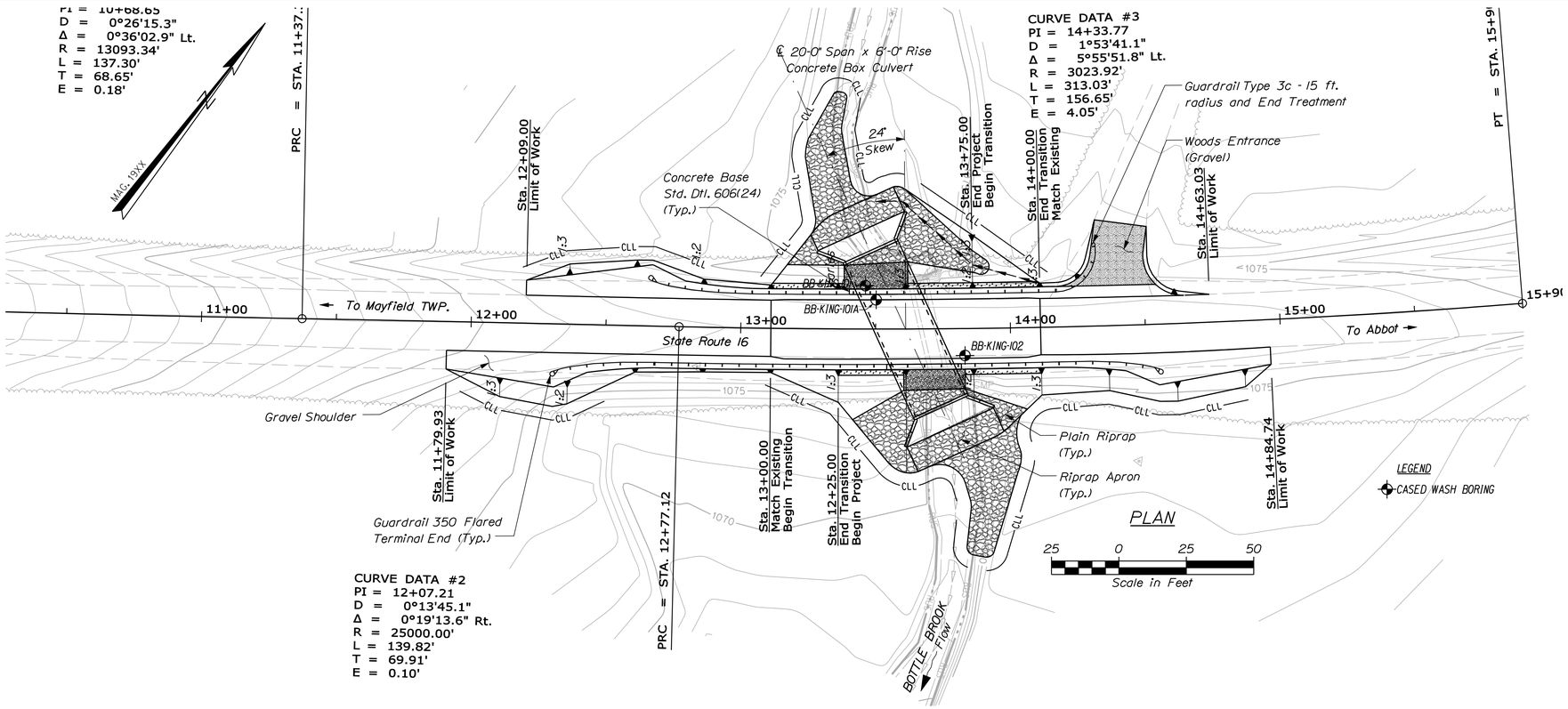
PLAN AND PROFILE

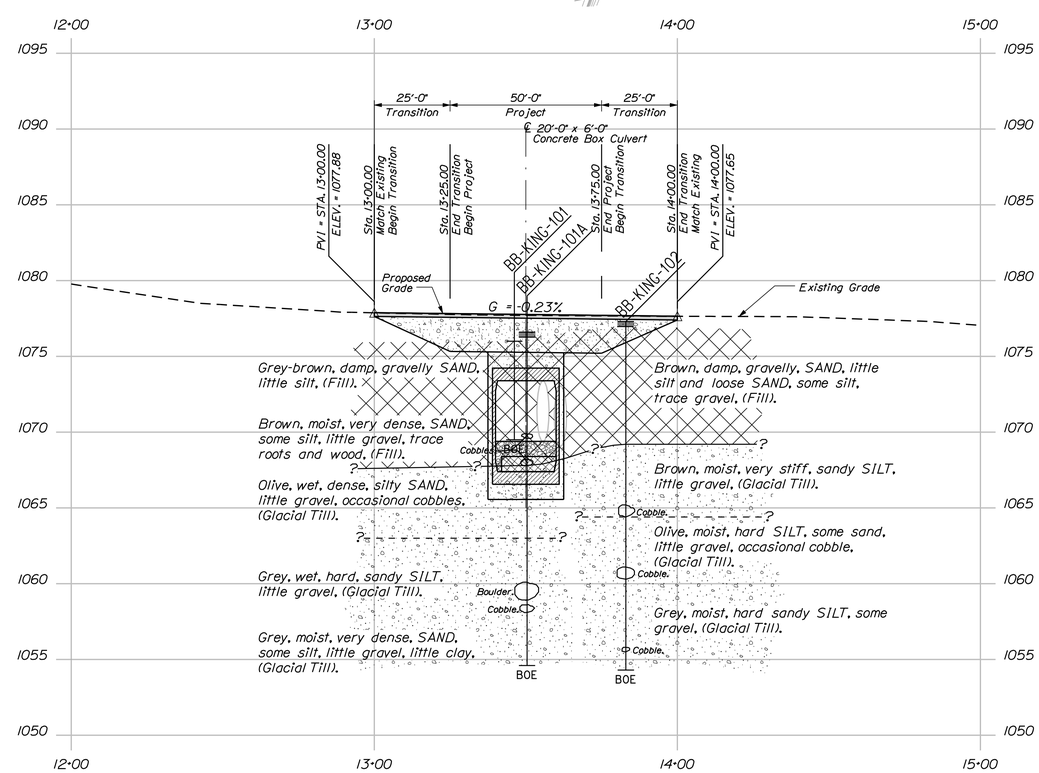
SHEET NUMBER

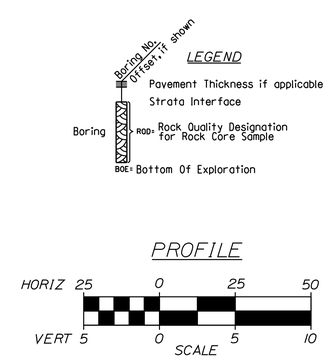
3

OF 14

Filename: ...\00\bridge\msto\003_BOPlan1.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014







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 transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

PROJ. MANAGER	S. Bodge	BY	DATE
DESIGN-DETAILED	J. Buck	D. Sullivan	------
CHECKED-REVIEWED	------	------	------
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JAN 2014
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE

SHEET NUMBER

4

OF 14

Filename: ...\GEOTECH\MSTA\004_BLP&ISP1.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

Filename: ...\MSTA\005_BORING LOGS1.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bottle Brook Bridge, #6467
Location: Kingsbury Plt. Maine
Boring No.: BB-KING-101
WIN: 19179.00

Driller:	MaineDOT	Elevation (ft.)	1076.0
Operator:	Giles/Daggett	Datum:	NAVD88
Logged By:	B. Wilder	Rig Type:	CME 45C
Date Start/Finish:	8/19/2013; 07:00-07:30	Drilling Method:	Cased Wash Boring
Boring Location:	13+46.2, 16.1 ft Lt.	Casing ID/OD:	HW
Hammer Efficiency Factor:		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Auger ID/OD:	5" Solid Stem	Sampler:	N/A		
Hammer Wt./Fall:	140#/30"	Core Barrel:	N/A		
Water Level*:	None Observed				

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
							SSA			No descriptions given.	
5											
								1069.50		Bottom of Exploration at 6.50 feet below ground surface. Bent HW Casing, moved to BB-KING-101A. (6.50)	
10											
15											
20											
25											

Remarks:

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

Page 1 of 1
Boring No.: BB-KING-101

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bottle Brook Bridge, #6467
Location: Kingsbury Plt. Maine
Boring No.: BB-KING-101A
WIN: 19179.00

Driller:	MaineDOT	Elevation (ft.)	1076.6
Operator:	Giles/Daggett	Datum:	NAVD88
Logged By:	B. Wilder	Rig Type:	CME 45C
Date Start/Finish:	8/19/2013; 07:30-14:00	Drilling Method:	Cased Wash Boring
Boring Location:	13+50.4, 10.8 ft Lt.	Casing ID/OD:	HW
Hammer Efficiency Factor: 0.867		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Auger ID/OD:	5" Solid Stem	Sampler:	Standard Split Spoon
Hammer Wt./Fall:	140#/30"	Core Barrel:	N/A
Water Level*:	6.5 ft bgs.		

Definitions:
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MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
							SSA	1076.27		4" PAVEMENT. (0.33)	
	S1		1.50 - 3.50							Grey-brown, damp, gravelly, fine to coarse SAND, little silt. (Fill).	
5	1D	24/13	5.00 - 7.00	10/36/17/53	53	77				Brown, moist, very dense, fine to coarse SAND, some silt, little gravel, trace roots and wood fragments. (Fill).	GM243301 A-1-b, SM WC=11.9%
										Cobble from 6.7-7.0 ft bgs.	
										Cobble from 8.4-8.8 ft bgs.	
								1067.60		(9.00)	
10	2D	24/16	10.00 - 12.00	3/11/16/16	27	39	51			Olive, wet, dense, silty, fine to coarse SAND, little gravel, occasional cobbles. (Glacial Till).	
							81				
							101				
							189	1063.10		(13.50)	
							OPEN HOLE				
15	3D	18/12	15.00 - 16.50	12/19/50	69	100				Grey, wet, hard, sandy SILT, little gravel, occasional cobbles. (Glacial Till). Roller Coned ahead to 20.0 ft bgs.	
										Boulder from 16.5-17.7 ft bgs.	
										Cobble from 18.0-18.5 ft bgs.	
20	4D	24/18	20.00 - 22.00	15/77/45/56	122	176				Grey, moist, very dense, SAND, some silt, little gravel, little clay. (Glacial Till).	GM243302 A-4, SC-SM WC=7.6%
								1054.60		(22.00)	
25										Bottom of Exploration at 22.00 feet below ground surface. NO REFUSAL	

Remarks:

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

Page 1 of 1
Boring No.: BB-KING-101A

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bottle Brook Bridge, #6467
Location: Kingsbury Plt. Maine
Boring No.: BB-KING-102
WIN: 19179.00

Driller:	MaineDOT	Elevation (ft.)	1077.3
Operator:	Giles/Daggett	Datum:	NAVD88
Logged By:	B. Wilder	Rig Type:	CME 45C
Date Start/Finish:	8/19/2013; 07:30-14:00	Drilling Method:	Cased Wash Boring
Boring Location:	13+83, 10.0 ft Rt.	Casing ID/OD:	HW
Hammer Efficiency Factor: 0.867		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Auger ID/OD:	5" Solid Stem	Sampler:	Standard Split Spoon
Hammer Wt./Fall:	140#/30"	Core Barrel:	N/A
Water Level*:	None Observed		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample attempt
V = Insitu Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Insitu Vane Shear Test attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = weight of 140lb. hammer
WOR/C = weight of rods or casing
WO1P = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
T_v = Pocket Torvane Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw field SPT N-value
Hammer Efficiency Factor = Annual Calibration Value
N_{60} = SPT N-uncorrected corrected for hammer efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
$S_{u(lab)}$ = Lab Vane Shear Strength (psf)
WC = water content, percent
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
G = Grain Size Analysis
C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
							SSA	1076.97		4" PAVEMENT. (0.33)	
										Brown, damp, gravelly, fine to coarse SAND, little silt. (Fill).	
5	1D	24/12	5.00 - 7.00	2/2/2/4	4	6				Brown, damp, loose, fine to coarse SAND, some silt, trace gravel. (Fill).	
								1069.30		(8.00)	
10	2D	24/18	10.00 - 12.00	3/5/8/17	13	19	25			Brown, moist, very stiff, sandy SILT, little gravel. (Weathered Glacial Till).	GM243303 A-4, SM WC=9.0%
							56				
							88			Large Cobble from 12.1-12.9 ft bgs.	
							167	1064.30		(13.00)	
							172				
15	3D	14.4/13	15.00 - 16.20	11/12/25(2.4")	---		OPEN HOLE			Olive, moist, hard, SILT, some fine to coarse SAND, little gravel, occasional cobbles. (Glacial Till). Roller Coned ahead to 20.0 ft bgs.	GM243304 A-4, ML WC=10.7%
										Cobble from 16.2-17.0 ft bgs.	
20	4D	18/16	20.00 - 21.50	24/28/65	93	134				Grey, moist, hard, fine to coarse sandy SILT, some gravel, occasional cobbles. (Glacial Till).	
										Cobble from 21.5-21.8 ft bgs. Roller Coned ahead to 23.0 ft bgs.	
								1054.30		(23.00)	
25										Bottom of Exploration at 23.00 feet below ground surface. NO REFUSAL	

Remarks:

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

Page 1 of 1
Boring No.: BB-KING-102

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

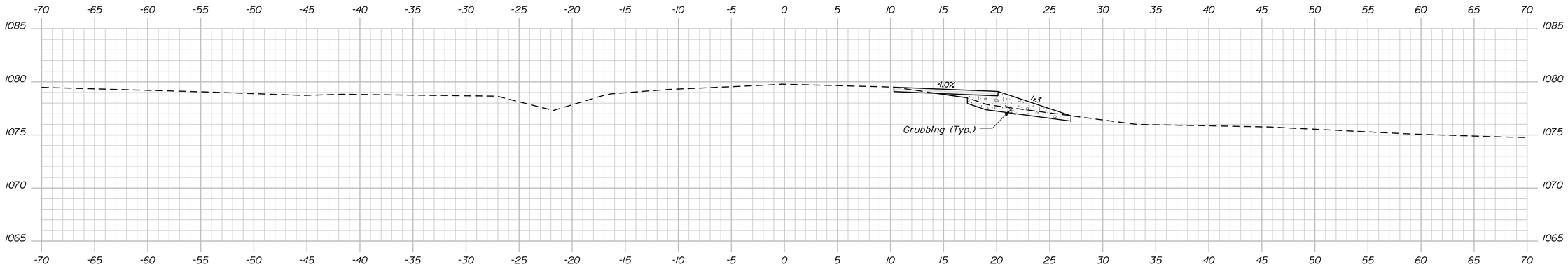
BRIDGE PLANS

		SIGNATURE	DATE
PROJ. MANAGER	S. Bodge		
DESIGN-DETAILED	J. Buck	D. Sullivan	
CHECKED-REVIEWED			
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JAN 2014
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

BORING LOGS

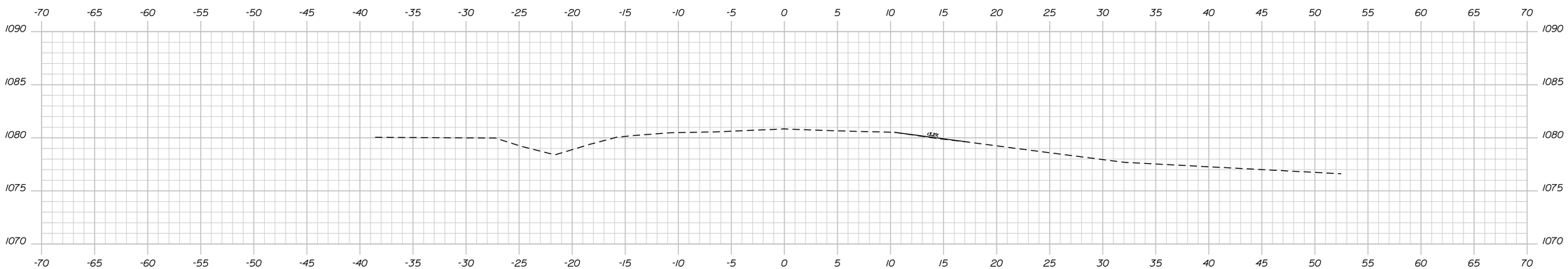
SHEET NUMBER
5
OF 14



Sta. 12+09.00 Limit of Work, LT.

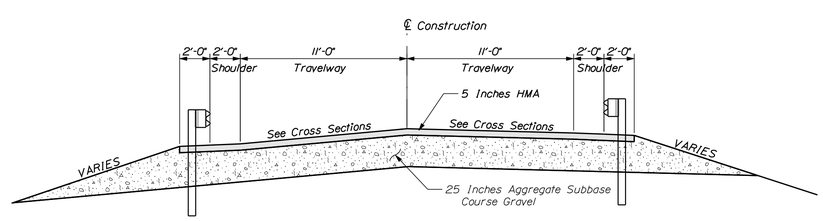
12+00.00

Sta. 12+18.44 to Sta. 12+57.10
Install 350 Flared Terminal End, RT.
Install Reflectorized Flexible Guardrail Markers (2)



11+75.00

Sta. 11+79.93 Limit of Work, LT.



TYPICAL APPROACH SECTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

PROJ. MANAGER	S. Bridge	BY	DATE
DESIGN-DETAILED	B. Reeves	D. Sullivan	------
CHECKED-REVIEWED	------	G. Libby	JAN 2014
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JUN 2013
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

CROSS SECTIONS

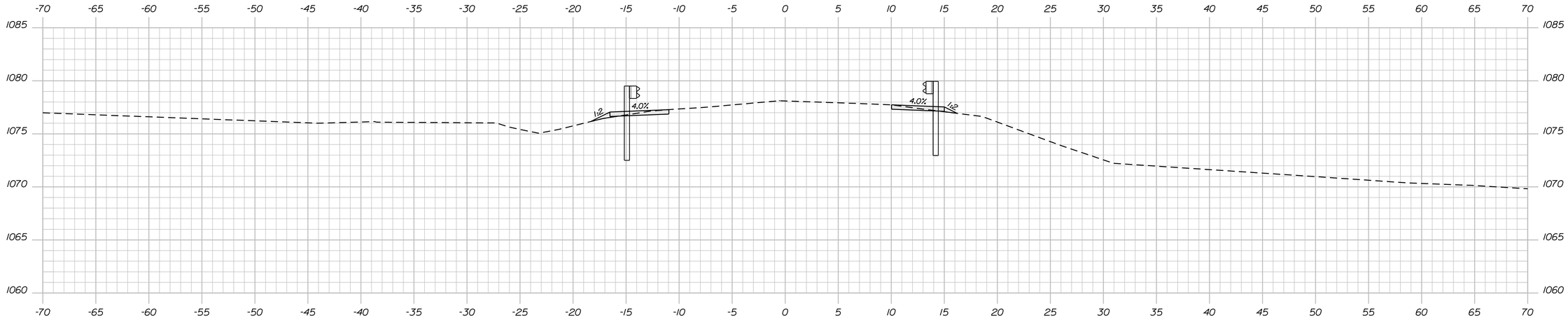
SHEET NUMBER

6

OF 14

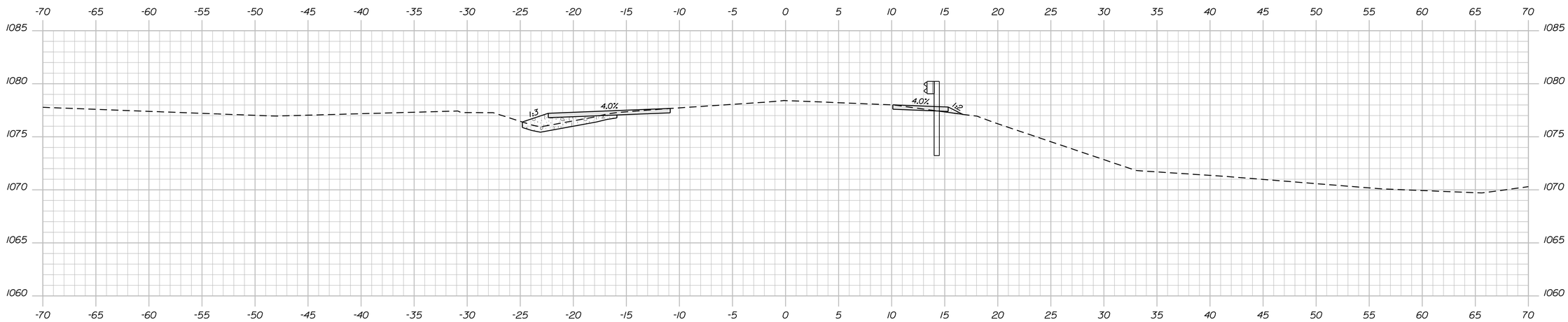
Filename: ...\00\BRIDGE\MSTA\006_Xsect.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

Sta. 11+50.00 to Sta. 12+00.00



Sta. 12+93.06 to Sta. 14+06.01, 14.00 ft. LT.
Install 112.5 ft. Guardrail Type 3c

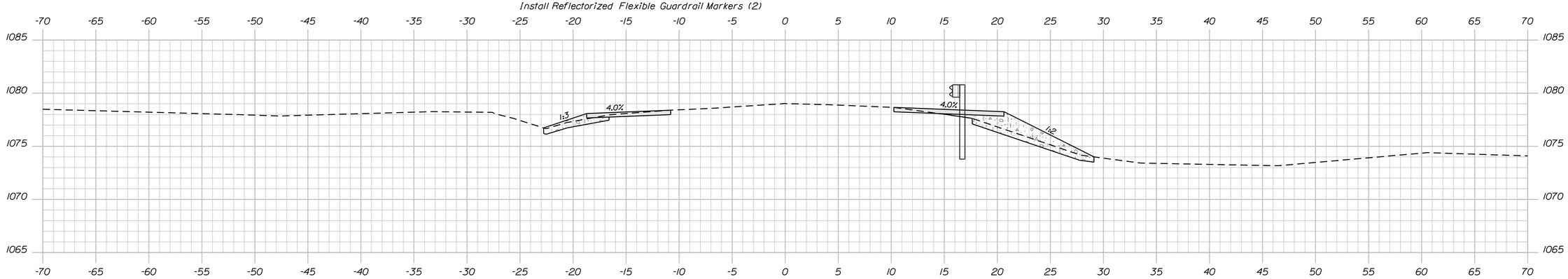
12+75.00



Sta. 12+54.26 to Sta. 12+93.06
Install 350 Flared Terminal End. LT.
Install Reflectorized Flexible Guardrail Markers (2)

12+50.00

Sta. 12+57.10 to Sta. 14+06.42, 14.00 ft. RT.
Install 150.0 ft. Guardrail Type 3c



12+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER		S. Bodgel	
DESIGN-DETAILED	B. Reeves	D. Sullivan	JAN 2014
CHECKED-REVIEWED		G. Libby	JAN 2014
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN 2013
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

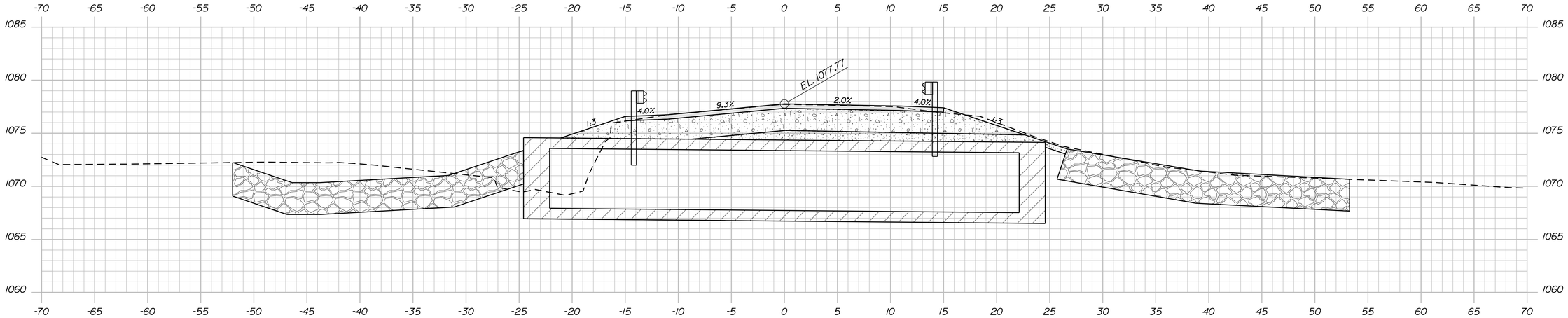
BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

CROSS SECTIONS

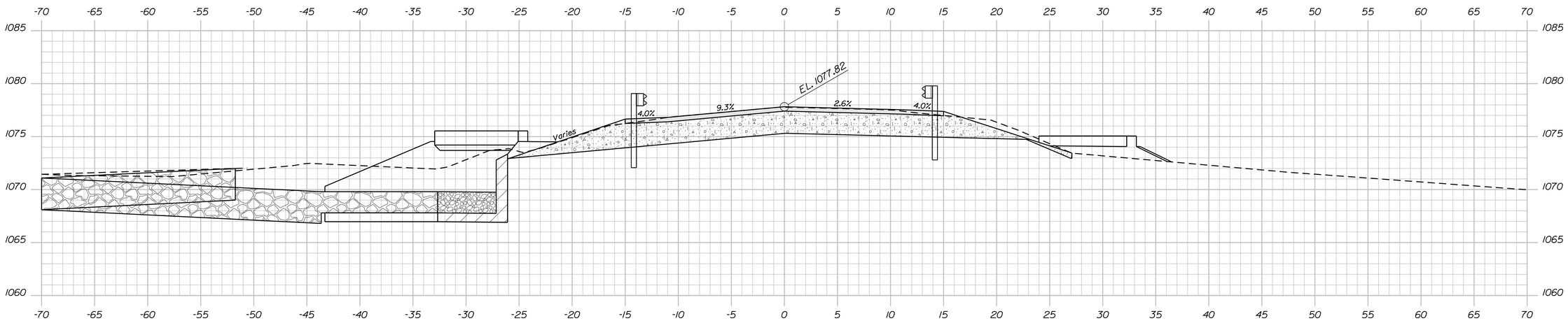
SHEET NUMBER
7
OF 14

Sta. 12+25.00 to Sta. 12+75.00

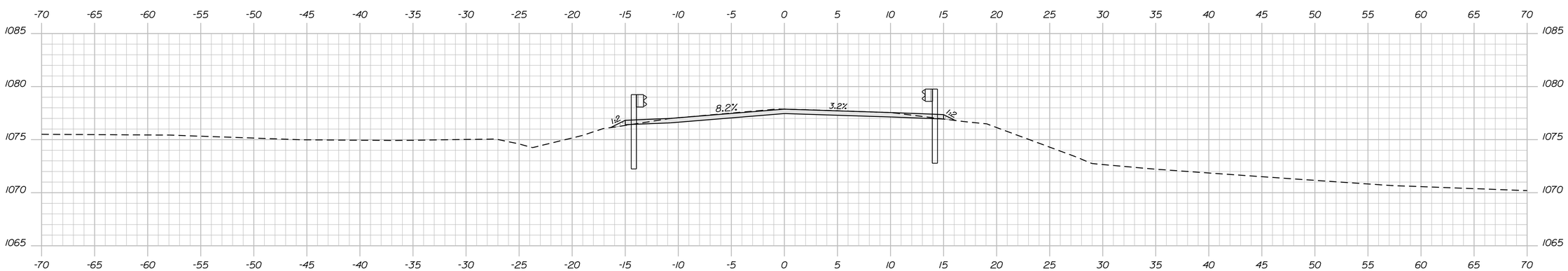
Filename: ...\00\BRIDGE\MSTA\007_Xsect.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014



13+50.00



13+25.00 END TRANSITION
BEGIN PROJECT



13+00.00 MATCH EXISTING
BEGIN TRANSITION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER		S. Bodgel	
DESIGN-DETAILED	B. Reeves	D. Sullivan	JAN 2014
CHECKED-REVIEWED		G. Libby	
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN 2013
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

CROSS SECTIONS

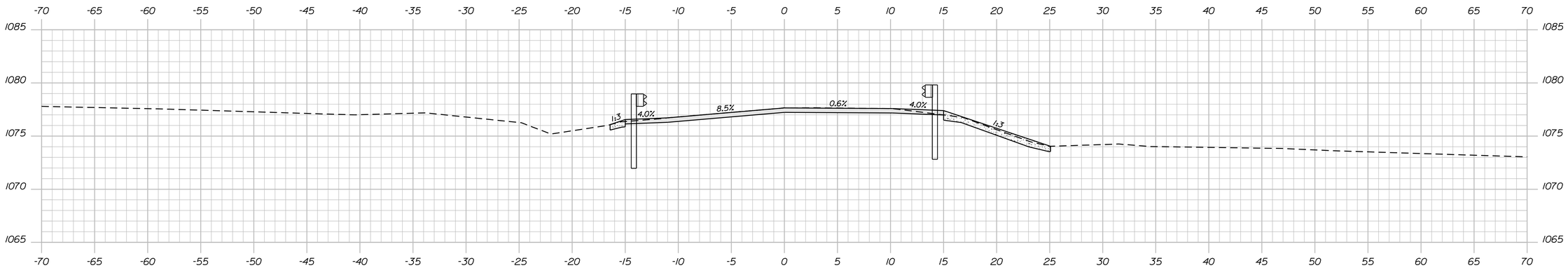
SHEET NUMBER

8

OF 14

Sta. 13+00.00 to Sta. 13+50.00

Filename: ...\00\BRIDGE\MSTA\008_Xsect.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

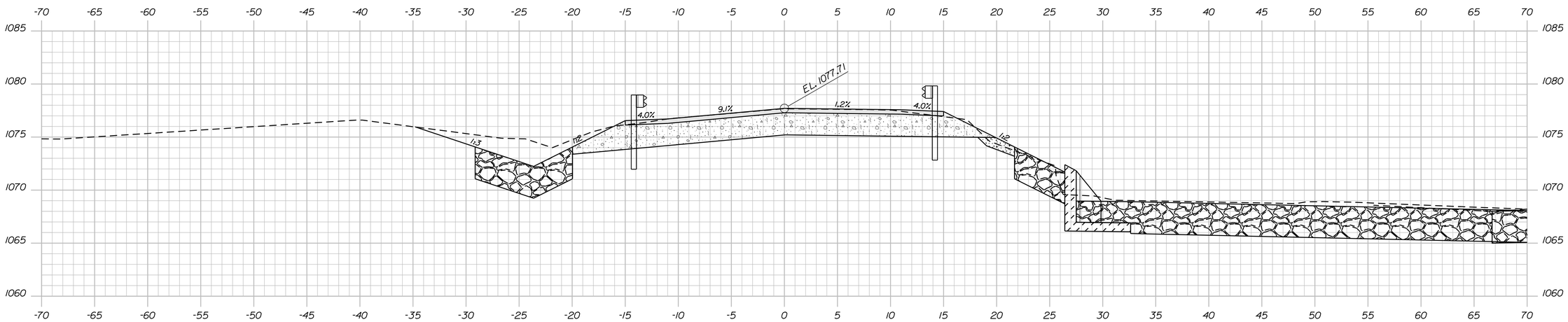


Sta. 14+06.01, 14.0 ft. LT. to 14+21.14, 28.03± ft. LT.
Install 15.0 ft. radius Guardrail Type 3c, LT.

14+00.00

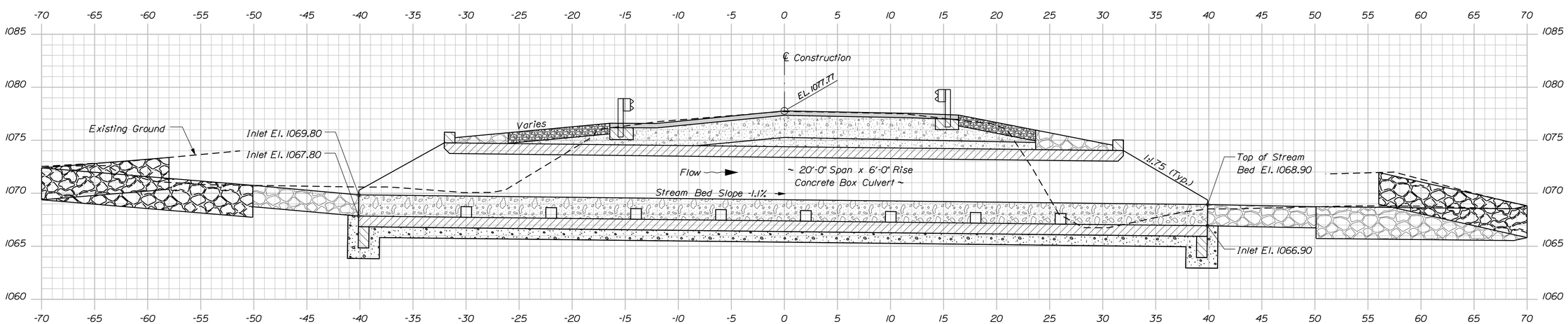
END TRANSITION
MATCH EXISTING

Sta. 14+06.42 to Sta. 14+44.92
Install 350 Flared Terminal End, RT.
Install Reflectorized Flexible Guardrail Markers (2)



13+75.00

END PROJECT
BEGIN TRANSITION



13+50.00 Skew 24°

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN
19179.00

BRIDGE NO. 6467

BRIDGE PLANS

PROJ. MANAGER	S. Bodge	BY	DATE
DESIGN-DETAILED	B. Reeves	D. Sullivan	------
CHECKED-REVIEWED	----	G. Libby	JAN 2014
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN 2013
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

CROSS SECTIONS

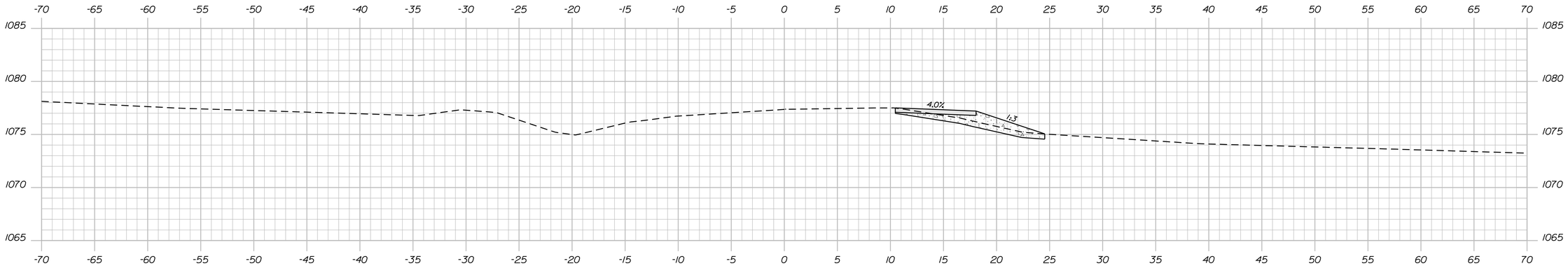
SHEET NUMBER

9

OF 14

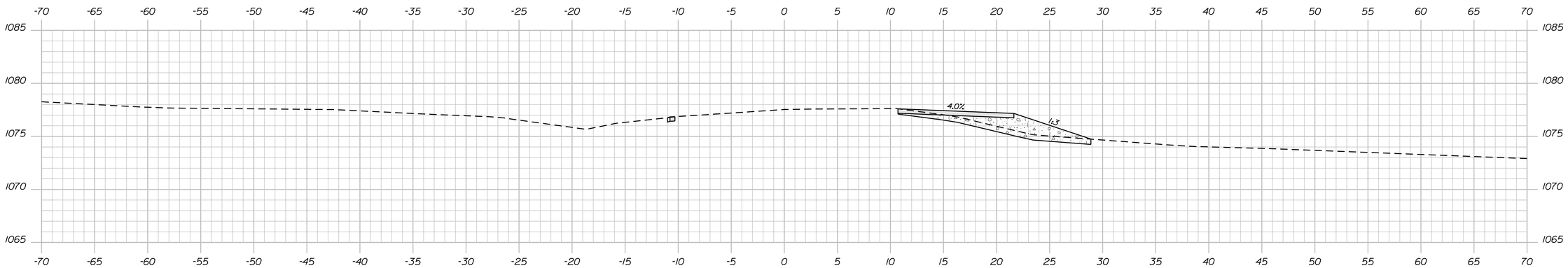
Sta. 13+50.05 to Sta. 14+00.00

Filename: ...\00\BRIDGE\MSTA\009_Xsect.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014



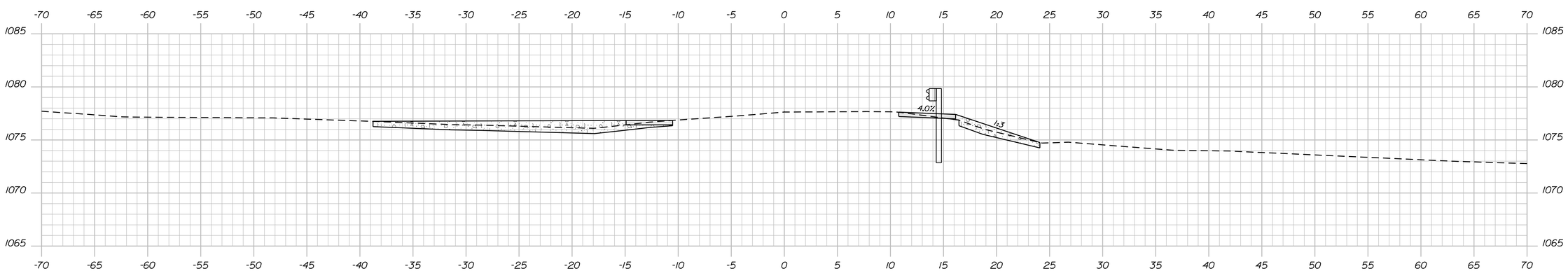
14+75.00

Sta. 14+84.74 Limit of Work, RT.



Sta. 14+63.03 Limit of Work, RT.

14+50.00



Sta. 14+30.74
Reconstruct 27.40± gravel wood entrance

14+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	S. Budge		
DESIGN-DETAILED	B. Reeves	D. Sullivan	JAN 2014
CHECKED-REVIEWED		G. Libby	JAN 2014
DESIGN2-DETAILED2	L.KRUSINSKI	T.WHITE	JUN 2013
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

CROSS SECTIONS

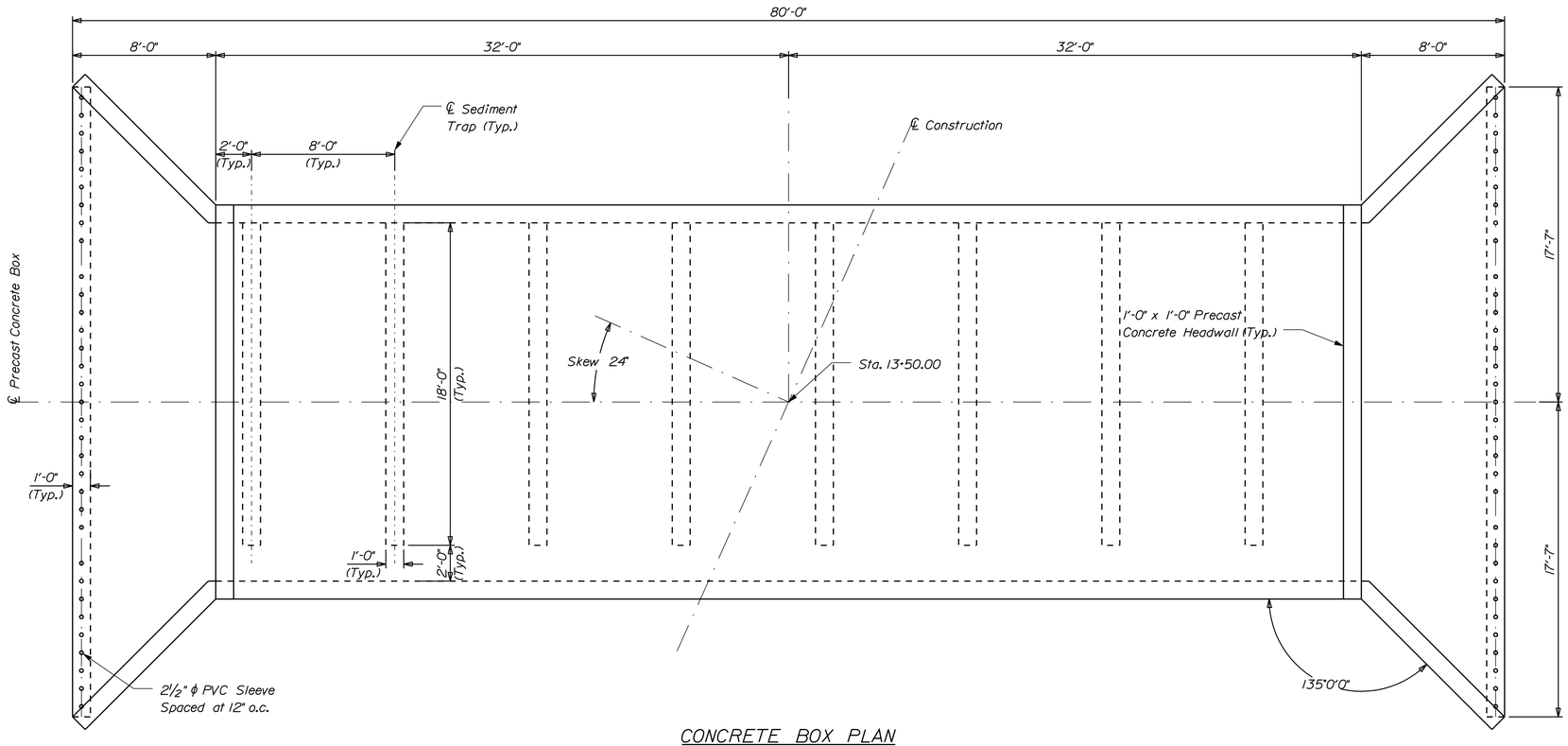
SHEET NUMBER

10

OF 14

Sta. 14+25.00 to Sta. 14+75.00

Filename: ...\00\BRIDGE\MSTA\010_Xsect.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014



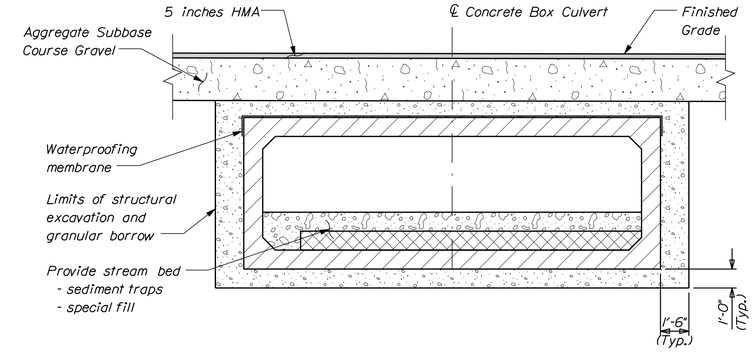
CONCRETE BOX PLAN

PRECAST CONCRETE BOXES NOTES:

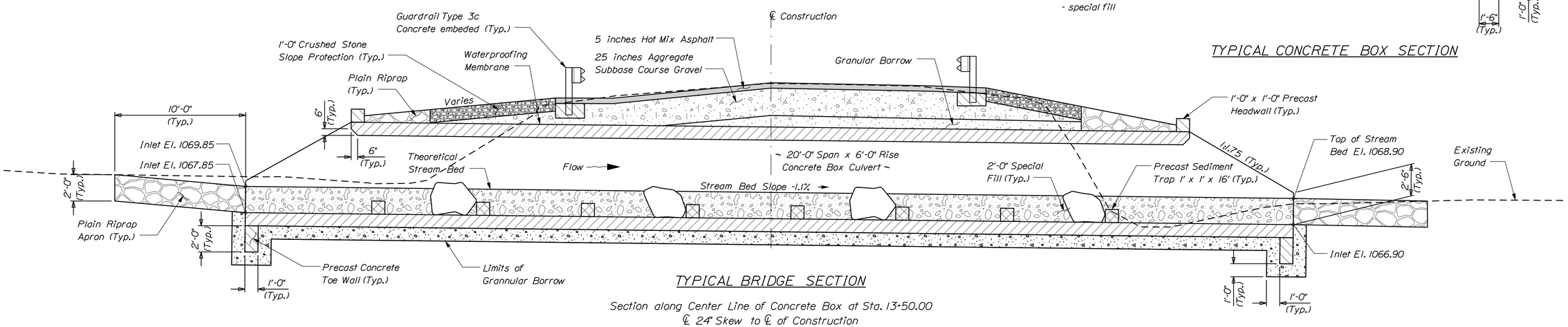
1. The precast units shall be designed to carry construction loadings with a minimum fill cover of 11½ inches over the top of the units.

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 standard membrane waterproofing over the top and to 12 inches down the exterior sides of the precast units.



TYPICAL CONCRETE BOX SECTION



TYPICAL BRIDGE SECTION

Section along Center Line of Concrete Box at Sta. 13+50.00
℄ 24° Skew to ℄ of Construction

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	S. Bodge		
DESIGN-DETAILED	B. Reeves	D. Sullivan	
CHECKED-REVIEWED		G. Libby	JAN. 2014
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN. 2013
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

PRECAST BOX PLANS

SHEET NUMBER

11

OF 14

Filename: ...\00\BRIDGE\MSTA\011_Box.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

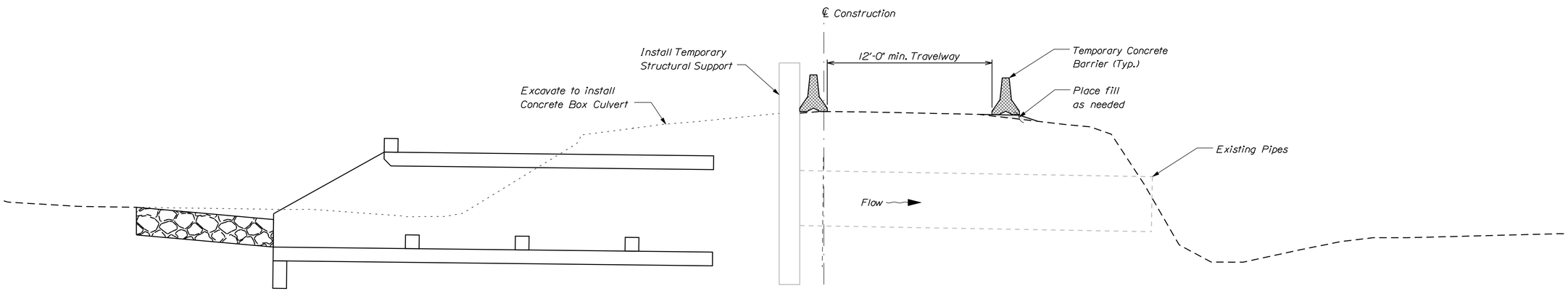
STAGE CONSTRUCTION NOTES:

Stage 1 -
Maintain one 12'-0" min. wide lane of alternating traffic using traffic signals on downstream side. Remove the upstream sections of the existing pipes and ground. Construct upstream portion of concrete box culvert.

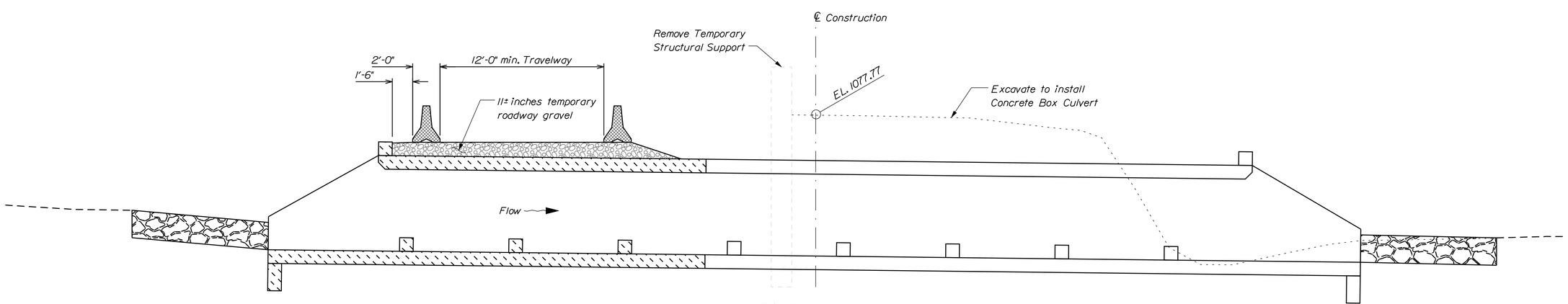
Stage 2 -
Place 11± inches of temporary roadway gravel with two temporary concrete barriers. Provide one 12'-0" wide lane of alternating traffic using traffic signals over the newly installed concrete box culvert on upstream end. Remove remaining existing pipes and ground. Then construct downstream portion of concrete box culvert.

Stage 3 -
On downstream side provide aggregate subbase, concrete embedded guardrail type 3c and Base Pavement. Set up one lane of alternating traffic on the downstream side. Maintain one lane of traffic at all times with traffic signals.

Stage 4 -
Remove temporary concrete barriers and temporary roadway gravel. Place aggregate subbase, concrete embedded guardrail type 3c, Base Pavement and Surface Pavement. Upon completion of Surface Pavement open to traffic.



STAGE No. 1



STAGE No. 2

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

BRIDGE NO. 6467 | WIN 19179.00 | BRIDGE PLANS

PROJ. MANAGER	S. Bodge	BY	DATE
DESIGN-DETAILED	B. Reeves	D. Sullivan	------
CHECKED-REVIEWED	----	G. Libby	JAN 2014
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN 2013
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

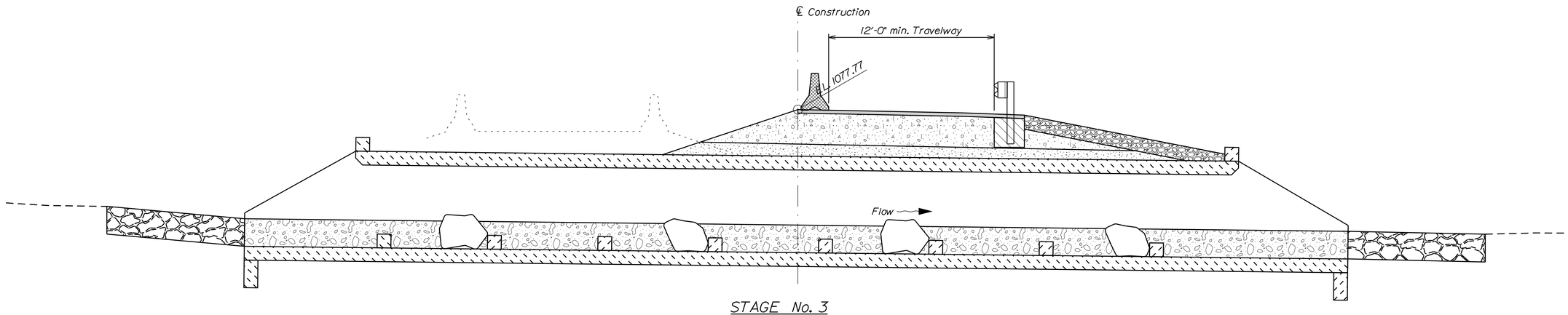
DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

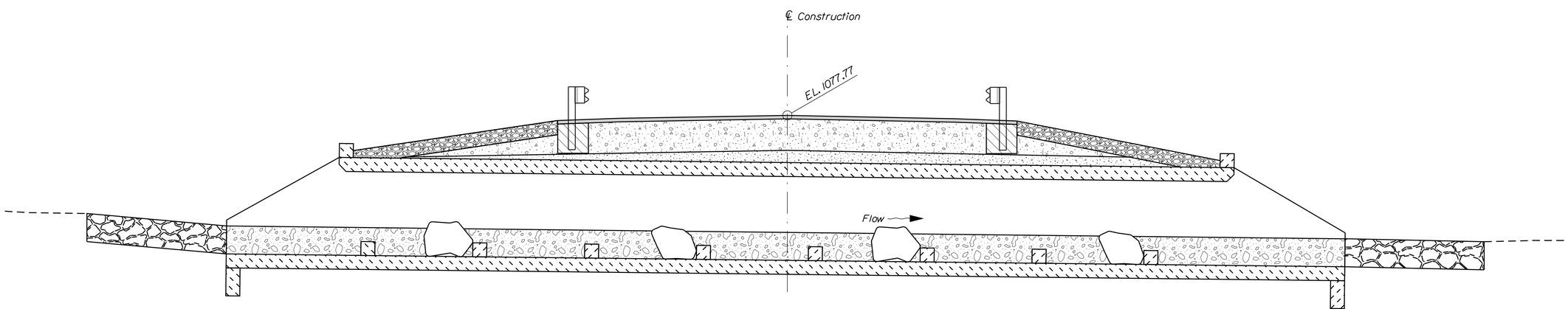
PRELIMINARY STAGE CONSTRUCTION PLANS

SHEET NUMBER
12
OF 14

Filename: ...\MSTA\012_StageConstr_1.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014



STAGE No. 3



STAGE No. 4

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

19179.00

WIN 19179.00

BRIDGE NO. 6467

BRIDGE PLANS

PROJ. MANAGER	S. Bodge	BY	DATE
DESIGN-DETAILED	B. Reeves	D. Sullivan	------
CHECKED-REVIEWED	------	G. Libby	JAN 2014
DESIGN2-DETAILED2	L. KRUSINSKI	T. WHITE	JUN 2013
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

BOTTLE BROOK BRIDGE
BOTTLE BROOK
KINGSBURY PISCATAQUIS COUNTY

PRELIMINARY STAGE CONSTRUCTION PLANS

SHEET NUMBER

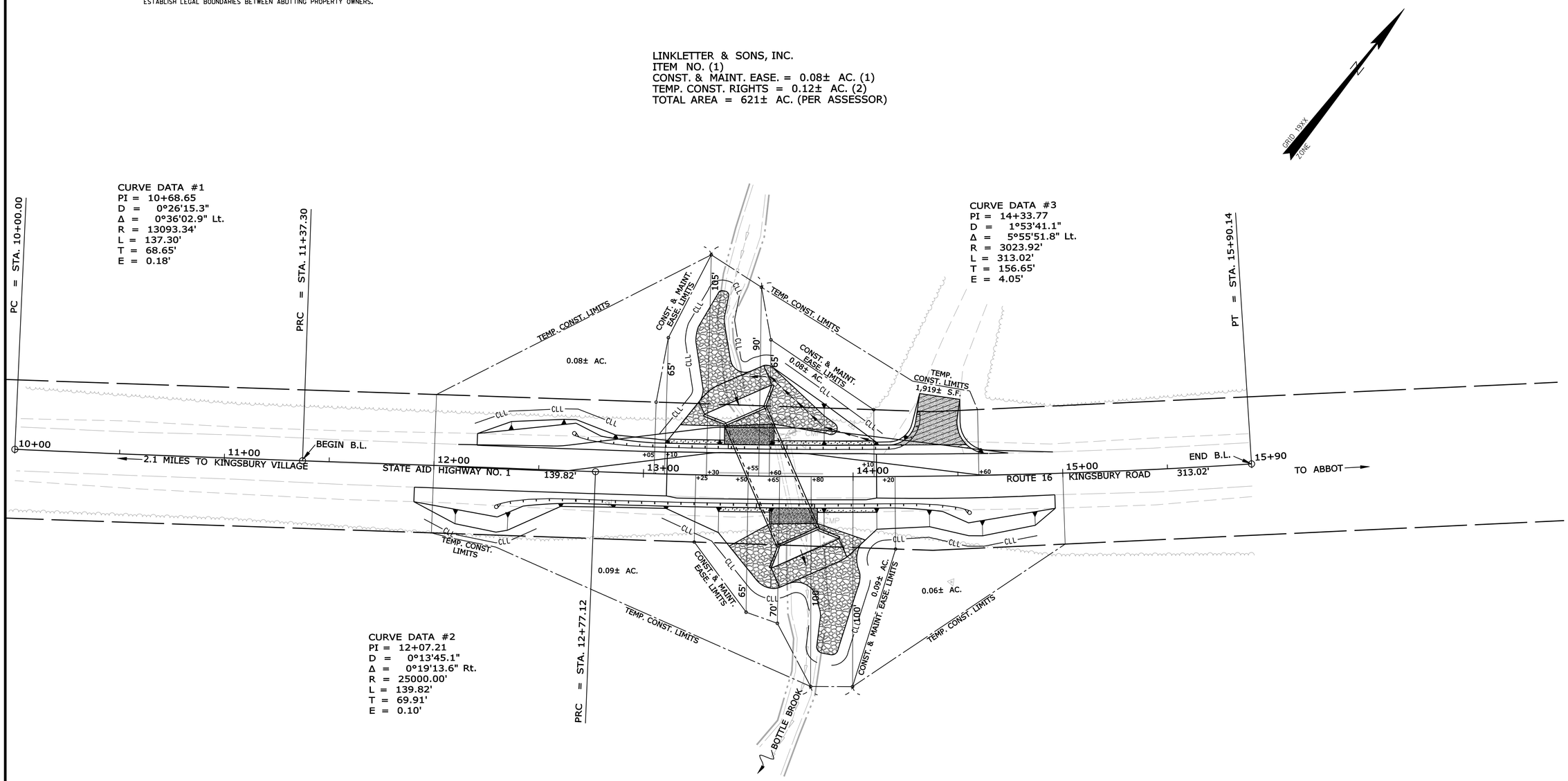
13

OF 14

Filename: ...\MSTA\013_StageConstr_2.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

LINKLETTER & SONS, INC.
ITEM NO. (1)
CONST. & MAINT. EASE. = 0.08± AC. (1)
TEMP. CONST. RIGHTS = 0.12± AC. (2)
TOTAL AREA = 621± AC. (PER ASSESSOR)



PRENTISS & CARLISLE COMPANY INC.
SHARON A. AHERN
MARY H. AHERN
JOAN N. CURRY
DESERT STATE LIFE MANAGEMENT SERVICES
AS CONSERVATOR FOR THOMAS AHERN III
ITEM NO. (2)
CONST. & MAINT. EASE. = 0.09± AC. (1)
TEMP. CONST. RIGHTS = 0.15± AC. (2)
TOTAL AREA = 224± AC. (PER ASSESSOR)

EXISTING RIGHT OF WAY REFERENCES

PISCATAQUIS COUNTY COMMISIONERS RECORDS
VOL. 1, PAGE 414
1850, 4 RODS WIDE

WIN 019179.00

SYMBOLS
IP or IPF (IRON PIPE or PIN FOUND)
S.T. (SEPTIC TANK)
(ROW MONUMENT)
BM (TRAVERSE POINT)
WATER LINE
GAS LINE
ELECTRIC LINE
TELEPHONE LINE
SEWER LINE
WELL (WELL)
GRADING LIMIT LINE
CONSTRUCTION LIMIT LINE
PROPERTY LINE PL
LIMITS OF WROUGHT PORTION (L.O.W.P.)
EXISTING RIGHT OF WAY
NEW RIGHT OF WAY
NEW ROW WITHIN EXIST. ROW
CONTROL OF ACCESS

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W	PNS	
PROP. LINES	PNS	
AREAS		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016
KINGSBURY PLANTATION
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	2/3/14	2285	98

DAVID BERNHARDT
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

STATE OF MAINE
PETER A. BELANGER 1341
PROFESSIONAL LAND SURVEYOR

STATE AID HIGHWAY NO. 1
ROUTE 16 KINGSBURY ROAD
KINGSBURY PLANTATION PISCATAQUIS COUNTY
STATE PROJECT NO. 19179.00

DECEMBER 2013 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 11-135
SCALE 1" = 25' | SHEET 1 OF 1

SHEET NUMBER
14
OF 14

Filename: ...\00\ROW\MSTA\001_RWPLAN1.dgn Division: BRIDGE Username: David.Sullivan Date:2/11/2014