STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

KENDUSKEAG
PENOBSCOT COUNTY
VILLAGE BRIDGE
OVER
KENDUSKEAG STREAM
STETSON ROAD
FEDERAL AID PROJECT NO. BR-1757(600)X
PROJECT LENGTH 0.047 mi.
BRIDGE REPLACEMENT
BRIDGE NO. 2975

SPECIFICATIONS

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

DESIGN LOADING

Live Load ..... HL - 93 Modified

TRAFFIC DATA

Current (2010) AADT	2890
Future (2030) AADT	3470
DHV - % of AADT	11
Design Hour Volume	382
Heavy Trucks (% of AADT)	14
Heavy Trucks (% of DHV)	6
Directional Distribution (% of DHV)	60
18 kip Equivalent P 2.0	368
18 kip Equivalent P 2.5	351
Design Speed (mph)	35

HYDROLOGIC DATA

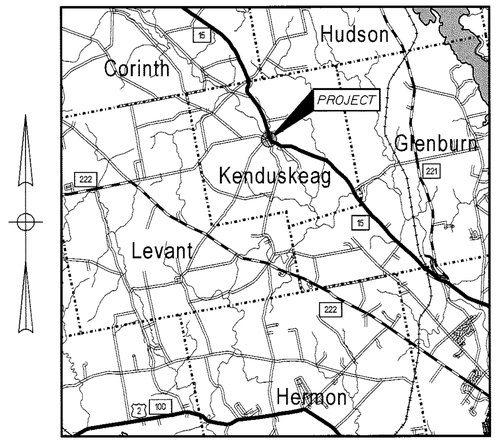
Drainage Area	121.2 sq mi
Design Discharge (Q50)	6680 cfs
Check Discharge (Q100)	7590 cfs
Headwater Elevation (Q50)	120.32 ft
Headwater Elevation (Q100)	121.05 ft
Discharge Velocity (Q50)	6.38 fps
Discharge Velocity (Q100)	6.79 fps
Headwater Elevation (Q1.1)	114.91 ft
Discharge Velocity (Q1.1)	2.83 fps
Headwater Elevation (Q25)	119.55 ft

MATERIALS

Concrete:	
Barriers, Curbs, Sidewalks & Transition Barriers	Class "LP"
Seals	Class "S"
All Other	Class "A"
Reinforcing Steel	ASTM A 615/A 615M, Grade 60
Structural Steel:	
All Material (except as noted)	ASTM A 709, Grade 50W (unpainted)
High Strength Bolts	ASTM A 325, Type 3

BASIC DESIGN STRESSES

Concrete	f 'c = 4,350 psi
Reinforcing Steel	f y = 60,000 psi
Structural Steel:	
ASTM A 709, Grade 50W	F y = 50,000 psi
ASTM A 325	F μ = 120,000 psi



LOCATION MAP

2 0 2 4
Scale of Miles

LIST OF DRAWINGS

UTILITIES

Bangor Hydro-Electric Company
Mid-Maine Telecom
Time Warner Cable

MAINTENANCE OF TRAFFIC

The bridge will be closed to traffic during construction. Traffic will be maintained on Mudgett Road, Higgins Road, Route 15 and Stetson Road.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

COMMISSIONER: _____ DATE 3/11/11

CHIEF ENGINEER: _____ DATE 3/11/11

STATE OF MAINE · REGISTERED PROFESSIONAL ENGINEER · Robert S Bulger · 4410

Robert S. Bulger
SIGNATURE
4410
PE NUMBER
March 9, 2011
DATE

PROJECT INFORMATION

PROGRAM	BRIDGE
PROJECT MANAGER	S. BODGE
DESIGNER	R. BULGER
CONSULTANT	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

PIN 17576.00

BR-1757(600)X

KENDUSKEAG
VILLAGE BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 28

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE (Concrete - 490 CY, Steel - 72.5 T)	1	LS
203.20	COMMON EXCAVATION	570	CY
203.24	COMMON BORROW	5	CY
203.25	GRANULAR BORROW	1230	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	1720	CY
206.092	STRUCTURAL ROCK EXCAVATION - MAJOR STRUCTURES	150	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	665	CY
403.102	HOT MIX ASPHALT PAVEMENT - SPECIAL AREAS	5	T
403.209	HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENTALS)	25	T
403.210	HOT MIX ASPHALT 9.5 MM HMA	263	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	194	T
409.15	BITUMINOUS TACK COAT - APPLIED	27	G
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RET. WALLS (530 CY)	1	LS
502.22	STRUCTURAL CONCRETE, ABUTMENTS AND RET. WALLS (PLACED UW)	610	CY
502.26	STR. CONC. RW AND SIDEWALK SLAB ON STEEL BRIDGES (128 CY)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (24 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALK (40 CY)	1	LS
502.56	CONCRETE FILL	60	CY
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	82,200	LB
503.13	REINFORCING STEEL, PLACING	82,200	LB
504.702	STR. STEEL FABRICATED AND DELIVERED, WELDED (192,000 LBS)	1	LS
504.71	STRUCTURAL STEEL ERECTION (192,000 LBS)	1	LS
505.08	SHEAR CONNECTORS (1668)	1	LS
507.0811	STEEL BRIDGE RAILING, 2 BAR (109 LF)	1	LS
507.0831	STEEL BRIDGE RAILING, 4 BAR (109 LF)	1	LS
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (460 SY)	1	LS
511.07	COFFERDAM: Abutment No. 1	1	LS
511.07	COFFERDAM: Abutment No. 2	1	LS
512.081	FRENCH DRAINS (250 LF)	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EA
515.20	PROTECTIVE COATING FOR CONCRETE SURFACES	275	SY
520.21	EXPANSION DEVICE - GLAND SEAL	1	EA
523.52	BEARING INSTALLATION	12	EA
523.5401	LAMINATED ELASTOMERIC BEARINGS, FIXED	6	EA
523.5402	LAMINATED ELASTOMERIC BEARINGS, EXPANSION	6	EA
526.30	TEMPORARY CONCRETE BARRIER - TYPE 1	60	LF
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	EA
527.303	ENERGY ABSORBING SYSTEM (ET-PLUS - 25 Ft. LENGTH)	2	EA
603.179	18 INCH CULVERT PIPE OPTION III	155	LF
604.163	ABANDONING CATCH BASIN	1	EA
604.247	CATCH BASIN TYPE F5-C	2	EA
604.249	CATCH BASIN TYPE F6-C	1	EA
605.09	6 INCH UNDERDRAIN TYPE B	212	LF
606.1721	BRIDGE TRANSITION - TYPE 1	4	EA
606.23	GUARDRAIL TYPE 3C - SINGLE RAIL	87.5	LF
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.79	GUARDRAIL 350 FLARED TERMINAL	2	EA
608.26	CURB RAMP DETECTABLE WARNING FIELD	23	SF
609.31	CURB TYPE 3	289	LF
610.08	PLAIN RIPRAP	290	CY
610.18	STONE DITCH PROTECTION	10	CY
613.319	EROSION CONTROL BLANKET	25	SY
615.07	LOAM	11	CY
618.1301	SEEDING METHOD NUMBER 1 - PLAN QUANTITY	1	UN
618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	2	UN
619.1401	EROSION CONTROL MIX	21	CY
620.58	EROSION CONTROL GEOTEXTILE	385	SY
627.733	4 INCH WHITE OR YELLOW PAINTED PAVE MRK LINE	1050	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	100	SF
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.121	HEAVY DUTY ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	40	HR
631.13	BULLDOZER (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)	50	HR
637.071	DUST CONTROL	1	LS
639.18	FIELD OFFICE TYPE A	1	EA
652.312	TYPE III BARRICADE	4	EA
652.33	DRUM	12	EA
652.34	CONE	12	EA
652.35	CONSTRUCTION SIGNS	774	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (300 CD)	1	LS
652.38	FLAGGER	50	HR
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. 115.0 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.

8. Place riprap as shown on General Plan Sheet.

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

10. 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.

11. Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls. Payment will be incidental to Pay Item No. 656.75, Temporary Soil Erosion and Water Pollution Control.

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

13. 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.

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

All exposed surfaces of concrete curbs and sidewalks.
Fascias down to the drip notch.
All exposed surfaces of Concrete Transition Barriers.
Top of abutment backwall at Abutment No. 1 and to one foot below the top of backwall on the back side.
Top of abutment wingwalls and to one foot below the top of wingwalls on each face.

15. 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.

16. 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.

17. 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.

18. The project geotechnical report titled: Geotechnical Design Report for the Replacement of Village Bridge over Kenduskeag Stream, Kenduskeag, ME, Soils Report No. 2010-30, November 3, 2010 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. The Contractor shall submit a Bridge Demolition Plan to the Resident at least 10 business days prior to the start of demolition work. The plan shall outline the methods and equipment to be used to remove and dispose of all materials included in the existing bridge. No work related to the removal of the bridge shall be undertaken by the Contractor until MaineDOT has reviewed the Bridge Demolition Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting and finalizing the Demolition Plan will be considered incidental to the bridge removal pay item.

22. The existing bridge shall be removed by and become the property of the Contractor. The steel portions of the existing bridge are coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge is removed, the Contractor is solely responsible for the care, custody and control of the components of the existing bridge and any hazardous waste generated as a result of the storage, recycling or disposal of the bridge components, including lead-coated steel. The Contractor shall recycle or reuse the steel in accordance with the Maine Department of Environmental Protection's "Maine Hazardous Waste Management Regulations," Chapter 850. A copy of this regulation is available at MaineDOT's offices on Child Street in Augusta. Payment for all labor, materials, equipment and other costs required to remove and dispose of the existing bridge will be considered incidental to the bridge removal pay item.

23. Guardrail posts shall have a modified length of 7'-0" and an embedment of 4'-8".

24. The Contractor shall use Seeding Method No. 1 exclusively on the Northeasterly quadrant.

25. The Contractor shall remove and reset the dry laid granite wall in the Southeasterly quadrant along the river and the wall labeled "wide landscape timber" behind it as directed by the Resident. Payment for all work removing and resetting the granite wall and the back "timber" wall shall be considered incidental to Pay Item No. 206.082, Structural Earth Excavation - Major Structures.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Show	JUNE 2010
CHECKED-REVIEWED	M. Wight	MRP & DMS	------
DESIGN2-DETAILED2	------	------	------
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

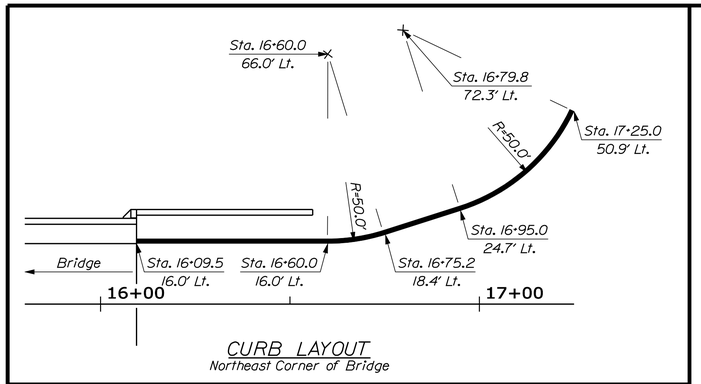
VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

ESTIMATED QUANTITIES and GENERAL CONSTRUCTION NOTES

SHEET NUMBER

2

OF 28



CURB LAYOUT
Northeast Corner of Bridge

PLAN

25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BODGE
DESIGN-DETAILED	R. Bulger
CHECKED-REVIEWED	M. Wight
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	D. Show	JUNE 2010
REVISIONS 2	MRP & DMS	-----
REVISIONS 3	-----	-----
REVISIONS 4	-----	-----
FIELD CHANGES	-----	-----

SIGNATURE

P.E. NUMBER

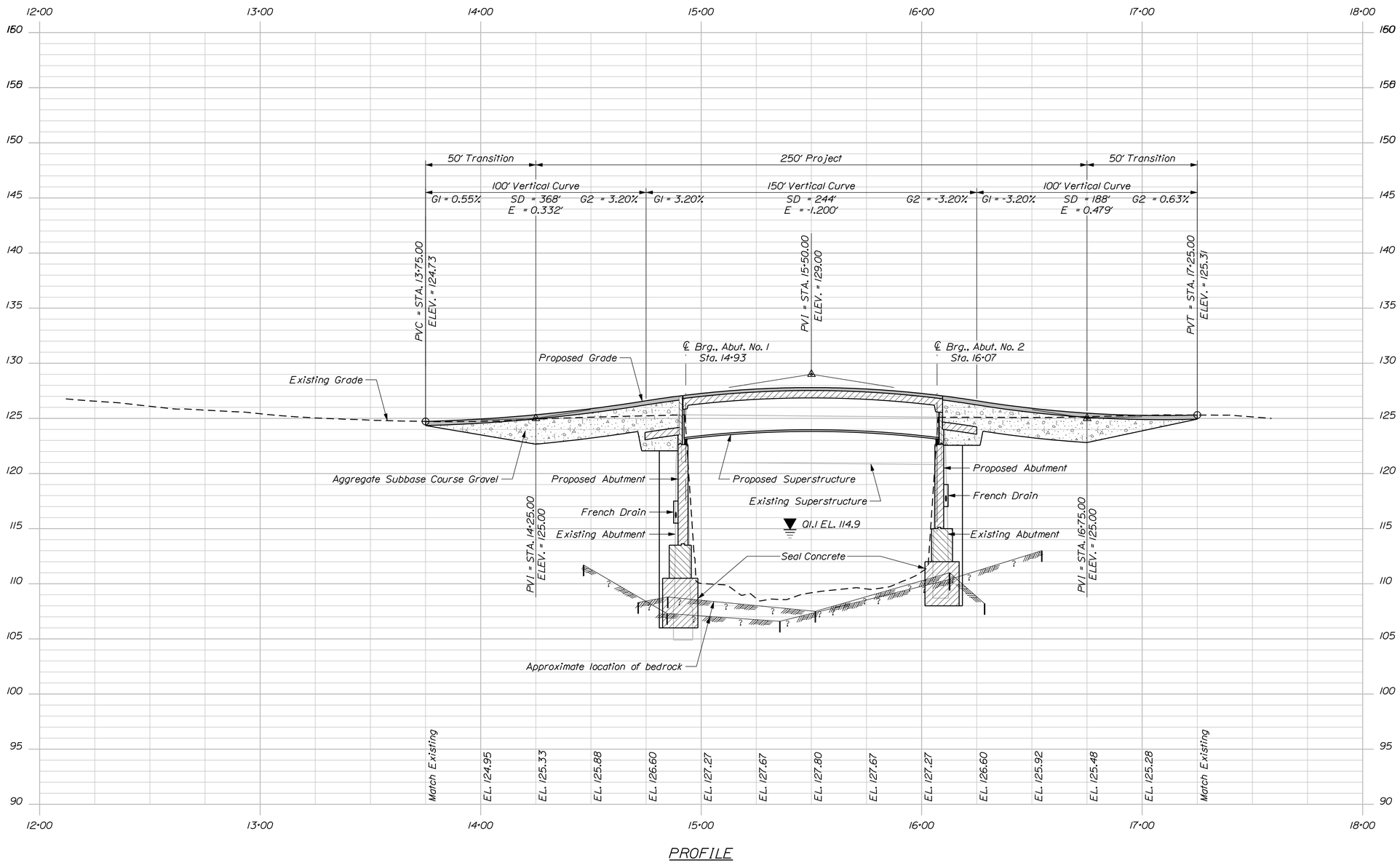
DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

GENERAL PLAN

SHEET NUMBER
3
OF 28

Filename: ...\mslo\003_GeneralPlan.dgn Division: BRIDGE Username: david.show Date:3/10/2011



PROFILE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	S. BODGE	
DESIGN-DETAILED	D. Shaw	JUNE 2010
CHECKED-REVIEWED	R. Bulger	MRP & DMS
DESIGN2-DETAILED2	M. Wight	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

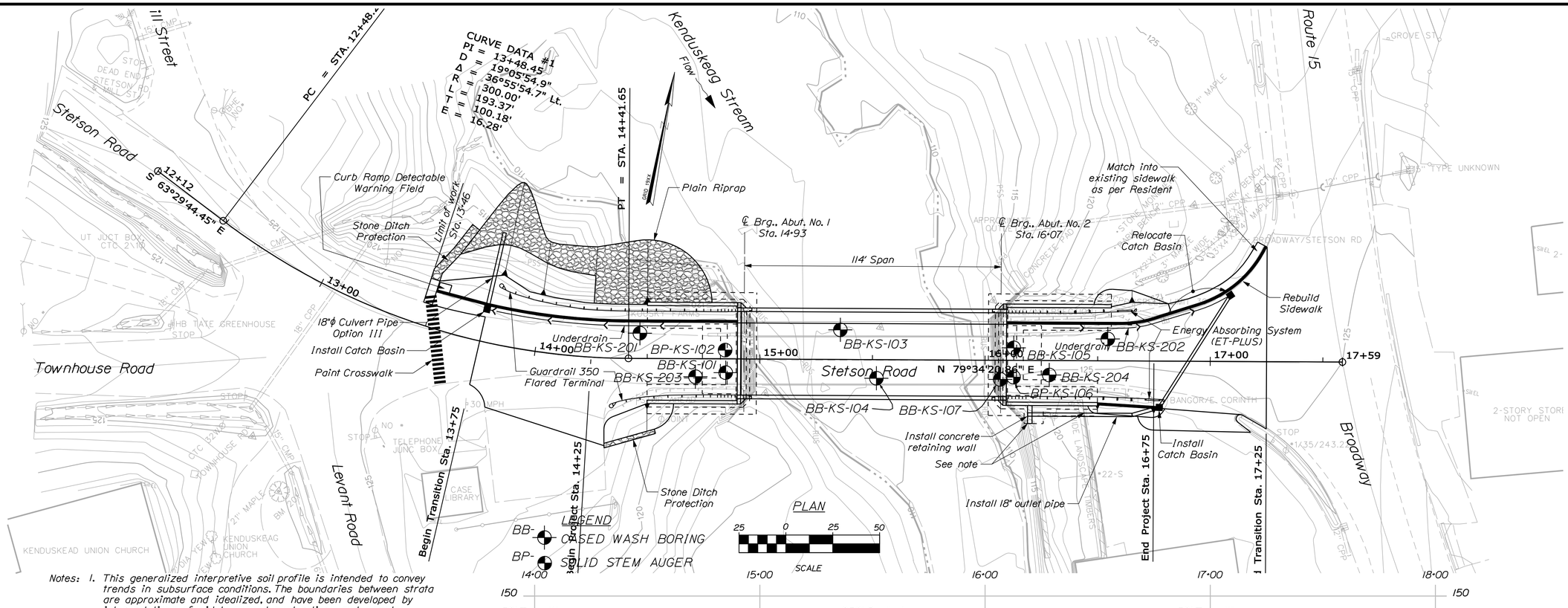
PROFILE

SHEET NUMBER

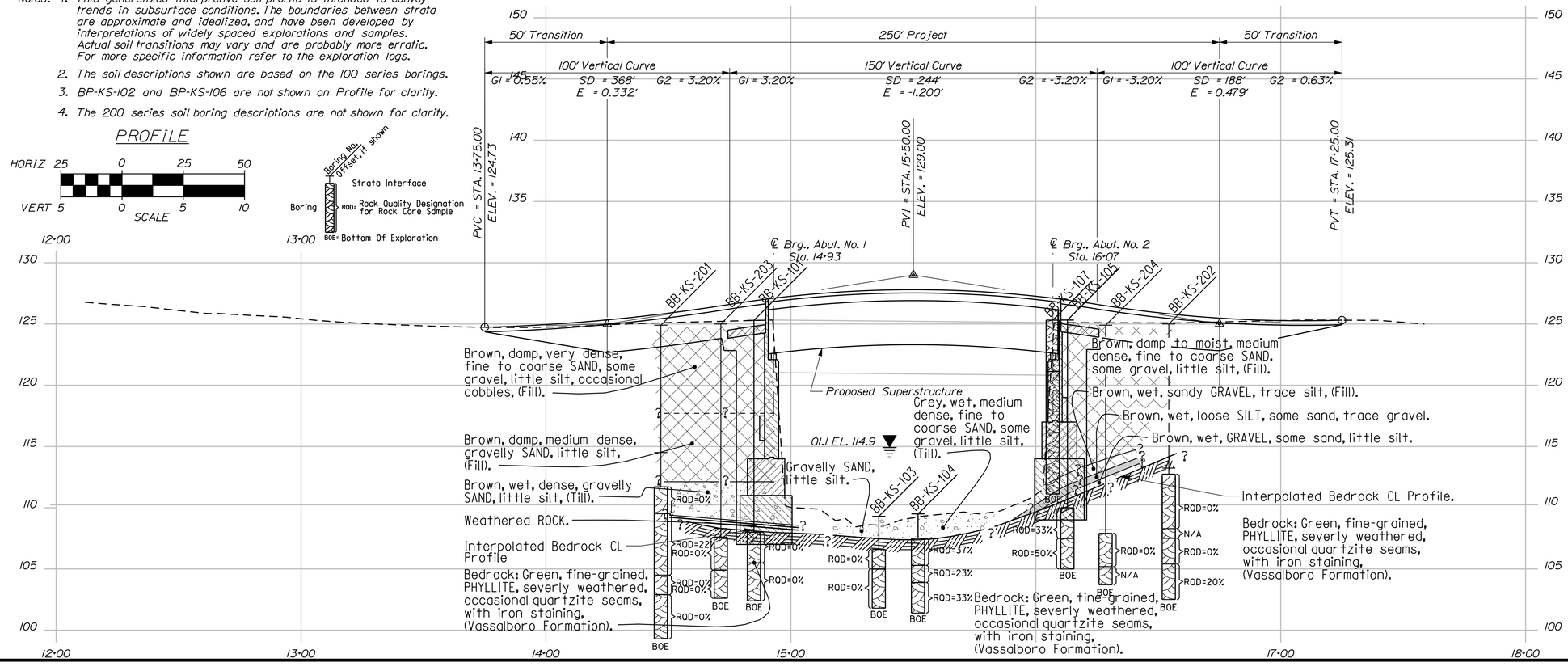
4

OF 28

Filename: ...\00\bridge\vmsto\004_Profile.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



Notes:
1. 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.
2. The soil descriptions shown are based on the 100 series borings.
3. BP-KS-102 and BP-KS-106 are not shown on Profile for clarity.
4. The 200 series soil boring descriptions are not shown for clarity.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BOOGE	BY	DATE
DESIGN-DETAILED	M.MOREAU	T. WHITE	JUNE 2010
CHECKED-REVIEWED	M.MOREAU	-----	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

BORING LOCATION PLAN & INTERPRETIVE SUBSURFACE PROFILE

SHEET NUMBER

5

OF 28

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BP-KS-102

Driller:	MaineDOT	Elevation (ft.): 125.3	Auger ID/OD: 4.5"
Operator:	G. Lidstone/B. Hyland	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: N/A
Date Start/Finish:	3/21/05-3/21/05	Drilling Methods: Solid Stem Auger	Core Barrel: N/A
Boring Location:	14+84.6, 3.9 Lt.	Casing ID/OD: N/A	Water Level(ft): None Observed

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
					SSA			No descriptions taken.	
						107.30		Weathered ROCK.	18.00
						106.20		Bottom of Exploration at 19.1 feet below ground surface. REFUSAL	19.10

Remarks:

Stratification lines represent approximate boundaries between soil typest 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.: BP-KS-102

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BB-KS-101

Driller:	MaineDOT	Elevation (ft.): 125.3	Auger ID/OD: 4.5" SSA
Operator:	B.Wilder/G. Lidstone	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	M. Moreau	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	3/21/05-3/21/05	Drilling Methods: Cased Wash Boring	Core Barrel: NW
Boring Location:	14+84.5, 6.1 Rt.	Casing ID/OD: HW	Water Level(ft): 12.5' bgs

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
					SSA	124.80		Pavement — 0.50	
1D	24/24	1.00 - 3.00	23/43/37/38	80				Brown, damp, very dense, well graded, fine to coarse SAND, some gravel, little silt, occasional cobbles. (Fill).	GM181080 A-1-b, SM WC=6.2%
2D	24/15	3.00 - 5.00	25/32/25/28	57				Similar to above. some silt.	GM181081 A-1-b, SM WC=7.0%
3D	12/12	5.00 - 6.00	16/55(6")	---				Similar to above. some gravel. Refusal on spoon at 6.0' bgs. Cobble from 6.0-6.2' bgs.	GM181082 A-2-4, SM WC=6.7%
4D	24/8	7.50 - 9.50	7/5/6/5	11		117.80		Brown, damp, medium dense, gravelly SAND, little silt. (Fill). — 7.50	GM181083 A-1-a, SM WC=6.0%
5D	24/12	10.00 - 12.00	3/5/7/8	12	43			Brown, damp, medium dense, fine to coarse SAND, some gravel, some silt.	GM181084 A-1-b, SM WC=7.0%
					39				
6D	24/9	12.50 - 14.50	22/17/25/10	42	25/3	112.80		Brown, wet, dense, gravelly SAND, little silt. (Till). — 12.50	GM181085 A-1-b, SM WC=24.8%
					50				
7D	24/16	15.00 - 17.00	7/4/18/30	22	45			Brown, wet, dense, fine to coarse SAND, some gravel, little silt and organics, wood (Till).	GM181086 A-1-b, SM WC=28.6%
					150	108.80			
					050 NR	108.00		Weathered ROCK. 050 blows for 0.3". Refusal at 17.1' bgs. Roller coned ahead from 17.1-17.3' bgs. — 16.50	
R1	30/30	17.30 - 19.80	RQD = 0%					Bedrock: Green, fine-grained, PHYLLITE, severly weathered, occasional quartzite seams, with iron staining. (Vassalboro Formation). — 17.30	
R2	37.2/ 37.2	19.80 - 22.90	RQD = 0%					R1: Core Times (minisec) 17.3-18.3' (6:30) 18.3-19.8' (7:00) 100% Recovery	
								R2: Core Times (minisec) 19.8-20.8' (8:00) 20.8-21.8' (7:00) 21.8-22.8' (8:00) 22.8-22.9' (4:00) 100% Recovery	
						102.40		Bottom of Exploration at 22.9 feet below ground surface. — 22.90	

Remarks:

Stratification lines represent approximate boundaries between soil typest 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-KS-101

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BB-KS-103

Driller:	MaineDOT	Elevation (ft.): 109.3	Auger ID/OD: 4.5" SSA
Operator:	B.Wilder/G. Lidstone	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	M. Moreau	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	3/22/05-3/22/05	Drilling Methods: Cased Wash Boring	Core Barrel: NW
Boring Location:	15+35.7, 13.2 Lt.	Casing ID/OD: HW	Water Level(ft): None Observed

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
					30			Gravelly SAND, little silt in wash water.	
					43				
R1	19.2/ 19.2	2.70 - 4.30	RQD = 0%		9300 NR	106.60		9300 blows for 0.3". — 2.70	
R2	38.4/ 38.4	4.30 - 7.50	RQD = 0%					Bedrock: Green, fine-grained, PHYLLITE, severly weathered, occasional quartzite seams, with iron staining. (Vassalboro Formation).	
								R1: Core Times (minisec) 2.7-3.7' (8:00) 3.7-4.3' (5:00) 100% Recovery	
								R2: Core Times (minisec) 4.3-5.3' (6:00) 5.3-6.3' (7:00) 6.3-7.3' (7:00) 7.3-7.5' (5:00) 100% Recovery	
						101.80		Bottom of Exploration at 7.5 feet below ground surface. — 7.50	

Remarks:

16.8' from middle of sidewalk to Ground.
Sidewalk elevation taken from spot elevation from topo plans.

Stratification lines represent approximate boundaries between soil typest 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-KS-103

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BB-KS-104

Driller:	MaineDOT	Elevation (ft.): 109.5	Auger ID/OD: 4.5" SSA
Operator:	G. Lidstone/B. Hyland	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	3/23/05-3/23/05	Drilling Methods: Cased Wash Boring	Core Barrel: NW
Boring Location:	15+51.8, 8.3 Rt.	Casing ID/OD: HW	Water Level(ft): At Ground Surface

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
1D	21/13	0.00 - 1.75	7/11/14/50(3")	25	30			Grey, wet, medium dense, fine to coarse SAND, some gravel, little silt. (Till).	GM181087 A-1-b, SM WC=11.1%
					125	107.75			
R1	26.4/ 26.4	2.00 - 4.20	RQD = 37%		NR	101.50		Rock fragments, weathered rock at 1.75' bgs. — 1.75	
R2	16.8/ 16.8	4.20 - 5.60	RQD = 23%					Bedrock: Green, fine-grained, PHYLLITE, severly weathered, occasional quartzite seams, with iron staining. (Vassalboro Formation). — 2.00	
R3	30/30	5.60 - 8.10	RQD = 33%					R1: Core Times (minisec) 2.0-3.0' (7:30) 3.0-4.0 (11:00) 4.0-4.2' (8:00) 100% Recovery	
								R2: Core Times (minisec) 4.2-5.2' (6:30) 5.2-5.6' (6:00) 100% Recovery	
								R3: Core Times (minisec) 5.6-6.6' (8:00) 6.6-7.6' (7:00) 7.6-8.1 (6:00) 100% Recovery	
						101.40		Bottom of Exploration at 8.1 feet below ground surface. — 8.10	

Remarks:

16.0' from Bridge Deck to Ground. Bridge Deck 1.1' thick.

Stratification lines represent approximate boundaries between soil typest 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-KS-104

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BB-KS-107

Driller:	MaineDOT	Elevation (ft.): 125.3	Auger ID/OD: N/A
Operator:	G. Lidstone	Datum: NAVD 88	Sampler: N/A
Logged By:	G. Lidstone	Rig Type: CME 45C	Hammer Wt./Fall: N/A
Date Start/Finish:	3/25/05-3/25/05	Drilling Methods: Core thru Bridge Abut#2	Core Barrel: NQ-2"
Boring Location:	16+06.8, 8.5 Rt.	Casing ID/OD: N/A	Water Level(ft): N/A

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
R1	50.4/ 50.4	0.00 - 4.20			ND			CONCRETE	
								R1: Core Times (minisec) 0.0-1.0' (4:08) 1.0-2.0' (9:13) 2.0-3.0' (4:57) 3.0-4.0' (10:02) 4.0-4.2' (3:00) No loss of drilling water.	
R2	60/60	4.20 - 9.20						R2: Core Times (minisec) 4.2-5.2' (2:50) 5.2-6.2' (3:02) 6.2-7.2' (2:58) 7.2-8.2' (2:17) 8.2-9.2' (2:15) No loss of drilling water.	
R3	60/60	9.20 - 14.20						R3: Core Times (minisec) 9.2-10.2' (11:45) 10.2-11.2' (11:52) 11.2-12.2' (12:05) 12.2-13.2' (2:12) 13.2-14.2' (2:15) No loss of drilling water	
						111.10		Bottom of Exploration at 14.2 feet below ground surface. — 14.20	

Remarks:

Stratification lines represent approximate boundaries between soil typest 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-KS-107

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BB-KS-105

Driller:	MaineDOT	Elevation (ft.): 125.3	Auger ID/OD: 4.5" SSA
Operator:	G. Lidstone/B. Hyland	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	G. Lidstone	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	3/28/05-3/29/05	Drilling Methods: Cased Wash Boring	Core Barrel: NW
Boring Location:	16+12.7, 5.6 Lt.	Casing ID/OD: NQ-2"	Water Level(ft): 12.0' bgs

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
					SSA	125.05		Pavement — 0.25	
1D	24/13	1.00 - 3.00	9/13/10/15	23		124.30		Brown, damp, fine to course SAND, some gravel, little silt. (Fill). — 4.00	GM181088 A-1-b, SW-SM WC=9.1%
2D	24/14	3.00 - 5.00	19/16/17/18	33				Brown, moist, medium dense, fine to coarse SAND, some gravel, little silt. (Fill).	GM181089 A-1-b, SM WC=6.4%
3D	24/13	5.00 - 7.00	10/14/12/9	26				Similar to above.	GM181090 A-1-b, SW-SM WC=6.2%
4D	24/12	7.50 - 9.50	6/7/7/8	14				Similar to above.	GM181091 A-1-b, SM WC=5.3%
5D	24/9	10.00 - 12.00	5/7/8/13	15	22			Similar to above.	GM181092 A-1-b, SW-SM WC=6.8%
					28				
					117	113.30		Brown, wet, sandy GRAVEL, trace silt. (Fill). — 12.00	
6D/6B	24/8	13.00 - 15.00	35/3/9/47	12	47	111.80		(6D/A) 13.4-14.2' bgs. — 13.40	GM181093 A-4, M WC=45.6% GM181094 A-1-b, GP-GM WC=14.0%
					68	111.10		Brown, wet, loose, SILT, some sand, trace gravel. — 14.20	
R1	30/27	15.30 - 17.80	RQD = 33%		ND	110.40		(6D/B) 14.2-14.9' bgs. Brown, wet, GRAVEL, some sand, little silt. — 14.90	
						110.00		Weathered ROCK. Washed ahead from 15.0-15.3' bgs. — 15.30	
R2	30/30	17.80 - 20.30	RQD = 50%					Bedrock: Green, fine-grained, PHYLLITE, severly weathered, occasional quartzite seams, with iron staining. (Vassalboro Formation).	
								R1: Core Times (minisec) 15.3-16.3' (4:02) 16.3-17.3' (4:15) 17.3-17.8 (3:00)	
								R2: Core Times (minisec) 17.8-18.8' 18.8-19.8' 19.8-20.3'	
						105.00		Bottom of Exploration at 20.3 feet below ground surface. — 20.30	

Remarks:

Stratification lines represent approximate boundaries between soil typest 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-KS-105

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

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine
PIN: 17576.00

Boring No.: BP-KS-106

Driller:	MaineDOT	Elevation (ft.): 125.3	Auger ID/OD: 4.5"
Operator:	G. Lidstone/B. Hyland	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	B. Wilder	Rig Type: CME 45C	Hammer Wt./Fall: N/A
Date Start/Finish:	3/21/05-3/21/05	Drilling Methods: Solid Stem Auger	Core Barrel: N/A
Boring Location:	16+12.7, 1.5 Rt.	Casing ID/OD: N/A	Water Level(ft): 12.5' bgs

Definitions: D = Split Spoon Sample; WO = Unsuccessful Split Spoon Sample attempt; U = Thin Wall Tube Sample; R = Rock Core Sample; V = Insitu Vane Shear Test; SSA = Solid Stem Auger; S_u = Insitu Field Vane Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf); q_u = Unconfined Compressive Strength (ksf); $S_{u(LAB)}$ = Lab Vane Shear Strength (psf); WOH = weight of HAS lb. hammer; WOR = weight of rods; WC = water content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample Information: Depth (ft.) | Sample No. | Pen./Rec. (in.) | Sample Depth (ft.) | Blows / 6 in. Shear Strength (psf) or RQD (%) | N-value | Casing Blows | Elevation (ft.) | Graphic Log

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	N-value	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
					SSA			No descriptions taken.	
						111.00		Weathered ROCK.	14.30
						110.80		Bottom of Exploration at 14.5 feet below ground surface. REFUSAL	14.50

Remarks:

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Page 1 of 1 — Boring No.: BP-KS-106

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	S. BRIDGE	
DESIGN-DETAILED	T. WHITE	JUNE 2010
CHECKED-REVIEWED	M.MOREAU	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

BORING LOGS

SHEET NUMBER

6

OF 28

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine

Boring No.: BB-KS-201
PIN: 17576.00

Driller:	MaineDOT	Elevation (ft.): 124.9	Auger ID/OD: 5" SSA
Operator:	Giguere/Giles/Daggett	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	Be Schonewald	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	8/24 /101 0?130-10140	Drilling Method: Cased Wash Boring	Core Barrell: NQ-2"
Boring Location:	14+46.9, 11.2 Lt.	Casing ID/OD: HW	Water Level*: None Observed

Hammer Efficiency Factor: 0.84 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions:
S = Split Spoon
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MW = Unsuccessful Thin Wall Tube Sample attempt
V = Insltu Vane Shear Test. PP = Pocket Penetrometer
WOR/C = weight of rods or casing
WOH = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
S_r = Pocket Torvane Shear Strength (psf)
q_u = 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%=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. or Pressure, Strength (psf) or RQD (%)	N-uncorrected	%Qt	Casing Blows	Sample Elevation (ft.)	Graphic Log
0							SSA		
	10	24/8	1.00 - 3.00	5/5/3/6	8	11			
5									
							NQ-2		
	MD	24/0	6.10 - 8.10	2/2/1/1	3	4	---		
							18		
							81		
							940		
10	R1	60/36	10.40 - 15.40	ROD = 90%			NQ-2	114.50	
	R2	60/54	15.40 - 20.40	ROD = 22%				109.50	
15	R3	19.2/18	20.40 - 22.00	ROD = 0%				104.50	
	R4	43.2/30	22.00 - 25.60	ROD = 0%				102.90	
20								99.30	
25									
30									
35									
40									
45									
50									

Visual Description and Remarks

Laboratory Testing Results/ AASHTO and Unified Class

Brown, damp, medium dense, gravelly, fine to medium SAND, trace to little silt, trace coarse sand. (Fill).

Cored through Boulder from 5.2-6.1 ft bgs.

Failed sample attempt. likely missed sample and low blow counts due to disturbance from coring boulder. No resample for same reason.

040 blows for 8".

Top 2.8 ft R1 Granite Boulders or Blocks. (Fill?). RQD applies to bedrock. not overlying boulders/blocks.

10.40

Top of Bedrock at Elev. 111.7 ft. -13.20

R1:Bedrock Greyish green, fine grained, hard, slightly weathered, calcareous muscovite PHYLLITE. Evidence of quartz seam. Lower portion of sample consists primarily of subrounded to sunangular gravel. [Vassalboro Formation]

R1:Core Times (minsec)
10.4-11.4 ft (2:45)
11.4-12.4 ft (3:20)
12.4-13.4 ft (11:45)
13.4-14.4 ft (2:20)
14.4-15.4 ft (2:10) 60% Recovery

15.40

R2:Bedrock Greyish green, fine grained, hard, fresh to slighhy weathered, calcareous muscovite PHYLLITE with evidence of thin, steeply dipping bedding. Numerous calcite- quartz and quartz-feldspar veins and seams. 100% recovery. Weathered seam from 18.6- 19.1 ft. Close to moderately close, low and high angle, stepped and undulating, rough, fresh to discolored. tight to open breaks along bedding and aoross calcite and quartz veins and seams. Evidence of mud seams in bottom 12". [Vassalboro Formation]

R2:Core Times (minsec)
15.4-16.4 ft (2:55)
16.4-17.4 ft (4:10)
17.4-18.4 ft (5:30)
18.4-19.4 ft (4:15)

19.4-20.4 ft (4:05) 90% Recovery

20.40

R3:Bedrock Same as R2 with more frequent, typically vertical breaks. Bottom of sample consists of angular gravel. [Vassalboro Formation]

R3:Core Times (minsec)
20.4-21.4 ft (3:20)
21.4-22.0 ft (-:--) 94% Recovery

22.00

R4:Bedrock Same as R2. Core sample consists of angular gravel. [Vassalboro Formation]

R4:Core Times (minsec)
22.0-23.0 ft (-:--)
23.0-24.0 ft (3:20)
24.0-25.0 ft (2:55)
25.0-25.6 ft (-:--) 75% Recovery

25.60

Bottom of Exploration at 25.60 feet below ground surface.

Remarks:
Some Rock Core times were not logged where the symbol (-:--) is shown.

Stratification lines represent approximate boundaries between soil typest 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-KS-201

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine

Boring No.: BB-KS-203
PIN: 17576.00

Driller:	MaineDOT	Elevation (ft.): 125.0	Auger ID/OD: 5" SSA
Operator:	Giguere/Giles/Daggett	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	Be Schonewald	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	8/24/101 10150-14105	Drilling Method: Cased Wash Boring	Core Barrell: NQ-2"
Boring Location:	14+71.4, 8.0 Rt.	Casing ID/OD: HW & NW	Water Level*: None Observed

Hammer Efficiency Factor: 0.84 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions:
S = Split Spoon Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MW = Unsuccessful Thin Wall Tube Sample attempt
V = Inslitu Vane Shear Test. PP = Pocket Penetrometer
WOR/C = weight of rods or casing
WOH = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
S_r = Pocket Torvane Shear Strength (psf)
q_u = 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%=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. or Pressure, Strength (psf) or RQD (%)	N-uncorrected	%Qt	Casing Blows	Sample Elevation (ft.)	Graphic Log
0							SSA	124.40	
	10	24/16	1.00 - 3.00	10/10/9/7	19	27			
5									
	20	24/10	5.00 - 7.00	3/4/5/5	9	13			
10	30	24/11	10.00 - 12.00	8/10/5/6	15	21	78		
							69		
							235		
							WASH	111.20	
15	40	24/11	15.00 - 17.00	4/10/38/33	48	67			
	R1	32.4/23	17.40 - 20.10	ROD = 0%			NQ-2	108.30	
20	R2	27.6/26	20.10 - 22.40	ROD = 0%				107.60	
								104.90	
								102.60	
25									
30									
35									
40									
45									
50									

Visual Description and Remarks

Laboratory Testing Results/ AASHTO and Unified Class

PAVEMENT. -0.60

Brown, damp, medium dense, fine to coarse sandy GRAVEL, trace to little silt. (Fill).

Brown, damp, medium dense, gravelly fine to coarse SAND, trace to little silt. (Fill).

Brown, damp, medium dense, gravelly fine to coarse SAND, trace to little silt. (Fill).

Roller Bit through 0.8 ft thick timber at approximately 13.0 ft bgs. -13.80

Greenish grey, very dense, fine to coarse sandy GRAVEL, little silt. (Till). Bottom 4" of sample consists primarily of crushed rock. -16.70

Top of Bedrock at Elev. 108.3 ft.

R1:Bedrock Greyish green, fine grained, hard, slightly weathered calcareous muscovite PHYLLITE. Upper 1.5 ft contains more biotite and is coarser grained possible schist. Core sample consists primarily of subrounded to subangular gravel. [Vassalboro Formation]

R1:Core Times (minsec)
17.4-18.4 ft (4:25)
18.4-19.4 ft (5:00)
19.4-20.1 ft (-:--) 71% Recovery

20.10

R2:Bedrock Same as lower portion of R1. Core sample consists of angular gravel and slabs. Evidence of vertical breaks along bedding. Evidence of mud seams.

R2:Core Times (minsec)
20.1-21.1 ft (-:--)
21.1-22.1 ft (4:10)
22.1-22.4 ft (3:35) 94% Recovery

22.40

Bottom of Exploration at 22.40 feet below ground surface.

Remarks:
Some Rock Core times were not logged where the symbol (-:--) is shown.

Stratification lines represent approximate boundaries between soil typest 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-KS-203

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine

Boring No.: BB-KS-204
PIN: 17576.00

Driller:	MaineDOT	Elevation (ft.): 124.9	Auger ID/OD: 5" SSA
Operator:	Giguere/Giles/Daggett	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	Be Schonewald	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	8/24/10-8/25/10	Drilling Method: Cased Wash Boring	Core Barrell: NQ-2"
Boring Location:	16+28.5, 6.4 Rt.	Casing ID/OD: HW & NW	Water Level*: None Observed

Hammer Efficiency Factor: 0.84 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions:
S = Split Spoon Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MW = Unsuccessful Thin Wall Tube Sample attempt
V = Inslitu Vane Shear Test. PP = Pocket Penetrometer
WOR/C = weight of rods or casing
WOH = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
S_r = Pocket Torvane Shear Strength (psf)
q_u = 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%=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. or Pressure, Strength (psf) or RQD (%)	N-uncorrected	%Qt	Casing Blows	Sample Elevation (ft.)	Graphic Log
0							SSA	124.70	
	10	24/15	1.00 - 3.00	12/10/7/8	17	24			
5									
	20	24/15	5.00 - 7.00	5/4/1/5	11	15			
10	30	4.8/3	10.00 - 10.40	50(4.8")	---		---		

							8		
	40/4B	24/9	15.00 - 17.00	1/2/2/13	4	6	26		
15	R1	32.4/26	17.00 - 19.70	ROD = 0%			NQ-2	108.20	
20	R2	18/18	19.70 - 21.20	ROD = 0%				105.20	
								103.70	
25									
30									
35									
40									
45									
50									

Visual Description and Remarks

Laboratory Testing Results/ AASHTO and Unified Class

PAVEMENT. -0.20

Brown, damp, medium dense, fine to coarse SAND, some gravel, trace to little silt. (Fill).

Brown, dry, medium dense, gravelly, fine to coarse SAND, trace to little silt. (Fill).

Brown, moist, fine to coarse SAND, some gravel, little silt, rock in tip of spoon. (Fill), Probable Boulder at 10.4 ft bgs.

HW Casing break at 12.5 ft , Moved ahead approximately 3 ft and continued boring with NW Casing.

40/4 (15.0-16.7 ft). Brown, loose, very fine sandy ORGANIC SILT with wood layers bottom and top. (Fill).

40/8 (16.7-17.0 ft). Greyish green crushed ROCK. -16.70

Top of Bedrock at Elev. 108.2 ft. 17.00

R1:Bedrock Greyish green, fine grained, hard, fresh to slighhy weathered calcareous muscovite PHYLLITE. with evidence of thin, vertical bedding. One highly weathered quartz and feldspar seam. Evidence (mud) of decomposition of calcite-rich beds. Most of core sample is angular gravel broken along vertical bedding. [Vassalboro Formation]

R1:Core Times (minsec)
17.0-18.0 ft (3:45)
18.0-19.0 ft (3:00)
19.0-19.7 ft (-:--) 80% Recovery

19.70

R2:Bedrock Same as R1.

R2:Core Times (minsec)
19.7-20.0 ft (-:--)
20.0-21.0 ft (3:55)
21.0-21.2 ft (-:--) 100% Recovery

21.20

Bottom of Exploration at 21.20 feet below ground surface.

Remarks:
Some Rock Core times were not logged where the symbol (-:--) is shown.

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Page 1 of 1

Boring No.: BB-KS-204

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Village Bridge #2975 over Kenduskeag Stream
Location: Stetson Road, Kenduskeag, Maine

Boring No.: BB-KS-202
PIN: 17576.00

Driller:	MaineDOT	Elevation (ft.): 125.0	Auger ID/OD: 5" SSA
Operator:	Giguere/Giles/Daggett	Datum: NAVD 88	Sampler: Standard Split Spoon
Logged By:	Be Schonewald	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"
Date Start/Finish:	8/25/101 9135-12135	Drilling Method: Cased Wash Boring	Core Barrell: NQ-2"
Boring Location:	16+54.3, 9.7 Lt.	Casing ID/OD: NW	Water Level*: 8.9 ft bgs.

Hammer Efficiency Factor: 0.84 — Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐

Definitions:
S = Split Spoon Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
MW = Unsuccessful Thin Wall Tube Sample attempt
V = Inslitu Vane Shear Test. PP = Pocket Penetrometer
WOR/C = weight of rods or casing
WOH = Weight of one person
S_u = Insitu Field Vane Shear Strength (psf)
S_r = Pocket Torvane Shear Strength (psf)
q_u = 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%=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. or Pressure, Strength (psf) or RQD (%)	N-uncorrected	%Qt	Casing Blows	Sample Elevation (ft.)	Graphic Log
0							SSA	124.45	
	10	24/18	1.00 - 3.00	12/25/12/14	37	52			
5									
	20	24/7	5.00 - 7.00	3/4/3/2	7	10			
10	30/4B	24/17	10.00 - 12.00	13/17/18/24	35	49	WASH	114.20	
							AHEAD	113.00	
	R1	50.4/48	12.50 - 16.70	ROD = 0%			NQ-2	112.50	
15	R2	9.4/9.4	16.70 - 17.50	ROD = 0%				108.30	
	R3	25.2/ 25.2	17.50 - 19.60	ROD = 0%				107.50	
20	R4	34.8/32	19.60 - 22.50	ROD = 20%				105.40	
								102.50	
25									
30									
35									
40									
45									
50									

Visual Description and Remarks

Laboratory Testing Results/ AASHTO and Unified Class

PAVEMENT. -0.55

Brown, damp, very dense, gravelly fine to coarse SAND, trace to little silt. (Fill). -42.00

Brown, damp, loose, fine to medium SAND, some gravel, little silt, trace coarse sand. (Fill). Tip of spoon moist to wet.

30/4A (10.0-10.8 ft). Brown, wet, dense fine to medium SAND, trace to little silt. (Fill).

30/4B (10.8-12.0 ft). Brown, dense, gravelly fine to coarse SAND, little to some silt. Bottom 12" decomposed rock. (Till). -42.00

Top of Bedrock at Elev. 113.0 ft. 12.50

R1:Bedrock Greyish green, fine grained, hard, fresh to slighhy weathered, calcareous muscovite PHYLLITE, with thin, steeply dipping to vertical bedding. Very close, high angle, stepped and undulating, rough to smooth, fresh to decomposed, open breaks along bedding. Much of core sample is angular gravel broken along bedding. [Vassalboro Formation]

R1:Core Times (minsec)
12.5-13.5 ft (4:40)
13.5-14.5 ft (4:30)
14.5-15.5 ft (5:20)
15.5-16.5 ft (6:20)
16.5-16.7 ft (-:--) 95% Recovery

16.70

R2:Bedrock Same as R1. Core sample consists primarily of angular gravel broken along vertical bedding. Evidence of decomposition of calcite-rich layers (mud). No complete 1 ft runs for core times. 100% Recovery

17.50

R3:Bedrock Same as R1.

R3:Core Times (minsec)
17.5-18.5 ft (10:25)
18.5-19.5 ft (7:30)
19.5-19.6 ft (-:--) 100% Recovery

19.60

R4:Bedrock same as R1. except fresh. more intact.

R4:Core Times (minsec)
19.6-20.6 ft (-:--)
20.6-21.6 ft (7:00)
21.6-22.5 ft (6:20) 92% Recovery

22.50

Bottom of Exploration at 22.50 feet below ground surface.

Remarks:
Some Rock Core times were not logged where the symbol (-:--) is shown.

Stratification lines represent approximate boundaries between soil typest 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-KS-202

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	M.MOREAU	T. WHITE	JUNE 2010
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

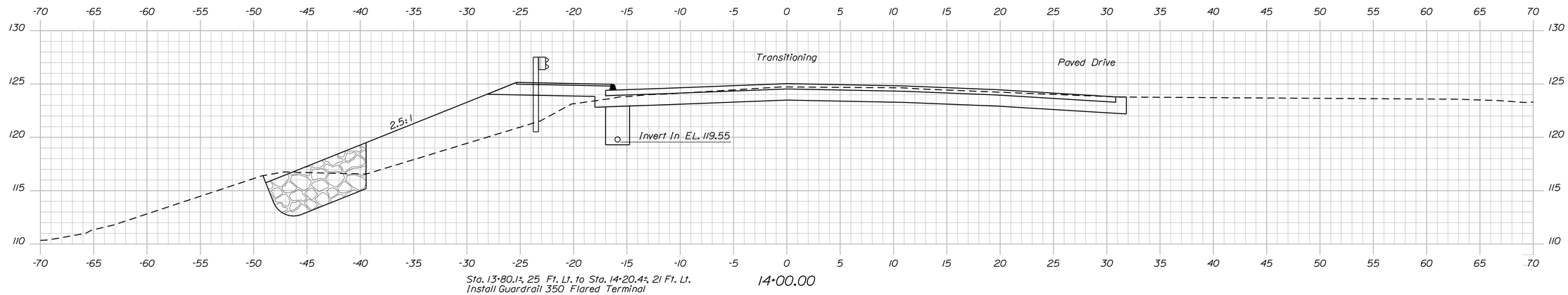
BORING LOGS

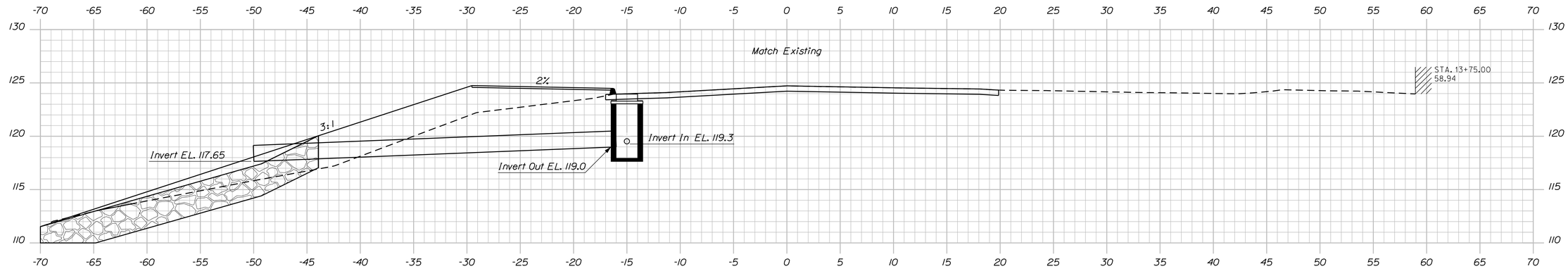
SHEET NUMBER

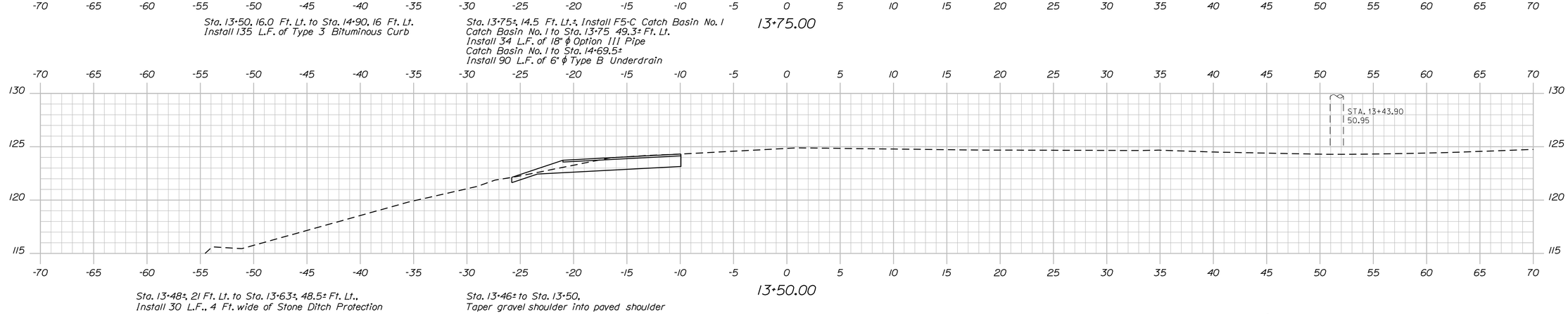
7

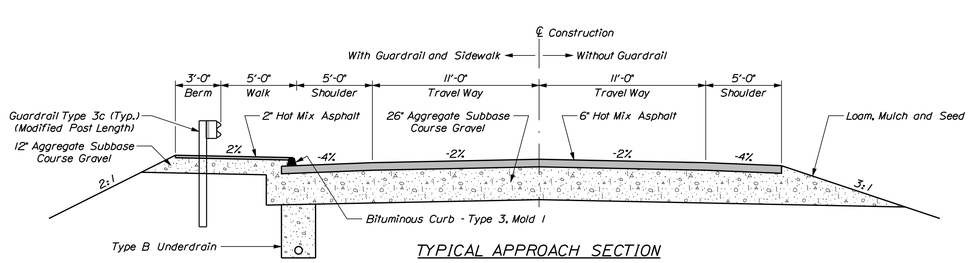
OF 28

Filename: ...\MSTA\007_BORING LOGS2.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011

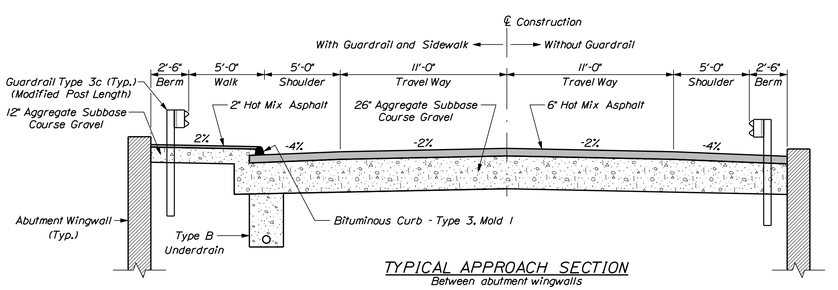








TYPICAL APPROACH SECTION



TYPICAL APPROACH SECTION
Between abutment wingwalls

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE		
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	M. Wight	MRP & DMS	------
DESIGN2-DETAILED2	------	------	------
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

CROSS SECTIONS

SHEET NUMBER

8

OF 28

Sta. 13+50.00 to Sta. 14+00.00

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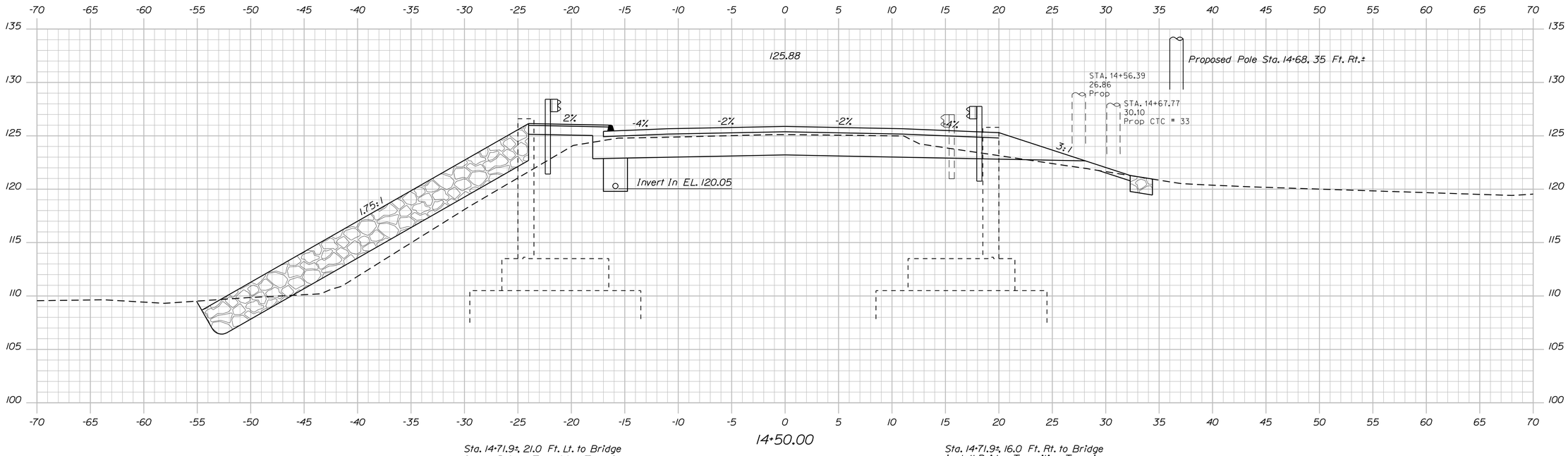
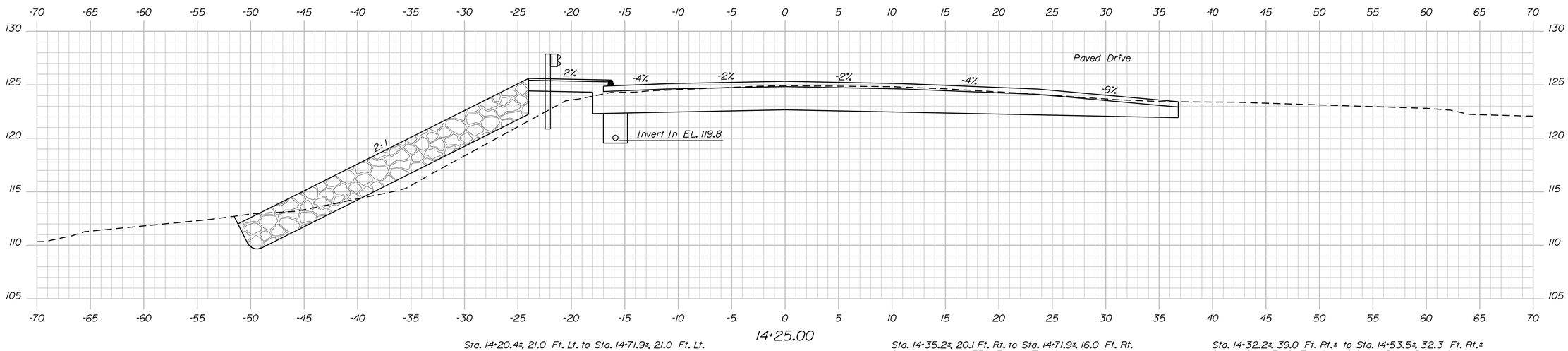




STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	M. Wight	MRP & DMS	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

CROSS SECTIONS

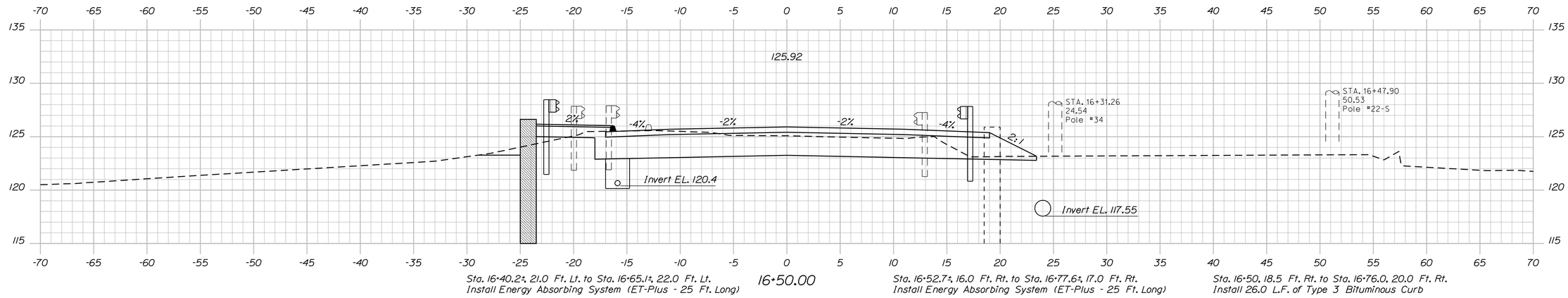
SHEET NUMBER

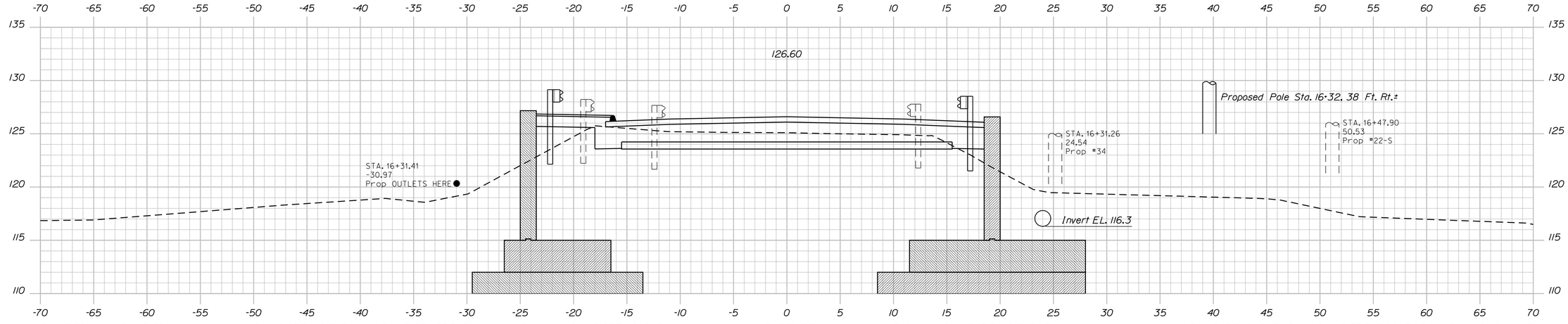
9

OF 28

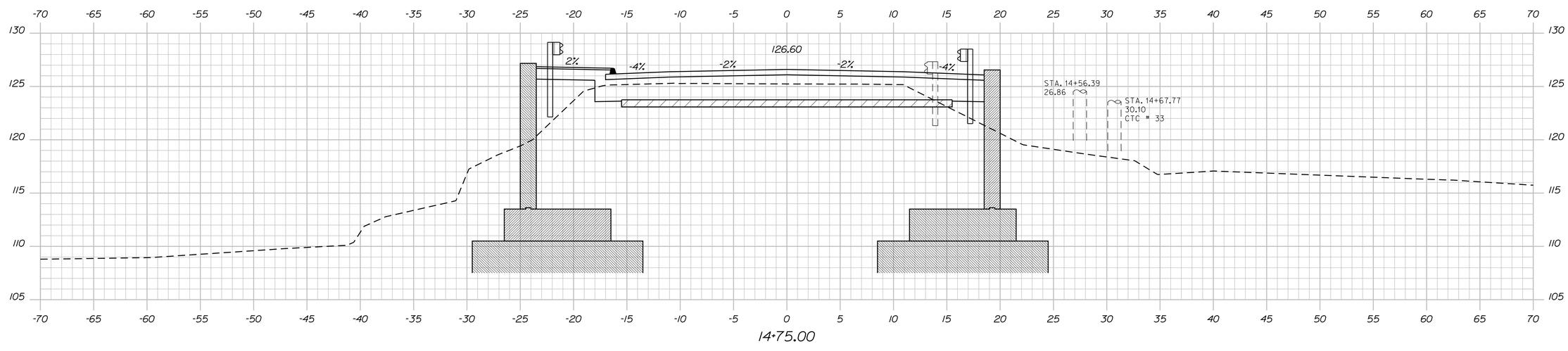
Sta. 14+25.00 to Sta. 14+50.00

Filename: ...\MSTA\009_Xsect_14+25-14+50.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011





BRIDGE



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BODGE				
DESIGN-DETAILED	R. Bulger	DRAWN	D. Show	DATE	JUNE 2010
CHECKED-REVIEWED	M. Wight	REVISIONS 1	MRP & DMS	SIGNATURE	
DESIGN2-DETAILED2	ED2	REVISIONS 2		P.E. NUMBER	
DESIGN3-DETAILED3	ED3	REVISIONS 3		DATE	
		REVISIONS 4			
		FIELD CHANGES			

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

CROSS SECTIONS

SHEET NUMBER

10

OF 28

Sta.14+75 to Sta. 16+50

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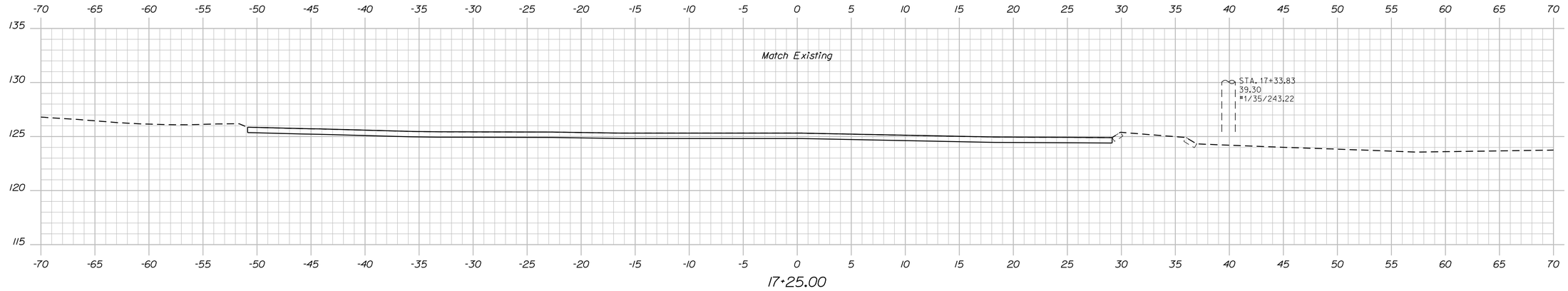
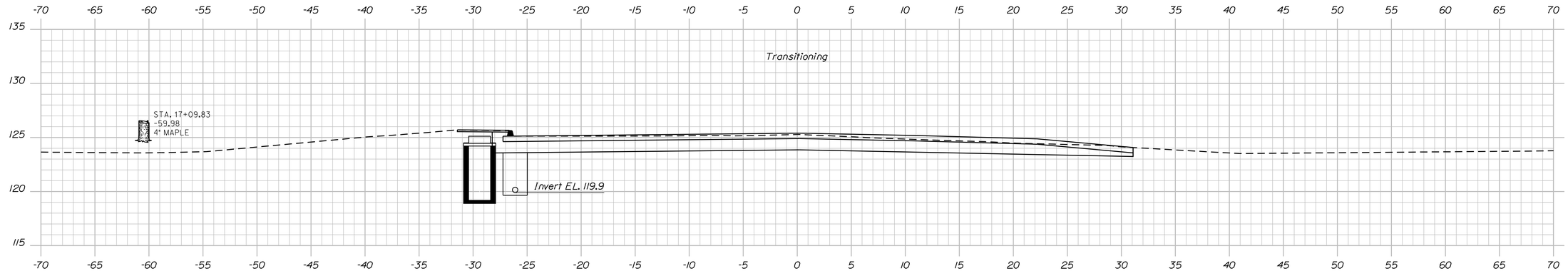


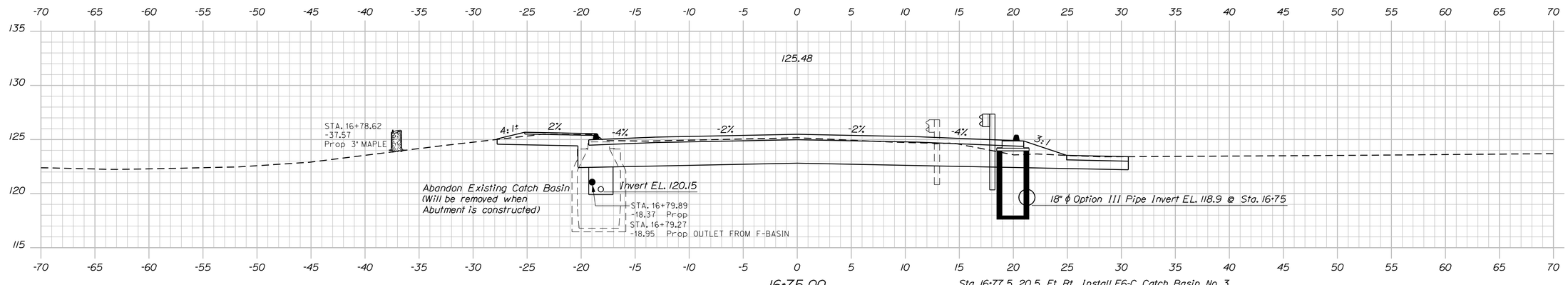
17+25.00



Sta. 17+08.8, 29.4 Ft. Lt., Install F5-C Catch Basin No. 2
6" ϕ Underdrain Invert In EL. 119.8
18" ϕ Option III Pipe Invert Out EL. 119.5

17+00.00

Install 58 L.F. of 18" ϕ Option III Pipe
Catch Basin No. 2 to Catch Basin No. 3



16+75.00

Sta. 16+77.5, 20.5 Ft. Rt., Install F6-C Catch Basin No. 3
18" ϕ Option III Pipe Invert In EL. 119.0
18" ϕ Option III Pipe Invert Out EL. 119.0

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BODGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Show	JUNE 2010
CHECKED-REVIEWED	M. Wight	MRP & DMS	------
DESIGN2-DETAILED2	------	------	------
DESIGN3-DETAILED3	------	------	------
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	------
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

CROSS SECTIONS

SHEET NUMBER

11

OF 28

Sta. 16+75.00 to Sta. 17+25.00

Filename: ...\MSTA\011_Xsect_16+75-17+25.dgn Division: BRIDGE Username: david.show Date:3/10/2011

SEAL NOTES

1. The seal concrete shall be placed on bedrock cleaned of all weathered rock, fractured rock, and soil. Prior to placing the seal, the bearing surface shall be washed with high pressure water and air. Where the bedrock surface slope exceeds 4H:1V, the bedrock surface shall be benched in level steps or made completely level. The bedrock bearing surface beneath the near face of the footing placed above the seal shall have a level surface of 3 feet minimum measured perpendicular to the face.

2. After removal of fractured bedrock and before the seal is placed, the surface of the excavated surface shall be inspected by the Resident. The minimum excavation for stability is governed by note 3 below. Additionally, at localized peaks of hard bedrock, the Contractor is required to remove any bedrock that projects up within three feet of the top of the finished seal. In lieu of removing the bedrock, if approved by the Resident, the Contractor may increase the height of the affected seal for the entire length of the abutment and its adjoining wingwalls. Payment for all costs of the rock removal, including all costs associated with blasting if used, shall be considered paid for under Pay Item No. 206.092 Structural Rock Excavation - Major Structures.

3. The top elevations of the seals at both abutments are designed for a maximum water elevation of 114.9 feet. For sufficient resistance to buoyancy, the top of seal elevations require that the maximum average surface elevation under the Abutment #1 seal is limited to Elevation 106.25 feet, and the maximum average surface elevation under the Abutment #2 seal is limited to Elevation 108.8 feet. These elevation limits for the bottoms of the seals apply to the respective wingwalls as well as the abutments. If the average elevation of the bottom surface of either seal, or the water elevation during placement exceeds the respective limits, the pertinent information shall be forwarded to the Design Office for new seal depth design.

4. Multiple steps of the bedrock may be required due to both the overall elevation change from front to back of the ledge profile, as well as localized steep surface slopes.

5. When sheet piling is used for seal cofferdams, appropriate rolled corners shall be used, and the inside face of the sheet piling shall be at or outside of the seal concrete dimensions shown.

6. The seal concrete placement dimensions shown represent the minimum seal size necessary to meet design requirements and are not based on the use of any particular sheet pile section.

7. The horizontal pay limit for seal concrete will be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside these limits.

ABUTMENT NOTES

1. The maximum factored applied bearing pressure is 8.7 ksf, which occurs at the bottom of the seal.

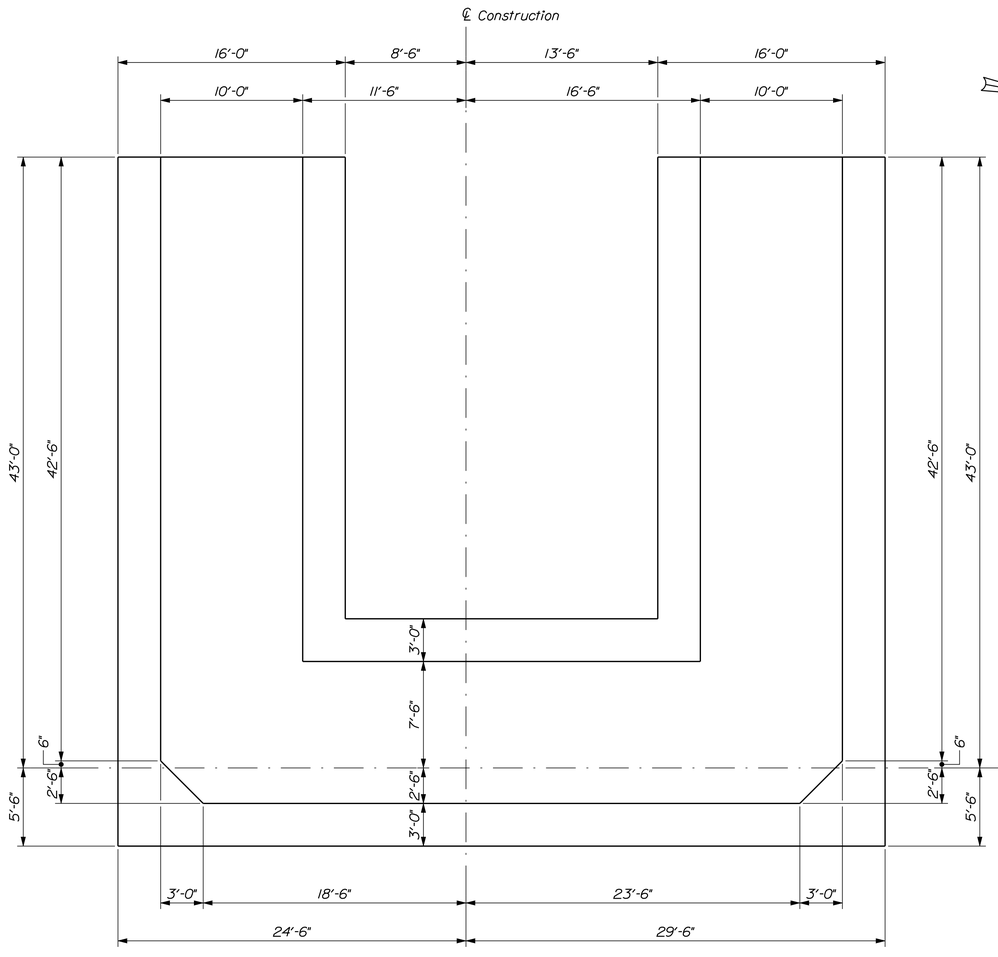
2. Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches in the footings unless otherwise noted.

3. Place 4-in. diameter drains in the breastwall and wingwalls at 10-ft maximum spacing. The exact location will be determined by the Resident.

4. Cover joints where waterstops are not required in accordance with Standard Details Section 502.

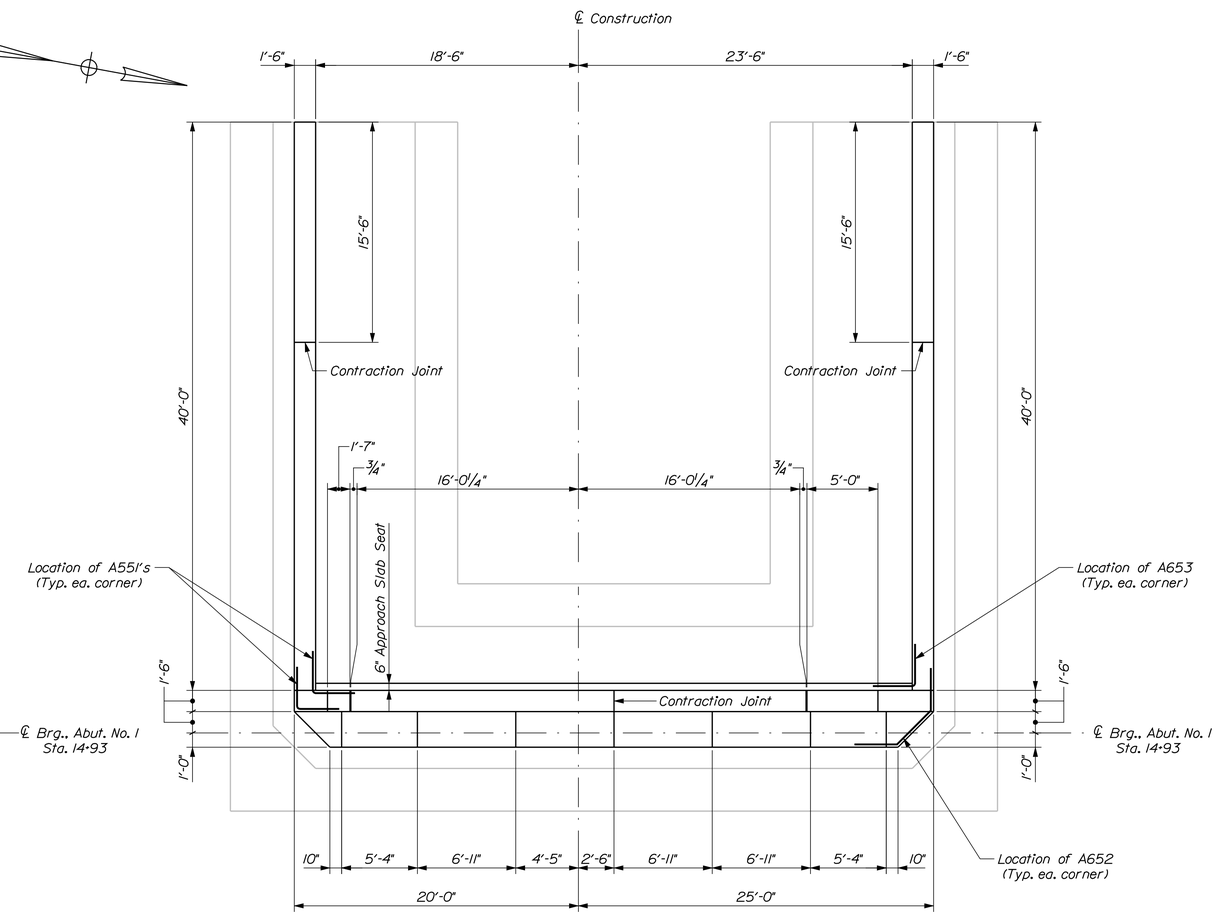
5. Construct French Drains behind the abutments and wingwalls in accordance with Standard Specifications Section 512, French Drains.

6. Abutments, wingwalls and their footings shall be backfilled with Granular Borrow. Pay limits will be the structural excavation limits in cut areas and a vertical plane located 10 feet behind the walls in fill areas.



PLAN - ABUTMENT NO. 1 SEAL & FOOTING

Flow



PLAN - ABUTMENT NO. 1

Flow

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED		Erdman Anthony	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

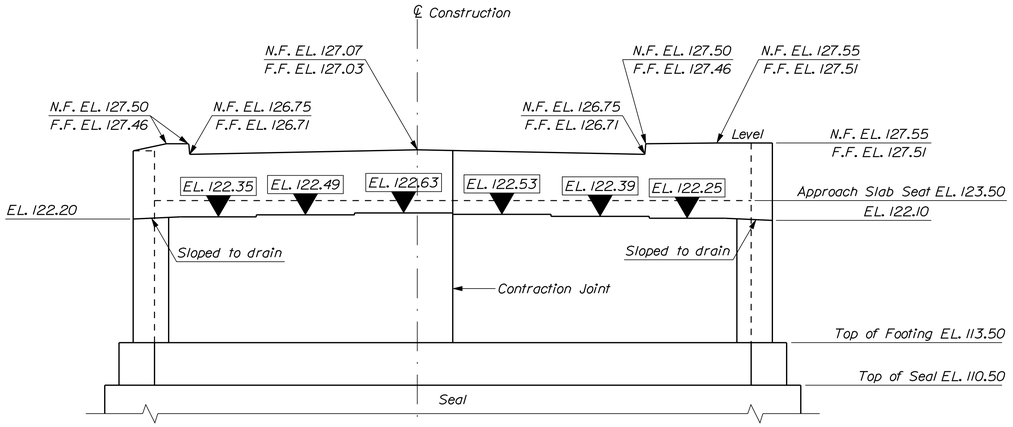
ABUTMENT NO. 1

SHEET NUMBER

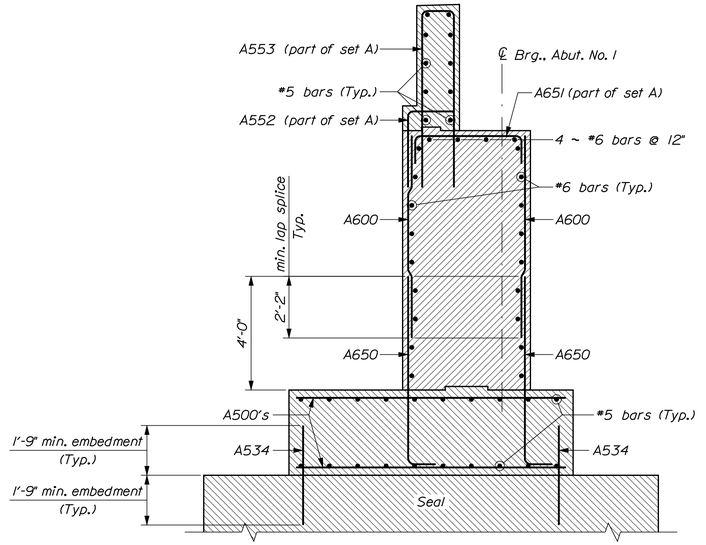
12

OF 28

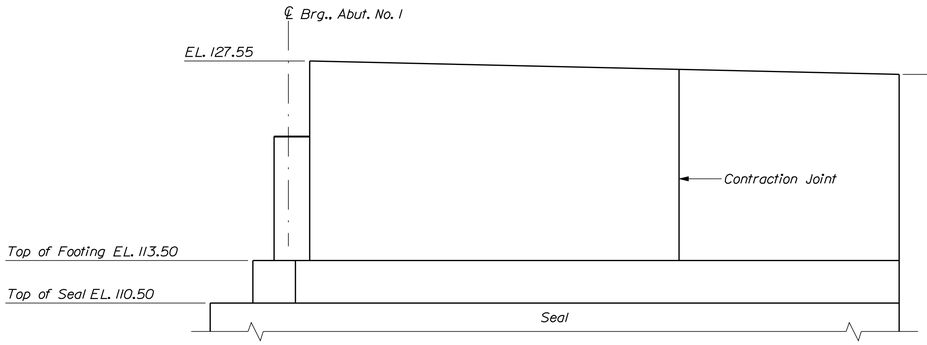
Filename: ...\MSTA\012_Abutment_No.1.dgn Division: BRIDGE Date:3/11/2011 Username: brian.j.nichols



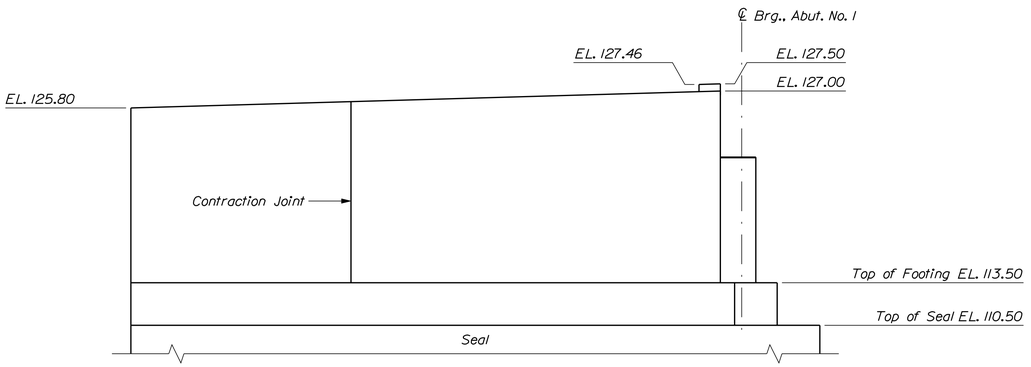
ELEVATION - ABUTMENT NO. 1



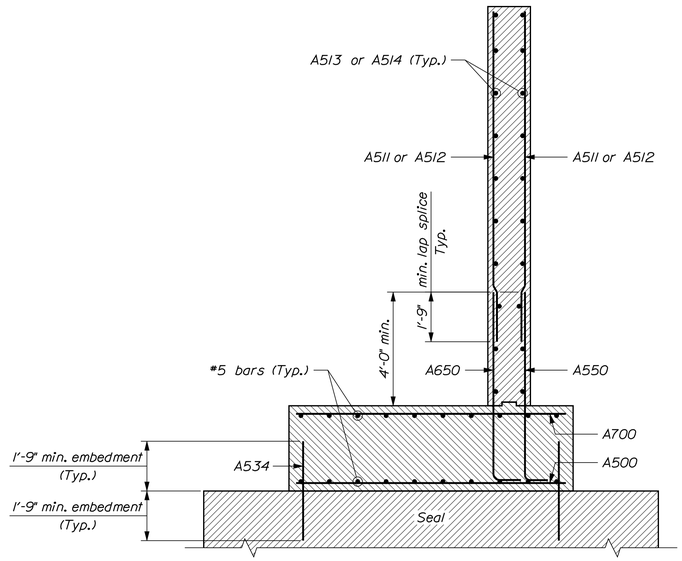
ABUTMENT SECTION



NORTH WINGWALL



SOUTH WINGWALL



WINGWALL SECTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE		
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

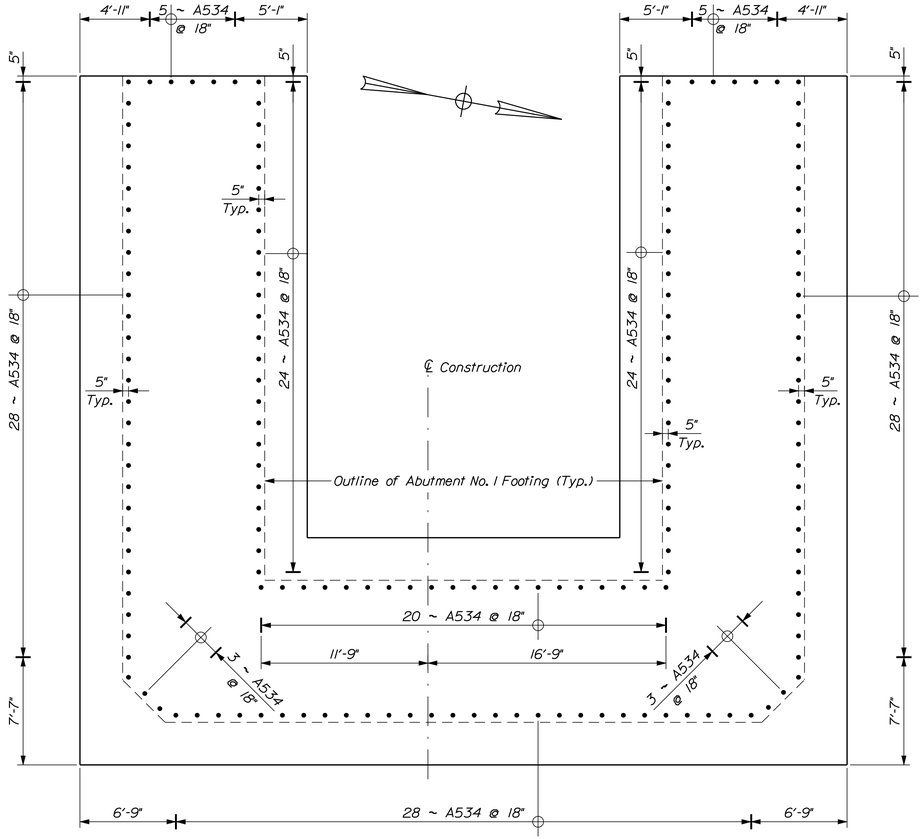
ABUTMENT NO. 1

SHEET NUMBER

13

OF 28

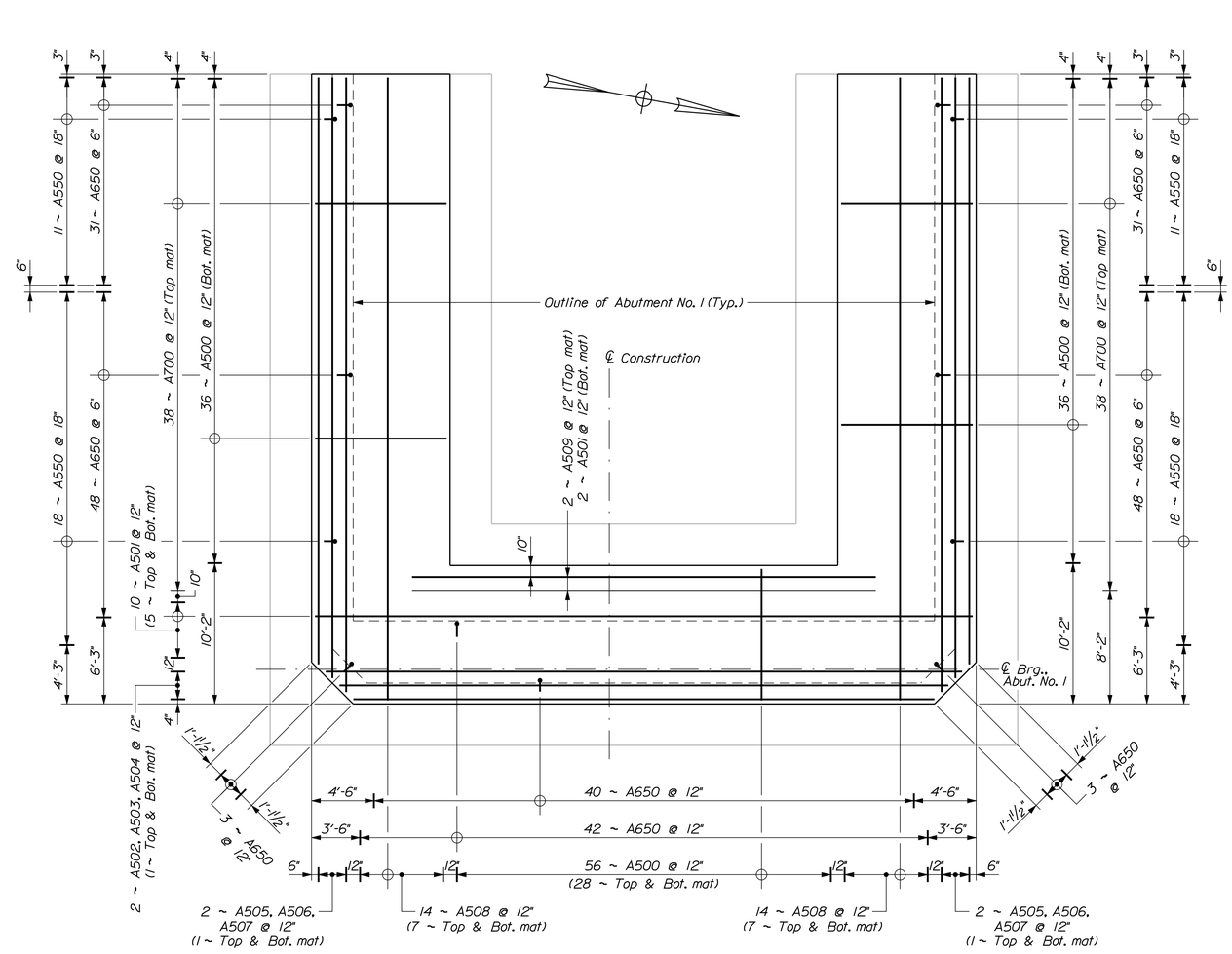
Filename: ...\MSTA\013_Abutment_No.1.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



PLAN - ABUTMENT NO. 1 SEAL REINFORCEMENT

(Dowel layout)

Flow



PLAN - ABUTMENT NO. 1 FOOTING REINFORCEMENT

Flow

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony	------	SIGNATURE
DESIGN2-DETAILED2	------	------	------
DESIGN3-DETAILED3	------	------	P.E. NUMBER
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	DATE
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

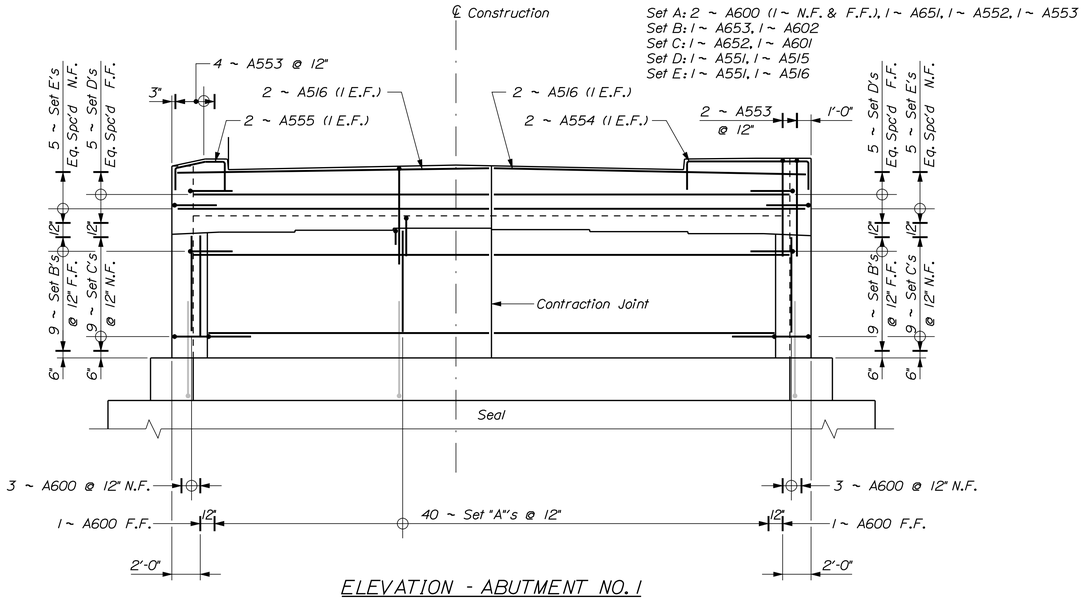
ABUT. NO. 1 REINFORCEMENT

SHEET NUMBER

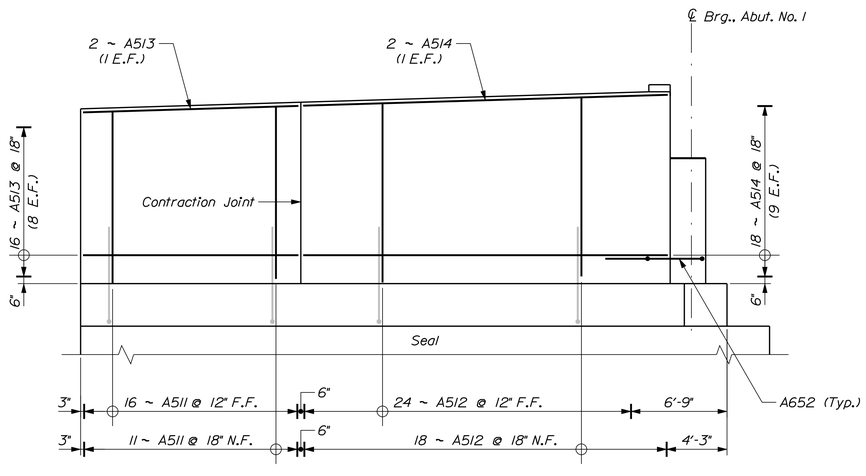
14

OF 28

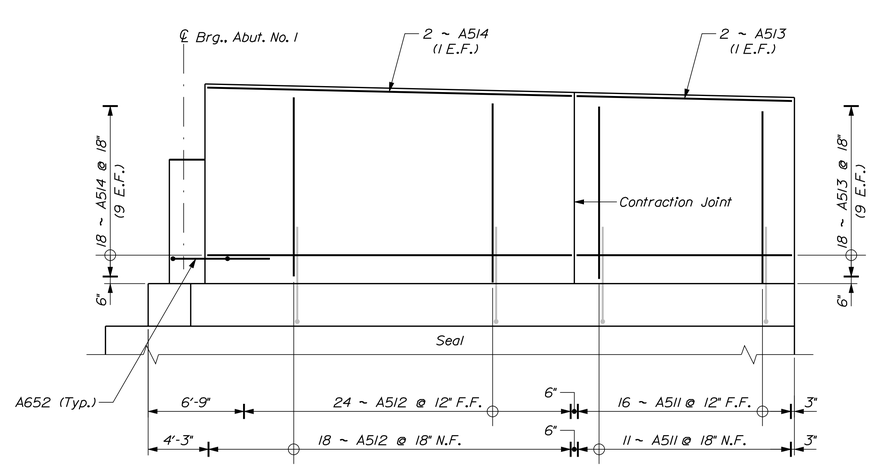
Filename: ...\MSTA\014_Abut.No.1_Rebar.dgn Division: BRIDGE Date:3/10/2011 Username: david.shaw



ELEVATION - ABUTMENT NO. 1



SOUTH WINGWALL



NORTH WINGWALL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony	------	SIGNATURE
DESIGN2-DETAILED2	----------	----------	----------
DESIGN3-DETAILED3	----------	----------	P.E. NUMBER
REVISIONS 1	------	------	------
REVISIONS 2	------	------	------
REVISIONS 3	------	------	DATE
REVISIONS 4	------	------	------
FIELD CHANGES	------	------	------

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

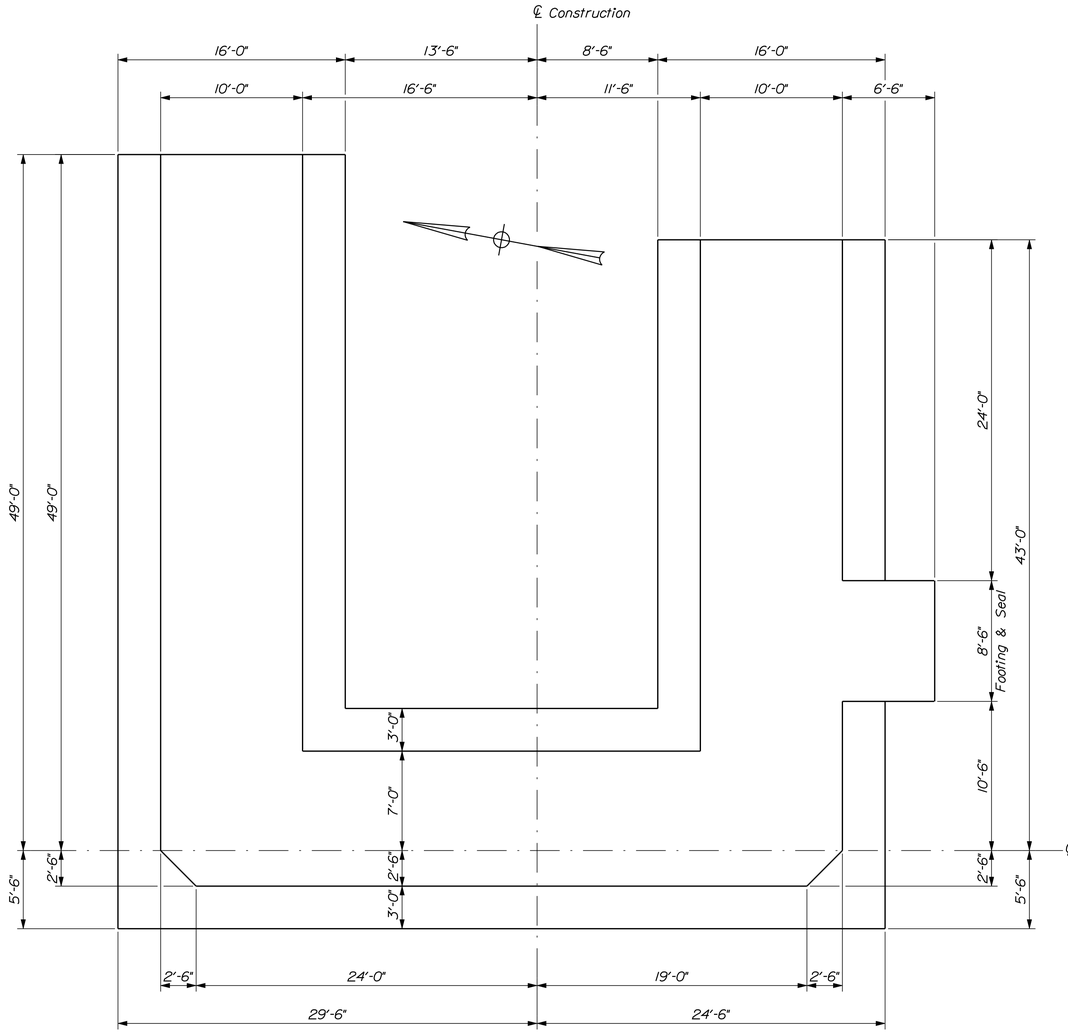
ABUT. NO. 1 REINFORCEMENT

SHEET NUMBER

15

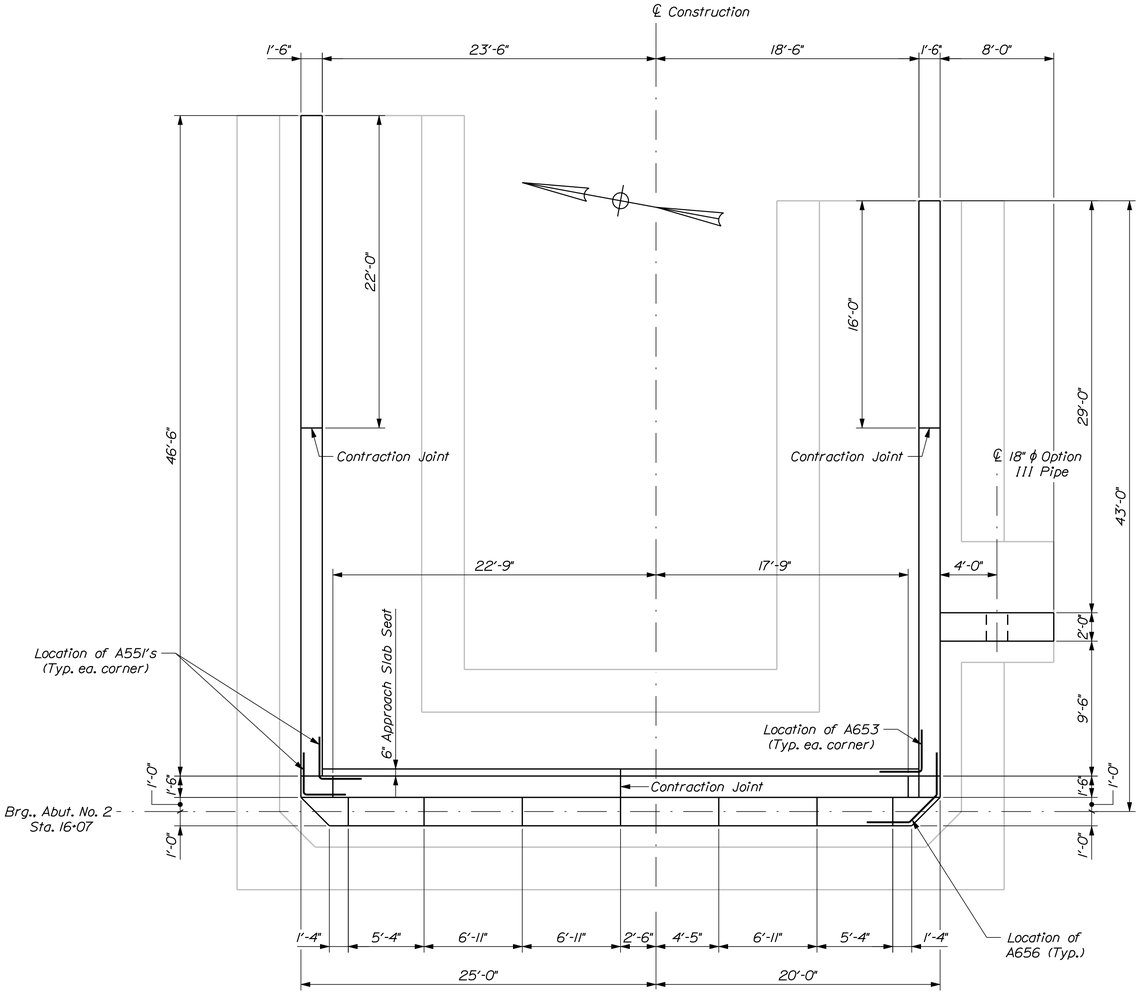
OF 28

Filename: ...\015_Abut.No.1_WW_Rebar.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



PLAN - ABUTMENT NO. 2 SEAL & FOOTING

Flow →



PLAN - ABUTMENT NO. 2

Flow →

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED		Erdman Anthony	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

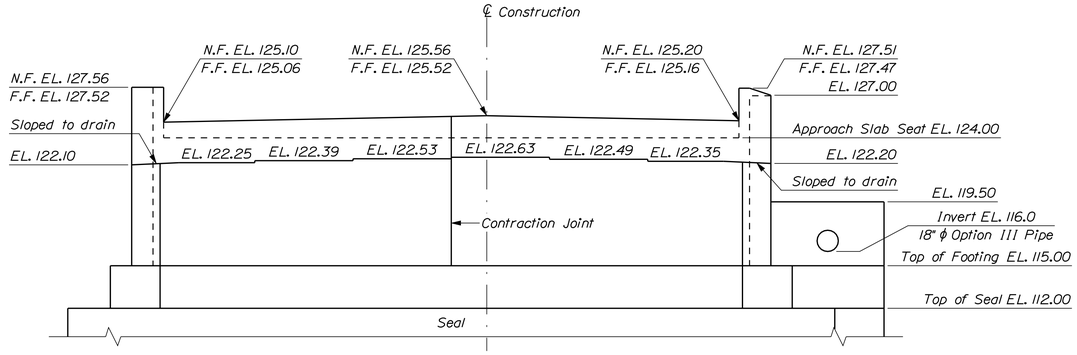
VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

ABUTMENT NO. 2

SHEET NUMBER

16

OF 28



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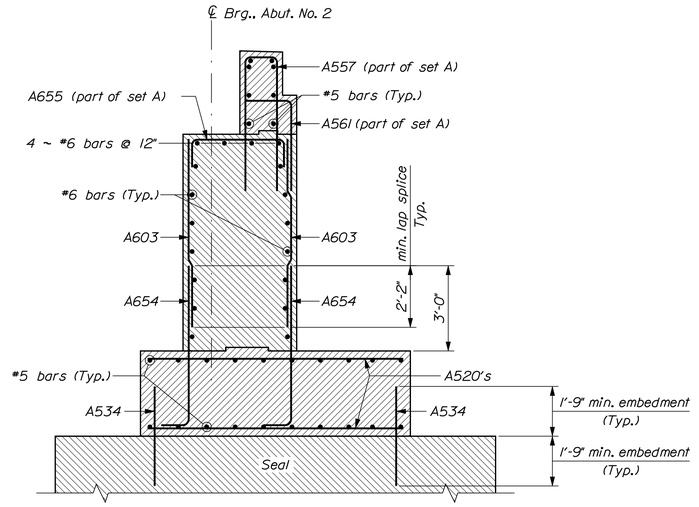
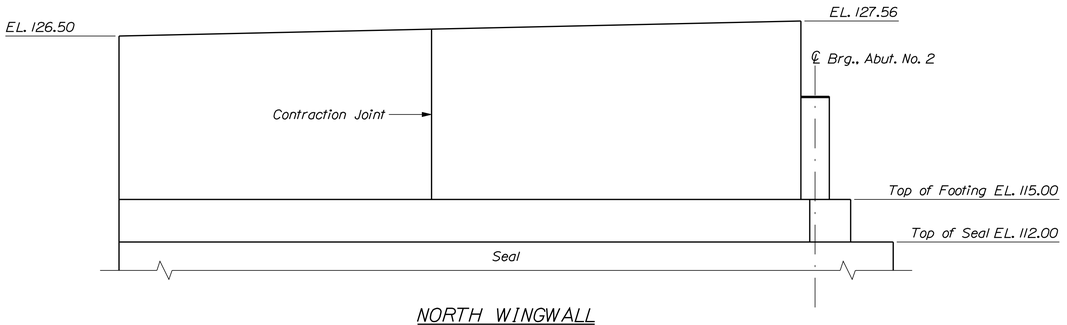
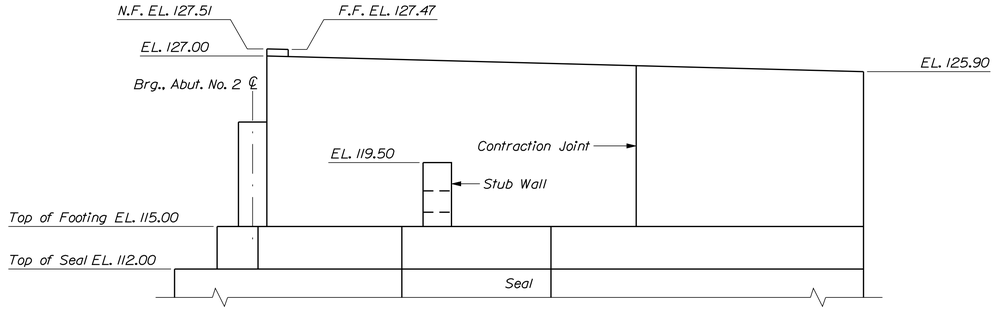


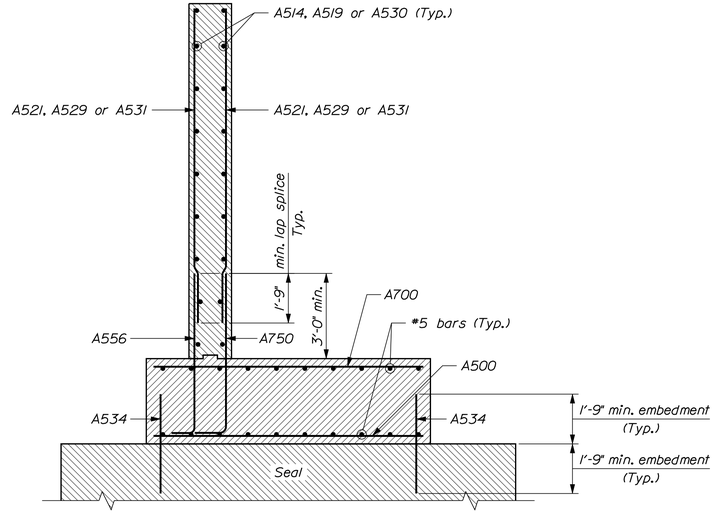
ABUTMENT SECTION



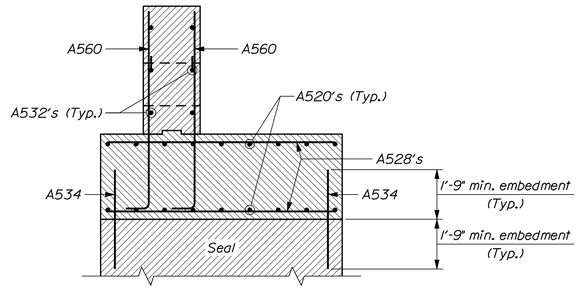
NORTH WINGWALL



SOUTH WINGWALL



WINGWALL SECTION



STUB WALL SECTION

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE		
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED		Erdman Anthony	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

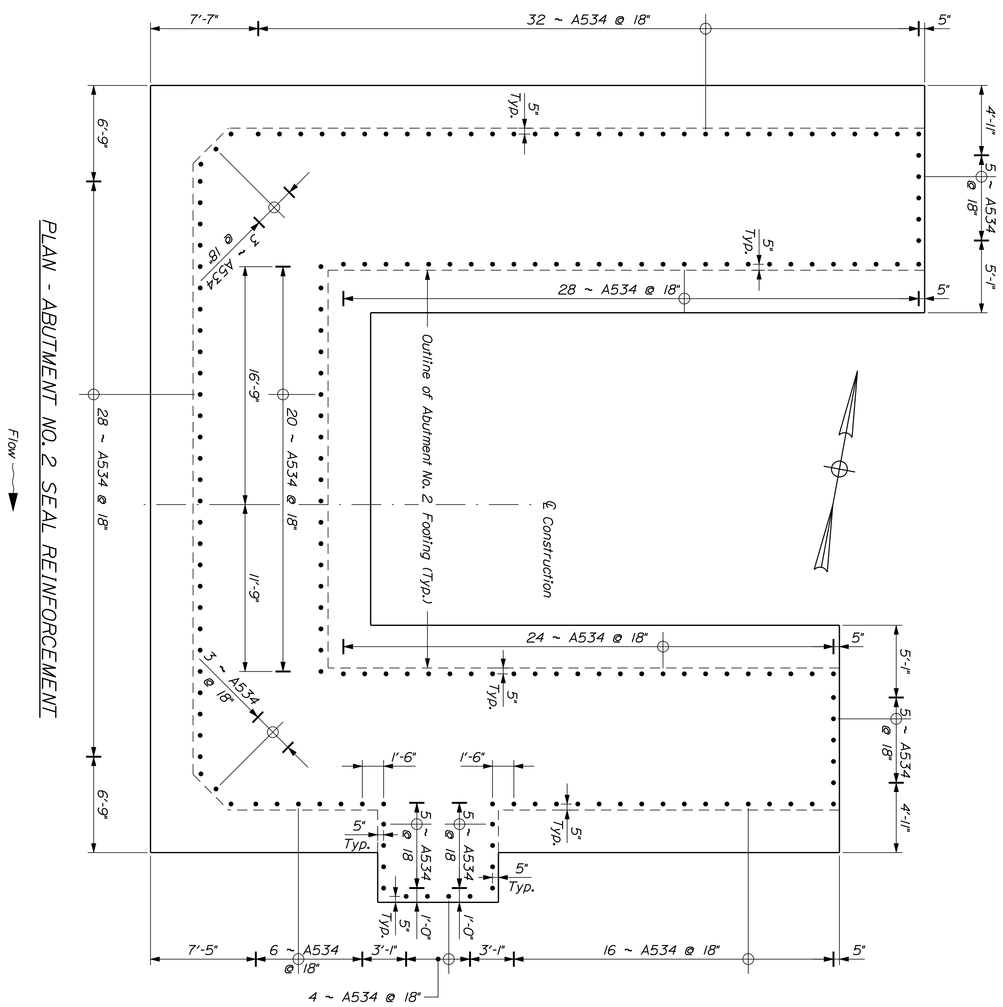
ABUTMENT NO. 2

SHEET NUMBER

17

OF 28

Filename: ...\MSTA\017_Abutment_No. 2.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



PLAN - ABUTMENT NO. 2 SEAL REINFORCEMENT

SHEET NUMBER 18 OF 28

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

ABUT. NO. 2 REINFORCEMENT

PROJ. MANAGER	S. BODGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		_____
DESIGN2-DETAILED2	_____	_____	_____
DESIGN3-DETAILED3	_____	_____	_____
REVISIONS 1	_____		_____
REVISIONS 2	_____		_____
REVISIONS 3	_____		_____
REVISIONS 4	_____		_____
FIELD CHANGES	_____		_____

SIGNATURE

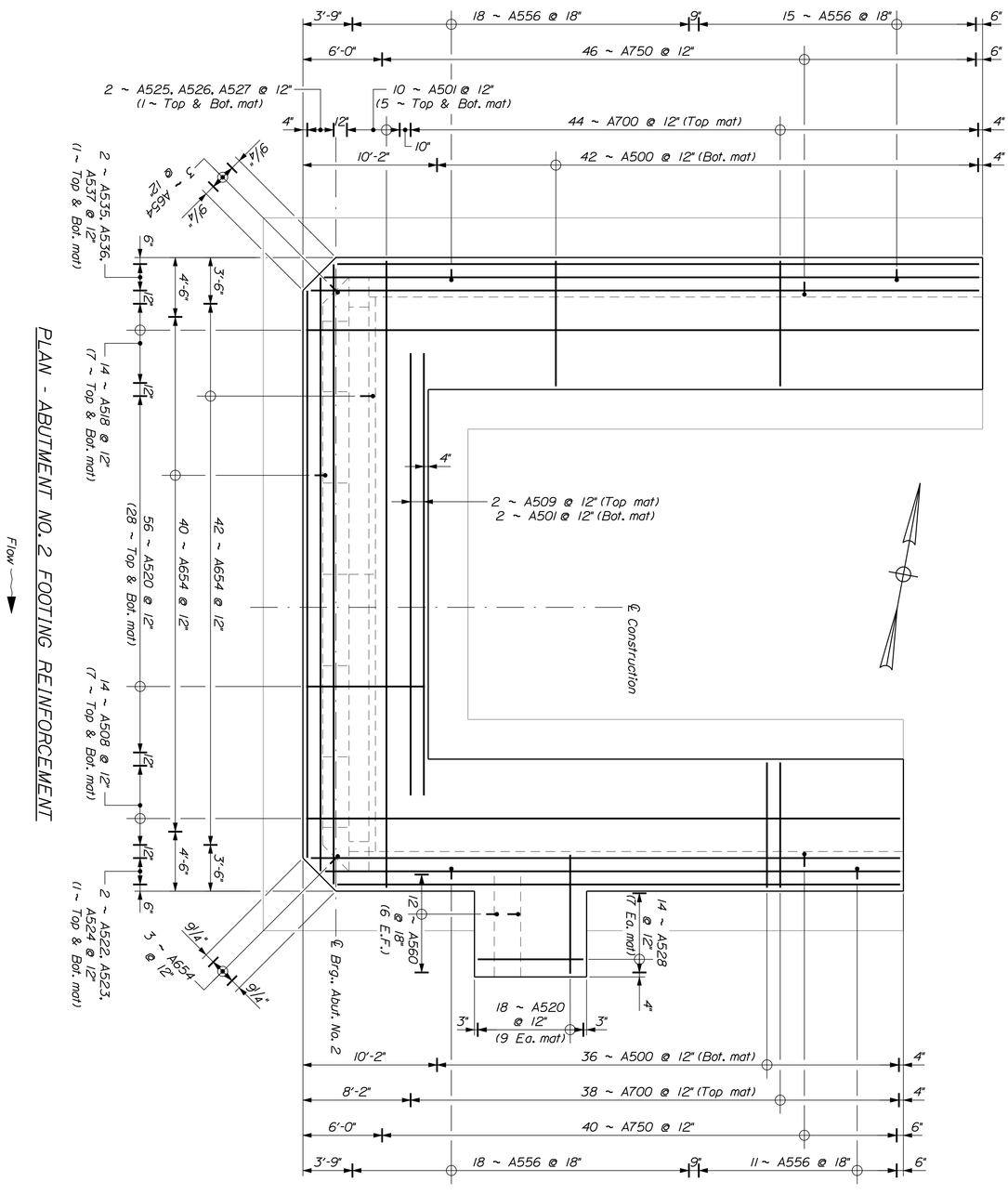
P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

BRIDGE NO. 2975 PIN 17576.00 BRIDGE PLANS



SHEET NUMBER 19 OF 28

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

ABUT. NO. 2 REINFORCEMENT

PROJ. MANAGER	S. BODGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		_____
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

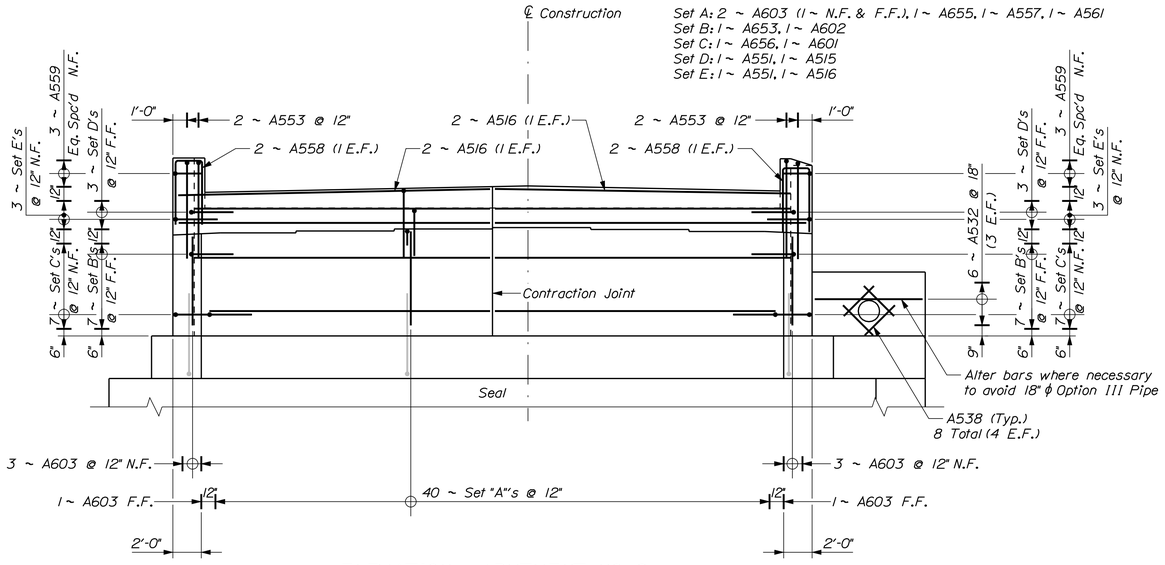
P.E. NUMBER

DATE

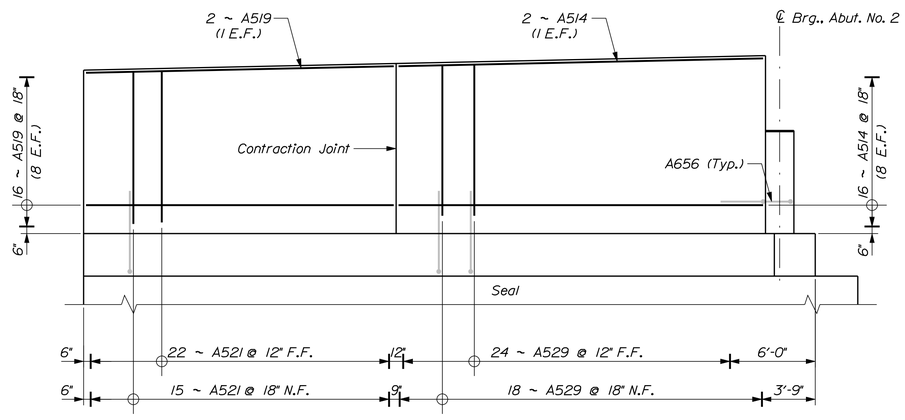
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

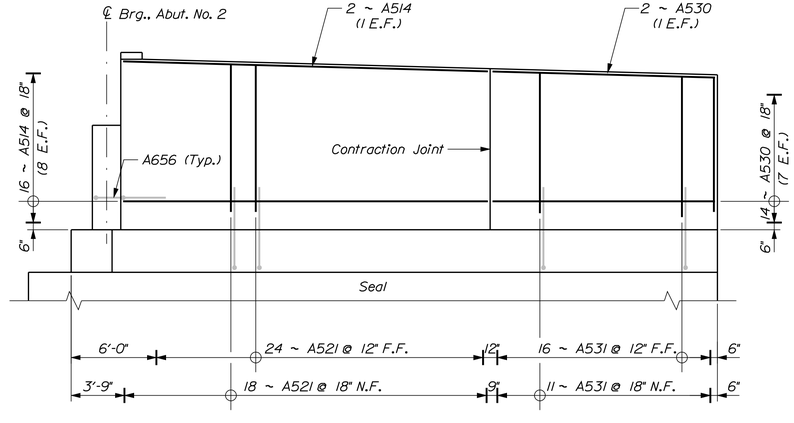
BRIDGE NO. 2975 PIN 17576.00 BRIDGE PLANS



ELEVATION - ABUTMENT NO. 2



NORTH WINGWALL



SOUTH WINGWALL

Stub wall not shown for clarity

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		
DESIGN2-DETAILED2			SIGNATURE
DESIGN3-DETAILED3			
REVISIONS 1			P.E. NUMBER
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			DATE
FIELD CHANGES			

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

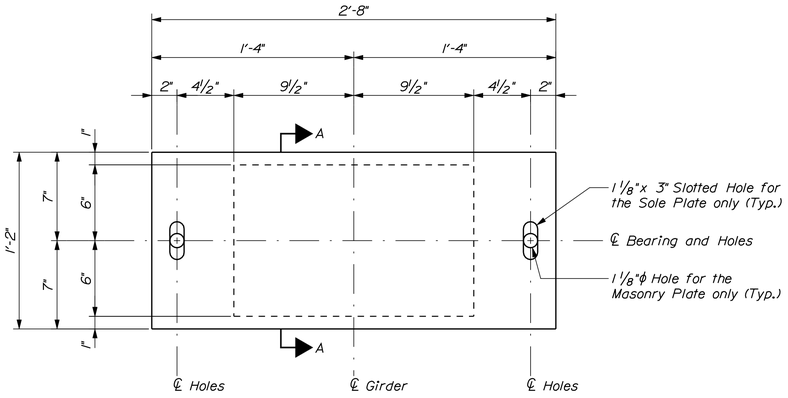
ABUT. NO. 2 REINFORCEMENT

SHEET NUMBER

20

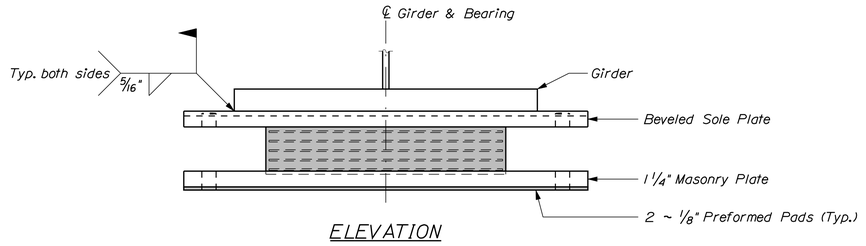
OF 28

Filename: ...\020_Plan_Abut.No.2_Rebar.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011

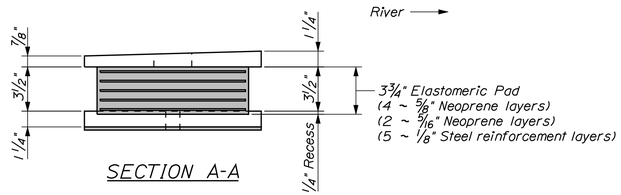


PLAN

Abutment No. 1 - Expansion Bearing



ELEVATION



SECTION A-A

ELASTOMERIC BEARING NOTES

1. The shear modulus of the elastomer shall be in the range of 130 to 200 psi at 73 degrees Fahrenheit.

2. Vulcanizing of the elastomer to the steel plates shall be done during the primary mold process.

3. Masonry plates and sole plates shall meet the requirements of ASTM A 709/A 709M, Grade 50 or 50W. Anchor rods shall meet the requirements of ASTM F 1554, Grade 105 and shall be swedged on the embedded portion of the rod.

4. Masonry plates shall be galvanized in accordance with Section 506. Sole plates for steel superstructures shall be treated in the same manner as the structural steel. Anchor rods, washers and nuts shall be galvanized to ASTM A 153 or ASTM B 695, Class 50, Type 1.

5. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow which points upstation. All marks shall be permanent and shall be visible after the bearing is installed.

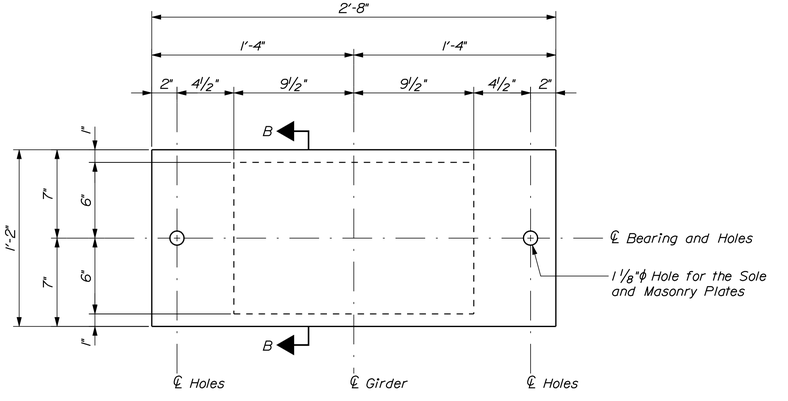
6. Bearings shall be covered during transit.

7. The bearings are designed so that the superstructure may be erected when the ambient air temperature is within the range of 65 °F and 90 °F. If the ambient air temperature is outside this range, the bearings shall be reset as directed by the Resident.

8. All necessary precautions shall be taken to protect bearing components from field weld flash and spatter. Heat from welding operations shall be controlled such that steel adjacent to the elastomer does not exceed 200 °F. The temperature shall be verified by the use of temperature indicating crayons or other suitable means.

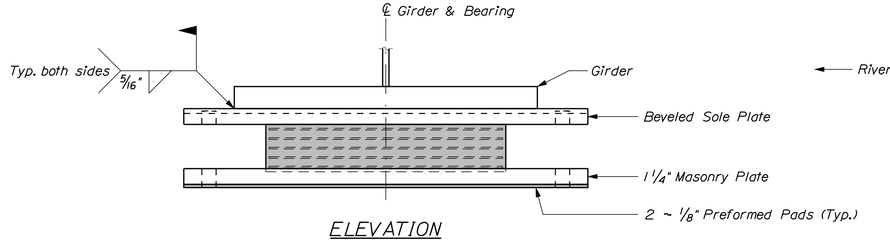
9. Upset the threads on the anchor rods above and below the installed nuts after assembly of the bearing.

10. Two layers of preformed pads meeting the requirements of Standard Specification Subsection 713.03 shall be installed under each masonry plate. All materials and work for the installation of the pads shall be considered incidental to Pay Items No. 523.5401 and 523.5402

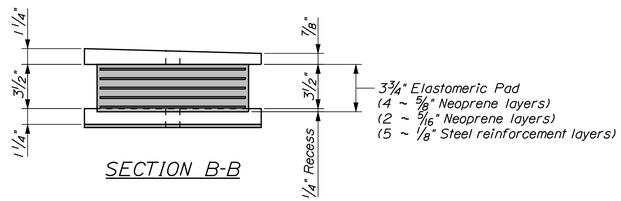


PLAN

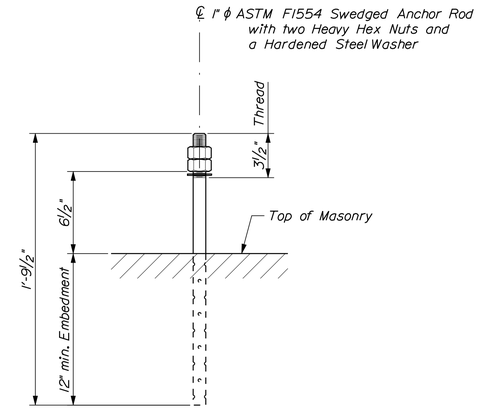
Abutment No. 2 - Fixed Bearing



ELEVATION



SECTION B-B



TYPE 1 ANCHOR BOLT

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE		
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

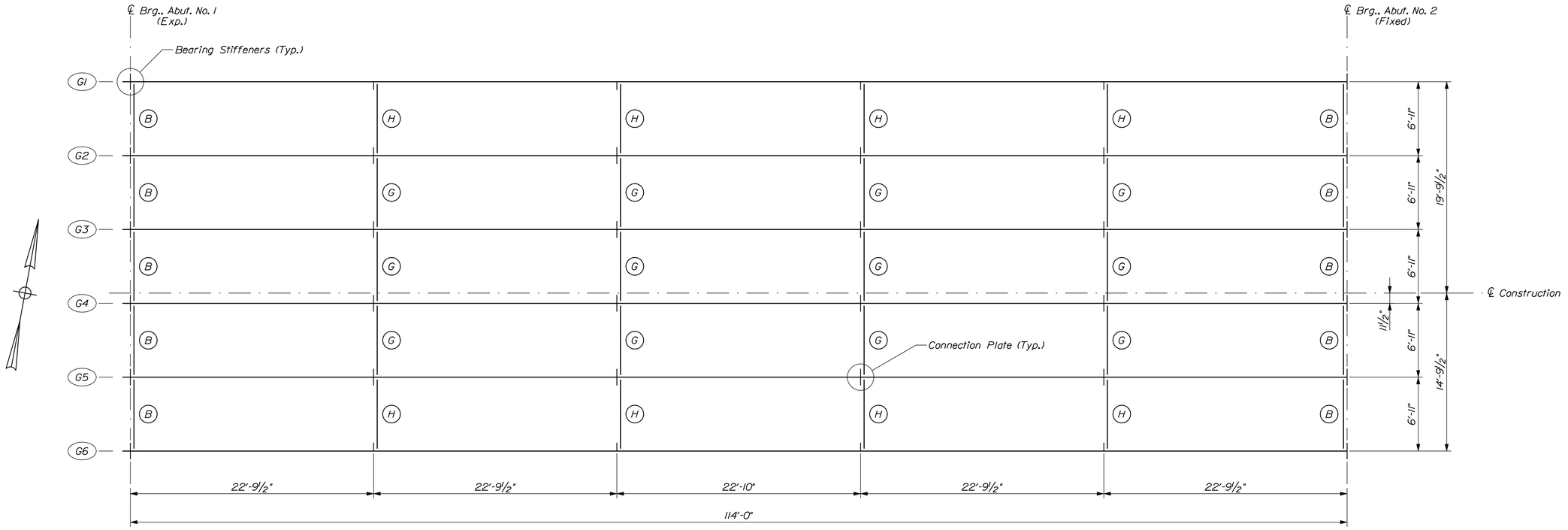
ABUTMENT BEARINGS

SHEET NUMBER

21

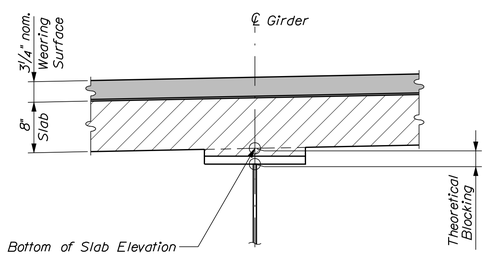
OF 28

Filename: ...\MSTA\021_Abutment_Bearings.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



FRAMING PLAN

Bottom of Slab Elevations in Feet											
Girder	Abut. No. 1	1st Tenth	2nd Tenth	3rd Tenth	4th Tenth	Midspan	6th Tenth	7th Tenth	8th Tenth	9th Tenth	Abut. No. 2
1	125.77	126.20	126.56	126.82	126.98	127.04	126.98	126.82	126.56	126.20	125.77
2	125.91	126.35	126.71	126.97	127.14	127.19	127.14	126.97	126.71	126.35	125.91
3	126.05	126.49	126.84	127.11	127.28	127.33	127.28	127.11	126.84	126.49	126.05
4	126.15	126.59	126.94	127.21	127.38	127.43	127.38	127.21	126.94	126.59	126.15
5	126.01	126.45	126.81	127.07	127.24	127.29	127.24	127.07	126.81	126.45	126.01
6	125.87	126.30	126.66	126.92	127.08	127.14	127.08	126.92	126.66	126.30	125.87



BLOCKING DETAIL

Theoretical blocking is 2 1/2" at ℄ Brg., Abutments
(Do not use theoretical blocking to set forms)

STRUCTURAL STEEL NOTES

1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.

2. No transverse butt weld splices will be allowed in the flange plates or web plates between the two lines of the diaphragms closest to midspan. Butt weld splices in flanges shall be not less than 3 feet from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 3 feet of other transverse welds (e.g. connection plate welds) on either flange or web.

3. Bearing stiffeners shall be plumb after erection and dead loading of the structure.

4. Crossframe or diaphragm connection plates may be either plumb or normal to top flange.

5. All bolts shall be 7/8inch diameter A325, Type 3.

6. Subject to the Resident's approval, the Contractor may be allowed an optional field splice. Working drawings with design computations must be submitted to the Design Office for prior approval. Any bolted field splice connections shall be made using 7/8" diameter, ASTM A325 Type 3 H.S. bolts. Hole size shall be 15/16" diameter unless otherwise shown. Bolt threads shall be excluded from the shear plane of field splice connections. All design, labor, equipment, and material expenses for the approval and installation of optional field splice shall be considered incidental to Pay Item No. 504.71, Structural Steel Erection.

7. Crossframe or diaphragm connection plates shall be welded to the bottom flange in lieu of the bolted tension flange connection shown in Standard Detail 504(21).

8. Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and a field splice shall be not less than 10 feet in length unless otherwise shown on the plans.

9. The "Drip Plate" detail is for use on the exterior girders only.

10. Girder ends and end cross frames shall be coated to a distance of 10 feet from the centerline of bearing at the abutments in accordance with Special Provision, Section 506, Protective Coating - Steel.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00
BRIDGE NO. 2975
BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED		Erdman Anthony	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

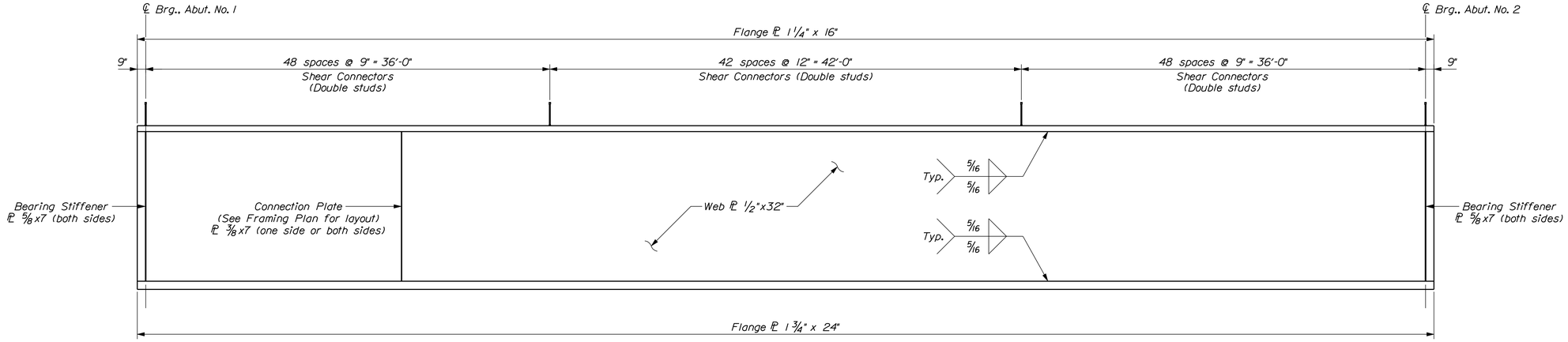
DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

FRAMING PLAN

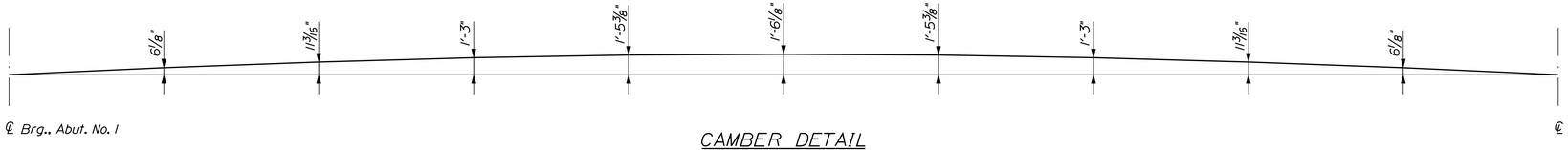
SHEET NUMBER
22
OF 28

Filename: ...\MSTA\022_Framing_Plan.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011



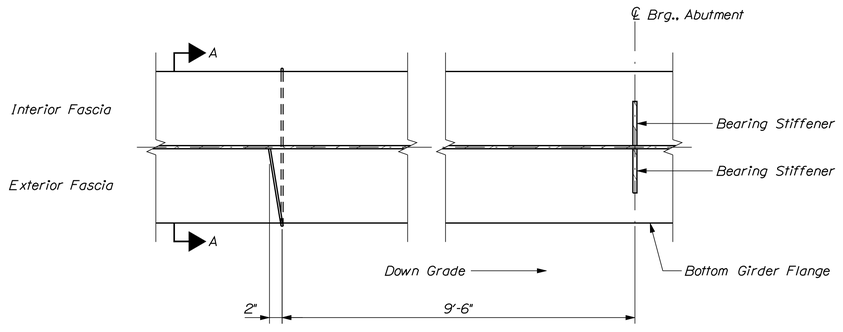
GIRDER ELEVATION

278 Shear Connectors / Girder

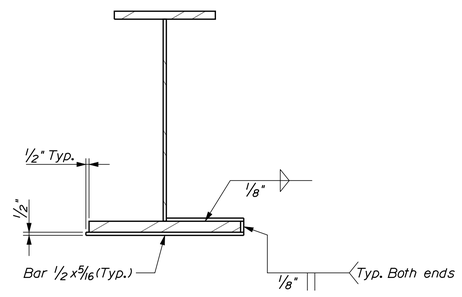


CAMBER DETAIL

Table of Deflections (Interior and exterior girders similiar) in Feet											
	Abut. No. 1	1st Tenth	2nd Tenth	3rd Tenth	4th Tenth	Midspan	6th Tenth	7th Tenth	8th Tenth	9th Tenth	Abut. No. 2
Steel	0.00	0.07	0.14	0.19	0.22	0.23	0.22	0.19	0.14	0.07	0.00
Fluid Concrete	0.00	0.14	0.26	0.36	0.42	0.44	0.42	0.36	0.26	0.14	0.00
Long Term	0.00	0.05	0.09	0.12	0.14	0.15	0.14	0.12	0.09	0.05	0.00
Vertical Alignment Difference	0.00	0.25	0.44	0.58	0.67	0.69	0.67	0.58	0.44	0.25	0.00
Total Girder Camber	0.00	0.51	0.93	1.25	1.45	1.51	1.45	1.25	0.93	0.51	0.00



PLAN



SECTION A-A

DRIP PLATE DETAIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BOOGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	Erdman Anthony		
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

GIRDER DETAILS

SHEET NUMBER

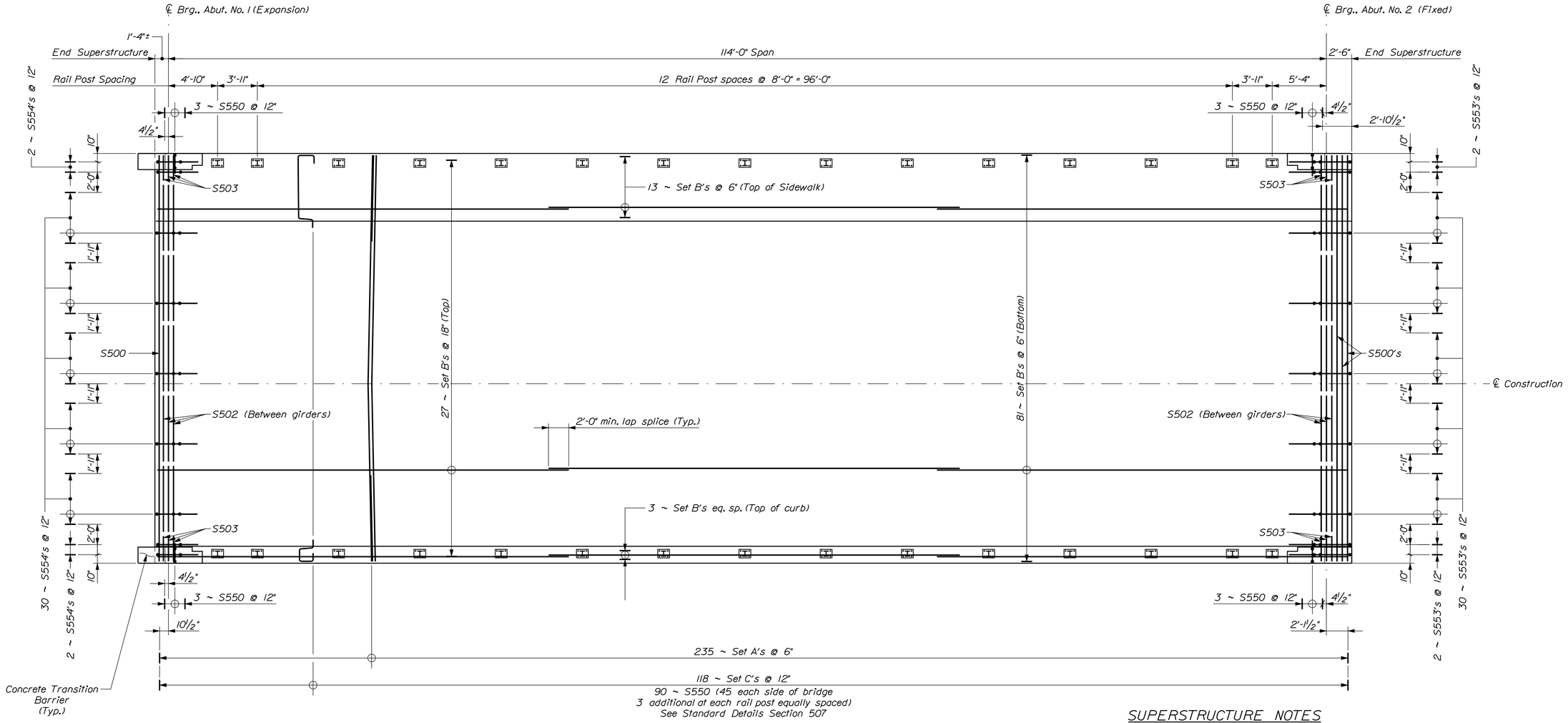
23

OF 28

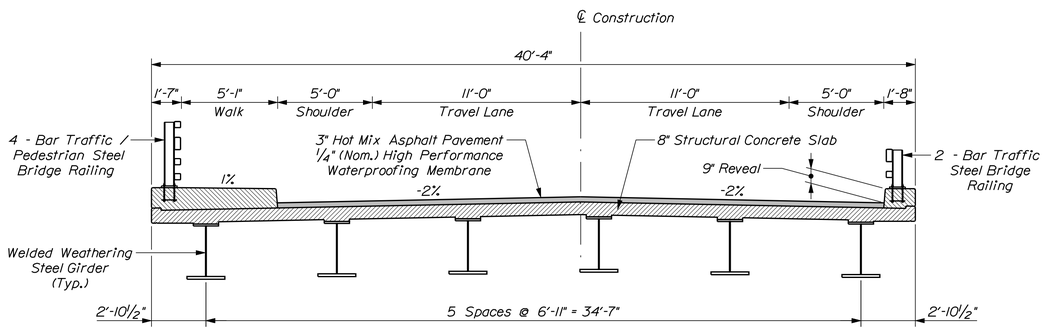
Username: dovid.show Date:3/10/2011

Division: BRIDGE

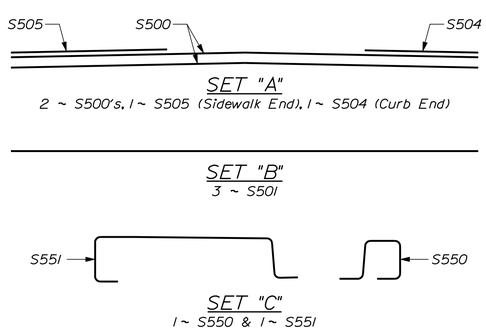
Filename: ...\MSTA\023_Girder_Details.dgn



SUPERSTRUCTURE PLAN



TYPICAL BRIDGE SECTION



SET "A"
2 ~ S500's, 1 ~ S505 (Sidewalk End), 1 ~ S504 (Curb End)

SET "B"
3 ~ S501

SET "C"
1 ~ S550 & 1 ~ S551

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 2.5 inches at the centerline of bearing of the abutments. Refer to Standard Detail 502(02) for blocking details.

2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.

3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

4. The superstructure slab concrete shall be placed continuously and shall be kept plastic until the entire placement has been made.

5. At the Contractor's option, Precast Deck Panels may be used in place of the full depth cast-in-place deck slab, in accordance with Special Provisions Section 502, Structural Concrete - Precast Deck Panels, and in accordance with the Standard Details.

6. The gland seal installed at Abutment No. 1 shall have minimum Movement Rating of 1.4 inches.

7. The Resident shall approve the seal prior to fabrication of the Expansion Device.

8. The Contractor shall install Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb or sidewalk concrete.

9. The Expansion Device shall be set to an opening of two inches in the fabrication shop. The joint opening shall be adjusted for temperature in the field at the time of installation using the following formula:

0.00008 x "114'-0"" x "Δ T" = Adjustment (in inches)

"Δ T" is the difference between the temperature of the structure and 45° F.
A structure temperature above 45° F will result in a smaller joint opening.

10. Payment for all work and materials to install Preformed Joint Filler against the inside faces of the Abutment #2 parapets and to install two layers of heavy roofing felt between the bottom of the slab and the top of the Abutment #2 backwall, shall be considered as incidental to related contract items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BODGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED		Erdman Anthony	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

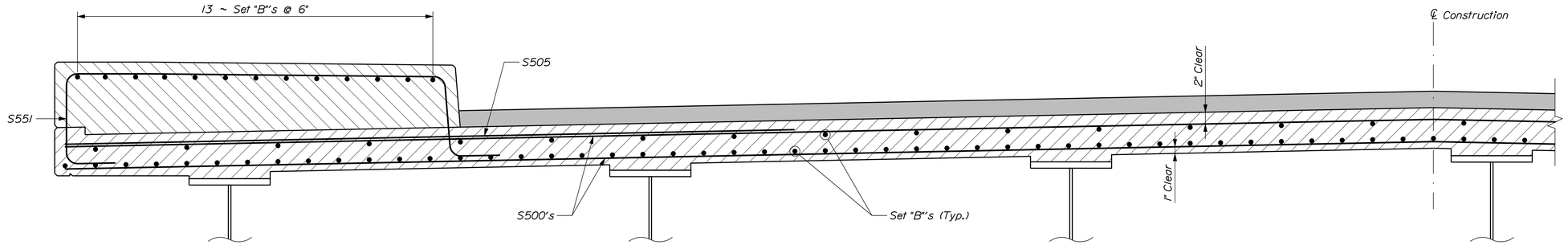
SUPERSTRUCTURE

SHEET NUMBER

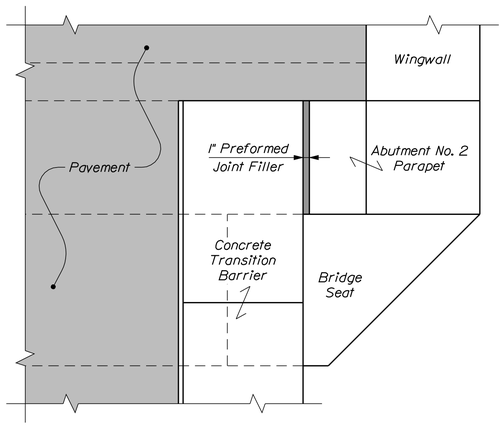
24

OF 28

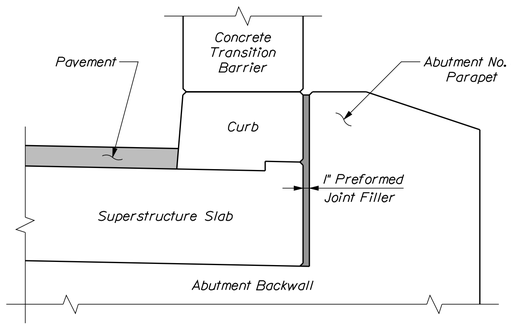
Username: david.shaw Date:3/10/2011
Division: BRIDGE
Filename: ...\MSTA\024_Superstructure.dgn



TYPICAL BRIDGE SECTION

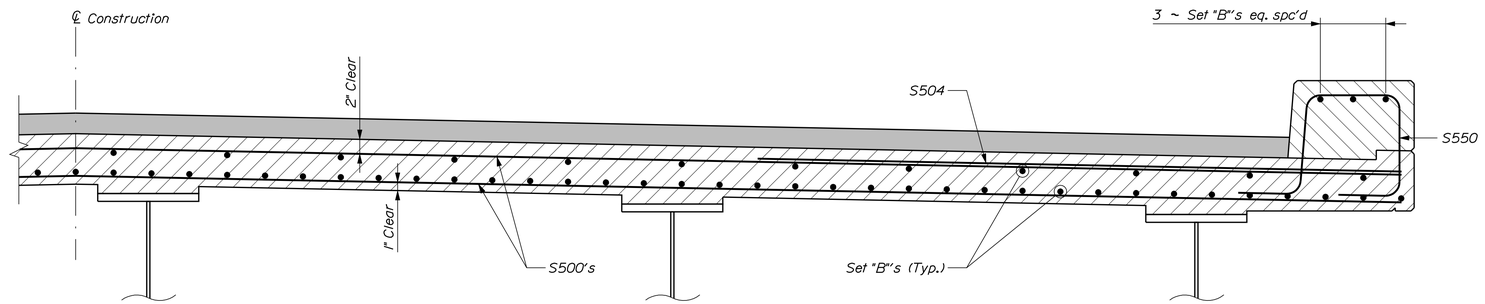


PLAN

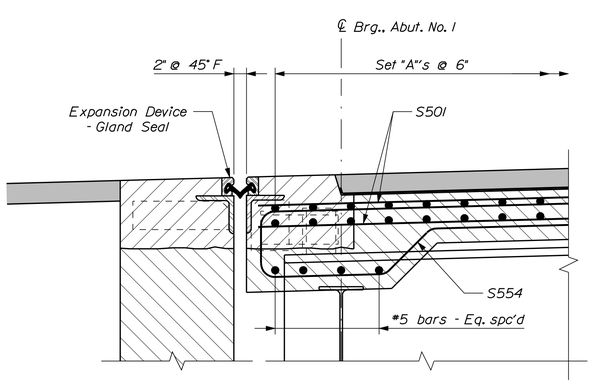


ELEVATION

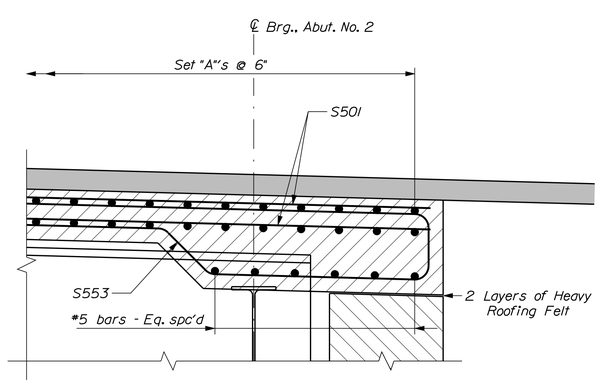
SUPERSTRUCTURE/PARAPET JOINT DETAIL
Both sides of Abutment No. 2, only



TYPICAL BRIDGE SECTION



LONGITUDINAL SECTION @ ABUTMENT NO. 1



LONGITUDINAL SECTION @ ABUTMENT NO. 2

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

		DATE
PROJ. MANAGER	S. BRIDGE	
DESIGN-DETAILED	R. Bulger	JUNE 2010
CHECKED-REVIEWED	D. Shaw	
DESIGN2-DETAILED2	Erdman Anthony	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

SUPERSTRUCTURE SECTIONS

SHEET NUMBER

25

OF 28

Filename: ...\025_Superstructure_Sections.dgn Division: BRIDGE Username: david.shaw Date:3/10/2011

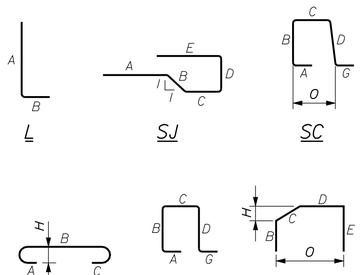
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
Superstructure			
S500	474	40'-0"	Deck
S501	372	40'-6"	Deck
S502	30	6'-6"	End Superstructure
S503	12	2'-6"	End Superstructure
S504	235	8'-6"	Fascia Overhang
S505	235	12'-0"	Fascia Overhang
Abutment No. 1			
A500	128	9'-6"	Bottom Footing Mat
A501	12	47'-6"	Bottom Footing Mat
A502	2	45'-10½"	Bottom Footing Mat
A503	2	43'-10½"	Bottom Footing Mat
A504	2	41'-10½"	Bottom Footing Mat
A505	4	42"-4"	Bottom Footing Mat
A506	4	43"-4"	Bottom Footing Mat
A507	4	44"-4"	Bottom Footing Mat
A508	28	45'-0"	Bottom Footing Mat
A509	2	33'-6"	Top Footing Mat
A511	54	11'-1"	Abutment No. 1 Wingwall
A512	84	11'-8"	Abutment No. 1 Wingwall
A513	38	15'-2"	Abutment No. 1 Wingwall
A514	40	25'-8"	Abutment No. 1 Wingwall
A515	10	20'-9"	Abutment Backwall
A516	14	21'-11"	Abutment Backwall
A534	168	3'-9"	Dowels in Seal
A600	88	7'-2"	Abutment Breastwall
A601	18	19'-9"	Abutment Breastwall
A602	26	20'-9"	Abutment Breastwall
A700	76	9'-6"	Top Footing Mat
Abutment No. 2			
A500	78	9'-6"	Footing Mat
A501	12	47'-6"	Footing Mat
A508	14	45'-0"	Footing Mat
A509	2	33'-6"	Footing Mat
A514	36	25'-8"	Abutment No. 2 Wingwall
A515	6	20'-9"	Abutment Backwall
A516	10	21'-11"	Abutment Backwall
A518	14	51'-0"	Footing Mat
A519	18	21'-8"	Abutment No. 2 Wingwall
A520	74	9'-0"	Footing Mat
A521	79	10'-8"	Abutment No. 2 Wingwall
A522	2	44'-10"	Footing Mat
A523	2	43'-10"	Footing Mat
A524	2	42'-10"	Footing Mat
A525	2	46'-11"	Footing Mat
A526	2	44'-11"	Footing Mat
A527	2	42'-11"	Footing Mat
A528	14	8'-0"	Footing Mat
A529	42	11'-1"	Abutment No. 2 Wingwall
A530	16	15'-8"	Abutment No. 2 Wingwall
A531	27	9'-11"	Abutment No. 2 Wingwall
A532	6	7'-7"	Abutment No. 2 Stub Wall
A534	184	3'-9"	Dowels in Seal
A535	2	48'10"	Footing Mat
A536	2	49'-10"	Footing Mat
A537	2	50'-10"	Footing Mat
A538	8	3'-0"	Stub Wall around 18"ϕ Pipe
A601	14	19'-9"	Abutment Breastwall
A602	22	20'-9"	Abutment Backwall
A603	88	6'-8"	Abutment Breastwall/Backwall
A700	82	9'-6"	Top Footing Mat
Approach Slabs			
AS500	32	30'-8"	Approach Slab
AS600	124	15'-2"	Approach Slab

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Superstructure														
S550	220	5'-8"	S	10"	1'-4½"	1'-3"	1'-4½"			10"				Curb
S551	118	10'-11"	S	10"	1'-7"	6'-3"	1'-5"			10"				Sidewalk
S553	34	12'-11"	SJ	2'-2½"	10¼"	2'-11¼"	11"	6'-0"						End Superstructure
S554	34	10'-2"	SJ	2'-2½"	10¼"	1'-8¼"	11"	4'-6"						End Superstructure
Abutment No. 1														
A550	58	7'-7"	L	6'-9"	10"									Footing/Wingwall
A551	20	6'-0"	L	3'-0"	3'-0"									
A552	40	4'-5"	L	2'-9"	1'-8"									Abutment
A553	46	15'-2"	U		7'-0"	1'-2"	7'-0"							Abutment Backwall
A554	2	12'-6½"	U		2'-0"	8'-6½"	2'-0"							Abutment Backwall
A555	2	7'-1"	P		1'-6½"	2'-2"	1'-4½"	2'-0"			5½"	3'-5½"		Abutment Backwall
A650	246	7'-9"	L	6'-9"	12"									Footing/Wingwall
A651	40	6'-2"	U		12"	4'-2"	12"							Abutment
A652	18	9'-4"	AC	3'-0"	3'-4"	3'-0"					2'-11½"			Abutment
A653	18	6'-0"	L	3'-0"	3'-0"									Abutment
Abutment No. 2														
A551	12	6'-0"	L	3'-0"	3'-0"									Abutment Corner
A553	4	15'-2"	U		7'-0"	1'-2"	7'-0"							Abutment Backwall
A556	62	6'-7"	L	5'-9"	10"									Footing/Wingwall
A557	40	10'-8"	U		4'-9"	1'-2"	4'-9"							Abutment Backwall
A558	4	10'-11"	U		4'-6"	1'-11"	4'-6"							Abutment Backwall
A559	6	4'-11"	L	3'-0"	1'-11"									Abutment Parapet
A560	12	7'-9½"	L	6'-11½"	10"									Stub Wall Footing/Wingwall
A561	40	4'-11"	L	3'-3"	1'-8"									Approach Slab Seat
A653	14	6'-0"	L	3'-0"	3'-0"									Abutment Corner
A654	82	6'-9"	L	5'-9"	12"									Footing/Wingwall
A655	40	5'-8"	U		12"	3'-8"	12"							Abutment No. 2 Breastwall
A656	14	8'-8½"	AC	3'-0"	2'-8½"	3'-0"					2'-11½"			Abutment No. 2 Breastwall
A750	86	6'-11"	L	5'-9"	1'-2"									Footing/Wingwall

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size ofthe bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE PLANS

BRIDGE NO. 2975

	BY	DATE
PROJ. MANAGER	S. BRIDGE	
DESIGN-DETAILED	D. Shaw	JUNE 2010
CHECKED-REVIEWED	R. Bulger	Erdman Anthony
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

REINFORCING
STEEL SCHEDULE

SHEET NUMBER

26

OF 28

Filename: ...\00\ROW\MSTA\001_RWPLAN1.dgn Username: david.show Date:3/10/2011 Division: BRIDGE

ERNEST C. LUGDON
ITEM NO. (1)
SLOPE EASEMENT = 0.07± AC.(1)
DRAINAGE EASENMENT = (1)
TOTAL AREA = 1.1± AC.(DEED)

TOWN OF KENDUSKEAG
ITEM NO. (3)
TEMP. CONST. RIGHTS = 780± S.F.(1)
TOTAL AREA = 14,110± S.F.(CALC.)

TOWN OF KENDUSKEAG
ITEM NO. (2)
DRAINAGE EASEMENT = 570± S.F.(1)
TEMP. CONST. RIGHTS = 310± S.F.(2)
TOTAL AREA = 10,000± S.F.(OWNER)

MYSTIC TIE GRANGE CORPORATION
ITEM NO. (4)
TEMP. CONST. RIGHTS = 195± S.F.(1)
TOTAL AREA = 12,044± S.F.
(D.O.T. FILE NO. 10-371)

EXISTING R/W
PENOBSCOT CO. COMM. RECORDS
VOLUME 2, PAGE 57
1834, 4 RODS
ALSO SEE D.O.T. FILE NO. 10-371

CURVE DATA #1
PI = 13+48.45
D = 19°05'54.9"
Δ = 36°55'54.7" Lt.
R = 300.00'
L = 193.37'
T = 100.18'
E = 16.28'

PC = STA. 12+48.27
PT = STA. 14+41.65
100.18' OUTLET DRAINAGE STRUCTURE STA. 13+75 LT.
KENDUSKEAG STREAM
FLOW
STETSON ROAD
MILL STREET
TOWNHOUSE ROAD
HALLET STREET
TO CORINTH
TO BANGOR
ROUTE 15 S.H. "38"
STETSON ROAD S.A.H. NO. 2
N.79°-34'-20.9"E. 308.35'
BEGIN B.L. 13+00
END B.L. STA.17+50.00
17+59
Begin Transition Sta. 13+75
Begin Project Sta. 14+25
End Project Sta. 16+75
End Transition Sta. 17+25
EASEMENT
0.07± AC.
SLOPE
LIMITS
P.L. THREAD OF STREAM
APPROXIMATE OUTLET
TEMP. CONST. LIMITS
780± S.F.
TEMP. CONST. LTS.
180± S.F.
DRAIN. EASE.
570± S.F.
130± S.F.
195± S.F. CONST.
INLET DRAINAGE STRUCTURE STA. 14+25 LT. TO STA. 14+80 RT.
BRIDGE NO. 2975
PIN 017576.00
VILLAGE BRIDGE OVER KENDUSKEAG STREAM

SYMBOLS
- IP or ● P/P (IRON PIPE or PIN FOUND)
- ST. (SEPTIC TANK)
- (ROW MONUMENT)
- (TRAVERSE POINT)
- (WELL)
- GRADING LIMIT LINE
- CONSTRUCTION LIMIT LINE
- PROPERTY LINE - P.L. -
- LIMITS OF "PROJECT" PORTION (LOW P.)
- EXISTING RIGHT OF WAY
- NEW RIGHT OF WAY
- NEW ROW WITHIN EXIST. ROW
- CONTROL OF ACCESS
- W WATER LINE
- G GAS LINE
- E ELECTRIC LINE
- T TELEPHONE LINE
- SEWER LINE

ITEM	TECH	CHECKED
BASE MAP		
EXIST. R/W	D.S.G.	D.S.G.
PROP. LINES	T.L.B.	T.L.B.
AREAS	T.L.B.	D.S.G.

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

REVISIONS

NO.	DATE	DESCRIPTION	BY

PLAN FILED IN PLAN BOOK PAGE COUNTY RECORD

NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE
		COND.	3/1/11	12414	274

DAVID A. COLE
COMMISSIONER
KENNETH L. SWEENEY
CHIEF ENGINEER
DATE

STATE OF MAINE · PETER A. BELANGER 1341 · PROFESSIONAL LAND SURVEYOR

STATE AID HIGHWAY NO. 2
STETSON ROAD
KENDUSKEAG PENOBSCOT COUNTY
FEDERAL AID PROJECT NO. BR-1757(600)X

AUGUST 2010 | RIGHT-OF-WAY MAP | D.O.T. FILE NO. 10-465
SCALE 1" = 25' | SHEET 1 OF 1

SHEET NUMBER
27
OF 28

Filename: ...\MSTA\028_Detour_Plan.dgn Division: BRIDGE Username: david.show Date:3/10/2011

1	DETOUR TO 15 ↰
2	DETOUR TO 15 ↱
3	DETOUR TO 15 ←
4	DETOUR TO 15 ↑
5	DETOUR TO 15 →
6	ROAD CLOSED — TYPE III BARRICADES
7	ROAD CLOSED 500 FT
8	ROAD CLOSED 1000 FT
9	ROAD CLOSED ½ MILE
10	ROAD CLOSED 1 MILE

11	ROAD CLOSED 0.8 MILES AHEAD LOCAL TRAFFIC ONLY — DETOUR ←
12	*Removed*
13	DETOUR AHEAD
14	15 ↔
15	DETOUR STETSON RD. LEVANT ROAD TOWNHOUSE RD. ↑
16	DETOUR TO 15 ↑
17	DETOUR LEVANT ROAD TOWNHOUSE RD. ↰
18	END DETOUR LEVANT ROAD TOWNHOUSE RD.
19	*Removed*
20	END DETOUR STETSON ROAD
21	DETOUR STETSON RD. LEVANT ROAD TOWNHOUSE RD. ↰
22	DETOUR STETSON RD. LEVANT ROAD TOWNHOUSE RD. ←

23	TRUCK DETOUR TO STETSON ROAD WEST OF MOREY ROAD →
24	TRUCK DETOUR TO STETSON ROAD WEST OF MOREY ROAD ←
25	DETOUR 15 ↖
26	*Removed*
27	*Removed*
28	DETOUR STETSON RD. LEVANT ROAD TOWNHOUSE RD. ↱
29	DETOUR STETSON RD. LEVANT ROAD TOWNHOUSE RD. →
30	WIDE TURNING TRUCKS
31	STOP AHEAD

32	TRUCK DETOUR TO 15 ↰
33	TRUCK DETOUR TO 15 ←

34	TRUCK DETOUR TO 15 ↱
35	TRUCK DETOUR TO 15 →

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1757(600)X

PIN 17576.00

BRIDGE NO. 2975

BRIDGE PLANS

PROJ. MANAGER	S. BRIDGE	BY	DATE
DESIGN-DETAILED	R. Bulger	D. Shaw	JUNE 2010
CHECKED-REVIEWED	D. Hanks	M. Poulin	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VILLAGE BRIDGE
KENDUSKEAG STREAM
KENDUSKEAG PENOBSCOT COUNTY

TRAFFIC CONTROL PLAN

SHEET NUMBER

28

OF 28