REEL 305

PIN. 004220.00

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	1	31

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLANS

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY
PROJECT NO. BR-034P(1)X
PROJECT LENGTH 0.0237 MILES

SPECIFICATIONS

DESIGN: Load Factor Design per AASHTO Standard Specifications for Highway Bridges 1992.

CONTRACT: State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges, Revision of October 1990.

DESIGN LOADING

LIVE LOAD: HS25

Materials

CONCRETE:	Precast	Class P
	Structural Concrete Slab	Class A
	All Other	Class A
STRUCTURAL STEEL:	ASTM A36 STEEL	
REINFORCING STEEL:	ASTM A615 Grade 60	
PRESTRESSING STRANDS:	ASTM A416 Grade 270, ½ inch, Uncoated, 7 Wire Low Relaxation Strand	

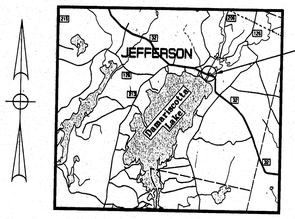
Basic Design Stresses

CONCRETE:	Precast: f'c = 6,000 psi
	Cast in Place: f'c = 3,000 psi
REINFORCING STEEL:	fy = 60,000 psi
PRESTRESSING STRANDS:	fy = 270,000 psi
STRUCTURAL STEEL:	H-Piles Fy = 36,000 psi

Hydrologic Data

Drainage Area (square miles)	26.2
Design Discharge (Q50)	2670 cfs
Check Discharge (Q100)	3160 cfs
Headwater Elevation (Q50)	57.33
Headwater Elevation (Q100)	58.91
Discharge Velocity (Q50)	6.2 fps
Discharge Velocity (Q100)	6.9 fps

Plans of the reconstruction of the existing superstructure and addition of concrete caps to the existing abutments and wing walls and a hydrologic report of the bridge site are available for the Contractor's reference at the Bridge Design Office in Augusta. The plans are reproductions of original drawings as prepared for the construction of the bridge and 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. The hydrologic report is based on the interpretation by the Department of information obtained for the subject site and no assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.



LOCATION MAP

1 0 1 2
Scale in Miles

AS BUILT
BY
11/10/94

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
3	GENERAL PLAN & PROFILE
4-5	CROSS SECTIONS
6	FOUNDATION SURVEY
7	STAGE CONSTRUCTION DETAILS
8	ABUTMENT #1
9	ABUTMENT #2
10-11	PRECAST BOX BEAM DETAILS
12	SUPERSTRUCTURE
13	GUARDRAIL LAYOUT & FASCIA OFFSETS
14	REINFORCING STEEL SCHEDULE
15-21	BRIDGE STANDARD DETAILS
22-30	HIGHWAY STANDARDS
31	RIGHT-OF-WAY MAP

TO BE INT.

BRIDGE STANDARD DETAILS

BD 202-93	REV.	7/93	3 BAR CONCRETE END POST
BD 203-93	REV.	7/93	4 BAR CONCRETE END POST
BD 402-93	REV.	7/93	ALUMINUM BRIDGE RAILING 3-BAR
BD 405-93	REV.	7/93	PALE PANEL DETAILS 3-BAR
BD 406-93	REV.	7/93	ALUMINUM BRIDGE RAILING 4-BAR
BD 407-93	REV.	7/93	PALE PANEL DETAILS 4-BAR
BD 501-93	REV.	7/93	SUBSTRUCTURE DETAILS

HIGHWAY STANDARDS

HD-4	REV.	10/92	MUCK EXCAVATION
HD-5	REV.	10/92	DRIVES & ENTRANCES
HD-6	REV.	10/92	TYPE 3 GUARDRAIL
HD-7	REV.	10/92	EROSION CONTROL
HD-10	REV.	10/92	MAINTENANCE OF TRAFFIC
HD-11	REV.	10/92	MAINTENANCE OF TRAFFIC
HD-12	REV.	10/92	MAINTENANCE OF TRAFFIC
HD-14	REV.	10/92	PEDESTRIAN RAMPS
HD-15	REV.	10/92	GEOTEXTILES

Traffic Data

A.A.D.T. (1990)		2280
A.A.D.T. (2010)		3190
D.H.V.		383
T.(%D.H.V.)		6
D.(%D.H.V.)		60
V.		35 M.P.H.
P.S.D.(%)		N/A
18 KIPS	P2.0	78
	P2.5	77

NOTE

ALL WORK CONTEMPLATED UNDER THIS CONTRACT TO BE GOVERNED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (REVISION OF OCTOBER 1990) AND SUPPLEMENTALS THERETO AS MODIFIED ON THE PLANS AND IN THE SPECIAL PROVISIONS.

APPROVED:

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

COMMISSIONER — DATE 12-21-93

CHIEF ENGINEER — DATE 12-21-93

STATE OF MAINE * THEODORE N. KARASOPOULOS 1935 REGISTERED PROFESSIONAL ENGINEER *

109-251 102

UNITED STATES
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION 1

APPROVED:

DIVISION ADMINISTRATOR — DATE

140EC93-010120

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.23	REMOVING SINGLE TREE TOP ONLY	3	EACH
201.24	REMOVING STUMP	5	EACH
202.19	REMOVING EXISTING BRIDGE (CY)	1	LS
203.20	COMMON EXCAVATION		
203.24	COMMON BORROW	415	CY
203.25	GRANULAR BORROW	95	CY
206.092	STRUCTURAL EARTH EXCAVATION--MAJOR STRUCTURES	165	CY
301.09	PLANT MIX BITUMINOUS BASE COURSE, GRADING B	350	CY
304.10	AGGREGATE SUBBASE COURSE--GRAVEL	46	TONS
		498	CY
403.07	HOT BITUMINOUS PAVEMENT, GRADING B		
403.10	HOT BITUMINOUS PAVEMENT, GRADING D	66	TONS
403.101	HOT BIT. PVMT., GRD D (SIDEWALKS, SHIMS, DRIVES, INCIDENTALS)	87	TONS
409.15	BITUMINOUS TACK COAT, APPLIED	16	TONS
		6	GAL
501.46	STEEL H-BEAM PILES 73 LBS/FT, DELIVERED		
501.461	STEEL H-BEAM PILES 73 LBS/FT, IN PLACE	800	LF
501.90	PILE TIPS	800	LF
501.92	PILE MOBILIZATION	16	EACH
		1	LS
502.21	STRUCTURAL CONCRETE, ABUTMENTS & RETAINING WALLS		
502.25	STRUCTURAL CONCRETE SUPERASTRUCTURE SLABS (CY)	73	CY
502.4711	SILICA FUME ADDITIVE (LB)	1	LS
503.12	REINFORCING STEEL FABRICATED & DELIVERED 10,900	1	LS
503.13	REINFORCING STEEL PLACING 10,900	~~33200~~	LB
503.17	MECHANICAL/WELDED SPLICE	~~33200~~	LB
		50	EACH
507.0941	ALUMINUM BRIDGE RAILING, 3 BAR, WITH PALES ANODIZED		
507.0946	ALUMINUM BRIDGE RAILING, 4 BAR, WITH PALES ANODIZED	67	LF
508.13	MEMBRANE WATERPROOFING (SY)	76	LF
		1	LS
510.10	SPECIAL DETOUR, 11' RDWY WIDTH VEH. & PED. TRAF. NOT SEP.		
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES	1	LS
		1	LS
525.34	GRANITE MASONRY FACING		
		77	SF
526.301	TEMPORARY CONCRETE BARRIER TYPE I		
		1	LS
527.32	PORTABLE CRASH BARRELS		
		7	EACH
535.62	PRESTRESSED STRUCTURAL CONCRETE BOX BEAMS (CY)		
606.151	GUARD RAIL TYPE 3ee--SINGLE RAIL	1	LS
606.191	GUARD RAIL TYPE 3ee--15 FOOT RADIUS AND LESS	75	LF
		96	LF
606.25	TERMINAL CONNECTOR		
606.266	TERMINAL END--SINGLE RAIL--CORROSION RESISTANT STEEL	4	EACH
		3	EACH
606.35	GUARD RAIL DELINEATOR POST		
606.77	BREAKAWAY CABLE TERMINAL	4	EACH
		1	EACH
609.31	CURB TYPE 3		
610.08	PLAIN RIPRAP	20	LF
610.18	STONE DITCH PROTECTION	480	CY
		5	CY
615.07	LOAM		
616.08	SODDING	16	CY
618.13	SEEDING METHOD NUMBER 1	16	SY
618.15	TEMPORARY SEEDING	3	UNIT
618.25	APPLIED WATER	3	LB
		1	MG
619.12	MULCH		
620.58	EROSION CONTROL GEOTEXTILE	4	UNIT
627.61	4 INCH SOLID WHITE PAVEMENT MARKING LINE	18	SY
		500	LF
627.63	4 INCH SOLID YELLOW PAVEMENT MARKING LINE		
		500	LF

ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
627.65	WHITE OR YELLOW PAVEMENT AND CURB MARKING		
627.67	REMOVING PAVEMENT MARKINGS	50	SF
627.68	TEMP. 4" PAINTED PAVEMENT MARKING LINE, YELLOW OR WHITE	550	SF
		1500	LF
629.05	HAND LABOR, STRAIGHT TIME		
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	210	MH
631.172	TRUCK--LARGE (INCLUDING OPERATOR)	10	HOUR
		10	HOUR
637.07	SPRINKLING		
637.08	CALCIUM CHLORIDE	10	MG
639.19	FIELD OFFICE TYPE B	1	TONS
639.23	TESTING FACILITIES CONCRETE	1	EACH
643.72	TEMPORARY TRAFFIC SIGNAL: XX	1	LS
652.31	TYPE I BARRICADE	1	LS
652.311	TYPE II BARRICADE	10	EACH
652.33	DRUM	5	EACH
652.34	CONE	10	EACH
652.35	CONSTRUCTION SIGNS	10	EACH
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	510	SF
		1	LS
652.38	FLAGGER		
		200	MH
656.50	BALED HAY, IN PLACE		
656.51	SANDBAG, IN PLACE	18	EACH
656.632	30" TEMPORARY SILT FENCE	18	EACH
		500	LF
657.24	SEEDING PITS		
		1	UNIT
659.10	MOBILIZATION		
		1	LS

P.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	2	31

Pin 004220.00

General Construction Notes

1.- All utility facilities shall be adjusted by the respective utilities unless noted.

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

3.- Place a 1'-6" wide strip of sod on the side slopes along the top of the riprap.

4.- All embankment material, except as otherwise shown, placed below water, shall be granular borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.

5.- The clearing limits as shown on the plans are approximate. The exact limits shall be established in the field by the Engineer. Payment for clearing shall be incidental to related contract items.

6.- Place Loam, 2" deep, on slopes between Station 205+50 and 208+00.

7.- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Engineer. Payment for shaping and compacting of the existing subbase and layers of new subbase 6" or less thick, in areas where the Engineer directs the Contractor not to excavate to the subgrade line shown on the plans, will be made in accordance with subsection 104.03, Extra Work.

8.- One guardrail delineator post and one terminal end shall be installed at each guardrail end.

9.- OMITTED

10.- Sodded gutters shall be constructed, after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion.

11.- OMITTED

12.- Boat Traffic Control Officers shall be provided by the Contractor to allow for safe passage of boat traffic through the work area during construction hours when approved by the Engineer. The payment for furnishing the officer will be paid for under Item 629.05, Hand Labor, Straight Time.

13.- OMITTED

14.- During construction, the Contractor shall maintain the existing guage station located on the south-westerly corner of the existing abutment in a manner approved by the Engineer. Upon completion of the project the guage shall be permanently reset by the Contractor in a manner approved by the Engineer. Payment for maintaining and resetting the guage shall be considered incidental to Item 202.19, Removing Existing Bridge.

15.- Where the proposed riprap slopes are to be constructed along the easterly bank of the stream (upstream and downstream), where stone walls now exist, the stone wall will be removed to clear for the riprap. The riprap will be blended to match the stone walls. The removed stones shall be stockpiled on the respective owners property. The work required to remove and stockpile the stones and blending to match stone walls will be considered incidental to Item 610.08, Plain Riprap.

PROJECT DESIGN ENGINEER		BY	DATE
PLANS	DESIGN-DETAILED	MKD	10-93
	CHECKED		
	QUALITY CONTROL		
	FIELD CHANGES		

16JAN94-010100

REVISION	DESCRIPTION	DATE
1	Revised Rebar Quantity	2-9-94

109-252

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION 103

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

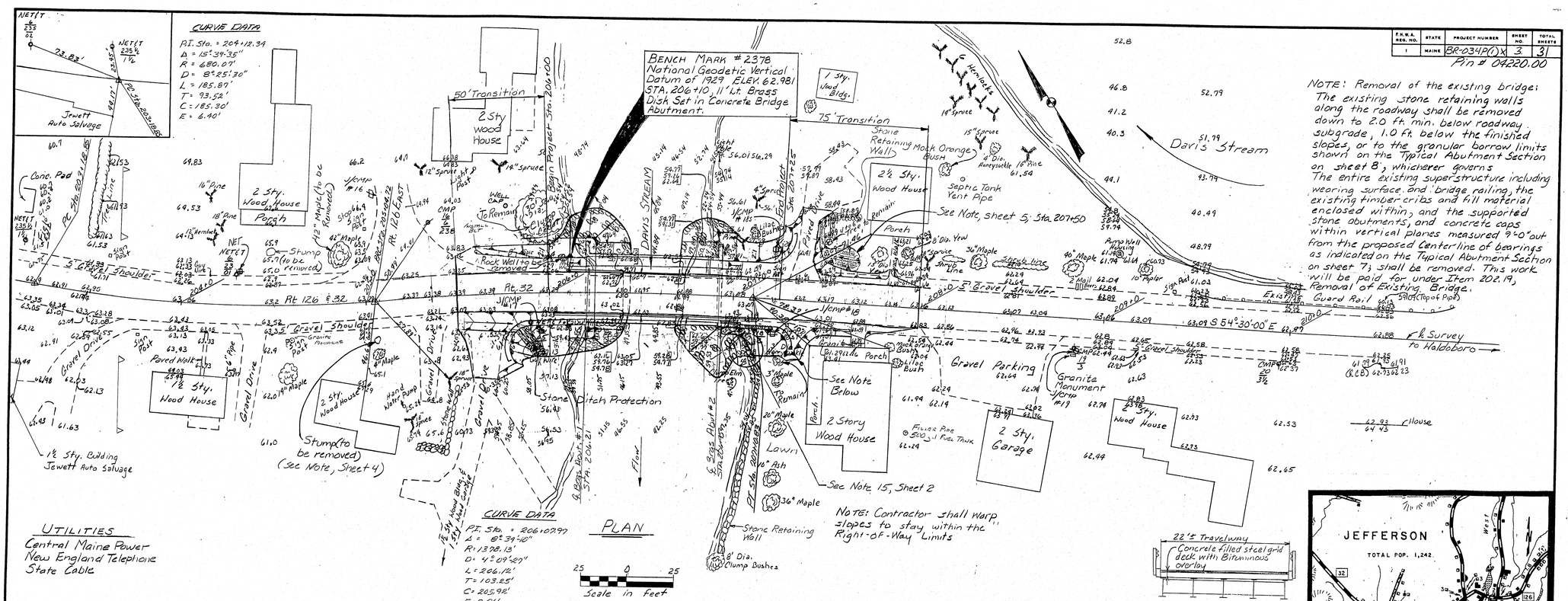
ESTIMATED QUANTITIES

SHEET OF AUGUSTA, MAINE Jan., 1994

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	3	3

Pin # 04220.00

NOTE: Removal of the existing bridge: The existing stone retaining walls along the roadway shall be removed down to 2.0 ft. min. below roadway subgrade, 1.0 ft. below the finished slopes, or to the granular borrow limits shown on the Typical Abutment Section on sheet 8, whichever governs. The entire existing superstructure including wearing surface and bridge railing, the existing timber cribs and fill material enclosed within, and the supported stone abutments, and concrete caps within vertical planes measured 9'-0" out from the proposed centerline of bearings as indicated on the Typical Abutment Section on sheet 7, shall be removed. This work will be paid for under Item 202.19, Removal of Existing Bridge.



Survey Plotted by RJW 9-1-3

PROJECT	DESIGN ENGINEER	BY	DATE
PLANS	DESIGN - DETAILED		
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

BRUNING 4070-1

Bridge # 2378 Survey Book #

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION 104

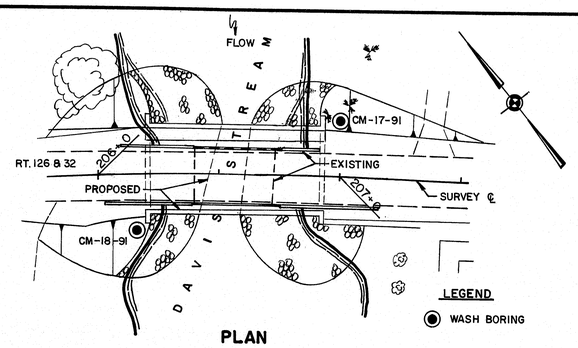
HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY
GENERAL PLAN AND PROFILE

SHEET OF AUGUSTA, MAINE

109-253

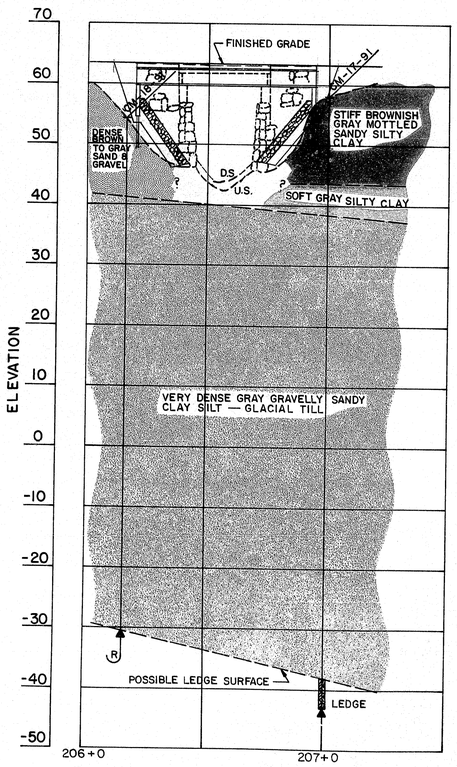
P.I.N. 4220.00

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	6	31



PLAN

25 0 25 50
SCALE



PROFILE

HORIZ. 25 0 25 50
VERT. 10 0 10 20
SCALE

BORING NOTES

- 2 1/2" Casing
- All samples and vanes are made ahead of casing
- N — Number of blows required to drive extra heavy casing one foot with 400 ft. lbs. of energy per blow
- Location of sample or sample attempt
- I D / I C / M D — Number and type of dry sample: S & H Sampler* 1290's; 2" O.D. 16ga. seamless tubing
- Unsuccessful sample attempt and type of sampler
- Number of blows required to drive spoon or tubing one foot with 350 ft. lbs. of energy per blow
- H — Sampling spoon or seamless tubing driven by static weight of drill rods and hammer
- Field vane test
- Bottom of boring (may not be bottom of soil strata)
- R — Refusal of drill rods or casing (may not be ledge)
- 71% — Locations cored by diamond bit and percent recovery of rock

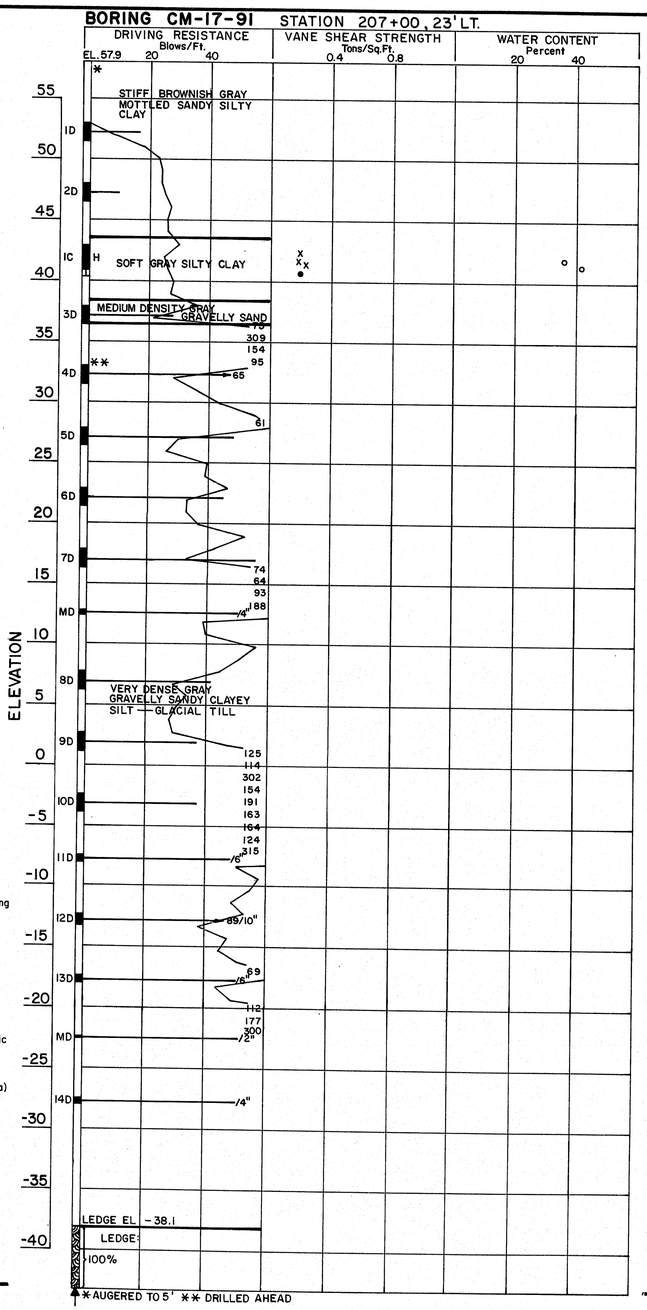
SHEAR NOTES

- ● Field vane shear strengths
- X Laboratory vane shear strengths

WATER CONTENT NOTES

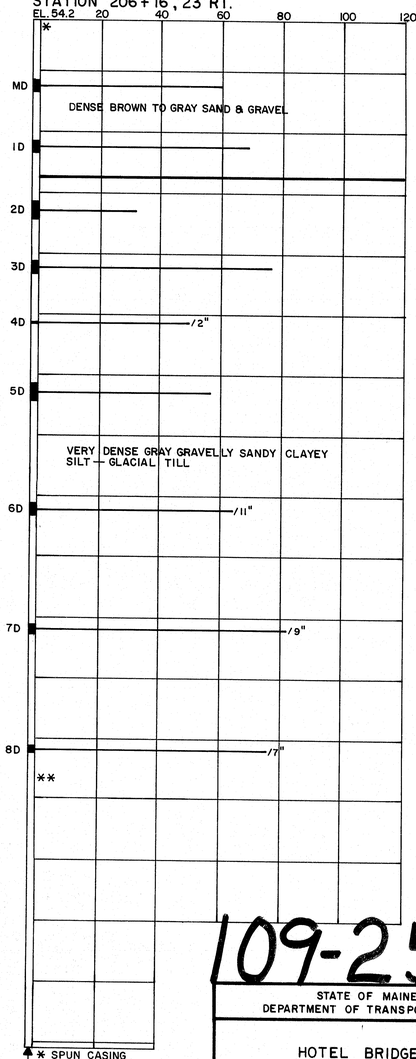
- O Natural water contents, given as percent or dry weight

BORING CM-17-91 STATION 207+00, 23' LT.



* AUGERED TO 5' ** DRILLED AHEAD

BORING CM-18-91
STATION 206+16, 23' RT.



* SPUN CASING
** DRILLED AHEAD

109-254

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE 107
over
DAVIS STREAM
in the town of
JEFFERSON
LINCOLN COUNTY
FOUNDATION SURVEY
SHEET OF AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	BY	DATE
PLANS — DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

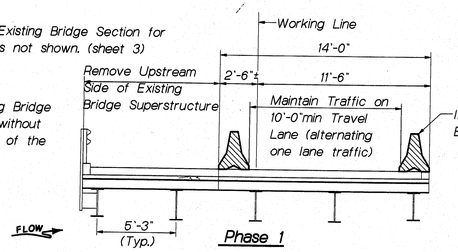
DRAWING 44-132 4710-1

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	7	31

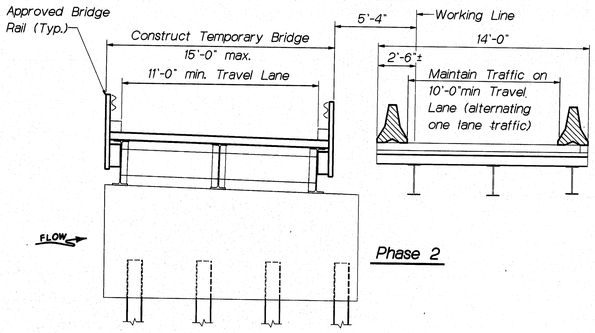
Pin 004220.00

NOTE:
See Existing Bridge Section for details not shown. (sheet 3)

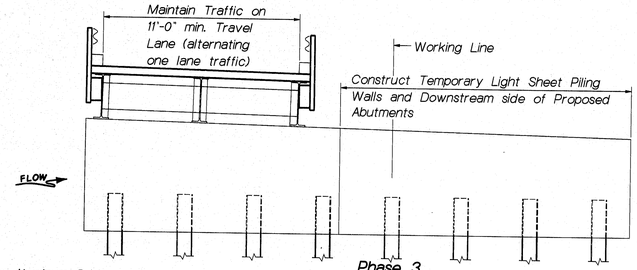
NOTE:
Removal of the Existing Bridge shall be accomplished without damage to the portion of the structure to remain.



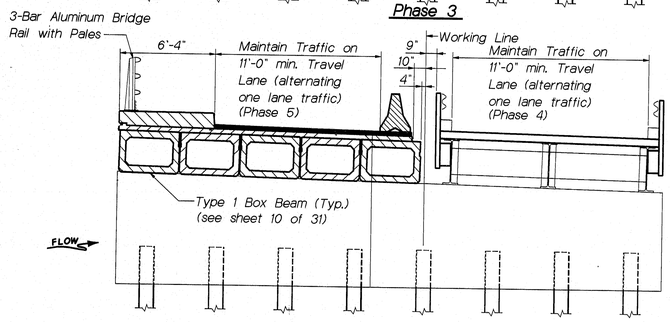
Phase 1



Phase 2

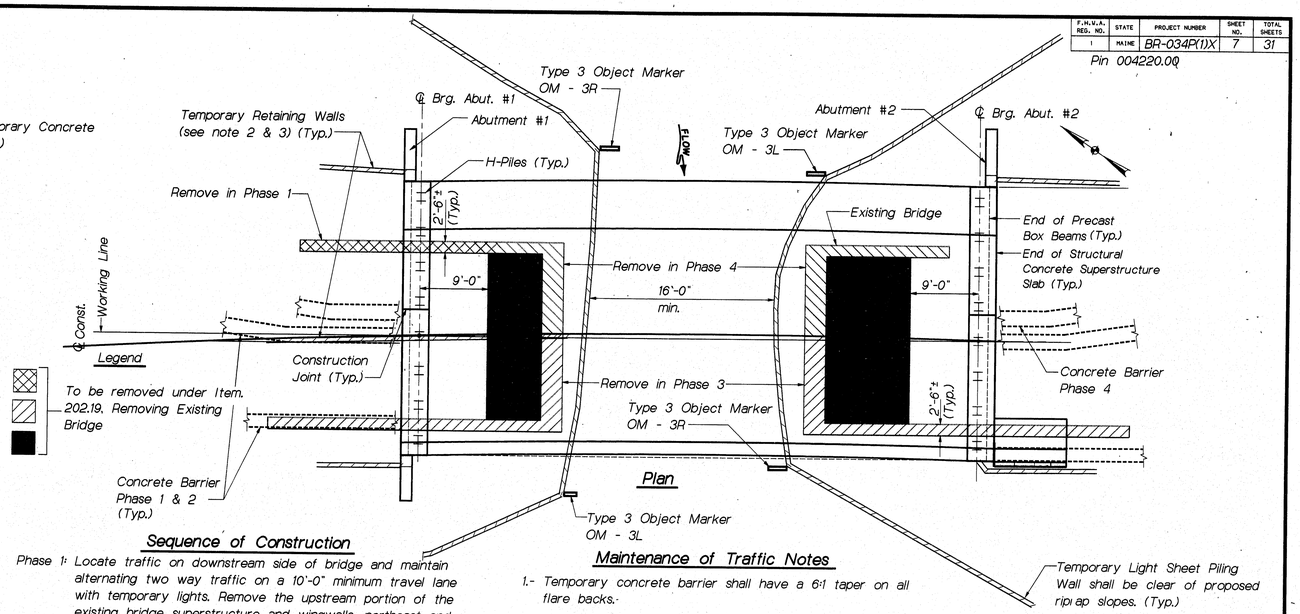


Phase 3



Phase 4

Phase 5 - Remove Temporary Bridge and complete downstream portion of proposed bridge.



Plan

Sequence of Construction

Phase 1: Locate traffic on downstream side of bridge and maintain alternating two way traffic on a 10'-0" minimum travel lane with temporary lights. Remove the upstream portion of the existing bridge superstructure and wingwalls, northeast and southeast wings only.

Phase 2: Construct upstream portion of proposed abutments. Construct temporary bridge superstructure, with approved bridge rails, and temporary walls.

Phase 3: Locate traffic on temporary bridge on upstream side. Remove downstream side of existing bridge including existing abutments. Construct proposed slopes and riprap as far as practical. Construct temporary walls similar to Phase 2, and remaining portions of proposed abutments.

Phase 4: Move temporary bridge to downstream side. Relocate traffic to downstream side. Remove upstream portions of existing abutments and construct remaining portions of riprap slopes. Remove upstream portion of temporary walls. Construct upstream portion of superstructure.

Phase 5: Move traffic to new superstructure on upstream side. Remove temporary bridge, downstream temporary walls and complete superstructure.

Temporary Signals

The Temporary Signal Controller shall be a 3 phase fully actuated controller. Install presense loops on three approaches. Initial timing shown below: adjust as necessary.

	Rte. 32 (SB)	Rte. 32 (NB)	Rte. 126 (WB)
Initial	3	3	3
Extension	3	3	3
Maximum	12	12	8
Yellow	3	3	3
All Red	12	12	12
Recall	Soft		

Maintenance of Traffic Notes

1.- Temporary concrete barrier shall have a 6:1 taper on all flare backs.

2.- A temporary light sheet piling wall at a minimum of 2 feet above water level as approved by the Engineer, will be required to contain any sediment load in the water that may occur in excavating the existing log cribs, stone abutments and backfilling behind the existing walls. The temporary light sheet piling walls shall remain in place until the proposed riprap slopes have be completed to a minimum of 1 foot above the water level. It is anticipated that temporary earth retaining walls will be required to maintain traffic on widened roadway, and to maintain existing roadway during excavation for proposed bridge abutments. A temporary bridge superstructure with approved bridge rails will be required. At least one movement of the temporary bridge is anticipated. Some removal of concrete caps and approach fill on the existing abutments will be necessary to accomodate the temporary bridge beams. This work will be considered incidental to Item 510.10, Special Detour, 11 ft. Roadway Width Vehicle and Pedestrian Traffic Not Separated.

3.- The existing log cribbing to remain during Phase 1 & 2 of construction shall be adequately braced and supported in a manner approved by the Engineer. Underwater inspection reports can be found in the Bridge Maintenance Office Files in Augusta, and are available for inspection by the Contractor. Recent underwater inspection reports indicate some voids within the existing log cribbing. This work will be considered incidental to Item 510.10, Special Detour, 11 ft. Roadway Width Vehicle and Pedestrian Traffic Not Separate.

4.- Where approved by the Engineer, any voids created by the removal of the existing timber cribbing shall be filled with granular borrow suitable for underwater backfill. Payment will be made under Item 203.25, Granular Borrow.

5.- Other methods of maintenance of traffic and sequence of construction may be used as approved by the Engineer.

6.- Payment for all the work and materials required for the maintenance of traffic, such as temporary concrete barriers, maintenance of traffic control devices, cones, drums, and traffic lights as approved by the Engineer will be paid for under the applicable pay items.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

04JAN94-0101.00

109-255

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

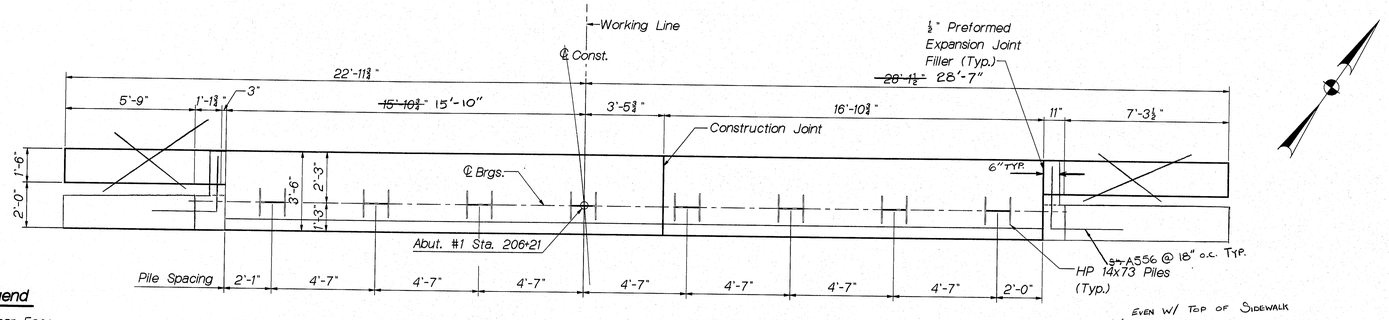
HOTEL BRIDGE 108
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

STAGE CONSTRUCTION DETAILS

SHEET OF AUGUSTA, MAINE Jan., 1994

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	8	31

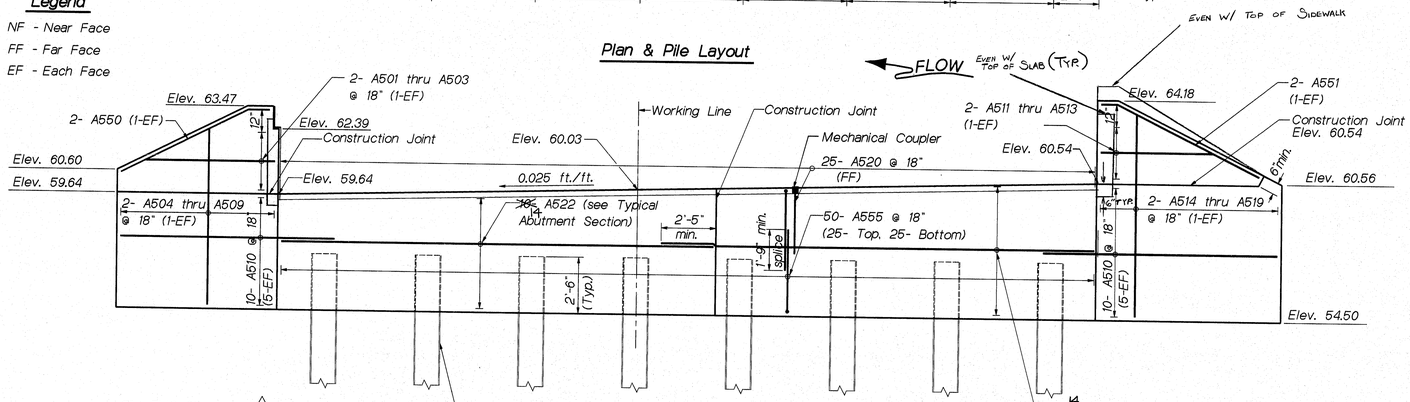
Pin 004220.00



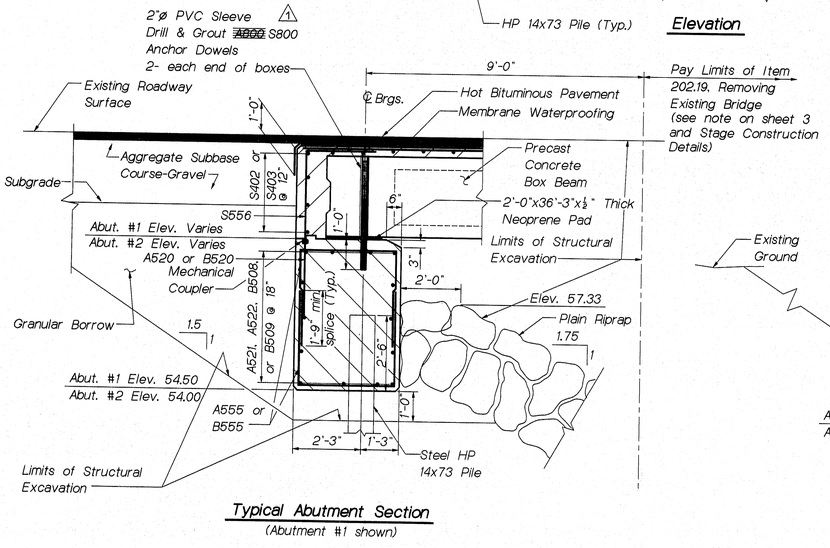
Legend

NF - Near Face
FF - Far Face
EF - Each Face

Plan & Pile Layout

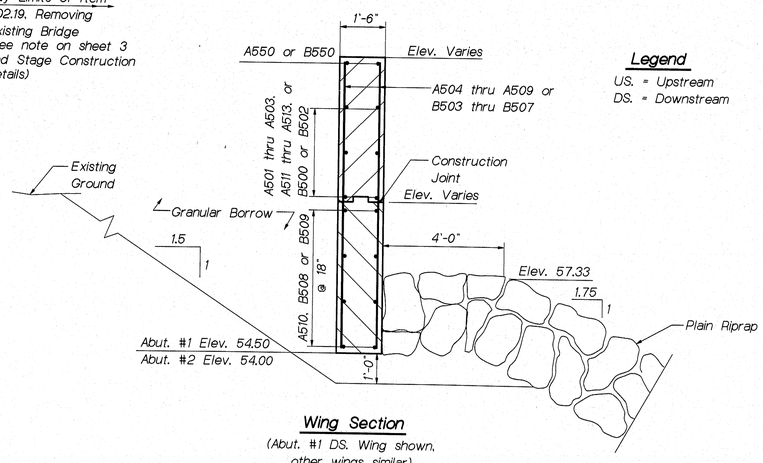


Elevation



Typical Abutment Section

(Abutment #1 shown)

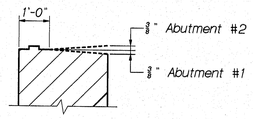


Wing Section

(Abut. #1 DS. Wing shown, other wings similar)

Legend

US. = Upstream
DS. = Downstream



Bridge Seat Section

Abutment Notes

1.- Reinforcing steel shall have two inches minimum cover unless otherwise noted.

2.- All exposed edges of concrete shall be chamfered 1" except as noted.

3.- Maximum calculated pile loads: 112 Kips per pile.

4.- Estimate of piles required:
Abutment #1 - 8~ HP14x73 @ 50 feet
Abutment #2 - 8~ HP14x73 @ 50 feet

5.- Piles shall not be out of position shown on plans by more than 3 inches.

6.- For construction and contraction joint details see BD501-93 of the Standard Details.

7.- The top portion of the wings shall be placed after the erection of the prestressed box beams.

8.- Protective coating will be applied to all exposed surfaces of wings above finished grade.

9.- Concrete retaining wall shall be faced with granite masonry within the limits shown on the plans and paid for under Item 525.34, Granite Masonry Facing.

10.- For pile splice details see BD501-93 of the Standard Details.

11.- The ultimate HP 14x73 pile capacity required is 336 kips.

12.- Dynamic and static tests will not be required.

13.- The wave equation analysis shall be performed as directed by the Engineer.

14.- Removal of timber cribs and stones where necessary to drive piles shall be considered incidental to Item 202.19, Removing Existing Bridge.

NOTE:
Grades parallel to ℄ Construction

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PROJECT DESIGN ENGINEER	DESIGN-DETAILED	CHECKED	REVISIONS	FIELD CHANGES
PLANS	BY: MKD	DATE: 10-93		

18JAN94-010100

REVISION	DESCRIPTION	DATE
1	Revised Reber Number	2-9-94

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

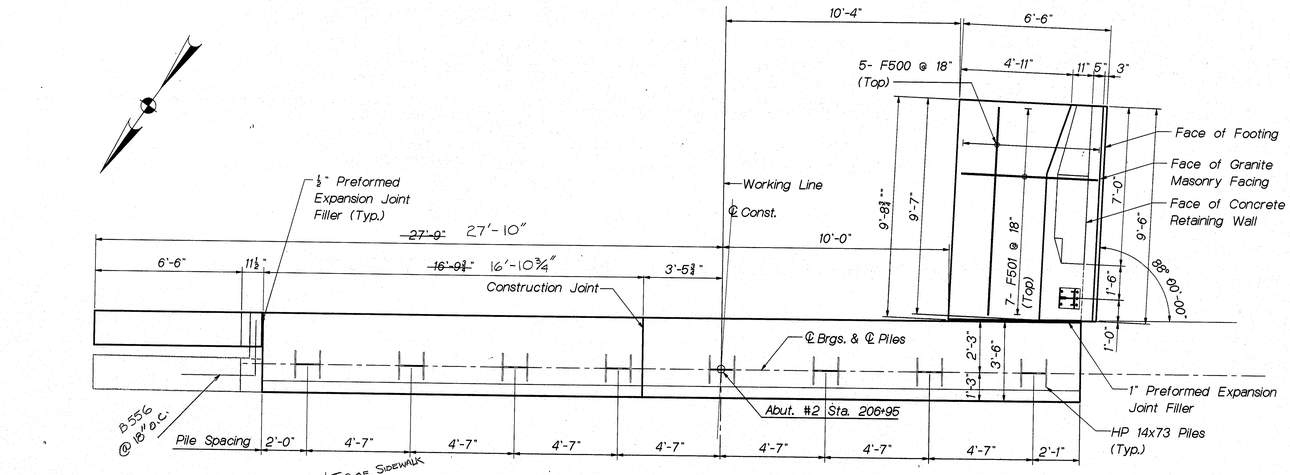
HOTEL BRIDGE 109
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

ABUTMENT #1

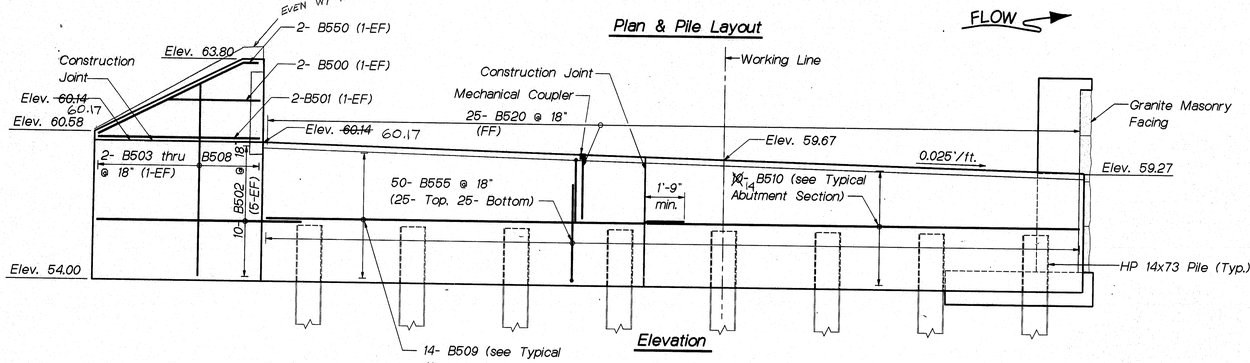
SHEET OF AUGUSTA, MAINE Jan., 1994

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	9	31

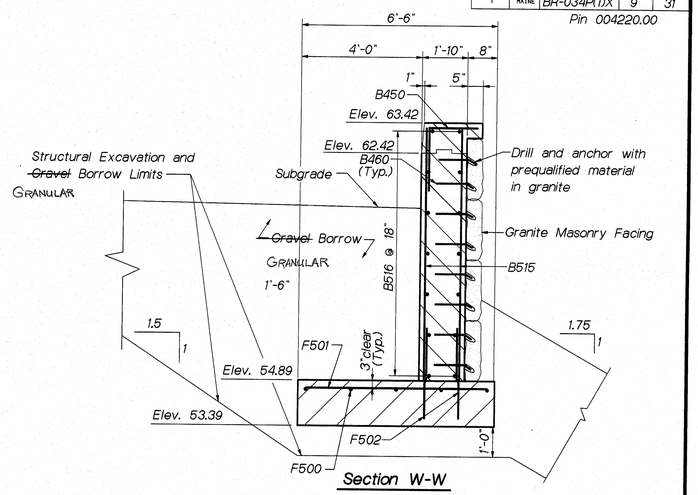
Pin 004220.00



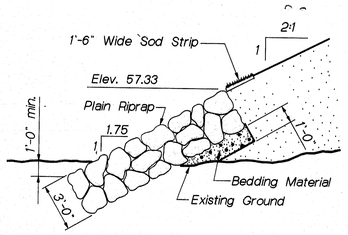
Plan & Pile Layout



Elevation



Section W-W

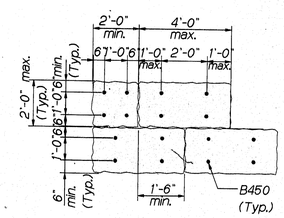


TYPICAL RIPRAP SECTION

All Bedding Material placed in the embankment slope under the riprap and within 12 inches of the back side of riprap areas shall meet the requirements of Subsection 703.19, Material for Underwater Backfill.

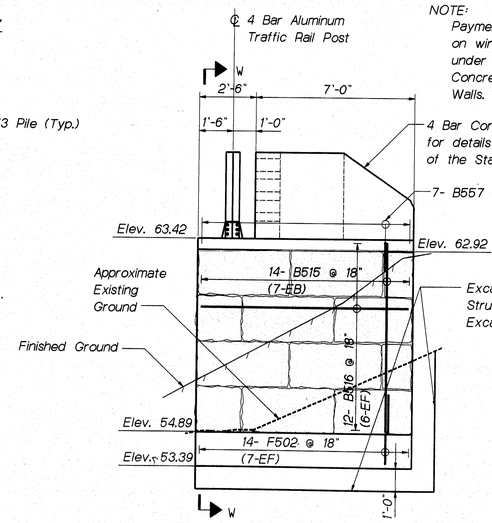
Legend

NF - Near Face
FF - Far Face
EF - Each Face



Anchorage Layout Detail

(for Granite Masonry Facing)



Granite Faced Retaining Wall Elevation

NOTE:
Payment for concrete end post on wing wall will be paid for under 502.219, Structural Concrete, Abutments & Retaining Walls.

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For Abutment Details not shown see sheet 8 of 31.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

04JAN94-010100

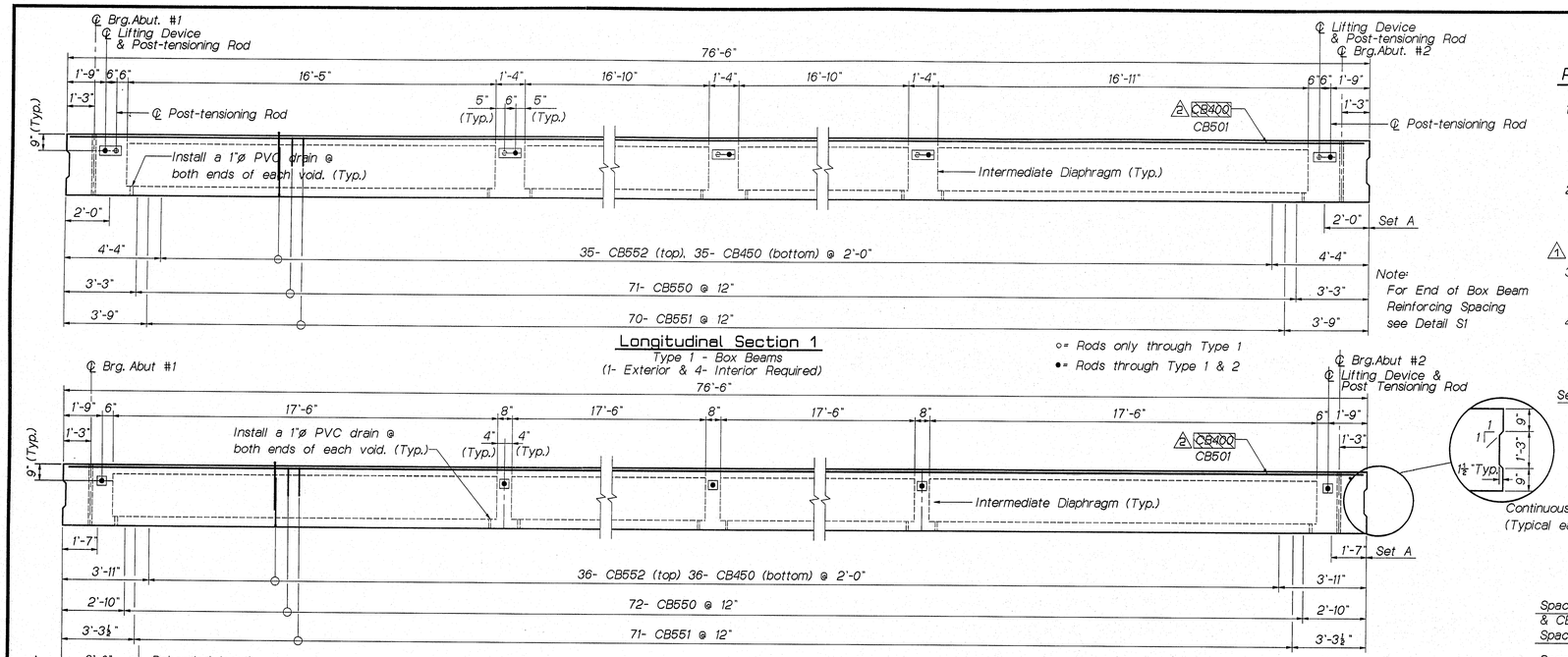
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

ABUTMENT #2

110

SHEET OF AUGUSTA, MAINE Jan., 1994



Longitudinal Section 1

Type 1 - Box Beams
(1- Exterior & 4- Interior Required)

○= Rods only through Type 1
●= Rods through Type 1 & 2

Longitudinal Section 2

Type 2 - Box Beams
(1- Exterior & 3- Interior Required)

Continuous Shear Key (Typical each end)

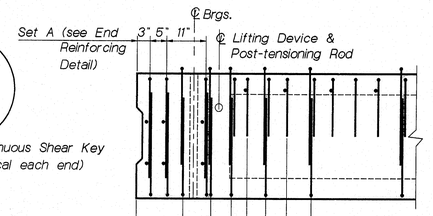
Prestressed Structural Concrete Box Beam Notes

1.- The minimum compressive strength of prestressed concrete at the age of 28 days shall be 6000 psi. Minimum compressive strength at transfer of prestressing force shall be 4000 psi.

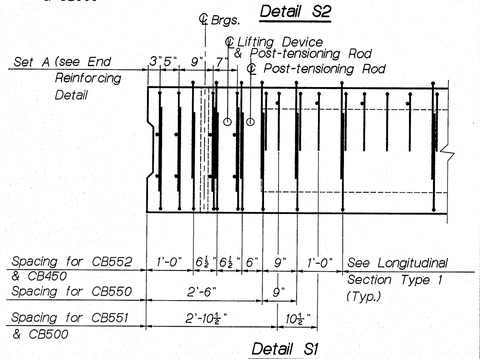
2.- Pretensioning steel shall consist of Low Relaxation seven wire strands, Grade 270 with a nominal diameter of one-half inch. The initial tensile force applied to each strand shall be 31,000 lbs.

△1 3.- The debonding sheaths shall be as approved by the Engineer. Debonded strands will be sheathed for a length of 3'-6" from the end of beam.

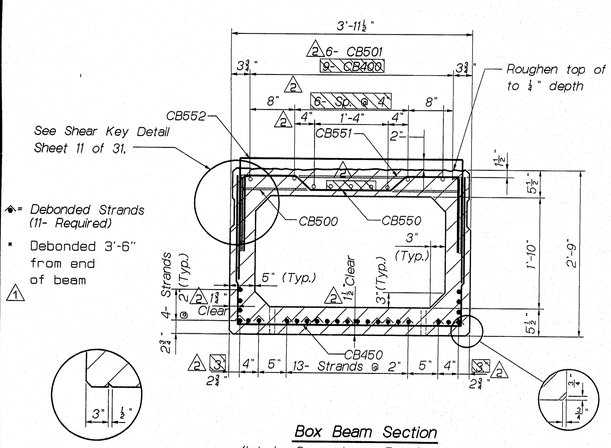
4.- Payment for reinforcing steel for concrete box beams shall be considered incidental to Item 535.62, Prestressed Structural Concrete Box Beams.



Detail S2



Detail S1

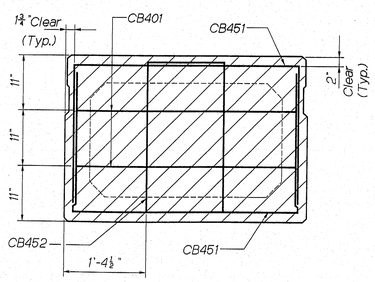


Box Beam Section

(Interior Beam shown, Exterior Beams similar except there is no shear key on fascia side & there is a drip notch.)

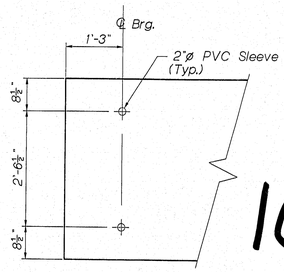
Drip Notch Detail

Set A
CB401
CB451
CB452



End Reinforcing

(Interior Beam shown, Exterior similar)



PVC Sleeve Spacing Plan

(Abut. #1 end shown, Abut. #2 end similar)

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	10	31

Pin 004220.00

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

10JUN94-010050

REVISION	DESCRIPTION	DATE
2	REINFORCING & DIMENSIONS	6-8-94
REVISION	DESCRIPTION	DATE
1	NOTES AND DIMENSIONS	1-26-94

109-258

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

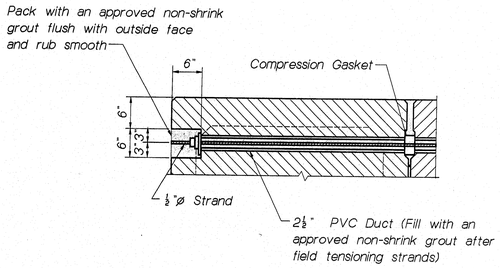
HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY
PRESTRESSED STRUCTURAL CONCRETE
BOX BEAMS

SHEET OF AUGUSTA, MAINE Jan., 1994

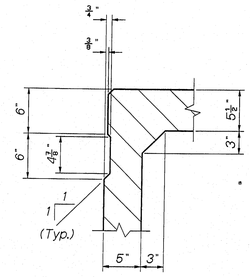
JEFFERSON Jun 94

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	11	31

Pin 004220.00

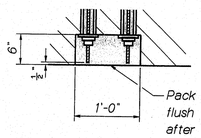


Post-Tensioning Detail



Shear Key Detail

Post-Tensioning Duct Detail
(Type 2 Box Beams)



Stage Construction
Post-Tensioning Duct Detail
(Type 1 Box Beams)

STRAIGHT BARS			
MARK	NO.	LENGTH	LOCATION
CB400	81	76'-4"	LONGITUDINAL
CB401	128	3'-8"	DIAPHRAGM MATS
CB500	652	3'-8"	TRANSVERSE
CB501	54	76'-4"	LONGITUDINAL

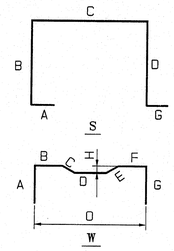
END REINFORCING

109-259

BENT BARS														
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
CB450	401	6'-3"	S	—	2'-8"	0'-3"	2'-8"			—				BOX BEAMS
CB451	128	6'-3"	S	—	2'-8"	0'-3"	2'-8"			—				END REINFORCING
CB452	64	6'-0"	S	—	2'-5"	1'-2"	2'-5"			—				END REINFORCING
CB550	661	5'-3½"	W	1'-3"	0'-11"	0'-5½"	1'-0½"	0'-5½"	0'-11"	1'-3"	0'-2¾"	3'-8"		BOX BEAMS
CB551	652	5'-3½"	S	—	1'-3"		1'-3"			—				BOX BEAMS
CB552	401	6'-3"	S	—	2'-9"		2'-9"			—				BOX BEAMS

REVISION	DESCRIPTION	DATE
2	REINFORCING STEEL	6-8-94

TYPE - BENDING DIAGRAMS



- Dimensions are out-to-out of bar
- Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 318.
- Reinforcing Bar: ASTM A615 Grade 60

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE 112
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY
PRESTRESSED STRUCTURAL CONCRETE
BOX BEAMS

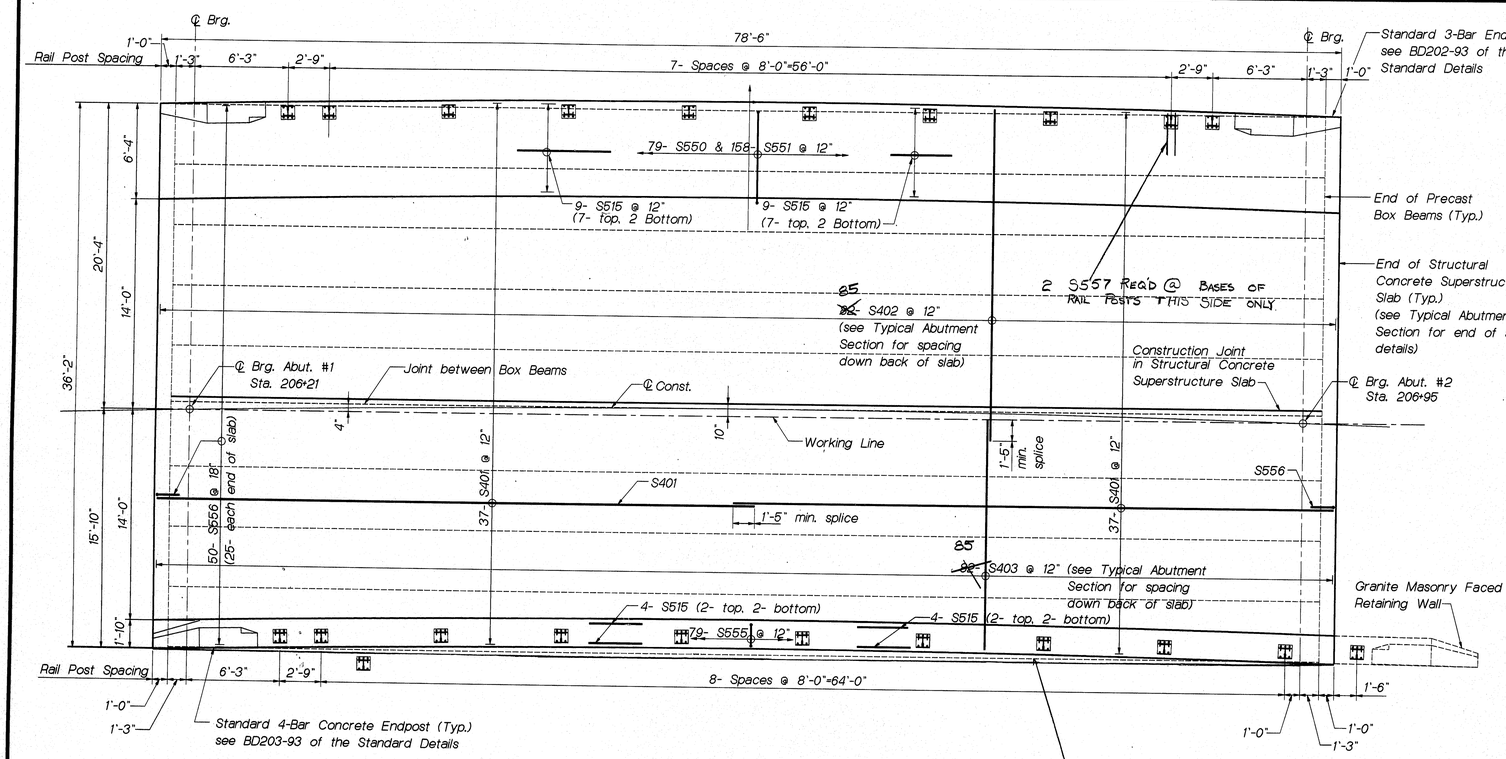
SHEET OF AUGUSTA, MAINE Jan., 1994

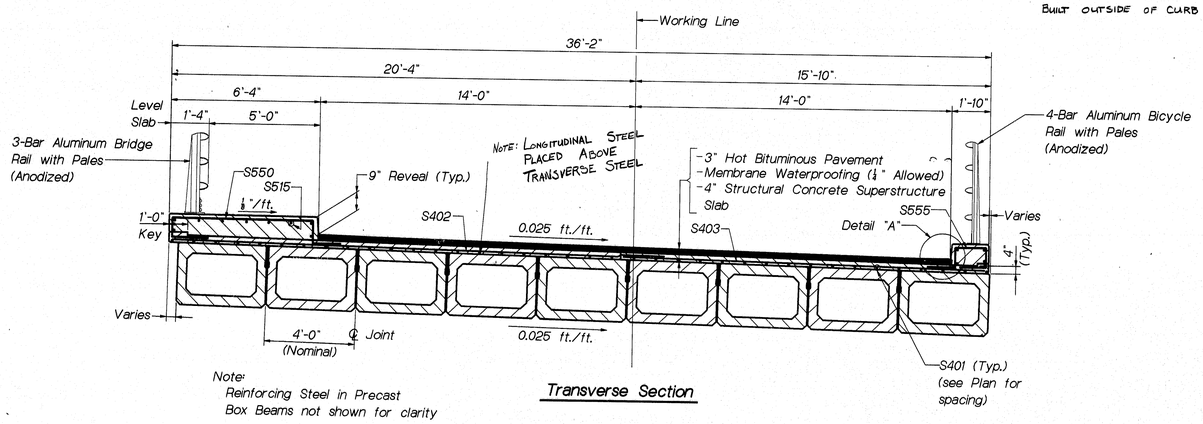
JEFFERSON JUN 94

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

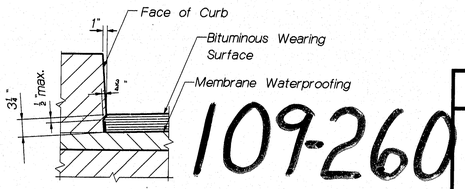
10JAN94-010050





Note:
Reinforcing Steel in Precast Box Beams not shown for clarity

Transverse Section



Detail 'A'

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)	12	31

PIN 004220.00

Superstructure Notes

1.- Reinforcing steel shall have two inches minimum cover in curbs.

2.- Protective coating shall be applied to the following areas:
- All exposed surfaces of concrete curbs, and end posts.
- Fascias down to drip notch

3.- Form a 1" V-groove on the fascias at the horizontal joint between the curb and concrete slab.

4.- The surface of the Precast Prestressed Butted Box Beams shall be cleaned prior to the placement of the concrete leveling slab in accordance with the requirements of subsection 502.11. Payment will be considered incidental to related concrete items.

5.- All curb, sidewalk, end post and top part of granite masonry retaining wall down to Elevation 62.42 shall contain a silica fume additive.

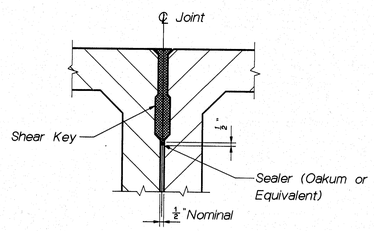
6.- Tensioning of prestressing strands shall be done in accordance with Standard and Supplemental Specifications Section 535. The jacking force applied to the prestressing strands shall be 31,000 pounds.

7.- The approximate weight of a Precast Prestressed Butted Box Beam is 32 tons.

8.- The concrete curb and sidewalk will be cast in place. Concrete for curb, sidewalk, and end posts will be paid for under Item 502.25, Structural Concrete Superstructure Slab.

9.- Lateral post-tensioning strands shall have a tension of 29,000 pounds per strand applied.

10.- In accordance with subsection 535.36, the Contractor shall provide 36-S800 anchor dowels 2'-5" long. Drill and anchor, with an approved anchorage material, S800 dowels into abutments after prestressed box beams have been erected. All work and materials will be considered incidental to related contract items.



Butted Box Joint Detail

Reference:
For Typical Abutment Section see sheet 8 of 31.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

10JAN94-0100.40

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

SUPERSTRUCTURE

SHEET OF AUGUSTA, MAINE Jan., 1994

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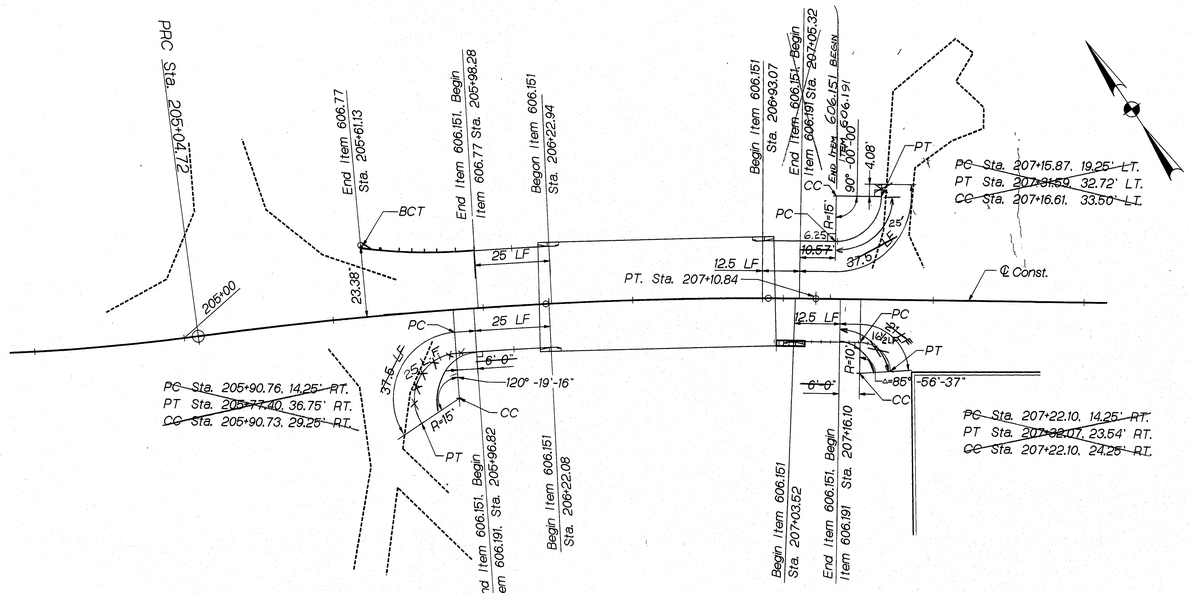
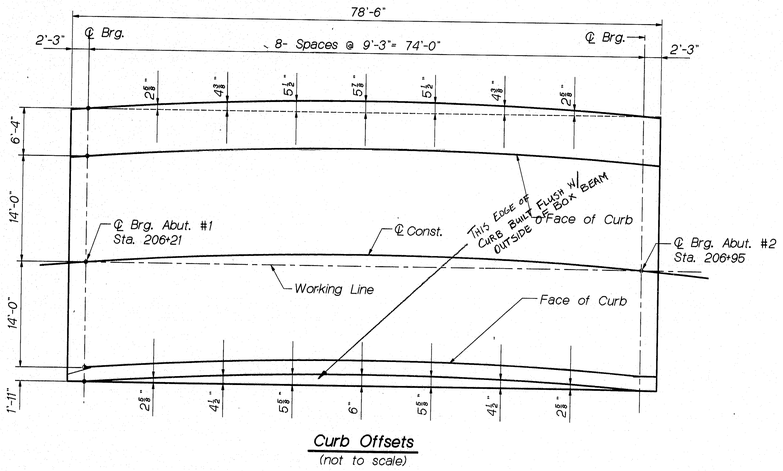
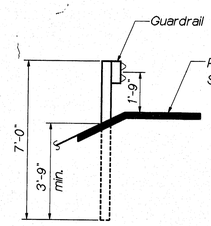
F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	13	31

Pin 004220.00





Curb Offsets
(not to scale)



Modified Guardrail Post Detail
(Upstream side only)

NOTE:

1.- All guardrail posts shall be 7'-0" long and embedded 3'-9" min. Modified guardrail posts shall be considered incidental to related contract items.

PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	MKD	10-93
CHECKED		
REVISIONS		
FIELD CHANGES		

PLANS

140EC93-010120

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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY
GUARDRAIL LAYOUT &
FASCIA OFFSET LAYOUT

119

SHEET OF AUGUSTA, MAINE Jan., 1993

REINFORCING STEEL SCHEDULE

STRAIGHT BARS

MARK	NO.	LENGTH	LOCATION
			ABUTMENT #1
A501	2	3'-2"	HORIZ. WING
A502	2	5'-8"	HORIZ. WING
A503	2	6'-9"	HORIZ. WING
A504	2	5'-10"	VERT. WING
A505	2	6'-6"	
A506	2	7'-2"	
A507	2	7'-10"	
A508	2	8'-6"	
A509	2	7'-7"	
A510	20	10'-0"	HORIZ. WING
A511	2	2'-8"	
A512	2	4'-11"	
A513	2	7'-4"	
A514	2	9'-4"	VERT. WING
A515	2	8'-11"	
A516	2	8'-1"	
A517	2	7'-3"	
A518	2	6'-6"	
A519	2	5'-10"	
A520	25	3'-0"	DOWELS
A521	~~18~~ 14	19'-2"	BREAST WALL
A522	~~18~~ 14	19'-0"	BREAST WALL
			ABUTMENT #2
B500	2	4'-0"	HORIZ. WING
B501	2	7'-1"	HORIZ. WING
B502	10	9'-1"	HORIZ. WING
B503	2	6'-2"	VERT. WING
B504	2	6'-11"	
B505	2	7'-8"	
B506	2	8'-6"	
B507	2	9'-2"	
B508	2	9'-5"	
B509	~~18~~ 14	18'-6"	BREAST WALL
B510	~~18~~ 14	19'-1"	BREAST WALL
B515	14	8'-4"	RETAINING WALL
B516	12	9'-2"	RETAINING WALL
B520	25	3'-0"	DOWELS
F500	5	9'-0"	FOOTING
F501	7	6'-0"	FOOTING
F502	14	3'-0"	DOWELS

MARK	NO.	LENGTH	LOCATION
			SUPERSTRUCTURE
S401	74	~~33'-7"~~ 39'-10"	LONG. SLAB
S402	~~82~~ 85	~~21'-1"~~ 21'-7"	TRANS. SLAB
S403	~~82~~ 85	~~16'-5"~~ 15'-9"	TRANS. SLAB
S515	26	40'-0"	CURB & SIDEWALK
S800	36	3'-5"	ANCHOR DOWELS
			END POSTS
EP405	24	1'-10"	3 & 4 BAR
EP450	12	3'-3"	3 BAR
EP453	12	3'-6"	4 BAR

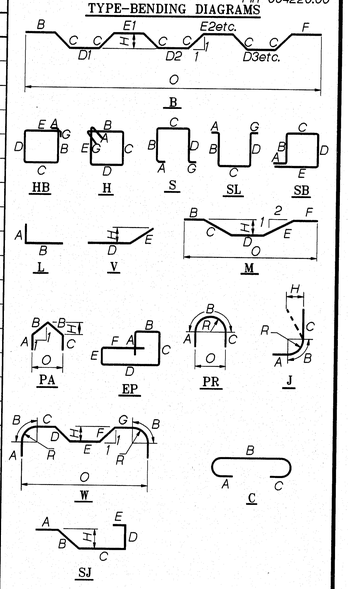
MARK	NO.	LENGTH	LOCATION

BENT BARS

MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
								ABUTMENT #1						
A550	2	7'-0"	V				6'-3"	0'-9"			0'-5"			WINGS
A551	2	7'-7"	V				6'-11"	0'-8"			0'-4"			WINGS
A555	50	11'-2"	S	—	4'-0"	3'-2"	4'-0"			—				BREAST WALL
A556	6	4'-0"	L	2'-0"	2'-0"									CURTAIN WALLS
								ABUTMENT #2						
B450	7	4'-5"	L	2'-0"	2'-5"									RETAINING WALL
B460▪▪	50	1'-3"	V				1'-0"	0'-3"			△0'-2"			GRANITE ANCHORAGE
B550	2	7'-9"	V				7'-0"	0'-9"			0'-5"			WINGS
B555	50	11'-2"	S	—	4'-0"	3'-2"	4'-0"			—				BREAST WALL
B556	3	4'-0"	L	2'-0"	2'-0"									CURTAIN WALLS
▪▪ = GALVANIZED														
								END POSTS						
EP451	8	7'-5"	S	—	3'-3"	0'-11"	3'-3"			—				3 BAR
EP452	4	7'-0"	S	—	3'-3"	0'-6"	3'-3"			—				3 BAR
EP454	8	7'-11"	S	—	3'-6"	0'-11"	3'-6"			—				4 BAR
EP455	4	7'-6"	S	—	3'-6"	0'-6"	3'-6"			—				4 BAR
EP500	20	7'-10"	S	—	5'-6"	0'-7"	1'-9""			—				3 & 4 BAR
EP501	20	6'-8"	SJ	—	3'-1"	2'-7"	1'-0"				0'-8"			3 & 4 BAR
EP502	16	4'-7"	S	—	1'-10"	0'-11"	1'-10"			—				3 & 4 BAR
EP503	8	4'-2"	S	—	1'-10"	0'-6"	1'-10"			—				3 & 4 BAR
								SUPERSTRUCTURE						
S550	79	10'-1"	S	1'-3"	0'-10"	5'-11"	0'-10"			1'-3"				SIDEWALK
S555	79	6'-0"	S	1'-3"	1'-0"	1'-5"	1'-1"			1'-3"				CURB
S556	50	4'-4"	L	1'-3"	3'-1"									SLAB END
S557	20	5'-2"	S	1'-3"	8"	1'-4"	8"							SIDEWALK @ BASE OF RAIL POSTS
MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

109-262

TYPE-BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar

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

Reinforcing Bar: ASTM A615 Grade 60

GENERAL NOTES

1.-First digit(s) following the letter of the mark indicates size of the bar:
Mark (A502) bar size-#5
Mark (P1001) bar size-#10
Mark (S603) bar size-# 6

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

REVISIONS	DATE
1 Added 2" dimension to B460▪▪	2-9-94

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

HOTEL BRIDGE
OVER
DAVIS STREAM
IN THE TOWN OF
JEFFERSON
LINCOLN COUNTY

REINFORCING SCHEDULE

SHEET OF AUGUSTA, MAINE Jan., 1994

F.H.W.A. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	BR-034P(1)X	14	31

Pin 004220.00

115

DATE	BY	DESIGN-DETAILED	CHECKED	REVISIONS	FIELD CHANGES
10-93	MKD				

PROJECT DESIGN ENGINEER

PLANS

18-JAN94-0101.00