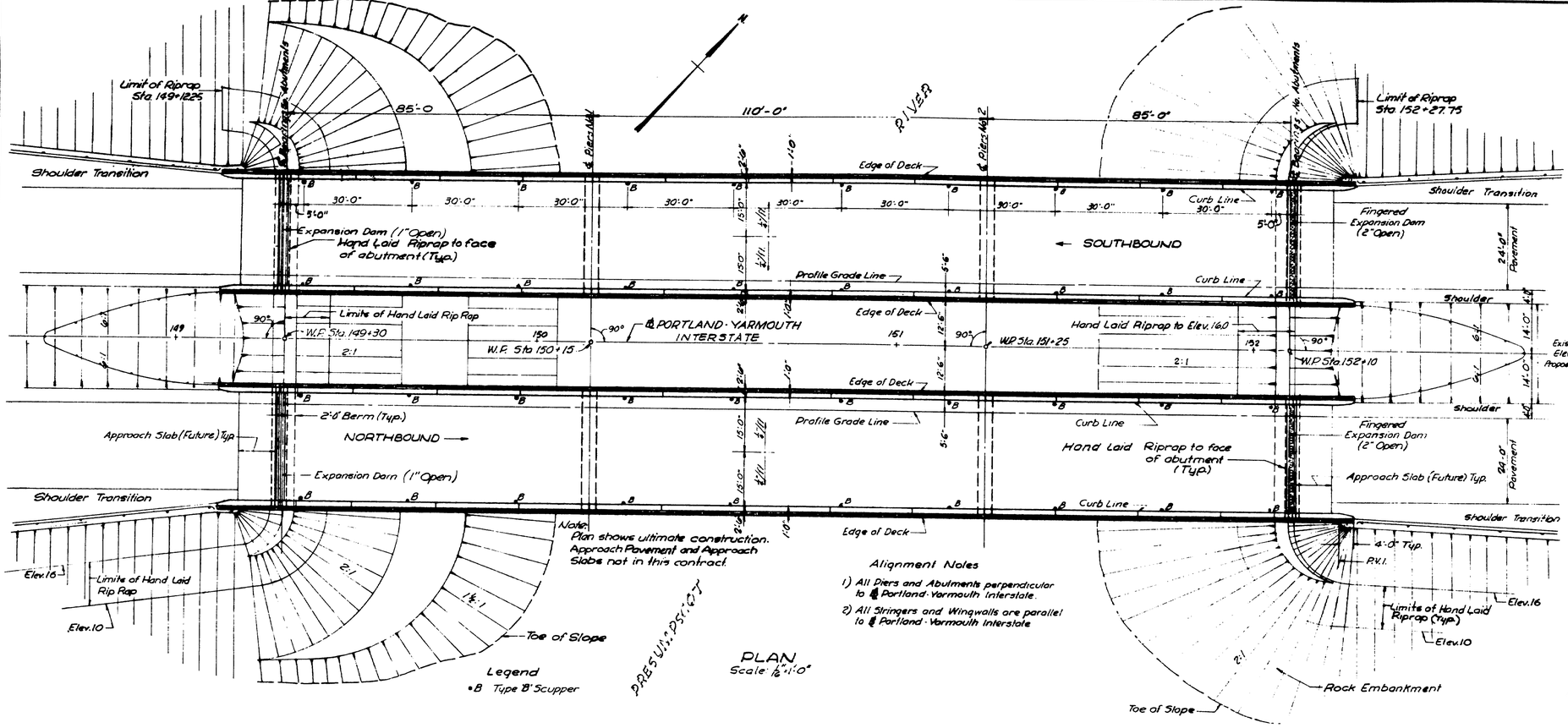
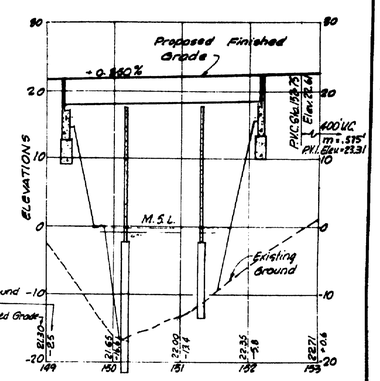
B.P.R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(3)	21	88

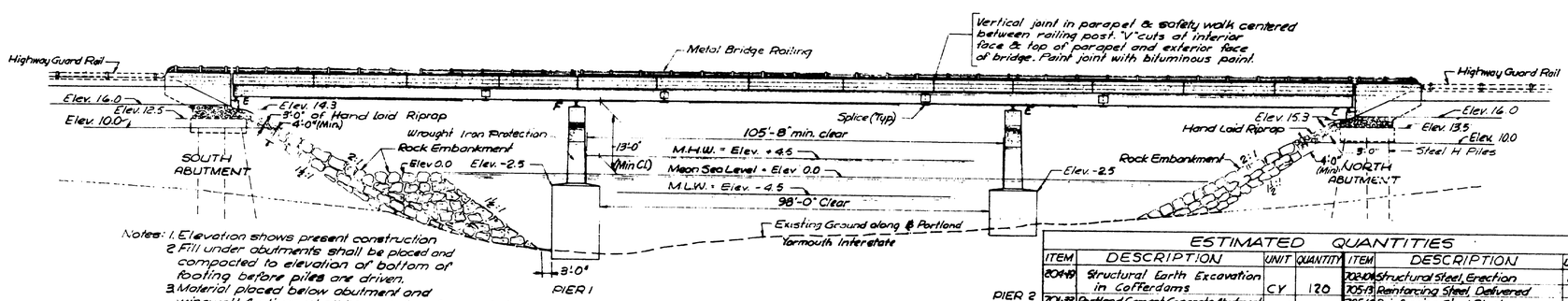
FALMOUTH



PLAN
Scale: 1/16"=1'-0"



PROFILE - INTERSTATE
Scales: Hor. 1"=100'
Vert. 1"=10'



Notes: 1. Elevation shows present construction
2. Fill under abutments shall be placed and compacted to elevation of bottom of footing before piles are driven.
3. Material placed below abutment and wingwall footings shall be rock free from existing ground to bottom of footings as stated in the specifications. The rock free portion of the embankment shall be of sufficient extent to allow all vertical and batter piles to be driven within its bounds
4. No piles shall be driven for the south abutments until the south approach embankment has been in place to elevation +10.00 (+9.00 in areas of the abutments) for a period of time sufficient to insure a stable embankment (estimated time two to three weeks).
5. No work shall be done on the northbound and southbound number one piers until after the south abutment piles have been driven and sufficient time has elapsed to verify the embankment stability (estimated time two to three weeks).
6. Fill may be placed around cofferdams during construction but all such fill on the channel side and that above Elev. -16 on the shore side shall be removed by the contractor.

ELEVATION
Scale: 1/16"=1'-0"

GENERAL NOTES

1. SPECIFICATIONS:
A.A.S.H.O. 1953
Maine State Highway Commission Standard Specifications and Special Provisions
2. LIVE LOAD:
H20-S16-44 (Modified)
3. FOUNDATIONS:
Abutments — Steel H Piles driven to firm end bearing. Design Capacity of Piles - 35 Tons
Piers — Footing on rock. Design Pressure - 5 Tons per sq. ft.
4. ALLOWABLE STRESSES
Structural Steel: 18,000 p.s.i.
Reinforcing Steel: 18,000 p.s.i.
Concrete: 1,200 p.s.i.
5. CONCRETE:
Class 'A': Abutment Footings, Abutments, Bents, Piers (Except Concrete placed under water) and Deck.
Class 'S' Concrete placed under water (see specifications for grouted aggregate concrete).
6. ELEVATIONS:
Elevations are based on Elev. 0.00 at Mean Sea Level

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY	ITEM	DESCRIPTION	UNIT	QUANTITY
204-B	Structural Earth Excavation in Cofferdams	C.Y.	120	702-04	Structural Steel, Erection	Lb.	794,000
701-53	Portland Cement Concrete, Abutments and Retaining Walls	C.Y.	410	705-13	Reinforcing Steel, Delivered	Lb.	219,000
701-57	Portland Cement Concrete, Substructure columns, Column bases, Bents, Collision Walls, Girders, Struts, etc.	C.Y.	145	705-14	Reinforcing Steel, Placing	Lb.	219,000
701-40	Portland Cement Concrete, Roadway and Sidewalk Slabs on Steel Bridges	C.Y.	605	705-17	Shear Connectors	L.S.	Lump Sum
701-44	Portland Cement Concrete, Wearing Surface on Bridges	C.Y.	210	708-16	Steel H-beam Piles 42 Lbs./Ft.	L.F.	* 7,900
701-47	Portland Cement	Bbl.	3,307	710-6	Waterproofing Joints	L.F.	65
701-50	Wrought Iron Scuppers	Each	40	712-6	Wrought Iron Column Protection	L.S.	Lump Sum
702-103	Structural Steel, Fabricated and Delivered	Lb.	794,000	803-7	Cofferdams	L.S.	Lump Sum
				804-6	French Drains	C.Y.	125
				806-7	Aluminum Rail Delivered and Erected	L.F.	1760
				701-35	Portland Cement Concrete, Piers	C.Y.	65
				701-36	Portland Cement Concrete Piers (placed under water)	C.Y.	710

* Includes 264 L.F. Allowance For Pile Caps and no Allowance for Splices.

AS BUILT - NO REVISION

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

GENERAL PLAN AND ELEVATION

SHEET NO. 21 OF 88 | SCALE: AS NOTED

M-1318

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
45

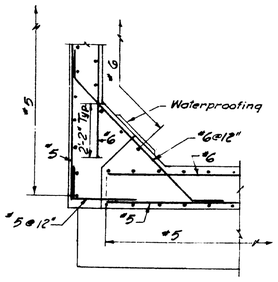
DES.	E.S.T.	RWB
DR.	L.A.L.	RMH
TR.		
CHK.	G.C.B.	
APP'D.		

Boston Blue Print-200-4-57

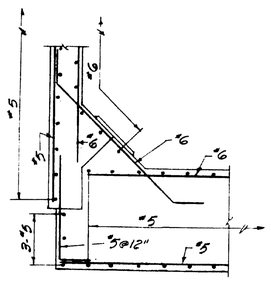
E. P. R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(37)	22	88

FALMOUTH

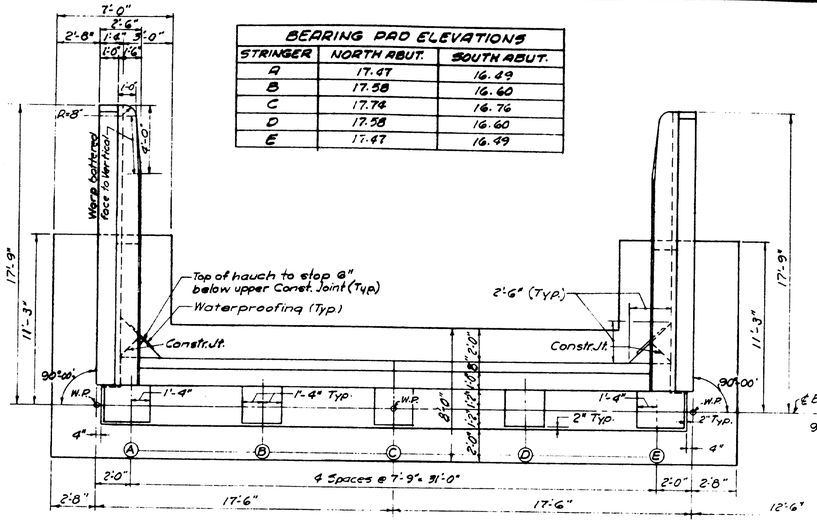
BEARING PAD ELEVATIONS		
STRINGER	NORTH ABUT.	SOUTH ABUT.
A	17.47	16.49
B	17.58	16.60
C	17.76	16.76
D	17.58	16.60
E	17.47	16.49



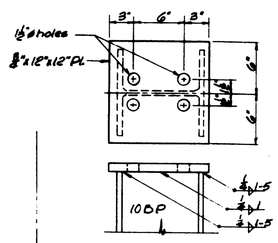
SECTION C-C
Scale: 3/8"=1'-0"



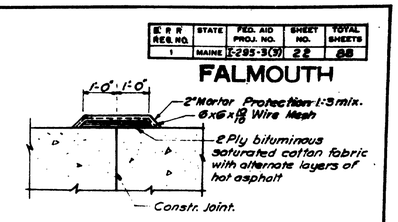
SECTION D-D
Scale: 3/8"=1'-0"



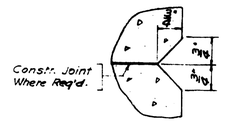
PLAN-NORTH & SOUTH ABUTMENTS
Scale: 1/4"=1'-0"



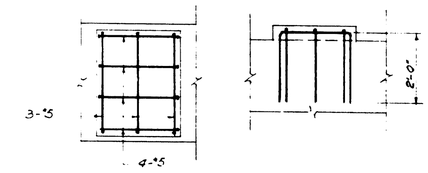
PILE BEARING PLATE
Scale: 1 1/2"=1'-0"



WATERPROOFING DETAILS
Scale: 1 1/2"=1'-0"



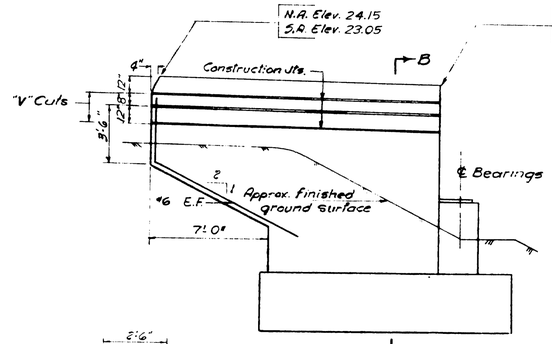
TYPICAL V-CUT DETAIL
Half Size

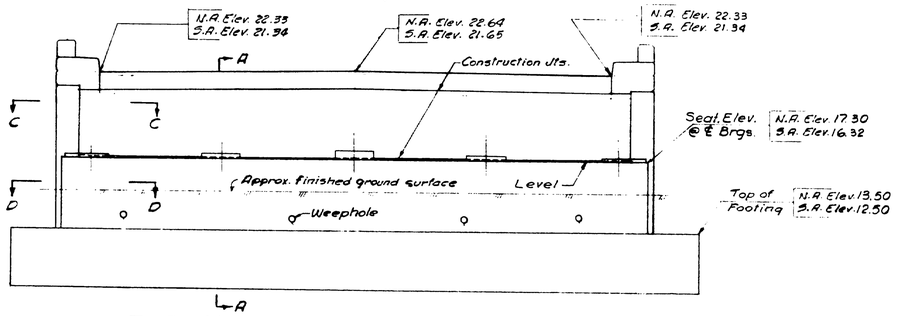


PLAN ELEVATION

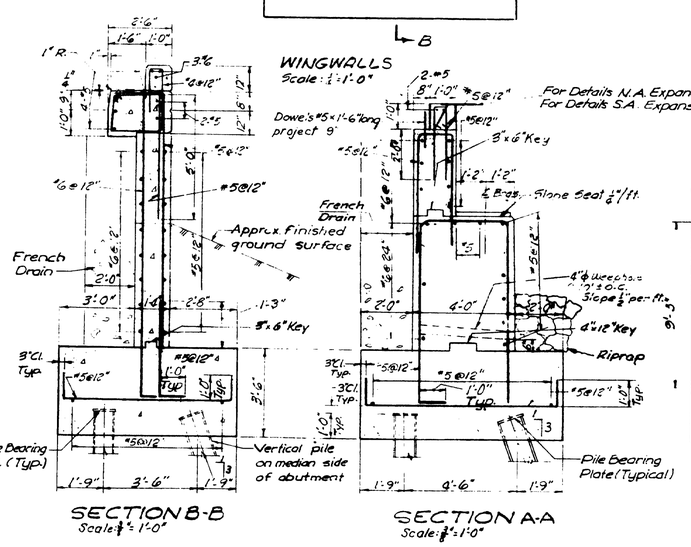
BEARING PAD DISTRIBUTION STEEL
TO BE USED WHERE TOP OF PAD IS 4" OR MORE ABOVE ABUTMENT BRIDGE SEAT OR PIER CAP.
Scale: 1 1/2"=1'-0"

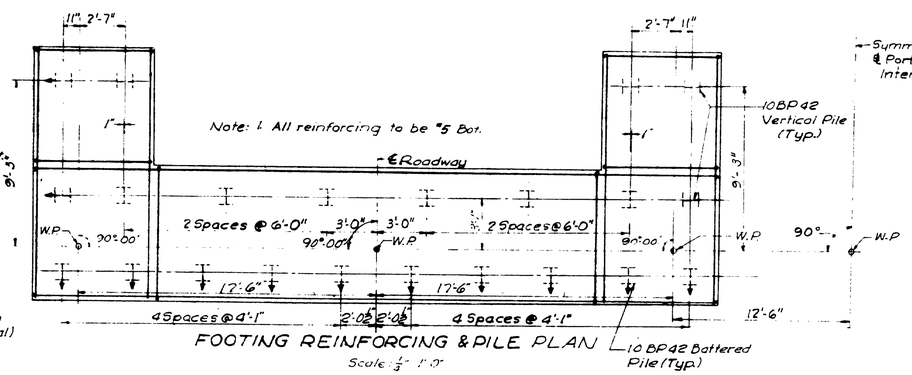
TYPICAL DETAILS
Scales as noted





ELEVATION-NORTH & SOUTH ABUTMENTS
Scale: 1/4"=1'-0"





LEGEND
N.A. - North Abutments
S.A. - South Abutments
E.F. - Each Face

For Construction Notes See Sheet No. 23

AS BUILT: NO REVISION

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

ABUTMENT DETAILS

SHEET NO. 22 OF 88 | SCALE: AS NOTED

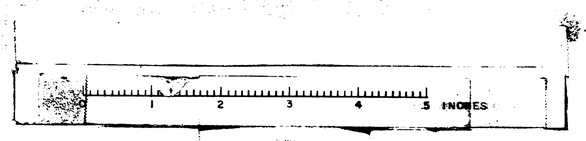
DES.	VJK & RW
DR.	R.B.
TR.	
CK.	RW & NR
APPD.	

Dietzgen Blue Print-300-4-67

M-1319

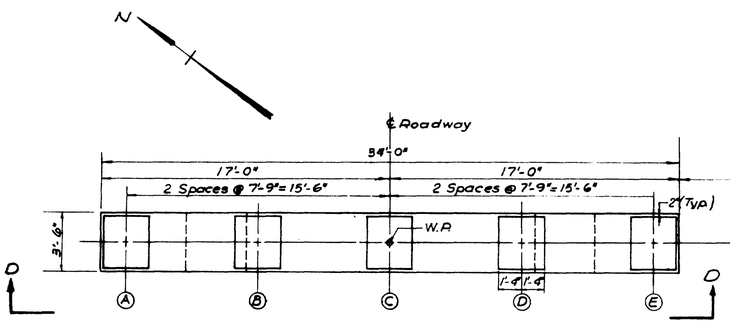
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
46

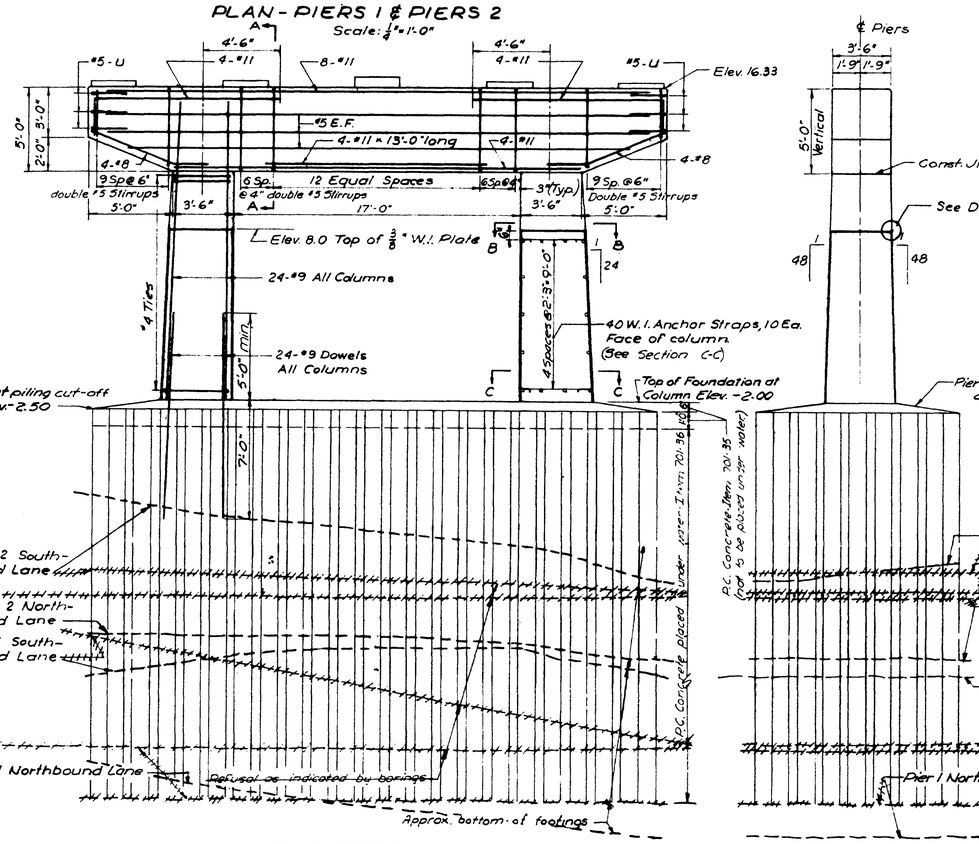


B.P.R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(3)	23	88

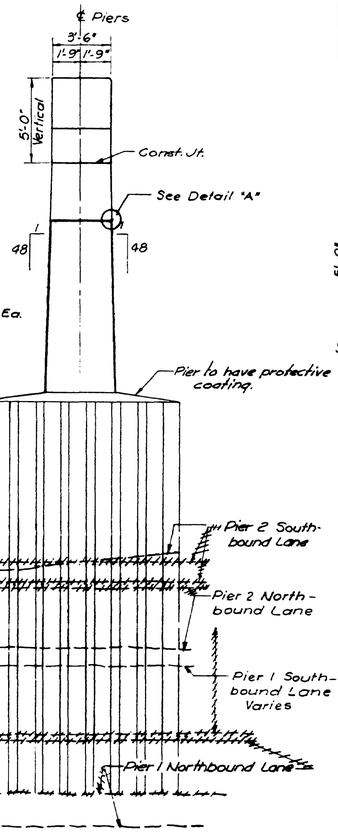
FALMOUTH



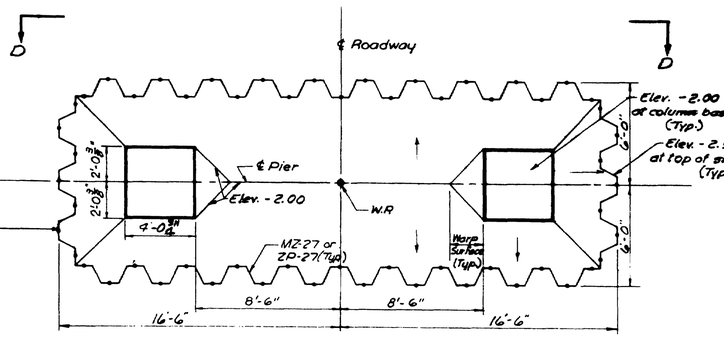
PLAN - PIERS 1 & PIERS 2
Scale: $\frac{1}{4}$"=1'-0"



ELEVATION D-D
Scale: $\frac{1}{4}$"=1'-0"

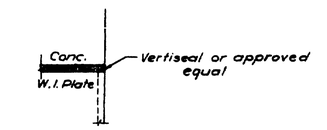


END ELEVATION
Scale: $\frac{1}{4}$"=1'-0"

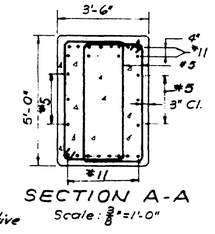


TYPICAL PLAN OF COFFERDAM

NOTE:
Sheet piling to be driven to refusal.



DETAIL "A"



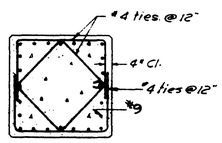
SECTION A-A
Scale: $\frac{3}{8}$"=1'-0"

BEARING PAD ELEVATIONS

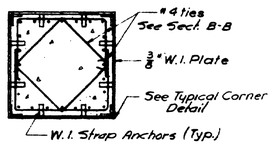
		PIERS 1	PIERS 2
STRINGER	A	16.61	16.50
	B	16.76	16.65
	C	16.92	16.81
	D	16.76	16.65
	E	16.61	16.50

CONSTRUCTION NOTES

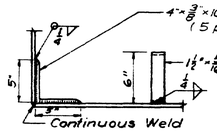
1. Reinforcing steel to have 2" min. concrete cover unless otherwise noted.
2. All bar splices to lap 20 diameters (12" min.), unless otherwise noted.
3. All bar embedments to be 35 diameters unless otherwise noted.
4. Bearing pads to be of sufficient height to permit bush hammering to the proper elevation.
5. All bearing pads to be placed integrally with the piers and abutments.
6. All exposed corners except on bearing pads to have a ¾" chamfer. Bearing pads to have tooled edges.
7. Reinforcing steel in or beneath bearing pads to be positioned to clear swedge anchor bolts. For swedge anchor bolts see bearing types on Sh. No. 27



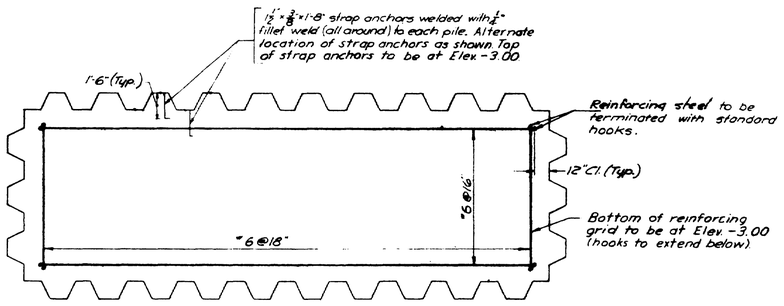
SECTION B-B
Scale: $\frac{3}{8}$"=1'-0"



SECTION C-C
Scale: $\frac{3}{8}$"=1'-0"



TYPICAL CORNER DETAIL
GENUINE W.I. PLATE PROTECTION
Scale: 1½"=1'-0"



PLAN OF FOOTING REINFORCING
Scale: $\frac{1}{4}$"=1'-0"

Note: For detail of distribution steel for bearing pads, see Sh. No. 22. For additional data on sheet pile cofferdams, see specifications. Pier concrete placed under water to the depth indicated on this sheet and used as a foundation seal will permit dewatering of the cofferdam provided that the water outside the cofferdam does not rise above Elev. +7.5.

DES.	G.C.B.	B.D.Z.
DR.	C.A.K.	
TR.		
CHK.	W.G.	
APP'D.		

Boston Blue Print-300-4-57

REVISED AS BUILT

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

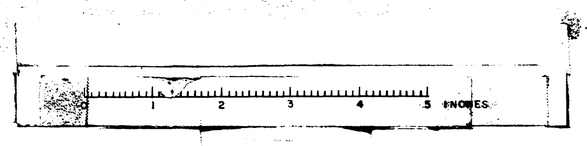
PIER DETAILS

SHEET NO. 23 OF 88 | SCALE: AS NOTED

M-1320

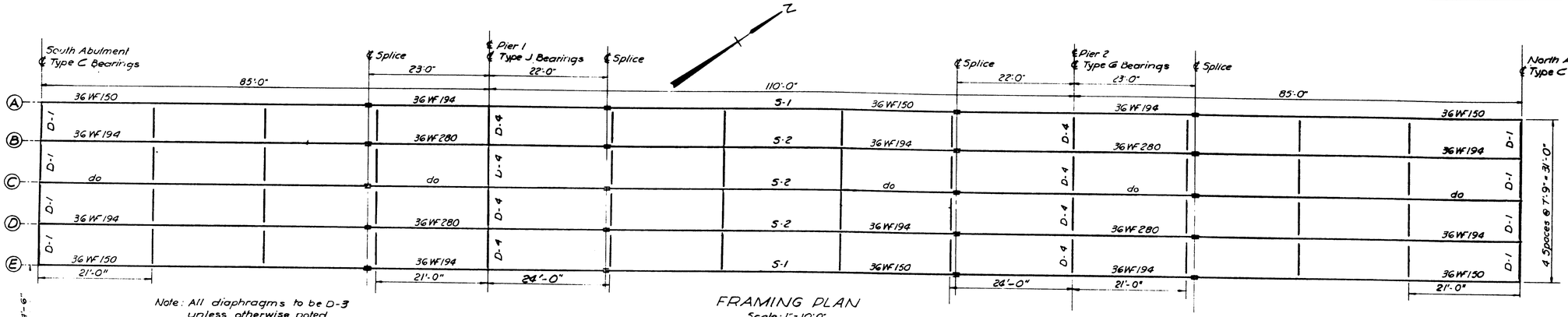
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
47



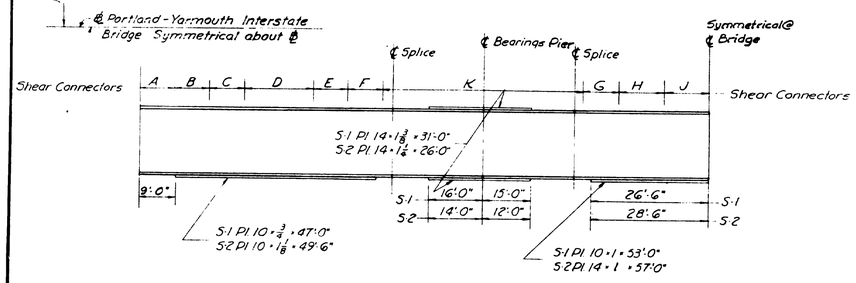
B. P. R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(5)	24	88

FALMOUTH

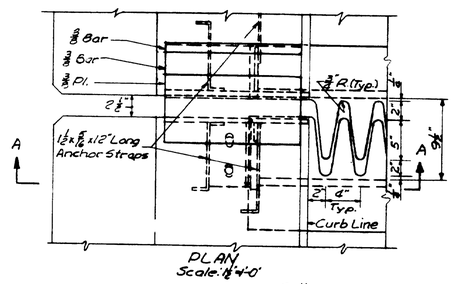


FRAMING PLAN
Scale: 1" = 10'-0"

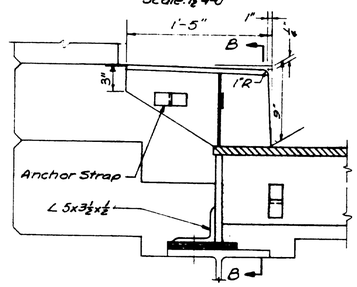
Note: All diaphragms to be D-3 unless otherwise noted.



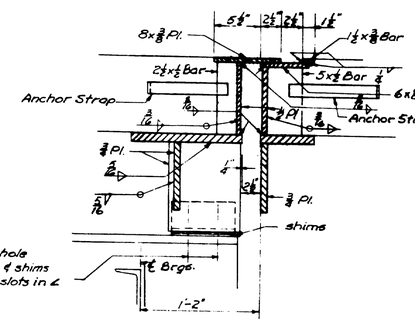
STRINGER ELEVATION
No Scale



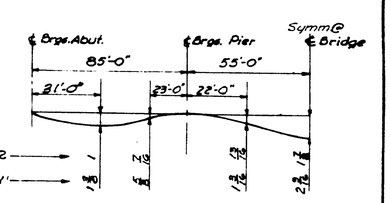
PLAN
Scale: 1" = 4'-0"



SECTION A-A
Scale: 1½" = 1'-0"



SECTION B-B
Scale: 1½" = 1'-0"

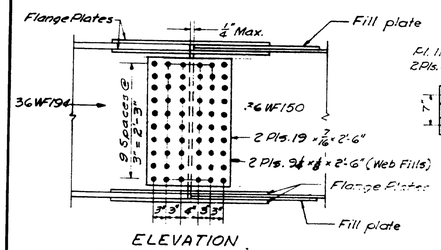


DEAD LOAD DEFLECTION DIAGRAM
No Scale

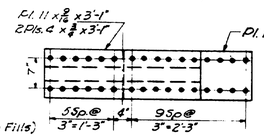
SHEAR CONNECTORS																					
SPIRAL SHEAR CONNECTORS																					
Strg	A		B		C		D		E		F		G		H		J		K		
	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	Lgth	Pitch	
S-1	8'-6"	16@4½"	8'-6"	16@5½"	8'-6"	16@8"	17'-0"	16@10½"	8'-6"	16@7½"	8'-6"	16@5½"	8'-6"	16@4½"	11'-0"	18@7"	11'-0"	18@10½"	Remain	1@9"	
S-2	8'-6"	26@4"	8'-6"	26@5"	8'-6"	26@7"	17'-0"	26@9"	8'-6"	26@7"	8'-6"	26@5"	8'-6"	26@4"	11'-0"	26@7"	11'-0"	26@9"	Remain	1@6"	

STUD SHEAR CONNECTORS																					
S-1	8'-6"	6½	8'-6"	8	8'-6"	11½"	17'-0"	15½"	8'-6"	11"	8'-6"	7½	8'-6"	7"	11'-0"	10"	11'-0"	15"	Remain	12"	
S-2	8'-6"	4"	8'-6"	5"	8'-6"	7"	17'-0"	9"	8'-6"	7"	8'-6"	5	8'-6"	5"	11'-0"	6"	11'-0"	8"	Remain	8"	

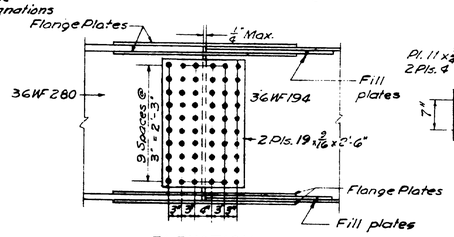
Note: Stud pitch: Stud shear connector pitch is given for 3-¾" ℄ Studs.
Spiral pitch: 26@X"-denotes a ⅞" ℄ double spiral @ X" pitch. All other designations refer to a ¾" ℄ single spiral.



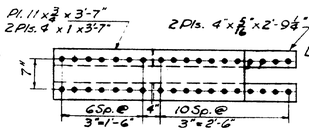
ELEVATION
36 WF 194 to 36 WF 150



FLANGE PLATES
36 WF 194 to 36 WF 150



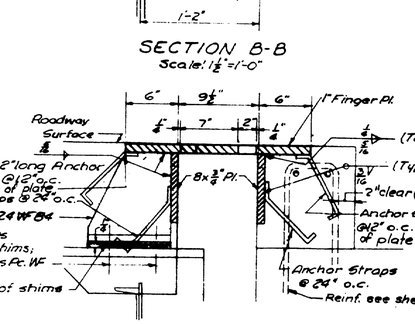
ELEVATION
36 WF 280 to 36 WF 194



FLANGE PLATES
36 WF 280 to 36 WF 194

Splices to be made with ⅞" ℄ rivets or high strength bolts in 15/16" ℄ holes.

STRINGER SPLICE DETAILS
Scale: ¾" = 1'-0"



SECTION AT INTERIOR STRINGER
Scale: 1½" = 1'-0"

FINGERED EXPANSION DAM DETAILS
FOR NORTH ABUTMENT ONLY
DIMENSIONS SHOW POSITION OF DAM AT 68°F

Note: For South Abutment Expansion Dam Details see Sheet No. 25

FRAMING NOTES

1. For diaphragm, bearing, and shear connector details see Sheet No. 27
2. All dimensions on Framing Plan are horizontal.
3. Sections of stringer over piers shall have minimum permanent camber downward. All other sections of stringer not to be cambered but shall be erected with natural bow up.

Note: The steel for all stringers and cover plates shall conform to ASTM A-373. All other structural steel shall conform to ASTM A-7 or A-373 unless specified otherwise.

AS BUILT - NO REVISION

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

FRAMING PLAN AND DETAILS

SHEET NO. 24 OF 88	SCALE: AS NOTED	

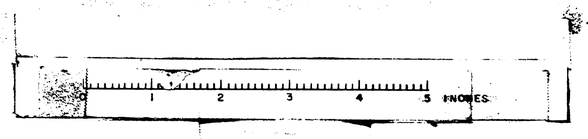
M-1321

FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
48

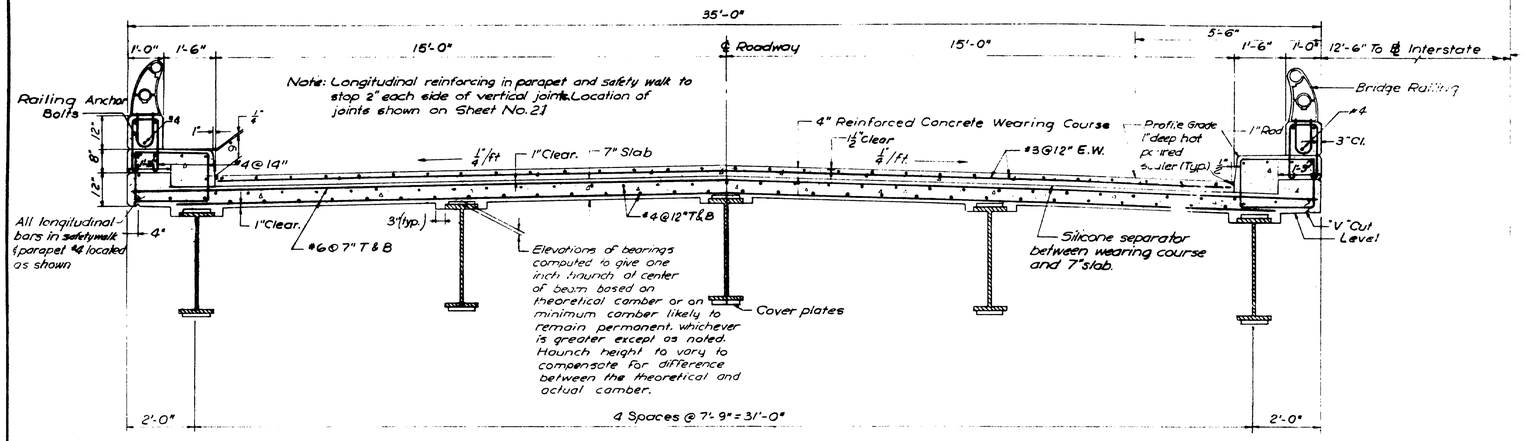
DES.	BDZ
DR.	MBW
TR.	
CHK.	GCB
APP'D.	

Boston Blue Print-300-4-57

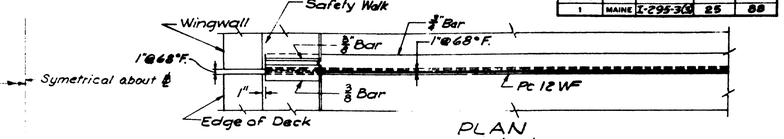


FALMOUTH

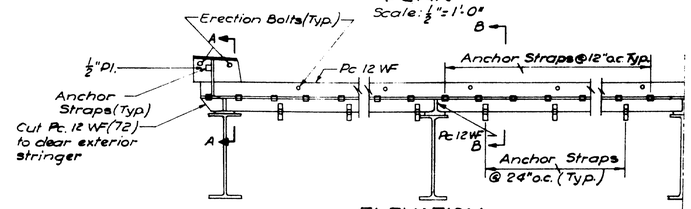
B.P.R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(3)	25	88



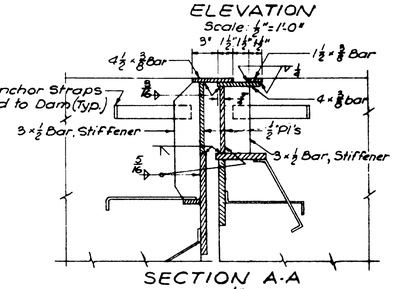
TYPICAL CROSS SECTION OF DECK
Scale: ½" = 1'-0"



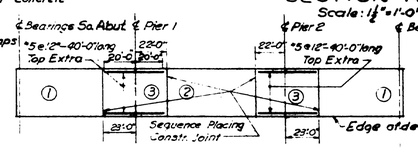
PLAN
Scale: ½" = 1'-0"



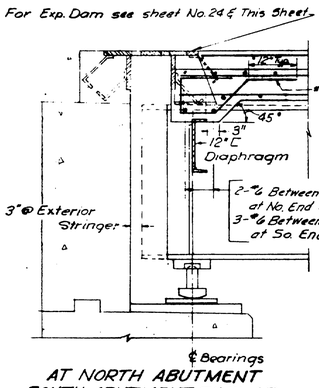
ELEVATION
Scale: ½" = 1'-0"



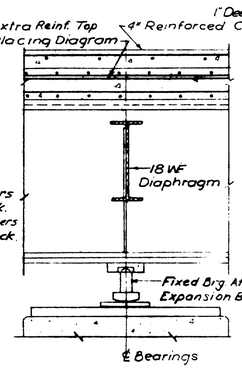
SECTION A-A
Scale: 1½" = 1'-0"



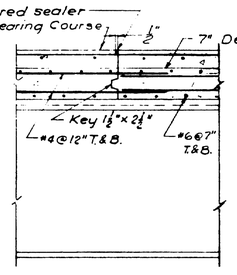
SEQUENCE PLACING DIAGRAM
Scale: 1" = 50'-0"



AT NORTH ABUTMENT
SOUTH ABUTMENT SIMILAR



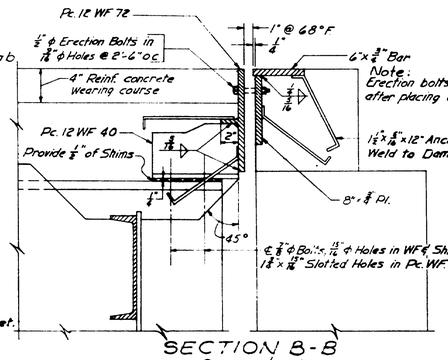
AT PIER



SEQUENCE JOINT

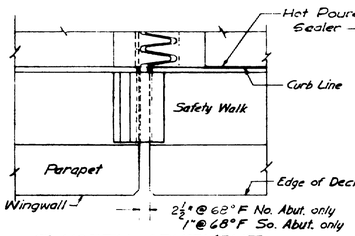
Note: For Sequence Joint location See Placing Diagram this Sheet.

LONGITUDINAL SECTIONS
Scale: ¾" = 1'-0"

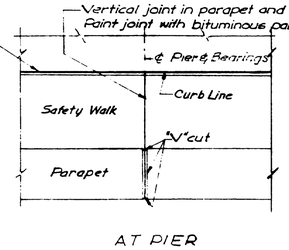


SECTION B-B
Scale: 1½" = 1'-0"

EXPANSION DAM DETAILS
SOUTH ABUTMENTS

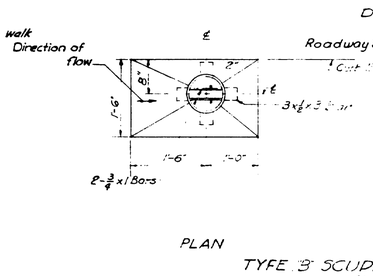


AT NORTH ABUTMENT
SOUTH ABUTMENT SIMILAR



AT PIER

PART PLAN OF DECK
Scale: ¾" = 1'-0"



PLAN

SECTION THRU SCUPPER

TYPE 'B' SCUPPER DETAILS
Scale: ¾" = 1'-0"

SEQUENCE PLACING DIAGRAM
Scale: 1" = 50'-0"

NOTES FOR PLACING

Slabs shall be placed in sequence starting with those marked ①. Slabs of the same number may be placed simultaneously or in sequence. Slabs may be placed starting from either end. Once the placing of a slab has been started it shall be completed without interruption.

SCREED SETTING

After structural steel has been erected, levels are to be run on top flanges of stringers. Screeds for slab are to be set on the basis of these levels corrected for ¾ of the dead load deflection shown on sheet No. 24. After the structural slab has been placed, levels are to be run on the concrete surface. Screeds for the wearing course are to be set on the basis of these levels corrected for 15 percent of the dead load deflection shown on sheet No. 24.

Changes in screed elevations will not be allowed in continuous spans after any portion of the slab (structural or wearing course) has been placed.

For construction notes see sheet No. 23
For details of "V" cuts see sheet No. 22

AS BUILT - NO REVISION

DES.	R.H.W.
DR.	C.A.K.
TR.	
CHK.	G.L.B.
ASST'S	

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

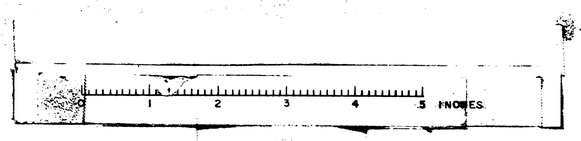
INTERSTATE OVER PRESUMPSCOT RIVER

CROSS SECTION AND DETAILS

SHEET NO. 25 OF 88	SCALE: AS NOTED	

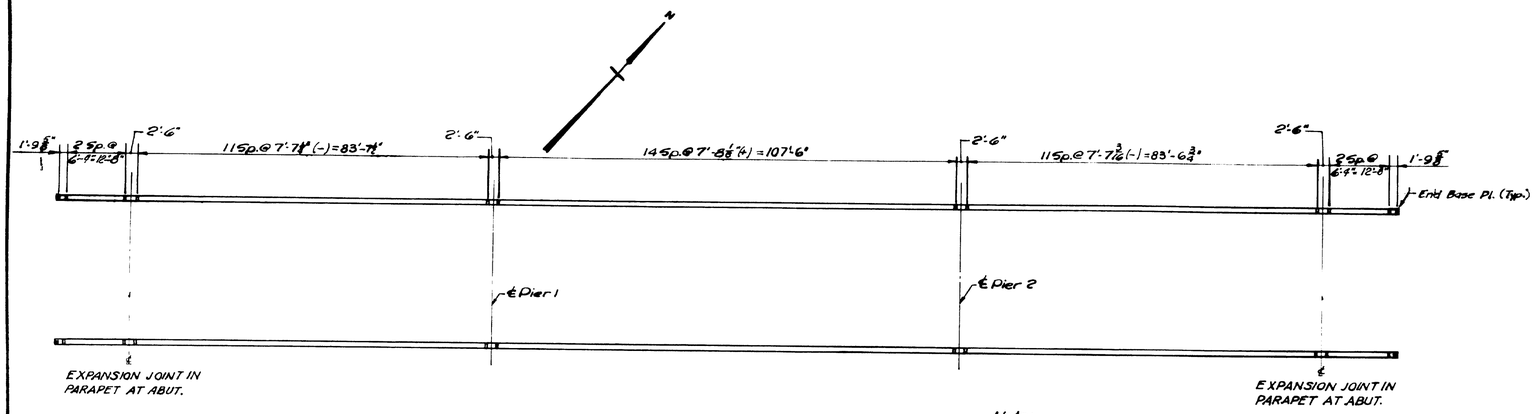
M-1322 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS. Qm-14 49

Boston Blue Print-300-4-57



B.R.R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(3)	26	88

FALMOUTH

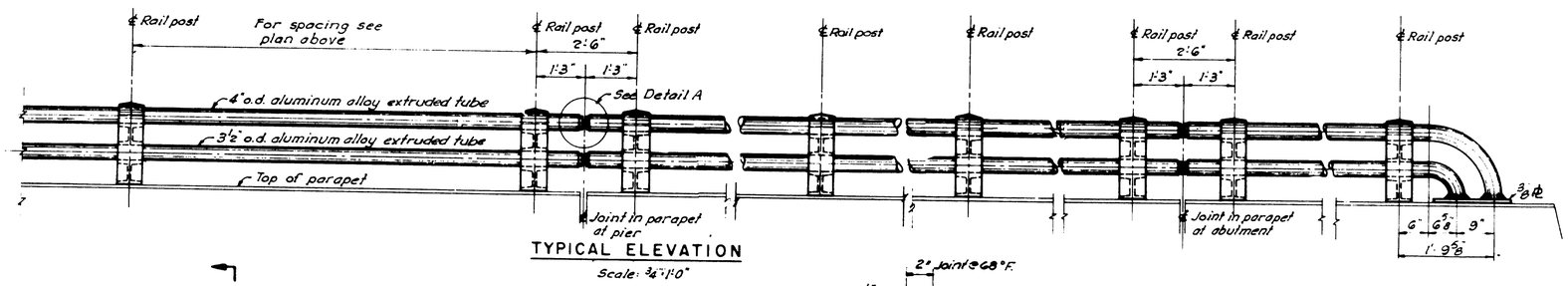


Note:
All dimensions shown in plan are horizontal.

PLAN OF RAILING

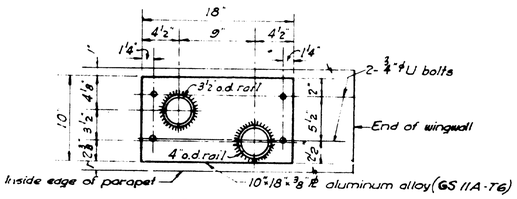
ONE ROADWAY SHOWN

Scale: 1/16" = 1'-0"



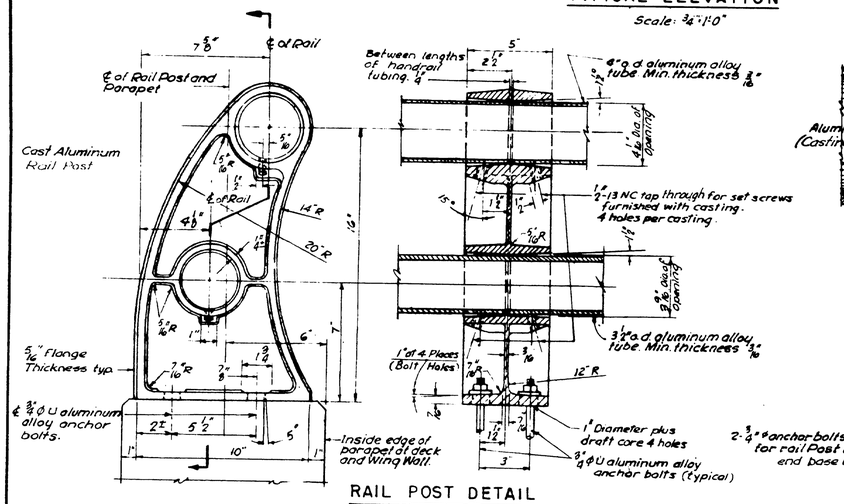
TYPICAL ELEVATION

Scale: 3/16" = 1'-0"



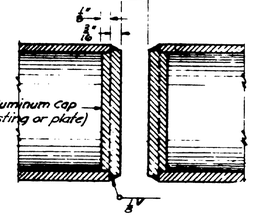
DETAIL OF END BASE PLATE

Scale: 1½" = 1'-0"



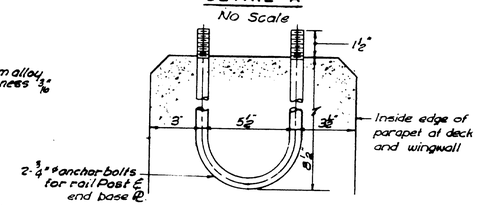
RAIL POST DETAIL

Scale: 3" = 1'-0"



DETAIL A

No Scale



DETAIL OF U BOLT FOR RAIL POST

Scale: 3" = 1'-0"

NOTES:
1. The bottom of each railing post shall be thoroughly coated with an aluminum impregnated caulking compound before installation.
2. Railing post to be set normal to parapet.

DES.	
DR.	
TR	C.R.K.
CHK.	G.C.S.
APPR.	

Boston Blue Print 305-4-57

AS BUILT - NO REVISION

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

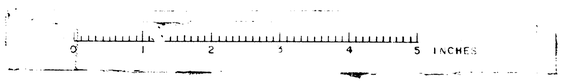
RAILING DETAILS

SHEET NO 26 OF 88	SCALE: AS NOTED	

M-1323

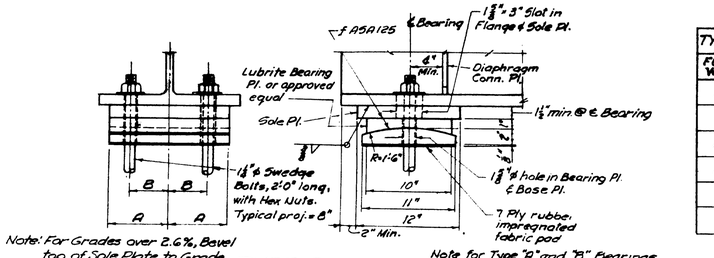
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
50



B.P.R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(3)	27	88

FALMOUTH

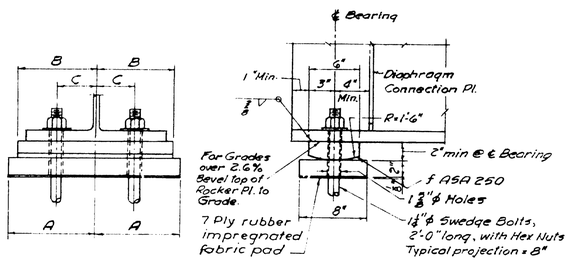


Note: For Grades over 2.6%, Bevel top of Sole Plate to Grade

Note for Type "A" and "B" Bearings
All nuts to be drawn up finger tight, then backed off one turn and the threads of the bolts burred off of the face of the nuts with a pointed tool.

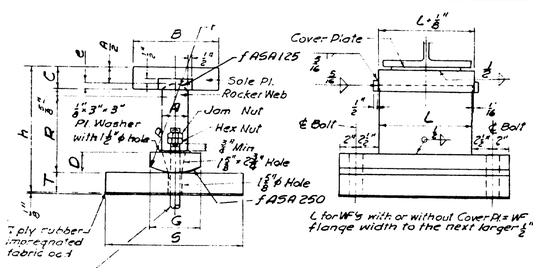
TYPE A (EXPANSION)		
FLANGE WIDTH	A	B
16½"	7"	4½"
12"	5"	2⅜"
11½"	5"	2⅜"
10½"	4½"	2⅜"
10"	4½"	2⅜"
9"	4"	2¼"

TYPE A
(EXPANSION BEARING)
Scale: 1½"=1'-0"



TYPE B (FIXED)			
FLANGE WIDTH	A	B	C
16½"	10"	9"	6½"
12"	8"	7"	2⅜"
11½"	8"	7"	2⅜"
10½"	7"	6"	2¾"
10"	7"	6"	2¾"
9"	7"	6"	2⅜"

TYPE B
(FIXED BEARING)
Scale: 1½"=1'-0"

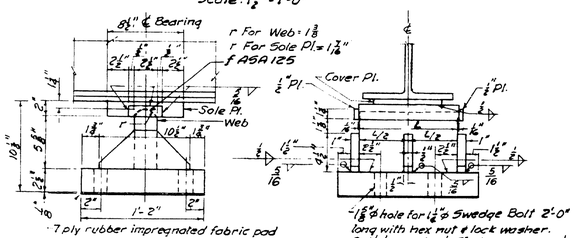


DIMENSIONS										
BEARING TYPE	A	B	C	D	e	G	h	R	S	T
C	2½"	8½"	2"	2½"	8"	6"	10⅛"	6"	12"	1½"
D	2½"	8½"	2"	2½"	8"	6"	11⅜"	7"	14"	1⅜"
E	3"	10"	2½"	2½"	1"	6"	12⅝"	8"	14"	2"
F	3"	10"	2½"	2½"	1"	6"	14⅜"	9"	16"	2½"
G	3½"	10"	3"	2½"	1½"	7"	16⅛"	10"	16"	2½"
H	3½"	10"	3"	2½"	1¾"	7"	17⅞"	11"	18"	2¾"

r for Sole Plate = ⅜ - 1/16"
r for Rocker Web = ⅜ - ⅛"

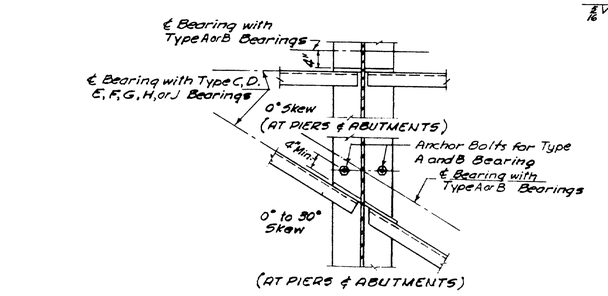
* R is Rocker radius and is concentric with r for Rocker Web.

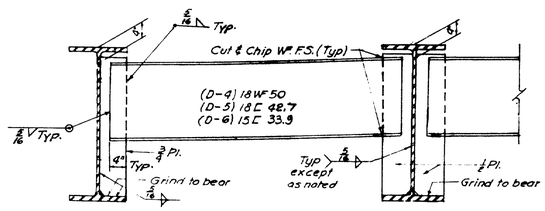
TYPE C, D, E, F, G, H
(EXPANSION BEARING)
Scale: 1½"=1'-0"

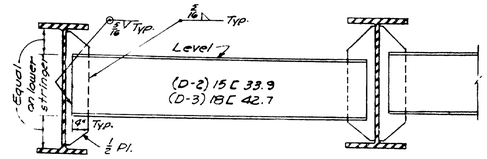


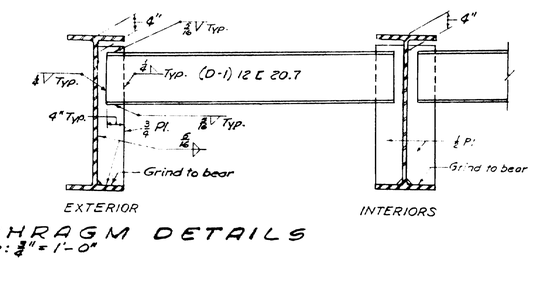
L for WF's with or without Cover Pl.= WF flange width to the next larger ½"

TYPE J
(FIXED BEARING)
Scale: 1½"=1'-0"



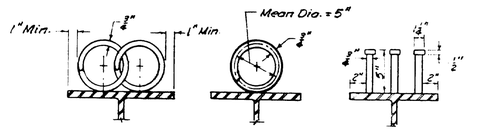






EXTERIOR INTERIORS

TYPICAL DIAPHRAGM DETAILS
Scale: ¾"=1'-0"



SHEAR CONNECTOR DETAILS
Scale: 1½"=1'-0"

Spiral Notes
1. All spirals to be fabricated with ⅝" ϕ plain bars and to have a mean diameter of 5 inches.
2. Spirals to be welded to stringer flange with two ⅜" fillet welds, 2½" long at each point of contact.
3. Spiral lengths given on framing plan are net lengths and do not include any allowance for laps.
4. Where spiral sections are joined, they shall be lapped for a distance of one-half the smaller pitch.

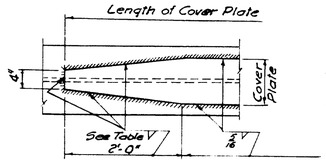


Plate Thickness	Fillet Weld
⅜" to ¾"	7/16"
⅞" to 1"	7/16"
1⅛" to 1¼"	½"

COVER PLATE NARROWER THAN FLANGE

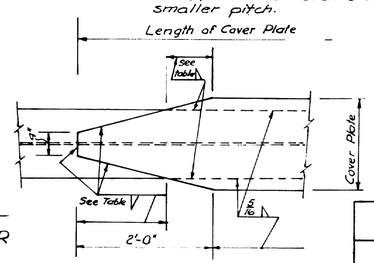


Plate Thickness	Fillet Weld
½" to ¾"	7/16"
⅞" to 1"	9/16"
1⅛" to 1¼"	11/16"

COVER PLATE WIDER THAN FLANGE

TYPICAL COVER PLATE DETAILS

AS BUILT - NO REVISION

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

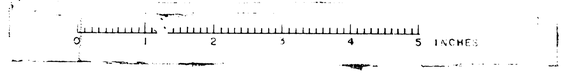
STANDARD FRAMING DETAILS

SHEET NO 27 OF 88 | SCALE: AS NOTED

M-1324 FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS. Qm-14 52

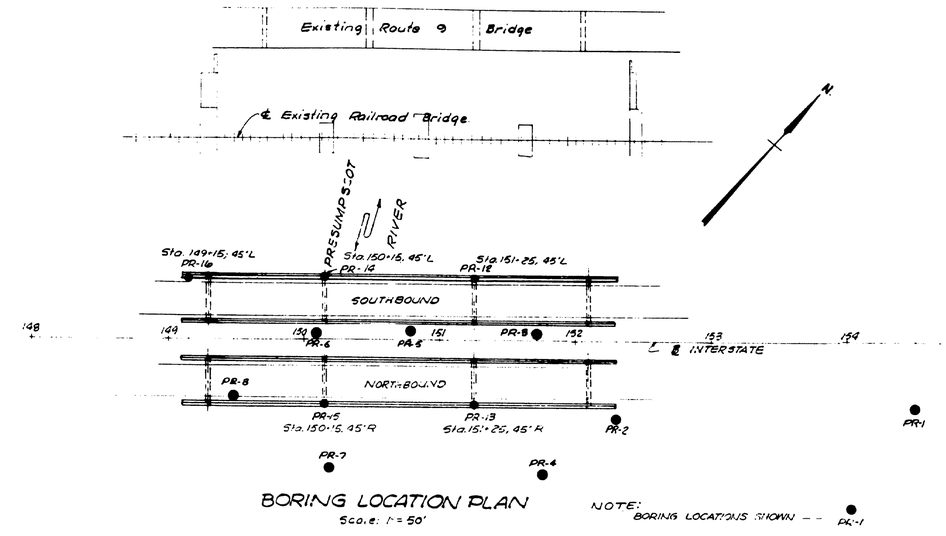
DES	RWC&DJZ
DR	RB
TR	
CHK	R.K.
APP'D	

Boston Blue Print 300-4-51



B. P. R. REG. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(9)	28	88

FALMOUTH



BORING LOCATION PLAN

Scale: 1" = 50'

NOTE: BORING LOCATIONS SHOWN - - PL-1

BORING PR-11 [STA. 149+25, 46'R] · BORING PR-10 [STA. 149+16, 85'R] · BORING PR-9 [STA. 147+93, 57'R] · BORING PR-16 [STA. 149+15 45'L] · BORING PR-8 [STA. 149+48, 42'R] · BORING PR-6 [STA. 150+09, 5'L] · BORING PR-14 [STA 150+15, 45'L] · BORING PR-15 [STA 150+15 45'R] · BORING PR-7 [STA. 150+19, 95'R] · BORING PR-5 [STA. 150+76, 6'L] · BORING PR-12 [STA 151+25 45'L] · BORING PR-13 [STA 151+25, 45'R] · BORING PR-3 [STA. 151+71, 5'L] · BORING PR-4 [STA. 151+76, 99'R] · BORING PR-2 [STA. 152+30, 57'R] · BORING PR-1 [STA. 154+51, 49'R]

BORING LOGS

Scale: Vert. 1"=5'

LEGEND

AR = CASING WAS DRIVEN WASHING AHEAD OF CASING.
BCH
J = SAMPLER DRIVEN BY STATIC LOAD NOT EXCEEDING ½ TON.
H = WT. OF HAMMER IN POUNDS.
D = DROP ON CASING
DS = DROP ON SAMPLER
‡ = WEIGHT OF CASING
P = PISTON
* = WEIGHT OF HAMMER

GENERAL NOTES

1. BORINGS WERE MADE BY THE MAINE STATE HIGHWAY COMMISSION, MAY, JUNE, AND JULY, 1957.
2. FIGURES IN COLUMN ① BLOWS PER FOOT ON CASING. FIGURES IN COLUMN ② BLOWS PER FOOT ON SAMPLER ROD.
3. ELEVATIONS ARE REFERRED TO MEAN SEA LEVEL.
4. BORINGS PR-1, 2, 3, 8, 9, 10, 11, & 16 WERE MADE USING A 4" SINGLE ST. CASING. BORINGS PR-4, 5, 6, 7, 12, 13, 14 & 15 WERE MADE USING A 5" EXTRA HEAVY CASING. ALL BORINGS WERE MADE USING A 356 lb. HAMMER WITH A FALL OF 14" ON THE CASING AND 12" ON THE SAMPLER ROD EXCEPT AS NOTED.
5. STATIONS AND OFFSETS SHOWN THUS [STA. 154+00 50'R] WERE MEASURED FROM AN APPROX. ℄.
6. ADDITIONAL SOIL INFORMATION OBTAINED FROM LABORATORY TESTS, IS AVAILABLE FROM THE MAINE STATE HIGHWAY COMMISSION.

DES	—
DR	E.L.A.
TR	—
CHK	R.F.C.
ASST	

STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

PORTLAND-YARMOUTH INTERSTATE

INTERSTATE OVER PRESUMPSCOT RIVER

BORING DATA

SHEET NO. 28 OF 88 | SCALE: AS NOTED

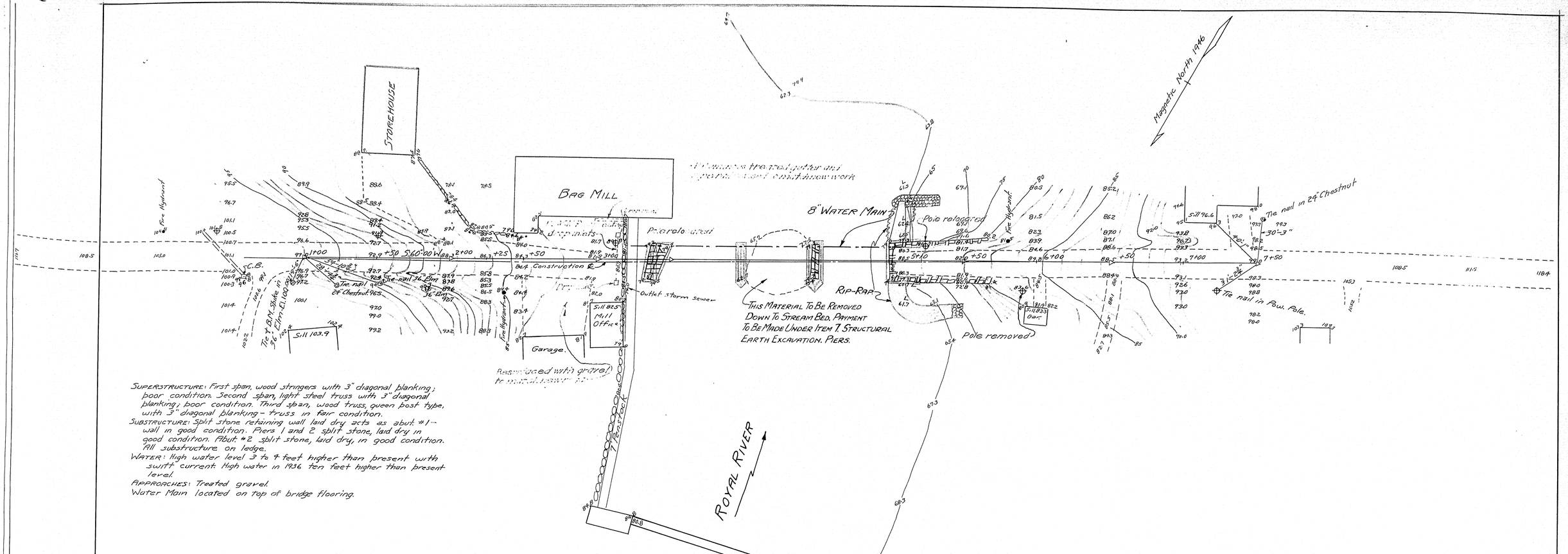
FAY, SPOFFORD & THORNDIKE, INC. ENGINEERS BOSTON, MASS.

Qm-14
51

Boston Blue Print-300-4-57

M-1325

0 1 2 3 4 5 INCHES



SUPERSTRUCTURE: First span, wood stringers with 3" diagonal planking; poor condition. Second span, light steel truss with 3" diagonal planking; poor condition. Third span, wood truss, queen post type, with 3" diagonal planking - truss in fair condition.
SUBSTRUCTURE: Split stone retaining wall laid dry acts as abut. #1 - wall in good condition. Piers 1 and 2 split stone, laid dry in good condition. Abut. #2 split stone, laid dry, in good condition. Pdl substructure on ledge.
WATER: High water level 3 to 4 feet higher than present with swift current. High water in 1936 ten feet higher than present level.
APPROACHES: Treated gravel.
Water Main located on top of bridge flooring.

PLAN
Scale 1" = 30'

PROFILE
Scales- Horiz. 1"=30'
Vert. 1"=10'

Revised as built 12/6/48
Revisions in red P.E.W.

Survey W.B.
Plot L.J.B.

Bridge 3983

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

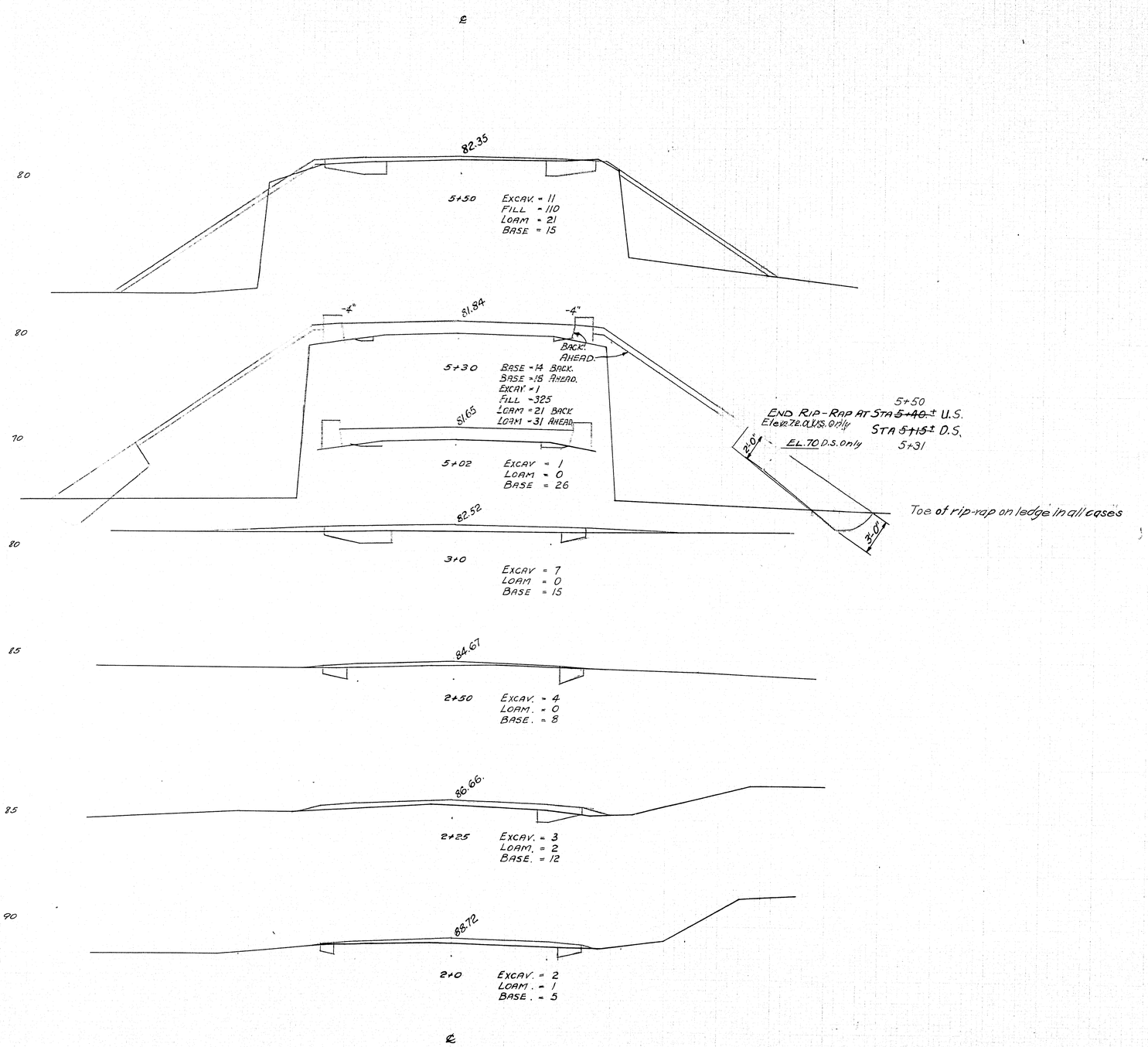
COTTON MILL BRIDGE
OVER
ROYAL RIVER
in the town of
YARMOUTH
CUMBERLAND COUNTY

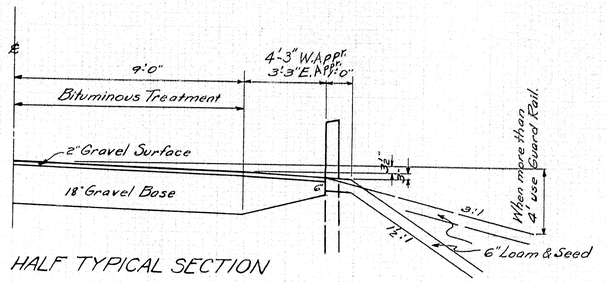
SURVEY PLAN

Sheet 1 of 6 Augusta, Me. Feb. 1947

96-161

0 1 2 3 4 5 INCHES





HALF TYPICAL SECTION

DO NOT EXCAVATE FOR GRAVEL BASE WHERE EXISTING MATERIAL IS FOUND SUITABLE.
Existing material found suitable except at edges on W. Appr.

Revised as built 12/2/48
Revisions in red P.E.W.

Design & Trace — C.H.R.	BRIDGE 3983
Checked — C.E.B.	

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

COTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY

CROSS SECTIONS

Sheet 2 of 6 Augusta, Me. Mar. 1948.

46-162

0 1 2 3 4 5 INCHES

Cover the ½ in. opening at Abut. 1 and the 1 in. joint at Abut. 2 between the superstructure and substructure with two layers of heavy roofing 10 in. wide. Coat the surface of the concrete and the back side of each layer as applied with a suitable grade of roofing cement. The area to be covered is to be recessed ¼ in. by nailing thin strips to the forms before concrete is placed.

PLAN ABUT. 1

FRONT ELEV. ABUT. 1

Dowels D1 & D2 shall be placed before the concrete takes any initial set.

* At one or two low points in ledge provide about 4" opening thru new concrete jacket in Pier No. 1 and Abut. No. 2.

SECT. C-C.

PLAN PIER 1

Dress shaded areas on Bn Seats to exact elevations shown, 1" larger all around than bearing plates

FRONT ELEV. PART SIDE ELEV. ABUT. 2

* Note:— Use some of the steel originally detailed for the D.S. Ret. Wall as reinforcing in the front of this wing.

All fill and backfill immediately behind Abutments to be "Gravel Borrow." Payment to be made at the contract unit price per cubic yard for "Gravel Base" Item No. 24.

Water Pipe to be supported in the openings provided in the Abutments and Piers.
Reinforcing bars A1 for Abutments and P11 for Pier to be cut in field for these openings, and others re-spaced as necessary.

SECT. E-E

Back of existing slope, the jacket need not go down to ledge if the ground is suitable for a footing as shown in above Sect. E-E.

Remove top courses of stone wall to about El. 79.

For Rail Detail, See Bridge Rail for Span 4.

Revised to Built 12/2/48
Revision 2. 1/30/49 D.E.W.
Revised 6/48 for Water Pipe and Ret Wing, Abut. 2 U.S.

SECT. B-B

Precast Rail Bars. Wrap ends with two layers of roofing before setting into Post forms 2½ in.

SECT. A-A

END ELEV.

DOWELS FOR RAIL POST BASE ON RET. WALL

SECT. D-D.

U.S. SIDE ELEV.

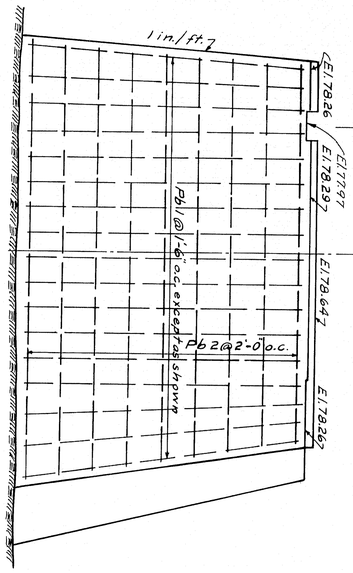
Revised 7/30/48 for Rail.

Design & Trace — CAR.
Checked — CAB

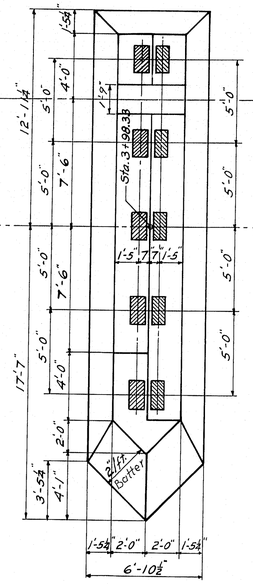
BRIDGE 3983

STATE HIGHWAY COMMISSION
BRIDGE DIVISION
COTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY
ABUTMENTS 1 & 2, PIER 1
Sheet 3 of 6 Augusta, Me. Mar. 1948.

46-163



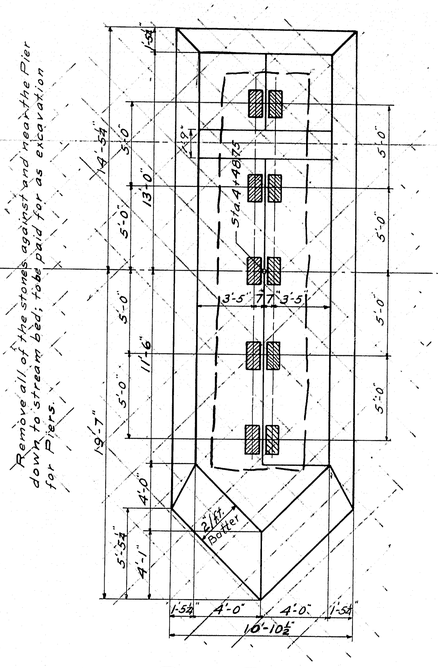
SIDE ELEVATION



PLAN PIER 2

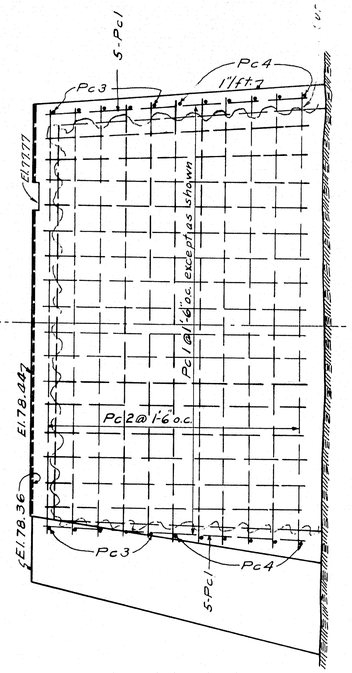
Dress shaded areas on Bridge Seats to exact elevations shown 1" larger all around than bearing plates.

Remove all of the stones against and near the Pier down to stream bed; rube paid for as excavation for Piers.



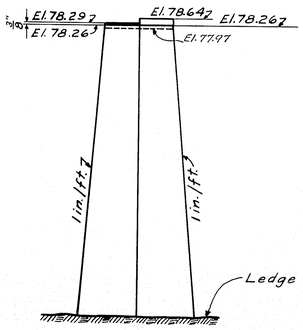
PLAN PIER 3

Same as Pier #2 except stationing

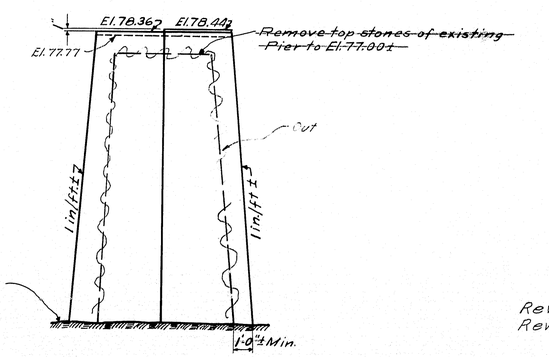


SIDE ELEVATION

Set reinforcing steel in sides of piers 4" clear from face of concrete.



END ELEVATION



END ELEVATION

Same as Pier #2 except for elevations as shown

Revised as built 12/3/48
Revisions in red P.E.W.

Revised 6/48 for Openings for Water Pipe.

Design – Std. Trace – L.H.W.
Checked – O.A.B.

BRIDGE 3983

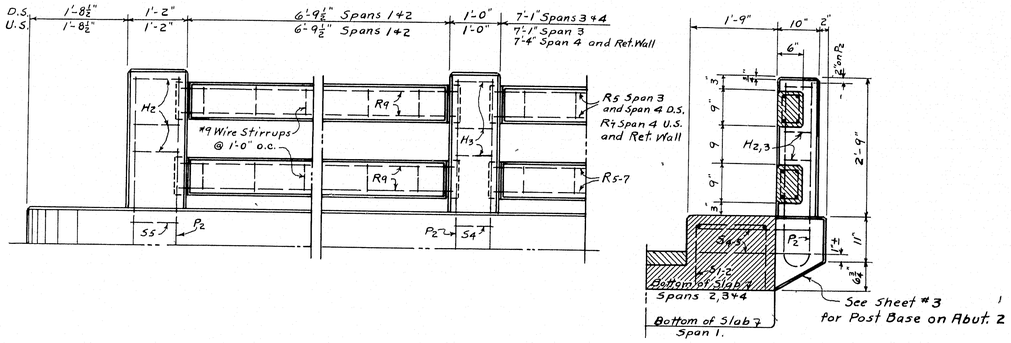
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

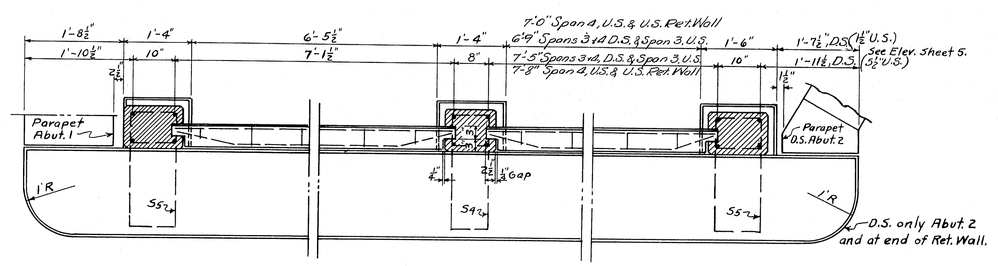
COTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY
PIERS 2 & 3

Sheet 4 of 6 Augusta, Me. Mon. 1948.

46-169

0 1 2 3 4 5 INCHES





REVISED RAIL DETAILS

RAIL NOTES

Cast curb and base for posts with slab. Steel for curb, base and post to be in place before curb is cast. Precast rail bars and set in position so that tongue ends project into posts 2¾ in. Wrap tongue ends with two layers of heavy roofing. Wire stirrups for bars to be formed in field of #9 annealed wire making a complete turn around each bar. Chamfer all exposed edges of concrete ½ in. unless otherwise indicated.

Design CJA Trace - G.C.W.
Checked

BRIDGE 3983

STATE HIGHWAY COMMISSION
BRIDGE DIVISION

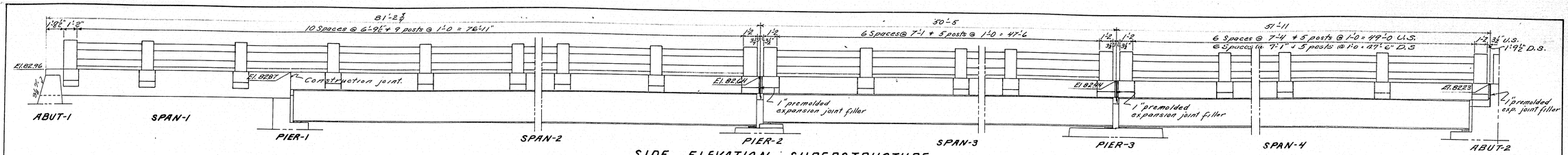
COTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY

REVISED RAIL DETAILS

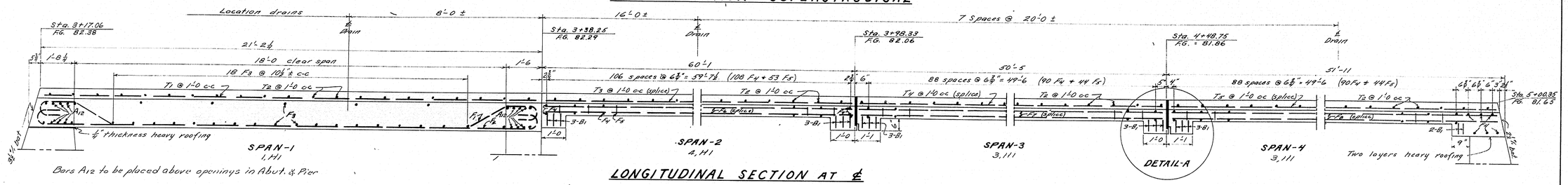
Sheet 5A of 6 Augusta, Me. July 1948

46-165

0 1 2 3 4 5 INCHES



SIDE ELEVATION - SUPERSTRUCTURE

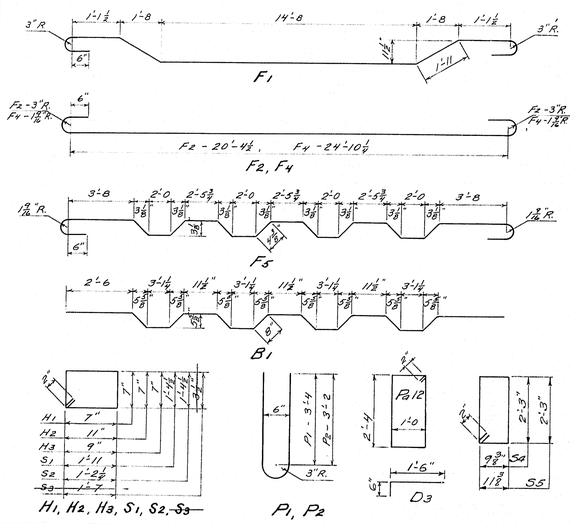


Bars A12 to be placed above openings in Abut. & Pier

LONGITUDINAL SECTION AT ℄

STEEL SCHEDULE

BENT BARS



Mark	Size	No.	Length	Location
Pa1	½	3	9'-0	Pier #1
Pa8	"	3	10'-6	"
Pa9	"	3	12'-0	"
Pa10	"	4	13'-6	"
Pa11	⅝	5	26'-0	"
Pb1	"	34	17'-0	Pier #2
Pb2	½	36	13'-9	"
Pc1	⅝	42	17'-0	Pier #3
Pc2	½	44	15'-0	"
Pc3	"	10	7'-9	"
Pc4	"	12	9'-0	"
F3	⅝	31	25'-2	Span-1
F6	½	90	30'-9	" 2
F7	"	90	25'-10	" 3
F8	"	90	26'-8	" 4
C1	"	6	20'-7	" 1
C2	"	12	30'-9	" 2
C3	"	12	25'-10	" 3
C4	"	12	26'-9	" 4
T1	½	22	20'-7	" 1
T2	"	184	21'-8	All spans
T3	"	44	30'-3	Span - 2
T4	"	44	25'-5	" 3
T5	"	44	26'-0	" 4
R1	⅝	16	6'-3	Rail bars, R.#1
R2	"	16	6'-9	" "
R3	"	80	7'-3	Upper rail bars Sp.1+2
R4	"	40	6'-10	Lower " "
R5	"	48	7'-5	Upper " Sp.3
R6	"	24	7'-0	Lower " "
R7	"	72	7'-8	Upper " Sp.4+A.2.
R8	"	36	7'-3	Lower " " "
D1	⅝	26	1'-6	Pier #1
D2	⅛	13	1'-6	"
Pa12	½	13	3'-0	"

STRAIGHT BARS

Mark	Size	No.	Length	Location
F1	1"	24	23'-4	Span-1
F2	"	25	22'-11	" "
F4	⅝	294	26'-8	" 2,3,4
F5	"	141	27'-6	" "
B1	⅝	17	25'-8	" "
H1	½	18	2'-8	Rail posts, Abut.#1
H2	"	54	3'-4	" " superst+A.#2.
H3	"	120	3'-0	" " "
S1	½	42	6'-11	Curb, Span-1
S2	"	326	5'-5½	" " 2,3,4
S3	⅝	350	4'-1	Lower rail bars
P1	⅝	12	7'-5	Rail posts, Abut.#1
P2	"	116	7'-1	Rail posts, superst+A.#2.
Pa12	½	13	7'-0	Pier #1
A1	⅜	17	25-3	Abuts. #1 + #2
A2	½	26	1'-9	Abut. #1
A3	⅜	4	15'0	"
A4	½	4	15'-0	"
A5	"	13	3'-6	Abut. #2
A6	"	24	17'-0	"
A7	"	21	17'-6	"
A8	"	38	19'-6	"
A9	"	24	30'-4	"
A10	"	2	28'-0	"
A11	"	4	26'-10	"
Pa1	"	51	18'-0	Pier #1
Pa2	"	11	9'-0	"
Pa3	"	11	15'-0	"
Pa4	"	11	26'-0	"
Pa5	"	11	27'-6	"
Pa6	"	16	14'-6	"

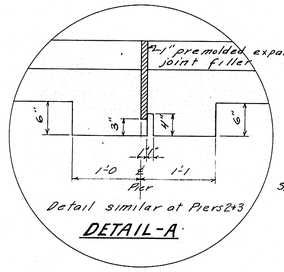
All dimensions to centerline of bars.

STEEL FOR REVISED RAIL

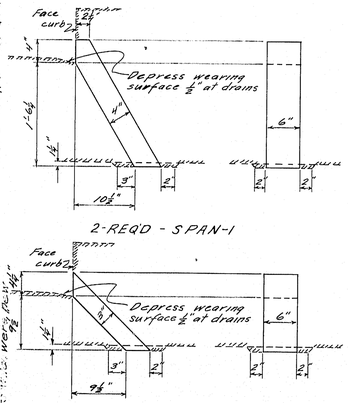
D3	⅝	8	2'-0"	Abut.2 R.P. Base
He	⅝	42	3'-4	As previously detailed
H3	"	120	3'-0	" "
R5	½	144	7'-5	Rail- Sp.4 U.S. & Sp. 3
R7	"	72	7'-8	" - Sp.4 U.S. & Ab.2
R9	"	160	7'-1½	" - Sp. 1 & 2.
Sa	⅜	76	6'-5	Int. R.P. Base.
S5	"	24	6'-9	End R.P. Base.
P2	⅝	108	7'-1	As previously detailed.

All T bars and #3 a bars were 3,8,11,13 no. 4 in Slab.

Steel already delivered may be used for Rail bars where not more than 3½" shorter than detailed and may be cut in field where longer. If shorter bars are used, not more than one shall be used in each Rail bar.



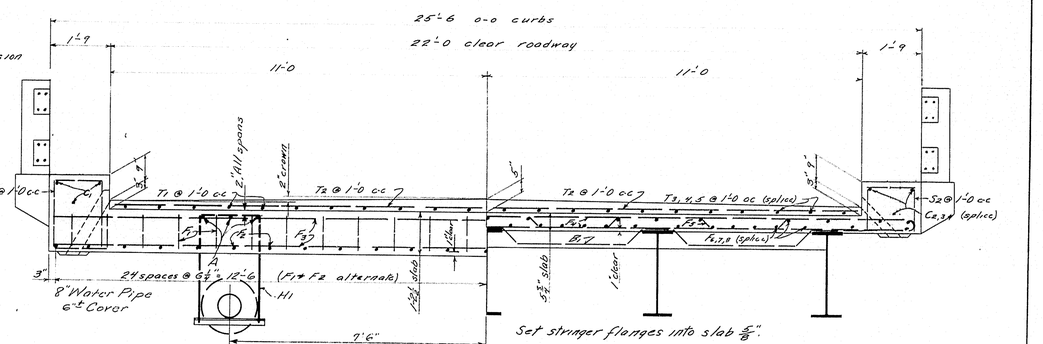
DETAIL-A



All drains #24 gage galv. iron.

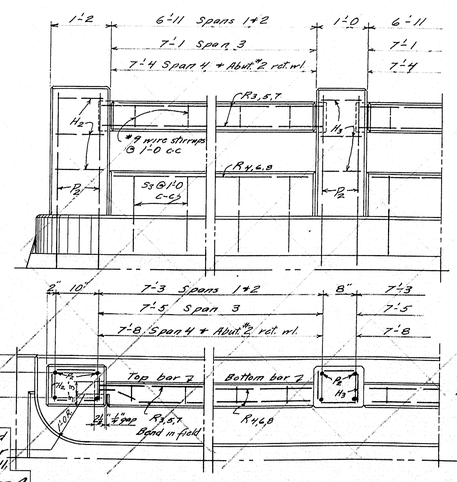
DRAIN DETAILS

See Sheet No. 3 for note about covering the 4 in. openings at Abut. 1 and the 1 in. joints at Abut. 2.



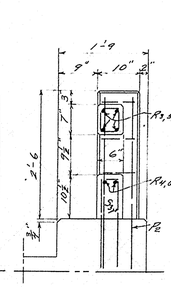
HALF TRANSVERSE SECTION - SPAN-1

HALF TRANSVERSE SECTION - SPANS 2 3 4



RAIL DETAILS

1'-0 Rad. at abut end Span 1 and at far end Abut #2 ref. wall. U.S. and D.S. end Span 4.



See Sheet 5-A for New Rail Details. This sheet revised 7/8/48

Revised as built 12/2/48
Revisions in red. P.E.W.

DESIGN DATA
Loading - H 15-44
fs = 18,000 #/□"
fc = 1000 #/□"
n = 10

Revised 6/4/48 for Water Pipe & Rvsd. on Curb & Rail #2.

- RAIL NOTES -

Cast curb with slab. Steel for posts and bottom bar to be in place before curb is cast. Precast top bar and set in position so that tongue ends project 2½" into posts. Wrap tongue ends with two layers heavy roofing. Cast bottom bar in place. Make construction joint in bottom bars at Pier-1. Provide for expansion of top bar at this point with two extra layers of roofing at ends of tongue. Wire stirrups for top bar to be formed in field of #9 annealled wire, making a complete turn around each reinforcing bar. Chamfer all exposed edges of concrete ½" unless otherwise indicated.

Design + Trace - N.W.T.	
Checked - CDS	BRIDGE 3983

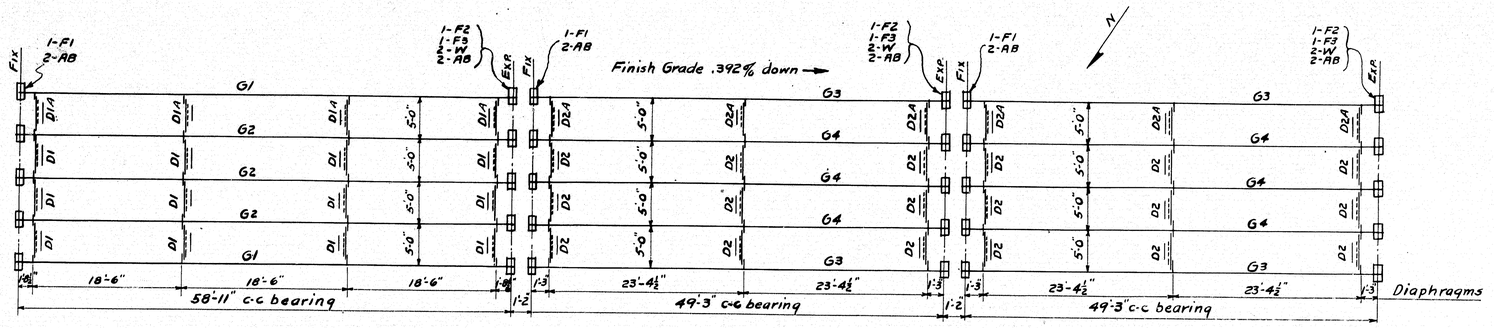
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

COTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY
SUPERSTRUCTURE

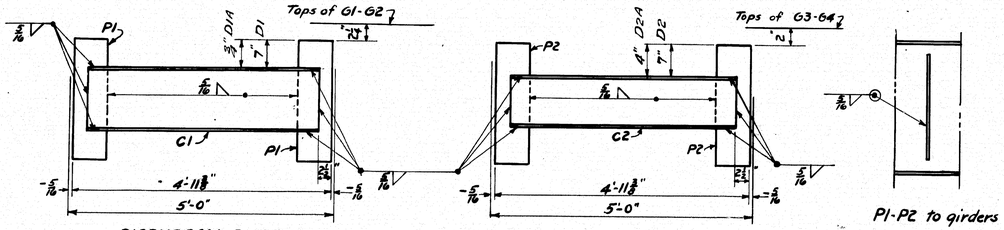
Sheet 5 of 6 Augusta, Me. Mar. 1948

46-166

0 1 2 3 4 5 INCHES



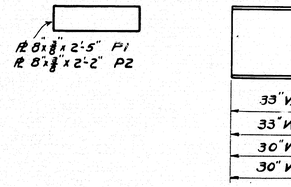
ERECTION PLAN

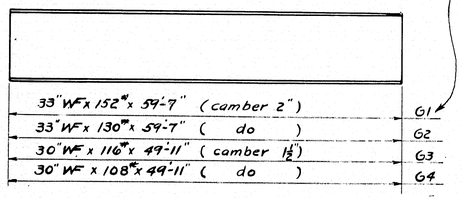


DIAPHRAGM D1 & D1A

DIAPHRAGM D2 & D2A

P1-P2 to girders

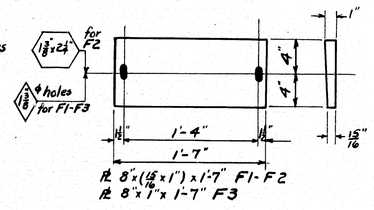


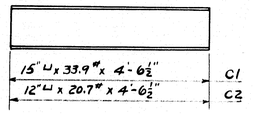


2-G1 Beams were ordered too undersize.
1-2½" camber was continuously welded
to bottom flange instead of these beams
on the job. (See letter dated July 14, 1948.)

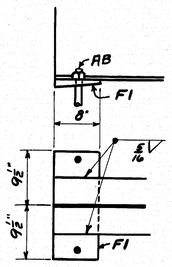
BILL OF MATERIAL

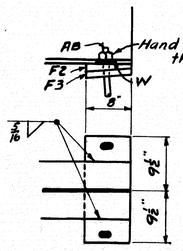
Mark	Description	Reqd.
G1	33" WF x 152# x 59'-7"	2
G2	33" WF x 130# x 59'-7"	3
G3	30" WF x 116# x 49'-11"	4
G4	30" WF x 108# x 49'-11"	6
P1	Pl 8"x⅜"x 2'-5"	32
P2	Pl 8"x⅜"x 2'-2"	48
C1	15" [x 33.9# x 4'-6½"	16
C2	12" [x 20.7# x 4'-6½"	24
F1	Pl 8"x(⅝"x1") x 1'-7"	15
F2	do	15
F3	Pl 8"x1"x 1'-7"	15
W	Pl 3"x¼"x 0'-4"	30
AB	Swedge bolt 1"ϕx 1'-2"	60



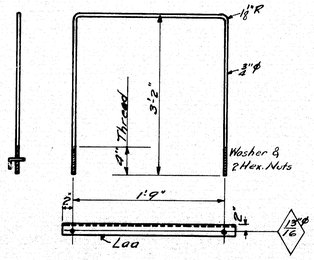


Loading H15-44
Specifications— State of Maine, State Highway Commission, Bridge Division Specifications Steel Highway Bridges November 1945.

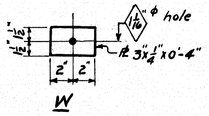




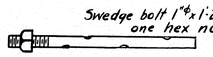
BEARING PLATES
All girders.



FIELD ASSEMBLY



REQ. for HANGER, H1.
11, ¾"ϕ Rod x 8'-1", 22 washers, 44 Hex. Nuts.
11, L aa, 3½"x 2½"x 5/16" x 2'-1"
33, Reinf. bars. A, ⅝"ϕ x 4'-0" } Make from bars
12. " " A12, ⅝"ϕ x 4'-0" } left over from D.S. Wall.



ANCHOR BOLT AB

Revised as built 12/6/49.
Revisions in red P.E.W.

Revised 6/48 for Water Pipe Hanger

Design Everett
Traced Welch

Bridge 3983

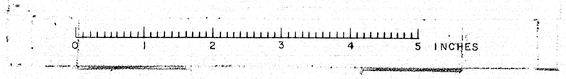
STATE HIGHWAY COMMISSION
BRIDGE DIVISION

GOTTON MILL BRIDGE
OVER
ROYAL RIVER
IN THE TOWN OF
YARMOUTH
CUMBERLAND COUNTY

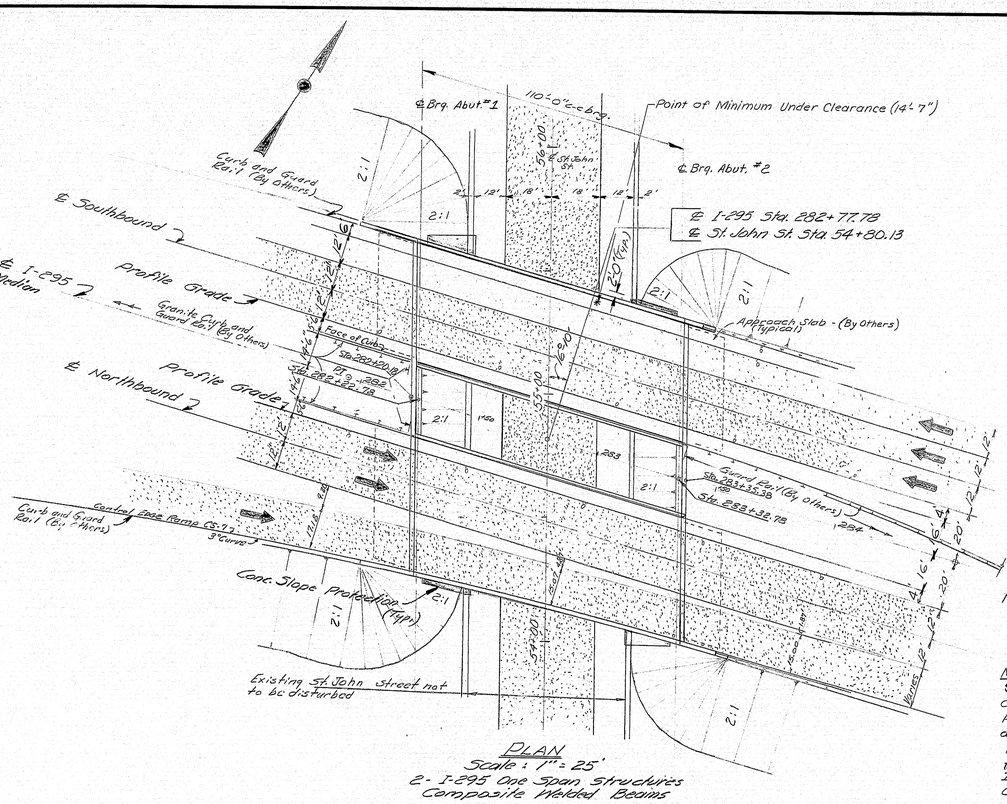
STRUCTURAL STEEL DETAILS

SHEET 6 OF 6 AUGUSTA, ME. JULY 1947

46-167



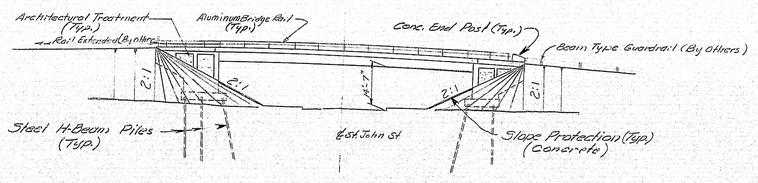
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(64)46	62	85



PLAN
Scale: 1" = 25'
2 - I-295 One Span Structures
Composite Welded Beams

TRAFFIC

I-295		ST. JOHN ST.
24,676	AADT 1970	5800
28,510	AADT 1990	7000
10%	DHV	10%
5%	T	8%



ELEVATION
(Looking North along ℄ St. John St.)
Scale: 1" = 25'

MATERIALS

Structural Steel: Flanges & Web for beams shall conform to A.S.T.M. designation A-572 (Grade 50). All other steel shall conform to A.S.T.M. designation A-36 unless otherwise noted.
Reinforcing Steel: Reinforcing steel shall conform to A.S.T.M. designation A615 (Grade 60) or AASHO M31 Intermediate Grade
Concrete: All Concrete shall be Class "A"

ALLOWABLE STRESSES

Structural Steel ~ A572 (Grade 50)	f_s = 27,000 psi
~ A-36	f_s = 20,000 psi
Reinforcing Steel	f_s = 20,000 psi
Concrete	f_c = 1,200 psi

BRIDGE QUANTITIES

Item No.	DESCRIPTION	Quantity	Unit
203.26	Gravel Borrow	380	Cu. Yd.
* 304.10	Aggregate Subbase Course - Gravel	130	Cu. Yd.
501.215	Steel H-beam Piles 74 lbs/ft.	1850	L. F.
502.21	Structural Concrete, Abuts & Retaining Walls	790	Cu. Yd.
502.2602	Structural Concrete, Roadway & Sidewalk, Slabs on Steel Bridges	1	L. S.
* 502.3102	Structural Concrete, Approach Slabs	1	L.S.
503.12	Reinforcing Steel, Fab. & Delivered	160,000	Lb.
503.13	Reinforcing Steel, Placing	160,000	Lb.
504.7002	Structural Steel, Fab. & Delivered - St. John St.	1	L. S.
504.7102	Structural Steel, Erection - St. John St.	1	L. S.
5050802	Shear Connectors - St. John St.	1	L. S.
506.1402	Field Painting, Structural Steel - St. John St.	1	L. S.
507.08	Bridge Railing	570	L. F.
* 508.10	Membrane Waterproofing	1210	Sq. Yd
512.07	French Drains - Stones only	50	Cu. Yd
513.09	Slope Protection - Port. Cem. Concrete	760	Sq. Yd
515.20	Protective Coating For Concrete Surfaces	200	Sq. Yd
520.07	Elastomeric Expansion Device (Type 1)	108	L. F.
609.13	Vertical Bridge Curb - Type 1	530	L. F.
6380102	Embedded work in Structures - St. John St.	1	L.S.

* Not part of this contract.

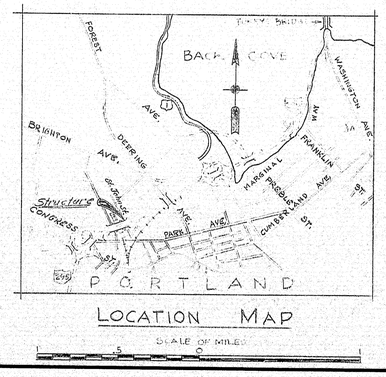
NOTE:
Estimated Quantity of Structural Steel, Fab, Del, Erected and Painted. = 398,000 lbs.
Estimated Quantity of Shear Connectors. = 2312 Studs = 2300 lbs.
Estimated Quantity of Concrete Item 502.2602 = 355 C.Y.
Estimated Quantity of Concrete Item 502.3102 = 71 C.Y.
Estimated Quantity of Embedded Work In Structures, St. John = 310± lin. ft. 3/4 PVC Plus Fittings

SPECIFICATIONS

DESIGN - A.A.S.H.O. Standard Specifications for Highway Bridges 1969 with Interim Specifications 1970.

CONTRACT - State of Maine, State Highway Commission, Standard Specifications, Highways and Bridges, Revision of June 1968.

LIVE LOADING - HS 20-44



LOCATION MAP
SCALE OF MILES

"As Built" Plan

DESIGN- ALL	BRIDGE NO.
TRACE- ALL & SWC	SURVEY-
CHECK- E.B.C.	PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

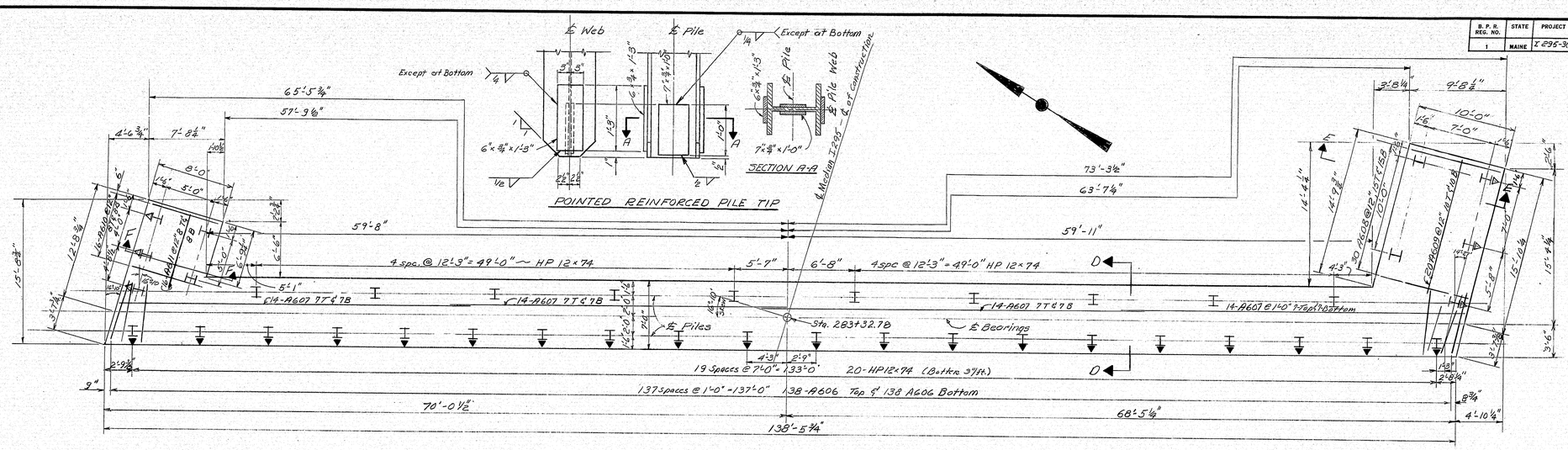
GENERAL PLAN

SHEET 62 OF 85 AUGUSTA, MAINE MAY 1971

152-146

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(134) 48	63	85



DESIGN- N.Y.T.	BRIDGE NO.
TRACED- DET.-N.Y.T.	SURVEY-
CHECK- E.S.C.	PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

FOOTING

SHEET 63 OF 85 AUGUSTA, MAINE MAY 1971

152-147

Fourraine paints TRUFLEX ★ SILKY ★ TRIPLE WHITE ★ RYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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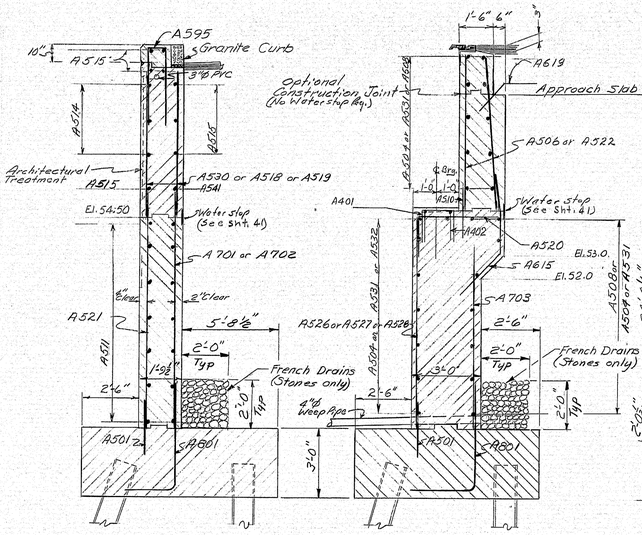
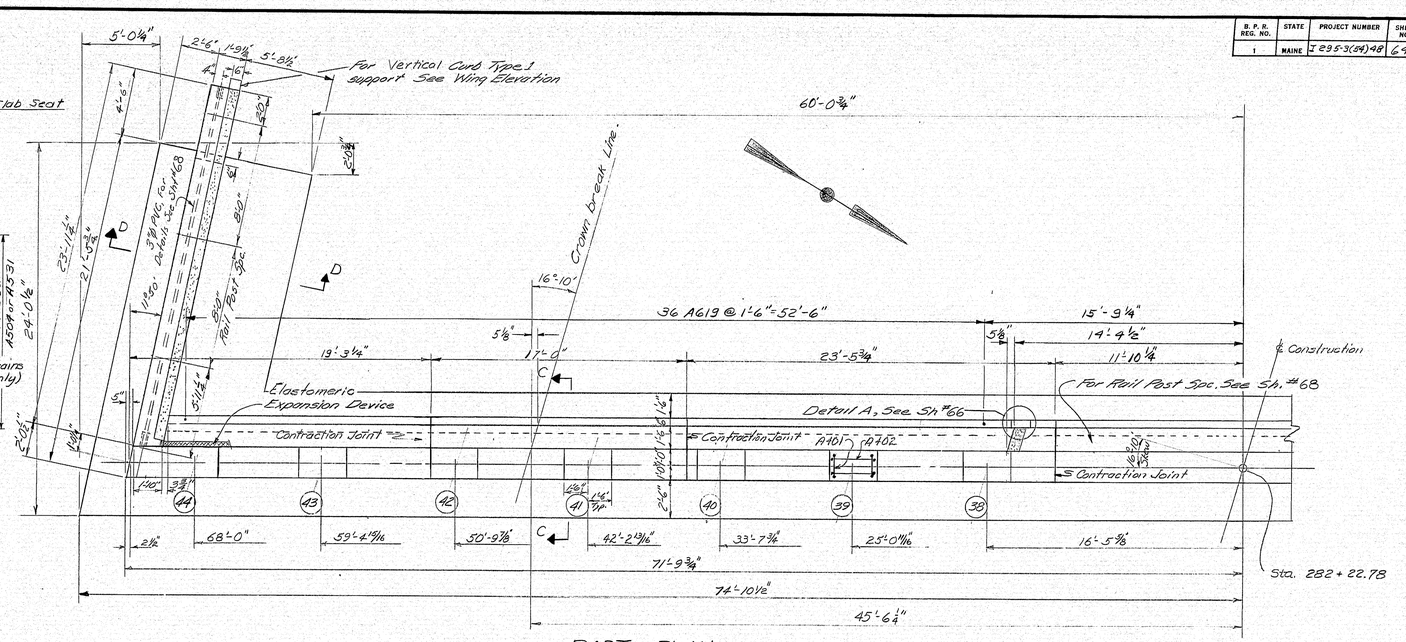
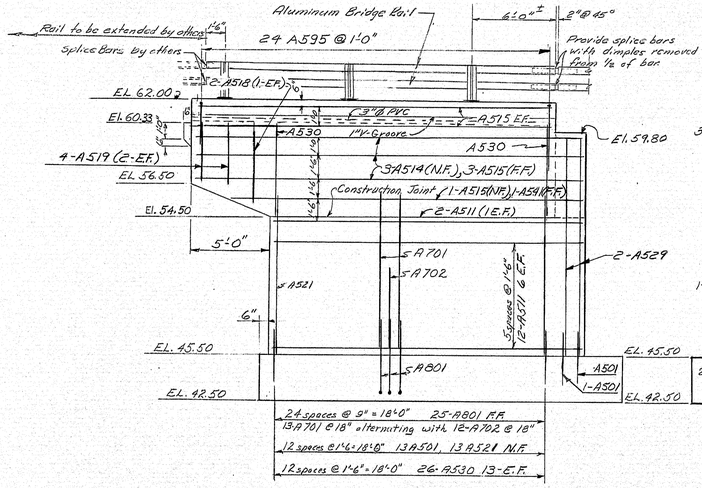
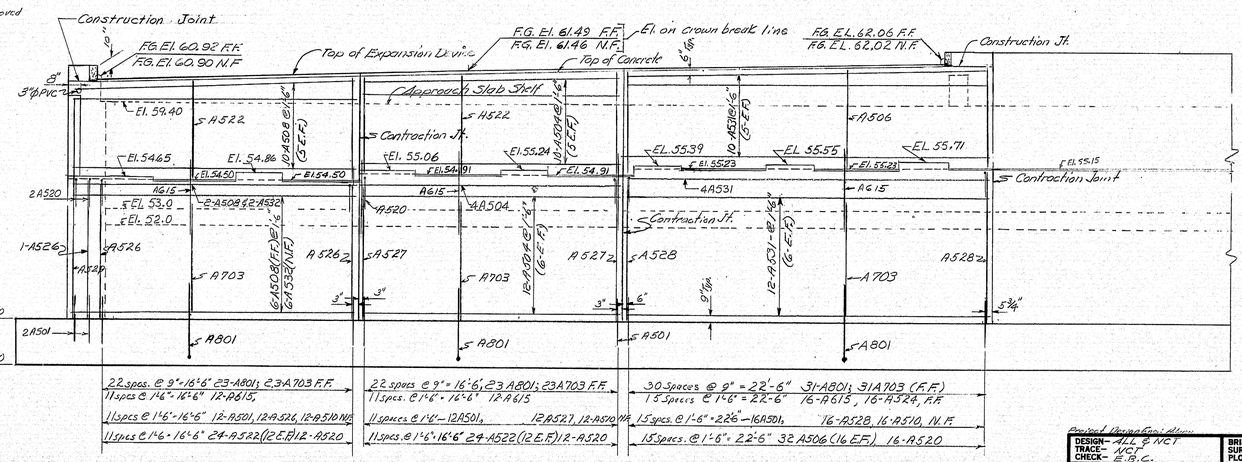








NOTE:
For Abutment notes see sheet # 65

Revised Design Unit Above

DESIGN- ALL & NCT	BRIDGE NO.
TRACE- NCT	SURVEY-
CHECK- E.B.C.	PLOT-

STATE HIGHWAY COMMISSION

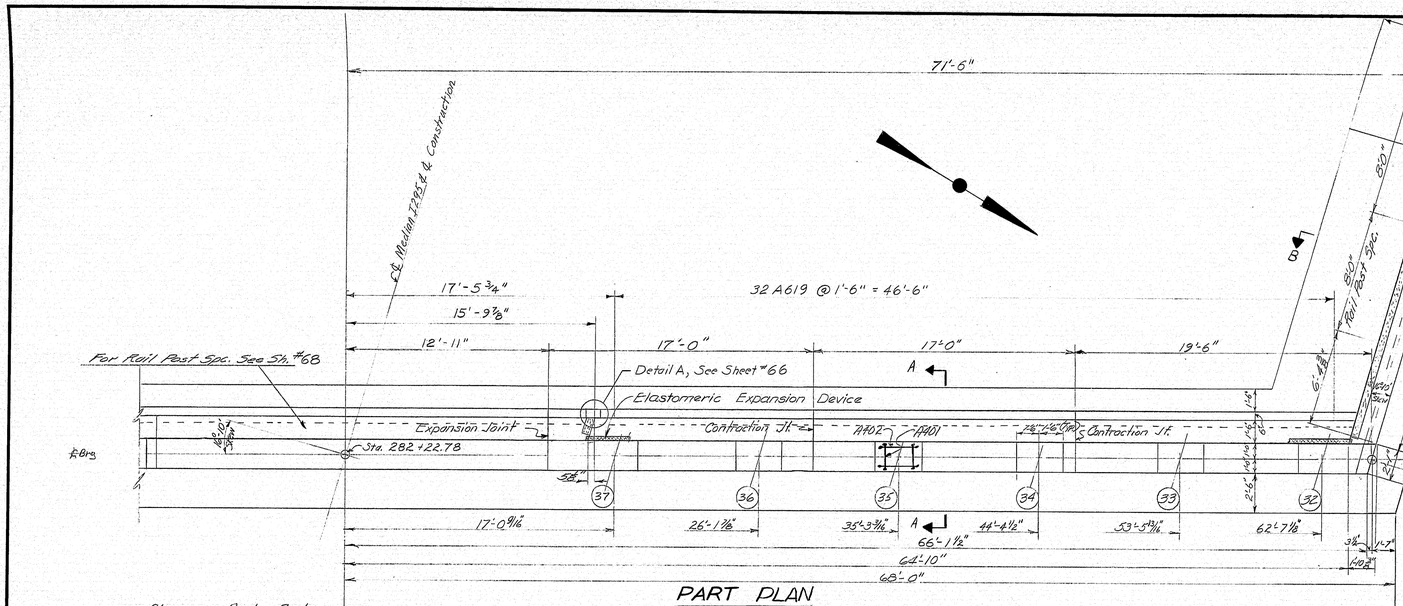
INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

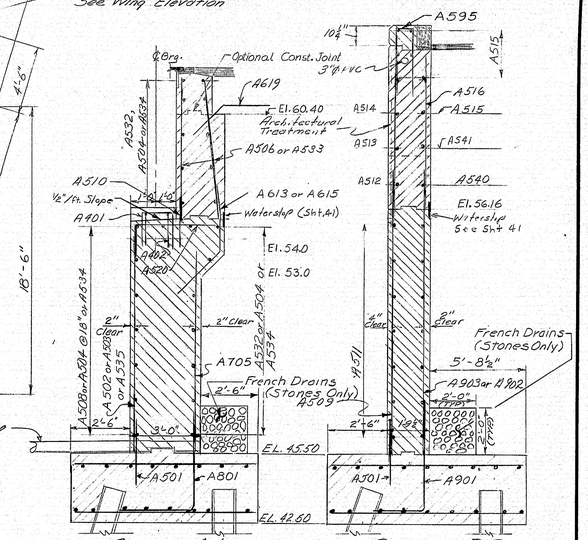
ABUTMENT NO. 1

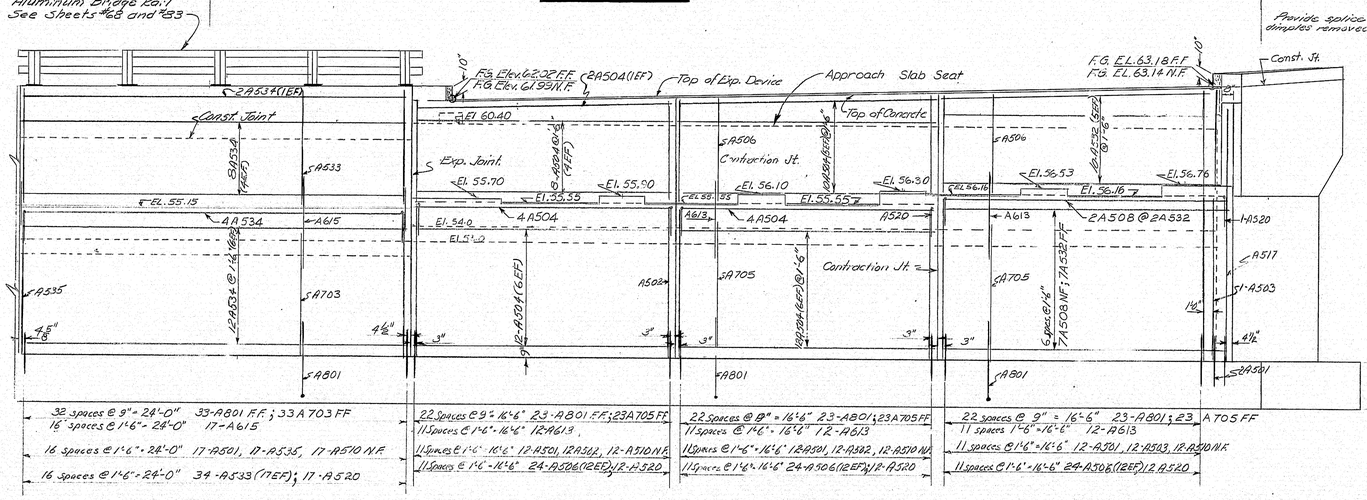
SHEET 64 OF 85 AUGUSTA, MAINE MAY 1971

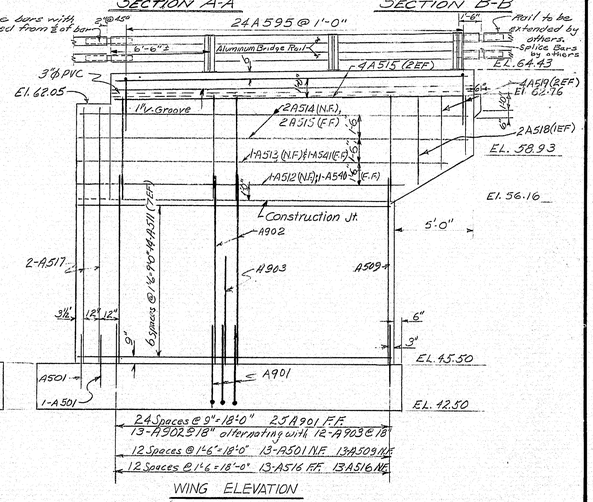
152-148

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(5#)48	65	85









WING ELEVATION

ABUTMENT NOTES

Reinforcing Steel to have 2" clear cover except as shown.
Position reinforcing steel to clear swedged Anchor bolts.
Reinforcing Steel splices are to be a minimum of 24 bar diameters.
Chamfer all exposed edges of concrete ¾" unless otherwise indicated.
Place Weep holes 20' apart. The exact location is to be determined by the Engineer. Weep holes are to be 4" diameter.
Abutment Concrete to be Class "A".
Footing concrete shall be cured for at least 7 days prior to placing breast wall Concrete.

PART ELEVATION

PILES

Piles shall be HP 12x74
Maximum Pile Load = 98 ton.
Piles marked → to be battered 3" Ft. in direction of arrow.
Piles marked ⊃ to be battered 4" Ft. in direction of arrow.
Piles shall be driven to ledge or practical refusal.

Estimated driven lengths of piles are estimated from available soils information with no allowance for pile cutoffs and no allowance for uncertain pile penetration.

All piles to have pointed reinforced pile tips. See Sheet 63 for details. Alternate types of pointed pile tips may be used if they are equal or better than the pointed reinforced pile tips shown, if approved by the Engineer.

Estimated Length	No. Reqd.
Abut #1 20' to 29'	43
Abut #2 16' to 23'	40

For Details refer as follows:

Architectural Treatment	Sheet # 69
End Post Details	Sheet # 67
Armored Joint	Sheet # 75
Elastomeric Expansion Device	Sheet # 76
Vertical Bridge Curb	Sheet # 73
Slope Protection Details	Sheet # 78
Piles	Sheet # 63

Work this Sheet with Sheet 64

DESIGN- ALL E.N.C.T.
TRACE-
CHECK- E.B.C.

BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
ABUTMENT NO. 1

SHEET 65 OF 85 AUGUSTA, MAINE MAY 1971

152-149

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
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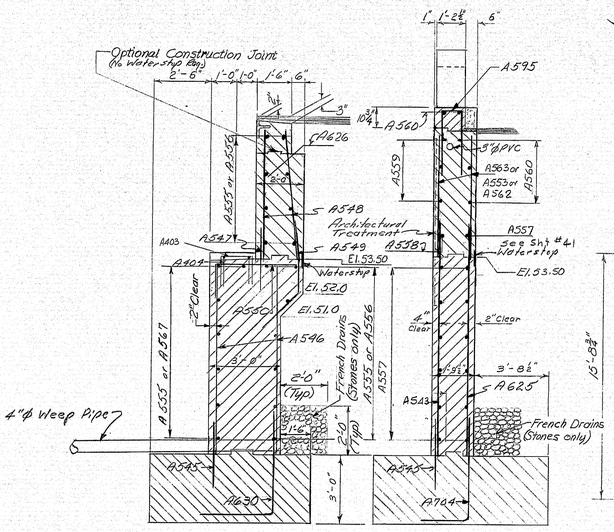
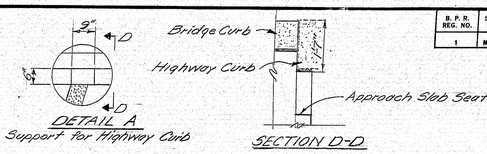
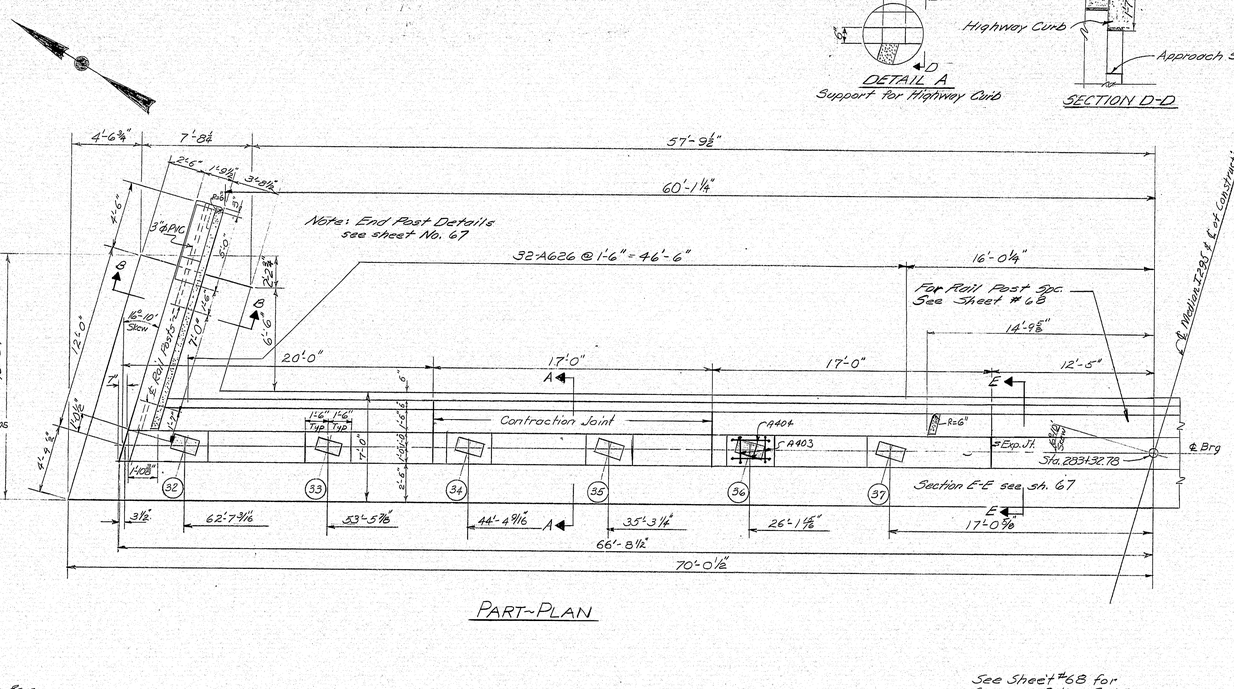
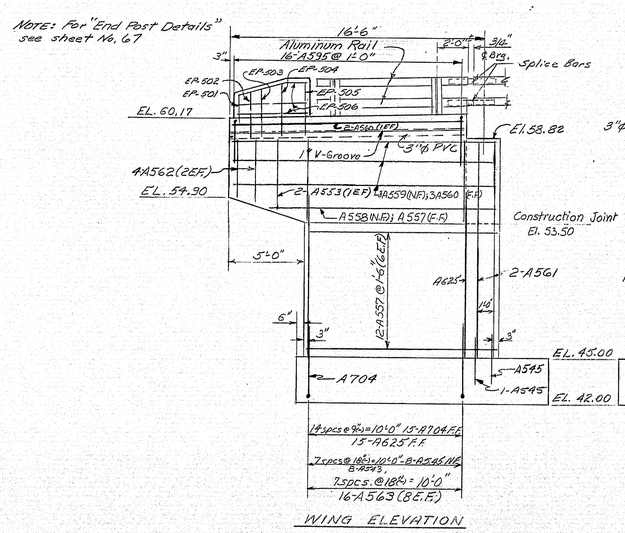
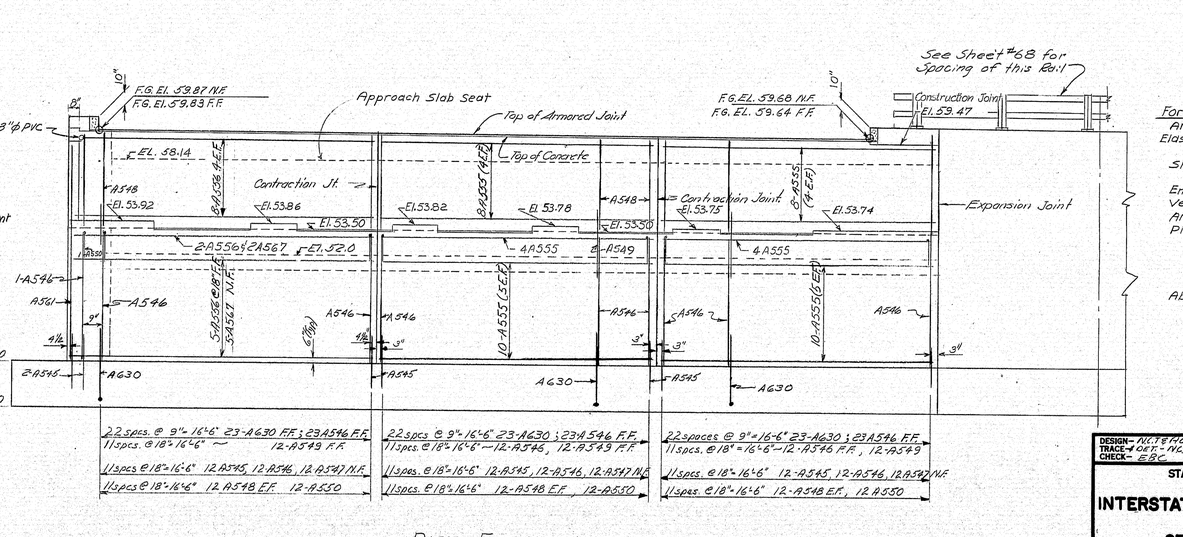






PART-PLAN





PART-ELEVATION

For Details refer as follows :

Armored Joint	Sheet # 75
Elastomeric Expansion Device	Sheet # 76
Slope Protection Details	Sheet # 78
End Post Details	Sheet # 67
Vertical Bridge Curb	Sheet # 75
Architectural Treatment	Sheet # 69
Piles	Sheet # 63

Abutment concrete to be Class "A"

Work this sheet with sheet #67

DESIGN- N.C.T. & M.C.C.
TRACE- J. DE T. - N.C.T.
CHECK- E.B.C.

BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7 OVER ST. JOHN STREET IN THE CITY OF PORTLAND CUMBERLAND COUNTY

ABUTMENT NO. 2

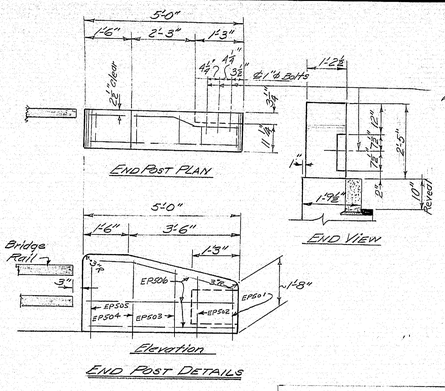
SHEET 66 OF 85 AUGUSTA, MAINE MAY 1971

152-150

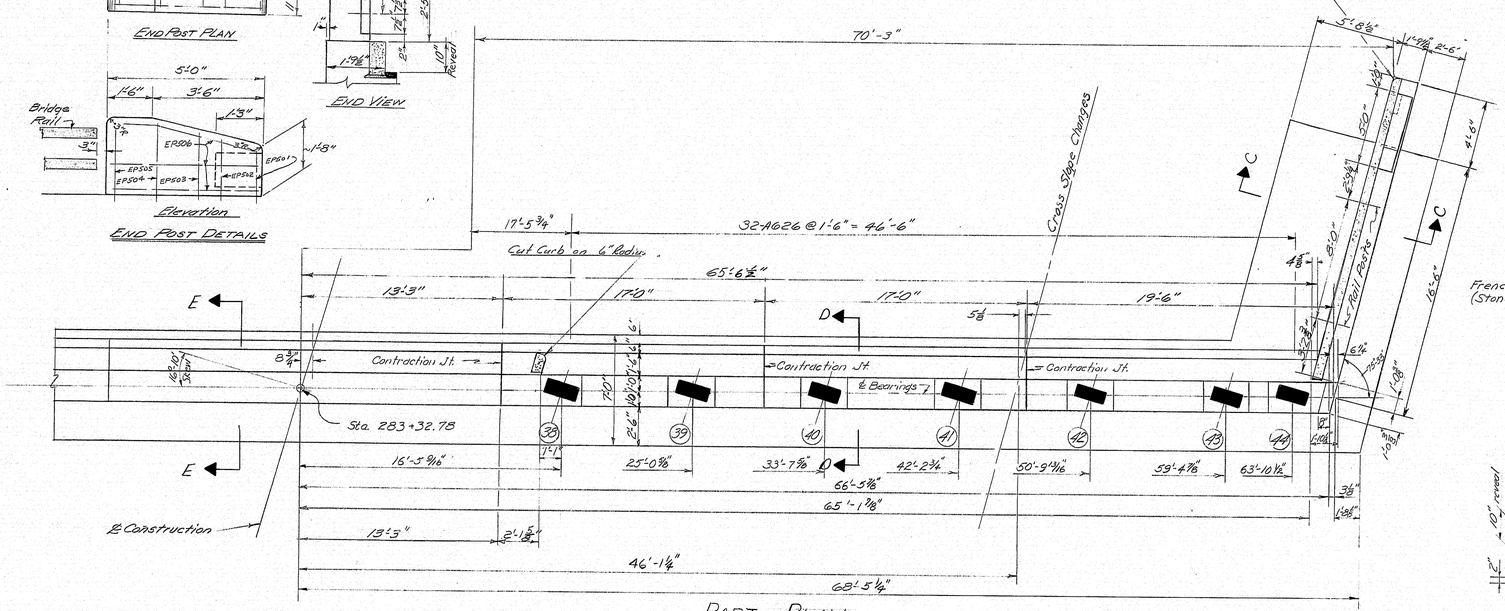
TRUE-TEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(64) 48	67	85

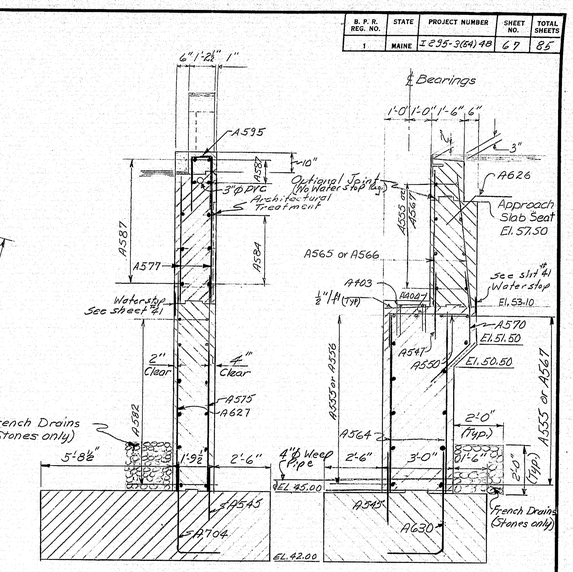
Furnishing and setting anchor bolts nuts and washers will be incidental to Item 202.21, See also Standard Details August 1969 ⓑ, Guard Rails.

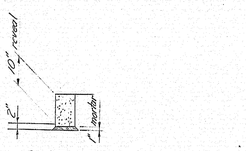


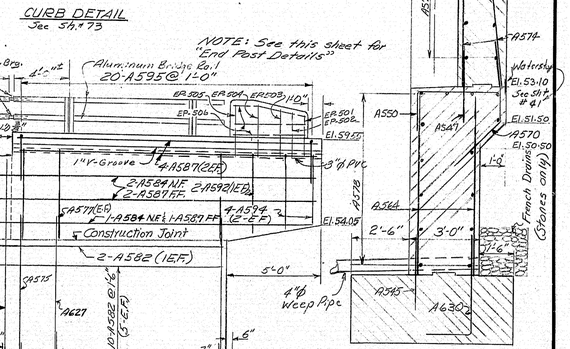
END POST DETAILS

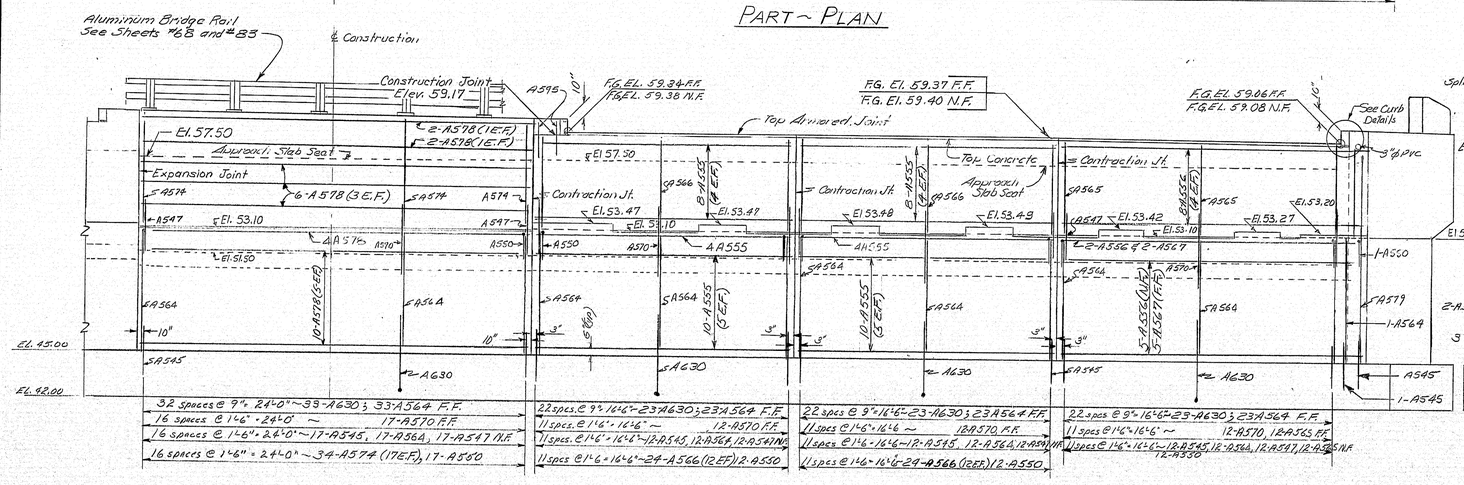


PART ~ PLAN



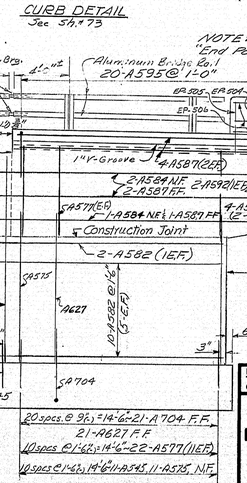






PART ~ ELEVATION

NOTE: For Abutment notes see sheet #65



WING ELEVATION

DESIGN- AGC, S.P.L.C.
TRACE- DET. -N.C.F.
CHECK- E.R.C.

BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7 OVER ST. JOHN STREET IN THE CITY OF PORTLAND CUMBERLAND COUNTY

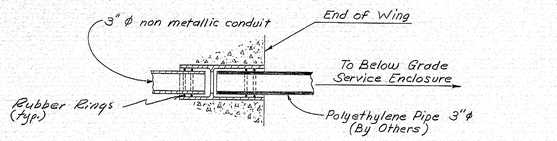
ABUTMENT NO. 2

SHEET 67 OF 85 AUGUSTA, MAINE MAY 1971

152-151

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

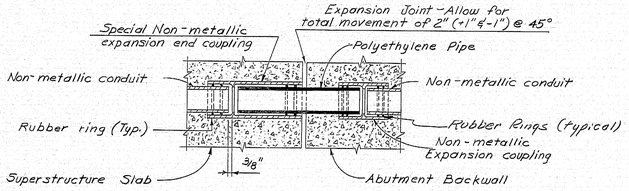
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(61) 48	68	85



CONNECTION BETWEEN NON-METALLIC CONDUIT EMBEDDED IN STRUCTURE AND DIRECT BURIED POLYETHLENE PIPE

DEVICE AT END OF WING

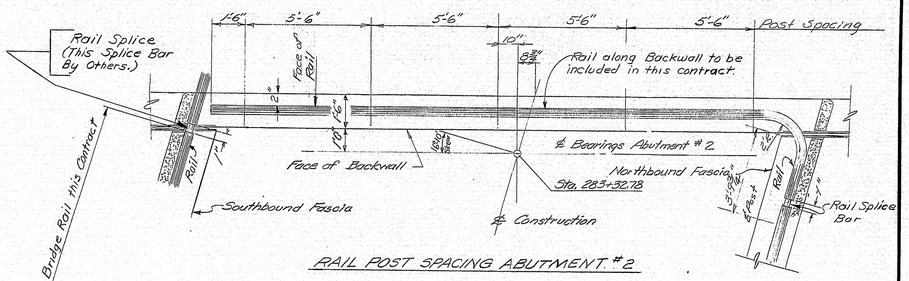
4-Required



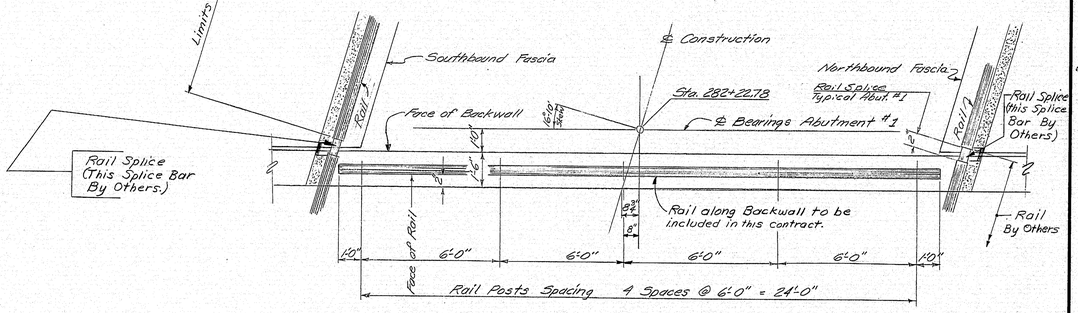
EXPANSION DEVICE FOR NON-METALLIC CONDUIT

AT ABUTMENT & END OF SLAB

4 Required



RAIL POST SPACING ABUTMENT # 2



NOTE:
For Rail Post Anchor Bolt setting see Standard Detail Sheet (BD-106-69)

RAIL POST SPACING ABUTMENT # 1

DESIGN- JALS & GAT
TRACE- DPS & NP
CHECK- ESC

BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION

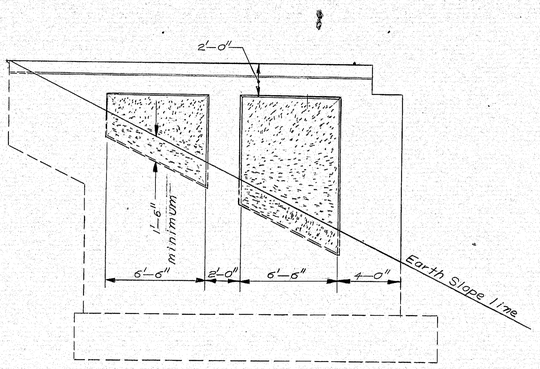
INTERSTATE 295 & RAMPS CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
-RAIL POST SPACING AT ABUTMENTS-
-ELECTRICAL DETAIL-

SHEET 68 OF 85 AUGUSTA, MAINE MAY 1971

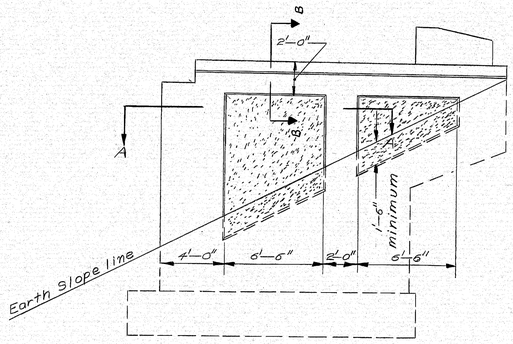
152-152

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ KYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(34)98	69	85

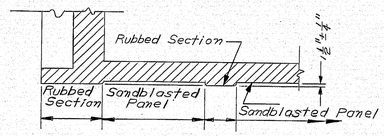


South Wing — Abutment No. 1

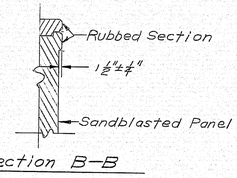


South Wing — Abutment No. 2

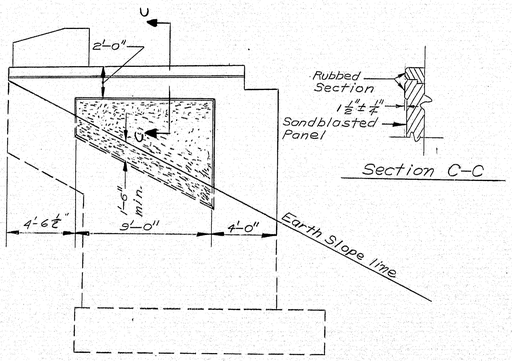
Shaded Areas Are Sandblasted, Typical On All Wings



Section A—A

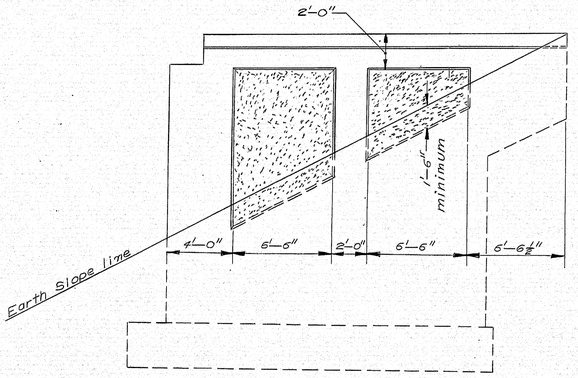


Section B—B



North Wing — Abutment No. 2

Section C—C



North Wing — Abutment No. 1

Notes:

All surfaces so designated on the plans shall be sandblasted. These surfaces shall be carried to a minimum depth of 18 inches below the finished ground.

Special care shall be exercised so that form joints at the exposed face of concrete shall be tight.

Before sandblasting, all fins and projections in the concrete shall be removed and all holes patched to create a surface of uniform texture.

In order to insure a consistent surface texture for the areas to be architecturally treated, concrete aggregate shall be from the same source and portland cement shall be from the same manufacturer throughout the entire placement of the abutment wings and breastwall.

At the time the concrete is placed, the contractor shall cast 3 sample slabs (1'X2'X4").

Prior to sandblasting, the samples shall be sandblasted, each a different degree of penetration with a maximum depth of 3/16 inch approximately, and under the direction of the Engineer. The most desirable sample will be chosen by the Engineer and the designated areas shall be sandblasted to match this sample.

Concrete shall not be sandblasted for at least 28 days after placement.

The contractor shall take all the necessary steps to protect materials and equipment from damage by the sandblasting operation. Personnel shall be properly equipped: sandblast hood for operator, and respirators and goggles for all other personnel exposed to dust.

Payment for the sand blasting shall be included in the contract unit price for Item 502.21, "Structural Concrete Abutments and Retaining walls."

PLANS	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

JANUARY 1968

DESIGN- TRACE- CHECK- EBC | BRIDGE NO. SURVEY- PLOT-

STATE HIGHWAY COMMISSION

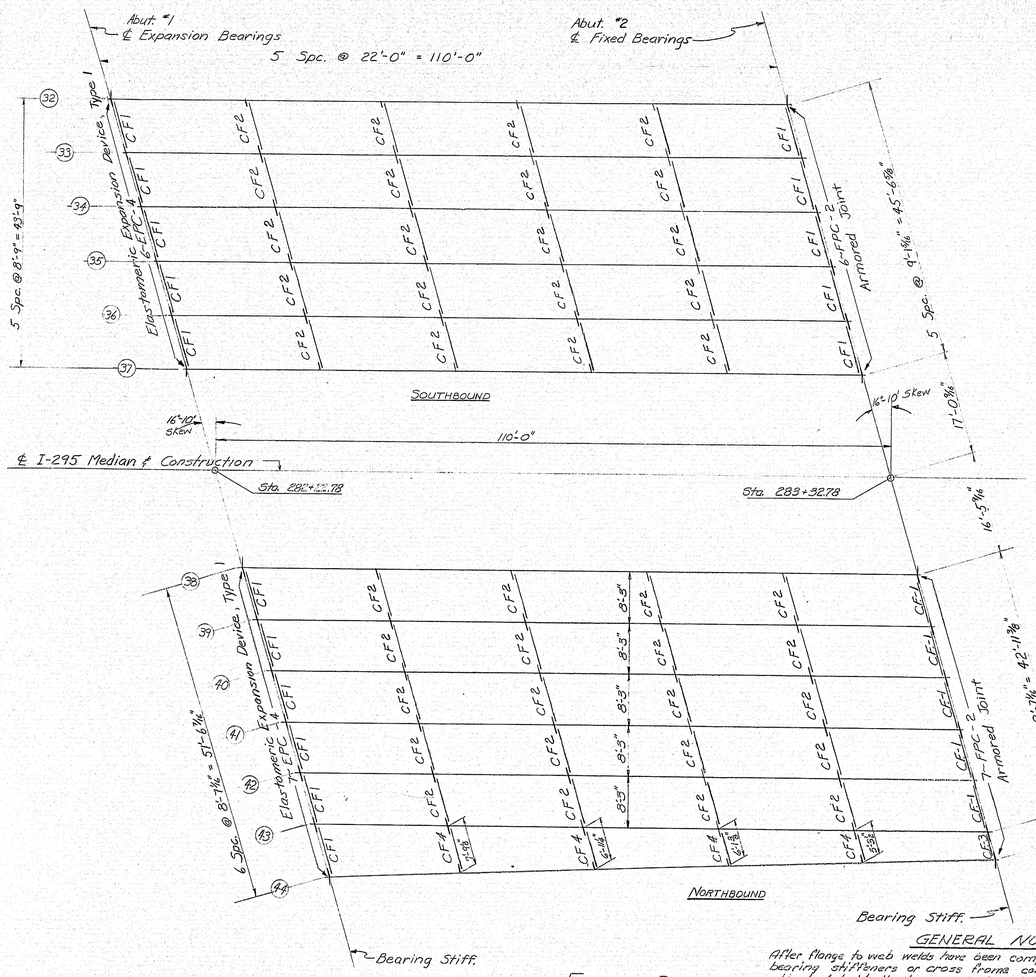
INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

ARCHITECTURAL TREATMENT

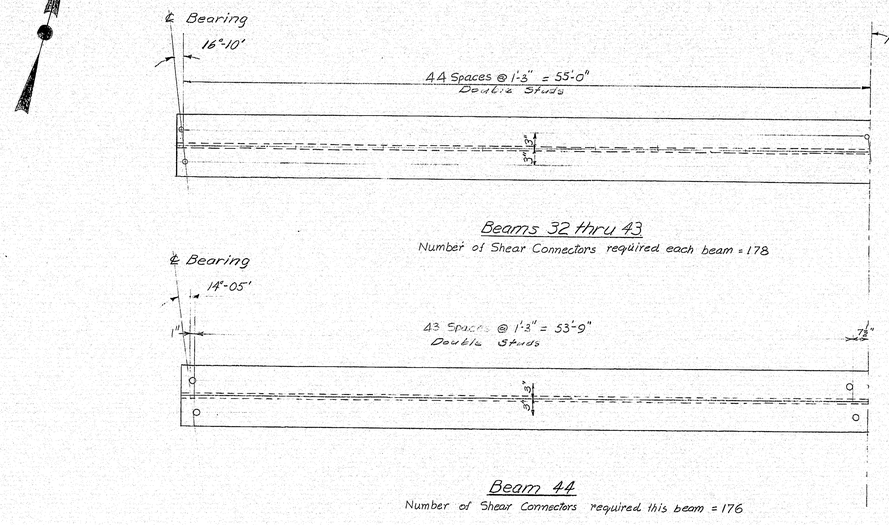
SHEET 69 OF 85 AUGUSTA, MAINE MAY 1971

152·153

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(004)48	70	85



FRAMING PLAN



Beams 32 thru 43

Number of Shear Connectors required each beam = 178

Beam 44

Number of Shear Connectors required this beam = 176

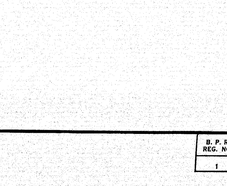
SHEAR CONNECTORS

Total Number required = 2312

Weight = 2259 lbs.

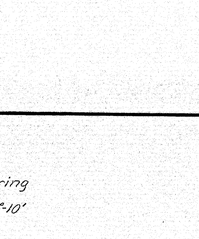
STUD DETAIL

TABLE FOR SETTING EXPANSION BEARINGS



Temp. In Degrees F.	X
-30	1⅜"
-15	1"
0	⅞"
15	¾"
30	⅝"
45	½"
60	⅜"
75	¼"
90	⅛"
105	0

NOTE:
For References and Specifications see sheet # 62



BEAM SECTION

GENERAL NOTES

After flange to web welds have been completed and before any bearing stiffeners or cross frame connection plates are attached to it, the beams shall be inspected, and shall be in accordance with American Welding Society Specifications for Welded Highway and Railway Bridges, D 2.0-69 Art. 305.

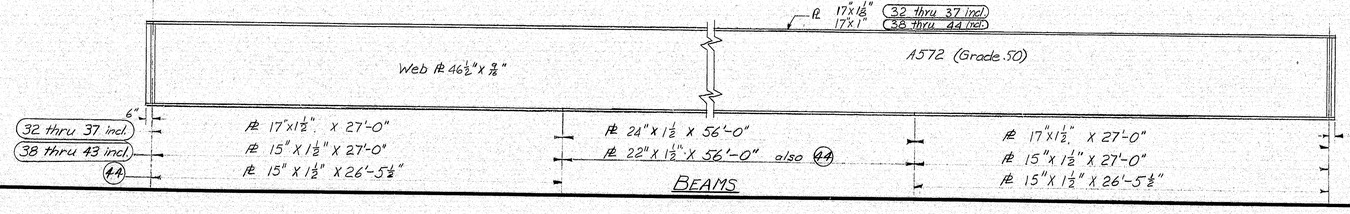
A maximum of two (2) transverse shop butt weld splices will be permitted to fabricate any complete web plate or flange plate, per beam.

Transverse web splices shall not be nearer than 10' to a flange splice.

Location and details of butt weld shop splices shall be shown on shop detail drawings for approval by the Engineer.

No web butt welds will be allowed within 10' of center of the beam.

NOTE:
All beam dimensions are horizontal. For slope of beams see Bottom of Slab Elevations sheet # 71



BEAMS

NOTE:
The bearing stiffeners shall be plumb after erection. Cross Frame Connection Plates may be set plumb or normal to flange plates. Whichever method chosen shall be used throughout the entire Job.

DESIGN- ALL
TRACE- Def.-Sprowl
CHECK- E.S.C.

BRIDGE NO.
SURVEY-
PLOT-

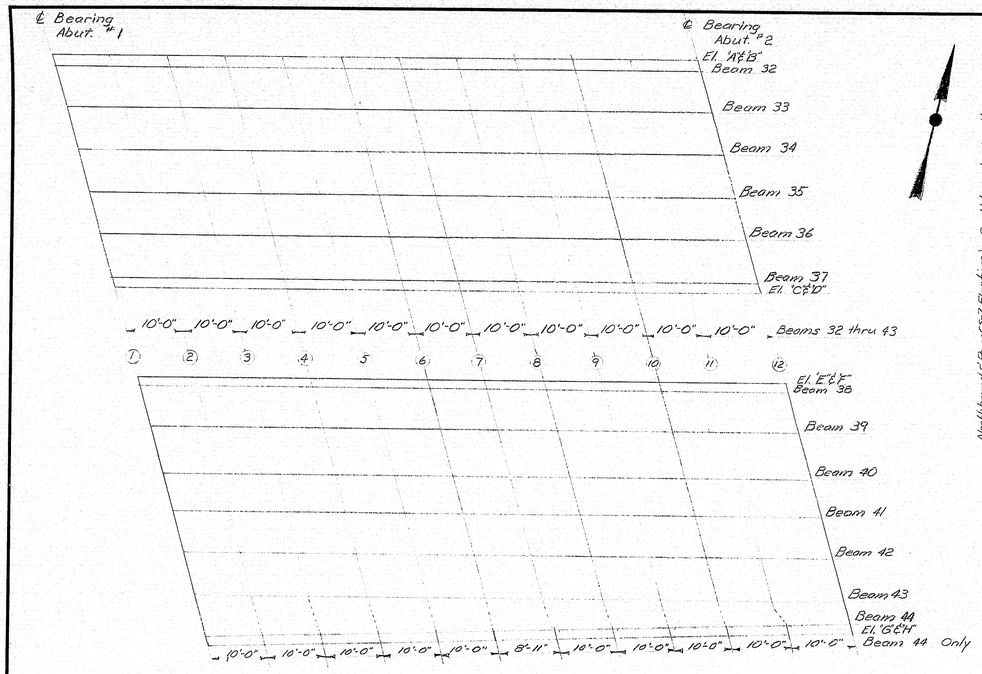
STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
STRUCTURAL STEEL

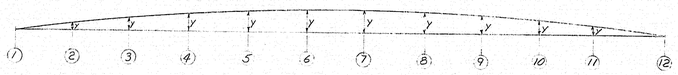
SHEET 70 OF 85 AUGUSTA, MAINE MAY 1971

152-154

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	F 236-3(64) 98	71	85



BLOCKING DIAGRAM



CAMBER DIAGRAM

Y-Values in Inches												
Beams	1	2	3	4	5	6	7	8	9	10	11	12
32 thru 44	0	2 1/16	3 5/16	5	6	6 5/16	6 5/16	6	5 1/2	3 3/16	2 5/16	0

CAMBER SCHEME

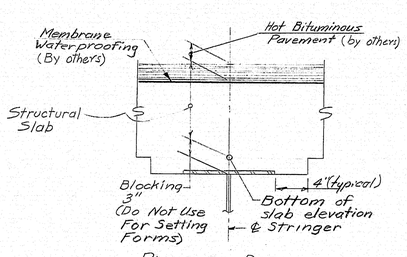
NOTE:

All beams shall be cambered as shown above to compensate for dead load deflection and vertical curvature.

BOTTOM OF SLAB AND CURB FASCIA ELEVATIONS

		1	2	3	4	5	6	7	8	9	10	11	12
Southbound Elevations	El. 'A'	62.27	62.12	61.95	61.75	61.52	61.27	60.97	60.64	60.28	59.85	59.45	59.01
	El. 'B'	63.94	63.79	63.64	63.43	63.22	62.97	62.66	62.33	61.97	61.58	61.17	60.74
	Beam 32	62.17	62.03	61.86	61.67	61.46	61.20	60.91	60.58	60.23	59.84	59.43	59.00
	Beam 33	61.94	61.82	61.67	61.50	61.29	61.06	60.79	60.47	60.14	59.76	59.36	58.94
	Beam 34	61.71	61.60	61.47	61.32	61.13	60.91	60.66	60.36	60.04	59.68	59.30	58.90
	Beam 35	61.51	61.42	61.30	61.16	60.99	60.79	60.55	60.26	59.96	59.62	59.25	58.86
	Beam 36	61.31	61.23	61.12	61.00	60.84	60.66	60.44	60.17	59.88	59.56	59.20	58.83
	Beam 37	61.11	61.05	60.96	60.85	60.71	60.55	60.33	60.08	59.80	59.50	59.16	58.81
	El. 'C'	61.04	60.98	60.90	60.79	60.65	60.49	60.29	60.05	59.77	59.48	59.15	58.80
	El. 'D'	62.80	62.75	62.66	62.55	62.41	62.24	62.04	61.79	61.52	61.22	60.88	60.53
Northbound Elevations	El. 'E'	61.18	61.08	60.97	60.83	60.65	60.46	60.21	59.95	59.63	59.30	58.94	58.56
	El. 'F'	62.84	62.75	62.63	62.50	62.33	62.13	61.89	61.62	61.31	60.98	60.62	60.23
	Beam 38	61.12	61.02	60.91	60.77	60.59	60.40	60.16	59.89	59.60	59.27	58.92	58.55
	Beam 39	60.96	60.88	60.77	60.67	60.51	60.33	60.11	59.86	59.57	59.25	58.91	58.55
	Beam 40	60.80	60.74	60.66	60.56	60.42	60.25	60.05	59.80	59.53	59.23	58.90	58.56
	Beam 41	60.65	60.61	60.54	60.45	60.33	60.18	59.99	59.76	59.51	59.22	58.90	58.57
	Beam 42	60.47	60.43	60.38	60.30	60.18	60.04	59.86	59.64	59.40	59.12	58.82	58.49
	Beam 43	60.27	60.23	60.17	60.09	59.97	59.83	59.66	59.45	59.22	58.95	58.66	58.35
	Beam 44	60.06	60.03	59.97	59.89	59.79	59.66	59.52	59.32	59.10	58.85	58.57	58.28
	El. 'G'	59.99	59.93	59.89	59.81	59.70	59.58	59.44	59.23	59.01	58.79	58.52	58.24
	El. 'H'	61.72	61.66	61.62	61.54	61.43	61.31	61.16	60.95	60.73	60.49	60.21	59.96

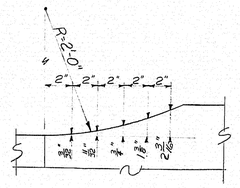
Note: Dead load deflections will be furnished by the Engineer if required.



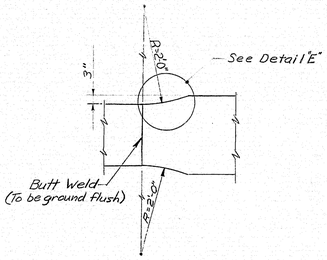
BLOCKING DETAIL

NOTE:

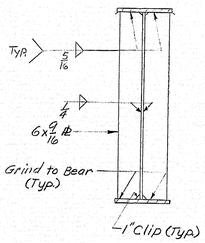
To compensate for dead load deflections, as well as possible irregularities in beams, the bottom of slab elevations shall be set at the points indicated before any of the slab formwork is started.



DETAIL 'E'



FLANGE WIDTH TRANSITION



BEARING STIFFENERS DETAIL

REFERENCES

Diaphragms - See Sheet BD 104-66
Pedestals - See Standard Details BD101-70 and Sheet 70
Armored Joint - See Standard Details BD104-66 and Sheet 75
Shear Connectors - See Standard Details BD 104-66 and Sheet 70

DESIGN- M.L.
TRACE- DEP-SPROUL
CHECK- E.B.C.

BRIDGE NO.
SURVEY--
PLOT--

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

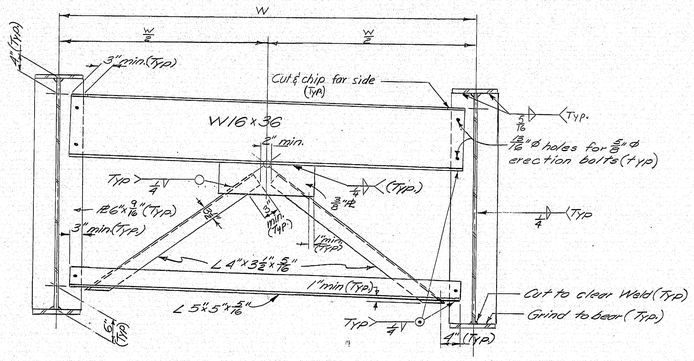
STRUCTURAL STEEL & BOTTOM SLAB ELEV.

SHEET 71 OF 85 AUGUSTA, MAINE MAY 1971

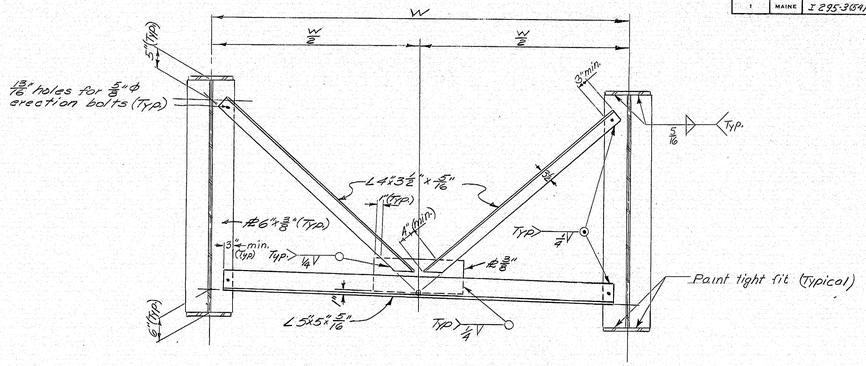
152-155

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

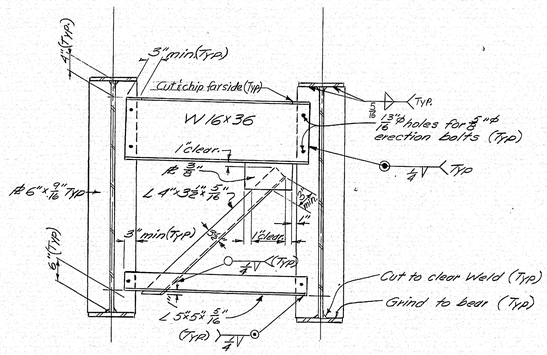
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(64) 48	72	85



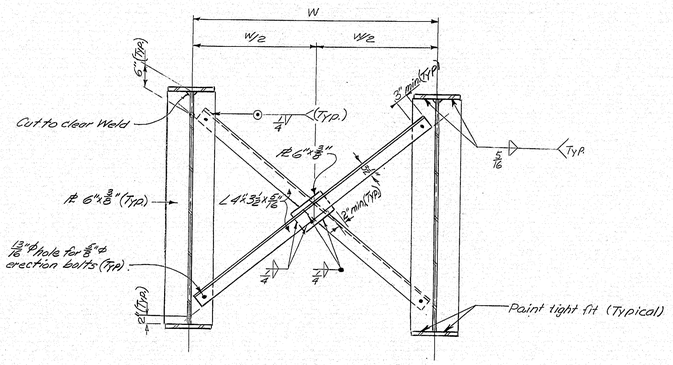
CROSS FRAME "CF-1"
Number Required (21)



CROSS FRAME "CF-2"
Number Required (10)



CROSS FRAME "CF-3"
1 Required



CROSS FRAME "CF-4"
Number Required (4)

PLANS	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

JANUARY 1968

DESIGN- GJT	BRIDGE NO.
TRACE- WJ	SURVEY -
CHECK- E.B.C.	PLOT -

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

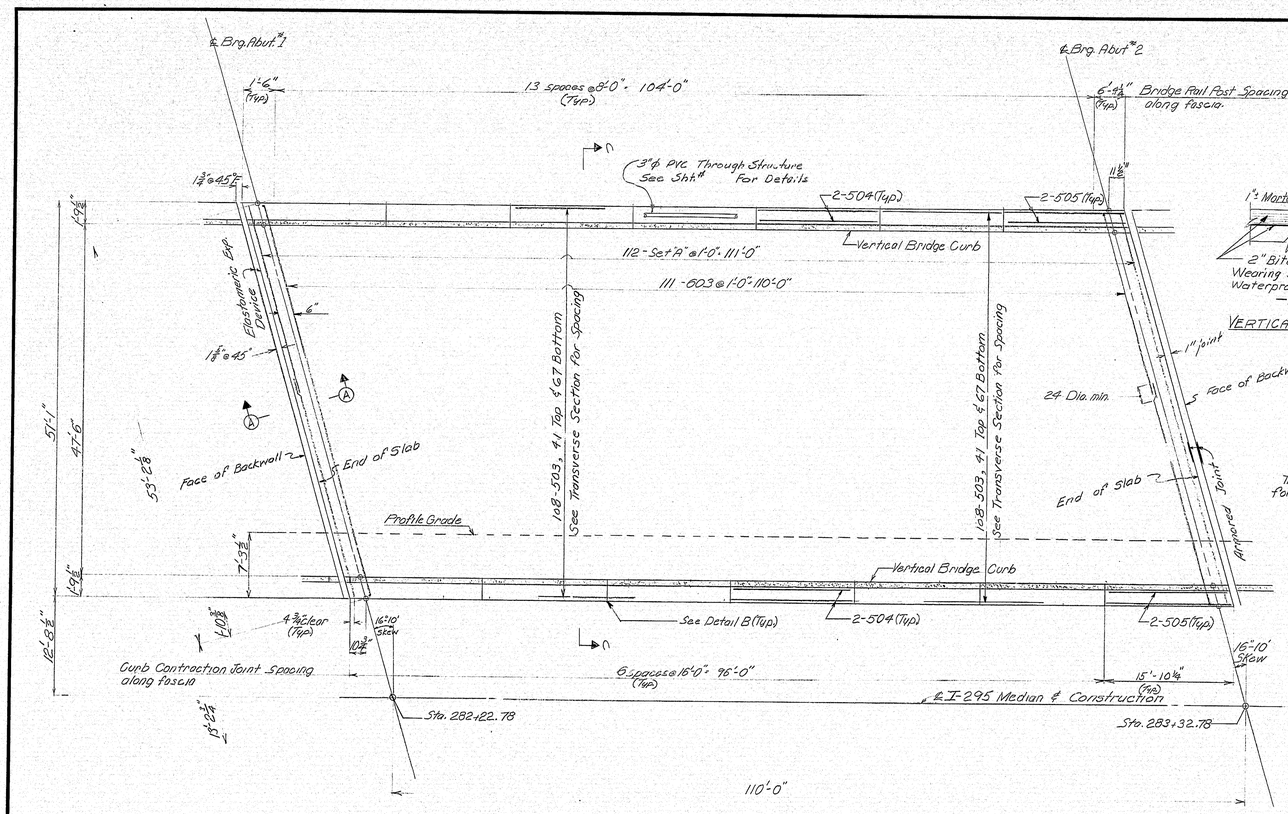
CROSS FRAMES

SHEET 72 OF 85 AUGUSTA, MAINE MAY 1971

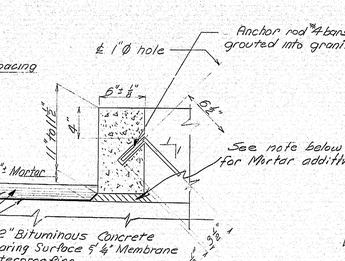
152-156

Sherwin-Williams Co. Coatings Paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

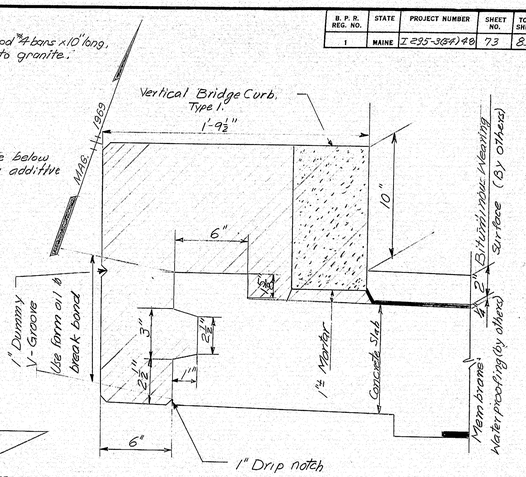
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I-295-3(39)40	73	85



PLAN
SOUTHBOUND

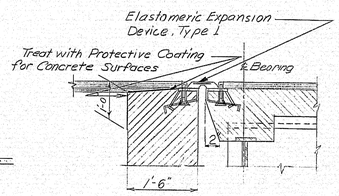


VERTICAL BRIDGE CURB TYPE 1



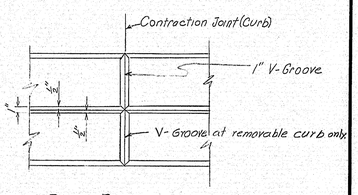
REMOVABLE CURB DETAIL

Note: For reinforcing steel in removable curb, see transverse section.

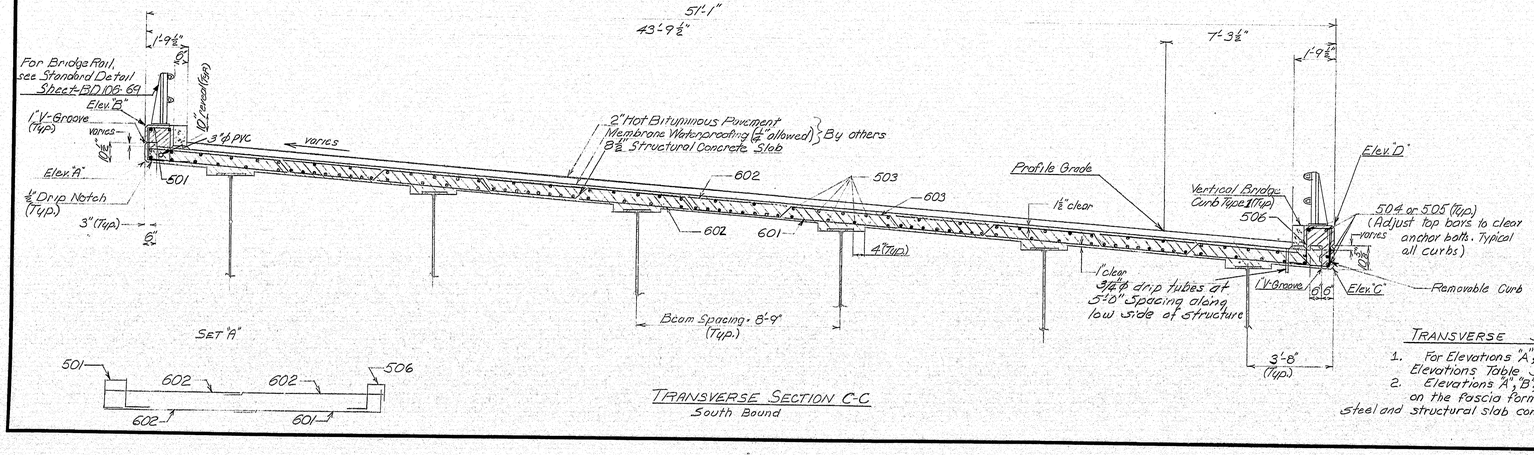


SECTION AA

Note:
Mortar for bedding of and for joints in the Granite Curb shall contain an approved Non-Shrink additive.



DETAIL B



TRANSVERSE SECTION C-C
South Bound

TRANSVERSE SECTION NOTES

1. For Elevations "A", "B", "C" & "D" See Curb Fascia Elevations Table Sheet # 71
2. Elevations "A", "B", "C" & "D" are to be set on the Fascia forms Before superstructure reinforcing steel and structural slab concrete is placed.

GENERAL SUPERSTRUCTURE NOTES

(1) At all curb joints, break the bond between Concrete surfaces with a clear approved form oil. Form "I" Groove on outside face of curb at vertical joint. Provide joints in vertical bridge curb construction joints.
(2) For bridge rail, see Standard Detail Sheets BD 106-69 Aluminium Rail.
(3) For Rail Post layout see this sheet and sheets #66 & #67
(4) All exposed edges to be chamfered ¾".
(5) Vertical Bridge Curb will be paid for under Item 609.13
(6) Apply Protective Coating for Concrete Surfaces to the top of Curbs & Completely coat Fascia down to drip notch and concrete End Posts.

DESIGN- ALL TRACE- CHECK- BRIDGE NO. SURVEY- PLOT-

STATE HIGHWAY COMMISSION

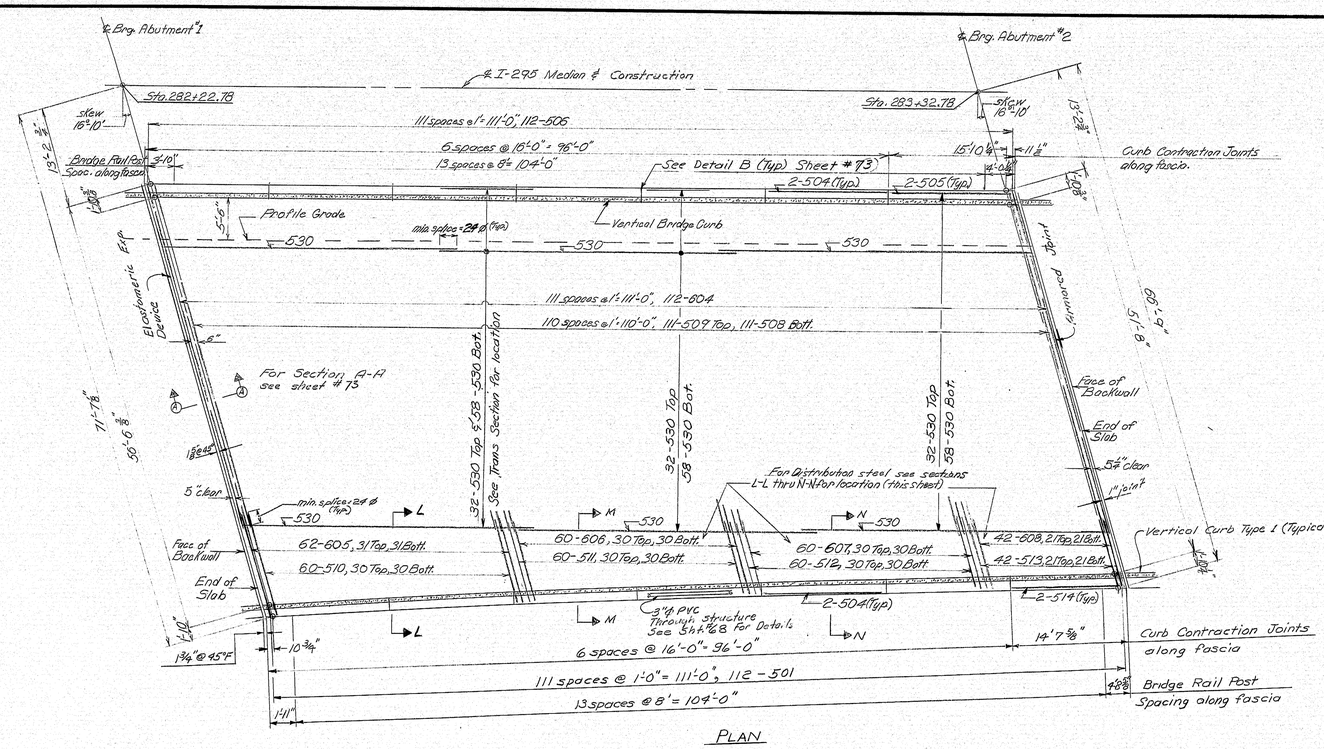
INTERSTATE 295 & RAMPS 5-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
SUPERSTRUCTURE S.B.

SHEET 73 OF 85 AUGUSTA, MAINE MAY 1971

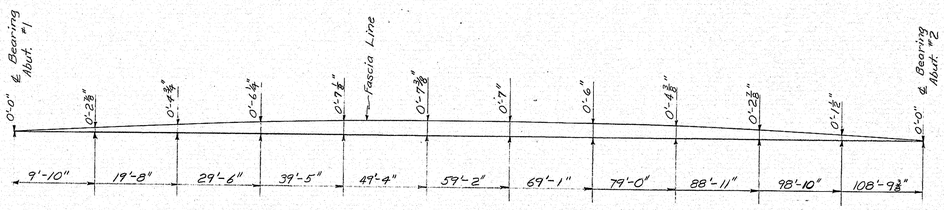
152-157

courtesy of TRUFLEX ★ SILEX ★ TRUE-TEX ★ KYLEX

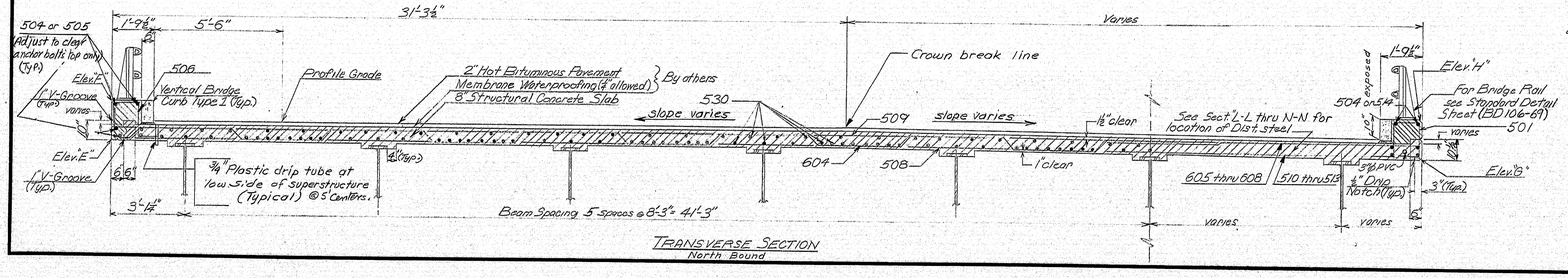
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(59) 48	74	85



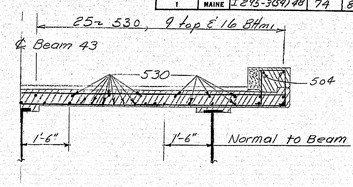
PLAN
NORTHBOUND



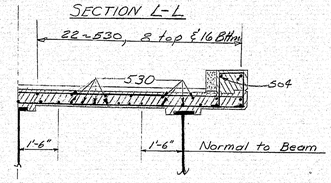
FASCIA LAYOUT - SOUTH CURB



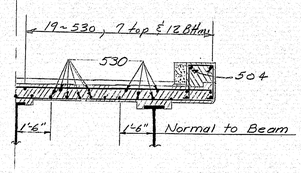
TRANSVERSE SECTION
North Bound



SECTION L-L



SECTION M-M



SECTION N-N

Transverse Section Notes
1. For Elevations "E", "F", "G" & "H" see Curb Fascia Elevations Table, Sheet # 71
2. Elevations "E", F, G & H are to be set on the fascia forms Before superstructure reinforcing steel and slab concrete are placed.

DESIGN- A.L.L. TRACE- D.A.T. - J.D.M. + E.W.S. CHECK- E.R.C.	BRIDGE NO. SURVEY- PLOT-

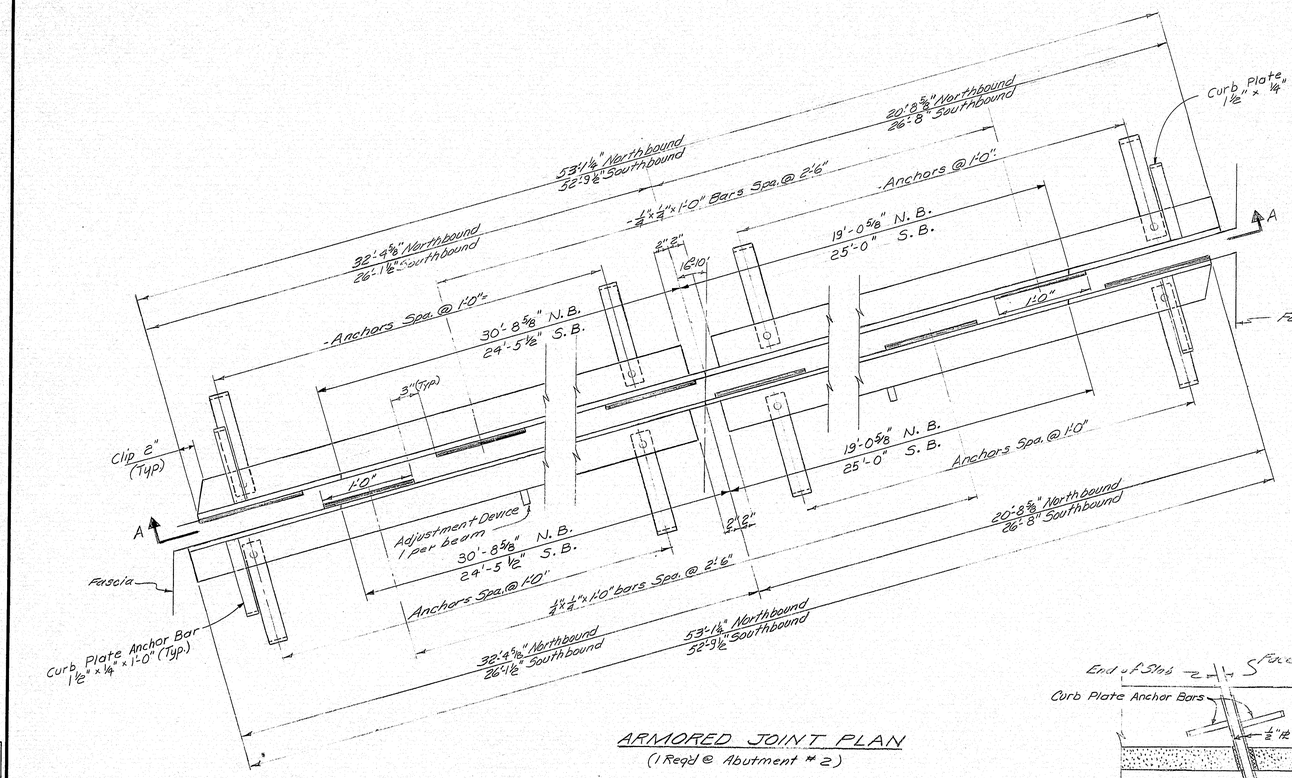
STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMPS CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
SUPERSTRUCTURE N. B.

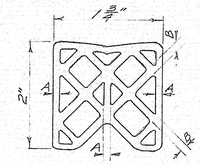
SHEET 79 OF 85 AUGUSTA, MAINE MAY 1971

152-158

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(64) 48	75	85

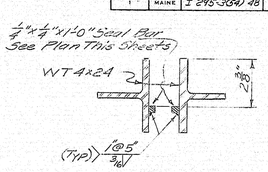


ARMORED JOINT PLAN
(1 Reqd @ Abutment # 2)

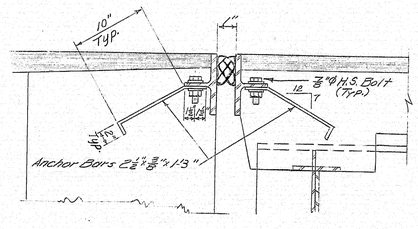


PREFORMED ELASTIC JOINT SEALER

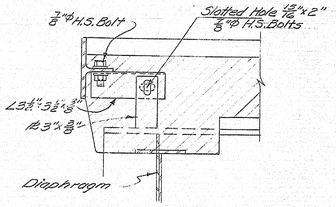
The configuration of the preformed elastic joint sealer may be changed from that shown in order to conform with shapes as produced by various manufacturers. However, the cross-sectional (A & B) dimensions, including those of the internal elements & the shell (A & B) shall be approved by the Engineer before ordering the Preformed Elastic Joint Sealer.



SEAL BAR DETAIL

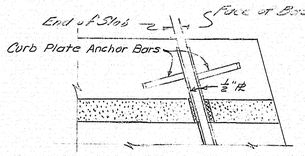


ANCHOR BAR DETAIL

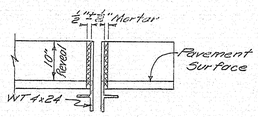


ADJUSTMENT DEVICE DETAIL
13 Adjustment Devices Superstructure Side only. 1 each beam.

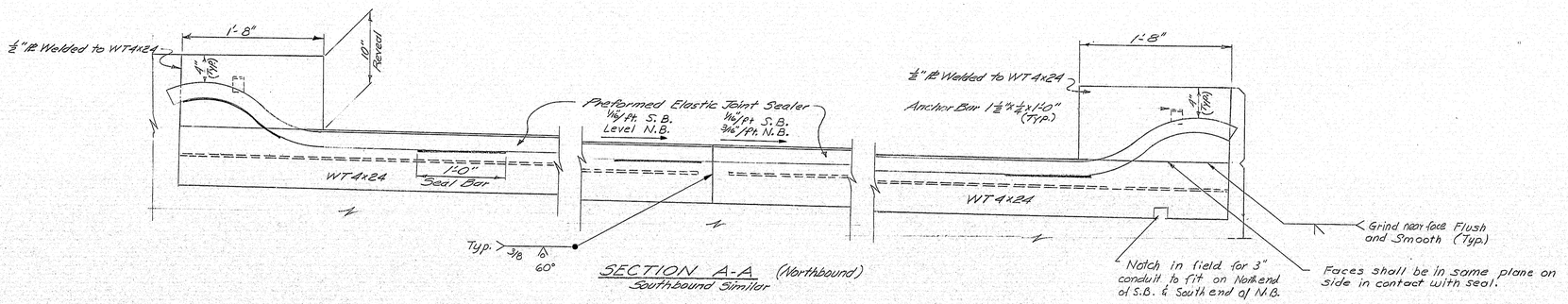
Note: For details not shown, see sheet BD 104-66



PLAN



SIDE VIEW



SECTION A-A (Northbound)
Southbound Similar

PLANS	DESIGN-DETAILED	BY	DATE
	CHECKED		
	REVISIONS		
	FIELD CHANGES		

JANUARY 1968

DESIGN – AJC
TRACE – WP
CHECK – EBC

BRIDGE NO.
SURVEY –
PLOT –

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

ARMORED JOINT

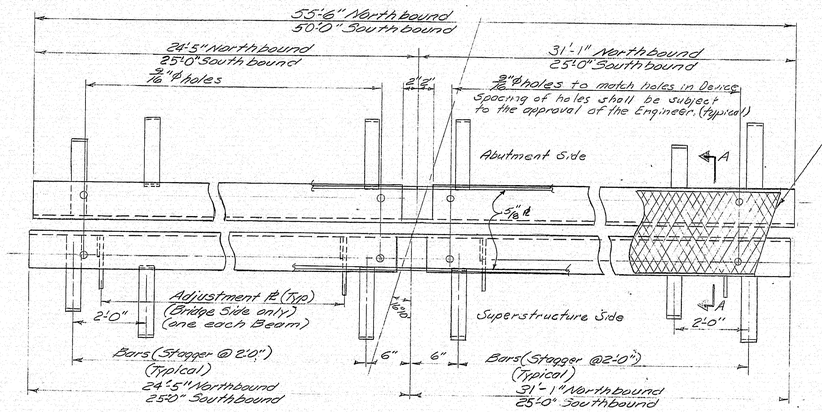
SHEET 75 OF 85 AUGUSTA, MAINE MAY 1971

203-1 2080

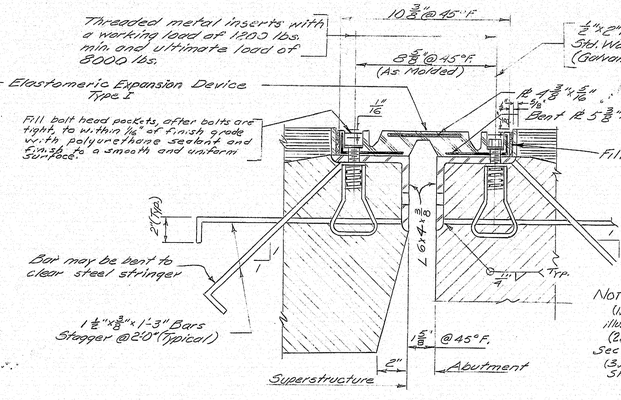
152-159

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(64) 98	76	85

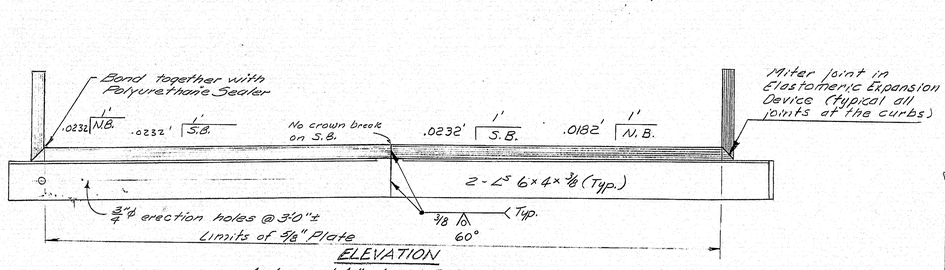


PLAN



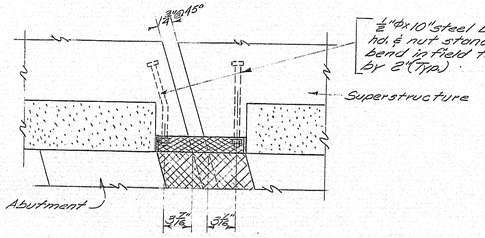
TYPICAL SECTION A-A

NOTE:
(1) The configuration of the Elastomeric Expansion Device shown here is for illustration only. Other configurations may be used if approved by the Engineer.
(2) The payment for all steel set in the concrete will be made under Sections 504 & 506.
(3) All Structural Steel plates and shapes in this anchorage shall conform to ASTM Designation A36. Bolts shall be High Strength conforming to ASTM A325 See Specifications for details of Metal Inserts and coatings for inserts and bolts.

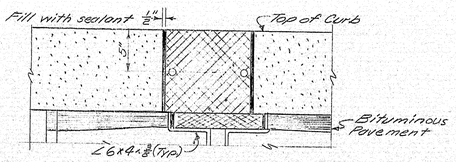


ELEVATION

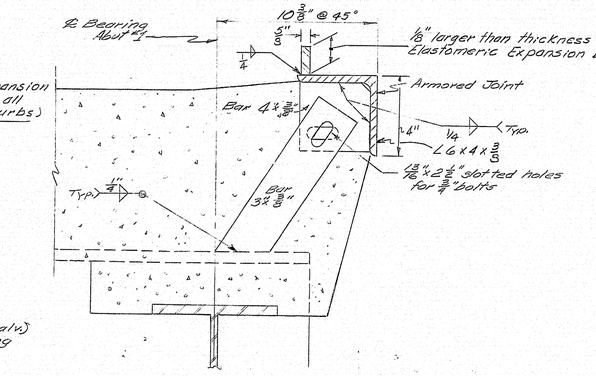
Anchors and Adjustment Plates not shown



PLAN



ELEVATION



TYPICAL ADJUSTMENT PLATES

After Armored Joint is set in final position Adjustment Plates shall be welded together with 1/4" fillet weld.

PLANS

	BY	DATE
DESIGN - DETAILED		
CHECKED		
REVISIONS		
FIELD CHANGES		

JANUARY 1968

DESIGN- JJL
TRACE- WP
CHECK- EBC

BRIDGE NO.
SURVEY-
PLOT-

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

ELASTOMERIC EXPANSION DEVICE

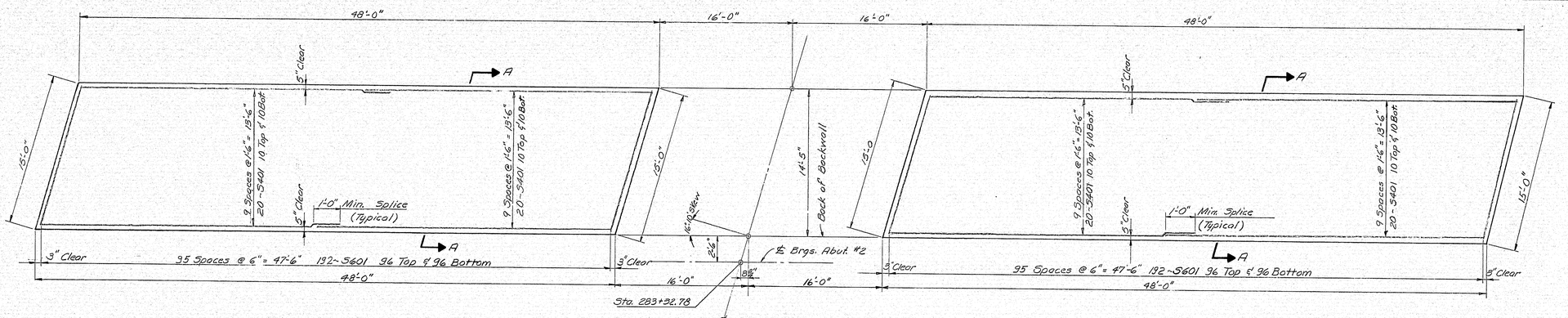
SHEET 76 OF 85 AUGUSTA, MAINE MAY 1971

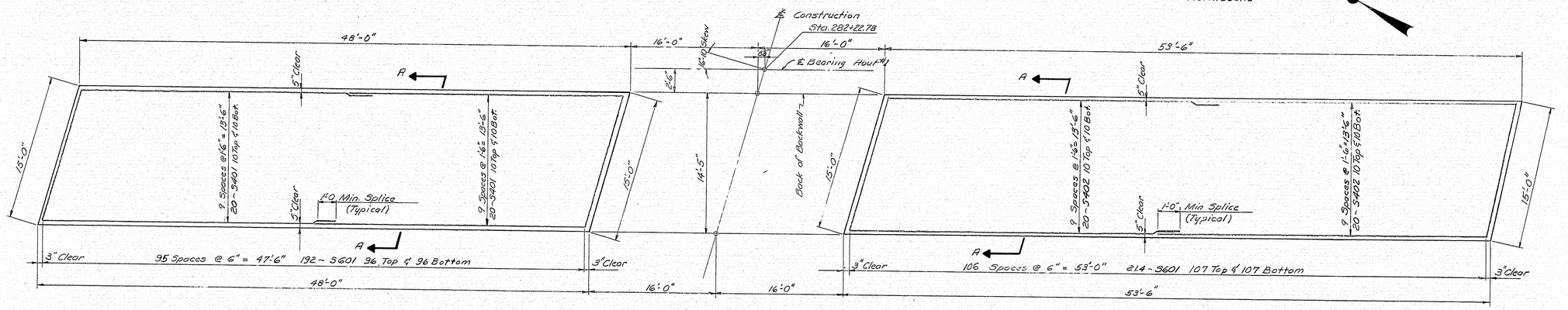
203-1 2080

152-160

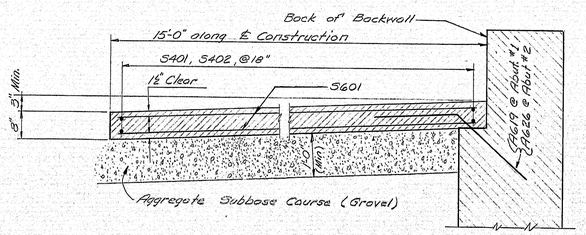
touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(34) 48	77	85





PLAN
ABUTMENT #1 APPROACH SLABS



SECTION A-A

NOTE: Approach slabs and 1'-0" of Aggregate Subbase by others, not a part of this contract.

		BY	DATE
Prepared for the Maine State Highway Commission	DESIGN - DETAILED	JLC	5-71
	CHECKED	E.B.C.	5-71
	REVISIONS		
PLANS	FIELD CHANGES		

STATE HIGHWAY COMMISSION

INTERSTATE I-295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY

APPROACH SLABS

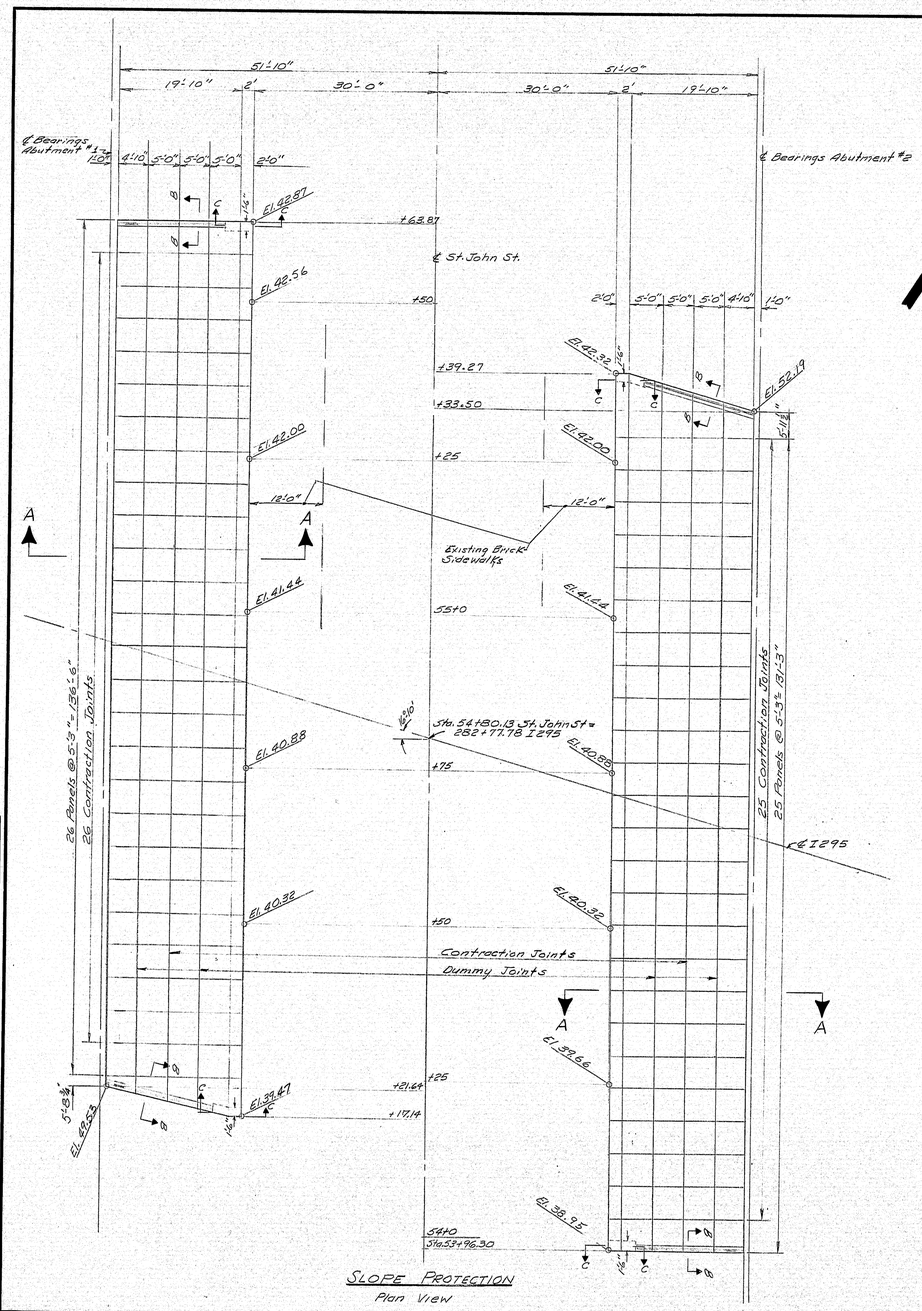
SHEET 77 OF 85 AUGUSTA, MAINE MAY 1971

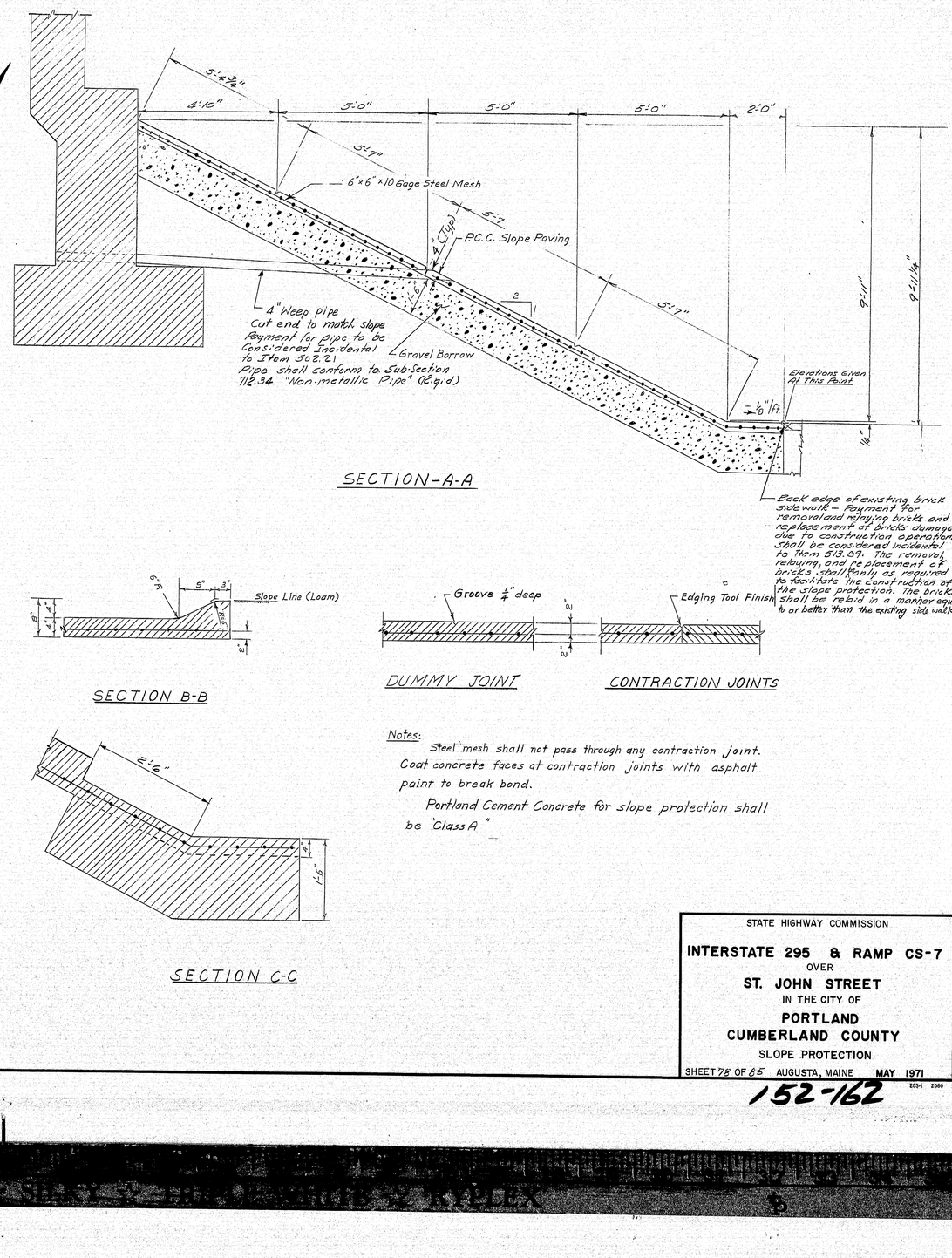
JANUARY 1968

152-161

Columbia Ribbon TRUARC SILKY Multistrike RYPEX

B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(39) 48	78	85





SECTION-A-A

SECTION B-B

SECTION C-C

DUMMY JOINT CONTRACTION JOINTS

Notes:

Steel mesh shall not pass through any contraction joint. Coat concrete faces at contraction joints with asphalt paint to break bond.

Portland Cement Concrete for slope protection shall be "Class A"

PLANS	BY	DATE
DESIGN-DETAILED	JBC	5-71
QUANTITIES	EBC	6-71
REVISIONS		
FIELD CHANGES		

STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7

OVER

ST. JOHN STREET

IN THE CITY OF

PORTLAND

CUMBERLAND COUNTY

SLOPE PROTECTION

SHEET 78 OF 85 AUGUSTA, MAINE **MAY 1971**

JANUARY 1968

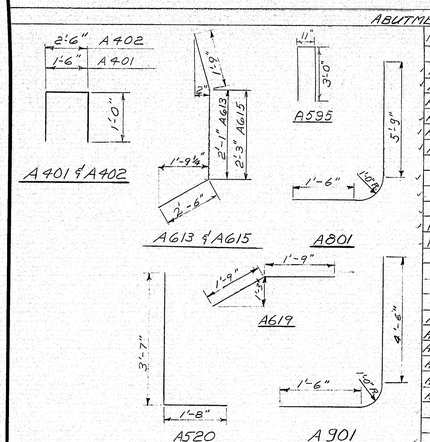
203-1 2080

152-162

REINFORCING STEEL SCHEDULE

B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-2(54) 49	79	85

ABUTMENT #1



Mark	Size	No.	Length	Location
A530	#5	26	6'-0"	Back Wall Wing
A531	#5	26	23'-0"	Back Wall & Breast Wall
A532	#5	27	19'-0"	" " " "
A533	#5	34	7'-6"	" "
A534	#5	26	24'-0"	" "
A535	#5	17	9'-3"	Breast Wall
A540	#5	1	19'-6"	North Wing
A541	#5	2	21'-0"	Wings
A600	#6	331	7'-6"	Footing
A601	#6	64	37'-0"	"
A602	#6	40	9'-6"	"
A603	#6	20	19'-0"	"
A604	#6	37	9'-6"	"
A605	#6	20	19'-0"	"

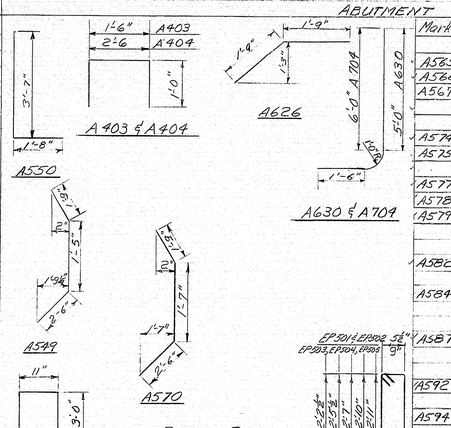
BENT BARS

Mark	Size	No.	Length	Location
A520	#5	96	5'-3"	Breast Wall
A595	#5	50	6'-11"	Wing Wall
A613	#6	36	6'-9"	Breast Wall
A615	#6	57	6'-6"	" "
A619	#6	68	3'-6"	Approach Slab
A801	#8	209	8'-10"	Footing Dowels
A901	#9	25	7'-7"	Footing
A701	#7	13	10'-3"	South Wing
A702	#7	12	6'-0"	" "
A703	#7	110	7'-6"	Breast Wall
A705	#7	69	8'-6"	"
A902	#9	13	12'-0"	Wing Wall
A903	#9	12	6'-6"	" " "
A401	#4	26	3'-6"	Bearing Area
A402	#4	26	4'-6"	" "

STRAIGHT BARS

Mark	Size	No.	Length	Location
A501	#5	125	3'-0"	Footing Dowels
A502	#5	24	9'-8"	Breast Wall
A503	#5	12	10'-3"	" "
A504	#5	78	16'-6"	" " & Back Wall
A506	#5	109	6'-0"	Back Wall
A508	#5	27	18'-3"	Back Wall & Breast Wall
A509	#5	13	12'-0"	North Wing
A510	#5	93	3'-0"	Breast Wall Dowels
A511	#5	28	20'-0"	Wings
A512	#5	1	21'-6"	North Wing
A513	#5	1	24'-0"	"
A514	#5	5	25'-0"	Wings
A515	#5	14	23'-0"	"
A516	#5	26	6'-9"	North Wing
A517	#5	2	16'-0"	Curtain Wall
A518	#5	4	5'-8"	Wings
A519	#5	8	4'-3"	"
A521	#5	13	10'-3"	South Wing
A522	#5	48	6'-0"	Back Wall
A526	#5	13	8'-9"	Breast Wall
A527	#5	12	9'-3"	" "
A528	#5	16	9'-7"	" "
A529	#5	2	14'-0"	Curtain Wall

ABUTMENT #2



Mark	Size	No.	Length	Location
A403	#4	26	3'-6"	Bearing Area
A404	#4	26	4'-6"	" "
A549	#5	36	5'-8"	Breast Wall
A550	#5	91	5'-3"	" "
A570	#5	53	5'-10"	Breast Wall
A595	#5	36	6'-11"	Wings
A626	#6	69	3'-6"	Approach Slab
A630	#6	171	8'-1"	Footing Dowels
A704	#7	36	9'-1"	Footing Dowels
EP501	#5	2	6'0"	End Post
EP502	#5	2	6'-6"	" "
EP503	#5	2	7'-4"	" "
EP504	#5	2	7'-10"	" "
EP505	#5	2	8'0"	" "

STRAIGHT BARS

Mark	Size	No.	Length	Location
A543	#5	8	10'-2"	North Wing
A545	#5	114	3'-0"	Footing Dowels
A546	#5	106	8'-3"	Breast Wall
A547	#5	89	3'-0"	" " Dowels
A548	#5	72	5'-8"	Back Wall
A553	#5	2	4'-9"	North Wing
A555	#5	88	16'-6"	Breast Wall & Back Wall
A556	#5	22	18'-9"	" " " "
A557	#5	13	12'-3"	North Wing
A558	#5	1	15'-0"	" "
A559	#5	3	17'-0"	" "
A560	#5	5	15'-0"	" "
A561	#5	2	13'-7"	Curtain Wall
A562	#5	4	4'-3"	North Wing
A563	#5	16	5'-5"	North Wing
A564	#5	156	7'-10"	Breast Wall

Mark	Size	No.	Length	Location
A565	#5	24	5'-6"	Back Wall
A566	#5	48	5'-10"	" "
A567	#5	22	19'-6"	Breast Wall & Back Wall
A574	#5	34	7'-0"	" "
A575	#5	11	9'-9"	South Wing
A577	#5	22	4'-9"	South Wing
A578	#5	24	25'-2"	Back Wall & Brest Wall
A579	#5	2	13'-0"	Curtain Wall
A582	#5	12	16'-3"	South Wing
A584	#5	3	21'-6"	" "
A587	#5	7	19'-6"	" "
A592	#5	2	4'-6"	South Wing
A594	#5	4	3'-10"	South Wing
EP506	#5	12	4'-6"	End posts
A606	#6	276	6'-6"	Footing
A607	#6	56	37'-0"	"
A608	#6	30	9'-6"	"
A609	#6	20	16'-3"	"
A610	#6	16	7'-6"	"
A611	#6	16	10'-8"	"
A625	#6	15	10'-2"	North Wing
A627	#6	21	9'-9"	South Wing

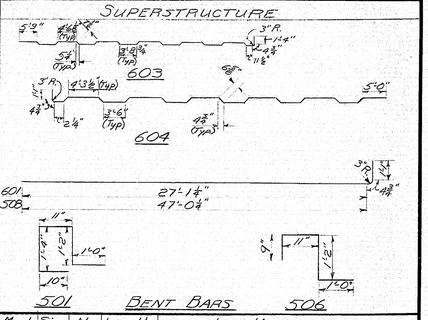
APPROACH SLABS (Not part of this contract)

Mark	Size	No.	Length	Location
S401	#4	120	24'-6"	
S402	#4	40	27'-3"	
S601	#6	790	14'-0"	

Notes:

1. Dimensions are to ℄ of bars
2. Reinforcing Steel bars shall conform to the requirements of AASHTO Designation M31, Intermediate Grade, or to ASTM Designation A615, Grade 60.

SUPERSTRUCTURE



Mark	Size	No.	Length	Location
501	#5	224	5'-3"	Curbs
506	#5	229	3'-10"	"
508	#5	111	48'-6"	Slab N.B.
601	#6	112	28'-7"	Slab S.B.
603	#6	111	58'-6"	Crankbar S.B.
604	#6	112	51'-9"	" N.B.

STRAIGHT BARS

Mark	Size	No.	Length	Location
503	#5	216	56'-5"	Distribution Steel S.B.
504	#5	72	15'-8"	Curbs
505	#5	10	15'-1"	"
509	#5	111	47'-3"	Slab N.B.
510	#5	60	12'-0"	" "
511	#5	60	10'-8"	" "
512	#5	60	9'-5"	" "
513	#5	42	7'-2"	" "
514	#5	2	14'-0"	S. Curb N.B.
530	#5	342	38'-8"	Distribution Steel N.B.
602	#6	336	27'-6"	Slab S.B.
605	#6	62	12'-0"	" N.B.
606	#6	60	10'-8"	" "
607	#6	60	9'-5"	" "
608	#6	42	7'-2"	" "

DESIGN- ALL. TRACE- Sproul CHECK- EBZ — Det.-NC.T. + DMP — BRIDGE NO. SURVEY- PLOT-

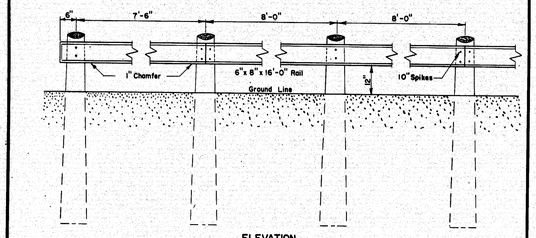
STATE HIGHWAY COMMISSION

INTERSTATE 295 & RAMP CS-7
OVER
ST. JOHN STREET
IN THE CITY OF
PORTLAND
CUMBERLAND COUNTY
REINFORCING STEEL SCHEDULE

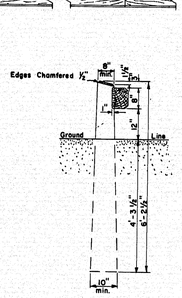
SHEET 79 OF 85 AUGUSTA, MAINE MAY 1971

152-163

Touraine Peinture TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

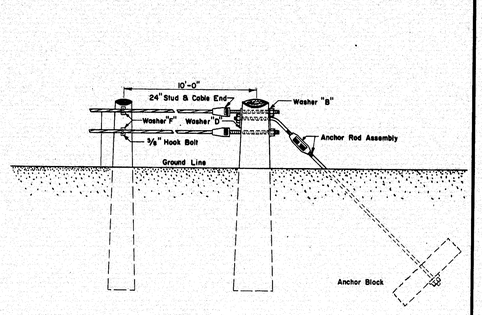


NOTE:
1. This guardrail should not be used adjacent to public highways. Location should be limited to driveways, dead ended roads, etc.
2. Unless otherwise specified, all exposed wood above ground, both posts and rails shall be painted with 2 coats of white paint.

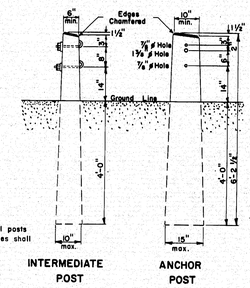


FOR TYPE 6 GUARD RAIL SEE STANDARD DETAIL SHEET 21

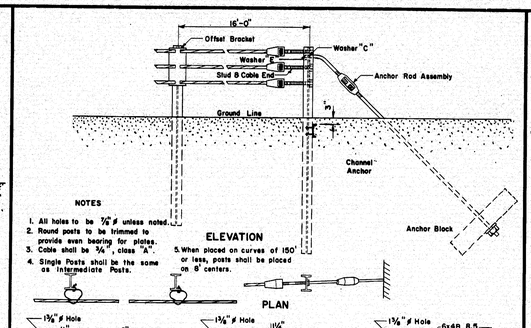
GUARD RAIL type "5"



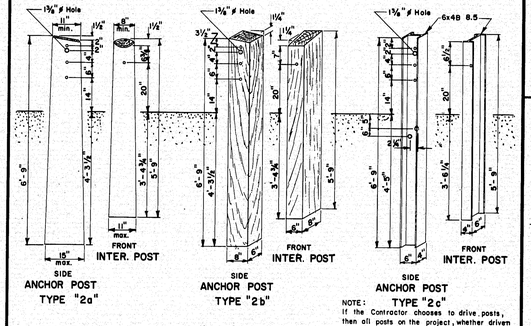
NOTES
1. Anchor posts shall be White Oak.
2. Alignment – see types 2a, 2b and 2c.
3. Posts to be trimmed to provide even bearing for plates.
4. Unless otherwise specified all wood above ground to be painted with 2 coats of white paint, – for type 1a.
5. Single Posts shall be the same as Intermediate Posts.
6. Cable shall be ¾" class "A".
7. When type 1,1a, 2 and 2a wood posts are to be installed in paved areas or behind bituminous curb the posts shall be installed prior to the placing of pavement or bituminous curb.
8. Use of this guardrail should be limited to very low volume highways.
9. If the Contractor chooses to drive posts, then all posts on the project, whether driven or placed in dug holes shall be set with the larger diameter at the top



GUARD RAIL type "1a"-"1b"



NOTES
1. All holes to be ⅞" ø unless noted.
2. Round posts to be trimmed to provide even bearing for plates.
3. Cable shall be ¾", class "A".
4. Single Posts shall be the same as Intermediate Posts.
5. When placed on curves of 150' or less, posts shall be placed on 8' centers.



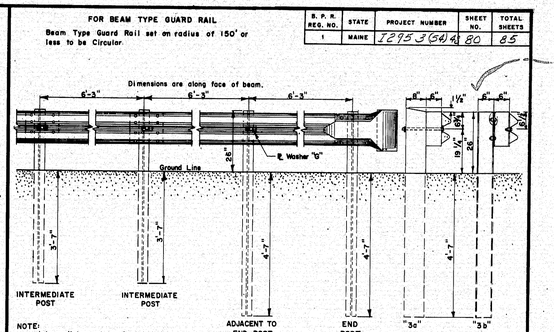
NOTE: If the Contractor chooses to drive posts, then all posts on the project, whether driven or placed in dug holes shall be set with the larger diameter of the top.

GUARD RAIL type "2a"-"2b"-"2c"

FOR BEAM TYPE GUARD RAIL

Beam Type Guard Rail set on radius of 150' or less to be Circular.

R. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	1275 3(5)A & 80		85

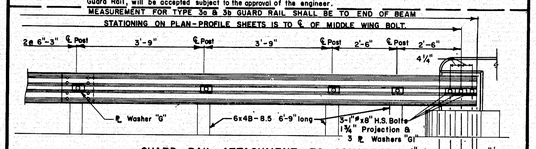


NOTE: Intermediate post spacing shall be 6'-3" unless otherwise shown.

1. Posts for type "3a" Guard Rail shall be 6"x 8" and offset blocks for type "3a" Guard Rail shall be 6"x 6".
2. Posts and offset brackets for type "3b" Guard Rail shall be 6" B B.5
3. All holes in beam to be shop-punched before galvanizing.
4. Steel posts punched with holes in addition to those specified, to accomodate other types of Guard Rail, will be accepted subject to the approval of the engineer.

MEASUREMENT FOR TYPE 3a & 3b GUARD RAIL SHALL BE TO END OF BEAM

STATIONING ON PLAN-PROFILE SHEETS IS TO ℄ OF MIDDLE WING BOLT.

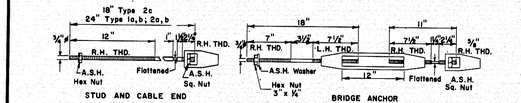


GUARD RAIL ATTACHMENT TO CONCRETE END POST AT BRIDGE END

1⅛" ø Holes in Washer "G"
1⅛" ø Holes in Beam

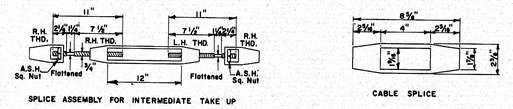
NOTES:
1. Where Bridge expansion is required at Connection, it will be detailed on the Construction Plans.
2. Guard Rail shall be connected to the structure as shown. Payment for the connection to the structure and additional posts shall be incidental to the Guard Rail Item.
3. Splice holes in Guard Rail Beam that are not used in connection, to be plugged with button head bolts, or omitted.

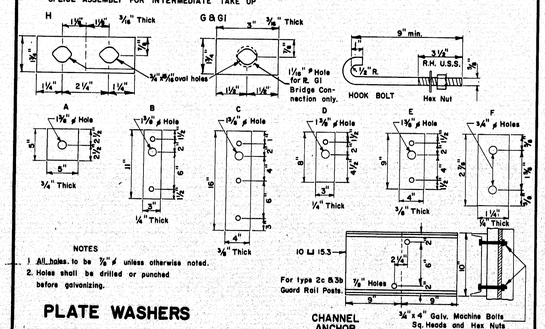
GUARD RAIL type "3a" & "3b"



NOTES
1. Other designs may be used subject to the engineers approval.
2. All turnbuckles shall be installed midway of the threaded portion of each rod.

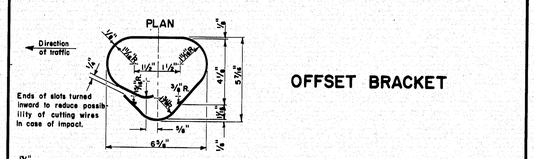
STANDARD FITTINGS

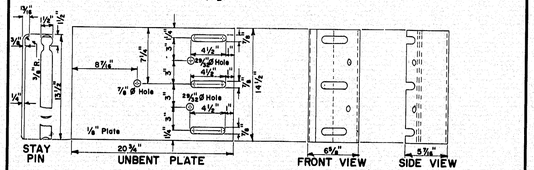


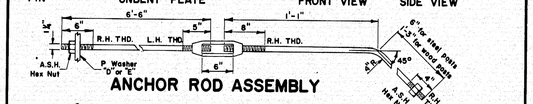


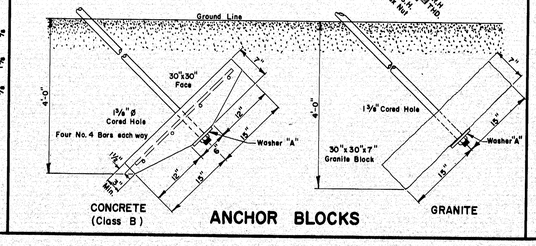
NOTES
1. All holes to be ⅞" ø unless otherwise noted.
2. Holes shall be drilled or punched before galvanizing.

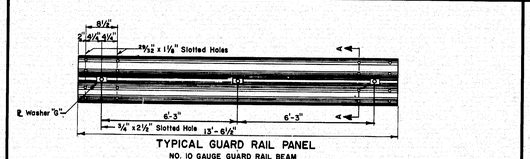
PLATE WASHERS

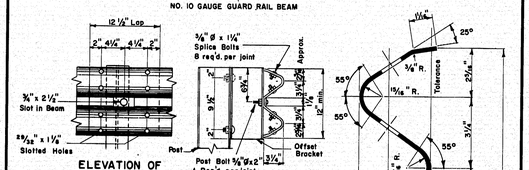




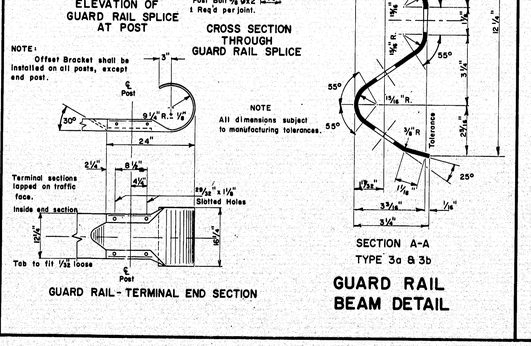




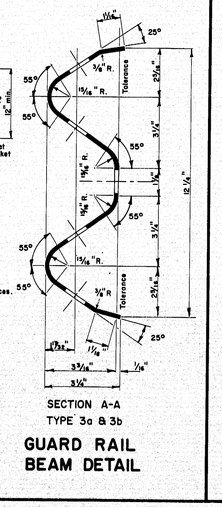


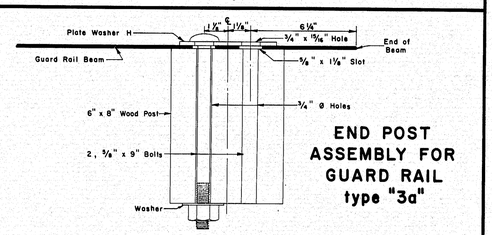


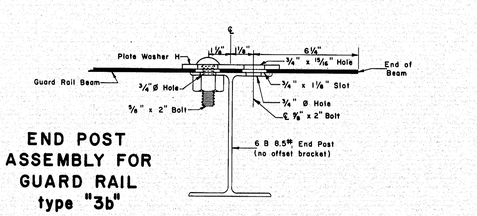
NOTE: Offset Bracket shall be installed on all posts, except end post.



NOTE: All dimensions subject to manufacturing tolerances.







REVISIONS	

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS

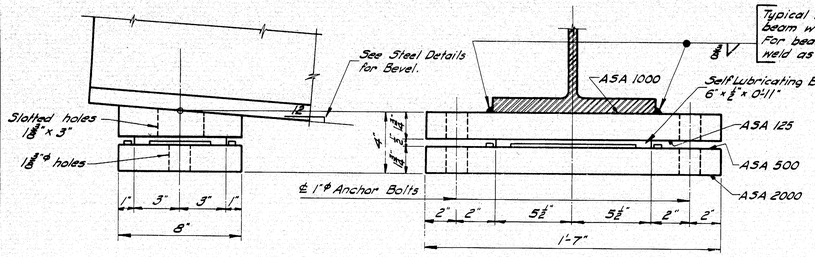
GUARD RAILS, ANCHOR ASSEMBLIES, PLATE WASHERS and STANDARD FITTINGS

AUG, 1969 (6)

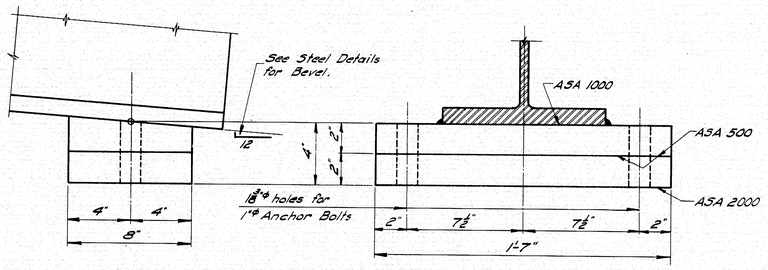
152-164

Rowmalite Paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ KYLEX

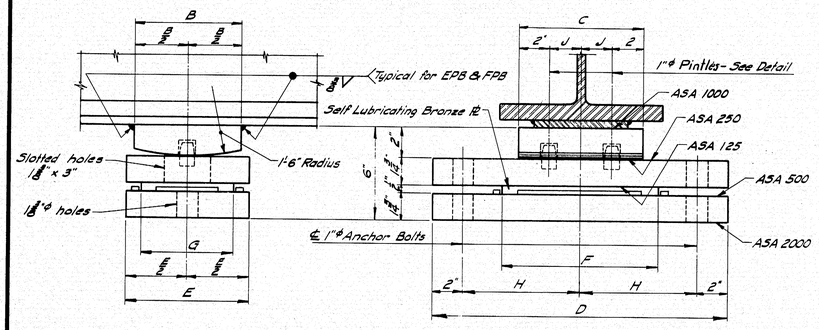
B.P.R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(54) 48	81	85



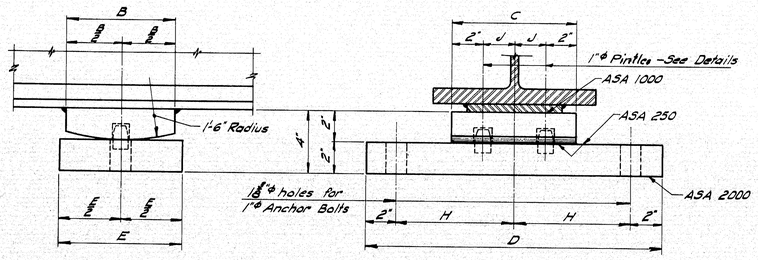
EXPANSION PEDESTAL - EPA



FIXED PEDESTAL - FPA



EXPANSION PEDESTAL - EPB



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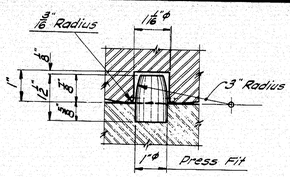
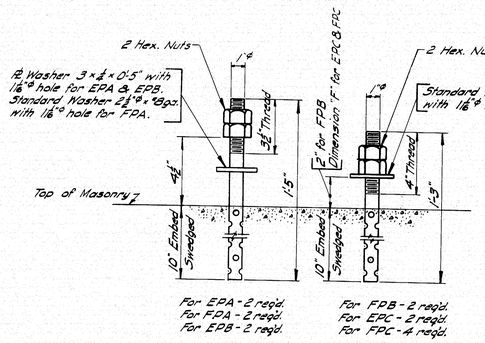
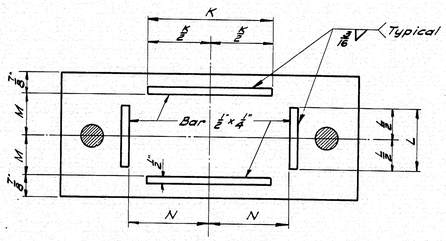


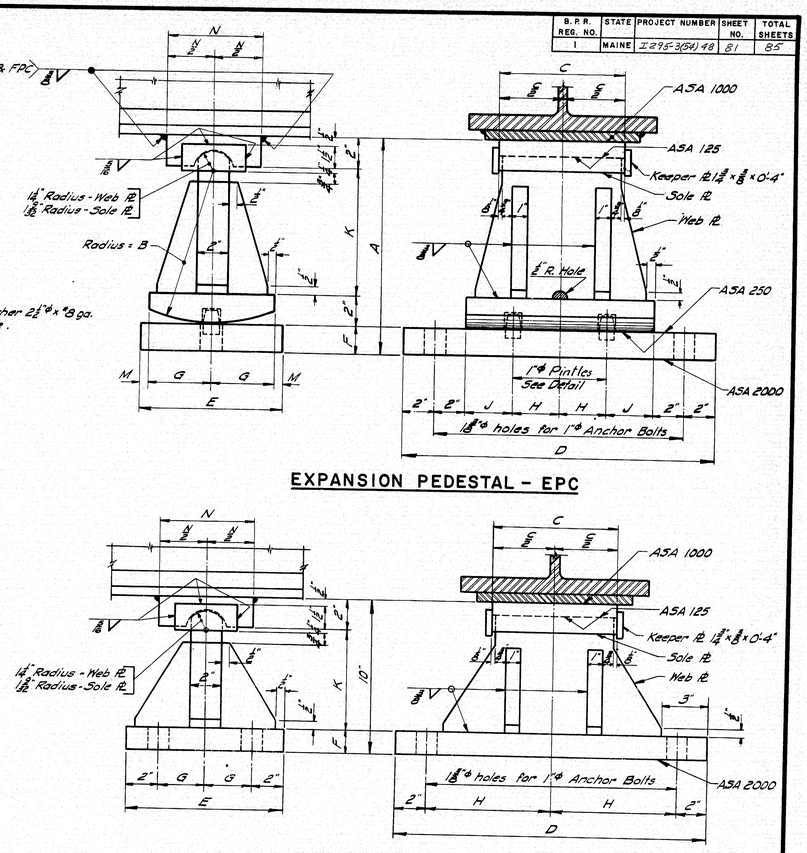
PINTLE DETAIL



ANCHOR BOLT DETAIL



MASONRY PLATE



EXPANSION PEDESTAL - EPC

FIXED PEDESTAL - FPC

PEDESTALS — ALLOWABLE LOADS & DIMENSIONS														
Pedestal	Load	A	B	C	D	E	F	G	H	J	K	L	M	N
EPA	132 K	—	—	—	—	—	—	—	—	—	8"	4"	3 1/8"	5 1/8"
FPA	150 K	—	—	—	—	—	—	—	—	—	—	—	—	—
EPB-1	120 K	—	6"	8"	1'-7"	8"	10"	6"	7 1/2"	2"	8"	4"	3 1/8"	5 1/8"
EPB-2	165 K	—	7"	10"	1'-8"	9"	1'-0"	7"	8"	3"	10"	5"	3 1/8"	6 1/8"
EPB-3	224 K	—	8"	1'-1"	2'-0"	10"	1'-4"	7"	10"	4 1/2"	1'-2"	5"	3 1/8"	8 1/8"
FPB-1	120 K	—	6"	8"	1'-7"	8"	—	—	7 1/2"	2"	—	—	—	—
FPB-2	165 K	—	7"	10"	1'-8"	9"	—	—	8"	3"	—	—	—	—
FPB-3	224 K	—	8"	1'-2"	2'-0"	10"	—	—	10"	5"	—	—	—	—
EPC-1	70 K	9 1/2"	6"	8"	1'-8"	8"	1 1/2"	3 1/2"	3"	3"	4 1/2"	—	1 1/2"	6"
EPC-2	100 K	11 1/2"	8"	8"	1'-8"	8"	1 1/2"	3 1/2"	3"	3"	6 1/2"	—	1 1/2"	6"
EPC-3	130 K	1'-2"	10"	8"	1'-8"	9"	1 1/2"	4"	3"	3"	8 1/2"	—	1 1/2"	7"
EPC-4	160 K	1'-2"	10"	8"	1'-10"	9"	1 1/2"	4"	4"	3"	8 1/2"	—	1 1/2"	7"
EPC-5	190 K	1'-2 1/2"	10"	9"	2'-0"	10"	2"	4 1/2"	5"	3"	8 1/2"	—	1 1/2"	8"
EPC-6	220 K	1'-4 1/2"	1'-0"	10"	2'-0"	1'-0"	2 1/2"	5"	5"	3"	10 1/2"	—	1"	8"
EPC-7	250 K	1'-4 1/2"	1'-0"	1'-0"	2'-2"	1'-0"	2 1/2"	5"	5"	4"	10 1/2"	—	1"	8"
FPC-1	100 K	—	—	8"	1'-8"	9"	1 1/2"	2 1/2"	8"	—	6 1/2"	—	—	6"
FPC-2	160 K	—	—	8"	1'-8"	10"	1 1/2"	3"	8"	—	6 1/2"	—	—	7"
FPC-3	190 K	—	—	9"	2'-0"	10"	1 1/2"	3"	10"	—	6 1/2"	—	—	8"
FPC-4	220 K	—	—	10"	2'-0"	1'-0"	1 1/2"	4"	10"	—	6 1/2"	—	—	8"
FPC-5	250 K	—	—	1'-0"	2'-0"	1'-0"	2"	4"	10"	—	6"	—	—	8"

NOTE: At the location of bearing pedestals the concrete bridge seats shall be dressed one inch larger all around than size of masonry plates and to exact elevations shown on the plans. If dressed areas are below the surface of the surrounding bridge seat a small channel shall be cut to the edge of the bridge seat for drainage where required by the Engineer. Channels shall have a min. width of 2" and min. slope of 1/8 inch per foot. No separate payment for this work will be made as it shall be considered incidental to contract items.

DESIGN SPECIFICATIONS

A.A.S.H.O., Standard Specifications for Highway Bridges, 1969

A.S.T.M. STEEL CLASSIFICATION

Anchor Bolts - A36
All other - A36.

Revised- Design Specifications and A.S.T.M. Steel Classification 1969

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 101 - 70)

BEARING PEDESTALS

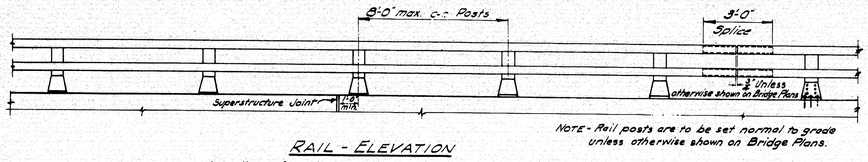
JANUARY 1970

152-165

BRUNING 44-131 11224

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

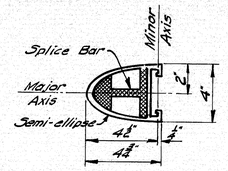
B. P. R. REQ. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1.	MAINE	I 295 3(61)48	83	85



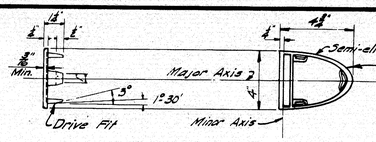
RAIL - ELEVATION

NOTE - Rail posts are to be set normal to grade unless otherwise shown on Bridge Plans.

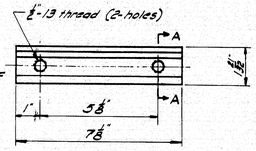
Lengths of rail shall be attached to a minimum of (4) four rail posts, wherever possible, and in any case never less than (2) two.



RAIL SECTION
See "Rail Detail"

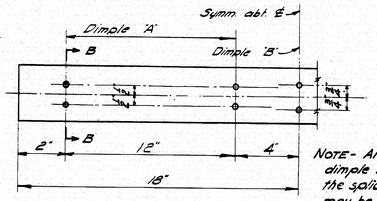


RAIL CAP
ASTM B26 or B108, Aluminum Assoc. Alloy 43-F or 356-F



CLAMP BAR

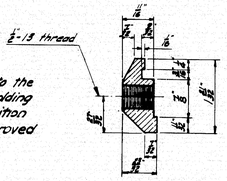
SECTION B-B

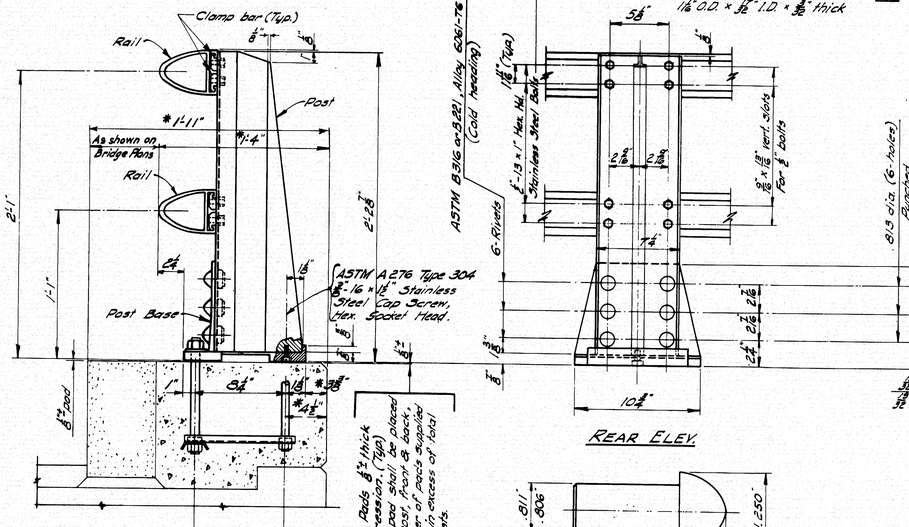


SPLICE BAR

NOTE - An alternate to the dimple system for holding the splice bar in position may be used if approved by the Engineer.

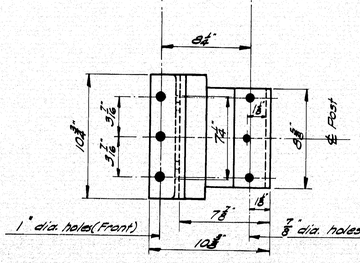
Ⓐ Rail, Splice Bar, & Clamp Bar = ASTM B221, Alloy 6351-T5 or 6061-T6.





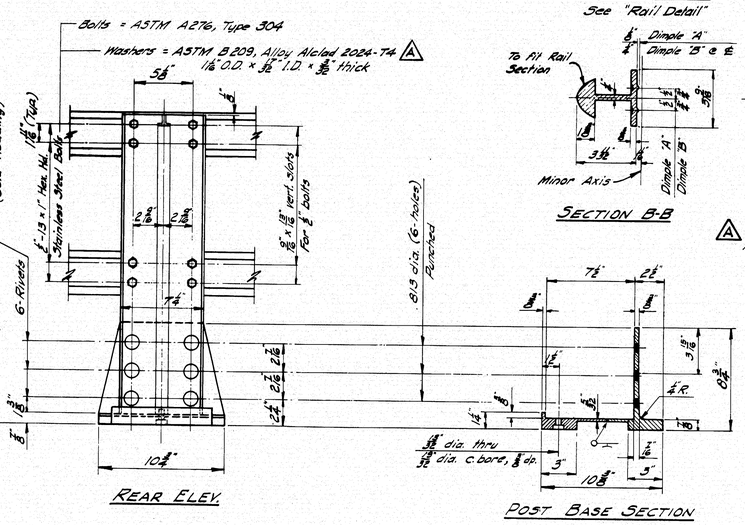
BRIDGE RAIL
Assembly

* Preferable minimum dimensions.



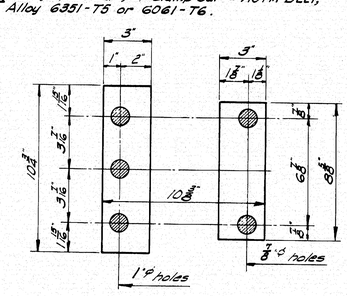
POST BASE
(Bottom View)

Post & Post Base = ASTM B221, Alloy 6061-T6.



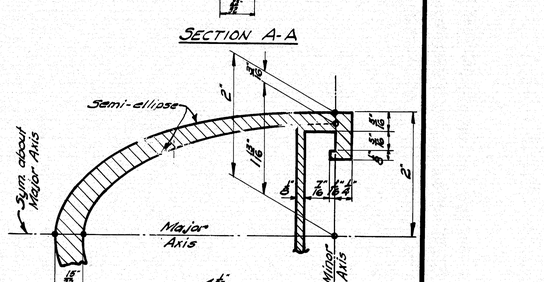
REAR ELEV.

POST BASE SECTION



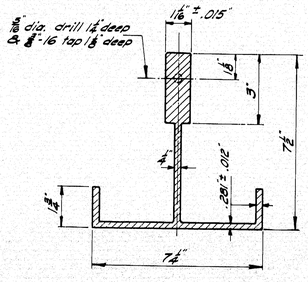
PREFORMED PADS

See Subsection 713.03 Standard Specifications Revision of June 1968 for pad.

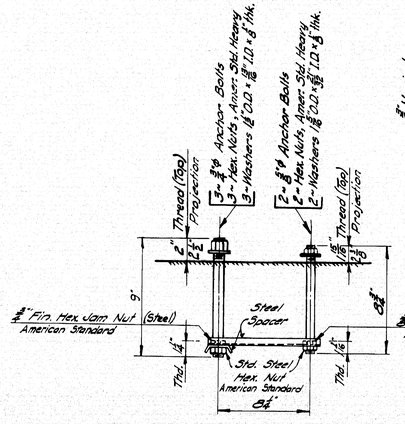


RAIL DETAIL

RIVET
Shop rivet rail post to base

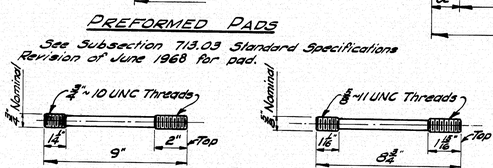


POST SECTION



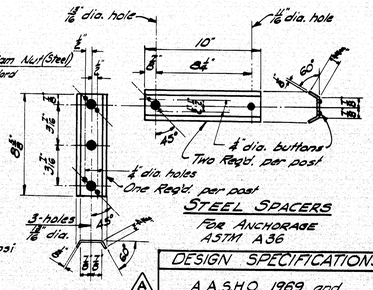
RAIL POST ANCHORAGE
Assembly

NOTE: Anchor Bolts, exposed Hex. Nuts (Amer. Std. Heavy) and washers shall conform to Designation "Stainless Ⓐ ASTM A276 Type 304, Ultimate Tensile Strength 100,000 psi minimum, Elongation 15% minimum. Hex. Nuts embedded in concrete shall conform to Steel Designation ASTM A307.
* See Supplemental Specification.



ANCHOR BOLTS

If cut threads are used bolt diameter shall be not less than nominal diameter.
If rolled threads are used bolt diameter shall be not less than root diameter of nominal diameter.



STEEL SPACERS
For Anchorage
ASTM A36

DESIGN SPECIFICATIONS
A.A.S.H.O. 1969 and Interim Specifications.

MARK	ALTERATIONS
Ⓐ 3-25-70	Changed ASTM B221, to include Alloy 6351-T5 for Rail, Splice & Clamp Bars. Changed ASTM Designations A276 & B209 A276 ~~Type 304~~ (Post Anchorage) B209 - T3 to T4 (Washers) Changed AASHO Design Specifications from 1965 to 1969.

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

STANDARD DETAILS
(BD 106 - 69)

ALUMINUM RAILING
2 - BAR (SEMI-ELLIPSE) EXTRUDED POST

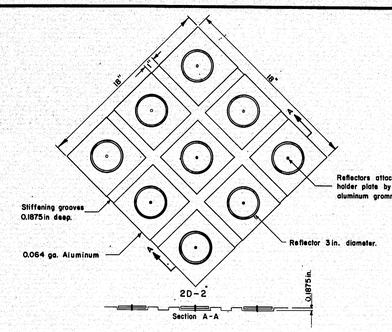
JANUARY 1969

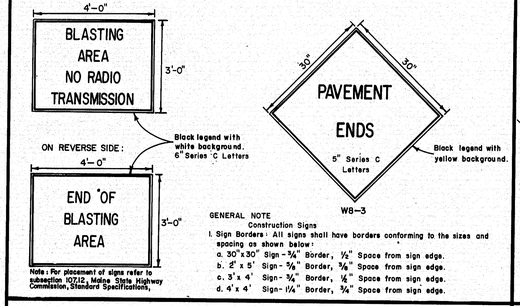
152-166

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

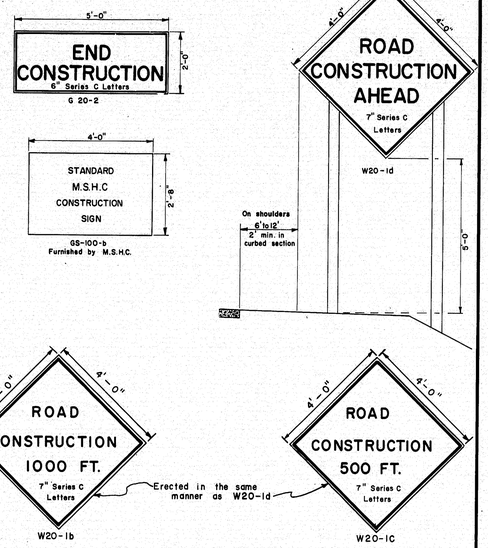
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	Z-295-3(39) 18	84	85

HAZARD MARKER





GENERAL NOTE
Construction Signs
1. Sign Borders: All signs shall have borders conforming to the sizes and spacing as shown below:
   a. 30"x30" Sign - 3/4" Border, 1/2" Space from sign edge.
   b. 2' x 5' Sign - 3/4" Border, 3/4" Space from sign edge.
   c. 3' x 4' Sign - 3/4" Border, 1" Space from sign edge.
   d. 4' x 4' Sign - 1 1/4" Border, 3/4" Space from sign edge.

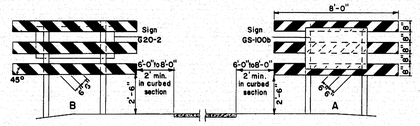


CONSTRUCTION SIGNS

GENERAL NOTES - BARRICADES
1. Unless otherwise designated, sign designation letters shall refer to the "Manual of Uniform Traffic Control Devices for Streets and Highways", published by the Department of Commerce, Bureau of Public Roads.
2. White stripes shall be of silver reflective sheeting bonded to 0.019 minimum gauge aluminum, 16 minimum gauge galvanized steel, or 1/4" plywood. Individual white sheets may be attached to a black painted background to form the black and white stripes. At the Contractor's option the reflective sheeting and backing may extend the full width of the barricade with an opaque film or paint applied to form the stripes.
3. All signs shall be of reflective sheeting on 3/4" thick plywood. The plywood shall conform to subsection 712.25, Maine State Highway Commission, Standard Specifications, June 1965.
4. Pressure sensitive reflective sheeting will be an acceptable alternate to the reflective sheeting required by Maine State Highway Commission, Standard Specifications.

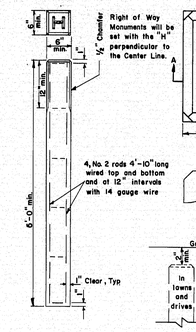
NOTES - PORTABLE BARRICADES
1. Lumber sizes for portable barricades shall be 2" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. The detour sign shall be an oversized M5-7 sign with a demountable "DETOUR" message which shall be made of screened reflective sheeting on 1/4" plywood, masonite, sheet steel or sheet aluminum.
3. Hazard markers shall be attached to the barricade with a bolt assembly of steel cadmium plated 5/16" bolt, lock washer and vandal resistant nuts.
4. When two W1-6 signs are required, R10-2 or R10-3 signs shall be omitted.
5. Flashing lights housings shall be mounted to permit rotating in a vertical axis to allow for adjustment to face oncoming traffic.
6. Location of electric service and meter to be determined after the power source has been located.

NOTES - WING BARRICADES
1. Lumber sizes for wing barricades shall be 1" x 8" except posts which shall be 4" x 4" (nominal sizes).
2. Wing barricades will not be required unless specifically called for in the special provisions.
3. Location of signs and barricades will be determined by the Engineer.

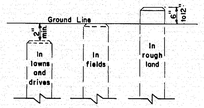


WING BARRICADES

RIGHT OF WAY & SURVEY MONUMENTS

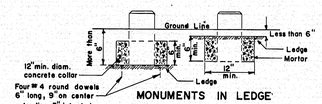


CONCRETE MONUMENT

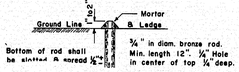


MONUMENTS IN EARTH

GRANITE MONUMENT

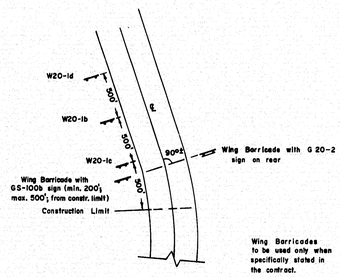


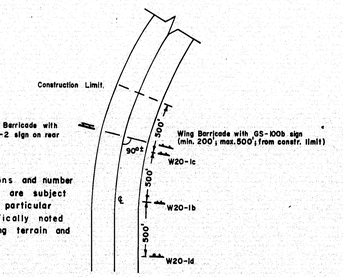
MONUMENTS IN LEDGE



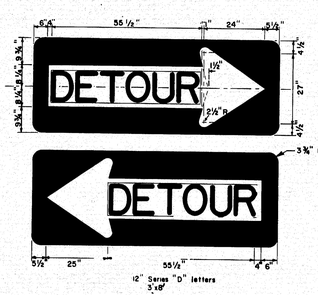
BRONZE PIN MARKERS

STANDARD SIGN LOCATIONS



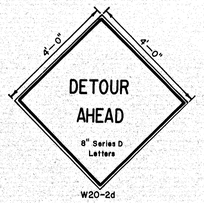


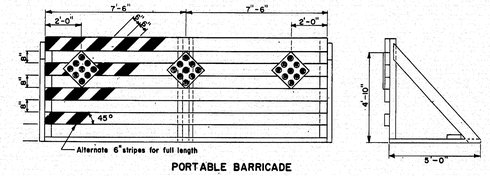
NOTE:
Standard locations and number of signs required are subject to variation on particular projects if specifically noted due to surrounding terrain and land use.



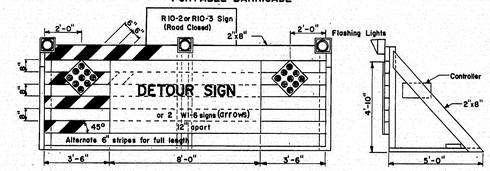
Detachable DETOUR message shall have 1" clearance from letters to edge on all sides.

DETOUR SIGN
M5-7(L)

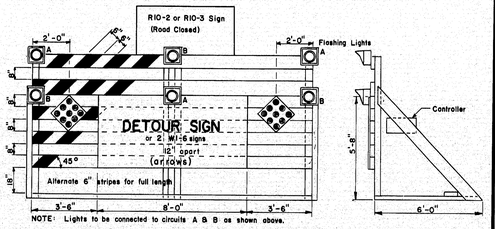




PORTABLE BARRICADE



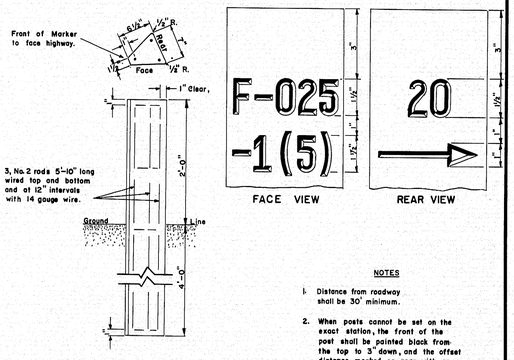
PORTABLE BARRICADE WITH FLASHING LIGHTS (NORMAL SIZE)



NOTE: Lights to be connected to circuits A & B as shown above.

OVERSIZED PORTABLE BARRICADE WITH FLASHING LIGHTS

BARRICADES



NOTES
1. Distance from roadway shall be 30' minimum.
2. When posts cannot be set on the exact station, the front of the post shall be painted black from the top to 3' down, and the offset distance marked on rear with an arrow pointing in direction of beginning or end of project.
3. All markings to be 1/4" deep and 3/16" wide.

PROJECT MARKERS

REVISION	
	1-22-70

MAINE STATE HIGHWAY COMMISSION
AUGUSTA, MAINE

BARRICADES
WARNING SIGNS
MONUMENTS
PROJECT MARKERS

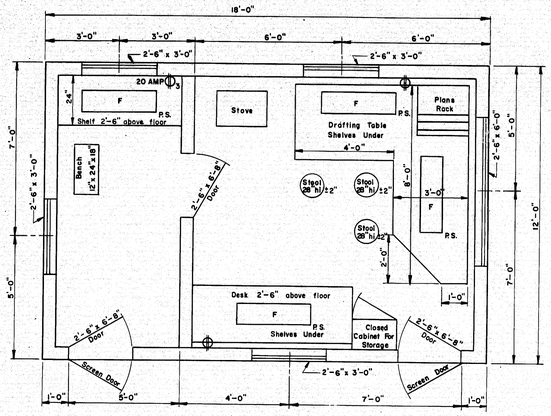
AUG. 1969

11

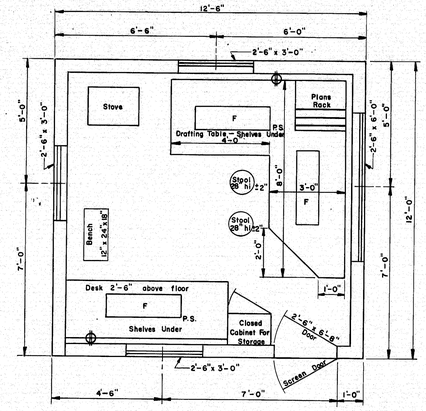
152-167

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX

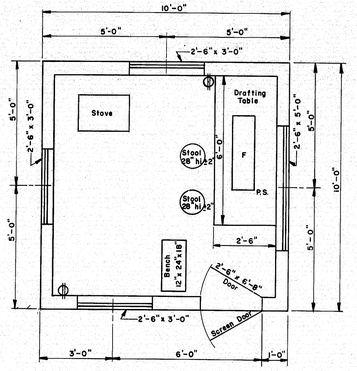
B. P. R. REG. NO.	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
1	MAINE	I 295-3(54)48	85	85



FLOOR PLAN
TYPE "A"



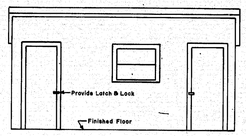
FLOOR PLAN
TYPE "B"



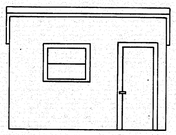
FLOOR PLAN
TYPE "C"

GENERAL NOTES

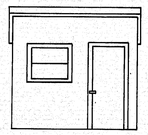
1. Drafting table shall be 3'-4" high at front edge and placed 2" from studs to allow prints to hang down behind table when in use.
2. Shelves under desk shall be constructed to received 11½" x 14" x 25" transfiles.
3. Windows shall be double hung.
4. Stovepipe shall not be in direct contact with combustible material ; the pipe shall be surrounded with at least 6" of fireproof material.
5. Continuous 110 volt 60 cycle electric service shall be supplied.
6. The engineer may rearrange the items shown on the plan views during construction of the field office.
7. FURNISHINGS TO BE SUPPLIED :
   - 2 Straight back chairs for types A and B
   - 1 Bench for types A, B & C
   - 3 Stool for type A
   - 2 Stools for types B & C
8. SYMBOLS :
   - F Florescent lights (2 light , rapid start 48" strips and 40 watt bulbs.)
   - P.S. Pull switch.
   - Duplex wall outlet — 15 amp unless otherwise noted.
   - $\oplus_3$ Triplex Wall Outlet
9. For the Type "A" Field Office one clean 55 gal. drum shall be supplied , installed on a suitable rack and equipped with a spigot suitable for drawing off water. The drum shall be furished with water at all times.



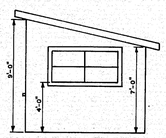
FRONT ELEVATION
TYPE "A"



FRONT ELEVATION
TYPE "B"

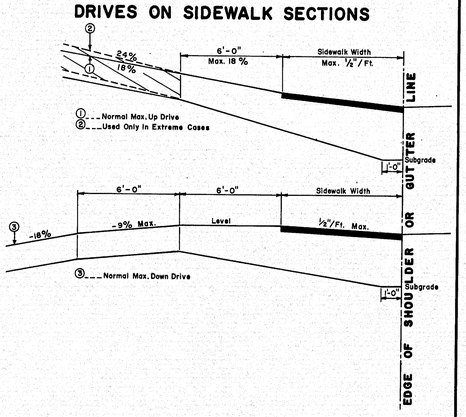


FRONT ELEVATION
TYPE "C"



SIDE ELEVATION
TYPES "A" "B" & "C"

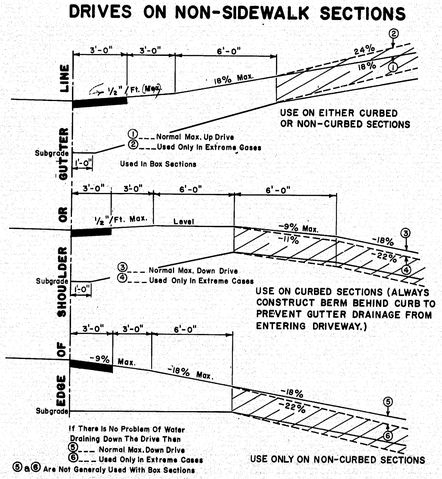
DRIVES ON SIDEWALK SECTIONS



GENERAL NOTES
1. The sidewalk width shall be paved in all cases.
2. All residential or commercial drives over 10% to be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES
1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

DRIVES ON NON-SIDEWALK SECTIONS



⑤ & ⑥ Are Not Generaly Used With Box Sections

GENERAL NOTES
1. The first 3' shown as pavement shall be paved only when abuting a paved area.
2. All residential or commercial drives over 10% to be paved.

NOTES ON MAXIMUM DRIVEWAY PROFILES
1. These profiles are a guide for the majority of cases, but should be field checked when the main line grade is steep (4% to 6% or greater) or the angle of approach to the drive is unusual.
2. Generally the majority of drives on a project will be built with flatter profiles than these maximum cases.
3. When grading drives which are flatter than the maximum profiles the following rule of thumb should be used, do not exceed a grade % change of more than 9% in a 6 foot increment of driveway length. This applies to both up and down profiles.

REVISIONS	

MAINE STATE HIGHWAY COMMISSION
AUGUSTA , MAINE

STANDARD DETAILS

DRIVEWAY DETAILS
FIELD OFFICES
TESTING LABORATORY

AUG. 1969

12

152-168

touraine paints TRUFLEX ☆ SILKY ☆ TRIPLE WHITE ☆ RYPLEX