

B.P.R.	STATE	PROJECT NO.	SHEET	TOTAL
REG. NO.			NO.	SHEETS
1	MAINE	1-080-B(3)	38	62

BANGOR INTERSTATE

GENERAL NOTES

FOUNDATIONS:

Foundations may be altered, if necessary, to suit conditions encountered in construction.

DESIGN:

In accordance with the Specifications of the American Association of State Highway Officials for H20-S16-44 loading (1953 edition), with adopted tentatives.

Design Stresses: Reinforcing Steel 18,000 p.s.i.
Concrete (n=10) 1,200 p.s.i.
Concrete (n=8) 1,600 p.s.i. (Pier Cap Only)

HYDRAULIC DATA:

Drainage Area: 212 Sq. Mi.
Design Flood: 1936
Estimated Discharge: 11,000 c.f.s.
Velocity of Flood Flow: 8 Ft. / Sec.

CONSTRUCTION:

State of Maine Standard Specifications to be followed except as noted in Special Provisions.

REINFORCEMENT:

All bars shall have deformations conforming to A.S.T.M. Designations A 305. Unless otherwise shown on plans, reinforcing bars shall be lapped 20 diameters to make a splice, except that main reinforcing bars near the top of slabs and beams having more than 12" inches of concrete under the bars shall be lapped 35 diameters to make a splice.

BENCH MARK:

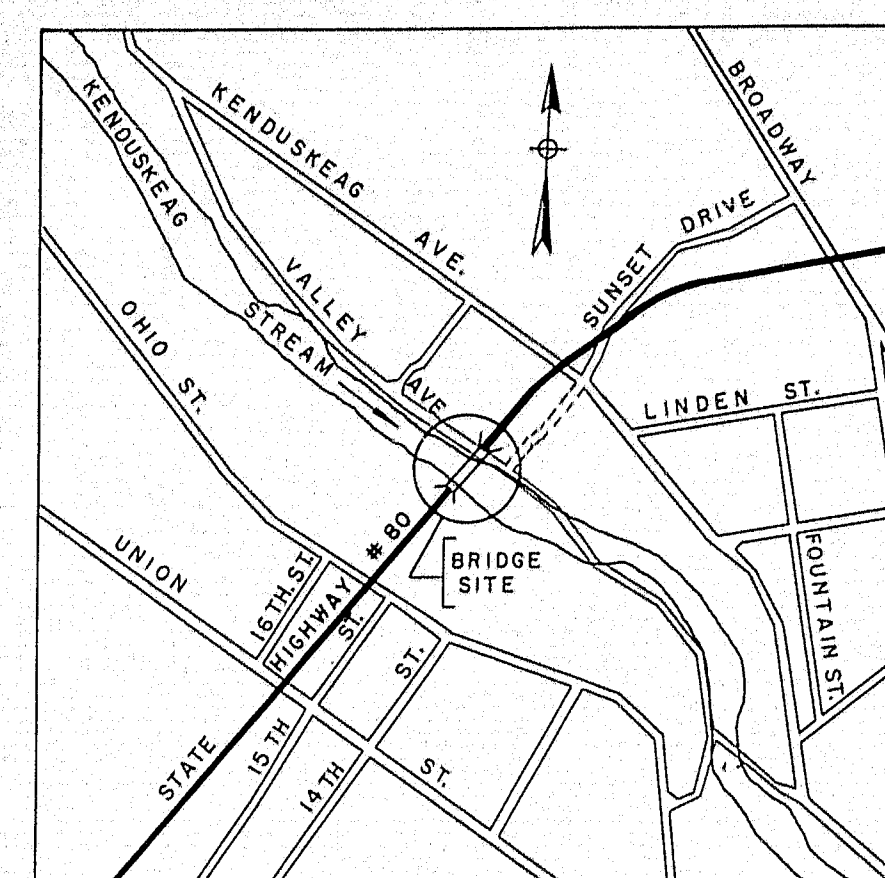
BM S-20 Sharp point outcrop on ledge (T.B.M.) 305' East of target on Valley Ave., 0.1 mile West of existing bridge (B.M. on North side of road), 0.3 mile South of B.M.
S-19 Elevation 42.84, U.S.G.S. Datum
BM S-21 Vertical hinge spike in root of 21" elm, 20' West of 15th St., 0.8 mile South of Valley Ave., 45' South of Ohio St., East of target on Ohio St. Elevation 133.60, U.S.G.S. Datum

ESTIMATED QUANTITIES

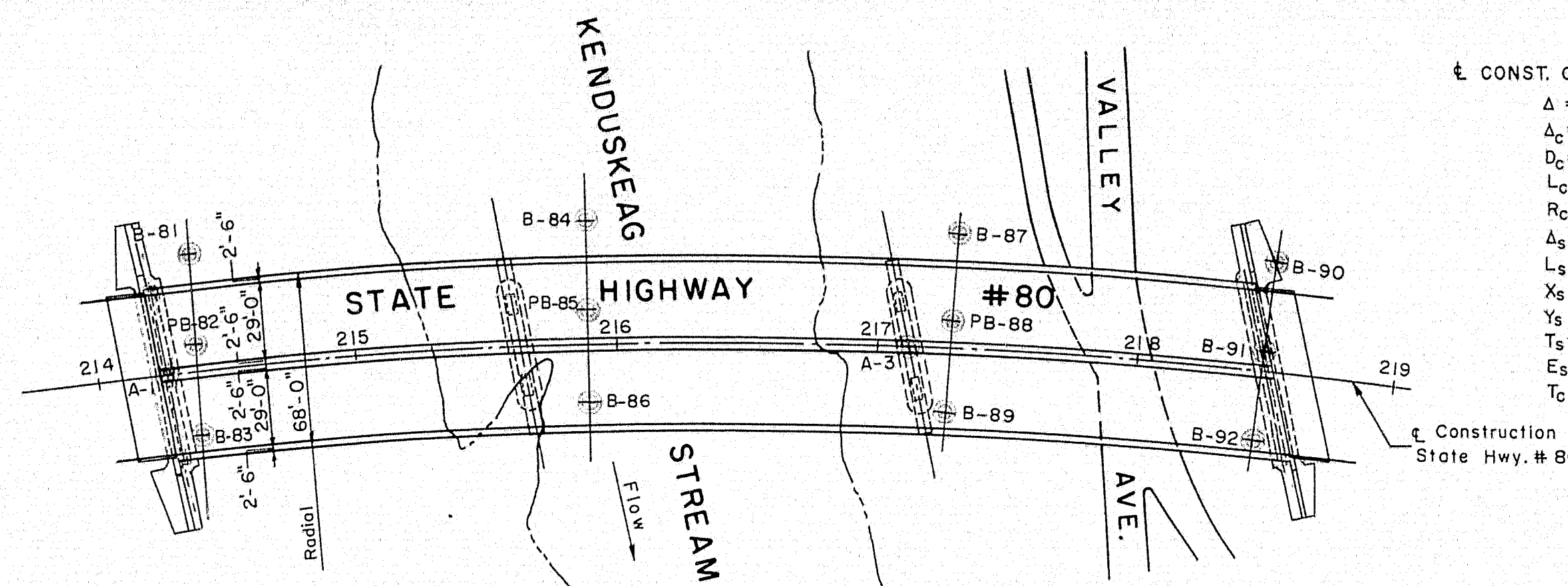
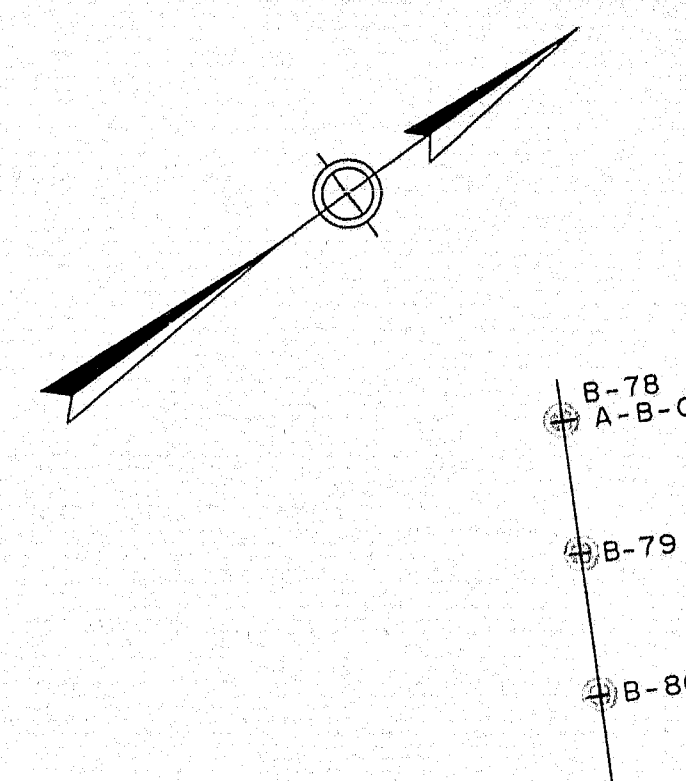
(NOT GUARANTEED)

STRUCTURAL EARTH EXCAVATION.	1000 CU. YDS.
(ABUTMENTS AND RETAINING WALLS)	
STRUCTURAL EARTH EXCAVATION (PIERS).	400 CU. YDS.
STRUCTURAL ROCK EXCAVATION (PIERS).	60 CU. YDS.
GRAVEL BASE COURSE - IN PLACE MEASUREMENT.	150 CU. YDS.
BITUMINOUS CONCRETE SURFACE COURSE - TYPE A.	330 TONS.
MEMBRANE WATERPROOFING (3 PLY).	2860 SQ. YDS.
PORTLAND CEMENT CONCRETE.	1080 CU. YDS.
(ABUTMENTS AND RETAINING WALLS)	
PORTLAND CEMENT CONCRETE (PIERS).	1130 CU. YDS.
PORTLAND CEMENT CONCRETE (GIRDERS).	3300 CU. YDS.
PORTLAND CEMENT.	8250 BBLs.
BRIDGE DRAINAGE.	1 LUMP SUM
STRUCTURAL STEEL, FABRICATED AND DELIVERED.	95,000 LBS.
STRUCTURAL STEEL, ERECTION.	95,000 LBS.
REINFORCING STEEL, DELIVERED.	1,250,000 LBS.
REINFORCING STEEL, PLACING.	1,250,000 LBS.
STEEL H-BEAM PILES (53 LBS./FT.).	2200 LIN. FT.
FRENCH DRAINS.	300 CU. YDS.
ALUMINUM RAILING.860 LIN. FT.
SLOPED GRANITE CURB (6"x7").860 LIN. FT.
GUARD RAIL (DOUBLE FACED TYPE E).	450 LIN. FT.
PLAIN RIPRAP.	270 CU. YDS.
SLOPE PAVING FOR BRIDGES.	300 SQ. YDS.
COFFERDAMS.	1 LUMP SUM
BITUMINOUS DAMP-PROOFING.	255 SQ. YDS.

Not in this contract

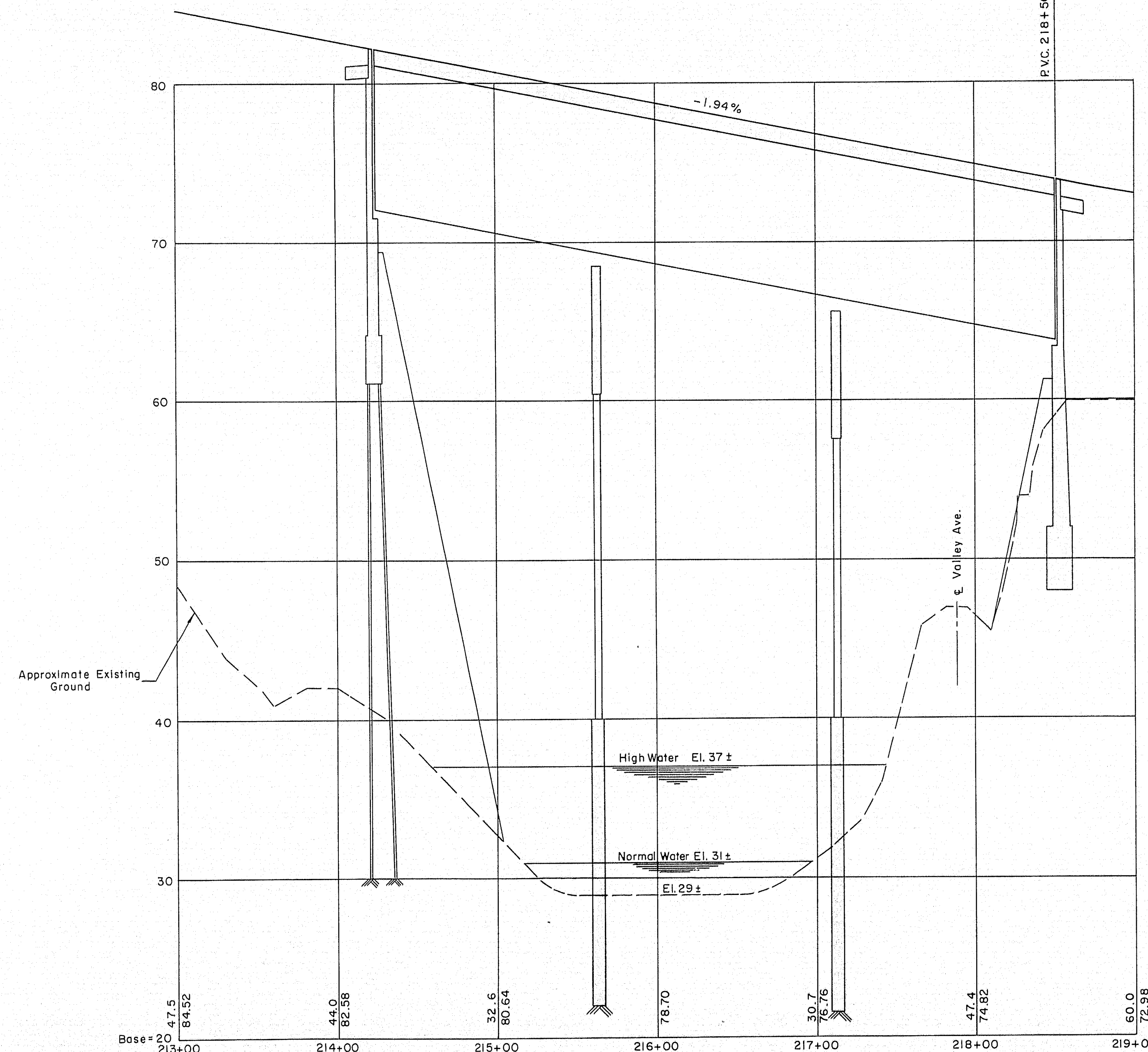


LOCATION MAP
NO SCALE



KEY PLAN
Scale: 1" = 50'-0"

CONST. CURVE DATA
 $\Delta = 34^{\circ}51'19''$
 $\Delta_c = 28^{\circ}51'19''$
 $D_c = 3^{\circ}00'00''$
 $L_c = 961.84'$
 $R_c = 1909.86'$
 $\Delta_s = 3^{\circ}00'00''$
 $L_s = 200.00'$
 $X_s = 199.94'$
 $Y_s = 3.49'$
 $T_s = 699.79'$
 $E_s = 92.80'$
 $T_c = 491.35'$

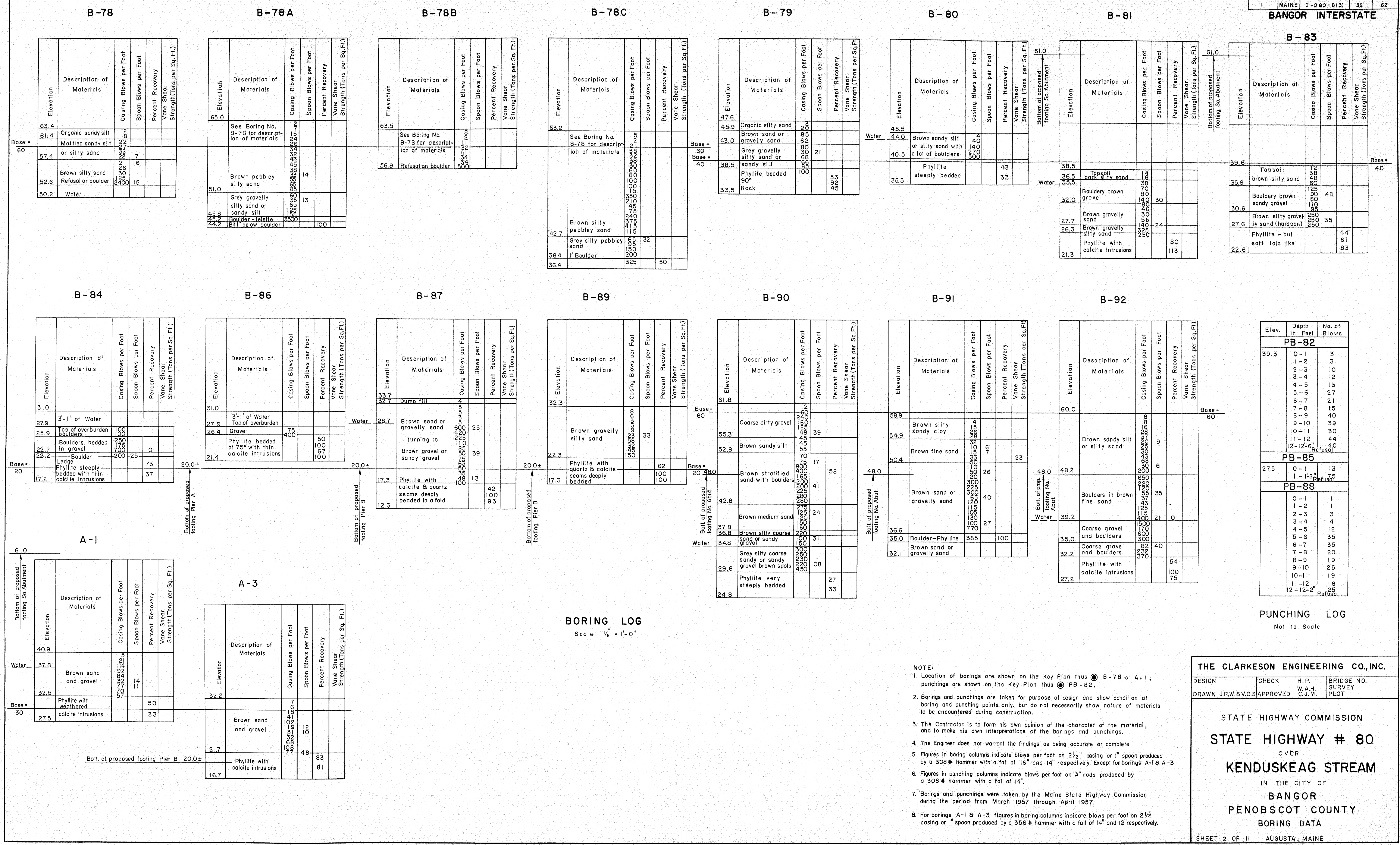


PROFILE ALONG STATE HIGHWAY #80

Scales: Hor. 1" = 50'-0"
Vert. 1" = 5'-0"

APPROVED BY *[Signature]* DATE 1/13/58
THE CLARKSON ENGINEERING CO., INC.
CONSULTING ENGINEERS
BOSTON MASSACHUSETTS

DESIGN	CHECK H.P.	BRIDGE NO
DRAWN V.C.S.	APPROVED W.H.H.	SURVEY
		PLOT
STATE HIGHWAY COMMISSION		
STATE HIGHWAY # 80		
OVER		
KENDUSKEAG STREAM		
IN THE CITY OF		
BANGOR		
PENOBSCOT COUNTY		
KEY PLAN & PROFILE		
SHEET 1 OF 11 AUGUSTA, MAINE		

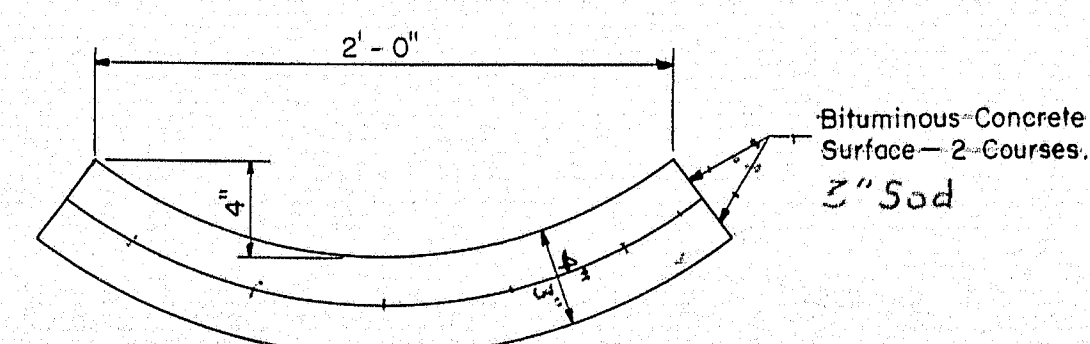
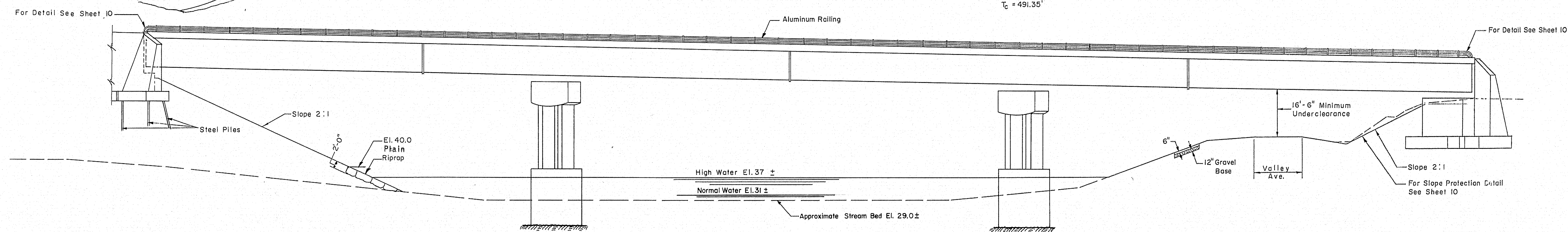
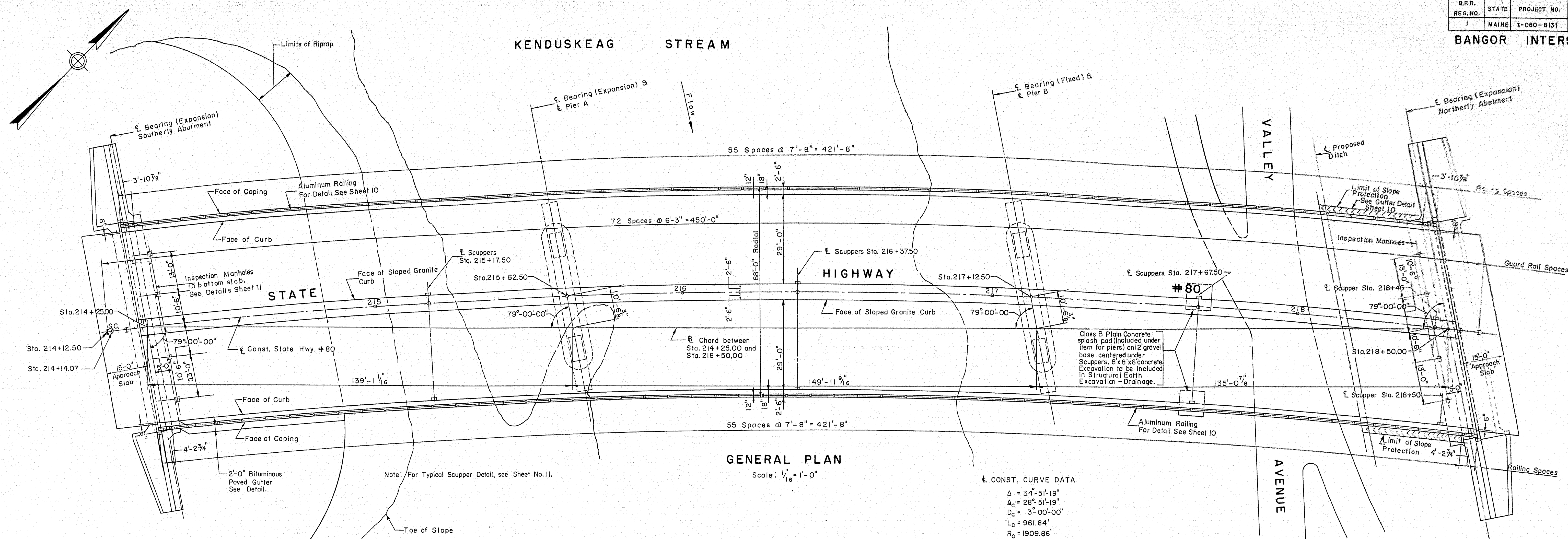


NOTE:

- Location of borings are shown on the Key Plan thus ● B-78 or A-1; punchings are shown on the Key Plan thus ○ PB-82.
- Borings and punchings are taken for purpose of design and show condition at boring and punching points only, but do not necessarily show nature of materials to be encountered during construction.
- The Contractor is to form his own opinion of the character of the material, and to make his own interpretations of the borings and punchings.
- The Engineer does not warrant the findings as being accurate or complete.
- Figures in boring columns indicate blows per foot on 2 1/2" casing or 1" spoon produced by a 308 # hammer with a fall of 16" and 14" respectively. Except for borings A-1 & A-3.
- Figures in punching columns indicate blows per foot on "A" rods produced by a 308 # hammer with a fall of 14".
- Borings and punchings were taken by the Maine State Highway Commission during the period from March 1957 through April 1957.
- For borings A-1 & A-3 figures in boring columns indicate blows per foot on 2 1/2" casing or 1" spoon produced by a 356 # hammer with a fall of 14" and 12" respectively.

B.R.R.	STATE	PROJECT NO.	SHEET	TOTAL
REG. NO.			NO.	SHEETS
1	MAINE	X-080-8 (5)	40	62

BANGOR INTERSTATE

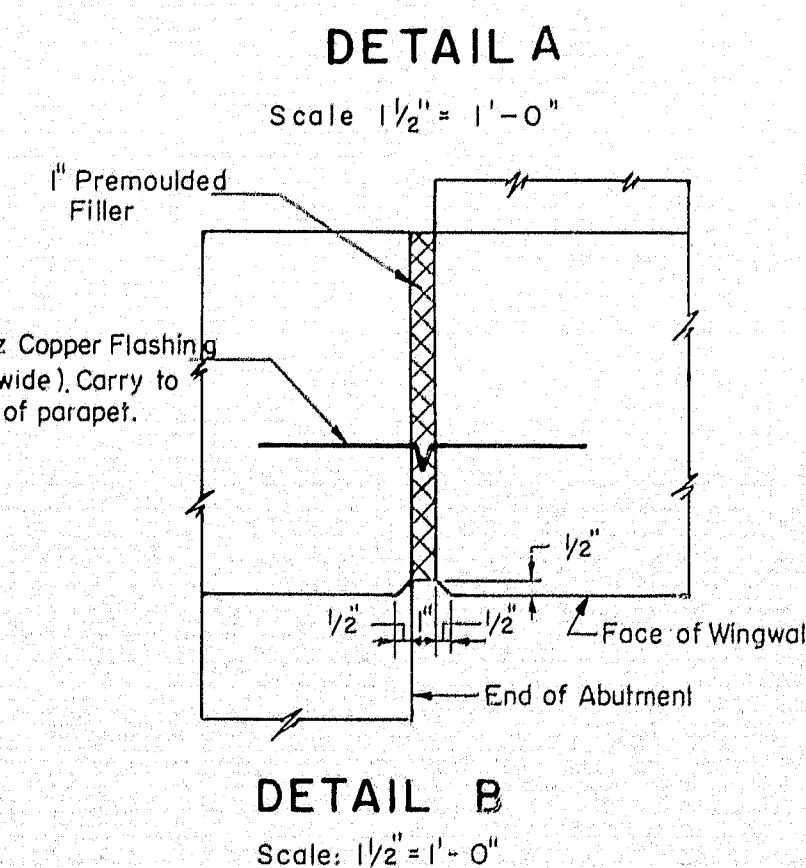
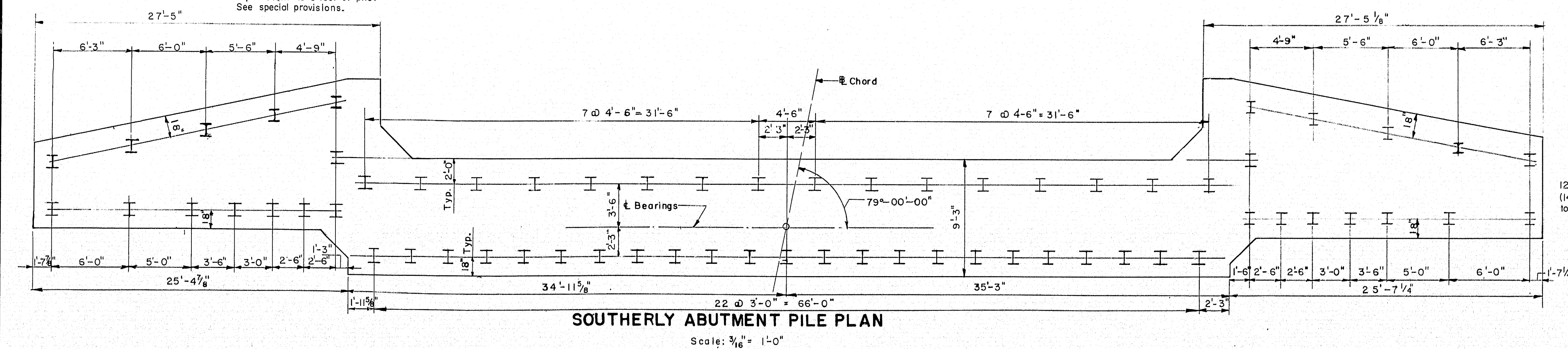
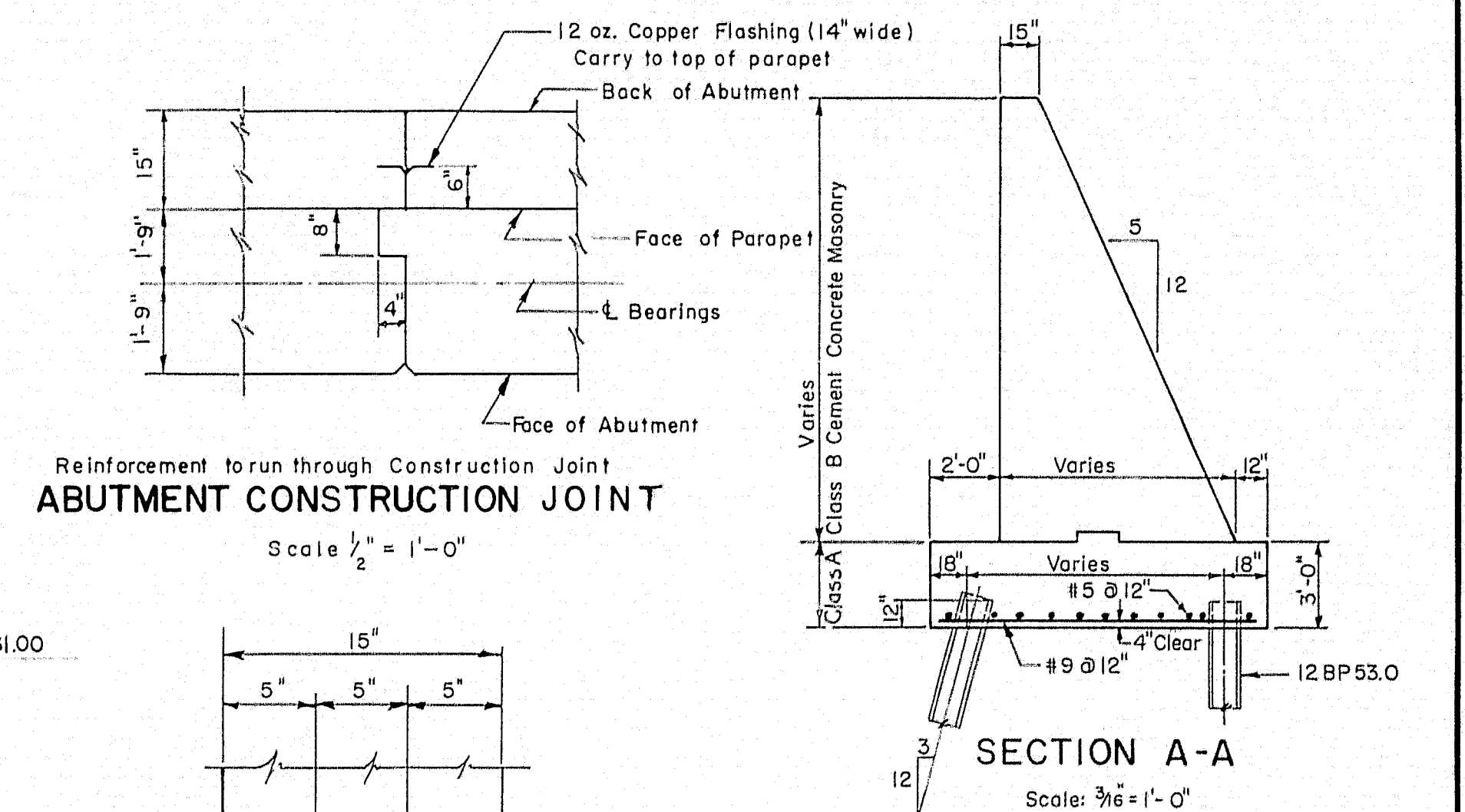
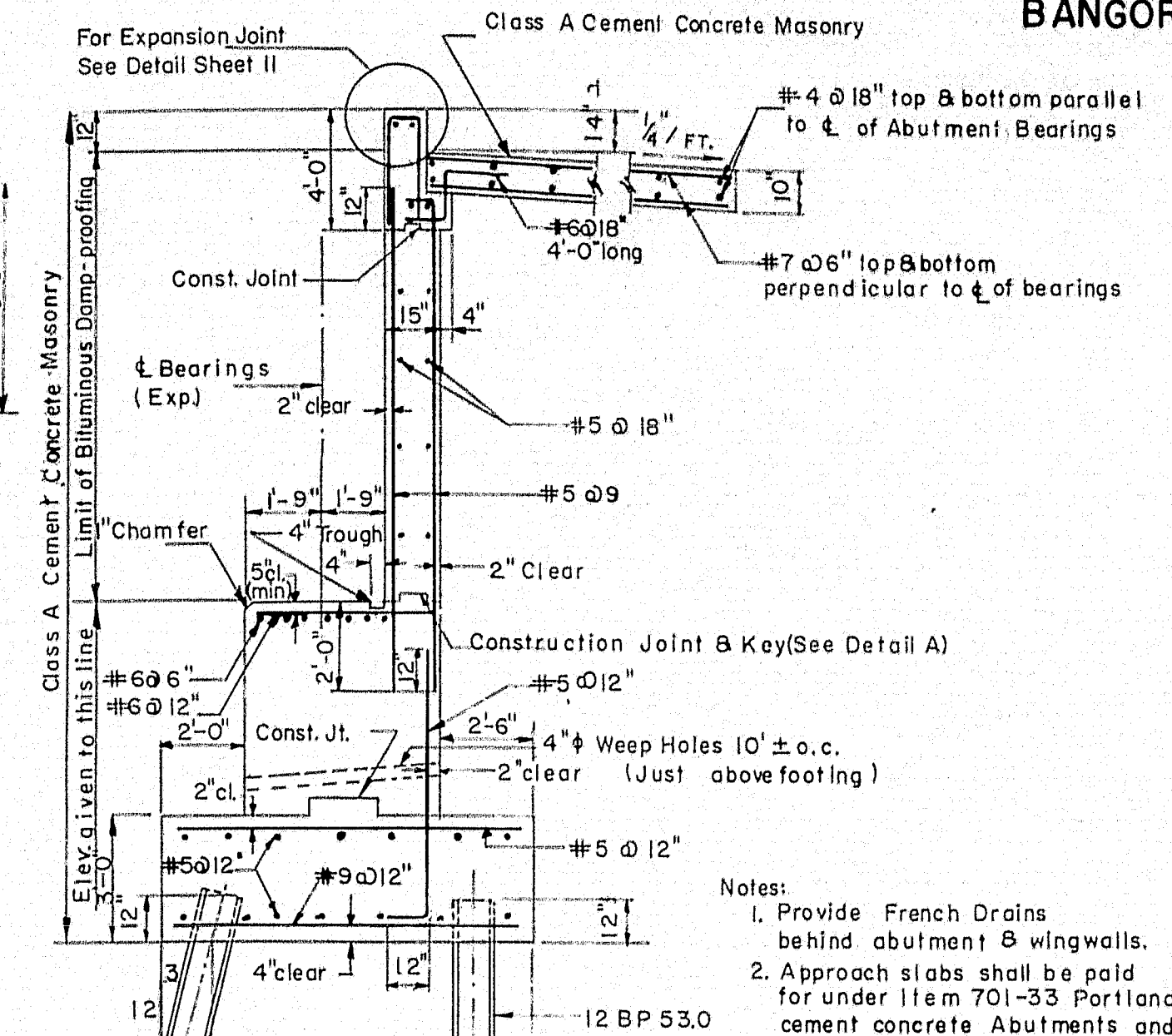
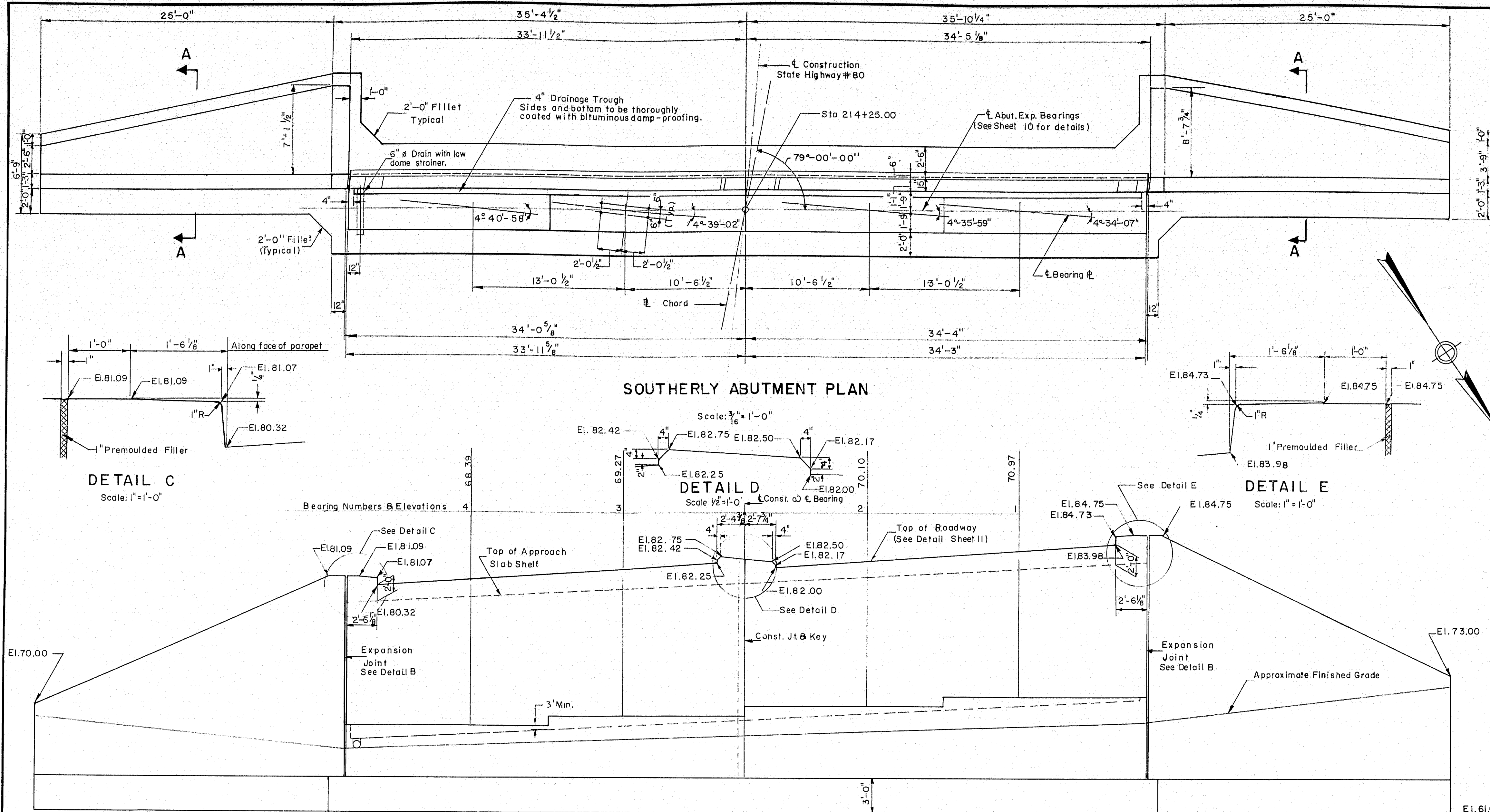


THE CLARKSON ENGINEERING CO., INC.

DESIGN Y.E. & R.F. CHECK R.F. & Y.E. BRIDGE NO. SURVEY
DRAWN V.C.S. APPROVED C.J.M. PLOT

STATE HIGHWAY COMMISSION
STATE HIGHWAY # 80
OVER
KENDUSKEAG STREAM
IN THE CITY OF
BANGOR
PENOBSCOT COUNTY
GENERAL PLAN & ELEVATION
SHEET 3 OF 11 AUGUSTA, MAINE

BANGOR INTERSTATE



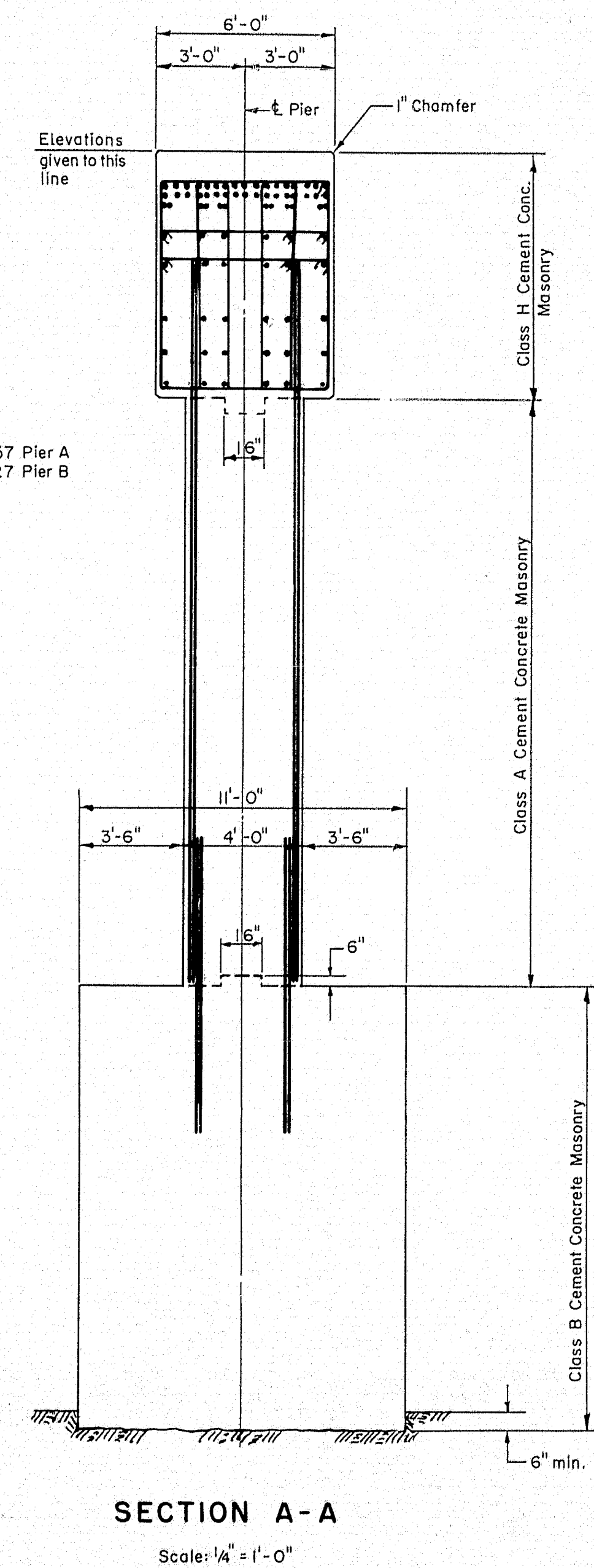
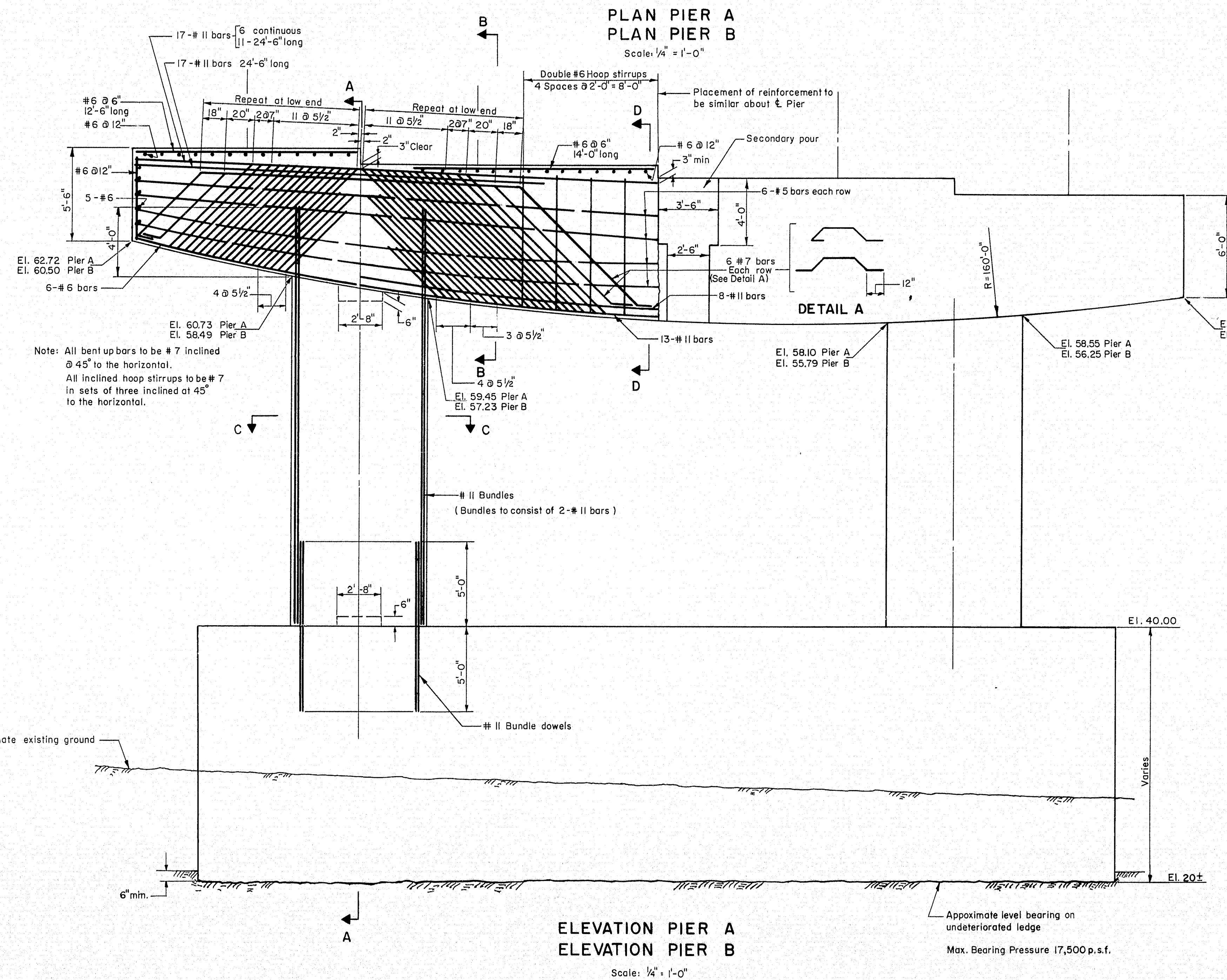
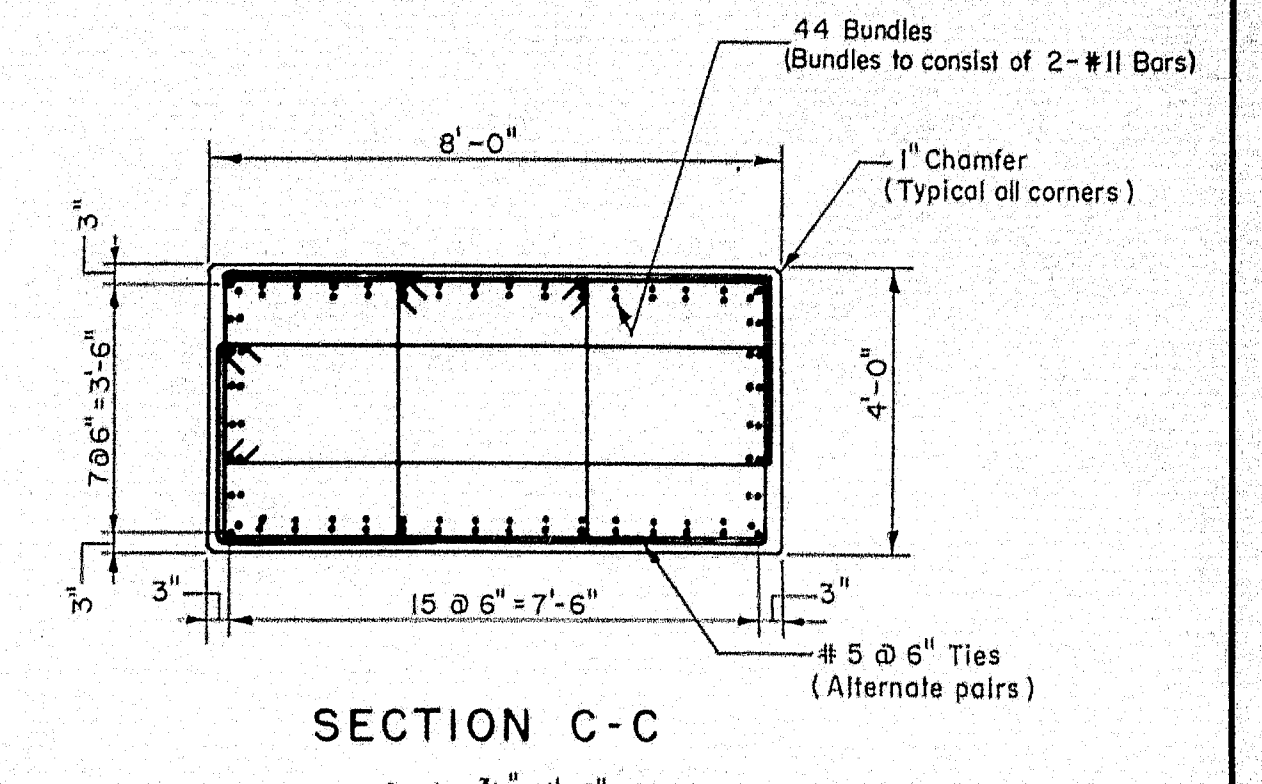
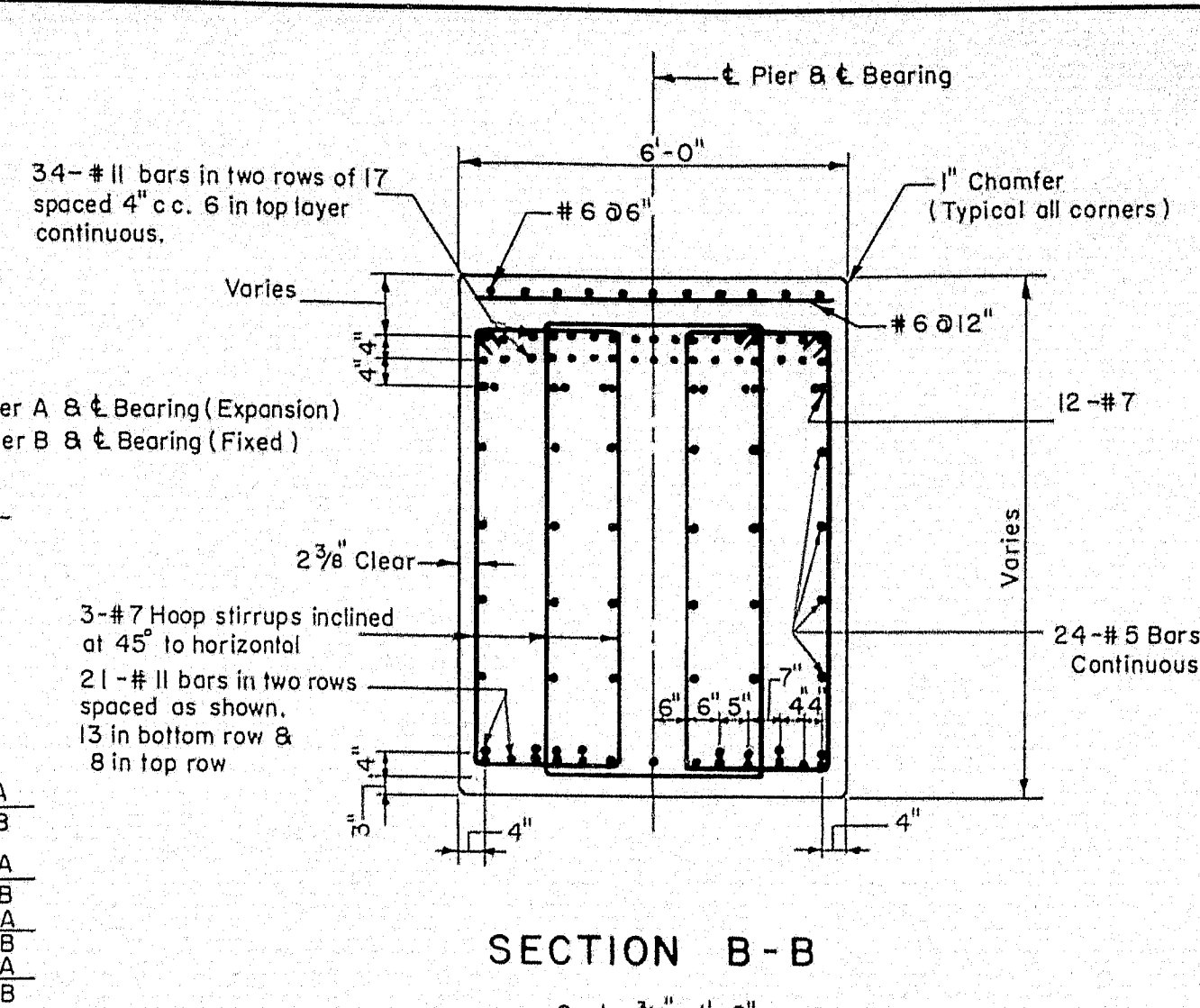
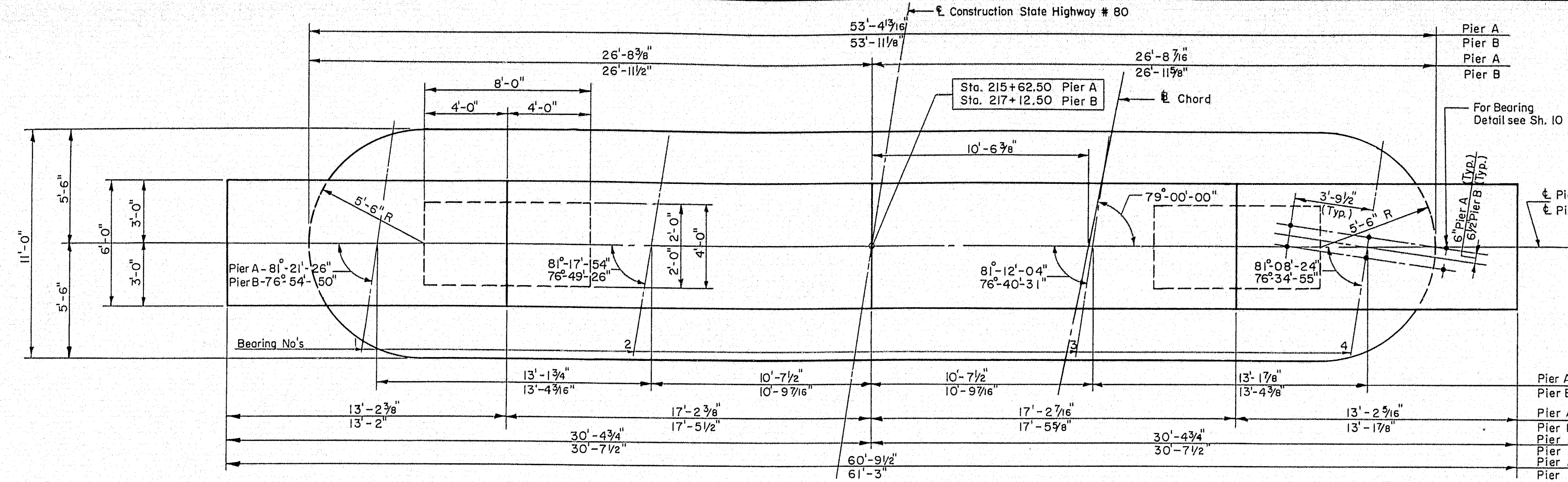
THE CLARKESON ENGINEERING CO., INC.

DESIGN R.F.B.Y.E.	CHECK Y.E.B.R.F.	BRIDGE NO.
DRAWN D.A.T.	APPROVED C.J.M.	SURVEY PLOT

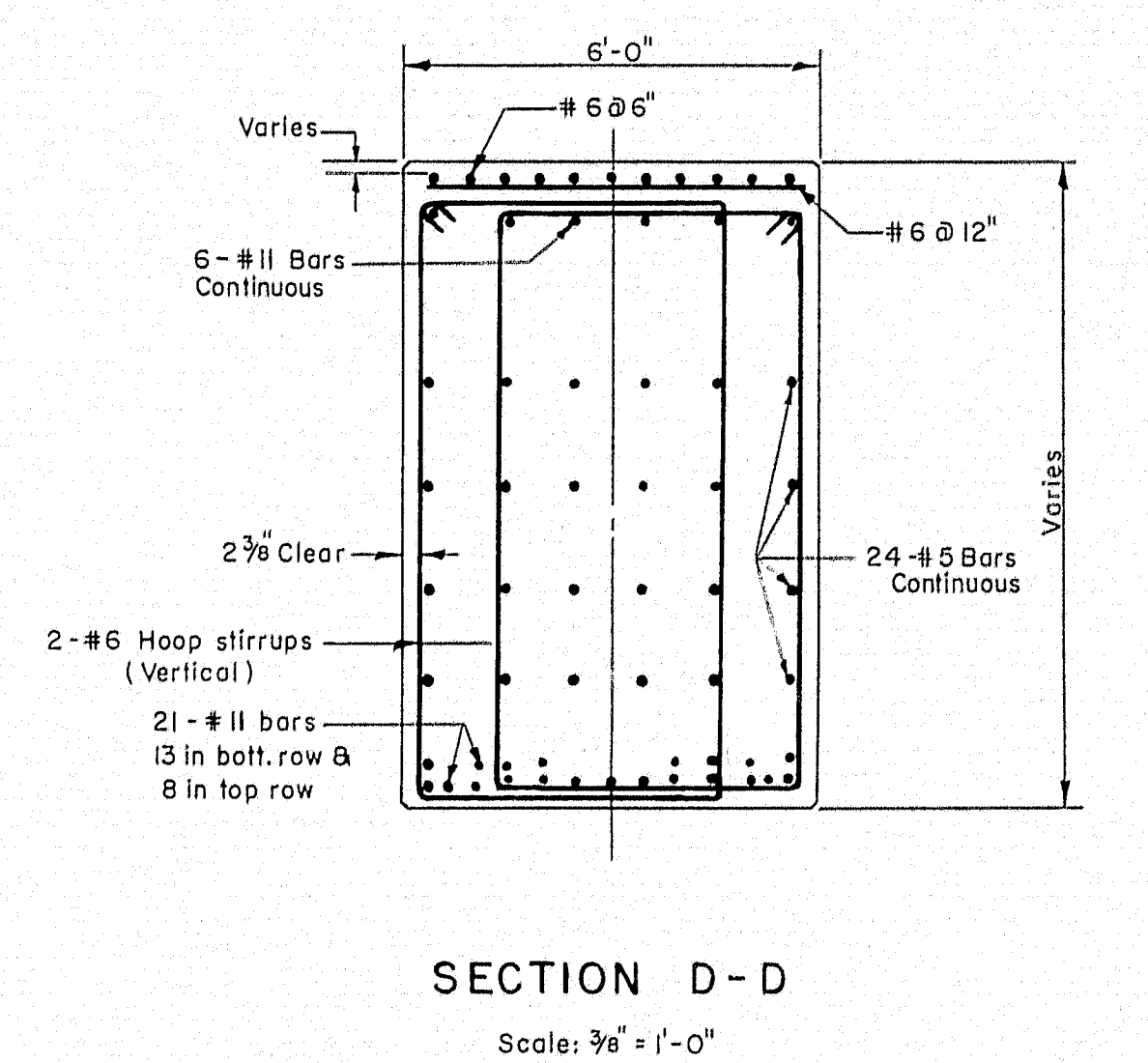
STATE HIGHWAY COMMISSION
STATE HIGHWAY #80
OVER
KENDUSKEAG STREAM
IN THE CITY OF
BANGOR
PENOBSCOT COUNTY
SOUTHERLY ABUTMENT
SHEET 4 OF 11 AUGUSTA, MAINE

B.P.R. REG. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	1-080-8(3)	43	62

BANGOR INTERSTATE



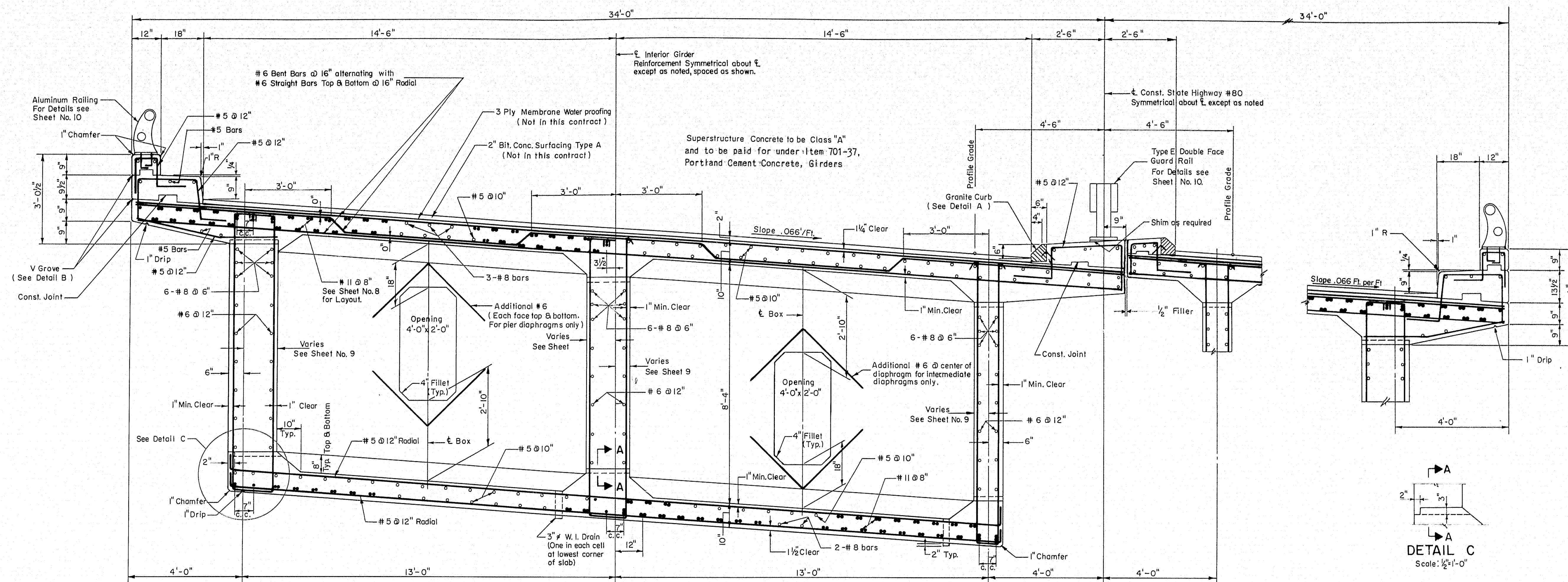
MASONRY SHELF ELEVATIONS		
Bearing No.	Pier A	Pier B
1	68.22	66.00
2	67.33	65.08
3	66.47	64.19
4	65.57	63.27



THE CLARKESON ENGINEERING CO., INC.			
DESIGN Y.E. & R.F.	CHECK R.F. & Y.E.	BRIDGE NO.	
DRAWN E.K.	APPROVED C.J.M.	SURVEY PLOT	
STATE HIGHWAY COMMISSION			
STATE HIGHWAY # 80			
OVER KENDUSKEAG STREAM			
IN THE CITY OF BANGOR			
PENOBSCOT COUNTY PIERS			
SHEET 6 OF 11 AUGUSTA, MAINE.			

B.P.R. REG. NO.	STATE	PROJECT NO.	SHEET NO	TOTAL SHEETS
1	MAINE	I-080-8(3)	44	62

BANGOR INTERSTATE



DETAIL B

No Scale

SECTION A-A
TYPICAL ALL WEBS (TOP & BOTTOM)
Scale: $\frac{1}{2}" = 1'-0"$

DETAIL C
Scale: $\frac{1}{2}'' = 1'-0''$

Technical drawing of a curb and gutter cross-section. The drawing shows a concrete curb with a sloped top surface. A #5 Anchor Bar is embedded in the curb, extending into a 3/4" Mortar Bed. The curb is supported by a 2" Blt. Conc. (Not in this contract) layer, which is on top of a 3 Ply Membrane Waterproofing (Not in this contract) layer. The entire assembly is on a Concrete Slab. Dimensions include a total width of 6" for the curb, with a 4" section and a 2" section. The curb height is 1'6" and 1'4". The gutter depth is 6". A Construction Joint is indicated on the right side.

5 Anchor bars grouted in to curb
Each curb stone to have one anchor
12" ± from each end.

6"

4"

2"

5 Anchor Bar

1'6"

1'4"

6"

Roadway Surface

3 Ply Membrane Waterproofing (Not in this contract)

2" Blt. Conc. (Not in this contract)

Concrete Slab

3/4" Mortar Bed

Construction Joint

DETAIL A

Scale: 3" = 1'-0"

Notes:

1. Safety Walk, Median, and Safety Walk Parapet to have Transverse Construction Joints $20'$ \pm a.c.. Joints are not to be located under railing posts. Contact Surfaces of joints to be painted with bituminous material. Exposed Surfaces are to be chamfered. Reinforcing Steel to be carried thru joints except at joint over piers.
2. Ends of Superstructure to be painted with Bituminous Material. See Special Provisions.

PART - SECTION NEAR
INTERMEDIATE PIER.

TYPICAL HALF CROSS SECTION

Note: All transverse dimensions radial
 ○ # 5 , # 6 or # 8 bars as noted.
 ● # 11 bars
 ● 2- # 11 bars bundled
 All bundles of # 11 bars to be spaced 8"
 on centers radial (Except where noted).
 See Sheet No. 8 for Reinforcing Steel Layout.

PART - SECTION NEAR
MIDDLE OF SPAN #1

PART - SECTION NEAR
INTERMEDIATE PIER

TYPICAL SECTION THROUGH
ABUTMENT DIAPHRAGM

SECTION B-B

TYPICAL PIER DIAPHRAGM

TYPICAL SECTION THROUGH
INTERMEDIATE DIAPHRAGM

THE CLARKESON ENGINEERING CO., INC.

DESIGN R.F. & Y.E.	CHECK Y.E. & R.F.	BRIDGE NO.
DRAWN E.K.	APPROVED W.A.H. C.J.M.	SURVEY PLOT

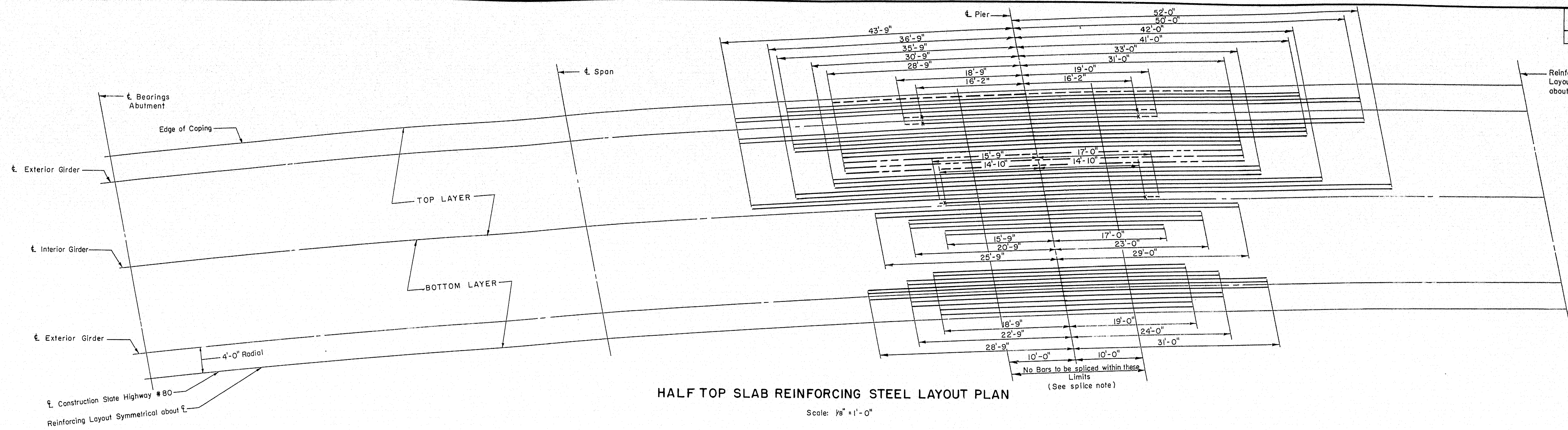
STATE HIGHWAY COMMISSION
STATE HIGHWAY # 80
OVER
KENDUSKEAG STREAM
IN THE CITY OF
BANGOR
PENOBSCOT COUNTY
TYPICAL CROSS SECTION & DIAPHRAGMS

SHEET 7 OF 11 AUGUSTA, MAINE.

B. P. R. REG. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	I-080-B(13)	45	62

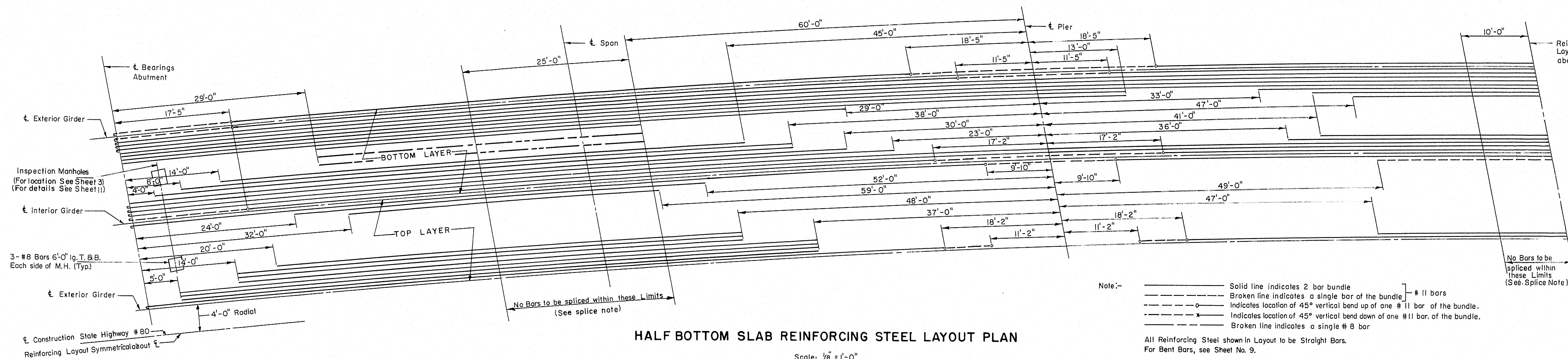
BANGOR INTERSTATE

Reinforcing Steel
Layout Symmetrical
about ϵ of Middle Span



HALF TOP SLAB REINFORCING STEEL LAYOUT PLAN

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



HALF BOTTOM SLAB REINFORCING STEEL LAYOUT PLAN

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

Note: Nominal longitudinal reinforcing is to consist of #5 bars at 10" either continuous or spliced to main reinforcement in top & bottom layers of both slabs as required.
For location of nominal steel see Typical Cross Section Sheet No. 7.

Note:-
Solid line indicates 2 bar bundle
Broken line indicates a single bar of the bundle
Indicates location of 45° vertical bend up of one #11 bar of the bundle.
Indicates location of 45° vertical bend down of one #11 bar of the bundle.
Broken line indicates a single #8 bar
All Reinforcing Steel shown in Layout to be Straight Bars.
For Bent Bars, see Sheet No. 9.

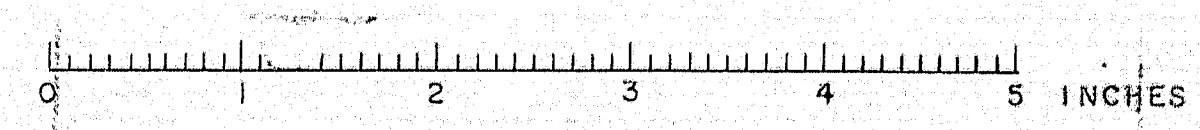
Splice Note:- The contractor shall submit to the Engineer for approval drawings indicating location of Splices in other areas.
Splices shall be staggered.

THE CLARKESON ENGINEERING CO., INC.

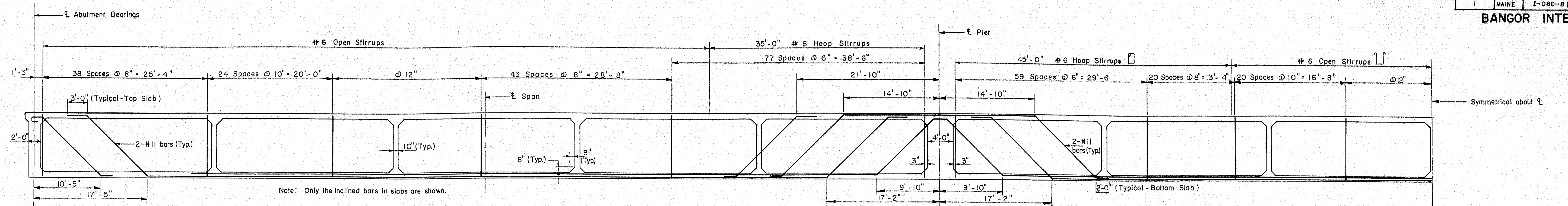
DESIGN R.F. & Y.E.	CHECK Y.E. & R.F.	BRIDGE NO.
DRAWN E.K.	APPROVED W.A.H.	SURVEY
	C.J.M.	PLOT

STATE HIGHWAY COMMISSION
STATE HIGHWAY # 80
OVER
KENDUSKEAG STREAM
IN THE CITY OF
BANGOR
PENOBSCOT COUNTY
LONGITUDINAL STEEL REINFORCEMENT

SHEET 8 OF 11 AUGUSTA, MAINE

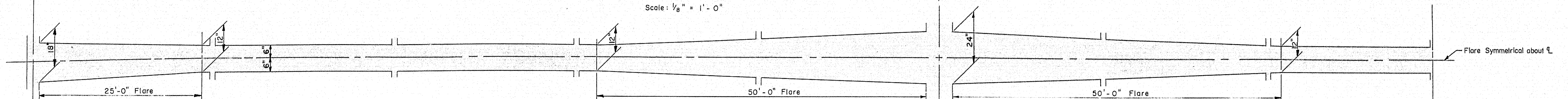


BANGOR INTERSTATE



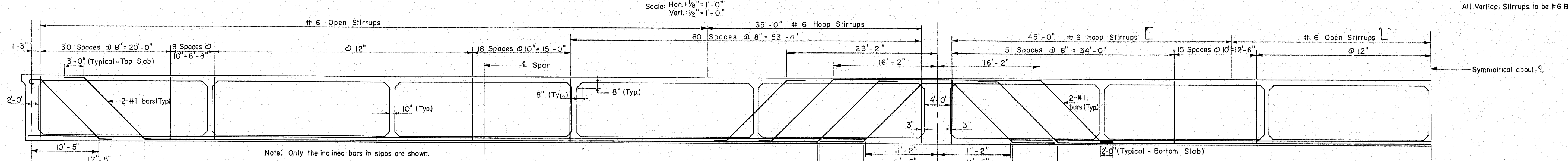
VERTICAL HALF ELEVATION OF INTERIOR WEB

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



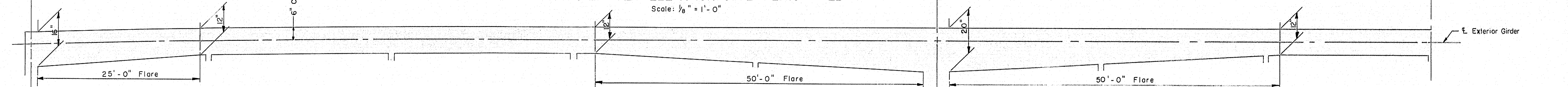
HORIZONTAL HALF SECTION THROUGH INTERIOR WEB

Scale: Hor. $\frac{1}{8}" = 1'-0"$
Vert. $\frac{1}{2}" = 1'-0"$



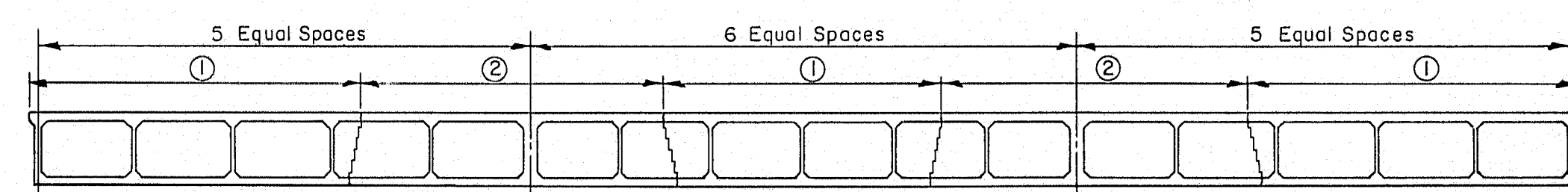
VERTICAL HALF ELEVATION OF EXTERIOR WEB

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



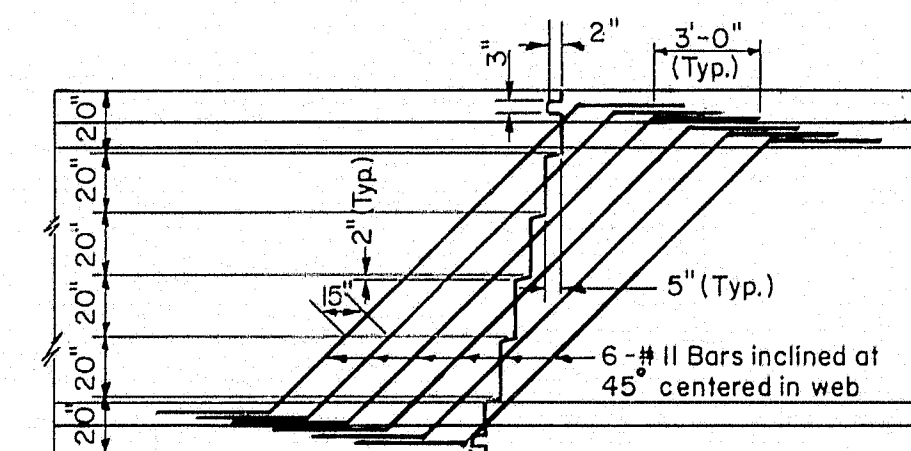
HORIZONTAL HALF SECTION THROUGH EXTERIOR WEB

Scale: Hor. $\frac{1}{8}" = 1'-0"$
Vert. $\frac{1}{2}" = 1'-0"$



POURING SEQUENCE ELEVATION

Scale: Hor. $1" = 40'-0"$
Vert. $1" = 20'-0"$

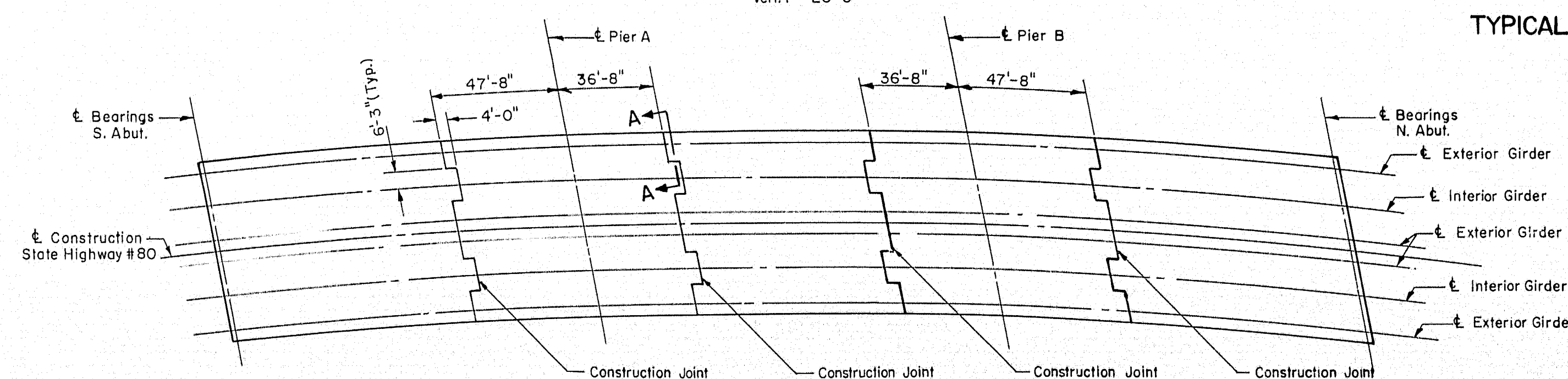


TYPICAL WEB CONSTRUCTION JOINT DETAIL

Scale: $\frac{3}{16}" = 1'-0"$

SECTION A-A

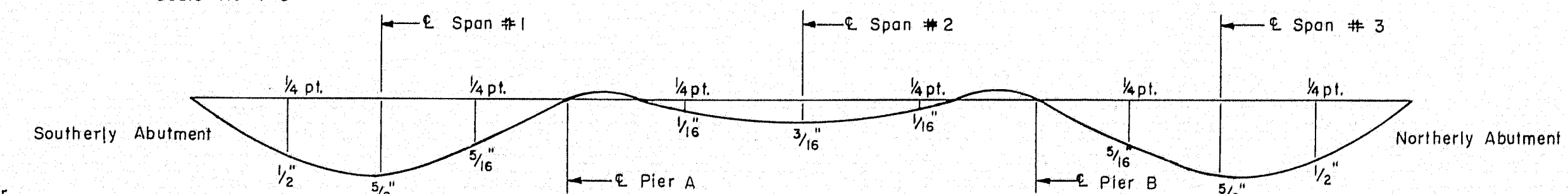
Scale: $\frac{3}{16}" = 1'-0"$



POURING SEQUENCE PLAN

Scale: $1" = 40'-0"$

Note: All sections (1) to be completed before any parts of sections (2) are poured.



DEAD LOAD DEFLECTION DIAGRAM

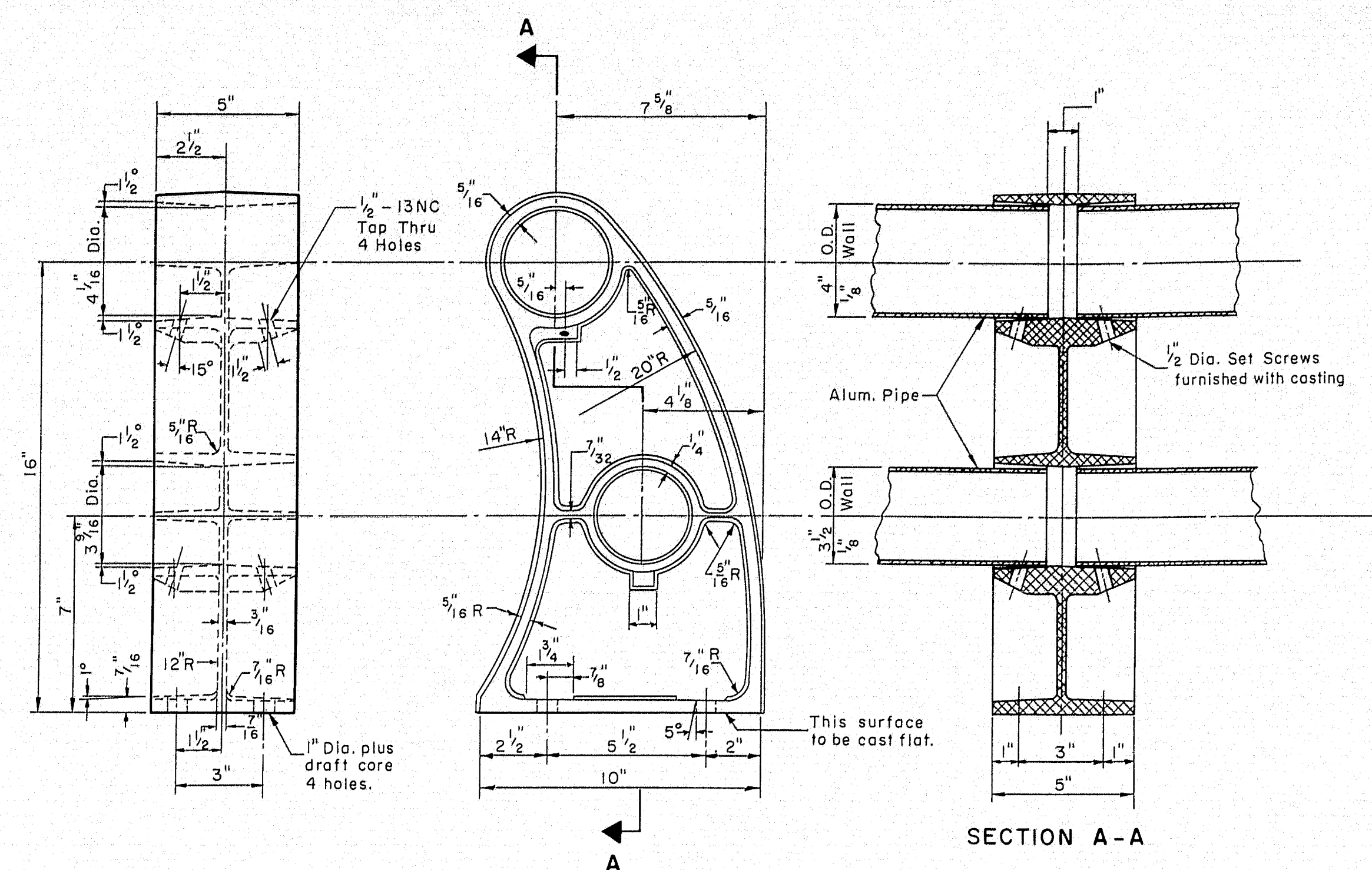
Not to Scale

THE CLARKSON ENGINEERING CO., INC.

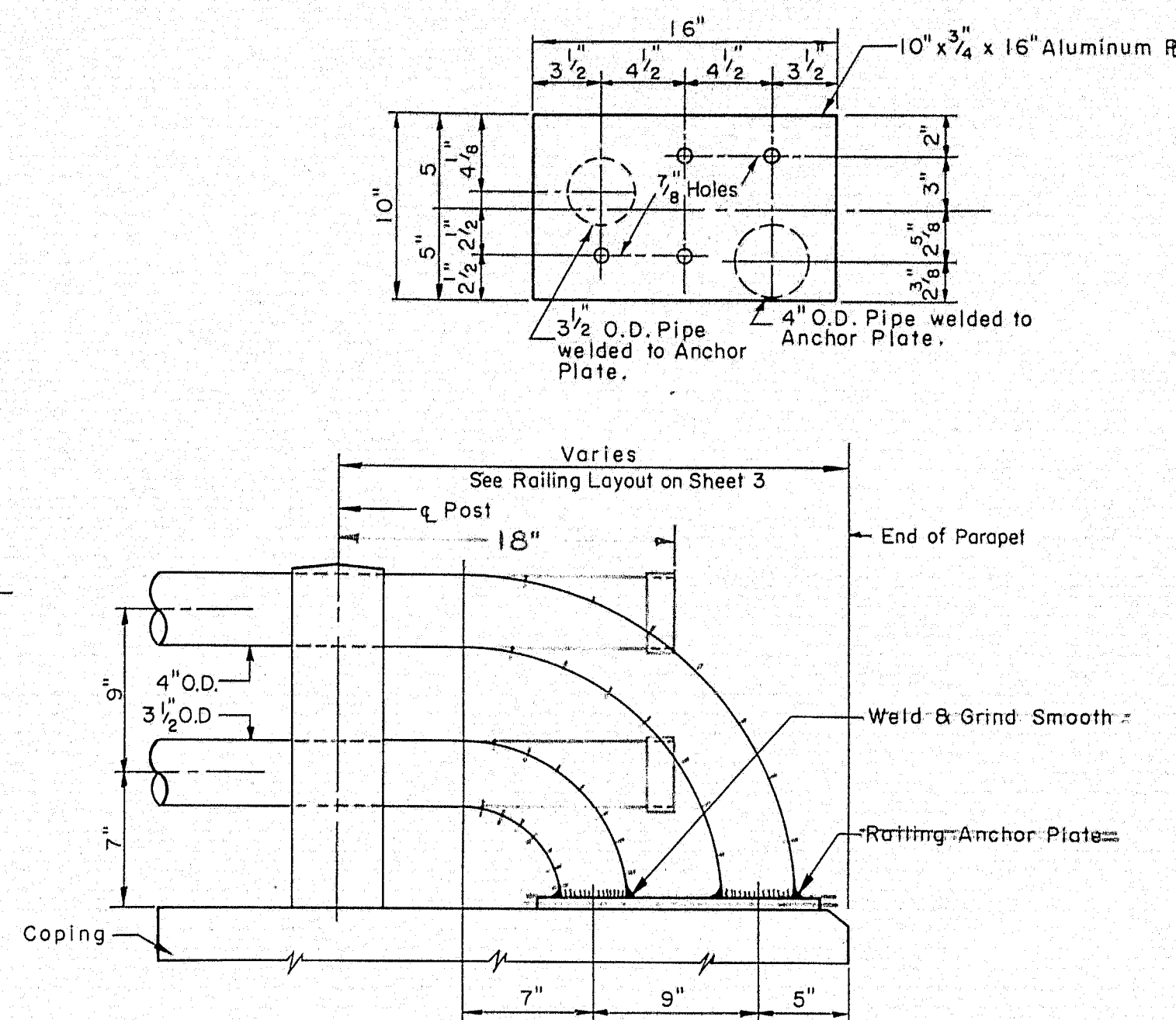
DESIGN Y.E. & R.F. CHECK R.F. & Y.E. BRIDGE NO. 1
DRAWN P.W.G. APPROVED C.J.M. SURVEY PLOT

STATE HIGHWAY COMMISSION
STATE HIGHWAY #80
OVER
KENDUSKEAG STREAM
IN THE CITY OF
BANGOR
PENOBSCOT COUNTY
SUPERSTRUCTURE DETAILS

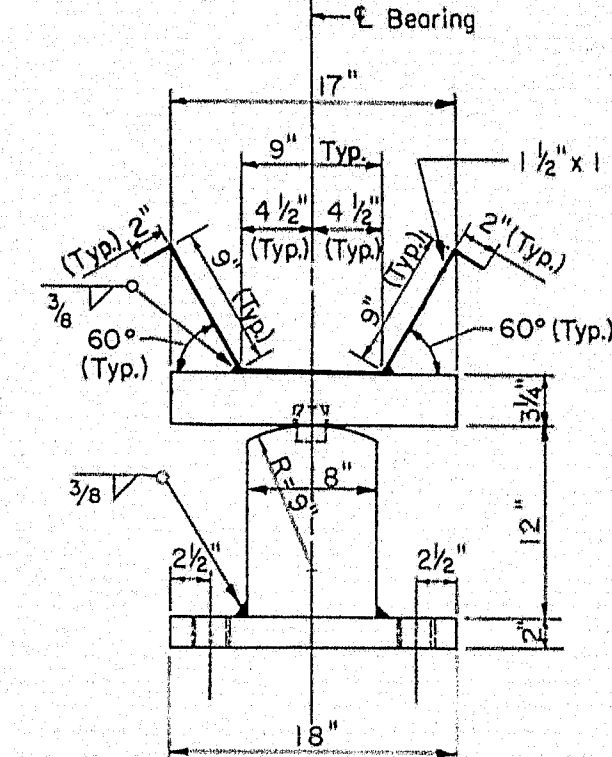
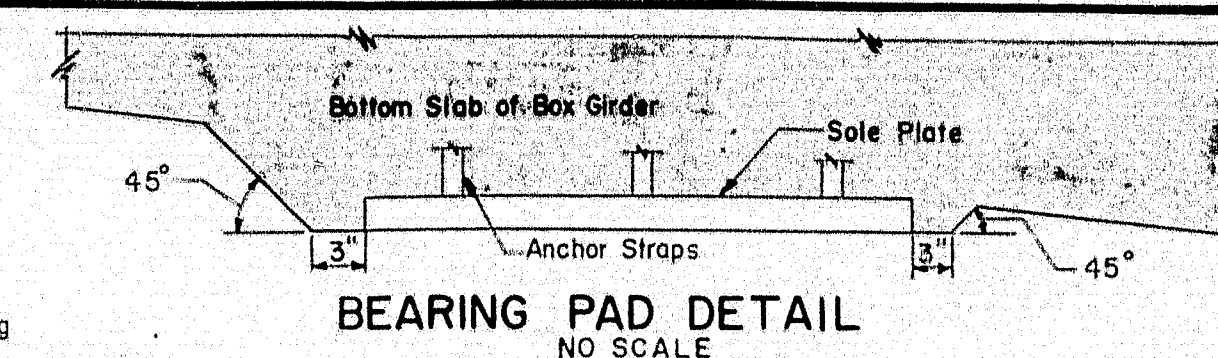
SHEET 9 OF 11 AUGUSTA, MAINE



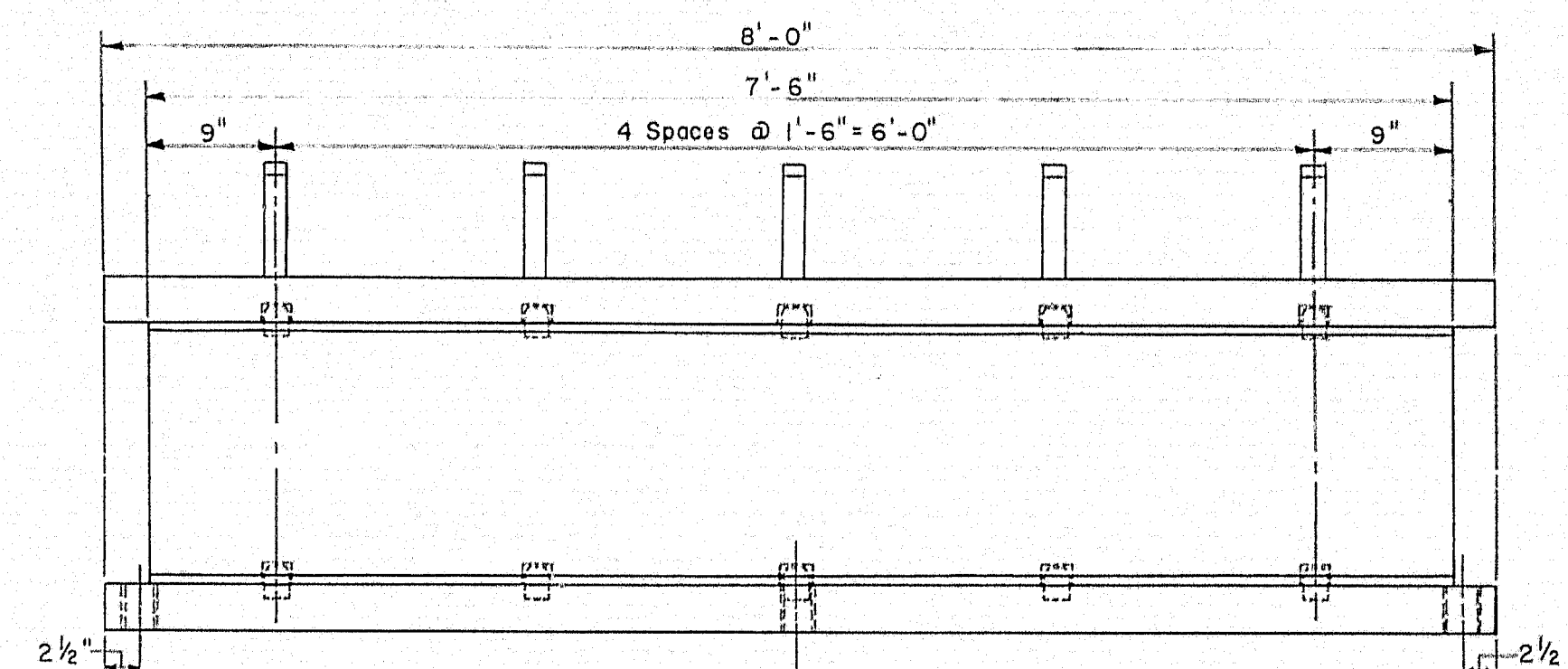
NOTE: See Sheet 3 for Anchor Bolt Layout



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

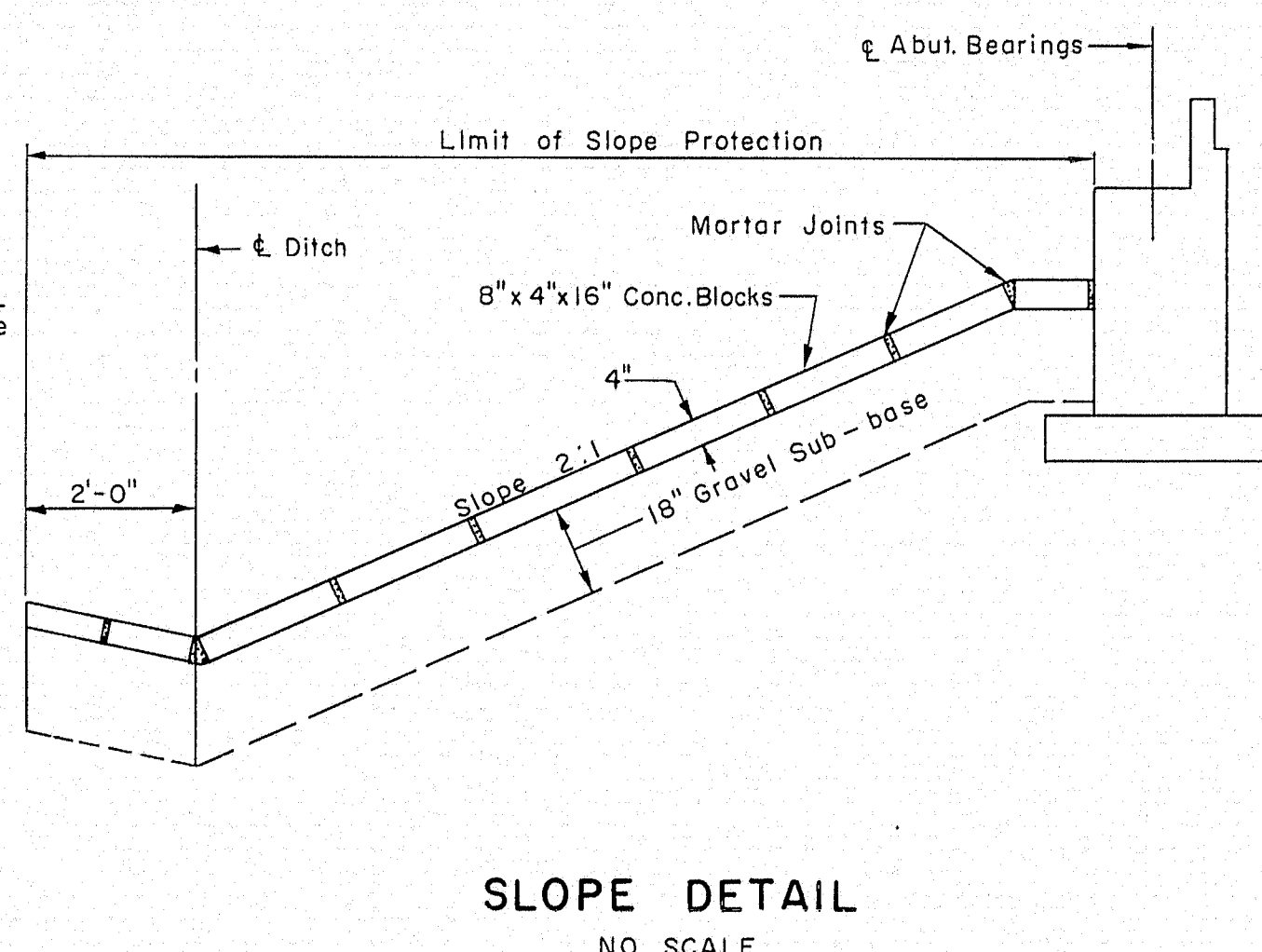
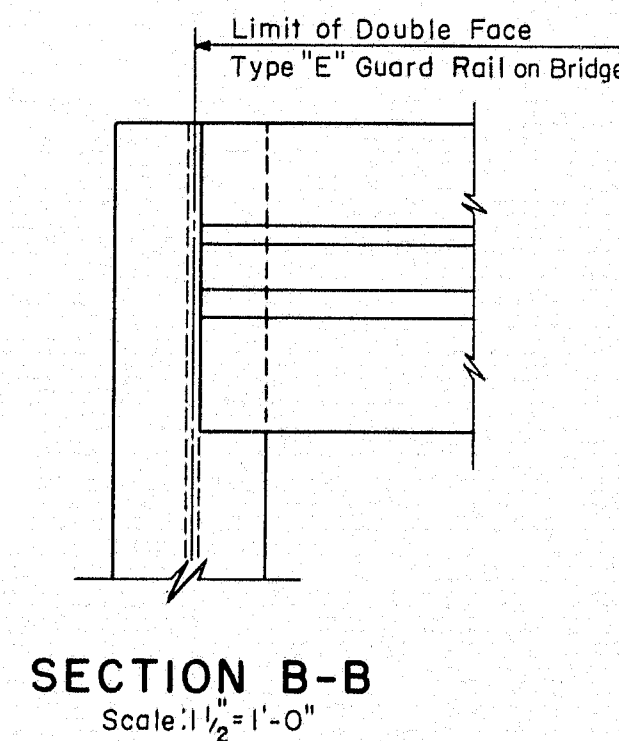
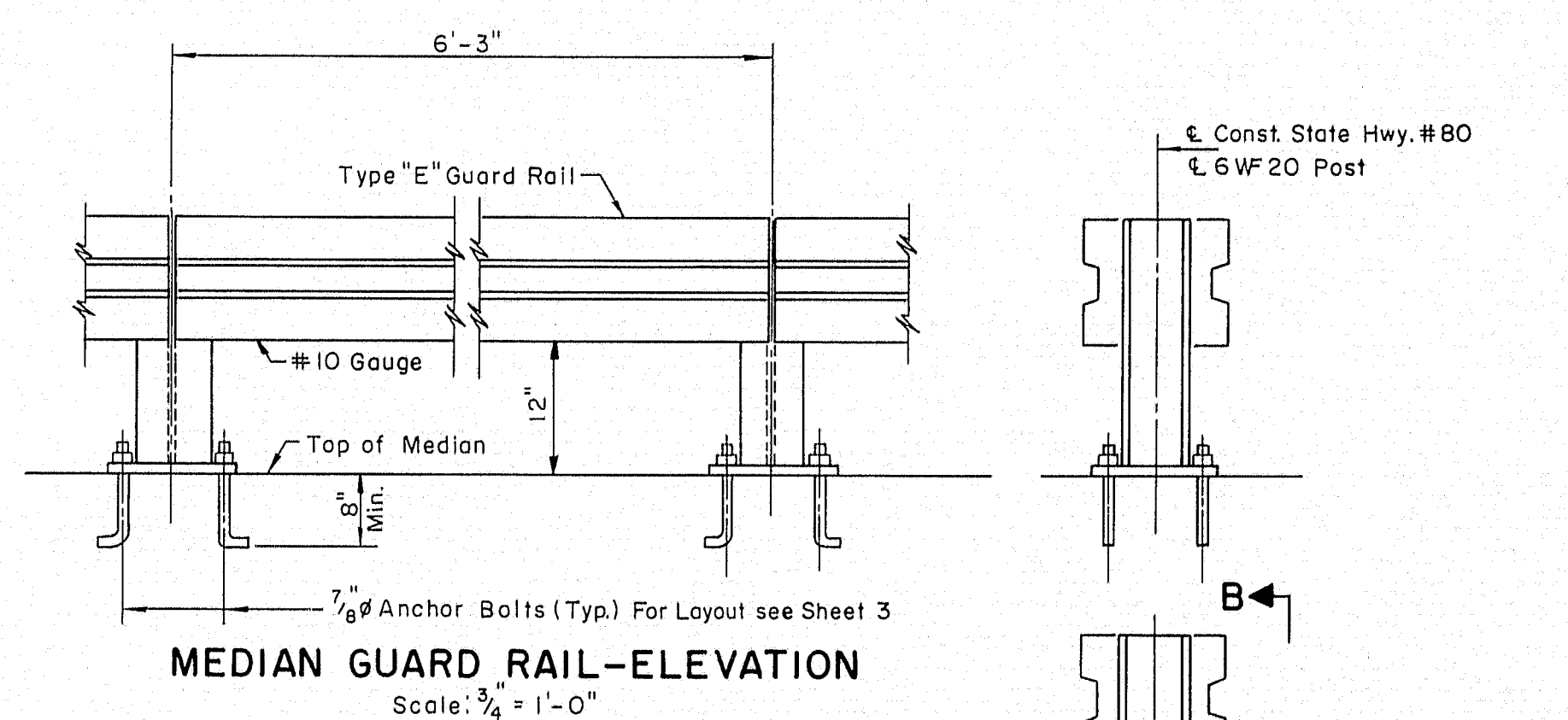


Scale: 1" = 1'-0"

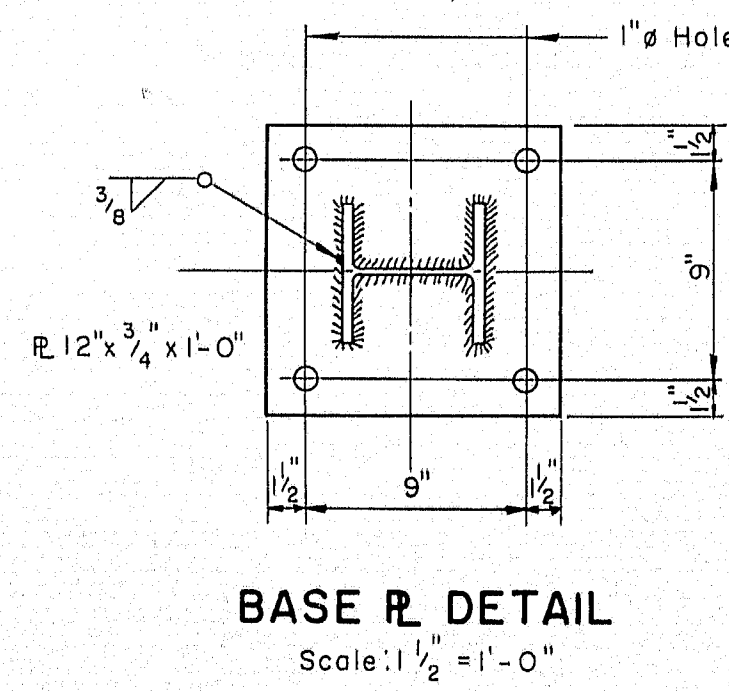


Scale: 1" = 1'-0"

Note: Segmental rollers to be vertical at 50°F. All anchor bolts to be set before concrete is placed.



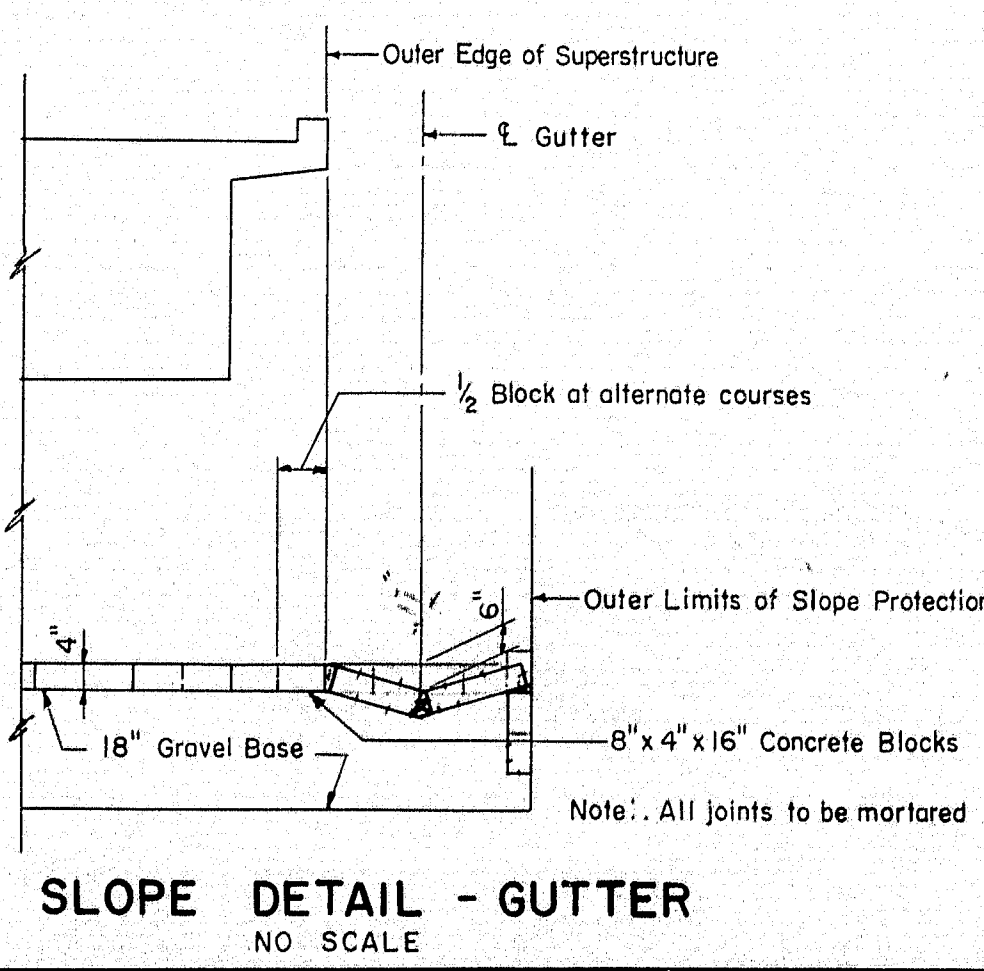
NO SCALE



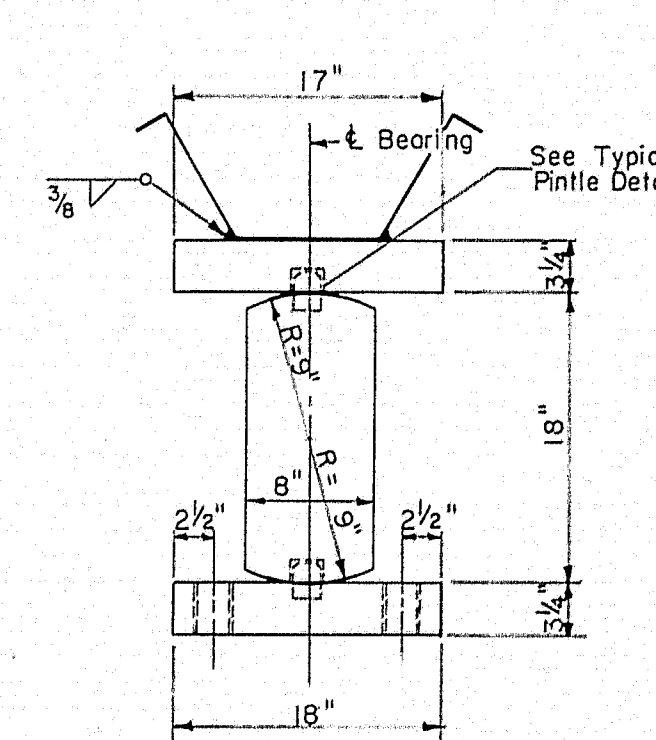
Scale: 1 1/2" = 1'-0"

DETAIL OF GUARD RAIL POST THRU APPROACH SLAB

Scale: 3/4" = 1'-0"



NO SCALE



HALF SCALE

ABUTMENT BEARING DETAILS

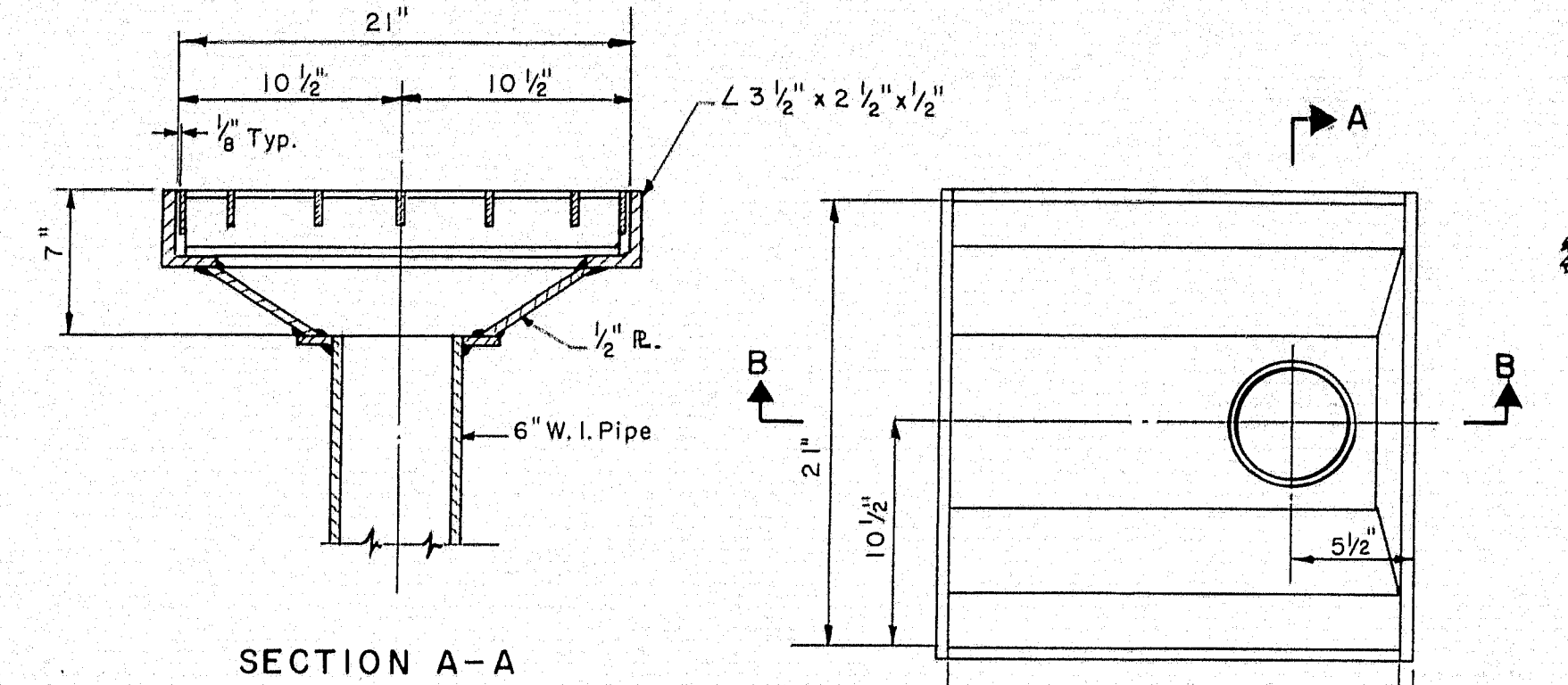
Scale: 1" = 1'-0"
Note: All anchor bolts to be 2" L bolts 2'-0" long (with washers and hex nuts). Set 18" into concrete.

THE CLARKSON ENGINEERING CO., INC.		
DESIGN R.F.B.Y.E.	CHECK Y.E. & R.F.	BRIDGE NO.
DRAWN V.C.S. & R.W.G.	APPROVED C.J.M.	SURVEY PLOT
STATE HIGHWAY COMMISSION		
STATE HIGHWAY # 80		
OVER		
KENDUSKEAG STREAM		
IN THE CITY OF		
BANGOR		
PENOBSCOT COUNTY		
DETAIL SHEET		
SHEET 10 OF 11 AUGUSTA, MAINE		

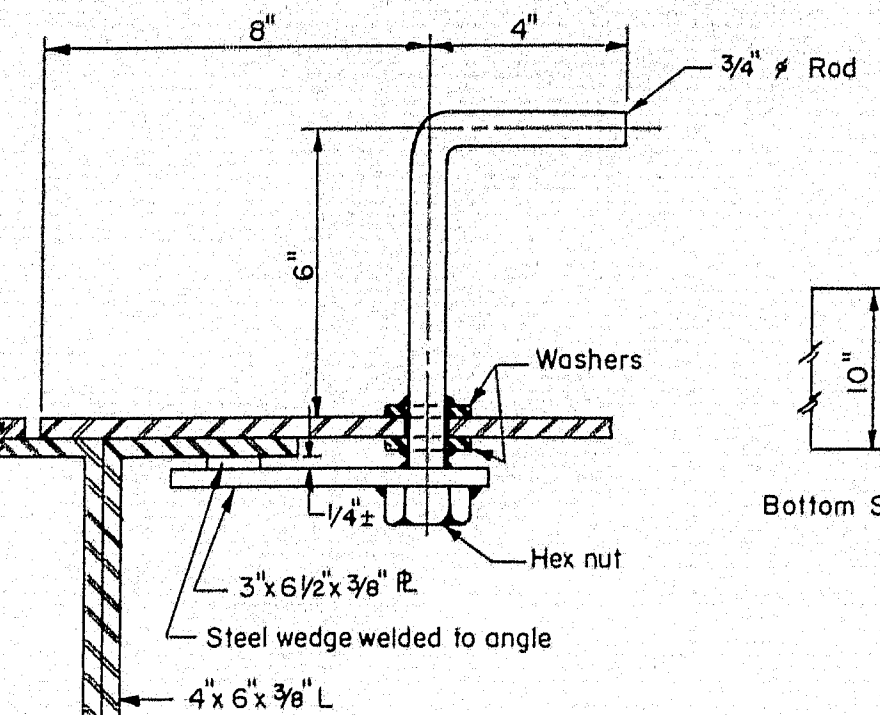
S.P.R.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	MAINE	1-080-8 (3)	48	62

BANGOR INTERSTATE

Note: All plates to be W.I. Inside surfaces of scuppers & pipes to be thoroughly coated with "Koppers" # 50 or approved equal.

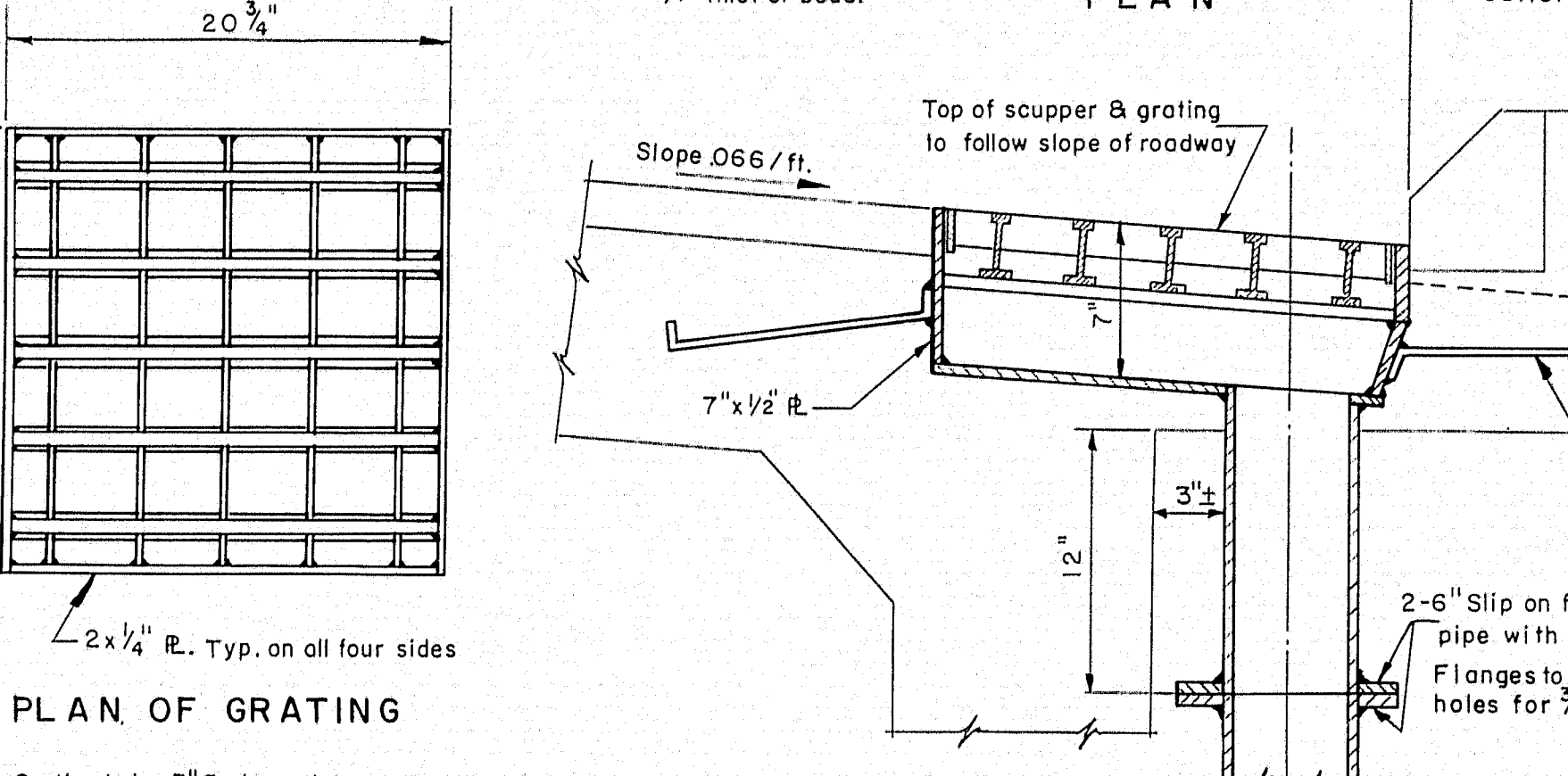


SECTION A-A



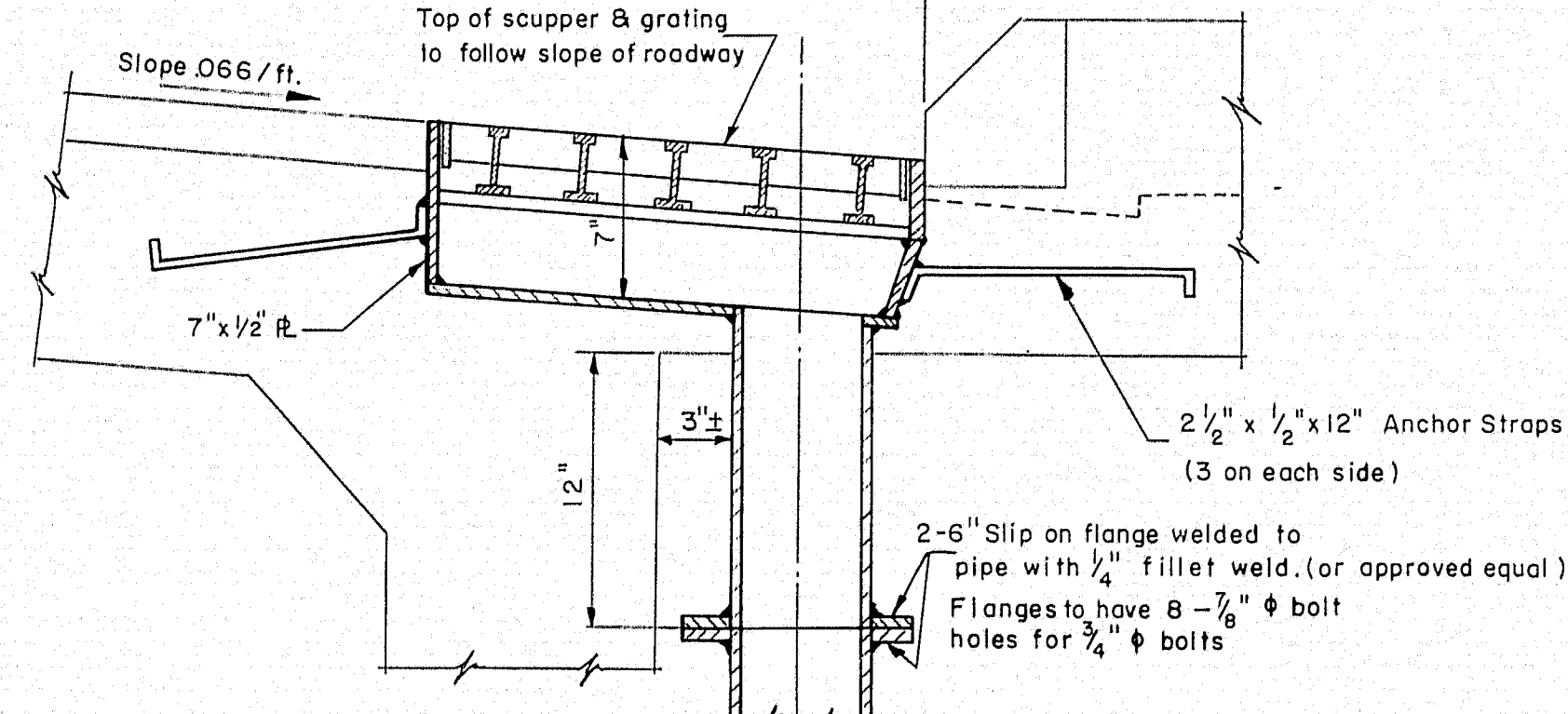
DETAIL B
Scale: 3" = 1'-0"

Note: All welds are continuous 1/4" fillet or bead.



PLAN OF GRATING

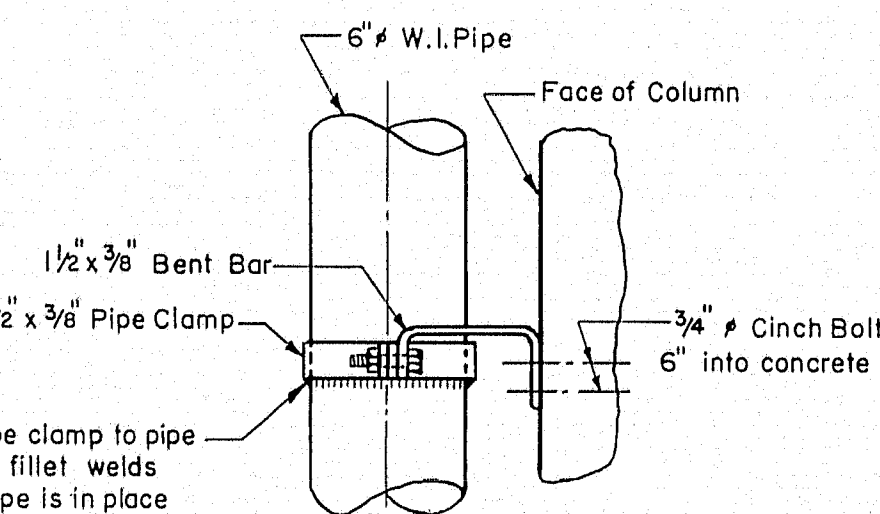
Note: Grating to be 3" I-beam loks or approved equal.



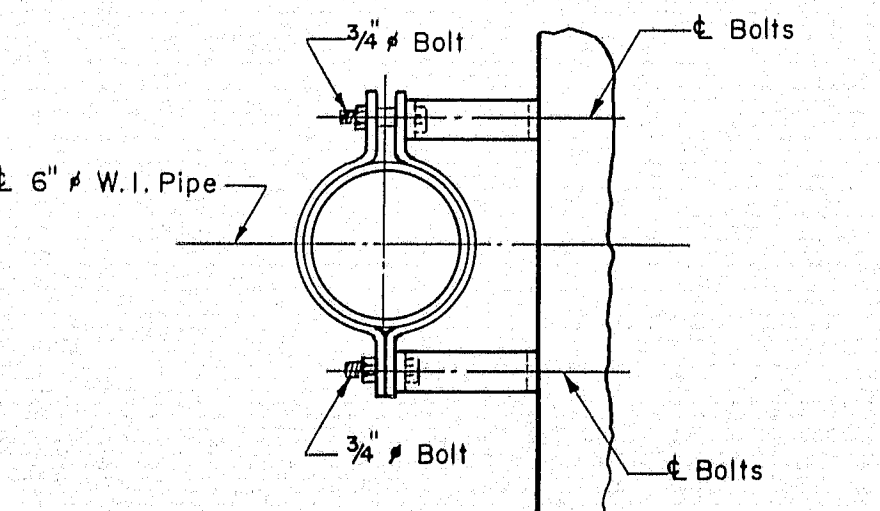
SECTION B-B

SCUPPER DETAILS

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

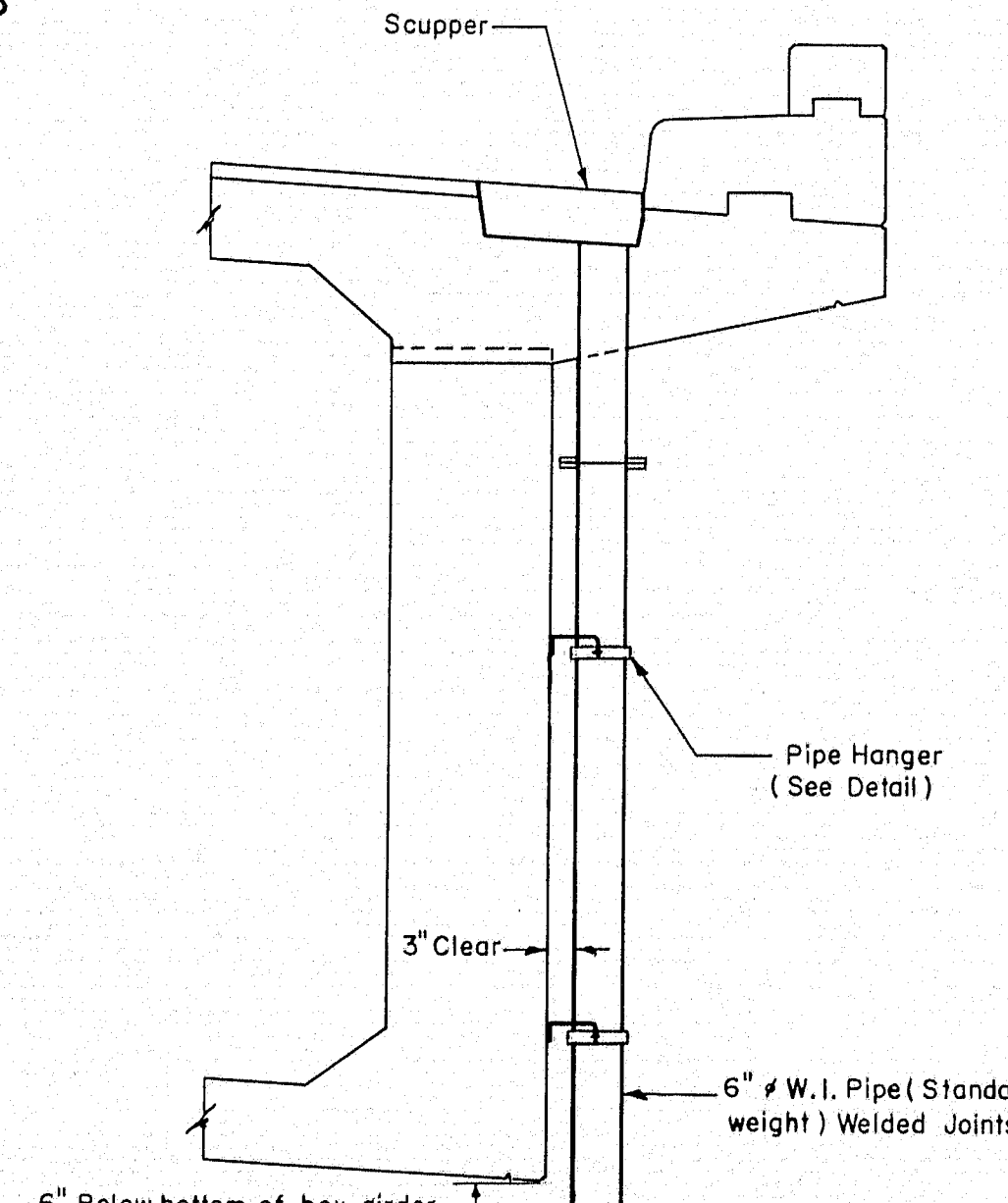


ELEVATION



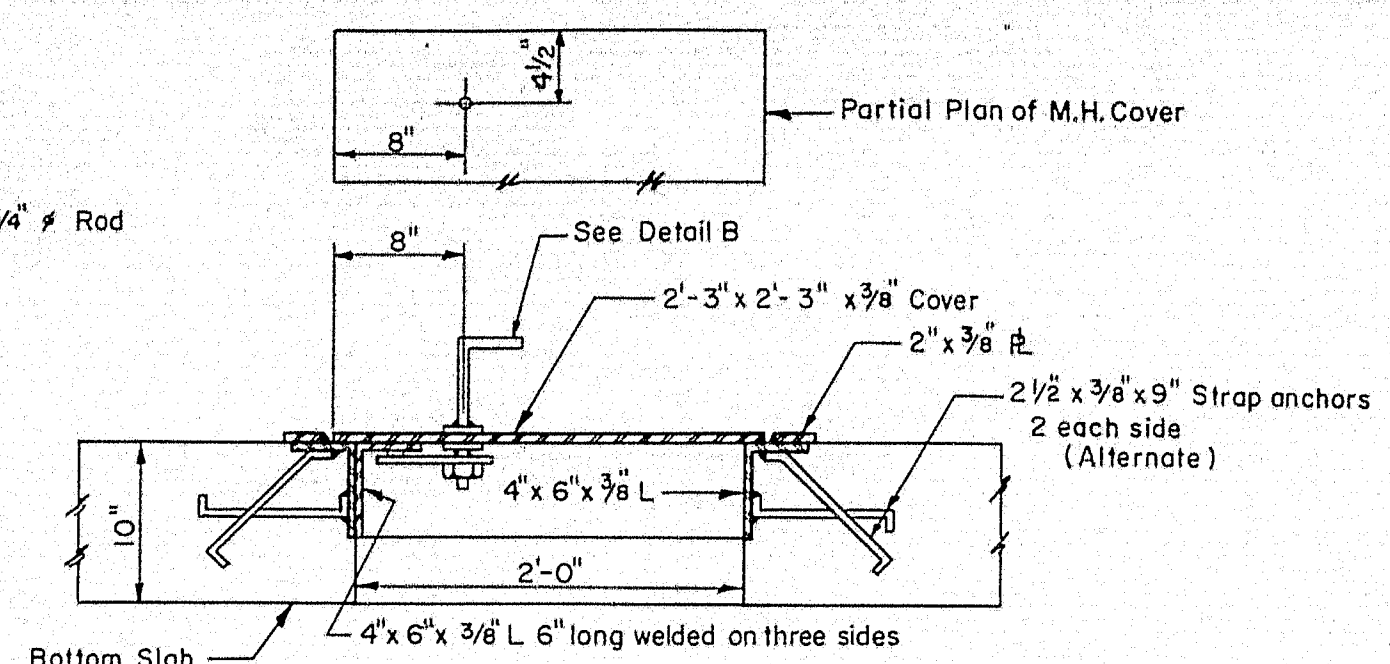
PIPE HANGER DETAIL

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



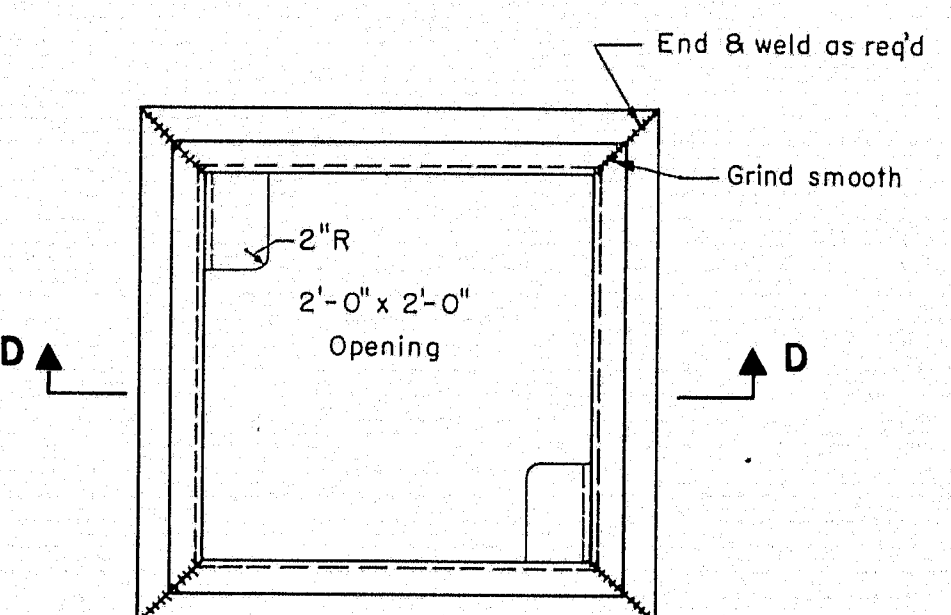
PIPE DETAILS AT SCUPPER

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

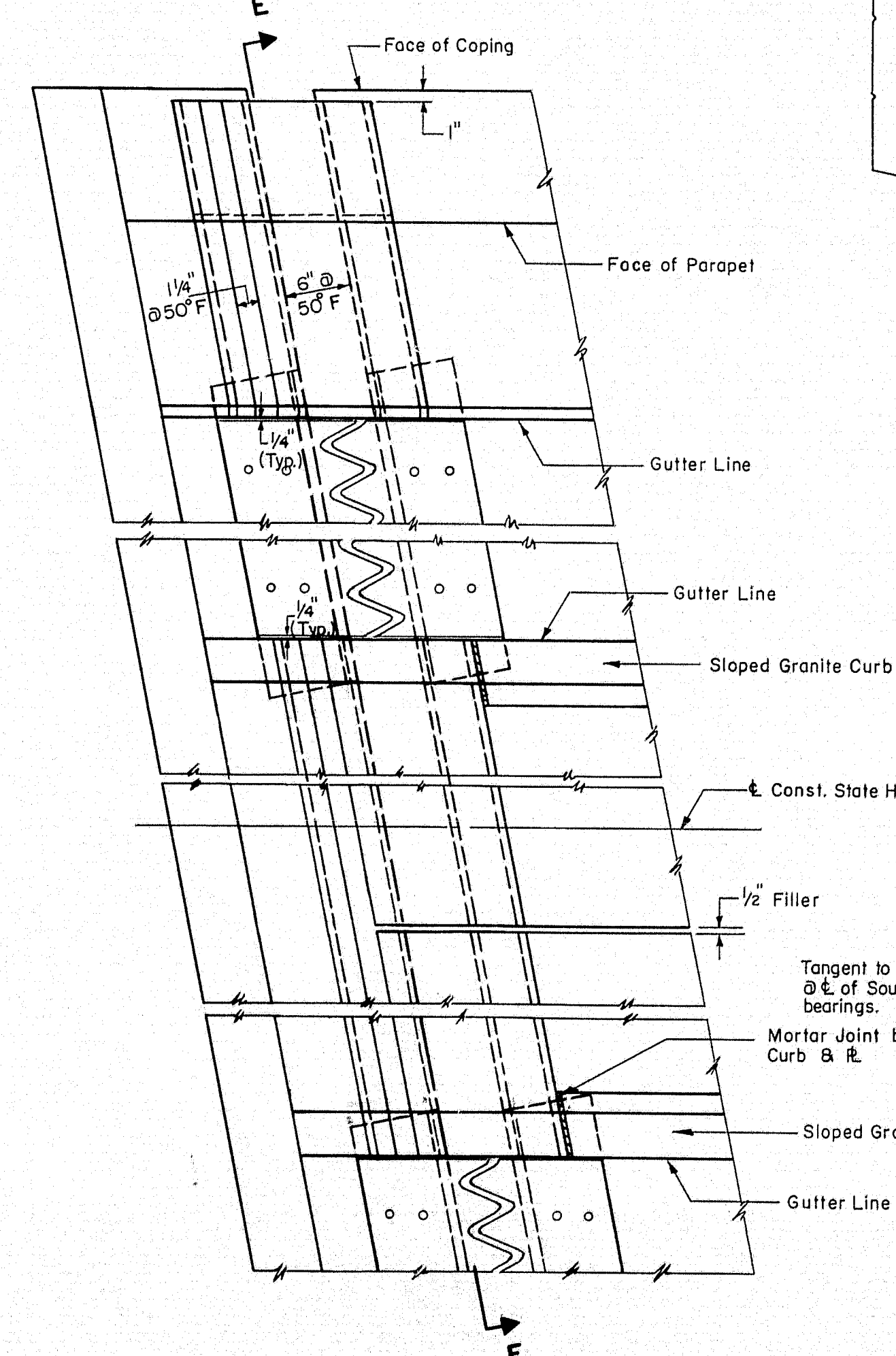


SECTION D-D

Note: All welds to be 1/4" fillet

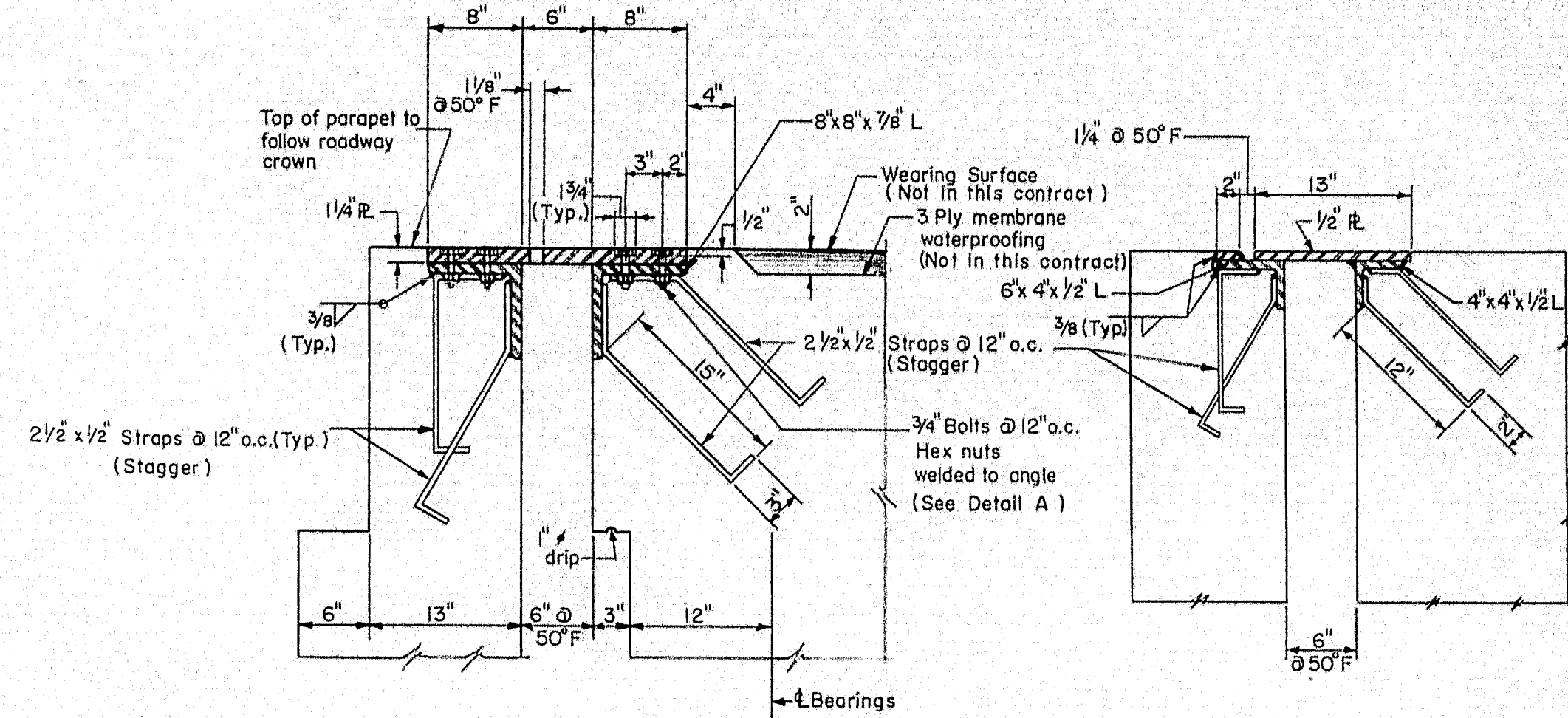


PLAN
INSPECTION MANHOLE DETAIL
(For Location See Sheet 3)
Scale: 1" = 1'-0"



PLAN OF EXPANSION JOINT (SOUTHERLY ABUTMENT)

Scale: 1" = 1'-0"



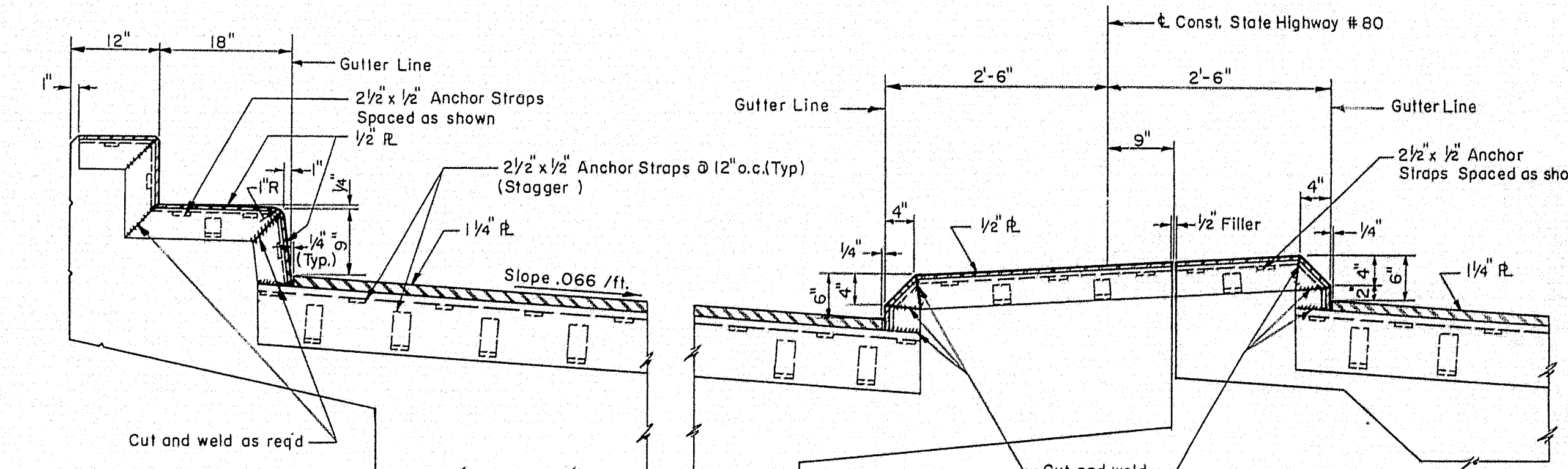
ROADWAY EXPANSION JOINT DETAIL (SOUTHERLY ABUTMENT)

Scale: 1" = 1'-0"

SIDEWALK EXPANSION JOINT DETAIL

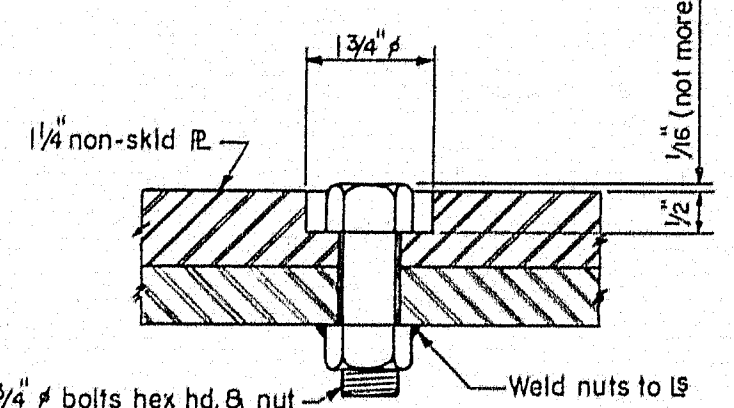
(Similar Joint to be used for median)

Scale: 1" = 1'-0"



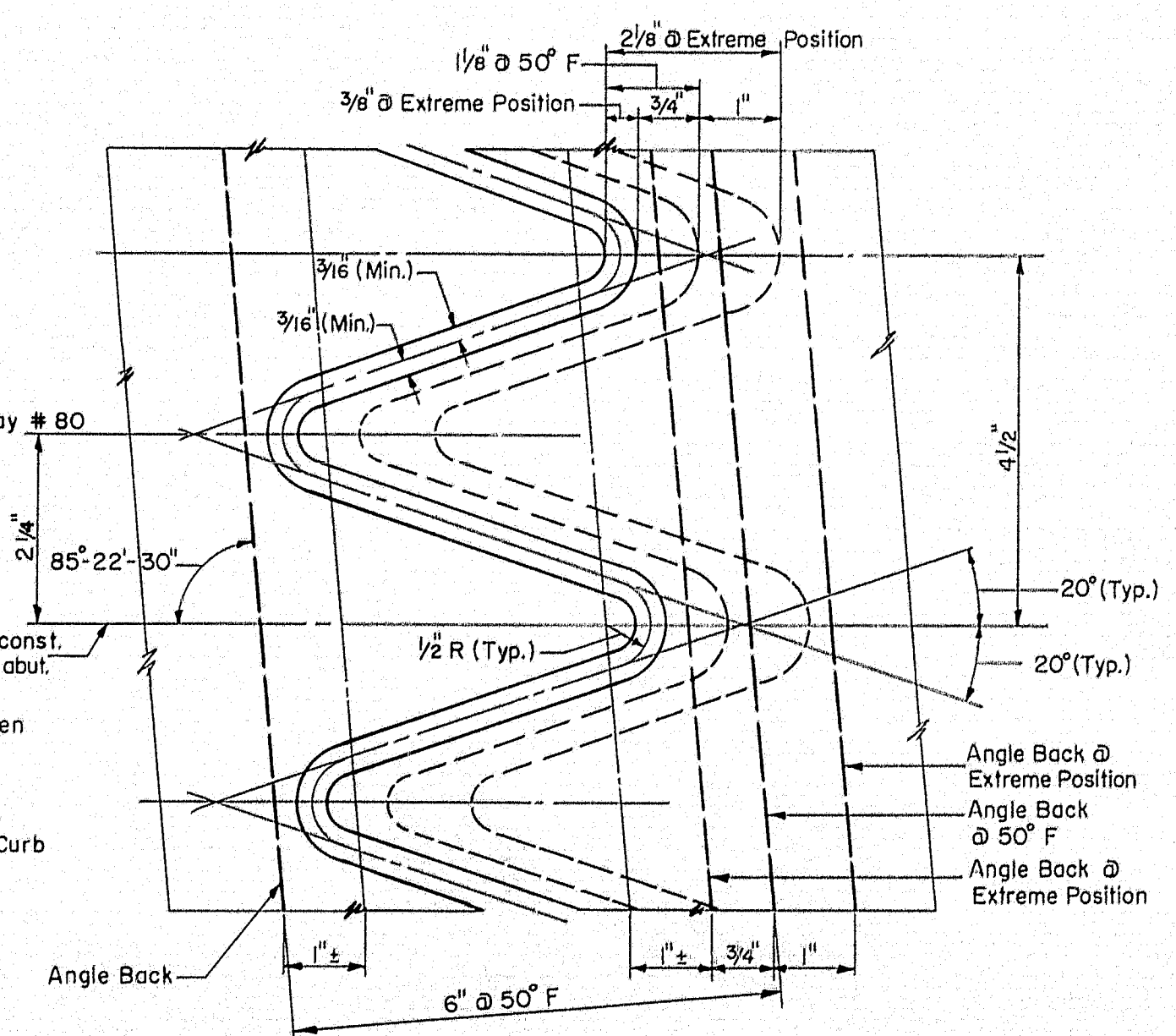
SECTION E-E

Scale: 3/4" = 1'-0"



DETAIL A

Scale: 1" = 1'-0"



EXPANSION TEETH DETAIL

Scale: 1/2" Size

THE CLARKSON ENGINEERING CO., INC.			
DESIGN Y.E.B.R.F.	CHECK R.F.B.Y.E.	BRIDGE NO	
DRAWN D.A.T.&E.K.	APPROVED C.J.M.	SURVEY PLOT	
STATE HIGHWAY COMMISSION			
STATE HIGHWAY # 80			
OVER			
KENDUSKEAG STREAM			
IN THE CITY OF			
BANGOR			
PENOBSCOT COUNTY			
DETAIL SHEET			
SHEET 11 OF 11 AUGUSTA, MAINE			