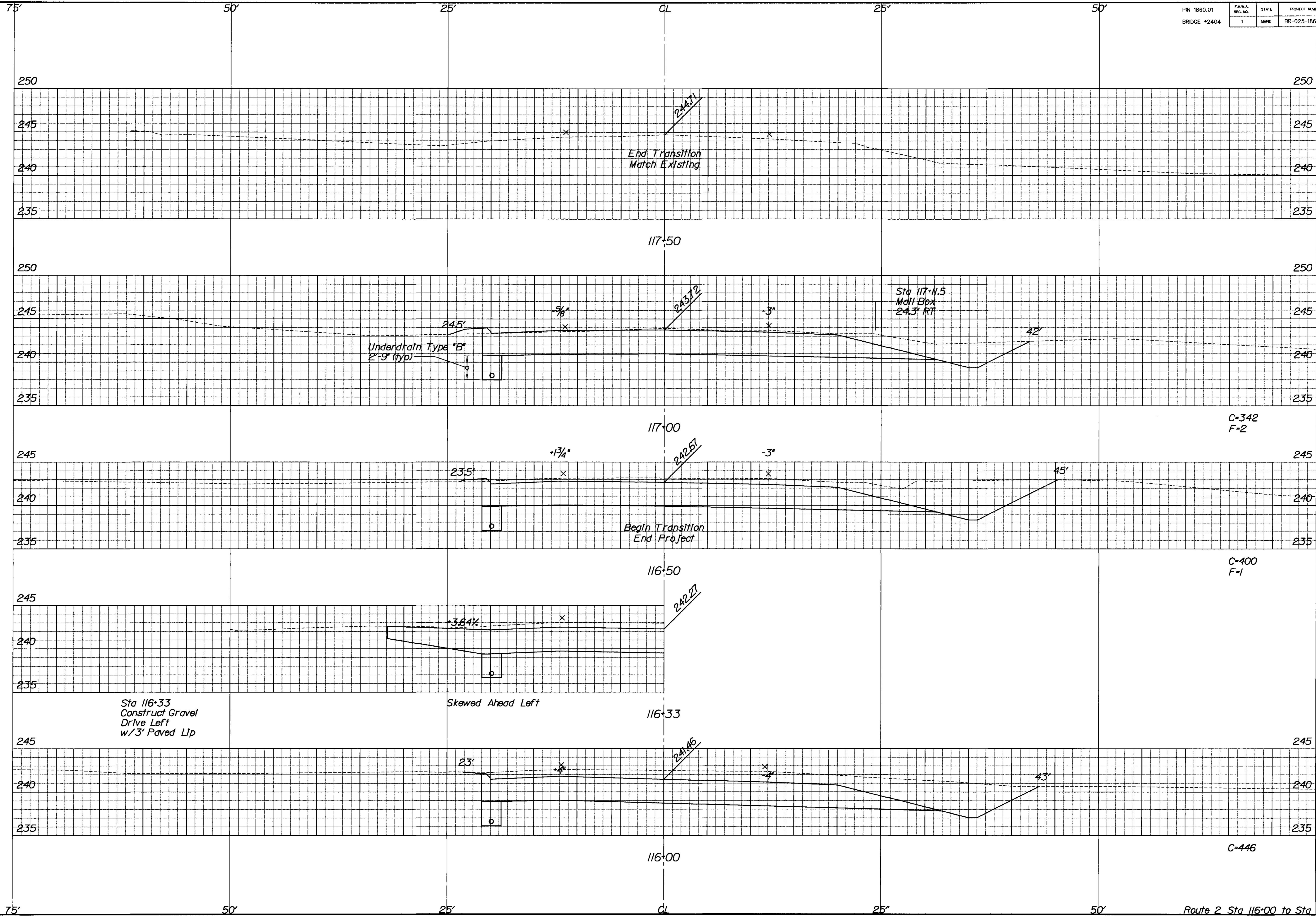


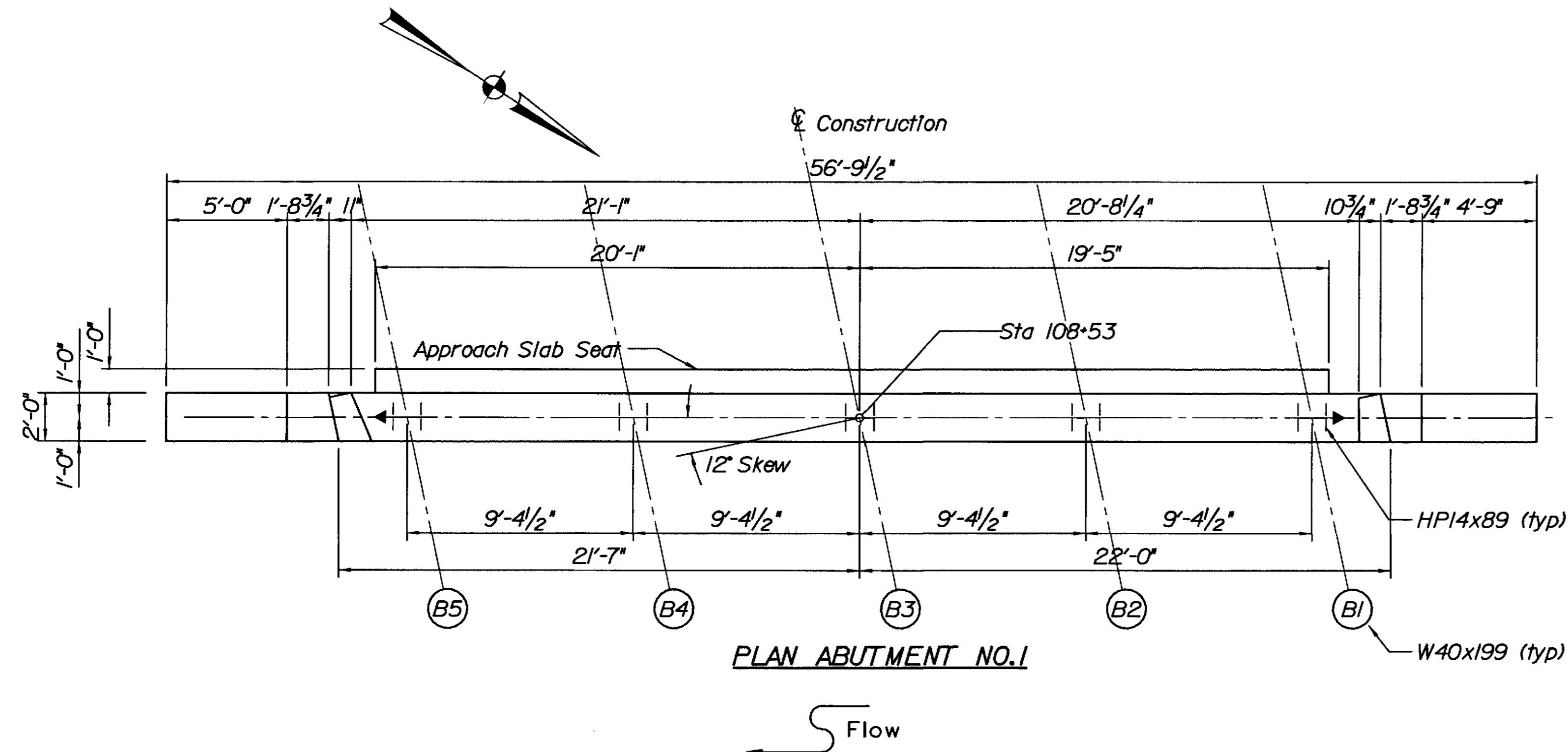
PROJECT DESIGN ENGINEER	EBC	DATE	11-96
DESIGN-DETAILED	JCC	BY	JCC
CHECKED	JAB	DATE	11-96
REVISIONS			
FIELD CHANGES			

**PLANS**



PROJECT DESIGN ENGINEER	EBC	DATE	11-96
DESIGN/DETAILED	JCC	BY	JCC
CHECKED	JMB	DATE	11-96
REVISIONS			
FIELD CHANGES			

**PLANS**

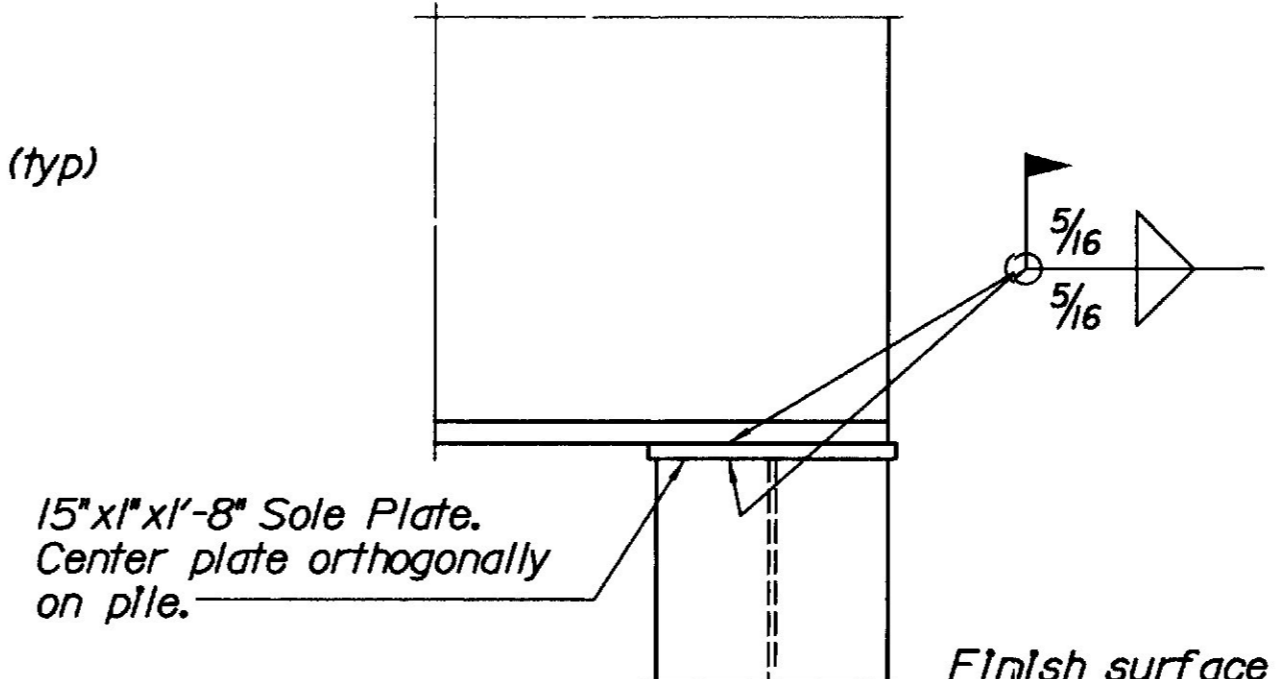


- ABUTMENT NOTES**
1. Reinforcing steel shall have 2 Inches cover unless otherwise indicated.
  2. All reinforcing steel shall be spaced at 12" in both directions unless otherwise noted.
  3. Protective coating for concrete surfaces shall be applied to the following areas:  
Top of concrete curbs.  
9' below top of abutment backwalls on the back side.
  4. French drains shall be placed along the entire length of the abutment and extend out to the fore slopes.

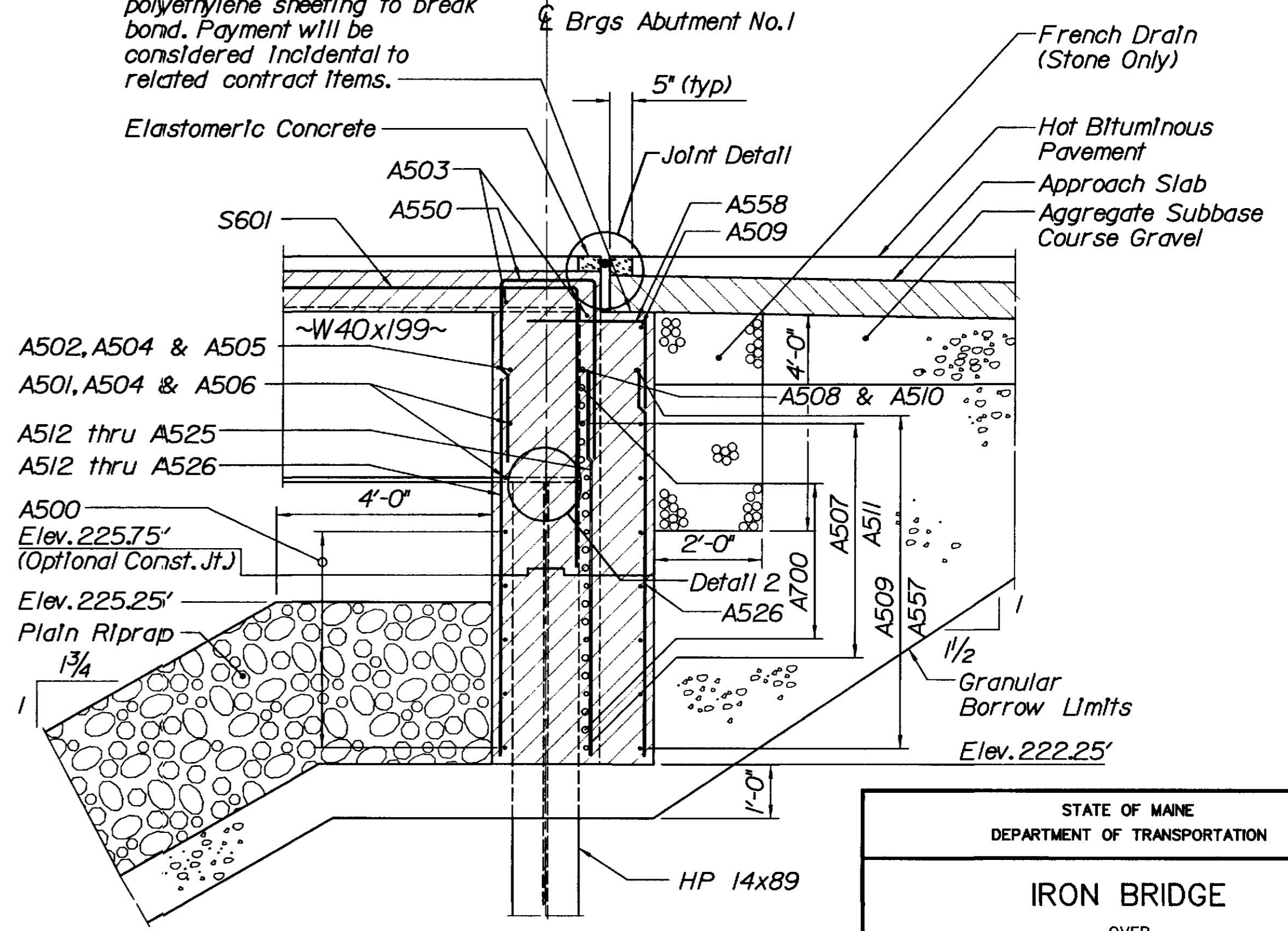
- PILE NOTES**
1. The required ultimate pile capacity of each HPI4x89 is 510 Kips based on a maximum design load of 170 kips and a safety factor of 3.
  2. The HPI4x89 pile size is governed by column action. A different pile size shall not be substituted without approval of the Engineer.
  3. A wave equation analysis of the pile driving equipment shall be completed by the Contractor and submitted to the Engineer for approval.
  4. Estimate of piles required:  
Abutment No.1 — 5 HPI4x89 @ 105'  
Abutment No.2 — 5 HPI4x89 @ 80'
  5. Piles shall not be out of position shown by more than two inches in any direction.
  6. Cut-off elevations for top of piles are as follows:  
Abutment No.1      Abutment No.2

B1	227.14	226.15
B2	227.34	226.35
B3	227.54	226.54
B4	227.36	226.36
B5	227.18	226.18

  7. Pile cut-off elevations are given at CL Bearing and CL Stringer. Cut pile to match beam slope prior to welding sole plate.
  8. Sole Plates will be considered structural steel and will be paid under Item 504.7 Structural Steel.
  9. H-beam pile material shall be AASHTO M270, Grade 50.



Finish surface smooth. Cover with (2) layers of 6 mil polyethylene sheeting to break bond. Payment will be considered incidental to related contract items.



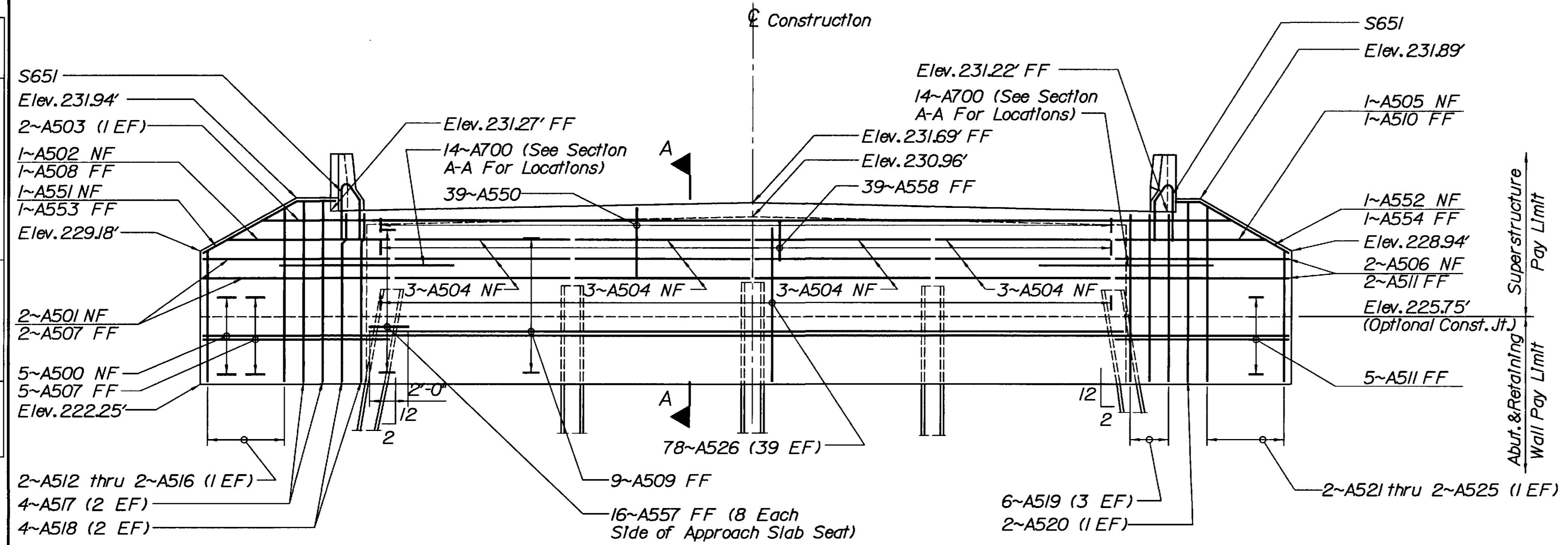
**SECTION A-A**

Note: Center A700 Rebar on Exterior Girders

Refer to Abutment 2 for Joint Details.

Refer to BD 501-93 For Approach Slab Details.

Refer to Superstructure Sheet for "S" Bars.



**ELEVATION ABUTMENT NO.1**

Note: Field adjust vertical rebar (A526 & A550) on near face to facilitate placement of W40x199 beams.

PROJECT DESIGN ENGINEER	EBC
DESIGN/DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

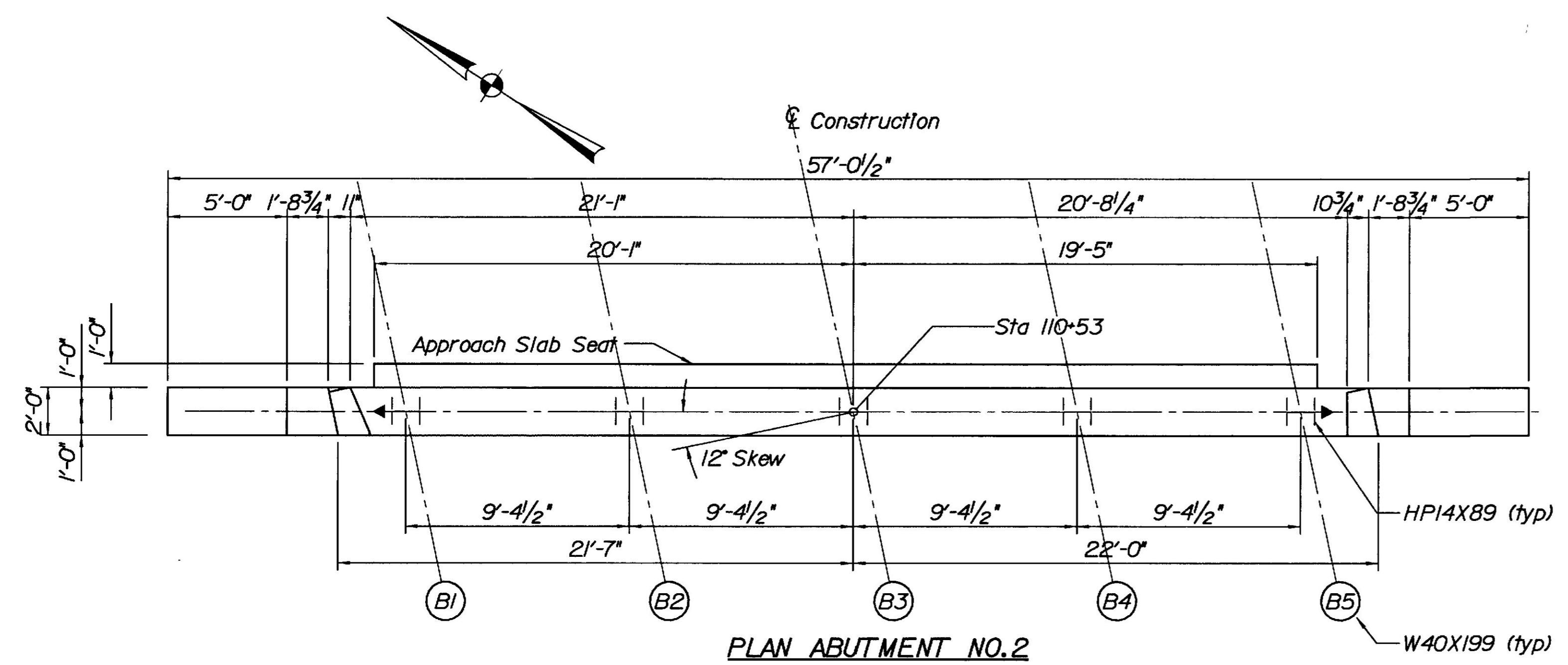
**PLANS**

DATE	BY	DATE
11-86	JCC	11-96
11-96	BSV	

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

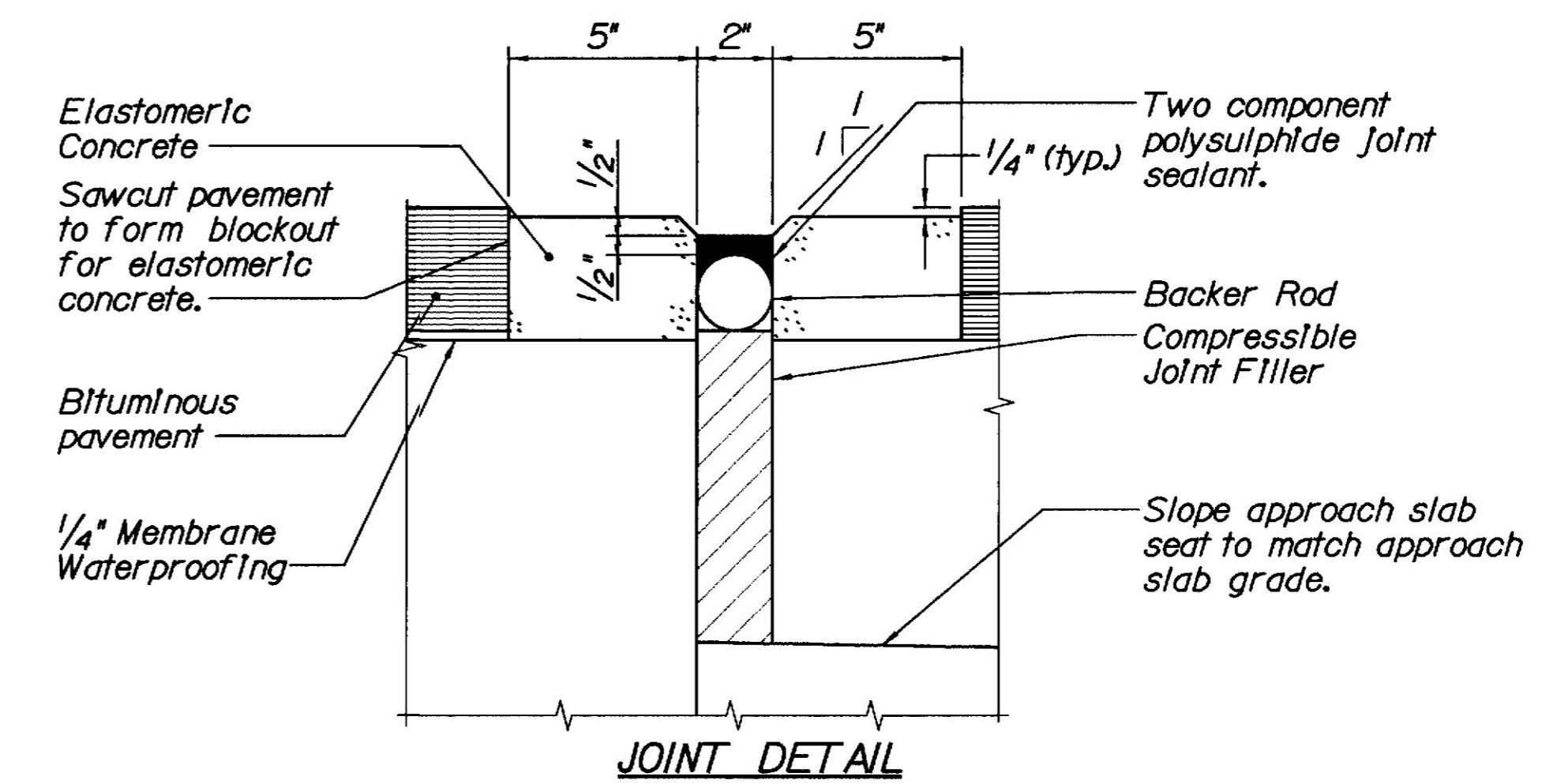
**IRON BRIDGE**  
OVER  
**SEBASTICOOK RIVER**  
IN THE TOWN OF  
**PALMYRA**  
SOMERSET COUNTY  
**ABUTMENT NO.1**

AUGUSTA, MAINE



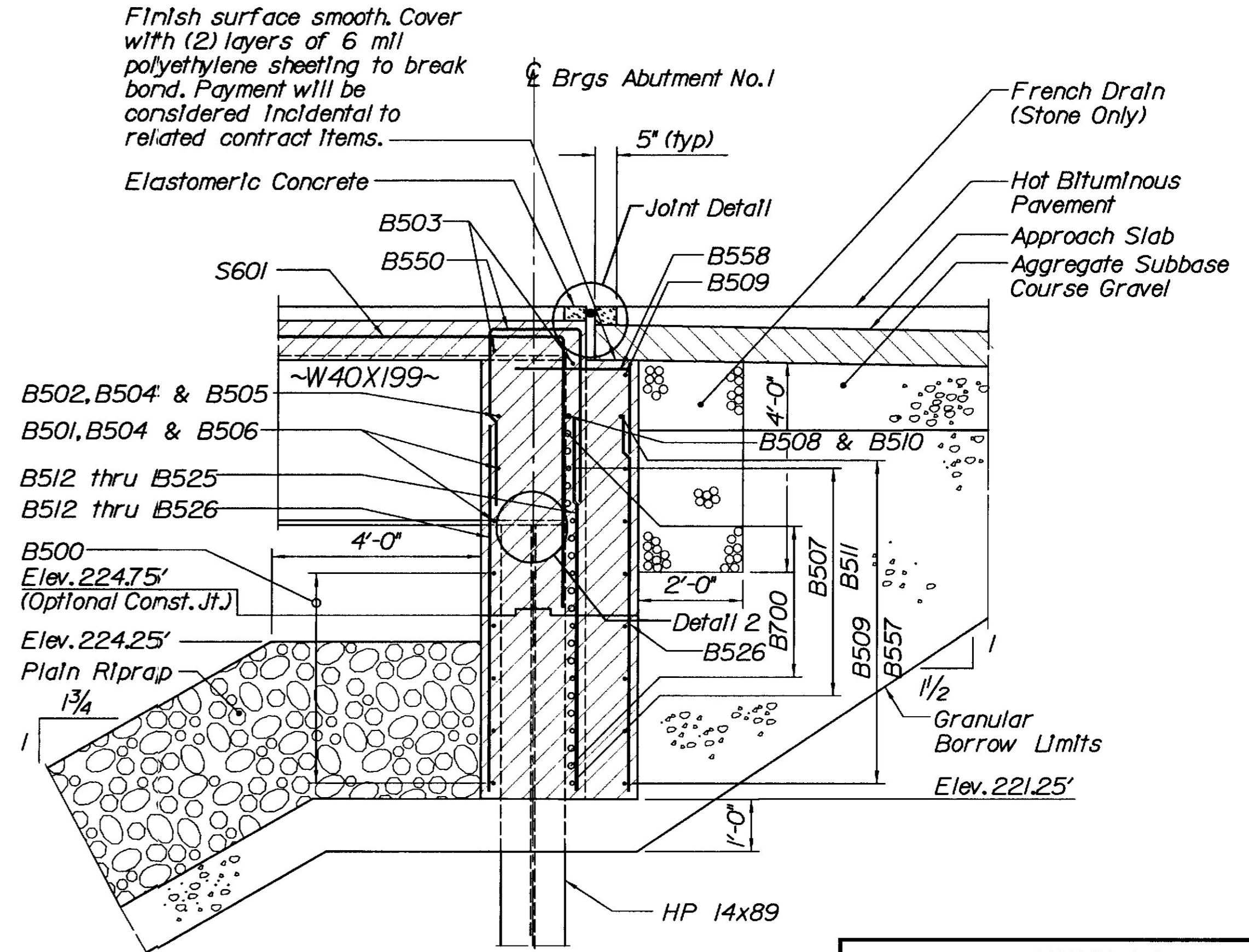
**PLAN ABUTMENT NO. 2**

Flow



**JOINT DETAIL**

Finish surface smooth. Cover with (2) layers of 6 mil polyethylene sheeting to break bond. Payment will be considered incidental to related contract items.

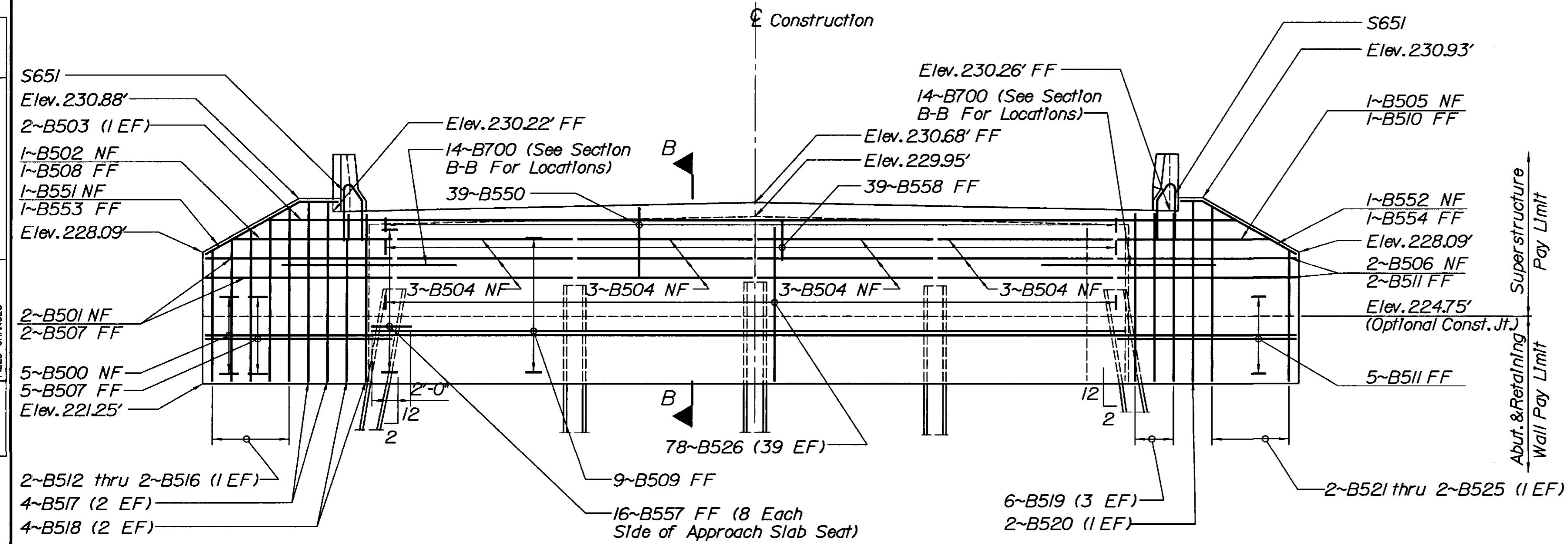


**SECTION B-B**

Note: Center B700 Rebar on Exterior Girders

Refer to BD 501-93 For Approach Slab Details.  
Refer to Superstructure Sheet for "S" Bars.

PROJECT DESIGN ENGINEER	EBC	DATE	11-96
CHECKED	JCC	DATE	11-96
DESIGN-DETAILED	JMB	DATE	11-96
REVISIONS	BSV	DATE	
FIELD CHANGES		DATE	



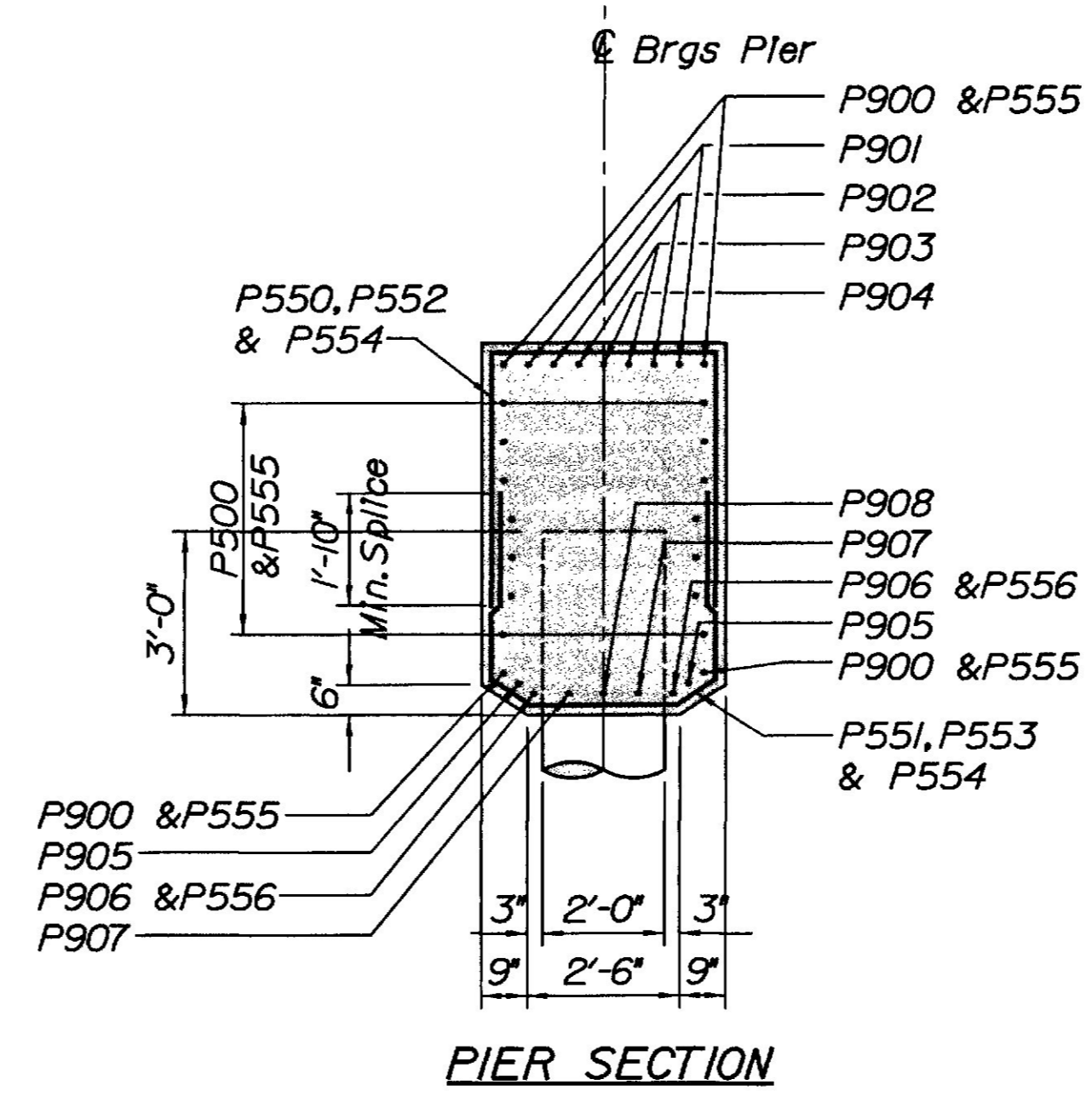
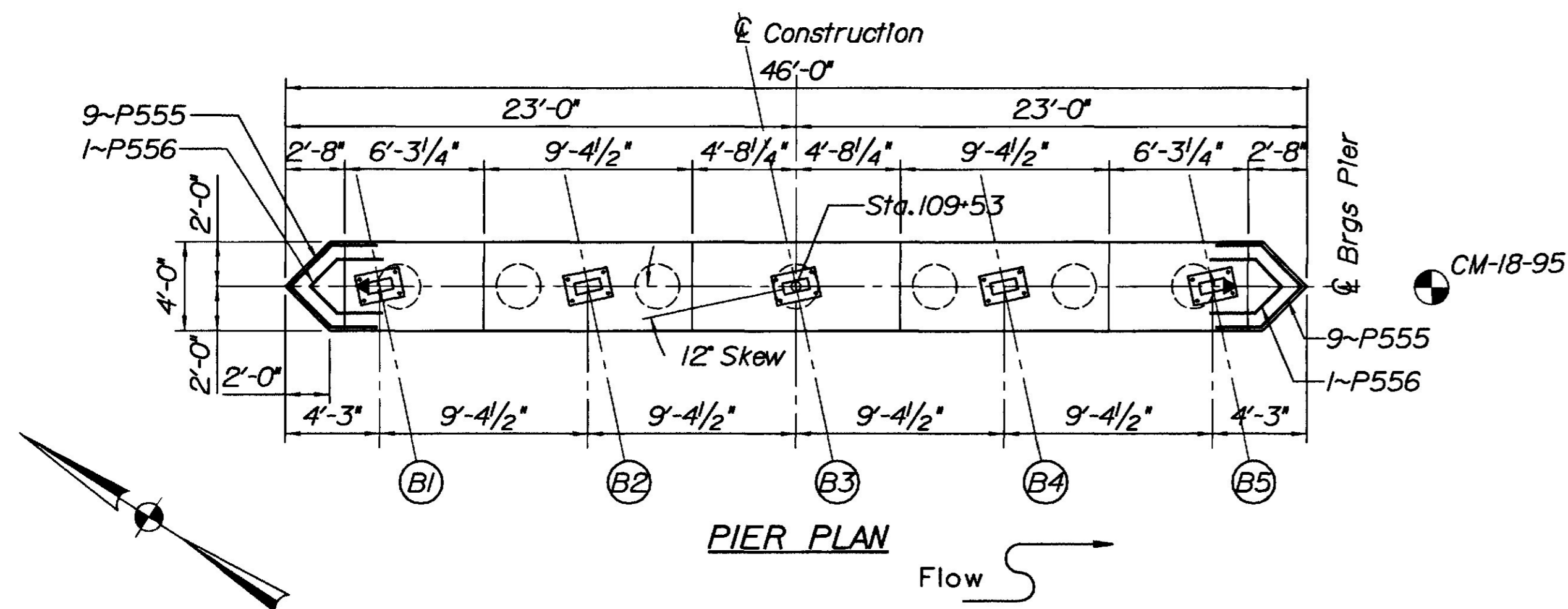
**ELEVATION ABUTMENT NO. 2**

Note:  
Field adjust vertical rebar (B526 & B550) on near face to facilitate placement of W40X199 beams.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

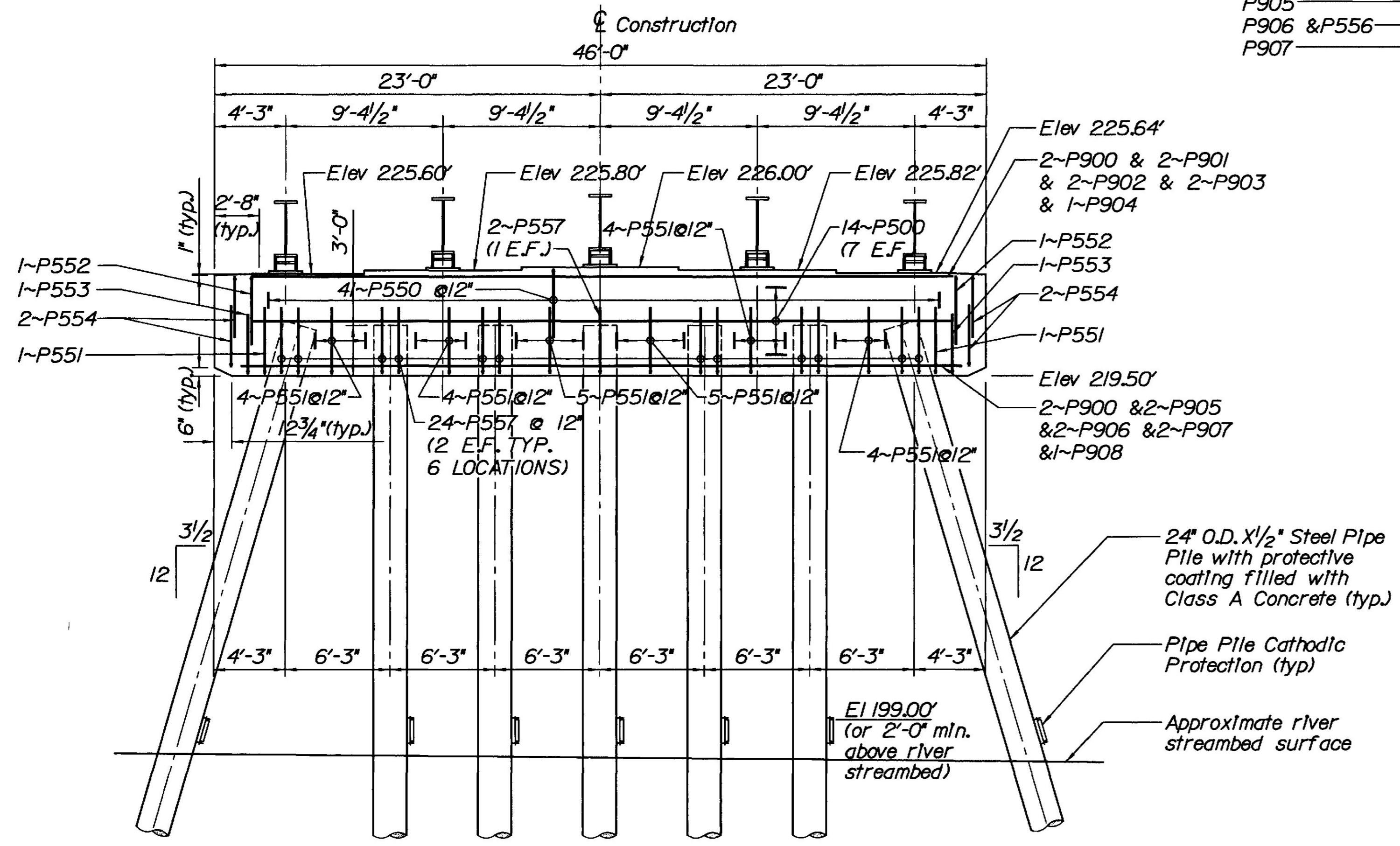
**IRON BRIDGE**  
OVER  
**SEBASTICOOK RIVER**  
IN THE TOWN OF  
**PALMYRA**  
SOMERSET COUNTY  
**ABUTMENT NO. 2**

AUGUSTA, MAINE



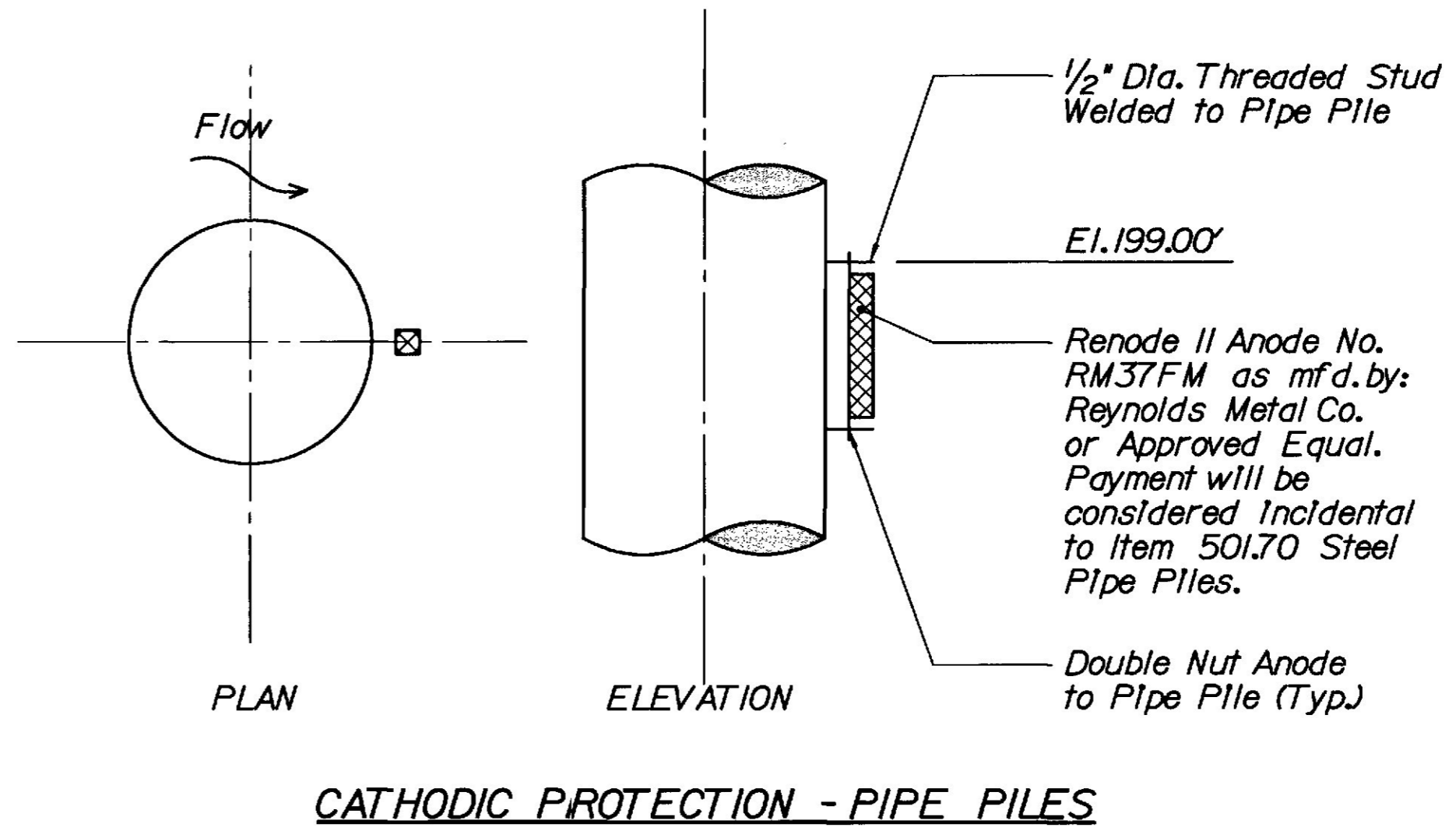
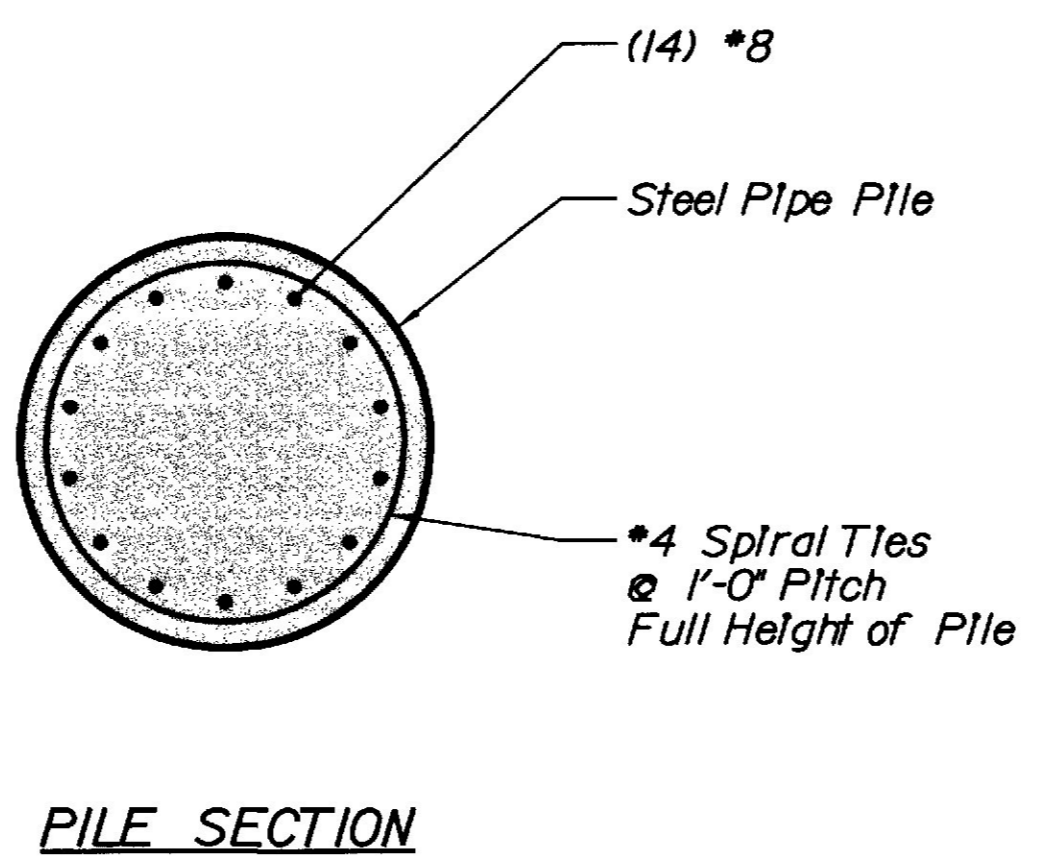
**PILE NOTES**

1. Estimated driven length of piles: 7 Piles at 76 feet, determined from available soils information with no allowance for uncertain pile penetration.
2. Pipe piles shall be pre-augured to El. 157.00' and then driven to practical refusal. The Contractor shall contain the riverbed spoils resulting from the pre-auguring. Payment for pre-auguring and containment will be considered incidental to Item 501.70 Steel Pipe Piles, in Place.
3. Piles shall not be out of position shown by more than two inches in any direction.
4. Embedment of piles in pier cap may vary between 2'-9" and 3'-3" and the actual embedment length up to a maximum of 3'-0" will be included in the measurement for payment.
5. All pipe piles shall have pointed cast steel prefabricated pile tips. Refer to BD 501-93 for pile tip details.
6. A wave equation analysis shall be performed by the Contractor for review by the Engineer.
7. A pile driving analyzer (PDA) shall be employed by the Contractor to verify that two piles, of the Geotechnical Engineer's choice, are driven to the required load capacity.
8. Pile material shall be ASTM A252, Grade 3, Fy=45,000 PSI.
9. Holes shall be provided in the pipe piles to allow placement of one P908 and two P907 longitudinal reinforcing bars.



**PIER NOTES**

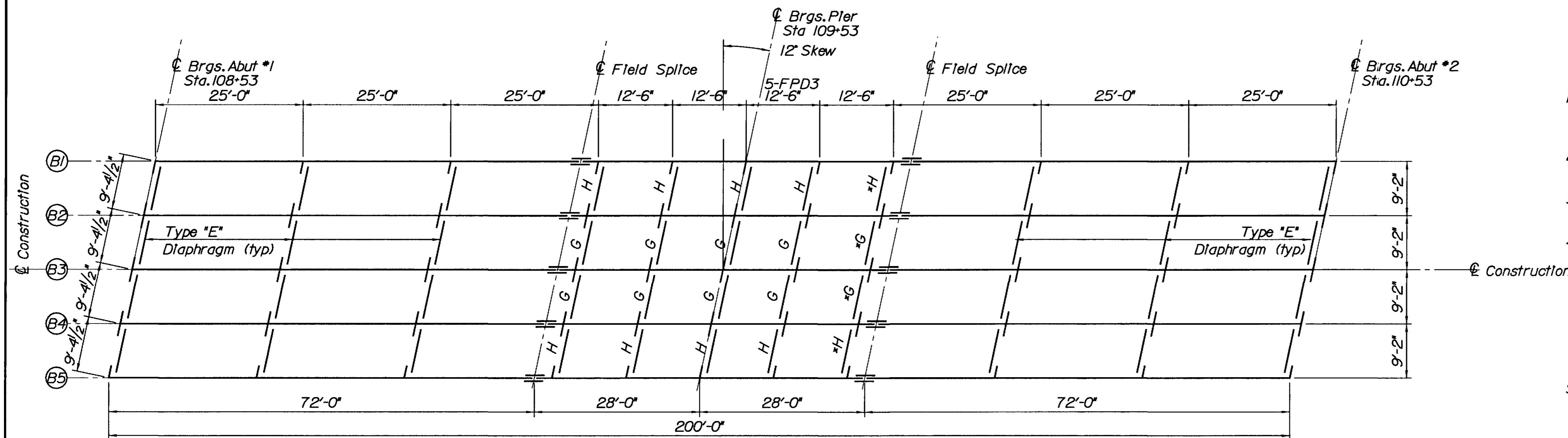
- Reinforcing steel shall have a 2 inch minimum cover unless otherwise indicated.
- Design Criteria*
1. Critical AASHTO Loading - Group VIII
  2. Buoyancy - Water level assumed at Elevation 222.00 (Q50)
  3. Stream flow - Velocity of 3.4 feet per second skewed at 0 degrees to longitudinal centerline of pier.
  4. Wind - 100 mph.
  5. Ice - Thickness 18 inches, pressure 100 psi at Elevation 222.00 (Q50) or pressure 200 psi at Elevation 216.50 (Q11), 30 percent of nose force applied transverse to pier.



PROJECT DESIGN ENGINEER	EBC	DATE	11-96
DESIGN-DETAILED	JCC	DATE	11-96
CHECKED	JMB	DATE	11-96
REVISIONS	BSV	DATE	11-96
FIELD CHANGES		DATE	

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

**IRON BRIDGE**  
 OVER  
**SEBASTICOOK RIVER**  
 IN THE TOWN OF  
**PALMYRA**  
 SOMERSET COUNTY  
**PIER DETAILS**  
 AUGUSTA, MAINE



**FRAMING PLAN**

**STRUCTURAL STEEL NOTES**

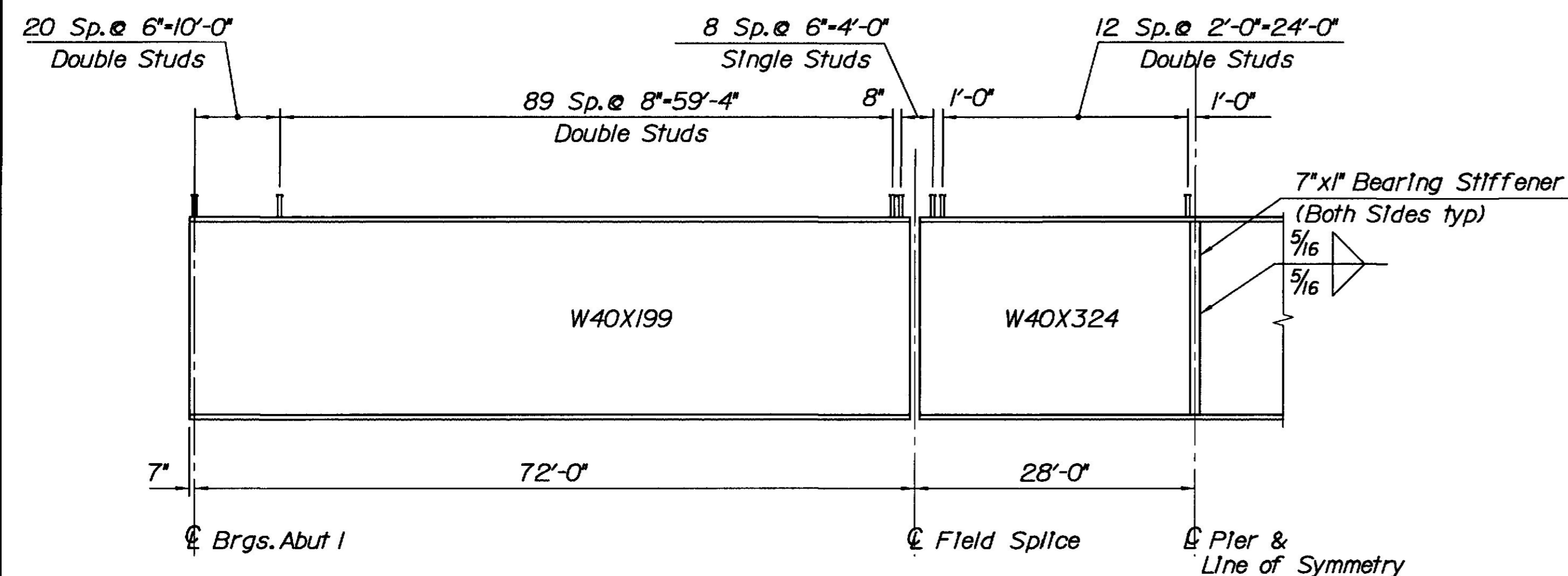
1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.
2. Bearing stiffeners shall be plumb after erection and dead loading of the structure.
3. Cross-frame or diaphragm connection plates may be either plumb or normal to the top flange.
4. At locations marked with an asterisk (\*) the designated diaphragms may be changed to a Type B diaphragm as required to accommodate the Contractor's deck placement sequence. No extra compensation will be allowed for any diaphragms so substituted, and any additional costs will be considered incidental to the contract items.

**BASIC DESIGN STRESSES**

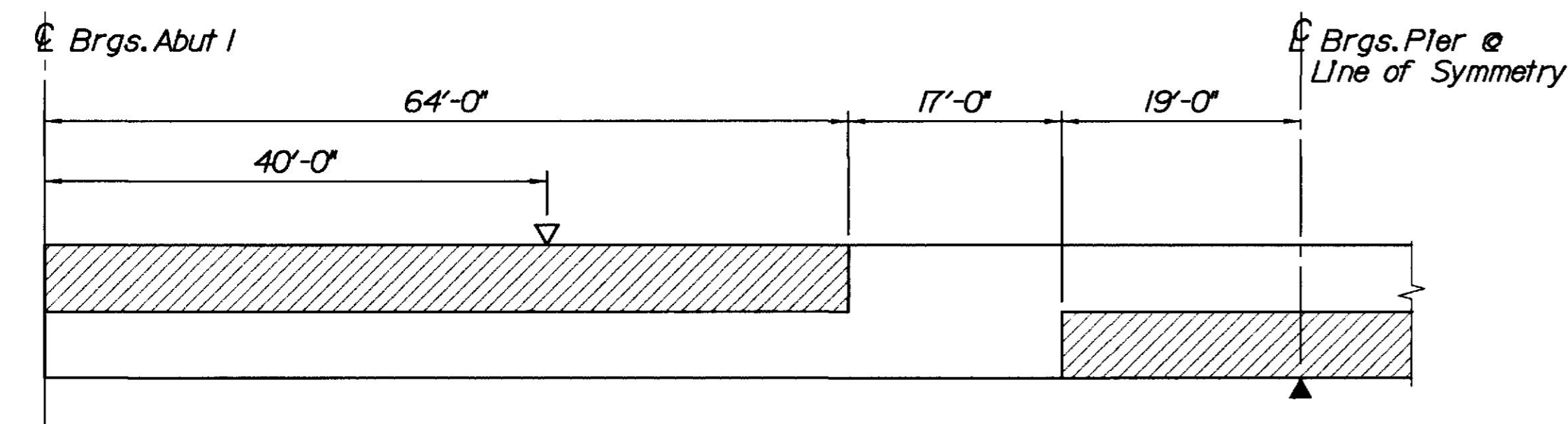
STRUCTURAL STEEL AASHTO M270 Grade 50W  $F_y=50,000$  psi  
 ASTM A325  $F_v=25,000$  psi

**MATERIALS**

STRUCTURAL STEEL: All Material AASHTO M270, GRADE 50W  
 (Except as otherwise noted) (unpainted)  
 High Strength Bolts ASTM A325 - Type 3

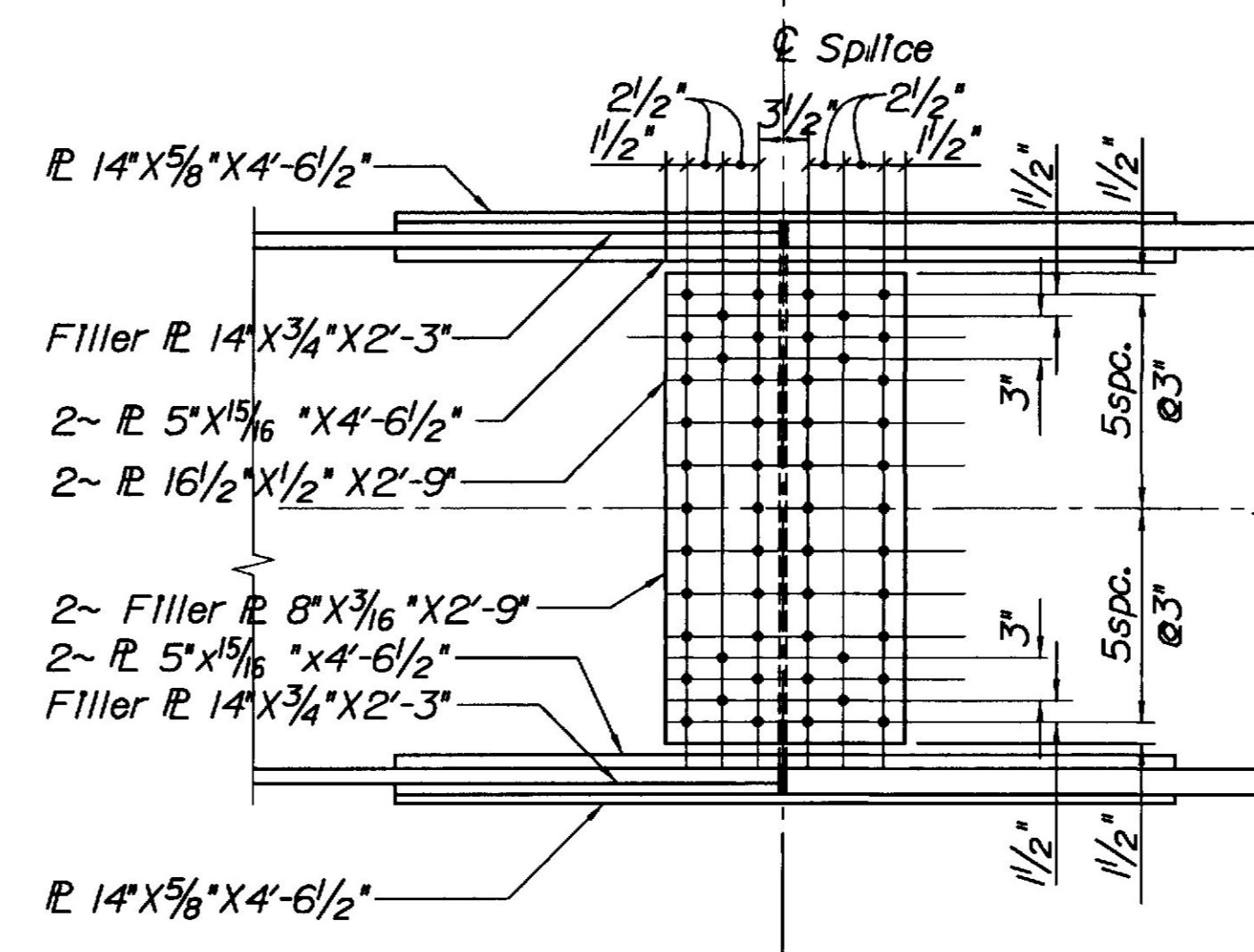
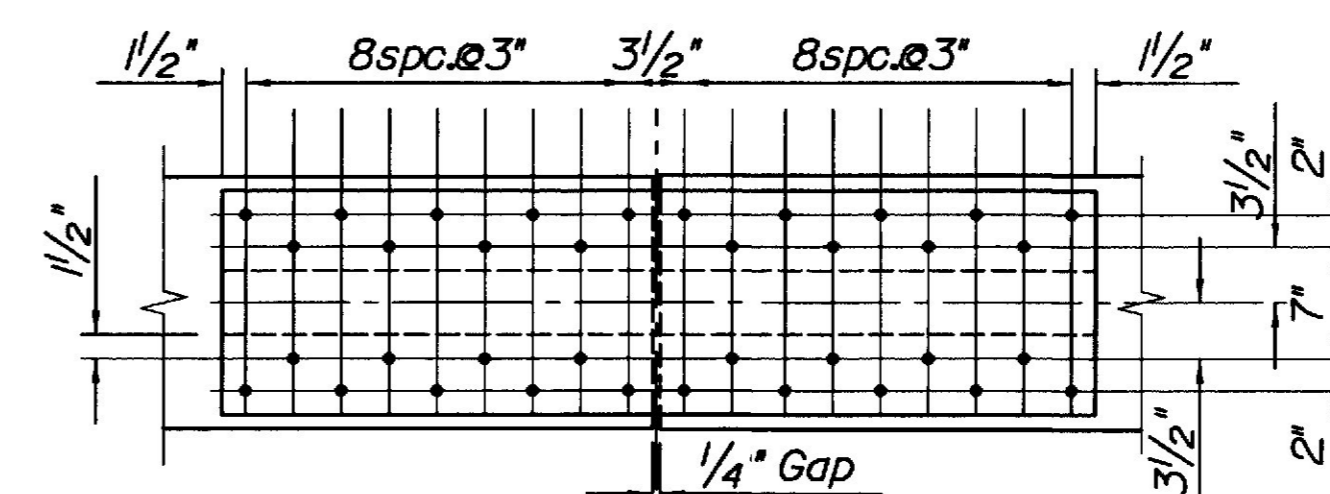


**BEAM ELEVATION AND STUD LAYOUT**  
 510 Studs Per Beam (2550 Studs Total)

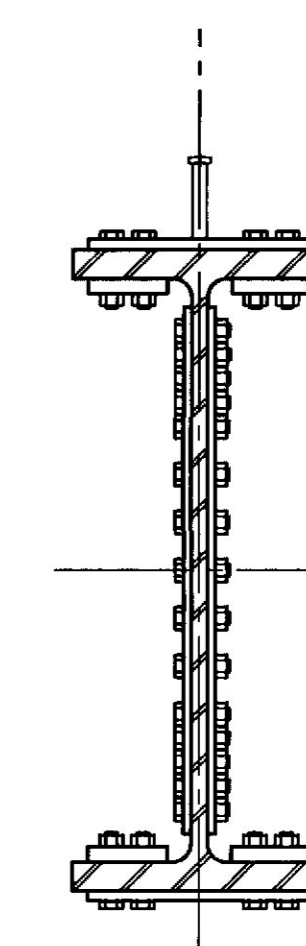


**BEAM STRESS DIAGRAM**

- ▨ Indicates areas always in compression. All other areas are in tension or have stress reversal at service loads.
- ▽ Point of maximum positive moment.
- ▲ Point of maximum negative moment.



**TYPICAL BEAM SPLICE**



Refer to Superstructure Detail Sheet for Camber Diagram.

STATE OF MAINE  
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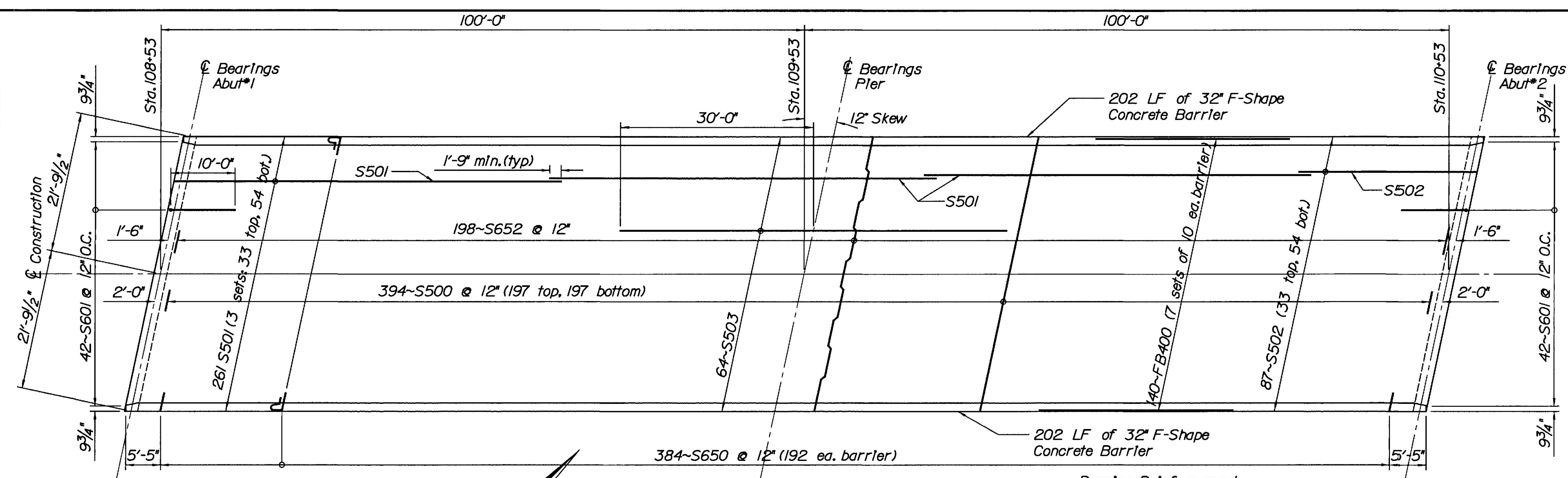
IRON BRIDGE  
 OVER  
 SEBASTICOOK RIVER  
 IN THE TOWN OF  
 PALMYRA  
 SOMERSET COUNTY  
 FRAMING PLAN

AUGUSTA, MAINE

PROJECT DESIGN ENGINEER	EBC	DATE	11-98
CHECKED	EBC	BY	JCC
REVISIONS		DATE	11-98
FIELD CHANGES			

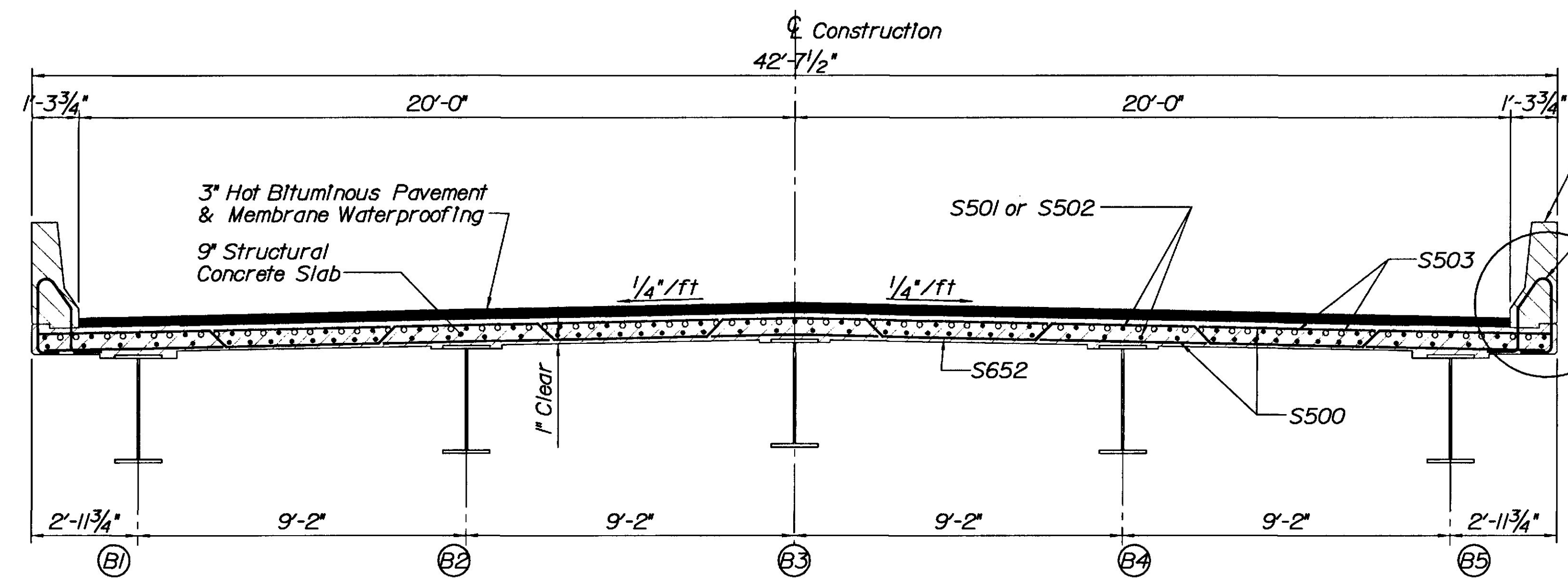
**SUPERSTRUCTURE NOTES**

1. Form a 1" V-groove on the fascias at the horizontal joint between the curb and slab.
2. Reinforcing steel shall have a minimum cover of 2" unless otherwise indicated.
3. Unless the superstructure slab concrete is placed in one continuous operation, the initial placement shall start at a simply supported end of the deck slab and shall terminate at the completion of a positive moment section. Successive placements shall proceed from the end of the previous placement, terminate at the completion of a positive moment section, and include two or more spans. The placement sequence of the superstructure slab concrete shall be approved by the Engineer. Concrete in a placement shall be kept plastic one complete span behind the span being placed. A minimum of five days shall elapse between successive partial placements.
4. Protective coating for concrete surfaces shall be applied to the following areas:  
  - Barrier Faces
  - Fascia down to the drip notch.
5. All barrier concrete shall contain a Silica Fume Additive.

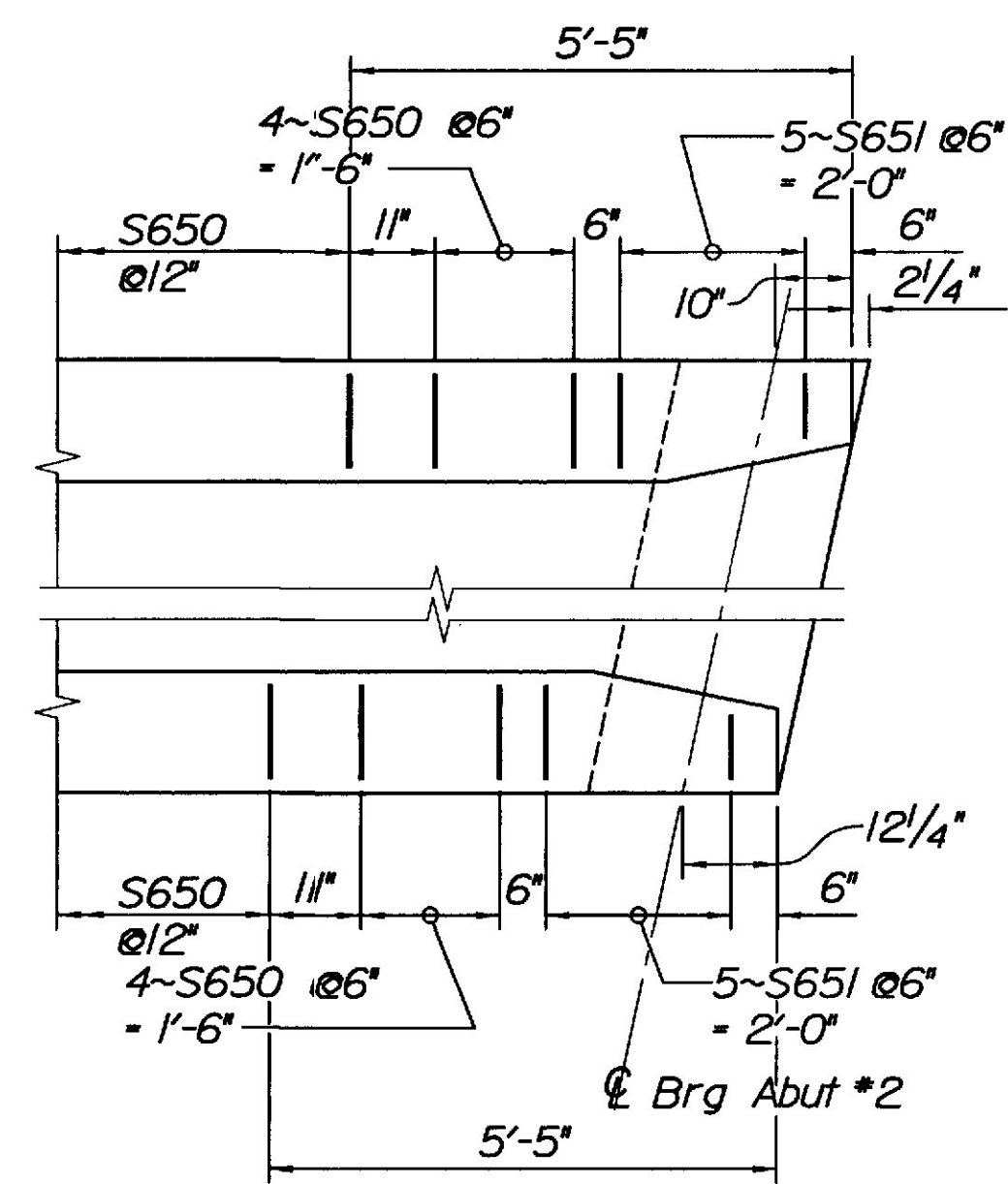


**PLAN SUPERSTRUCTURE**

**Barrier Reinforcement Note:**  
 16-S650 (4 each corner)  
 20-S651 (5 each corner)  
 56-FB500 (14 each corner)  
 4-FB550 (1 each corner)  
 4-FB551 (1 each corner)  
 40-FB600 (10 each corner)  
 (see BD 461-95 for spacing)



**TRANSVERSE SECTION**



**BARRIER PLAN ABUTMENT #2**  
 (Abutment #1 similar)

Refer to Superstructure Details for Bottom of Slab Elevations and Miscellaneous Details.

PROJECT DESIGN ENGINEER	EBC	DATE	11-98
DESIGN-DETAILED	JCC	BY	JCC
CHECKED	BSV	JAB	BSV
REVISIONS			
FIELD CHANGES			

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

**IRON BRIDGE**  
 OVER  
**SEBASTICOOK RIVER**  
 IN THE TOWN OF  
**PALMYRA**  
 SOMERSET COUNTY  
**SUPERSTRUCTURE**

AUGUSTA, MAINE

**BOTTOM OF SLAB ELEVATIONS**

Bm\Off	Abut #1	+10'-0"	+20'-0"	+30'-0"	+40'-0"	+50'-0"	+60'-0"	+70'-0"	+80'-0"	+90'-0"	Pier	+10'-0"	+20'-0"	+30'-0"	+40'-0"	+50'-0"	+60'-0"	+70'-0"	+80'-0"	+90'-0"	Abut #2
Beam 1	230.53	230.55	230.56	230.55	230.51	230.45	230.37	230.28	230.18	230.09	230.03	229.99	229.98	229.98	229.97	229.95	229.91	229.85	229.76	229.65	229.53
Beam 2	230.73	230.76	230.77	230.77	230.73	230.67	230.59	230.49	230.39	230.30	230.23	230.20	230.19	230.19	230.19	230.17	230.13	230.07	229.97	229.86	229.73
Beam 3	230.93	230.96	230.98	230.97	230.94	230.87	230.79	230.69	230.59	230.50	230.43	230.40	230.39	230.39	230.39	230.37	230.34	230.27	230.17	230.06	229.93
Beam 4	230.75	230.78	230.79	230.79	230.75	230.69	230.61	230.51	230.41	230.32	230.25	230.22	230.21	230.21	230.21	230.19	230.15	230.09	229.99	229.88	229.75
Beam 5	230.57	230.59	230.60	230.58	230.55	230.49	230.41	230.32	230.22	230.13	230.07	230.03	230.02	230.02	230.01	229.99	229.95	229.88	229.80	229.69	229.57

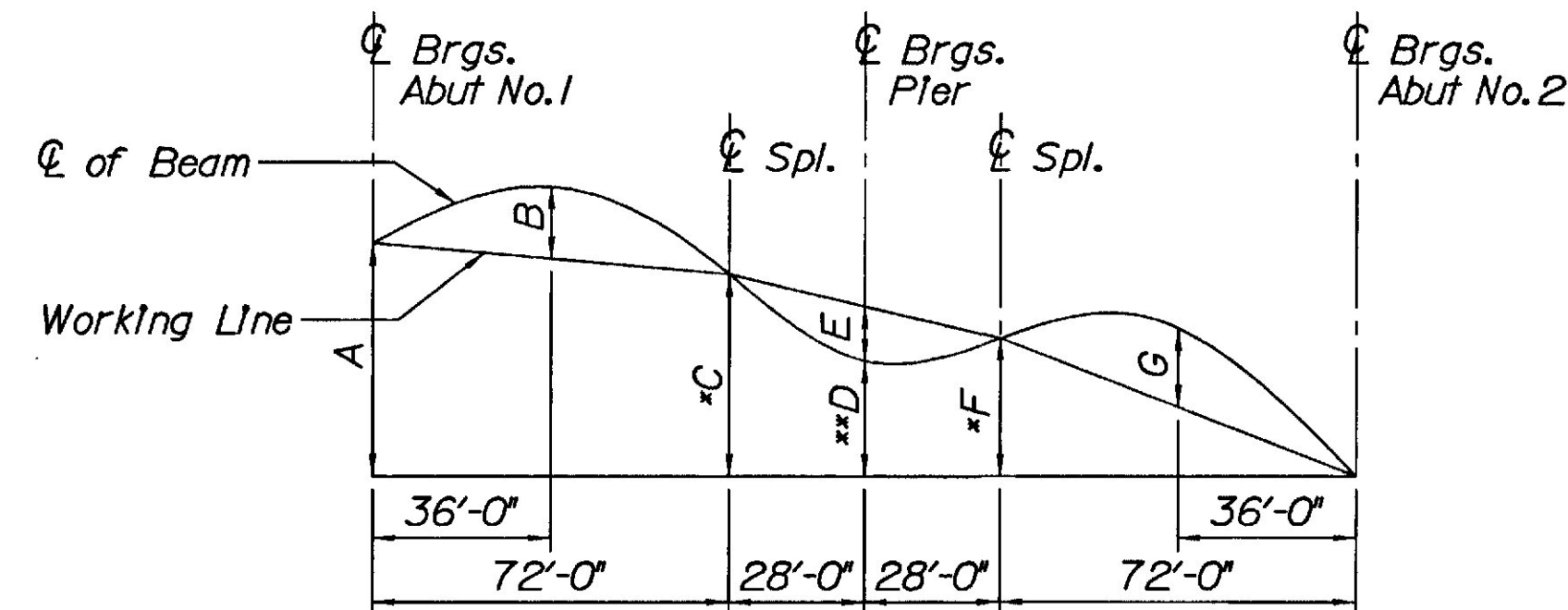
**DEAD LOAD DEFLECTIONS - EXTERIOR BEAMS (IN FEET)**

	Abut #1	+10'-0"	+20'-0"	+30'-0"	+40'-0"	+50'-0"	+60'-0"	+70'-0"	Splce	+80'-0"	+90'-0"	Pier
Steel	0.0000	0.0126	0.0231	0.0301	0.0328	0.0311	0.0256	0.0179	0.0162	0.0096	0.0029	0.0000
Fluid	0.0000	0.0523	0.0958	0.1242	0.1345	0.1266	0.1034	0.0710	0.0641	0.0376	0.0111	0.0000
SuperImposed	0.0000	0.0179	0.0331	0.0435	0.0481	0.0465	0.0395	0.0285	0.0260	0.0158	0.0048	0.0000

**DEAD LOAD DEFLECTIONS - INTERIOR BEAMS (IN FEET)**

	Abut #1	+10'-0"	+20'-0"	+30'-0"	+40'-0"	+50'-0"	+60'-0"	+70'-0"	Splce	+80'-0"	+90'-0"	Pier
Steel	0.0000	0.0132	0.0242	0.0315	0.0343	0.0325	0.0268	0.0187	0.0169	0.0101	0.0030	0.0000
Fluid	0.0000	0.0623	0.114	0.1477	0.1600	0.1506	0.1230	0.0845	0.0763	0.0448	0.0132	0.0000
SuperImposed	0.0000	0.0172	0.0317	0.0418	0.0462	0.0449	0.0382	0.0277	0.0253	0.0154	0.0047	0.0000

Dead load deflections are symmetrical about pier.

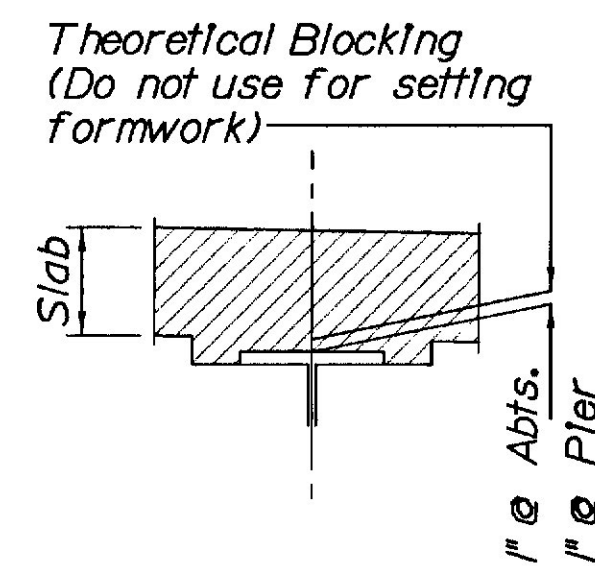


**CAMBER DIAGRAM**

- \* 1/2" Lower to account for 1/2" difference in beam depths.
- \*\* 3/4" Lower to account for 1/2" difference in beam depths

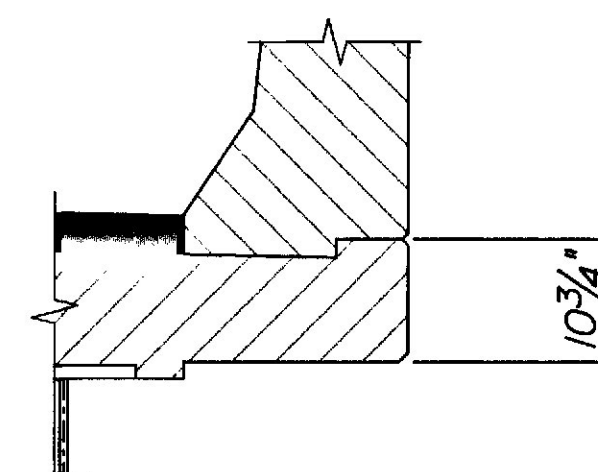
	A	B	C	D	E	F	G
B1	1'-0"	1 7/8"	8 7/16"	5 1/4"	1 1/2"	5 1/16"	1 7/8"
B2	1'-0"	2 1/16"	8 9/16"	5 1/4"	1 11/16"	5 1/4"	2 1/16"
B3	1'-0"	2 1/16"	8 5/8"	5 1/4"	1 11/16"	5 1/4"	2 1/16"
B4	1'-0"	2 1/16"	8 5/8"	5 1/4"	1 11/16"	5 1/4"	2 1/16"
B5	1'-0"	1 7/8"	8 7/16"	5 1/4"	1 1/2"	5 1/8"	1 7/8"

**CAMBER TABLE**



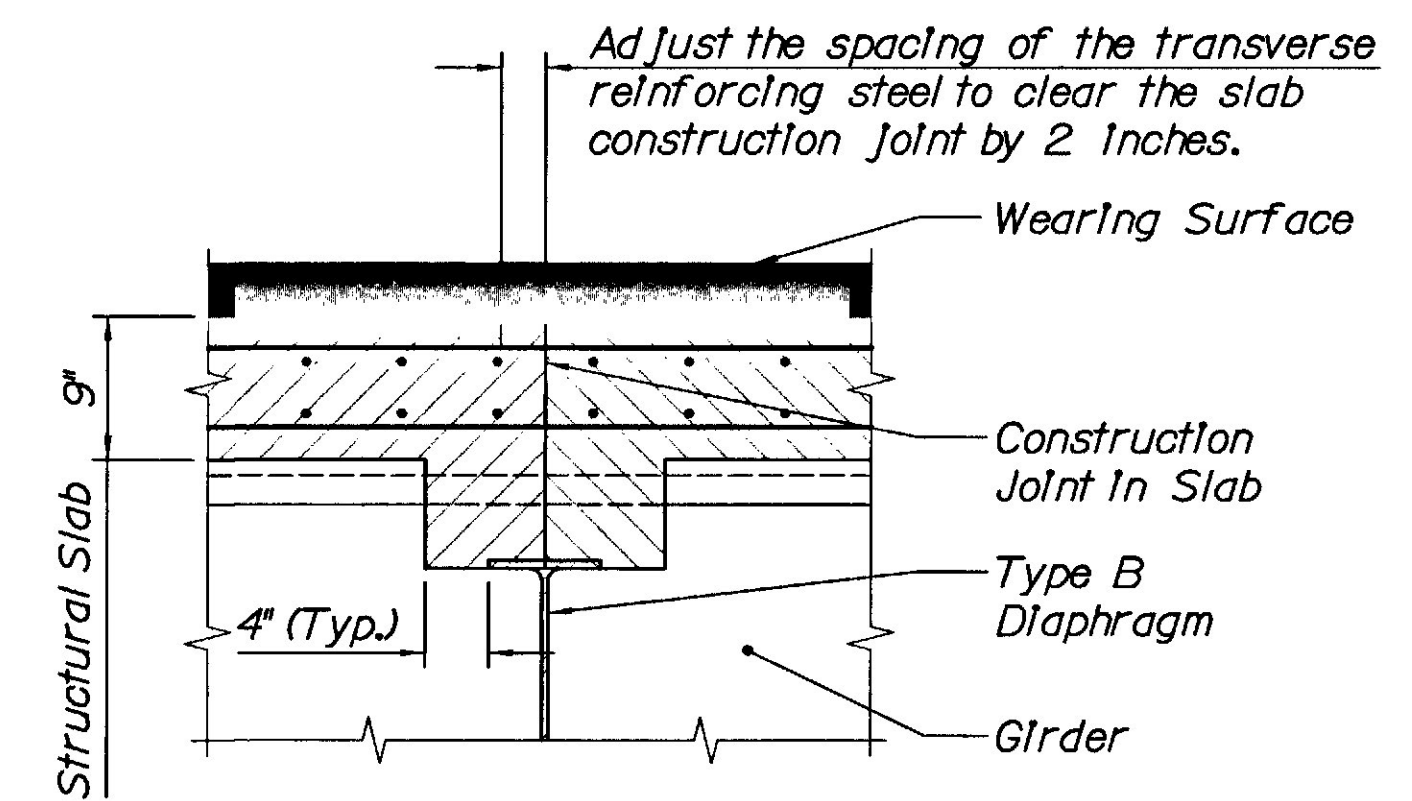
**SLAB HAUNCH & BLOCKING DETAIL**

(For Info not shown see BD 521-93)



**TYPICAL FASCIA DETAIL**

(For Info not shown see BD 521-93)



**TRANSVERSE CONSTRUCTION JOINT DETAIL**

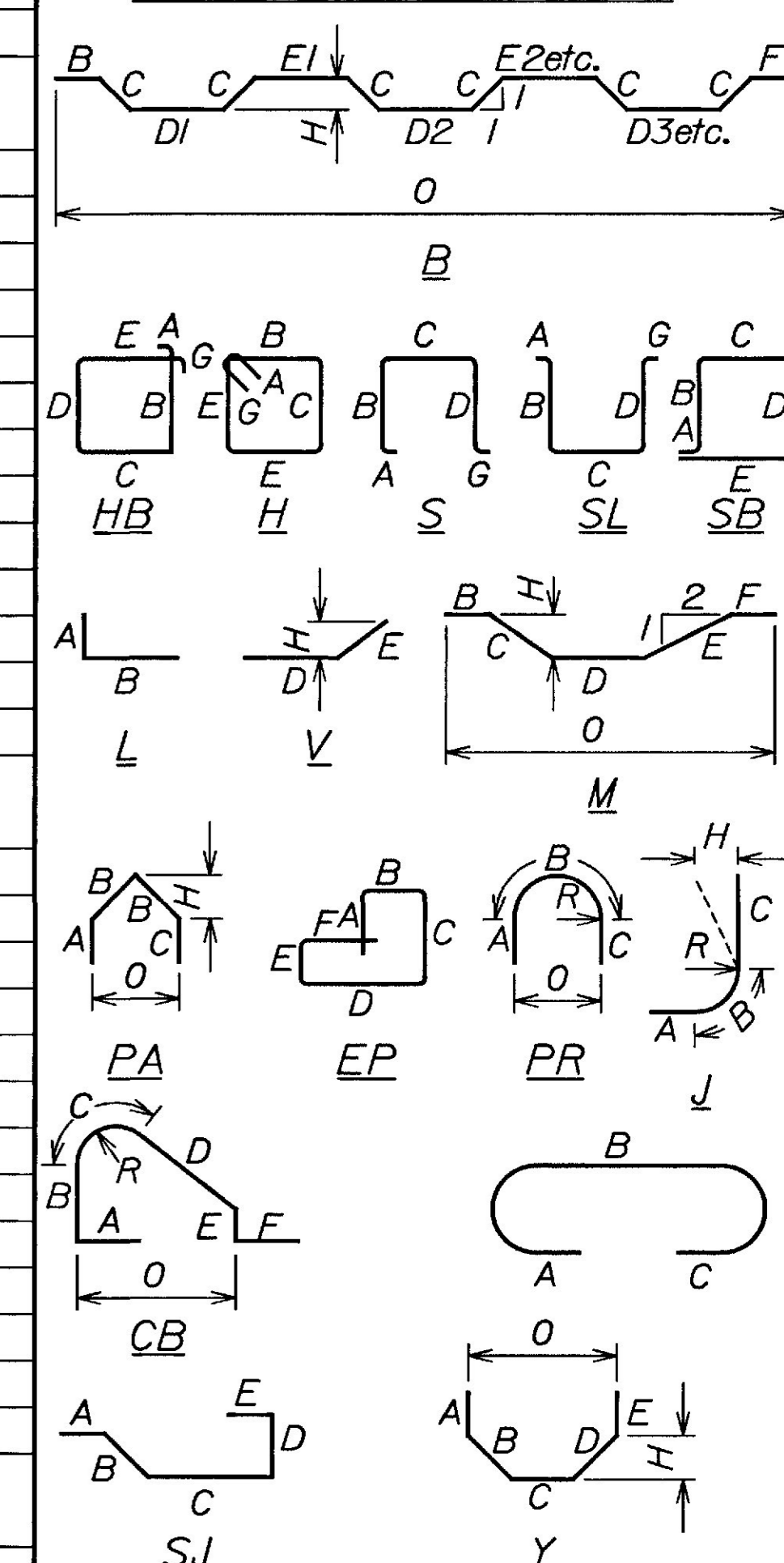
PROJECT DESIGN ENGINEER: EBC  
 DATE: 11-98  
 BY: JCC  
 11-98  
 11-98  
 DESIGN-DETAILED  
 CHECKED: BSV  
 REVISIONS  
 FIELD CHANGES  
**PLANS**

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
  
**IRON BRIDGE**  
 OVER  
**SEBASTICOOK RIVER**  
 IN THE TOWN OF  
**PALMYRA**  
 SOMERSET COUNTY  
**SUPERSTRUCTURE DETAILS**  
 AUGUSTA, MAINE

REINFORCING STEEL SCHEDULE

STRAIGHT BARS						BENT BARS																						
MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	LOCATION	MARK	NO.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION		
<b>ABUTMENT NO. 1</b>						<b>ABUTMENT NO. 2</b>						<b>PIER</b>						<b>ABUTMENT NO. 1</b>										
A500	5	56'-5"	Breastwall/Wings	B500	5	56'-8"	Breastwall/Wings	P500	14	41'-10"	Cap	A550	39	7'-4"	S	-	2'-10"	1'-8"	2'-10"	-	-	-	-	-	-	-	Breastwall	
A501	2	9'-7"	South Wing	B501	2	9'-7"	North Wing	P900	4	41'-10"	Cap	A551	1	7'-6 1/4"	V	-	-	-	1'-11 1/2"	5'-6 3/4"	-	-	-	-	2'-8 1/4"	South Wing		
A502	1	8'-5"	South Wing	B502	1	8'-3"	North Wing	P901	2	42'-9"	Cap	A552	1	6'-5 1/2"	V	-	-	-	1'-1 1/2"	5'-4"	-	-	-	-	2'-7 1/2"	North Wing		
A503	2	50'-5"	Breastwall/Wings	B503	2	50'-4"	Breastwall/Wings	P902	2	43'-8"	Cap	A553	1	7'-1 1/4"	V	-	-	-	1'-6 1/2"	5'-6 3/4"	-	-	-	-	2'-8 1/4"	South Wing		
A504	12	9'-0"	Breastwall	B504	12	9'-0"	Breastwall	P903	2	44'-7"	Cap	A554	1	6'-9 3/4"	V	-	-	-	1'-5 3/4"	5'-4"	-	-	-	-	2'-7 1/2"	North Wing		
A505	1	7'-9"	North Wing	B505	1	7'-10"	South Wing	P904	1	45'-6"	Cap	A557	16	4'-0"	L	2'-0"	2'-0"	-	-	-	-	-	-	-	-	App.Slab Seat		
A506	2	8'-11"	North Wing	B506	2	9'-2"	South Wing	P905	2	41'-7"	Cap	A558	39	4'-2"	L	2'-0"	2'-2"	-	-	-	-	-	-	-	-	App.Slab Seat		
A507	7	10'-8"	South Wing	B507	7	10'-8"	North Wing	P906	2	41'-4"	Cap																	
A508	1	9'-5"	South Wing	B508	1	9'-3"	North Wing	P907	2	42'-6"	Cap																	
A509	9	39'-2"	App.Slab Seat	B509	9	39'-2"	App.Slab Seat	P908	1	43'-8"	Cap																	
A510	1	9'-5"	North Wing	B510	1	9'-6"	South Wing																					
A511	7	10'-7"	North Wing	B511	7	10'-10"	South Wing																					
A512	2	6'-9"	South Wing	B512	2	6'-9"	North Wing																					
A513	2	7'-4"	South Wing	B513	2	7'-3"	North Wing																					
A514	2	7'-10"	South Wing	B514	2	7'-10"	North Wing																					
A515	2	8'-5"	South Wing	B515	2	8'-5"	North Wing																					
A516	2	8'-11"	South Wing	B516	2	9'-0"	North Wing																					
A517	4	9'-4"	South Wing	B517	4	9'-3"	North Wing																					
A518	4	8'-8"	South Wing	B518	4	8'-7"	North Wing																					
A519	6	8'-7"	North Wing	B519	6	8'-7"	South Wing																					
A520	2	9'-3"	North Wing	B520	2	9'-4"	South Wing																					
A521	2	9'-0"	North Wing	B521	2	9'-0"	South Wing																					
A522	2	8'-6"	North Wing	B522	2	8'-6"	South Wing																					
A523	2	7'-11"	North Wing	B523	2	7'-10"	South Wing																					
A524	2	7'-4"	North Wing	B524	2	7'-4"	South Wing																					
A525	2	6'-9"	North Wing	B525	2	6'-9"	South Wing																					
A526	78	7'-11"	Breastwall	B526	78	7'-11"	Breastwall																					
A700	28	9'-0"	Wings	B700	28	9'-0"	Wings																					
<b>SUPERSTRUCTURE</b>												<b>ABUTMENT NO. 2</b>																
								S500	394	43'-2"	Transverse	B550	39	7'-4"	S	-	2'-10"	1'-8"	2'-10"	-	-	-	-	-	-	Breastwall		
								S501	261	60'-0"	Longitudinal	B551	1	7'-6 1/2"	V	-	-	-	1'-11 1/2"	5'-7"	-	-	-	-	2'-8 1/2"	North Wing		
								S502	87	27'-0"	Longitudinal	B552	1	6'-10 3/4"	V	-	-	-	1'-3 1/2"	5'-7 1/4"	-	-	-	-	2'-9 1/4"	South Wing		
								S503	64	60'-0"	Longitudinal	B553	1	7'-3 1/2"	V	-	-	-	1'-8 1/2"	5'-7"	-	-	-	-	2'-8 1/2"	North Wing		
												B554	1	7'-3"	V	-	-	-	1'-7 3/4"	5'-7 1/4"	-	-	-	-	2'-9 1/4"	South Wing		
												B557	16	4'-0"	L	2'-0"	2'-0"	-	-	-	-	-	-	-	-	App.Slab Seat		
												B558	39	4'-2"	L	2'-0"	2'-2"	-	-	-	-	-	-	-	-	App.Slab Seat		
<b>APPROACH SLAB</b>												<b>PIER</b>																
								AS400	32	30'-0"	App Slabs	P550	41	11'-11"	S	-	4'-1 1/2"	3'-8"	4'-1 1/2"	-	-	-	-	-	-	Cap		
								AS401	32	11'-5"	App Slabs	P551	28	10'-9 1/4"	Y	3'-5 1/4"	9"	2'-4 3/4"	9"	3'-5 1/4"	-	-	-	-	5"	3'-8"	Cap	
												P552	2	11'-9 1/4"	S	-	4'-1 1/2"	3'-6 1/4"	4'-1 1/2"	-	-	-	-	-	-	Cap		
								AS600	156	15'-2"	App Slabs	P553	2	9'-9 1/4"	Y	3'-0 1/2"	11 3/4"	1'-8 3/4"	11 3/4"	3'-0 1/2"	-	-	-	-	5"	3'-6 1/4"	Cap	
												P554	4	8'-7 3/4"	S	-	3'-6 3/4"	1'-6 1/4"	3'-6 3/4"	-	-	-	-	-	-	Cap		
												P555	18	9'-2"	PA	2'-0"	2'-7"	2'-0"	-	-	-	-	-	-	1'-10"	3'-8"	Cap	
												P556	2	7'-4 1/2"	PA	2'-0"	1'-8 1/4"	2'-0"	-	-	-	-	-	-	1'-2 1/4"	2'-4 3/4"	Cap	
												P557	26	4'-2 1/4"	V	-	-	-	3'-5 1/4"	9"	-	-	-	-	7 1/2"	-	Cap	
<b>BARRIER</b>												<b>SUPERSTRUCTURE</b>																
								FB400	140	30'-0"	Middle	S601	84	14'-9"	L	10'-0"	4'-9"	-	-	-	-	-	-	-	-	-	Abutments	
								FB500	56	4'-6"	Ends	S650	400	7'-11 1/4"	CB	1'-9"	1'-9 1/4"	7 1/2"	9 1/2"	1'-3"	1'-9"	-	-	-	11"	3"	Curbs	
								FB600	40	2'-8"	Ends	S651	20	7'-3 3/4"	S	1'-9"	1'-7 1/2"	6 3/4"	1'-7 1/2"	-	-	-	1'-9"	-	-	-	-	Curbs
												S652	198	44'-10 3/4"	B	-	4'-10 1/2"	8 1/2"	4'-4 1/4"	4'-0 1/4"	4'-10 1/2"	-	-	-	6"	43'-2 3/4"	Transverse	
<b>BARRIER</b>												<b>BARRIER</b>																
												FB550	4	4'-7"	V	-	-	-	2'-8"	1'-11"	-	-	-	-	5 1/4"	-	Ends	
												FB551	4	4'-7"	V	-	-	-	4'-0"	7"	-	-	-	-	2"	-	Ends	
												FB650	400	4'-10"	PR	1'-10 1/2"	1'-1"	1'-10 1/2"	-	-	-	-	-	-	5 3/4"	4"	Middle	

TYPE-BENDING DIAGRAMS



All dimensions are out to out of reinforcing bar.

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

Reinforcing Bar: ASTM A615 Grade 60.

GENERAL NOTES

1. First digit(s) following the letter of the mark indicates size of the bar:

- Mark (A502) bar size #5
- Mark (P1001) bar size #10
- Mark (S603) bar size #6

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

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

IRON BRIDGE  
OVER  
SEBASTICOOK RIVER  
IN THE TOWN OF  
PALMYRA  
SOMERSET COUNTY  
REINFORCING STEEL

AUGUSTA, MAINE

PROJECT DESIGN ENGINEER: EBC  
DESIGN-DETAILED: JAB  
CHECKED: BSV  
REVISIONS:  
FIELD CHANGES:

DATE: 11-98  
BY: JCC  
11-98

PLANS

**HARDWARE**

MARK	LOAD	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	V	2-Slotted Hole for Anchor Bolts or Cap Screws	Washer Size for Anchor Bolts or Cap Screws	MARK		
EPD-1	175K	1'-2 3/4"	9"	8"	1'-6"	8"	1 3/4"	3 1/2"	4"	2 3/4"	7"	1"	1/2"	2 1/8"			1'-11"	3"	4 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-1		
EPD-2	200K	1'-2 3/4"	9"	8"	1'-6"	9"	1 3/4"	4"	4"	2 3/4"	7"	1"	1/2"	2 1/8"			1'-11"	3"	4 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-2		
EPD-3	200K	1'-2 3/4"	9"	8"	1'-6"	10"	1 3/4"	4 1/2"	4"	2 3/4"	7"	1"	1/2"	2 1/8"			1'-11"	3"	4 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-3		
EPD-4	200K	1'-5 3/4"	1'-0"	8"	1'-6"	11"	1 3/4"	5"	4"	2 3/4"	10"	1"	1/2"	2 1/8"			1'-11"	3"	4 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-4		
EPD-5	300K	1'-9 1/2"	1'-3"	11"	1'-9"	11"	2 1/2"	5"	4 1/2"	3 3/4"	1'-0 1/4"	1 1/4"	1/2"	2 3/8"			2'-1"	4"	6 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-5		
EPD-6	325K	1'-9 1/2"	1'-3"	11"	1'-9"	1'-0"	2 1/2"	5 1/2"	4 1/2"	3 3/4"	1'-0 1/4"	1 1/4"	1/2"	2 3/8"			2'-1"	4"	6 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-6		
EPD-7	325K	1'-9 1/2"	1'-3"	11"	1'-9"	1'-1"	2 1/2"	6"	4 1/2"	3 3/4"	1'-0 1/4"	1 1/4"	1/2"	2 3/8"			2'-1"	4"	6 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-7		
EPD-8	325K	1'-9 1/2"	1'-3"	11"	1'-9"	1'-2"	2 1/2"	6 1/2"	4 1/2"	3 3/4"	1'-0 1/4"	1 1/4"	1/2"	2 3/8"			2'-1"	4"	6 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-8		
EPD-9	325K	1'-9 1/2"	1'-3"	11"	1'-9"	1'-3"	2 1/2"	7"	4 1/2"	3 3/4"	1'-0 1/4"	1 1/4"	1/2"	2 3/8"			2'-1"	4"	6 1/2"		4"x1 7/8"	4"x7"x1/4"	EPD-9		
EPE-1	450K	1'-10"	1'-3"	1'-2"	1'-11"	1'-6"	3"	4"	5"	4 1/4"	1'-0"	1 5/8"	2 3/4"	2 3/4"		5 3/8"	1'-10"	4 1/2"		3 1/2"	3"x1 5/8"	3 1/2"x4"x1/4"	EPE-1		
EPE-2	450K	1'-10 1/4"	1'-3"	1'-2"	1'-11"	1'-8"	3 1/4"	5"	5"	4 1/4"	1 1/4"	1 5/8"	2 3/4"	2 3/4"		5 3/8"	1'-10"	4 1/2"		4"	3"x1 5/8"	3 1/2"x4 1/2"x1/4"	EPE-2		
EPE-3	450K	1'-10 1/2"	1'-3"	1'-2"	1'-11"	1'-10"	3 1/2"	6"	5"	4 1/4"	1 1/2"	1 5/8"	2 3/4"	2 3/4"		5 3/8"	1'-10"	4 1/2"		4 3/4"	4"x1 5/8"	3 1/2"x6"x1/4"	EPE-3		
EPE-4	450K	1'-10 1/2"	1'-3"	1'-2"	1'-11"	2'-0"	3 1/2"	7"	5"	4 1/4"	1 1/2"	1 5/8"	2 3/4"	2 3/4"		5 3/8"	1'-10"	4 1/2"		5"	4 1/2"x1 5/8"	3 1/2"x8 1/2"x1/4"	EPE-4		
EPE-5	450K	1'-10 3/4"	1'-3"	1'-2"	1'-11"	2'-3"	3 3/4"	8"	5"	4 1/4"	1 1/4"	1 5/8"	2 3/4"	2 3/4"		5 3/8"	1'-10 1/2"	4 1/2"		6"	5 1/2"x1 5/8"	3 1/2"x8 1/2"x1/4"	EPE-5		
EPE-6	600K	1'-10 1/4"	1'-3"	1'-7"	2'-4"	1'-7"	3 1/4"	4 1/2"	5"	6 3/4"	1 1/4"	1 5/8"	2 3/4"	3"	9"	3 1/8"	1'-10"	4 1/2"		4"	3"x1 5/8"	3 1/2"x4"x1/4"	EPE-6		
EPE-7	600K	1'-10 3/4"	1'-3"	1'-7"	2'-4"	1'-11"	3 3/4"	6 1/2"	5"	6 3/4"	1 1/4"	1 5/8"	2 3/4"	2 7/8"	8 1/2"	3 1/4"	1'-10 1/2"	4 1/2"		5"	4 1/2"x1 5/8"	3 1/2"x6 1/2"x1/4"	EPE-7		
EPE-8	600K	1'-11"	1'-3"	1'-7"	2'-4"	2'-4"	4"	8 1/2"	5"	6 3/4"	1 1/4"	1 5/8"	2 3/4"	2 7/8"	8 1/4"	3 1/4"	1'-10 1/2"	4 1/2"		6 1/2"	6"x1 5/8"	3 1/2"x9 1/2"x1/4"	EPE-8		
EPE-9	800K	2'-1 3/4"	1'-6"	1'-11"	3'-0"	1'-10"	3 3/4"	6"	7"	8 3/4"	1'-2 1/4"	2 1/8"	2 3/4"	3 1/4"	11 1/2"	3 7/8"	1'-11"	4 1/2"		5"	4"x1 5/8"	4"x5 1/2"x1/4"	EPE-9		
EPE-10	800K	2'-2 1/4"	1'-6"	1'-11"	3'-0"	2'-5"	4 1/4"	9"	7"	8 3/4"	1'-1 3/4"	2"	3 1/4"	3 1/8"	11"	4"	1'-11"	4 1/2"		6 1/2"	6"x1 5/8"	4"x9 1/2"x1/4"	EPE-10		
EPE-11	1000K	2'-2"	1'-6"	2'-6"	3'-10"	1'-11"	4"	6 1/2"	10"	10 3/4"	1'-2"	2 3/8"	2 3/4"	3 1/2"	11 1/4"	5 3/8"	1'-11"	4 1/2"		5 1/2"	4"x1 5/8"	4"x6"x1/4"	EPE-11		
EPE-12	1000K	2'-2 1/2"	1'-6"	2'-6"	3'-10"	2'-5"	4 1/2"	9"	10"	10 3/4"	1'-1 1/2"	2 1/8"	3 1/4"	3 1/4"	10 3/4"	5 5/8"	1'-11"	4 1/2"		7"	6"x1 5/8"	4"x9 1/2"x1/4"	EPE-12		
FPD-1	200K	1'-0"		8"	1'-6"	9"	2"	2 1/4"	6 3/4"		6"	1"		2 1/8"			1'-8 1/2"	3 1/2"					Standard	FPD-1	
FPD-2	300K	1'-0"		10"	1'-8"	1'-2"	2"	4 3/4"	7 3/4"		6"	1"		2 1/8"			1'-8 1/2"	4"						Standard	FPD-2
FPD-3	450K	1'-0"		1'-2"	2'-0"	1'-4"	2"	5 3/4"	9 3/4"		6"	1 1/4"		2 3/8"			1'-8 1/2"	4"						Standard	FPD-3
FPD-4	600K	1'-3"		1'-6"	2'-4"	1'-5"	2"	6 3/4"	11 3/4"		9"	1 1/2"		2 5/8"	6 1/4"		1'-8 1/2"	4"						Standard	FPD-4
FPD-5	800K	1'-3"		1'-11"	3'-0"	1'-10"	3"	8 3/4"	1'-3 3/4"		8"	1 1/2"		2 5/8"	5 1/4"		1'-9 1/2"	4"						Standard	FPD-5
FPD-6	1000K	1'-3"		2'-6"	3'-10"	1'-11"	3"	9 1/4"	1'-8 3/4"		8"	1 7/8"		3"	5 1/4"		1'-9 1/2"	4"						Standard	FPD-6

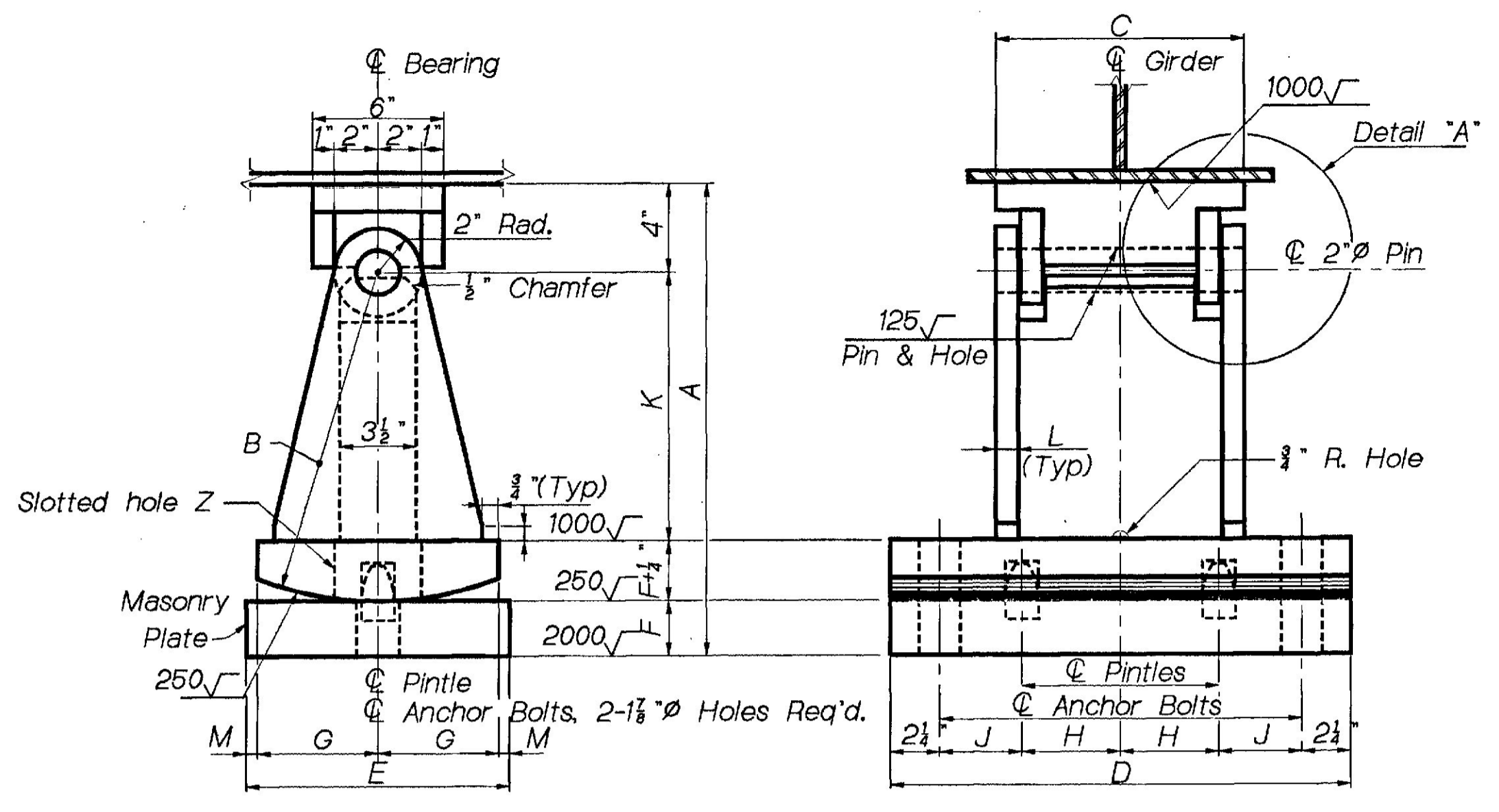
**GENERAL NOTES**

- Fabricate pedestals with 5/16" fillet welds.
- The diameter of the pin-holes and grooves shall be 2.00" with a tolerance of +.01" and -.00". The pin diameter shall be 2.00" with a tolerance of +.00" and -.01".
- Pedestals EPE without center stiffeners have only one drainage hole.
- Pedestals FPD have no drainage holes.
- Bearings for use with painted structural steel shall be painted to conform to Section 504.36 of the Standard Specifications.
- Upset threads on bearing pins and anchor bolts after assembly.

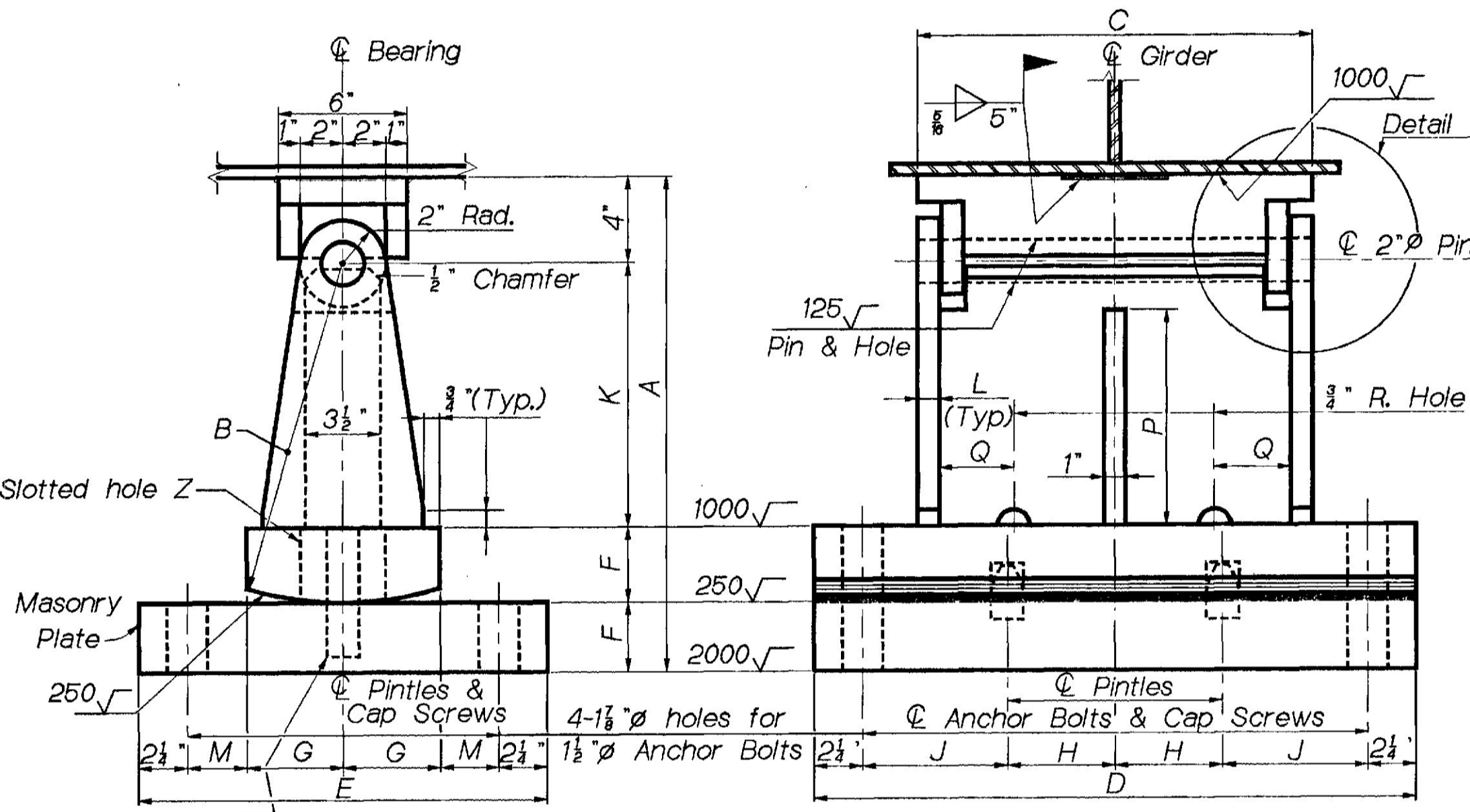
**MATERIALS**

- All steel, including the anchor bolts, shall be ASTM A572, Grade 50. For unpainted applications, ASTM A588 steel shall be used. ASTM A588 steel may also be used as an alternate for ASTM A572 steel.
- Nuts for painted applications shall conform to ASTM A563, Heavy Hex, Grade A. Nuts for unpainted applications shall conform to ASTM A563, Heavy Hex, Grade C3 or DH3.
- As an alternate, the 2" pins may be stainless steel meeting the requirements of ASTM A582, Type 416, Condition T.
- Charpy V-notch tests are not required for steel used in bearing pedestals.

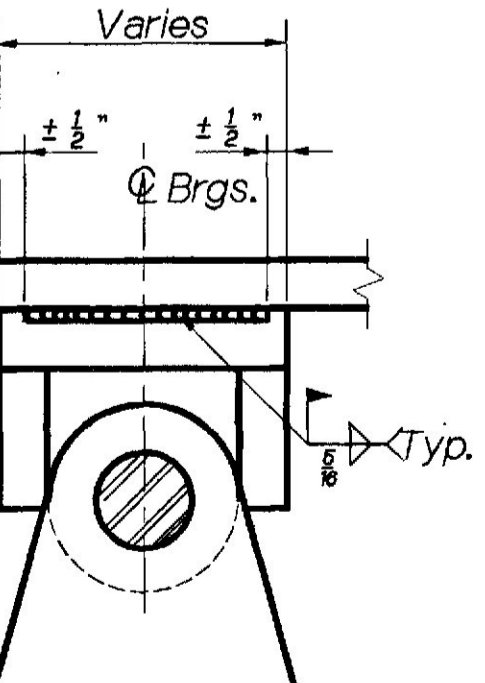
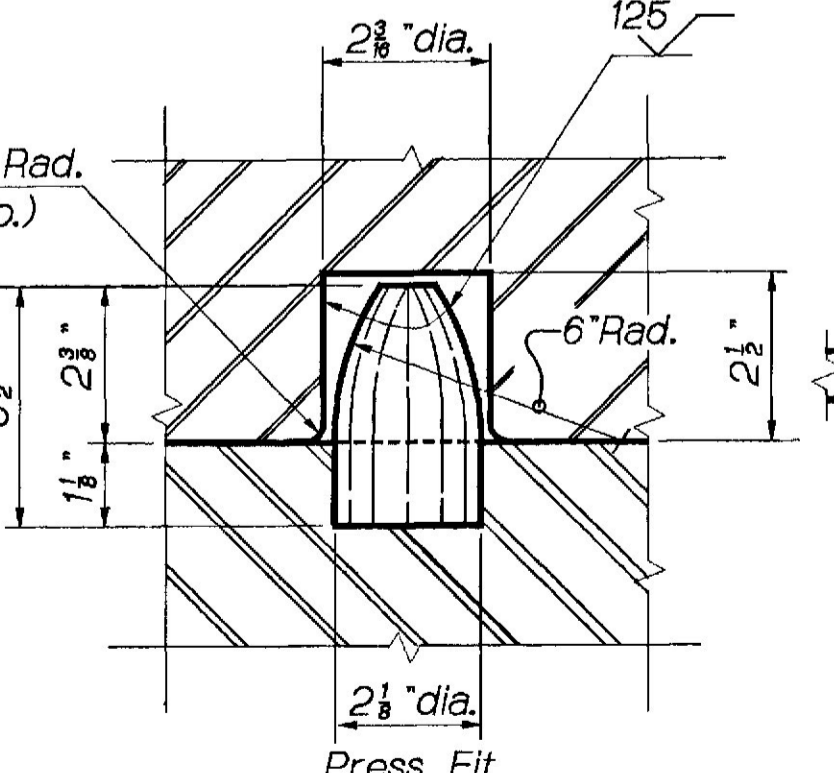
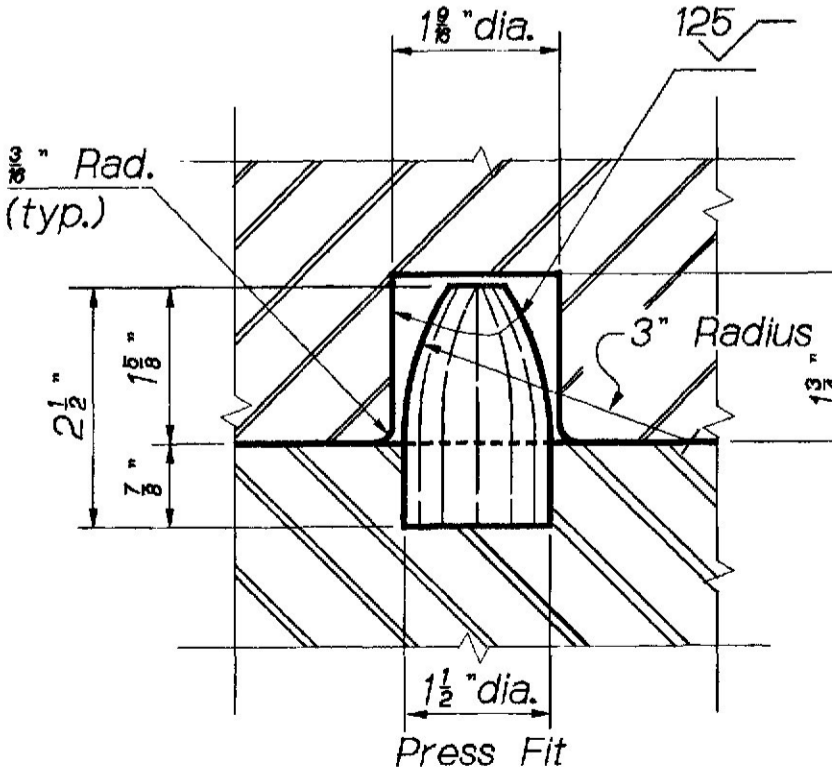
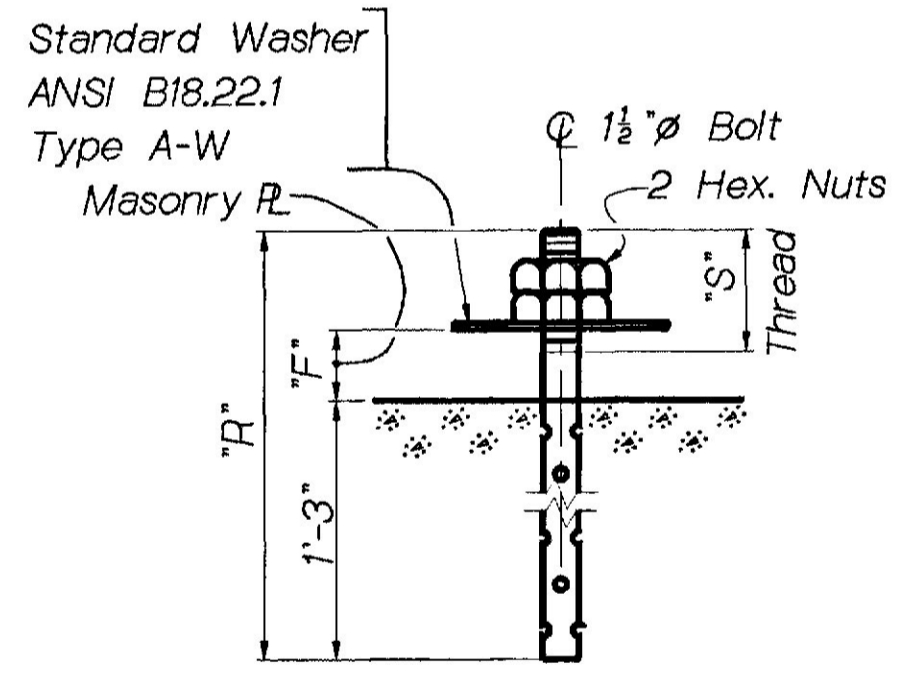
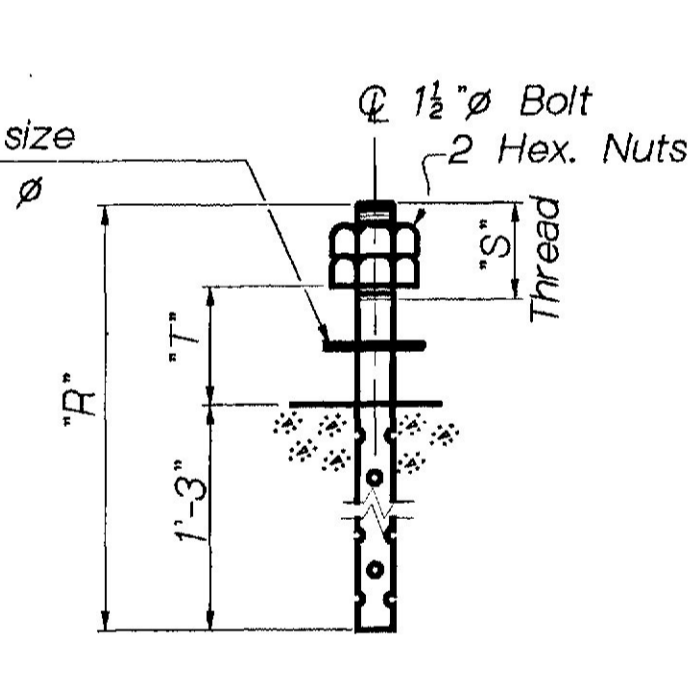
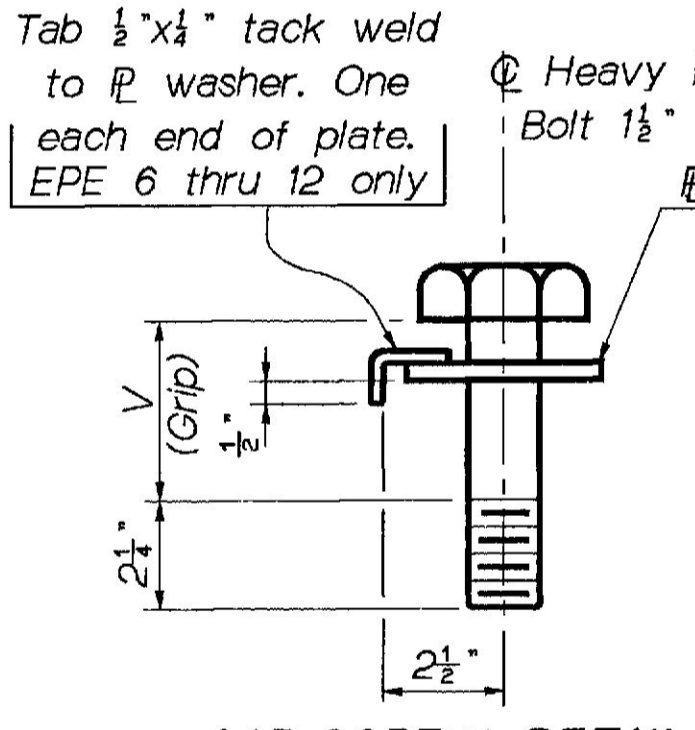
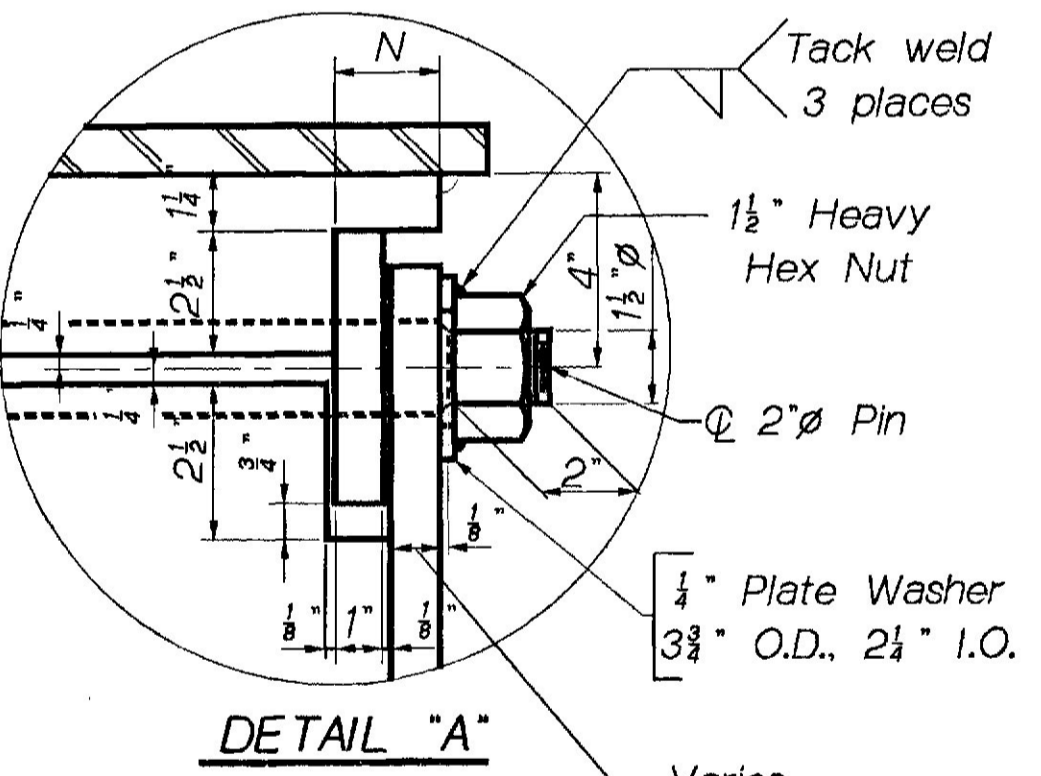
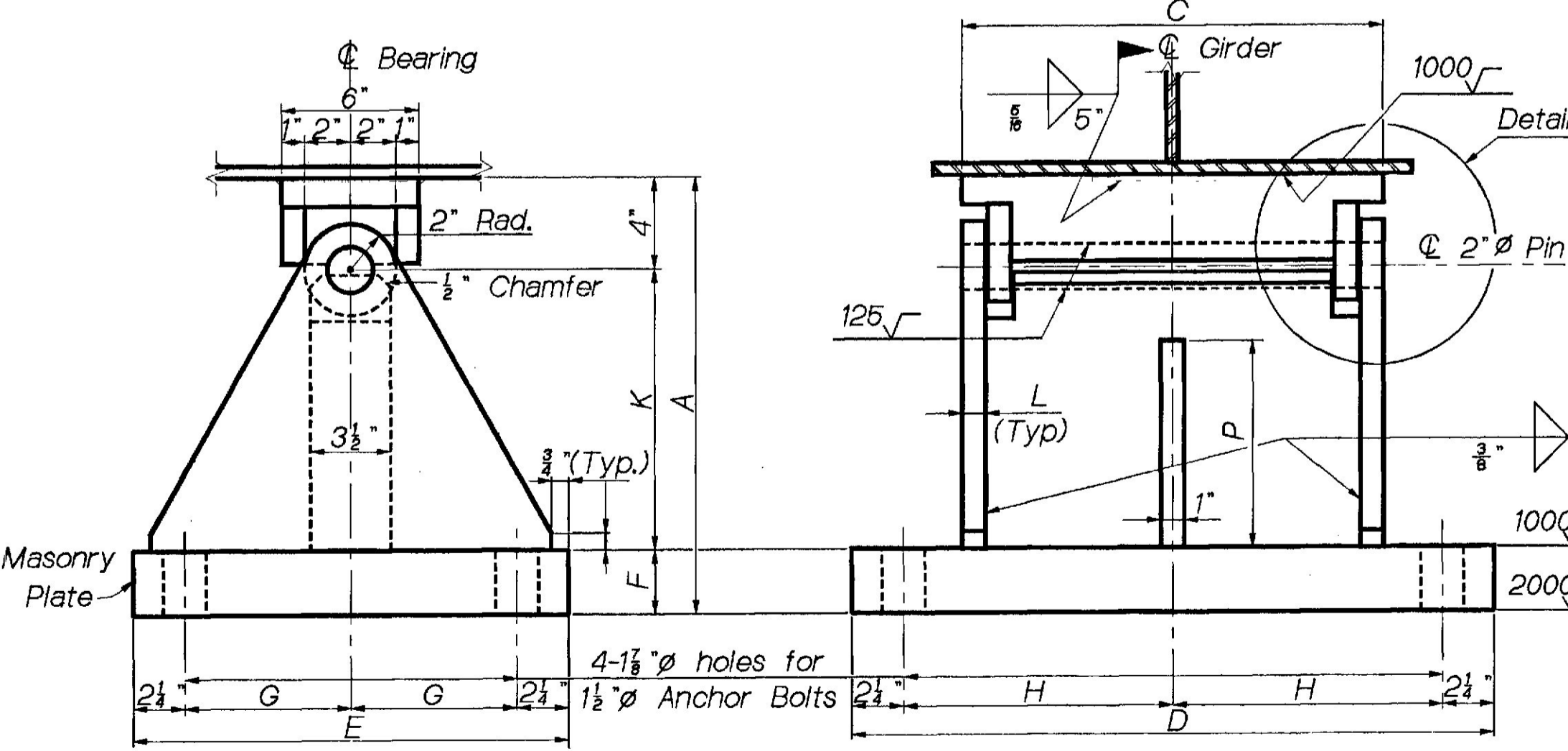
**EXPANSION PEDESTAL - EPD**



**EXPANSION PEDESTAL - EPE**



**FIXED PEDESTAL - FPD**



NOTE: Use only those items called for on the design drawings.  
 GENERAL NOTE: In case of conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

REVISIONS	APPROVED
Description	MeDOT FHWA
Original Plan	JULY, 1993

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

**STANDARD DETAILS**  
 BD 102 - 93

**BEARING PEDESTALS**  
 HOLD - DOWN

PROJECT DESIGN ENGINEER  
 DESIGN-DETAILED  
 CHECKED  
 REVISIONS  
 FIELD CHANGES

**PLANS**

290CT96-0100.30  
 BD102

**FABRICATION NOTES**

- 1.....All bolts shall be 7/8" dia. H.S. Bolts. Hole sizes for bolts shall conform to Section 504.23 of the Standard Specifications, and edge-distances shall be 1/2" min. unless otherwise shown.
- 2.....Connection plates and gusset plates shall have a minimum thickness of 3/8" and shall have sufficient width to provide erection clearance. Connection plates shall have a minimum width of 7". For all stiffeners and bent connection plates, the plate thickness will be given on the design drawings.
- 3.....Depending on the skew angle, stiffeners and connection plates shall be welded to the web plates with either fillet welds or a single bevel groove weld. Fillet welds shall be the minimum size specified by the AWS Structural Welding Code D15, table 2.2 unless otherwise shown on the design drawings. Fit-up shall meet the requirements of AWS D15, Art. 3.3, Assembly.
- 4.....All stiffeners and connection plates shall extend to both the top and bottom flanges and shall be welded to the flanges with a fillet weld on both sides of the plate, except as indicated by note 5 and/or 6. Fillet weld size shall be as specified under note 3.
- 5.....Connection plates and stiffeners used as connection plates shall be connected to flanges in tension and stress reversal areas with the "Tension-Flange Connection" detail. All other stiffeners shall fit within 1/8"(tight fit) at flanges in tension and stress reversal areas and shall not be welded.
- 6.....Bearing stiffeners shall be machined to have full bearing, and shall have a fillet weld on each side.
- 7.....All fillet welds which connect stiffeners or connection plates to either a flange or web plate, shall be started and stopped approximately 1/2 inch from the ends or edges of the plate.
- 8.....Bolt tension-flange connection plate to flange before welding stiffener or diaphragm connection plate to it.
- 9.....All dimensions shown as "\_\_\_±1" are variable in order to allow a series of crossframes to have the same slopes and/or dimensions.
- 10.....For unpainted applications all steel for diaphragms and crossframes shall be A.S.T.M.-A588. For bridges specified to be painted the steel for diaphragms and connection plates shall be A.S.T.M.-A36, except other steel classifications may be used subject to the approval of the Engineer.
- 11.....Use only those items called for on the design drawings.

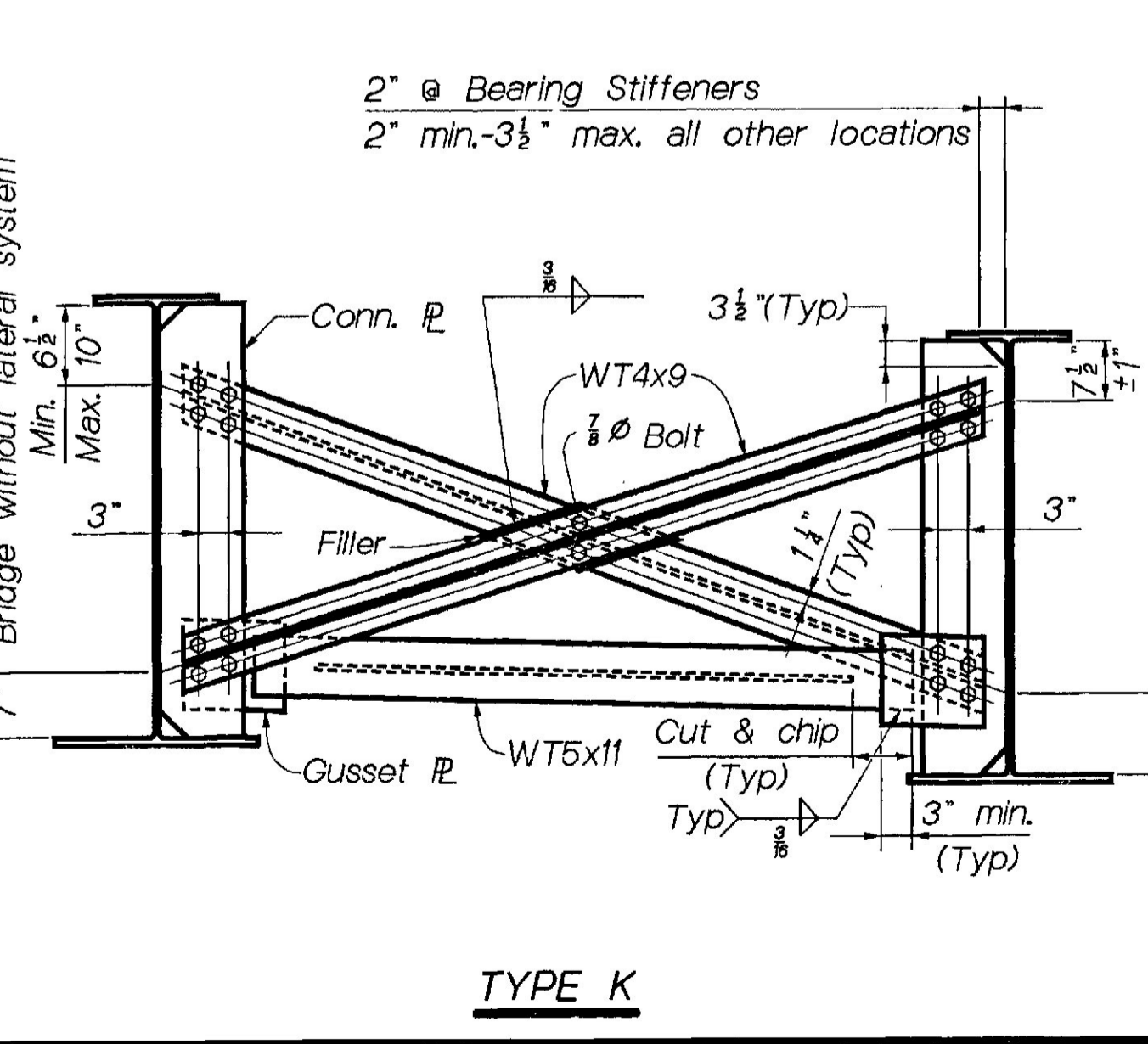
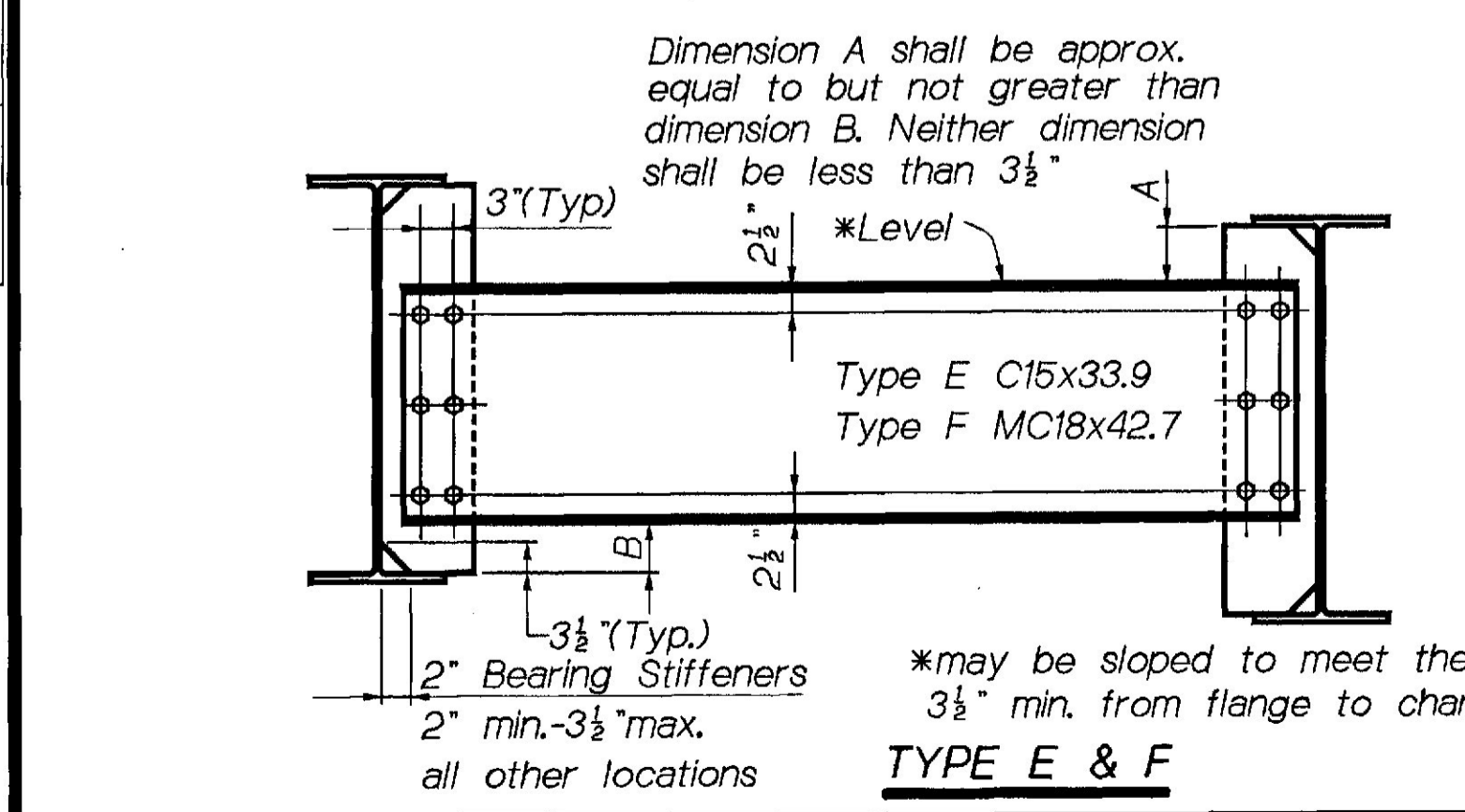
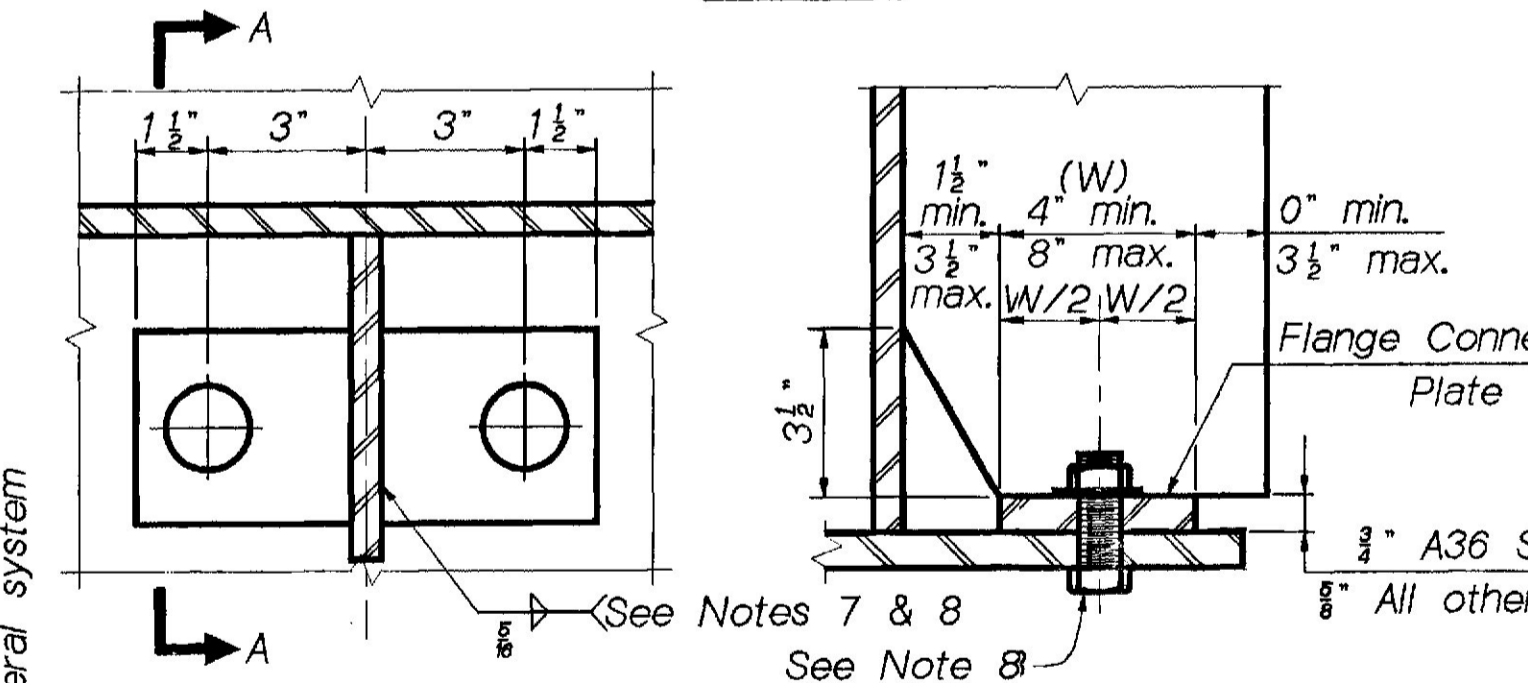
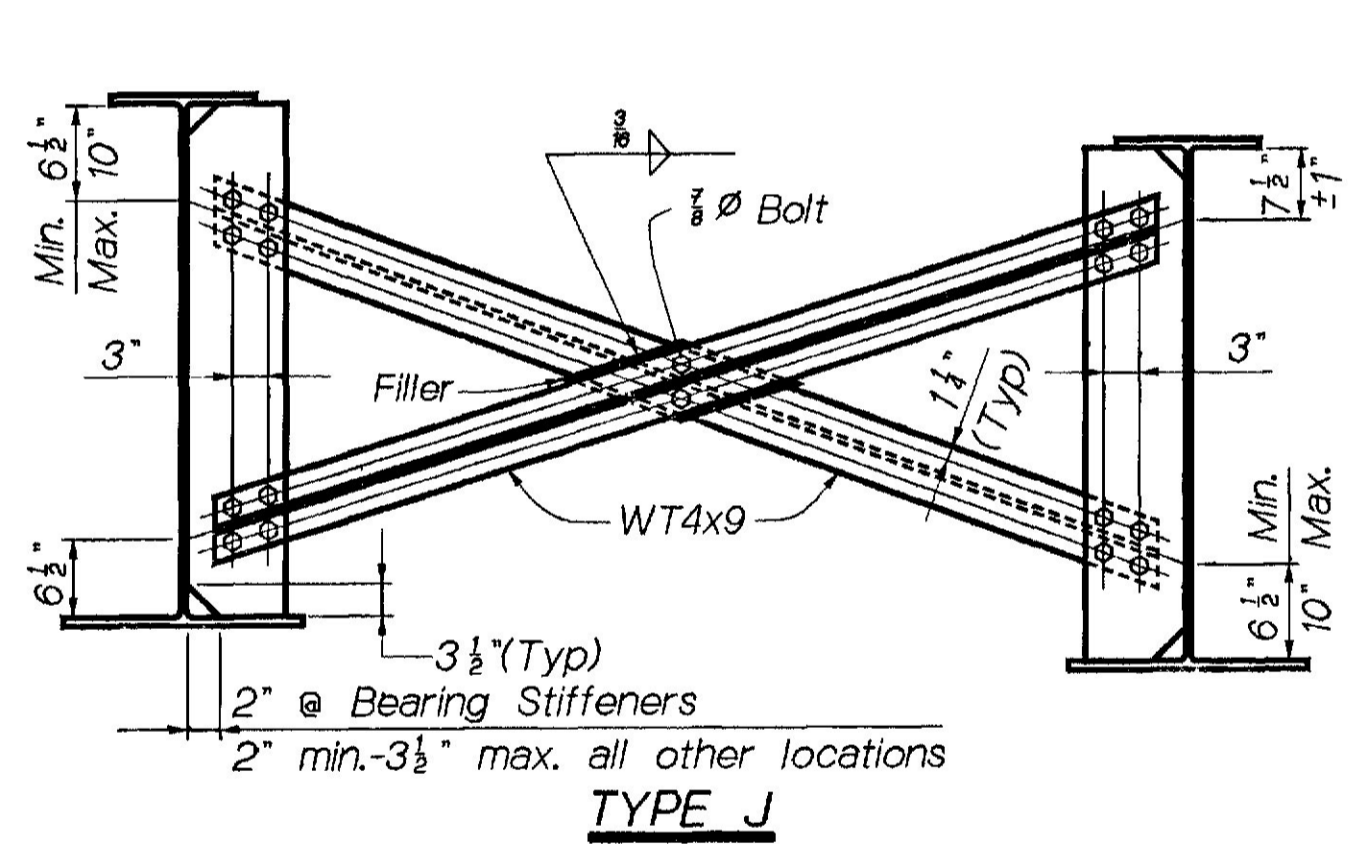
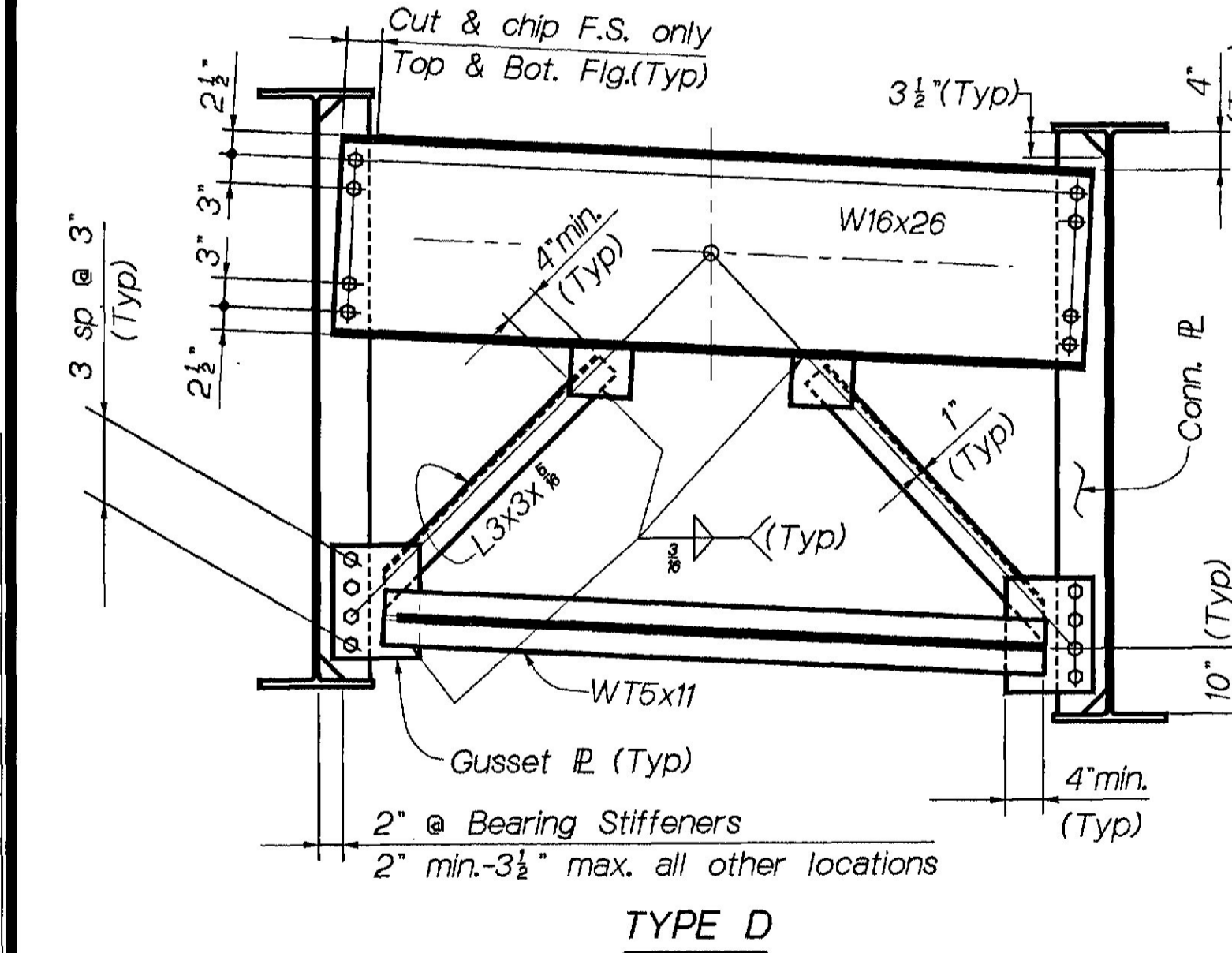
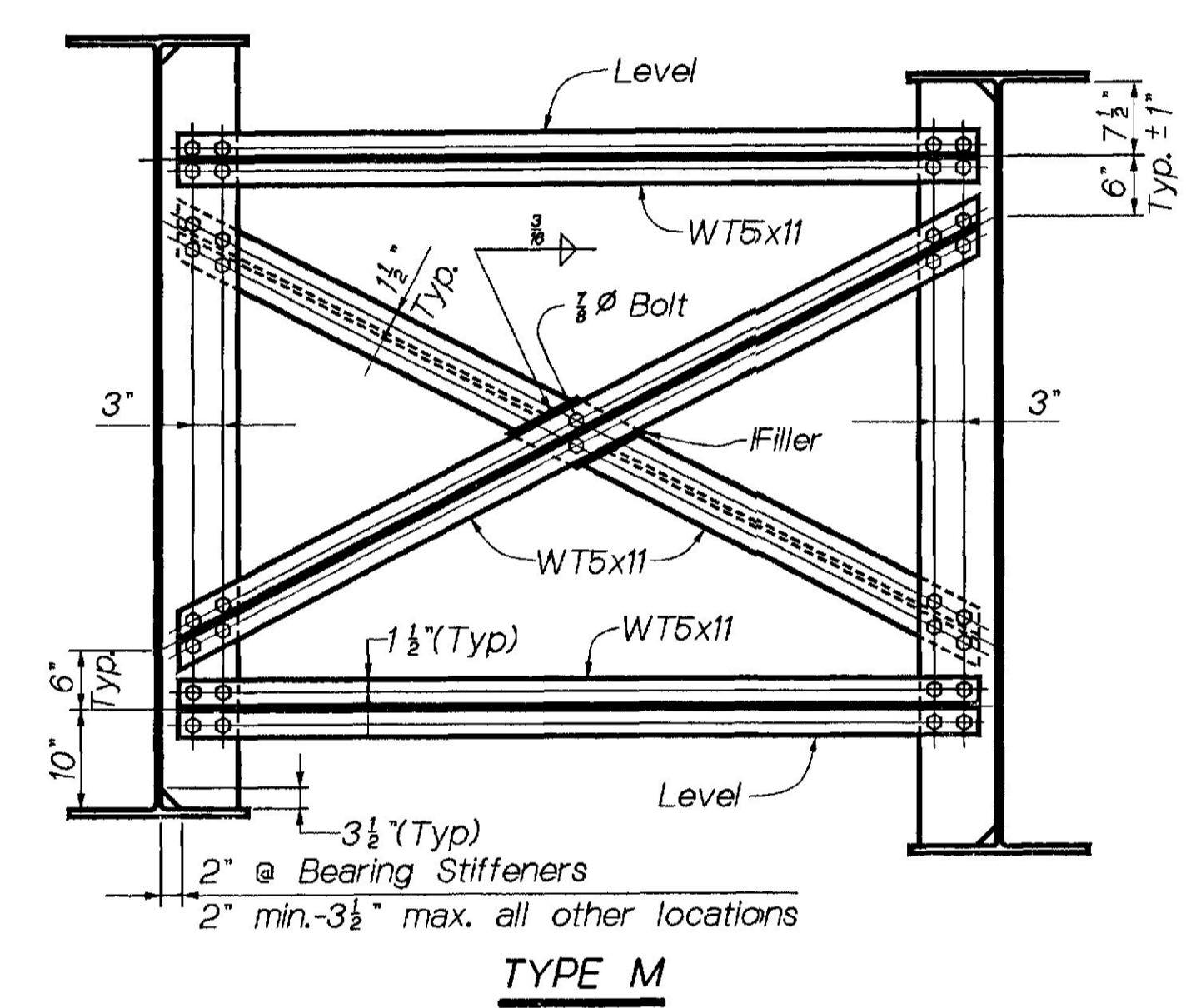
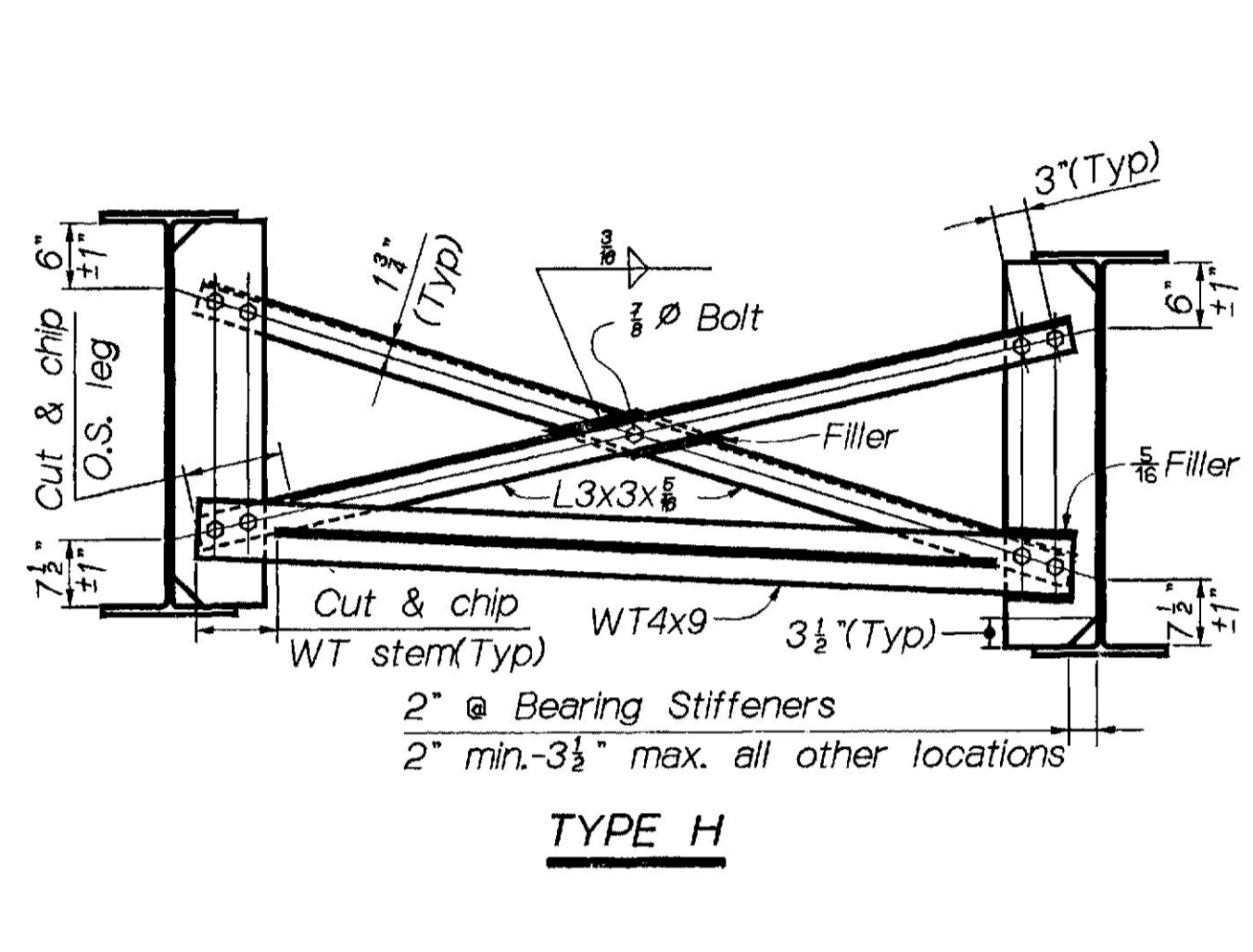
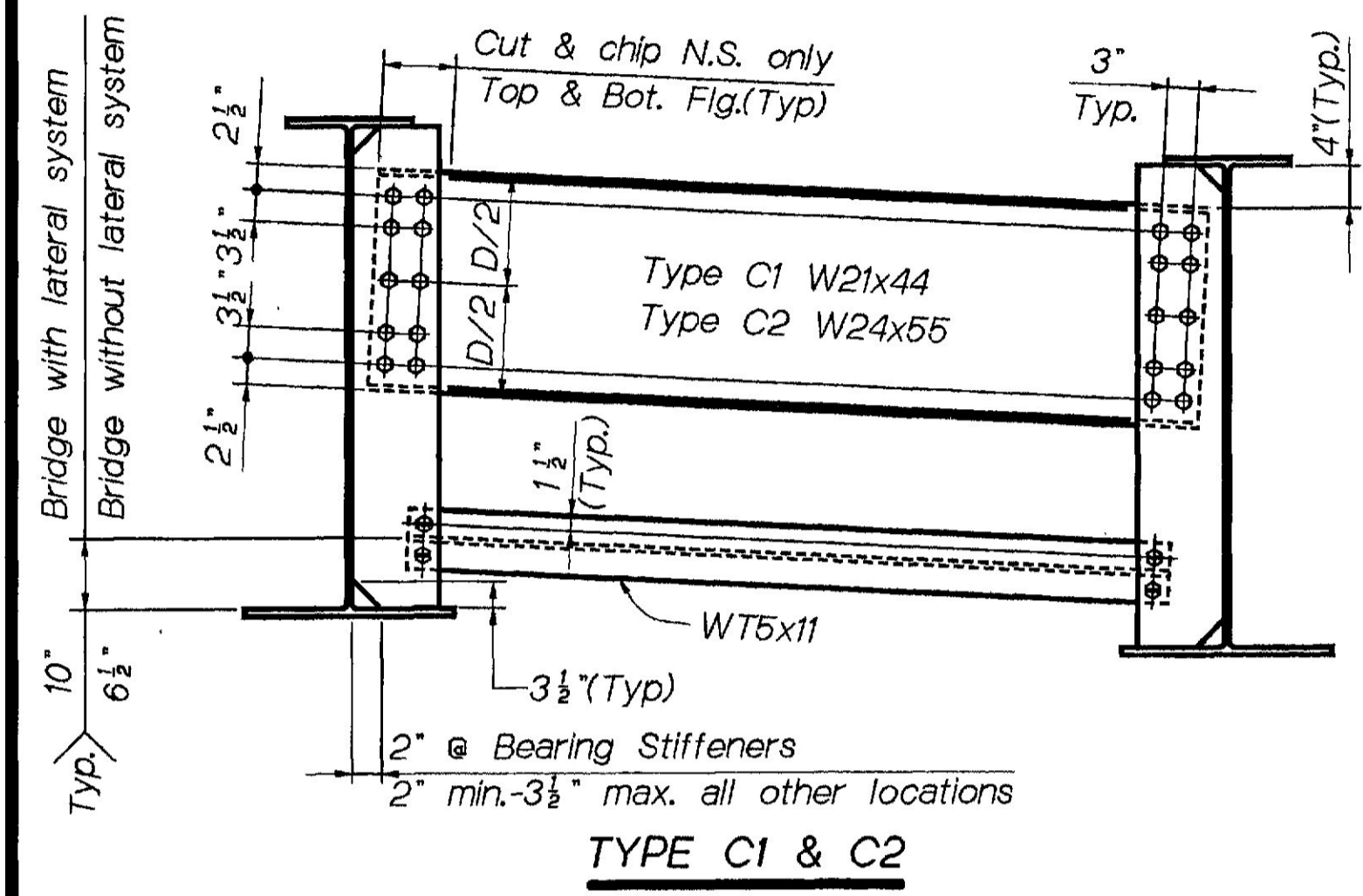
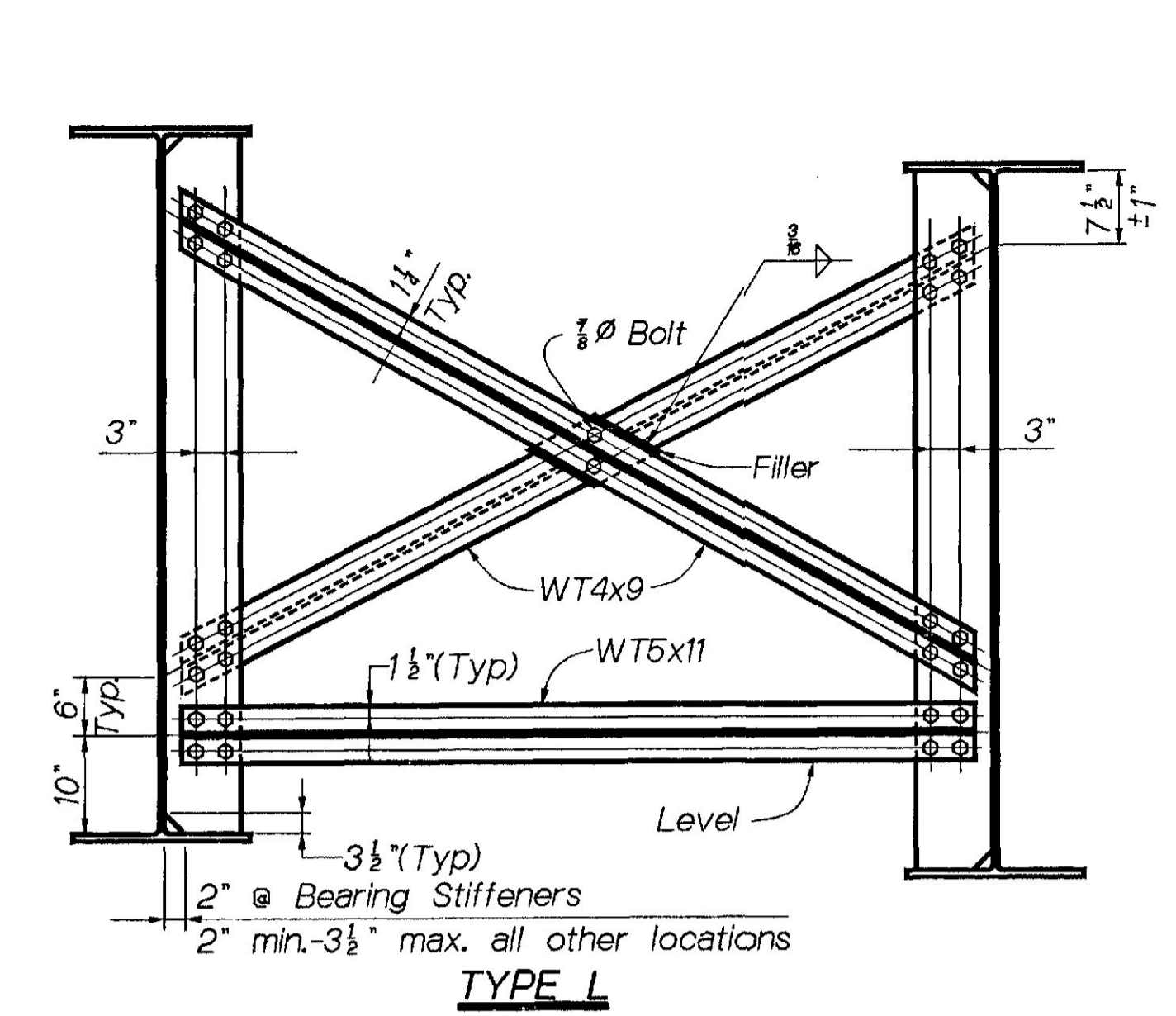
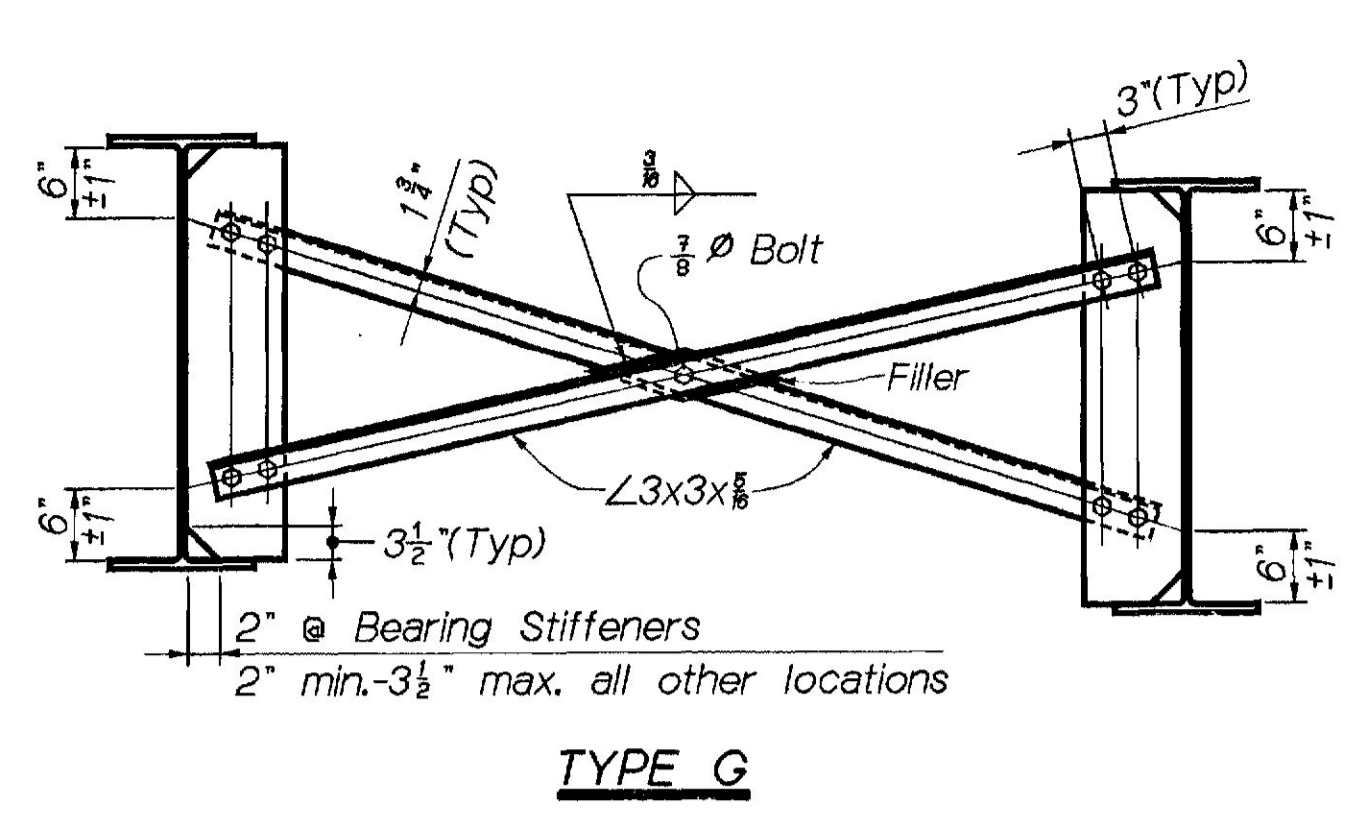
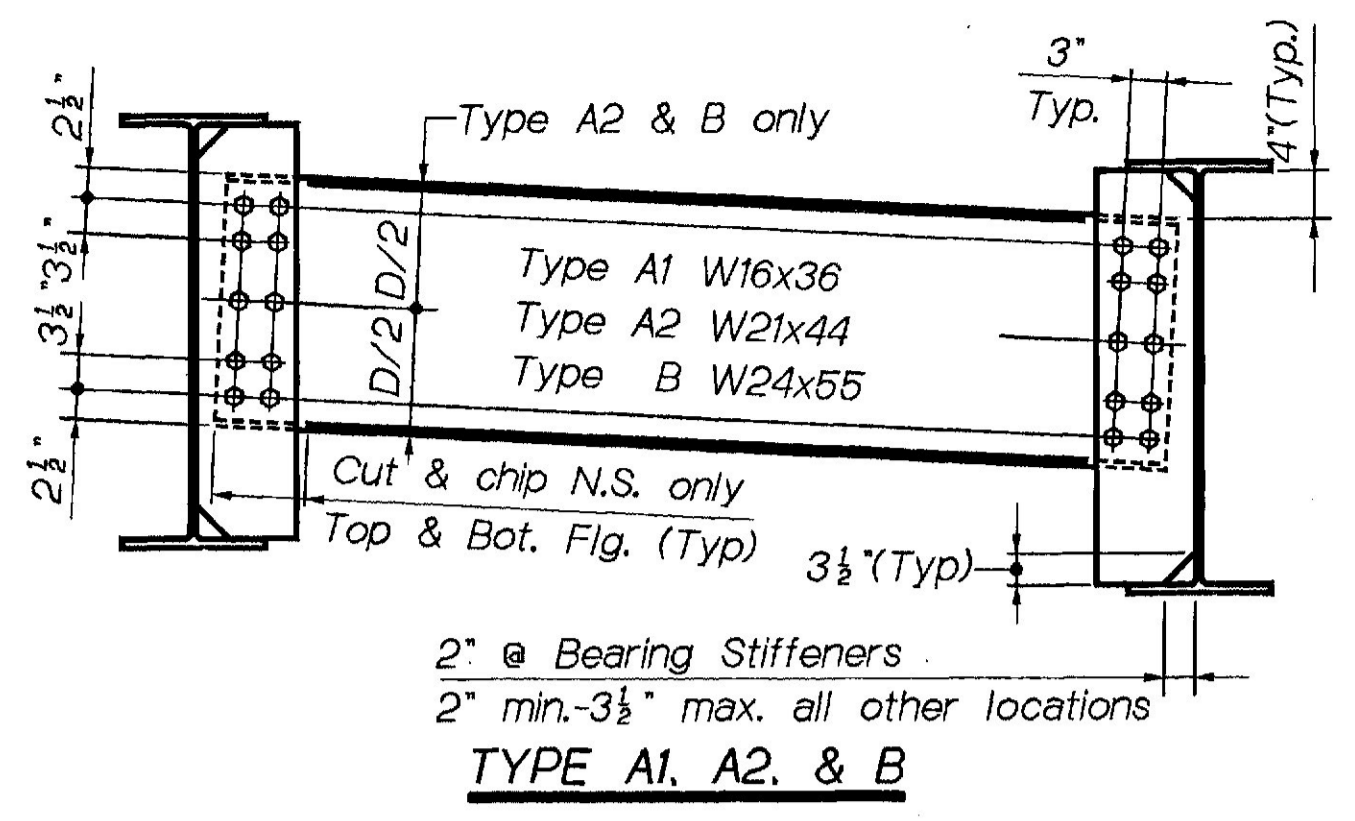
NOTE: Use only those items called for on the design drawings.  
 GENERAL NOTE:  
 In case of conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

REVISIONS		APPROVED	
Description	MeDOT	MeDOT	FHWA
Original Plan		JULY, 1993	

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

**STANDARD DETAILS**  
 BD 112 - 93

**DIAPHRAGMS & CROSSFRAMES**



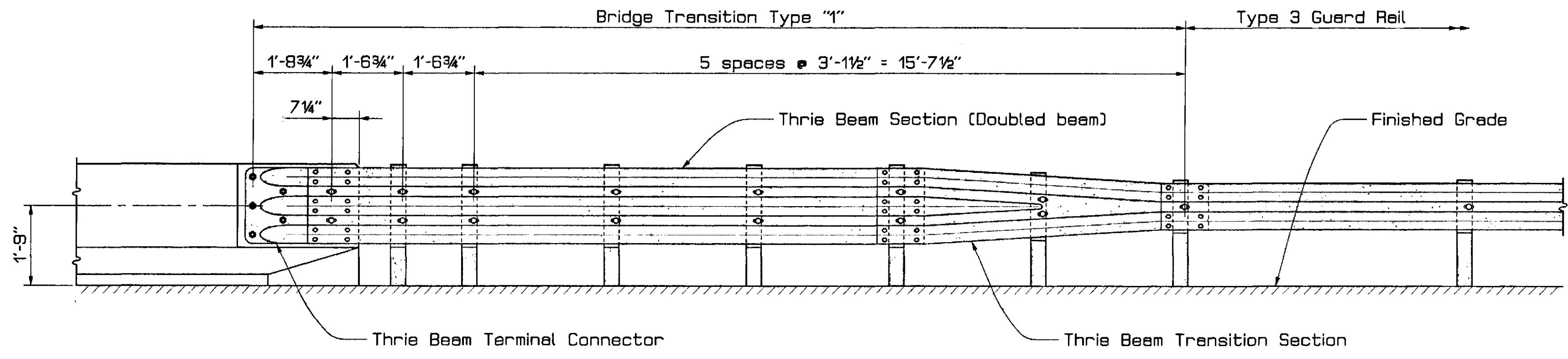
PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

PLANS  
 290CT96-0100.30  
 BD112

Dimension A shall be approx. equal to but not greater than dimension B. Neither dimension shall be less than 3 1/2".

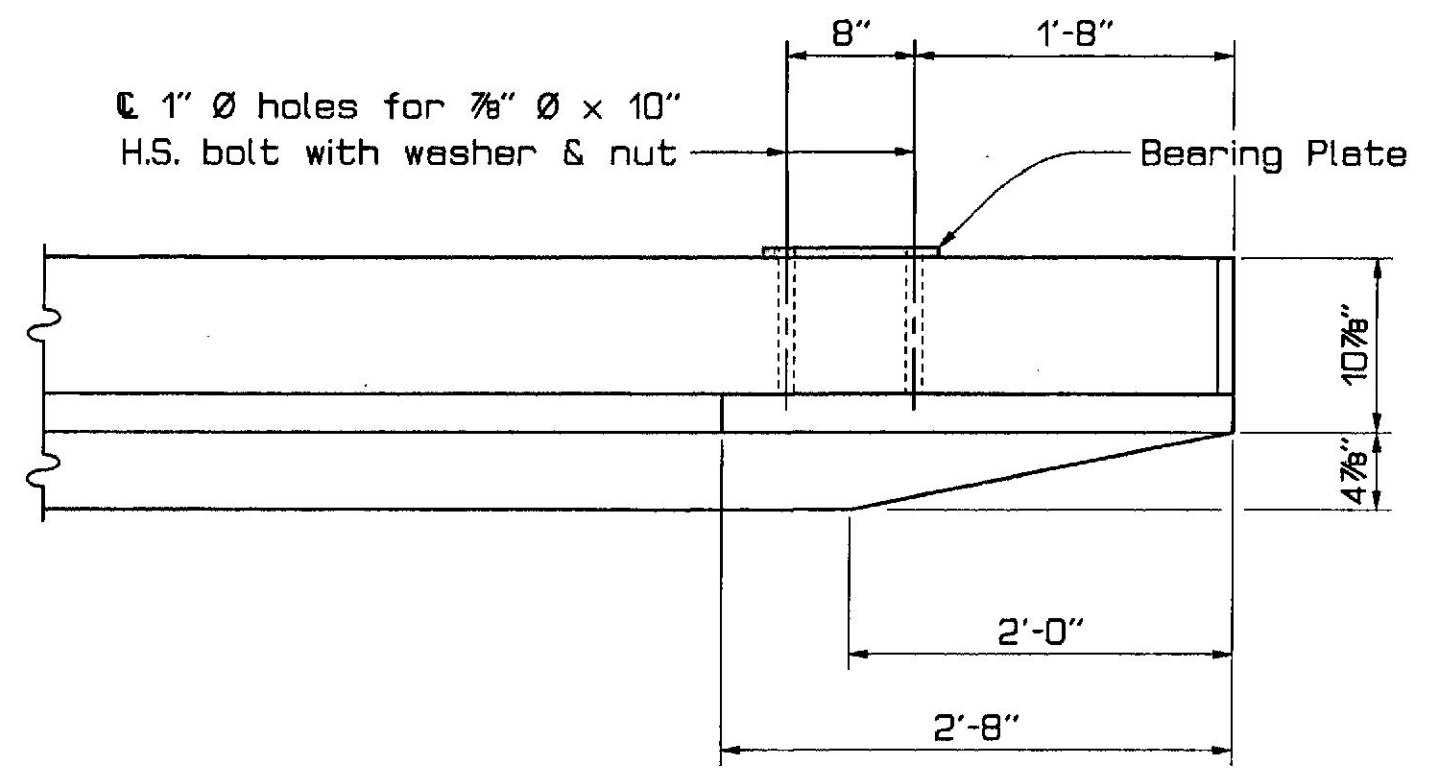
\*Level

\*may be sloped to meet the 3 1/2" min. from flange to channel

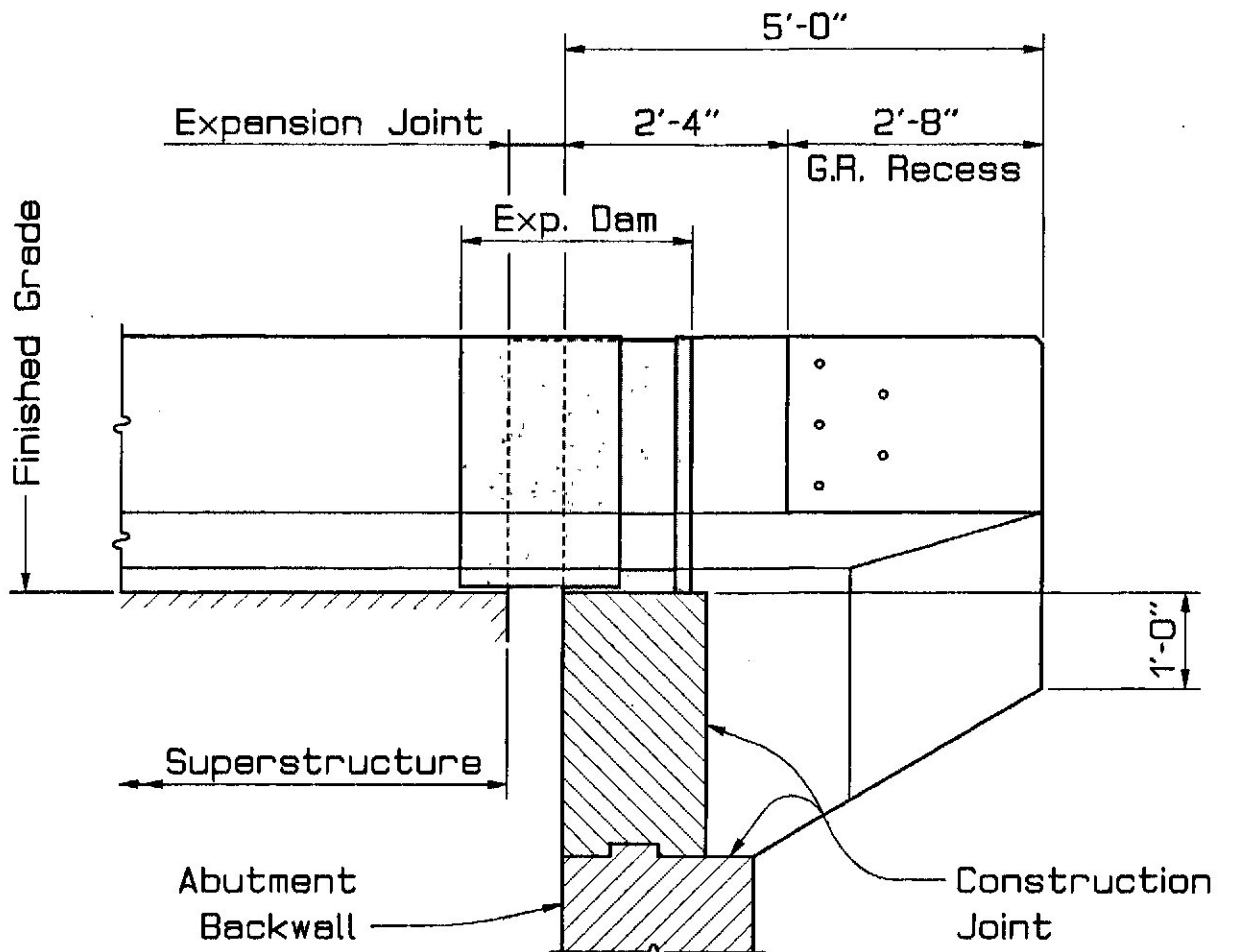


**ELEVATION OF BARRIER WITH GUARD RAIL ATTACHMENT**

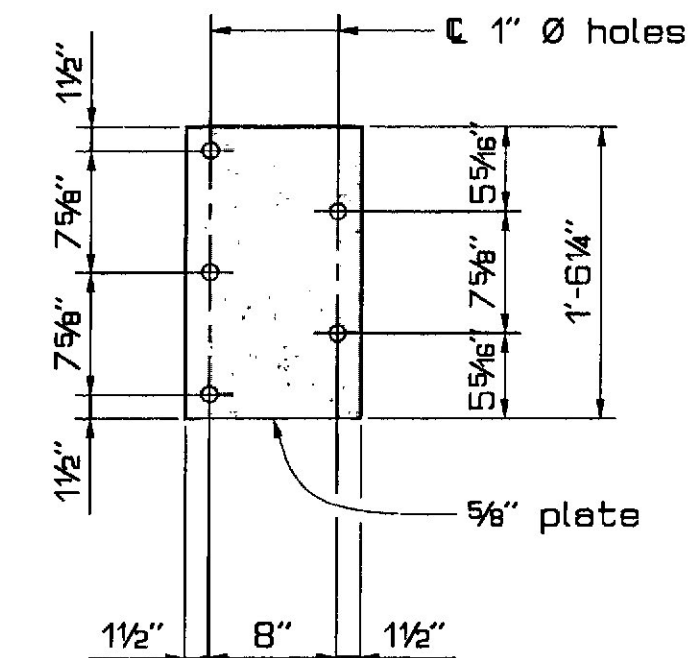
BARRIER REINFORCING STEEL				
Mark	Normal End		Cantilevered End	
	Qty.	Length	Qty.	Length
FB400	As req'd	30'-0" max.	As req'd	30'-0" max.
FB500	14	4'-6"	14	4'-9"
FB550	1	4'-7"	1	4'-10"
FB551	1	4'-7"	1	4'-10"
FB600	10	2'-8"	10	2'-8"
FB650	As req'd	4'-10"	As req'd	4'-10"



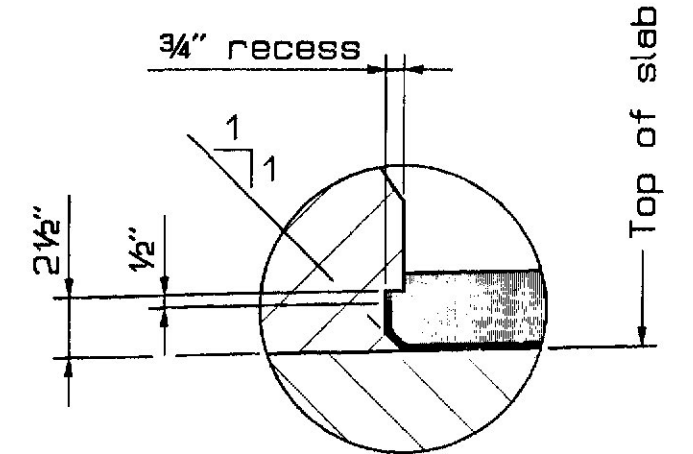
**BARRIER PLAN**



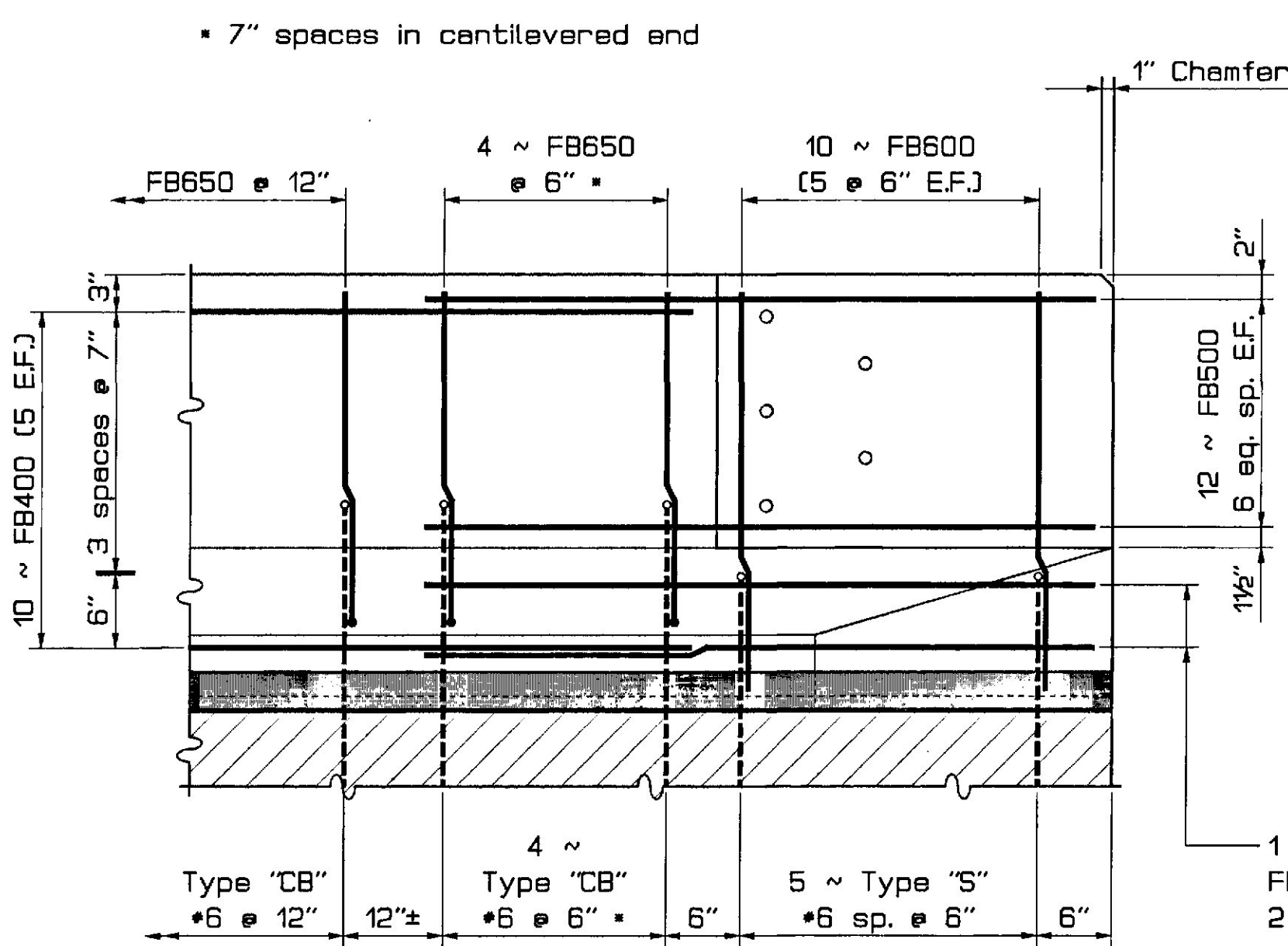
**CANTILEVERED END AT EXPANSION JOINT**



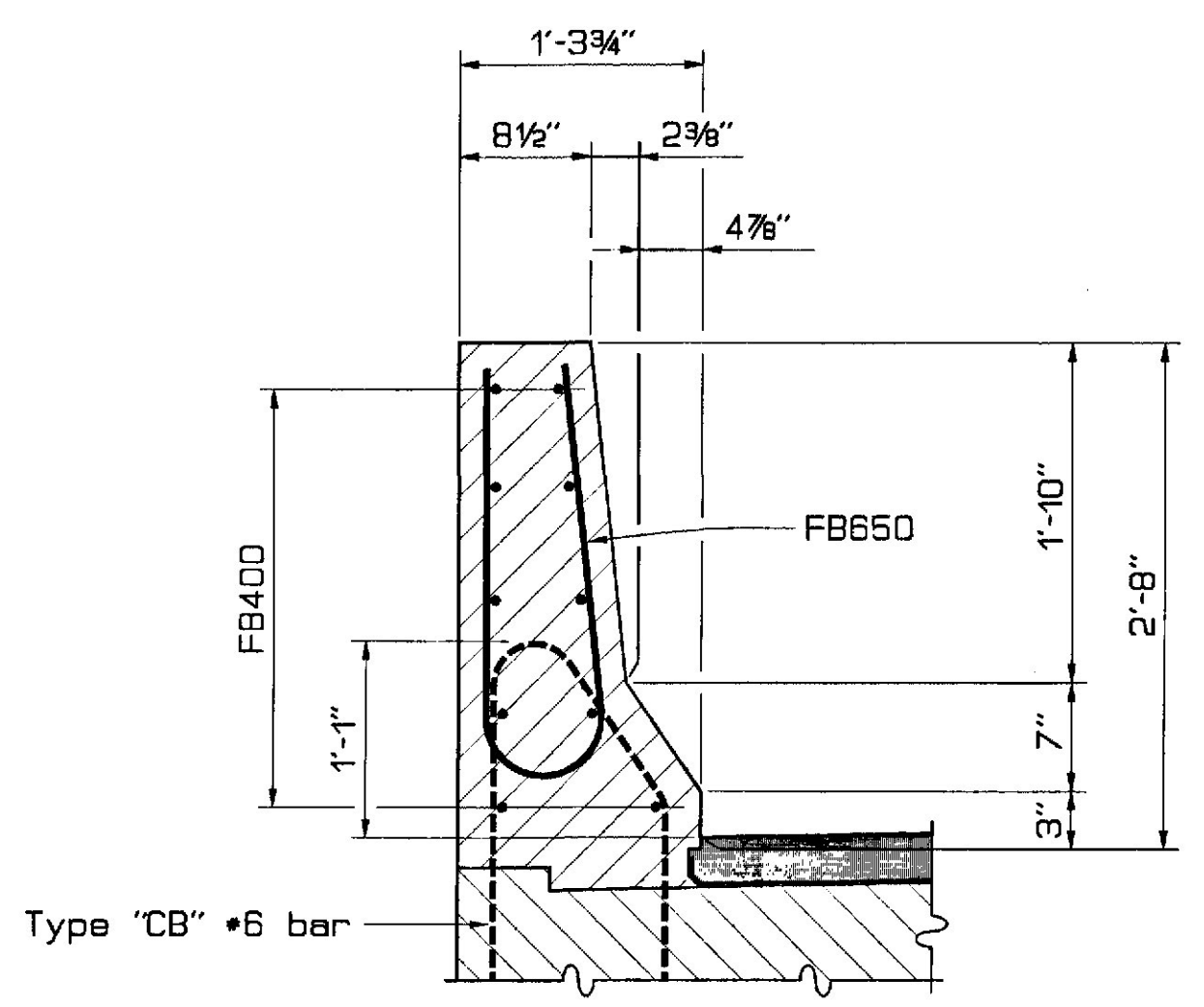
**BEARING PLATE**



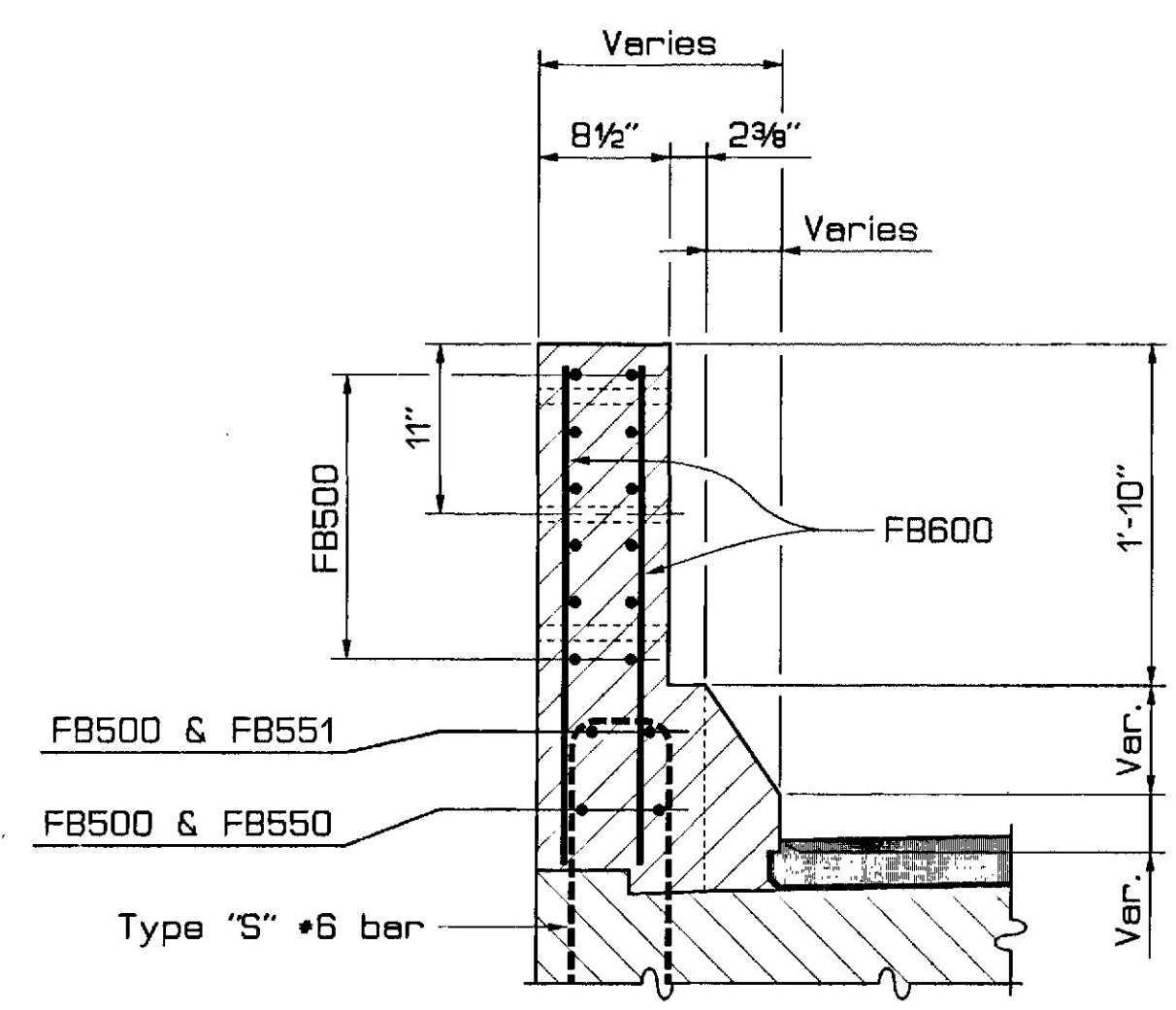
**DETAIL AT GUTTER**  
(showing membrane recess)



**BARRIER ELEVATION**



**BARRIER SECTION**



**BARRIER END SECTION**

**NOTES**

- All work and materials shall conform to the provisions of Special Provisions Section 526 - Concrete Barrier (Permanent Concrete Barrier).
- Reinforcing bar designations Type "S" and "CB" refer to type - bending diagrams as shown on the main Reinforcing Steel Schedule. These bars are detailed on the Design Drawings and are included for payment in the Reinforcing Steel pay items.
- Reinforcing steel shall have 1 1/2 - inch minimum concrete cover, except that stirrups Type "S" and "CB" shall have two (2) inches minimum concrete cover.
- The first digit following the letters of the mark indicates the size of the reinforcing bar. (FB500 = bar size #5.) All dimensions are out - to - out of bar.
- The minimum lap splice length for FB400 bars is 1'-8".
- The quantities of reinforcing bars shown are for one barrier end only.
- Bolt holes in concrete shall be formed by a method approved by the Engineer.
- Payment for silica fume, anchor bolts and bearing plate will be considered incidental to the concrete barrier pay item.
- Part designations for the Bridge Transition refer to details shown in "A Guide to Standardized Highway Barrier Rail Hardware" as prepared and approved by the AASHTO - AGC - ARTBA Joint Cooperative Committee, Technical Bulletin No. 268-B.
- After installation of the guard rail is complete, upset the threads on the anchor bolts in three (3) places around each bolt, at the junction of the nut and the exposed thread, with a center punch or similar tool.
- If there is a conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

**MATERIALS**

Concrete ..... Class "AASF" or Class "A" with silica fume  
 Reinforcing Steel ..... ASTM A615, Grade 60  
 Bearing Plate ..... ASTM A709, Grade 36 (Galvanized)  
 Bolts ..... ASTM A325, Type 1 (Galvanized) or Type 3

**BRIDGE TRANSITION PARTS LIST**

Thrie Beam Section (2)	RE-63(2@1'-6 3/4", 3@3'-1 1/2"=12'-6")-76
Thrie Beam Transition Section (1)	RE-69-76
Thrie Beam Terminal Connector (1)	RE-67-76
Thrie Beam Post & Offset Block (6)	P-54-79
Thrie Beam Timber Post & Offset Block (6)	P-55-79

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

**STANDARD DETAILS**  
BD 461 - 95

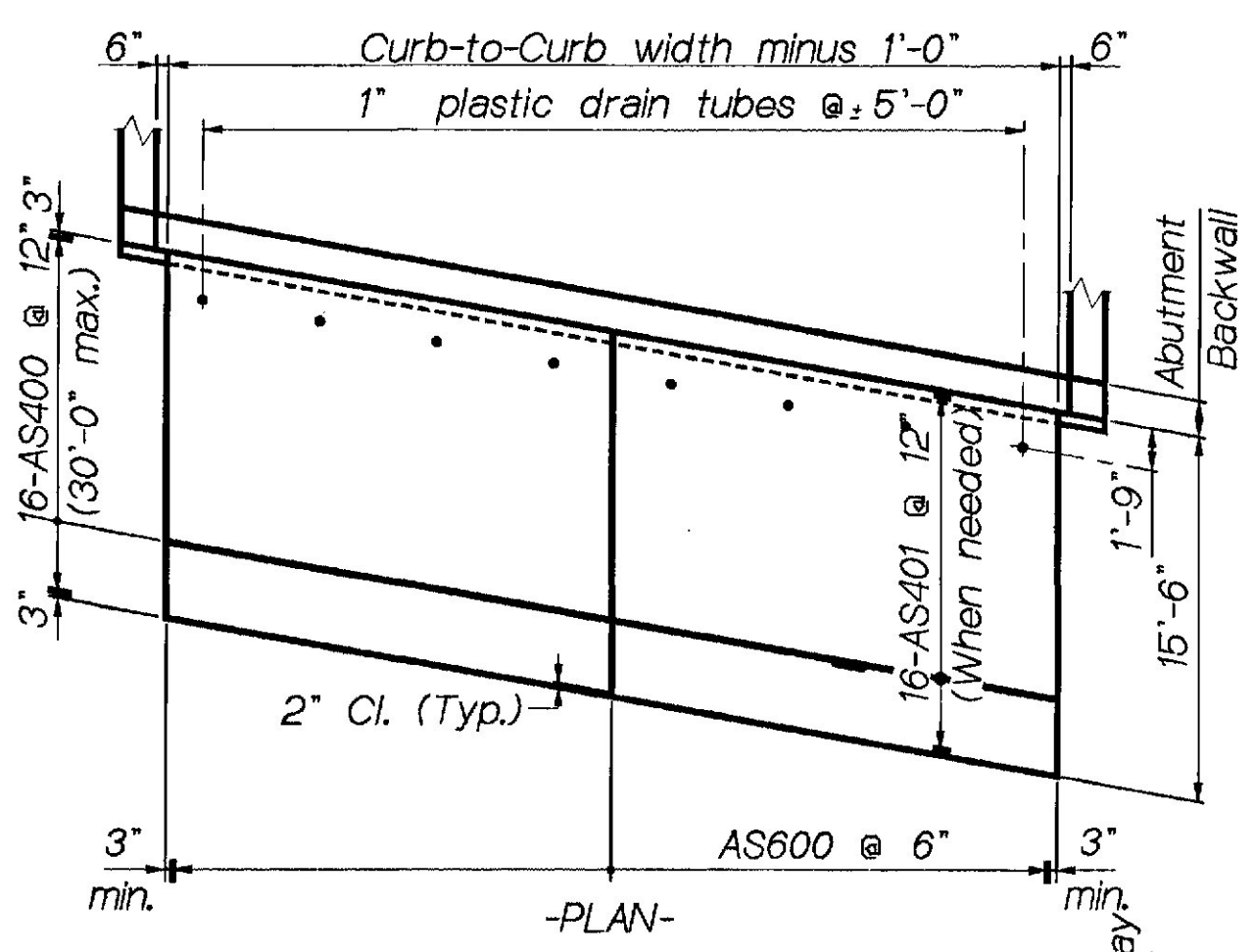
**PERMANENT  
CONCRETE BARRIER**  
32 INCH F - SHAPE

SHEET AUGUSTA, MAINE October 1995

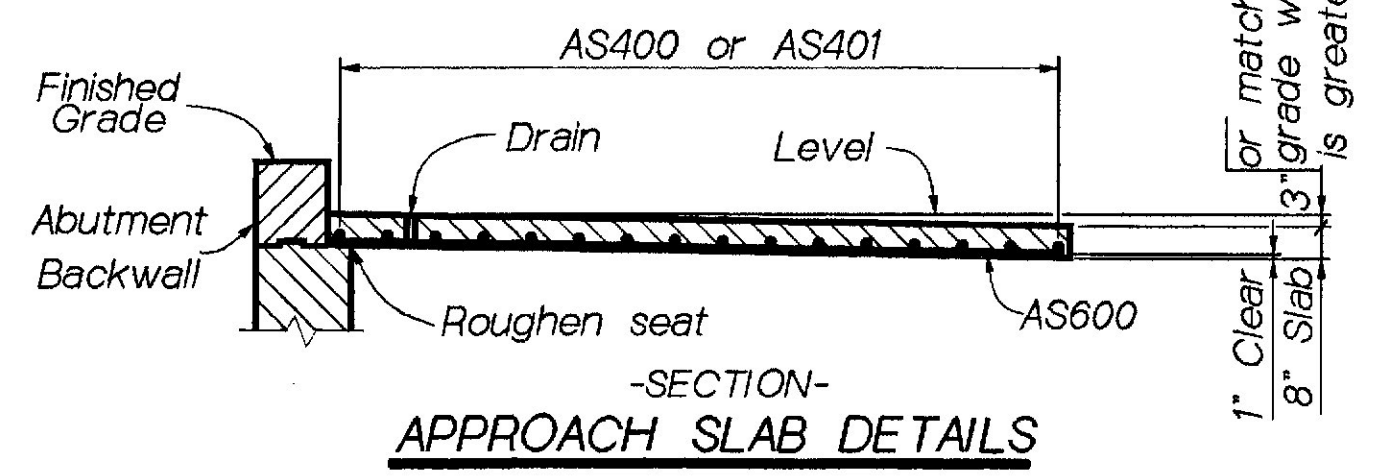
PROJECT DESIGN ENGINEER	BY	DATE
DESIGN-DETAILED	D. Dominici	9/95
CHECKED		
REVISIONS		
FIELD CHANGES		

**PLANS**

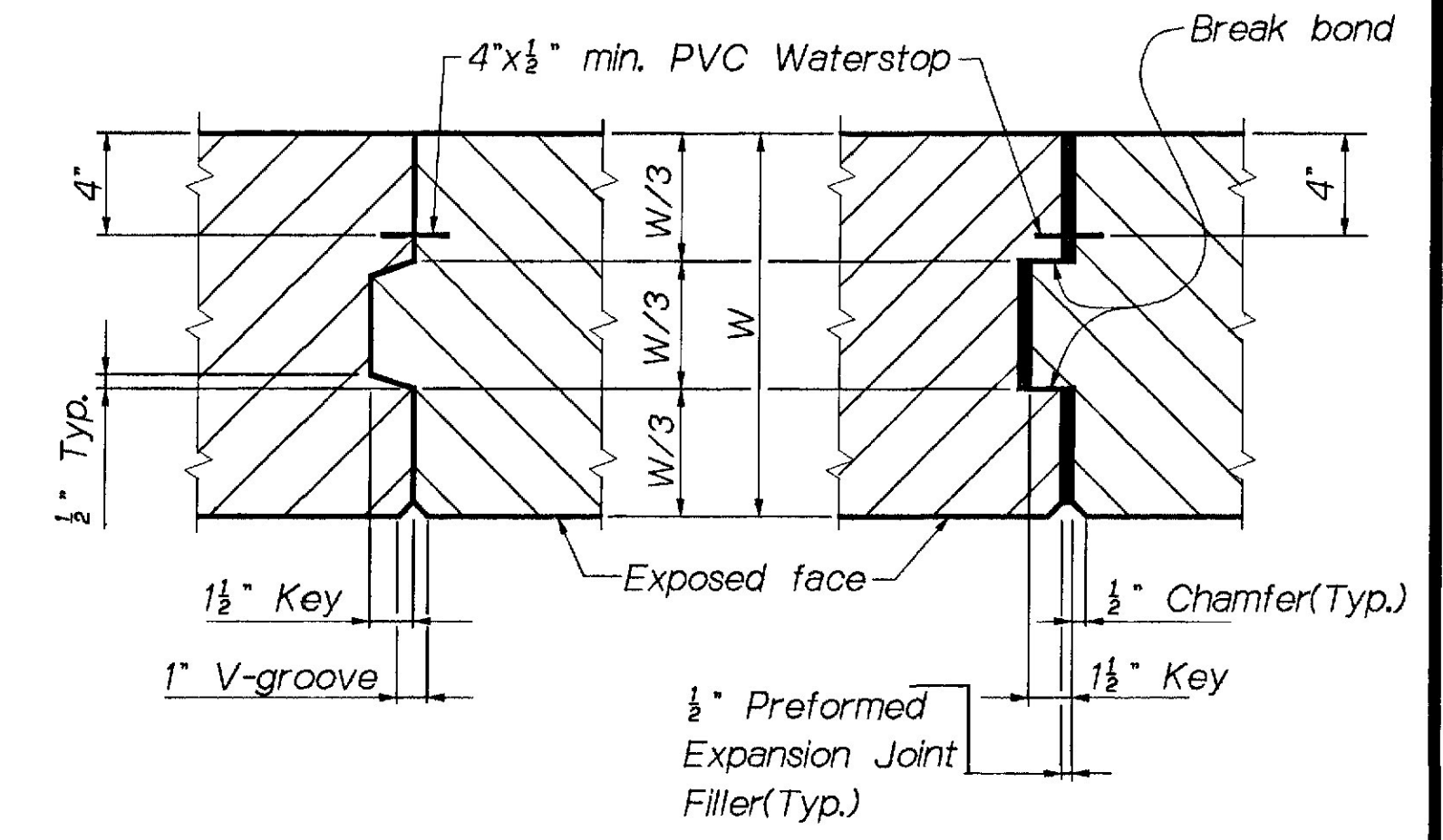
29OCT196-0100030  
BD461



-PLAN-



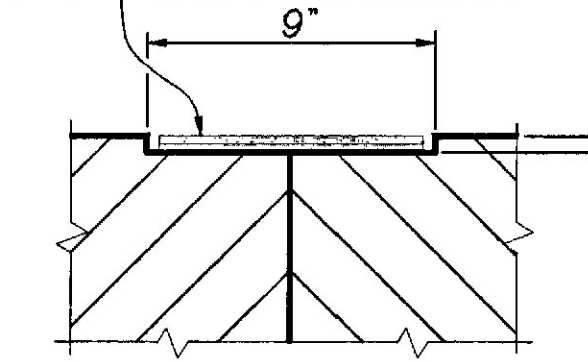
-SECTION-  
APPROACH SLAB DETAILS



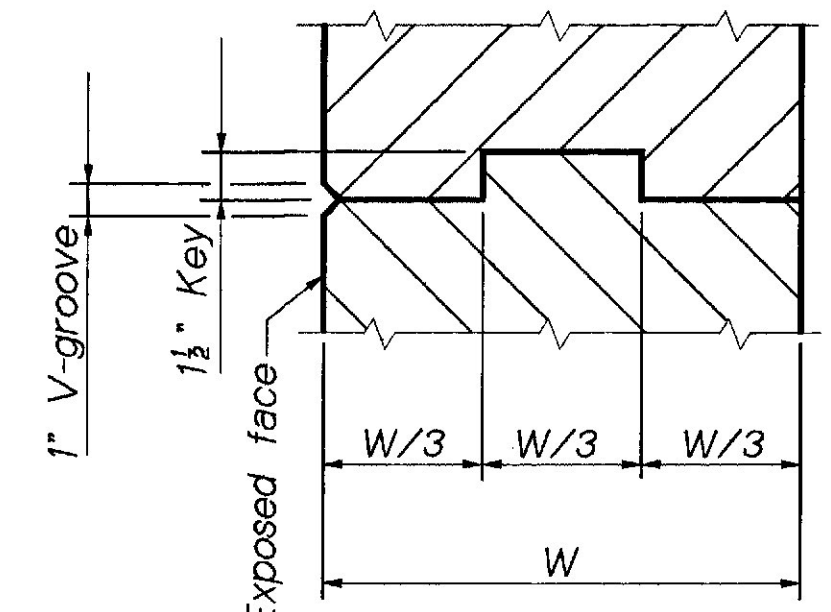
-VERTICAL CONSTRUCTION OR CONTRACTION JOINT-

-VERTICAL EXPANSION JOINT-

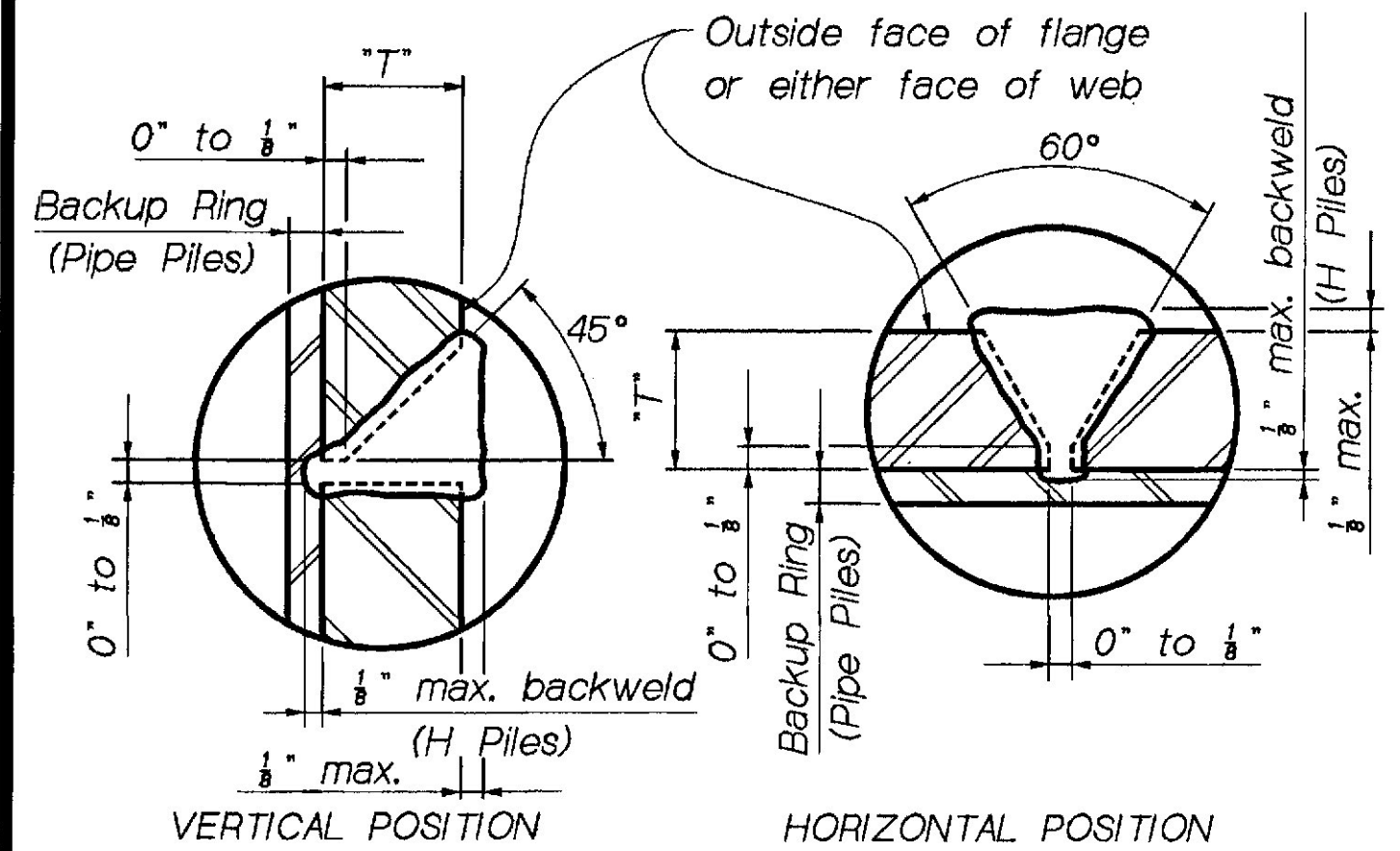
Apply two layers of heavy roofing felt. Coat the concrete and each layer with plastic roofing cement.



-JOINT COVER-



-HORIZONTAL CONSTRUCTION JOINT-



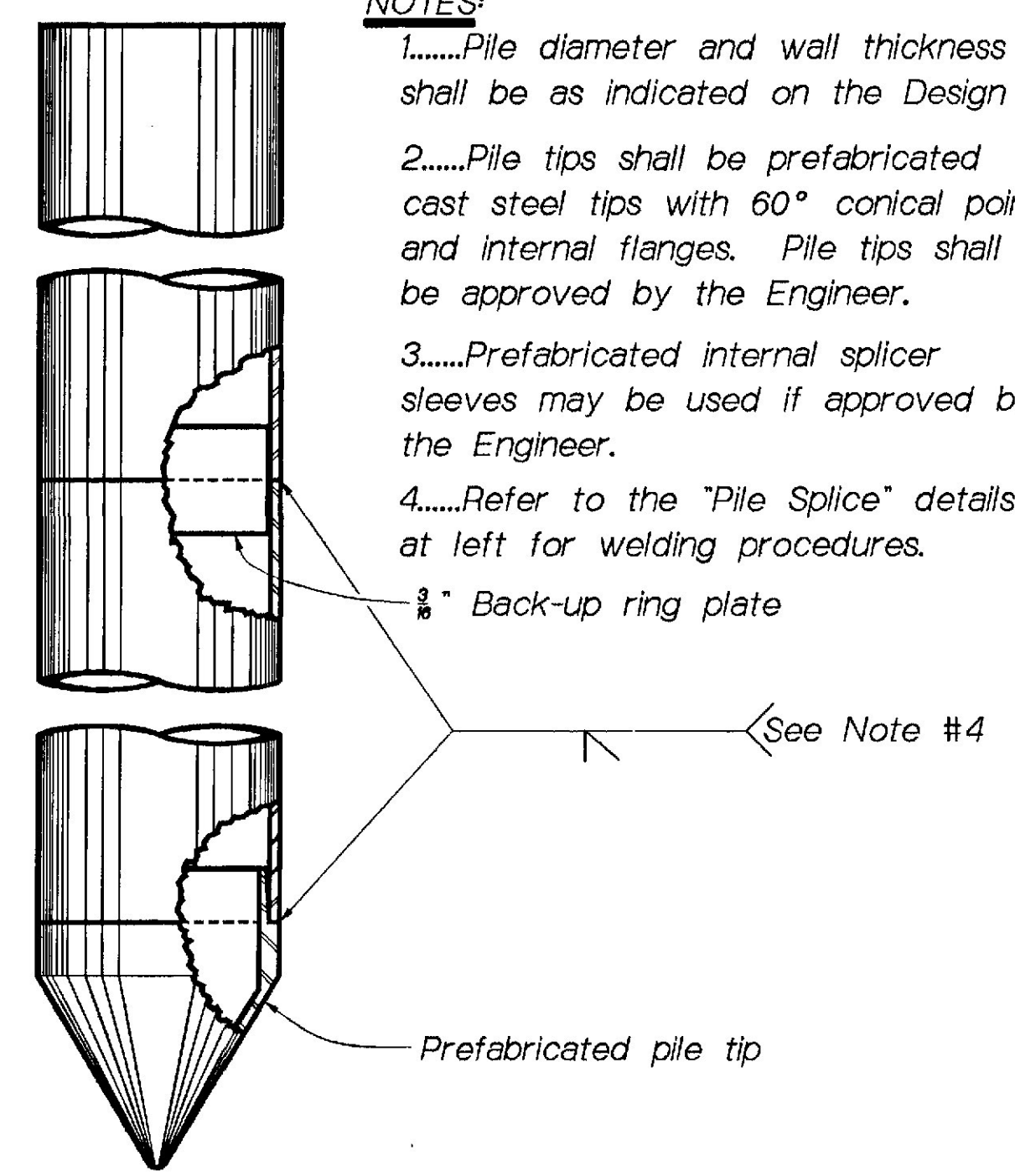
- 1.....All cutting shall be done with the use of a mechanical guide.  
 2.....Gouge root before welding second side. (H Piles).  
 3.....Use Manual Shielded-Arc Process and 6010 or 6011 electrodes, unless a different process has been approved by the Engineer.  
 4.....Electrodes shall be dry when used, in accordance with the provisions of A.W.S. Spec. D1.5, as amended by AASHTO.

PILE SPLICE

Base Metal Thickness "T"	Min. Number of Passes
3/8, 1/2	3
1/2, 5/8	4
5/8, 3/4	5

NOTES:

- .....Pile diameter and wall thickness shall be as indicated on the Design Drawings.
- .....Pile tips shall be prefabricated cast steel tips with 60° conical points and internal flanges. Pile tips shall be approved by the Engineer.
- .....Prefabricated internal splicer sleeves may be used if approved by the Engineer.
- .....Refer to the "Pile Splice" details at left for welding procedures.



PIPE PILES

NOTE: Use only those items called for on the design drawings.

GENERAL NOTE:  
 In case of conflict between these Standard Details and the Design Drawings, the requirements of the Design Drawings shall be followed.

REVISIONS Description	APPROVED	
	Me.DOT	FWHA
Original Plan	JULY, 1993	

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION

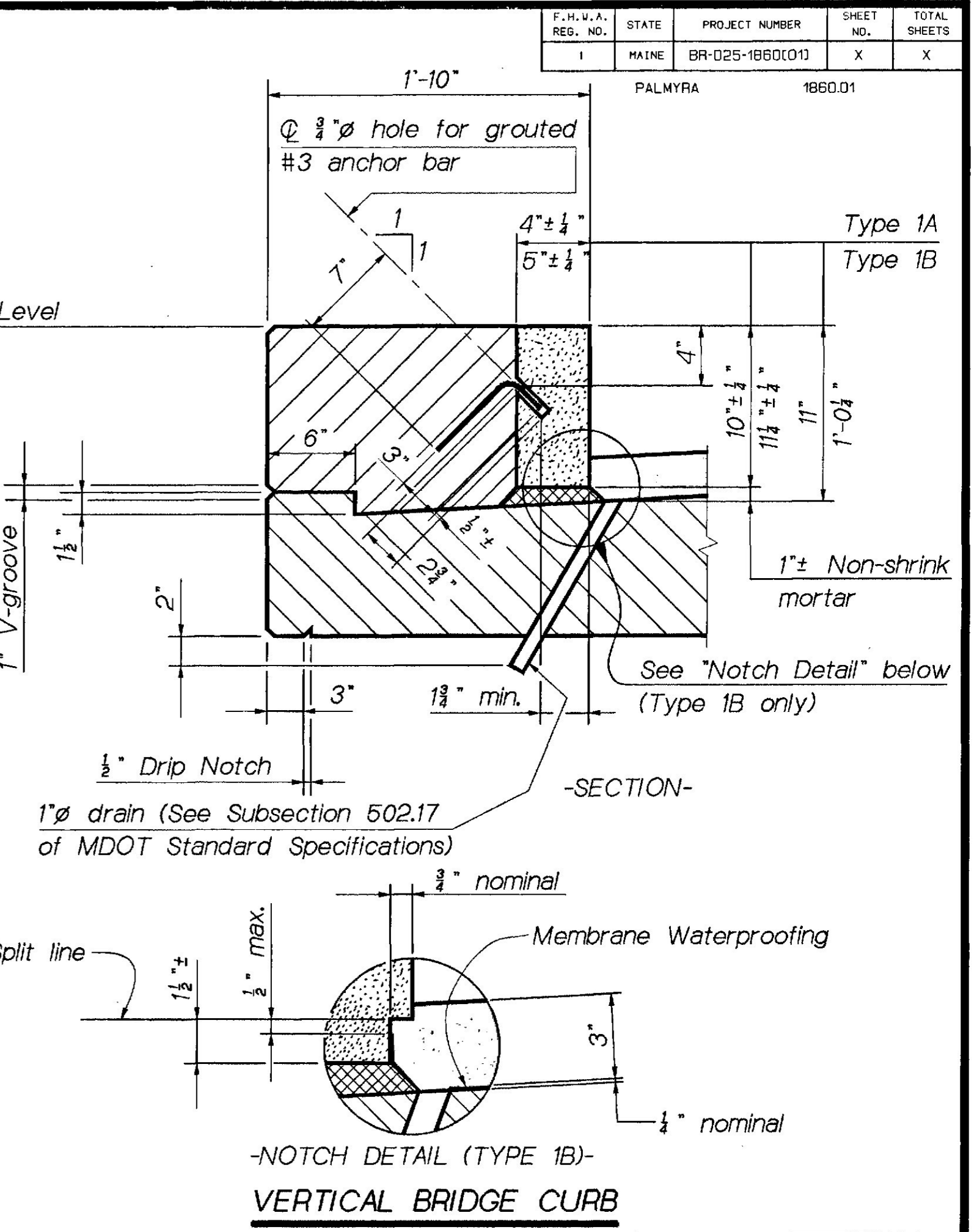
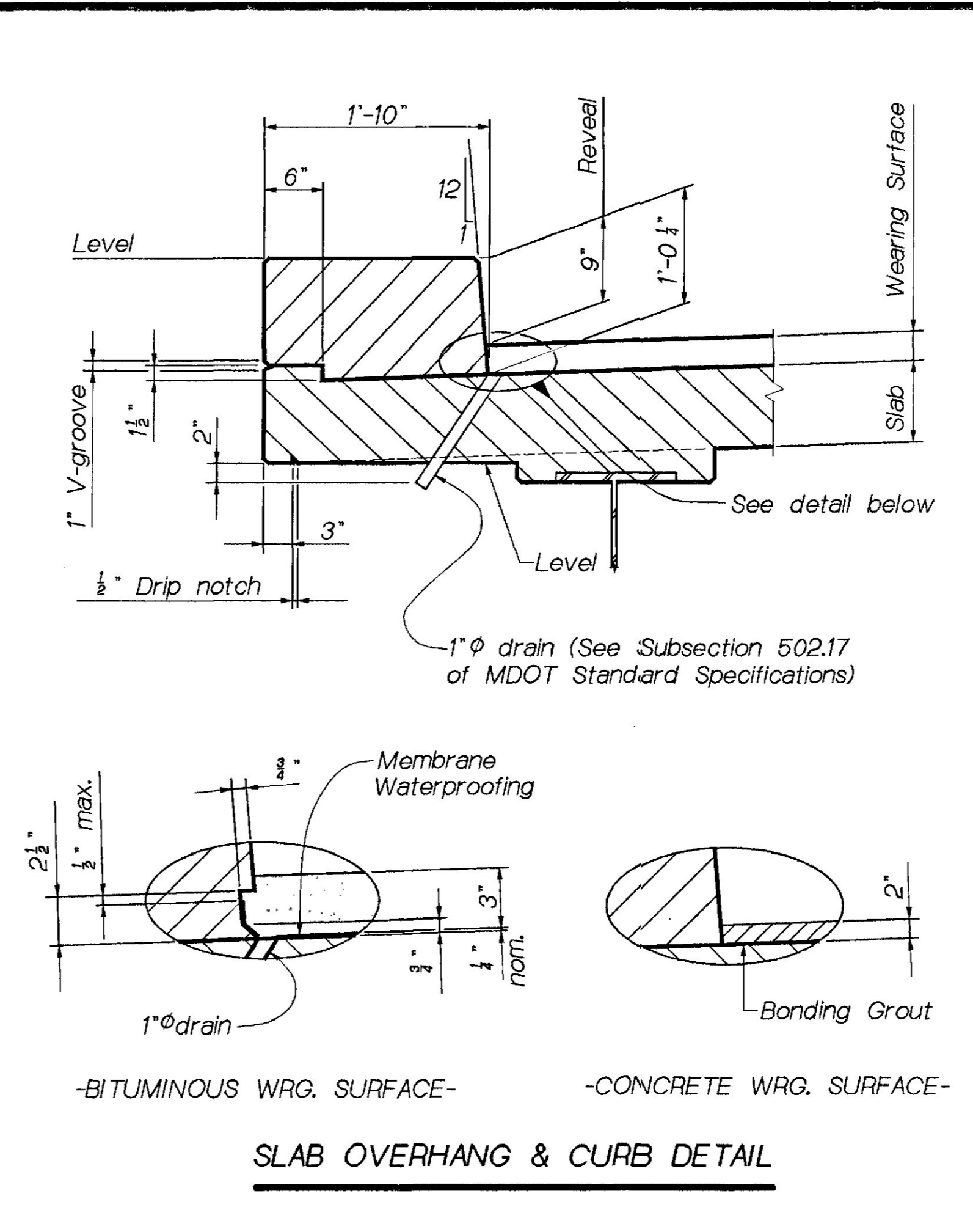
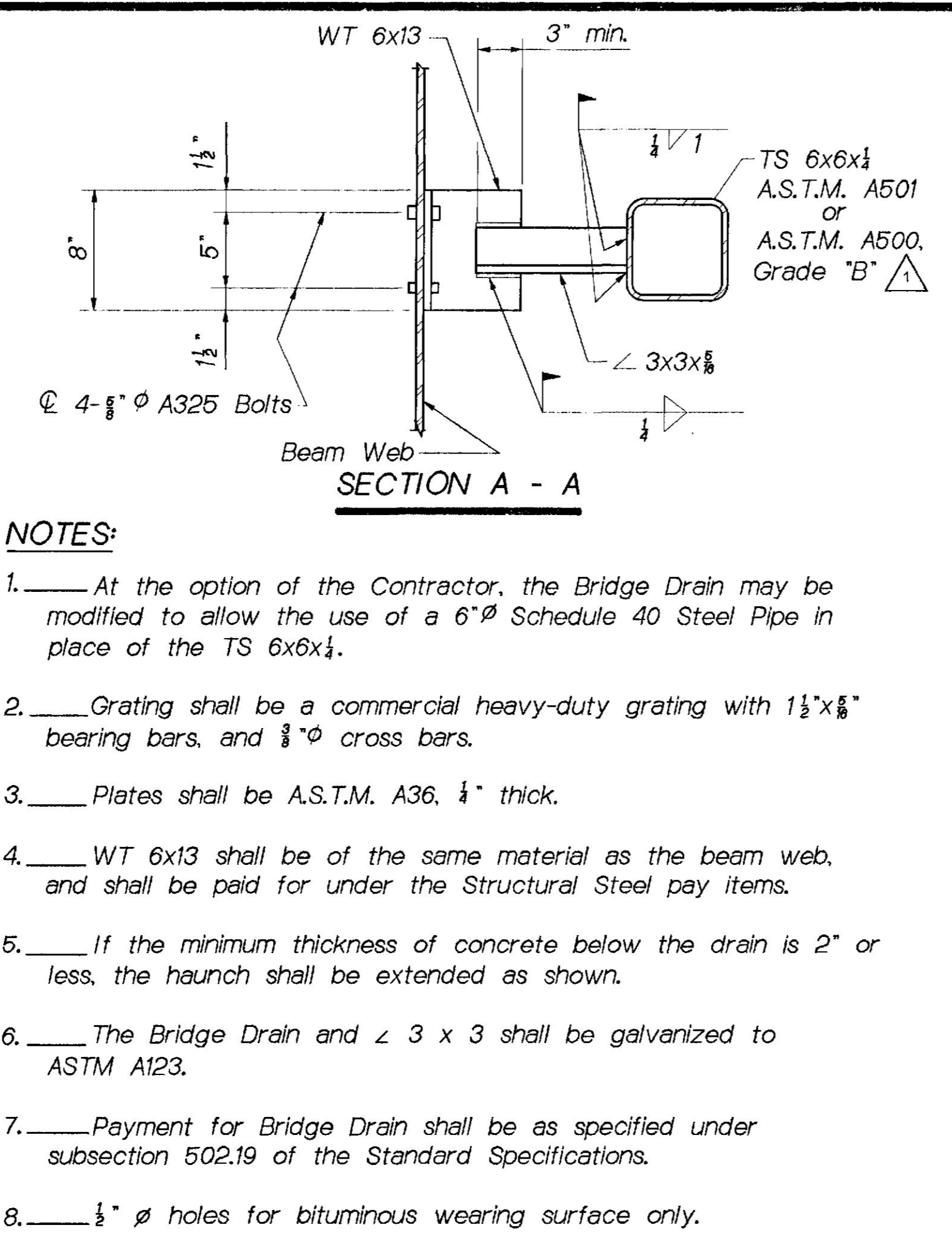
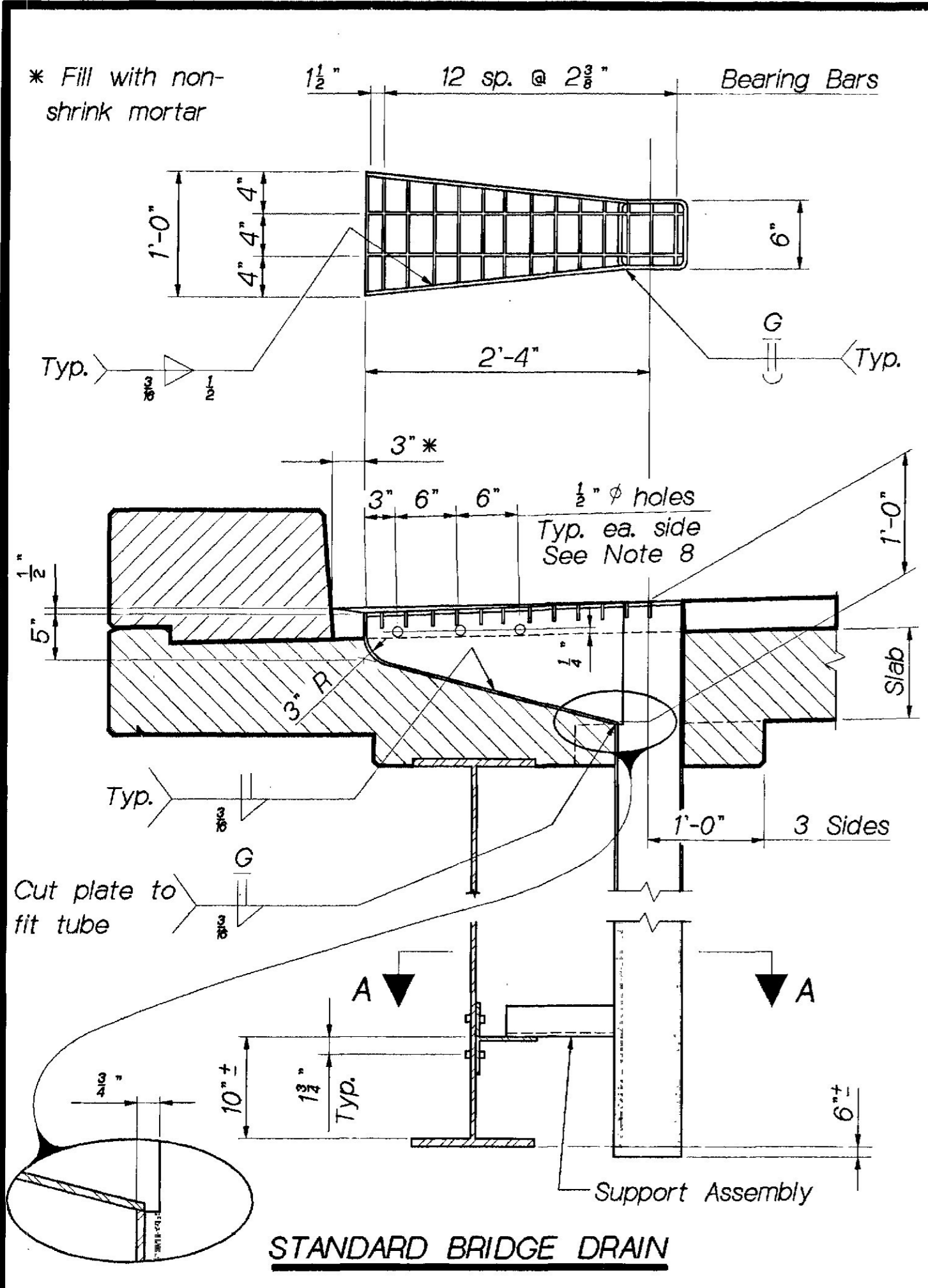
**STANDARD DETAILS**  
 BD 501 - 93

**SUBSTRUCTURE DETAILS**  
 APPROACH SLAB  
 CONCRETE JOINT DETAILS  
 PILE SPLICE ~ PIPE PILES

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

**PLANS**

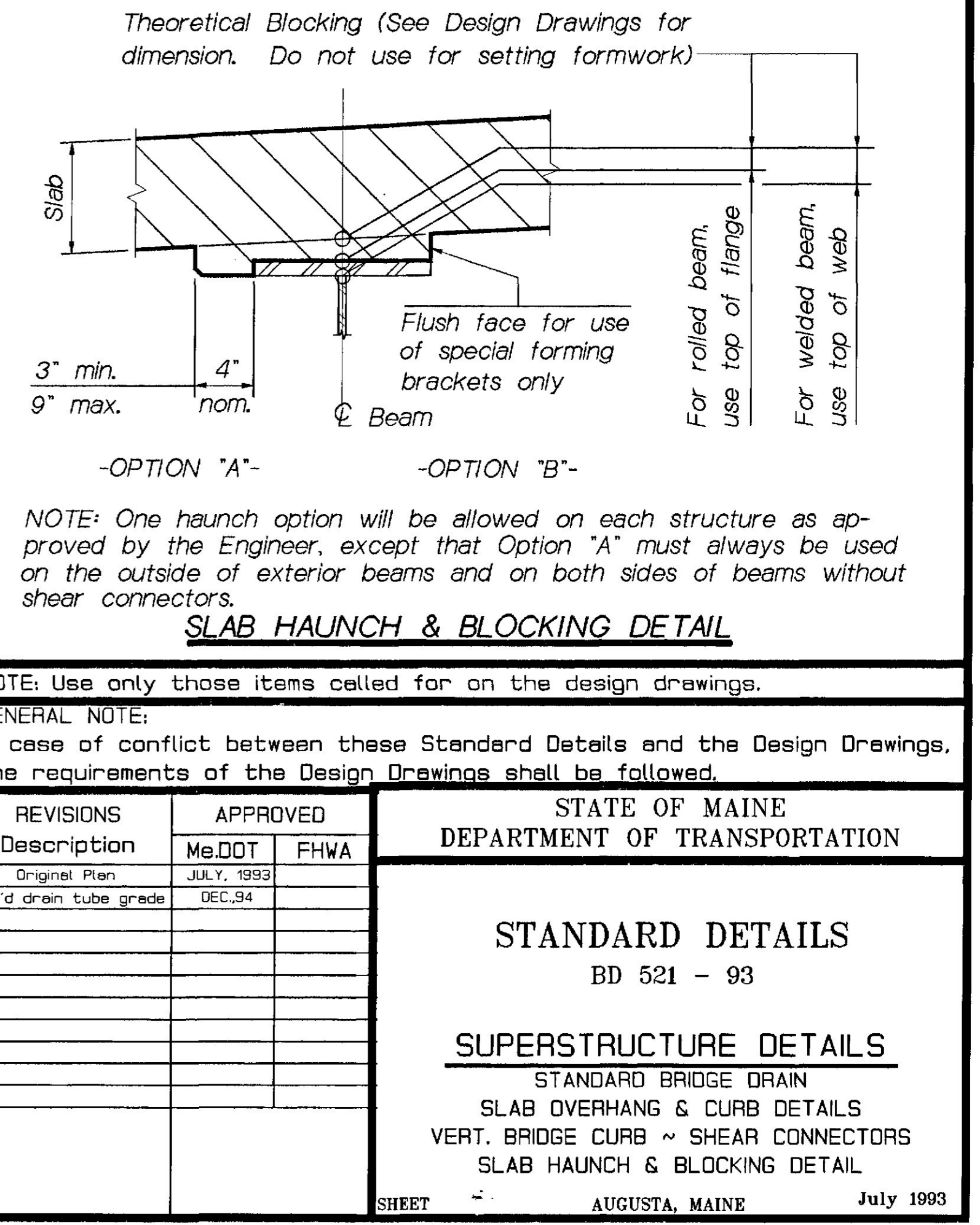
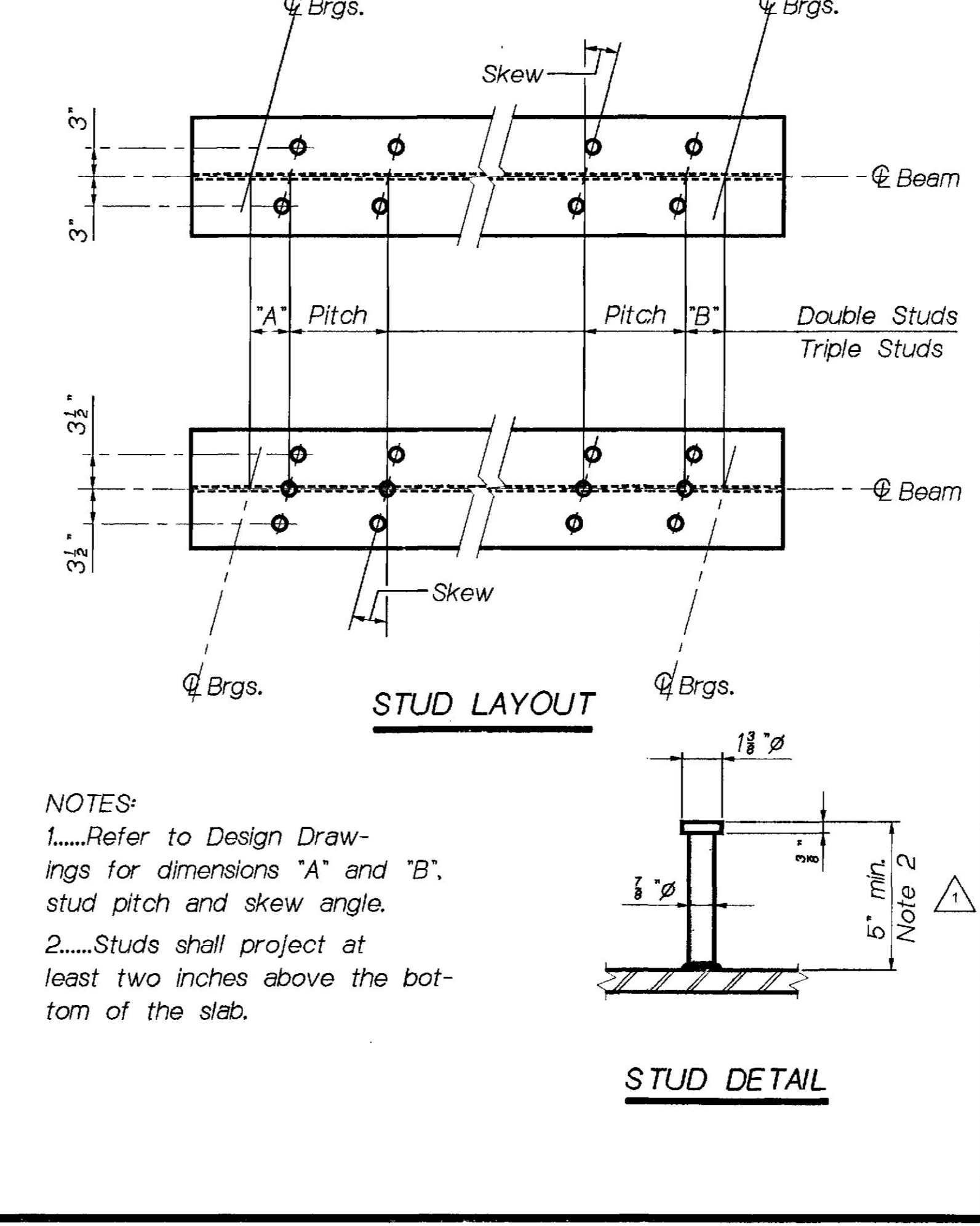
29OCT196-0100030  
 BD501

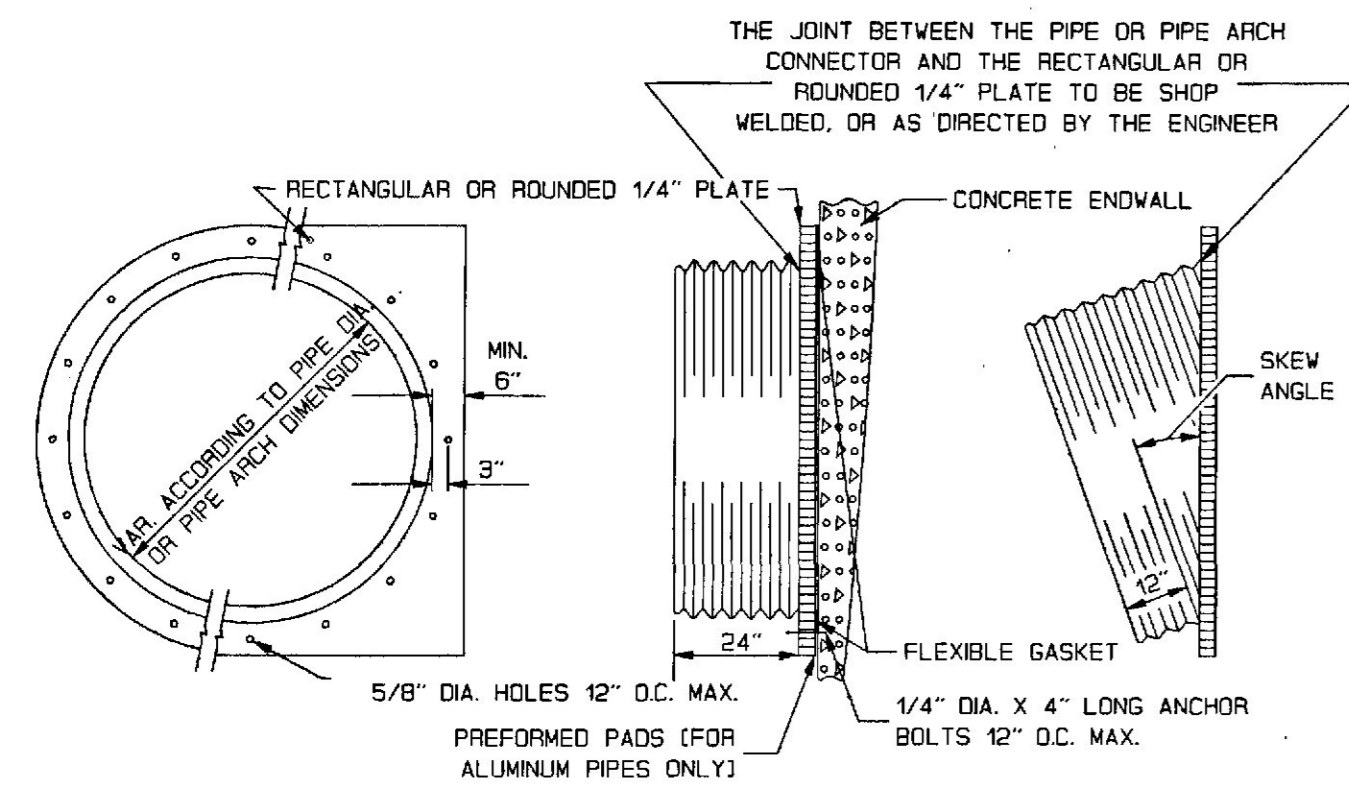


PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

**PLANS**

290CT96 0100030  
BD521

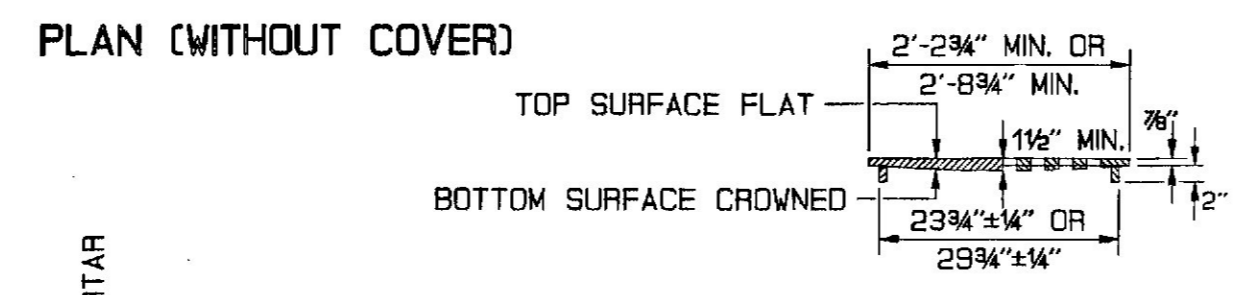
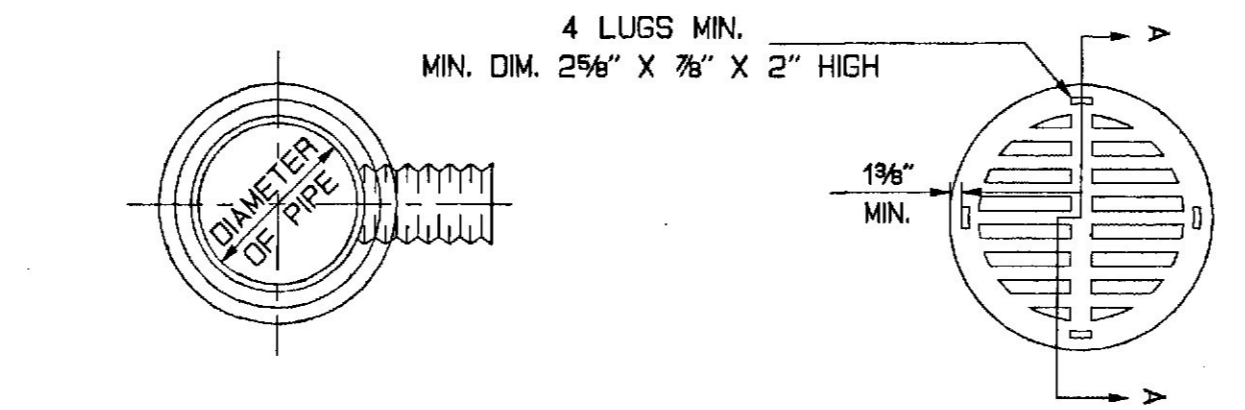




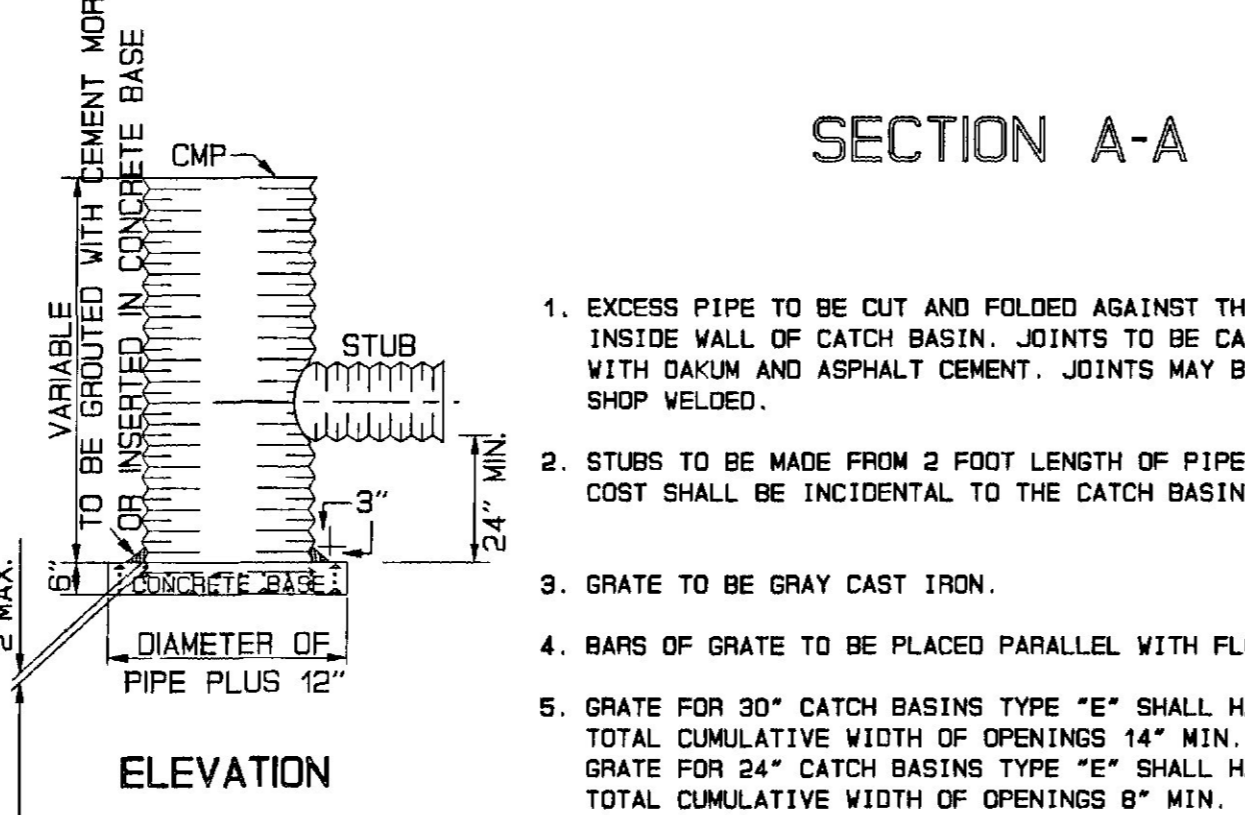
**METAL CULVERT CONNECTOR** **CONNECTOR FOR SKEWED PIPE**

**CONCRETE BOX CULVERT EXTENSION USING CORRUGATED METAL PIPE & PIPE ARCHES**

SPEC. 603 DR009



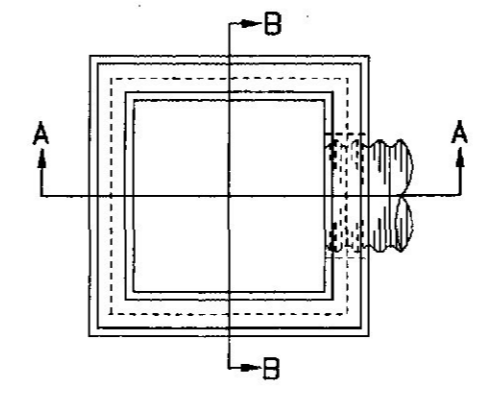
**SECTION A-A**



1. EXCESS PIPE TO BE CUT AND FOLDED AGAINST THE INSIDE WALL OF CATCH BASIN. JOINTS TO BE CALKED WITH OAKUM AND ASPHALT CEMENT. JOINTS MAY BE SHOP WELDED.
2. STUBS TO BE MADE FROM 2 FOOT LENGTH OF PIPE. COST SHALL BE INCIDENTAL TO THE CATCH BASIN ITEM.
3. GRATE TO BE GRAY CAST IRON.
4. BARS OF GRATE TO BE PLACED PARALLEL WITH FLOW.
5. GRATE FOR 30" CATCH BASINS TYPE "E" SHALL HAVE A TOTAL CUMULATIVE WIDTH OF OPENINGS 14" MIN. GRATE FOR 24" CATCH BASINS TYPE "E" SHALL HAVE A TOTAL CUMULATIVE WIDTH OF OPENINGS 8" MIN.
6. CORRUGATED METAL PIPE SHALL CONFORM TO SECTION 712.08 OF THE STANDARD SPECIFICATIONS.

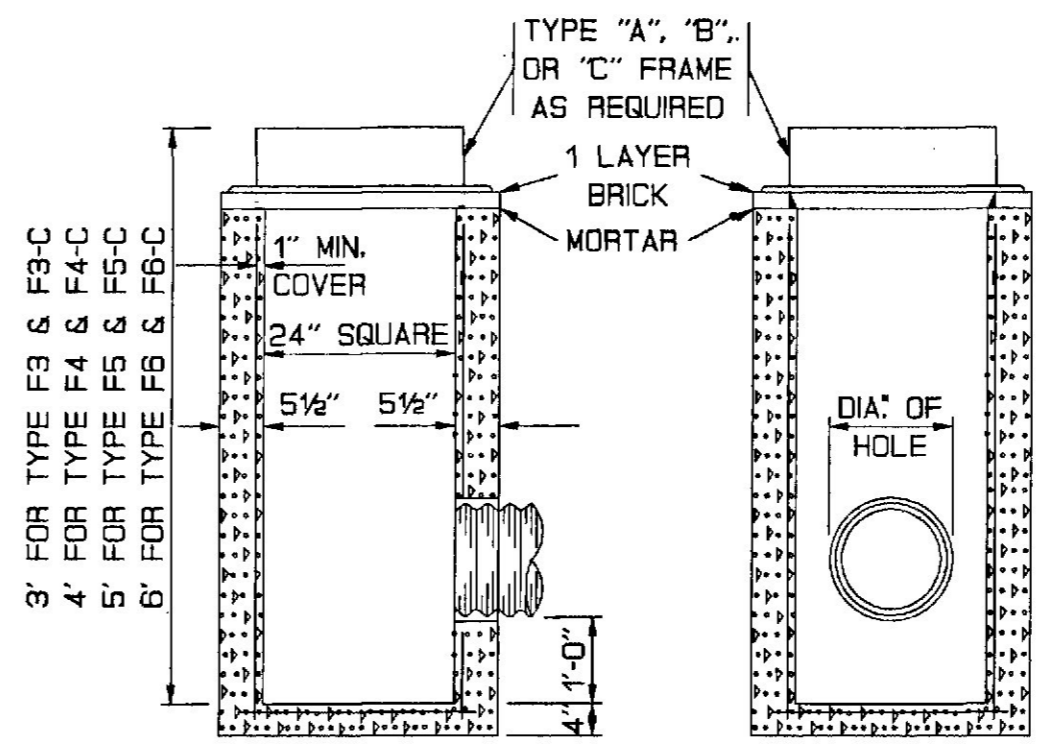
**CATCH BASIN TYPE "E"**

SPEC. 604 DR010



NOTE:  
ENTIRE CATCH BASIN WITH EXCEPTION OF LEVELING BRICK, FRAME AND GRATE TO BE PRECAST AS A SINGLE PORTLAND CEMENT CONCRETE UNIT

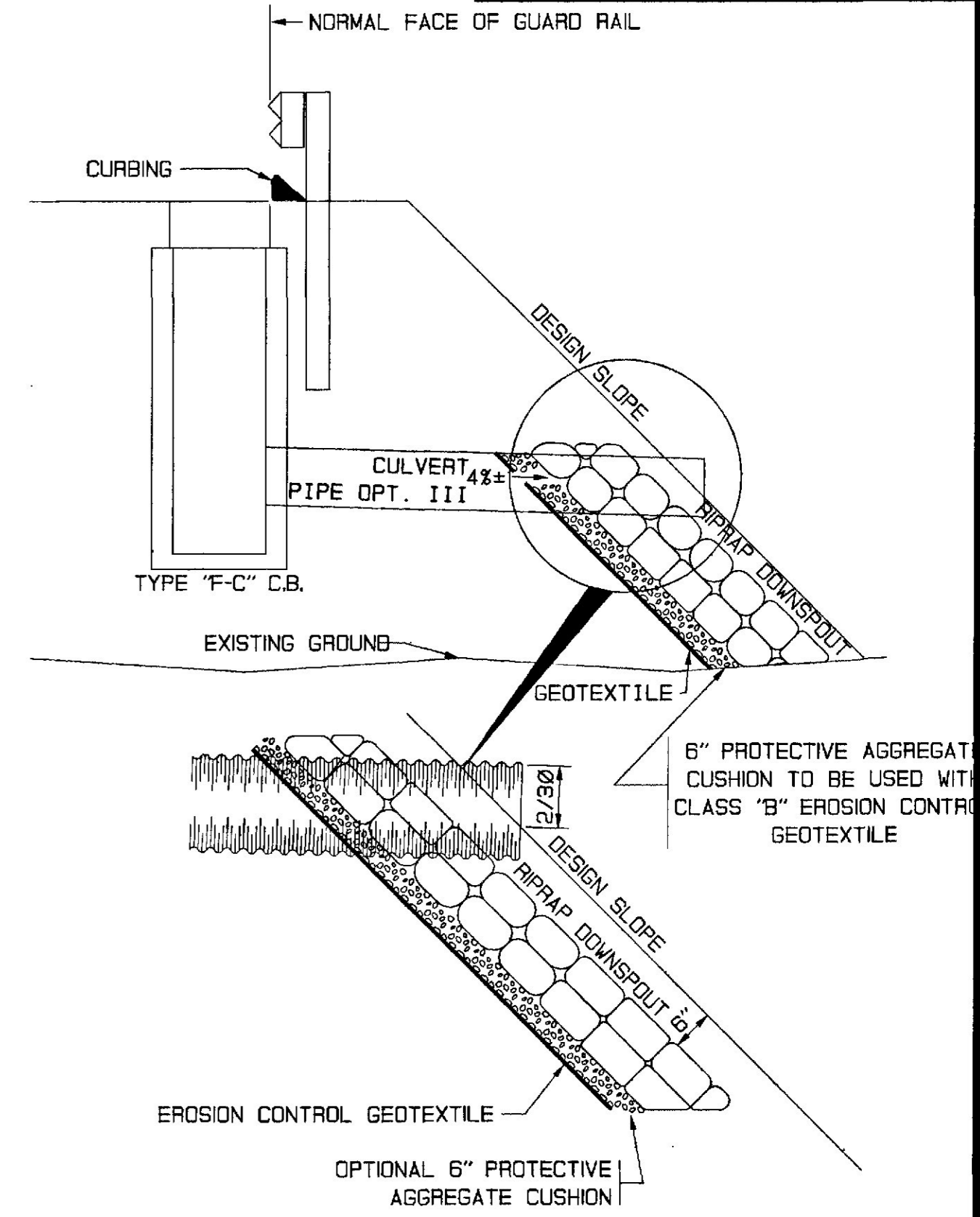
\* DIAMETER OF HOLE TO BE 3" LARGER THAN THE INSIDE DIAMETER OF FLEXIBLE PIPE OR THE OUTSIDE DIAMETER OF RIGID PIPE.



**SECTION A-A** **SECTION B-B**

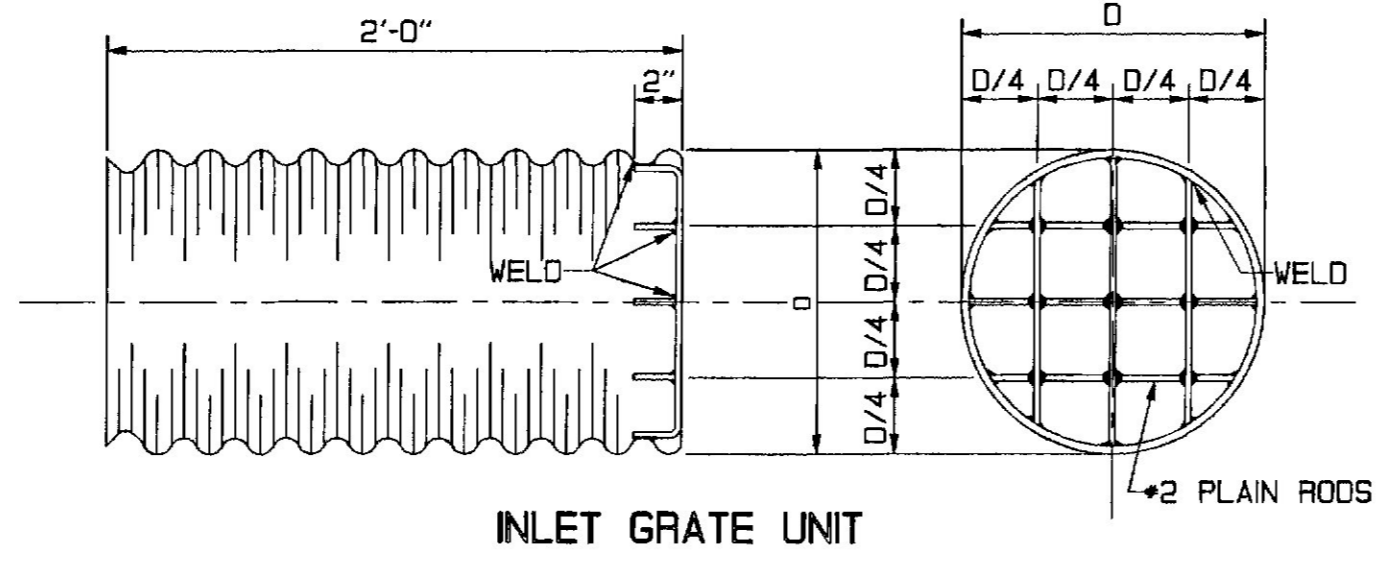
**CATCH BASIN TYPE "F"**

SPEC. 604 DR011

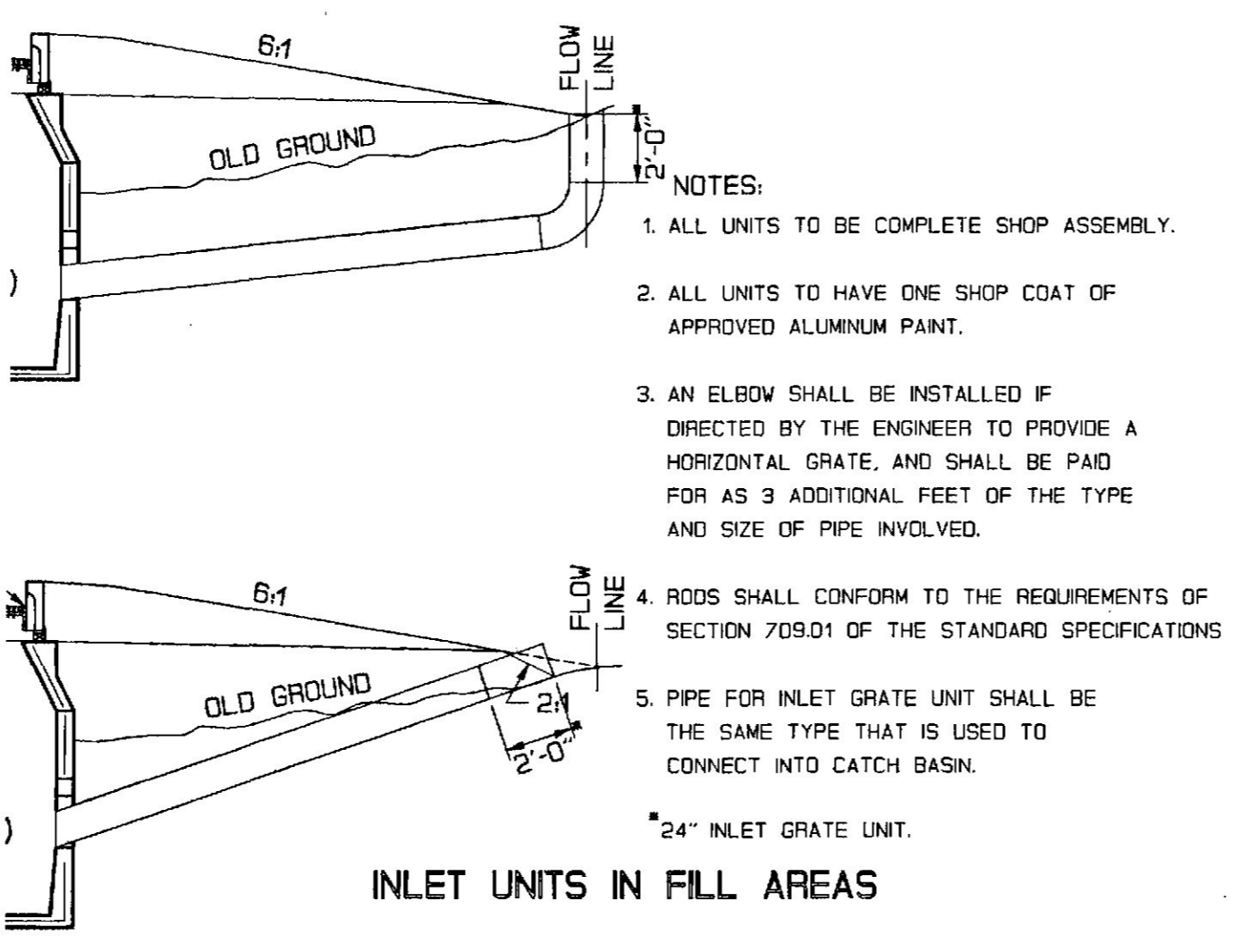


**TYPE "F" CATCH BASIN WITH OUTLET PIPE (WITH RIPRAP)**

SPEC. 604 DR012



**INLET GRATE UNIT**

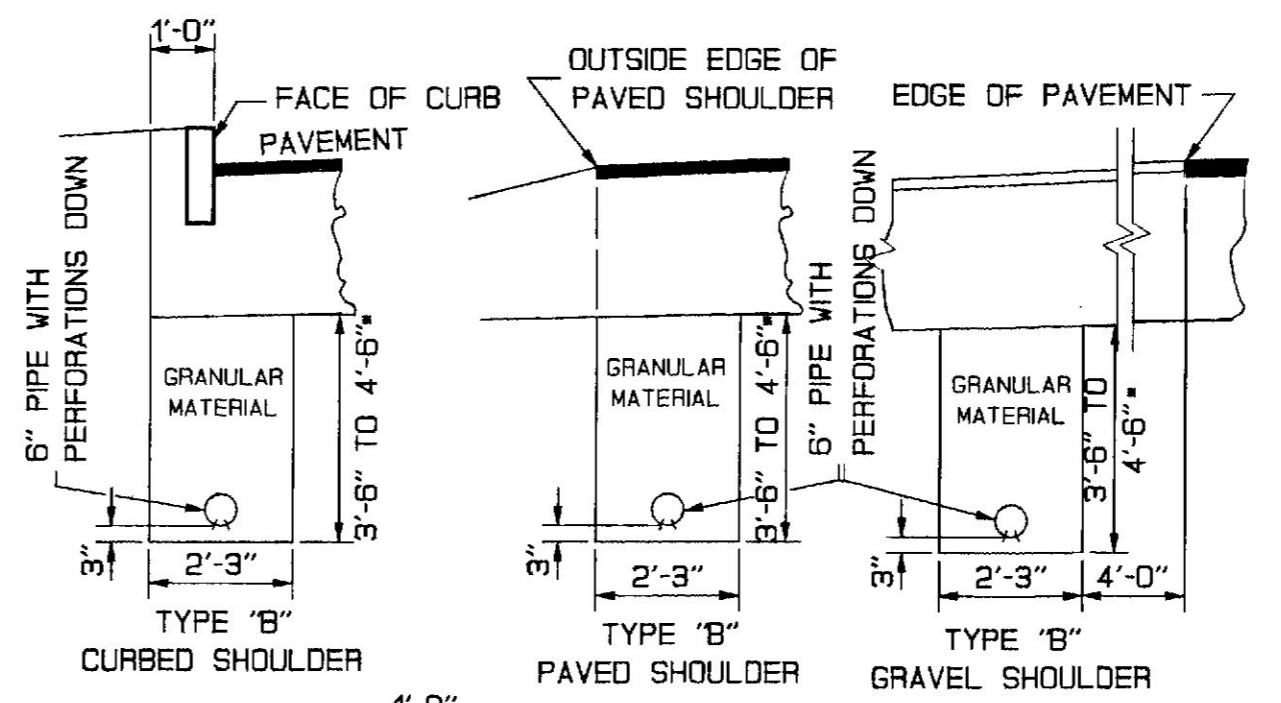


**INLET UNITS IN FILL AREAS**

- NOTES:
1. ALL UNITS TO BE COMPLETE SHOP ASSEMBLY.
  2. ALL UNITS TO HAVE ONE SHOP COAT OF APPROVED ALUMINUM PAINT.
  3. AN ELBOW SHALL BE INSTALLED IF DIRECTED BY THE ENGINEER TO PROVIDE A HORIZONTAL GRATE, AND SHALL BE PAID FOR AS 3 ADDITIONAL FEET OF THE TYPE AND SIZE OF PIPE INVOLVED.
  4. RODS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 709.01 OF THE STANDARD SPECIFICATIONS
  5. PIPE FOR INLET GRATE UNIT SHALL BE THE SAME TYPE THAT IS USED TO CONNECT INTO CATCH BASIN.
- \* 24" INLET GRATE UNIT.

**INLETS**

SPEC. 604 DR014



- NOTES
1. THE MAXIMUM VERTICAL MEASUREMENT OF DEPTH FOR PAYMENT OF STRUCTURAL ROCK EXCAVATION WILL BE TO A HORIZONTAL PLANE LOCATED 1 FOOT BELOW THE BOTTOM OF THE INVERT OF THE PIPE FOR UNDERDRAIN TYPE "B" AND UNDERDRAIN TYPE "C".
  2. THE MATERIAL FOR ELBOWS, TEES & WYES FOR UNDERDRAIN TYPES "B" AND "C" SHALL BE AT LEAST AS THICK AS THE LARGEST SIZE PIPE BEING CONNECTED.
  3. THE INVERT ELEVATION OF UNDERDRAIN TYPE "B" OUTLETS SHALL BE A MINIMUM OF 6 INCHES ABOVE THE FLOW LINE OF A DITCH OR THE ORIGINAL GROUND.
  4. WIDTH OF THE TRENCH FOR UNDERDRAIN OUTLET WILL BE THE SAME AS THE UNDERDRAIN TRENCH.
  5. NO ALLOWANCE FOR PAYMENT WILL BE MADE FOR EXCAVATING OR MATERIAL EXCAVATED BEYOND THE HORIZONTAL DIMENSIONS SHOWN FOR TYPES "B", OR "C" UNDERDRAIN.
  6. IN "BOX SECTIONS" THE EDGE OF THE TRENCH SHALL BE IN LINE WITH EDGE OF THE BOX SECTION.
- \* UNLESS OTHERWISE SHOWN ON THE PLANS

**UNDERDRAIN**

SPEC. 605 DR015

DIAMETER	TYPE "B" AND TYPE "C" UNDERDRAIN PIPE METAL PIPE (NOMINAL WALL THICKNESS)			PLASTIC PIPE STIFFNESS @ 5% DEFLECTION P V C PIPE	
	M 218	M 274	M 197	ASTM F 949	POLYETHYLENE PIPE
TYPE "B" 6"	0.064	0.052	0.048	46	50
TYPE "C" 12"	0.079	0.064	0.075	46	50
15"	0.079	0.064	0.075	46	42
18"	0.079	0.064	0.075		40
24"	0.079	0.064	0.075		40
30"	0.109	0.079	0.105		28
36"	0.109	0.079	0.105		22

M 218-Zinc coated (Galvanized) corrugated steel pipe  
M 274-Aluminum coated (Type 2) corrugated steel pipe  
M 197-Corrugated Aluminum Alloy pipe  
M 278-Smoothwell PVC pipe  
ASTM F 949-PVC corrugated sewer pipe with smooth interior  
M 294 SP-Corrugated Polyethylene pipe with smooth inner liner  
M 252 SP-Corrugated Polyethylene drainage tybing with smooth inner liner  
Type "B" Underdrain outlet shall be metal pipe meeting the requirements of this chart.

**TYPE "B" AND TYPE "C" UNDERDRAIN PIPE**

SPEC. 605 DR016

REVISIONS	APPROVED
Description	Me. DOT FHW A
ORIGINAL PLAN	OCT. 92
DR010 - NOTE 6	NOV. 93
DR013 - DELETED	FEB. 94
DR015 - ADDED DIMS.	FEB. 94
DR010	APR. 95 OCT. 95
DR011	APR. 95 OCT. 95
DR012	APR. 95 OCT. 95
DR015	APR. 95 OCT. 95
DR016	APR. 95 OCT. 95

**STATE OF MAINE DEPARTMENT OF TRANSPORTATION**

**STANDARD DETAILS TYPE E & F CATCH BASINS INLET GRATE UNIT UNDERDRAIN**

SHEET AUGUSTA, MAINE HD-2

PROJECT DESIGN ENGINEER	DATE
DESIGN-DETAILED	
CHECKED	
REVISIONS	
FIELD CHANGES	

**PLANS**

25OCT96-010030