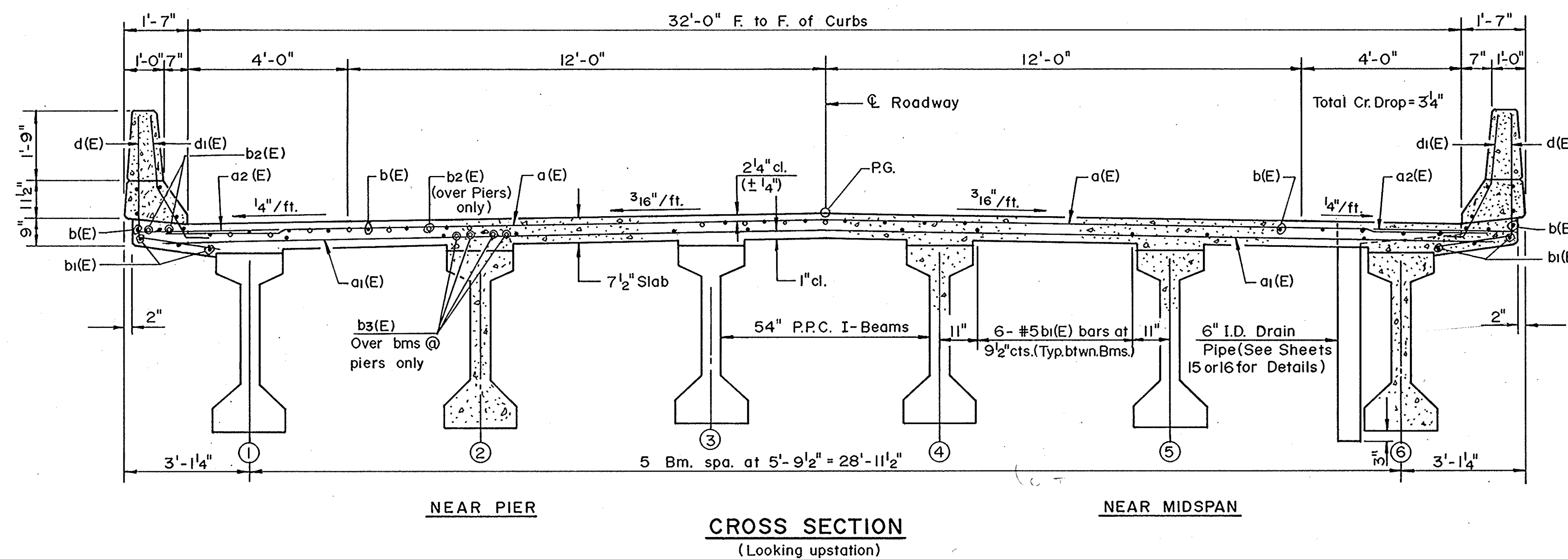


HALF PLAN

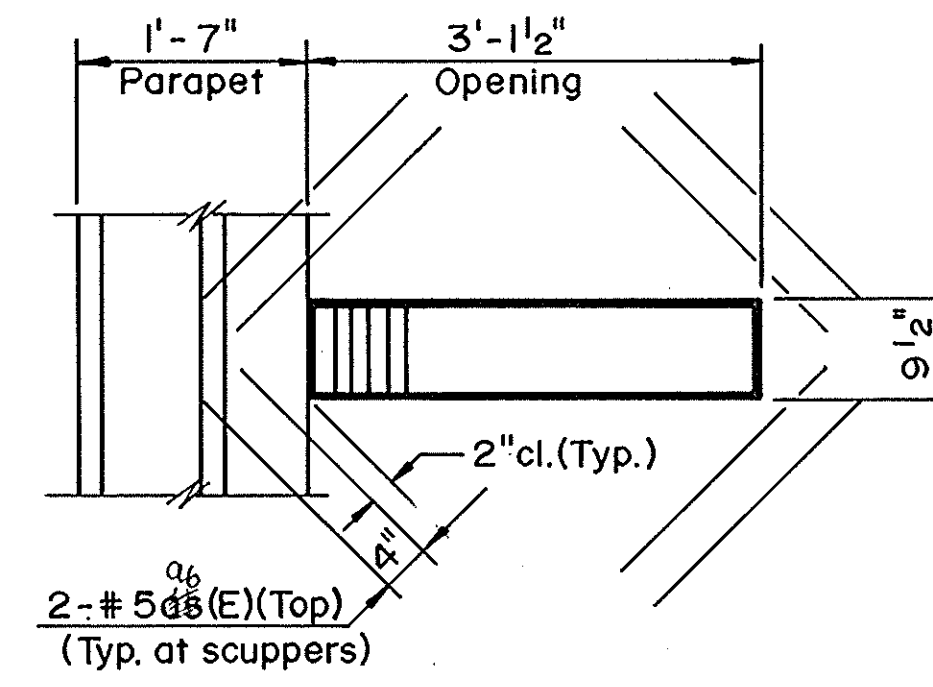
BILL OF MATERIALS

Bar	No.	Size	Length	Shape
a (E)	402	#5	34'-6"	
a1(E)	301	#5	33'-0"	
a2(E)	402	#6	4'-0"	
a3(E)	16	#7	26'-0"	
a4(E)	2	#6	21'-9"	
a5(E)	20	#6	7'-3"	
a6(E)	16	#5	2'-0"	
b (E)	342	#5	35'-6"	
b1(E)	360	#5	31'-6"	
b2(E)	70	#7	40'-0"	
b3(E)	144	#7	22'-4"	
d (E)	604	#4	5'-0"	
d1(E)	658	#5	4'-0"	
m(E)	2	#6	22'-0"	
m1(E)	4	#4	21'-6"	
m2	5	#6	5'-6"	
m3	20	#6	5'-3"	
m4	50	#4	7'-3"	
m5	12	#8	6'-9"	
s4	40	#4	12'-6"	
s5(E)	25	#4	11'-0"	
x (E)	60	#6	5'-0"	
x1(E)	60	#6	8'-0"	
Drainage Scupper				Each 2
Reinforcement Bars				Lbs. 990
Reinforcement Bars Epoxy Coated				Lbs. 71,410
Class X Concrete Superstr.				Cu.Yds. 319.2

NOTES: Reinforcement bars designated (E) shall be epoxy coated.  
 Bars indicated thus 20 x 3 - #5 etc., indicates 20 line of bars with 3 lengths per line.  
 See Sheet 5 for Sec. Thru Abuts.  
 Bars b(E) & b1(E) shall be cut to miss scupper openings. Bars a(E) and a2(E) shall be placed or bent to miss scupper opening.  
 Work this sheet with sheet 5 of 17.  
 For Section A-A and Section C-C, See sheet 5 of 17.



CROSS SECTION  
(Looking upstation)

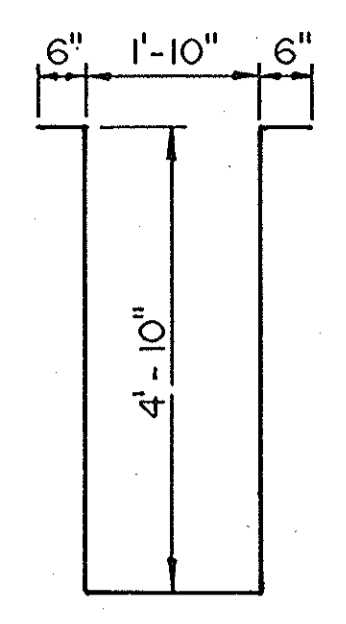


PLAN SCUPPER DRAIN  
(Span 3 only)

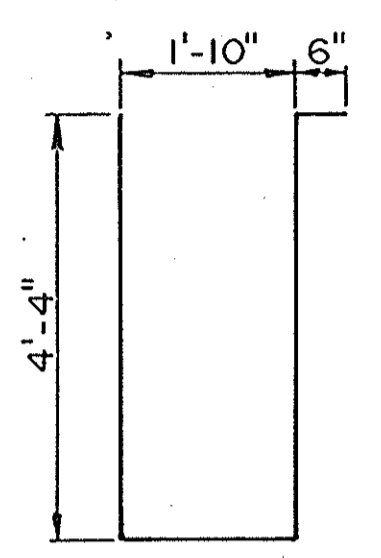
- MIN. BAR LAP
- #4 — 1'-8"
  - #5 — 2'-2"
  - #6 — 2'-7"
  - #7 — 3'-5"

DECK DETAILS  
 F.A. RTE. 587 SEC. 140C-BR  
 BUREAU COUNTY  
 STA. 814+68.50

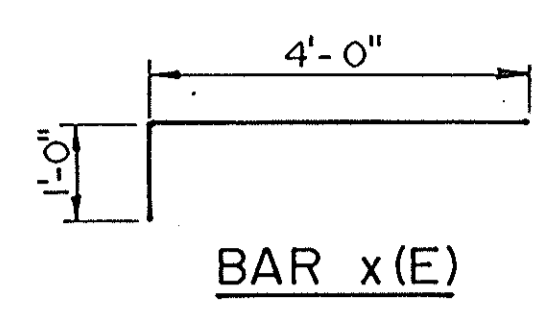
HISION ASSOCIATES LTD.  
 DESIGNED: G.J.G. CHECKED: W.H.  
 DRAWN: R.H.H. DATE: NO. H-0418



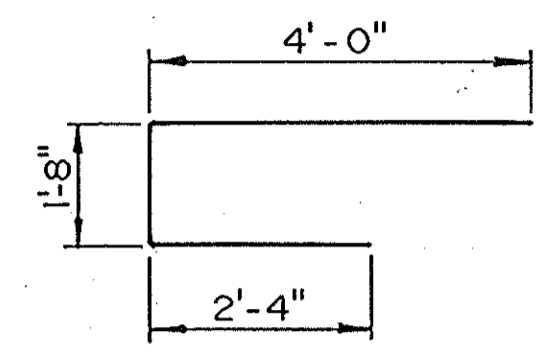
BAR s4



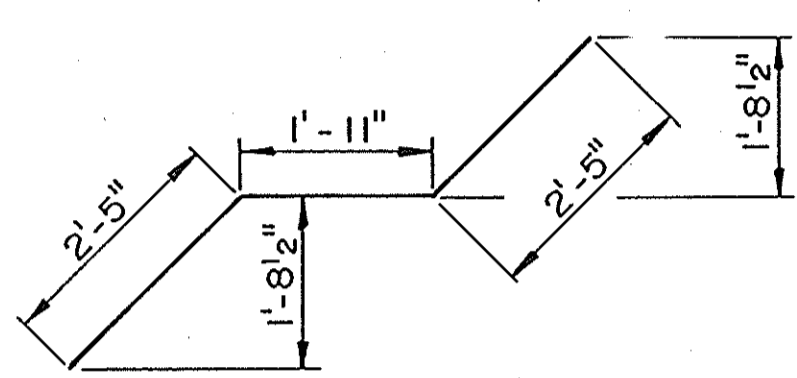
BAR s5(E)



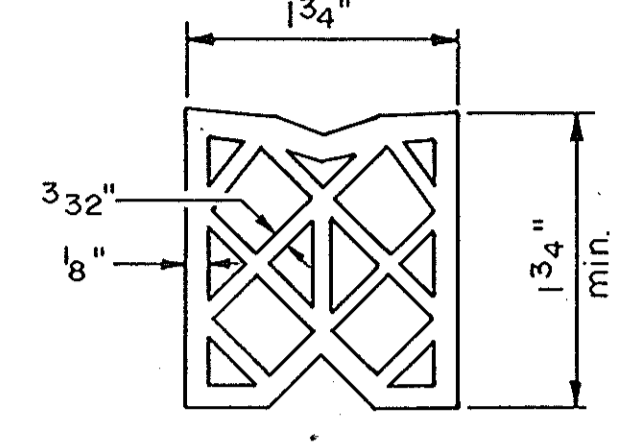
BAR x(E)



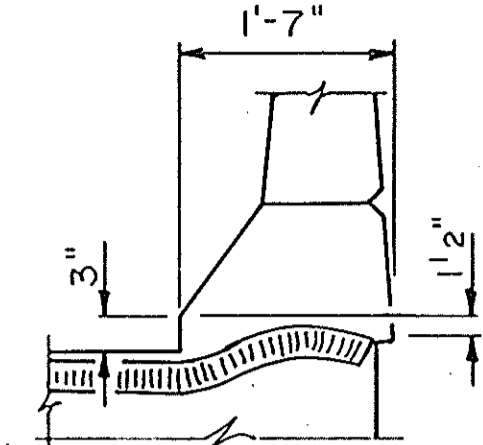
BAR xi(E)



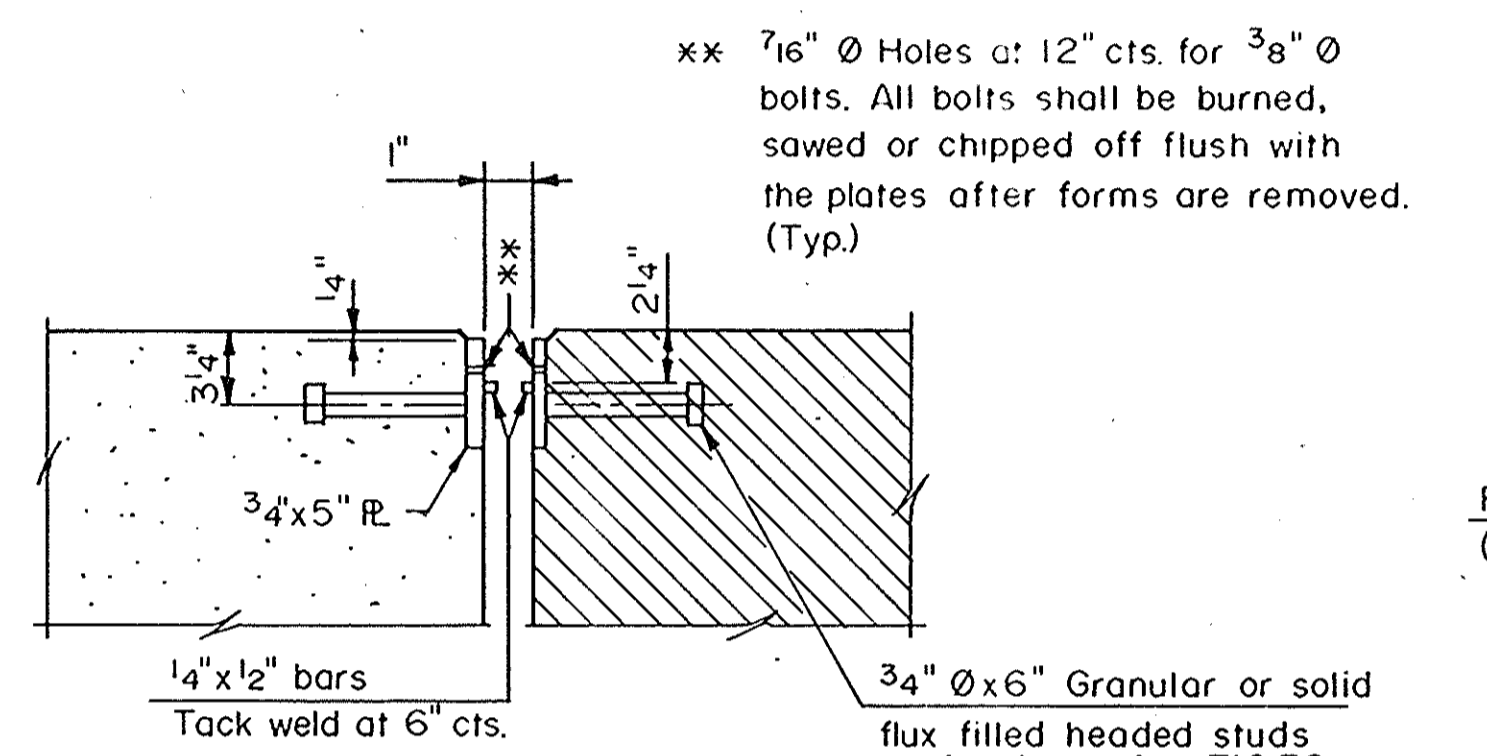
BAR m5



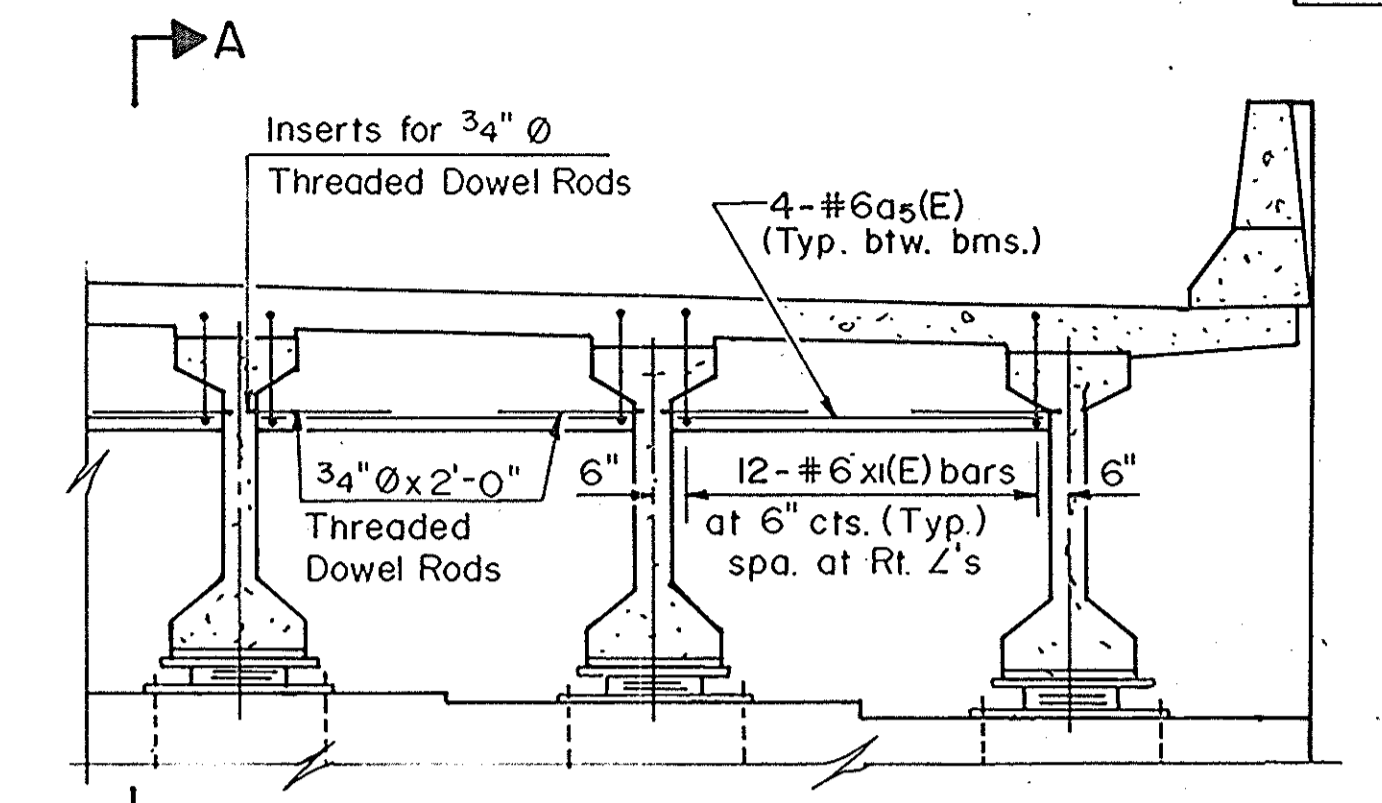
PREFORMED JOINT SEAL (13/4")



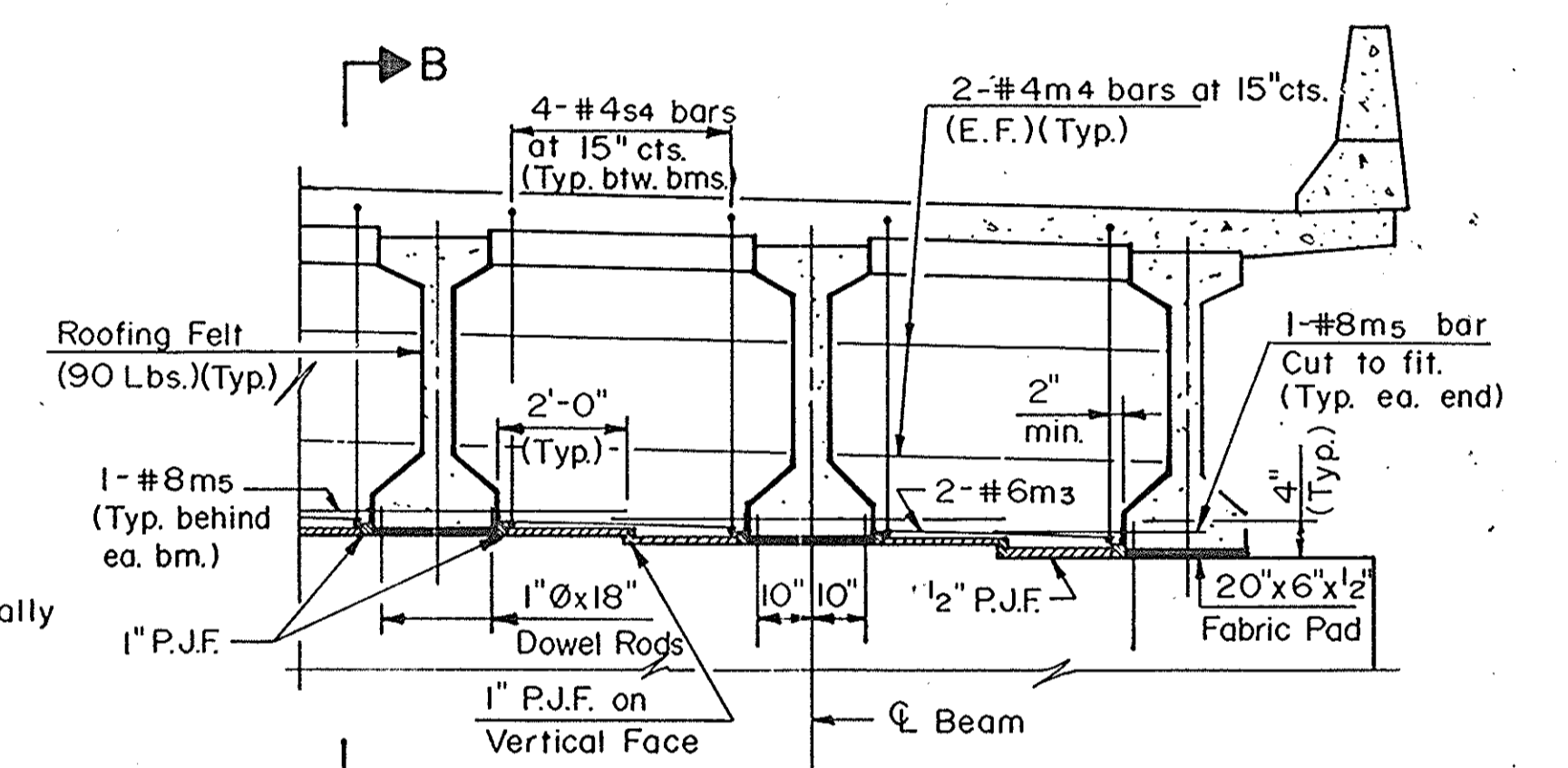
TYPICAL END OF SEAL TREATMENT



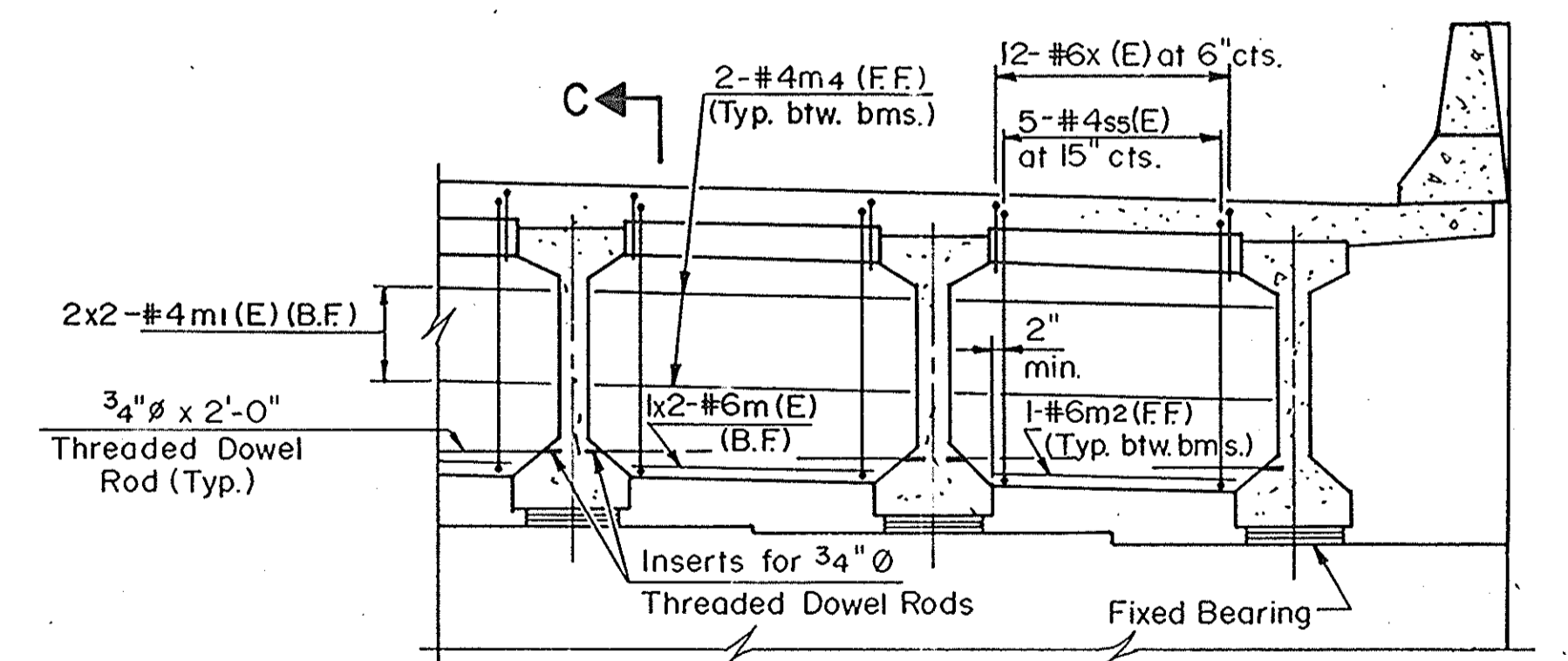
DETAIL A



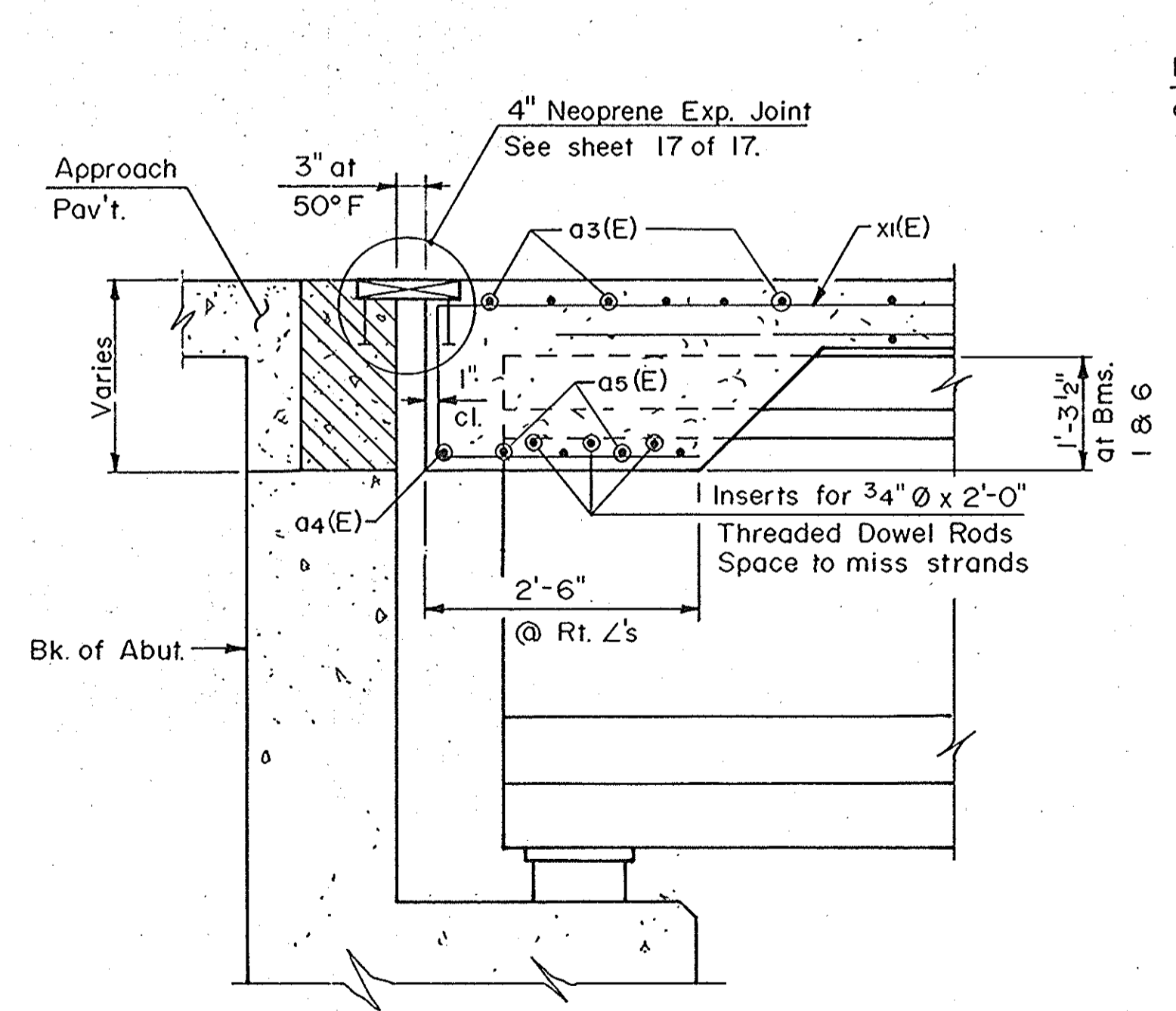
DIAPHRAGM AT WEST ABUTMENT



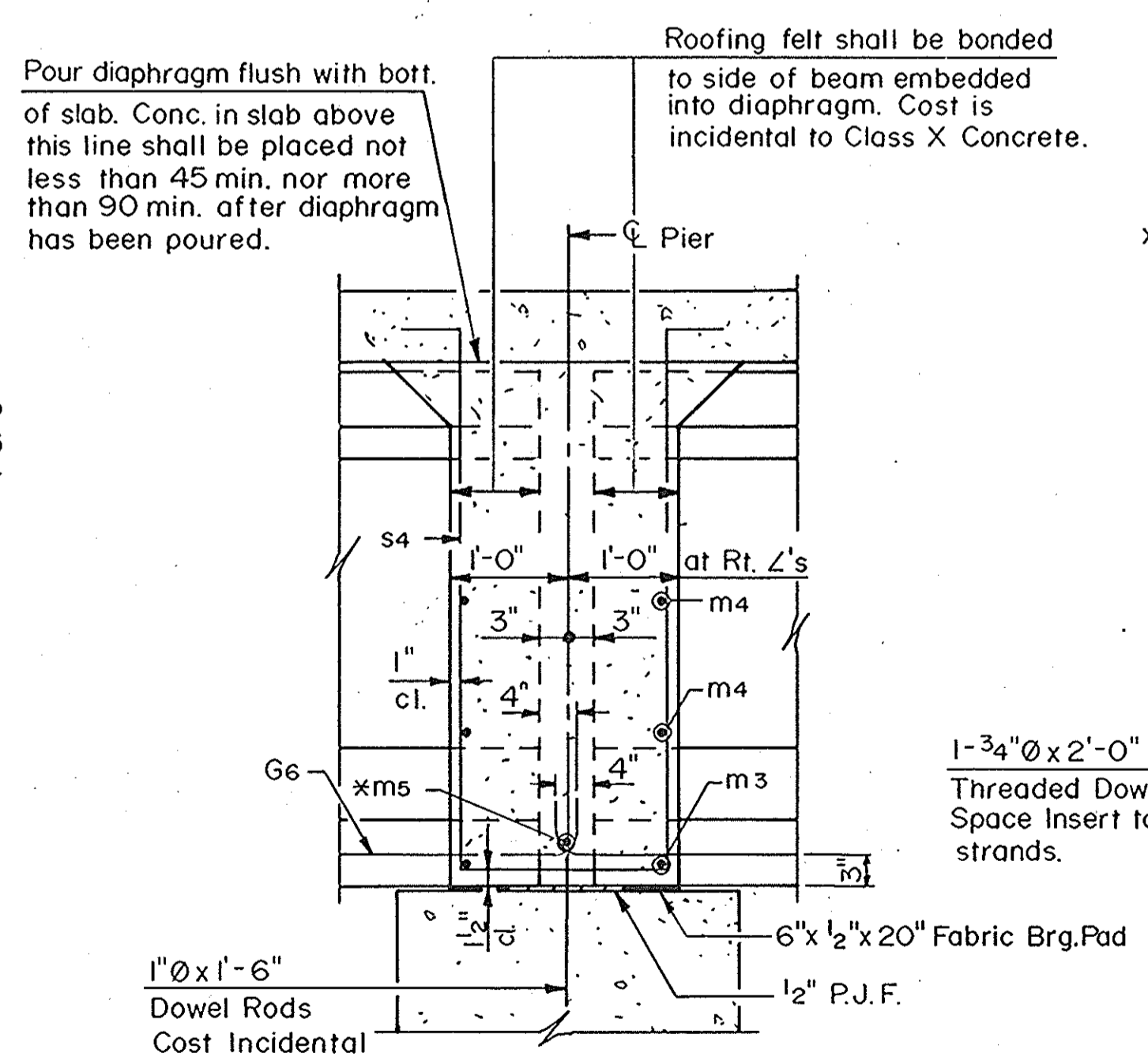
DIAPHRAGM AT PIER



DIAPHRAGM AT EAST ABUTMENT

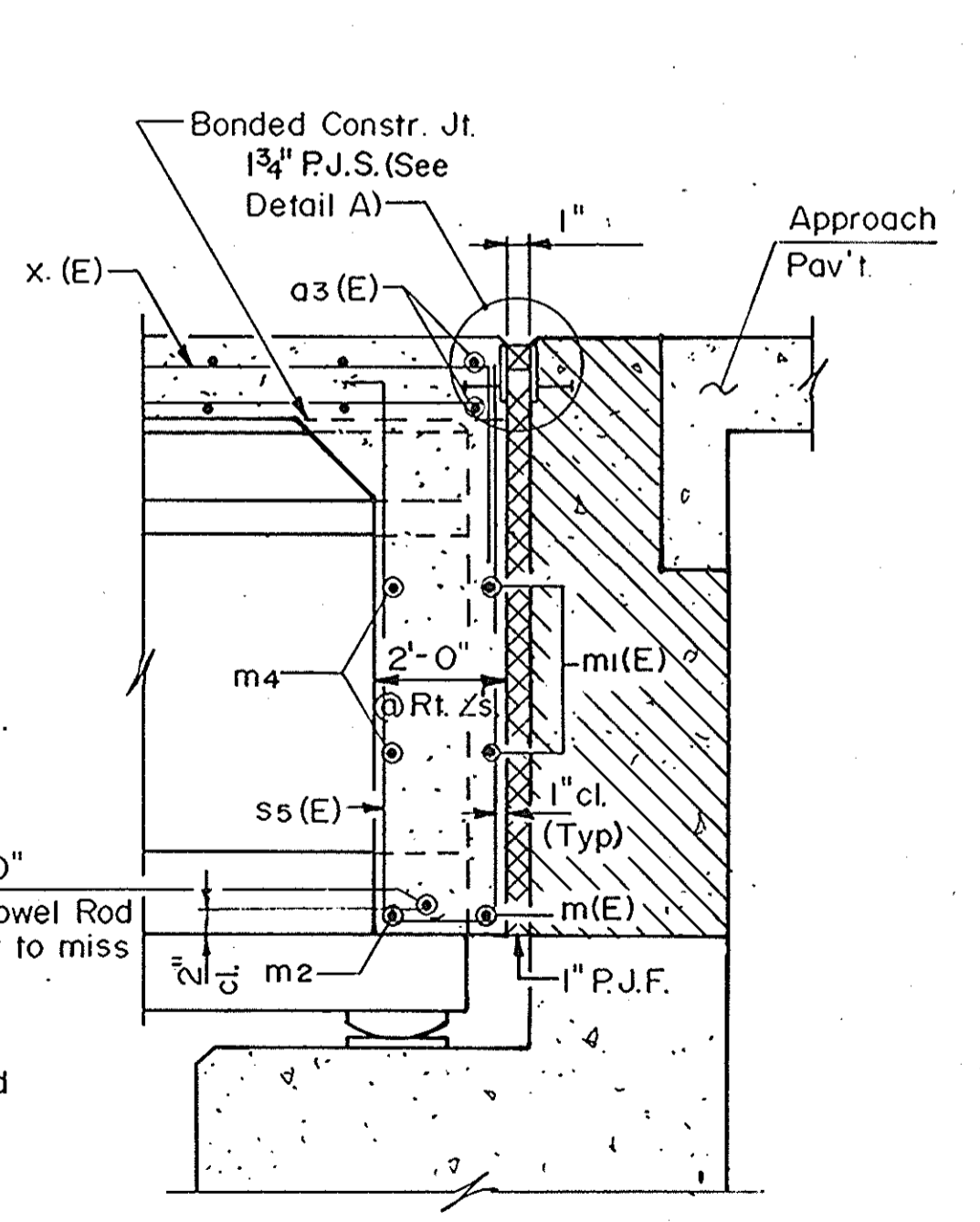


SECTION A-A  
(At West Abutment)



SECTION B-B

NOTE: Horizontal dimensions for Sec. B-B are along  $\phi$  of Beam unless otherwise noted.



SECTION C-C  
(At East Abutment)

\* Tightly fasten the #8 bars together with No. 9 wire ties.

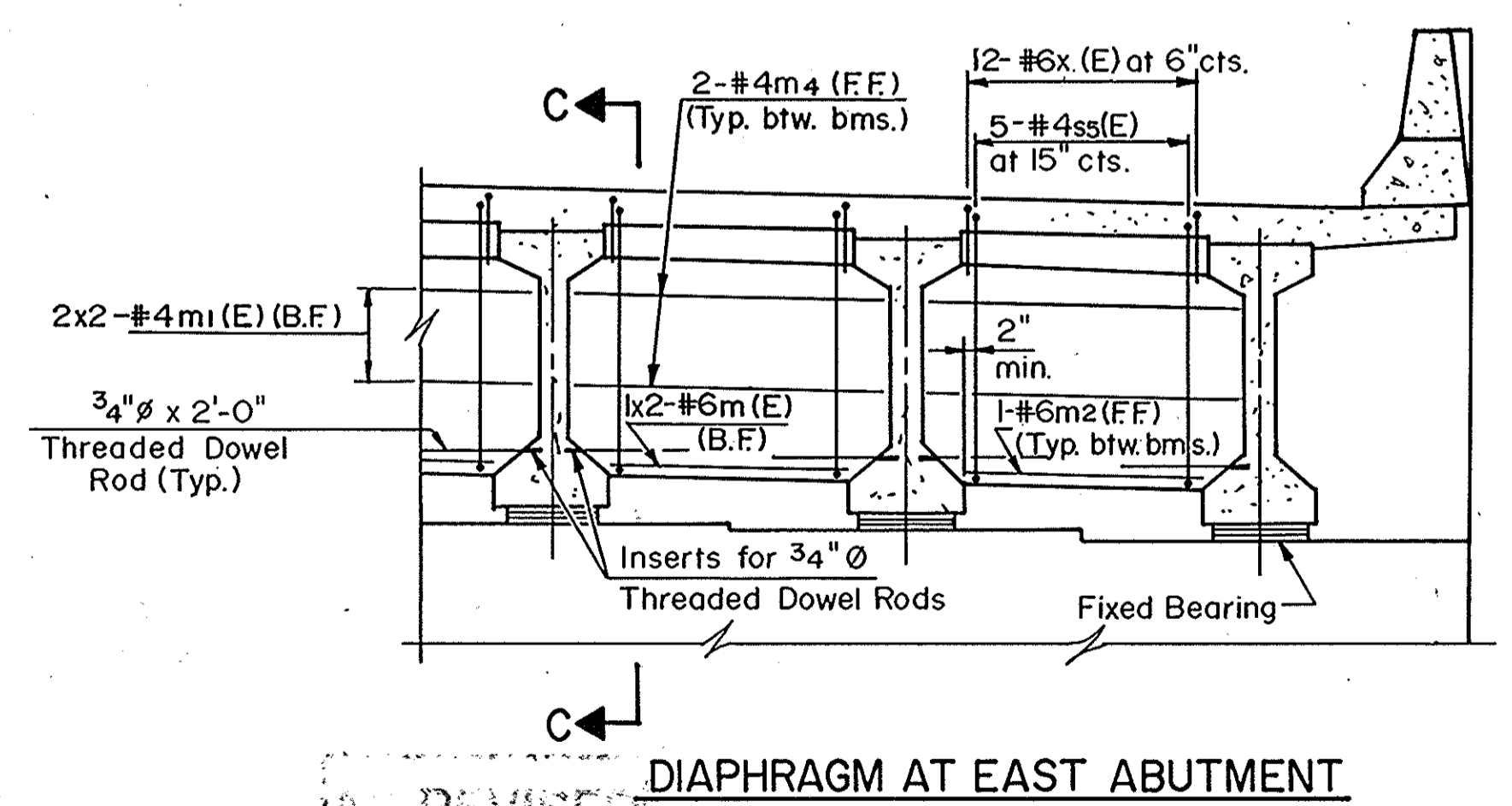
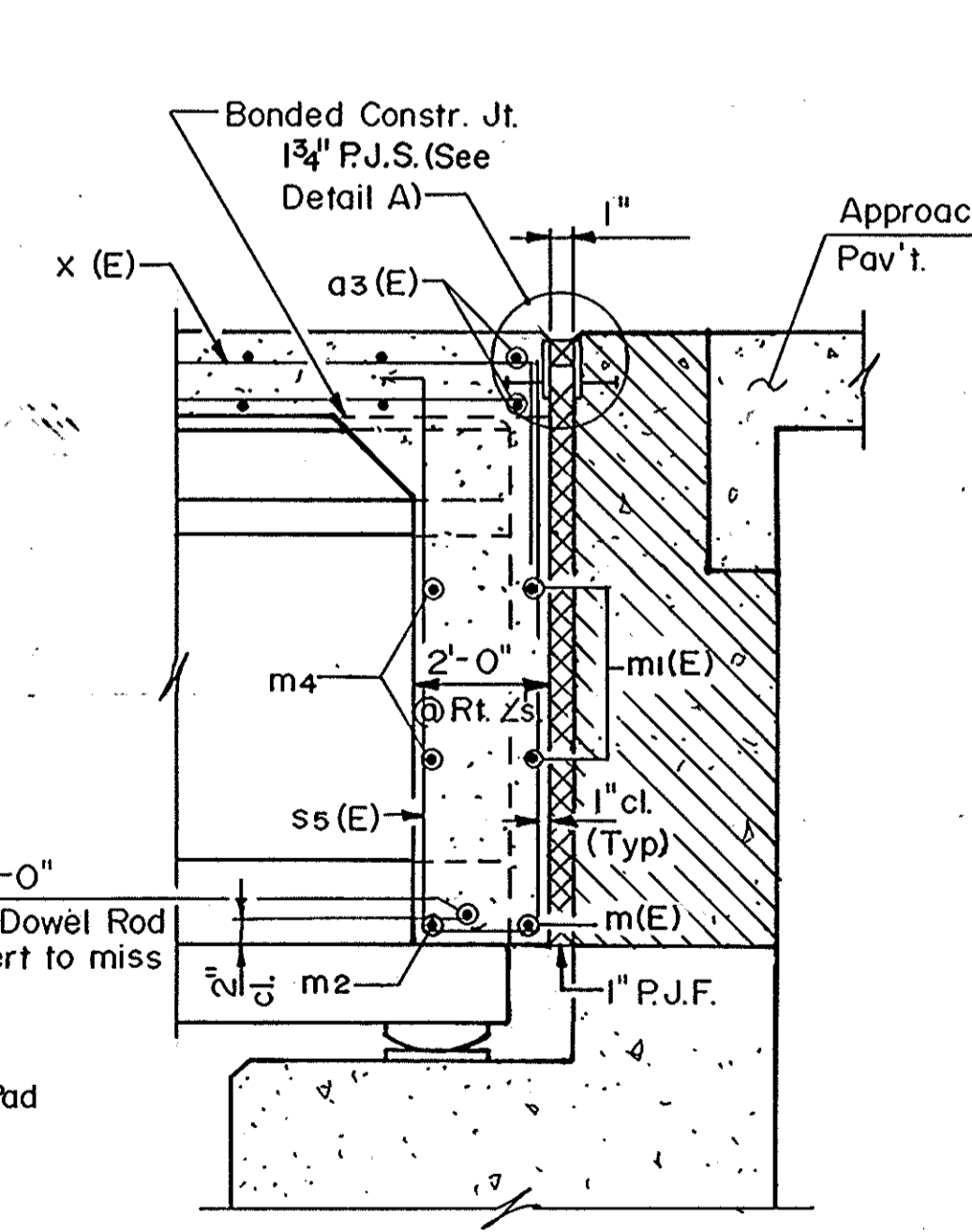
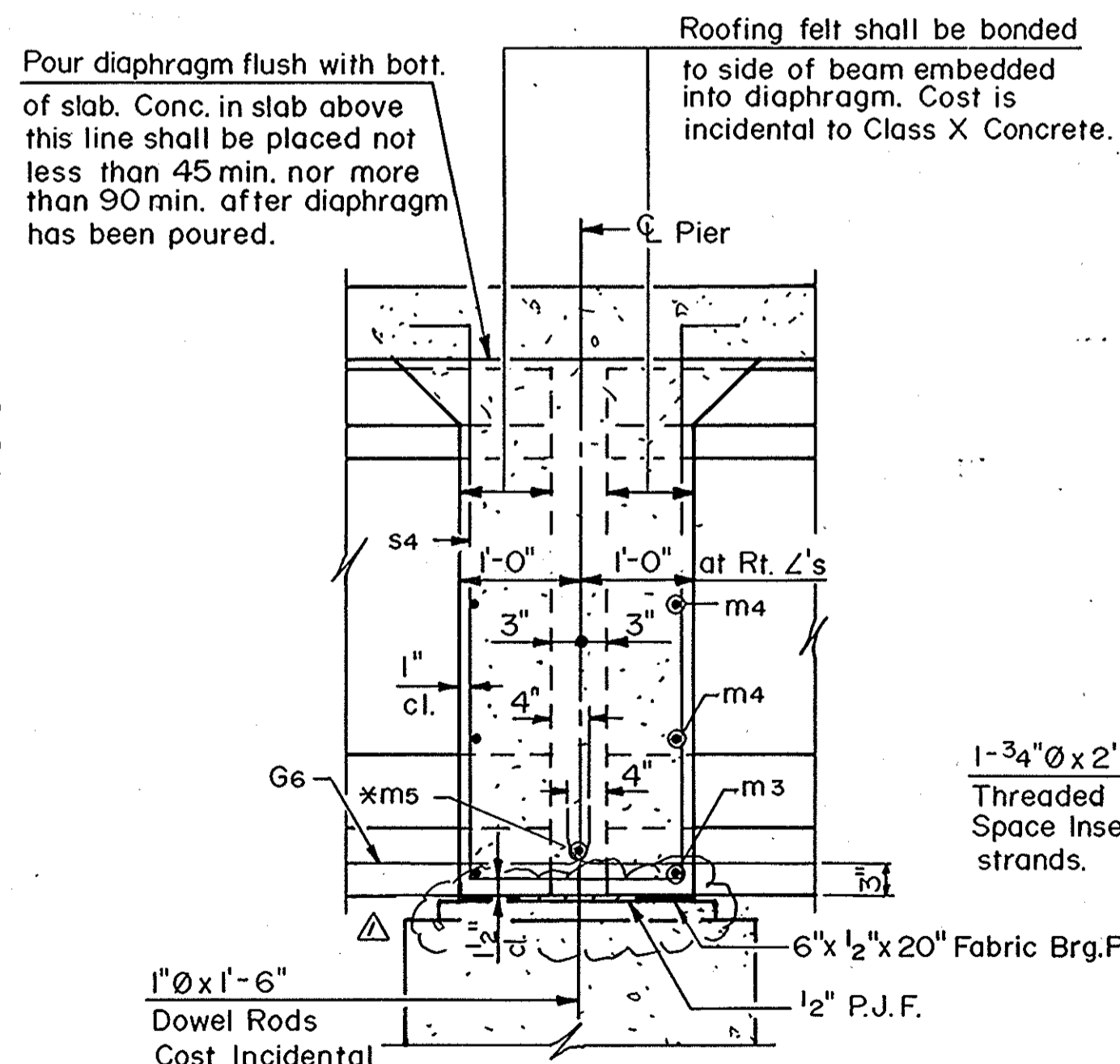
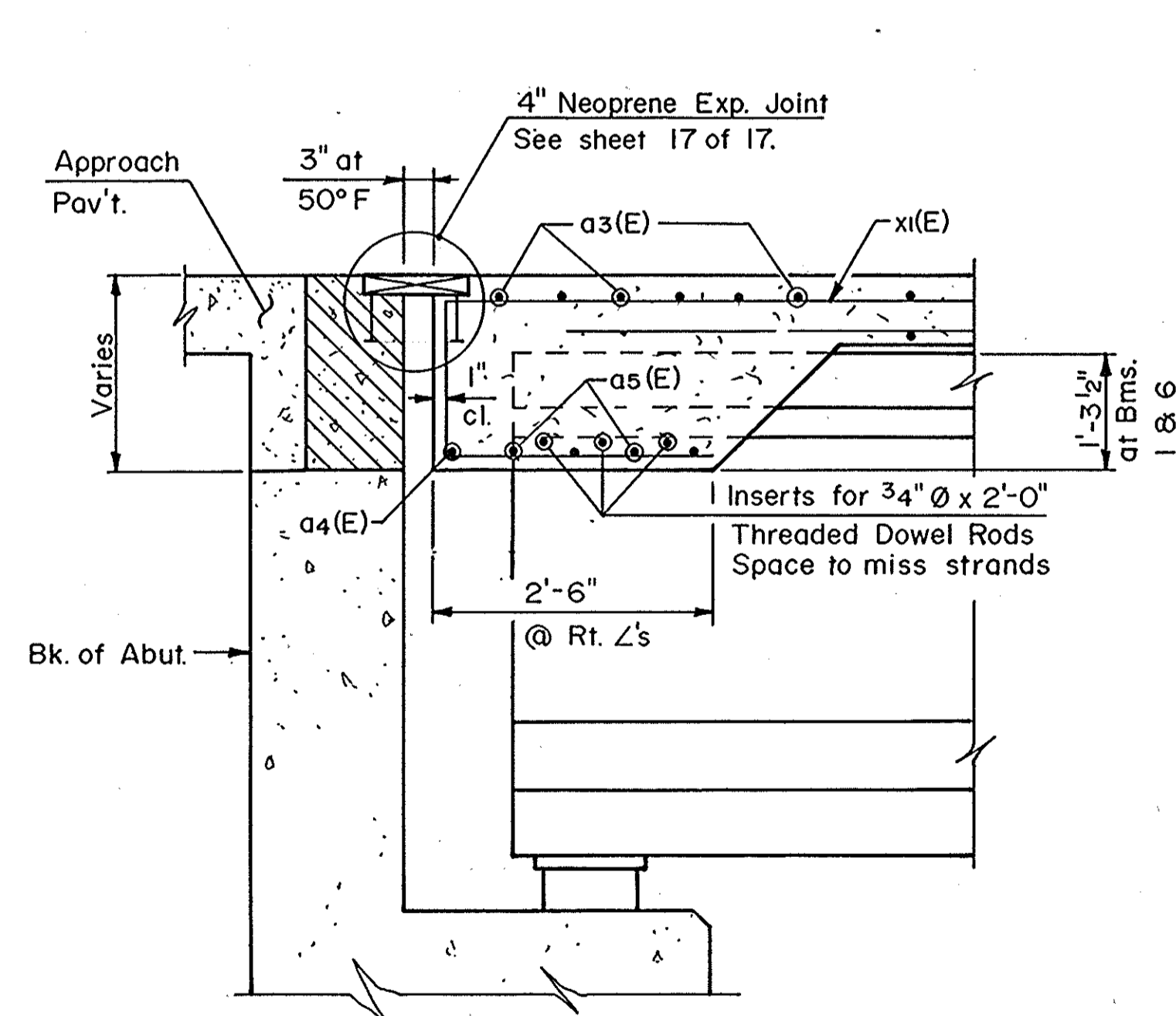
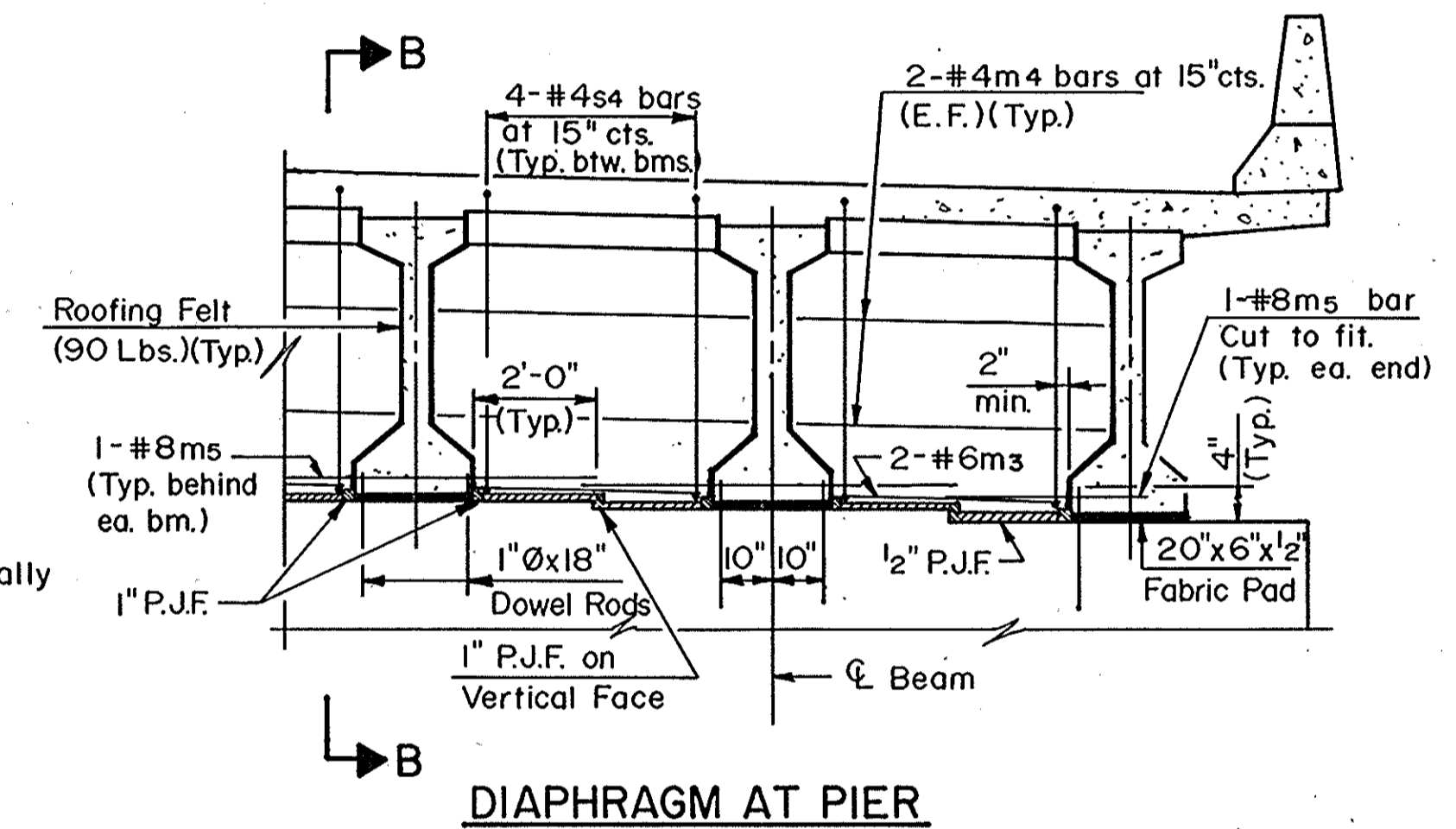
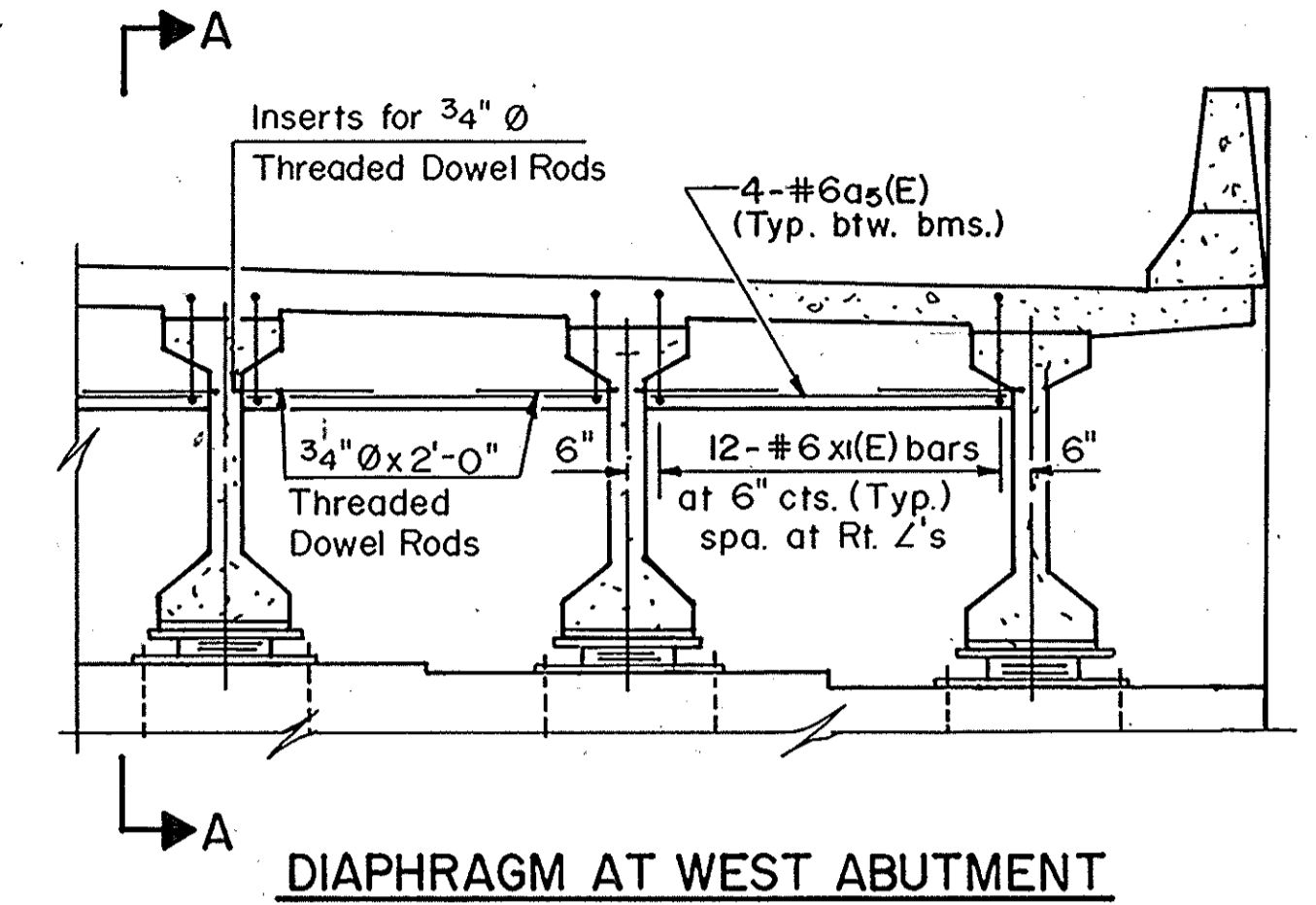
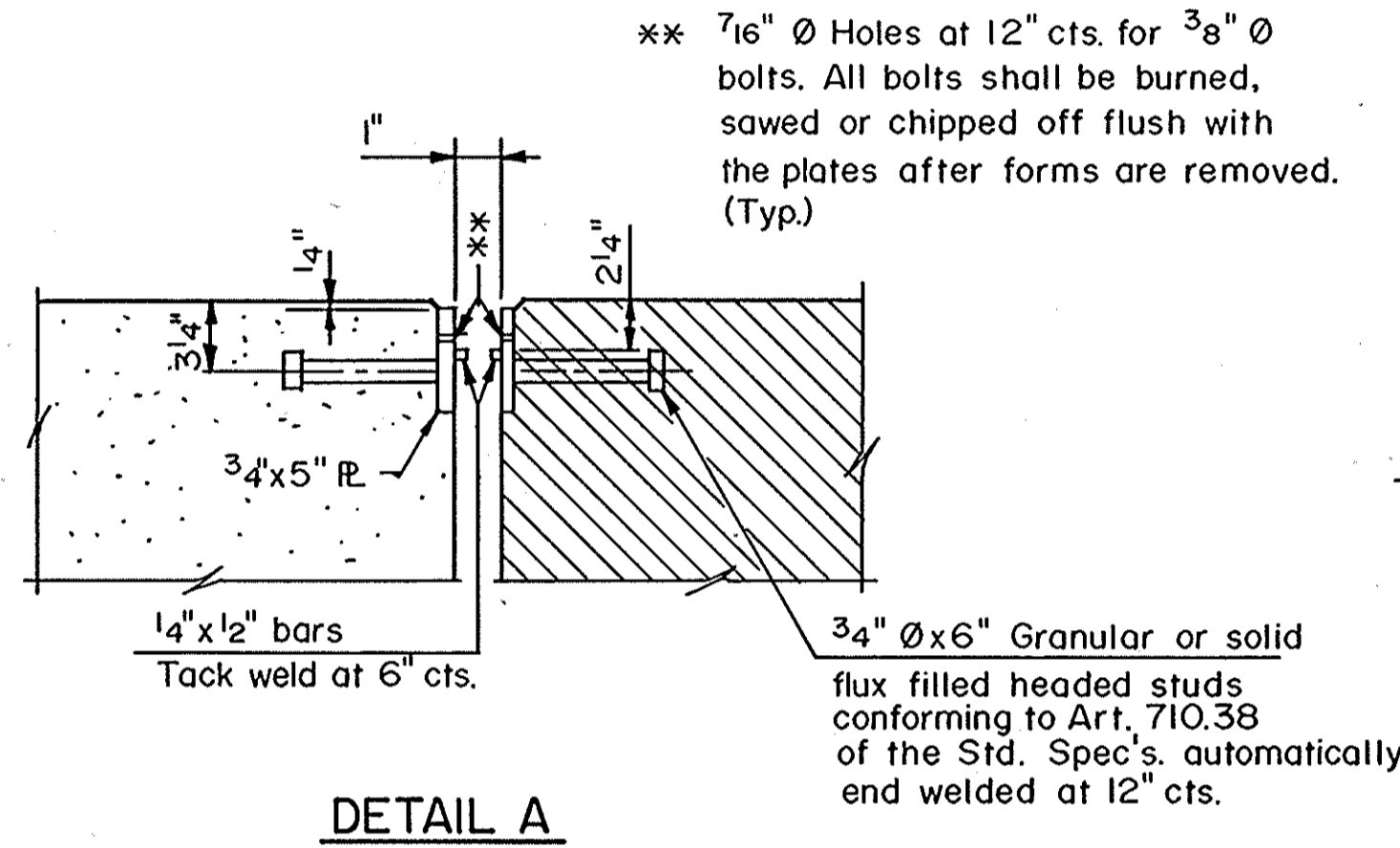
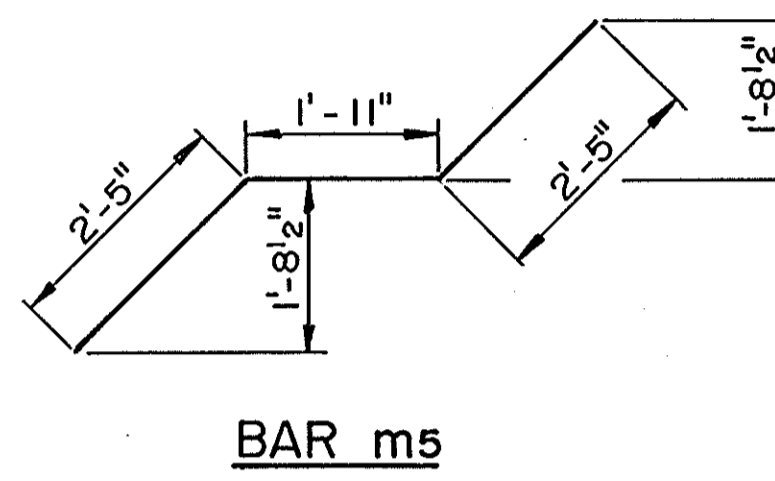
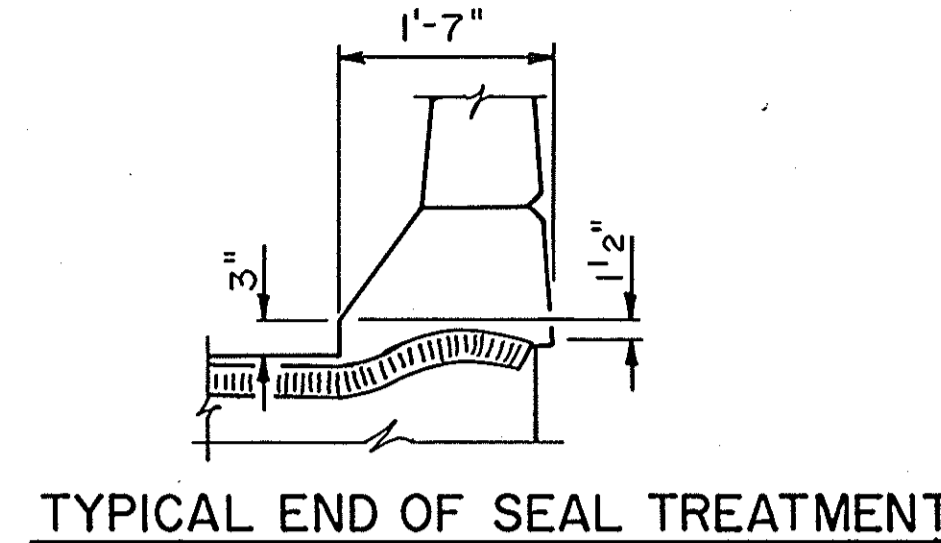
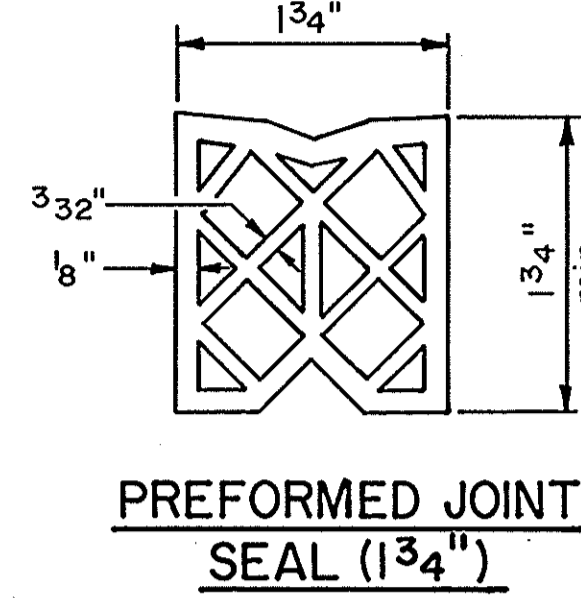
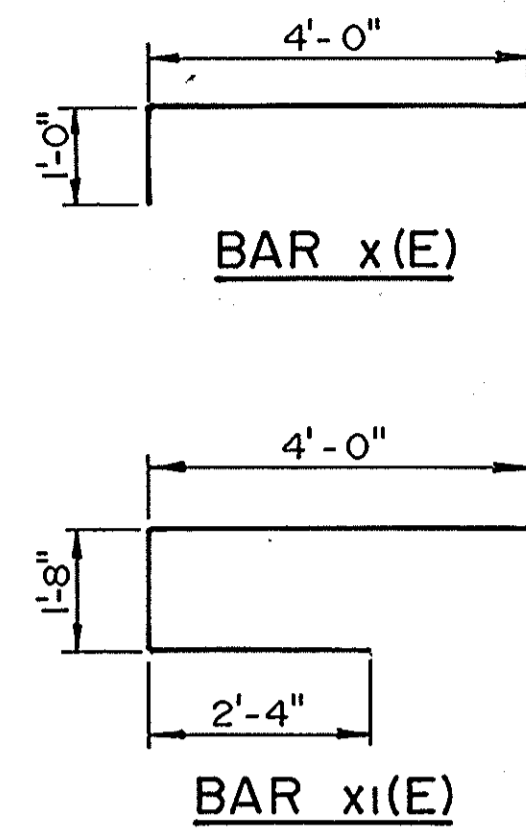
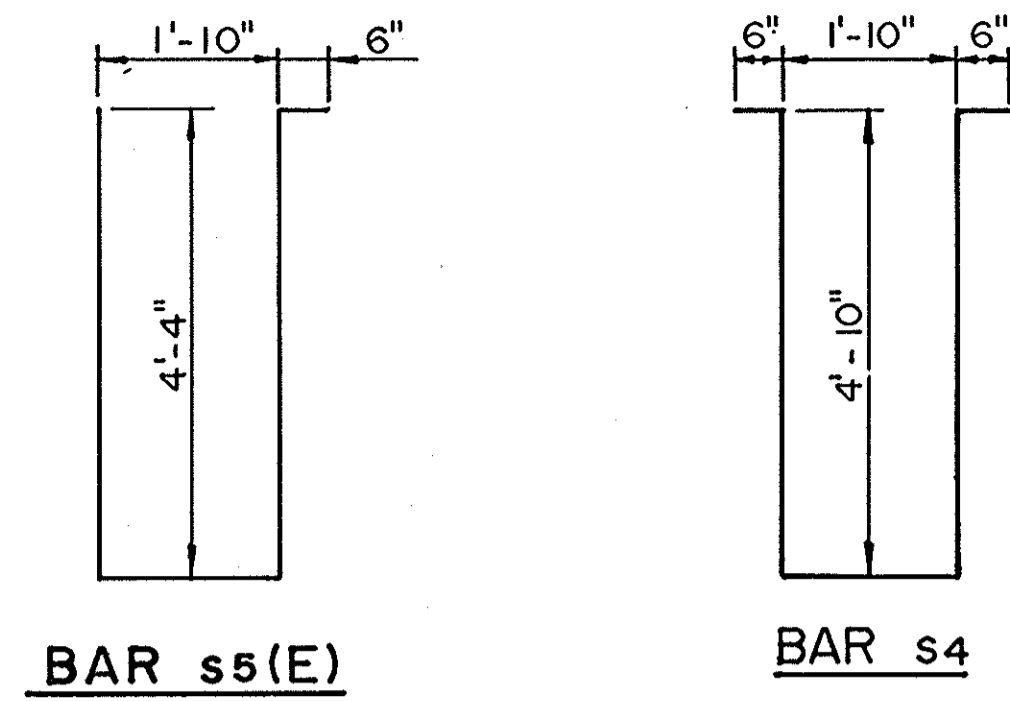
NOTE: Hatched area to be poured after superstructure forms have been removed. Quantity included with Class X Concrete Superstructure.

**DIAPHRAGM DETAILS**  
**F.A. RT. 587 SEC. 140C-BR**  
**BUREAU COUNTY**  
**STA. 814+68.50**

HSIONG ASSOCIATES LTD.

Work this sheet with sheet 4 of 17.

DESIGNED: G.J.G. CHECKED: W.H.  
 DRAWN: R.D.L. DATE: NO. H-0418



SECTION A-A  
(At West Abutment)

SECTION B-B  
(At East Abutment)

SECTION C-C  
(At East Abutment)

AS REVISED

NOTE: Hatched area to be poured after superstructure forms have been removed. Quantity included with Class X Concrete Superstructure.

DIAPHRAGM DETAILS  
F.A. RT. 587 SEC. 140C-BR  
BUREAU COUNTY  
STA. 814+68.50

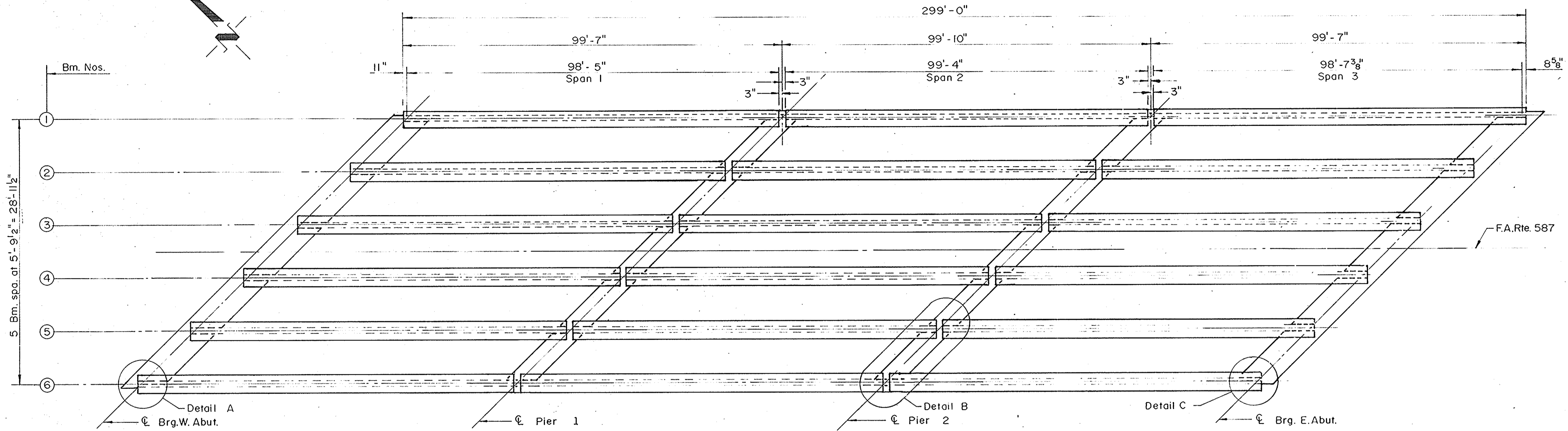
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DESIGNED: G.J.G. CHECKED: W.H.  
DRAWN: R.D.L. DATE: NO. H-041B

Work this sheet with sheet 4 of 17.

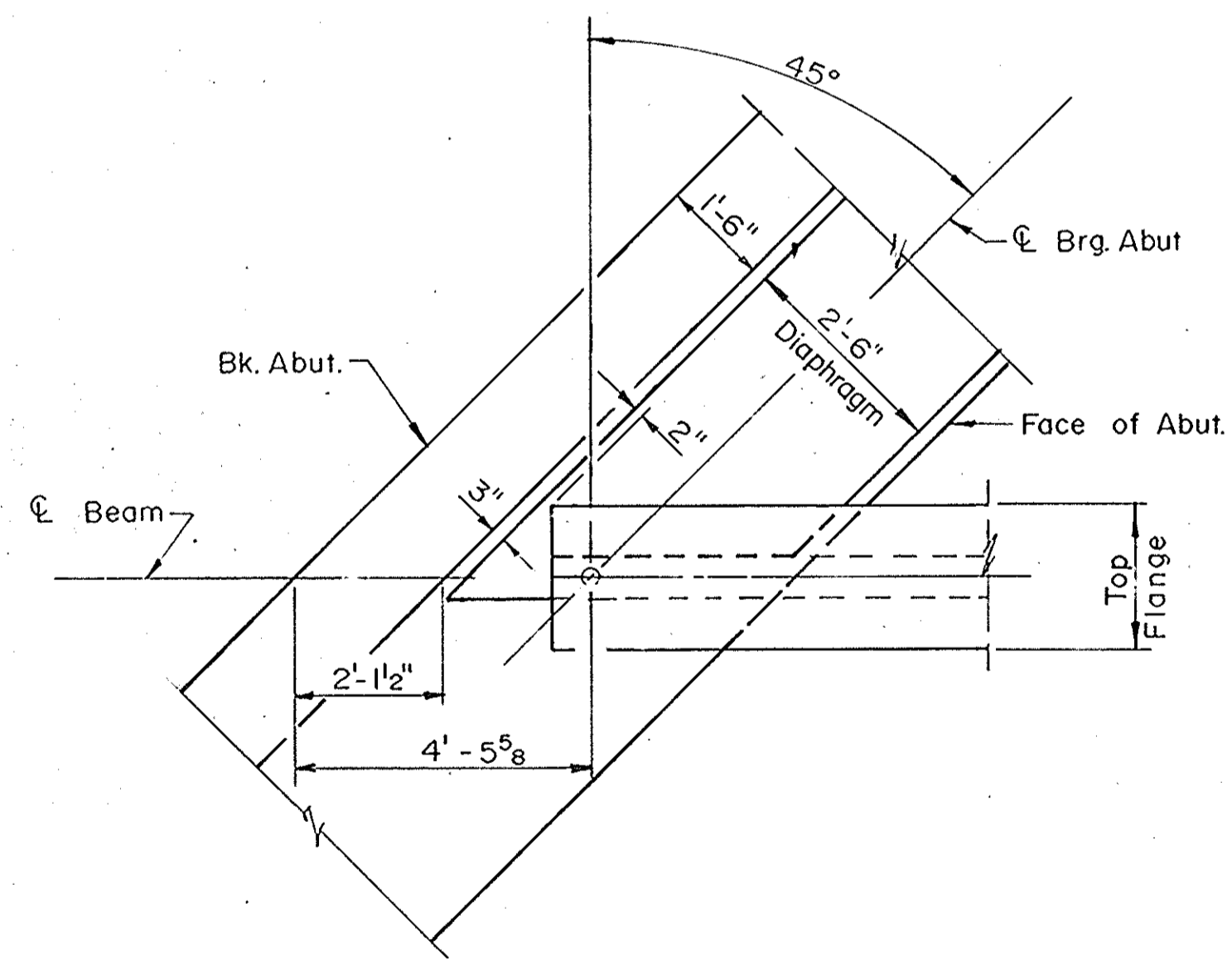
Revised 4-2-90, Pedestal shown, G.J.G.



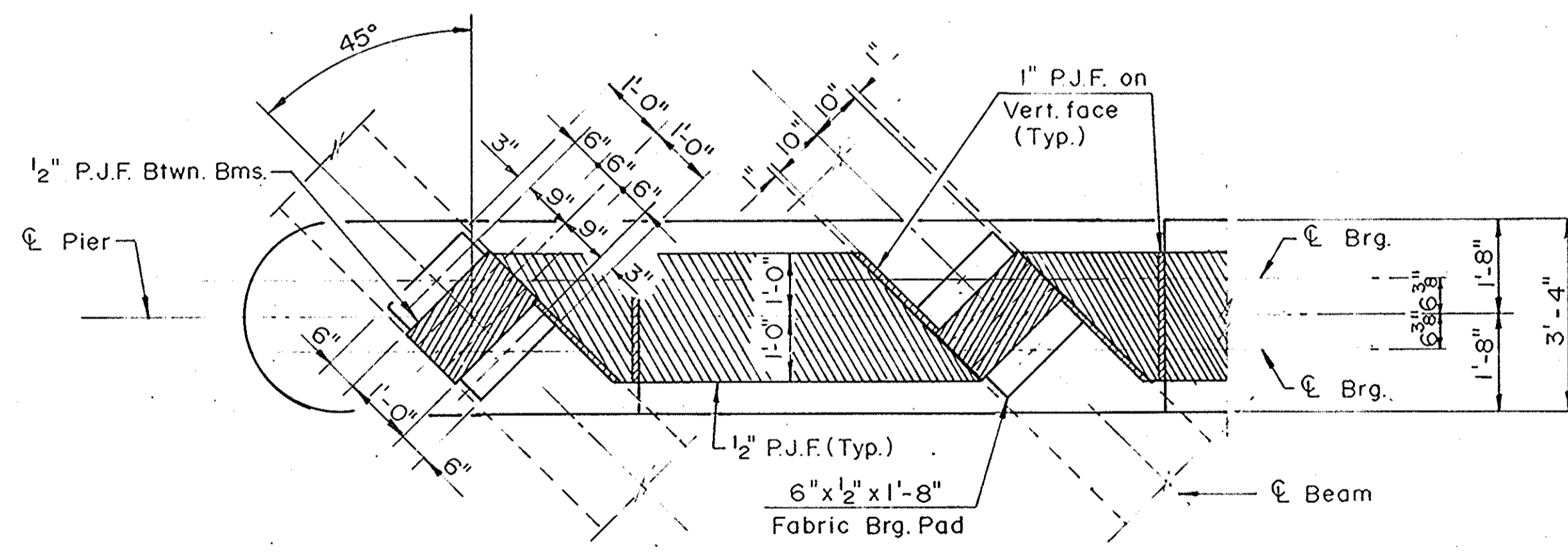
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
F.A.RTE. 587	40C-BR	BUREAU	29	12
FED. ROAD DIST. NO. 7	ILLINOIS PROJECT		SHEET 7 OF 17	



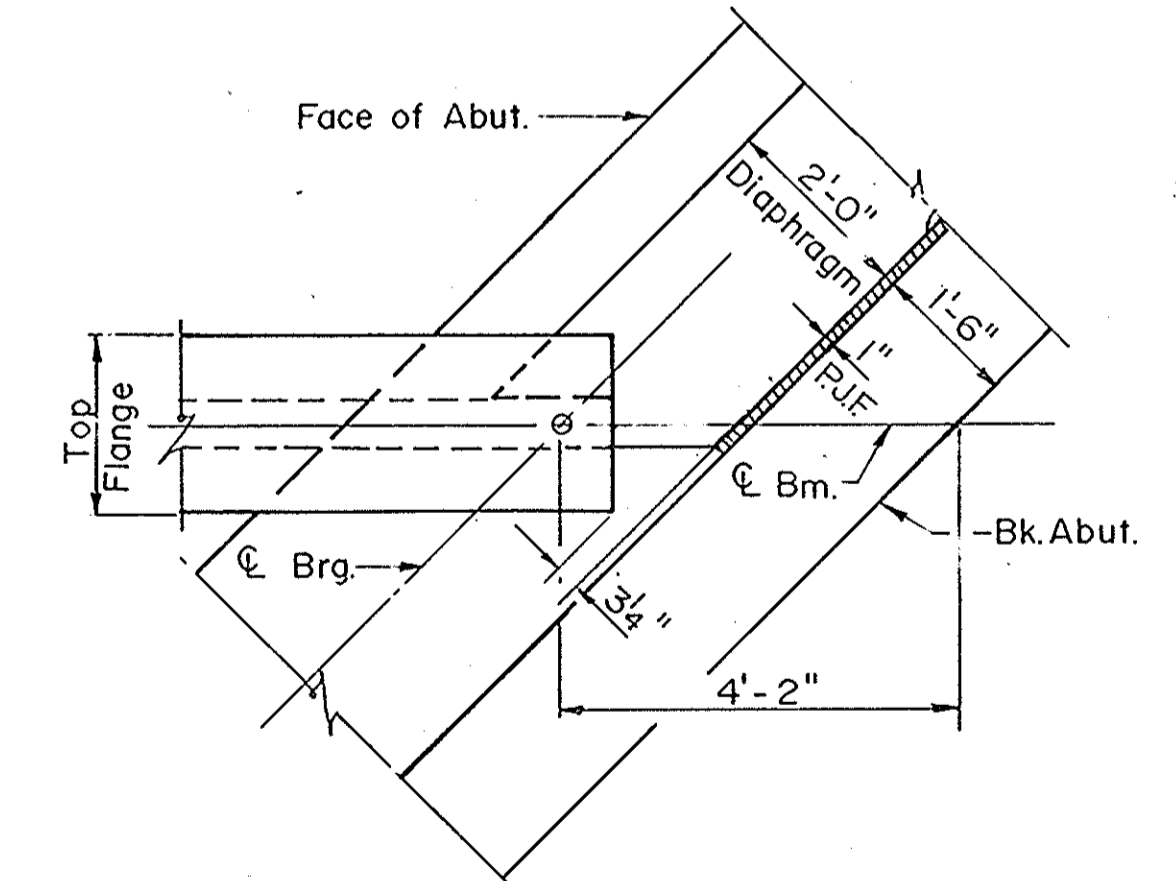
**FRAMING PLAN**



**DETAIL A**



**DETAIL B**

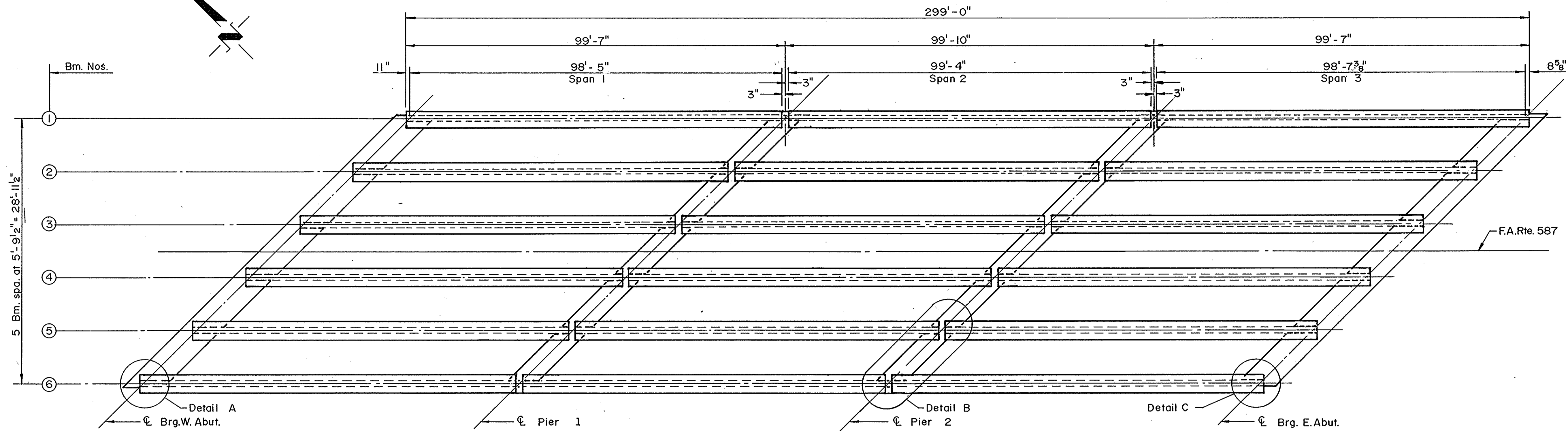


**DETAIL C**

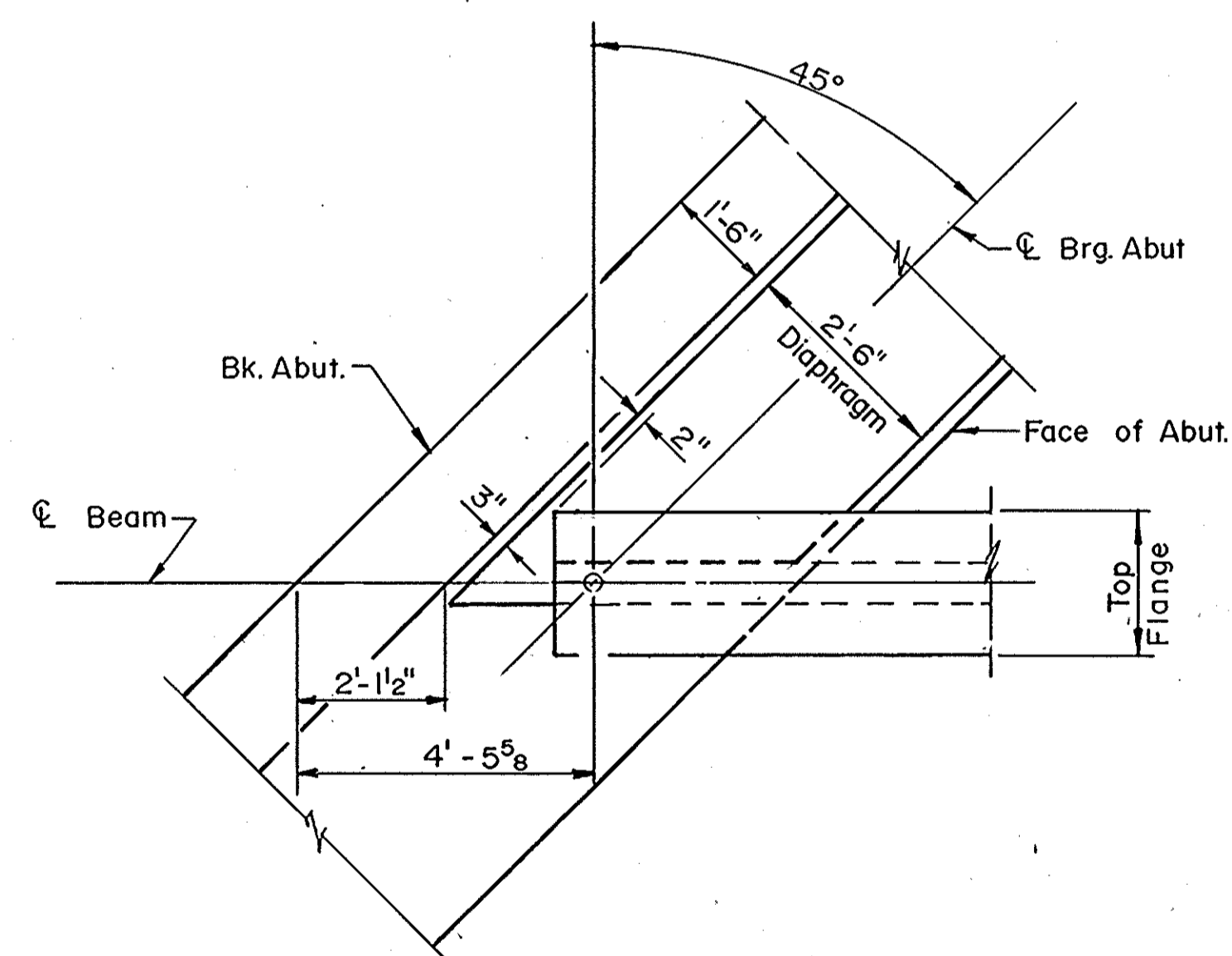
**FRAMING PLAN**  
**F.A. RTE. 587 SEC. 140C-BR**  
**BUREAU COUNTY**  
**STA. 814+68.50**

HSIONG ASSOCIATES LTD.  
 DESIGNED G.J.G. CHECKED W.H.  
 DRAWN R.H.H. DATE H-041B

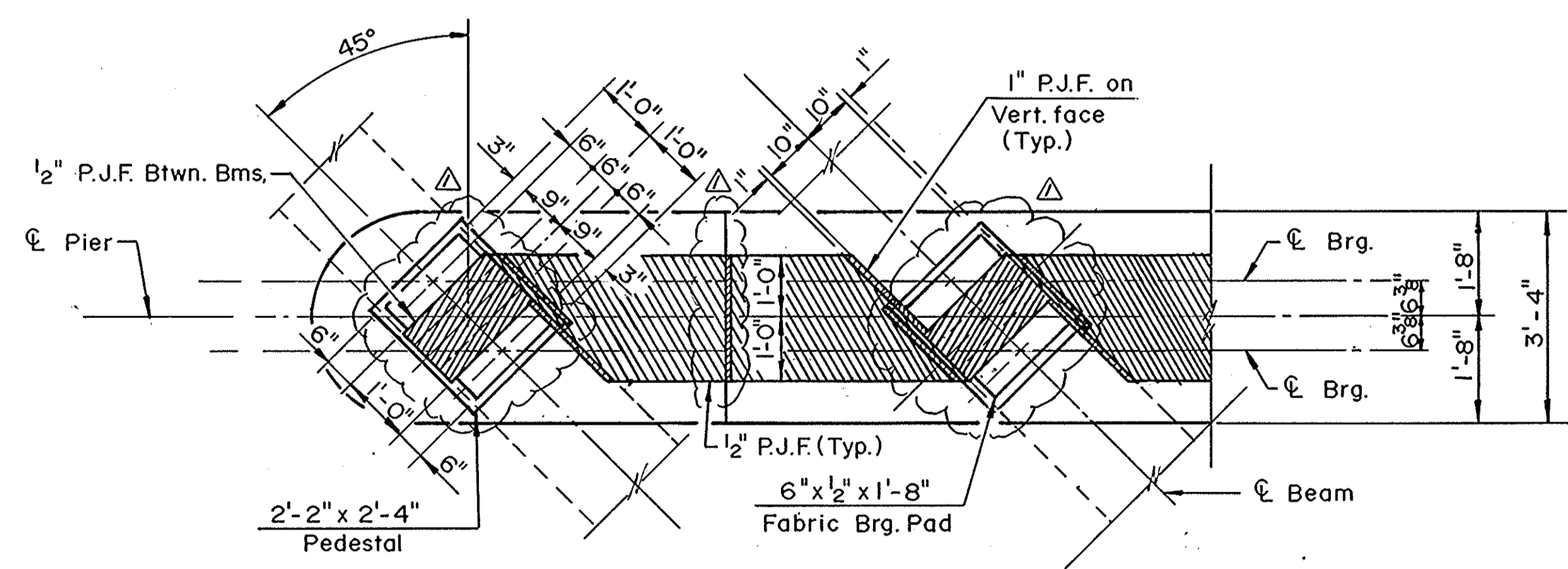
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.RTE. 587	140C-BR	BUREAU	29	12A
FED ROAD DIST NO. 7	ILLINOIS PROJECT		SHEET 7 OF 17	



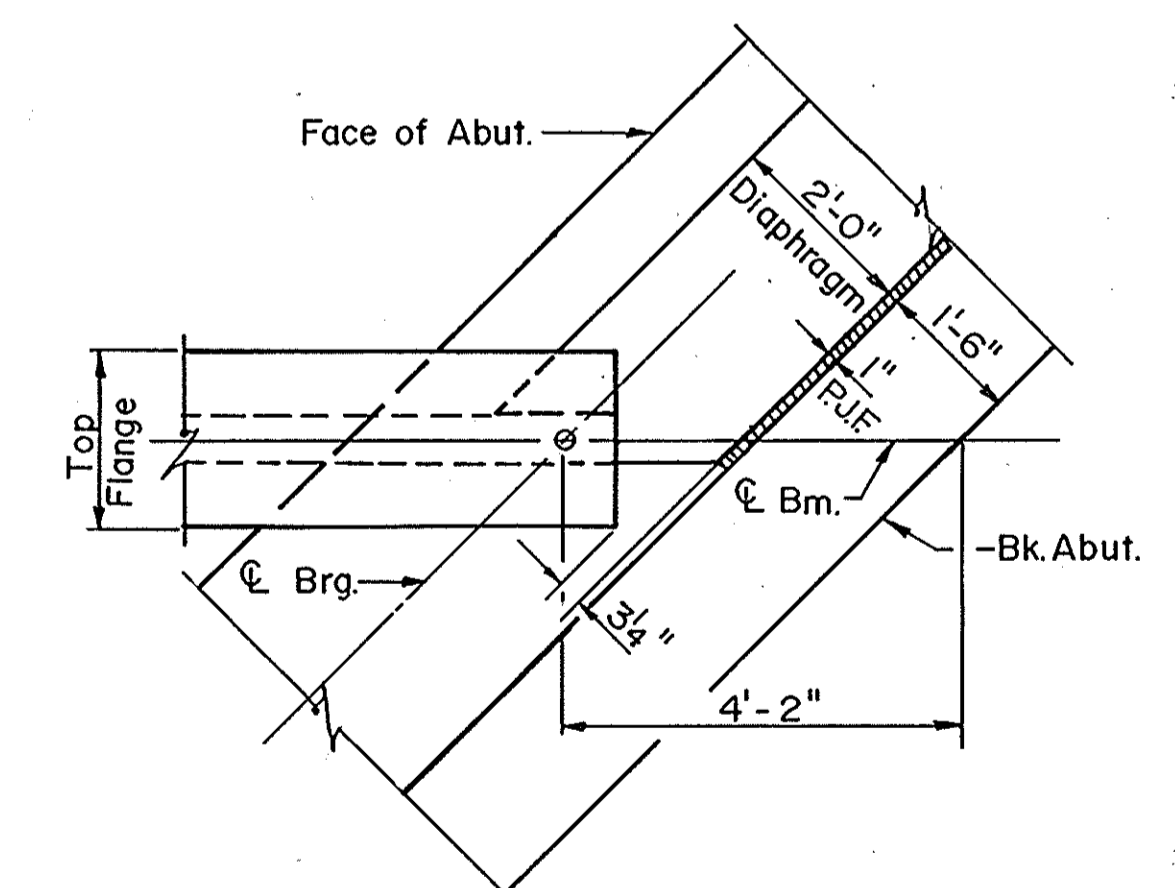
**FRAMING PLAN**



**DETAIL A**



**DETAIL B**



**DETAIL C**

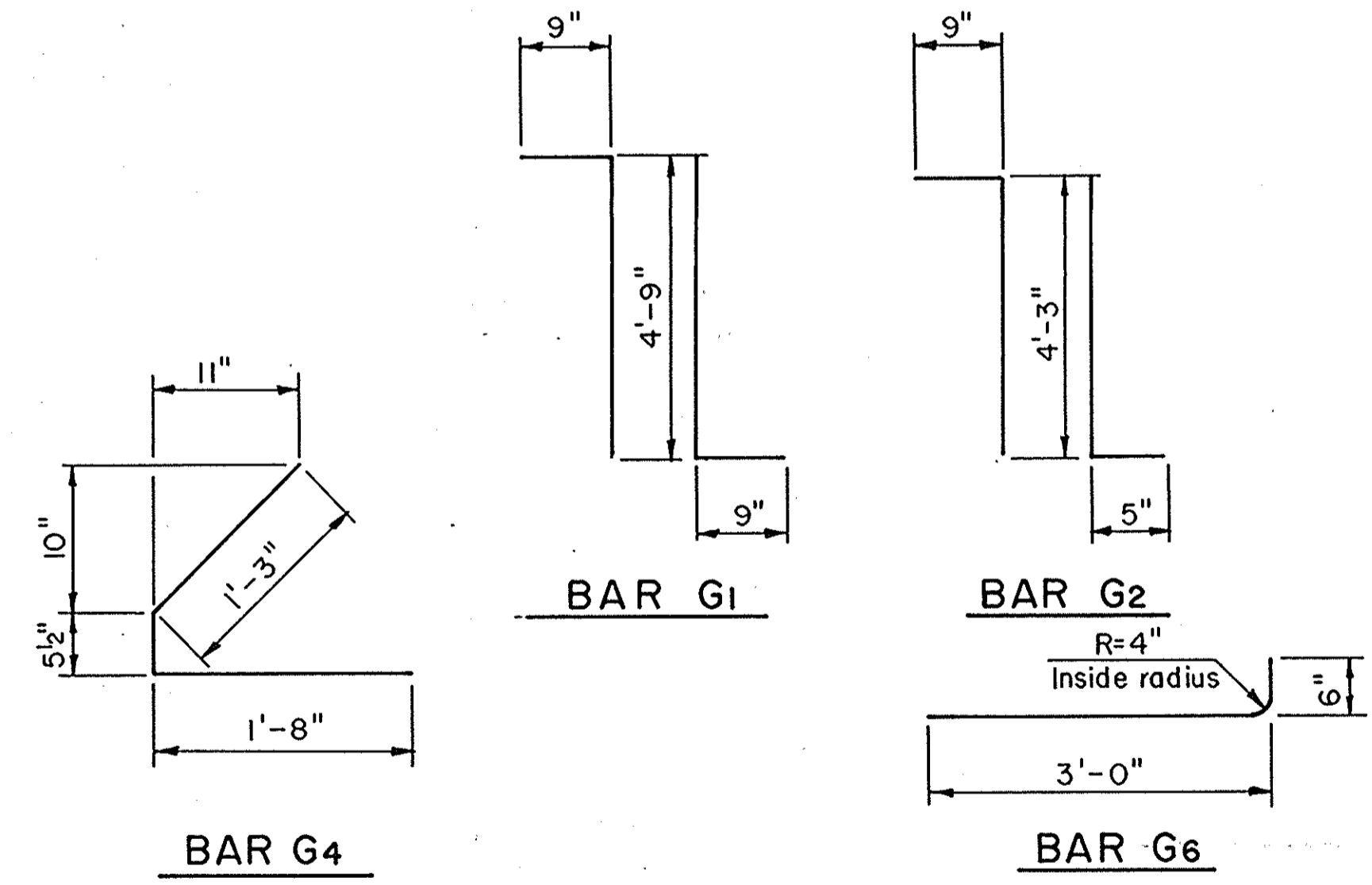
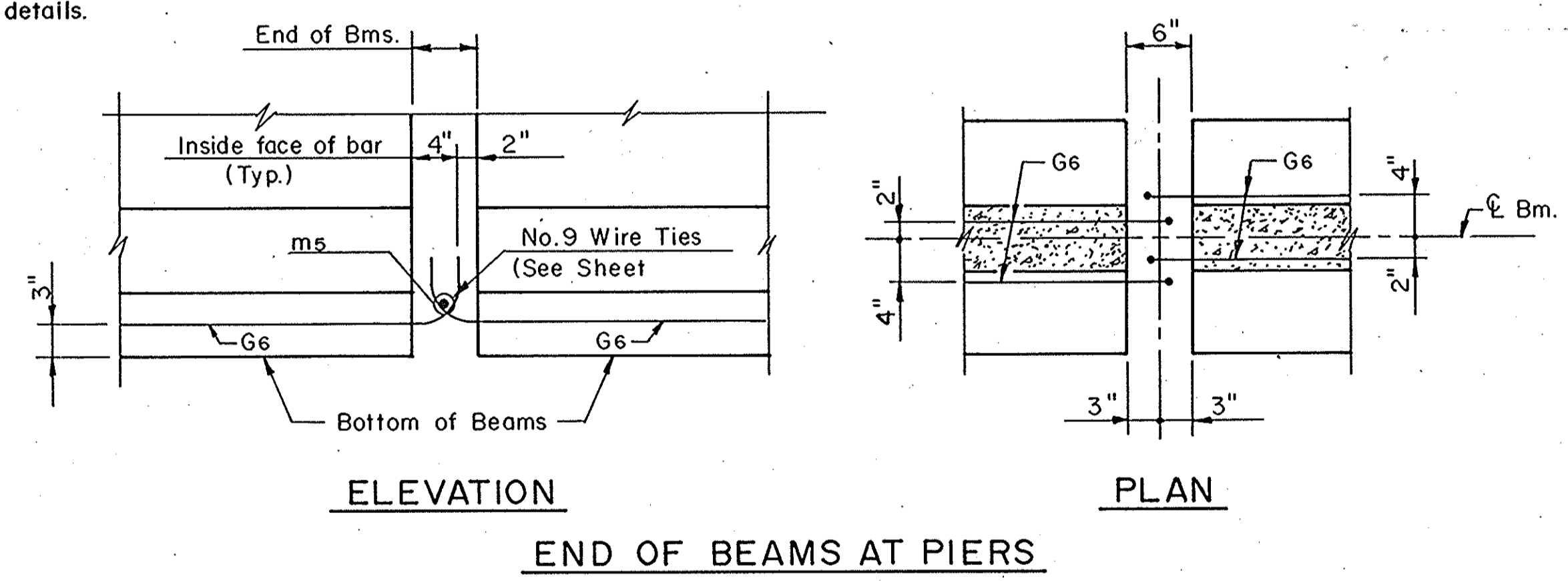
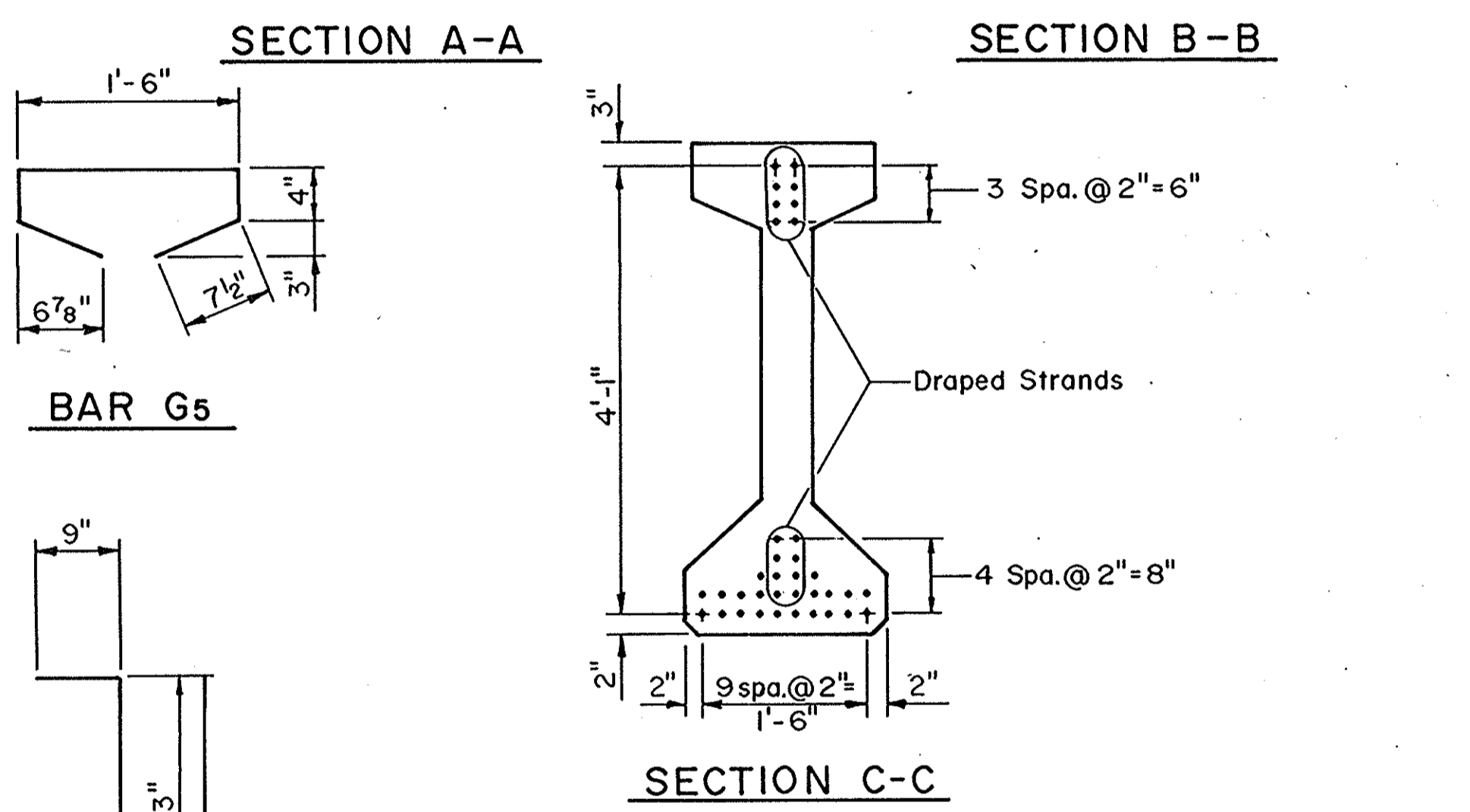
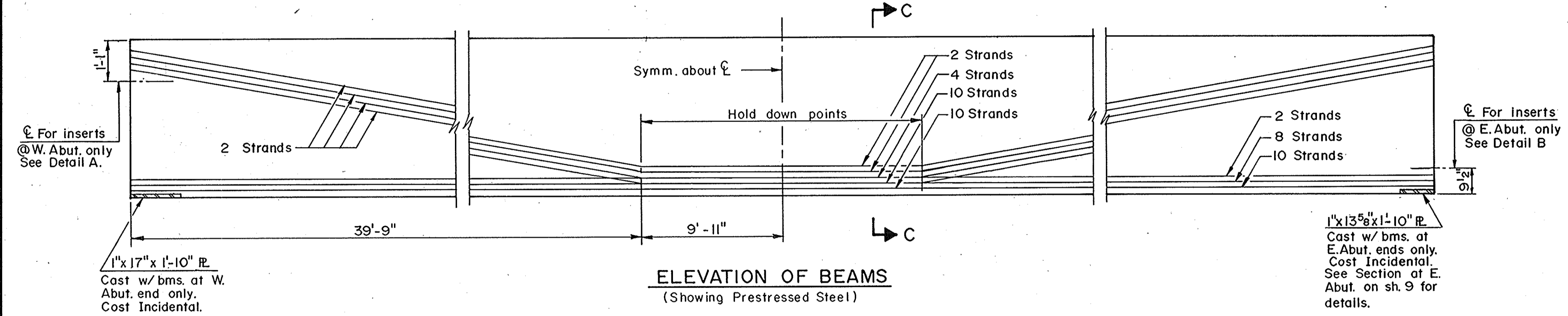
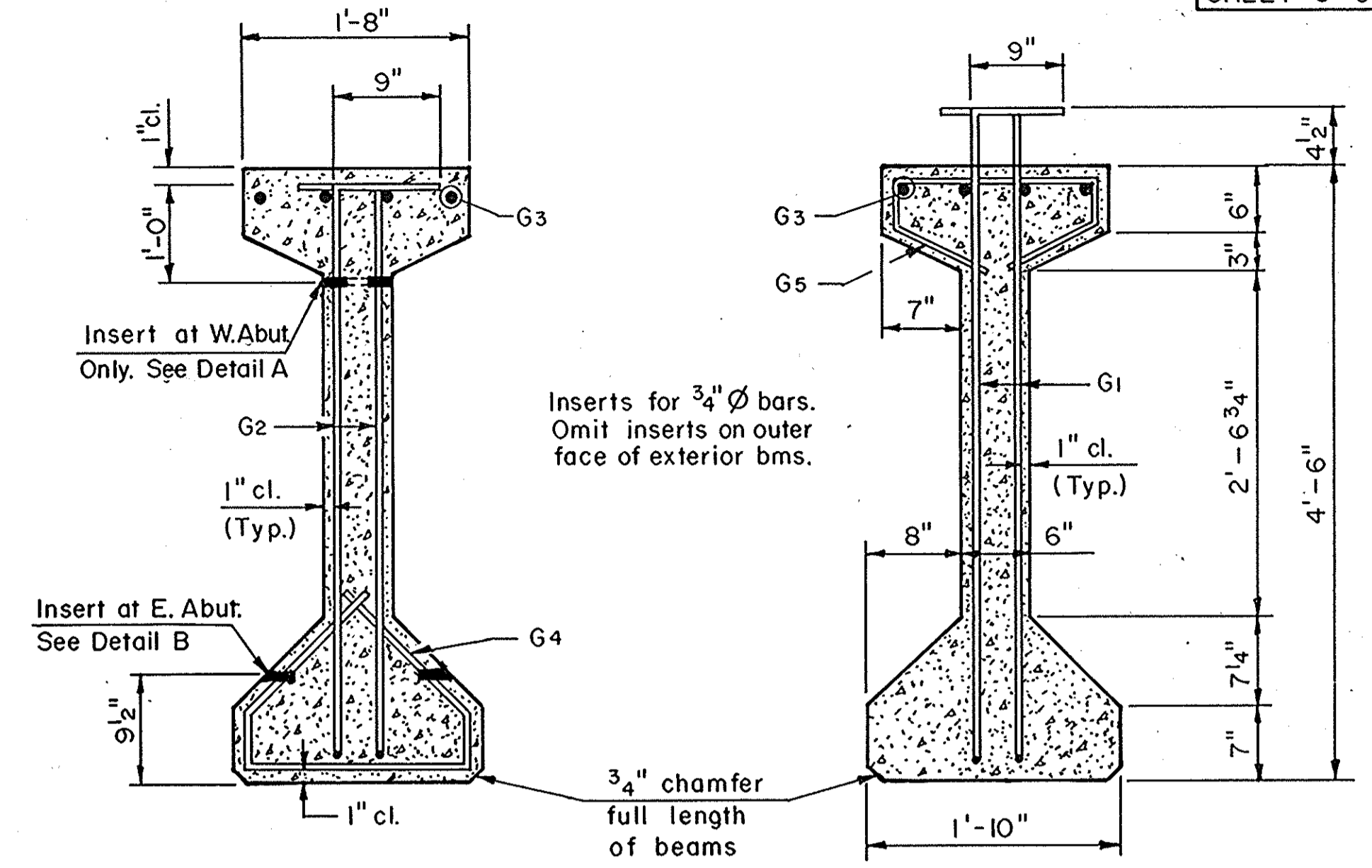
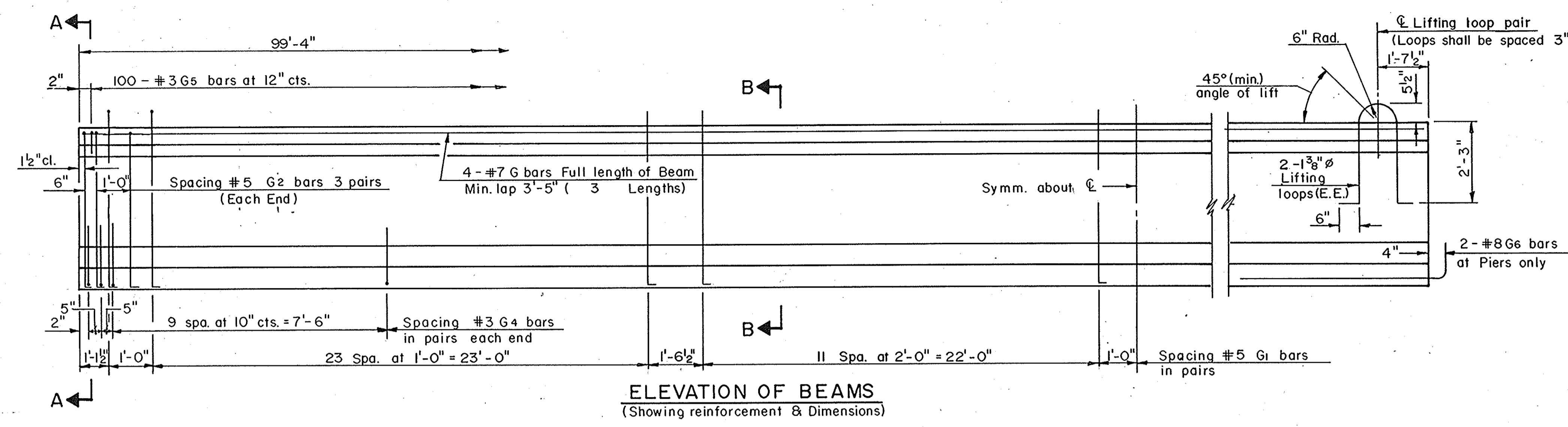
**AS REVISED**

**AS REVISED**

**FRAMING PLAN  
F.A.RTE. 587 SEC. 140C-BR  
BUREAU COUNTY  
STA. 814+68.50**

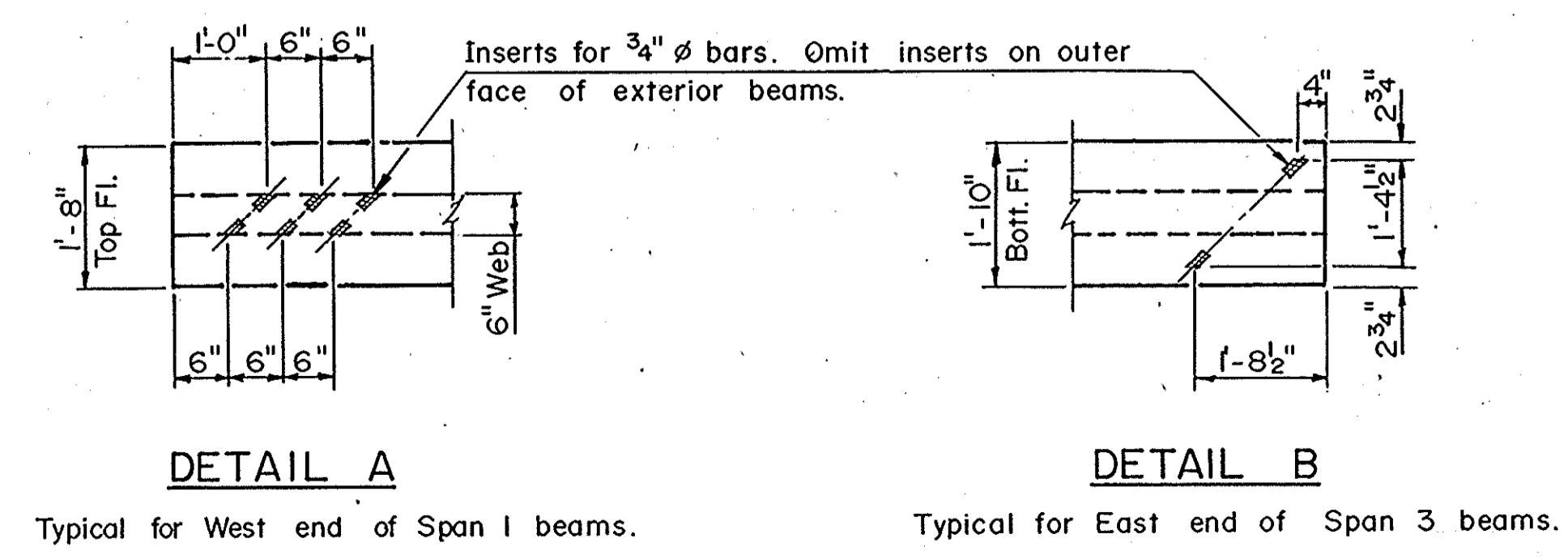
HSIONG ASSOCIATES LTD.	
DESIGNED: G.J.G.	CHECKED: W.H.
DRAWN: R.H.H.	DATE: NC.H-041B

Revised 4-2-90, Pedestal shown & Step centered, G.J.G.



**\*BAR LIST**

Bar	No.	Size	Length	Shape
G1	148	#5	6'-3"	7L
G2	12	#5	5'-5"	7L
G3	12	#7	35'-6"	
G4	48	#3	3'-4 1/2"	L
G5	100	#3	3'-5"	U
G6	24	#8	3'-6"	U



**NOTES**

All inserts and threaded dowel rods for inserts, reinforcing and Prestressing Steel, and other items which are cast into the Precast Concrete I-Beams shall be included in the contract unit price per lineal foot of "Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54 in."

Insert for 3/4" threaded dowel rods are to be two strut, coil type for interior I-Beams and single coil, flared loop type for exterior I-Beams.

Prestressing steel shall be non-galvanized high strength, stress-relieved 7 wire strand, Grade 270.

The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to AASHTO designation M-31, M-42 or M-53 Grade 60.

Steel for lifting loops shall be non-deformed bars fy = 40,000 psi.

Required release strength, f'ci, shall be 4,000 psi.

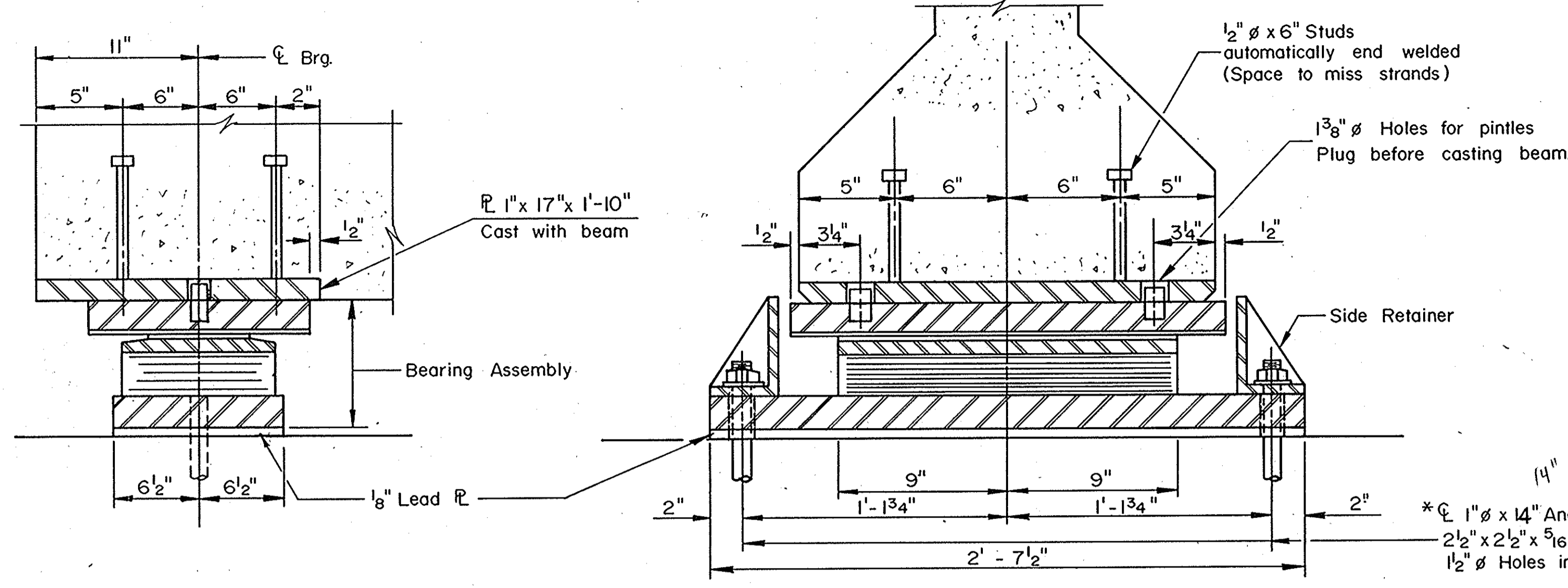
**BILL OF MATERIAL**

Item	Unit	Total
Furnishing & Erecting Precast Prestressed Concrete I-Beams, 54"	Lin. Ft.	1,788

**BEAM DETAILS**  
 FA. RT. 587 SEC. 140C BR  
 BUREAU COUNTY  
 STA. 814+68.50

**HISION ASSOCIATES LTD.**

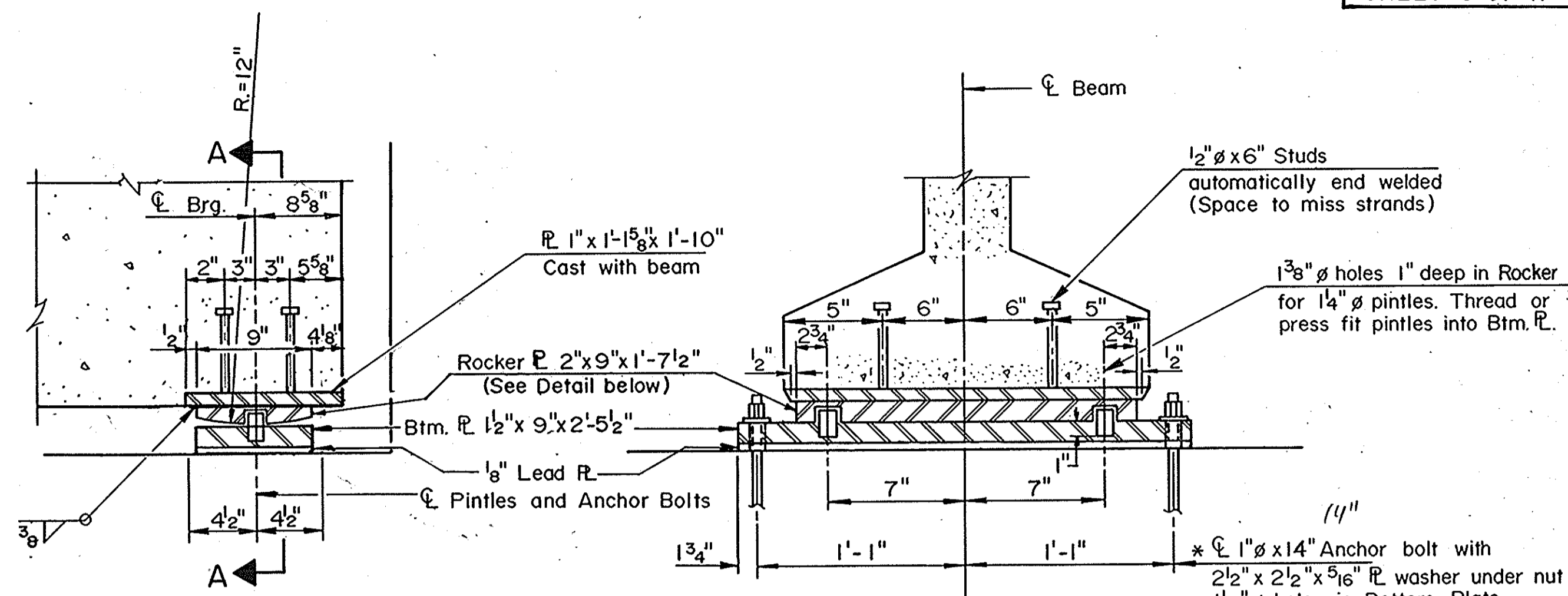
DESIGNED: H.A.	CHECKED: W.H.
DRAWN: C.L.	DATE: NO. H-041B



SECTION AT W. ABUT.

SECTION A-A

**TYPE II ELASTOMERIC EXP. BRG.**

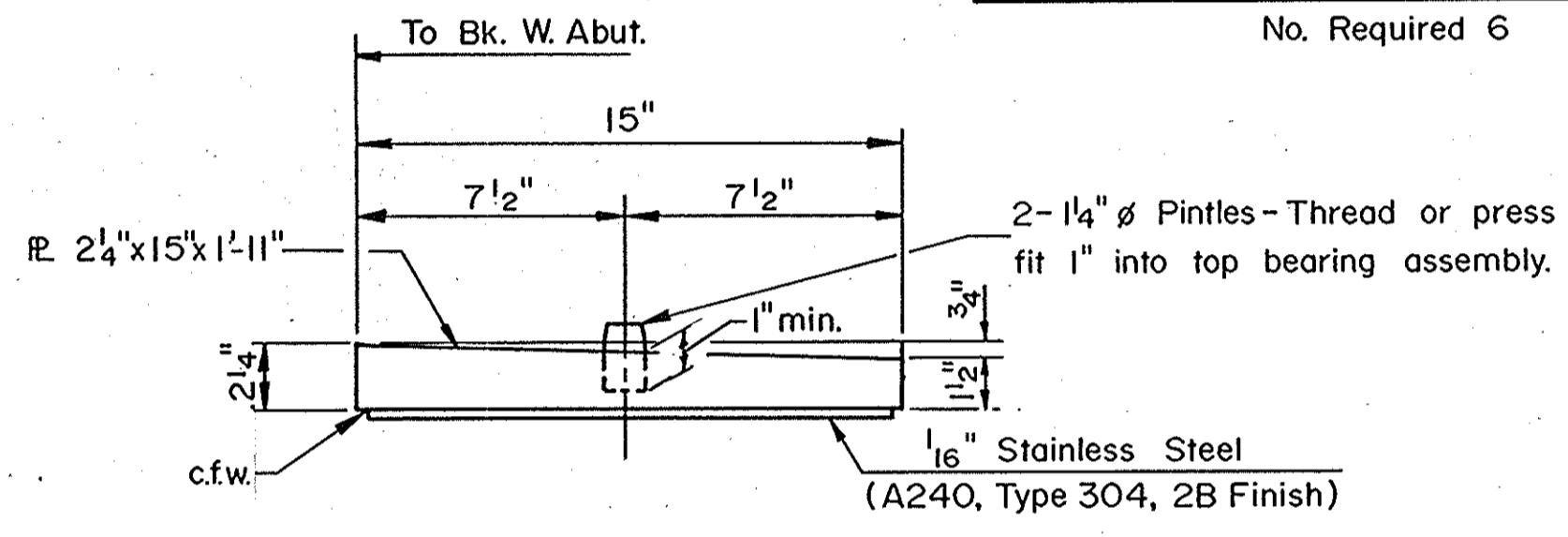


SECTION AT E. ABUT.

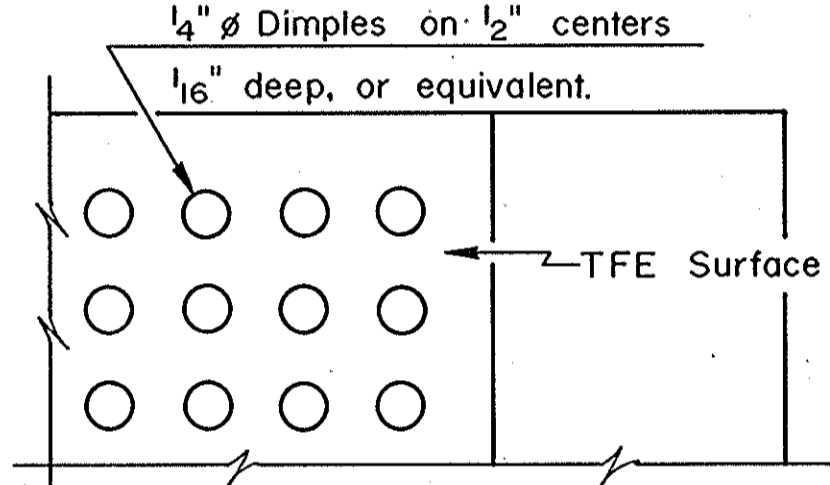
SECTION A-A

\* NOTE: After beams have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. See Sheet # 14 of 17 for anchor bolt installation.

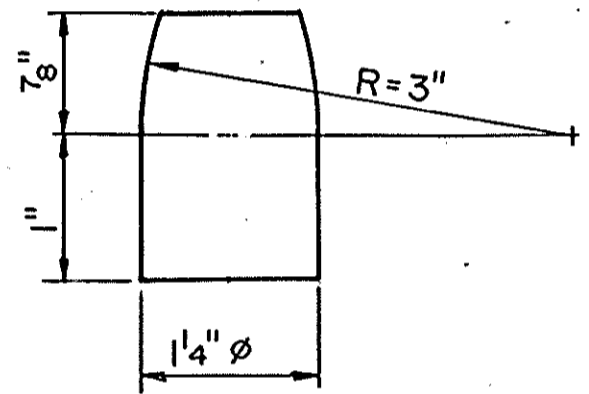
\* Anchor bolts may be built into the masonry or drilled and grouted in place after all beams have been erected.



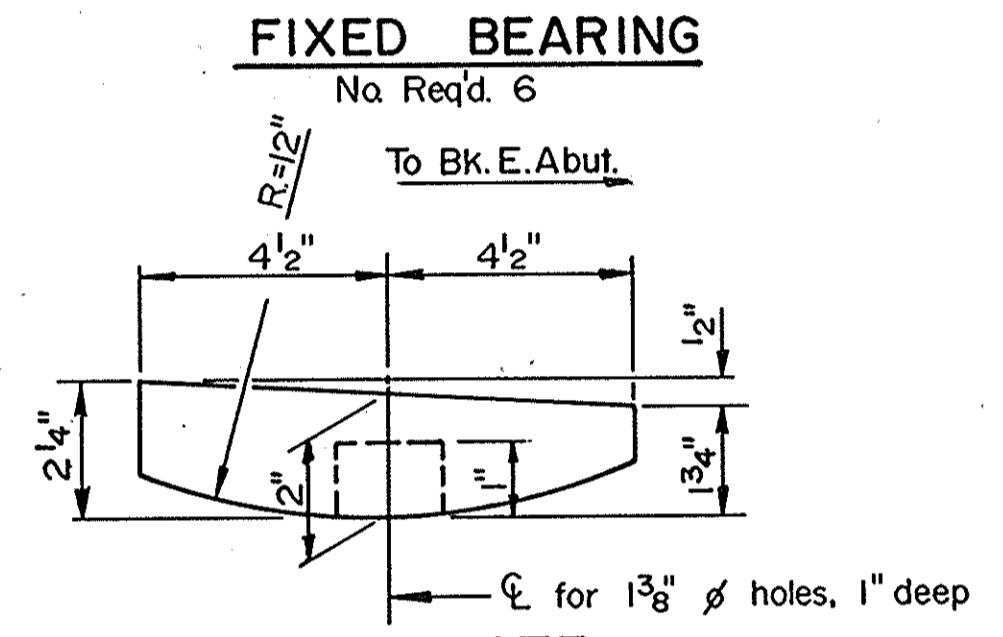
TOP BEARING ASSEMBLY



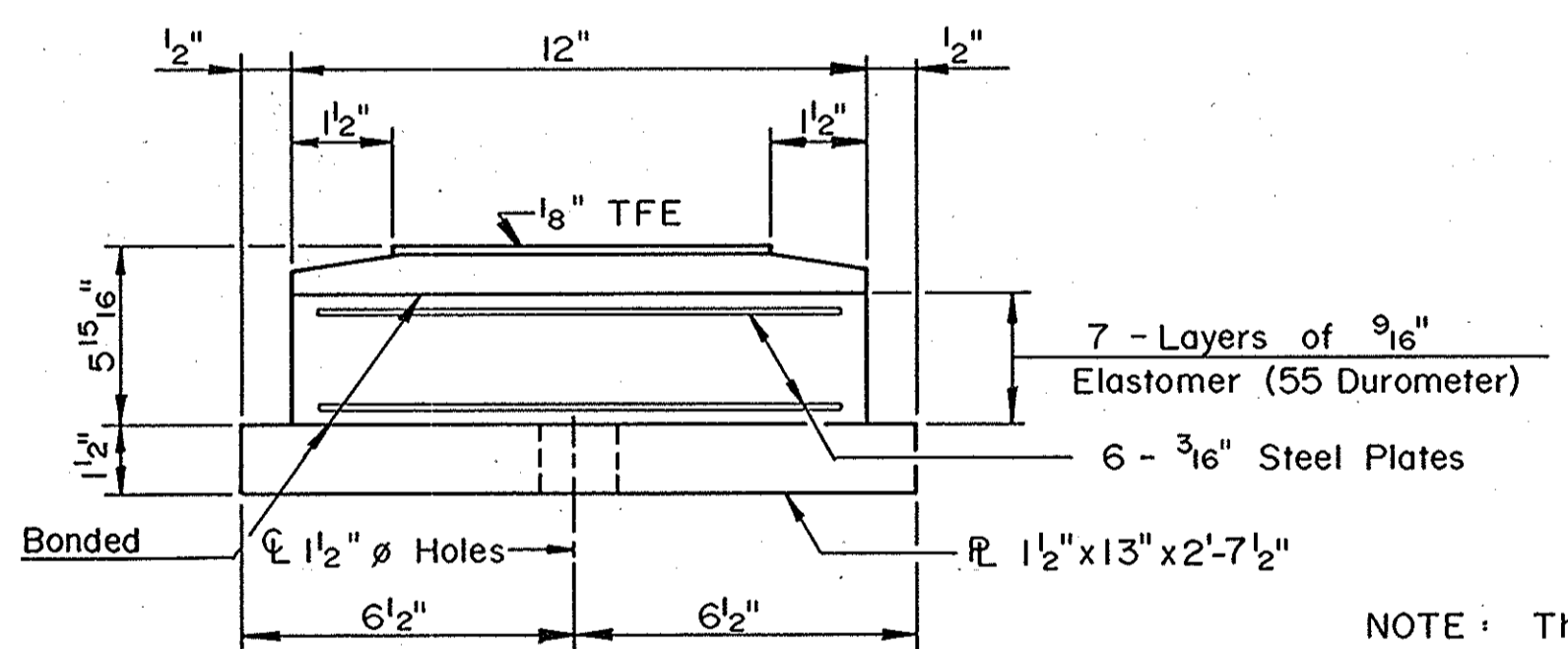
PLAN-TFE SURFACE



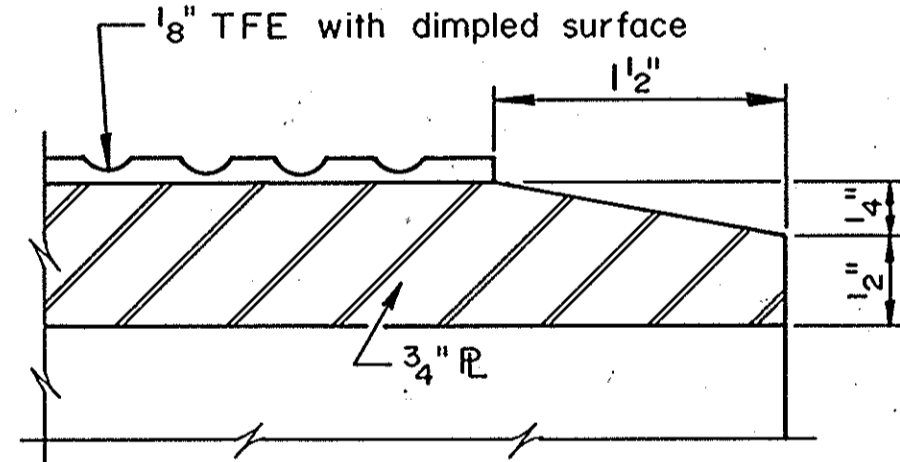
PINTLE



ROCKER PLATE

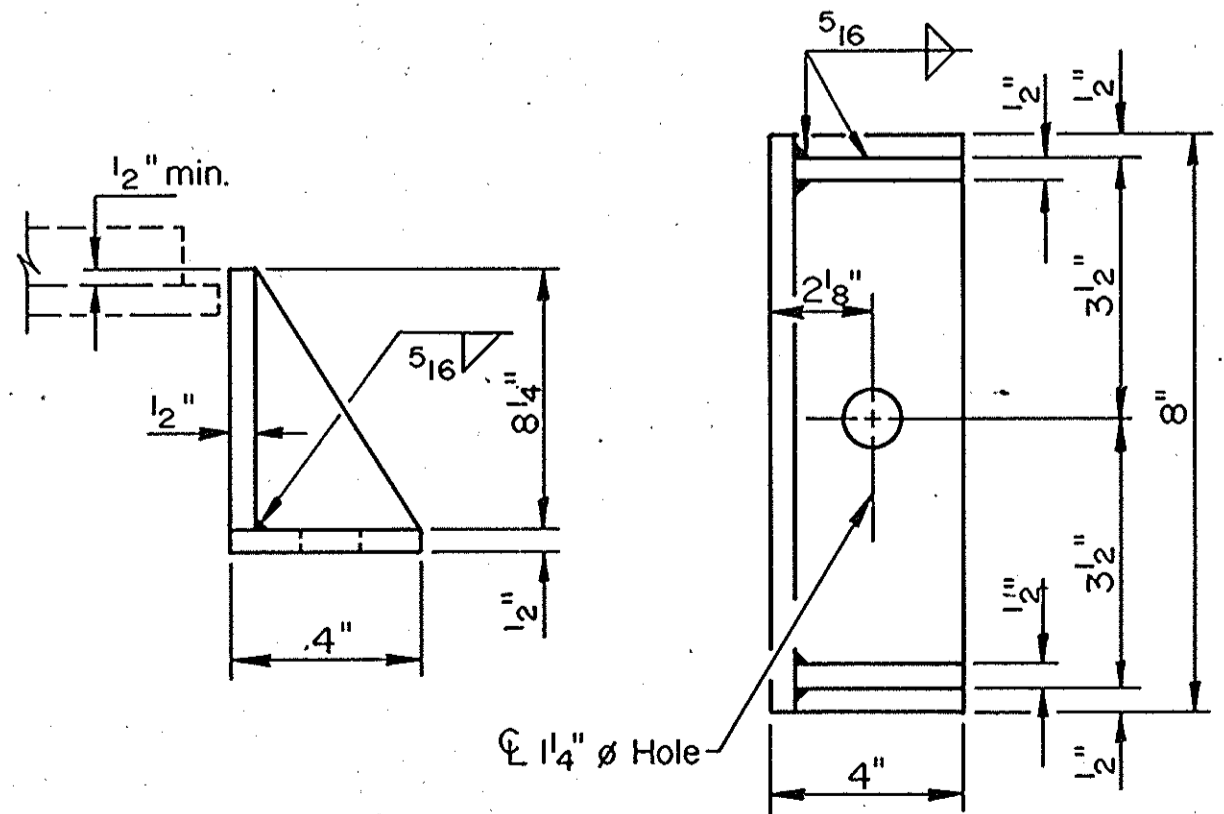


BOTTOM BEARING ASSEMBLY



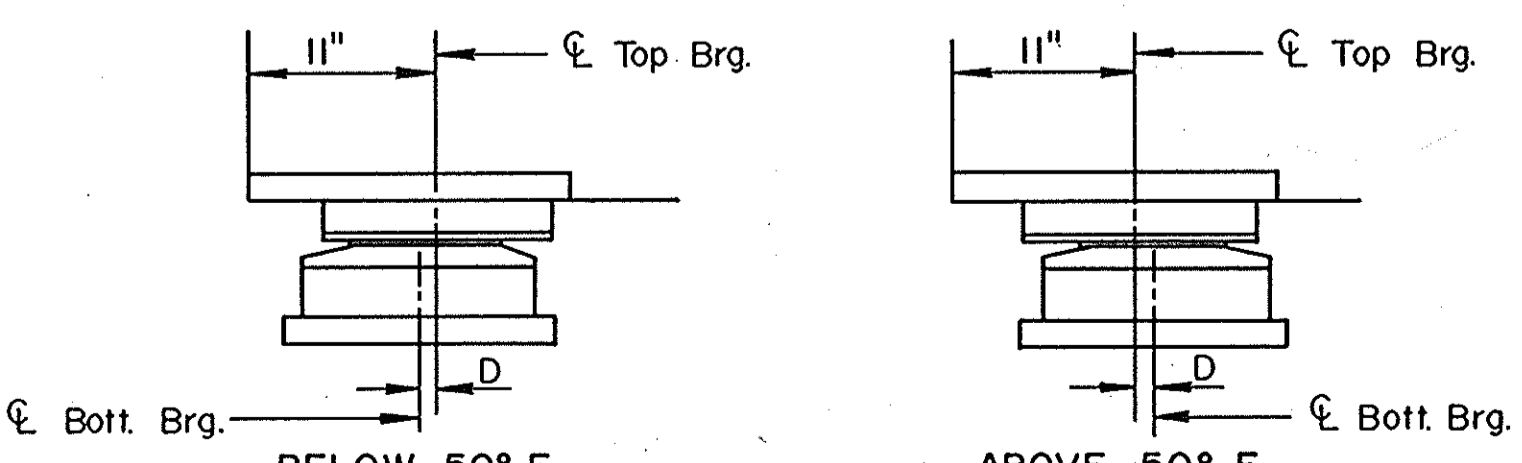
SECTION THRU TFE

NOTE: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

**BEARING DETAILS**  
 FA. RTE. 587 SEC. 140C-BR  
 BUREAU COUNTY  
 STA. 814+68.50

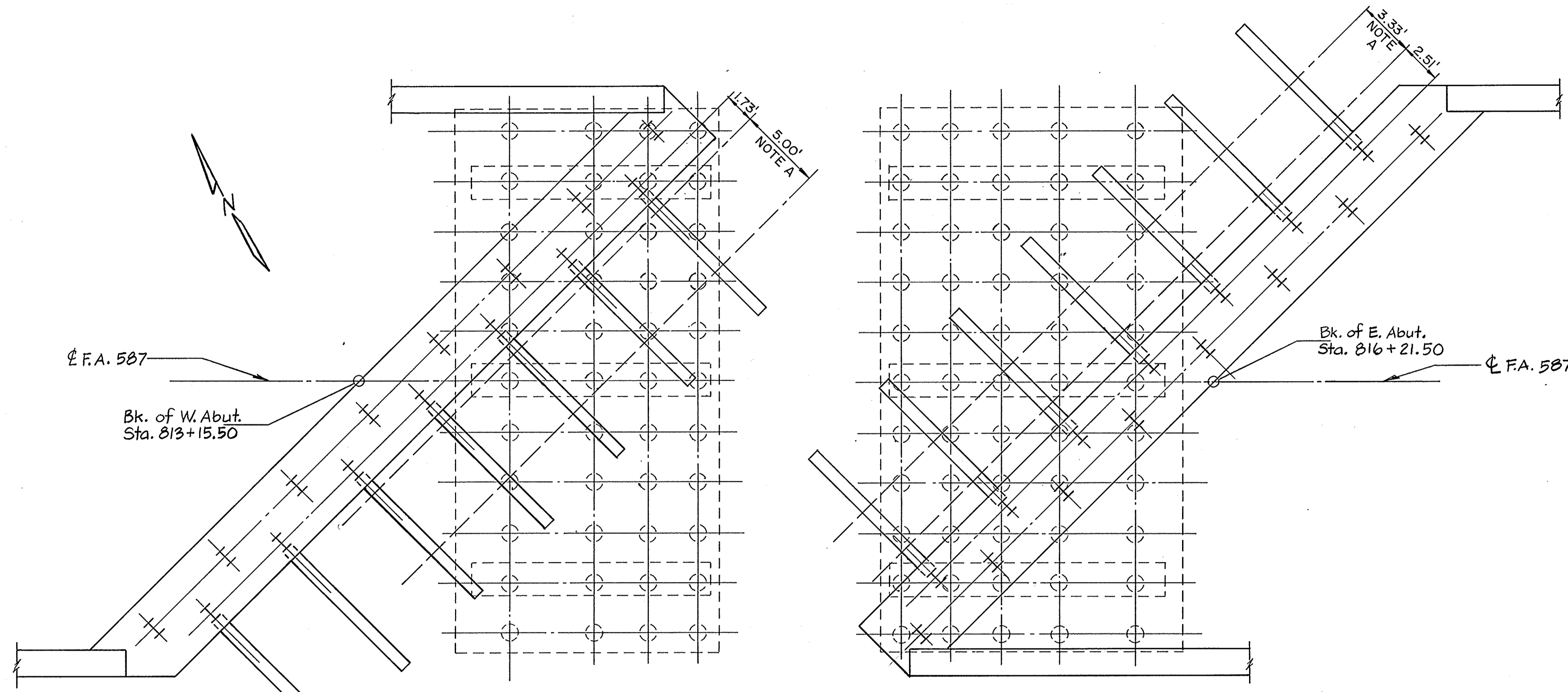
HSIONG ASSOCIATES LTD.  
 DESIGNED: G.J.G. CHECKED: H.A.  
 DRAWN: G.A. DATE: NO. H-041B











**WEST ABUTMENT FOOTING LAYOUT**

**EAST ABUTMENT FOOTING LAYOUT**

SCALE: 1/4" = 1ft.

**Notes for Structure Removal & Pile Installation**

1. The portion of the existing footing which interferes with the proposed construction shall be removed as per Article 501.02 of the Standard Specifications. If, after excavating for the removal of the existing abutment, it is found that the prevailing water surface is at an elevation which would prevent the removal of the existing concrete footing, as determined by the Engineer, then a cofferdam shall be constructed in accordance with Article 502.07 of the Standard Specifications.
2. The station and offset for all exposed existing timber pile shall be accurately recorded to the centerline F.A. 587. The elevation to the top of the existing timber piles shall also be recorded.
3. The proposed piles shall be driven before backfilling up to the bottom of the proposed abutment cap. The location of some proposed piles may be modified so that they do not intersect the existing timber piles. If the Engineer determines that a proposed pile has intersected an existing pile during driving procedures and it is the Engineer's opinion that the proposed pile can not be driven deep enough to support the vertical or lateral design loads then an additional proposed pile shall be driven 12"± from and in the same row as the initial proposed pile location to the required depth. All piles shall be cut-off one foot above the bottom of the proposed abutment cap and incorporated into the proposed construction.

**Note A.**

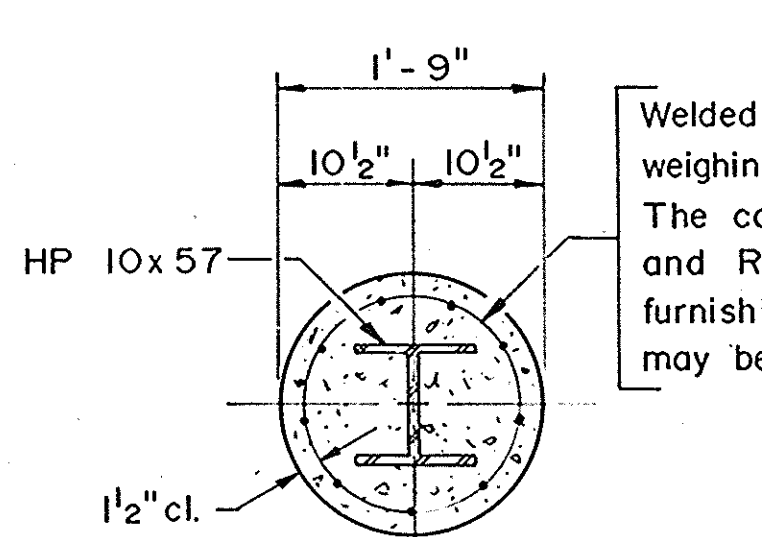
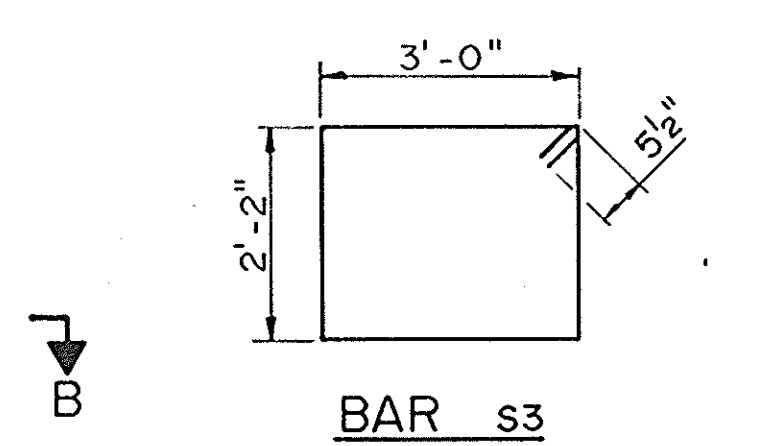
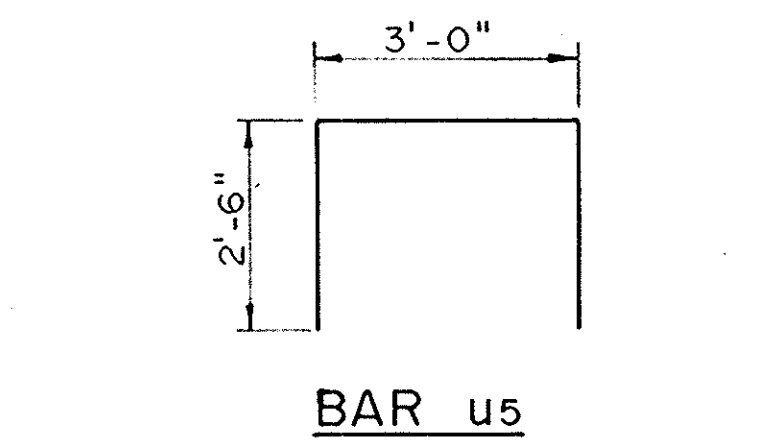
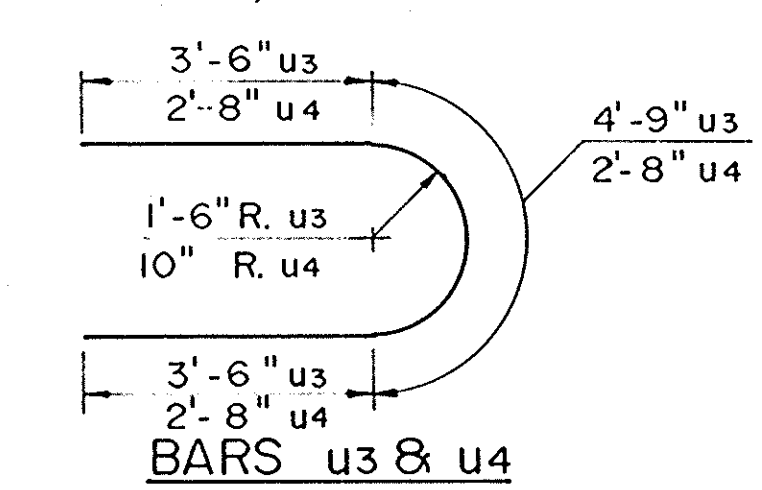
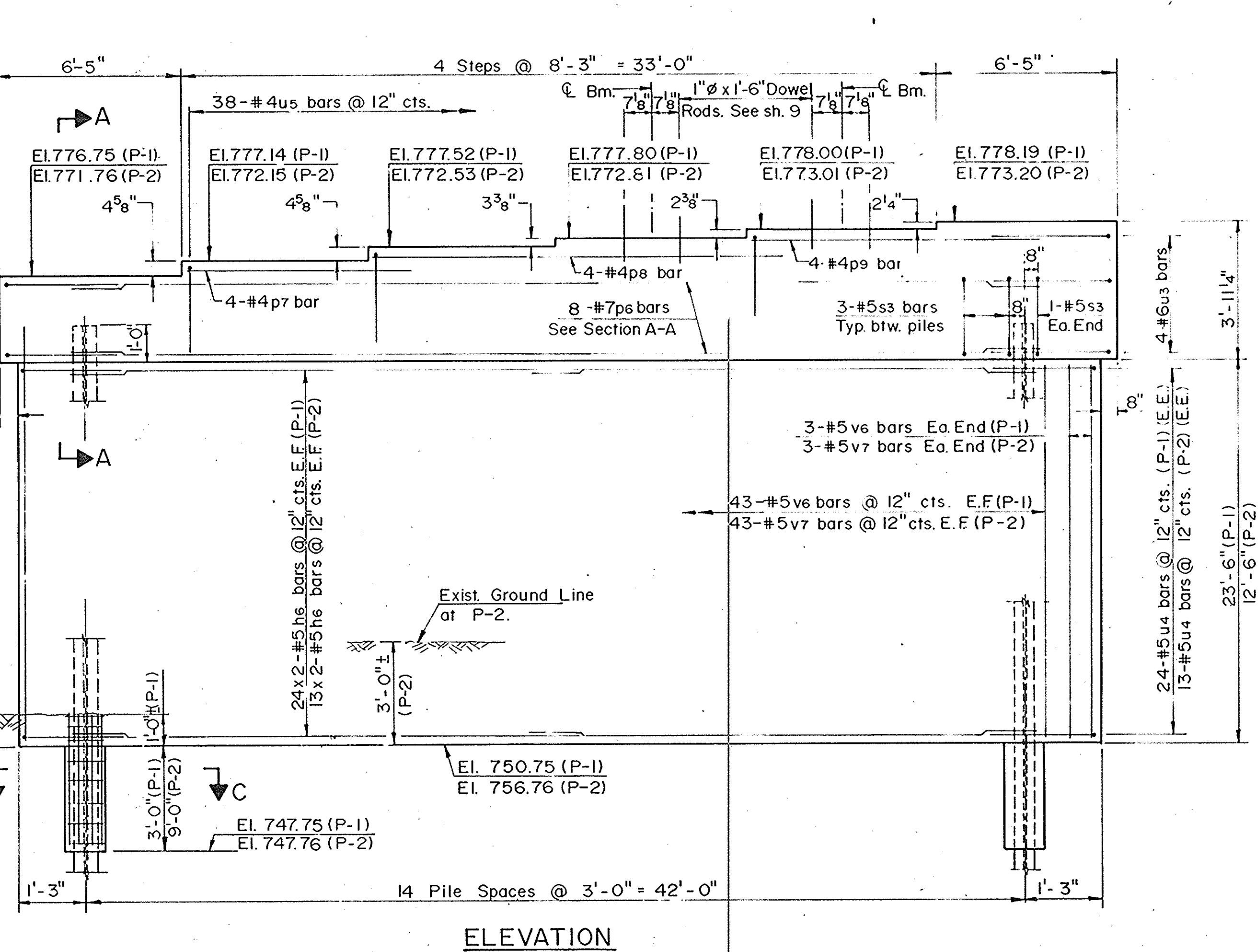
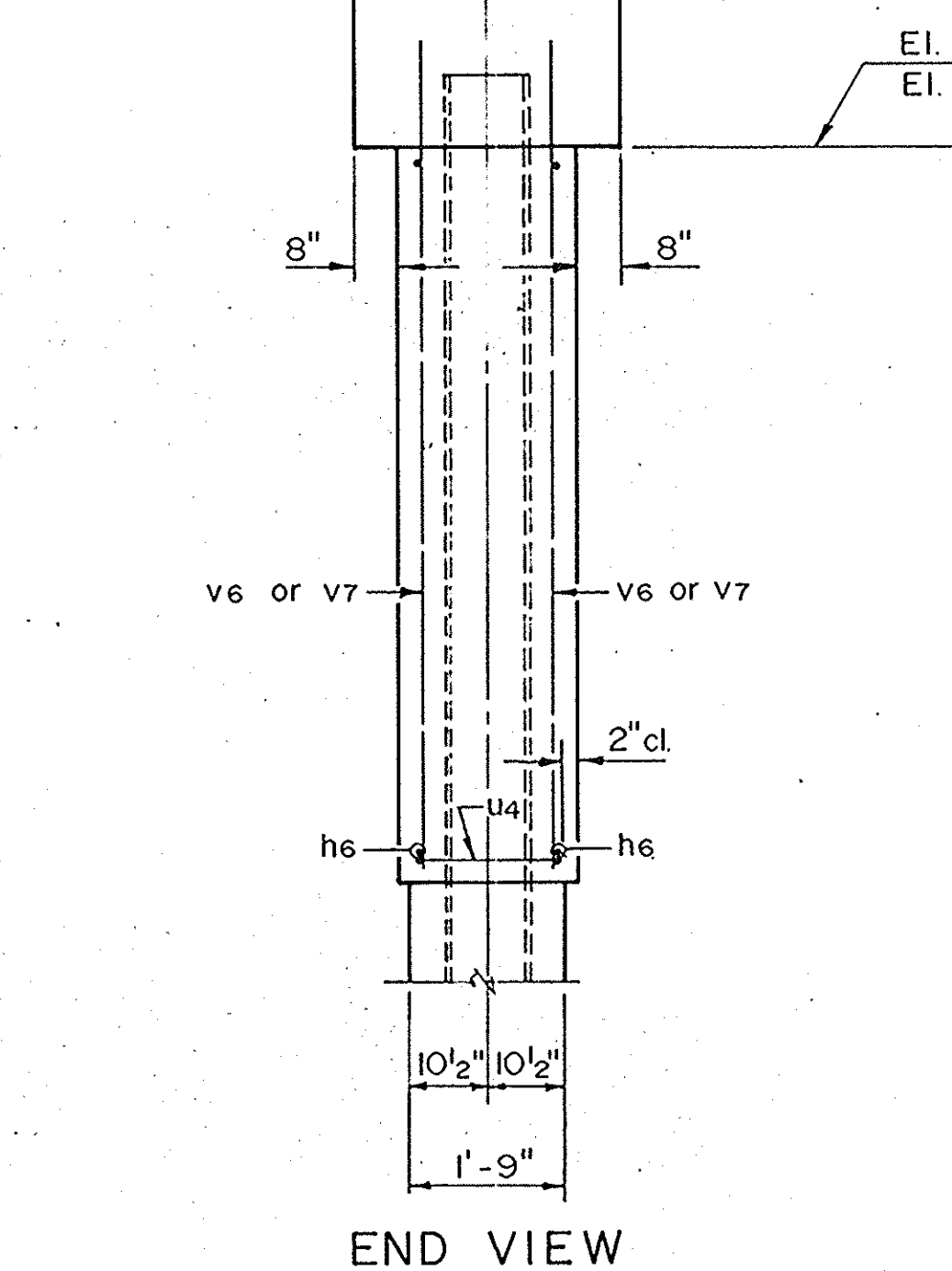
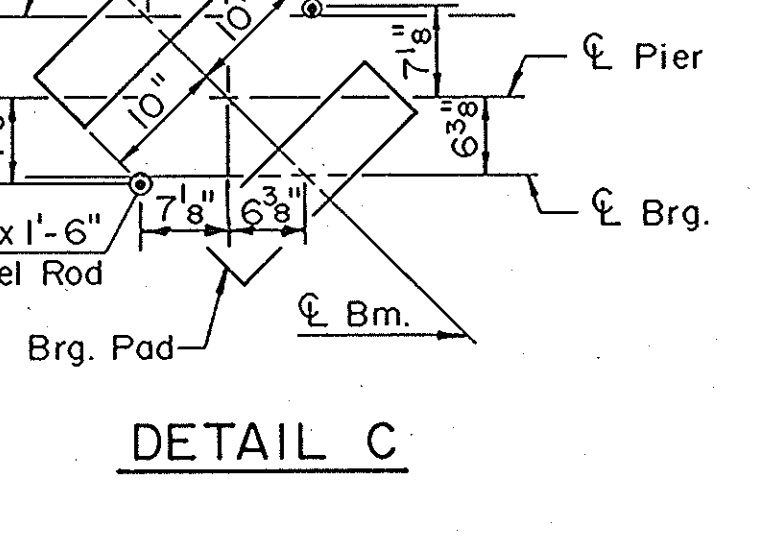
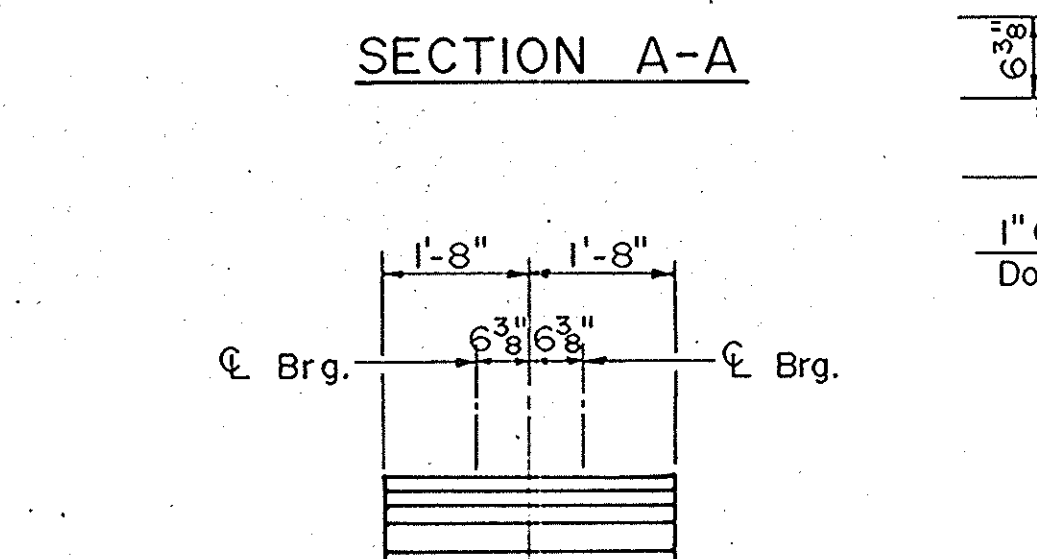
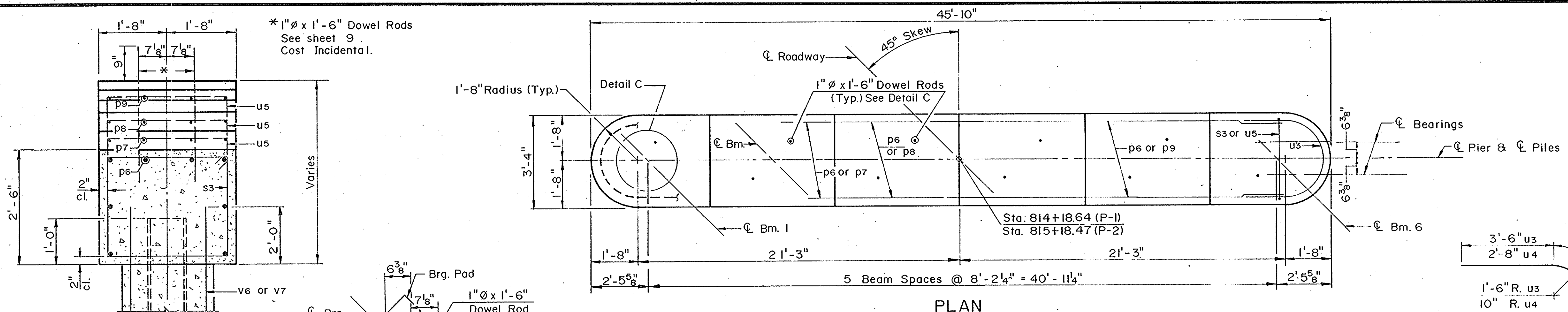
Area in which the proposed piles may intersect the existing piles, determined by using a 2:12 batter on the proposed piles and an existing pile length of 30' at the West Abutment and 20' at the East Abutment.

4. The excavated area shall be backfilled with Porous Granular Embankment and, within an area extending to 5'-0" outside the limits of new piling, to 95% density.

**AS REVISED**

**△ ABUTMENT FOOTING LAYOUT**  
**F.A. RTE. 587 SEC. 140C-BR**  
**BUREAU COUNTY**  
**STA. 814+68.50**

HSIONG ASSOCIATES LTD.	
DESIGNED: G.J.G.	CHECKED: W.H.
DRAWN: R.H.H.	DATE: NO. H-041B

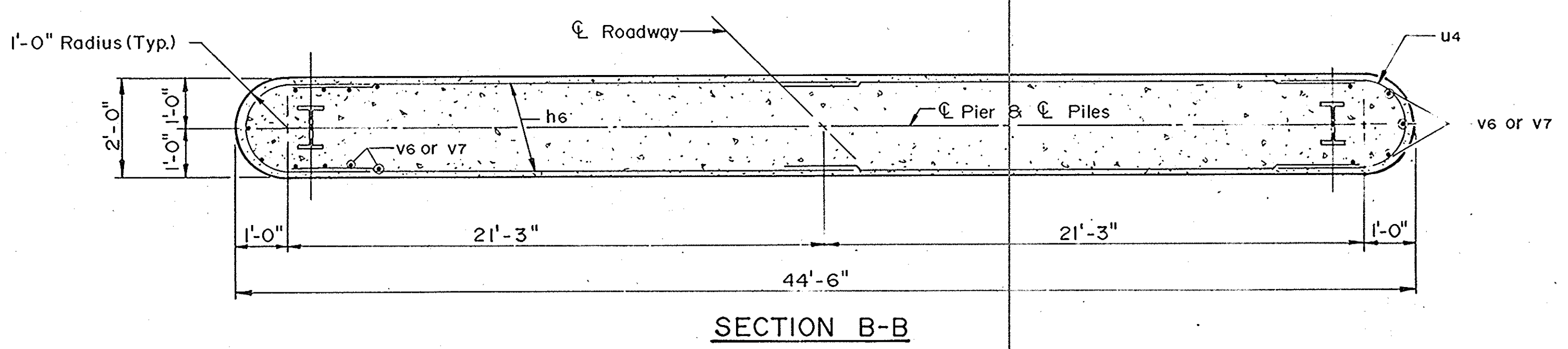


**TWO PIERS  
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h6	148	#5	22'-6"	—
p6	16	#7	42'-6"	—
p7	8	#5	9'-8"	—
p8	8	#5	18'-0"	—
p9	8	#5	12'-6"	—
s3	88	#5	11'-3"	□
u3	14	#6	11'-9"	C
u4	74	#6	8'-0"	C
u5	76	#4	8'-0"	□
v6	92	#5	25'-3"	—
v7	92	#5	14'-3"	—
Reinforcement Bars			Lbs.	11,570
Class X Conc.			Cu. Yds.	154.5
Steel H Piles-HP 10 x 57			Lin. Ft.	1,286
Test Pile-Steel HP 10 x 57			Ea.	1
Structure Excavation			Cu. Yds.	180
Class X Conc. Encasement			Cu. Yds.	15.2

**PIER 1 PILE DATA**  
 Type — Steel HP 10x57  
 Capacity — 50 Tons  
 Drive to — 75 Tons bearing  
 Length — 49'  
 No. Req'd. — 15 (Including one test pile)

**PIER 2 PILE DATA**  
 Type — Steel HP 10x57  
 Capacity — 50 Tons  
 Drive to — 75 Tons bearing  
 Length — 40'  
 No. Req'd. — 15



**MIN. BAR LAP**  
 # 4 — 1'-8"  
 # 5 — 2'-2"  
 # 6 — 2'-7"  
 # 7 — 3'-6"

Welded wire fabric 6x6 - W 4.0 x W 4.0 weighing 58#/100 sq. ft.  
 The cost of Class X Conc. Encasement and Reinforcement is incidental to cost of furnishing piles. Forms for encasement may be omitted when soil conditions permit.

**PIER DETAILS**  
 FA. RT. 587 SEC. 140C BR  
 BUREAU COUNTY  
 STA. 814+68.50

