

State Line
Co. Line
Twp. Line
Sec. Line
Corp. Line
Urban Bdry.
R.O.W. Lines
Survey Line

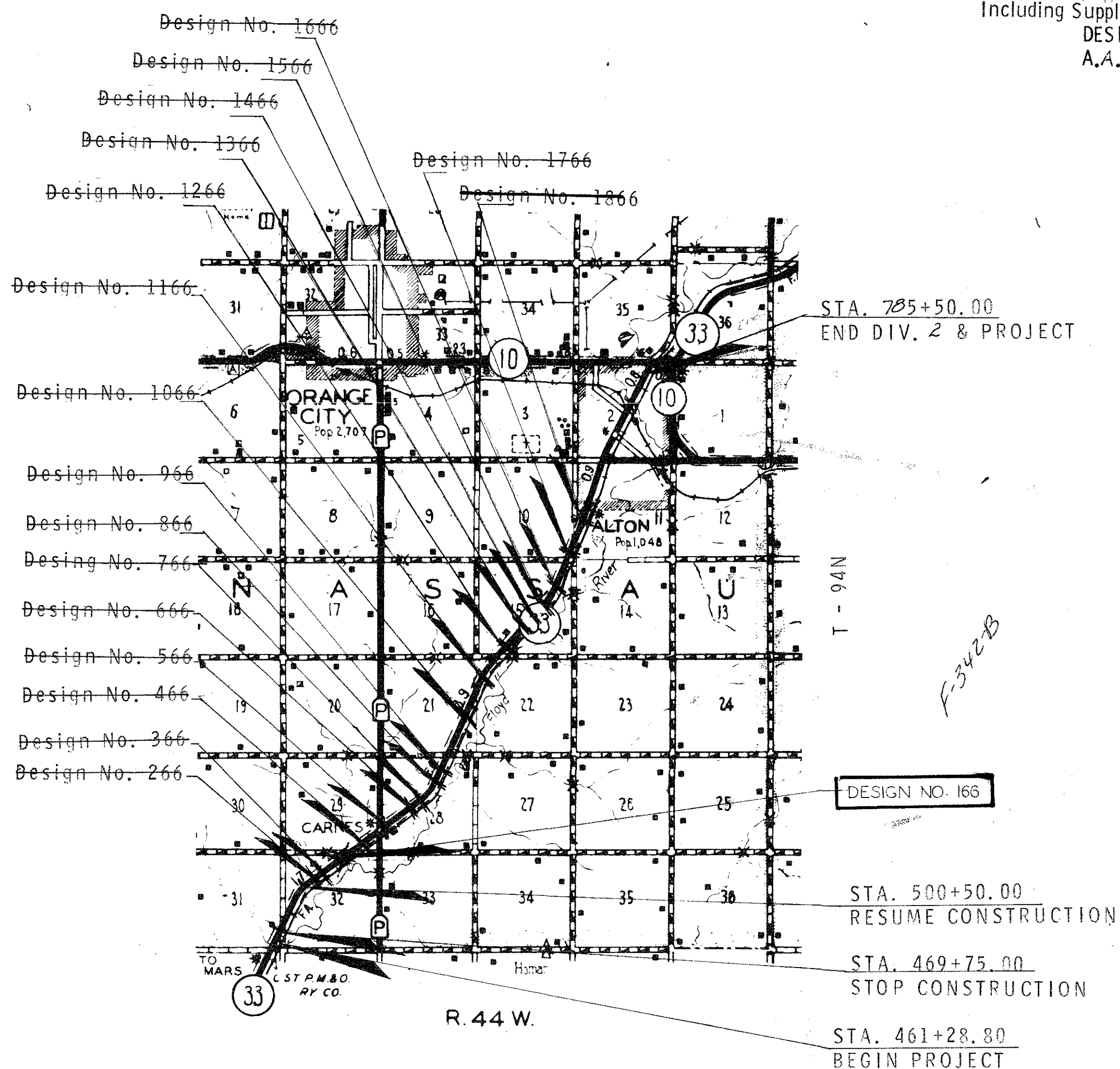
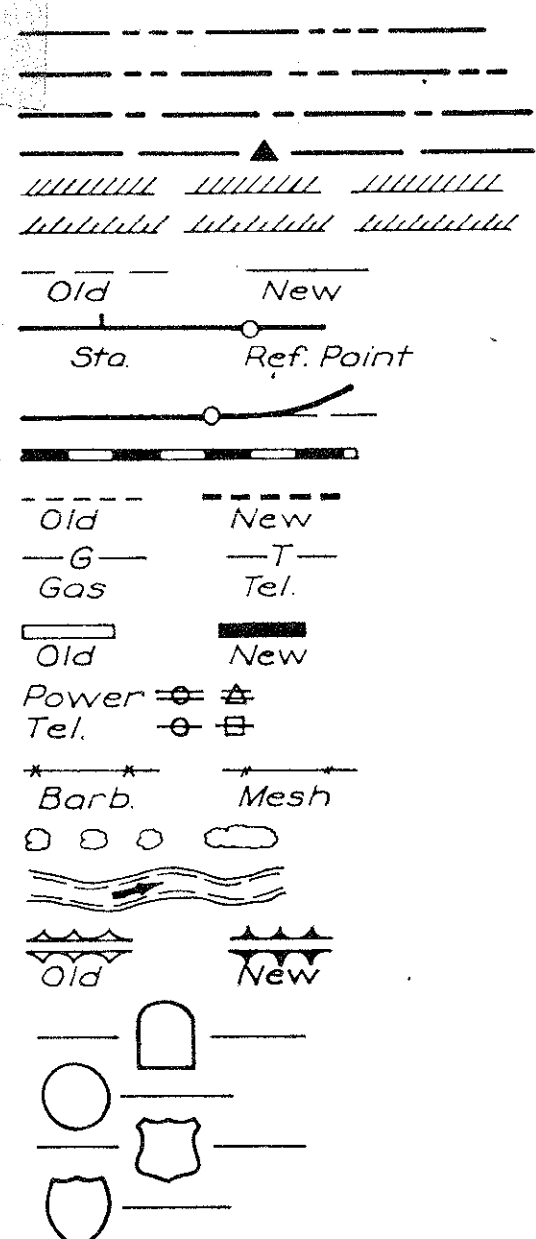
Profile Grade
Railroad
Field Tile
Underground Lines

Culverts
Utility Poles

Fences
Trees Or Brush
Stream
Dike

County Road No.
Primary Road No.
U. S. Road No.
Interstate Road No.

CONVENTIONAL SIGNS



STATE OF IOWA
STATE HIGHWAY COMMISSION

PLANS OF ~~PROPOSED~~ IMPROVEMENT
ON THE

PRIMARY ROAD SYSTEM
SIoux COUNTY
BRIDGE REMODELING

ON IA. 33 FROM PLYMOUTH CO. LINE NORTHEASTERLY TO ALTON

SCALES: AS NOTED

THE IOWA STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS
FOR CONSTRUCTION WORK, SERIES OF 1964 SHALL
APPLY TO WORK ON THIS PROJECT

(Plus current Special Provisions, and Supplemental Specifications)
Including Supplemental Specification For Bridge Remodeling Projects, Dated Nov. 3, 1964, Spec. 's 567.)
DESIGN STRESSES for the following materials are in accordance with
A.A.S.H.O. Standard Specifications for Highway Bridges, Series of 1961.

Concrete in accordance with Section 1.4.11 $f'c = 3500$ psi.
Reinforcing Steel in accordance with Section 1.4.12
"Reinforcement" for intermediate, Hard, or Rail
Steel Grade.
Prestressed Concrete in accordance with Section 1.13.7
 $f'c = 5000$ psi.
Prestressing Steel in accordance with Section 1.13.7
 $f's = 270,000$ psi.

NO MILEAGE SUMMARY.

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		1	19
PROJECT NUMBER				
FN-33-2(1)--21-84				
FN-33-2(3)--21-84 (R.O.W.)				

INDEX OF SHEETS		105-3
NO.	DESCRIPTION	
1	TITLE SHEET	
1A	REVISION SHEET	
2	ESTIMATE SHEET	
3	~~MISCELLANEOUS DETAIL SHEET~~	
4	~~MISCELLANEOUS DETAIL SHEET~~	
5	~~MISCELLANEOUS DETAIL SHEET~~	
6	~~MISCELLANEOUS DETAIL SHEET~~	
7	~~MISCELLANEOUS DETAIL SHEET~~	
8	~~CULVERT DESIGN NO. S 266 = 466 = 566 = 766~~	
9	~~CULVERT DESIGN NO. S 366 = 666~~	
10	~~CULVERT DESIGN NO. S 366 = 966 = 1166~~	
11	~~CULVERT DESIGN NO. S 1166 = 1266~~	
12	~~CULVERT DESIGN NO. S 1366 = 1466~~	
13	~~CULVERT DESIGN NO. S 1566 = 1666~~	
14	~~CULVERT DESIGN NO. S 1766 = 1866~~	
14A1-14A10	BRIDGE DESIGN NO. 165	

CONSTRUCTION PLANS SHOWING PROJECT AS BUILT
ONE COPY PREPARED BY Norman C. Pitsch DATE Dec. 8, 1967
RESIDENT CONSTRUCTION ENGINEER
ONE COPY APPROVED AND FORWARDED TO AMES
DATE 1-2-68
DISTRICT ENGINEER
TWO COPIES TO BE MADE AND RETURNED TO
J.L. HOLDEFER DISTRICT ENGINEER
P. WATERS RESIDENT MAINTENANCE ENGINEER
CONTRACTOR CHRISTENSEN BROS. INC.

IOWA STATE HIGHWAY COMMISSION STANDARDS REQUIRED
(AVAILABLE AT THE I. S. H. C. STOREROOM)

STANDARD	ISSUED	REVISED
C1P	1932	1944
C3P	1932	1944
C4P	1932	1944
C5P	1932	1944
C6P	1932	1944
C10P	1932	1944
CSP	1932	1944
CHP 2.5 - 65	1965	
JDI - 65	1965	
CBH - 00	1960	
CBH-30	1960	1961

13 SHEETS

REVISED:
SEE FOLLOWING SHEET 1A

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY SUPER-
VISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE
DESIGN WERE MADE BY ME OR BY OTHER DULY REGISTERED PRO-
FESSORAL ENGINEERS UNDER THE LAWS OF THE STATE OF IOWA.
DATE 12-23-66 1966, IOWA REG. NO. 577

APPROVED
W. M. Pitsch 12-23-66
DIRECTOR OF ENGINEERING
IOWA HIGHWAY COMMISSION DATE

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED
DIVISION ENGINEER DATE

LISTING OF PROJECT REVISIONS

DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS	DATE	SHEET NUMBER	DESCRIPTION OF REVISIONS
Feb. 27, '67	Sheet 1A Sheets 14A1 Thru 14A10 Sheet 2 Sheet 1	In Letting of March 28, 1967 Design 166 This sheet added to project - Revision Sheet. These sheets added to project. Details for Design 166 - 60' x 24' I-beam bridge. Quantities added for Design 166. Sheets 1A and 14A1 thru 14A10 added to "Index of Sheets". "Bridge Remodeling" added to type of work. Additional references added to specification notes. Design 166 spotted on "Location Map". "No Mileage Summary" and letting date added.			

File No. 22198 Sioux COUNTY

PROJECT NUMBER
FN-33-201--21-04

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		1-A	14

REVISION SHEET

DATE. 2-27-67 William C. Eyer
WILLIAM C. EYER REG. NO. 2926

1967	DESIGN NO. 166	IOWA NO. 33 OVER CREEK	STA. 528+25.3 (Q IOWA NO. 33)
	SECTION 32	T - 94N R - 44W	NASSAU TOWNSHIP

DESIGN FOR WIDENING UNDER TRAFFIC (15° SKEW)
60'-0" x 24' I-BEAM BRIDGE
TO
44' ROADWAY

FINAL [REDACTED] QUANTITIES

ITEM	UNIT	TOTAL	TOTAL
Structural Concrete	Cu. Yds.	179.1	179.1
Reinforcing Steel	Lbs.	27,488	27,488
Class 20 Excavation	Cu. Yds.	180	180
Class 21 Excavation	Cu. Yds.	110	110
Class 24 Excavation	Cu. Yds.	90	90
Creosoted Piling	L. F.	240	258.9
Untreated Piling	L. F.	240	227.1
Granular Backfill	Cu. Yds.	27	27
Removals	L. S.	Lump Sum	Lump Sum
Floodlighting	L. S.	Lump Sum	Lump Sum
P. C. Concrete Pavement Widening, As Per Plan	Sq. Yds.	22.9	22.9
Aluminum Handrail	L. F.	126.6	126.6
Steel Handrail	L. F.	126.6	
Pretensioned Prestressed Concrete Beams	No.	4	4
61'-0. "A" Special, As Per Plan			
(1) Extra Work Orders — Installed 6 Drains Holes In Two Backwalls		Lump Sum	\$45.00

(1) Includes 53.9 cu. yds. of "Class "D" Structural Concrete and 125.2 cu. yds. of Class "C" Structural Concrete.

DALE E. DERBY IOWA REGISTRATION NO. 3049 DATE 12-22-66

DESIGN	LOCATION			DESCRIPTION	ESTIMATE OF QUANTITIES											REMOVE & RELAY SUBDRAIN	REMOVALS	
	SECTION	TOWNSHIP	STATION		SIZE AND TYPE	STRUC. CONC. CL. "C" CU. YD.	REIN. STEEL LBS.	EXCAVATION - C. Y.			CONCRETE ROADWAY PIPE CULVERT		CONCRETE APRONS		LUMP			SUM
								CL. 20	CL. 24	CL. 10 CHAN.	L. F.		NO.					
											30" Ø	42" Ø	30" Ø	42" Ø				
266	32	NASSAU	504+91.5	30" Ø Concrete Roadway Pipe Culvert Ext.	2.1	102	10	8			24		2				As Per Plan	
366	32	NASSAU	510+91.0	5' x 6' Reinforced Concrete Box Culvert Ext.	28.3	3 967	21										As Per Plan	
466	29	NASSAU	540+95.5	42" Ø Concrete Roadway Pipe Culvert Ext.	3.2	150	4					2					As Per Plan	
566	28	NASSAU	553+95.0	4' x 2' Reinforced Concrete Box Culvert Ext.	7.5	636	15										As Per Plan	
666	28	NASSAU	573+73.6	6' x 4' Reinforced Concrete Box Culvert Ext.	20.0	1 736	13										As Per Plan	
766	28	NASSAU	578+92.1	4' x 3' Reinforced Concrete Box Culvert Ext.	8.8	703	21										As Per Plan	
866	28	NASSAU	588+93.4	30" Ø Concrete Roadway Pipe Culvert Ext.	2.1	102	6			10		2					As Per Plan	
966	28	NASSAU	593+92.7	3' x 2' Reinforced Concrete Box Culvert Ext.	7.7	460	13										As Per Plan	
1066	21	NASSAU	630+32	5' x 5.5' Reinforced Concrete Box Culvert Ext.	22.4	1 865	19										As Per Plan	
1166	22	NASSAU	653+57.9	5' x 5' Reinforced Concrete Box Culvert Ext.	18.7	1 496	43										As Per Plan	
1266	15	NASSAU	673+12.3	4' x 4' Reinforced Concrete Box Culvert Ext.	15.0	1 196	44										As Per Plan	
1366	15	NASSAU	692+89.9	6' x 4' Reinforced Concrete Box Culvert Ext.	20.6	1 802	17										As Per Plan	
1466	15	NASSAU	700+86.9	3' x 3' Reinforced Concrete Box Culvert Ext.	9.9	637	12										As Per Plan	
1566	15	NASSAU	710+57.9	42" Ø Concrete Roadway Pipe Culvert Ext. 45° Skew	3.4	139	7	33		44		2					As Per Plan	
1666	15	NASSAU	719+93.7	3' x 2' Reinforced Concrete Box Culvert Ext.	8.0	476	12										As Per Plan	
1766	10	NASSAU	738+61.4	10' x 5' Reinforced Concrete Box Culvert Ext. 30° Skew	65.4	6 145	80										As Per Plan	
1866	11	NASSAU	767+76.1	8' x 6' Reinforced Concrete Box Culvert Ext. 30° Skew	50.1	6 941	58										As Per Plan	
				TOTAL	293.2	28 553	395	41		34	44	4	4				LUMP SUM	

Revised: 2-24-67 quantities for Des. No. 166 added to this sheet.

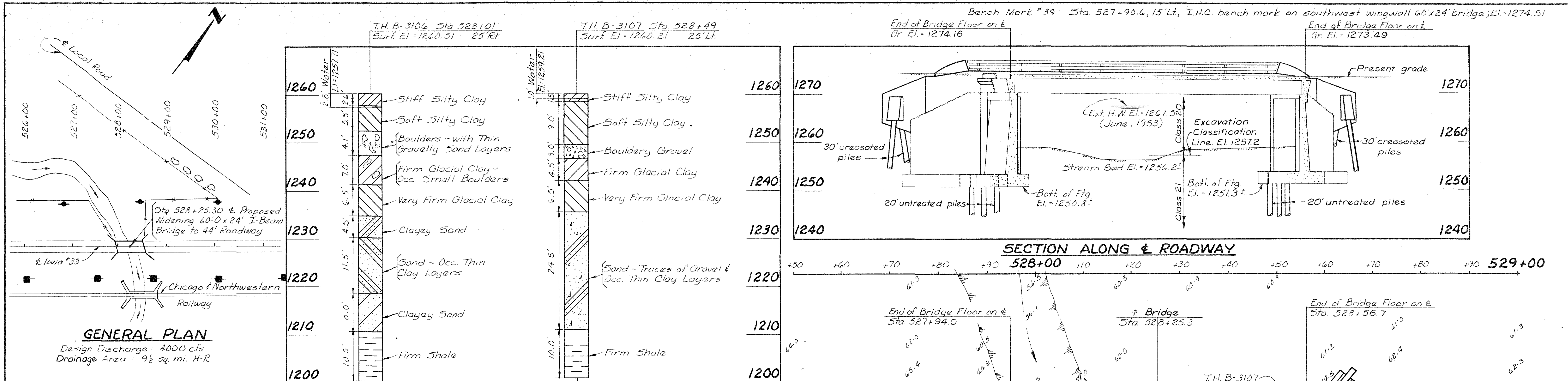
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SIoux COUNTY

PROJECT NUMBER

FN-33-2(1)--21-84

STATE	PERIOD	YEAR	SHEET NO.	TOTAL SHEETS
OWA	5		2	10



GENERAL NOTES:

This design is for the widening of the present 60'x24' I-Beam bridge (Design No. 532 Sioux Co.) to a 44' roadway. The widened portion of this bridge is designed for H20-44 loading; plus 19 lbs. per sq. ft. of roadway for future wearing surface.

Two way traffic shall be maintained during the construction of the footing, backwall, and wing extensions. One way traffic shall be maintained during the removal of superstructure elements and until the construction of the bridge widening is completed. Traffic control signs and signals shall be furnished and maintained in accordance with I.S.H.C. Spec. 583, dated November 9, 1965, and as shown on sheet 10.

Flood lights shall be located as shown on the "Situation Plan" on this sheet.

All broken concrete shall be disposed of near the bridge site as directed by the Engineer.

A portion of the approach pavement at each corner of the bridge shall be broken out, as shown, to facilitate the construction of the bridge widening and replaced with 10" P.C. Concrete. Pavement Widening. See "Situation Plan" on this sheet for details.

Pavement widening shall be of Class C P.C. Concrete, 10" thick.

The area between the new and existing wings, as indicated on the "Situation Plan" on this sheet, shall be backfilled to El. 1262.0± with granular material complying with Section 4133 of the Standard Specs. Remainder of backfill shall be soil. The bridge contractor is to shape the shoulders at each corner of the bridge. Cost of shaping shoulders and hauling and placing of additional backfill required shall be included in price bid for "Class 24 Excavation".

The price bid for "Removals" shall include the cost of removing and disposing of existing portions of the bridge, approach paving and old concrete abutment as indicated in the plans.

Additional "Class 24 Excavation" for backfilling behind wings and shaping shoulders shall be obtained within the right-of-way near the bridge site as directed by the Engineer. All or part of the estimated quantity of Class 24 Excavation for backfill of wings may be placed by the Shouldering Contractor operating near the site; paragraph 1109.03 of ISHC Specs. shall not apply.

SOUNDING DATA

(Dated: March 15, 1966)

DESIGN STRESSES:

Design stresses for the following materials are in accordance with A.A.S.H.O. Standard Specifications for Highway Bridges, Series of 1961 and tentative interims.

Concrete in accordance with Section 1.4.11, $f_c = 3500$ p.s.i.

Reinforcing Steel in accordance with Section 1.4.12 Reinforcement for Intermediate, Hard or Rail Steel grade.

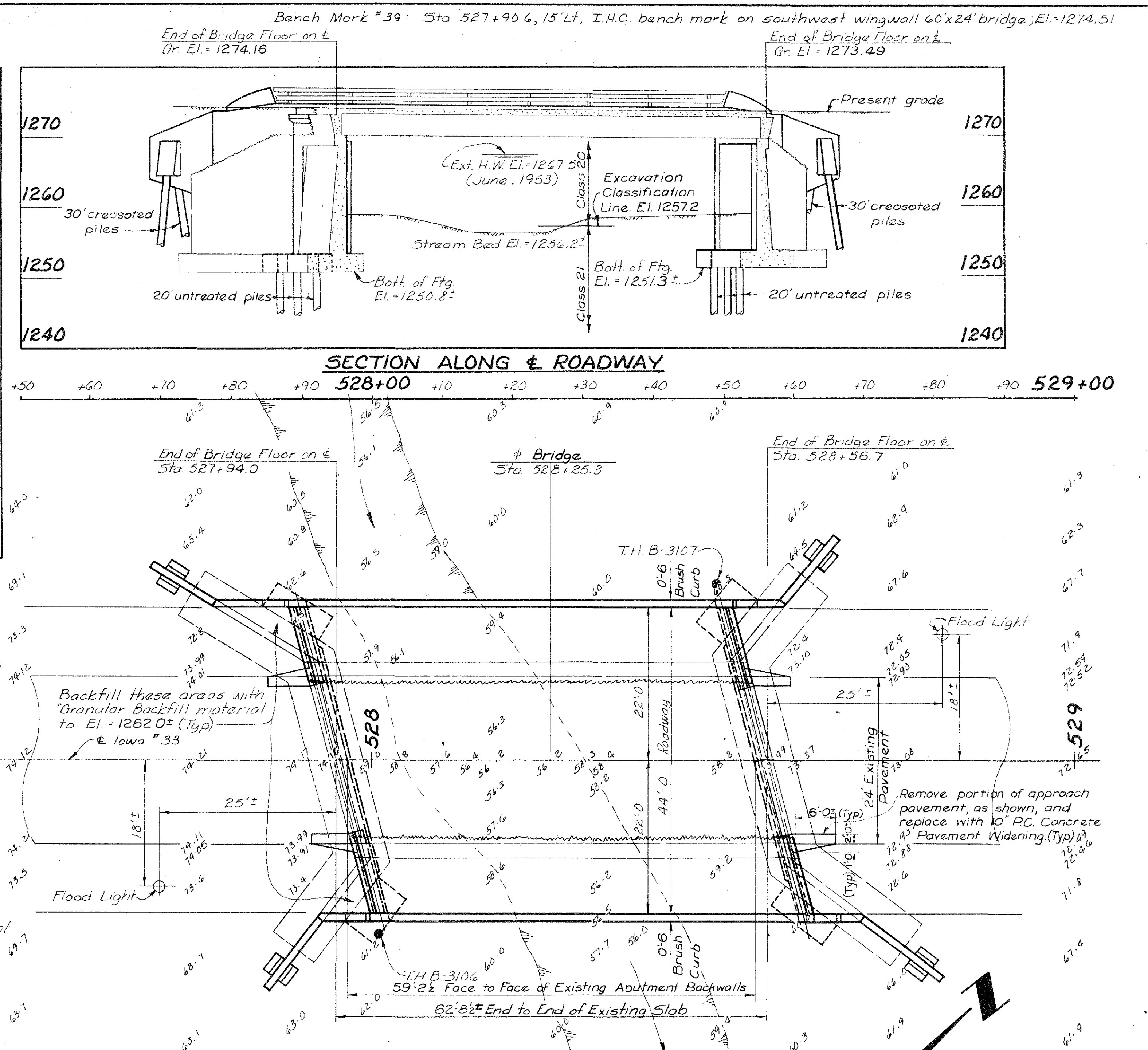
Prestressing Steel in accordance with Section 1.13.7, $f_s = 270,000$ psi.

Prestressed Concrete in accordance with Section 1.13.7, $f_c = 5000$ psi.

SPECIFICATIONS:

Design: A.A.S.H.O. Series of 1961.

Construction: Iowa State Highway Commission Standard Specifications, Series of 1964, plus current supplemental specifications and special provisions and including "Supplemental Specs. for Bridge Remodeling Projects", Spec. 567, dated November 3, 1964.



TOTAL ESTIMATED QUANTITIES				
Item	Unit	2 Abutments	Superstructure	Total
* Structural Concrete	Cu. Yd.	125.2	53.9	179.1
Reinforcing Steel	Lbs.	13,318	14,170	27,488
Class 20 Excavation	Cu. Yd.	180		180
Class 21 Excavation	Cu. Yd.	110		110
Class 24 Excavation	Cu. Yd.	90		90
Creosoted Piling	Lin. Ft.	8@30'		240
Untreated Piling	Lin. Ft.	12@20'		240
Granular Backfill	Cu. Yd.	27		27
Removals	L.S.			Lump Sum
Floodlighting	L.S.			Lump Sum
P.C. Concrete Pavement Widening, As Per Plan	Sq. Yd.			6.7
Aluminum Handrail or Steel Handrail	Lin. Ft.			126.6 or
Pretensioned Prestressed Concrete Beams 61'0" A Special, As Per Plan	Nr		4	4

* Includes 53.9 cu. yds. of "Class D" structural concrete and 1252 cu. yds. of Class "C" structural concrete.

SITUATION PLAN

LOCATION:

Sioux County
T-94-N R-44-W
Section 32
Nassau Twp
Iowa #33 over
Creek.

Design for Widening Under Traffic (15' skew)
60'0" x 24' I BEAM BRIDGE

44' ROADWAY
SITUATION PLAN

Station: 528+25.3 (& Iowa #33) February, 1967

SIoux COUNTY

Iowa State Highway Commission

Traced by: JM Checked by: JPH

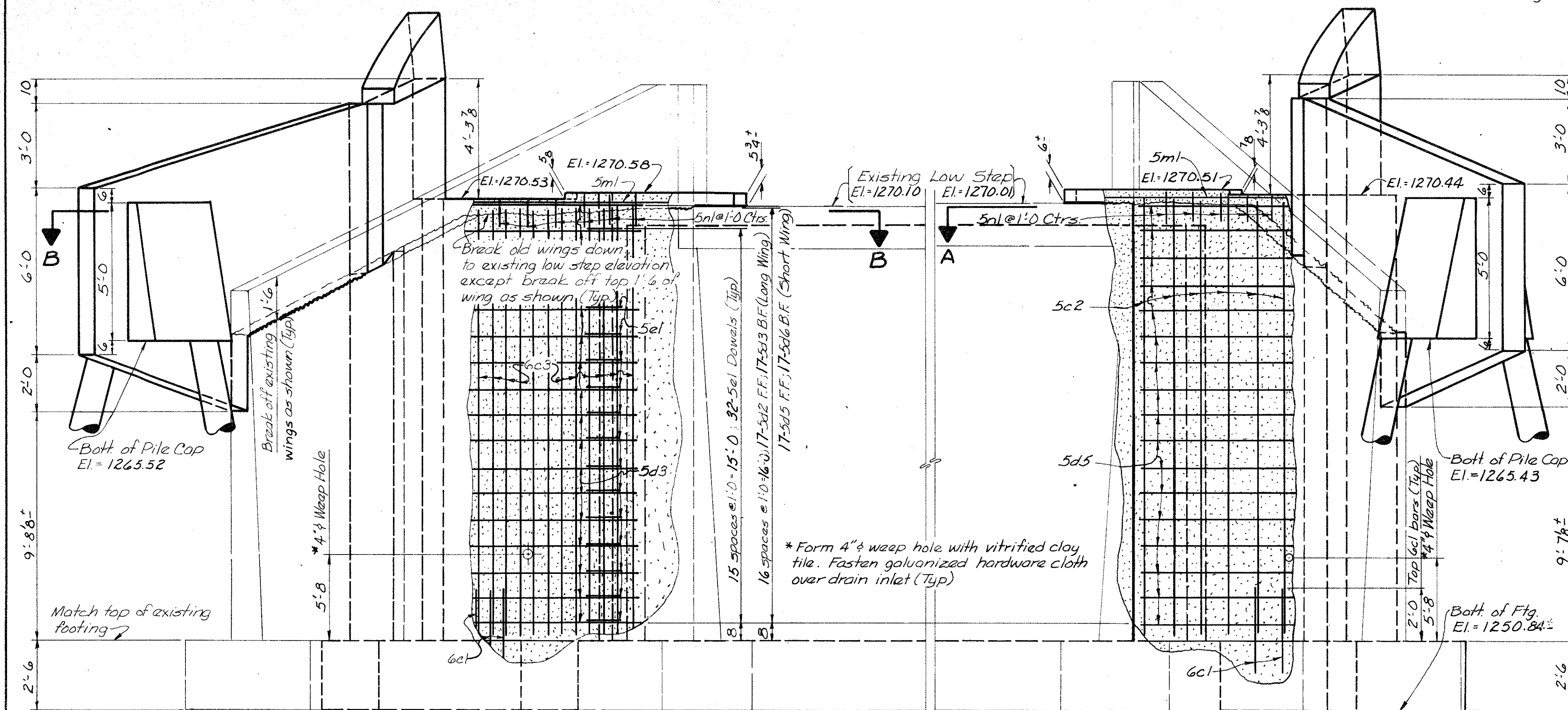
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Sioux County

PROJECT NUMBER
FN-33-2(1)-21-84

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		141	14

Bench Mark #39: Sta. 527+90.6, 15' Lt., I.H.C. bench mark on southwest wingwall of 60'x24' bridge; El.=1274.51

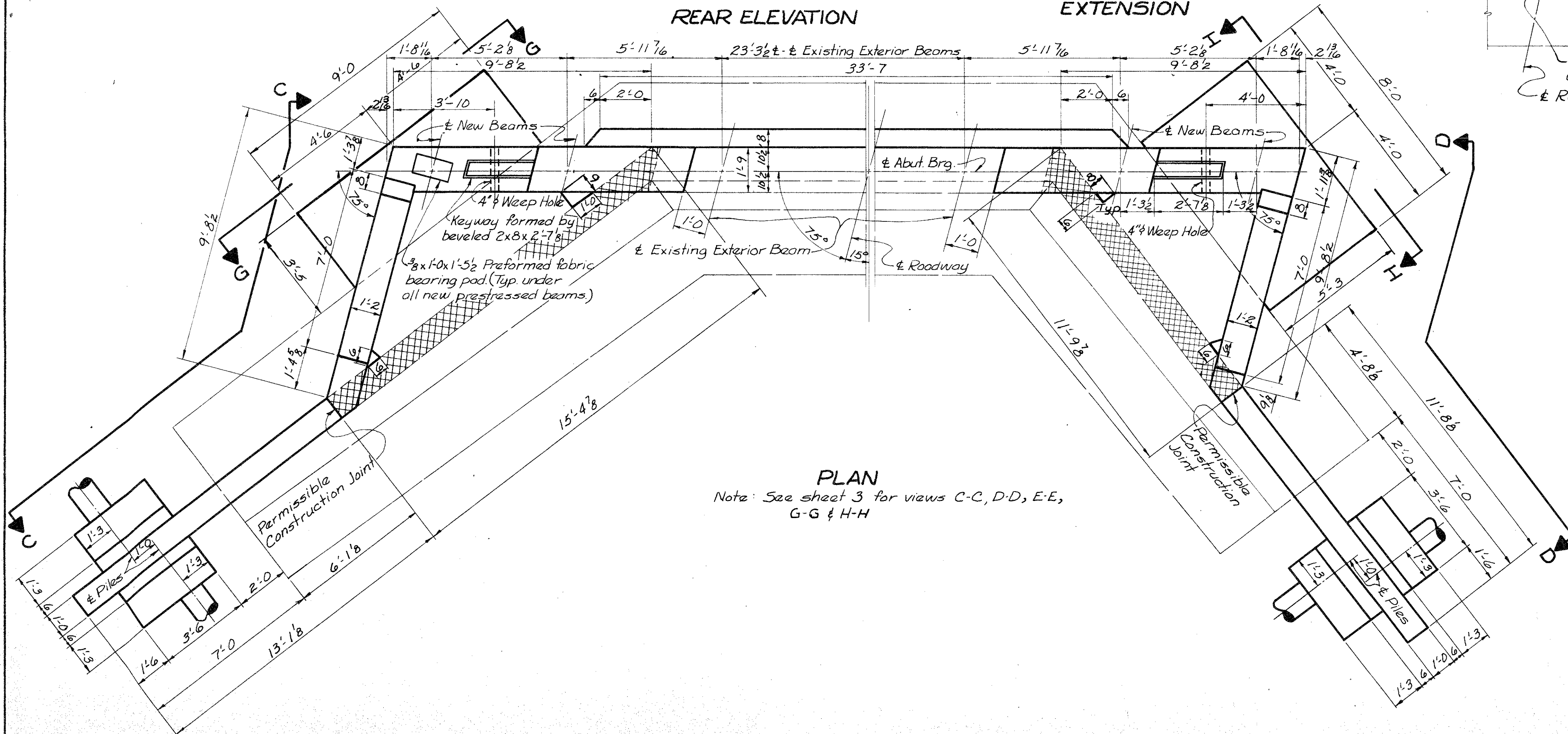


SHOWING BACKFACE REINFORCING FOR BACKWALL EXTENSION

REAR ELEVATION

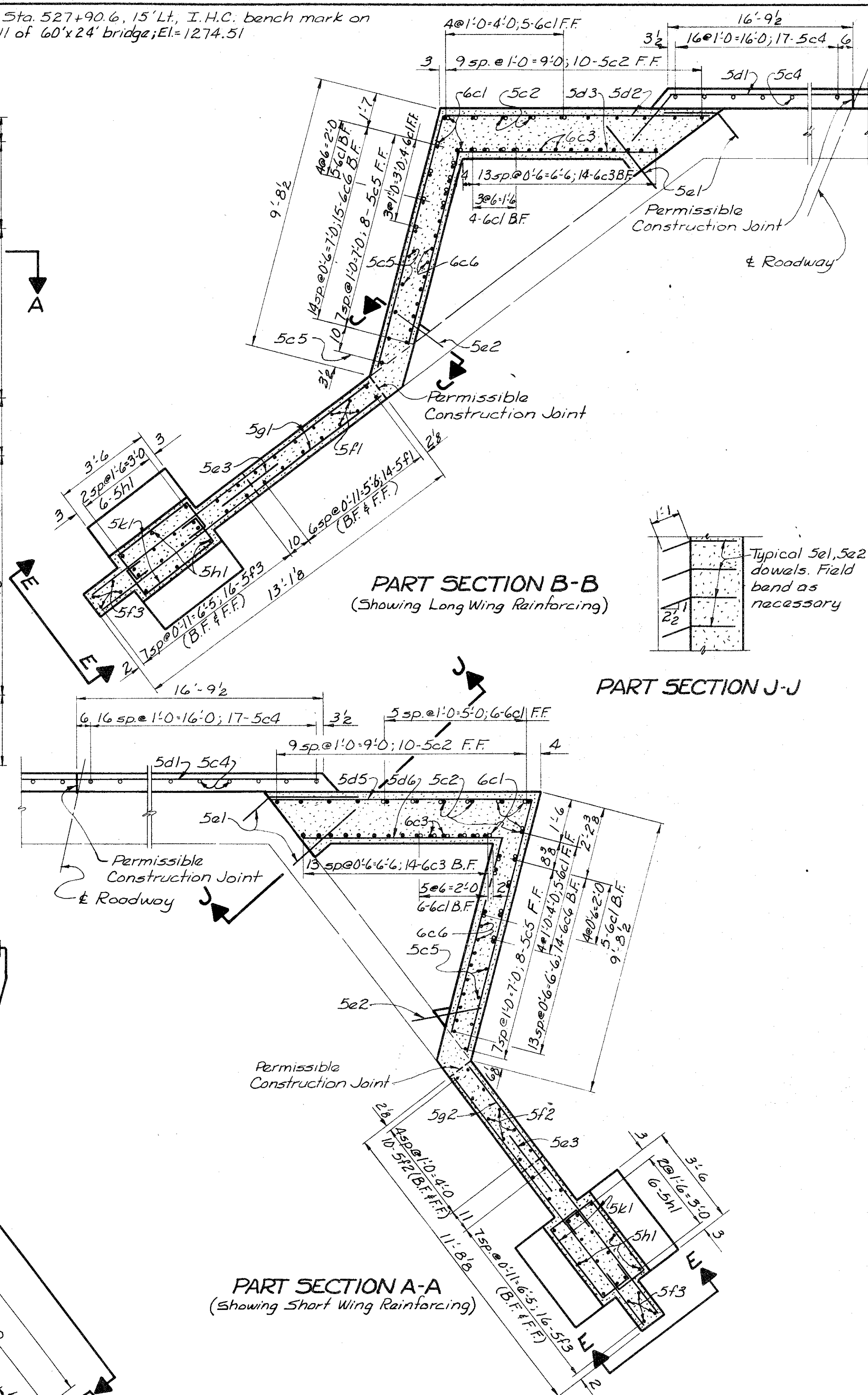
SHOWING FRONTFACE REINFORCING FOR BACKWALL

EXTENSION



PLAN

Note: See sheet 3 for views C-C, D-D, E-E, G-G & H-H



PART SECTION B-B
(Showing Long Wing Reinforcing)

PART SECTION J-J

PART SECTION A-A
(Showing Short Wing Reinforcing)

Design for Widening Under Traffic (15° Skew)
60'-0" x 24' I-BEAM BRIDGE

44' ROADWAY
S.W. ABUTMENT DETAILS

Station: 528+25.3 (Iowa #39) February, 1967

SIoux COUNTY
Iowa State Highway Commission

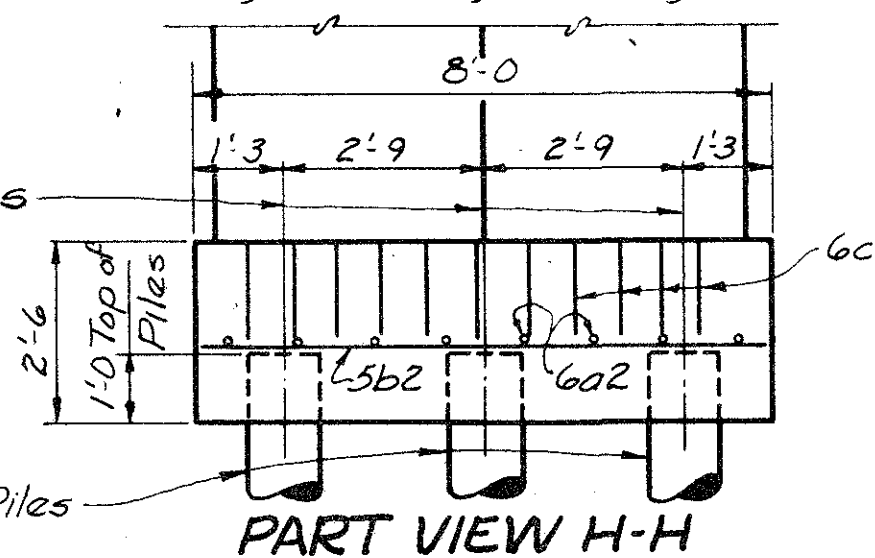
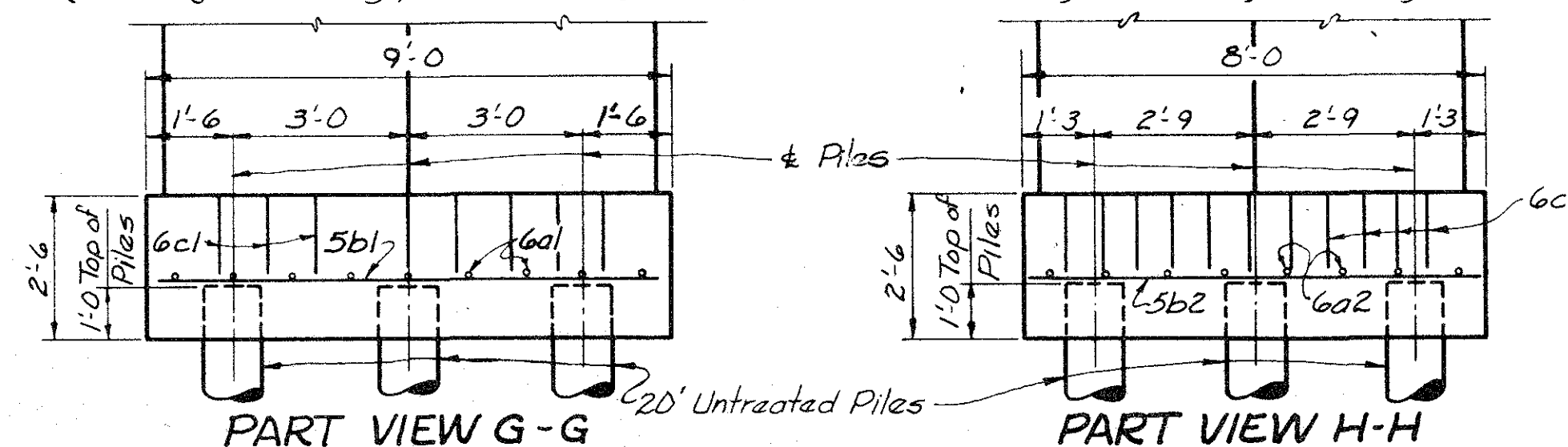
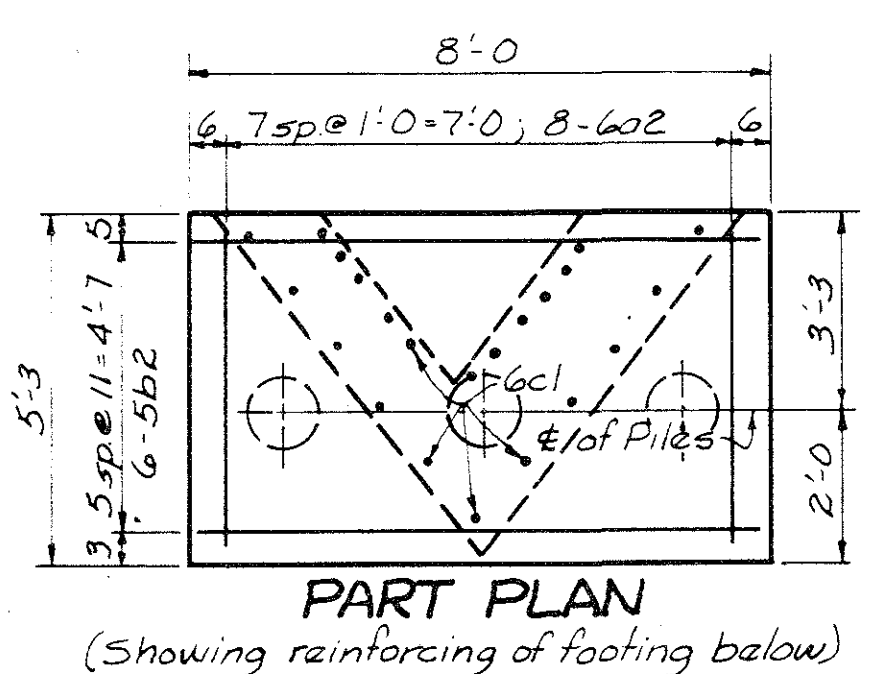
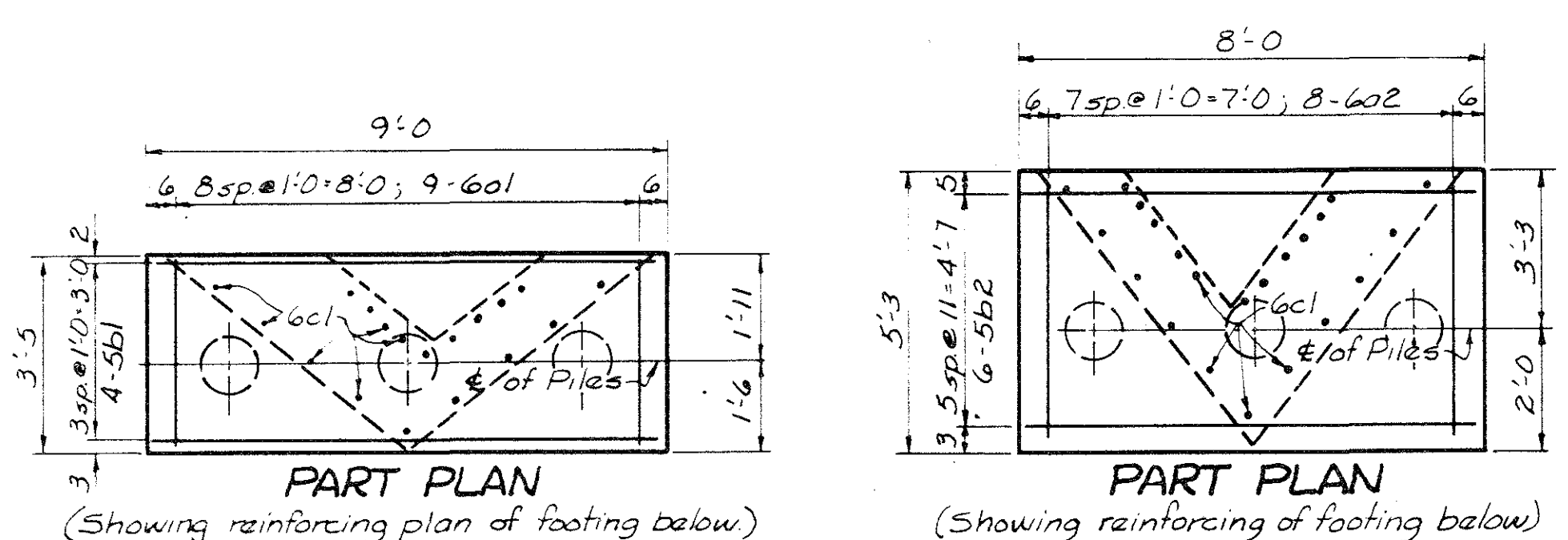
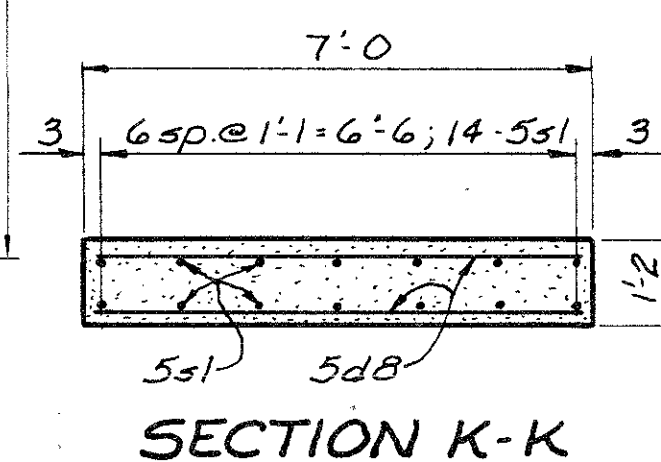
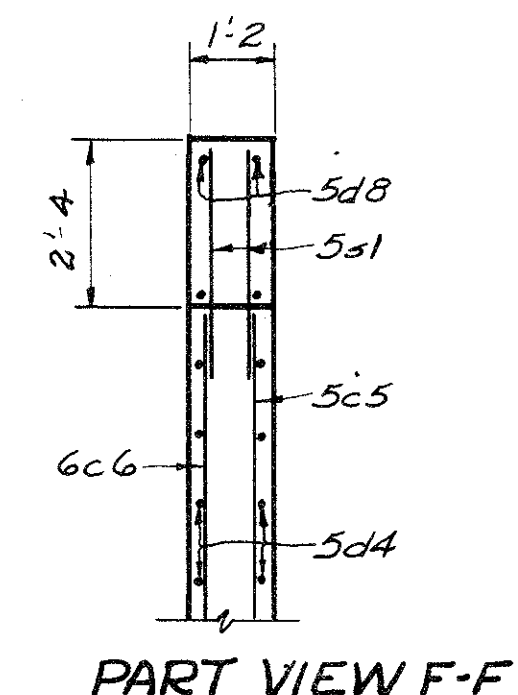
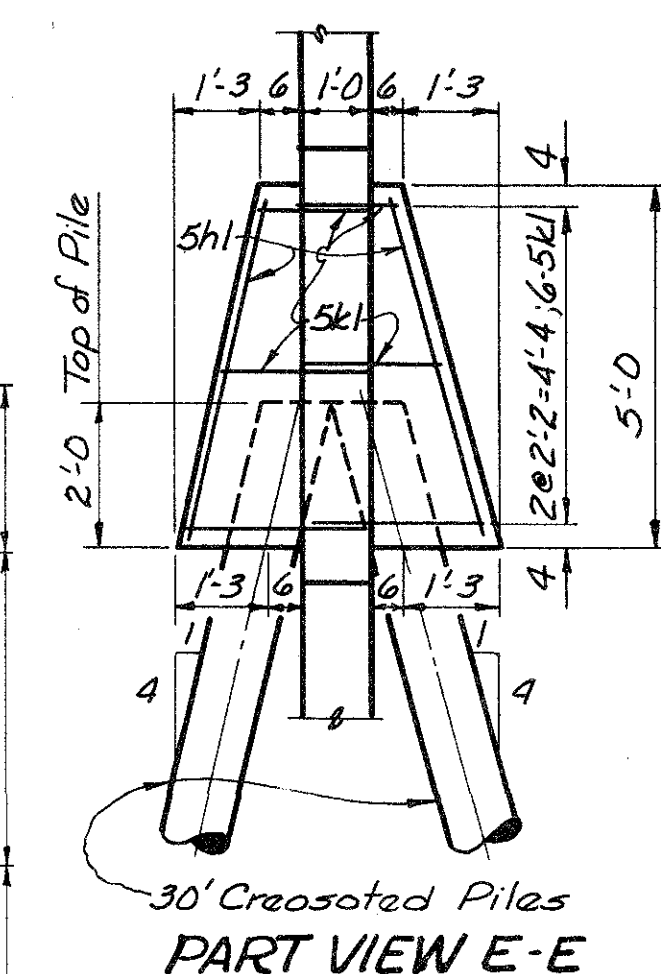
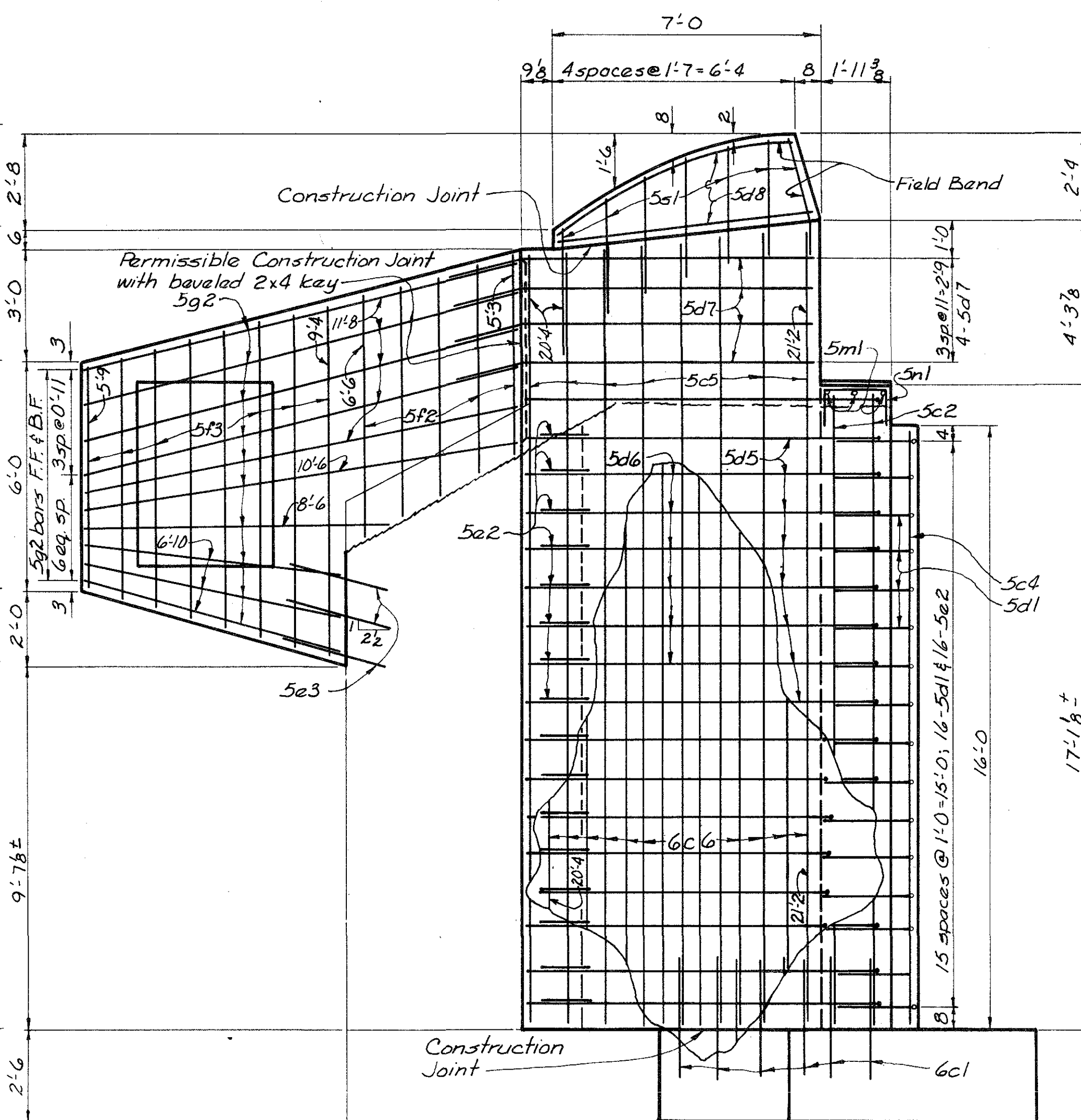
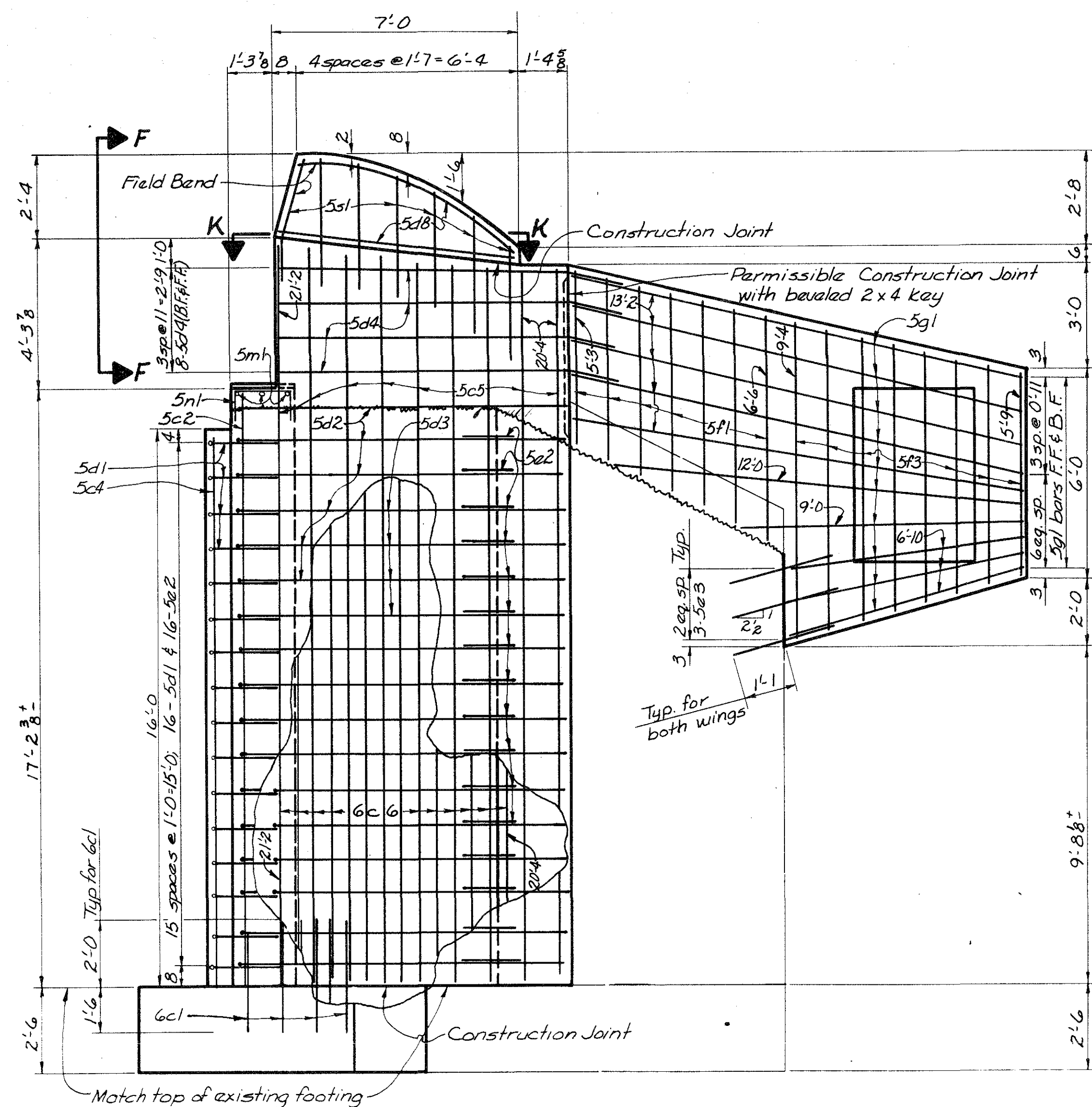
DESIGN NO. 166
FILE NO. 22198
DES. SH. NO. 2 OF 10

Designed by: M. J. Traced by: JM Checked by: JPH

Sioux County

PROJECT NUMBER FN-33-2(1)--21-84

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		1442	14



FOOTING DETAILS

ABUTMENT NOTES:

Portions of the existing wings are to be broken off and the new footing, backwall and wing extensions constructed as shown in the plans. Existing backwall shall be faced with an 8" reinforced concrete facing as detailed.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The footing, backwall and wing extensions (except for end posts) shall be completed before any of the superstructure elements are removed.

4" weep holes shall be installed in the backwalls as shown in the plans. Cost of all materials for weep holes shall be included in price bid for concrete.

The area between the new and existing wings shall be backfilled of backfill shall be soil.

The piles shall be driven to full penetration, if practicable, but to existing reinforcing steel exposed by concrete removal shall be ca

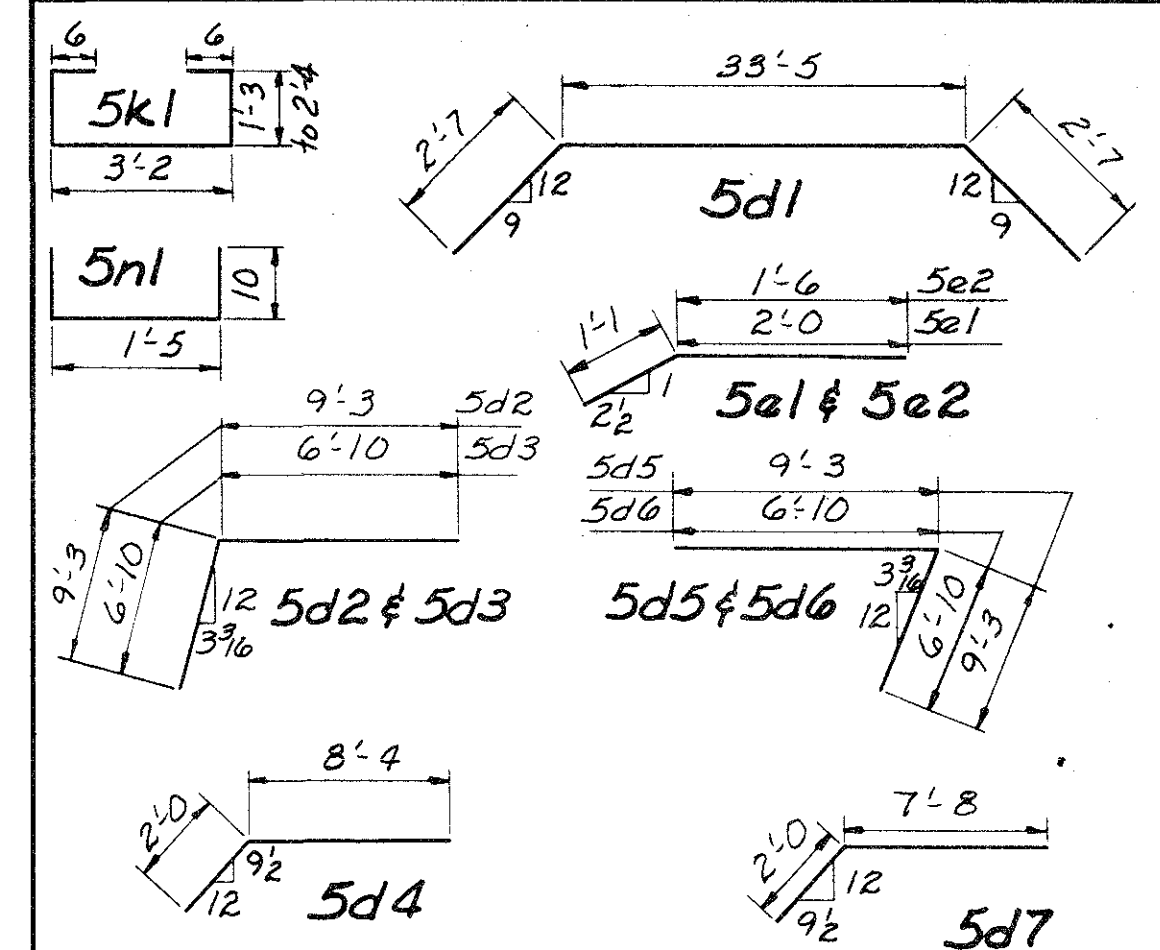
Existing reinforcing steel exposed by concrete removal shall be cast into the new concrete where practicable.

into the new concrete where procedures.

PART VIEW D-D

TOTAL ESTIMATED QUANT. ~ S.W.ABUT.	
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Item	Unit	Quantity
Structural Concrete Class "C"	Cu.Yd.	64.0
Reinforcing Steel	Lbs.	6,809
Class 20 Excavation	Cu.Yd.	90
Class 21 Excavation	Cu.Yd.	55
Granular Backfill	Cu.Yd.	14
Cresosoted Piling 4@30'	Lin.Ft.	120
Untreated Piling 6@20'	Lin.Ft.	120



Note: All bar dimensions are out to out.

CONCRETE PLACEMENT QUANTITIES

Footings	6.6
Backwall & Wings (to construction joint)	47.3
Wings & Pile Caps	9.1
End Posts 2@0.5	1.0
Total (Cu. Yds.)	64.0

Design for Widening Under Traffic (15° Skew)
60'-0" x 24' I-BEAM BRIDGE

44' ^{to} ROADWAY

S.W. ABUTMENT DETAILS
: 528+25.3 (E lowo #33) February 1967

SIoux COUNTY
Iowa State Highway Commission

-21-84	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	IOWA	5		14A3	14

10

DESIGN NO. 166
FILE NO. 22198
DES. SH. NO. 3 OF 10

PROJECT NUMBER

FN-33-2

PROJECT NUMBER

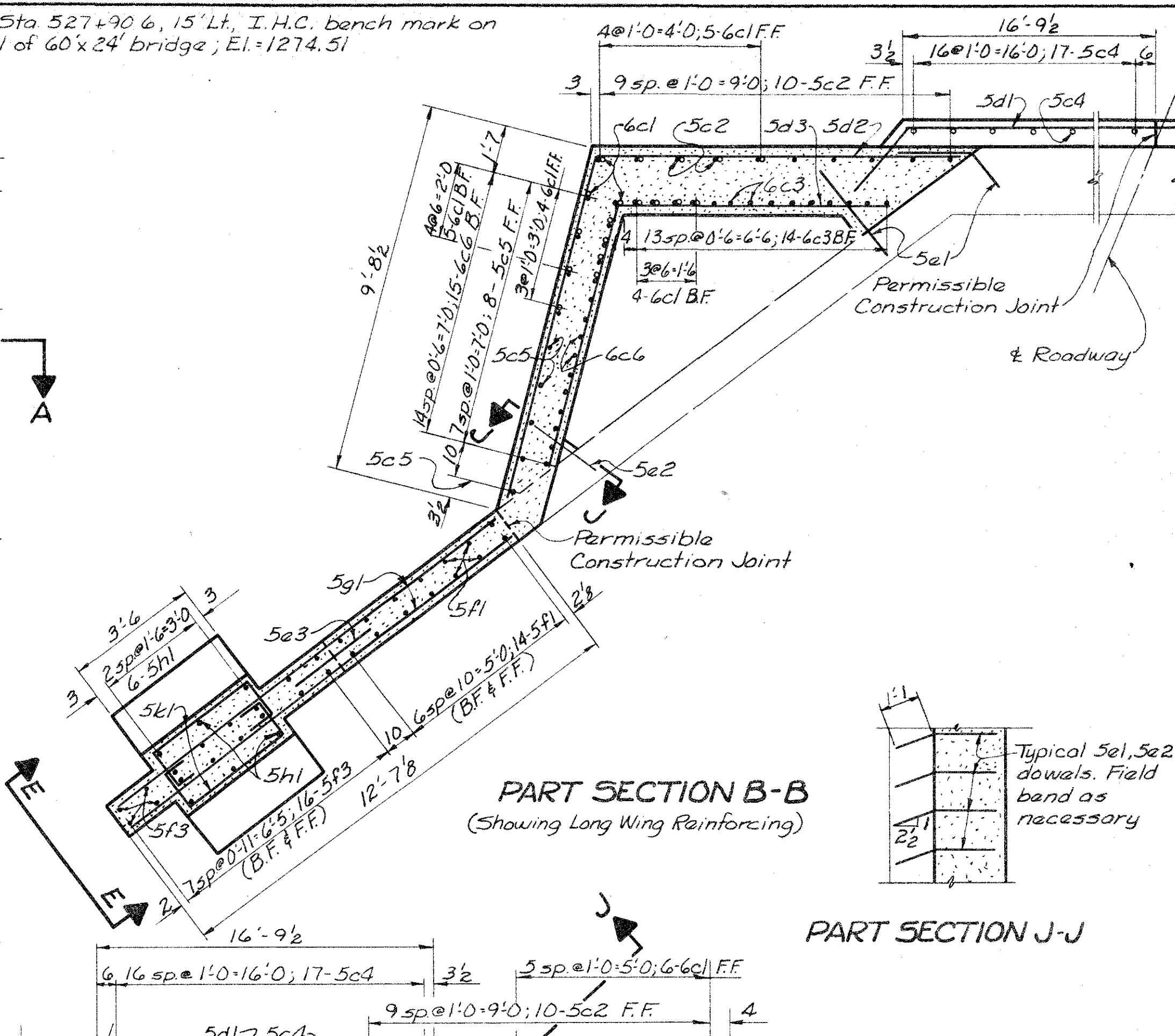
FN-33-2(1)--21-84

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IOWA	5		14A3	14

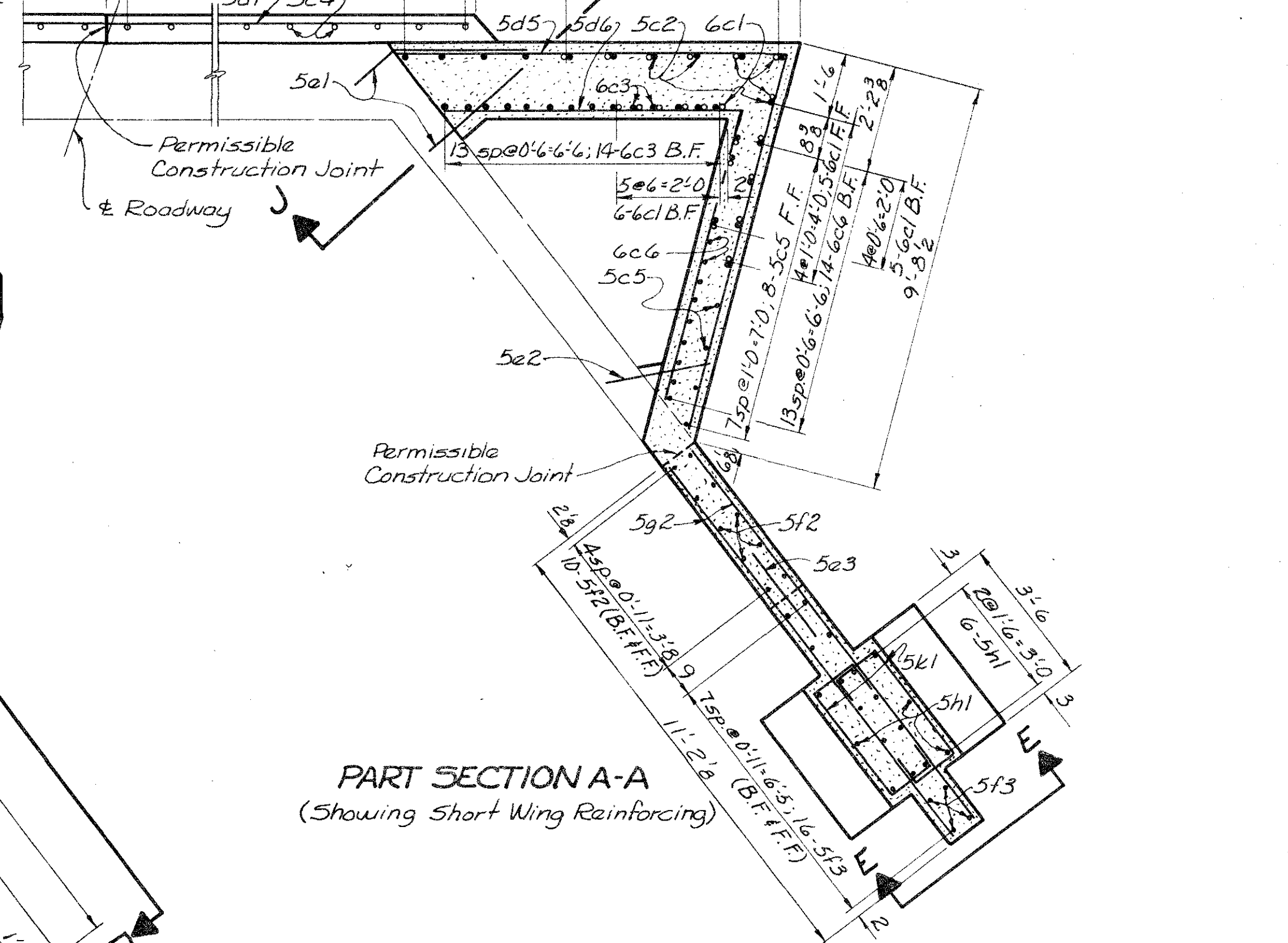
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Designed by: M.M. Traced by: JM Checked by: JPH

Sioux County



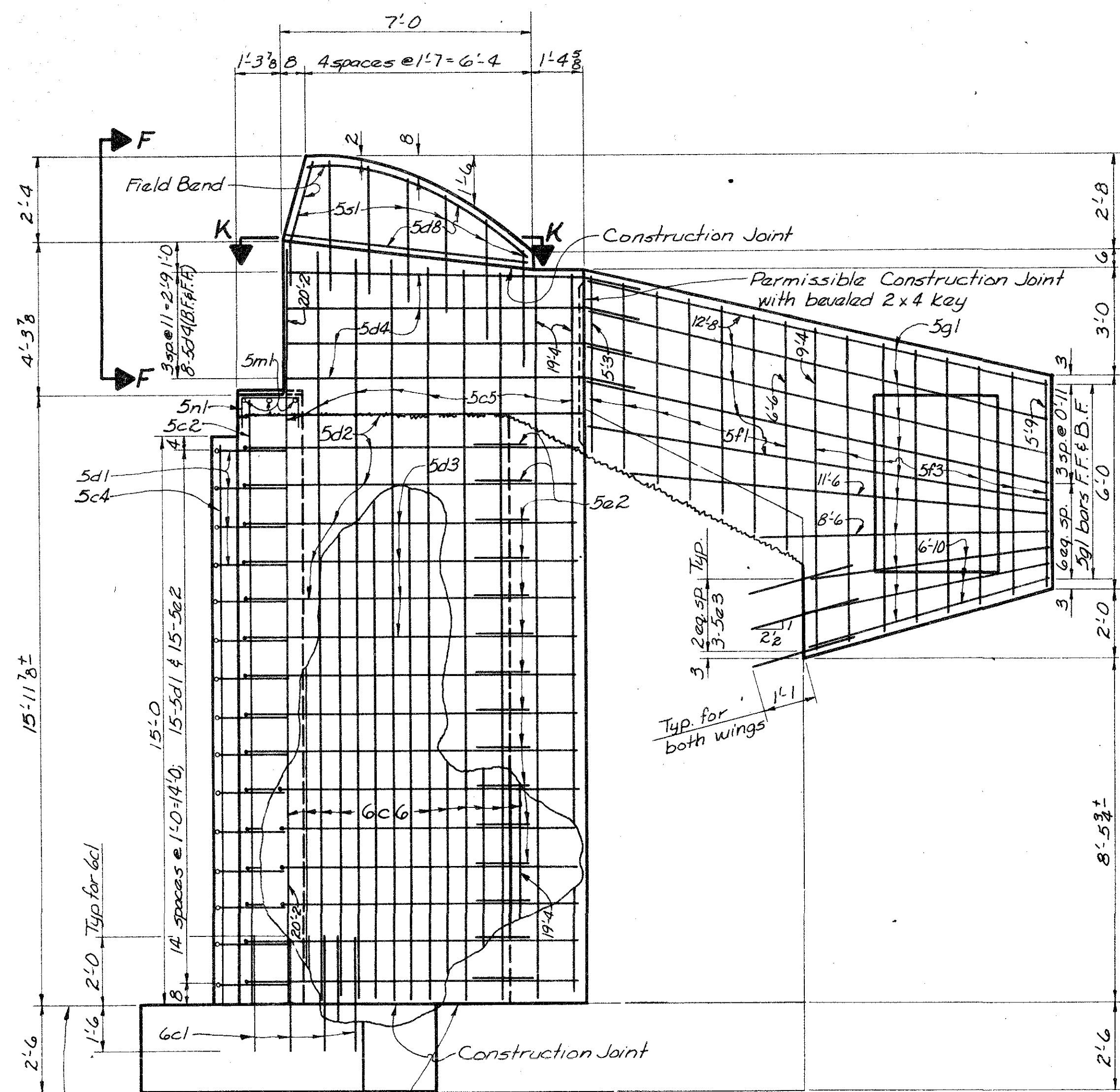
SHOWING FRONTFACE REINFORCING FOR BACKWALL
EXTENSION



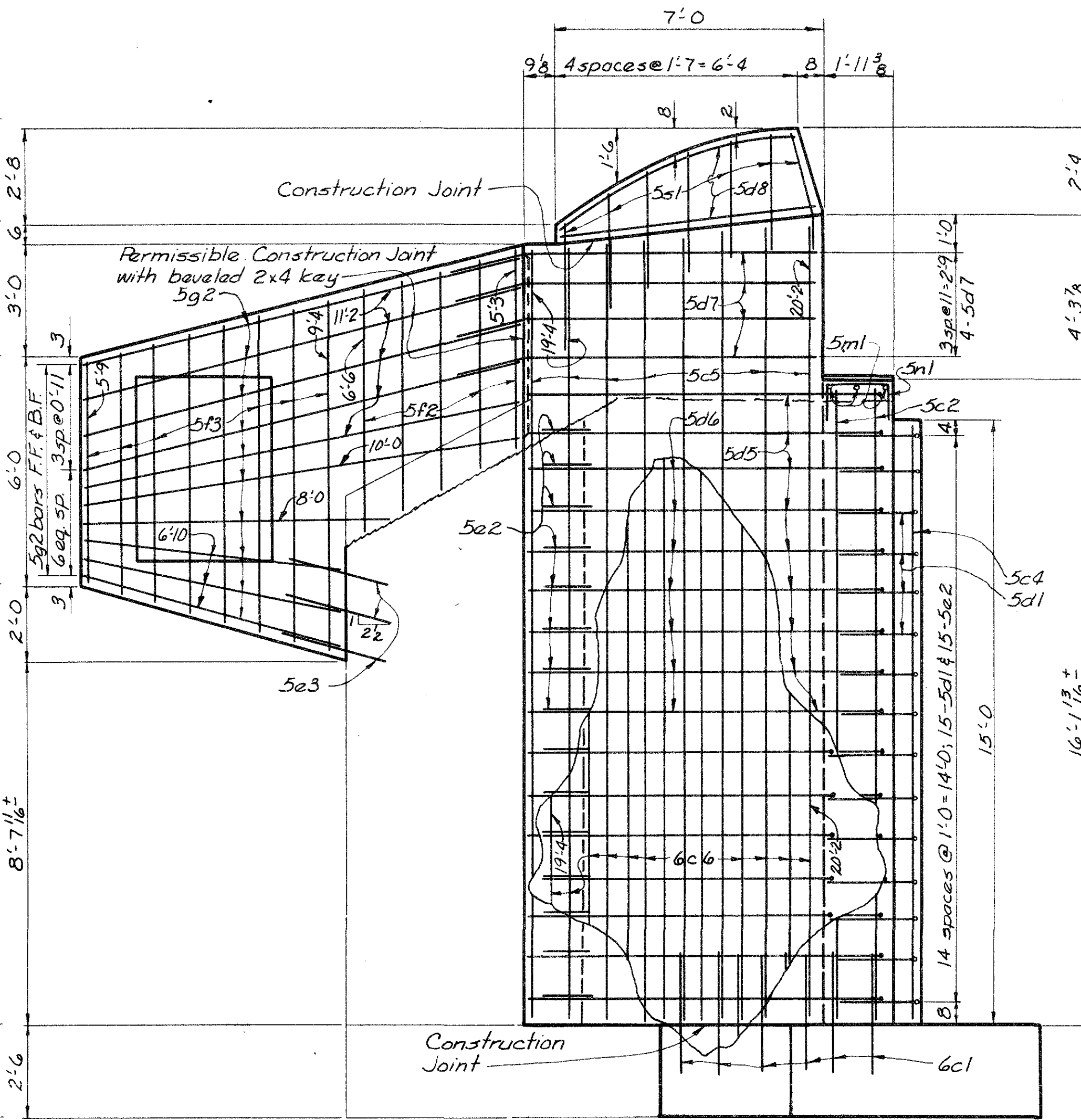
Note: See sheet 5 for views C-C, D-D, E-E,
G-G & H-H

Design for Widening Under Traffic (15° Skew)
60'-0"x24' I-BEAM BRIDGE
to
44' ROADWAY
N.E. ABUTMENT DETAILS
Station: 528+25.3 (L Iowa 433) February, 1967
SIOUX COUNTY
Iowa State Highway Commission

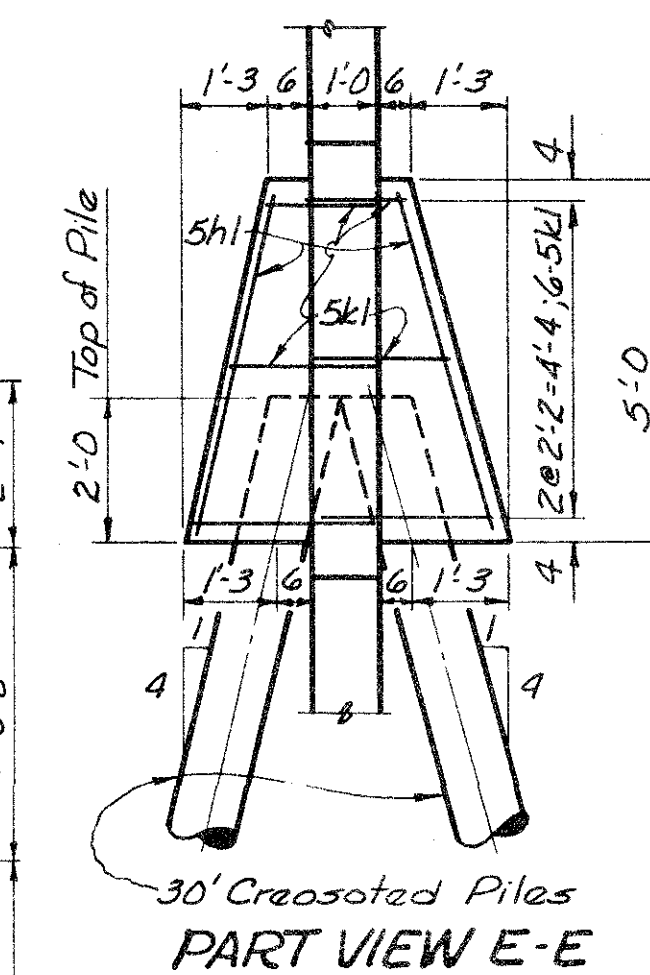
Sioux County



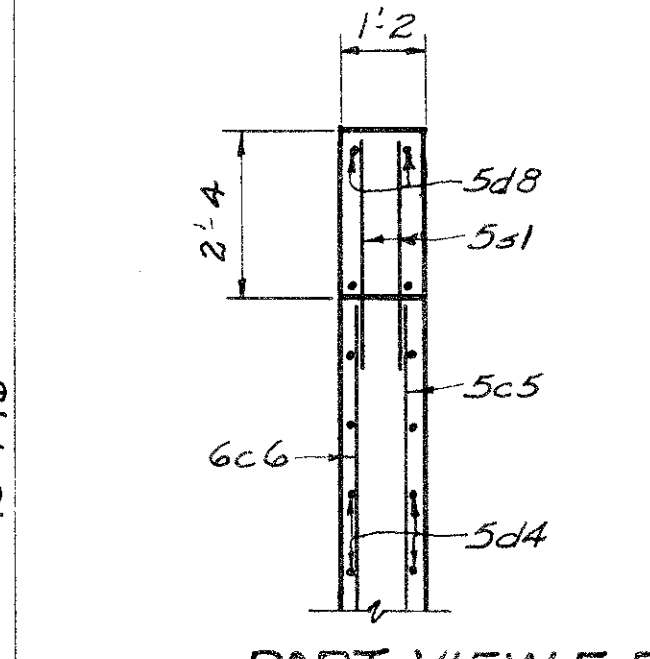
PART VIEW C-C



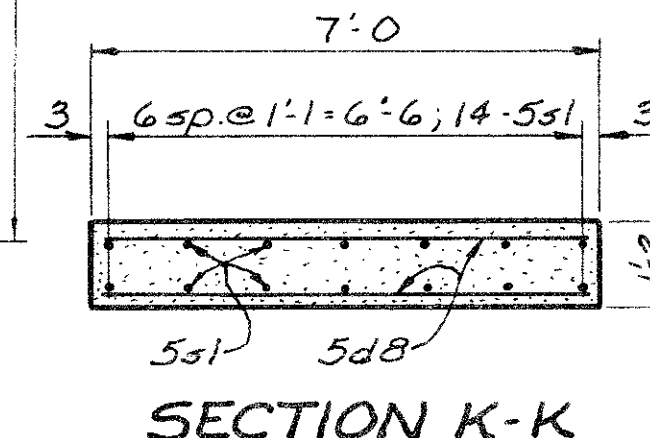
PART VIEW D-D



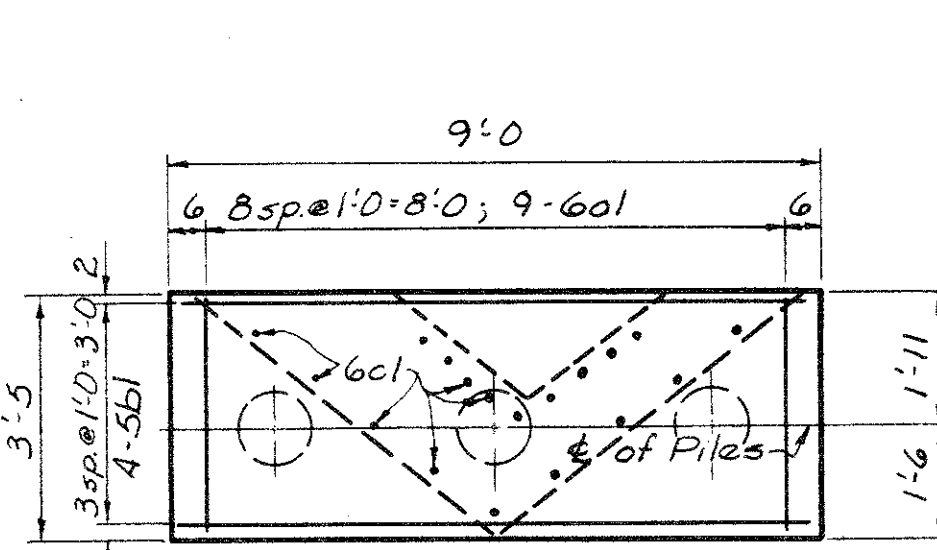
PART VIEW E-E



PART VIEW F-F

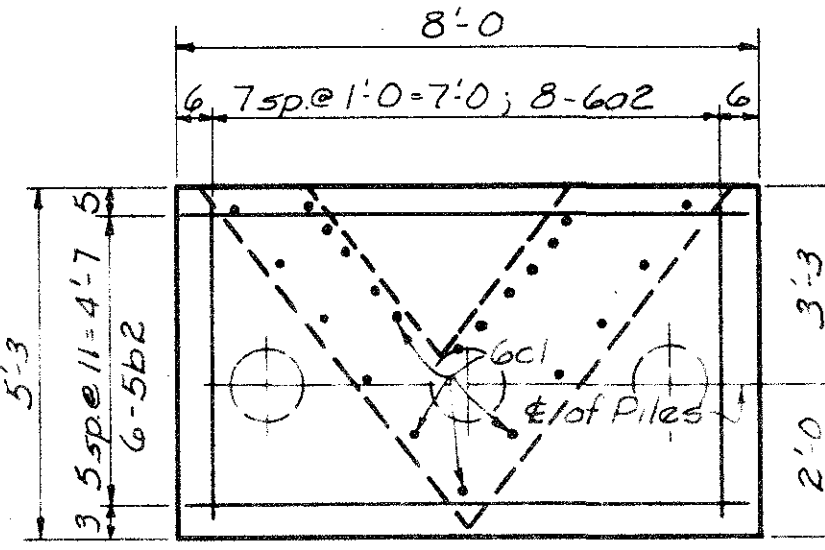


SECTION K-K



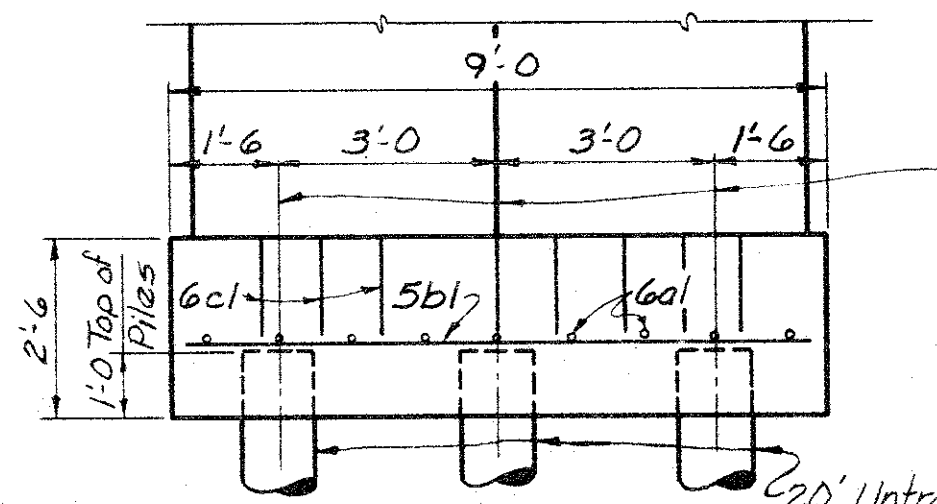
PART PLAN

(Showing reinforcing plan of footing below.)

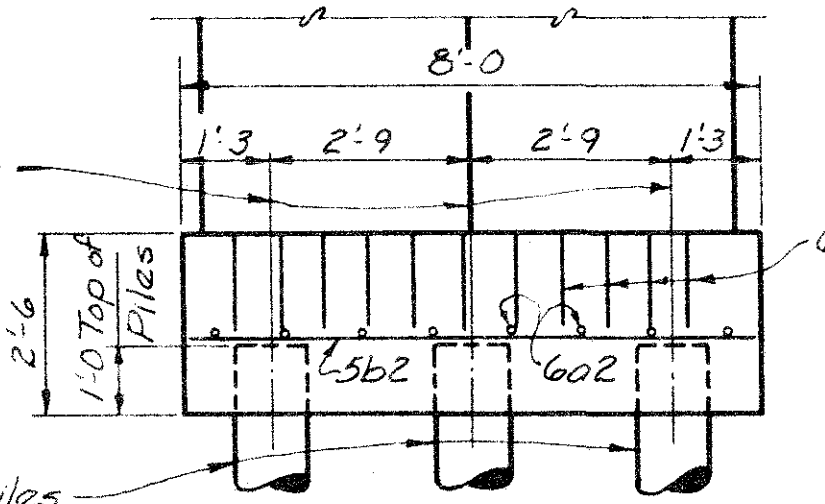


PART PLAN

(Showing reinforcing of footing below.)



PART VIEW G-G



PART VIEW H-H

FOOTING DETAILS

ABUTMENT NOTES:

Portions of the existing wings are to be broken off and the new footing, backwall and wing extensions constructed as shown in the plans. Existing backwall shall be faced with an 8" reinforced concrete facing as detailed.

Minimum clear distance from face of concrete to near reinforcing bar is to be 2" unless otherwise noted or shown.

The footing, backwall and wing extensions (except for and posts) shall be completed before any of the superstructure elements are removed.

4" weep holes shall be installed in the backwalls as shown in the plans. Cost of all materials for weep holes shall be included in price bid for concrete.

The area between the new and existing wings shall be backfilled to El. = 1262.05 with "Granular Backfill." Remainder of backfill shall be soil.

The piles shall be driven to full penetration, if practicable, but to at least 20 ton minimum bearing value.

Existing reinforcing steel exposed by concrete removal shall be carefully bent into proper alignment and incorporated into the new concrete where practicable.

TOTAL ESTIMATED QUANT. ~ N.E. ABUT.

Item	Unit	Quantity
Structural Concrete Class "C"	Cu. Yd.	61.2
Reinforcing Steel	Lbs.	6,509
Class 20 Excavation	Cu. Yd.	90
Class 21 Excavation	Cu. Yd.	55
Granular Backfill	Cu. Yd.	13
Crescated Piling 4@30'	Lin. Ft.	120
Untreated Piling 6@20'	Lin. Ft.	120

REINFORCING LIST- N.E. ABUT.

Bar	Location	Shape	No.	Length	Weight
6a1	Footing, Transverse	—	9	3'-1	42
6a2	Footing, Transverse	—	8	4'-11	59
5b1	Footing, Longitudinal	—	4	8'-8	36
5b2	Footing, Longitudinal	—	6	7'-8	48
6c1	Footing, Dowels	—	40	3'-6	210
5c2	Backwall, Vertical, F.F.	—	21	15'-10	348
6c3	Backwall, Vertical, B.F.	—	28	15'-10	666
5c4	Existing Backwall, Facing, Vert.	—	34	14'-8	520
5c5	Wings, Vertical, F.F.	—	17	Varies	349
6c6	Wings, Vertical, B.F.	—	29	Varies	860
5d1	Exist. Backwall, Facing, Horiz.	—	15	38'-7	604
5d2	Backwall, Long Wing, Horiz., F.F.	—	16	18'-6	309
5d3	Backwall, Long Wing, Horiz., B.F.	—	16	13'-8	228
5d4	Long Wing, Horiz., B.F. & F.F.	—	8	10'-4	86
5d5	Backwall, Short Wing, Horiz., F.F.	—	16	18'-5	307
5d6	Backwall, Short Wing, Horiz., B.F.	—	16	13'-7	227
5d7	Short Wing, Horiz., B.F. & F.F.	—	8	9'-8	81
5d8	End Post, Horizontal	—	8	6'-9	56
5a1	Backwall, Dowels	—	60	3'-1	193
5a2	Wing, Dowels	—	30	2'-7	81
5a3	Wing, Dowels	—	6	2'-7	16
5f1	Long Wing, Vertical, B.F. & F.F.	—	14	Varies	86
5f2	Short Wing, Vertical, B.F. & F.F.	—	10	Varies	61
5f3	Wings, Vertical, B.F. & F.F.	—	32	Varies	252
5g1	Long Wing, Horiz., B.F. & F.F.	—	20	Varies	217
5g2	Short Wing, Horiz., B.F. & F.F.	—	20	Varies	197
5h1	Pile Cap, Vertical	—	12	4'-10	60
5k1	Pile Cap, Horizontal	—	12	Varies	93
5m1	Step, Longitudinal	—	6	10'-10	68
5n1	Step, Transverse	—	16	2'-11	49
5s1	End Post, Vertical	—	28	3'-5	100

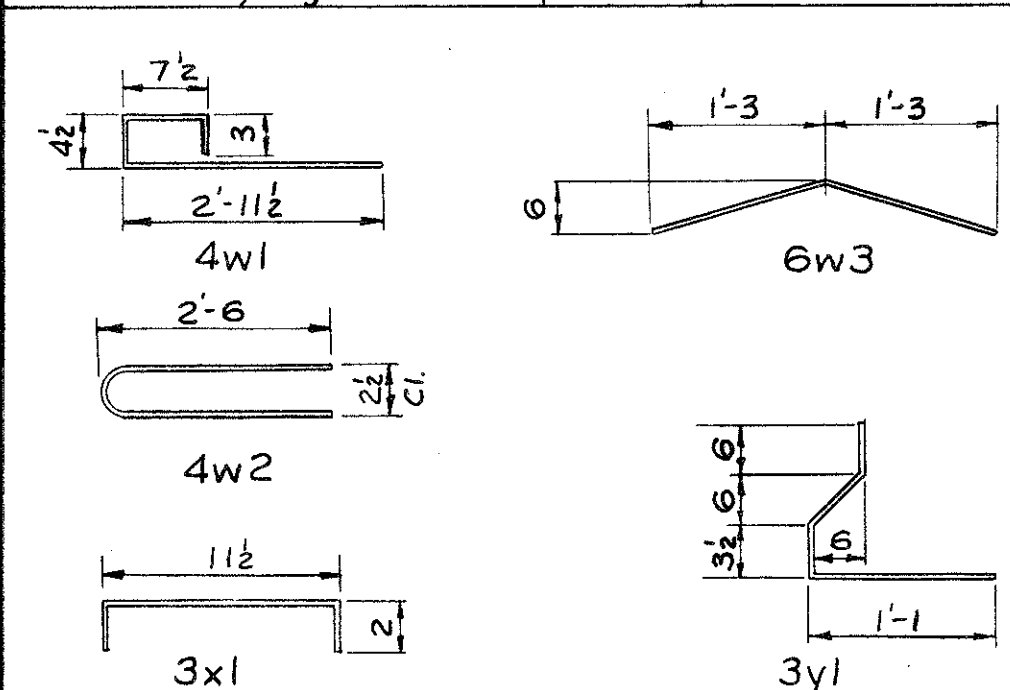
BEAM REINFORCING STEEL ("A" Special)

Bar	Shape	N ^o	Length	Weight
6v1		4	31'-10"	191
4v2		2	4'-6"	6
4w1		132	4'-0"	353
4w2		12	5'-2"	41
6w3		16	2'-8"	64
3x1		66	1'-2"	28
3y1		132	2'-6"	124

Total lbs. 807

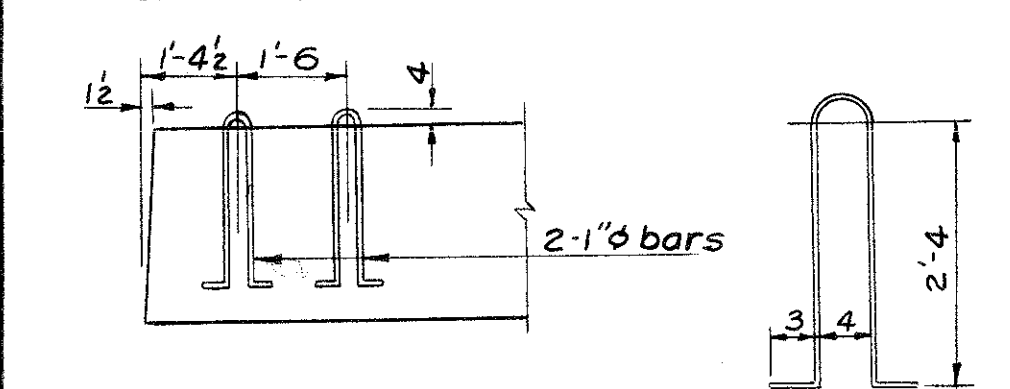
BEAM DATA "A" SPECIAL

Span, ft.	61'-0"
Initial Prestress, Kips	52.0
Size Strands	2
Straight Strands	12
Deflected Strands	6
Hold Down Stress, Kips	13.6
Camber, in.	1.32
DL Deflection, in.	1.01
Reinforcing Steel, lbs.	807
Concrete, c.y.	5.98



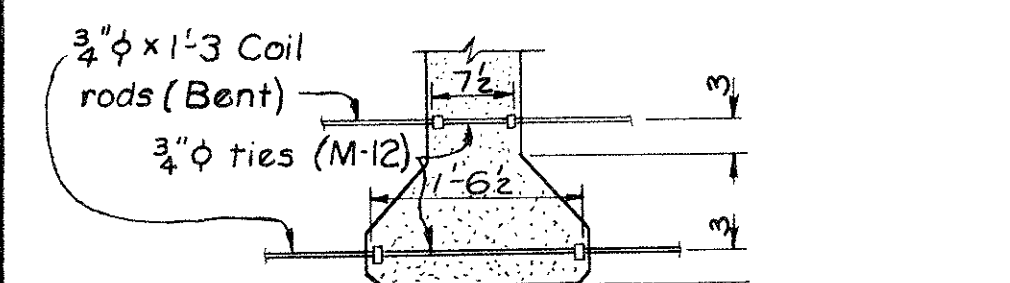
Note: Bar dimensions are out to out except as shown.

- Anticipated beam camber at time of erection.
- Anticipated dead load deflection due to weight of slab and curbs.

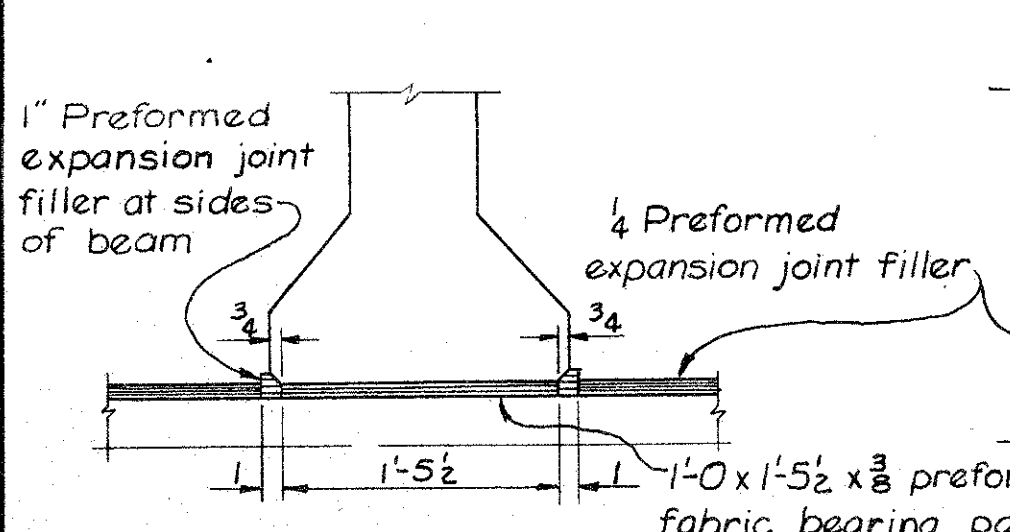


LIFTING LOOP DETAILS

Lifting loops are to be structural grade steel. Alternate types may be substituted with approval of the Engineer.

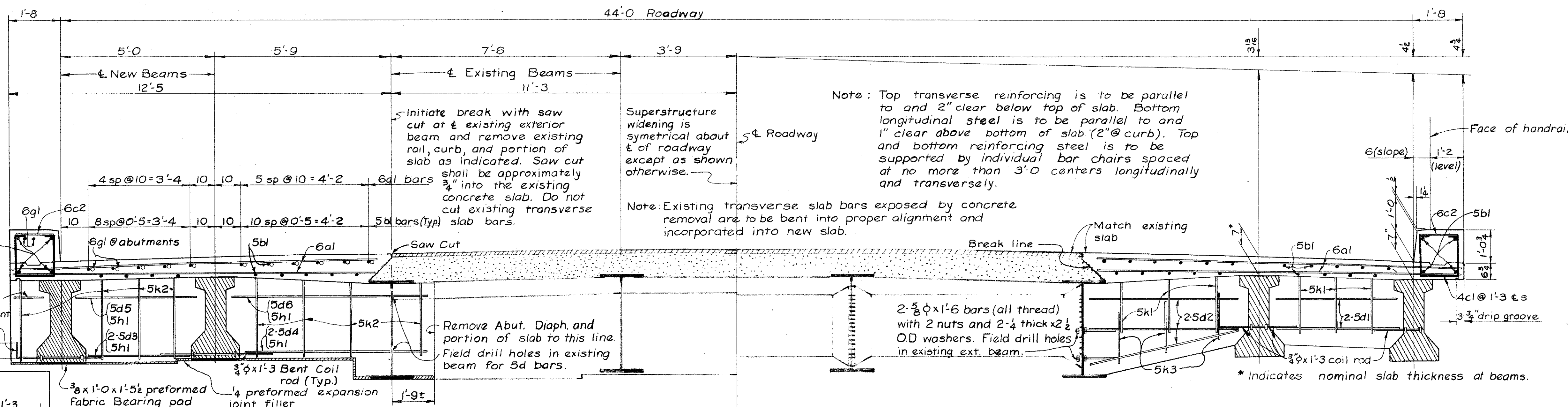


COIL TIE DETAILS

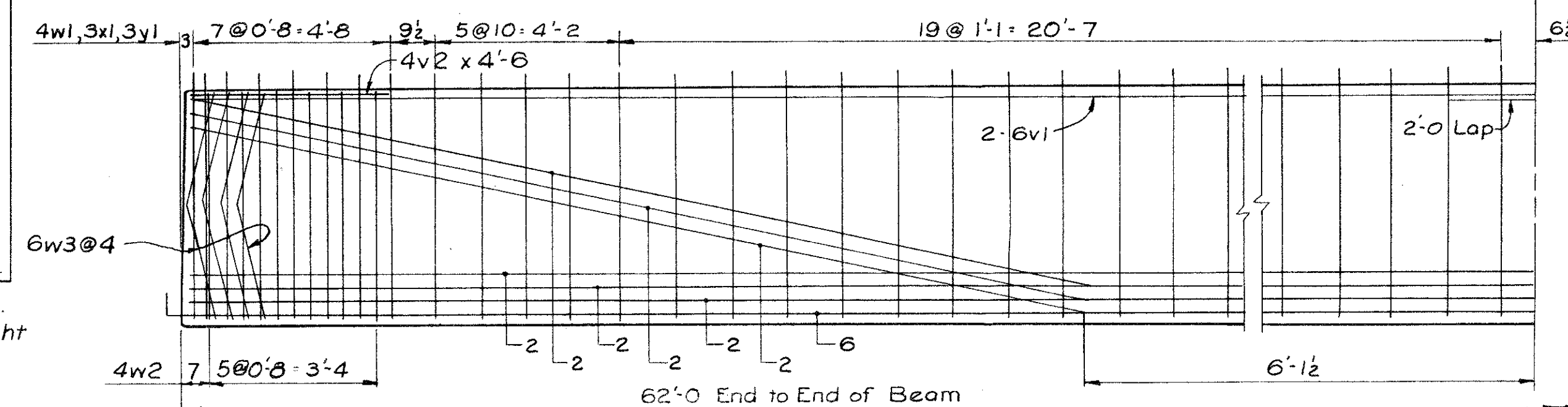


ABUTMENT BEARING DETAILS

Designed by: M.M. Traced by: LEW Checked by: JFH

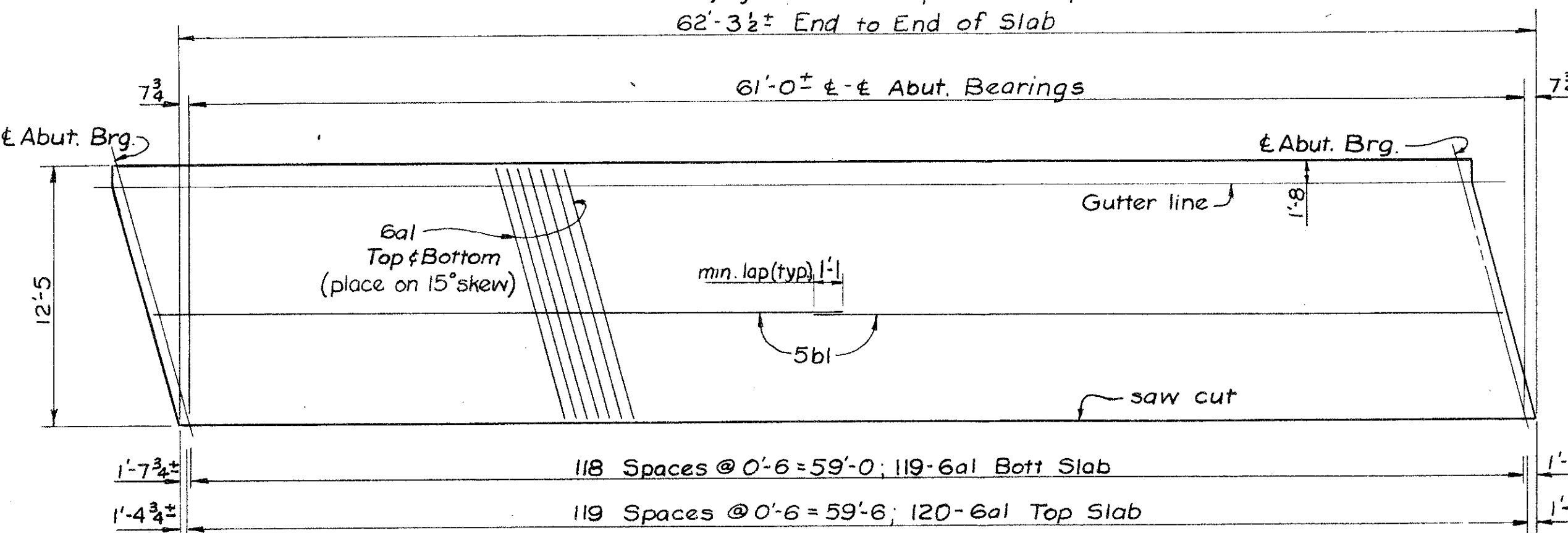


PART SECTION NEAR ABUTMENT

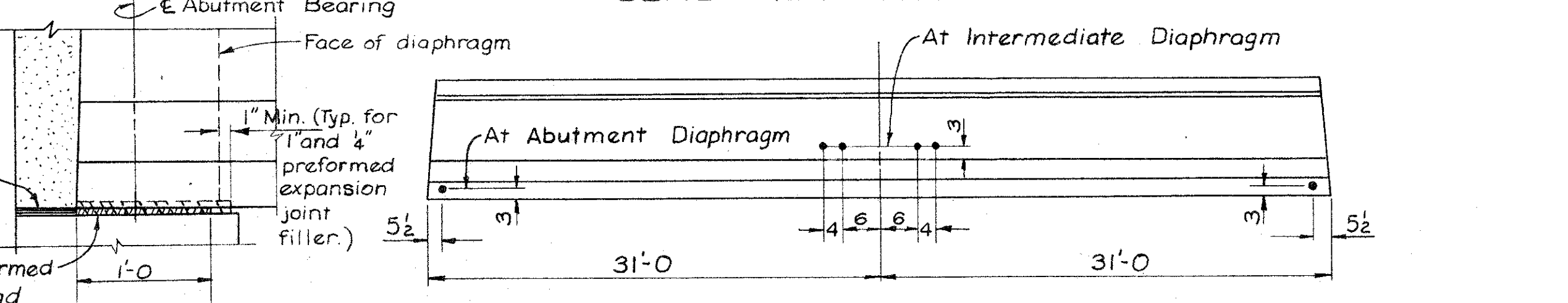


BEAM DETAILS ("A" Special)

Note: Bars 4w1, 3y1 & 6w3 are placed in pairs. 62'-3 1/2" End to End of Slab

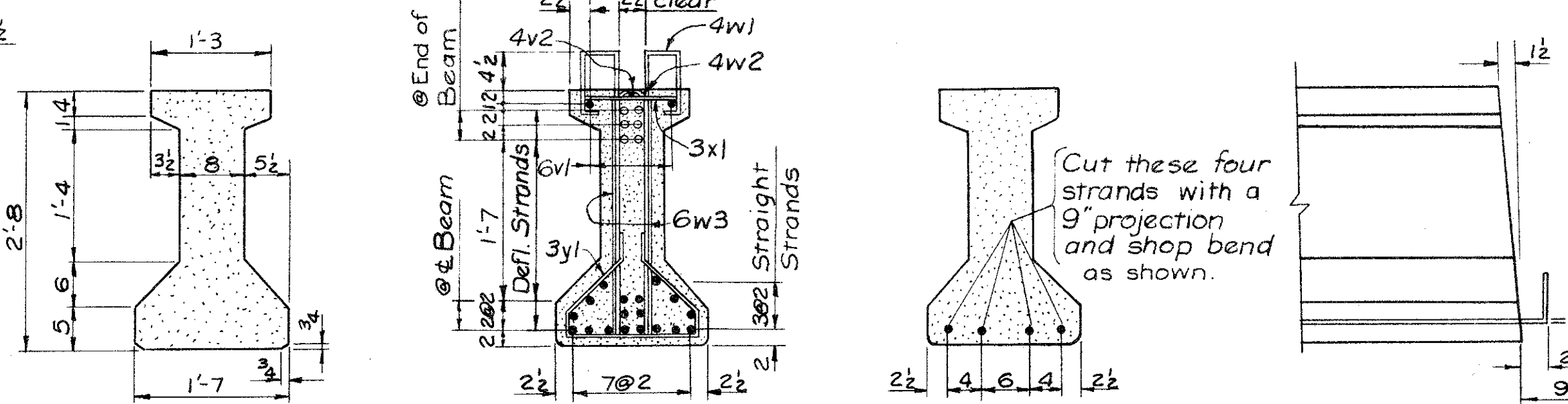


SLAB REINFORCING DETAILS

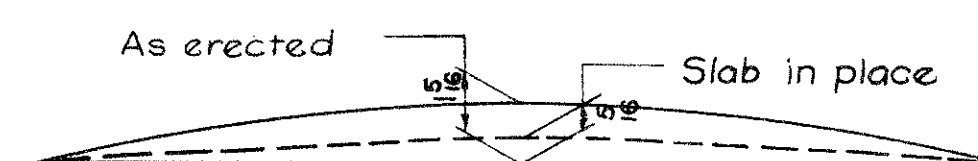


LOCATION OF BEAM COIL TIES

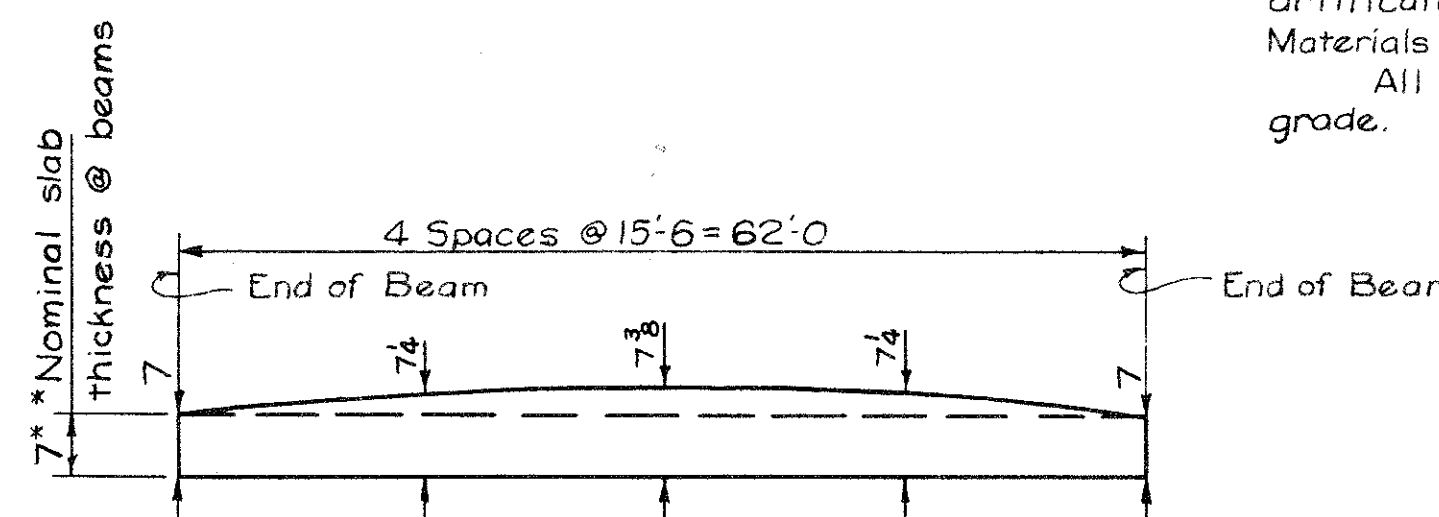
PART SECTION NEAR INTERMEDIATE DIAPHRAGM



BEAM DETAILS ("A" Special)



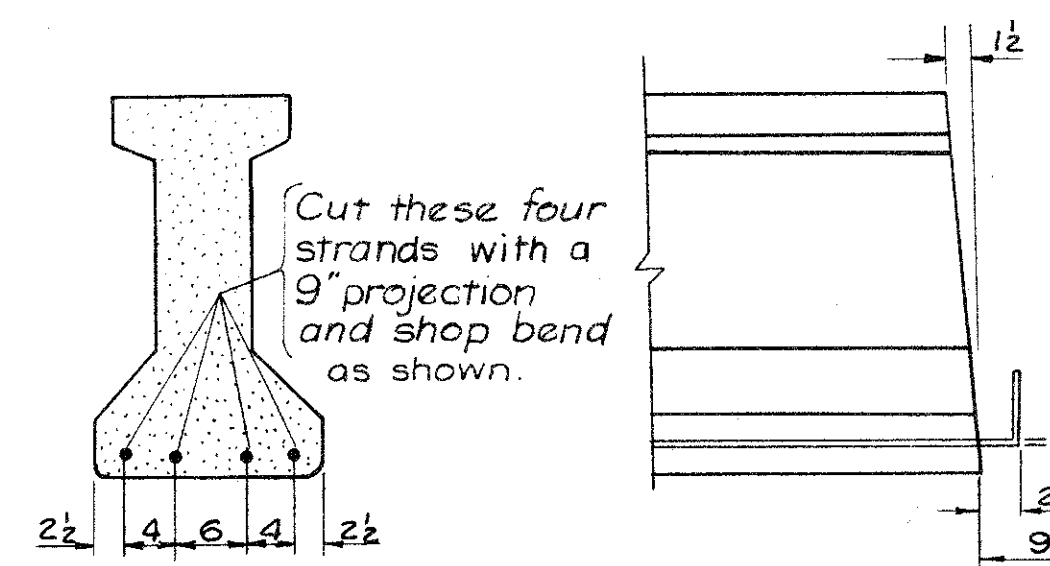
BEAM CAMBER DATA



Note: Slab thickness at beams is based on anticipated beam camber remaining after slab is in place. If beam is overcambered, decrease slab thickness at beams to compensate. If beam is undercambered increase slab thickness at beams to compensate.

SLAB THICKNESS AT BEAMS

BEAM END DETAILS



BEAM NOTES

Beam length shall be increased 0.0005 x Span Length to compensate for creep shrinkage and elastic shortening. Hold down point for deflected strands may be moved toward the end of the beam a distance not to exceed 0.05 x Span Length at the producers option. Tops of beams are to be struck off level and artificially roughened in accordance with the I.S.H.C. Materials Dept. recommendations. All prestressed strands are to be 1/2" 270 kip grade.

Design for Widening Under Traffic (15° Skew) 60'-0" x 24' I-BEAM BRIDGE

44' ROADWAY SUPERSTRUCTURE DETAILS

Station: 528+25.3 (to Iowa 33) February, 1967

SIoux COUNTY

Iowa State Highway Commission

DESIGN NO. 166
FILE NO. 22198
DES. SH. NO. 6 OF 10

Sioux County

PROJECT NUMBER FN-33-2(1)-21-84

STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
IOWA	5		14A6	14

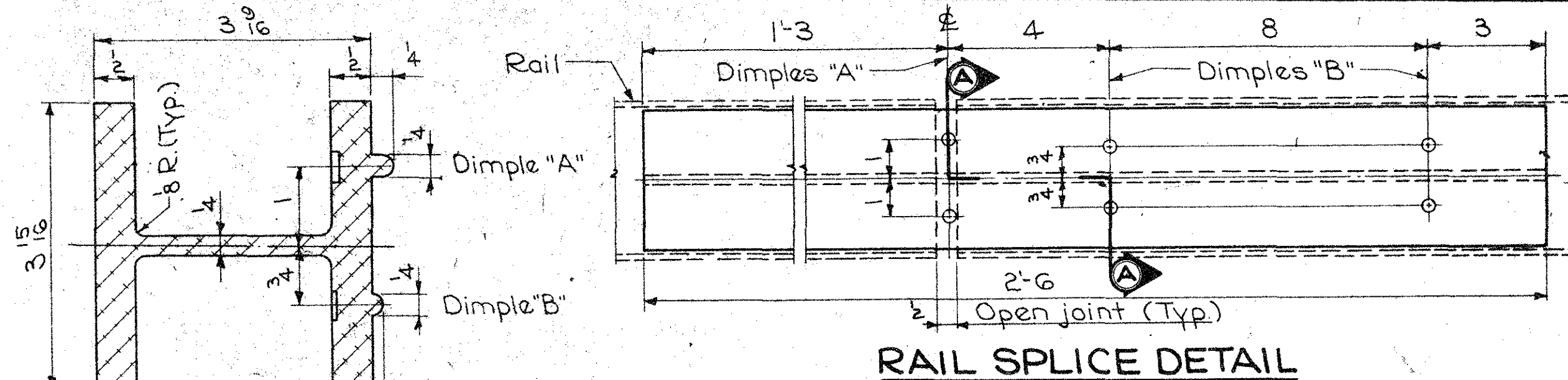
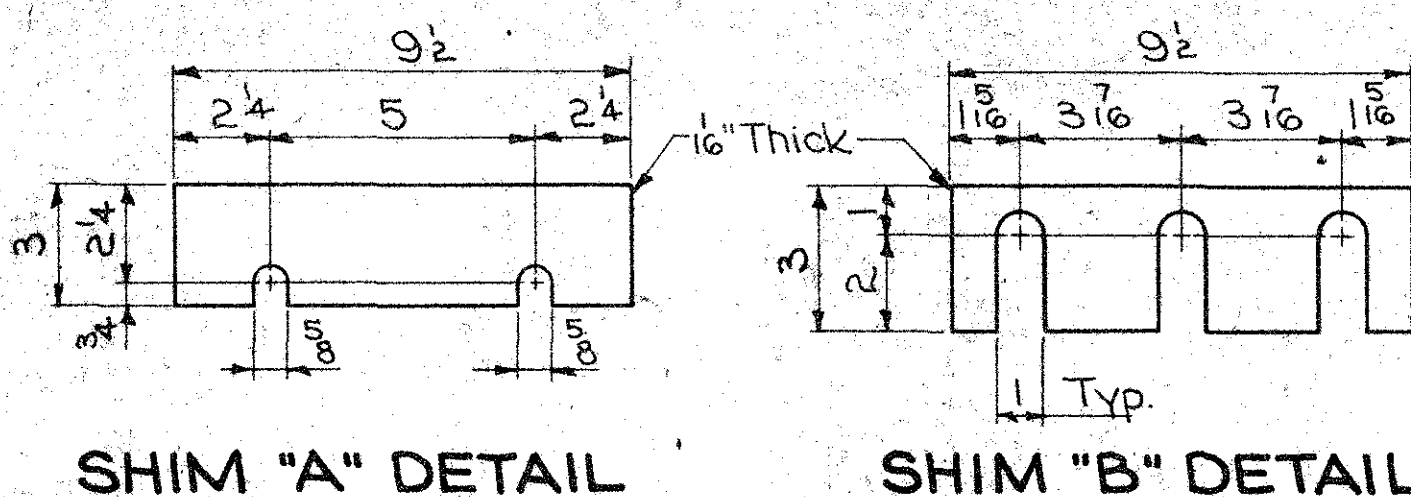
Technical drawing of a mechanical assembly, showing a side view and a top view.

Side View Dimensions:

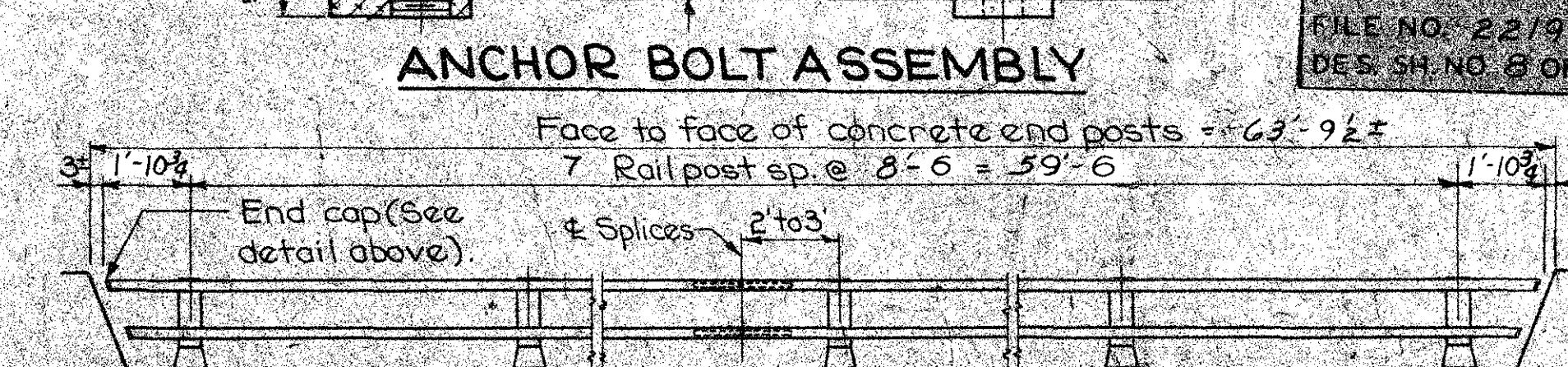
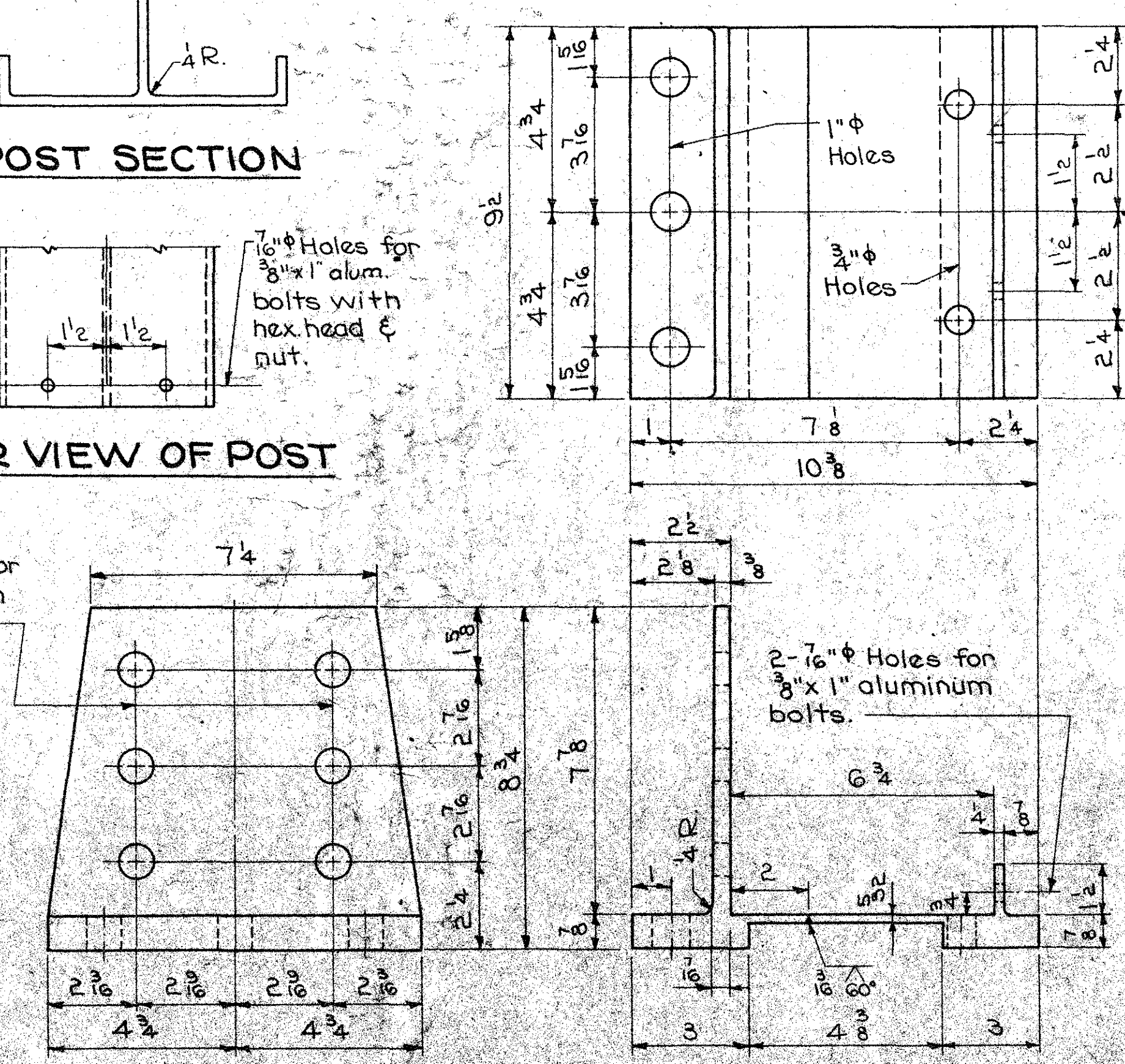
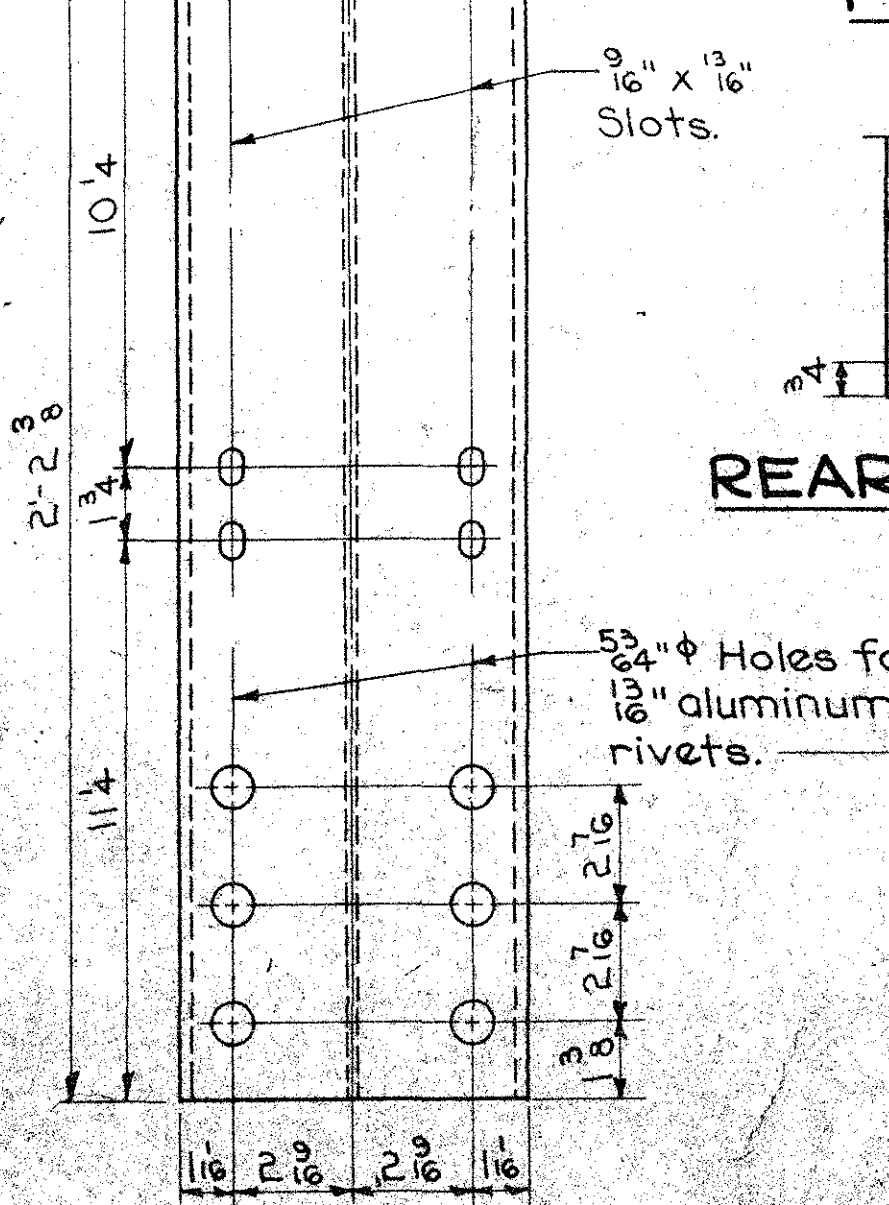
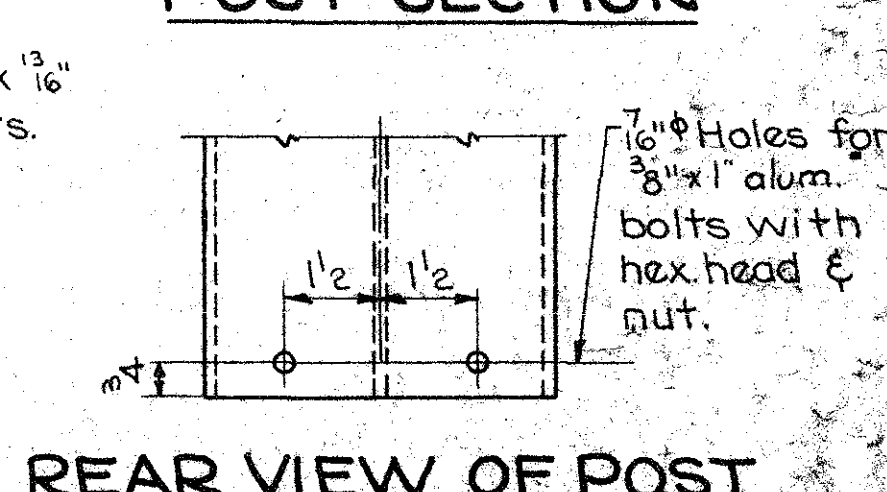
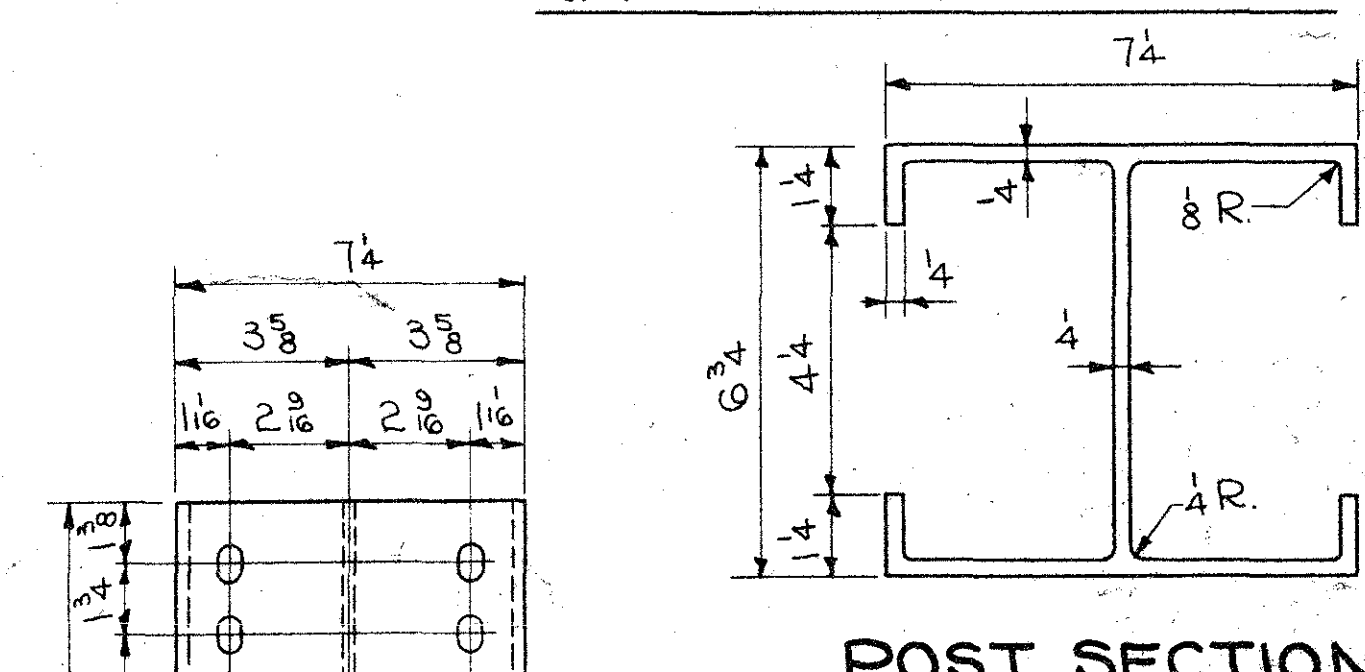
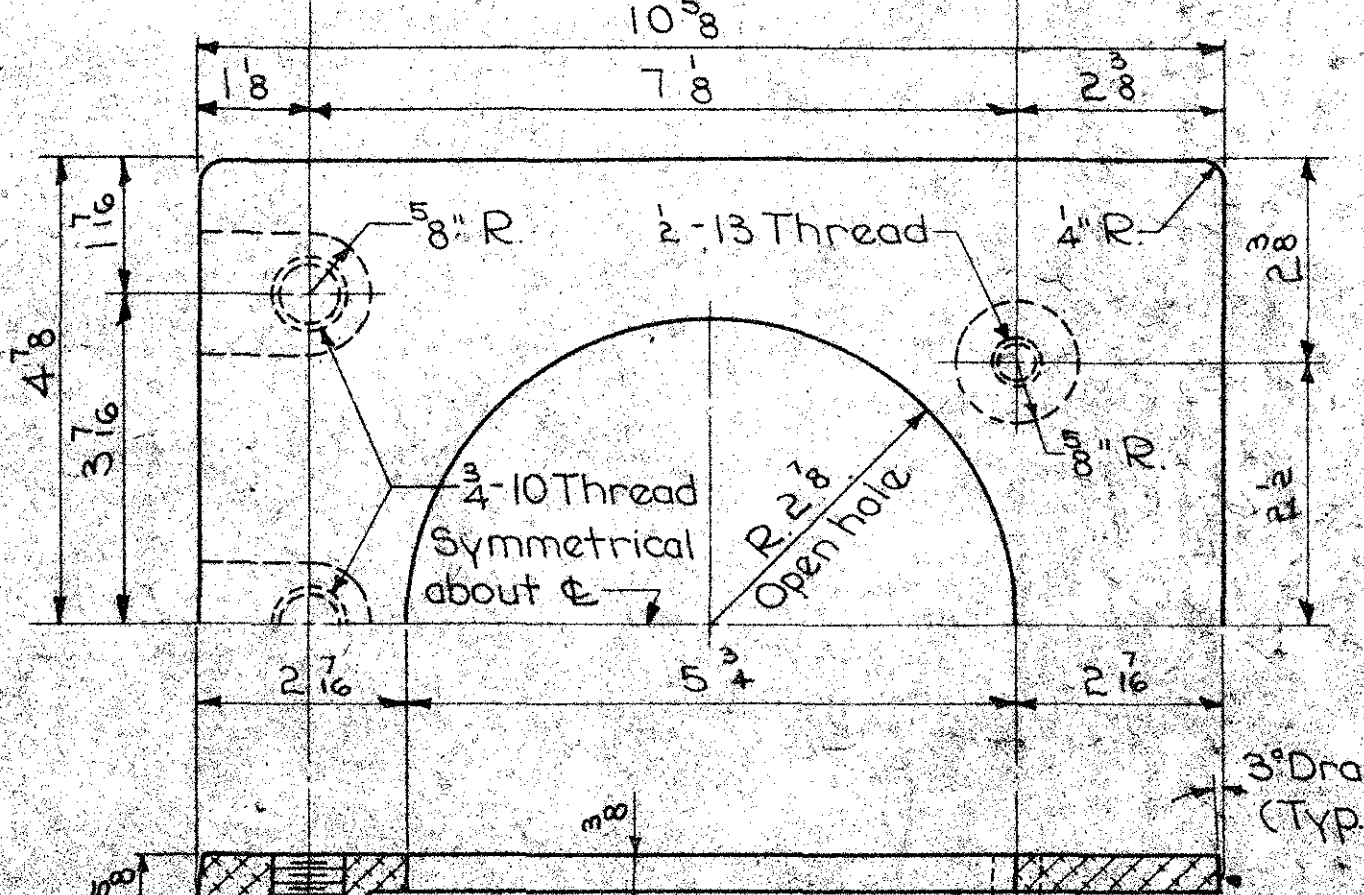
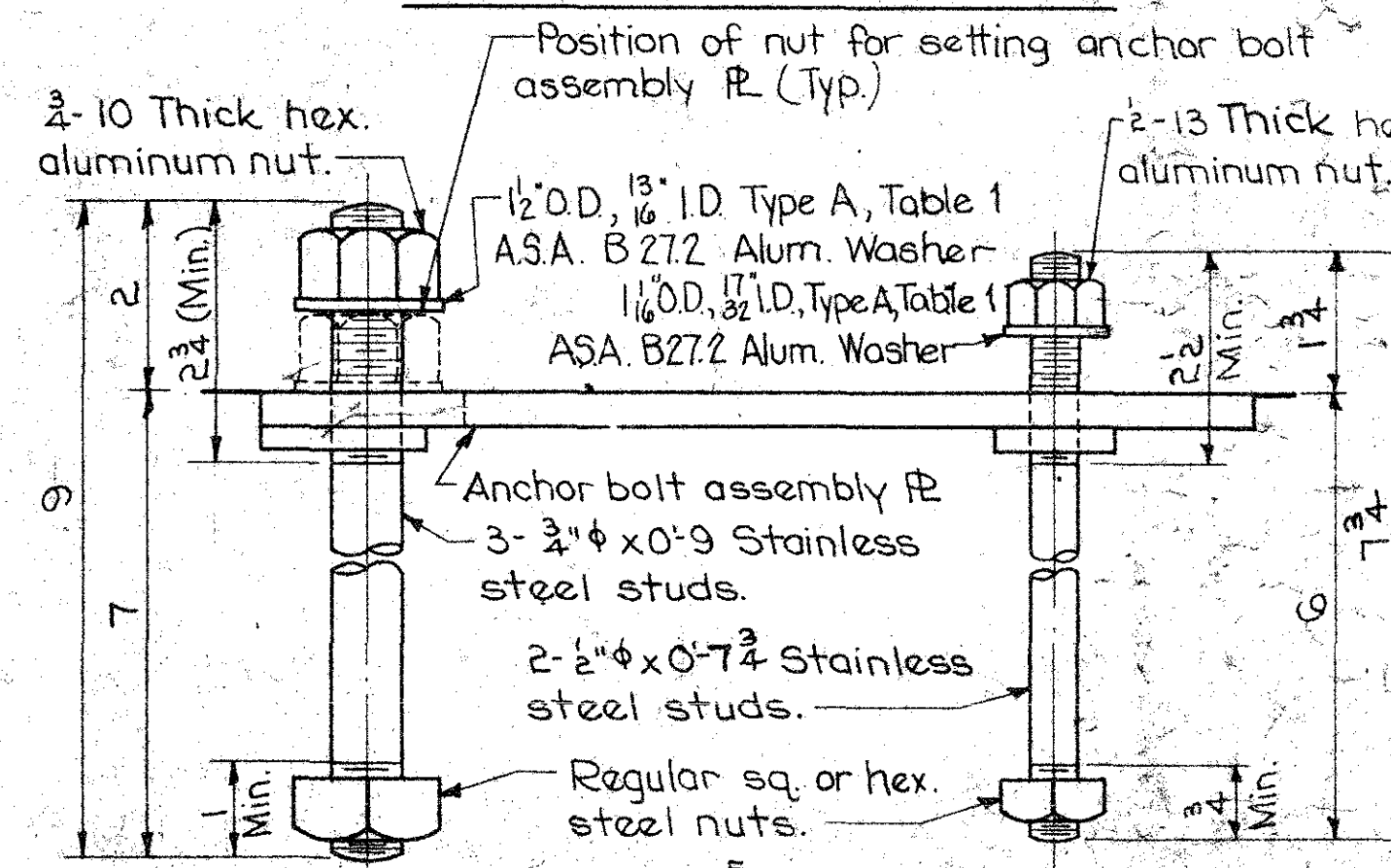
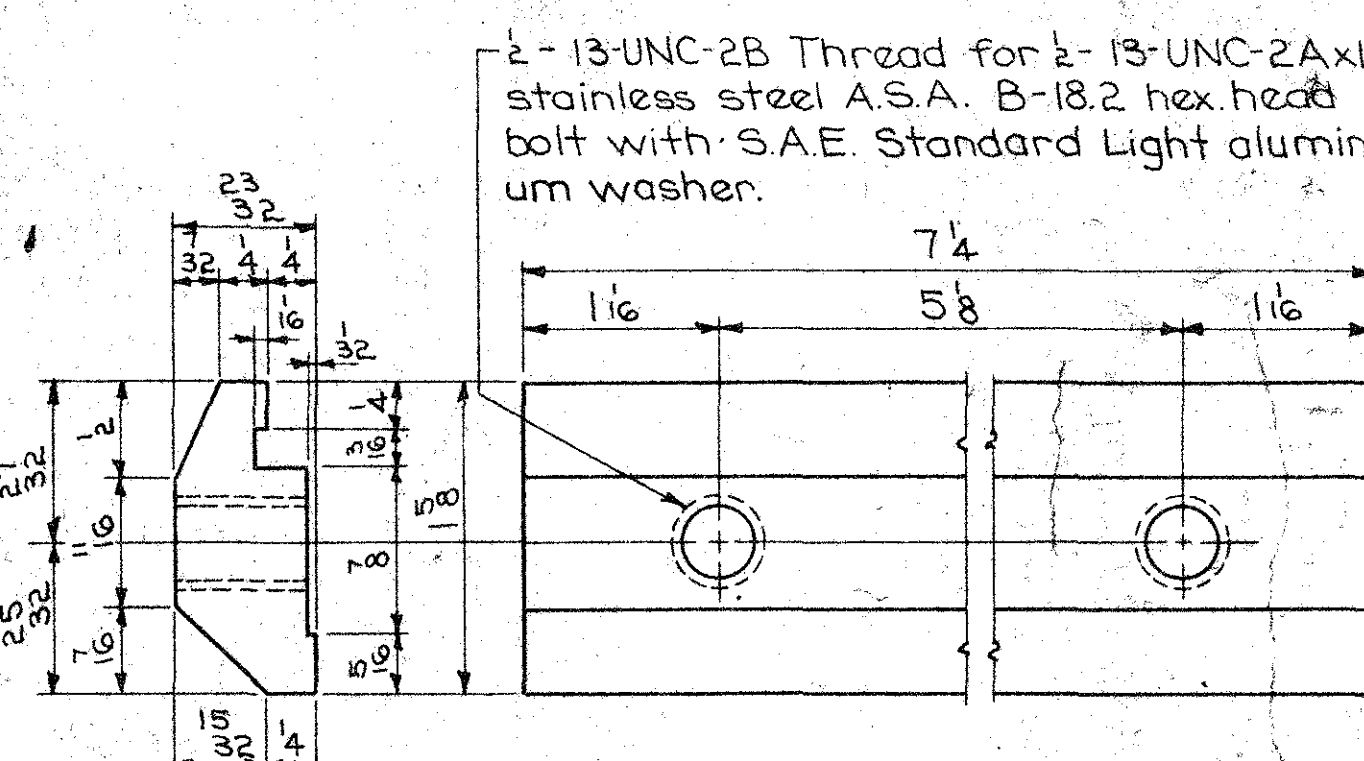
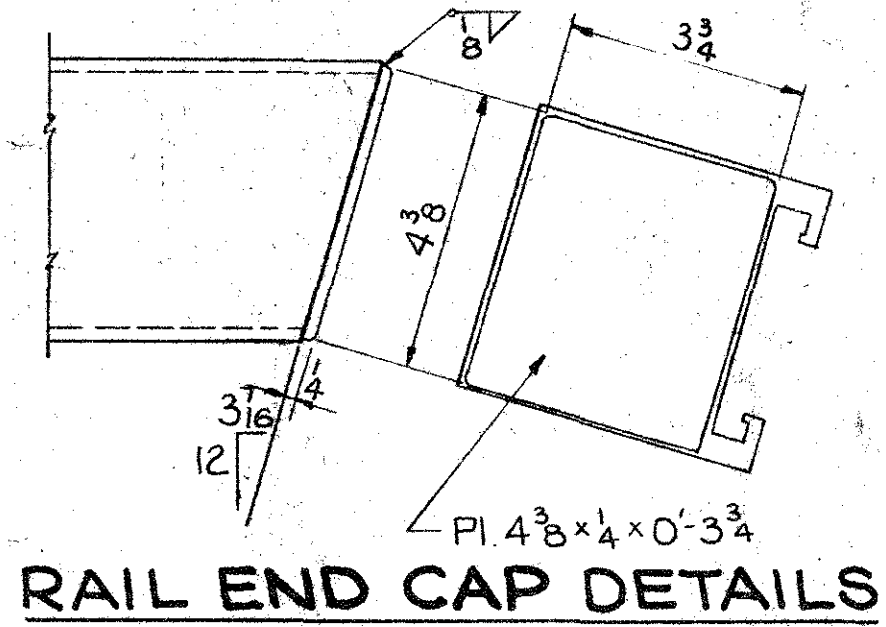
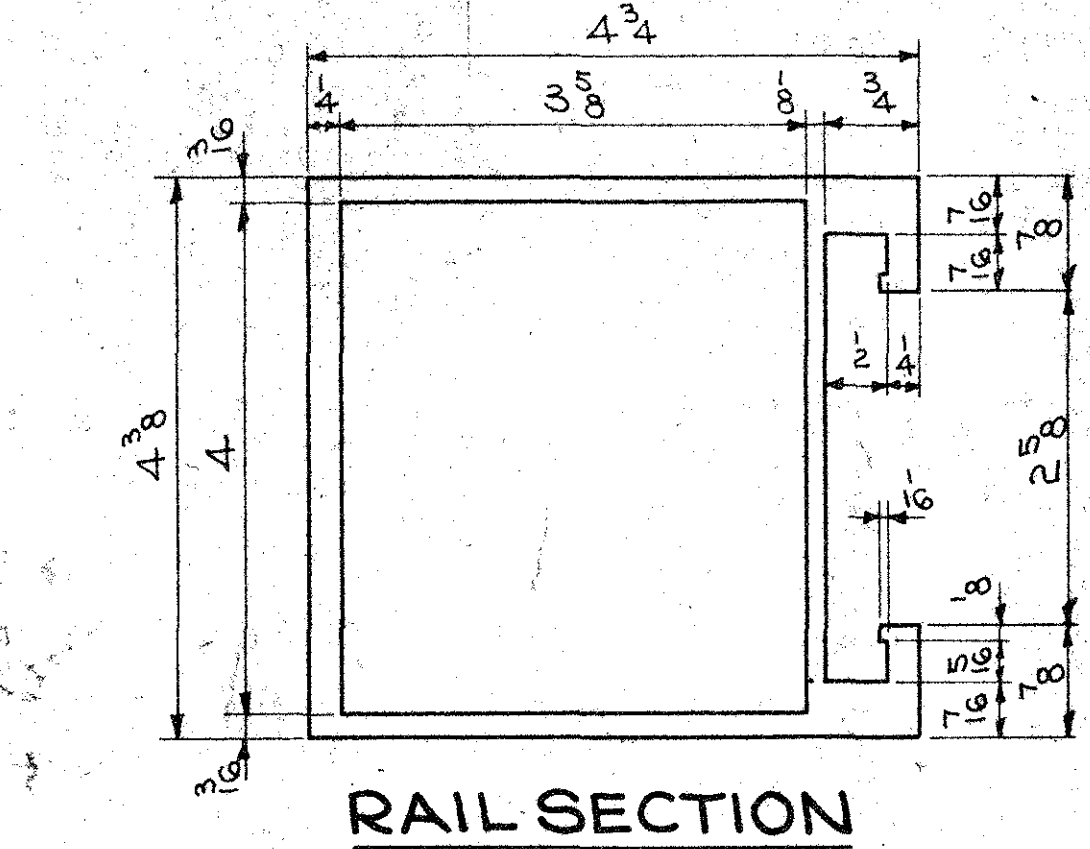
- Top horizontal dimension: 1-2
- Left vertical dimension: 2
- Right vertical dimension (top section): 1-0
- Right vertical dimension (middle section): 2-3/4
- Right vertical dimension (bottom section): 1-1
- Bottom left vertical dimension: 1/8
- Bottom left horizontal dimension: 5
- Bottom left horizontal dimension: 3/8

Top View:

- Shows a trapezoidal base with six circular holes (three on each side).
- Three vertical rods or pins are shown passing through the base.



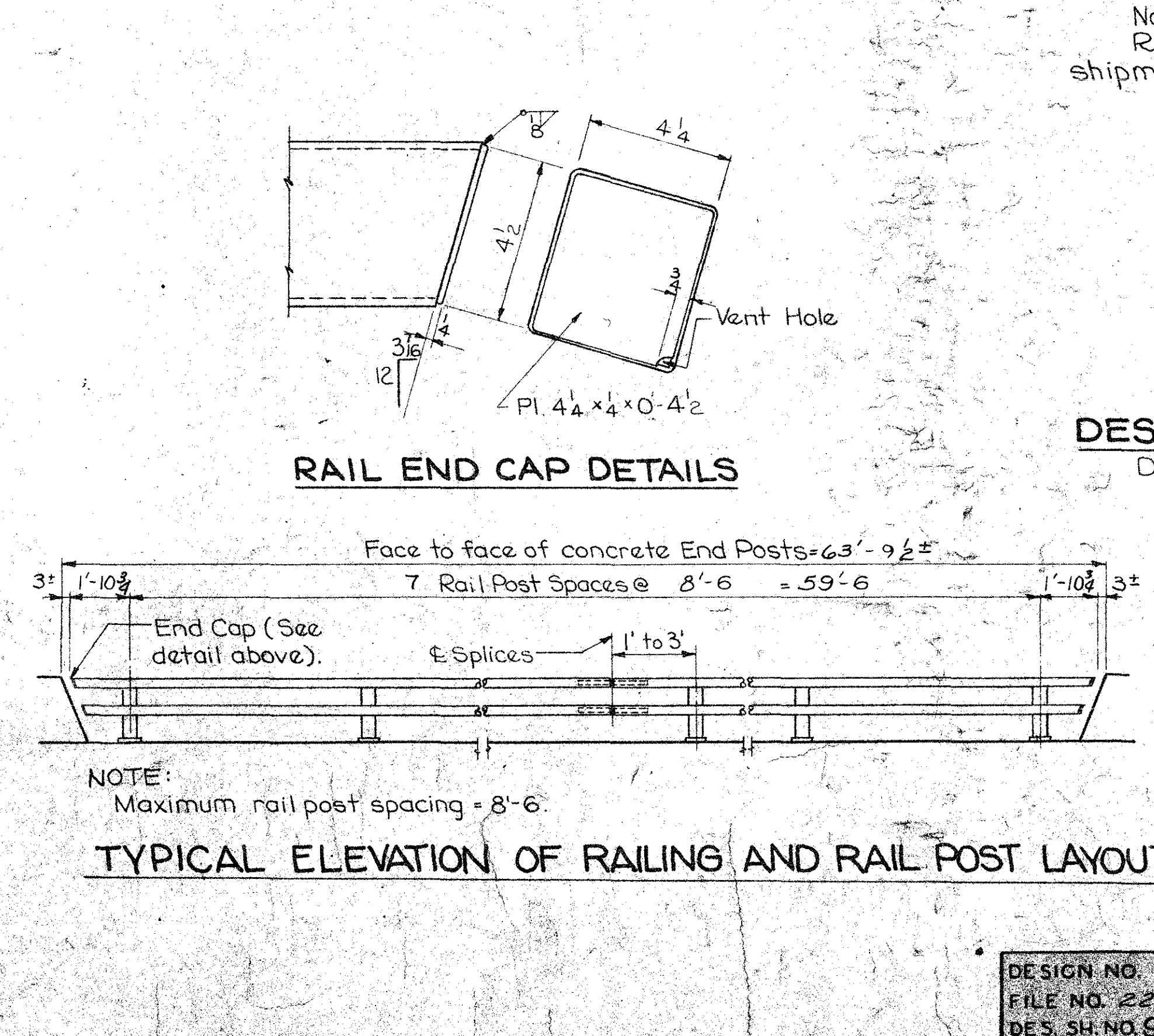
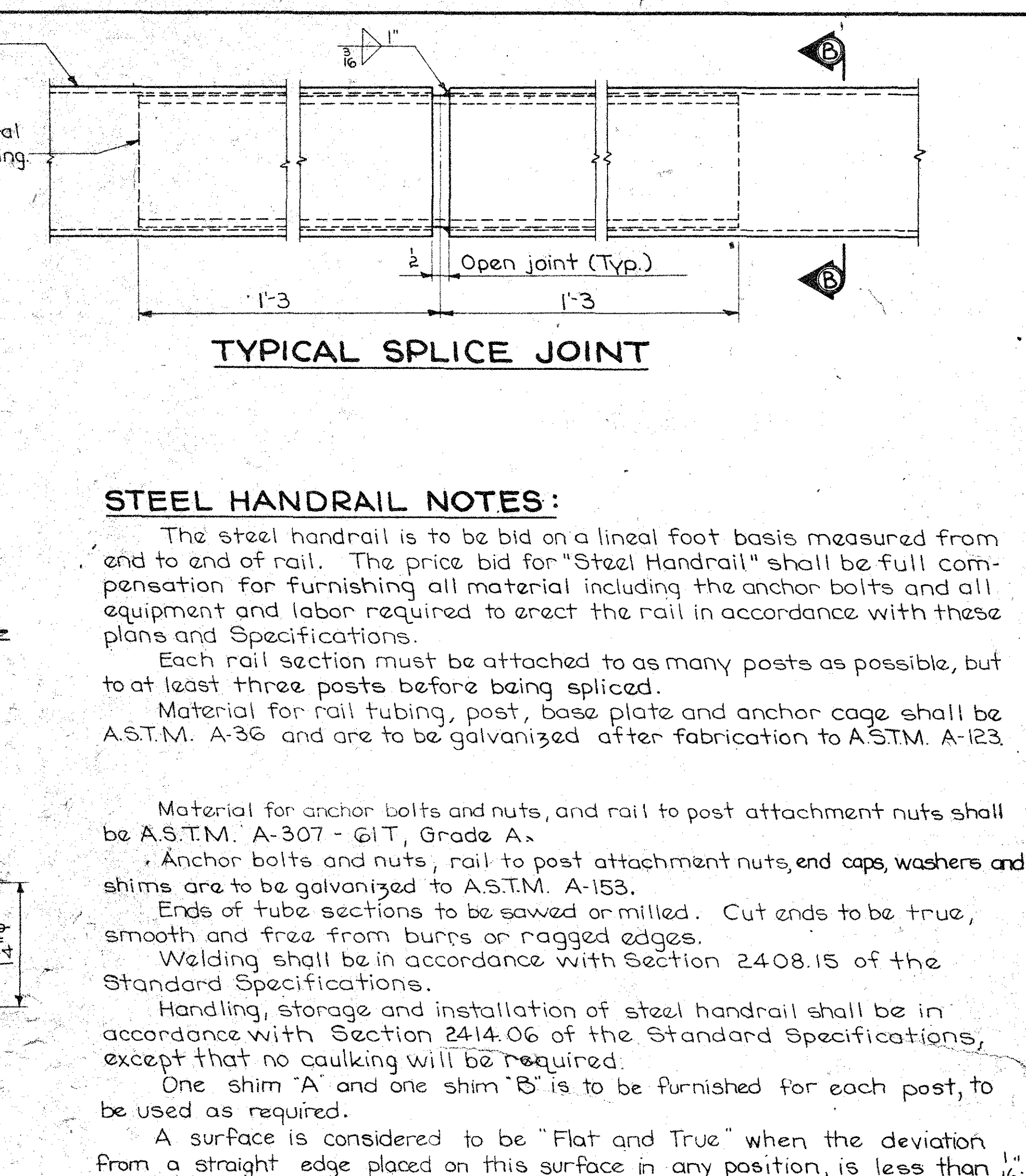
ALUMINUM HANDRAIL NOTES:



DESIGN SPECIFICATIONS:

ALUMINUM HANDRAIL QUANTITIES		
Aluminum Handrail	126.6	Lin Ft

Design for Widening Under Traffic (15° Skew)
60'-0" x 24' I - BEAM BRIDGE
to
44' ROADWAY
ALUMINUM HANDRAIL DETAILS
Station: 528+25.3 (E Iowa #33) February, 1966
SIOUX COUNTY
IOWA STATE HIGHWAY COMMISSION



painting will be required.
all studs shall be provided with adequate protection during
ment.

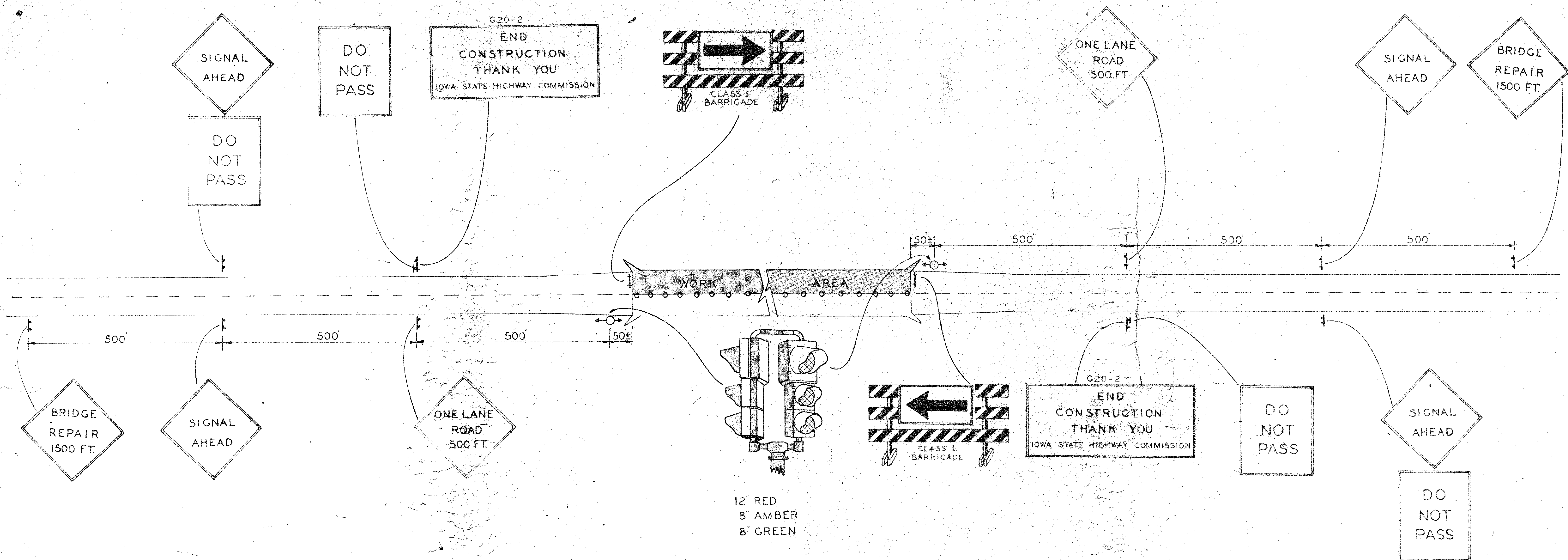
DESIGN SPECIFICATIONS:
designed in accordance with 1964 Interim A.A.S.H.O. Specifications.

STEEL HANDRAIL QUANTITIES	
Steel Handrail	126.6 Lin. Ft.

Design for Widening Under Traffic (15° Skew)
60'-0 x 24' I-BEAM BRIDGE
to
44' ROADWAY
STEEL HANDRAIL DETAILS

Station: 528+25.3 (# Iowa #33) February, 1967

SIoux COUNTY
IOWA STATE HIGHWAY COMMISSION



Traffic control signs and signals shall be furnished and maintained in accordance with I.S.H.C. Specification 583, dated November 9, 1965.

O=RUBBER CONES

All signs, cones and skids (EXCEPT SIGNALS) to be furnished and delivered to the job site by the Iowa Highway Commission Maintenance Department.

The signs are to be placed, cleaned and kept in their proper position by the Contractor. The Contractor is held responsible for any damage to the signs due to negligence on the part of his employees. Signs struck and damaged by others excluding the Contractor and his employees will be replaced by the Iowa Highway Commission. When the traffic pattern is reversed the transfer of signs and traffic shall be made in an orderly and safe manner at the direction of the Engineer.

When no longer needed, or at the completion of the project, the Contractor shall return the signs to the Iowa Highway Commission Maintenance Garage.

SIGNING LAYOUT BRIDGE REPAIR WORK TWO LANE HIGHWAY

DESIGN NO. 166
FILE NO. 22198
DES. SH. NO. 10 OF 10

February, 1967

SIoux COUNTY

PROJECT NUMBER	STATE	FED. ROAD DIST. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
FN-33-2(1)-21-84	IOWA	5		14A10	14