

CONTRACT NO. B-10852

INDEX					
PROJECT	STRUCTURE	TYPE	SPAN	OVER	STATION
ST-255D	46-11-1316A	STEEL TRUSS	2@198'-0"	EEL RIVER	625+70
SHEET NO.	SHEET DESIGNATION	SUBJECT			F.H.W.A. APPROVAL
1		INDEX AND TITLE SHEET			
2	R1	GENERAL PLAN			
3	R2	GENERAL NOTES AND CONSTR. PROCEDURE			
4	R3	ABUT. N°1, PIER N°2 AND ABUT. N°3 DETAILS			
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6	R5	FRAMING PLAN AND RAILING DETAILS			
7	R6	BENDING DIAGRAMS AND BILL OF MATERIALS			
8	R7	CLASS 3-3 EXPANSION JOINT DETAILS			
9	ONE SHEET	BRIDGE SUMMARY			
10	ONE SHEET	BRIDGE ESTIMATE OF QUANTITIES			

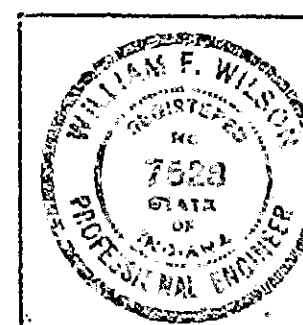
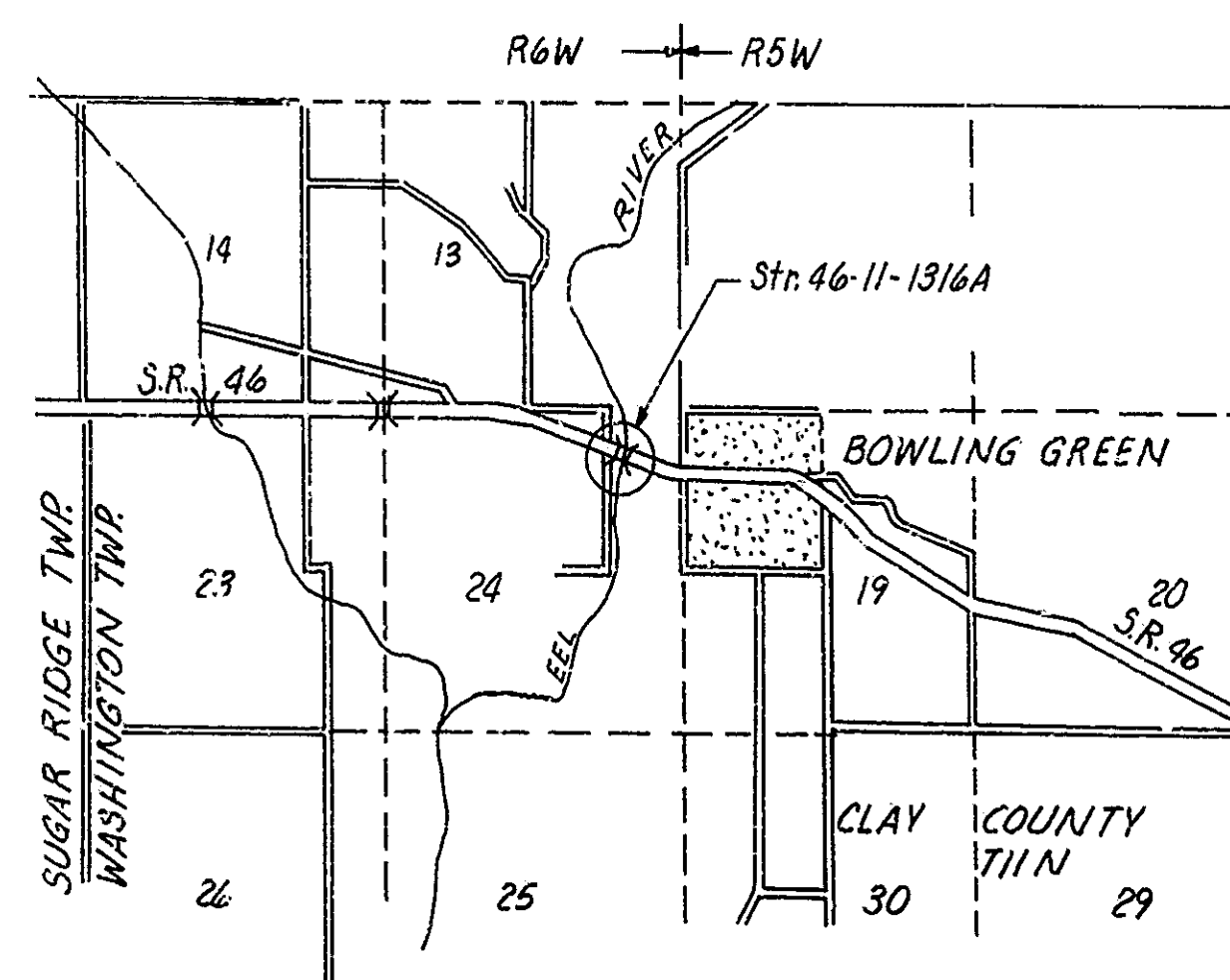
STATE OF INDIANA
INDIANA STATE HIGHWAY COMMISSION

BRIDGE PLANS

FOR SPANS OVER 20 FEET
ON
STATE ROAD NO. 46
PROJECT NO. ST-255D

RECONSTRUCTION FOR BRIDGE ON SR 46 OVER
EEL RIVER APPROXIMATELY 4.8 MILES EAST OF
SR 59 ALL IN SECTION 24, T11N, R6W, CLAY COUNTY

BRIDGE LENGTH: 0.076 MI.
ROADWAY LENGTH: 0.017 MI.
TOTAL LENGTH: 0.093 MI.



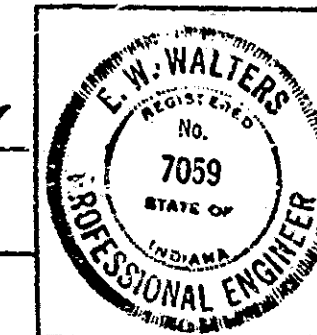
PLANS PREPARED BY
BEAM, LONGEST AND NEFF INC.

CONSULTING ENGINEERS
INDIANAPOLIS, INDIANA

CERTIFIED BY *William F. Walters* DATE November 23, 1976
BEAM, LONGEST & NEFF INC.

RECOMMENDED FOR APPROVAL 1-24-77

E.W. Walters
ENGINEER OF BRIDGE DESIGN, INDIANA STATE HIGHWAY COMMISSION



APPROVED 1-25-77

J.K. Hall
CHIEF HIGHWAY ENGINEER—INDIANA STATE HIGHWAY COMMISSION

FEDERAL HIGHWAY ADMINISTRATION
DEPARTMENT OF TRANSPORTATION

APPROVED:

DIVISION ENGINEER

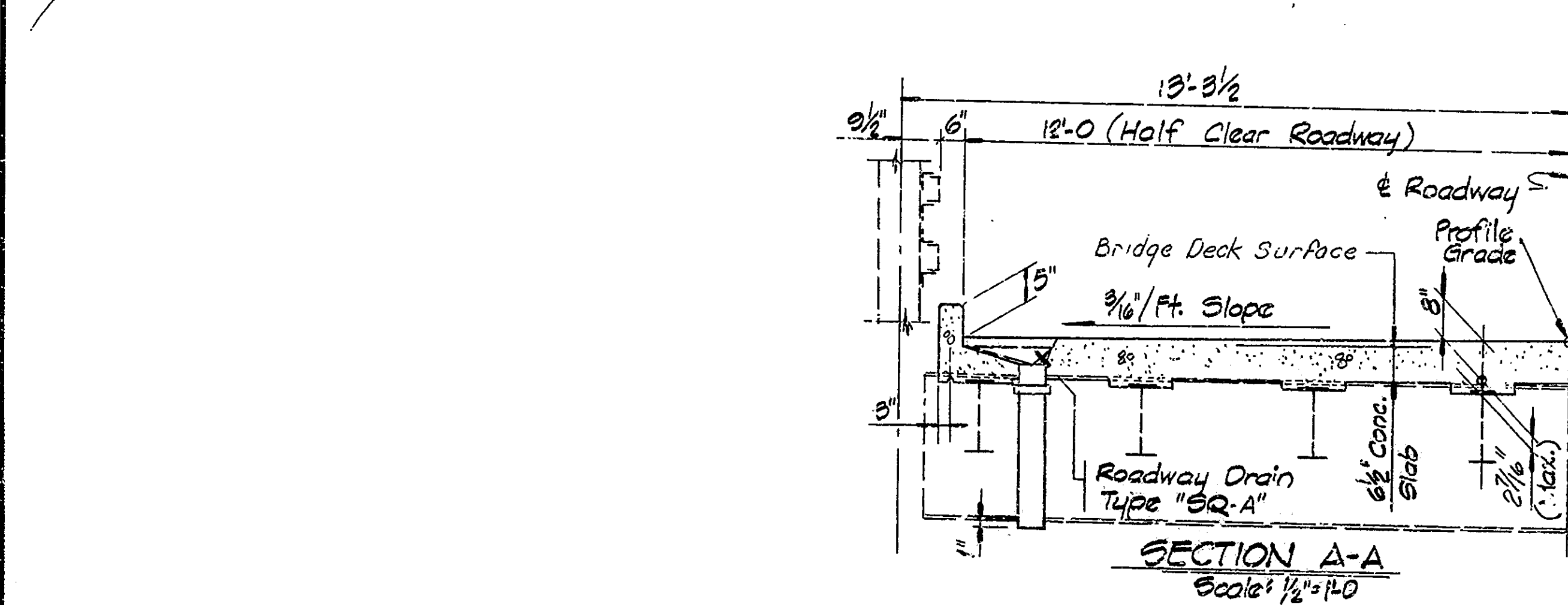
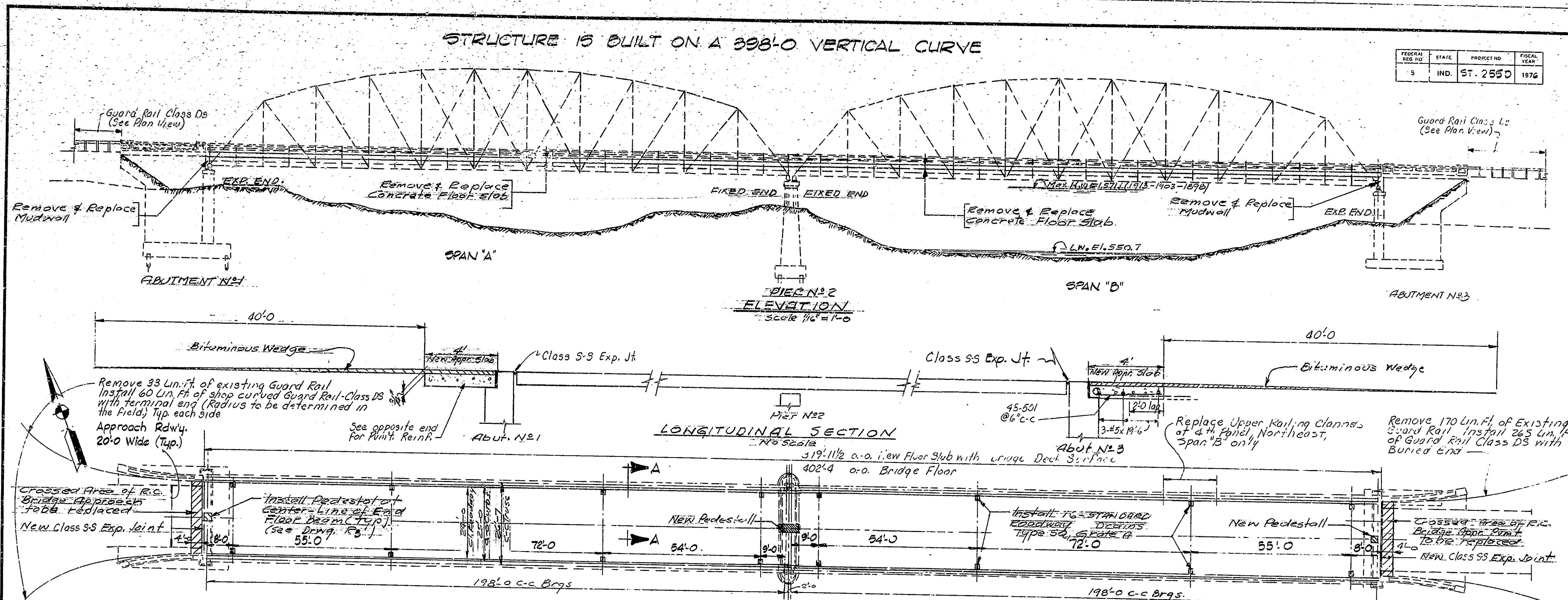
DATE

BRIDGE FILE: 46-11-1316A

INDIANA STATE HIGHWAY COMMISSION
STANDARD SPECIFICATIONS DATED 1974
TO BE USED WITH THESE PLANS.

DATE	REVISIONS SHEET NO.

DATE	REVISIONS SHEET NO.



PLAN

Scale 1/4" = 1'-0"

Note: See Sht. R2 for General Notes and Construction Procedure

Or: Seat (E1, 571, 83) @ Abut. N°1 to be used as a Bench Mark.

STANDARD DRAWINGS		
BRIDGE	ROAD	PURPOSE
C1		Reinforcing Bar Notes
C3		Type A Constr. Joint
D		Roadway Drain Type "30"
GRB		Steel Beam Guard Rail Class DS
GR10		Guard Rail Buried Ends
Sht. 2		Standard Four Signs
Sht. 2A		Standard Four Signs
Sht. 3		Standard Detour Signs
Sht. 3A		Standard Detour Signs
Sht. 4		Standard Detour Signs
Sht. 5		Standard Detour Signs

GENERAL PLAN

DECK RECONSTRUCTION & OVERLAY

TO STEEL TRUSS BRIDGE

2 SPANS: 198'-0" 198'-0" 240' ROADWAY

OVER EEL RIVER

INDIANA STATE HIGHWAY COMMISSION

CLAY COUNTY

SCALE: As Noted

November 23, 1976

SUBMITTED FOR APPROVAL: William F. Wilson

DRAWING: E, OF 7

PROJECT: ST-255 D

BRIDGE CONTRACT NO. B-10852

BRIDGE FILE: 46-11-1316A

INDIANA STATE HIGHWAY COMMISSION

STANDARD SPECIFICATIONS DATED 1974

TO BE USED WITH THESE PLANS.

DESIGNED: CKD

DRAWN: CKD

TRACED: CKD

MATERIAL NOTES:

Bituminous Wedge: Hot Asphaltic Conc. Surface Type "B".

Bridge Deck Surface:

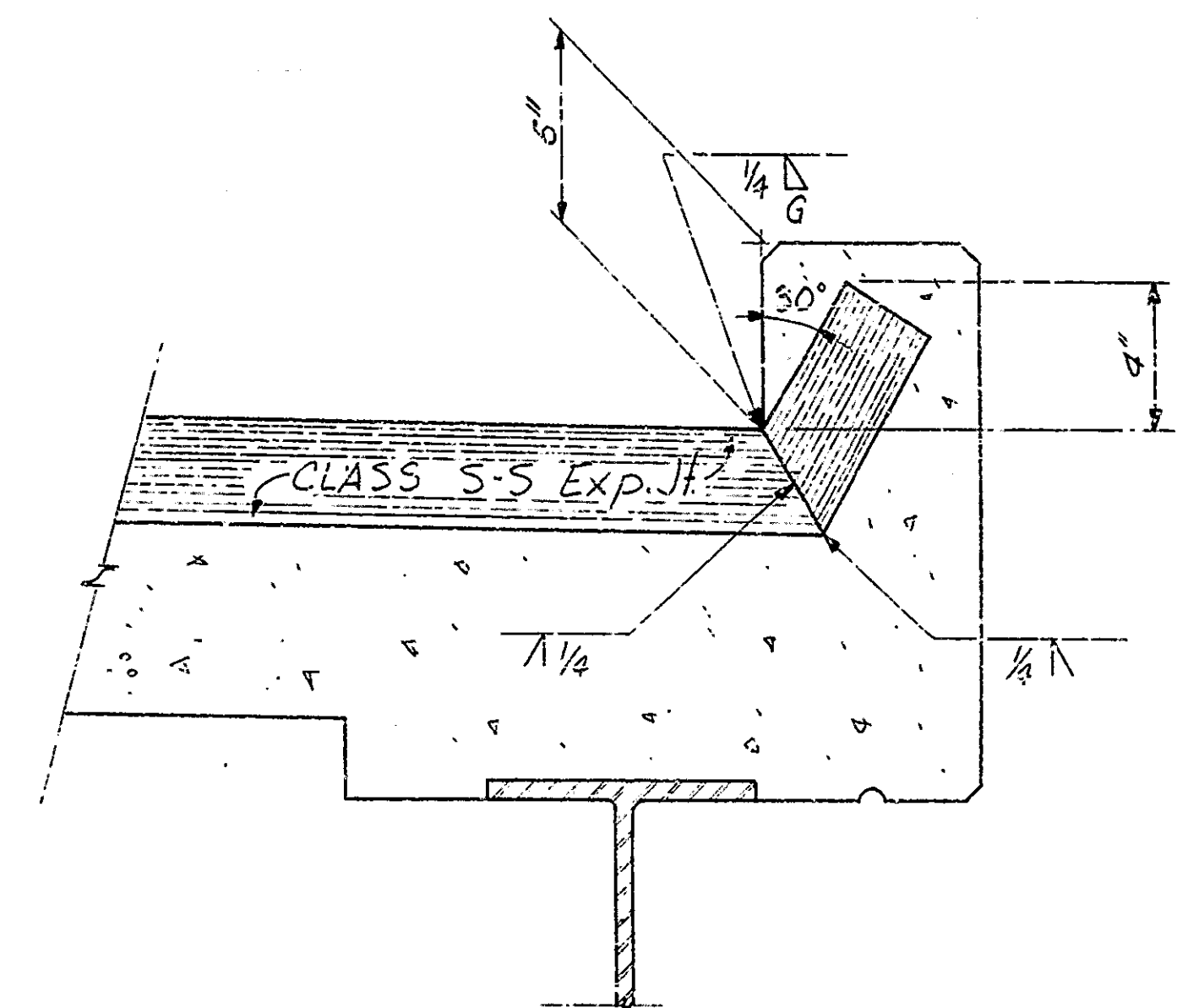
1 1/2" Modified Portland Cement Concrete Surface

GENERAL NOTES

1. Reinforcing steel covering shall be $2\frac{1}{2}$ inches in top and 1 inch minimum in bottom of floor slabs and 2 inches in all other parts, unless noted.
2. Concrete in mudwalls to be Class "A".
3. Concrete in superstructure to be Class "C".
4. Concrete in structure not noted above to be Class "A".
5. Continuous concrete pours shall be required between construction joints as shown in Detail Plans.
6. Waterproof backs of Abutments and Mudwalls in accordance with Article 702.22 of the Specifications.
7. Bevel forms $\frac{1}{4}$ " under copings; and chamfer all exposed edges 1 inch unless noted.
8. Sixteen (16) standard Type "SQ" Roadway Drains to be placed as shown on the General Plan.
9. Only the top of Abutments and front face of Mudwalls to be sealed in accordance with Article 702.20 of the Specifications.
10. Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field and report any errors or discrepancies to the Engineer and assume responsibility for their correctness and fit of the new parts to the old.
11. All bituminous material required in this Contract to be included in the pay item "Bituminous Mixture for Approaches".
12. The Contractor shall prepare detailed working or shop drawings to enable him to fabricate, erect and construct all parts of the work in conformity with the Engineer's drawings and Specifications and shall submit five (5) copies to the Engineer. See Article 711.04 of the Specifications.
13. The tops and sides of the top flange of the existing steel stringers and floor beams shall be cleaned and given one coat of shop paint prior to pouring the new slab. This work shall be done in accordance with the applicable provisions of the "Painting Structural Steel" Special Provision. The cost of this work will not be paid for directly, but shall be included in the bid price for "Painting Old Steel Bridge."
14. The edges of all concrete removal areas in the pavement and abutments shall be sawcut to a minimum depth of 1" or to the level of reinforcing steel, whichever is less, prior to concrete removal. The cost of sawcutting will not be paid for directly but shall be included in the cost of the associated removal pay items in the Contract.
15. Plans for this structure are on file in Central Office as bridge file 46-11-1316 and will be made available upon request.
16. All existing structural steel to be painted in accordance with the Special Provisions. (Estimated Structural Steel Wt. = 362 Tons)
First Coat: Zinc Silicate Paint
Second Coat: Vinyl Finish Coat
17. Surface Seal the top of mudwalls, the roadway face and top of curbs, the face of deck coping, the underside of floor from coping to outside stringer and roadway face and top of existing concrete railings.
18. See the Special Provisions for items included in this contract.

CONSTRUCTION PROCEDURE

1. Close structure to traffic.
2. Remove existing superstructure deck, existing pavement, structural steel that has been damaged by rust and portions of existing structure as shown in the Detail Drawings.
3. Install new concrete pedestals, new structural steel, drains, new expansion joints, new floor slab, new mudwalls, new portions of approach slabs, new handrail sections, and new bituminous wedges as shown on Detail Plans.
4. When all work is completed, open structure to traffic.



DETAIL AT CURB
Scale: 3" = 1'-0"

GENERAL NOTES & CONSTRUCTION PROCEDURE INDIANA STATE HIGHWAY COMMISSION

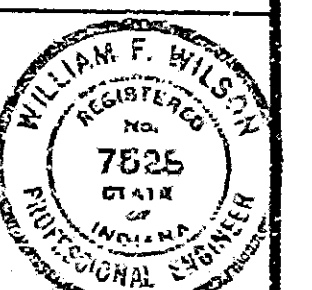
SCALE: - None

DATE: - November 23, 1976

SUBMITTED FOR APPROVAL: William F. Wilson

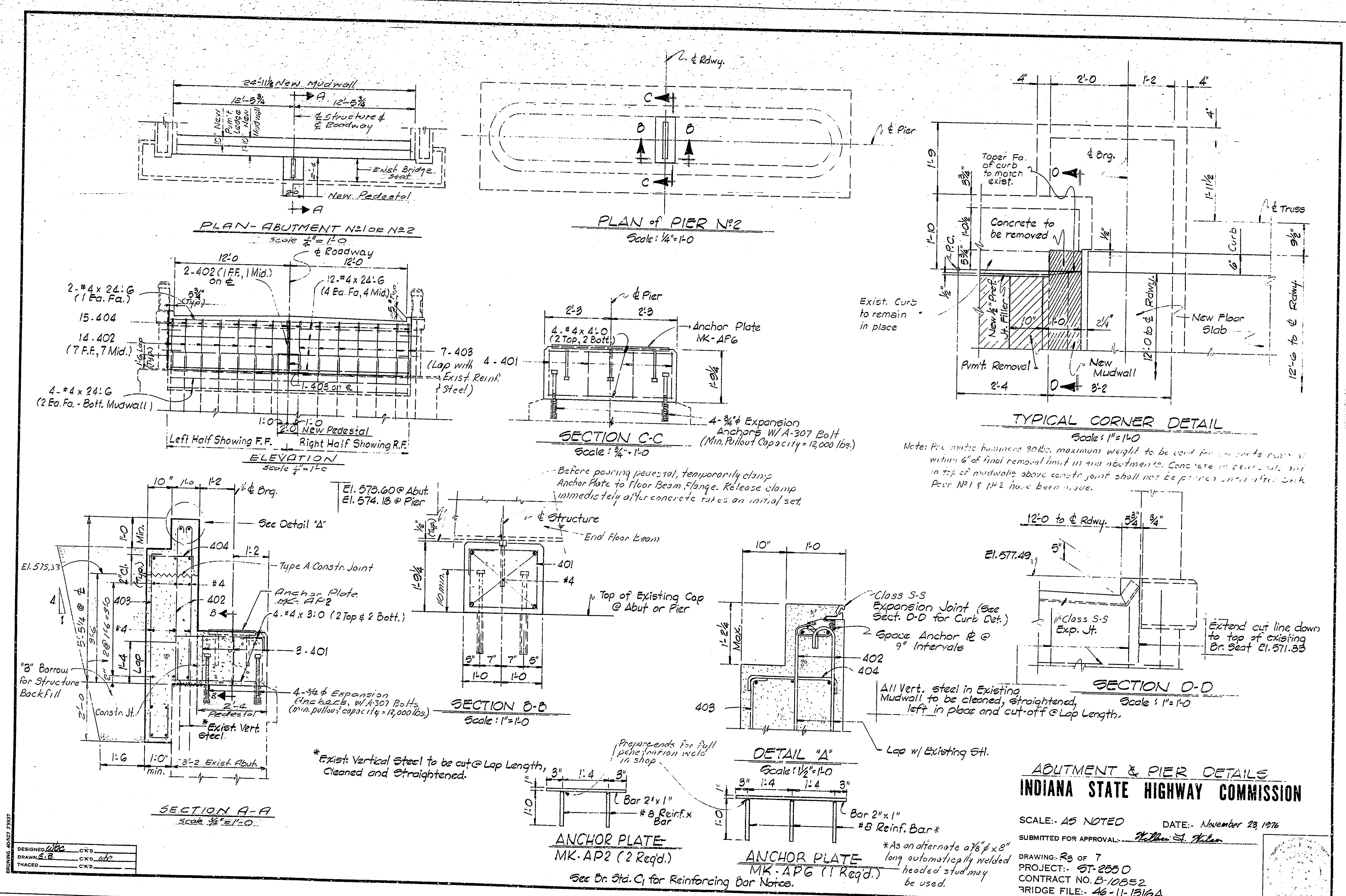
DRAWING: R2 OF 7
PROJECT: - ST-255D
CONTRACT NO. B-10852
BRIDGE FILE: - 46-11-1316A

SHEET 3 OF 21



DESIGNED: CKD
DRAWN: CKD JLG
TRACED: CKD

PROJECT NO	LINE	SHEET NO	TOTAL SHEETS	FILE
ST-255D		3	21	46-11-1316A



Note: Pre-mix concrete 3000 psi, maximum weight to be used for concrete removal within 6" of final removal limit in abutments. Concrete in center of abutment in top of mudwalls above concrete joint shall not be poured until after both Pier N°1 & Pier N°2 have been made.

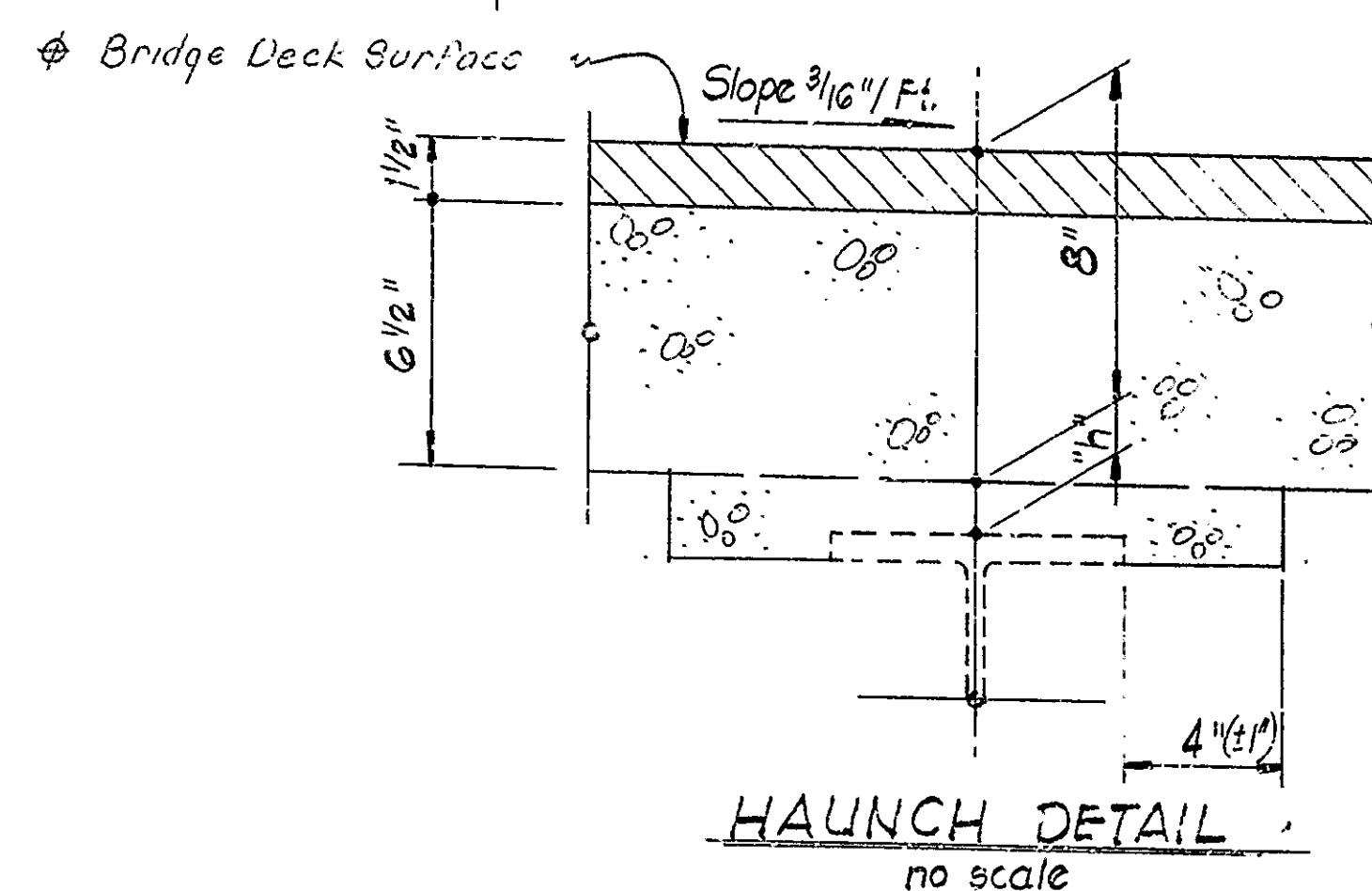
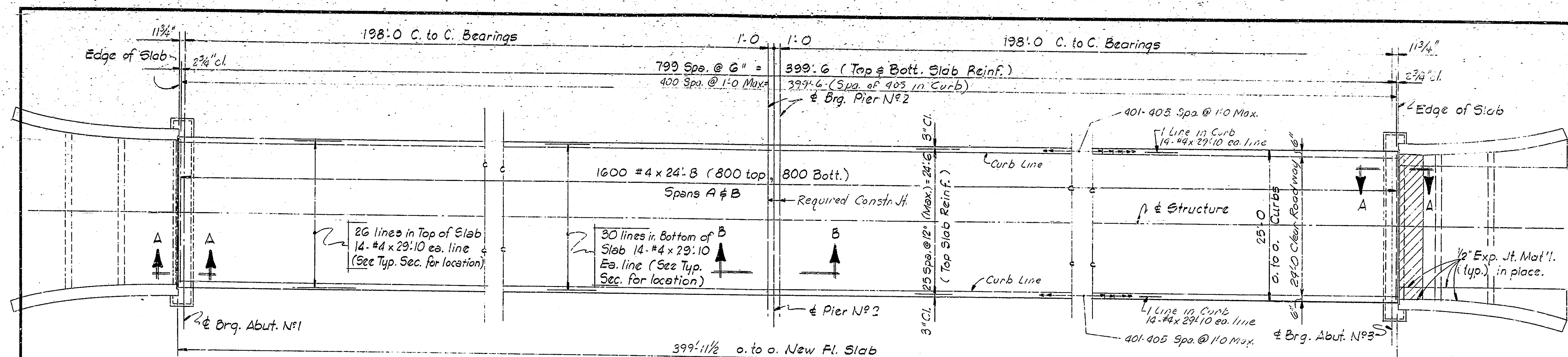
ABUTMENT & PIER DETAILS
INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: November 23, 1976

SUBMITTED FOR APPROVAL: *Kethen S. Kelen*

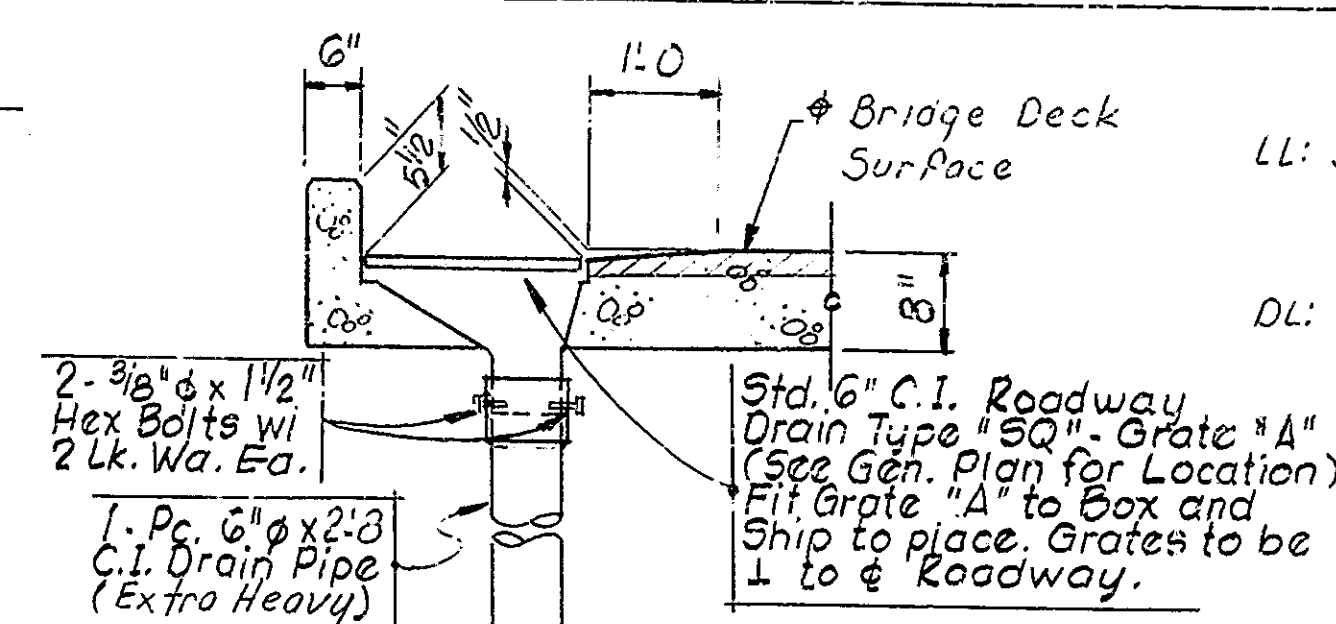
DRAWING: R₃ OF 7
PROJECT: ST-255 D
CONTRACT NO. B-10852
BRIDGE FILE: 46-11-1316A

DESIGNED: <i>WBC</i>	CKD:
DRAWN: <i>E.B.</i>	CKD: <i>WBC</i>
TRACED:	CKD:



Beam No.	Dim. "h"
①	1 1/8"
②	1 1/8"
③	1 7/8"
④	1 5/8"

Notes:
 Transverse construction joints shown are required.
 The top mat of reinf. steel in the slab shall be securely tied down to the floor forms and/or stringers to prevent uplift during concrete placement.
 The Contractor will have the option of using permanent metal forms for the concrete bridge deck in lieu of removable forms in this contract. See Special Provisions.



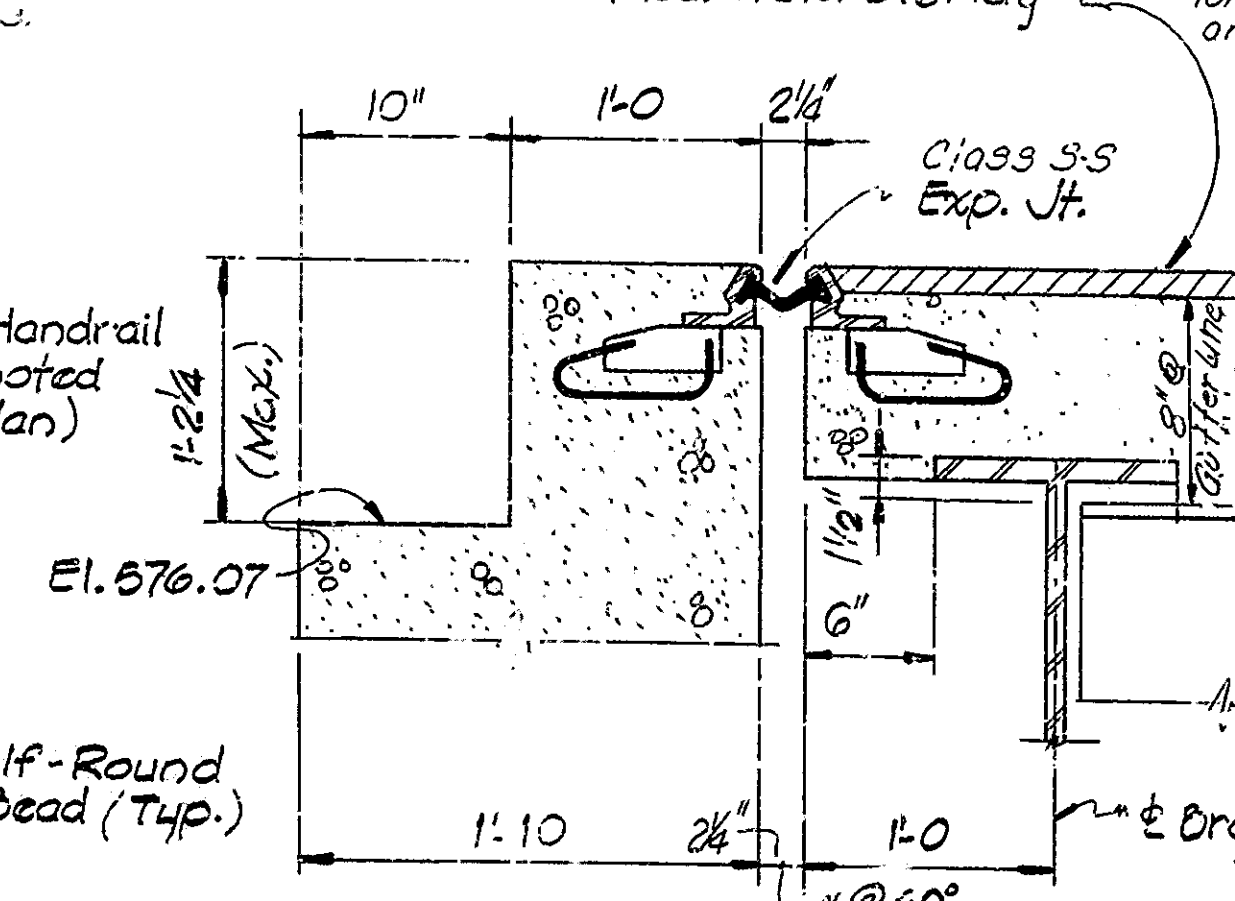
SLAB DESIGN DATA
 LL: Slab designed for HS20-44 loading with impact and distribution loads in accordance with 1974 AASHTO Specs.
 DL: Dead load includes 35 psf of roadway to provide for the bridge deck surface plus some additional future wearing surface.
 Slab designed with a 6 1/2 inch structural depth.

TYPICAL ROADWAY DRAIN

Transverse Section

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

1 1/2" Mod. R.C.C. Overlay

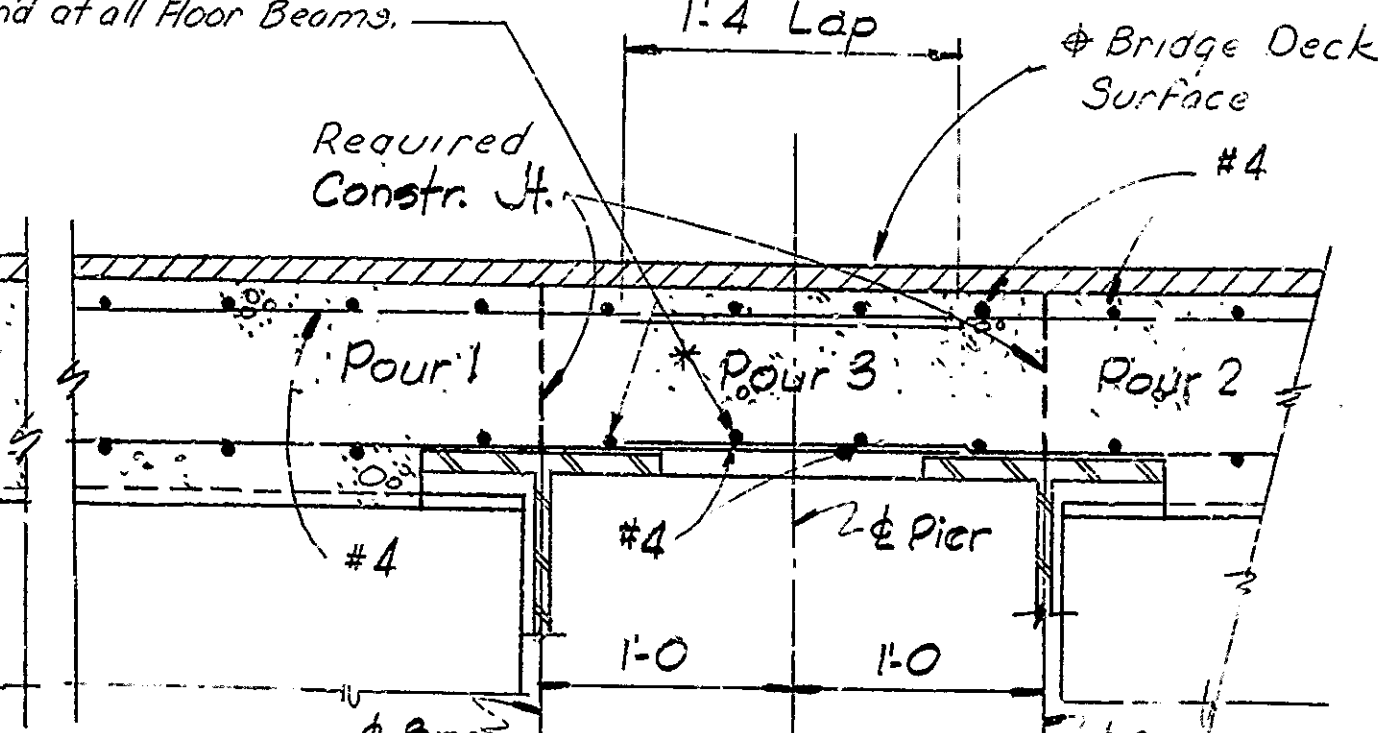


SECTION A-A

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

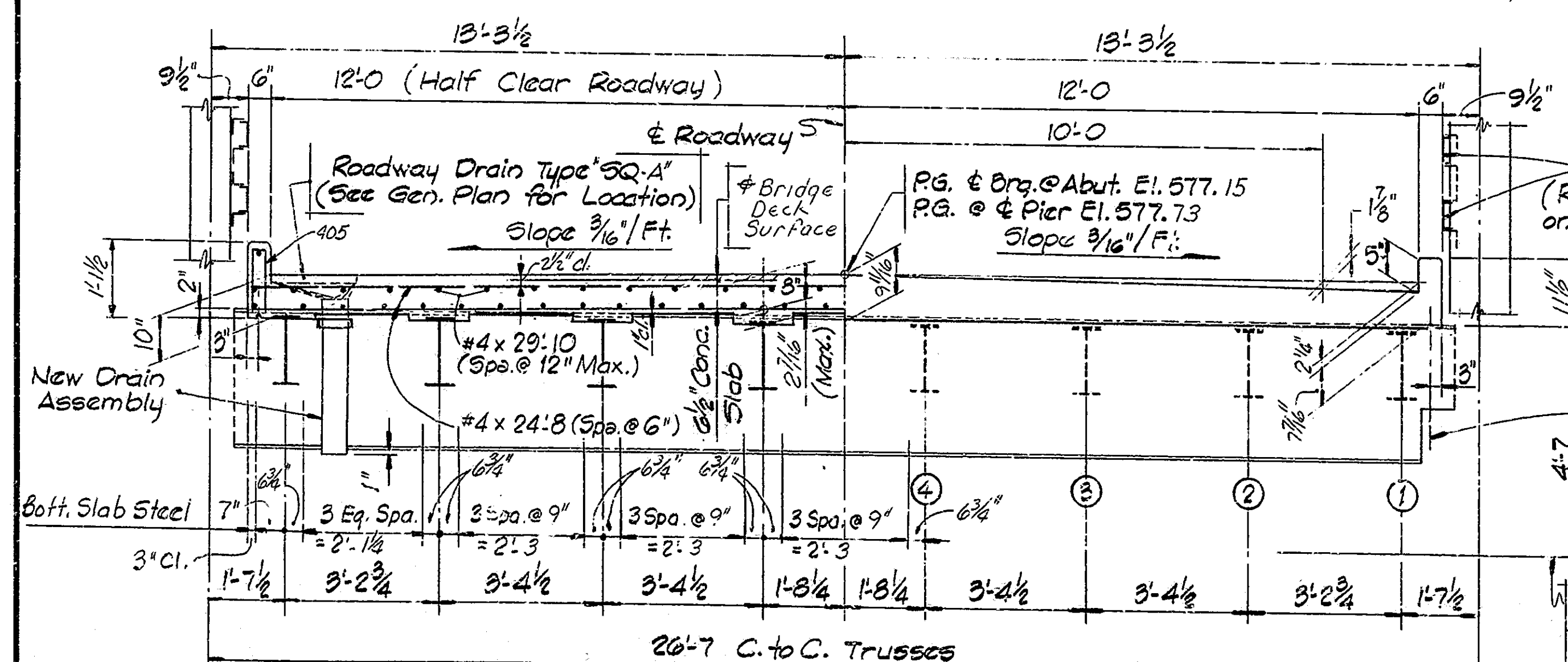
Place bottom transverse steel on top of bottom longitudinal steel over pier and at all floor beams.

* Pour 3 to be made after Pours 1 & 2 are completed



SECTION B-B

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



TYPICAL SECTION

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

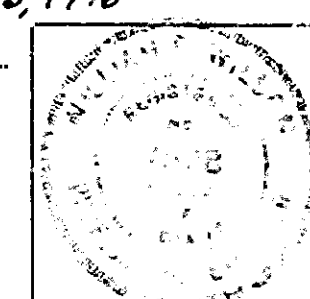
* Bridge Deck Surface to be 1 1/2" Modified Portland Cement Concrete Surface.
 See Br. Std. C for Reinforcing Bar Notes.

INDIANA STATE HIGHWAY COMMISSION

SCALE: AS NOTED DATE: November 28, 1976

SUBMITTED FOR APPROVAL: William F. Helms

DRAWING: R4 OF 7
 PROJECT: ST-255 D
 CONTRACT NO. B-10552
 BRIDGE FILE: 46-11-1316A



BILL OF MATERIALS
R.C. APPROACH PAVEMENT
ABUTMENT N^o 1
(Abutment N^o 3 same)

REINFORCING STEEL			
SIZE & MARK	N ^o OF BARS	LENGTH (FT.)	WEIGHT (LBS)
501	48	4'4"	
#5	9	19'6"	
Total #5			278
Total Reinf. Steel			278
MISCELLANEOUS			
Concrete Pavement Reinforced (9 inch)			10.5 cys.

Quantity includes curb and coping areas of superstructure, top of mudwalls, & top & roadway face of existing concrete railings.

BILL OF MATERIALS
SUPERSTRUCTURE

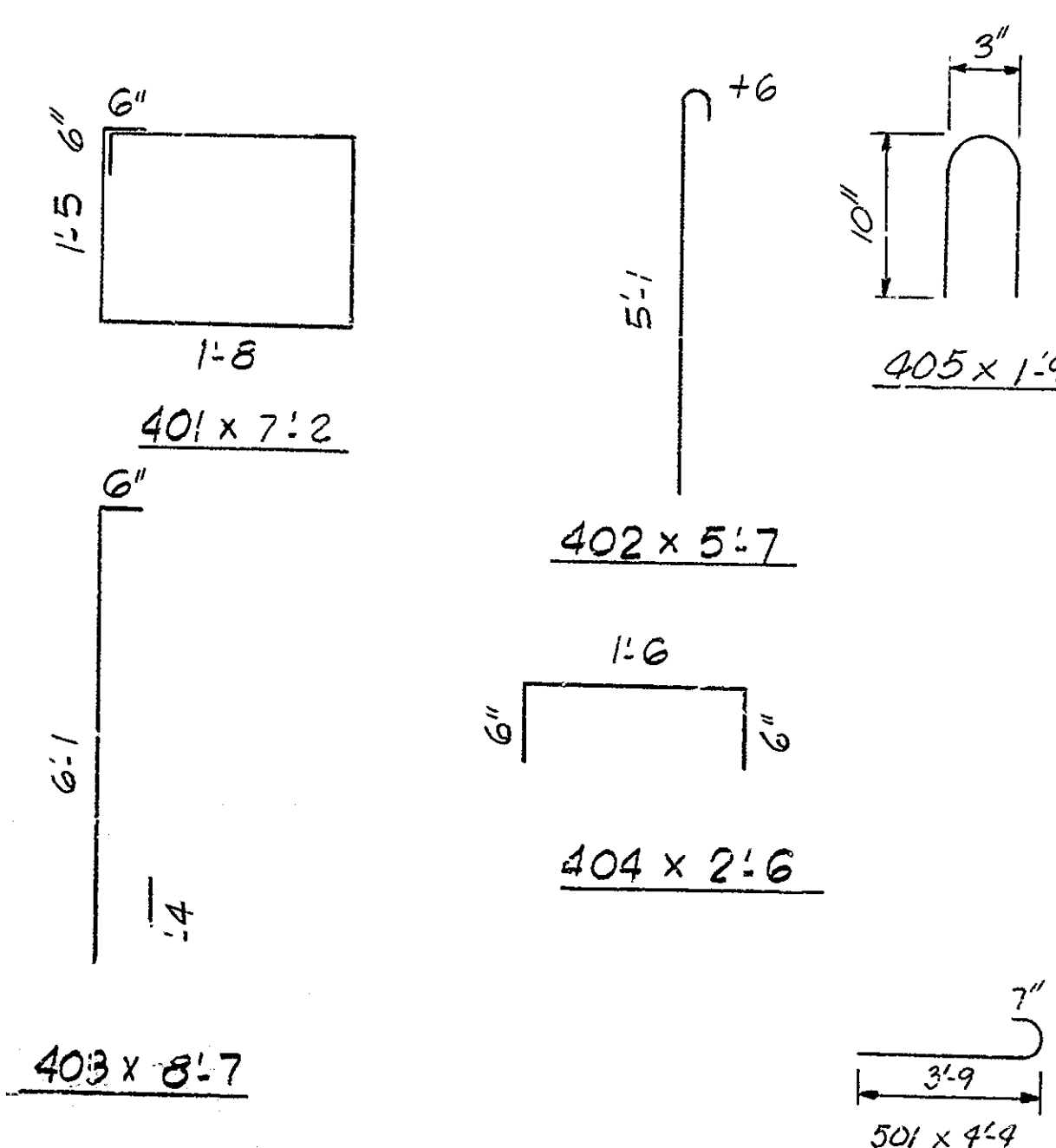
REINFORCING STEEL			
SIZE & MARK	N ^o BARS	LENGTH (FT.)	WEIGHT (LBS)
405	802	1'9"	
#4	812	29'10"	
#4	1600	24'8"	
TOTAL N ^o 4			43,483
TOTAL STEEL			43,483
CONCRETE			
Concrete Class "C" in Super.			
Pour 1			110.7 CYS
Pour 2			110.7 CYS
Pour 3			1.1 CYS
Total Class "C" Conc.			222.5 CYS
MISCELLANEOUS			
16- 6" C.I. Drain Pipe x 2-8			776 LBS.
16- Roadway Drain Type "S&A"			3072 LBS.
Bridge Deck Surface			1061.2 SYS.
Finishing & Curing			1061.2 SYS.
Exp. Jt. Class 5-5			50 LFT.
Blasting & Cleaning			1061.2 SYS.
Surface Seal			2476 SFT.

BILL OF MATERIALS
ABUTMENT N^o 1
(ABUTMENT N^o 3 SAME)

REINFORCING STEEL			
SIZE & MARK	No. BARS	LENGTH (FT.)	WEIGHT (LBS)
401	3	7'2"	
402	30	5'7"	
403	15	8'7"	
404	15	2'6"	
TOTAL N ^o 4			540
TOTAL STEEL			540
CONCRETE			
Concrete Class "A" in Substr.			
			10.4 CYS
MISCELLANEOUS			
Anchor Plate - MK-AP ₂			1 Ea.
3/4" Expansion Anchors with A-307 Bolt			4 Ea.

BILL OF MATERIALS
PIER N^o 2

REINFORCING STEEL			
SIZE & MARK	N ^o BARS	LENGTH (FT.)	WEIGHT (LBS)
401	4	7'2"	
#4	4	4'0"	
TOTAL N ^o 4			30
TOTAL STEEL			30
CONCRETE			
Concrete Class "A" in Substr.			
			0.6 CYS
MISCELLANEOUS			
Anchor Plate-MK-AP ₂			1 Ea.
3/4" Expansion Anchors with A-307 Bolt			4 Ea.



BENDING DIAGRAM

BENDING DIAGRAMS &
BILL OF MATERIALS

INDIANA STATE HIGHWAY COMMISSION

SCALE:- None

DATE:- November 28, 1976

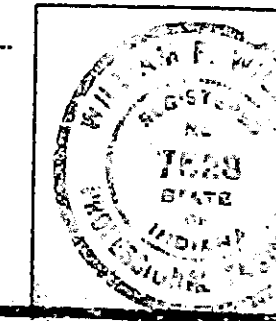
SUBMITTED FOR APPROVAL:- William F. Wilson

DRAWING:- R₆ OF 7

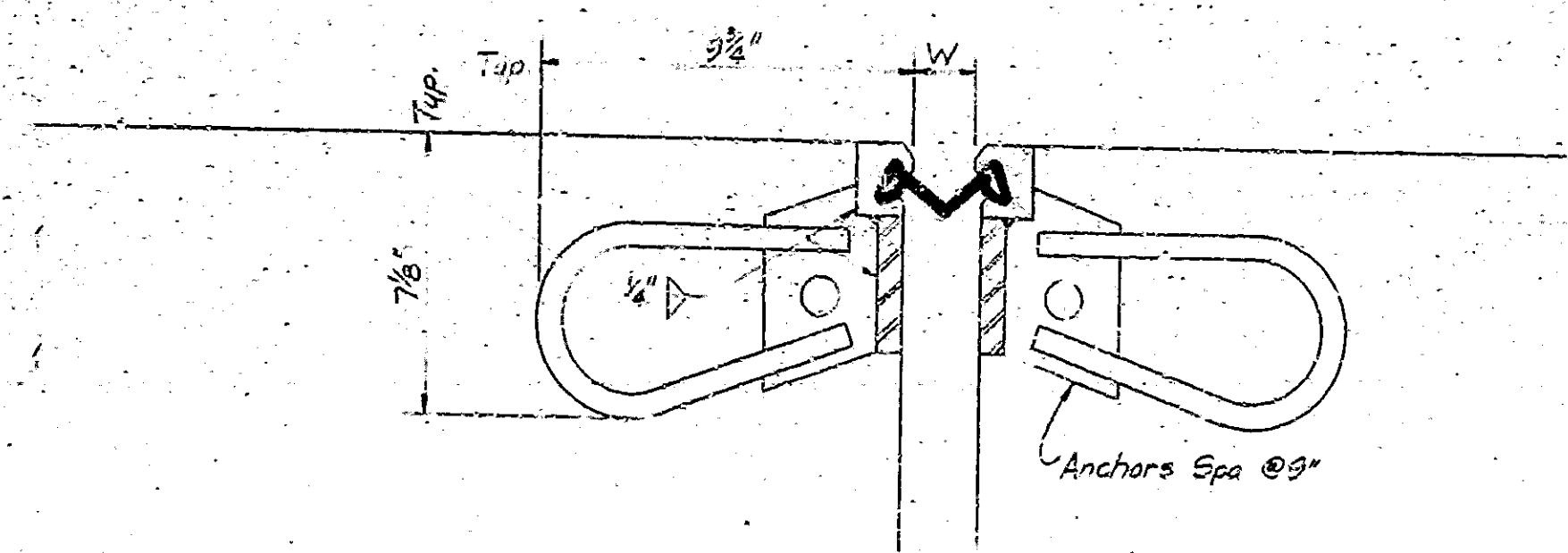
PROJECT:- ST-255 D

CONTRACT NO. B-10832

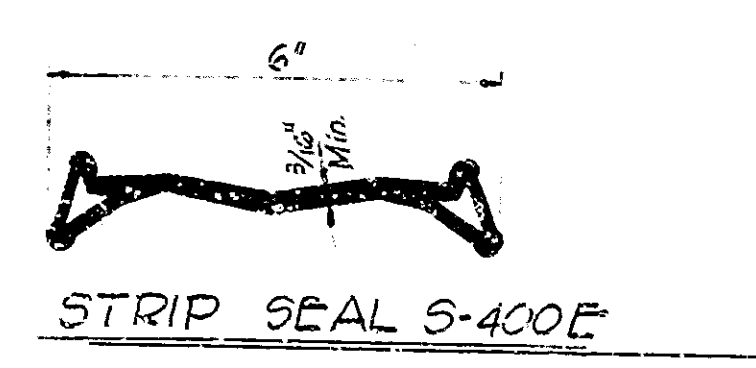
BRIDGE FILE:- 46-11-1316A



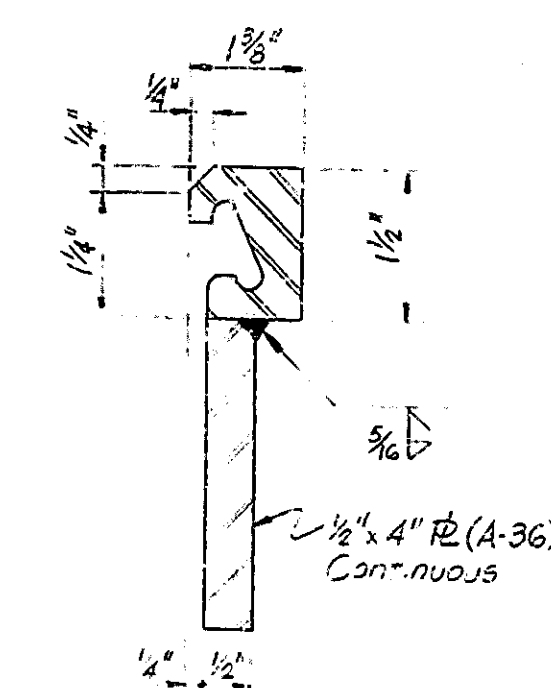
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TRACED: CKD



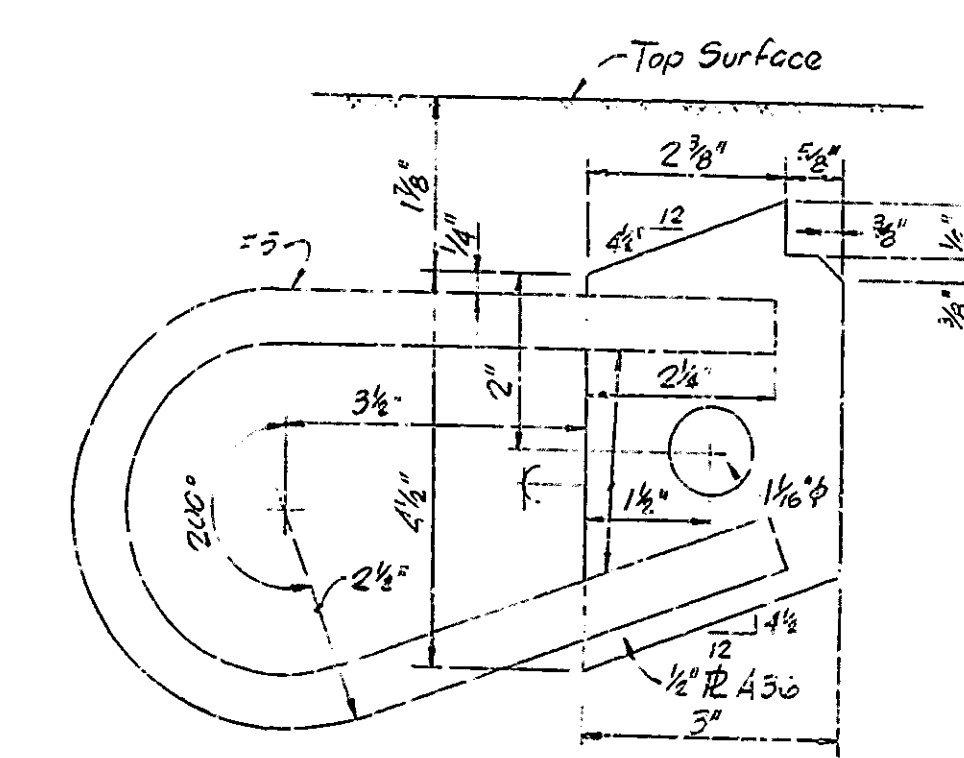
TYPICAL SECTION



STRIP SEAL S-400E



STEEL EXTRUSION
TYPE E



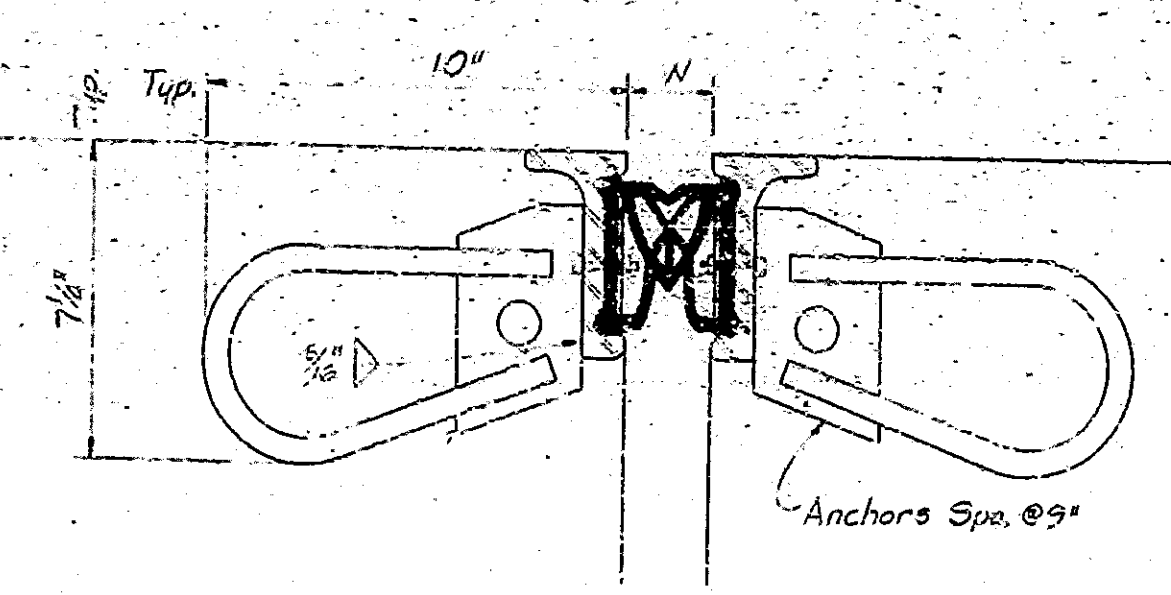
ANCHOR DETAIL

JOINT S-400E

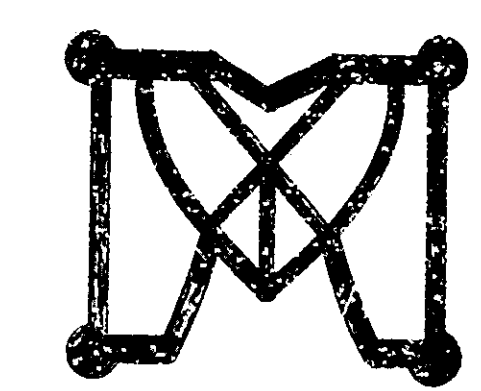
NOTES

See the Special Provisions for physical properties of materials. The cost of extrusions, elastomeric seal elements, adhesive, cement grout, anchor system and installation of joint shall be included in the cost of expansion joint.
The profile of the joint is to conform to the roadway cross section.
The Contractor shall submit 3 copies of shop drawings for all joints, including curbs or other special features.
The seal element shall be molded and furnished in a continuous length equal to that required for the joint.
The joint including anchor assembly to be shop fabricated and delivered to the job site as a complete continuous unit. If the extrusions are manufactured in inadequate lengths they shall be joined by welding.
At changes in direction (at curbs, etc.) the sections of joint are to be cut to the bevel required to produce the same cross section on each piece being joined.
All work, both shop or field, shall be in accordance with 711.03.
All exposed structural steel surfaces will be painted in accordance with ISHC Standard Specifications.

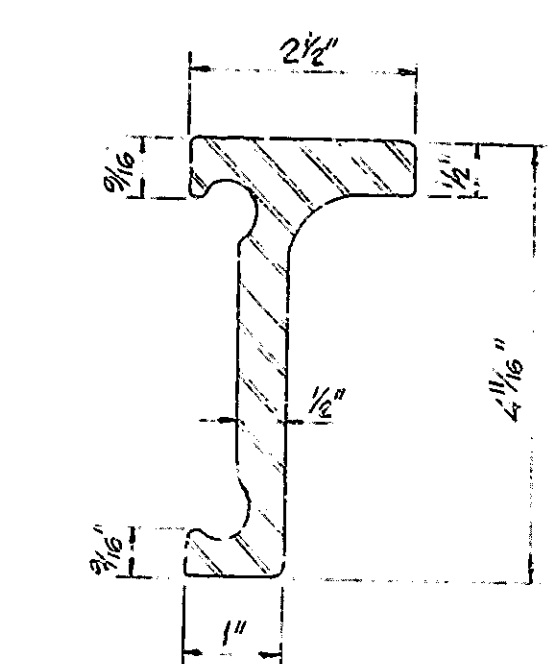
DESIGNED: C.K.D.
DRAWN: D.A.S.
TRACED: C.K.D.



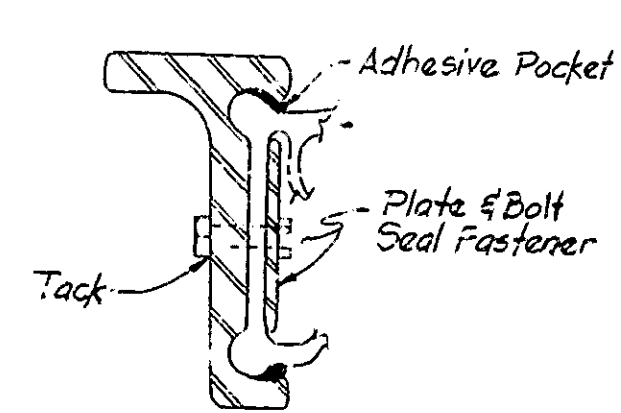
TYPICAL SECTION



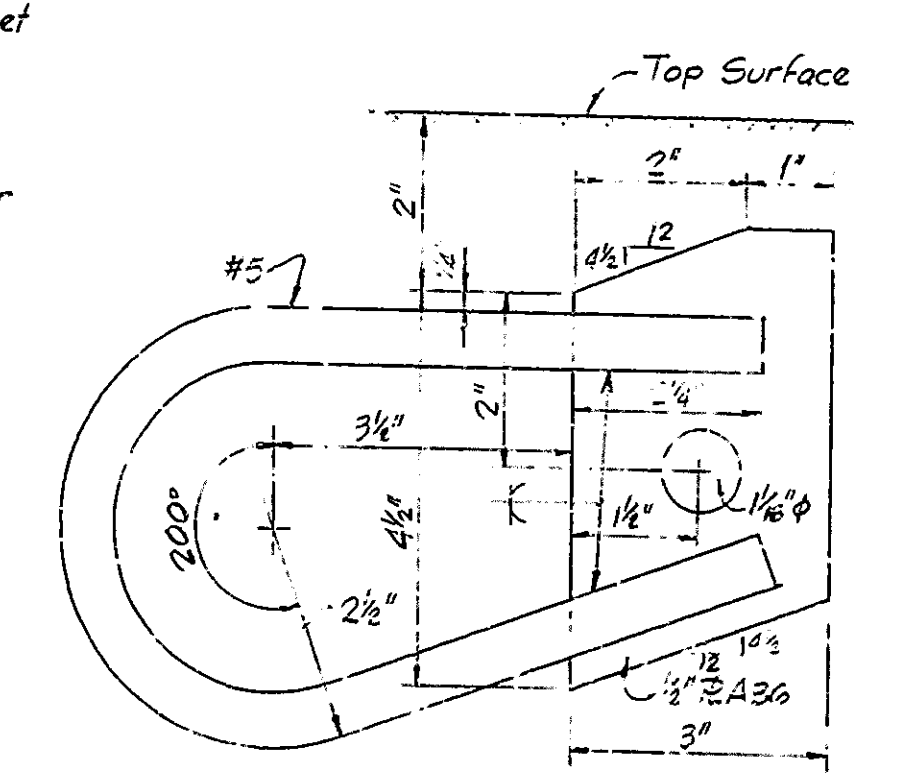
SEAL ELEMENT



STEEL EXTRUSION



DETAIL

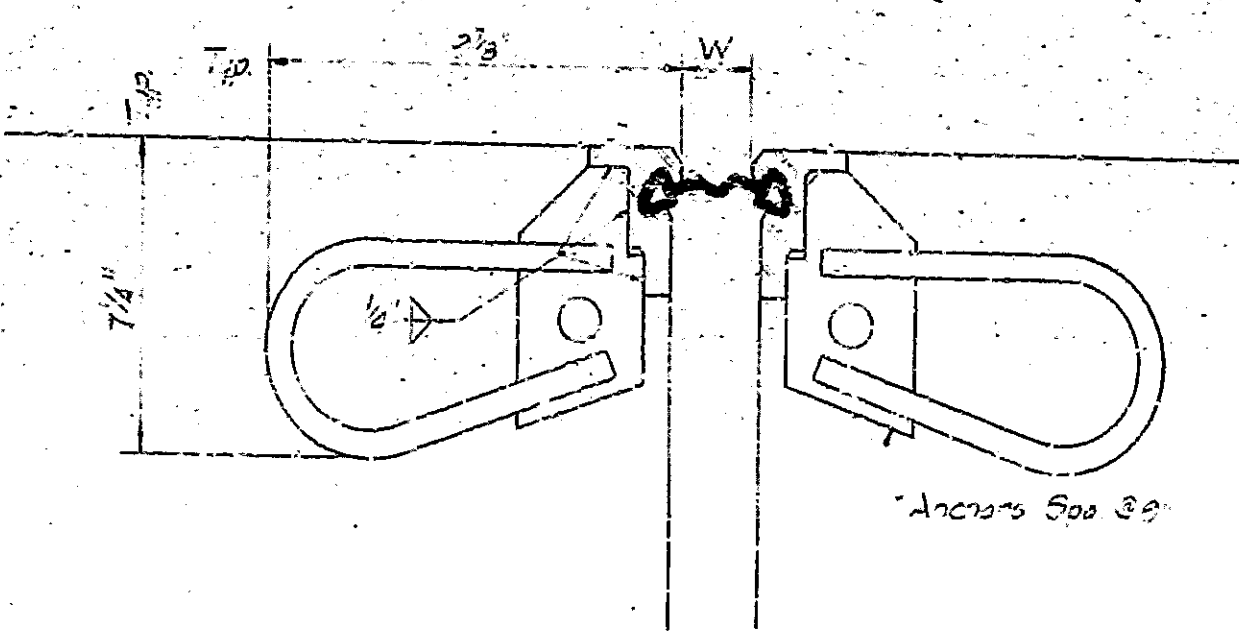


ANCHOR DETAIL

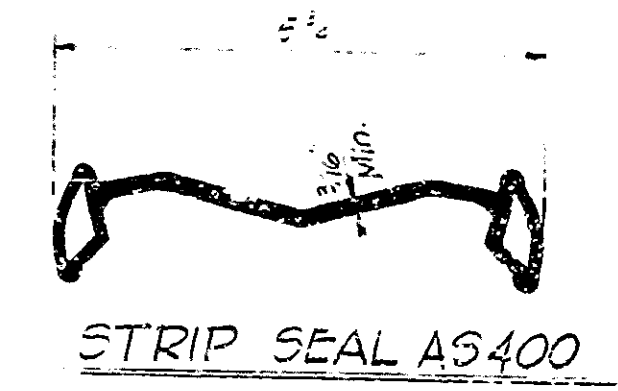
JOINT KLA SEAL S-G

JOINT SETTING TABLE				
Ambient Temperature	DIMENSION "W"			
	Expansion Length			
	100'-200'	198'	300'-400'	
120°	2 1/8"	1 9/16"	1 1/2"	
100°	2 3/8"	1 11/16"	1 5/8"	
80°	2 1/2"	1 13/16"	1 3/4"	
60°	2 3/4"	2 1/8"	2 1/4"	
40°	3 1/8"	2 9/16"	2 3/8"	
20°	3 3/8"	2 11/16"	3 1/8"	
0°	3 7/8"	3 3/8"	4"	

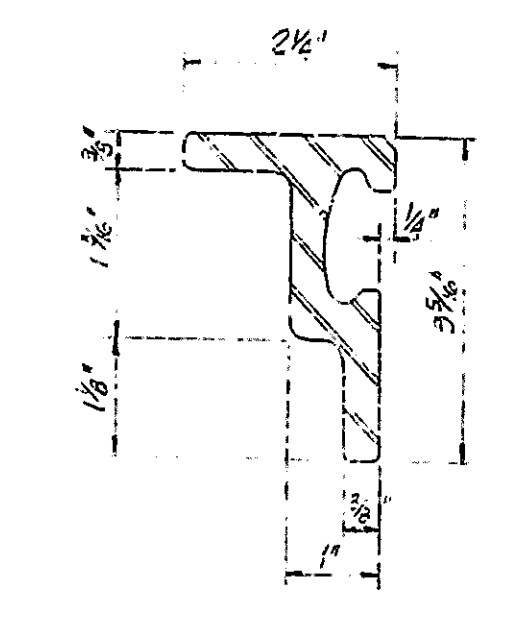
Rev. 1-26-76 Bar and Anchor Spacing
Rev. 6-28-76 Joint Area AS 400 C
Rev. 9-2-76 Joint S-400 E



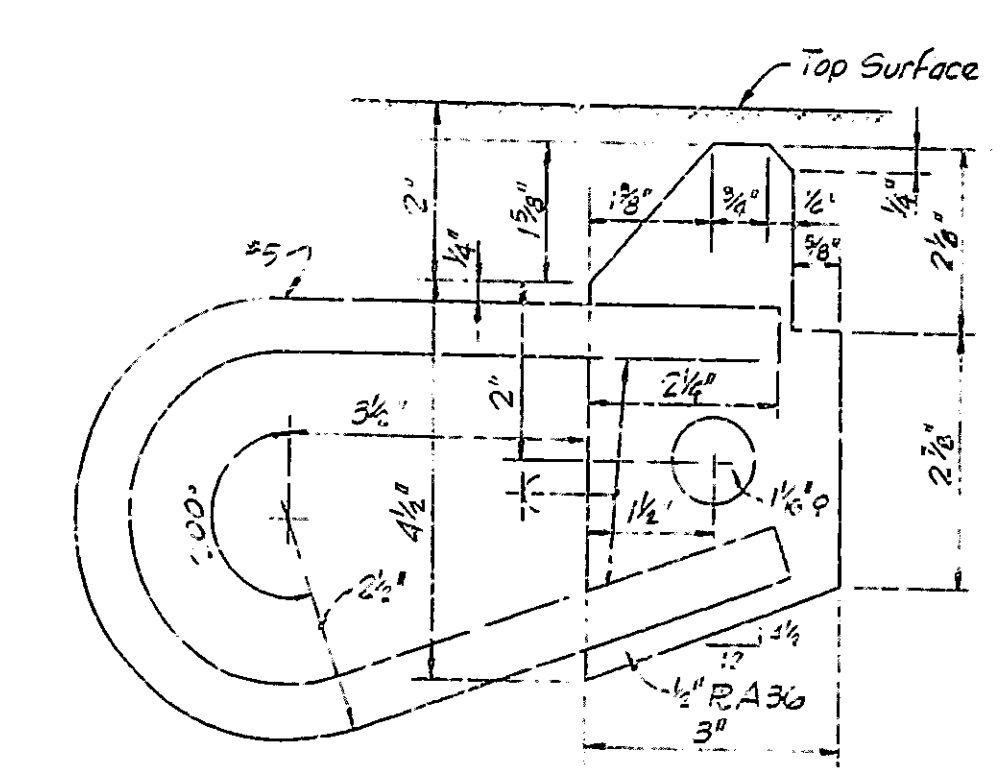
TYPICAL SECTION



STRIP SEAL AS 400



STEEL EXTRUSION
TYPE C



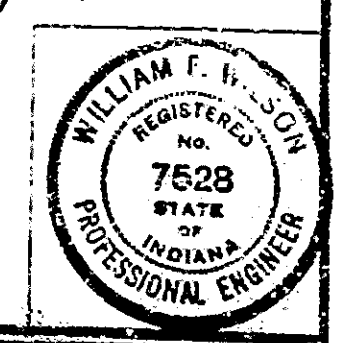
ANCHOR DETAIL

JOINT ACMA AS 400 C

EXPANSION JOINTS CLASS S-S
INDIANA STATE HIGHWAY COMMISSION

SCALE: NONE DATE: November 23, 1976
SUBMITTED FOR APPROVAL: William F. Kilmer

DRAWING: R7 OF 7 SHEET: 8 OF 21
PROJECT: 37-255D
CONTRACT NO: B-10852
BRIDGE FILE: 46-11-1316A



PROJECT NO.	LIN.	SHEET NO.	TOTAL SHEETS	DATE
37-255D		8	21	11-13-1976

ESTIMATE OF QUANTITIES

STRUCTURE PAY ITEMS				
CODE NO.	DESCRIPTION	UNIT	STRUCTURE	TOTAL QUANTITY
51002	CONCRETE CLASS C IN			
51001	SUPERSTRUCTURE	CYS.		222.5
51001	CONCRETE CLASS A IN			
51001	SUPERSTRUCTURE	CYS.		
51005	CONCRETE CLASS A IN			
51005	SUBSTRUCTURE	CYS.		21.4
51010	CONCRETE CLASS B ABOVE			
51010	FOOTINGS	CYS.		
51015	CONCRETE CLASS B IN FOOTINGS	CYS.		
51075	SPECIAL CLASS A CONCRETE	SPT		
51045	CONCRETE STRUCTURAL MEMBERS	LSUM		
51030	REINFORCING STEEL	LBS.		45,149
51035	STRUCTURAL STEEL	LBS.		
51038	STRUCTURAL STEEL	LSUM		1
51090	Bronze Plates	LBS.		
51050	ANCHOR RODS (WK-AR 1)	EACH		
51055	ANCHOR RODS (WK-AR 2)	EACH		
51060	ANCHOR RODS (WK-AR 3)	EACH		
51065	ANCHOR RODS (WK-AR 4)	EACH		
51070	ANCHOR PLATES (WK-AP 1)	EACH		
51075	ANCHOR PLATES (WK-AP 2)	EACH		2
51080	ANCHOR PLATES (WK-AP 3)	EACH		
51085	ANCHOR PLATES (WK-AP 4)	EACH		1
51112	ANCHOR BOLTS	EACH		
51068	TIE DOWN ASSEMBLY WK-1A	EACH		
51068	3/4" X 2" EXPANSION ANCHORS WITH A-307 BOLT	EACH		12
51095	CAST IRON DRAIN PIPE, 4 INCH	LBS.		
51100	CAST IRON DRAIN PIPE, 6 INCH	LBS.		
51105	CAST IRON DRAIN PIPE, 8 INCH	LBS.		776
51110	CAST IRON GRATES, BASINS AND FITTINGS	LBS.		3072
51134	REMOVAL OF PRESENT RAILING	LFT.		
51132	RAILING RESET	LFT.		
51115	RAILING (TYPE S OR C)	LFT.		
51120	RAILING (TYPE SA OR CA)	LFT.		
51125	RAILING (TYPE S OR D)	LFT.		
51130	RAILING (TYPE T OR E)	LFT.		
51020	CLASS C CONCRETE RAILING	CYS.		
51025	CLASS C CONCRETE RAILING	LFT.		
51131	BARRIER RAILING TYPE X	LFT.		
51215	CLASS X EXCAVATION	CYS.		
51250	WET EXCAVATION	CYS.		
51223	WATERWAY EXCAVATION	CYS.		
51224	WATERWAY EXCAVATION	LSUM		
51225	DRY EXCAVATION	CYS.		
51230	FOUNDATION EXCAVATION (UNCLASSIFIED)	CYS.		
51231	FOUNDATION EXCAVATION (UNCLASSIFIED)	LSUM		
51813	PNEUMATICALLY PLACED MORTAR	SPT.		
51870	REPOINTING MASONRY IN STR'S	SPT.		
51814	WELDED STEEL WIRE FABRIC	SPT.		
51859	PAINTING OLD STEEL BRIDGE	LSUM		1
51881	EXPANSION JOINT, TYPE DS2	LFT.		
51885	EXPANSION JOINT, TYPE B86	LFT.		
51887	EXPANSION JOINT, TYPE B88	LFT.		
51888	EXPANSION JOINT, TYPE B89	LFT.		
51890	EXPANSION JOINT, TYPE BS11	LFT.		
51910	EXPANSION JOINT, CLASS I	LFT.		
51920	EXPANSION JOINT, CLASS II	LFT.		
51921	EXPANSION JOINT, CLASS III	LFT.		
51922	EXPANSION JOINT, CLASS IV	LFT.		
	EXPANSION JOINT, CLASS S-3	LFT.		50

SUMMARIZED *Range* C'K'D _____
 TRACED _____ C'K'D _____

STRUCTURE PAY ITEMS				
CODE NO.	DESCRIPTION	UNIT	STRUCTURE	TOTAL QUANTITY
51135	TIMBER PILES FURNISHED, UNTREATED	LFT.		
51140	TIMBER PILES DRIVEN, UNTREATED	LFT.		
51145	TIMBER PILES FURNISHED, TREATED	LFT.		
51150	TIMBER PILES DRIVEN, TREATED	LFT.		
51155	PILE SHELLS FURNISHED AND DRIVEN (12 INCH)	LFT.		
51160	PILE SHELLS FURNISHED AND DRIVEN (14 INCH)	LFT.		
51185	STEEL H PILES FURNISHED AND DRIVEN (8 BP 36)	LFT.		
51190	STEEL H PILES FURNISHED AND DRIVEN (10 BP 42)	LFT.		
51195	STEEL H PILES FURNISHED AND DRIVEN (12 BP 53)	LFT.		
51210	PILE ENCASMENT (CONCRETE)	LFT.		
51323	REMOVAL OF PRESENT STRUCTURE (PORTIONS)	LSUM		1
51330	REMOVAL OF PRESENT STRUCTURE	LSUM		
51335	TEMPORARY BRIDGE AND APPROACHES	LSUM		
51366	CONCRETE SLOPEWALL 5 INCH	SYS.		
51365	SLOPEWALL	SYS.		
51370	RIPRAP	SYS.		
51375	RIEVEMENT RIPRAP	TON		
51371	HANDLAID RIPRAP 12 INCH	SYS.		
51372	DUMPED RIPRAP	TON		
51306	DECK DRAINS	EACH		
51305	STEEL DRAIN PIPE (6 INCH)	LSUM		
51400	STEEL DRAIN PIPE (8 INCH)	LSUM		
51092	STEEL PIPE CONDUIT (2 INCH)	LFT.		
51866	RIVETS REMOVED	EACH		296
51864	FIELD DRILLED HOLES	EACH		
51867	STRUCTURAL STEEL CUTTING	CIN		
51826	SURFACE SEAL	SPT.		2976
51830	SHEET APPLIED MEMBRANE	LSUM		
51828	LIQUID APPLIED MEMBRANE	LSUM		
51831	MODIFIED PORTLAND CEMENT CONCRETE OVERLAY	CYS.		
51839	MODIFIED PORTLAND CEMENT CONCRETE (SURFACE)	CYS.		
51833	CONCRETE CARIFYING	SYS.		
51834	REMOVAL OF SCARIFYING DUST	LSUM		
51835	HANDCHIPPING AND CLEANING	SYS.		
51837	SANDBLASTING AND CLEANING	SYS.		
51838	FINISHING AND CURING BLASTING AND CLEANING BRIDGE DECK SURFACE	SYS.		1061.2
				1061.2
				1061.2

APPROACH PAY ITEMS				
CODE NO.	DESCRIPTION	UNIT	STRUCTURE	TOTAL QUANTITY
52020	UNCLASSIFIED EXCAVATION	CYS.		
52020	COMMON EXCAVATION	CYS.		
52045	BORROW	CYS.		
52250	B BORROW FOR STRUCTURE BACKFILL	CYS.		92
52303	REMOVAL OF PAVEMENT	SYS.		
52325	BREAKING PAVEMENT	SYS.		24
52480	TERMINAL JOINT	LFT.		
52485	CONTRACTION JOINT, TYPE D-1	LFT.		
52280	CONCRETE PAVEMENT REINFORCED (7 INCH)	SYS.		
52285	CONCRETE PAVEMENT REINFORCED (8 INCH)	SYS.		
52290	CONCRETE PAVEMENT REINFORCED (9 INCH)	SYS.		21
52300	CONCRETE PAVEMENT REINFORCED (10 INCH)	SYS.		
52305	CONCRETE SIDEWALK	SIS.		
52305	TYPE P COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON		
52305	COVER AGGREGATE	TON		
52305	COVER AGGREGATE (SIZE NO. 12)	TON		
52305	AGGREGATE FOR SHOULDER DRAINS	TON		
52305	AGGREGATE FOR UNDER DRAINS	CYS.		
52305	TYPE O COMPACTED AGGREGATE FOR BASE (SIZE NO. 53)	TON		
52310	SUBBASE	CYS.		
52315	BITUMINOUS STABILIZED SUBBASE TYPE I, II, OR III	TON		
52320	BITUMINOUS STABILIZED SUBBASE	TON		
52445	BITUMINOUS BASE	TON		
52445	BITUMINOUS BASE (SIZE NO 53B)	TON		
52451	BITUMINOUS BINDER	TON		
52450	BITUMINOUS SURFACE	TON		
52455	BITUMINOUS MATERIAL FOR TACK COAT	TON		
52460	BITUMINOUS MATERIAL FOR PRIME COAT	TON		
52465	BITUMINOUS MATERIAL FOR SEAL COAT	TON		
52470	BITUMINOUS MIXTURE FOR APPROACHES	TON		10.9
52475	BITUMINOUS MIXTURE FOR SHOULDER	TON		
52480	BITUMINOUS MATERIAL, APPLIED	TON		
52500	GUARD RAIL, TYPE A	LFT.		
52505	GUARD RAIL, TYPE B	LFT.		
52510	GUARD RAIL, TYPE C	LFT.		
52515	GUARD RAIL, TYPE D	LFT.		
52520	GUARD RAIL, TYPE E	LFT.		
52525	GUARD RAIL, TYPE F	LFT.		
52530	GUARD RAIL, TYPE G	LFT.		
52535	GUARD RAIL, TYPE H	LFT.		
52535	RESET GUARD RAIL	LFT.		
52535	REMOVAL OF GUARD RAIL	LFT.		
52535	SODDING	SYS.		491
52535	MULCHED SEEDING "R"	SYS.		
52535	SEED MIXTURE "R"	LBS.		
52535	SEED MIXTURE "TR"	LBS.		
52400	MULCHING MATERIAL	TON		
52405	FERTILIZER	TON		
52410	WATER	M.G.		
52415	AGRICULTURAL LIMESTONE	TON		
52420	SEED MIXTURE "CV"	LBS.		
52401	MULCHING MATERIAL (WOOD CELLULOSE FIBER)	TON		
52640	MAINTAINING TRAFFIC	LSUM		
52370	CLEARING RIGHT-OF-WAY	LSUM		
	Guard Rail, Class DS	LFT.		650
	Concrete, Class A for Guard Rail	CYS.		1.6

1. INCLUDES _____ TONS FOR SEED MIXTURE "R"
2. INCLUDES _____ TONS FOR SEED MIXTURE "F"
3. INCLUDES _____ TONS FOR SEED MIXTURE "R"

APPROACH PAY ITEMS				
CODE NO.	DESCRIPTION	UNIT	STRUCTURE	TOTAL QUANTITY
07025	PIPE, GR. A (0.064" FBCCS) 12"	LFT.		
07075	PIPE, GR. A (0.064" FBCCS) 16"	LFT.		
07125	PIPE, GR. A (0.064" FBCCS) 18"	LFT.		
07175	PIPE, GR. A (0.064" FBCCS) 24"	LFT.		
07225	PIPE, GR. A (0.064" FBCCS) 30"	LFT.		
07275	PIPE, GR. A (0.064" FBCCS) 36"	LFT.		
07325	PIPE, GR. A (0.064" FBCCS) 42"	LFT.		
10000	PIPE, GR. D (0.064" CS) 12"	LFT.		
10025	PIPE, GR. D (0.064" CS) 16"	LFT.		
10050	PIPE, GR. D (0.064" CS) 18"	LFT.		
10075	PIPE, GR. D (0.064" CS) 24"	LFT.		
10100	PIPE, GR. D (0.064" CS) 30"	LFT.		
10125	PIPE, GR. D (0.064" CS) 36"	LFT.		
10150	PIPE, GR. D (0.064" CS) 42"	LFT.		
34000	PIPE, 0.052" FBC PERF. CS 6"	LFT.		
32000	PIPE, 0.064" FBCCS 12"	LFT.		
52375	CONCRETE CLASS A IN STRUCTURE	CYS.		
52375	CONCRETE CLASS C IN STRUCTURE	CYS.		
46000	PIPE END SECTION 15"	EACH		
46005	PIPE END SECTION 15"	EACH		
46010	PIPE END SECTION 18"	EACH		
46015	PIPE END SECTION 21"	EACH		
46020	PIPE END SECTION 24"	EACH		
46025	PIPE END SECTION 27"	EACH		
46030	PIPE END SECTION 30"	EACH		
46035	PIPE END SECTION 33"	EACH		
46040	PIPE END SECTION 36"	EACH		
45000	INLET, TYPE A-1	EACH		
45025	INLET, TYPE D-6	EACH		
45030	INLET, TYPE E-7	EACH		
45070	INLET, TYPE P-12A	EACH		
06335	PAVED SIDE DITCH TYPE A	LFT.		
06340	PAVED SIDE DITCH TYPE B	LFT.		
06345	PAVED SIDE DITCH TYPE C	LFT.		
06350	PAVED SIDE DITCH TYPE D	LFT.		
06355	PAVED SIDE DITCH TYPE E	LFT.		
06360	PAVED SIDE DITCH TYPE F	LFT.		
06365	PAVED SIDE DITCH TYPE G	LFT.		

APPROACH PAY ITEMS				
CODE NO.	DESCRIPTION	UNIT	STRUCTURE	TOTAL QUANTITY
06040	47" FENCE, F. FIELD	LFT.		
06045	48" FENCE, CHAIN LINK	LFT.		
52340	CONSTRUCTION SIGNS (TYPE A)	EACH		16
52345	CONSTRUCTION SIGNS (TYPE B)	EACH		6
52350	STANDARD BARRICADES (TYPE III)	EACH		2
06650	STOP SIGN, TYPE R-1A	EACH		
06652	DO NOT PASS SIGN, TYPE R-11-A	EACH		
06655	YIELD SIGN, TYPE R-301	EACH		
06657	PASS WITH CARE SIGN, TYPE R-12A	EACH		
06660	CURVE SIGN, TYPE W-2AR	EACH		
06665	CURVE SIGN, TYPE W-2AL	EACH		
06670	REVERSE CURVE SIGN, TYPE W-4AR	EACH		
06675	REVERSE CURVE SIGN, TYPE W-4AL	EACH		
06680	LARGE ARROW SIGN, TYPE W-11A	EACH		
06685	STOP AHEAD SIGN, TYPE W-13A	EACH		
06725	DELINEATOR WITH POST, TYPE D-1	EACH		
06740	DELINEATOR WITH POST, TYPE D-2	EACH		
06755	DELINEATOR WITH POST, TYPE D-3	EACH		
06770	DELINEATOR POST	EACH		
52365	TEMPORARY PAVEMENT MARKING TAPE	LFT.		
52367	TEMPORARY PAVEMENT MARKING PAINT	LFT.		
52360	RIGHT-OF-WAY MARKERS	EACH		
52365	PAINTED LINE **	LFT.		
06500	MONUMENT, TYPE A	EACH		
06505	MONUMENT, TYPE B	EACH		
06510	MONUMENT, TYPE C	EACH		
06515	MONUMENT, TYPE D	EACH		
52821	FLASHING ARROW SIGN	EACH		

** INCLUDES _____ LFT. FOR YELLOW BARRIER LINE

BRIDGE ESTIMATE OF QUANTITIES INDIANA STATE HIGHWAY COMMISSION

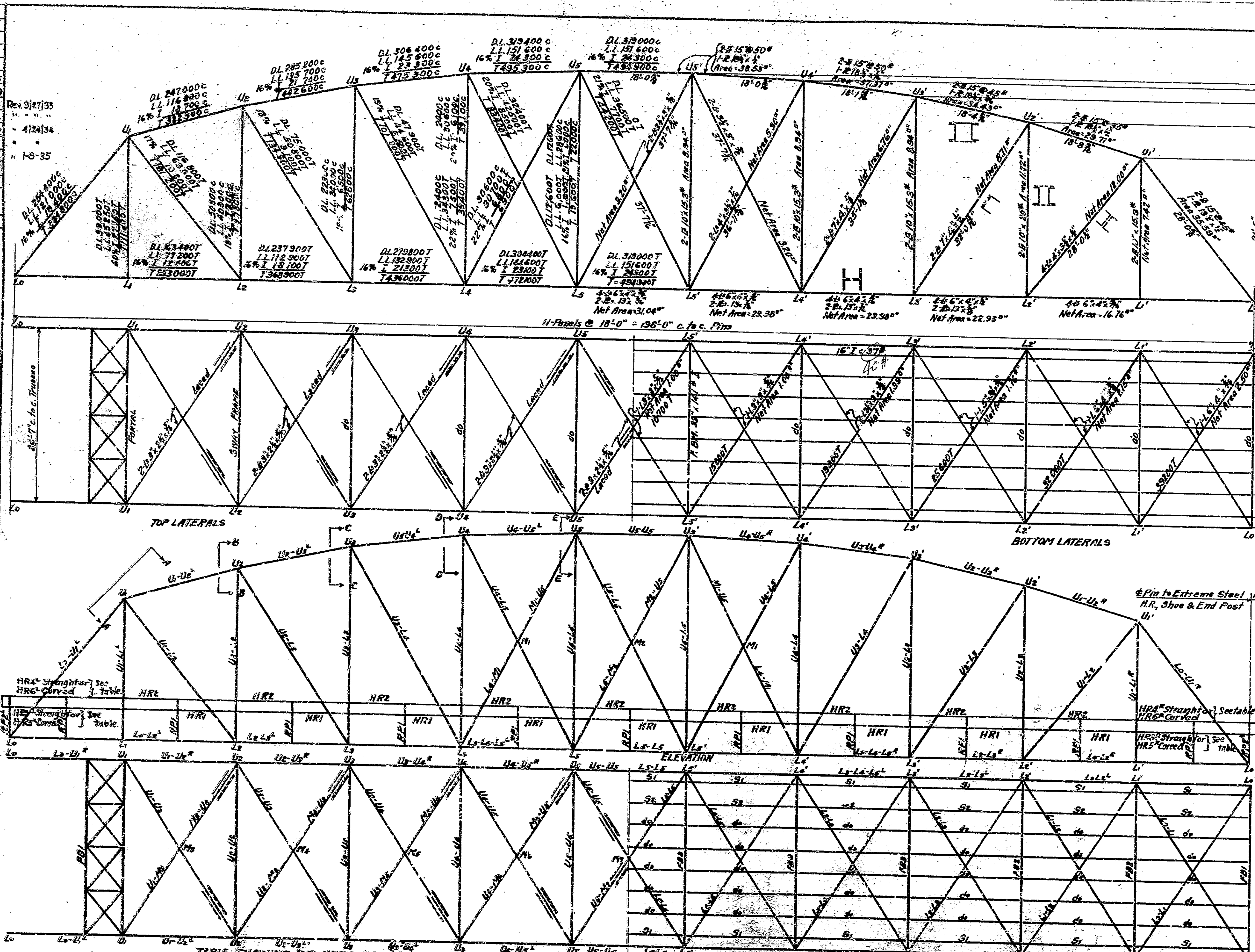
DATE November 23, 1976

SUBMITTED FOR APPROVAL: *William J. Wilson*

PROJECT: 57-255 D
 CONTRACT NO: B-10852
 BRIDGE FILE: 46-11-1316 A

SHEET 10 OF 21

THIS STANDARD
STEEL TRUSS
LISTED ON THE
FOLLOWING
STRUCTURES
PROJ. 3 C 102
" 41 V 1489
" 101 A 1226
" 46 C 1316
" 50 J 1262
" 39 K 1453
" 3 E 1754



BRIDGES OVER 20' SPAN

DATA USED FOR DESIGN & DETAILS

Standard specifications for Highway Bridges & Incidental Structures by American Association of State Highway Officials Dated 1925.

Live Load for Floor Beams and Stringers - Loading 11-20 - 2-20.5 Trucks 9-9.5

Live Load for Trusses - Loading 11-20 600 lbs per lin. ft. and 28000 concentrated load for each of two traffic lanes 9'-0" wide and 5'-0" c. to c. S4b designed with wearing surface varying from 1/2" at 5'-0" point to 2" at 4' of Roadway.

ROADWAY STRINGERS

Shear	Moments
DL 3520	DL 130000
LL 14680	LL 574000
30% T 5070	30% T 172000
72480	738800
Area 301 (16.00-300) 395	5.11 K ² /ft ² = 4.42
4800 L ² Defl. or C.B.	Defl. or C.B.
25480 = 2.55 Req'd.	37000 = 14.573
10000	64.2

END FLOOR BEAM

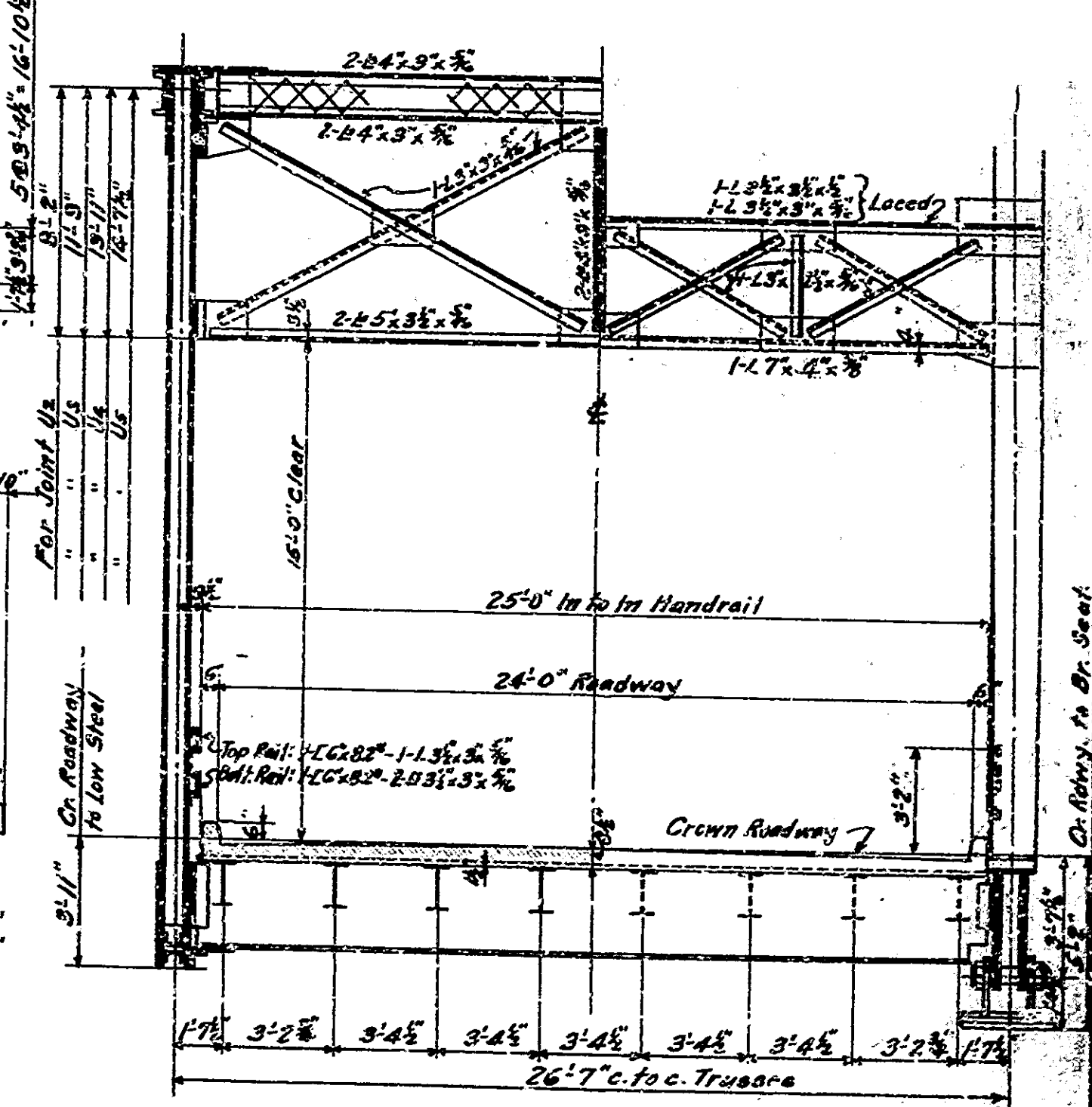
Shear	Moments
DL 14660	DL 181350
LL 41405	LL 358100
60% T 24845	60% T 248450
73880	738800
Area 605 (33.31-3) = 14.71	5.11 K ² /ft ² = 4.42
4800 L ² Defl. or C.B.	Defl. or C.B.
33720 = 3.37 Req'd.	694900 = 155.60
10000	44.4

INTERMEDIATE FLOOR BEAM

Shear	Moments
DL 27470	DL 2290600
LL 41405	LL 3581100
60% T 24845	30% T 1674300
73880	7388000
Area 605 (33.31-3) = 14.71	5.11 K ² /ft ² = 4.42
4800 L ² Defl. or C.B.	Defl. or C.B.
33720 = 3.37 Req'd.	694900 = 155.60
10000	44.4

END REACTION

DL	LL	15% T	30% T
214500	101350	16350	332800
666" Req'd.	32800	666" Req'd.	32800
1202.33' = 660" Used.	500	1202.33' = 660" Used.	500



HALF SECTION HALF END ELEVATION
Scale: 1/4" = 1'-0"

NOTE: Std. 475-A has the Channel Type Handrail. Drawg. Nos. 3, 4, 5, 7, 8 are identical for Std. 475 and 475-A

STRESS SHEET & MARKING DIAGRAMS
STEEL TRUSS BRIDGE

1 SPAN 198'-0" 24'-0" ROADWAY

INDIANA STATE HIGHWAY COMMISSION

SCALE: 1/4" = 1'-0" UNLESS NOTED

APRIL 12, 1933

RECOMMENDED FOR APPROVAL: *[Signature]*

DRAWING: STD. 1 OF 12

STANDARD NO. 475-A

TABLE SHOWING END HANDRAIL SECTIONS TO BE USED

STRA. NO.	EXP. END	FIXED END	INT. IN SPAN
3-C-105	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
41-U-1489	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
101-A-1236	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
46-C-1316	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
50-J-1262	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
39-K-1453	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)
3-E-1754	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)	Handrail (straight) (HRA) (straight) (HRA)

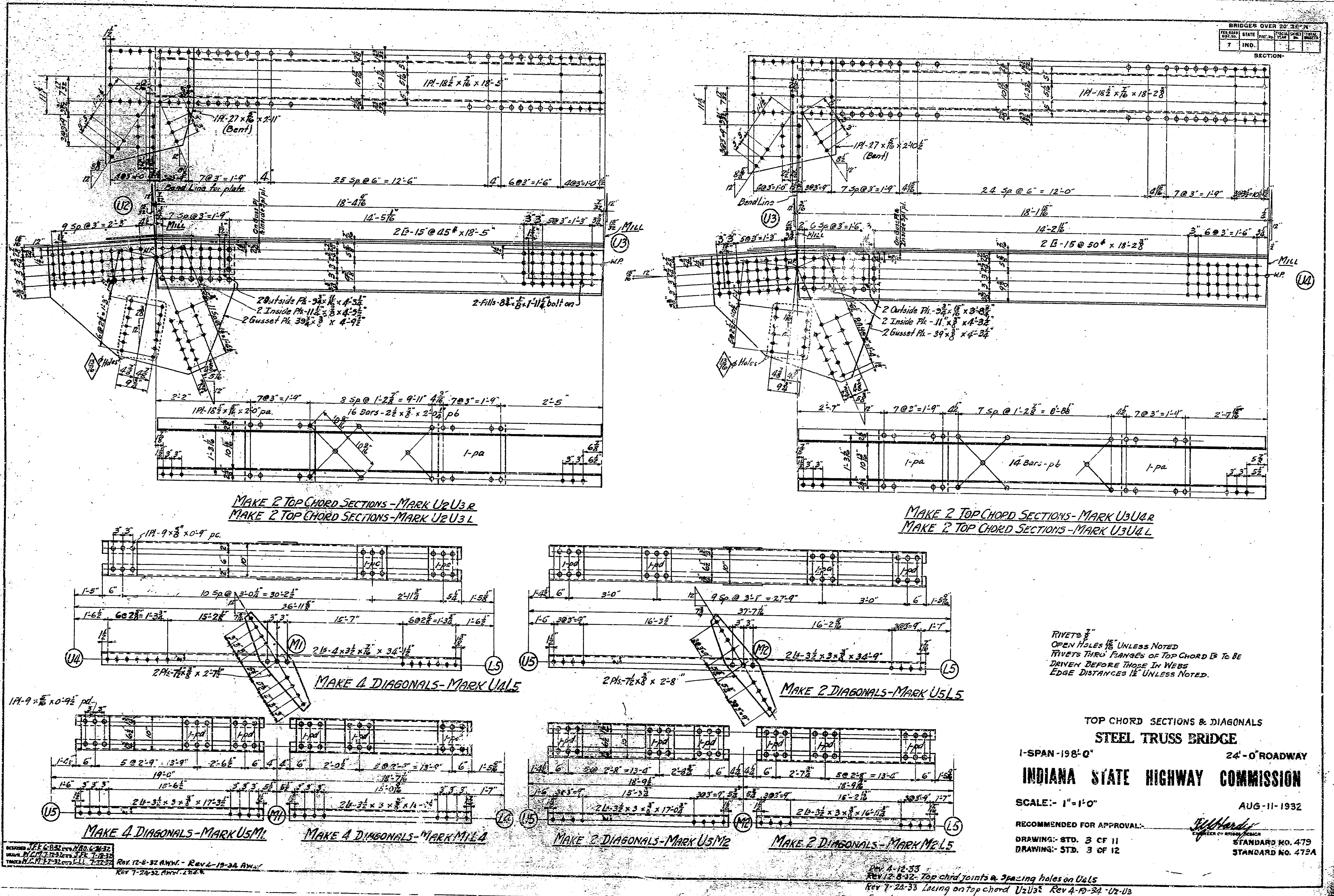
VIEW A-A

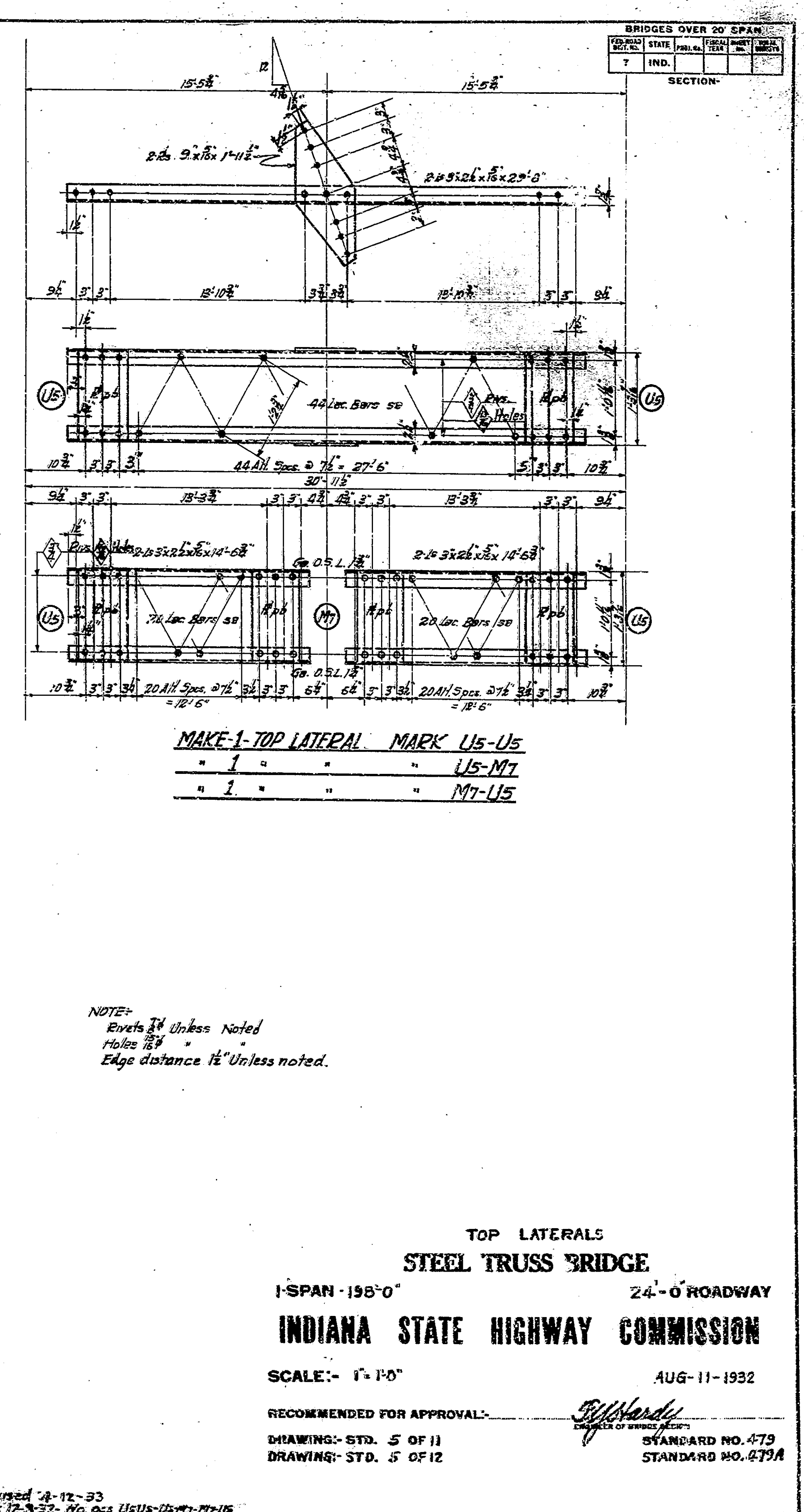
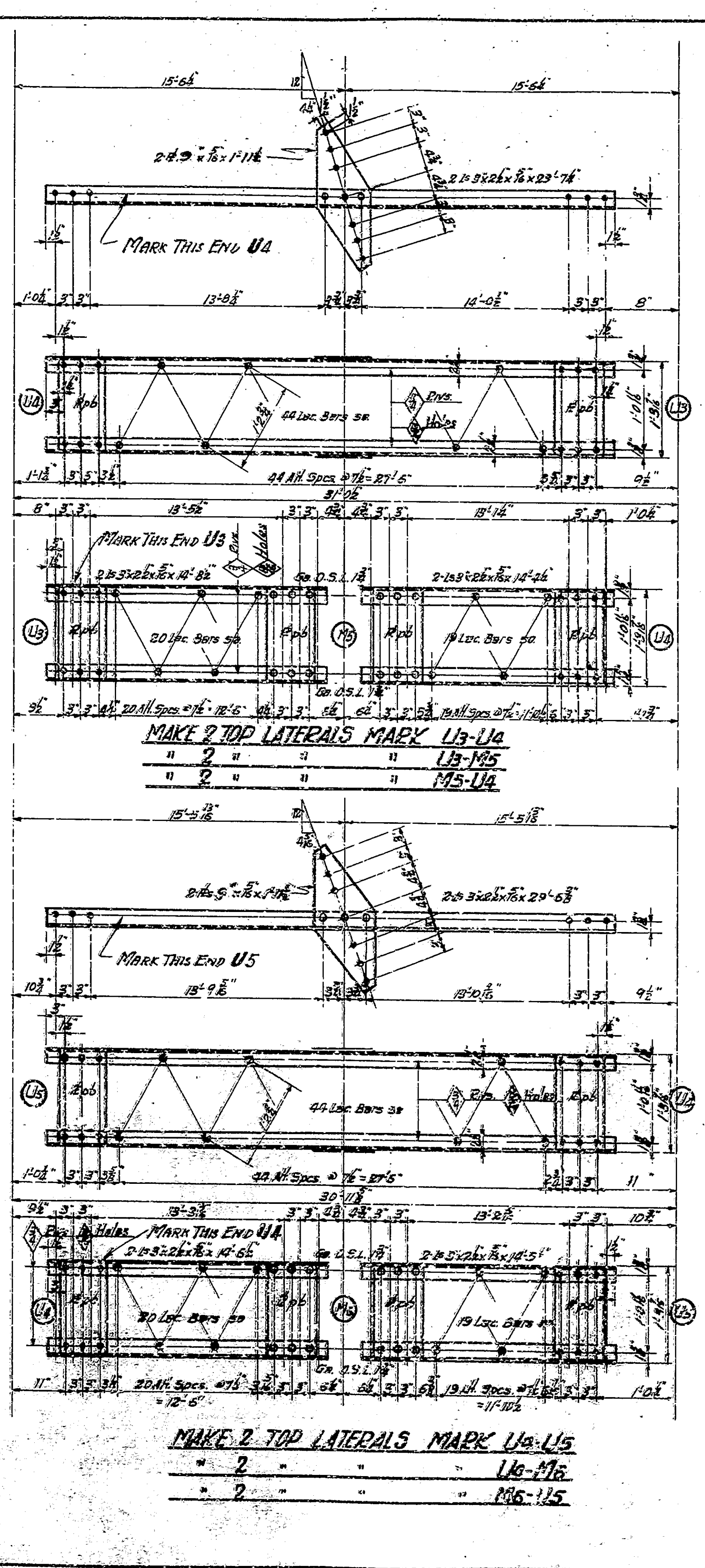
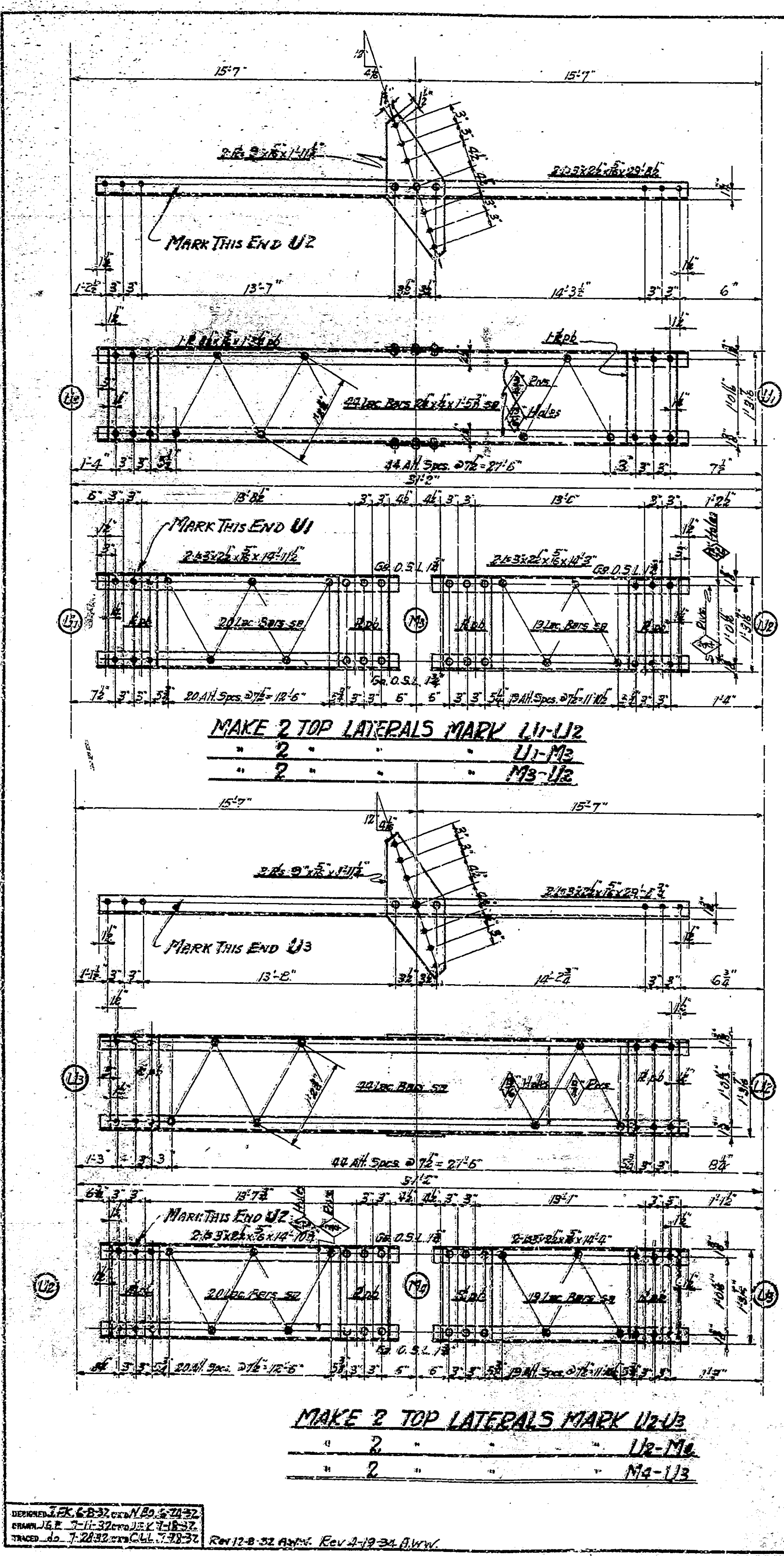
SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

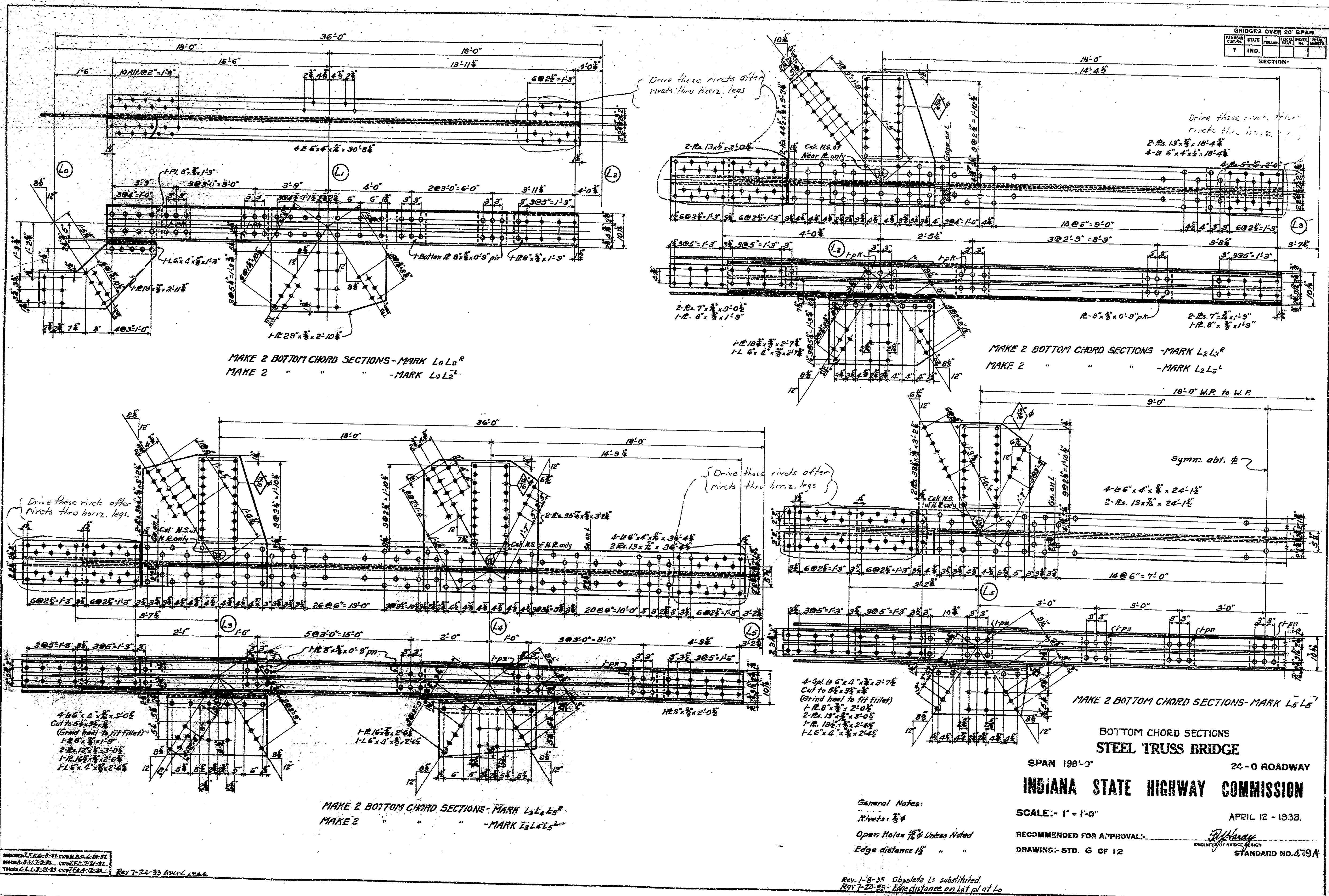


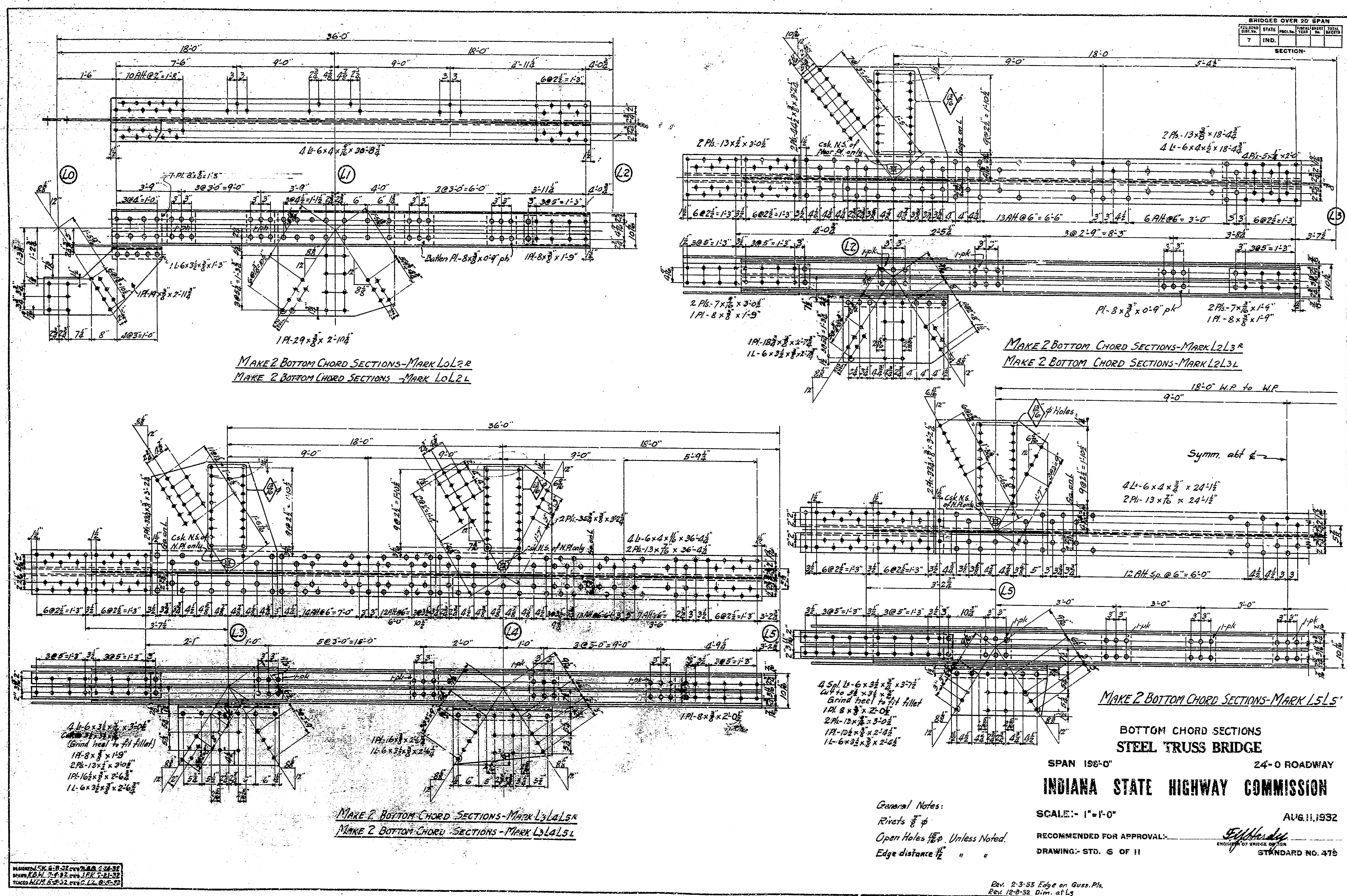


NOTE:-
Rivets 3/4" Unless Noted
Holes 1/2"
Edge distance 1 1/2" Unless noted.

TOP LATERALS
STEEL TRUSS BRIDGE
1 SPAN - 195'-0" 24'-0" ROADWAY
INDIANA STATE HIGHWAY COMMISSION
SCALE:- 1" = 1'-0" AUG-11-1932
RECOMMENDED FOR APPROVAL:
DRAWING:- STD. 5 OF 11
DRAWING:- STD. 5 OF 12
STANDARD NO. 479
STANDARD NO. 279A

Revised 12-12-33
Rev 12-3-33 No. 100 U5-U5-M7-M9
Rev 1-10-34 No. 101 U6-U6-M8-M10
Rev 1-6-35 LATERALS TURNED





BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SECTION	DATE	TOTAL SHEETS
7	IND.				

MAKE 2 BOTTOM CHORD SECTIONS-MARK L0L2R
MAKE 2 BOTTOM CHORD SECTIONS-MARK L0L2L

MAKE 2 BOTTOM CHORD SECTIONS-MARK L2L3R
MAKE 2 BOTTOM CHORD SECTIONS-MARK L2L3L

MAKE 2 BOTTOM CHORD SECTIONS-MARK L5L5'

MAKE 2 BOTTOM CHORD SECTIONS-MARK L3L4L5R
MAKE 2 BOTTOM CHORD SECTIONS-MARK L3L4L5L

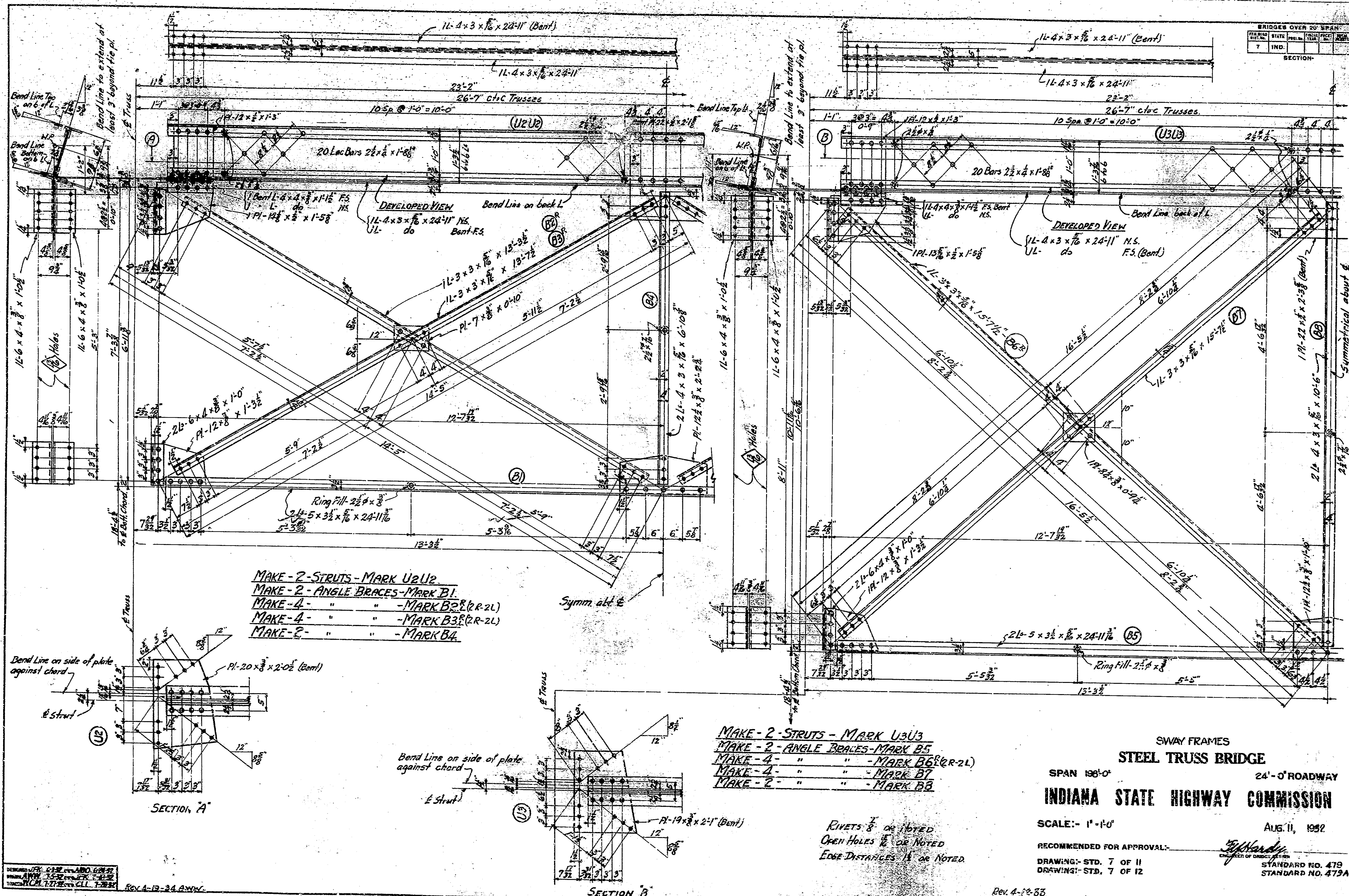
General Notes:
Rivets 5/8" φ
Open Holes 1 1/2" φ. Unless Noted.
Edge distance 1 1/2" "

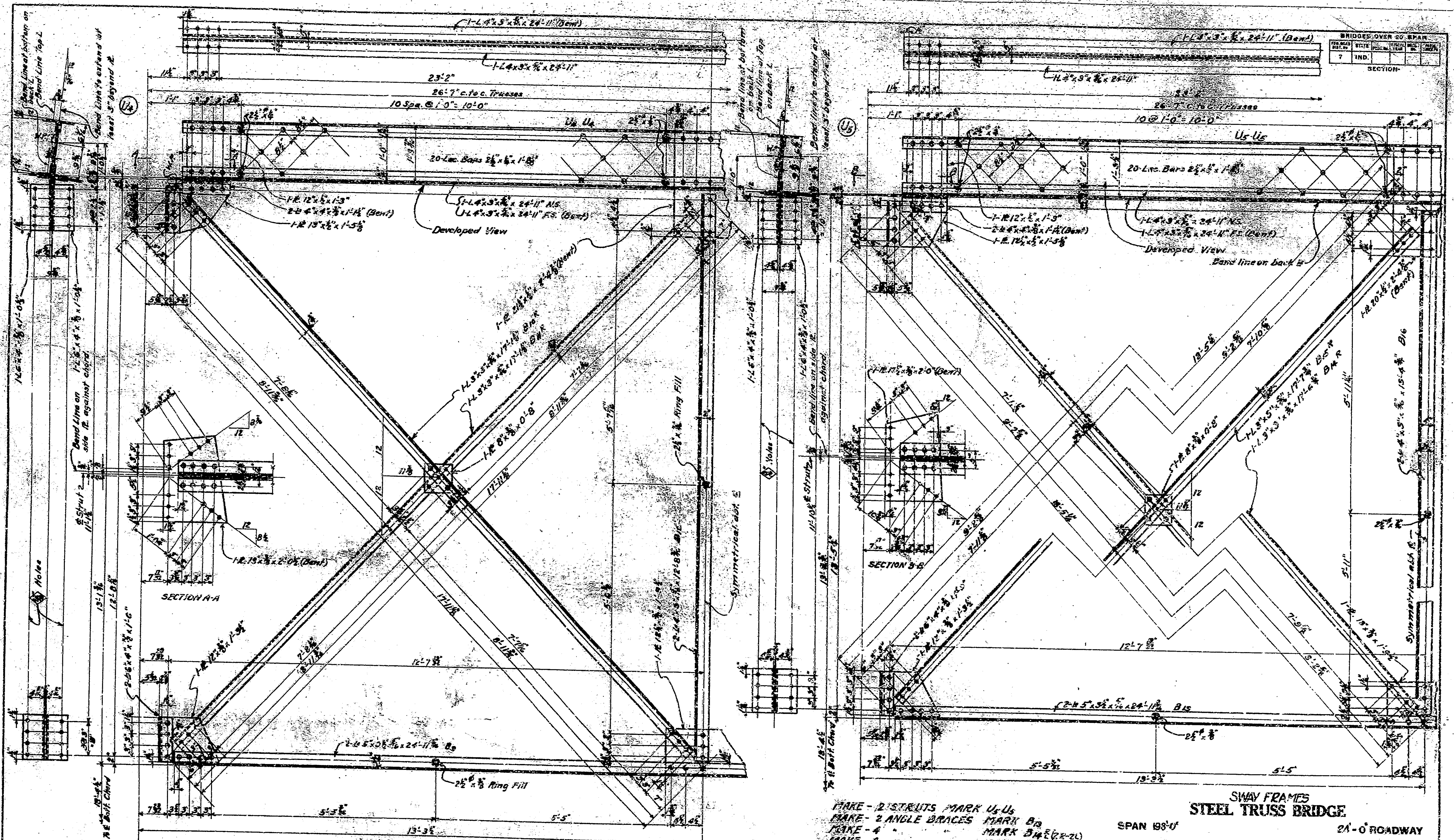
BOTTOM CHORD SECTIONS
STEEL TRUSS BRIDGE
SPAN 198'-0" 24'-0 ROADWAY
INDIANA STATE HIGHWAY COMMISSION
SCALE: 1"=1'-0"
RECOMMENDED FOR APPROVAL: *E. J. H. [Signature]*
DRAWING: STD. 6 OF 11
AUG 11, 1932
STANDARD NO. 475

DESIGNED BY: S. B. [Signature]
DRAWN BY: J. E. [Signature]
CHECKED BY: J. E. [Signature]
DATE: 8-1-32

Rev. 2-3-33 Edge on Guss. Pls.
Rev. 12-2-32 Dim. at L5

BRIDGES OVER 20' SPAN				
PROJ. NO.	STATE	PRELIM. NO.	SECTION	DATE
7	IND.			





REVISIONS: 1. 6-23-32, 100, 6-24-32
 2. 12-1-32, 100, 12-1-32
 3. 12-1-32, 100, 12-1-32

REV 7-24-33 AMW/100
 REV 7-19-34 AMW

MAKE-2 STRUTS MARK U₄U₄
 MAKE-2 ANGLE BRACES MARK B₂
 MAKE-4 " " MARK B₁B₁ (2R-2L)
 MAKE-4 " " MARK B₁B₁ (2R-2L)
 MAKE-2 " " MARK B₁

MAKE-2 STRUTS MARK U₄U₄
 MAKE-2 ANGLE BRACES MARK B₂
 MAKE-4 " " MARK B₁B₁ (2R-2L)
 MAKE-4 " " MARK B₁B₁ (2R-2L)
 MAKE-2 " " MARK B₁

Rivets: 3/4" Dia. or Noted
 Holes: 1/2" or Noted
 Edge Distance: 1 1/2" or Noted

SPAN 19'-0"
 21'-0" ROADWAY
 INDIANA STATE HIGHWAY COMMISSION

SCALE: 1"=10'
 AUG 11, 1932
 RECOMMENDED FOR APPROVAL:
 DRAWING: STD. 8 OF 11
 DRAWING: STD. 6 OF 12
 STANDARD NO. 479
 STANDARD NO. 479A

REV. 4-12-33
 REV. 12-1-32
 REV 7-24-33: 114UG Dimension 68' x 6 1/2'
 REV 4-17-34: Diag marked E

BRIDGES OVER A SPAN					
FED. AID DIST. NO.	STATE	FED. NO.	FISCAL YEAR	REPORT NO.	TOTAL BRIDGES
7	IND.				

SECTION-

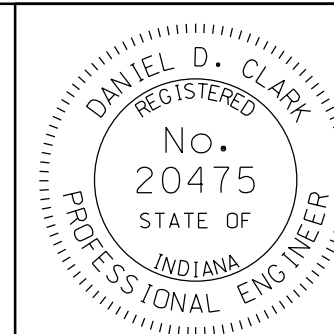
WOODS					STRUCTURAL					STEEL				
NOPCS	SECTION	LENGTH	LOCATION	WEIGHT	NOPCS	SECTION	LENGTH	LOCATION	WEIGHT	NOPCS	SECTION	LENGTH	LOCATION	WEIGHT
12	23	41.1	25' 7" Floor beams (both on C.Bms)	4328.7	4	1/2	3.8	16' 11 1/2" Diagonal M2Ls	337	8	1/2	2.4	24' 6" Ent Post U/L	473
88	16	41.1	17' 10" Stringers	62,774	8	1/2	do	16' 9 1/2" " M1L4	104	4	1/2	18' 3/4	2-02" Strut U/L	189
15	10	23	1-3 End post diaphragm (both on C.Bms)	115	4	1/2	do	2' 1/2" End Post L/U/L	6	4	1/2	17' 3/4	2-02" " U/L	178
22	13	6	5' 1 1/2" Posts R/P1	226.3	2	1/2	do	1' 0 1/2" " L/U/L	53	4	1/2	17' 3/4	2-02" Portal	248
8	15	50	16' 2 1/2" Top chord U/L	7279	4	1/2	do	0' 5 1/2" Rails H/R4 or H/R6	15	4	1/2	16' 3/4	2-02" Bottom Chord L/L	216
4	15	do	18' 0 1/2" " U/L	7231	22	1/2	do	0' 6" Post R/P1	87	4	1/2	16' 3/4	2-02" " L/L	208
4	15	do	18' 0 1/2" " U/L	3611	44	1/2	do	0' 5 1/2" Rails H/R4 or H/R6	84	4	1/2	16' 3/4	2-02" " L/L	208
8	15	45	28' 0 1/2" End Post L/U/L	10406	4	1/2	do	0' 5 1/2" " " "	154	12	1/2	13' 3/4	2-02" Portal	456
8	15	do	18' 5" Top Chord U/L	6630	2	1/2	do	0' 5 1/2" " H/R4 or H/R6	13	2	1/2	do	19 1/2" Strut U/L	59
8	15	35	18' 10 1/2" " U/L	5285	54	1/2	do	17' 1 1/2" Rails H/R1 & H/R2	6400	4	1/2	12' 3/4	2-02" Portal	108
8	15	20	24' 11" Ent Post U/L	3987	4	1/2	do	12' 10 1/2" Rails H/R3 or H/R5	339	2	1/2	do	22 1/2" Strut U/L	71
8	15	10	31' 6 1/2" " U/L	3861	4	1/2	do	12' 3/4" " H/R3 or H/R5	325	2	1/2	do	11' 10" " U/L	58
8	15	do	30' 3 1/2" " U/L	3769	4	1/2	do	11' 8 1/2" " H/R4 or H/R6	308	2	1/2	do	11' 9 1/2" " U/L	57
8	15	do	28' 7" " U/L	3439	4	1/2	do	11' 8 1/2" Top Lateral U/L	664	20	1/2	do	2-2 1/2" Int Posts	673
4	15	do	19' 3 1/2" " U/L	1205	4	1/2	do	29' 8 1/2" " U/L	665	16	1/2	do	13' 1/2" Top Struts	316
4	15	do	19' 2 1/2" " U/L	1174	4	1/2	do	29' 8 1/2" " U/L	332	8	1/2	do	11 1/2" Top Chord U/L	550
22	8	16	1' 6" H.R. Posts R/P1	536	4	1/2	do	29' 8 1/2" " U/L	665	8	1/2	do	4' 2 1/2" " U/L	485
36	15	2	17' 1 1/2" Hand Rails H/R1 & H/R2	5301	4	1/2	do	29' 8 1/2" " U/L	665	8	1/2	do	4' 2 1/2" " U/L	485
8	15	4	3' 8" Posts R/P2	376	4	1/2	do	14' 11 1/2" " U/L	335	8	1/2	do	4' 1 1/2" " U/L	453
4	15	4	3' 10" End Posts	111	4	1/2	do	14' 10 1/2" " U/L	334	8	1/2	do	4' 1 1/2" " U/L	453
32	do	do	1' 1 1/2" Top Struts	353	4	1/2	do	14' 8 1/2" " U/L	329	4	1/2	do	1' 1 1/2" " U/L	57
2	13	3	24' 11" Portal	553	4	1/2	do	14' 6 1/2" " U/L	326	8	1/2	do	1' 1 1/2" " U/L	57
8	15	3	1' 5" Diagonal U/L	85	4	1/2	do	14' 5 1/2" " U/L	326	4	1/2	do	1' 1 1/2" " U/L	57
8	15	do	1' 1 1/2" " U/L	77	4	1/2	do	14' 4 1/2" " U/L	326	4	1/2	do	0' 9 1/2" " R/P2	44
16	do	do	1' 1 1/2" " U/L	147	4	1/2	do	14' 4 1/2" " U/L	326	4	1/2	do	0' 9 1/2" " R/P2	44
22	do	do	0' 6" Post R/P1	24	4	1/2	do	14' 4 1/2" " U/L	326	156	1/2	do	0' 9 1/2" Diagonal Battens	1343
4	15	3	29' 3" Bottom Lats U/L & L/L	1089	4	1/2	do	14' 4 1/2" " U/L	321	4	1/2	do	0' 9 1/2" Strut U/L	33
4	15	do	17' 3" " U/L	431	16	1/2	do	6' 4" Portal	574	8	1/2	do	2' 0 1/2" Bottom Chord L/L	167
4	15	do	17' 3" " U/L	429	8	1/2	do	3' 7 1/2" Portal	122	16	1/2	do	1' 9 1/2" " L/L	285
8	15	do	17' 3" " U/L	834	8	1/2	do	3' 8 1/2" Top Chord U/L	927	4	1/2	do	1' 3" Battens in Bottom Chord	51
8	15	do	15' 7 1/2" " U/L	763	8	1/2	do	3' 8 1/2" " U/L	922	102	1/2	do	0' 9 1/2" " " "	780
4	15	do	13' 7 1/2" " U/L	332	8	1/2	do	3' 7 1/2" " U/L	853	8	1/2	do	0' 8" Struts U/L	54
4	15	do	13' 3 1/2" " U/L	324	8	1/2	do	3' 7 1/2" " U/L	779	4	1/2	do	2' 8" Diagonals U/L	102
8	15	6	1' 0" Floor Bms F/B1 (Cut to 6' 6")	184	4	1/2	do	1' 2 1/2" Portal	25	8	1/2	do	2' 7 1/2" " U/L	201
8	15	4	29' 3" Diagonals U/L	4196	8	1/2	do	3' 0 1/2" Bottom Chord L/L	605	372	1/2	do	2' 0 1/2" Top Chord Lacing	2394
8	15	4	29' 3" " U/L	3513	8	1/2	do	3' 0 1/2" " L/L	326	4	1/2	do	2' 11" Top Chord U/L (cov. pl.)	2376
2	13	do	24' 11" Portal	678	2	1/2	do	2' 3 1/2" Strut U/L	172	4	1/2	do	2' 10 1/2" Top Chord U/L	335
8	15	do	1' 11" End Post L/U/L	209	2	1/2	do	2' 1 1/2" " U/L	160	4	1/2	do	2' 9 1/2" " U/L	330
8	15	do	1' 6 1/2" " U/L	171	2	1/2	do	2' 1 1/2" " U/L	176	4	1/2	do	2' 9 1/2" " U/L	300
16	15	6	24' 11" Bottom Chord L/L	4555	2	1/2	do	2' 1 1/2" " U/L	164	4	1/2	do	2' 8" " U/L	281
16	15	6	30' 4 1/2" " L/L	12620	4	1/2	do	2' 0 1/2" End Post L/U/L	3141	4	1/2	do	2' 8" " U/L	1730
16	15	6	30' 4 1/2" " L/L	8887	4	1/2	do	2' 0 1/2" Top Chord U/L	2274	44	1/2	do	2' 0" " Battens	479
16	15	6	18' 4 1/2" " L/L	4768	2	1/2	do	18' 0 1/2" " U/L & U/L	1136	8	1/2	do	4' 9 1/2" End Post L/U/L	187
40	15	do	2' 4 1/2" Floor Bms F/B2 & F/B3	1529	8	1/2	do	4' 10" End Post L/U/L	1005	8	1/2	do	1' 11 1/2" Top Lateral U/L	140
4	15	do	1' 3" Posts R/P2	81	4	1/2	do	1' 5 1/2" Strut U/L	137	108	1/2	do	0' 9 1/2" Diagonal Battens	817
32	15	6	1' 0 1/2" Top Struts	609	4	1/2	do	1' 5 1/2" " U/L	129	58	1/2	do	1' 3 1/2" Top Lateral	620
32	15	do	1' 0" " U/L	394	16	1/2	do	3' 0 1/2" Bottom Chord L/L	1078	84	1/2	do	1' 4 1/2" Portal Lacing	308
352	15	do	0' 9 1/2" Stringer Conn.	3247	4	1/2	do	1' 5 1/2" Strut U/L	122	16	1/2	do	2' 0" Bottom Chord L/L	136
16	15	4	3' 7 1/2" Bottom Chord L/L (Cut to 3' 7 1/2")	1369	4	1/2	do	1' 5 1/2" " U/L	121	320	1/2	do	1' 8 1/2" Top Strut Lacing	1140
16	15	4	3' 0 1/2" " L/L	881	16	1/2	do	1' 5 1/2" Top Struts	408	748	1/2	do	1' 5 1/2" Top Lateral Lacing	2072
4	15	6	29' 4 1/2" Bottom Lateral L/L	1680	4	1/2	do	1' 8 1/2" End Post L/U/L	103	1844	1/2	do	1' 1 1/2" Int Post Lacing	4042
4	15	do	29' 4 1/2" " L/L	1445	4	1/2	do	18' 5" Top Chord U/L	2027					
4	15	do	2' 7 1/2" " Chord L/L	130	4	1/2	do	18' 5" " U/L	2003					
4	15	do	2' 6 1/2" " L/L	126	8	1/2	do	3' 6 1/2" Bottom Chord L/L	5425					
4	15	do	2' 6 1/2" " L/L	124	4	1/2	do	24' 11" " L/L	1844					
4	15	do	2' 6 1/2" " L/L	117	8	1/2	do	3' 2 1/2" End Post L/U/L	1447					
4	15	do	1' 3" " L/L	62	8	1/2	do	3' 2 1/2" " L/L	1841					
4	15	3 1/2	2' 9 1/2" End Posts	117	8	1/2	do	3' 2 1/2" Top Chord U/L	2215					
16	15	5 1/2	24' 11" Top Struts	3470	8	1/2	do	3' 2 1/2" " U/L	1943					
4	15	5 1/2	29' 6" Bottom Lateral L/L	1221	8	1/2	do	3' 2 1/2" Bottom Chord L/L	1700					
16	15	4 1/2	25' 8 1/2" Diagonal U/L	4855	8	1/2	do	3' 2 1/2" Top Chord U/L	1244					
8	15	4 1/2	34' 1 1/2" " U/L	2634	8	1/2	do	3' 2 1/2" Bottom Chord L/L	1628					
8	15	3 1/2	2' 1 1/2" End Post L/U/L	147	8	1/2	do	3' 2 1/2" " L/L	1162					
32	15	4 1/2	24' 11" Top Struts	5740	8	1/2	do	3' 2 1/2" Top Chord U/L	1001					
4	15	do	13' 3 1/2" Strut U/L	386	8	1/2	do	3' 2 1/2" " L/L	1326					
4	15	do	12' 8 1/2" " U/L	365	4	1/2	do	2' 10 1/2" Bottom Chord L/L	423					
4	15	do	10' 6" " U/L	302	4	1/2	do	2' 10 1/2" Portal	408					
4	15	do	6' 0 1/2" " U/L	129	4	1/2	do	2' 0 1/2" Strut U/L	200					
4	15	3 1/2	34' 9" Diagonal U/L	1098	8	1/2	do	2' 0 1/2" End Post L/U/L	1091					
4	15	do	29' 9" Bottom Lateral L/L	340	4	1/2	do	2' 1 1/2" Bottom Chord L/L	285					
8	15	do	17' 3 1/2" Diagonal U/L	1093	2	1/2	do	2' 1 1/2" Strut U/L	202					
4	15	do	17' 0 1/2" " U/L	538	4	1/2	do	2' 1 1/2" Bottom Chord L/L	253					
					11894	1/2	Shop Rivets for Truss		2440					
					7135	1/2	Shop Rivets for Truss		2440					
					5149	1/2	Shop Rivets for Truss		2440					
					1570	1/2	Shop Rivets for Truss		2440					
					2574	1/2	Shop Rivets for Truss		2440					

UTILITIES

INDEX

SHEET NO.	SUBJECT
1	Title Sheet
2	Index Sheet
3	General Plan
4-5	Steel Details

REVISIONS

[illegible]RECOMMENDED
FOR APPROVAL

Daniel D. Clark
DESIGN ENGINEER

11/10/2011
DATE

DESIGNED: SJW

SJW

DRAWN:

SMS

CHECKED: _____ DDC

DDC

— CHECKED

SJW

INDIANA
DEPARTMENT OF TRANSPORTATION

INDEX SHEET

SCALE

BRIDGE FILE

46-11-1316B

DESIGNATION

1173575

SURVEY BOOK

NONE

2

of

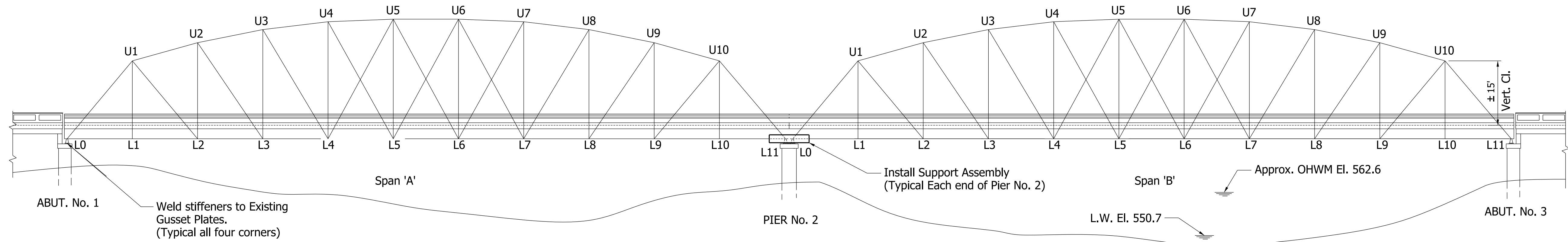
5

CONTRACT

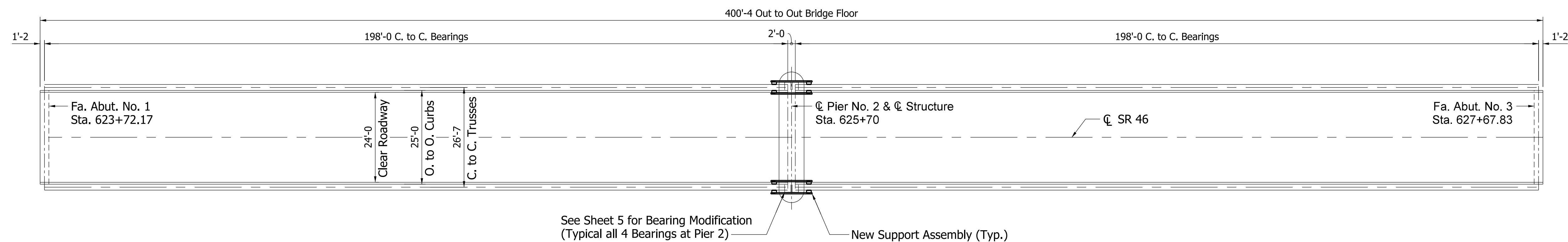
B-34533

PROJECT	
---------	--

1173575



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



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

GENERAL NOTES

Plans for the existing structure are on file and available upon request from the Records Department, Indiana Department of Transportation as Str. No. 46-11-1316 & 46-11-1316A.

Where new work is to be fitted to old work, the Contractor shall check all dimensions and conditions in the field, report any errors or discrepancies to the Engineer and assume responsibility for correctness and fit of the new part to the old.

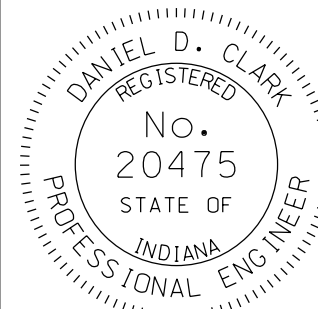
The structure is currently closed to traffic and will not require any further Maintenance of Traffic by the Contractor.

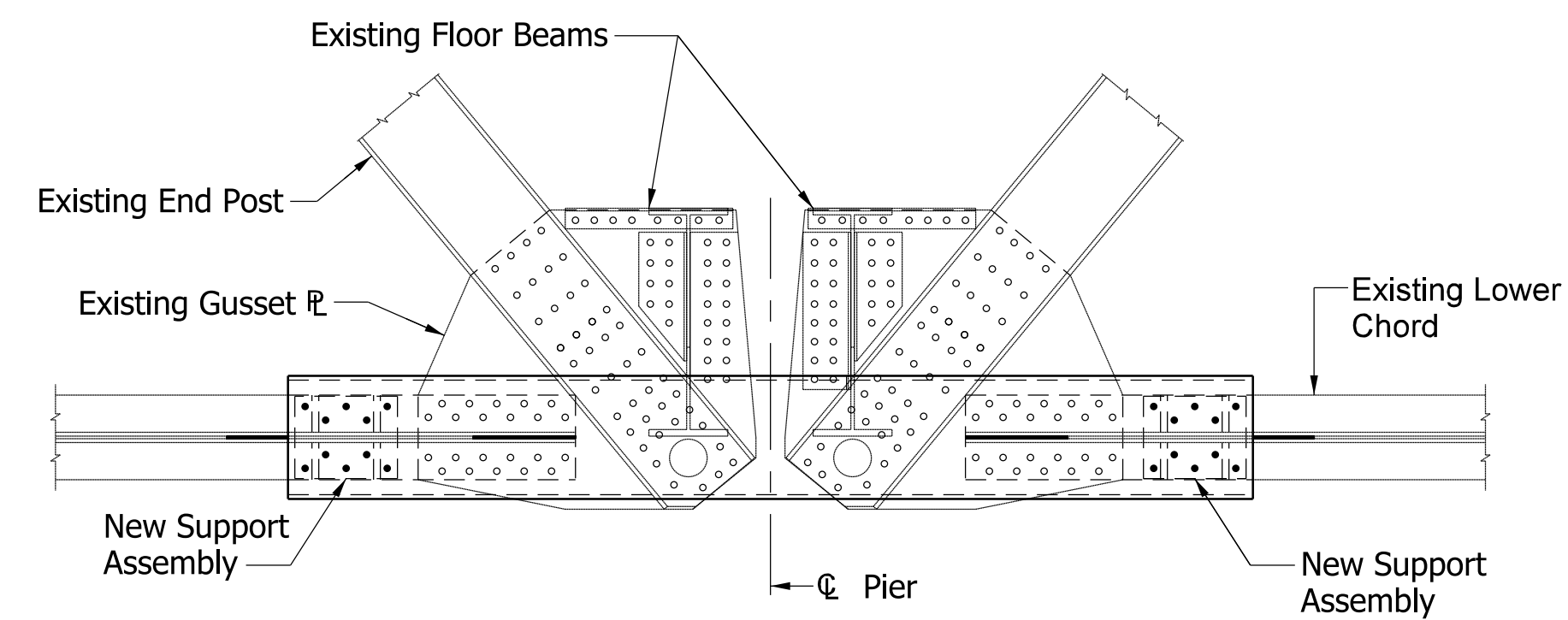
REPAIR TO STEEL TRUSS BRIDGE

2 Spans @ 198'-0
Over Eel River

24'-0 Clear Roadway
on SR 46

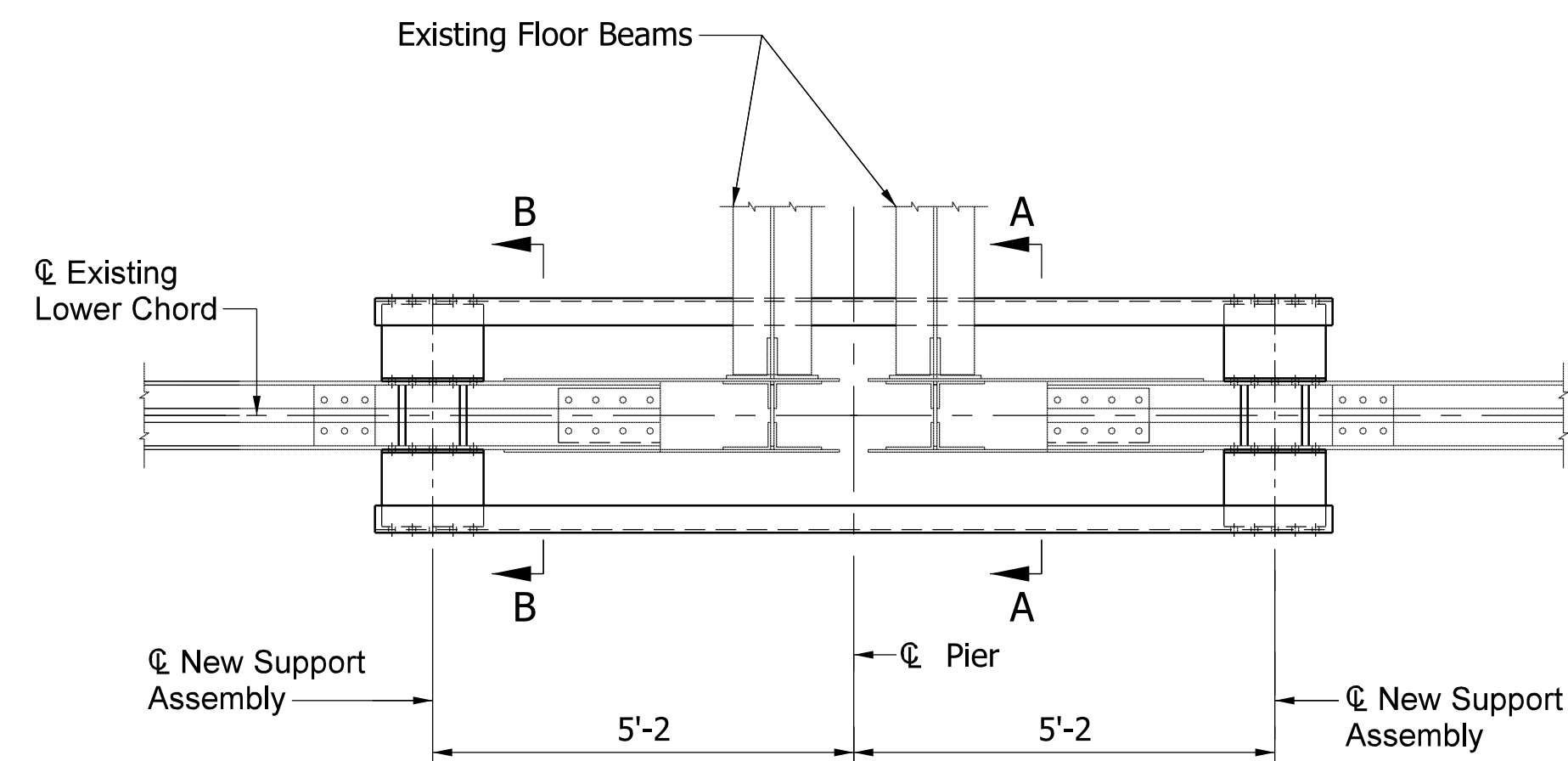
CLAY COUNTY

DATE	REVISION			RECOMMENDED FOR APPROVAL <i>Daniel D. Clark</i> DESIGN ENGINEER 11/10/2011 DATE		INDIANA DEPARTMENT OF TRANSPORTATION		SCALE	BRIDGE FILE
								1/16" = 1'-0	46-11-1316B
									DESIGNATION
									1173575
		GENERAL PLAN		DESIGNED: SJW	DRAWN: SMS			SURVEY BOOK	SHEETS
				CHECKED: DDC	CHECKED: SJW			NONE	3 of 5
								CONTRACT	PROJECT
								B-34533	1173575



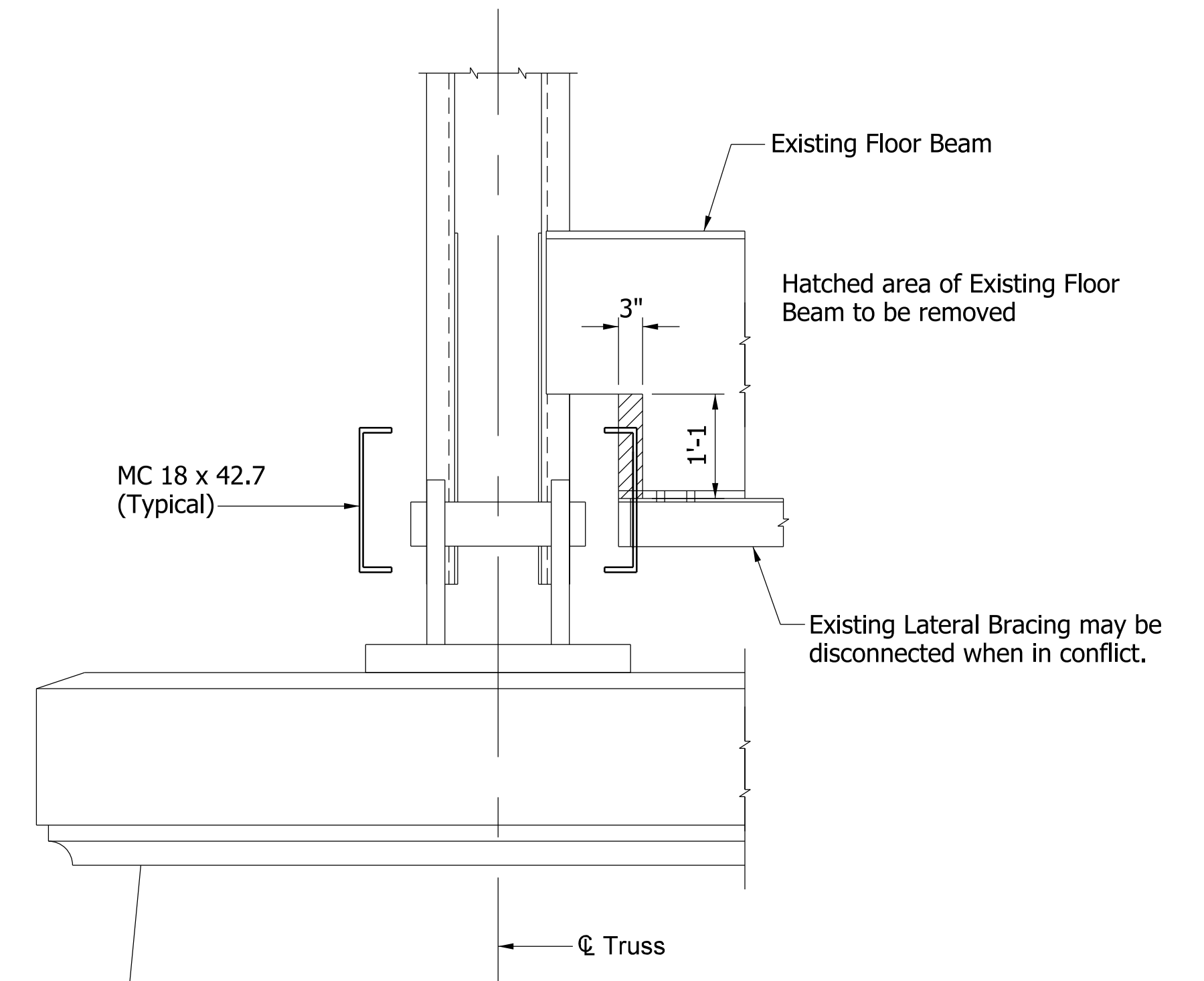
ELEVATION VIEW OF LOWER CHORD

(Shown at Pier 2)
Scale: 1/2" = 1'-0



PLAN VIEW OF LOWER CHORD

(Shown at Pier 2)
Scale: 1/2" = 1'-0



SECTION A-A

Scale: 3/4" = 1'-0

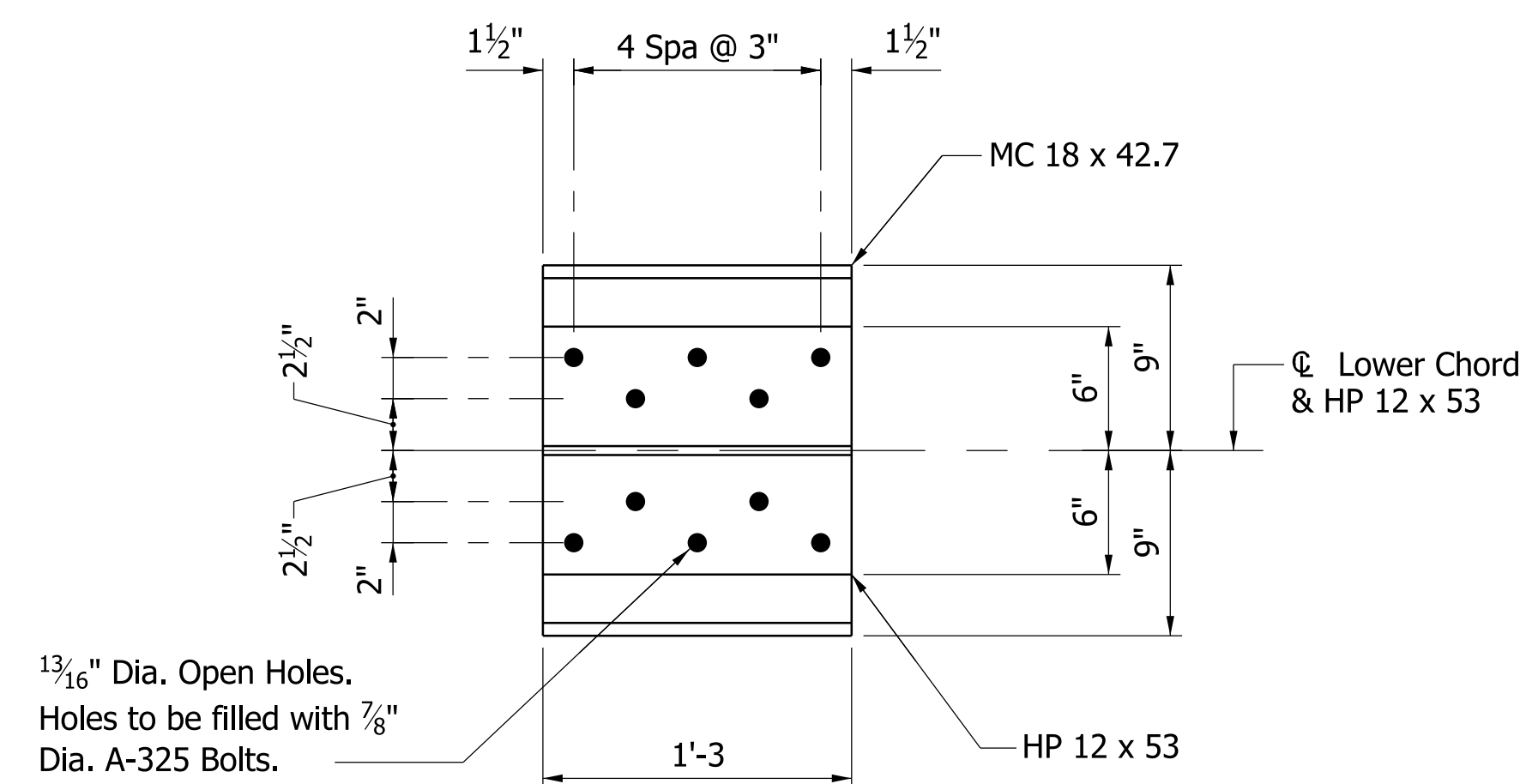
NOTES

All structural steel is to be ASTM A-36.

All painting of new structural steel is to be done in the shop. There will be no field painting.

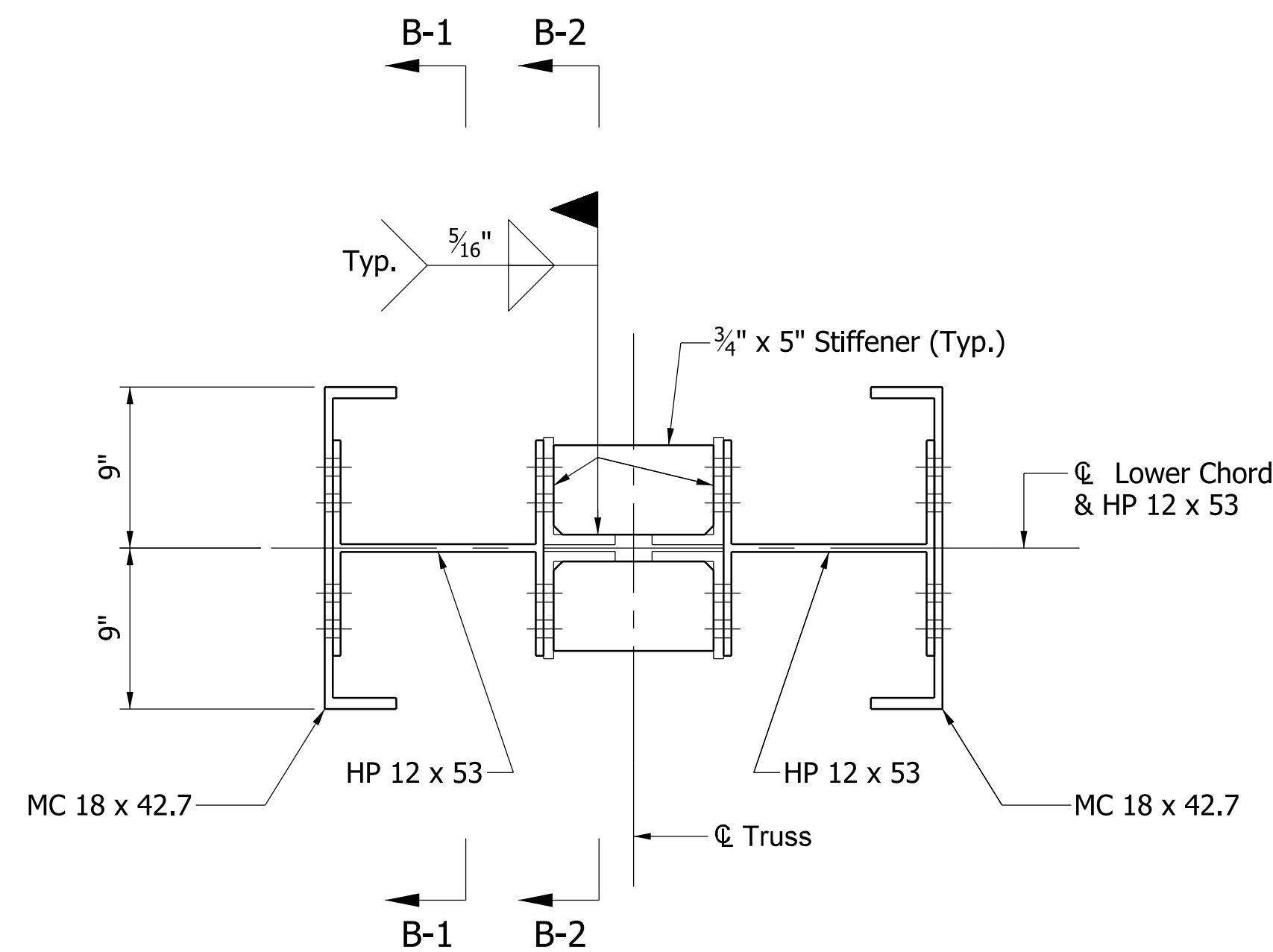
Field cutting of the existing floor beams will be paid for as "Removal of Structure, Portions".

The cost of field welding will be included in the cost of "Structural Steel".



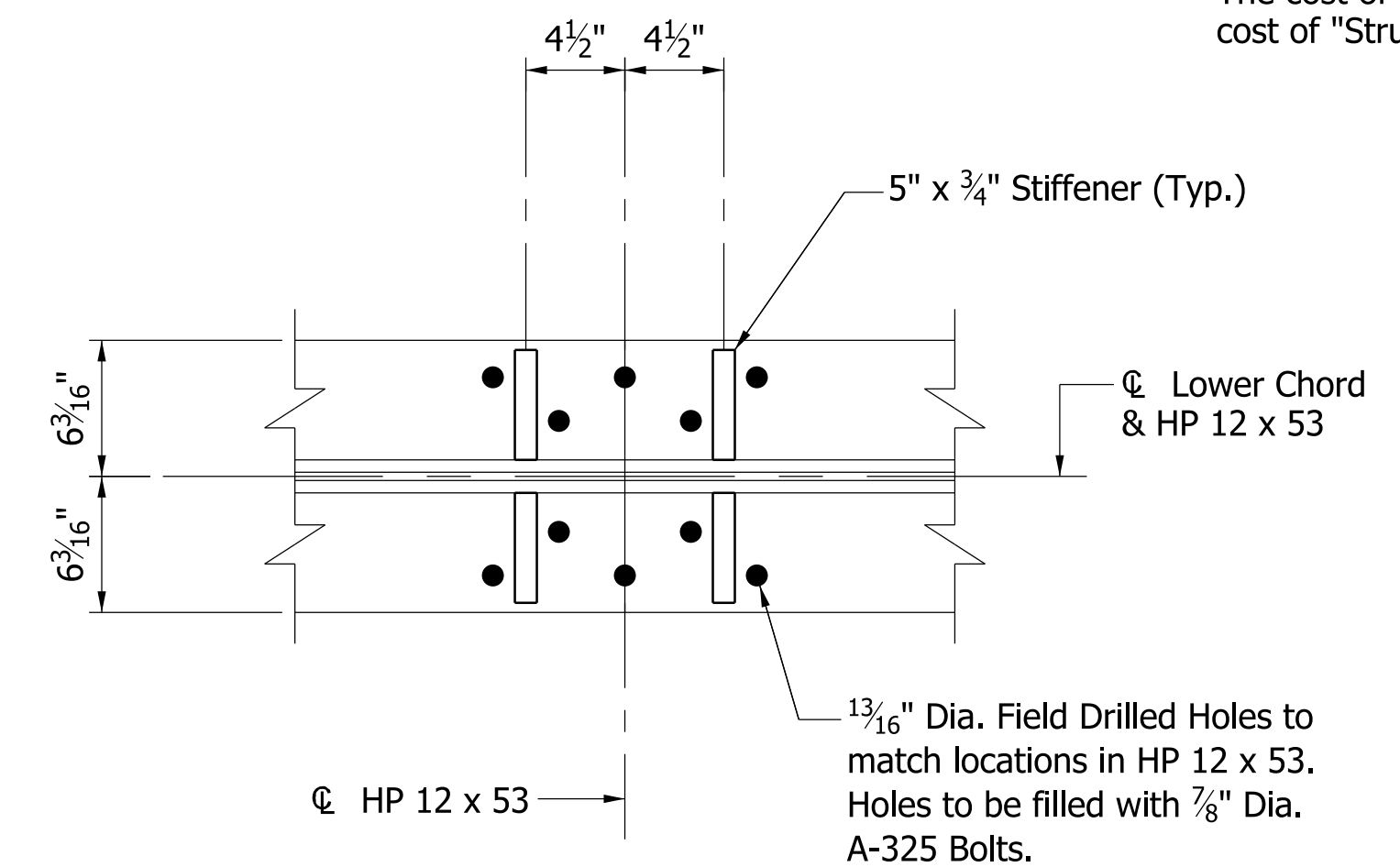
SECTION B1-B1

Scale: 1/2" = 1'-0




SECTION B-B

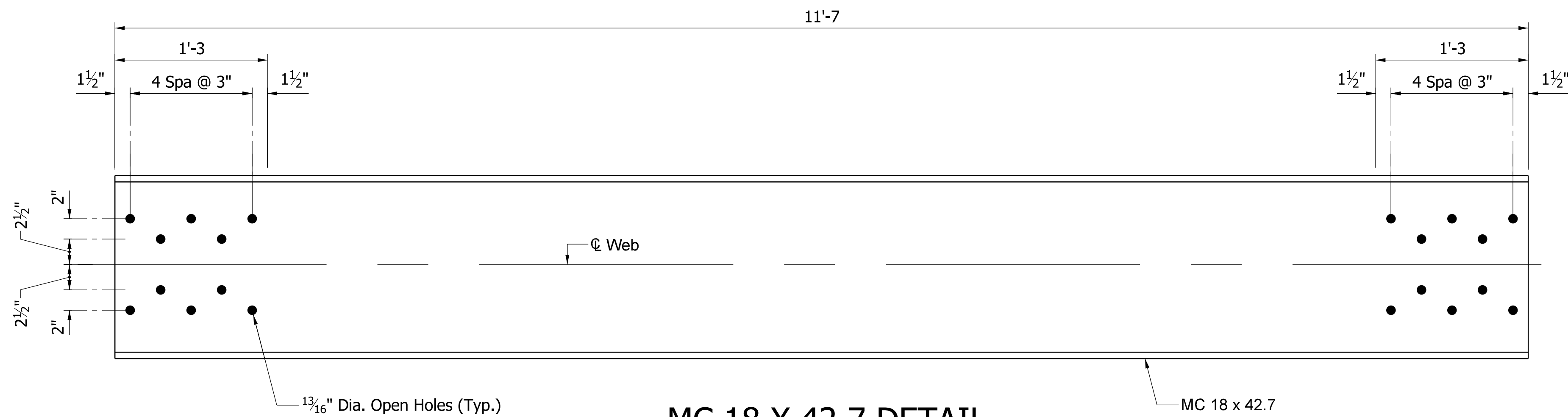
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SECTION B2-B2

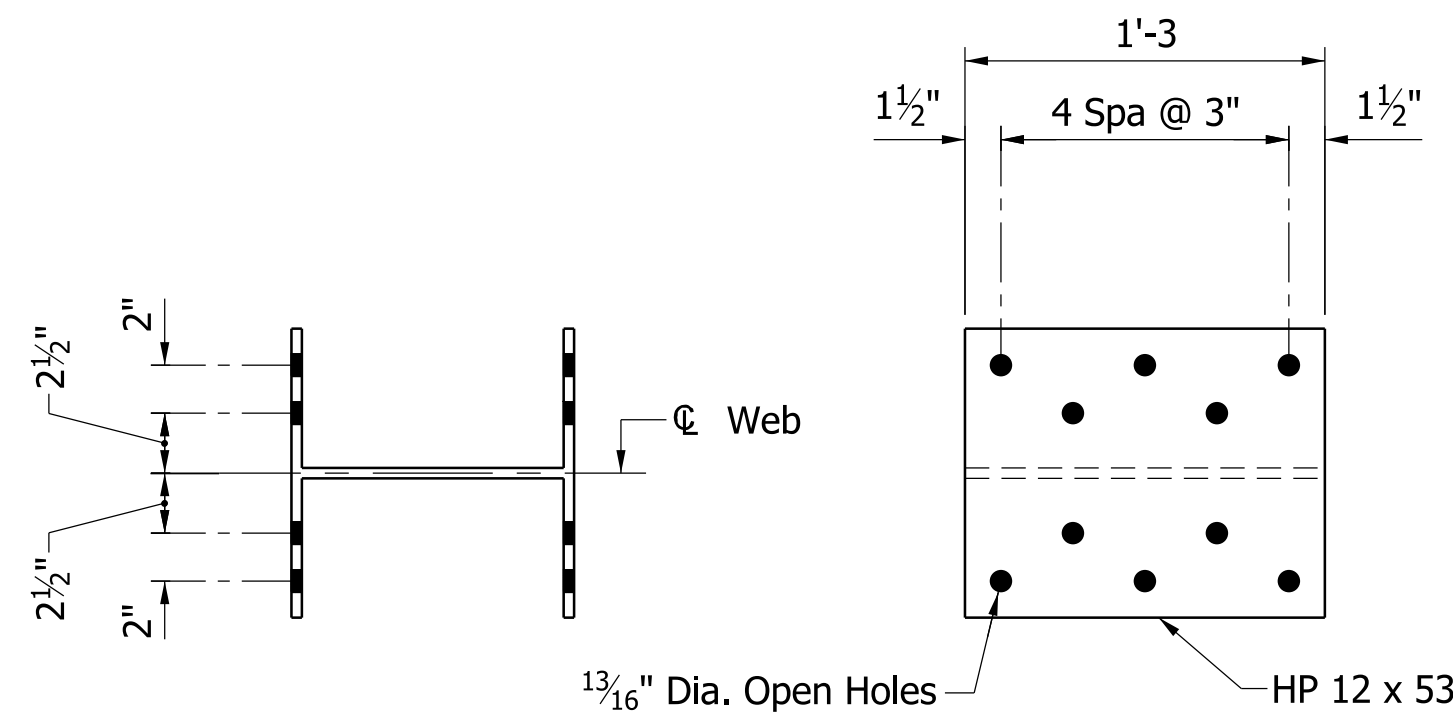
Scale: 1/2" = 1'-0

DATE	REVISION		RECOMMENDED FOR APPROVAL <u>Daniel D. Clark</u> 11/10/2011 DESIGN ENGINEER DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE AS NOTED	BRIDGE FILE 46-11-1316B DESIGNATION 1173575
			DESIGNED: DDC DRAWN: DDC	STEEL DETAILS	SURVEY BOOK	SHEETS 4 of 5
			CHECKED: SJW CHECKED: SJW		CONTRACT B-34533	PROJECT 1173575



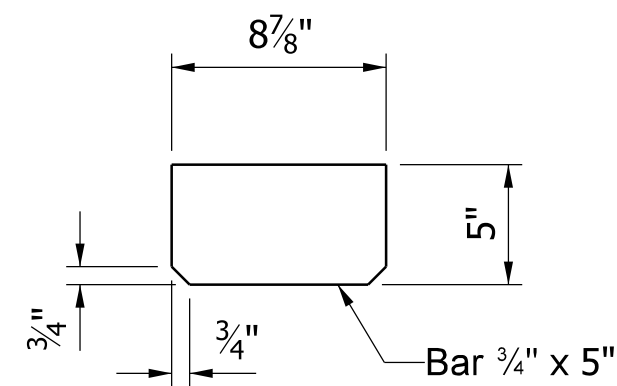
MC 18 X 42.7 DETAIL

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



HP 12 X 53 DETAIL

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

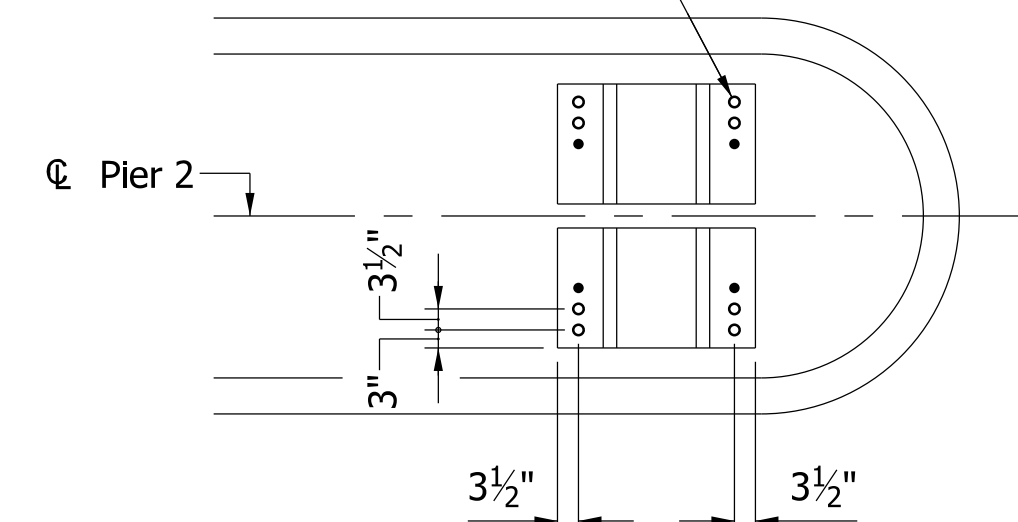


STIFFENER DETAIL

(For use on Existing Lower Chord)

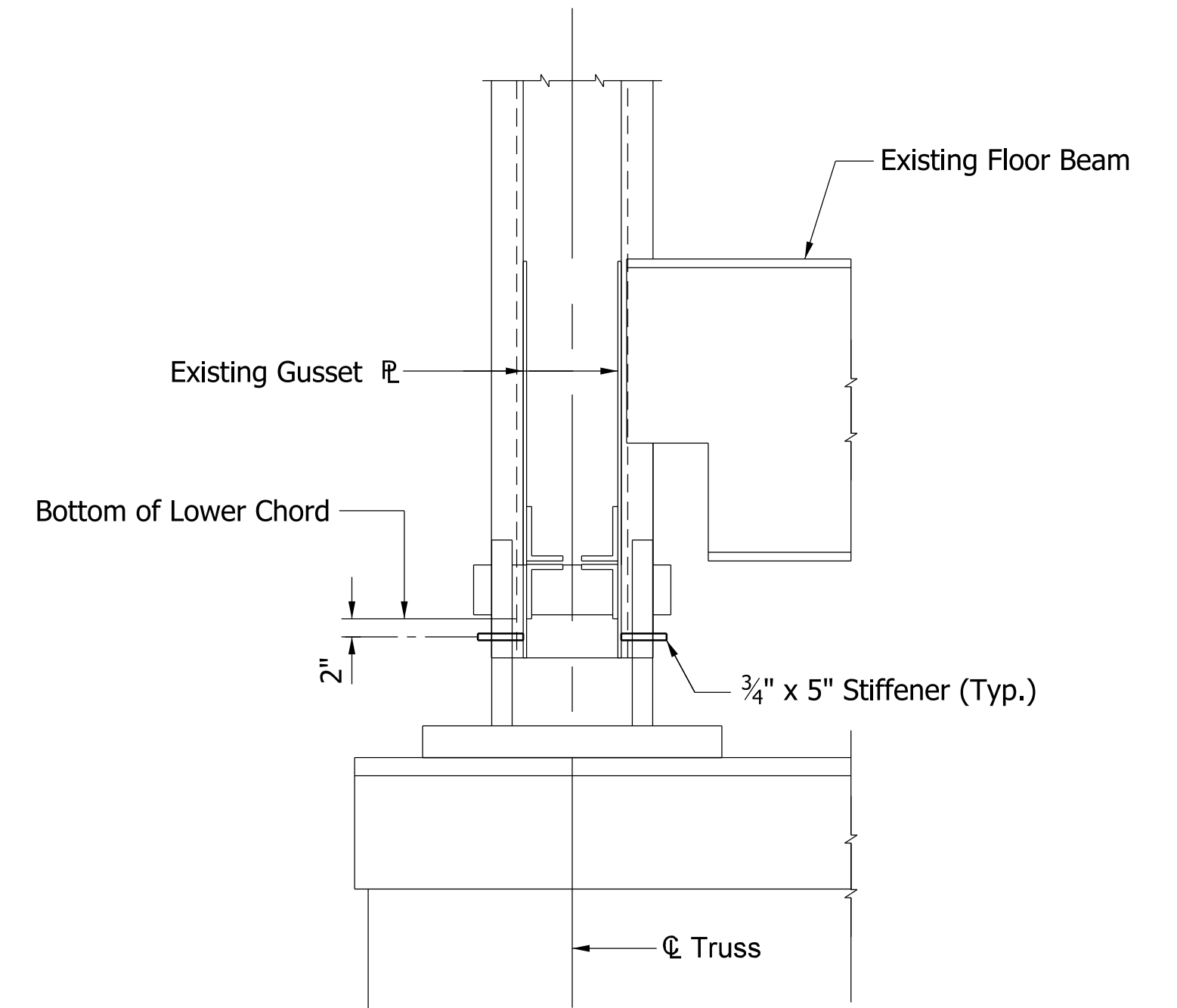
Scale: 1 1/2" = 1'-0

1" Dia. Anchor Bolts to be placed in 1 1/4" Drilled Holes thru Existing Bearing Plates and 1 1/4" Field Drilled Holes in Concrete.



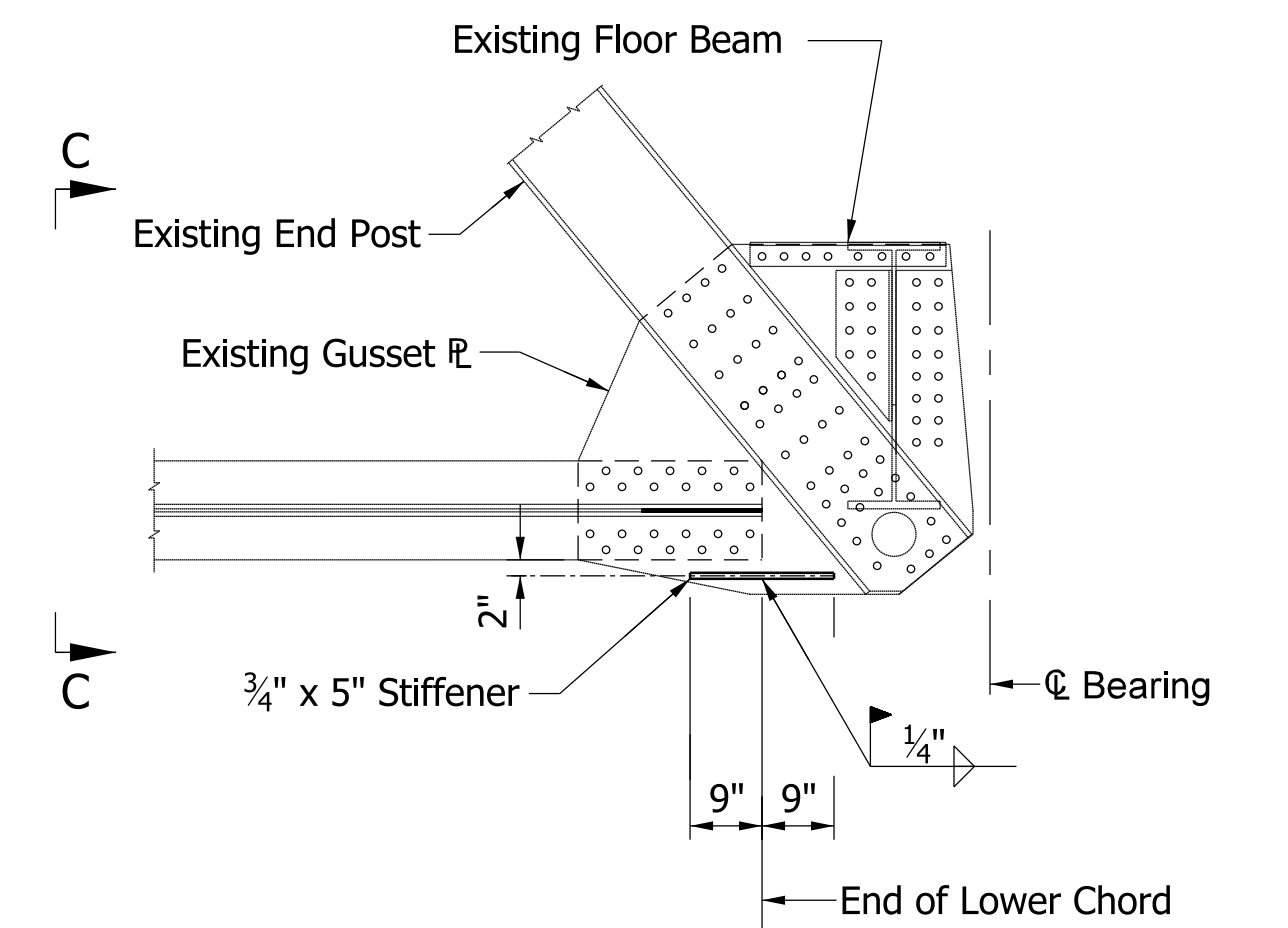
BEARING MODIFICATION DETAIL

Scale: 3/8" = 1'-0



SECTION C-C

Scale: 3/4" = 1'-0



ELEVATION VIEW OF LOWER CHORD

(Shown at Abutments)

Scale: 1/2" = 1'-0

BILL OF MATERIALS				
COMPONENT	LENGTH	NUMBER	WEIGHT	LOCATION
HP 12X53	1'-3	8	530	
MC 18X42.7	11'-7	4	1978	
Bar 3/4" x 5"	9"	16	153	Existing Lower Chord
Bar 3/4" x 5"	1'-6	8	153	Abutment Gusset Plates
Drilled Holes	-	80	-	Existing Lower Chord
Drilled Holes	-	16	-	Existing Bearing Plates
Field Drilled Holes in Concrete	-	16	-	Existing Bearing Plates

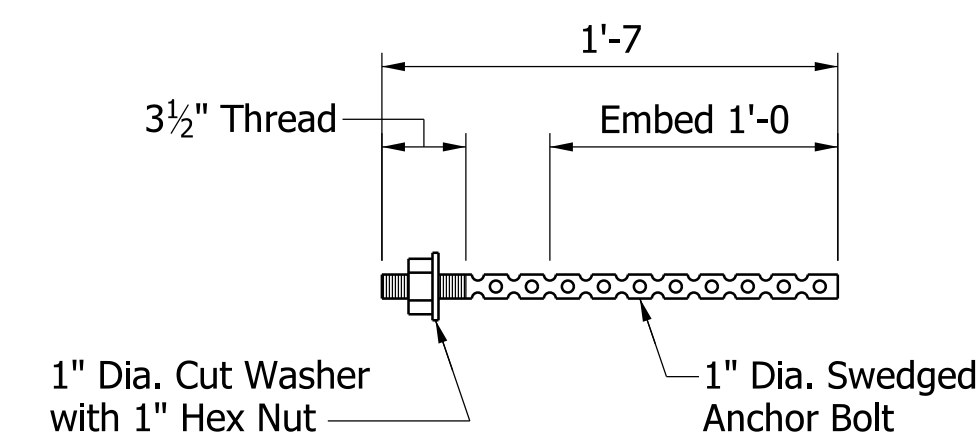
NOTES

All structural steel is to be ASTM A-36.

All painting of new structural steel is to be done in the shop. There will be no field painting.

Field cutting of the existing floor beams will be paid for as "Removal of Structure, Portions".

The cost of field welding will be included in the cost of "Structural Steel".



ANCHOR BOLT DETAIL

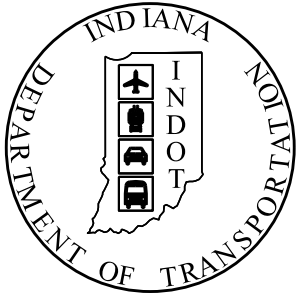
Scale: 1 1/2" = 1'-0

DATE	REVISION		RECOMMENDED FOR APPROVAL <i>Daniel D. Clark</i> DESIGN ENGINEER 11/10/2011 DATE	INDIANA DEPARTMENT OF TRANSPORTATION	SCALE		BRIDGE FILE	
					AS NOTED		46-11-1316B	
							DESIGNATION	
							1173575	
			DESIGNED: DDC DRAWN: DDC CHECKED: SJW CHECKED: SJW	INDIANA DEPARTMENT OF TRANSPORTATION	SURVEY BOOK		SHEETS	
							5 of 5	
					CONTRACT		PROJECT	
					B-34533		1173575	

\$FILE\$

PROJECT	DESIGNATION
1297592	1297592
CONTRACT	BRIDGE FILE
B-35323	46-11-1316C

INDIANA
DEPARTMENT OF
TRANSPORTATION



TRAFFIC DATA	STATE ROAD 46
AADT. (2011)	2390 V.P.D.
AADT.	N/A V.P.D.
D.H.V	N/A V.P.H.
DIRECTIONAL DISTRIBUTION	N/A / N/A
TRUCKS	13 % AADT.
	N/A D.H.V.
DESIGN DATA	
DESIGN SPEED	40 M.P.H.
PROJECT DESIGN CRITERIA	PARTIAL 3R (NON-FREEWAY)
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL
RURAL/URBAN	RURAL
TERRAIN	LEVEL
ACCESS CONTROL	NONE

STRUCTURE	TYPE	SPAN & SKEW	OVER	STATION
46-11-1316C	STEEL THROUGH TRUSS	2 @ 198'-0" SKEW: SQUARE	EEL RIVER	6 STRUCTURE 625+70.00 "A"

BRIDGE REHABILITATION PLANS

FOR SPANS OVER 20 FEET

SR 46

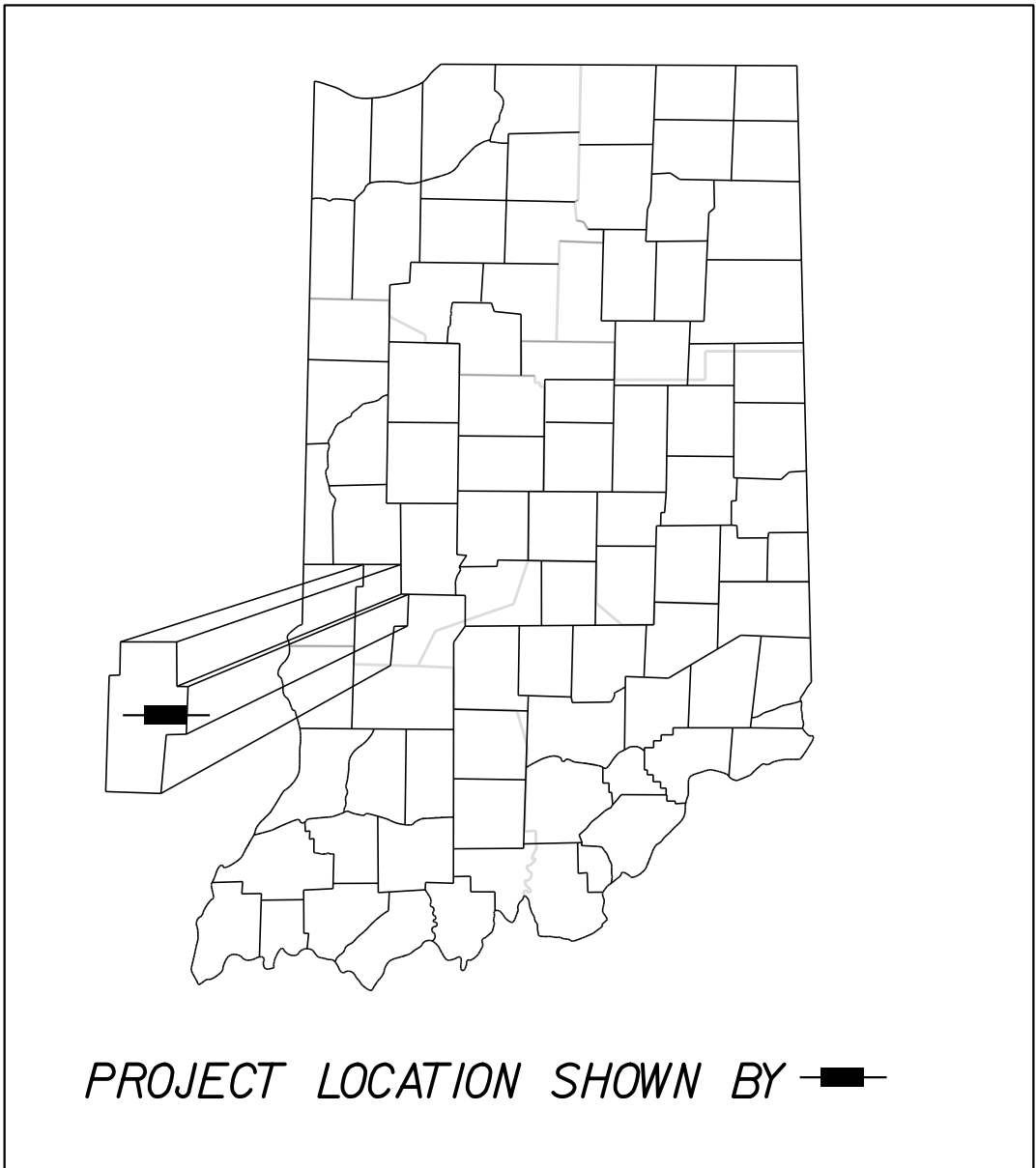
OVER

EEL RIVER

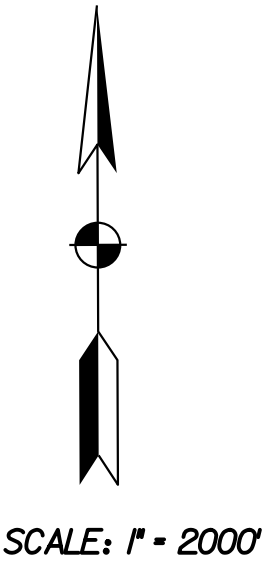
PROJECT NO. 1297592

1297592

P.E.
R/W
CONST.



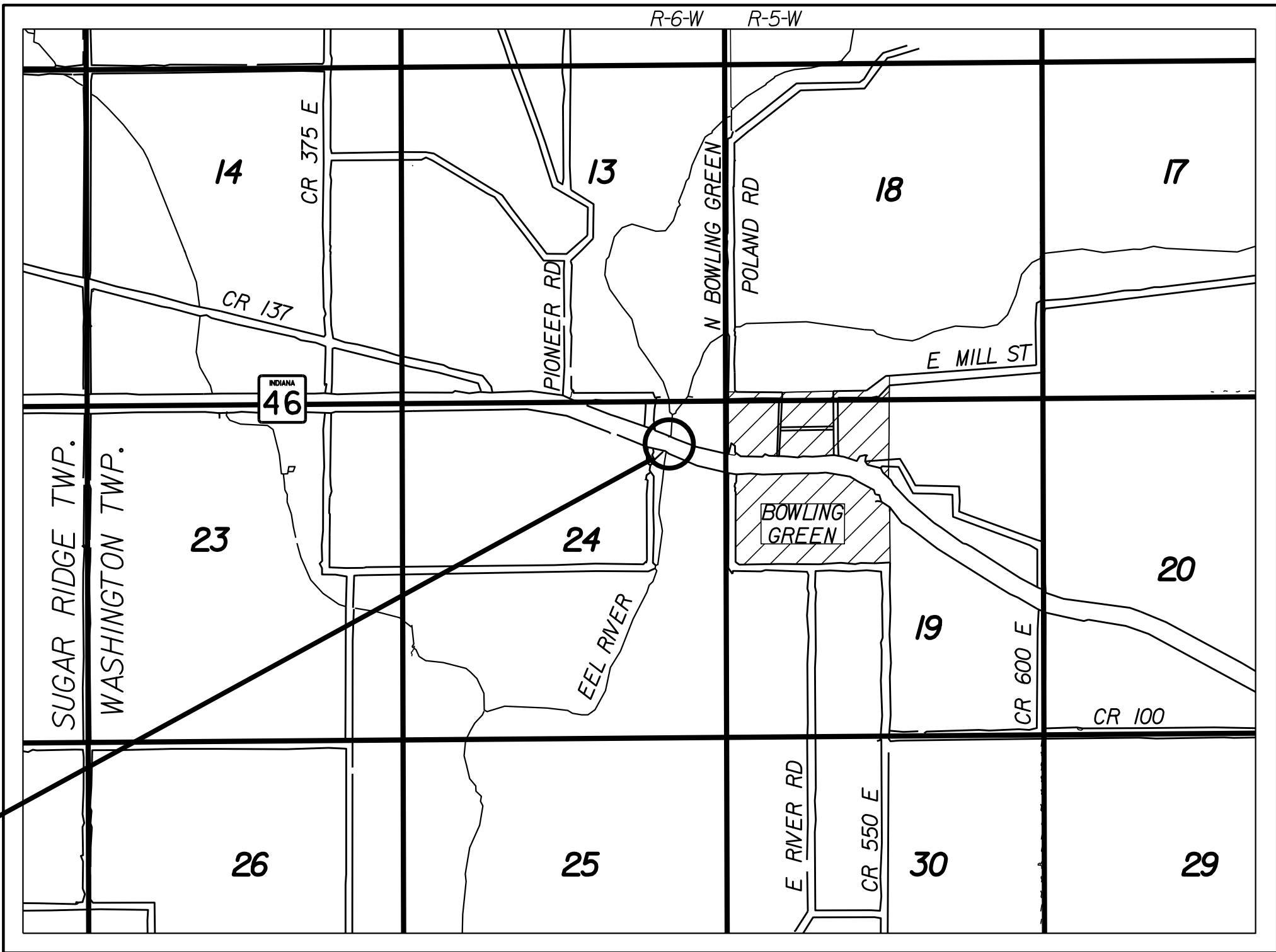
PROJECT LOCATION SHOWN BY ■



LATITUDE: 39° 23' 03" N
LONGITUDE: 87° 01' 14" W

BRIDGE LENGTH: 0.076 Miles
ROADWAY LENGTH: 0.000 Miles
TOTAL LENGTH: 0.076 Miles
MAXIMUM GRADE: 0.585 %

RP 22+05
Repair for Bridge on SR 46 Over Eel River, Approximately 4.8 Miles
East of SR 59 In Section 24, T-11-N, R-6-W, Clay County, Indiana



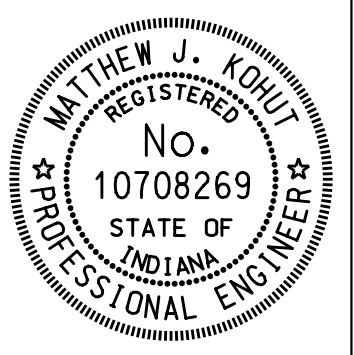
STRUCTURE LOCATION
BRIDGE NO. 46-11-1316C

LOCATION MAP
CLAY COUNTY

FEDERAL HIGHWAY ADMINISTRATION
U.S. DEPT. OF TRANSPORTATION
APPROVED: _____

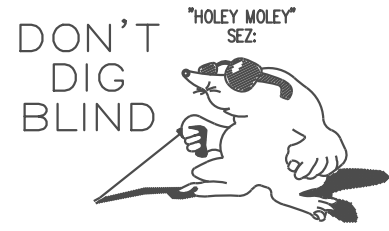
DIVISION ADMINISTRATOR

PLANS
PREPARED BY: PARSONS 317-616-1000
PHONE NUMBER
CERTIFIED BY: *Matthew J. Kohli* 8/22/2012
DATE
APPROVED
FOR LETTING: _____
DATE



INDIANA DEPARTMENT OF TRANSPORTATION
STANDARD SPECIFICATIONS DATED 2012
TO BE USED WITH THESE PLANS.

BRIDGE FILE	46-11-1316C
DESIGNATION	1297592
SHEETS	1 of 13
CONTRACT	B-35323
PROJECT	1297592



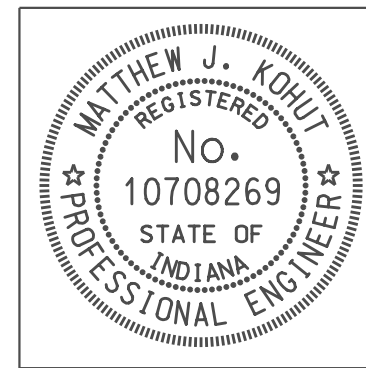
CALL TWO WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
1-800-428-5200
FOR CALLS OUTSIDE OF INDIANA


[illegible][illegible]

THIS SET OF PLANS SHALL NOT BE CONSTRUED TO BE A PROPERTY REPLACEMENT SURVEY.
WHERE APPARENT PROPERTY LINE, OWNER OR SECTION CORNER INFORMATION IS SHOWN,
IT IS BASED UPON PHYSICAL EVIDENCE OR TESTIMONY.

12	INDIANA DEPARTMENT OF TRANSPORTATION
	INDEX

HORIZONTAL SCALE	BRIDGE FILE
NO SCALE	46-11-136C
VERTICAL SCALE	DESIGNATION
NO SCALE	1297592
SURVEY BOOK	SHEETS
	2 of 13
CONTRACT	PROJECT
B-35323	1297592



RECOMMENDED FOR APPROVAL	 DESIGN ENGINEER		8/22/2012 DATE
DESIGNED: EWM	DRAWN: EWM		
CHECKED: MJK	CHECKED: MJK		

GENERAL NOTES

Install Temporary Jacking Rod Arrangement Shown
In these Drawings at Last Panel of Bottom Chord at
the Following Locations.

Span A

LO-LI - U/S Side LO-LI - D/S Side
LI-O-LII - U/S Side LI-O-LII - D/S Side

Span B

LO-LI - U/S Side LO-LI - D/S Side
LI-O-LII - U/S Side LI-O-LII - D/S Side

II Specifications

A.Design

- 1. Standard Specifications for Highway Bridges, Edition No.17, Dated 2002 as Adopted by the American Association of State Highways and Transportation Officials and all Interim Specifications Herein Referred to as the AASHTO Specifications.
- 2. Manual for Condition Evaluation of Bridges, as Adopted by the American Association of State Highways and Transportation Officials and all Interim Specifications.

B.Material and Construction Specifications

- 1. 2012 INDOT English Standard Specifications, Plus Current Supplemental Specifications and Special Provisions.
- 2. All Welding Shall Conform to AWS D1.5:

III Design Criteria

- 1. Loadings for the Analysis of the Bottom Chords and the Referenced Detail were Obtained From the Design Stress Sheets of the Original "As-Built" Drawings of Steel Truss Bridge, Indiana State Highway Commission Dated April 12 1933.

IV Materials

Structural Steel.
All Steel Shall Conform to ASTM A709, Grade 50.
Unless Otherwise Noted and Shall Meet the Charpy V-Notch Impact Test Requirement of a Minimum of 25 Ft-Lbs @ 10° F.

Field Connections (Bolted)
All Field Connections Shall be Made With Galvanized High Strength Fasteners as Described In INDOT English Standard Specifications, and as Modified Herein. Bolts Shall Conform to ASTM A325 and or A490 Type I, Heavy Hex Nuts Shall Conform to ASTM A563 Class DH and Washers Shall Conform to ASTM F436. All Fastener Components Shall be Galvanized by the Mechanically Deposited Method In Accordance With ASTM B695 Class 50, Type I. Nuts Shall be Supplied With a Lubricant That Contrasts With the Zinc Finish In Accordance With ASTM A563 S1J and S2J. Full Scale Tests Shall be Performed In Accordance With ASTM A325 and or A490 to Verify the Mechanical Properties and Rotational Capacity of the assembly. Test Frequency Shall be Twice That Required In ASTM A325 and or A490. Test Certifications Shall be Provided to the Engineer.

All Fasteners Shall be 7/8 Inch Diameter Unless Noted.

High-Strength Washers Shall be Provided Under Turned Part of Fastener, and Under Part In Contact With Existing Steel.

V Working Drawings

The Contractor Shall Submit Working Drawings to the Engineer In Conformance With INDOT English Standard Specifications. Working Drawings Shall Include, But Shall Not be Limited to, Shop Drawings of Fabricated Materials and Erection Plans. Working Drawings Shall be Sealed by a Professional Engineer Registered In the State of Indiana. Five Days Shall be Provided For Working Drawing Review.

GENERAL CONSTRUCTION AND PROCEDURES

- 1. Actual Field Conditions May Require Modification to Construction Details and Work Quantities. The Contractor Shall Perform the Work In Accordance With Field Conditions.
- 2. If the Contractor Damages Any Materials Which Are to Remain In Place, or Which Are to Remain the Property of INDOT, the Damaged Materials Shall be Repaired Or Replaced In a Manner Satisfactory to the Engineer at the Expense of the Contractor.
- 3. The Contractor Shall Take Precautions So as Not to Leave Debris, Materials, Tools, Etc, On the Bridge Surface When Leaving the Work Area On a Daily Basis.
- 4. Horizontal, Vertical and Detail Dimensions and Elevations Shown On these Plans Have been Obtained From the Original Design Drawings, Shop Drawings, and Subsequent Modification Drawings of the Existing Structures. The Contractor Shall Perform Field Measurements to Establish Control Points and to Verify all Existing Dimensions Affecting Fabrication and Construction. Shop and Construction Drawings Shall Show Design Dimensions and Field Dimensions Whenever they Differ.
- 5. Reproductions of the "As-Built" Drawings of the Existing Structure Are Available for Review From INDOT.
- 6. Where Existing Material Is to be Connected to New Material, The Existing Material Shall be Cleaned and Primed as Follows. The Area Comprised of the Faying Surface and An Area Extending a Minimum of Two Inches Outside the Faying Surface Shall be Cleaned to SSPC-SP6 Using Vacuum Blast Methods. Remove all Nicks, Burrs, Corrosion, Scale and foreign Substances From Inside the Bolt Holes and Faying Surfaces Using Power tools. The Blast Cleaned Areas Are to be Primed With An Approved Zinc Silicate Paint. New Material Shall Not be Installed Until the Primer Is Dry to the touch.
- 7. Removal of Rivets Shall be Performed In a Manner Such That Existing Material to Remain Is Not Damaged. Burning of Rivets Shall be Permitted Only After the Contractor Has Demonstrated the Procedure to be Used and Only If That Procedure Is Approved by the Engineer.
- 8. Except as Shown On the Plans, No Welding of Any Nature Shall be Performed Without the Written Consent of INDOT or Its Authorized Representative and then Only In the Manner and Location(s) Designated In the Authorization.
- 9. Fillet Weld Sizes Not Indicated Shall be the Minimum Size Specified In the AWS Manual, and Shall be Detailed On Submitted Shop Drawings.
- 10. Bolt Layout and Spacing Not Indicated On the Drawings Shall be In Accordance With AASHTO Specifications and Shall be Detailed On Submitted Shop Drawings.
- 11. All Cutting of Steel In the Field Shall be by Air Arc Method or Flame Cutting Unless Otherwise Directed. The Cut Surfaces Shall be Ground Smooth.
- 12. During Removal and Construction Operations, the Contractor Shall Not be Permitted to Drop Material Or Debris From the Bridge Nor Shall Any Water Which Is Used for Washing Purposes Or Other Similar Operations Which Causes It to become Polluted With Sand, Silt, Cement, Oil or Other Impurities be Deposited Into the River.
- 13. Protective Shields Shall be Used to Catch Potential Falling Material and Shield the Area below the Work. The Load Carrying Capacity of the Protective Shields Shall be Consistent With the Nature of the Work being Performed In Any Particular Location. If the Engineer Determines That Adequate Protective Shields Are Not being Provided, the Work Shall be Suspended Until Adequate Work Shield Are Employed.
- 14. The Contractor Shall Submit to the Engineer Final Design Drawings and Design Calculations of all Temporary Access and Construction Platforms and Protective Shields. These Drawings Shall be Fully Dimensioned and Shall Show all attachments to the Bridge Members. Drawings and Calculations Shall Each bear the Signature and Seal of the Designer Who Shall be a Licensed Professional Engineer In the State of Indiana. Attachments to the Existing Structure, that In the Opinion of INDOT, could be Damaging to Any Component of the Bridge Structure Shall Not be Used.

- 15. The Contractor Shall Limit the Weight of Any Temporary Access Structure, Protective Shields or Special Equipment to be Supported by the Existing Bridge. Prior to the Installation of Any Temporary Material On the Bridge the Contractor Shall Submit the Weight Limits and Other Loading Conditions to the Engineer for Review and Acceptance. Calculations as to the Capacity of the Structure to Accommodate the Proposed Loads Shall Also be Submitted and Shall bear the Signature and Seal of the Designer Who Shall be a Licensed Professional Engineer In the State of Indiana. In No Case Shall the Temporary Loads Result In a Condition That Would Exceed the Operating Criteria as Defined by AASHTO.
- 16. It Shall be the Contractor's Responsibility to Determine the Size, Weight and Type of all Construction Equipment to be Used On the Structure and to assess the Adequacy of the Structure Based for Its Use Based On the Existing Condition of the Structure. No Equipment Shall be Permitted On the Structure That Would Result In a Condition That Exceeds Operating Criteria as Defined by AASHTO. The Determination of the Permissible Loads Shall be Made by a Professional Engineer Licensed In the State of Indiana and Employed by the Contractor. Intended Loadings for Lifting Along With the Written Determination by the Contractor's Professional Engineer, Shall be Submitted to the Engineer for Review at Least 10 Working Days Prior to Moving This Equipment to the Bridge Structure.
- 17. The Contractor Shall Not Disturb Any Existing Utilities Except as Specifically Defined Within the Scope of Work for This Contract. Where Work Affects or Is Affected by the Existing Utilities, the Work Shall be Coordinated With the Utility Company and/or Owner.
- 18. The Contractor Shall Obtain His Own Electrical Power Source for all Construction Operations and Shall Not be Permitted to Use Any Existing Utilities On the Bridge as a Source of Power.
- 19. Except While Included Within a Particular Phase of Construction, the Bridge Maintenance Walks, the Roadway, and Any Bridge Easement Shall Not be Used For Storage of Materials Or Equipment and Shall Not be Covered or Blocked In Any Way Without Written Authorization by INDOT.
- 20. The Contractor Shall Submit to INDOT for Approval, His Plan and Schedule for Erecting all New Structural Steel On the Bridge Superstructure. This Plan Must be Submitted at Least 5 Days Prior to the Commencement of Any Removal Work.


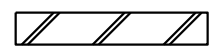


STEEL FABRICATION AND ERECTION

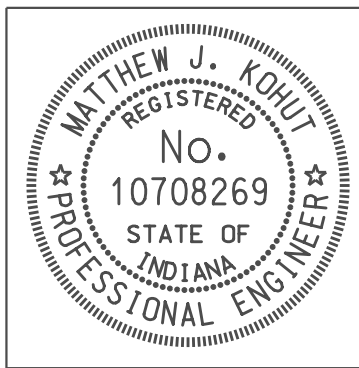
- 1. Shop Drawings Shall be Submitted to the Engineer for Approval for all Items.
- 2. Existing Rivet Holes Shall be Reamed Where Required to allow Installation of H.S. Bolts.
- 3. Holes In New Steel Shall be 1/4 Inch Under size In the Shop and Reamed to Size In the Field After Alignment and Assembly. If the Misalignment Exceeds 1/4 Inch, the New Steel Shall Not Be Accepted and Shall be Repaired or Replaced By the Contractor At No Extra Cost to INDOT as Determined by the Engineer.
- 4. New Holes In Existing Material Shall be Drilled to a template.
- 5. All New Structural Steel Shall be Primed and Painted. No top Coat of Paint Is Required.


ABBREVIATIONS

- CL - Centerline
- Exp. - Expansion
- Nos. - Number
- Typ. - Typical
- Brg. - Bearing
- T & B - Top and Bottom
- H.S. - High-Strength
- U.N.O. - Unless Noted Otherwise
- N.T.S. - Not to Scale

SYMBOLS

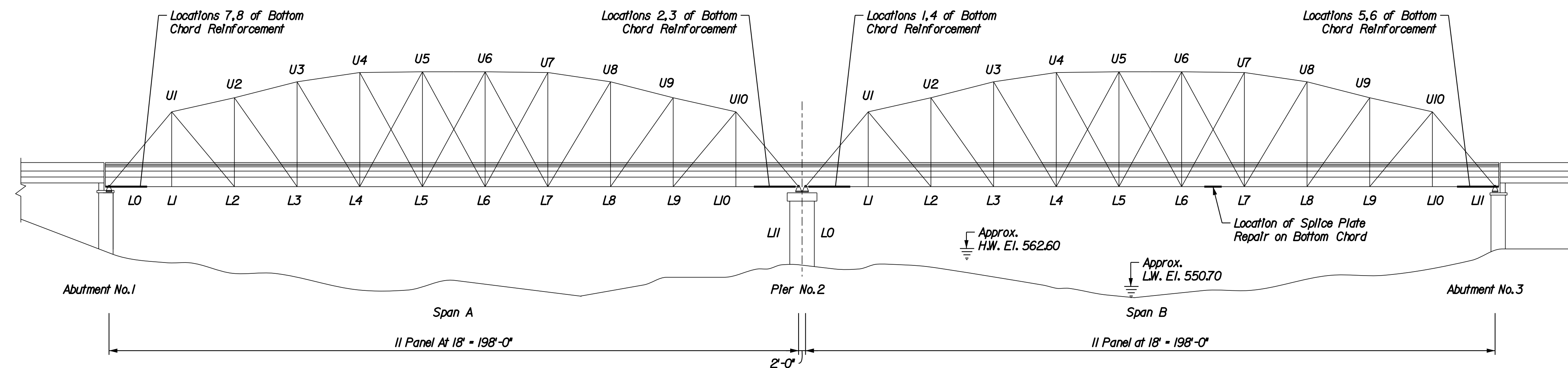
-  Repair Locations
-  Existing Steel.
-  Panel No.
-  Connect New Steel To Existing Steel With High Strength Bolt Through Existing Rivet Hole.



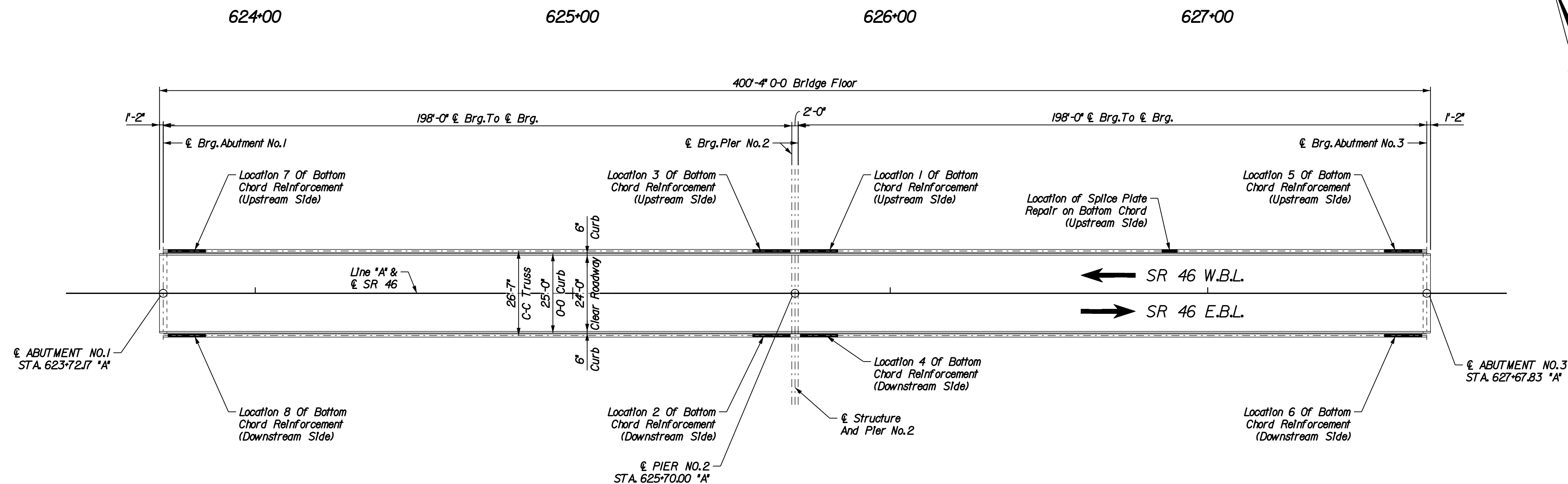
RECOMMENDED FOR APPROVAL		8/22/2012
DESIGNED:	JJS	DRAWN:
CHECKED:	MJK	CHECKED:

INDIANA DEPARTMENT OF TRANSPORTATION
GENERAL NOTES

HORIZONTAL SCALE	BRIDGE FILE
NO SCALE	46-111316C
VERTICAL SCALE	DESIGNATION
NO SCALE	1297592
SURVEY BOOK	SHEETS
	3 of 13
CONTRACT	PROJECT
B-35323	1297592



ELEVATION



PLAN

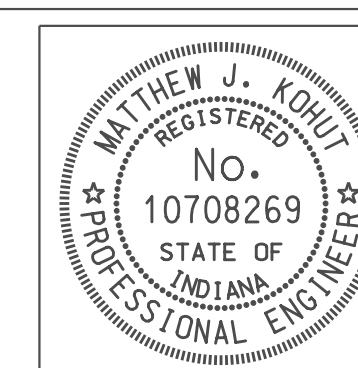
GENERAL NOTES;

Plans For Existing Structure Are On File And Available Upon Request From The Records Department, Indiana Department Of Transportation As Str. No. 46-11-1316, 46-11-1316A and 46-11-1316B.

Where New Work Is To Be Fitted To Old Work, The Contractor Shall Check All Dimensions And Conditions In The Field, Report Any Errors Or Discrepancies To The Engineer And Assume Responsibility For Correctness And Fit of New Part To The Old.

The contractor shall provide reinforcement to the bottom chord in numeric order as shown.

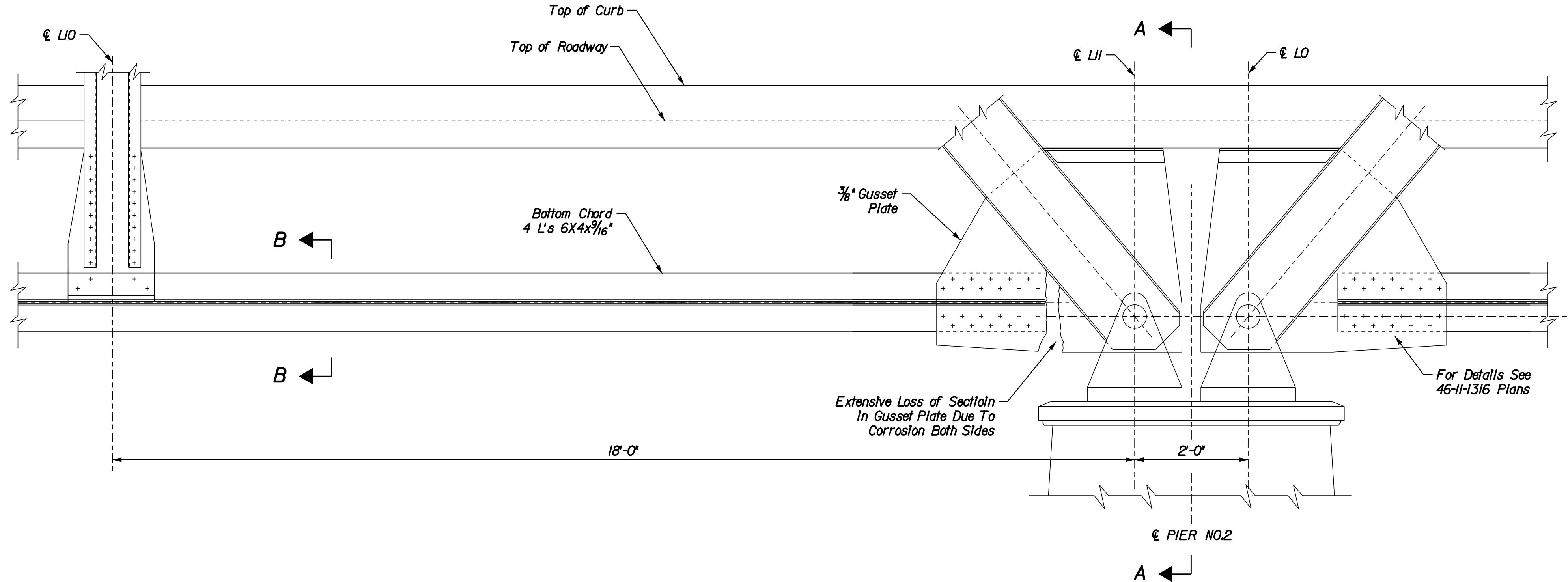
SR. 46 OVER EEL RIVER
STEEL THROUGH TRUSS BRIDGE
2 SPANS: 198'-0"
SKEW: SQUARE
24'-0" CLEAR ROADWAY



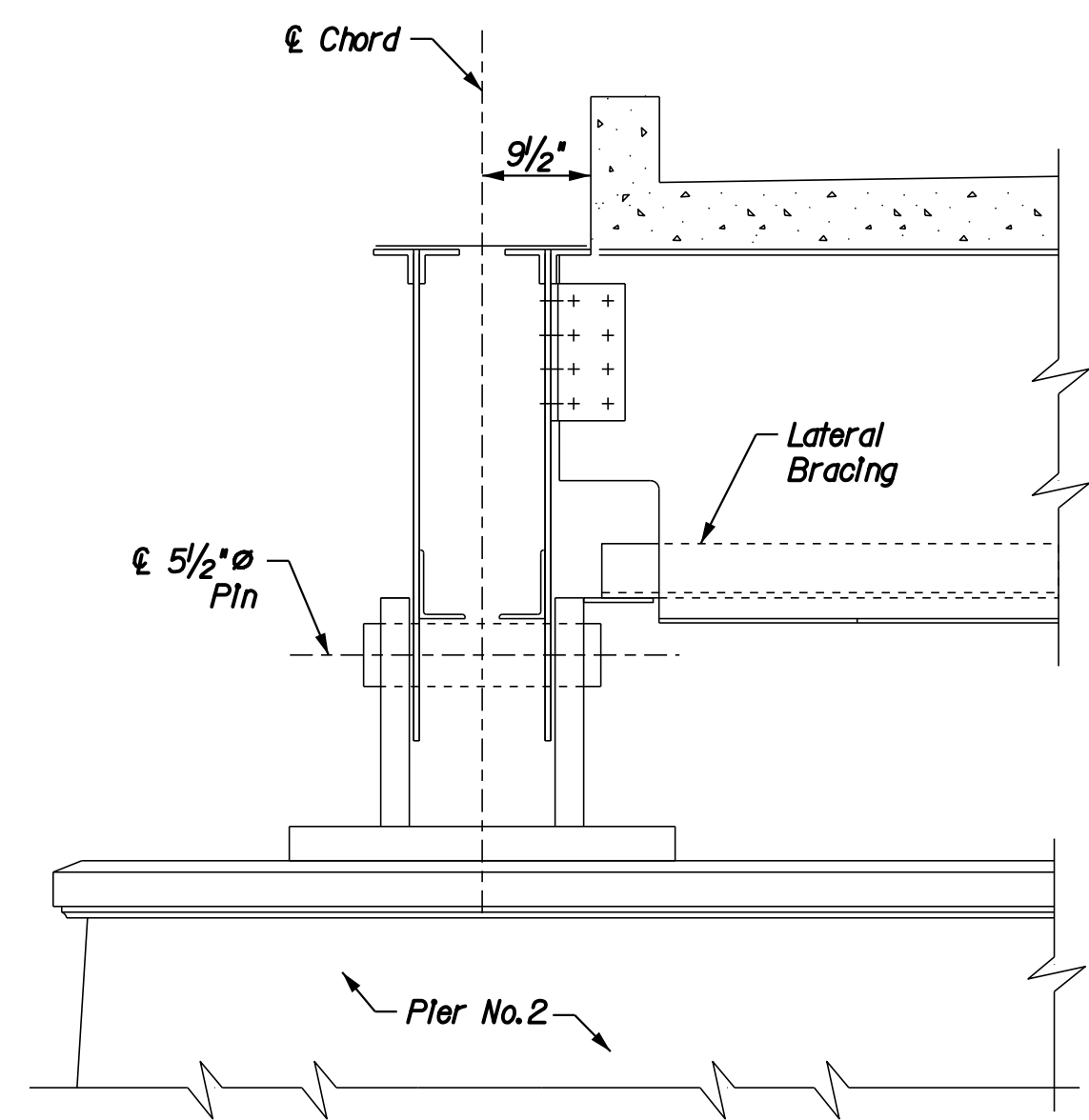
RECOMMENDED FOR APPROVAL	DESIGN ENGINEER	DATE
DESIGNED: JJS	DRAWN: GLT	
CHECKED: MJK	CHECKED: MJK	

INDIANA DEPARTMENT OF TRANSPORTATION
GENERAL PLAN

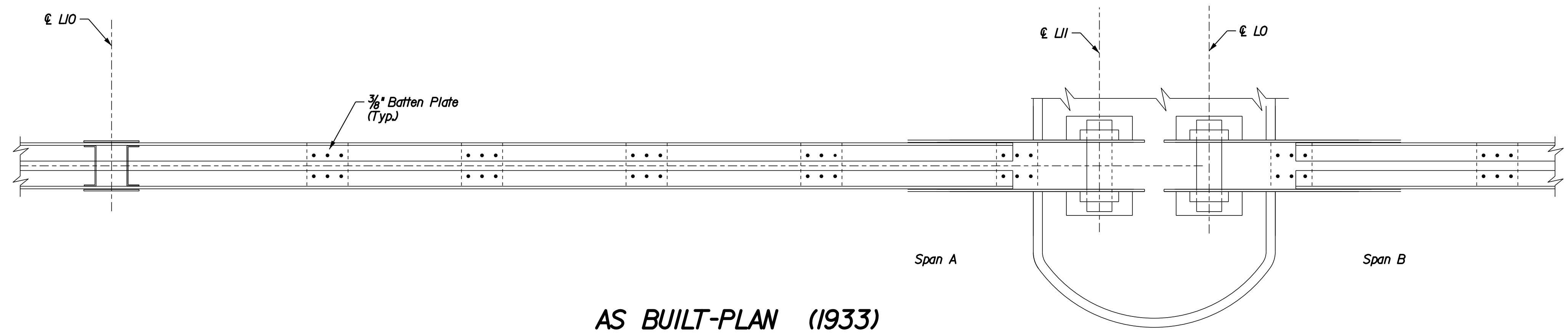
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VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
	4 of 13
CONTRACT	PROJECT
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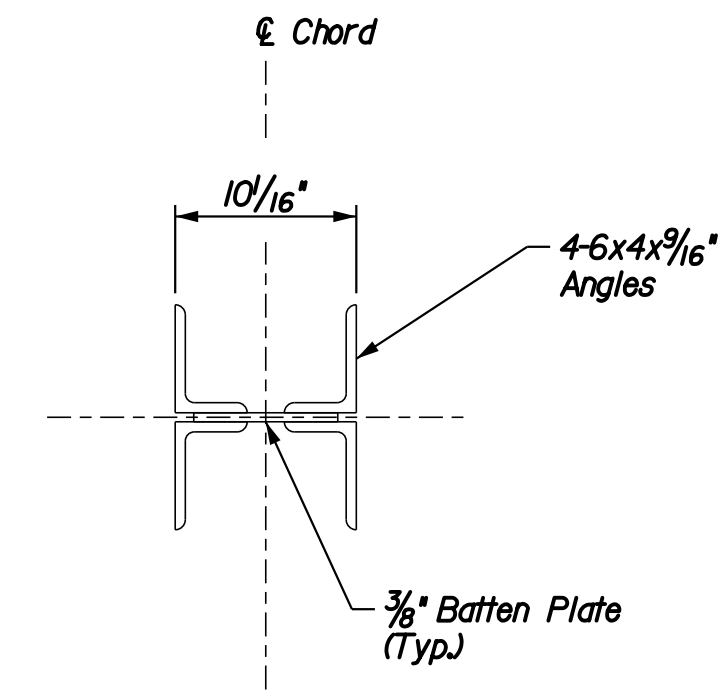
AS BUILT-ELEVATION (1933)



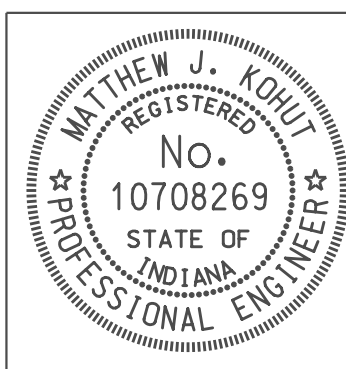
SECTION A-A



AS BUILT-PAN (1933)



SECTION B-B
1/2" = 1'-0"

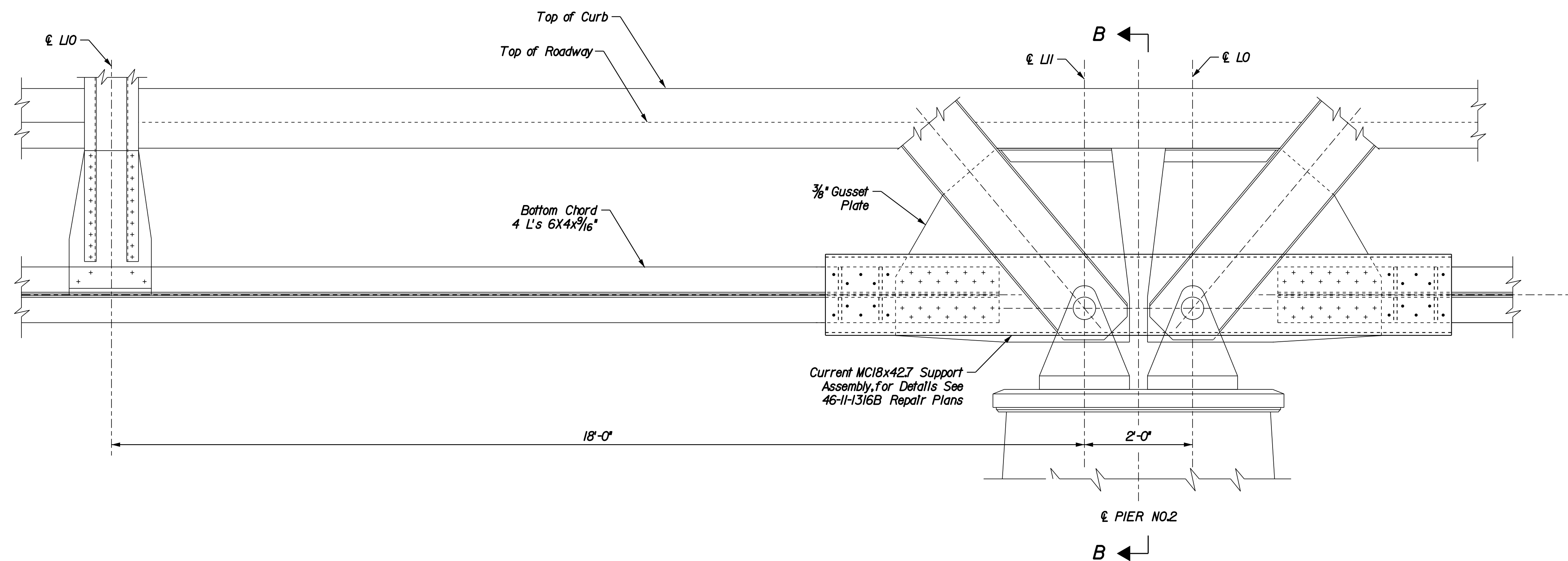


RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	8/22/2012	DATE
DESIGNED:	JJS	DRAWN:	GLT	
CHECKED:	MJK	CHECKED:	MJK	

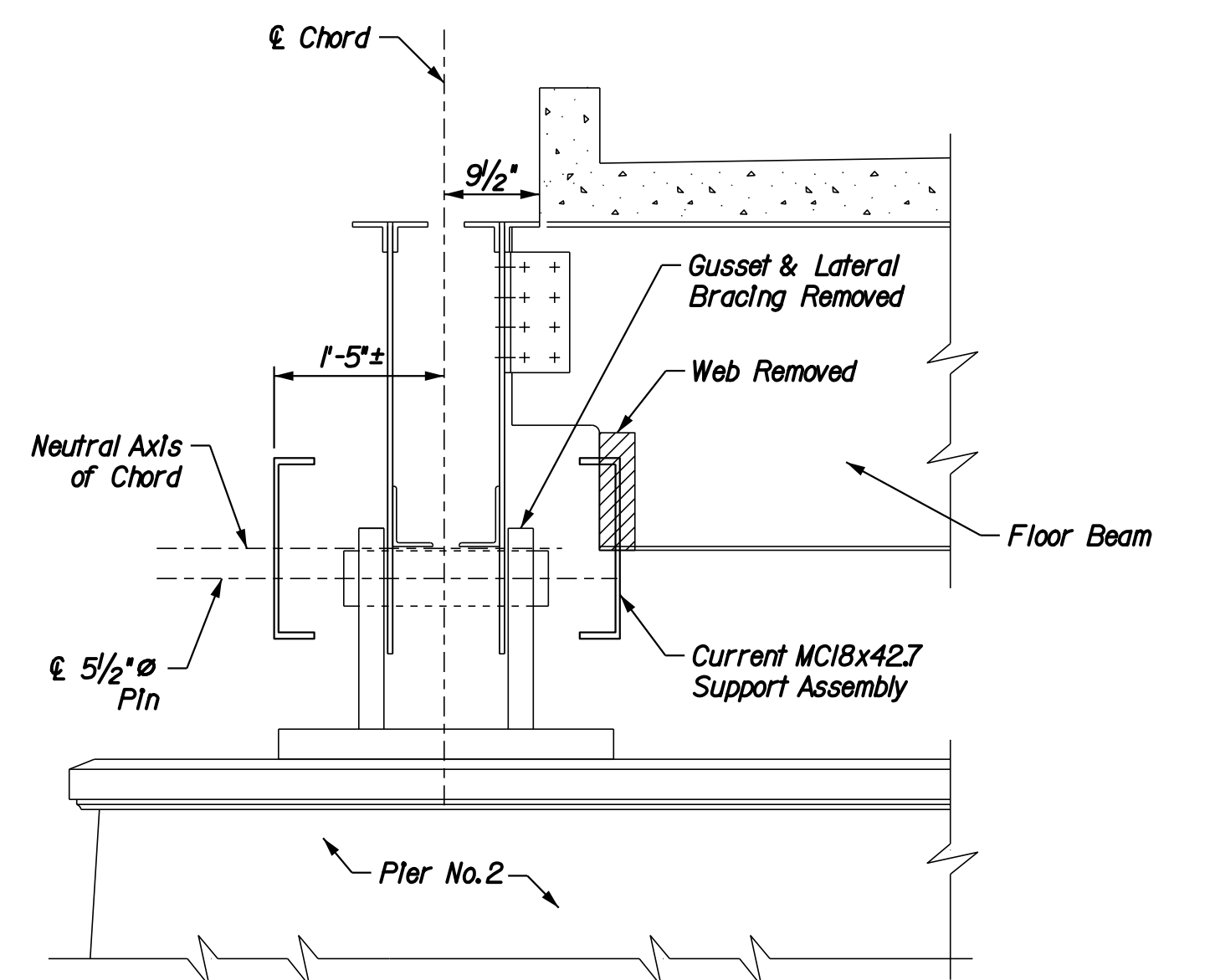
INDIANA
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS

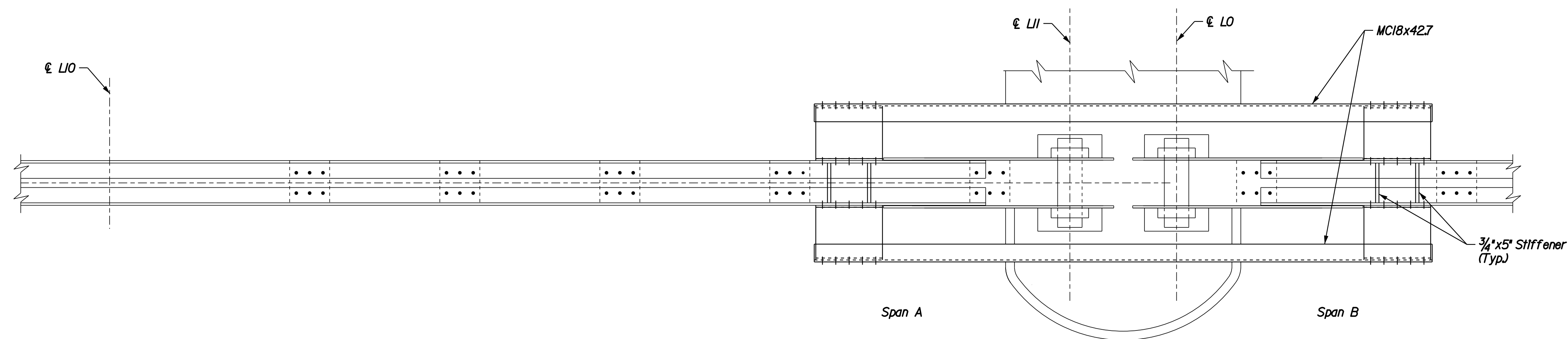
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VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
5	of 13
CONTRACT	PROJECT
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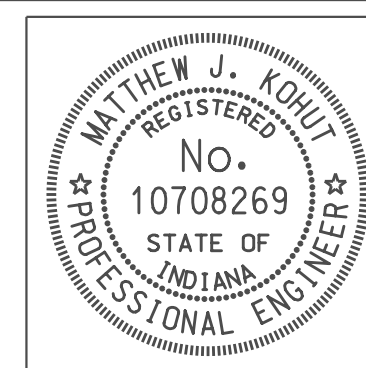
AS CURRENTLY MODIFIED-ELEVATION (2011)



SECTION B-B



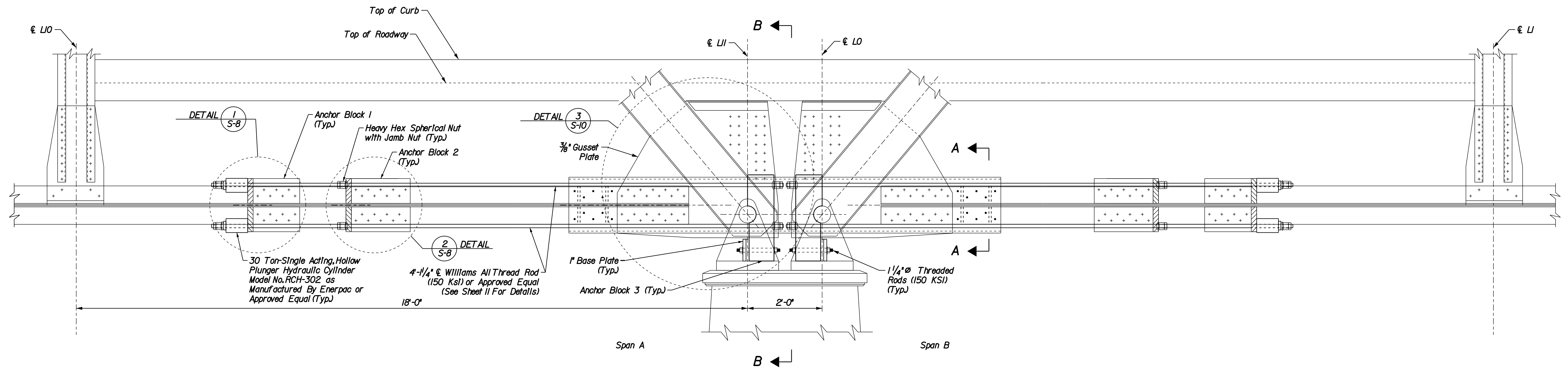
AS CURRENTLY MODIFIED-PLAN (2011)



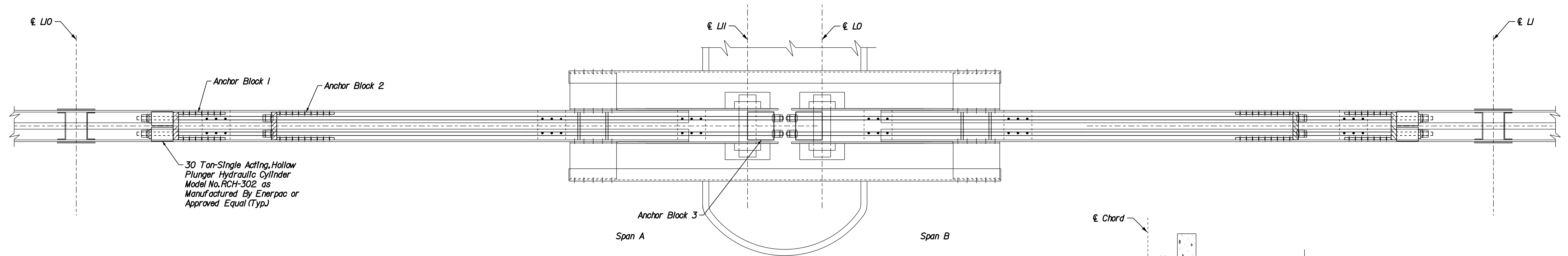
RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	DATE
DESIGNED:	JJS	DRAWN:	GLT
CHECKED:	MJK	CHECKED:	MJK

INDIANA DEPARTMENT OF TRANSPORTATION
MISCELLANEOUS DETAILS

HORIZONTAL SCALE 3/4" = 1'-0", U.N.	BRIDGE FILE 46-11-1316C
VERTICAL SCALE 3/4" = 1'-0", U.N.	DESIGNATION 1297592
SURVEY BOOK	SHEETS
CONTRACT B-35323	6 of 13 PROJECT 1297592



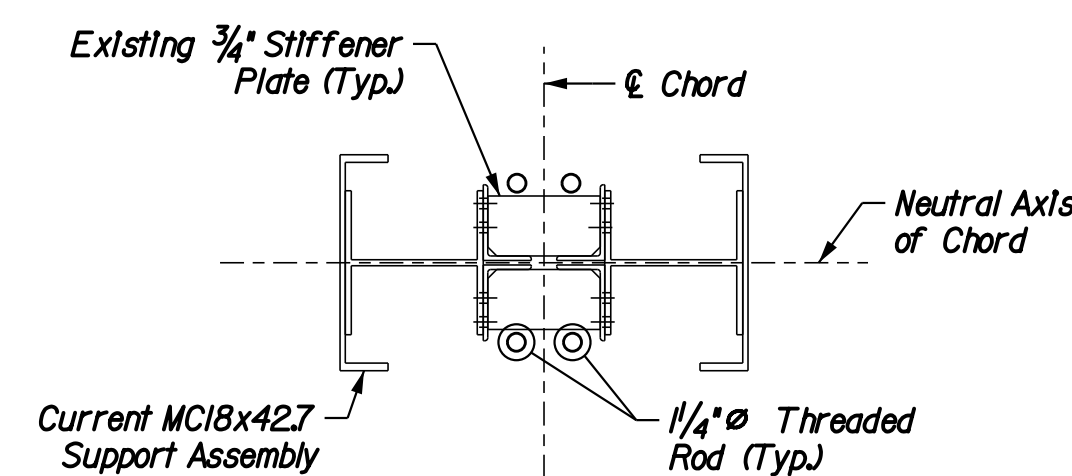
PROPOSED-ELEVATION



PROPOSED-PAN

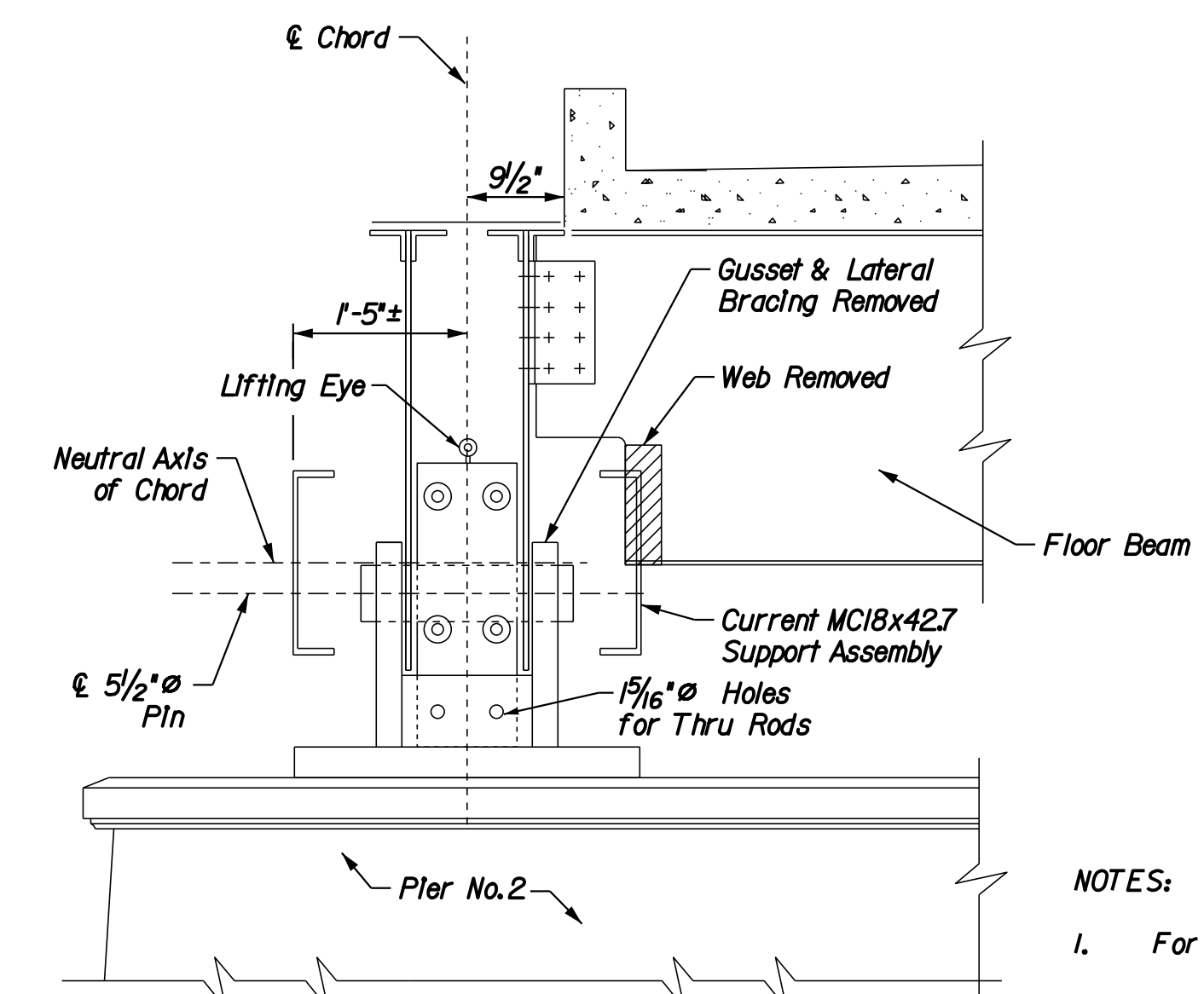
PROPOSED JACKING SEQUENCE

1. Install Jack On First Rod At Anchor Block 1 And Jack Until Rod Is Loaded With 5,000 lbs. Tighten Nut At Anchor Block 2 And Remove Jack.
2. Repeat Process For Rods 2-4, Loading The Rod Diagonally Opposite From Previously Loaded Rod For Each Process.
3. Load Rods 1-4 With 5,000 lbs For Another Cycle, Following The Process Above.
4. Repeat Above Process For Rods 1-4 Adding 10,000 lbs Per Cycle Until Rods Are Loaded With 40,000 lbs Of Force.
5. At The End Of Each Cycle, The Anchorage Rod Ends Shall Be Checked To Make Sure The Rods Are Seating Correctly In Correspondence With Monitoring Devices To Make Sure No Movement Has Taken Place.



SECTION A-A

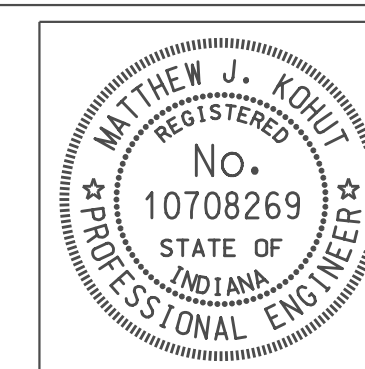
NOTE:
Field Verify threaded rods clear the existing 3/4" stiffener plates. 1 5/16" Holes thru stiffener plates may be required.



SECTION B-B

NOTES:

1. For Anchor Blocks 1 & 2 Details, see sheet No. 8.
2. For Anchor Block 3 Details, see sheet No. 9.
3. Deviation from the jacking sequence shall be approved by the engineer.

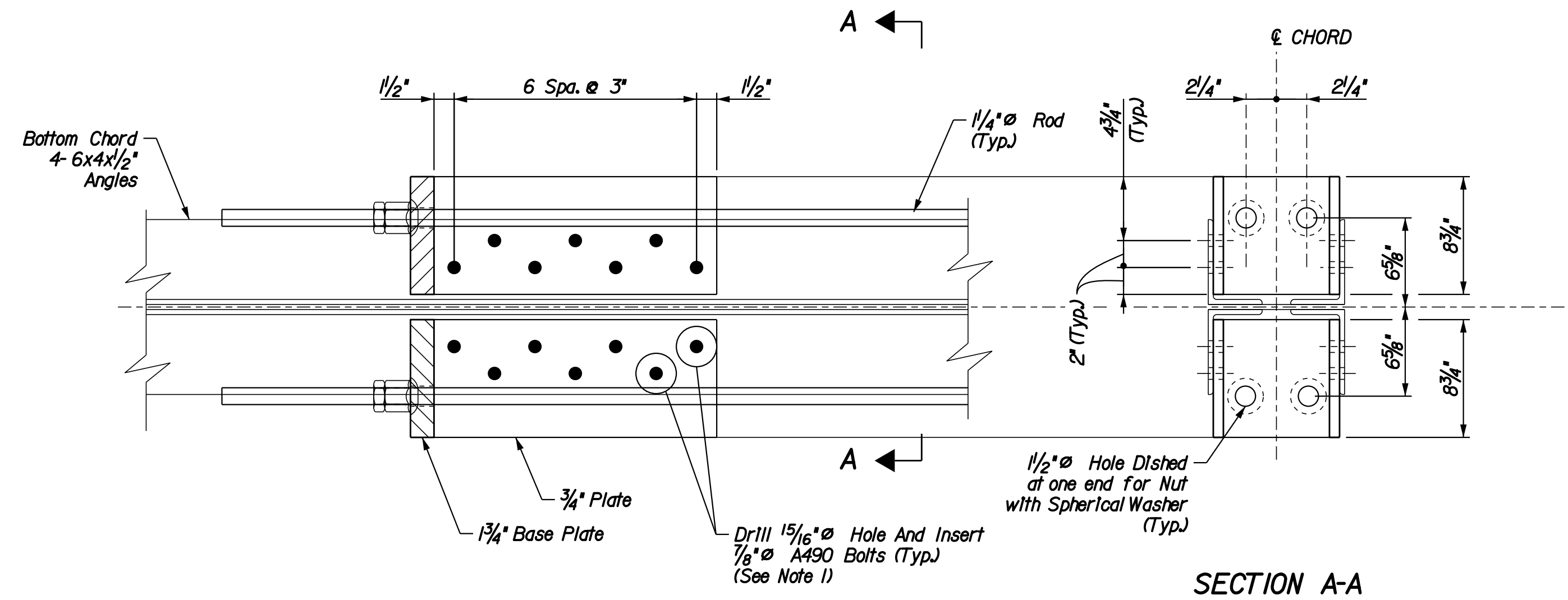


RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	8/22/2012	DATE
DESIGNED:	JJS	DRAWN:	GLT	
CHECKED:	MJK	CHECKED:	MJK	

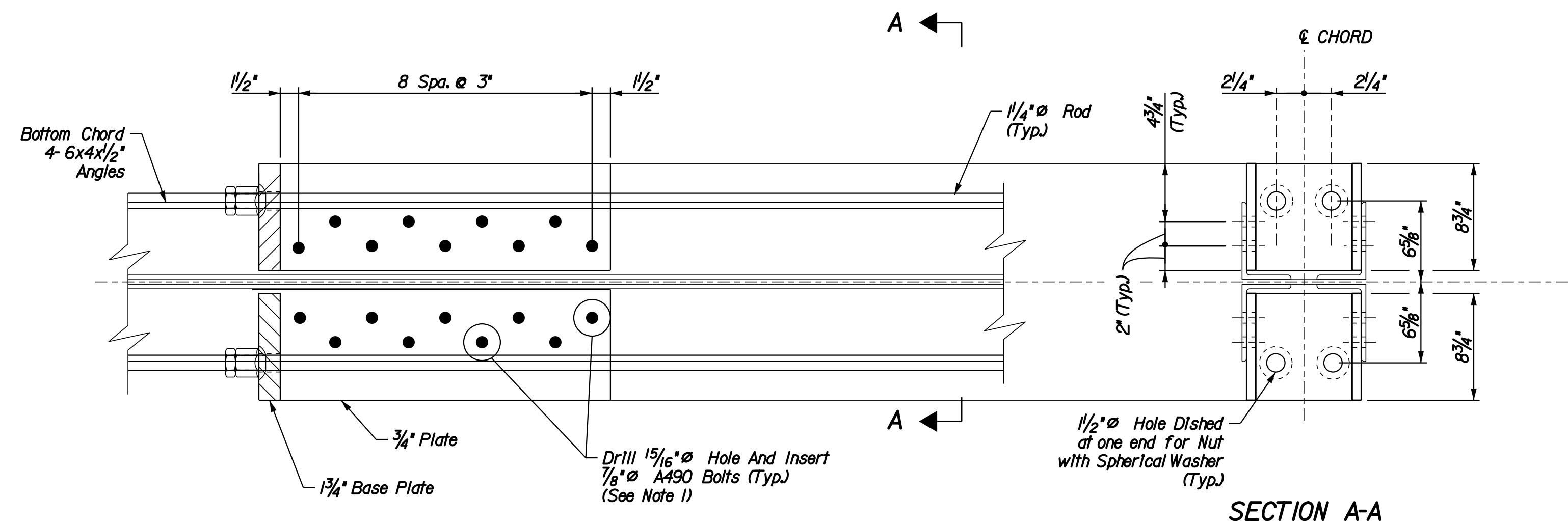
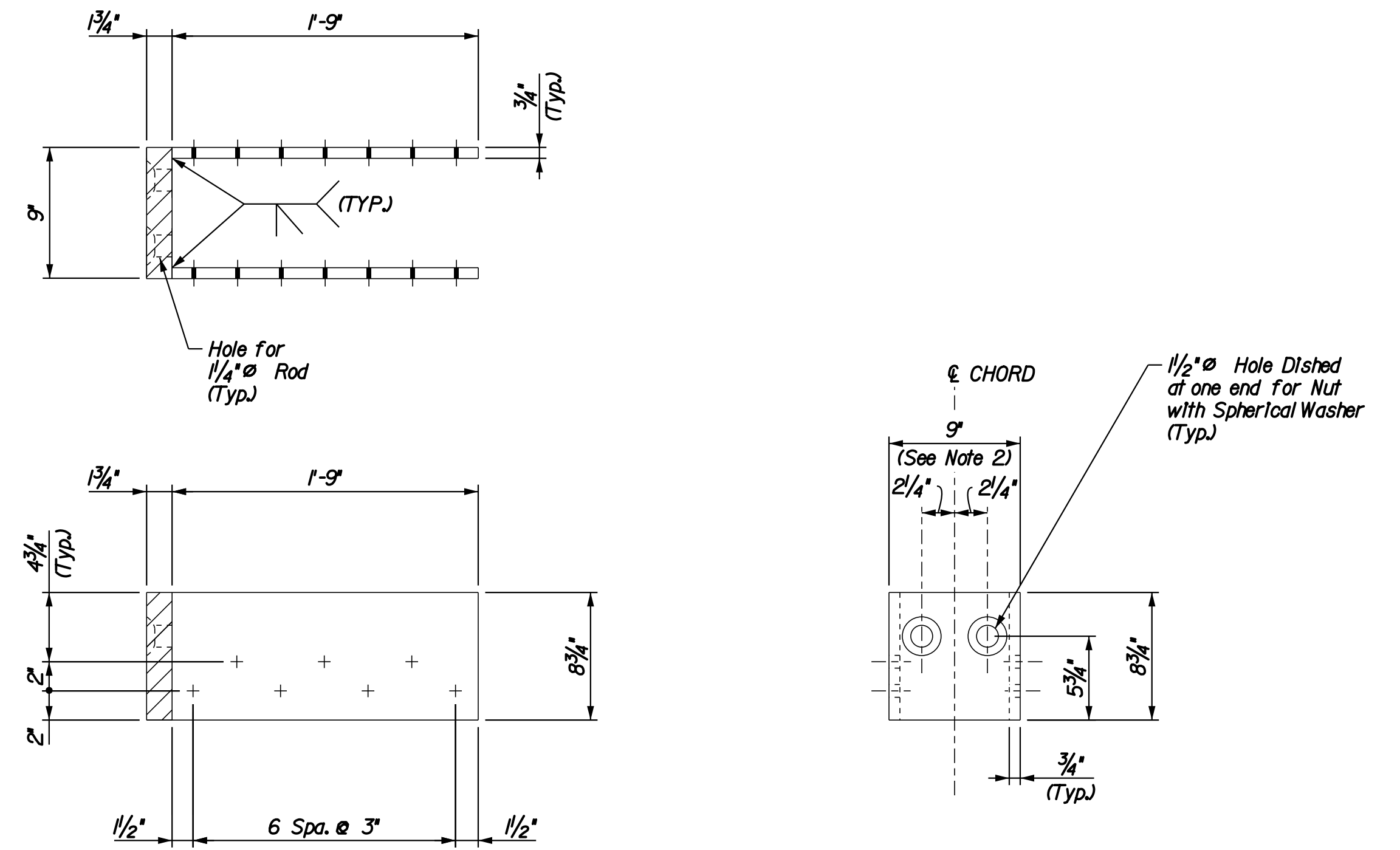
INDIANA
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS

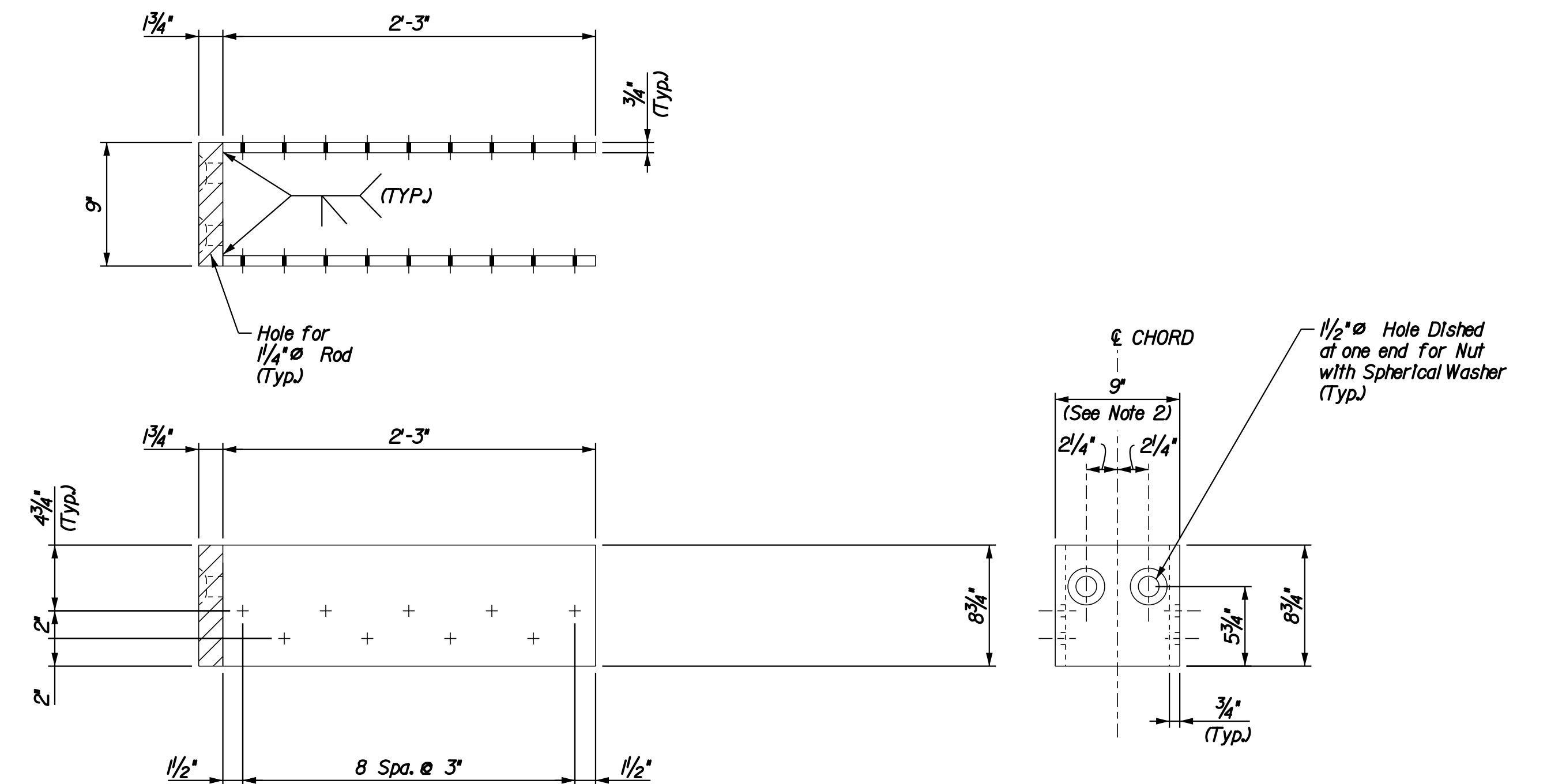
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VERTICAL SCALE	DESIGNATION
3/4" = 1'-0"	1297592
SURVEY BOOK	SHEETS
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CONTRACT	PROJECT
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DETAIL 1 - ANCHOR BLOCK 1

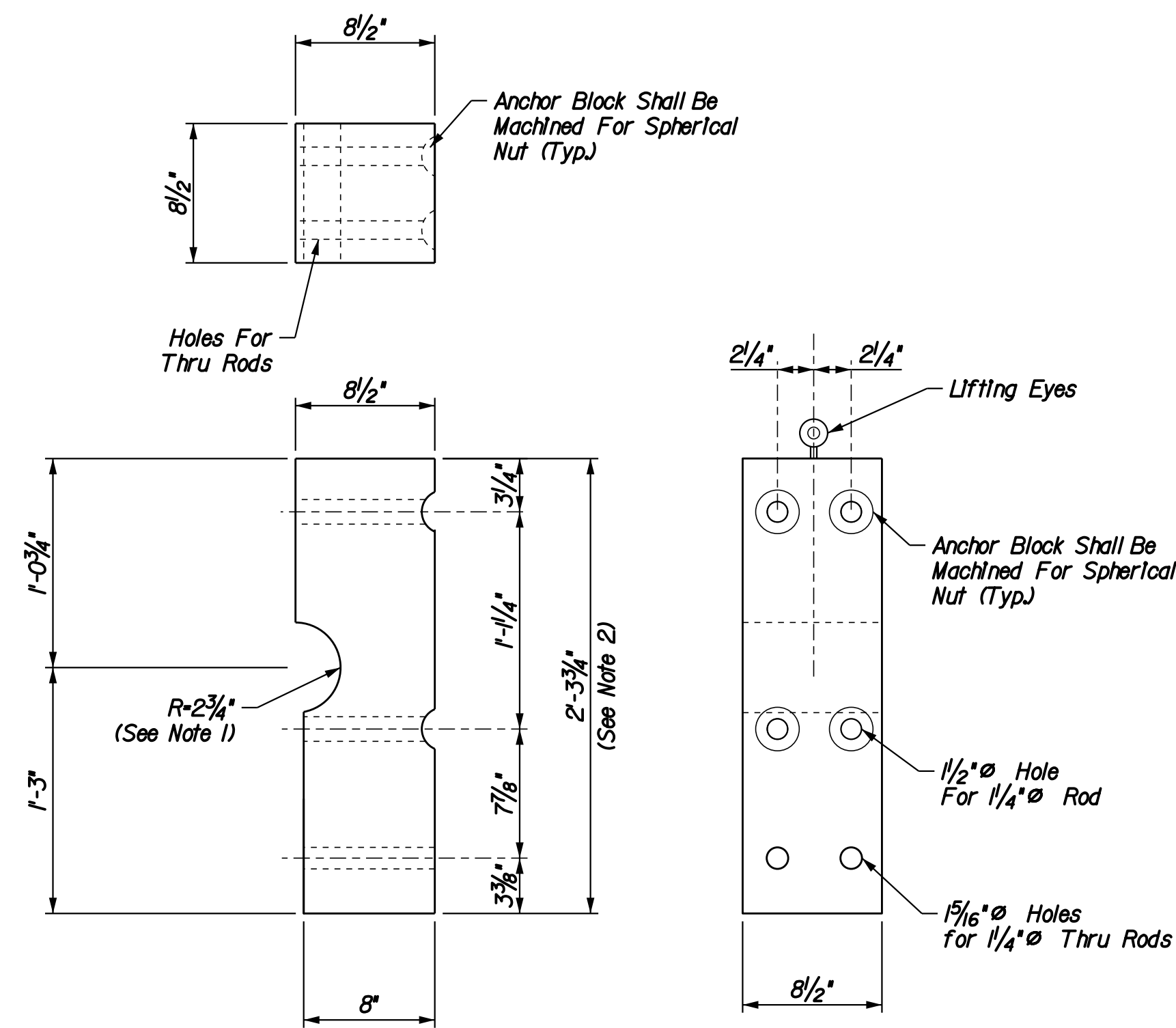


DETAIL 2 - ANCHOR BLOCK 2

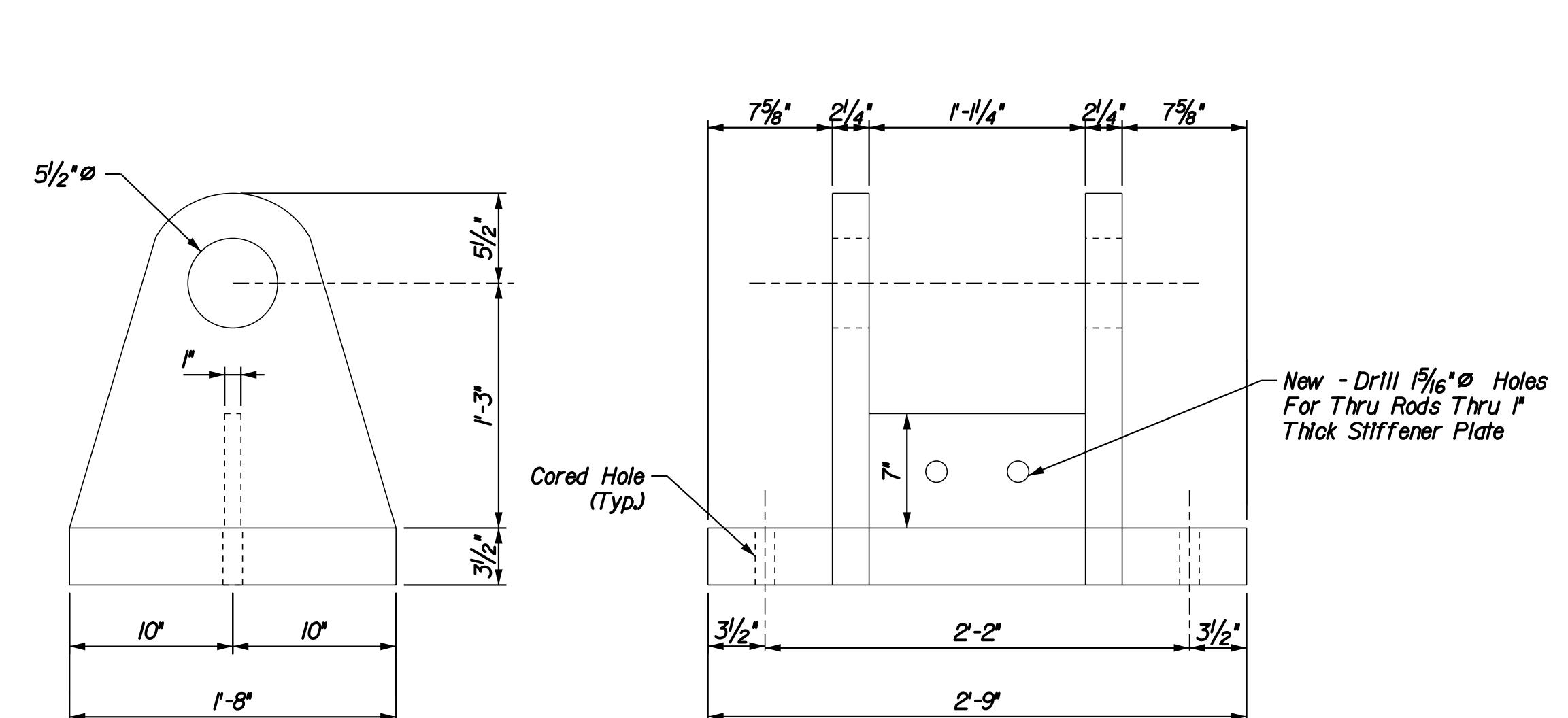


- NOTES:
1. Bolts shall be inserted so the nut is on the outside face of the chord.
 2. Block shall be fabricated to 8 3/4\" and shimmed with 1/8\" shim plates on each side, in the field.

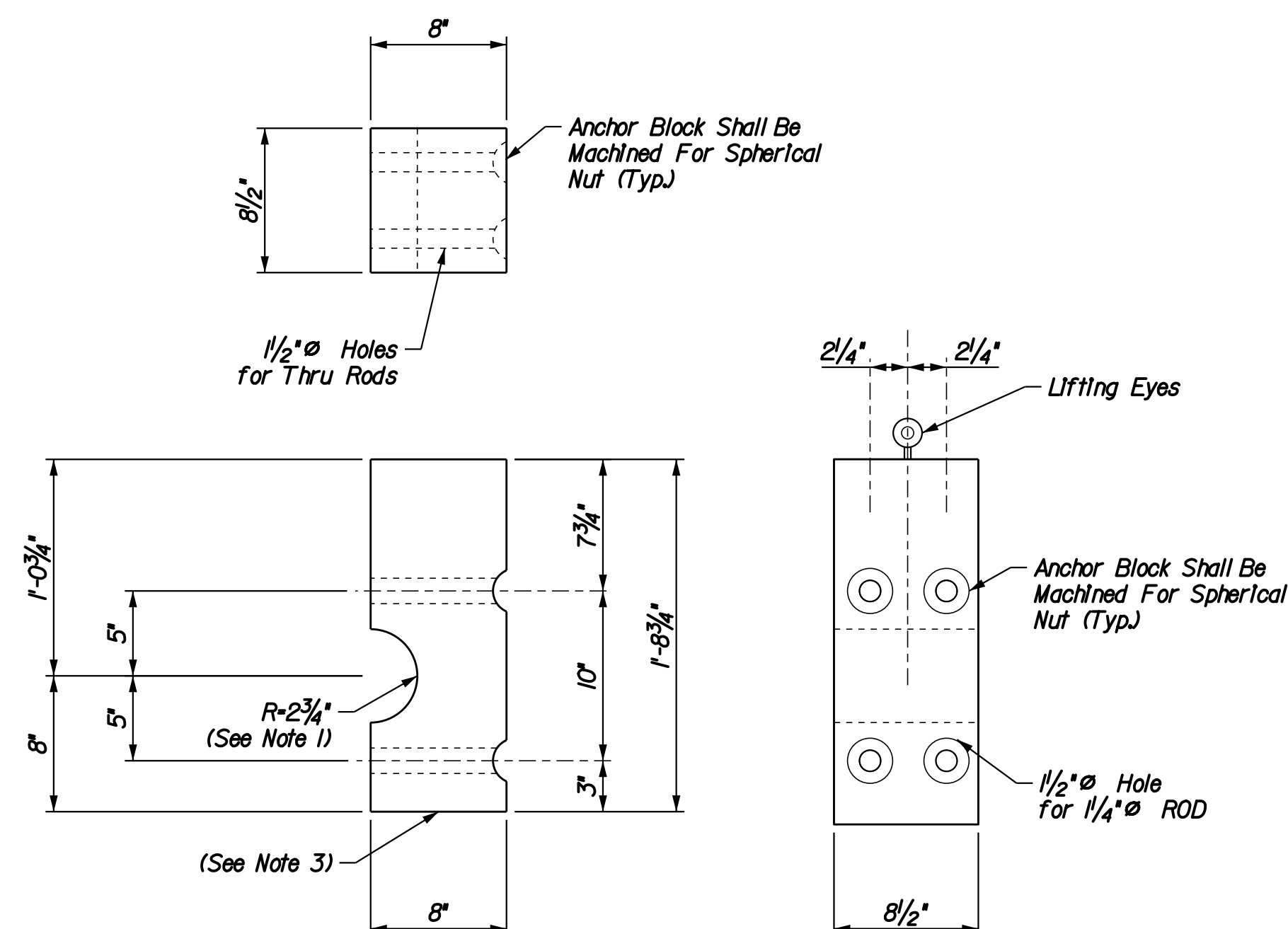
	RECOMMENDED FOR APPROVAL <u>Matthew J. Kohut</u> 8/22/2012 DESIGN ENGINEER DATE		INDIANA DEPARTMENT OF TRANSPORTATION		HORIZONTAL SCALE 1 1/2" = 1'-0"		BRIDGE FILE 46-11-1316C		
					VERTICAL SCALE 1 1/2" = 1'-0"		DESIGNATION 1297592		
	DESIGNED: JJS CHECKED: MJK		DRAWN: GLT CHECKED: MJK		SURVEY BOOK		SHEETS		
					CONTRACT B-35323		PROJECT 1297592		
				MISCELLANEOUS DETAILS		8 of 13			



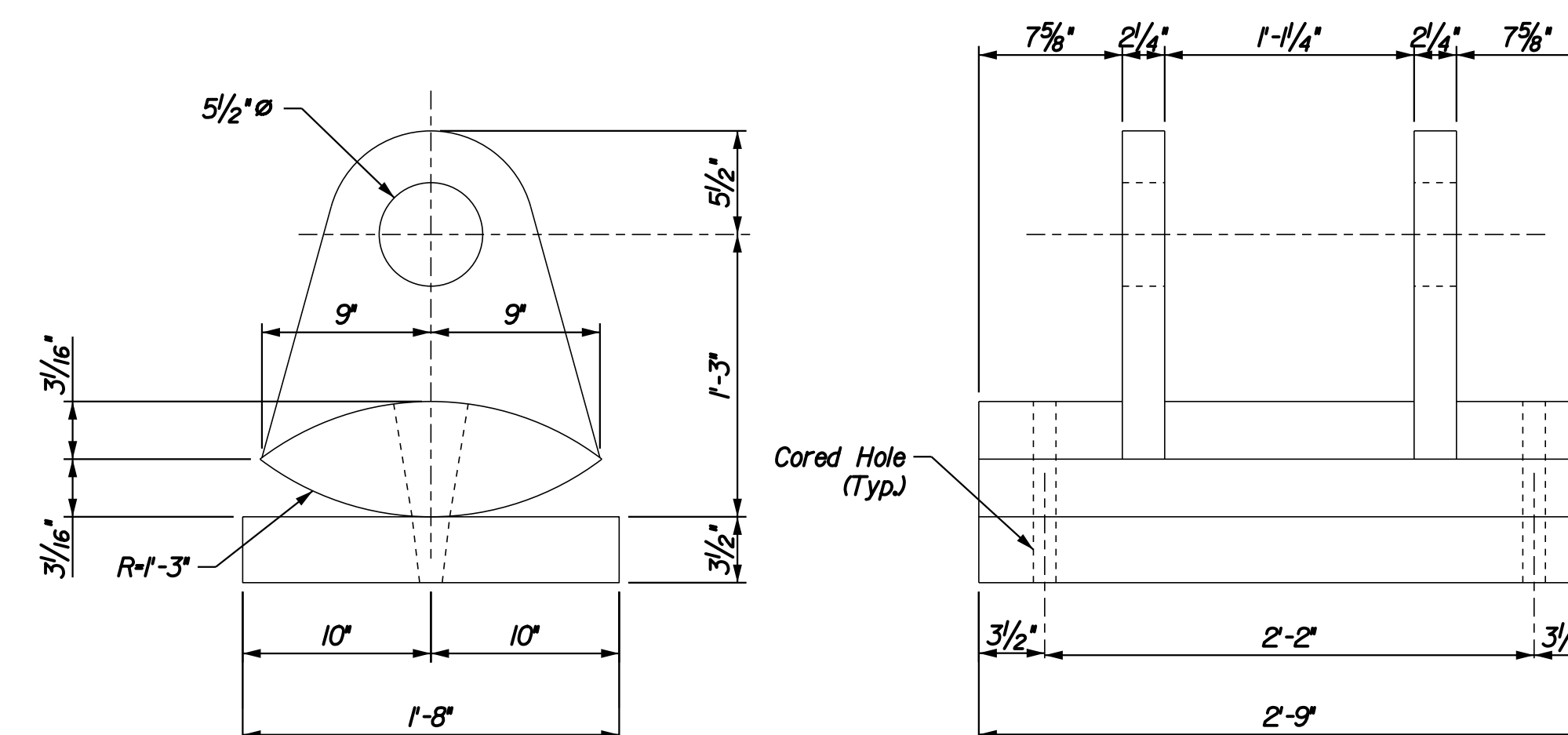
DETAIL 3 - ANCHOR BLOCK 3
(AT PIER)



DETAIL OF EXISTING FIXED SHOES
(FOR REFERENCE ONLY)



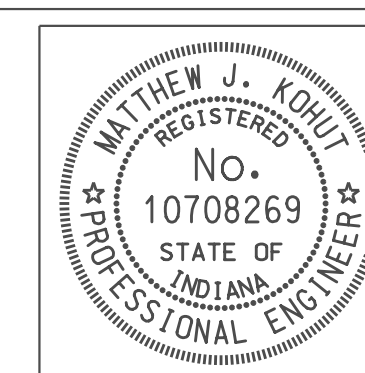
DETAIL 4 - ANCHOR BLOCK 4
(AT END BENTS)



DETAIL OF EXISTING EXPANSION SHOES
(FOR REFERENCE ONLY)

NOTES:

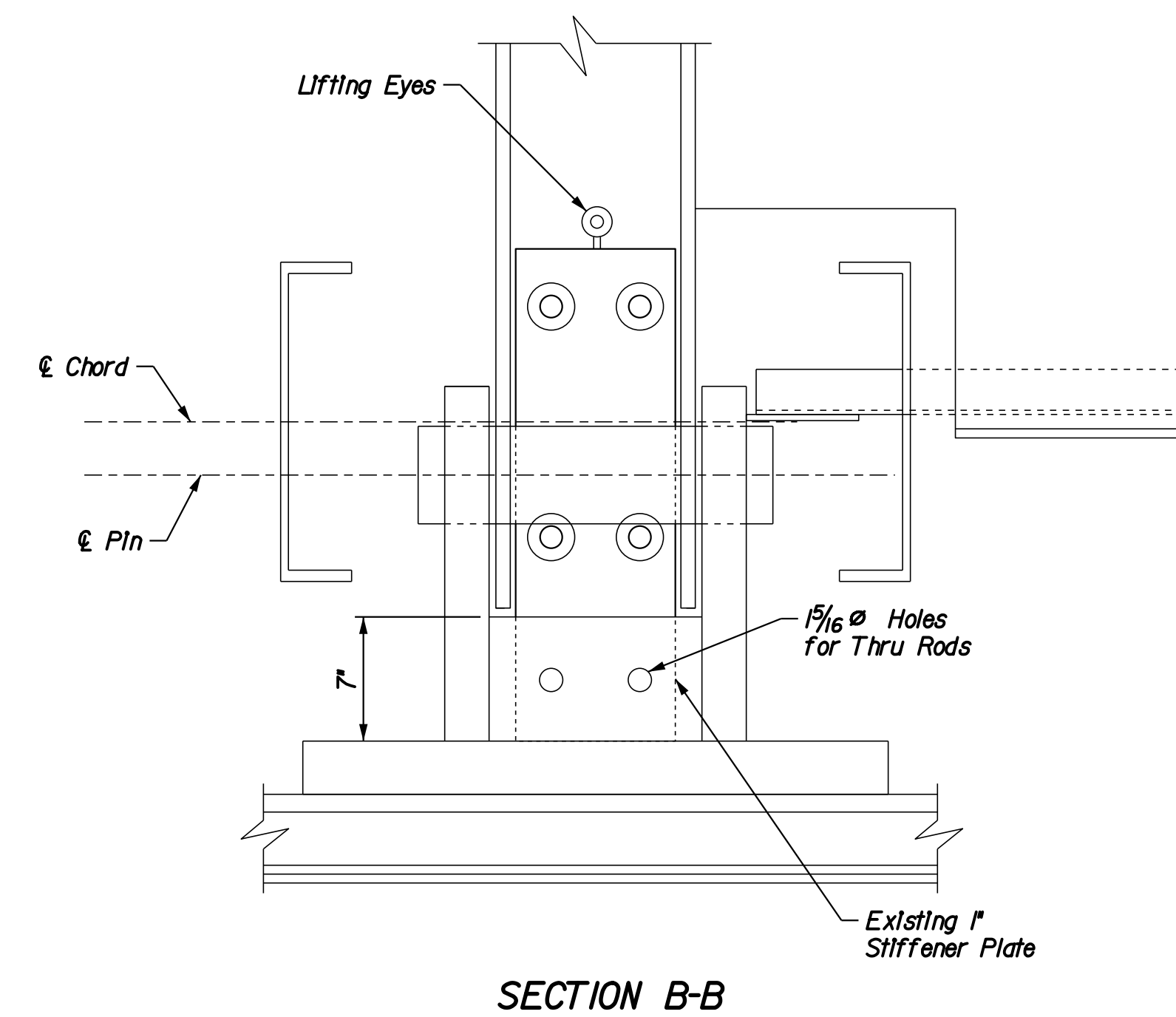
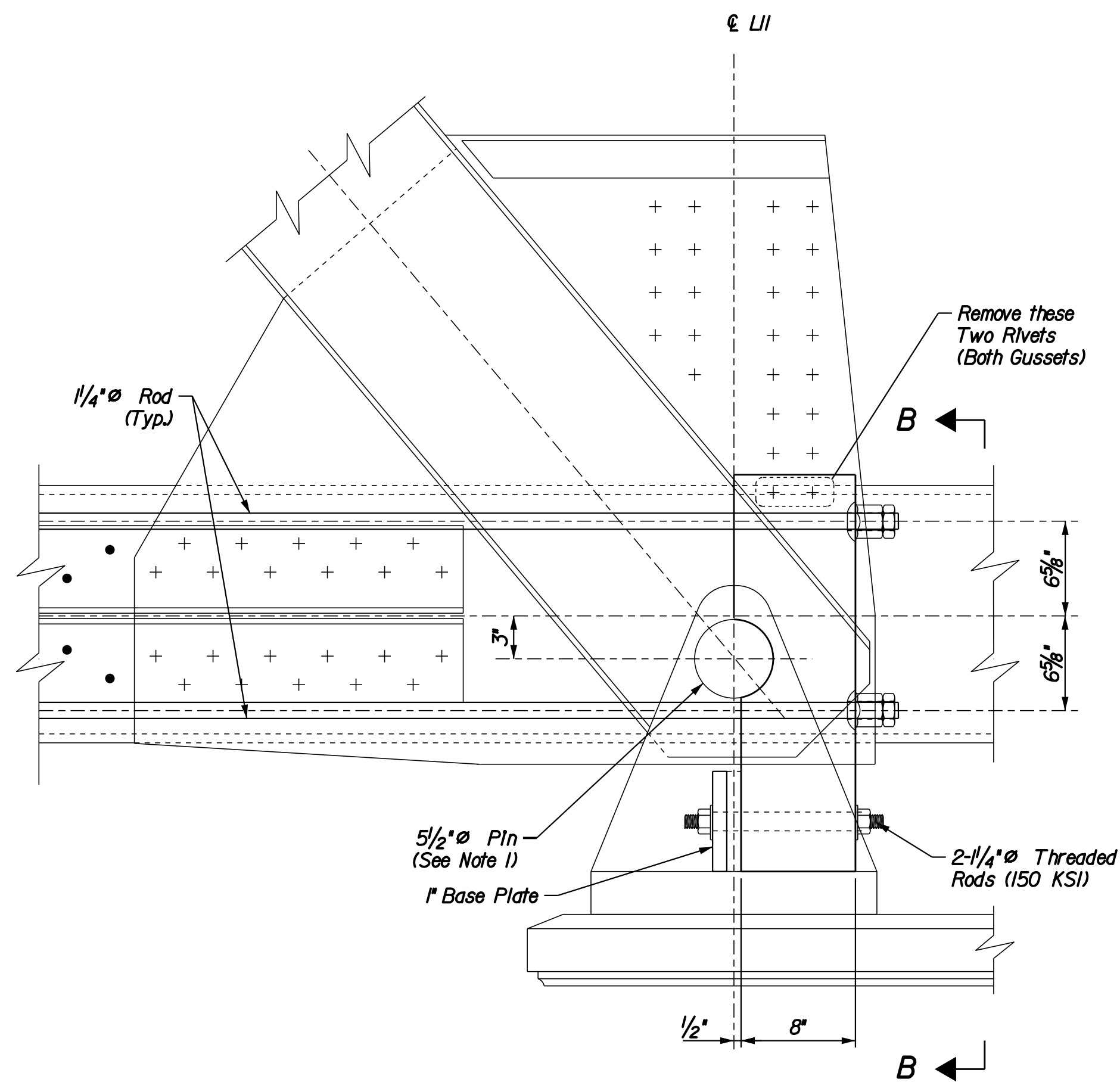
- Radius in anchor block 3 and 4 shall be field verified to match existing pin diameter. When anchor block 4 is installed, the radius shall be greased.
- Block should be made slightly short and shimmed in field.
- Bottom of block to clear existing expansion shoes. Block to be field verified.
- For additional block 3 and 4 details, see Sheet No. 10.
- The contractor shall hand tool clean the existing mating surfaces to the satisfaction of the engineer.



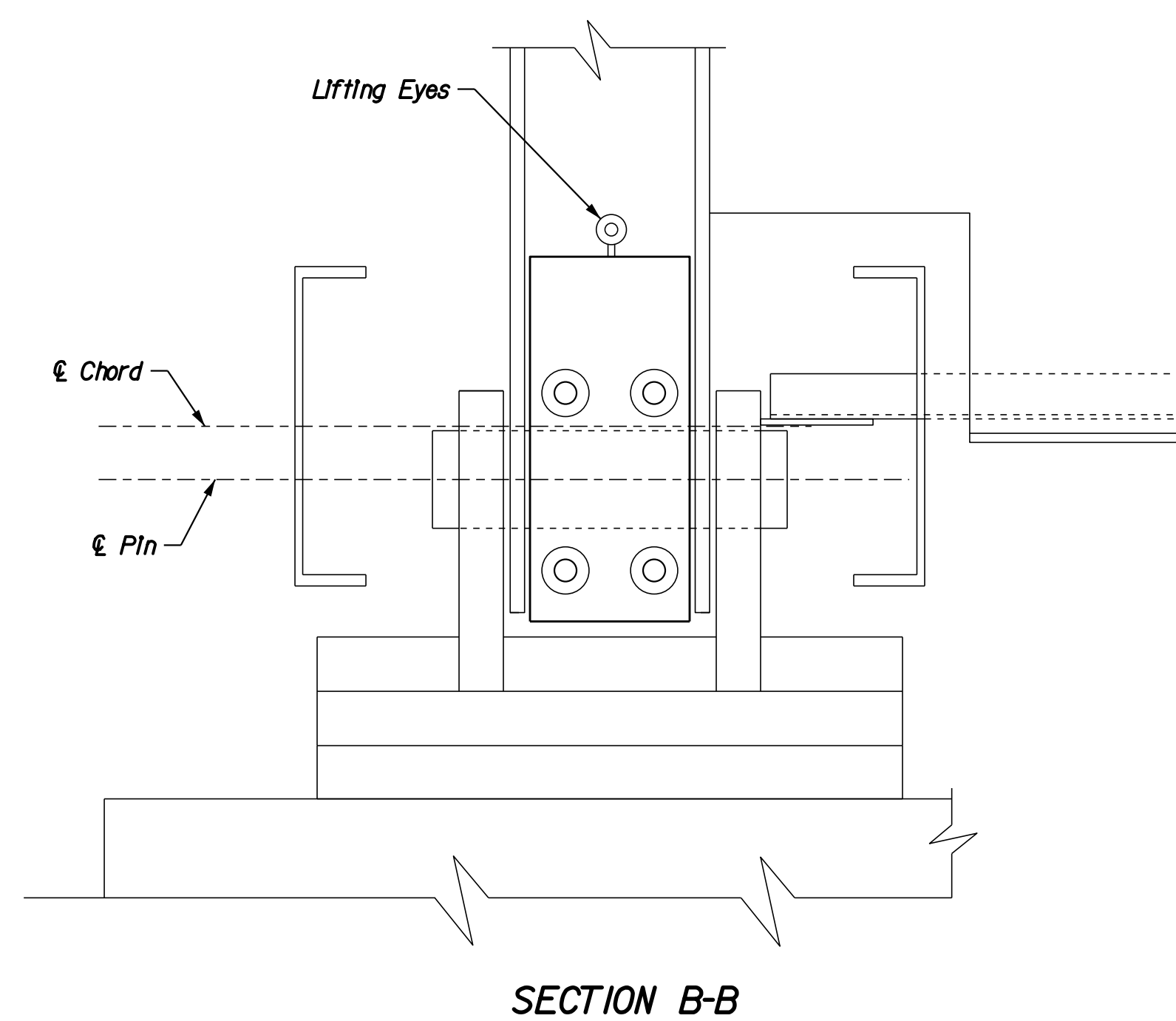
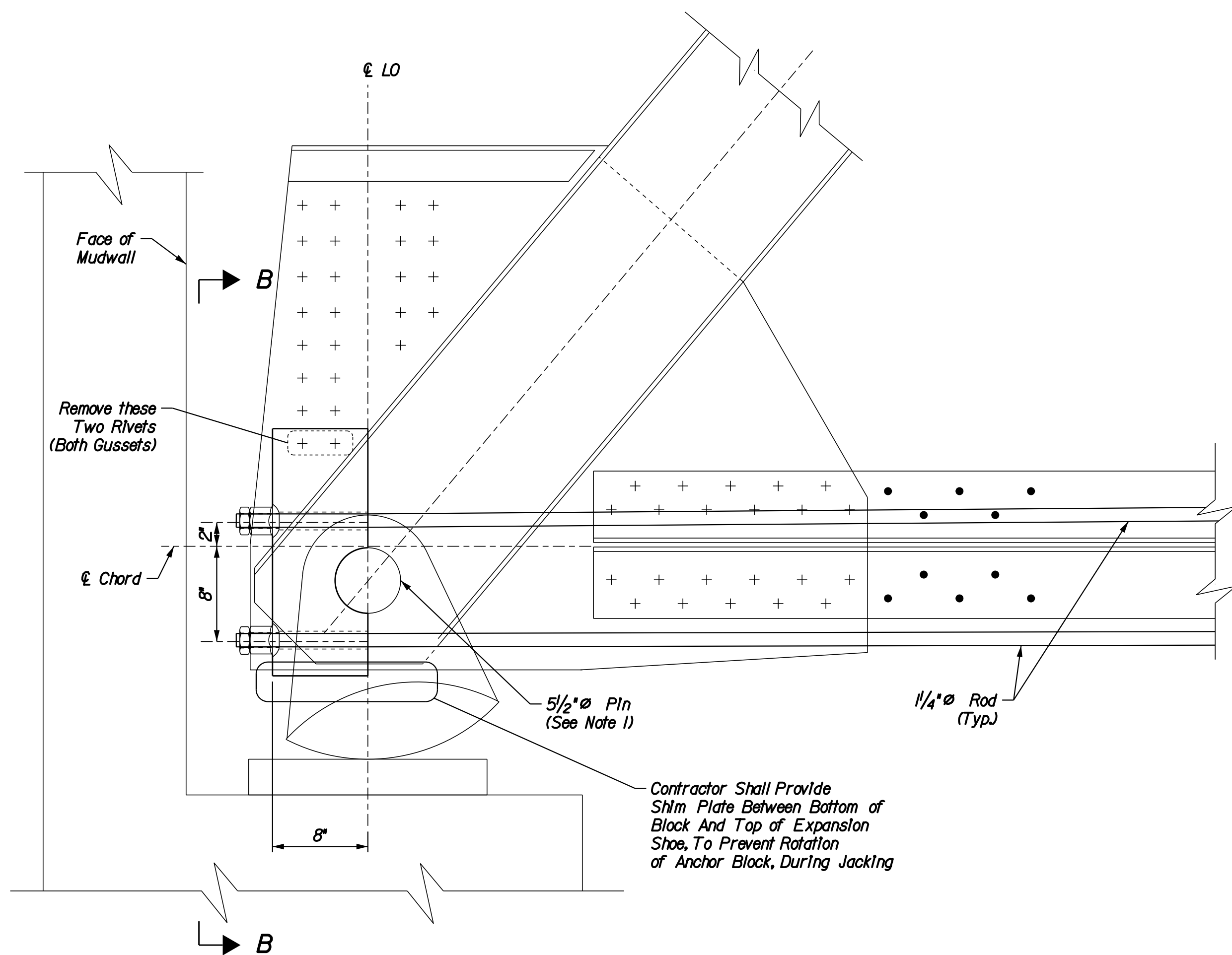
RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	DATE
DESIGNED:	JJS	DRAWN:	GLT
CHECKED:	MJK	CHECKED:	MJK

INDIANA DEPARTMENT OF TRANSPORTATION
MISCELLANEOUS DETAILS

HORIZONTAL SCALE 1/2" = 1'-0"	BRIDGE FILE 46-11-1316C
VERTICAL SCALE 1/2" = 1'-0"	DESIGNATION 1297592
SURVEY BOOK	SHEETS 9 of 13
CONTRACT B-35323	PROJECT 1297592



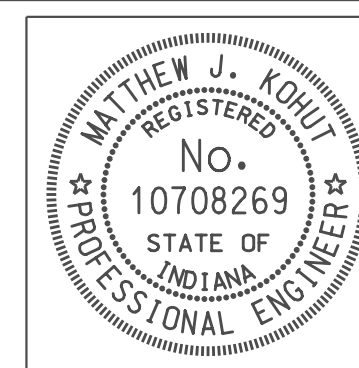
ANCHOR BLOCK 3
(AT PIER)



ANCHOR BLOCK 4
(AT END BENTS)

NOTES:

1. Radius in anchor blocks shall be field verified to match existing pin diameter.
2. Lifting eyes are for handling purposes only.
3. The distance between the back of the anchor rods and nuts to the mudwall face shall be field verified to assure proper fit. Tack weld nuts to anchor blocks if necessary.
4. For additional anchor block details, see Sheet No.9.

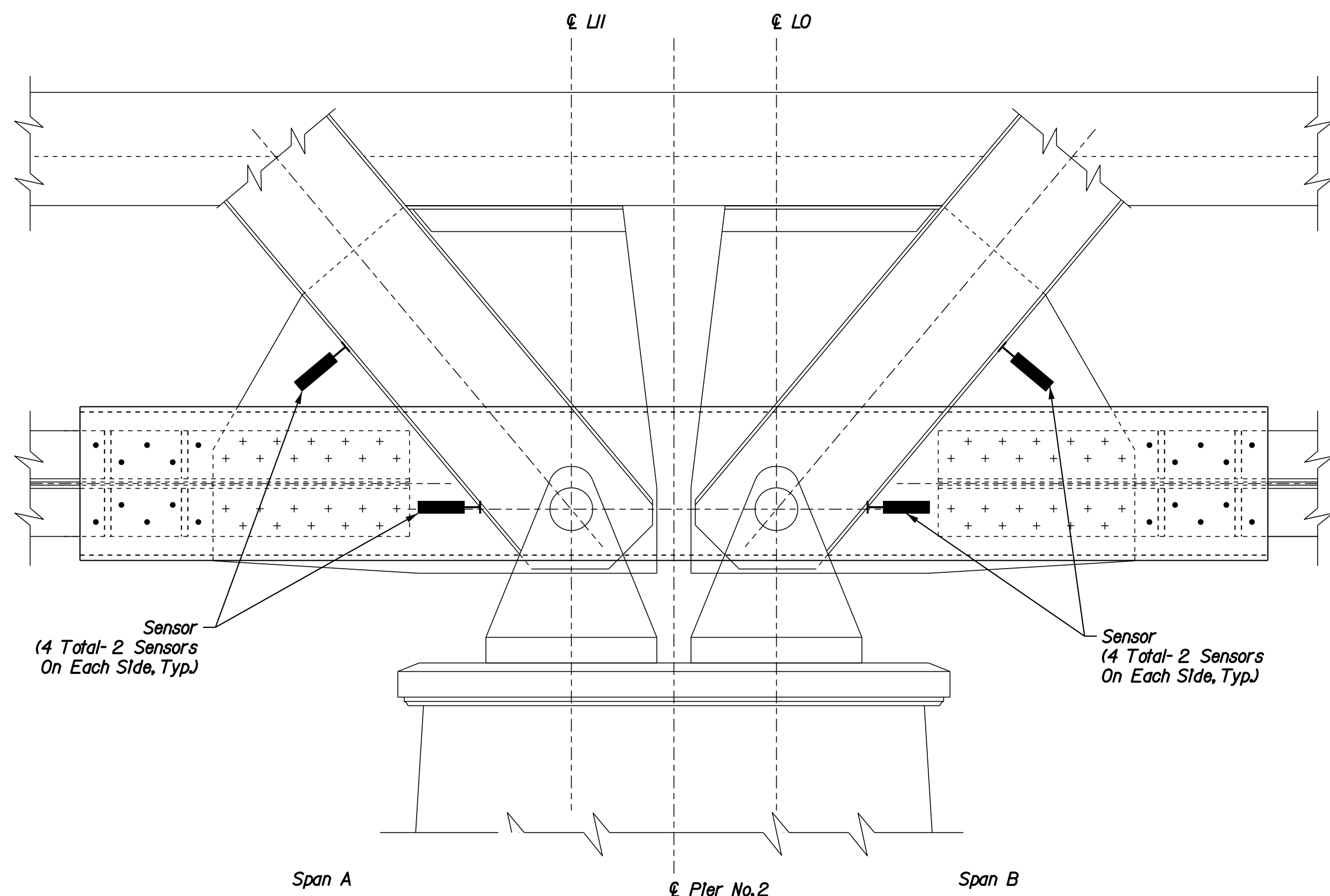


RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	DATE
DESIGNED:	JJS	DRAWN:	GLT
CHECKED:	MJK	CHECKED:	MJK

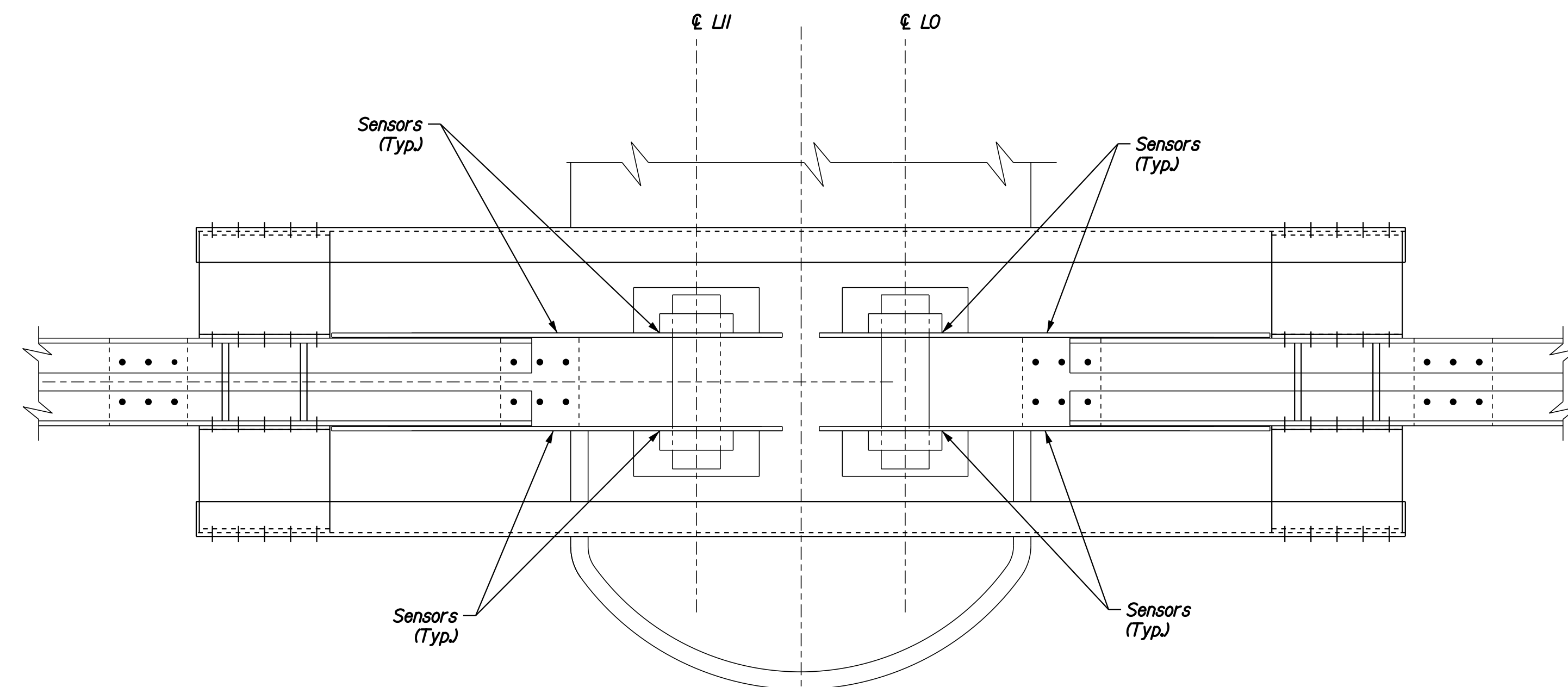
INDIANA
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS DETAILS

HORIZONTAL SCALE	BRIDGE FILE
1/2" = 1'-0"	46-11-1316C
VERTICAL SCALE	DESIGNATION
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SURVEY BOOK	SHEETS
10	of 13
CONTRACT	PROJECT
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ELEVATION

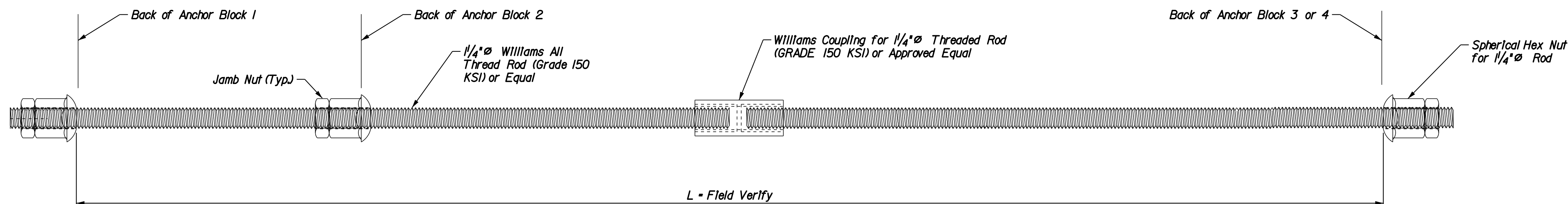


PLAN

NOTE:
4- Sensors are required during rod construction. These 4 sensors will be reset at each location 1-4. See General Plan for locations.

MONITORING EQUIPMENT LOCATION DETAILS

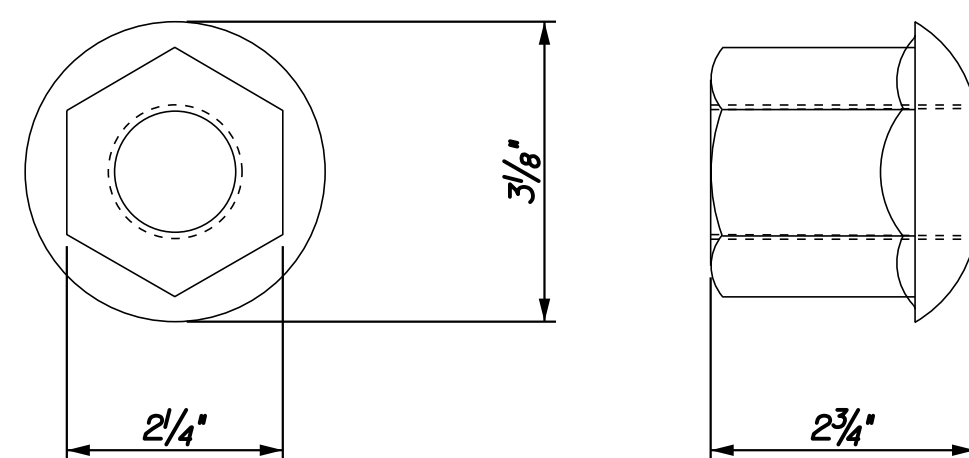
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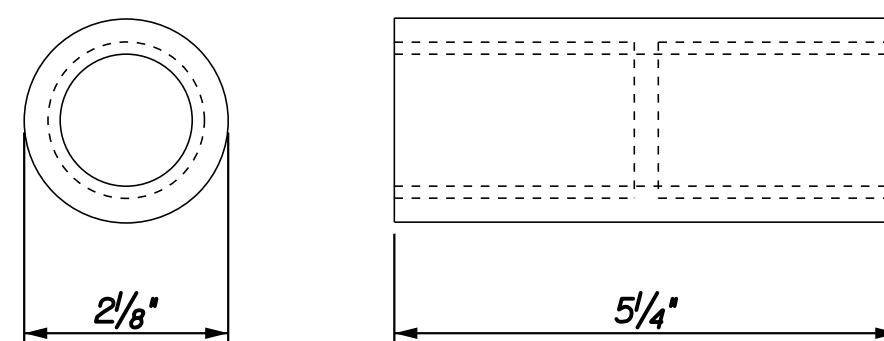
ROD DETAIL

(32 REQ'D)

Not To Scale



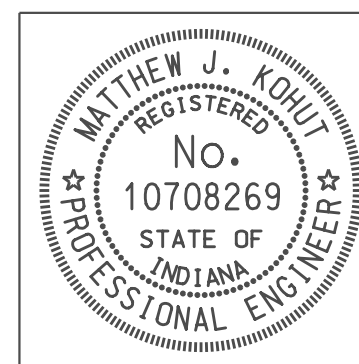
SPHERICAL HEX NUT



COUPLING

NOTES:

- Rods Shall Not Exceed 15'-0" In Length and Shall be Supplied With the Appropriate Number of Couplings For Dimension "L".
- Rods Shall Extend at Least One Full Thread Past the End Jamb Nut.
- C-Clamp with rubber ring shall attach threaded rod to bottom chord every 5' to prevent vibration.

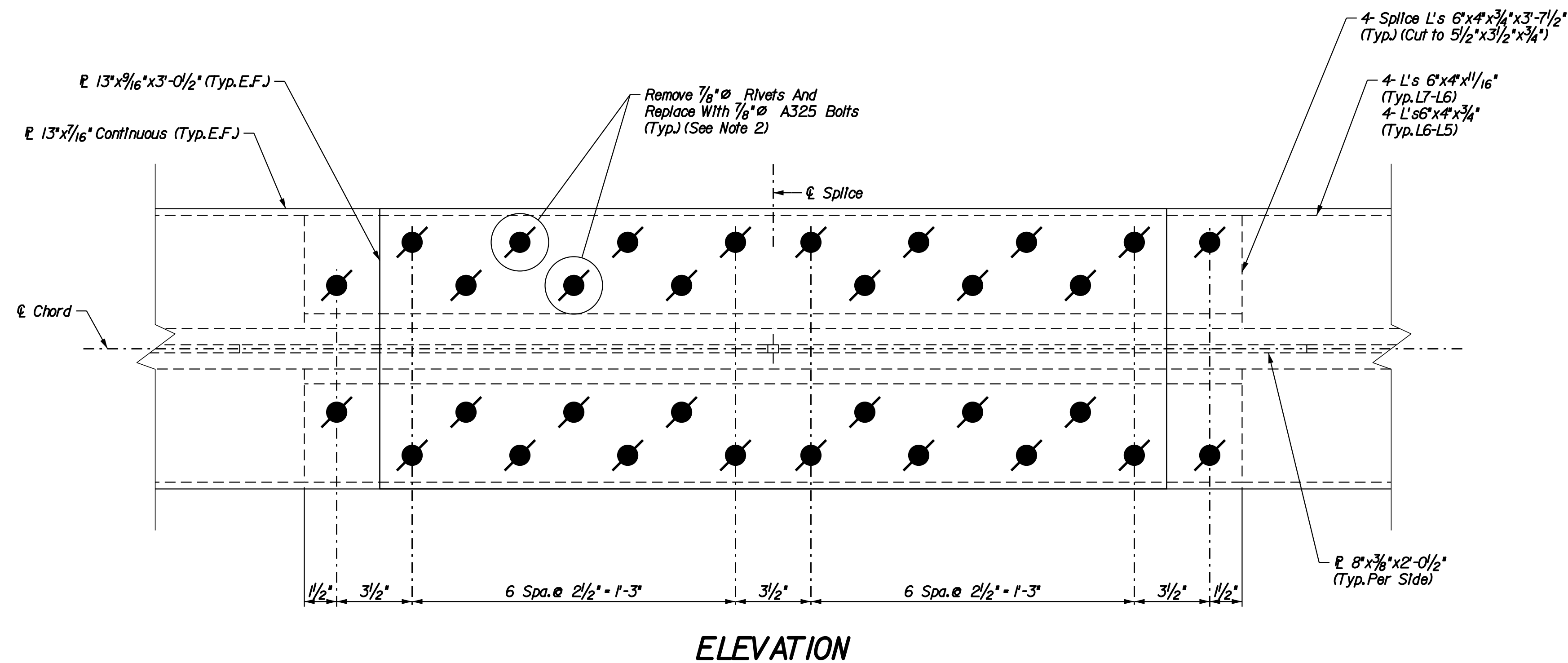
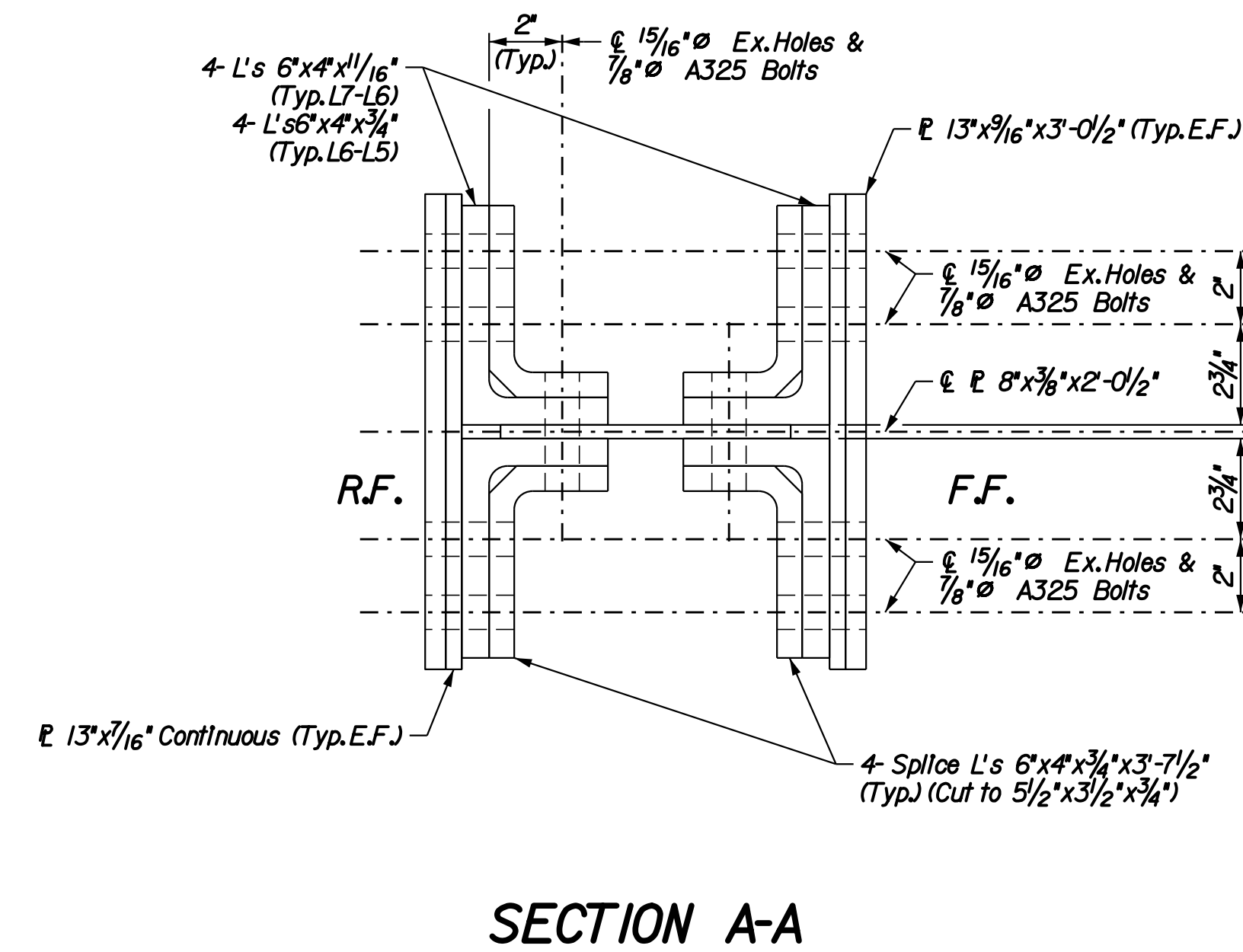
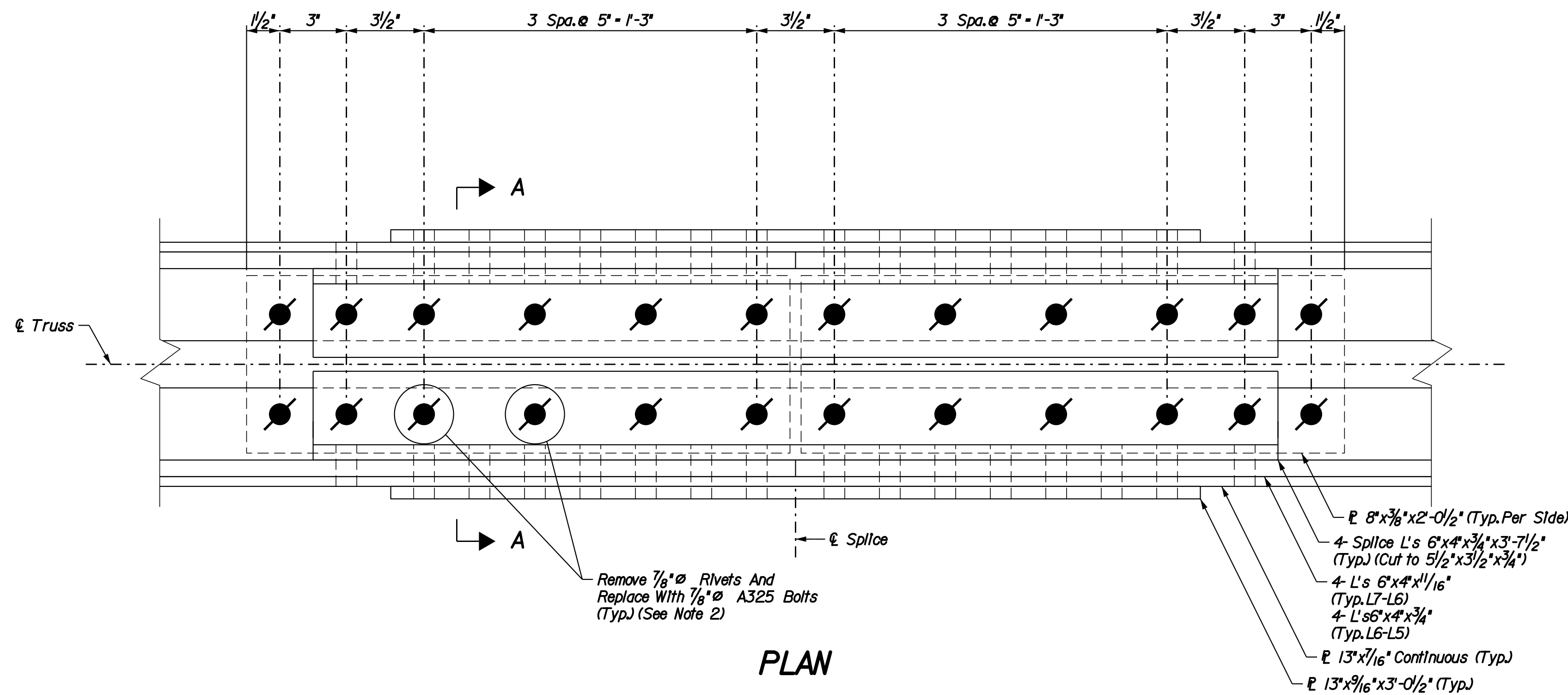


RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	DESIGN ENGINEER	8/22/2012	DATE
DESIGNED:	JJS	DRAWN:	GLT	
CHECKED:	MJK	CHECKED:	MJK	

INDIANA
DEPARTMENT OF TRANSPORTATION

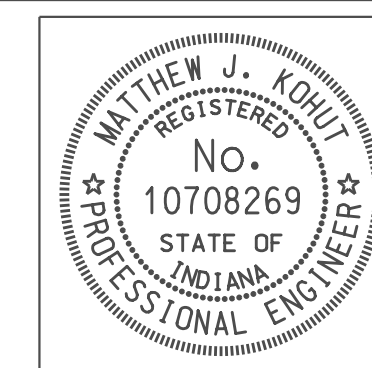
MISCELLANEOUS DETAILS

HORIZONTAL SCALE	BRIDGE FILE
6" = 1'-0", U.N.D.	46-11-1316C
VERTICAL SCALE	DESIGNATION
6" = 1'-0", U.N.D.	1297592
SURVEY BOOK	SHEETS
	11 of 13
CONTRACT	PROJECT
B-35323	1297592



NOTES:

- Rivets shall be replaced one at a time.
- Rivet removal procedure shall be approved by the engineer. Bolts shall be inserted so nut is on outside face of chord.
- Splice shall be repaired at panel point L6 in Span B on upstream side.



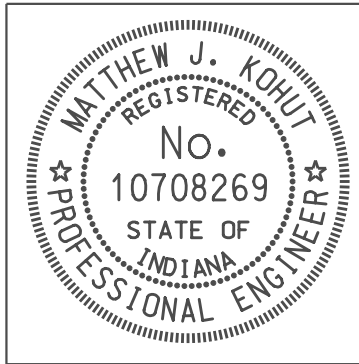
RECOMMENDED FOR APPROVAL	<i>Matthew J. Kohut</i>	8/22/2012
DESIGNED:	MJK	DRAWN: EWM
CHECKED:	MSP	CHECKED: MJK


INDIANA DEPARTMENT OF TRANSPORTATION
LOWER CHORD SPlice PLATE DETAILS

HORIZONTAL SCALE 3" = 1'-0"	BRIDGE FILE 46-11-1316C
VERTICAL SCALE 3" = 1'-0"	DESIGNATION 1297592
SURVEY BOOK	SHEETS 12 of 13
CONTRACT B-35323	PROJECT 1297592

SUMMARY OF BRIDGE QUANTITIES																																				
ITEM	CONCRETE						CONCRETE RAILING CLASS C	PLAIN REINFORCING STEEL	EPOXY COATED REINFORCING STEEL	STRUCTURAL STEEL	* ANCHOR PLATE AP-1	PILES										DRILLED HOLE	RVET, REMOVE	GRATES, BASINS & FITTINGS, CAST IRON	EXP. JOINT CLASS ____	CONCRETE STR. MEMBERS		BARRIER DELINEATORS	** SURFACE SEAL	CONC. BRIDGE RAILING TRANS. TYPE TPF-1	R.C. BRIDGE APPROACH 12'					
	CLASS C	CLASS A	CLASS B									PILE SLEEVES	TEST PILE DYNAMIC RESTRIKE	1/4" DIA. STEEL PIPE PILE	PILE, STEEL H, HP 12x53	1/4" DIA. TEST PILE DYNAMIC PRODUCTION	DYNAMIC PILE LOAD TEST	CONICAL PILE TIPS	PREDRILLED OVERSIZED PILE HOLES	AASHTO I-BEAM TYPE	BULB-TEE BEAM 36" x 49"															
	SUPER- STRUCTURE	SUB-STRUCTURE	FOOTING									EA	EA	NO.	LFT	NO.	LFT	EA		EA						NO.	LFT					EA		EA		NO.
BRIDGE FILE: 46-11-1316C										10704																	552	120								
TOTALS										10704																	552	120								

** Estimated Quantity, To Be Paid For as "LSum"



RECOMMENDED FOR APPROVAL	 DESIGN ENGINEER		8/22/2012 DATE
DESIGNED:	EWM	DRAWN:	EWM
CHECKED:	MJK	CHECKED:	MJK

INDIANA DEPARTMENT OF TRANSPORTATION
BRIDGE SUMMARY

HORIZONTAL SCALE	BRIDGE FILE
NO SCALE	46-11-1316C
VERTICAL SCALE	DESIGNATION
NO SCALE	1297592
SURVEY BOOK	SHEETS
	13 of 13
CONTRACT	PROJECT
B-35323	1297592

BRIDGE CONTRACT NO.

INDEX									
SHEET NUMBER	SECTION	STRUCTURE				DRAWING NUMBER	SUBJECT	BRIDGE CONTRACT NO.	
		NO.	TYPE	SPAN	OVER	STATION			
1							Index and Title Sheet		
2	C	1314	Steel Beam	1045' Sk. 30'	Hog Creek	551+65	51 Layout	683	
3							52 General Plan		
4							53 Substructure Details		
5							54 Road Plan & Profile - Rd. Proj. 255-B		
6							55 Bridge Details & Bill of Materials		
7							56 Road Plan & Profile - Rd. Proj. 255-B		
8	C	1316	Steel Truss	240' 195'	Eel River	625+70	51 Layout		
9							52 General Plan		
10							53 Abutment #1 Details		
11							54		
12							55 Abutment #2 Misc. Details, Band Diagrams, & Bill of Materials		
13							56 Pier Details, Band Diagrams & Bill of Materials		
14							57 Main Truss & Deck Stress Sheet & Marking Diagrams		
15							58 Hand Rail, Toe Chord, Sills, & Deck		
16							59 Top Chord Sills & Diaphragms		
17							60 Bottom Chord Sills		
18							61 Lateral Sills		
19							62 Bottom Chord Sills		
20							63 Sway Frames		
21							64		
22							65 Posts, Shores, Ties, & Sills		
23							66 Portal R.I.S. & H.R. Posts		
24							67 H.R. Posts, & Assembly Details		
25							68 Bill of Materials		
26							69 Road Plan & Profile - Rd. Proj. 255-B		
27	D	1352	R.C. Girder	140' 32'	Six Mile Creek	907+43	51 Layout	685	
28							52 General Plan		
29							53 Substructure Details		
30							54 Superstructure Details		
31							55 Road Plan & Profile - Rd. Proj. 255-B		
32							56 Std. C-8-G Paving Sections		
33							57 Misc. Road Sills - Shafts A and B		
34							58 Pipe Culvert Details & Data (Sfr. 1316)		
35							59 Sld. Detour, Barricade, Etc.		

STATE OF INDIANA
STATE HIGHWAY COMMISSION

PLANS FOR BRIDGES OF SPANS OVER 20 FEET
FOR PROPOSED

STATE HIGHWAY
P.W.A. PROJECT NO. 255 SEC. B
STATE ROAD NO. 46 SECTION C & D

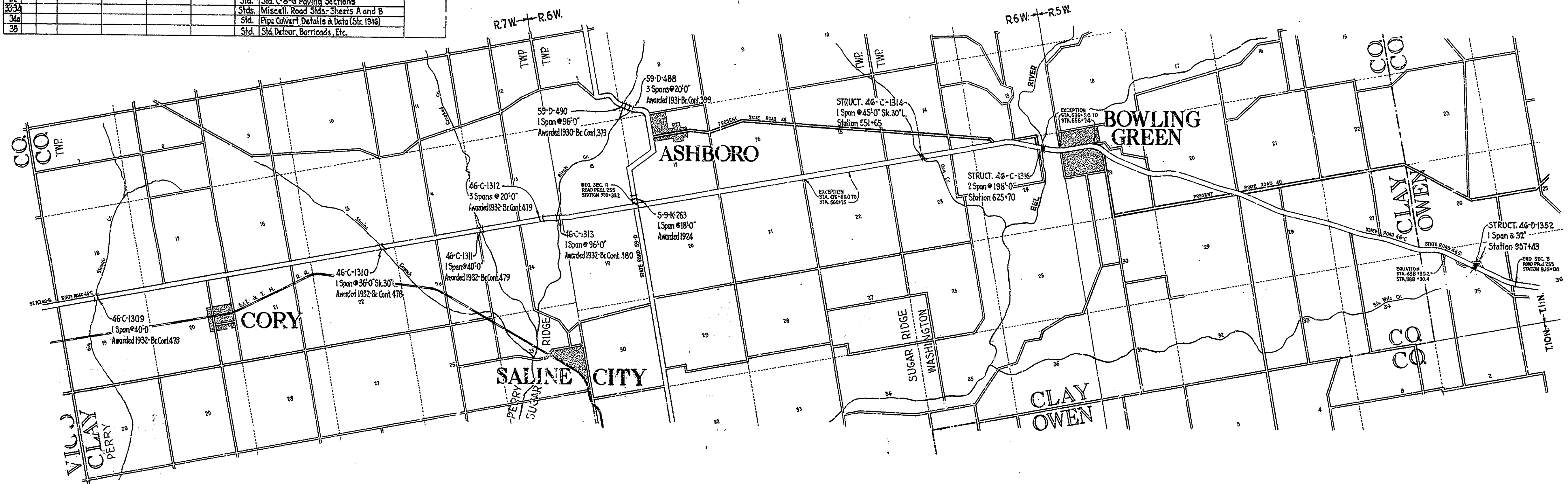
TERRE HAUTE - SPENCER ROAD

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 17 TOWNSHIP 11 NORTH RANGE 6 WEST AND RUNNING SOUTH-EAST THRU BOWLING GREEN IN CLAY COUNTY TO A POINT APPROX. 278 FT. EAST OF THE WEST LINE OF SECTION 36 TOWNSHIP 11 NORTH RANGE 5 WEST IN OWEN COUNTY. GROSS LENGTH - 10.694 MI. MAX. GRADE - 6.74%

BRIDGES OVER 20 FT. SPAN					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	TOWNSHIP	TOTAL SHEETS
7	IND.	46	1934	1	35

SECTION C & D

Scale - 1"=3,000'



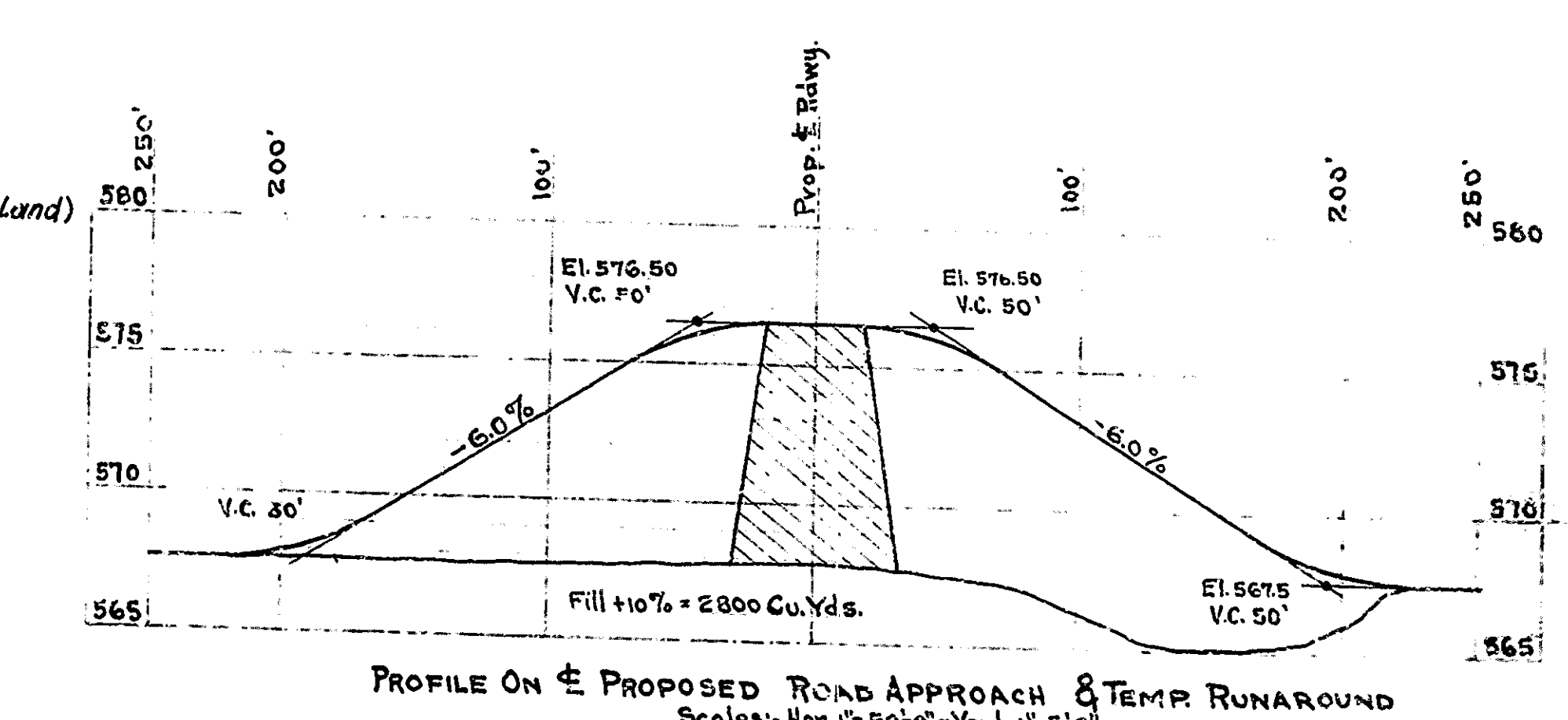
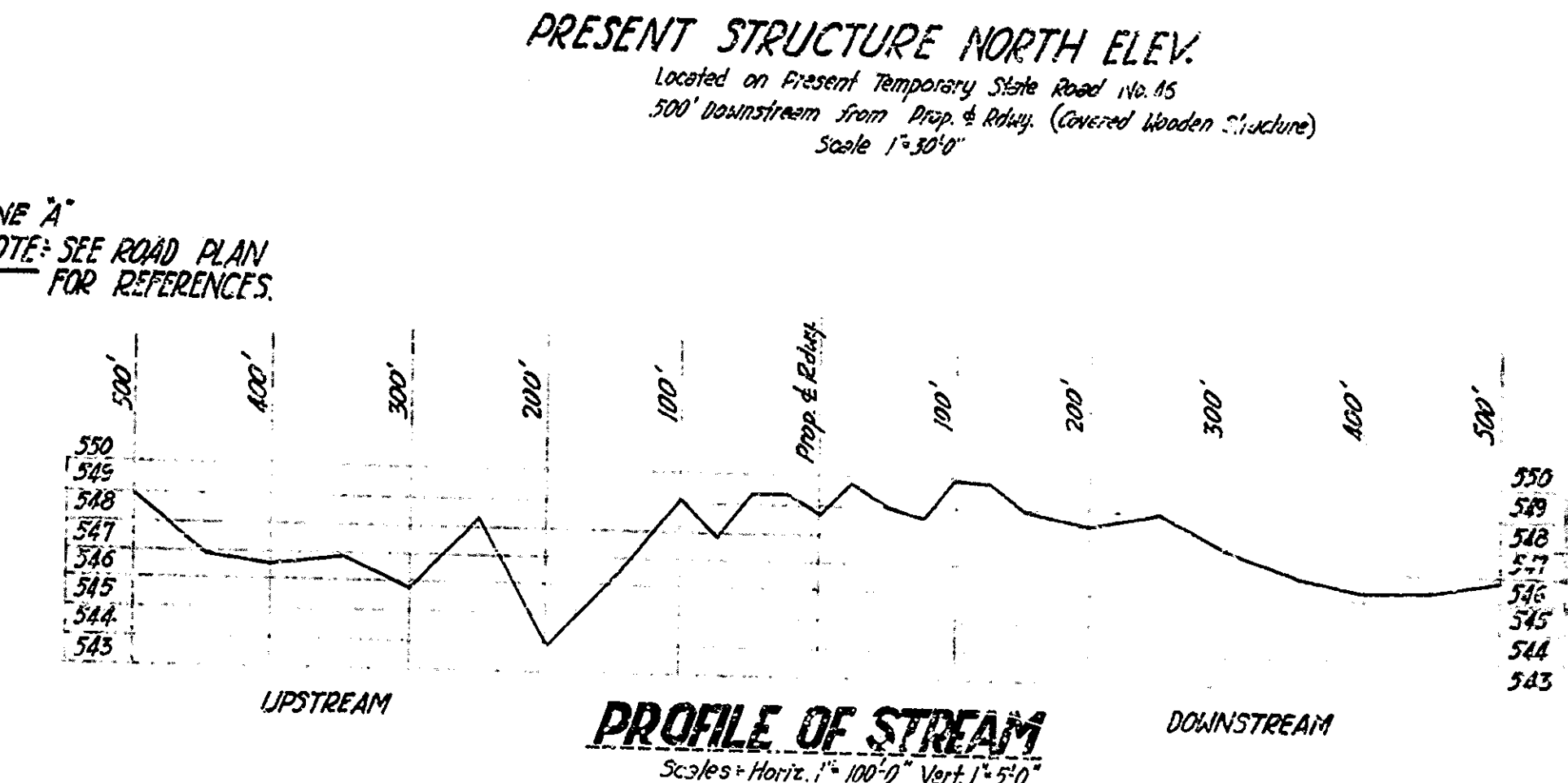
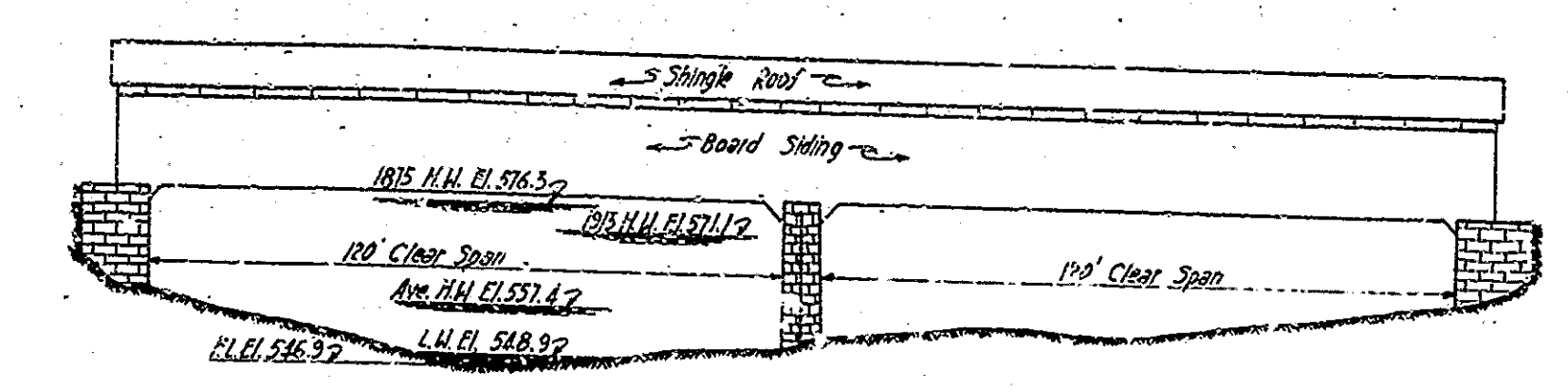
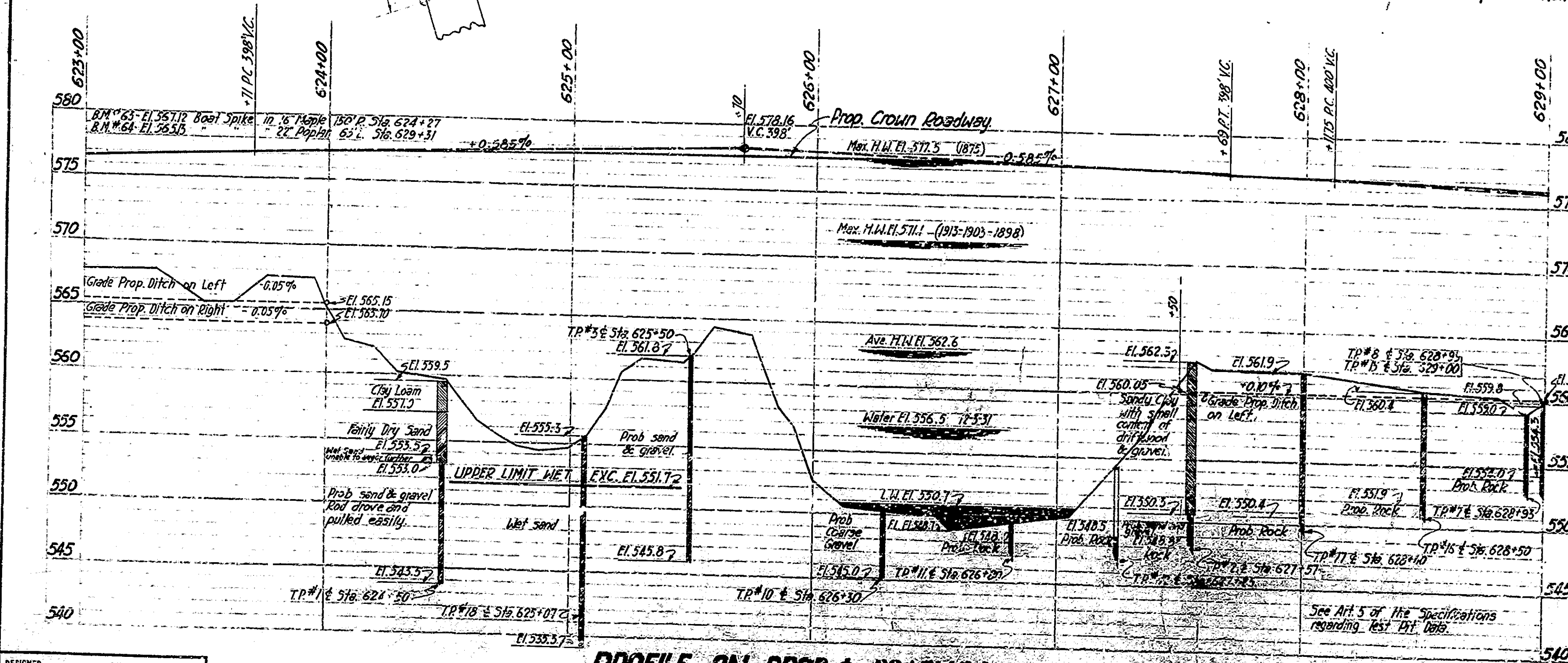
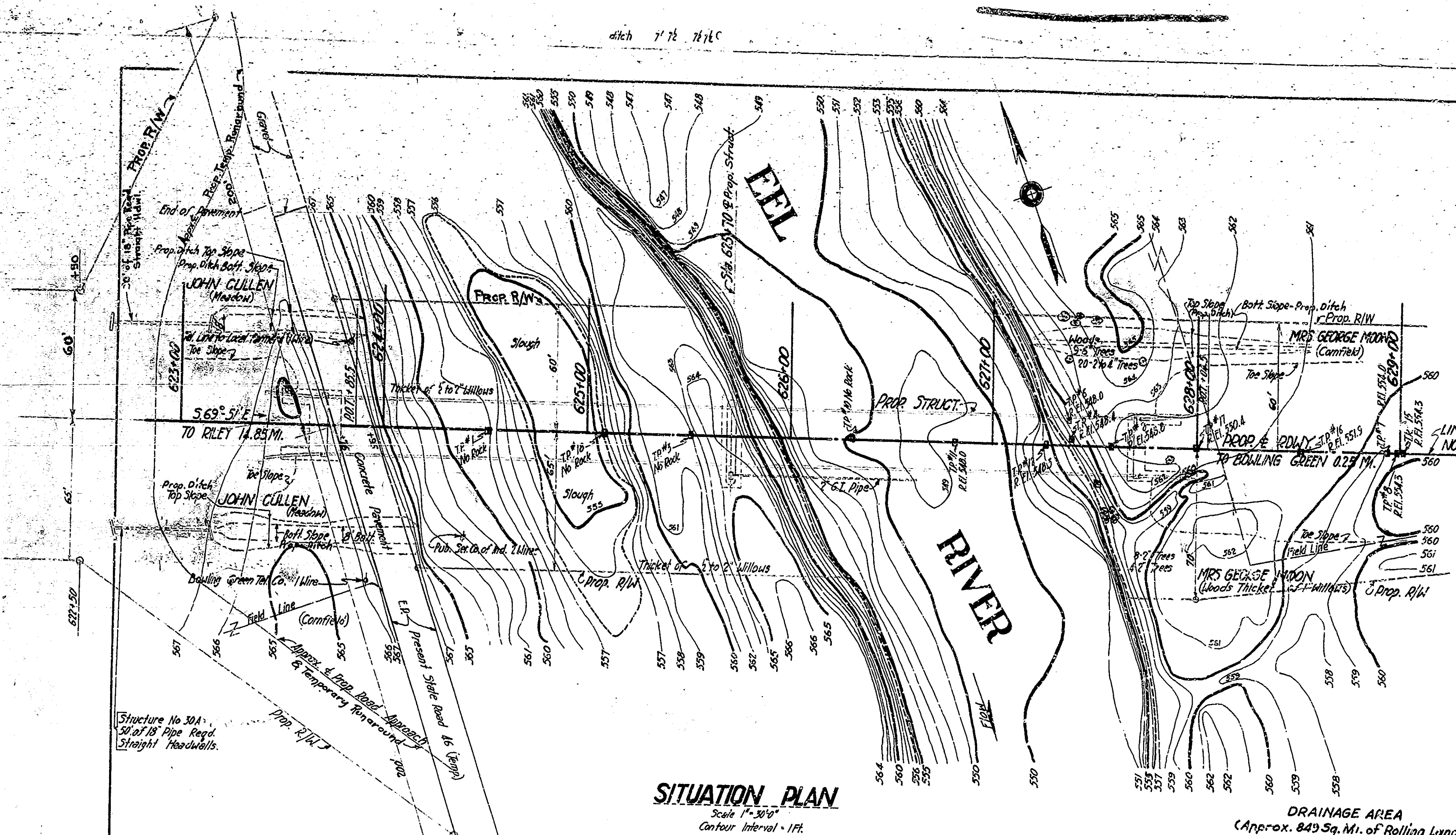
INDIANA STATE HIGHWAY STANDARD
BRIDGE SPECIFICATIONS 1922 (17) BE
USED WITH THESE PLANS.

APPROVED AND ADOPTED 11-17-33
BY STATE HIGHWAY COMMISSION OF INDIANA

James Adams
CHAIRMAN, STATE HIGHWAY COMMISSION OF INDIANA

APPROVED 11-17-33

Chief Engineer, State Highway Commission of Indiana



LAYOUT
STEEL TRUSS BRIDGE
2 SPANS * 198'-0"
OVER EEL RIVER
24'-0" ROADWAY
ON STATE ROAD - 46-C

INDIANA STATE HIGHWAY COMMISSION
CLAY COUNTY

SCALE: - AS NOTED
RECOMMENDED FOR APPROVAL: *[Signature]*
PROJECT: - 46
SECTION: - C
DRAWING: - 51, OF 6
BRIDGE CONTRACT NO. 684

NOVEMBER 10, 1933.
STATION: - 625+70
STRUCTURE NO. 1316

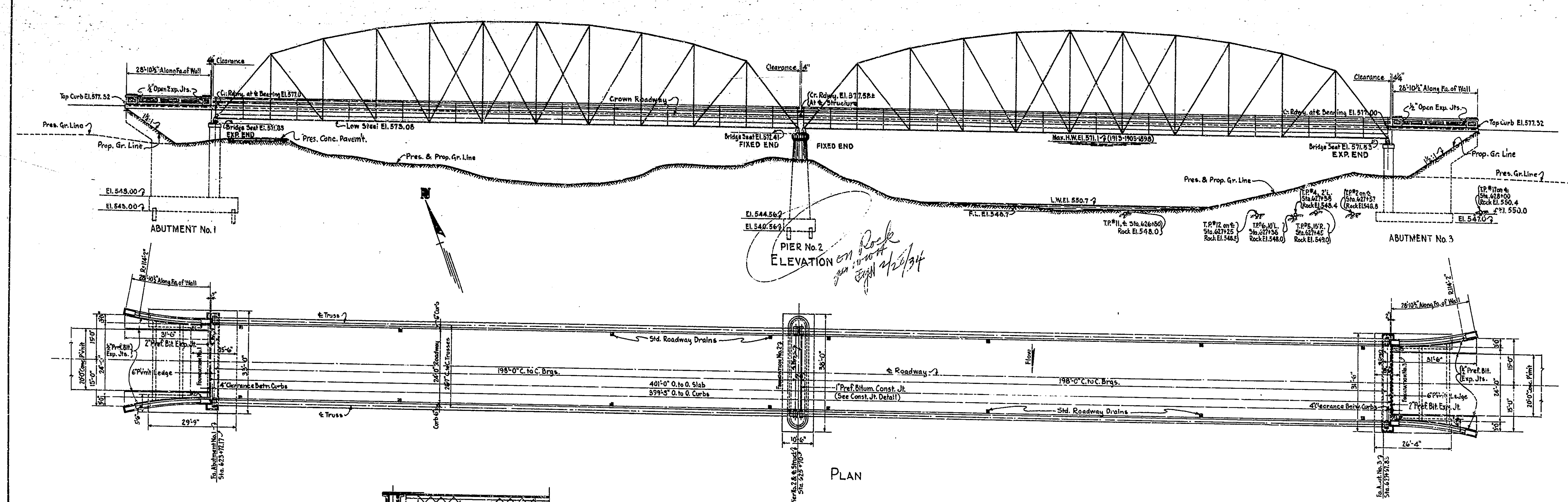
NOTE: THIS IS STRUCTURE No. 2 ON ROAD PROJ. No. 255-B
SEE SHEET No. 9 OF ROAD DEPT. PLANS FOR GRADE
LINE, BENCH MARKS, AND REFERENCES.

TYPICAL SECTION OF ROAD
APPROACH & TEMPORARY RUNAROUND
Scale: 1" = 10' 0"

FIELD NOTES: BOOK 82, 51P, pp 33-58, 59-68

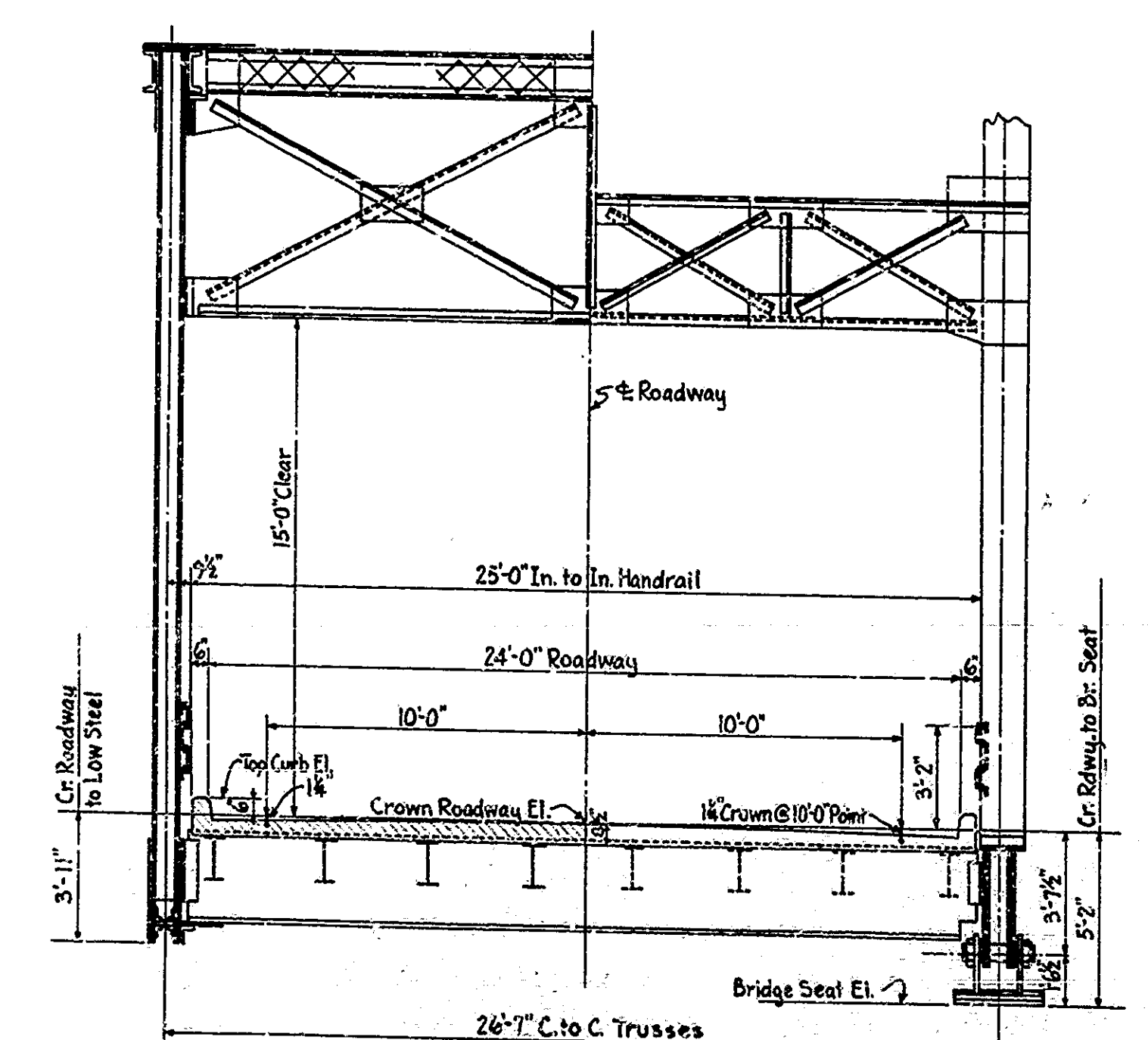
BRIDGES OVER 20' SPAN									
NO.	STATE	FILE NO.	YEAR	NO.	YEAR	NO.	YEAR	NO.	YEAR
7	IND.	46	1934	9	35				
SECTION - C									

NOTE:
TOP OF CURB AND CROWN ROADWAY ELEVATIONS TO BE DETERMINED IN FIELD TO GIVE SMOOTH CURVE WITH TRUSSES UNDER FULL DEAD LOAD (APPROXIMATELY VERTICAL CURVE SHOWN ON LAYOUT.)



PLAN

STD. C-8-G ROADWAY SECTION
See Sheet No. 32



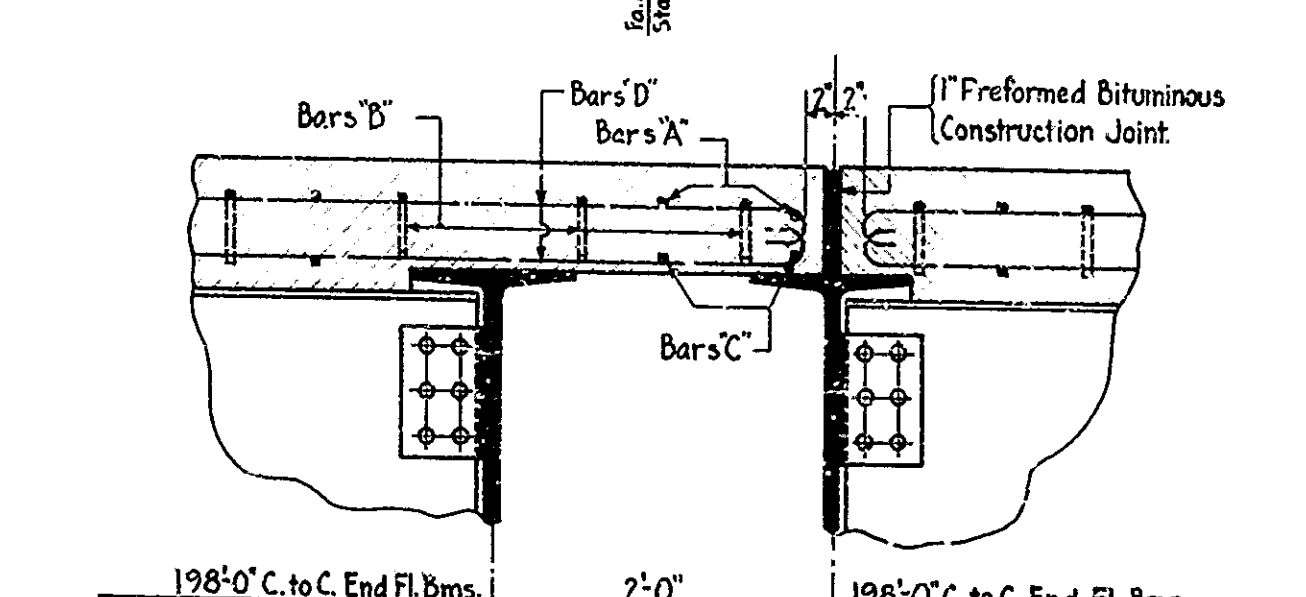
HALF SECTION HALF END ELEVATION
Scale: 1/4" = 1'-0"

GENERAL NOTES

Depth of footings to be extended if found necessary. See Art. C-114 of 1932 Supplement.
Abutment No. 3 footings shall extend not less than 6' into solid rock.
All concrete in footings, wing walls, pier, tie beams and abutments to be Class "E".
All concrete in floor slab to be Class "D".
All concrete in handrail above Top of Curb to be Class "F".
Reinforcing steel shall be embedded 3" in substructure and 1 1/2" in floor slab unless otherwise noted.
Wing walls and abutments to be waterproofed in accordance with specifications.
If piles are required, they shall have bearing value as shown on Dwg. S-5, and the length shall be determined in accordance with Art. C-301 of 1932 Supplement.
See Special Provisions regarding Shop and Field Paint.
16 Std. Roadway Drains to be placed as shown on Dwg. S-2. See Special Provisions.
Grates to be wired down securely.
Devel forms 1/4" on under side of all coirings. See data of handrail.
Chamfer all exposed edges 3/8" except the copings and handrail.
Wings to be rip-rapped. See Supplement.
Reinforcing steel bar areas and weights in accordance with Standards adopted April 1, 1930 by Concrete Reinforcing Steel Institute.
4" C.I. drains to extend 3" beyond front face of abutments.
See Special Provisions regarding the following special items included in this contract: Grading, 16" Pipe Culverts & Headwalls, Road Approach and Temporary Runaround, Removal Present Pavement.

STANDARD DRAWINGS:-

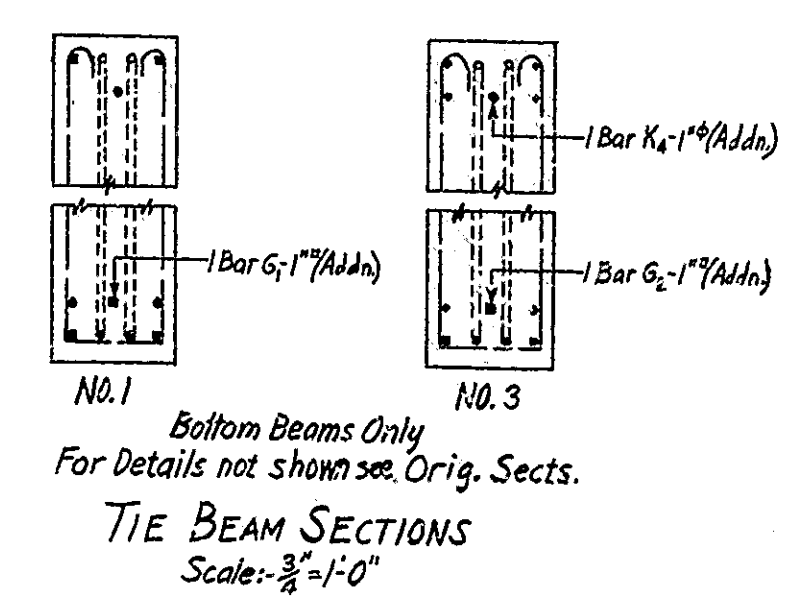
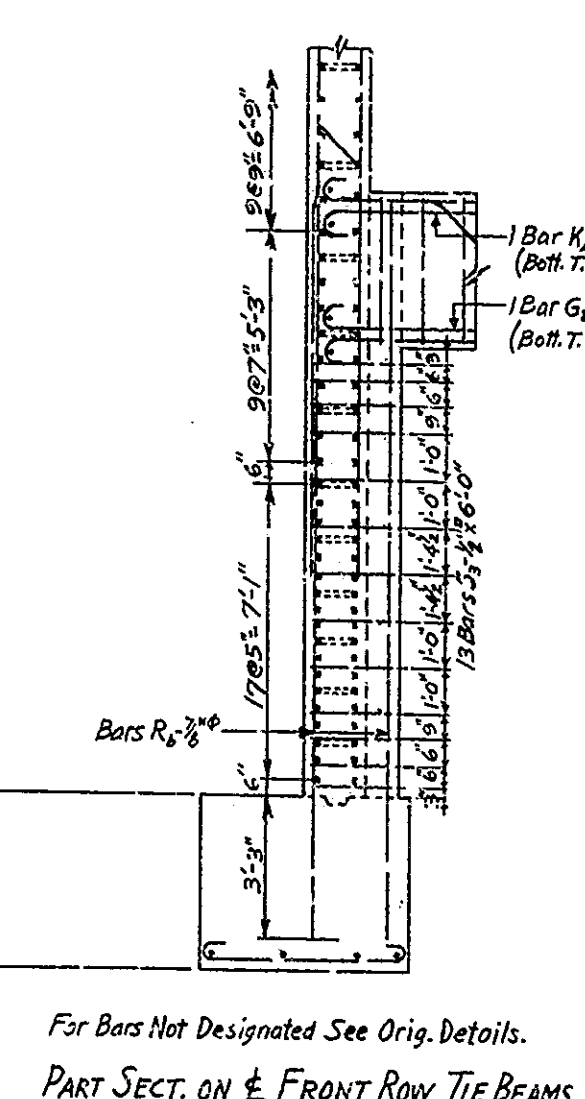
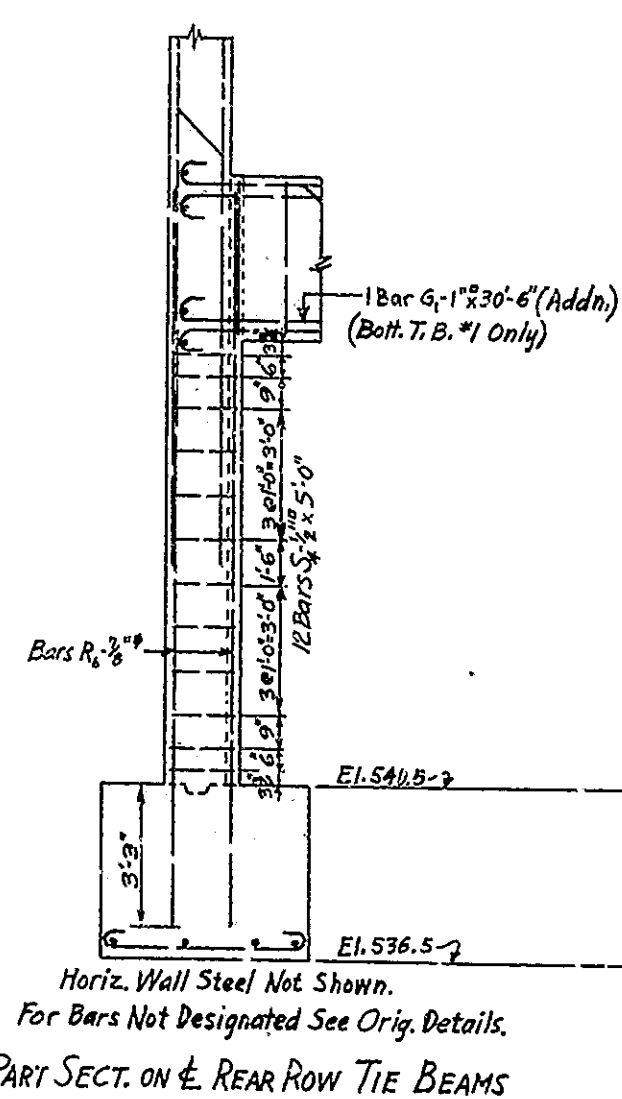
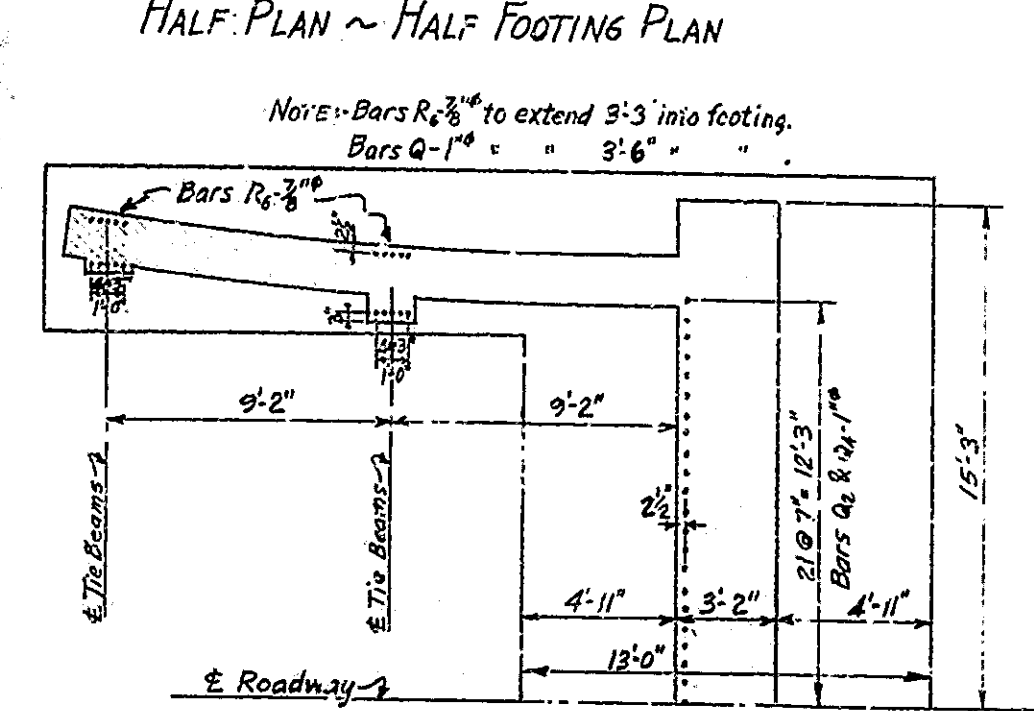
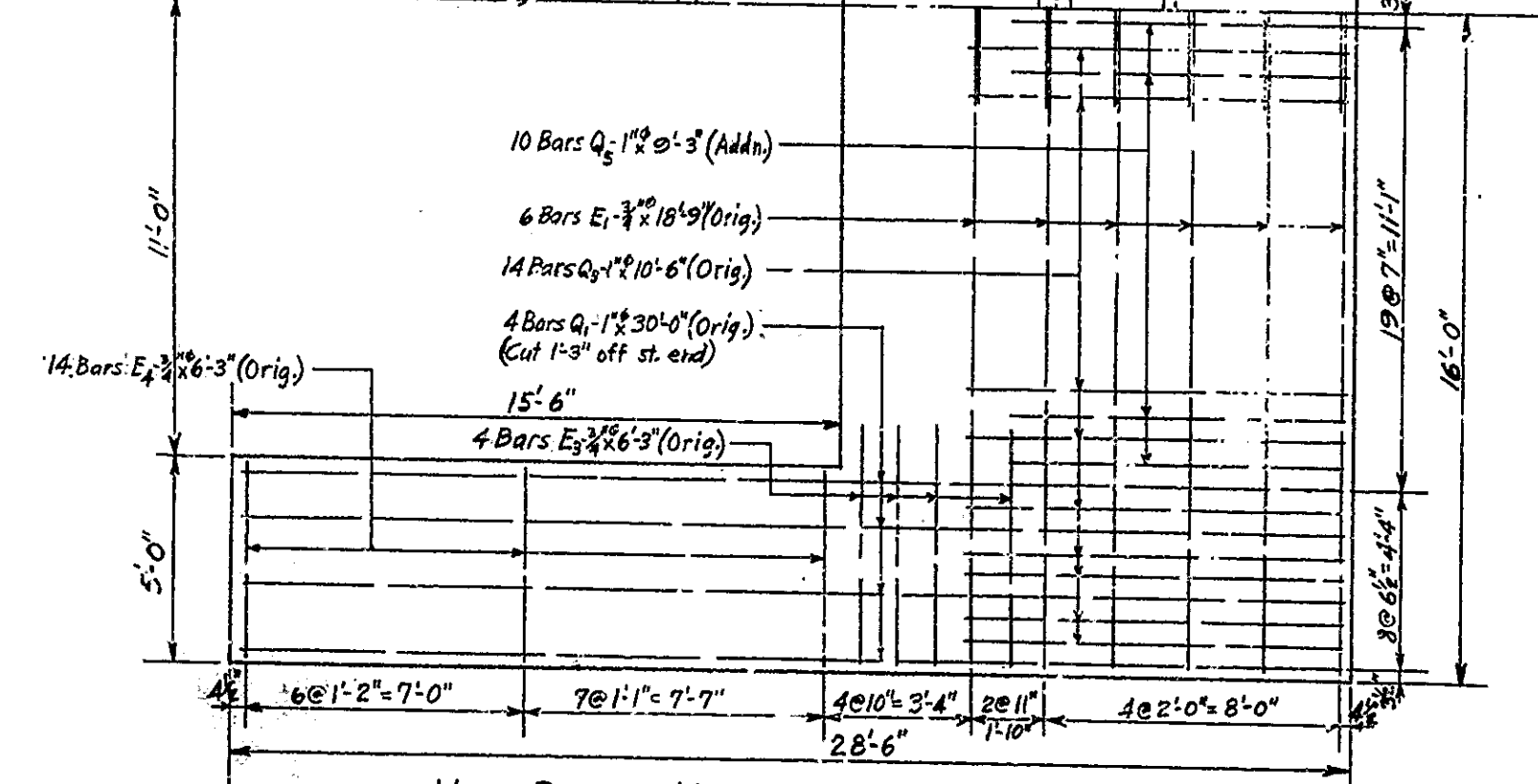
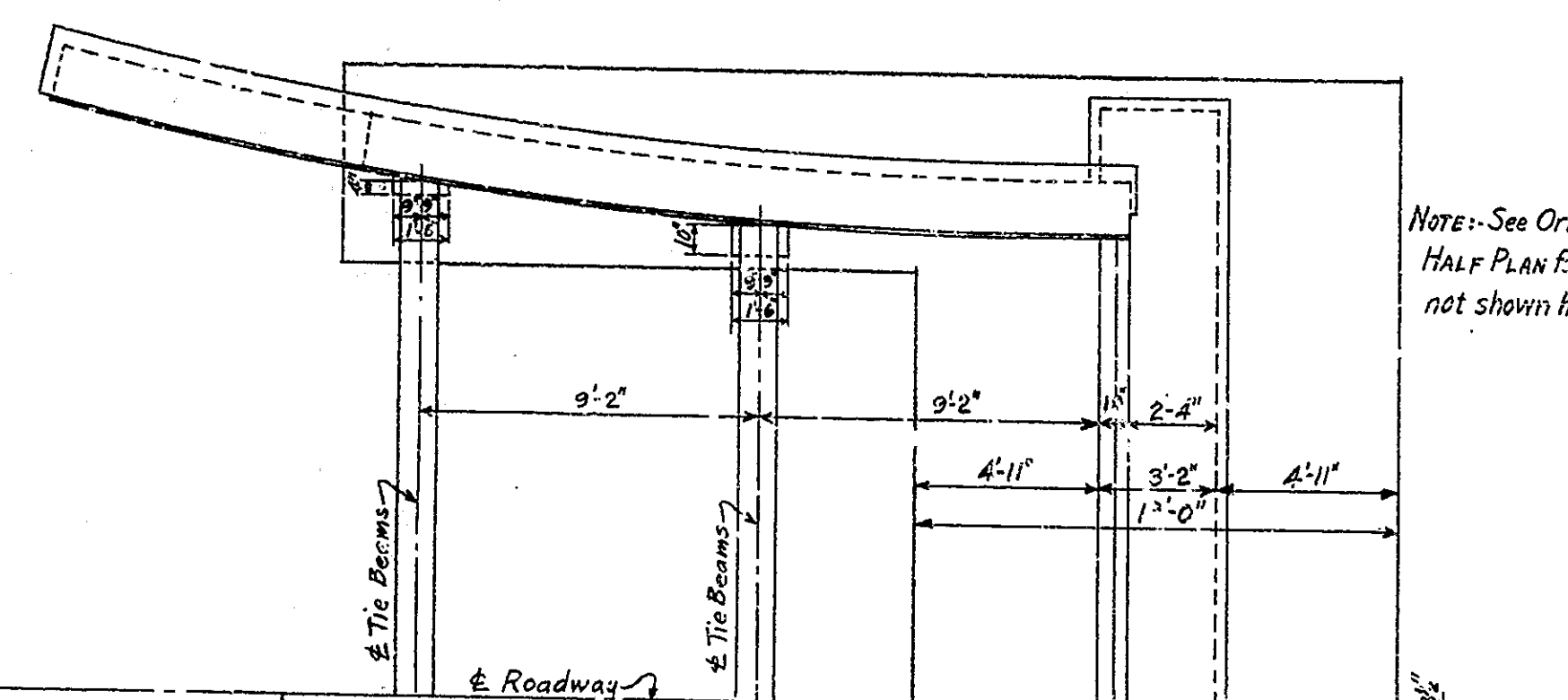
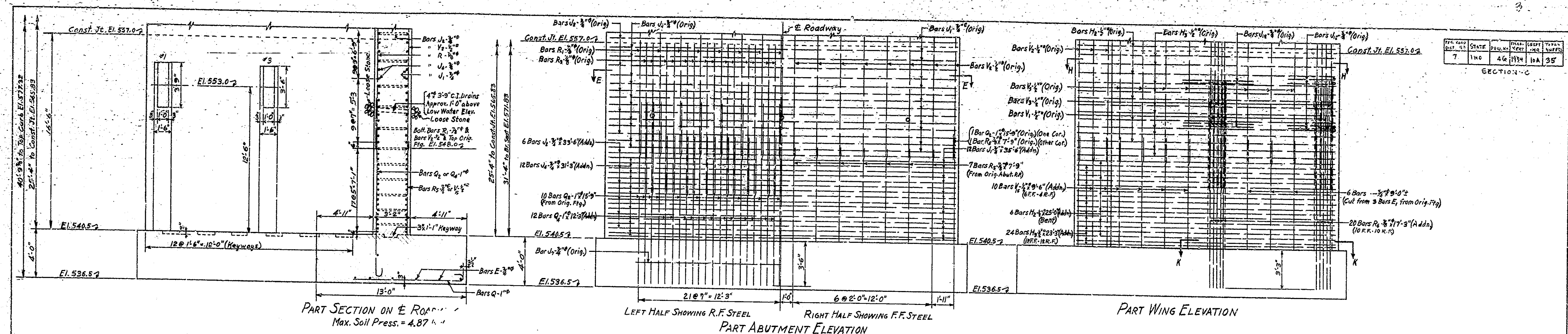
Superstructure: Use Standard Superstructure Details 198'-0" Span, Steel Truss, 24'-0" Roadway, Drawing Std. No. 479-A, dated April 12, 1933, Rev. Sept. 27, 1933.



CONSTRUCTION JOINT
See Plan for Location
(Scale: 1" = 1'-0")

GENERAL PLAN
STEEL TRUSS BRIDGE
2 SPANS @ 198'-0"
OVER EEL RIVER
24'-0" ROADWAY
ON STATE ROAD - 46-C
INDIANA STATE HIGHWAY COMMISSION
CLAY COUNTY
SCALE: 1/16" = 1'-0" EXCEPT AS NOTED
RECOMMENDED FOR APPROVAL: *[Signature]*
PROJECT: - 46
SECTION: - C
DRAWING: - S2 OF 6
NOVEMBER 10, 1933
STATION: - 625+70
STRUCTURE NO. 1316
BRIDGE CONTRACT NO 684

DESIGNED: CWO
DRAWN: W.S.J. 10-19-33
CHECKED: CWO
TRACED: CWO



Bars $S_{2/2}^{+ve}$

Bars $-ve$

Bars $S_{2/2}^{-ve}$

Bars $S_{2/2}^{+ve}$

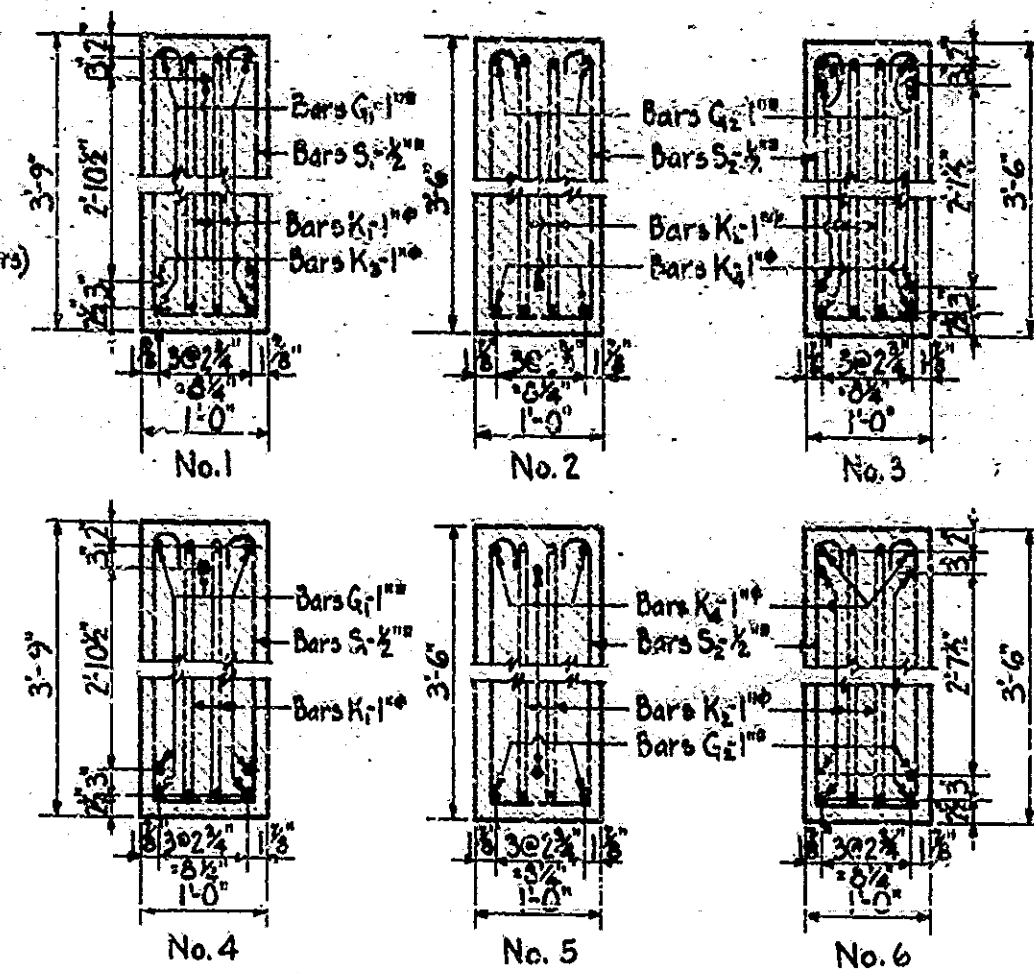
Bars not otherwise designated
are Bars $R_{k/2}^{-ve}$

SECTION K-K

BILL OF ADDITIONAL STEEL & REVISED CONCRETE QUANTITIES							
REINFORCING STEEL							
Bar Schedule	Mark	No. Pos.	Size	Length	Location	Total Length	Weight
✓	G ₆	1	1" [#]	13'-0"	Splice bar for 1" [#] bar cut for test	13'-0"	
✓	G ₁	1	"	30'-6"	Lower T.B.*	30'-6"	
✓	G ₂	1	"	28'-6"	" " " #3	28'-6"	
					Total 1" [#] Bars	72'-0"	248*
✓	K ₆	1	1" [#]	13'-0"	Splice bar for 1" [#] bar cut for test	13'-0"	
✓	K ₁	1	"	28'-6"	Lower T.B.*	28'-6"	
✓	Q ₂	24	"	12'-3"	Vert. R.F. Abut. Stem & Ftg.	294'-0"	
✓	Q ₅	20	"	9'-3"	Trans. Abut. Ftg.	185'-0"	
					Total 1" [#] Bars	520'-6"	1405*
✓	R ₆	1	¾" [#]	32'-0"	Splice bar for ¾" [#] bar cut for test	12'-0"	
✓	R ₆	40	"	17'-3"	Vert. Girders	630'-0"	
					Total ¾" [#] Bars	702'-0"	1453*
✓	J ₆	3	¾" [#]	10'-6"	Splice bars for ¾" [#] bars cut for test	31'-6"	
✓	J ₁	12	"	33'-6"	Horiz. Abut. (F.F.)	426'-0"	
✓	J ₂	6	"	35'-6"	" (Bent)	201'-0"	
✓	J ₂	12	"	31'-3"	" " (R.F.)	375'-0"	
					Total ¾" [#] Bars	1033'-6"	1,571*
✓	H ₆	3	½" [#]	8'-0"	Splice bars for ½" [#] bars cut for test	24'-0"	
✓	H ₁	12	"	25'-0"	Horiz. Wings (Bent)	300'-0"	
✓	H ₂	48	"	23'-3"	" " (2x R.F. - 24 R.F.)	1116'-0"	
✓	S ₃	26	"	6'-0"	Stirrups - Vert. Gird.	156'-0"	
✓	S ₂	24	"	5'-0"	" " "	120'-0"	
✓	V ₆	20	"	9'-6"	Vert. Abut. FF & Wings FF & R.F.	190'-0"	
					Total ½" [#] Bars	1906'-0"	6,639*
*Weights for 1930 Stds.						TOTAL ADDITIONAL STEEL	* 6,616*
CONCRETE							
Class E ~ Footing (EL 536.5 to EL 540.5)						84.5	Cu. Yds.
" " ~ Above Fly. up to Const. Jr. EL 557.00						103.5	" "
" " " ~ Const. Jr. EL 557.00 to Const. Jr. EL 565.83						59.0	" "
" " " ~ above Const. Jr. EL 565.83						367.5	" "
Revised Total Class E*						313.5	" "
Original " " "						308.0	" "
Increase in " " "						5.5	" "

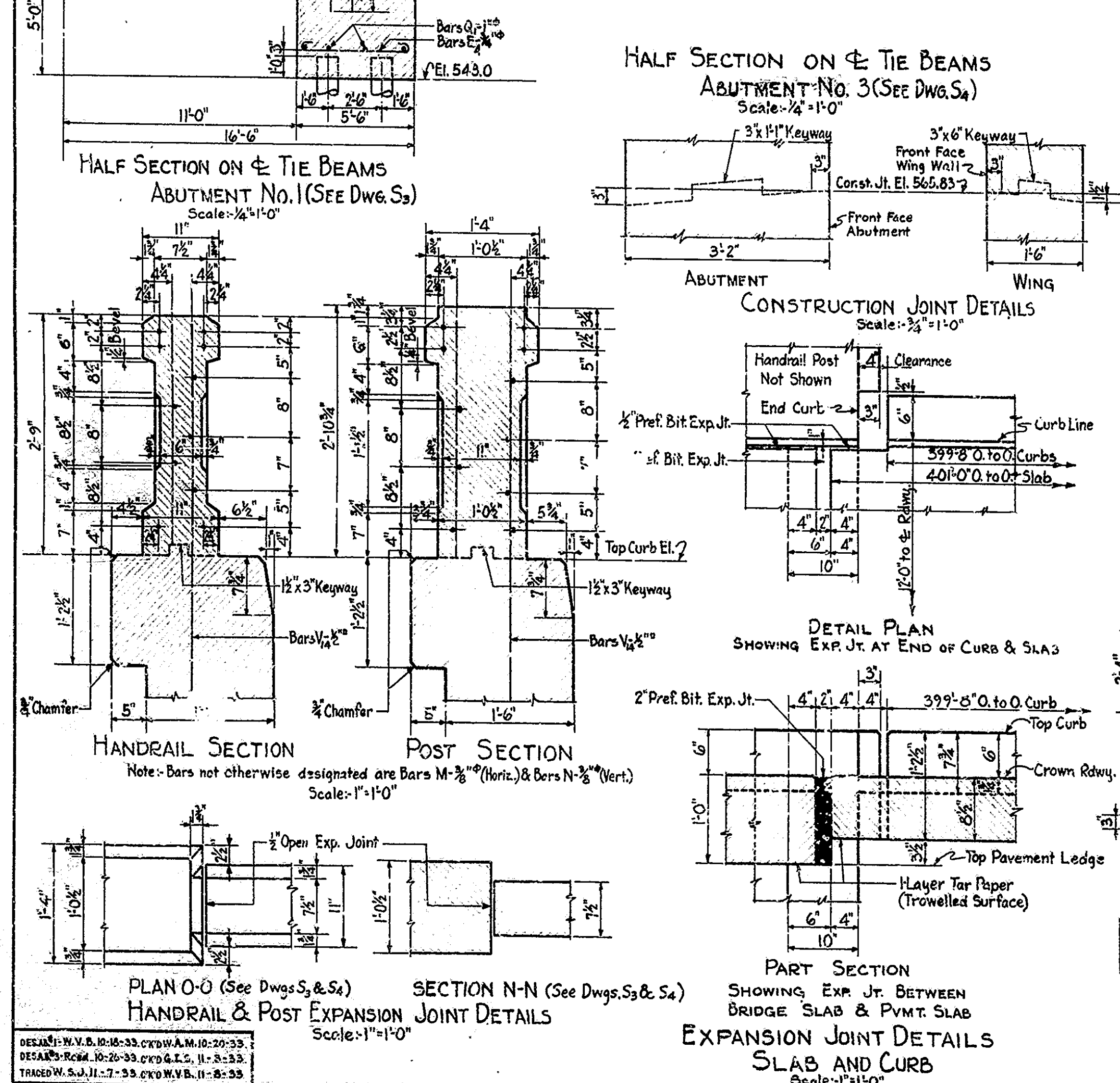
*Note:-
Loose material below El. 536.5 to be excavated inside neat lines of revised footing. Where rock is above El. 535.5, Class 'E' concrete is to be poured with the footing.
Where rock in wing footings is lower than El. 535.5, a sub-footing of Class 'E' concrete shall be poured up to El. 536.5.
Quantities for Class 'E' concrete below El. 536.5 to be computed in field.*

REVISED DETAILS~ ABUT. NO. 1
STEEL TRUSS BRIDGE
HIGHWAY COMMISSION OF INDIANA
-0" UNLESS NOTED
APRIL 28, 1934
D FOR APPROVAL
NO. 46-C-1316
DRAWING S_{3A} OF 6
BRIDGE CONTRACT NO. 684



TIE BEAM REINFORCING STEEL SCHEDULE

T.B.No.	No.Bars	Mark	Size	Length	Location
1	4	G ₁	1 st	30'-6"	2 Bolt - 2 Top
	2	K ₁	1 st Φ	3'-3"	Bent
	3	K ₃	"	30'-6"	2 Bolt - 1 Top
2	3	G ₃	1 st Φ	28'-6"	1 Bolt - 2 Top
	2	K ₃	1 st Φ	31'-0"	Bent
	2	K ₄	"	28'-6"	Bolt
3	2	G ₄	1 st Φ	28'-6"	Bolt
	2	K ₅	1 st Φ	31'-0"	Bolt
	6	K ₆	"	28'-6"	2 Bolt - 4 Top
4	7	G ₁	1 st	30'-6"	4 Bolt - 5 Top
	2	K ₁	1 st	33'-3"	Bolt
	2	G ₂	"	28'-6"	Bolt
5	2	K ₂	"	31'-0"	Bent
	4	K ₄	"	28'-6"	1 Bolt - 5 Top
6	6	G ₃	1 st Φ	28'-6"	4 Bolt - 2 Top
	2	K ₃	1 st Φ	31'-0"	Bent
	2	K ₄	"	28'-6"	Top



BRIDGES OVER 20' SPAN					
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	IND.	46	1934	12	39

ABUTMENT No.1

REINFORCING STEEL

Mark	No. Pcs.	Size	Length	Location	Total Length	Weight
G ₁	12	1"	30'-6"	Tie Beams - 4 ea. #1	366'-0"	
G ₂	7	1"	28'-6"	" " " " - 5 ea. #2, 2 ea. #3	199'-2"	
				Total 1 st Bars	565'-2"	1945*
K ₁	6	1"	33'-5"	Tie Beams - 2 ea. #1	199'-6"	
K ₂	6	1"	31'-0"	" " " " - 2 #2, 2 ea. #3	136'-0"	
K ₃	9	1"	30'-6"	" " " " - 3 #1	274'-6"	
K ₄	14	1"	28'-6"	" " " " - 2 #2, 6 ea. #3	399'-0"	
Q ₁	8	1"	30'-0"	Footings Transv. Abut. & Longt. Wg.	240'-0"	
Q ₂	20	1"	15'-9"	" " " " " "	315'-0"	
G ₃	26	1"	10'-6"	" " " " " "	294'-0"	
				Total 1 st Bars	1903'-0"	5152*
R ₁	15	3/8"	27'-9"	Vert. R.F. Abut.	416'-3"	
R ₂	28	1"	12'-6"	" " " " " "	350'-0"	
R ₃	15	7'-9"	" " " " " "	116'-3"		
				Stub Bars	882'-6"	1827*
E ₁	18	3/4"	18'-9"	Footings Longt. Abut.	337'-6"	
E ₂	8	6'-3"	" " " " " "	50'-0"		
E ₃	28	6'-3"	" " " " " "	175'-0"		
J ₁	21	35'-6"	Horiz. F.F. Abut.	745'-6"		
J ₂	7	33'-6"	" " " " " "	234'-6"		
J ₃	4	32'-5"	" " " " " "	129'-0"		
J ₄	21	31'-3"	" " " " " "	656'-3"		
J ₅	12	29'-9"	" " " " " "	357'-0"		
J ₆	8	27'-6"	" " " " " "	220'-0"		
J ₇	1	25'-0"	" " " " " "	25'-0"		
J ₈	16	21'-9"	" " " " " "	348'-0"		
J ₉	4	20'-3"	" " " " " "	21'-0"		
J ₁₀	4	18'-0"	" " " " " "	72'-0"		
J ₁₁	4	15'-9"	" " " " " "	63'-0"		
J ₁₂	30	6'-6"	" " " " " "	195'-0"		
X ₁	16	5'-3"	" " " " " "	84'-0"		
X ₂	12	4'-3"	" " " " " "	102'-0"		
X ₃	24	3'-3"	" " " " " "	58'-6"		
				" " " " " "	48'-0"	
				Total 3/4" Bars	3981'-3"	6052*
H ₁	6	1/2"	27'-3"	Horiz. Mudwall (2 R.F. 4 F.F.)	163'-6"	
H ₂	14	25'-0"	" " " " " "	350'-0"		
H ₃	72	23'-3"	" " " " " "	1674'-0"		
S ₁	57	8'-9"	Stirrups Tie Beams 19 ea. #1	498'-9"		
S ₂	51	8'-3"	" " " " " "	420'-9"		
V ₁	6	23'-6"	Vert. Gir. Wgs. (Bent)	188'-0"		
V ₂	20	23'-6"	" " " " " " - 4 Ends	470'-0"		
V ₃	20	22'-3"	" " " " " " - 10 R.F. 10 F.F.	445'-0"		
V ₄	28	20'-3"	" " " " " " - 14 R.F. 14 F.F.	567'-0"		
V ₅	8	12'-3"	" " " " " " - Bent	98'-0"		
V ₆	20	17'-9"	" " " " " " - 10 R.F. 10 F.F.	235'-0"		
V ₇	28	11'-6"	" " " " " " - 14 R.F. 14 F.F.	312'-0"		
V ₈	4	10'-6"	" " " " " " - 2 R.F. 2 F.F.	42'-0"		
V ₉	8	8'-6"	" " " " " " - 4 " " " "	68'-0"		
V ₁₀	4	7'-3"	" " " " " " - F.F.	29'-0"		
V ₁₁	20	6'-0"	" " " " " " - 8 Wgs. (4 R.F. 4 F.F.) (2 Mudwall F.F.)	120'-0"		
V ₁₂	36	4'-6"	" " " " " " - Handrail & Posts (R.F.)	162'-0"		
W ₁	2	26'-3"	Horiz. under Mas. Pts.	52'-6"		
			Total 3/8" Bars	5905'-6"	5079*	
M ₁	22	3/8"	22'-0"	Horiz. Handrail	484'-0"	
M ₂	22	3'-3"	" " " " " "	71'-6"		
M ₃	22	2'-9"	" " " " " "	60'-6"		
N	36	2'-3"	Vert. " " & Post (R.F.)	81'-0"		
			Total 3/8" Bars	697'-0"	265*	
			Total Steel Abut. No. 1	8703'-0"	15792*	

ABUTMENT No.3

REINFORCING STEEL

Mark	No. Pcs.	Size	Length	Location	Total Length	Weight
G ₁	14	1"	30'-6"	Tie beams - 2 ea. #4	427'-0"	
G ₂	8	2"	28'-6"	" " " " - 2 #5, 6 #6	275'-0"	
				Total 1 st Bars	682'-0"	2753*
K ₁	4	1"	33'-3"	Tie Beams - 2 ea. #4	133'-0"	
K ₂	4	1"	31'-0"	" " " " - 2 #2, 2 #6	124'-0"	
K ₃	6	2"	28'-6"	" " " " - 4 #5, 2 #6	171'-0"	
				Total 1 st Bars	428'-0"	1156*
R ₁	15	7/8"	25'-9"	Vert. R.F. Abut.	386'-3"	
R ₂	28	10'-3"	" " " " " "	287'-0"		
R ₃	15	7'-9"	" " " " " "	116'-3"		
				Stub Bars	789'-6"	1634*
E ₁	6	3/4"	10'-6"	Footings Longt. Wings	63'-0"	
E ₂	56	6'-3"	" " " " " "	350'-0"		
J ₁	19	35'-6"	Horiz. F.F. Abut.	674'-6"		
J ₂	6	33'-6"	" " " " " "	201'-0"		
J ₃	4	32'-3"	" " " " " "	129'-0"		
J ₄	19	31'-3"	" " " " " "	593'-9"		
J ₅	12	23'-9"	" " " " " "	357'-0"		
J ₆	8	27'-6"	" " " " " "	220'-0"		
J ₇	1	25'-0"	" " " " " "	25'-0"		
J ₈	16	21'-9"	" " " " " "	348'-0"		
J ₉	4	20'-3"	" " " " " "	81'-0"		
J ₁₀	4	18'-0"	" " " " " "	72'-0"		
J ₁₁	4	15'-9"	" " " " " "	63'-0"		
J ₁₂	24	6'-6"	" " " " " "	156'-0"		
J ₁₃	8	5'-3"	" " " " " "	42'-0"		
X ₁	24	4'-3"	Grillage Bars under Mas. Pts.	102'-0"		
X ₂	18	3'-3"	" " " " " "	58'-6"		
X ₃	24	2'-0"	" " " " " "	48'-0"		
				Total 3/4" Bars	3563'-3"	5447*
A ₁	10	5/8"	29'-3"	Vert. Girder - Wings	292'-6"	
A ₂	28	27'-9"	" " " " " "	777'-0"		
A ₃	10	7'-6"	" " " " " "	75'-0"		
A ₄	28	5'-6"	" " " " " "	154'-0"		
				Total 3/8" Bars	1298'-6"	1276*
F ₁	8	1/2"	16'-9"	Longt. Abut. Ftg.	134'-0"	
F ₂	12	4'-6"	Transv. Wing Ftg.	54'-0"		
H ₁	6	27'-3"	Horiz. Mudwall (2 R.F. 4 F.F.)	163'-6"		
H ₂	12	25'-0"	" " " " " "	300'-0"		
H ₃	64	23'-3"	" " " " " " - 32 R.F. 32 F.F.	1488'-0"		
S ₁	38	8'-9"	Stirrups Tie Beams 19 ea. #4	332'-6"		
S ₂	34	8'-3"	" " " " " " - 17 R.F. 17 F.F.	260'-6"		
V ₁	20	21'-6"	Vert. Abut. (10 R.F. 4 Ends)	430'-0"		
V ₂	28	18'-3"	" " " " " " - 14 R.F. 14 F.F.	511'-0"		
V ₃	28	11'-6"	" " " " " " - 14 " " " "	322'-0"		
V ₄	4	10'-6"	" " " " " " - 2 " " " "	42'-0"		
V ₅	8	8'-6"	" " " " " " - 4 " " " "	68'-0"		
V ₆	4	7'-3"	" " " " " " - Mudwall (F.F.)	29'-0"		
V ₇	20	6'-0"	" " " " " " - 8 Wgs. (4 R.F. 4 F.F.) (2 Mudwall F.F.)	120'-0"		
V ₈	36	4'-6"	" " " " " " - Handrail & Posts (R.F.)	162'-0"		
W ₁	2	26'-3"	Horiz. under Mas. Pts.	52'-6"		
			Total 1/2" Bars	4489'-0"	3861*	
M ₁	22	3/8"	22'-0"	Horiz. Handrail	484'-0"	
M ₂	22	3'-3"	" " " " " "	71'-6"		
M ₃	22	2'-9"	" " " " " "	60'-6"		
N	36	2'-3"	Vert. " " & Post (F.F.)	81'-0"		
			Total 3/8" Bars	697'-0"	265*	
			Total Steel Abut. No. 3	15792*		

*Weights for 1930 Stats.

*Weights for 1930 Stds.

Total Steel Abut. No. 3 15,992*

* Weights for 1930 State

- CONCRETE -

Class "E" - Footing

" "E" " " above " " El. 565.83

Total Class "E" Abut. No.	
Class "E" - Handrail (42 Cu. Yds)	

6-4" ϕ C.I. Drains or 4" Steel Tubing approx. $\frac{3}{16}$ "

86 Piles @ 20'-0" approx.

22'-6"

4'-1" 1'-0" 4'-5" 1'-0" 3'-3" 1'-0"

BARS H₂- $\frac{1}{2}$ " x 25'-0"

4 7 8 11 12

Technical drawing of a roof plan. It shows a rectangular structure with a horizontal dimension of 9.2 and a vertical dimension of 2.2. A section line A-A is indicated with arrows pointing to the right. The drawing is a black and white line drawing.

DARS J₂ 7/4 x 33

4

mark	size
S.	1/2 no 3

	S ₂	"	3
--	----------------	---	---

2 SPANS @ 198'-0"
OVER EEL RIVER

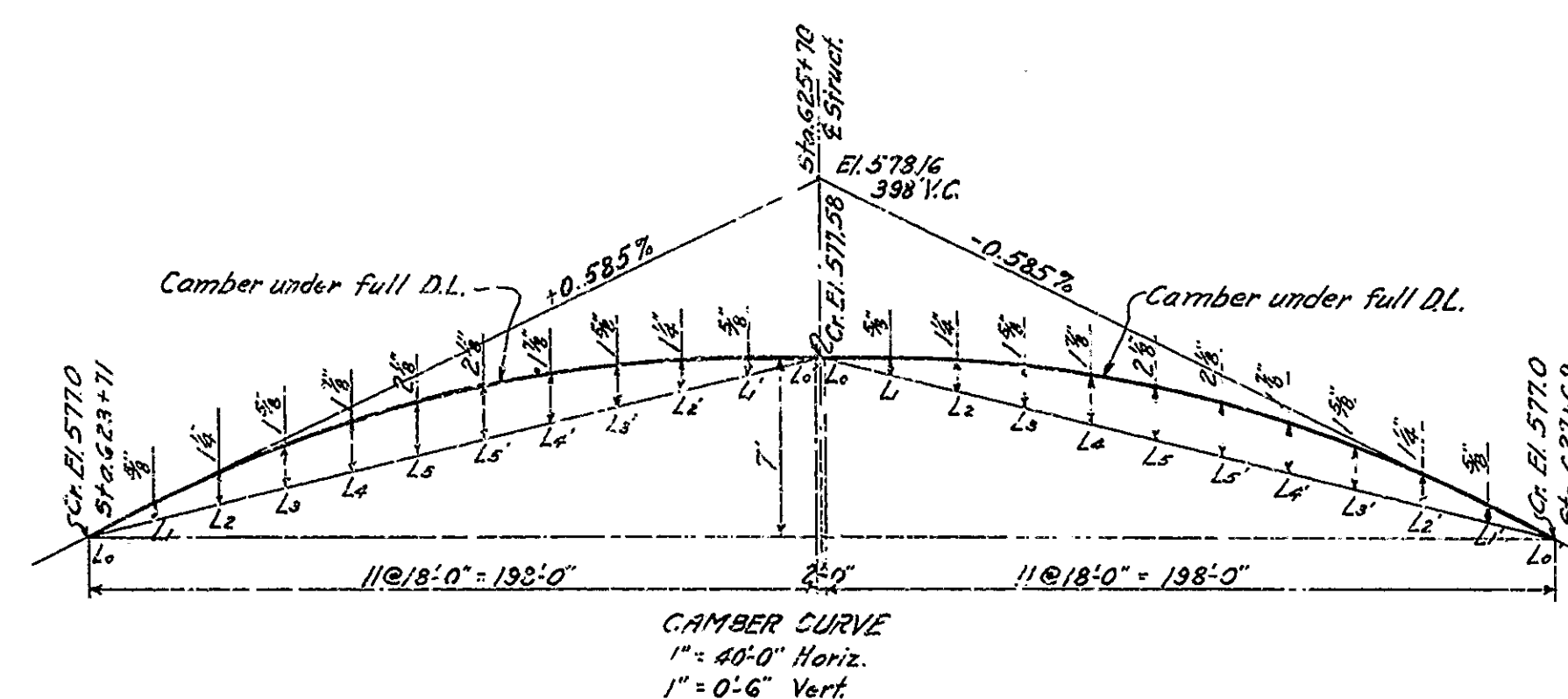
SCALE:- AS NOTED

RECOMMENDED FOR APPROVAL: *[Signature]*
ENGINEER OF BRIDGES
PROJECT: 46 STATION: 625+30

STATION:- 0257+10
DRAWING:- S₅ OF 6
STRUCTURE NO. 1316

BRIDGE CONTRACT NO. 684

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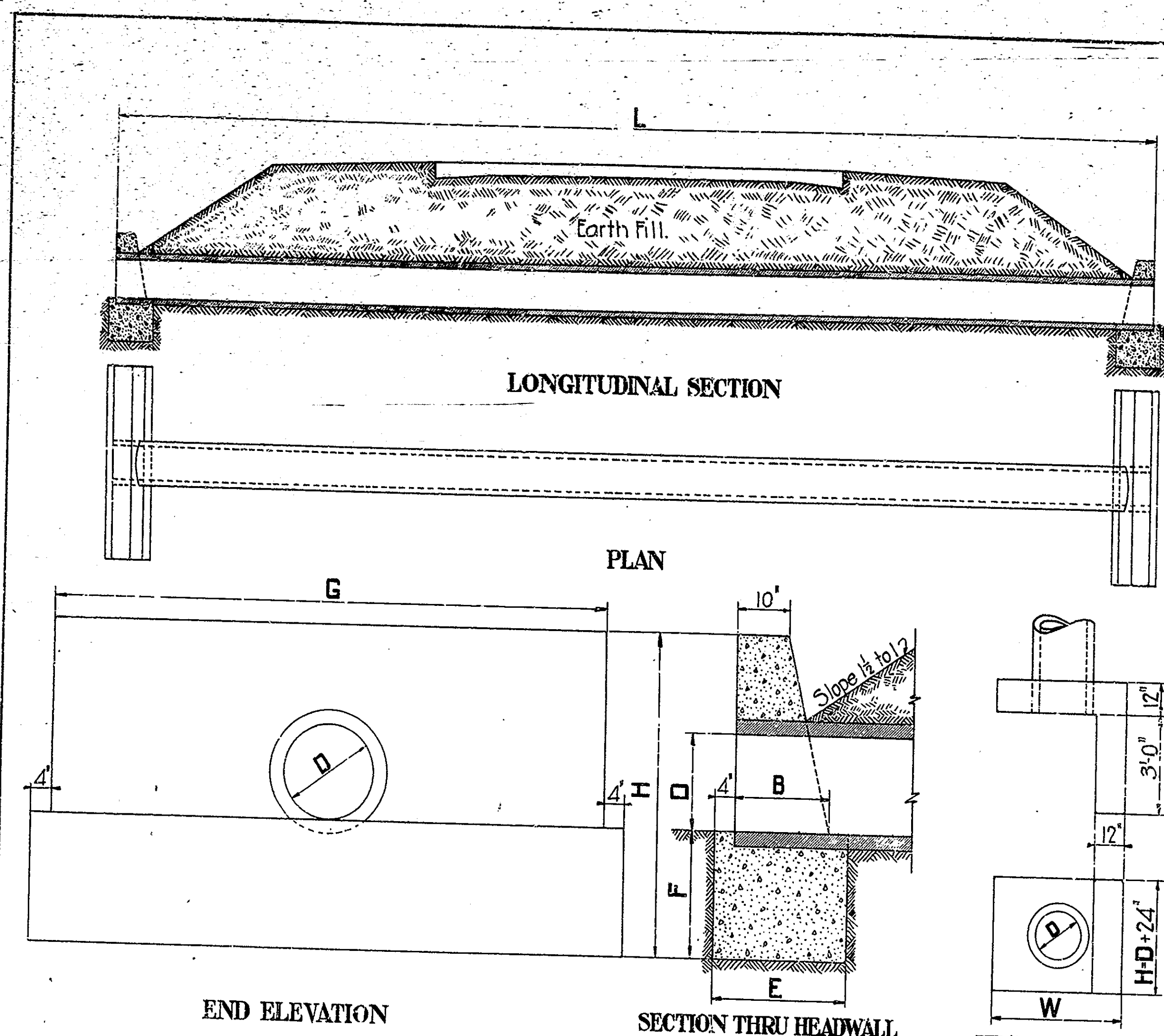
CAMBER TABLE					
198'-0" TRUSS					
Panel Point	L1	L2	L3	L4	L5
Camber on falsework	1.0925	1.9374	2.7264	3.2580	3.5765
Defl. due to truss load	1.907	3.194	4.523	5.607	6.104
Camber under truss load only	.9018	1.6760	2.2721	2.6973	2.9661
Defl. due to slab	.2720	.4557	.6483	.8001	.8710
Camber under full D.L.	.6298	1.2223	1.6233	1.8972	2.0951

CLL 1-17-34
L 7.6.0. 1-18-34

BRIDGE CONTRACT #684
STRUCTURE 46-C-1316
25 SPANS @ 198'-0" 24'-0" ROWX.
CAMBER DIAGRAM

46-C-1316

26.2 of 35



NOTE: All exposed edges and corners to be chamfered $\frac{3}{4}$ inch.
Pipe not to be used under more than 10 foot fill.

D	F	H	B	E	G	CONCRETE 2 HEADWALLS CU. YDS.
15"	1'6"	4'3"	1'6"	2'2"	8'0"	4.0
18"	2'0"	5'0"	1'6"	2'2"	9'0"	5.4
24"	2'0"	5'8"	1'8"	2'4"	10'0"	7.1
30"	2'0"	6'2"	1'8"	2'4"	10'0"	7.6
36"	2'0"	6'9"	2'0"	2'8"	12'0"	11.0

PIPE CULVERTS

D	W	CONCRETE 2 HEADWALLS CU. YDS.
15"	4'0"	1.76
18"	4'3"	1.90
24"	4'9"	2.30
30"	5'6"	2.63
36"	6'0"	3.33

ESTIMATE OF QUANTITIES FOR CONC. BIT. CONC. OR BRICK PVMT.

EXCAVATION CU. YDS.				SPECIAL BORROW CU. YDS.	METAL SHOULDER LIN. FT.	PAVEMENT SQ. YDS.		CONCRETE-CLYDS.		STEEL		CONCRETE PAVED SIDE-DITCH LIN. FT.	CONCRETE CATCH BASIN (AND INLET) LIN. FT.	BITUMINOUS EXPANSION JOINTS PRE-CAST OR POURED LIN. FT.
CLASS "A"	CLASS "B"	CLASS "C"	PEAT			CON- CRETE	BITUM. OR BRICK BASE SURFACE	HEAD- WALLS CLASS "A"	CULVERTS CLASS "B"	FOR CULVERTS LBS.	FOR PAVEMENT LBS.			
INTEGRAL CONCRETE CURBING LIN. FT.	COMBINED CURB & GUTTER LIN. FT.	PAVEMENT REMOVAL SQ. YDS.	STONE OR GRAVEL SURFACE CU. YDS.	MONUMENTS	CONCRETE MARKERS	GUARD RAIL LIN. FT.	PIPE LIN. FT.	10.8						
										SALVAGED ROAD METAL CU. YDS.	BEASTING LIN. FT.			

STEEL - OFFICIAL WEIGHT - $\frac{1}{2}$ " = 0.86 LBS. PER LINEAL FOOT (Deformed)
 $\frac{3}{4}$ " = 1.502 LBS. PER LINEAL FOOT (Smooth)

BRIDGE AND CULVERT DATA

FEDERAL ROAD DISTRICT NO.	STATE	PROJECT YEAR	DISCUSS SHEET NO.	TOTAL SHEETS
7	IND.	46	1934	344

SECTION - C

STRUCTURE NUMBER	LOCATION	DESCRIPTION		LENGTH FEET	HEIGHT FEET	WINGS "W"	FLOW LINE		CONCRETE-CLYDS	STEEL REINFORCING LBS.	REMARKS	PLANS ON SHEET NO.	STRUCTURE NUMBER
		SIZE	KIND				UP STREAM	DOWN STREAM					
6211071	18"	Pipe		50	5.5	11	543.81	555.18	5.4			51	
6211072	18"	Pipe		50	5.5	11	543.76	555.13	5.4			51	

NOTE: WHERE PIPE IS CALLED FOR ON THESE PLANS AND THERE IS NO DESIGNATION OF TYPE, BIDS WILL BE RECEIVED ON ANY OF THE FOLLOWING FOUR TYPES: REINFORCED CONCRETE, TRIPLE STRENGTH VITRIFIED CLAY, CORRUGATED METAL OR CAST IRON AS COVERED BY THE SPECIFICATIONS ON THIS PROJECT. IF THE PROPOSAL INDICATES QUANTITIES OF A PARTICULAR PIPE, BIDS SHALL BE SUBMITTED ON THAT TYPE. NOTE: FOR ALL VIT. CLAY PIPE WITH LESS THAN 15" DIA. SEE PARAGRAPH 194 STD. 1923 SPECIFICATIONS.

46-C-1316
CONT. NO. 684

END STR