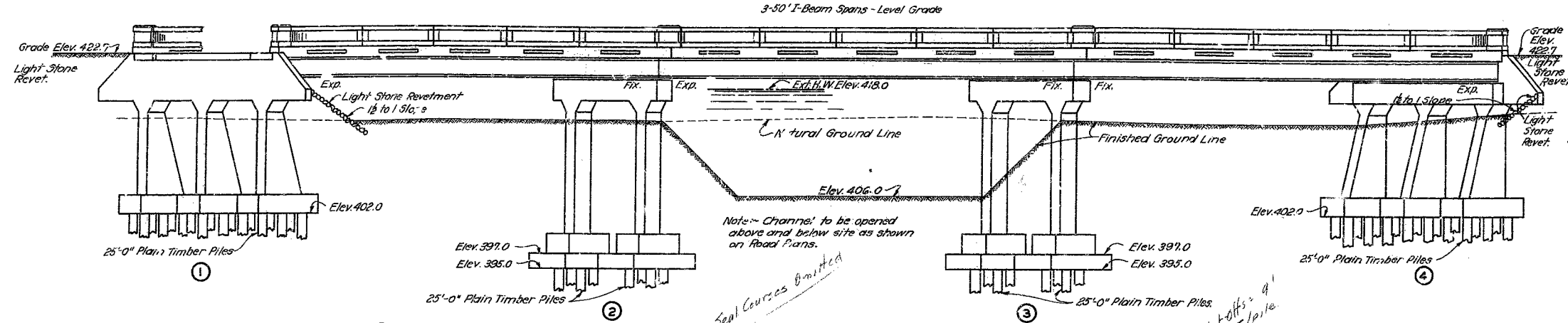
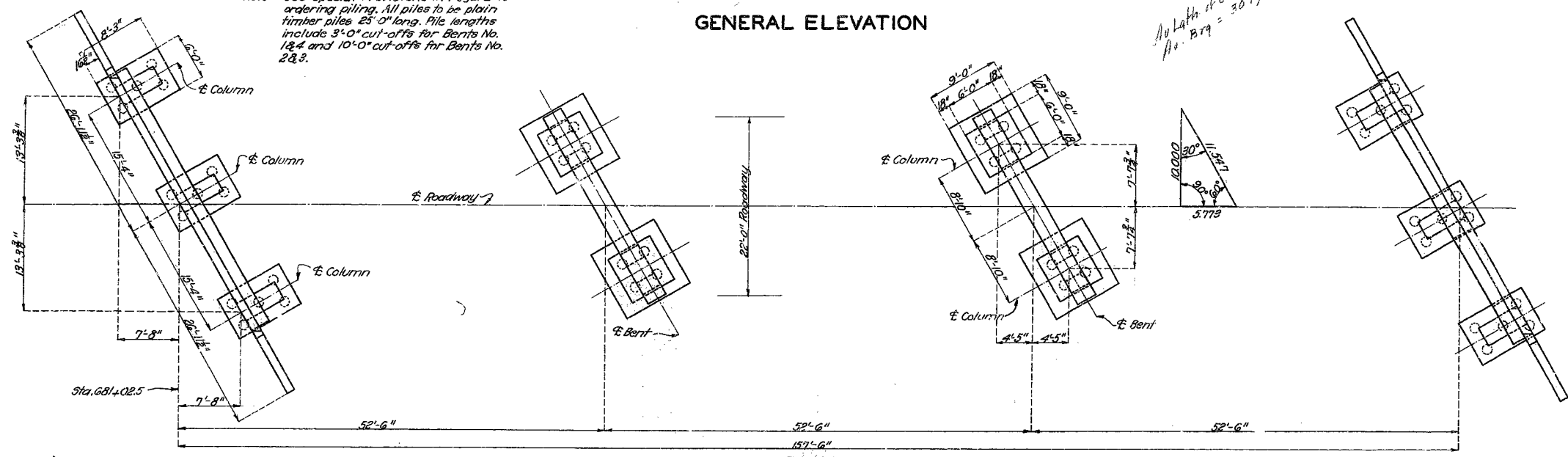


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19		



GENERAL ELEVATION



PLAN

GENERAL NOTES:-

Concrete in handrail to be 1:2:3 mix. Class "A". Concrete in slab & curbs to be 1:2:3 1/2 mix. Class "X". All other concrete to be 1:2:4 mix. Class "B".

Exposed edges to be beveled 1/4" where no other bevel is noted.

Where rubber compound is specified on plans for use in partition and expansion joints, the pre-molded joint shall be securely stitched to one face of concrete with copper wire.

Two name plates type "A" as shown on Std. 918R to be furnished and placed by contractor. Cost of name plates to be included in price bid for other items.

Detail shop drawings for structural steel shall be submitted to the State Highway Department in duplicate and shall be approved before steel is fabricated.

See Special Provisions in regard to permissible substitutions of beams.

Field connections riveted. Rivets 3/4", holes 1 1/8".

Paint--Shop none. Field surfaces inaccessible after erection three coats of red lead. No other paint to be applied by contractor. All paint required will be furnished by the Missouri State Highway Department.

All piles to be driven to sustain a load of 20 tons per pile.

Estimated quantity of class "B" concrete includes concrete in seal courses to maximum horizontal limits of 18" outside of neat lines of footings. See Special Provisions.

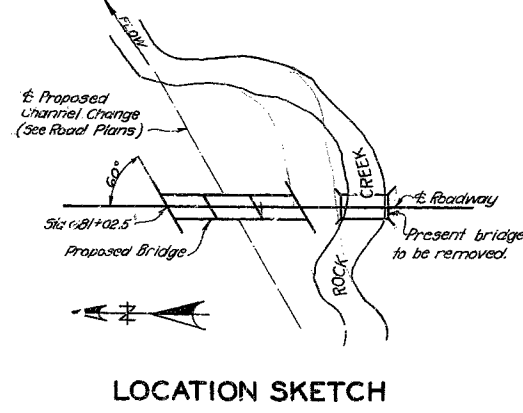
In case seal courses are omitted during construction by authority of the Engineer, the bottoms of footings are to be built to elevations shown on these design plans for footings proper.

Excavation in accordance with Standard Specifications issued April 1, 1930, except that horizontal limits will be based on footings proper and not on seal courses.

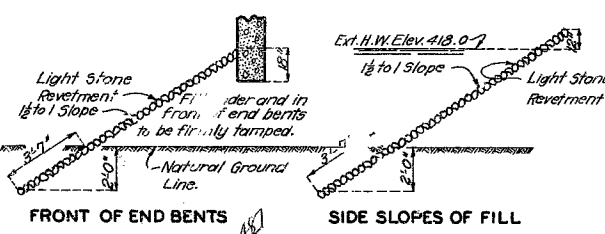
COMPLETE BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION	BENDING SKETCHES & CUTTING DIAGRAMS
SUPERSTRUCTURE					
542	3/8"	24'-9"	S1	Slab	
132	3/8"	27'-0"	S2	"	
12	1/2"	28'-6"	S3	"	
192	3/8"	26'-3"	S4	"	
66	3/8"	27'-3"	S5	"	
12	3/8"	29'-0"	C1	Curb	
120	3/8"	12"	C2	"	
12	3/8"	21'-3"	C3	"	
12	3/8"	27'-6"	C4	"	
24	3/8"	8'-0"	S0	Slab	
4	3/8"	6'-9"	S11	"	
12	3/8"	7'-6"	S12	"	
4	3/8"	6'-9"	S13	"	
120	1/2"	9"	R1	Rail	
108	1/2"	7'-3"	R2	Subpost	
12	1/2"	3'-9"	R3	Post	
120	3/8"	14"	R4	Balusters	
8	1/2"	2'-3"	R5	Post	
12	1/2"	11'-6"	R501R	Rail	
12	1/2"	12'-3"	R501L	"	
28	1/2"	9'-9"	R506R	"	
28	1/2"	10'-0"	R506L	"	
8	1/2"	12'-0"	R508	"	
32	1/2"	9'-6"	R503	"	
SUBSTRUCTURE					
End Bents No. 1 & 4					
36	3/4"	5'-3"	D1	Footings	
32	3/4"	9'-3"	F1	Haunch	
16	3/4"	9'-0"	F2	"	
12	3/4"	12'-9"	H1	Wing	
10	3/4"	19'-6"	H2	"	
2	1/2"	32'-0"	H3	Backwall	
26	1"	37'-9"	H4	Beam	
4	3/4"	35'-9"	H5	"	
8	3/4"	16'-0"	T1	Wing	
4	3/4"	32'-0"	T2	Backwall	
4	1/2"	7'-6"	V1	Wing	
4	1/2"	5'-9"	V2	"	
72	1/2"	12'-9"	V3	Wing	
36	3/4"	14'-3"	V4	Column	
Bents No. 2 & 3					
16	3/4"	5'-3"	D1	Footings	
16	3/4"	9'-3"	F1	Haunch	
16	3/4"	9'-6"	F3	"	
32	1"	28'-0"	G1	Beam	
4	3/4"	26'-0"	G2	"	
16	3/4"	19'-3"	P1	Column	
4	1/2"	10'-0"	P2	"	
72	1/2"	17'-6"	P3	Beam	

Note--Dimensions of bars are given along center line and are for corrugated lengths. Reinforcing bars 3/4" or over in diameter, which are bent to an angle greater than 90° shall be of structural grade.



LOCATION SKETCH



LIGHT STONE REVETMENT SKETCHES

Note-- This drawing is not to scale. Follow dimensions.

ITEM	ESTIMATED QUANTITIES			FINAL QUANT.
	SUPERSTR.	SUBSTR.	TOTAL	
Excavation Class 1	Cu.Yds.	305	305	310.5
Excavation Class 2	Cu.Yds.	188	188	163.5
Concrete 1:2:3 mix. Class "A"	Cu.Yds.	15.5	15.5	15.5
Concrete 1:2:4 mix. Class "B"	Cu.Yds.	152.2	152.2	121.7
Concrete 1:2:3 1/2 mix. Class "X"	Cu.Yds.	102.8	102.8	102.3
Fabricated Structural Steel	Lbs.	87,000	87,000	85,250.
Bearing Castings	Lbs.	1,580	1,580	1,580
Reinforcing Steel	Lbs.	28,760	39,170	39,130
Plain Timber Piles	Lin. Ft.		900	900
Plain Timber Pile Cut-Offs	Lin. Ft.		250	250
Temporary Bridge	Lin. Ft.			40
Br. Removal	L. Sum			

Note--Excavation above Elev. 405.0 will be paid for as Class 1 Bridge Excavation. Excavation below Elev. 405.0 will be paid for as Class 2 Bridge Excavation.

BRIDGE OVER ROCK CREEK

STATE ROAD FROM EDINA SOUTH
ABOUT 1.5 MILES S. E. OF EDINA
PROJECT NO. R15-S12 STA. 681+02.5

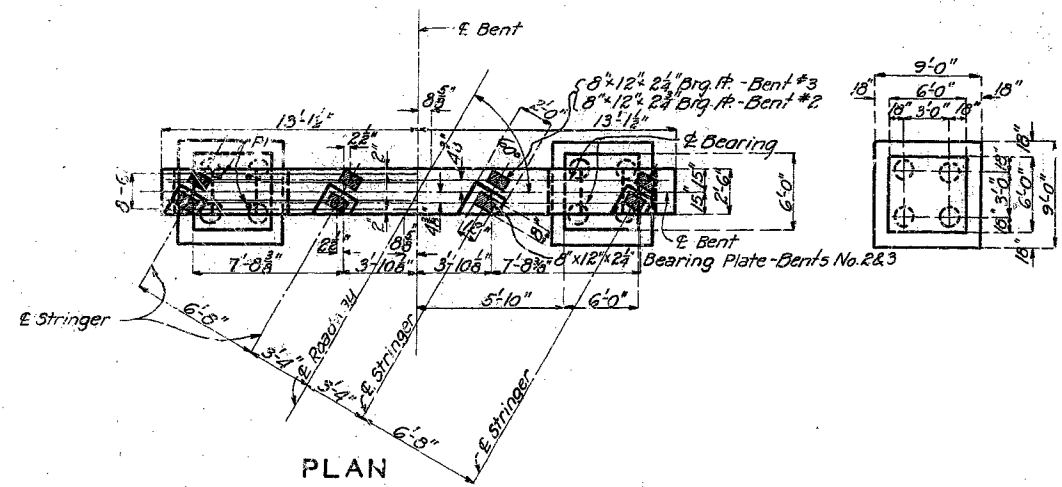
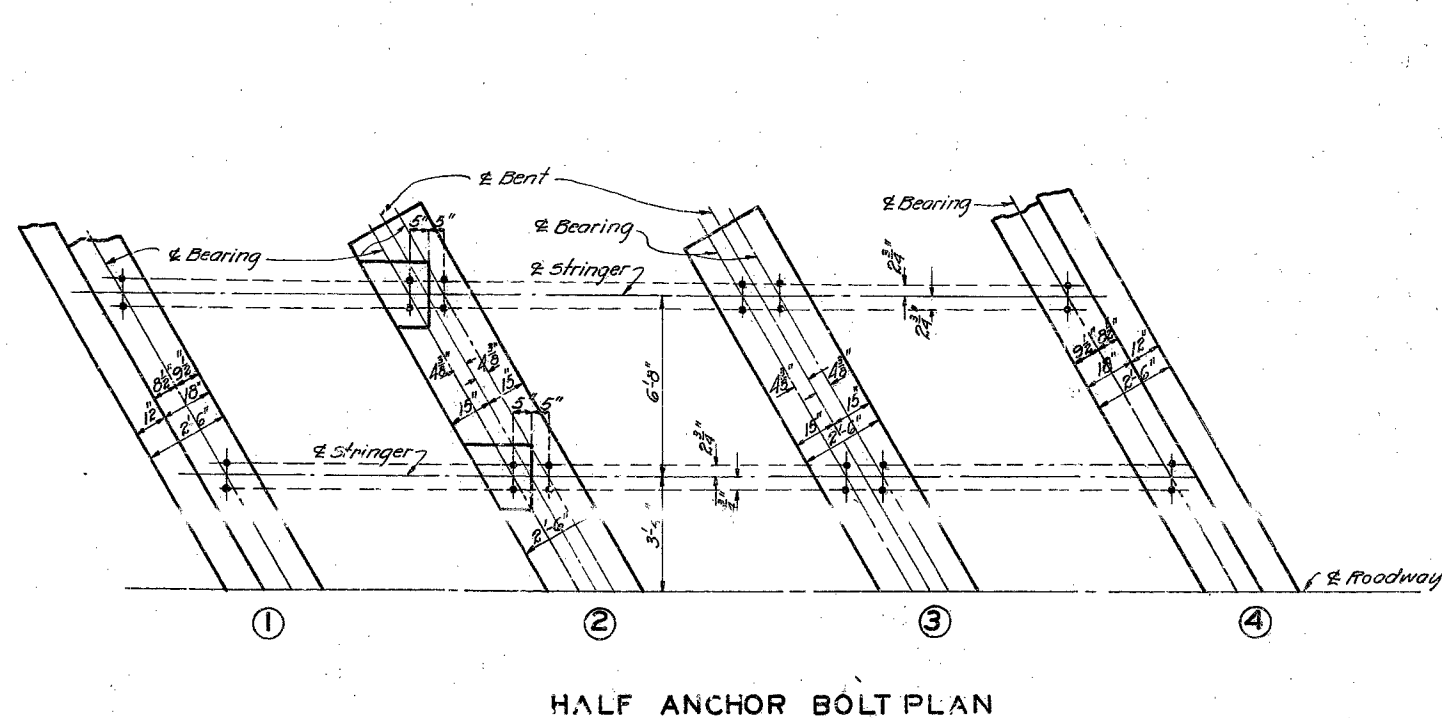
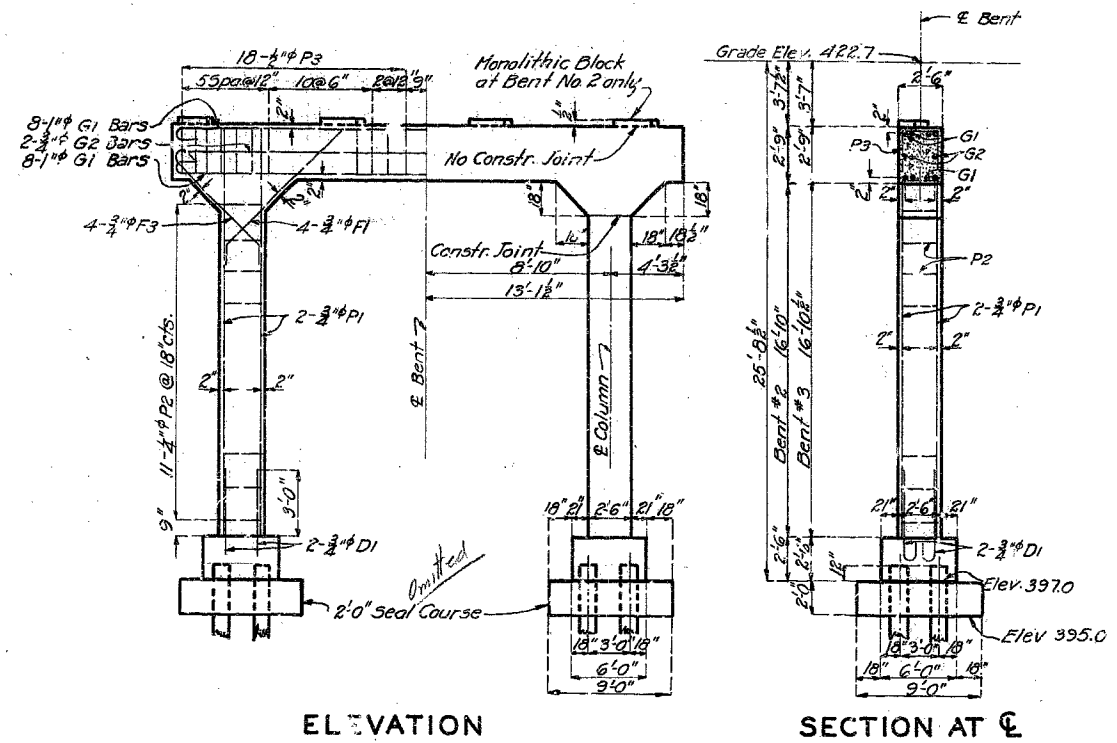
KNOX COUNTY
SUBMITTED BY *N.R. Sawyer* DATE 11/17/32
APPROVED BY *T.H. Cutler* DATE 11/17/32

STD.S-918 F
STD-C6502 R2
H-771

Drawn Nov. 1932 By F.C.L.
Traced Nov. 1932 By H.E.C.
Checked Nov. 1932 By H.D.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	R15-512	19		



DETAILS OF BENTS NO. 2 & 3

BRIDGE OVER ROCK CREEK
 STATE ROAD FROM EDINA SOUTH FINISHED
 ABOUT 1.5 MILE S.E. OF EDINA
 PROJECT NO. R15-512 STA. 681+02.5
 KNOX COUNTY
 FINISHED

Assembled Nov. 1932 By F.C.L.-H.E.U.
 Checked Nov. 1932 By H.D.
 Drawn July 1932 By R.J.G.
 Checked July 1932 By P.H.S.

Note: This drawing is not to scale.
 Follow dimensions.

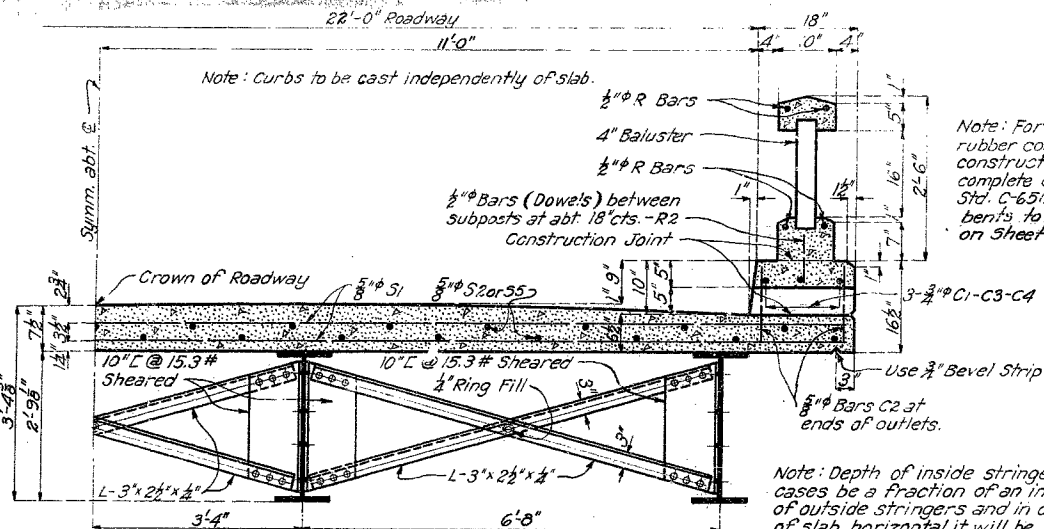
Sheet No. 2 of 5.

H-771

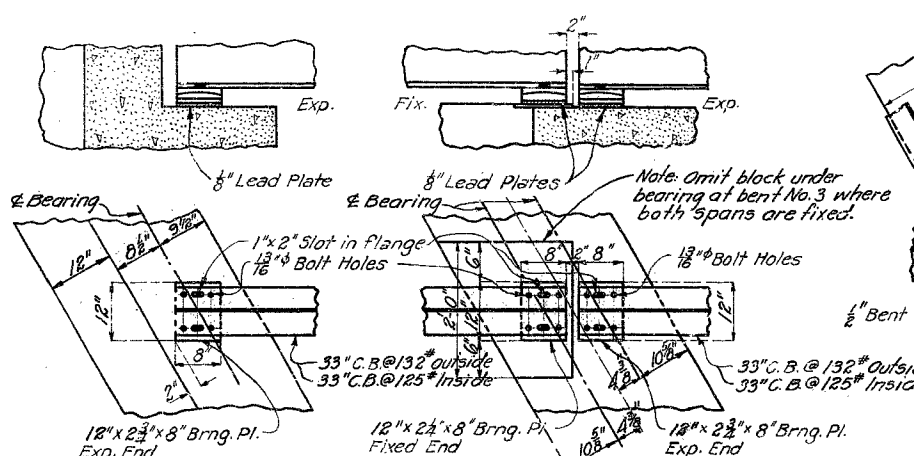
634

MISSOURI STATE HIGHWAY DEPARTMENT

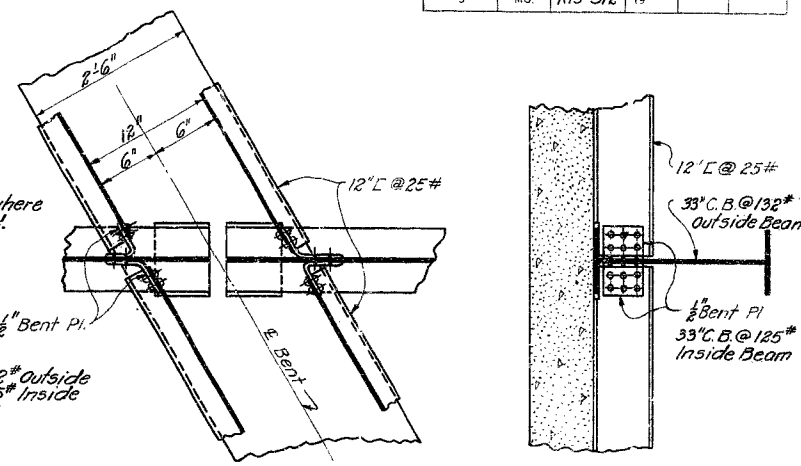
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	R15-512	19		



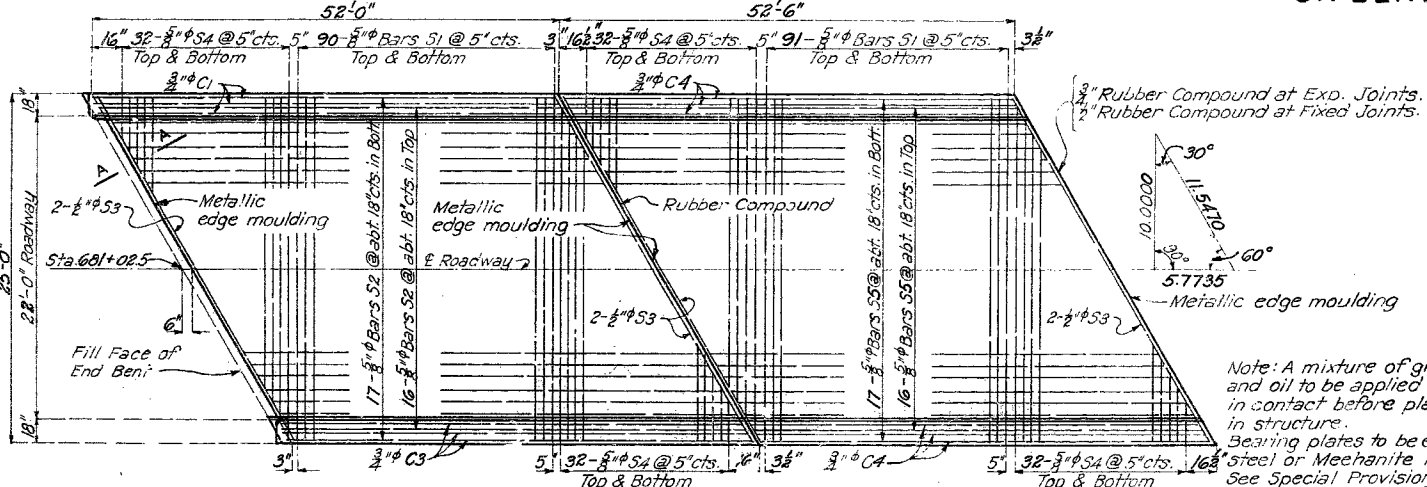
HALF SECTION THRU SPAN



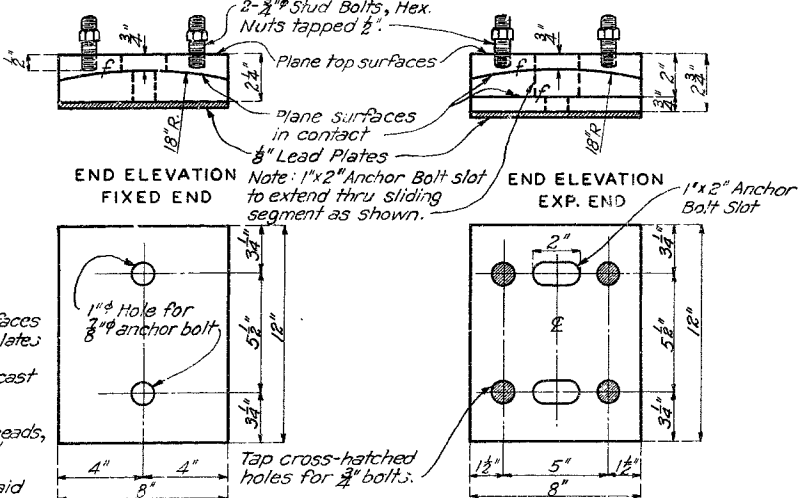
DETAILS OF BEARINGS ON BENTS NO. 1 & 4
DETAILS OF BEARINGS ON BENTS NO. 2 & 3



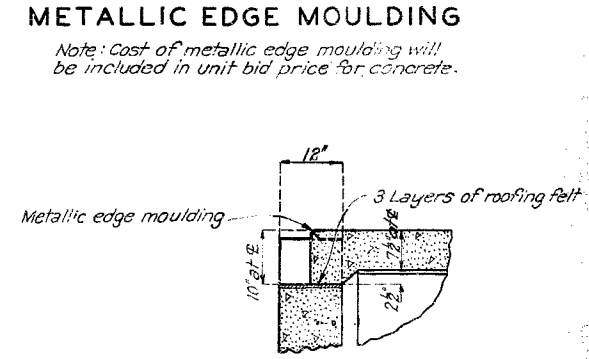
DETAILS OF END CHANNEL SEPARATORS



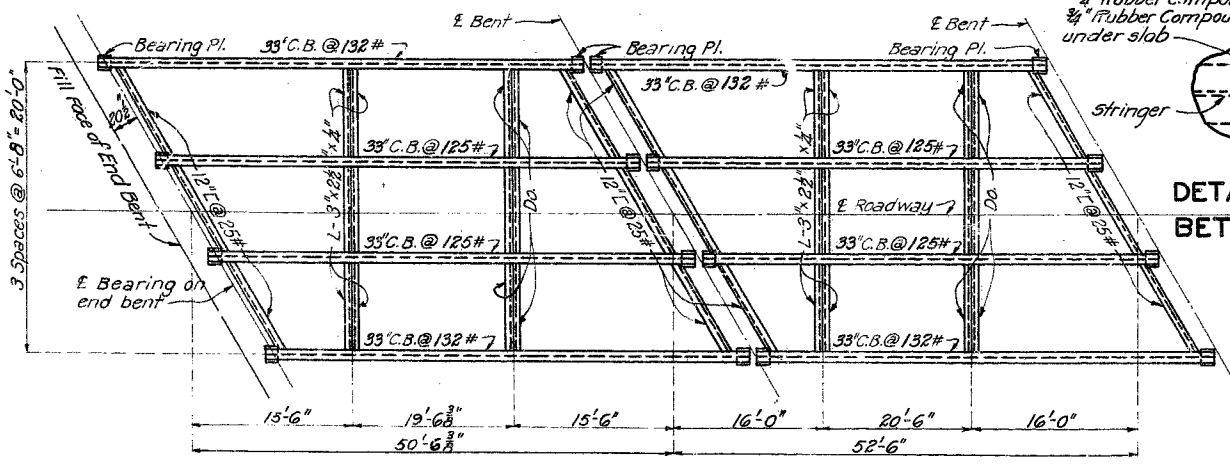
PLAN OF SLAB SHOWING REINFORCEMENT



PLAN OF BOTTOM PLATES
PLAN OF TOP PLATES



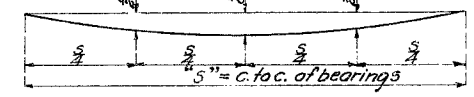
SECTION A-A SHOWING SLAB AT END BENT



PLAN OF STRINGERS

DETAIL OF RUBBER COMPD. BETWEEN SLAB & BEAMS AT BENT NO. 2

DETAILS OF BEARING PLATES



DEFLECTION DIAGRAM

PERMISSIBLE BEAM SUBSTITUTIONS

Bethlehem Beams	Inside	Outside
	33" @ 125#	33" @ 132#

Note: See Special Provisions in regard to permissible substitutions of beams and basis of payment.

BRIDGE OVER ROCK CREEK
STATE ROAD FROM EDINA SOUTH FINISHED
ABOUT 1.5 MILE S.E. OF EDINA
PROJECT NO. R15-S12 S1 681+02.5
KNOX COUNTY

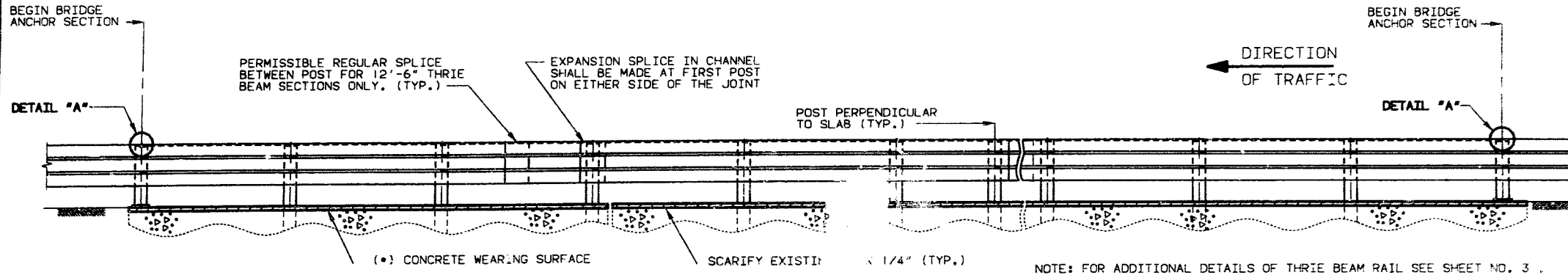
Drawn Nov. 1931 By R.J.G.
Traced Nov. 1931 By R.J.G. Assembled Nov. 1932 By F.C.L.-H.E.U.
Checked Sept. 1932 By P.H.S. Checked Nov. 1932 By H.D.

Note: This drawing is not to scale. Follow dimensions. Sheet No. 4 of 5

H-771

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.	F-15-2(1) Sec 4 & 5	1
SEC./SUR.	25 TWP. 62N	PAGE. 12W

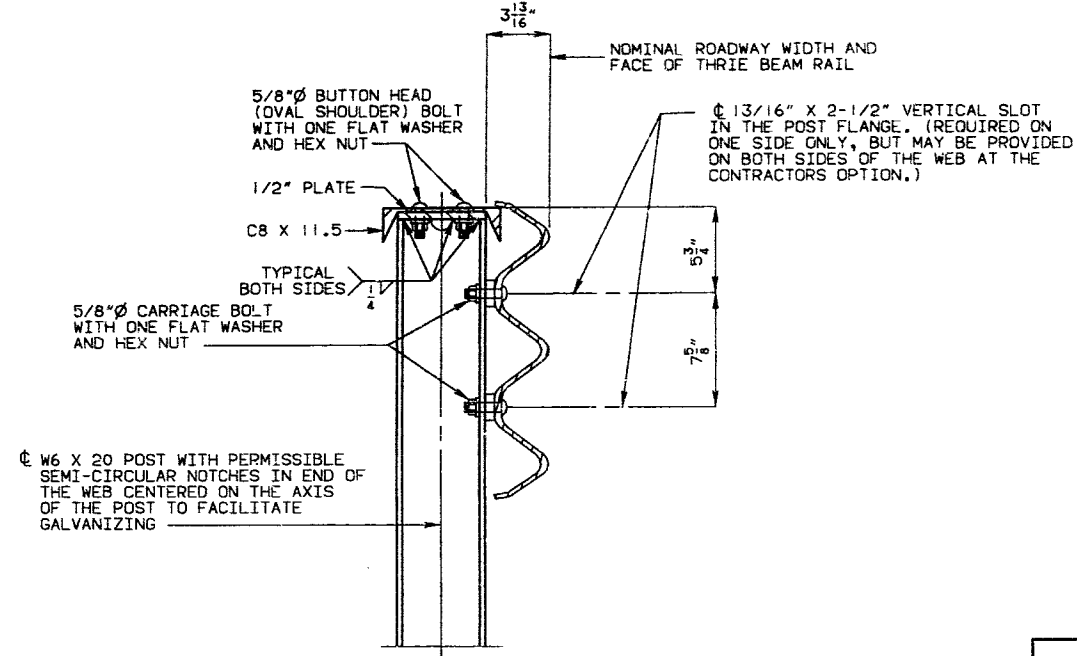


GENERAL NOTES FOR THRIE BEAM:
 DESIGN AASHTO 1989 SPECIFICATIONS.
 PANEL LENGTHS OF CHANNEL MEMBERS SHALL BE ATTACHED CONTINUOUSLY TO A MINIMUM OF FOUR POSTS AND A MAXIMUM OF SIX POSTS (EXCEPT AT THE END BENTS).
 ALL BOLTS, NUTS, WASHERS, AND PLATES ARE CONSIDERED AS PART OF THE THRIE BEAM FOR PAYMENT.
 ALL STEEL CONNECTING BOLTS AND FASTENERS FOR POSTS AND RAILING, AND ALL BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION, FOR PROTECTIVE COATING AND MATERIAL REQUIREMENT OF STEEL RAILING, SEE SECTION 1040 OF THE MO. STANDARD SPECIFICATIONS.
 RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION, AND ALIGNED ACCORDING TO SECTION 713 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT THE RAIL POSTS SHALL BE ALIGNED BY THE USE OF SHIMS SO THAT IN THE FINAL ADJUSTMENT NO PART SHALL DEVIATE MORE THAN ONE INCH FROM TRUE HORIZONTAL ALIGNMENT. THE SHIMS SHALL BE 3" X 1-3/4" AND PLACED BETWEEN THE POST AND THRIE BEAM RAIL. THE THICKNESS OF THE SHIMS SHALL BE DETERMINED BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER BEFORE ORDERING THE MATERIAL FOR THIS WORK.
 AT THE EXPANSION SLOTS IN THE THRIE BEAM RAILS AND CHANNELS, TIGHTEN BOLTS, BACK OFF ONE-HALF TURN AND BURR THREADS.
 USE 5/8 INCH BUTTON HEAD, OVAL SHOULDER BOLTS WITH HEX NUTS TO BE USED AT ALL SLOTS. (THICKNESS OF HEX NUTS = 3/8").
 THRIE BEAM GUARD RAIL ON THE BRIDGE SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. THE POST, POST ATTACHMENTS, CHANNELS AND CHANNEL SPLICE PLATES ARE TO BE FABRICATED FROM A-36 STEEL AND GALVANIZED.
 WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN THE BOLT HEAD AND THRIE BEAM). THEY SHALL BE RECTANGULAR IN SHAPE (3" X 1-3/4" X 3/16" MIN.) AND FLAT WITH A 1/16" X 1" SLOT, OR WHEN NECESSARY OF SUCH DESIGN TO FIT THE CONTOUR OF THE BEAM. (USE A 3" X 1-3/4" X 5/8" RECTANGULAR WASHER BETWEEN THE POST AND THE THRIE BEAM RAIL).
 SPECIAL DRILLING OF THE THRIE BEAM MAY BE REQUIRED AT THE SPLICES. (ALL DRILLING DETAILS ARE TO BE SHOWN ON THE SHOP DRAWINGS).
 FABRICATION OF THE STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE MO. STANDARD SPECIFICATIONS.
 EXPANSION SPLICES IN THE THRIE BEAM RAIL SHALL BE MADE AT EITHER THE FIRST OR SECOND POST ON EITHER SIDE OF THE JOINT AND ON STRUCTURE AT BRIDGE ENDS. WHEN THE SPLICE IS MADE AT THE SECOND POST, AN EXPANSION SLOT SHALL BE PROVIDED IN THE THRIE BEAM RAIL FOR CONNECTION TO THE FIRST POST TO ALLOW FOR MOVEMENT.
 CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING MATERIALS.
 MINIMUM LENGTH OF THRIE BEAM SECTIONS IS EQUAL TO ONE POST SPACE.
 NOTE: OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.
 MAINTAIN ONE LANE OF TRAFFIC OVER STRUCTURE DURING CONSTRUCTION. (SEE ROADWAY PLANS)
 ROADWAY SURFACING ADJACENT TO BRIDGE ENDS TO MATCH EXISTING CONCRETE DECK PLUS 1/2" ± OR 2" ± (ROADWAY ITEM).
 THE CONTRACTOR SHALL USE ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS FOR BRIDGE GUARD RAIL.
 THESE ANCHOR SYSTEMS SHALL BE GALVANIZED AND BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS EXCEPT THAT THREADED ROD STUDS SHALL EXTEND 3" ABOVE TOP OF EXISTING CONCRETE.
 COST OF FURNISHING AND INSTALLING THE ANCHOR SYSTEMS COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF BRIDGE RAIL (THRIE BEAM)

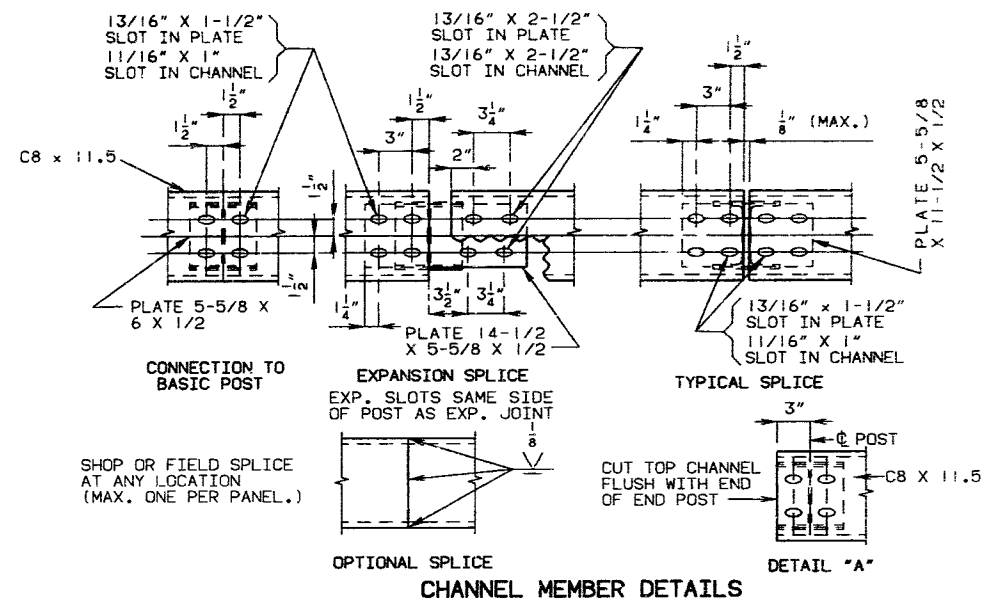
(*) ALT. "A" = 1 3/4" (MIN.) LATEX MODIFIED CONCRETE
 ALT. "B" = 2 1/4" (MIN.) LOW SLUMP CONCRETE OVERLAY

PART SECTION THRU SLAB SHOWING THRIE BEAM RAIL

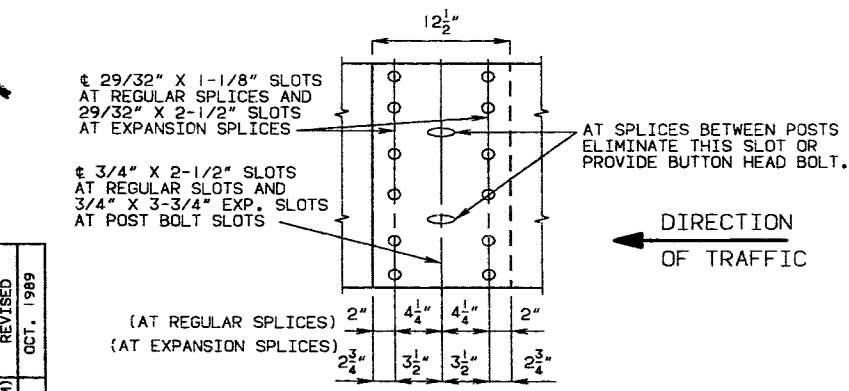
NOTE: FOR ADDITIONAL DETAILS OF THRIE BEAM RAIL SEE SHEET NO. 3 FOR RAIL POST SPACING SEE SHEET NO. 2.



PART SECTION AT RAIL POST
 NOTE: FOR DETAILS OF THRIE BEAM RAIL NOT SHOWN, SEE THE FOLLOWING SHEETS.



CHANNEL MEMBER DETAILS



THRIE BEAM RAIL SPLICE DETAILS

ESTIMATED QUANTITIES		
ITEMS		TOTAL
CURB REMOVAL FOR THRIE BEAM INSTALLATION	LIN. FT.	313
ASPHALT REMOVAL (BRIDGES)	SQ. FT.	3438
SUBSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.	10
SUPERSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.	90
REPAIRING CONCRETE DECK (HALF-SOLING)	SQ. FT.	513
FULL DEPTH REPAIR	SQ. FT.	34
SLAB EDGE REPAIR (BRIDGES)	LIN. FT.	70
CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS	SQ. YD.	437
BRIDGE GUARD RAIL (THRIE BEAM)	LIN. FT.	313

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING MATERIALS.
 MINIMUM LENGTH OF THRIE BEAM SECTIONS IS EQUAL TO ONE POST SPACE.
 NOTE: OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.
 MAINTAIN ONE LANE OF TRAFFIC OVER STRUCTURE DURING CONSTRUCTION. (SEE ROADWAY PLANS)
 ROADWAY SURFACING ADJACENT TO BRIDGE ENDS TO MATCH EXISTING CONCRETE DECK PLUS 1/2" ± OR 2" ± (ROADWAY ITEM).
 THE CONTRACTOR SHALL USE ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS FOR BRIDGE GUARD RAIL.
 THESE ANCHOR SYSTEMS SHALL BE GALVANIZED AND BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS EXCEPT THAT THREADED ROD STUDS SHALL EXTEND 3" ABOVE TOP OF EXISTING CONCRETE.
 COST OF FURNISHING AND INSTALLING THE ANCHOR SYSTEMS COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF BRIDGE RAIL (THRIE BEAM)

REPAIRS TO BRIDGE OVER ROCK CREEK

STATE ROAD FROM EDINA SOUTH
 ABOUT 1.5 MILES S.E. OF EDINA
 PROJECT NO. F-15-2(1) Sec 4 & 5 STA. 681+02.5 ±
 JOB NO. 3P 305-15 RTE. 15
 KNOX COUNTY

STD. 506.23
H-771R

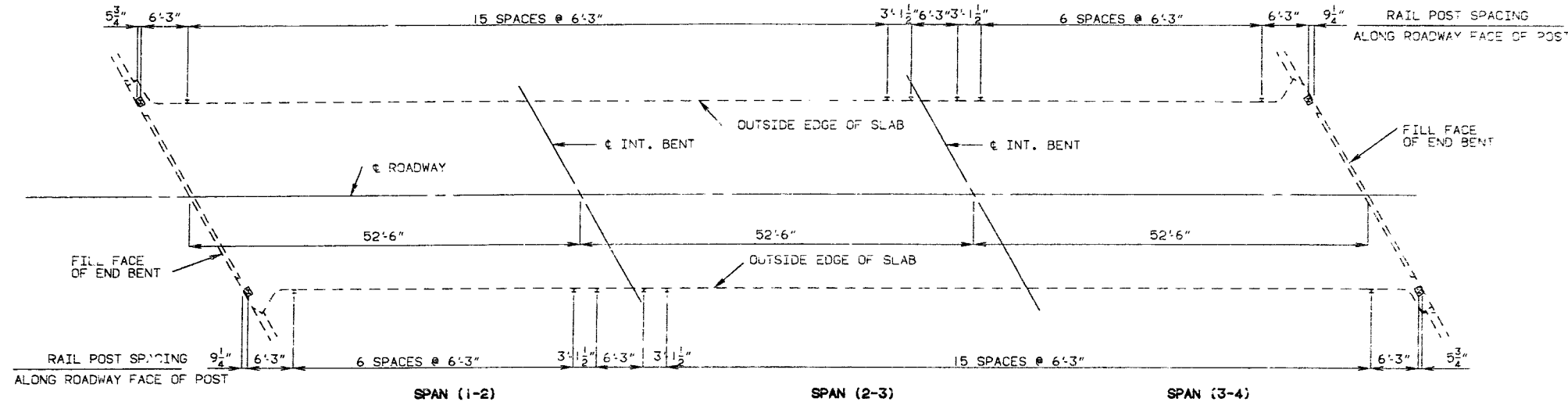
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1 OF 3

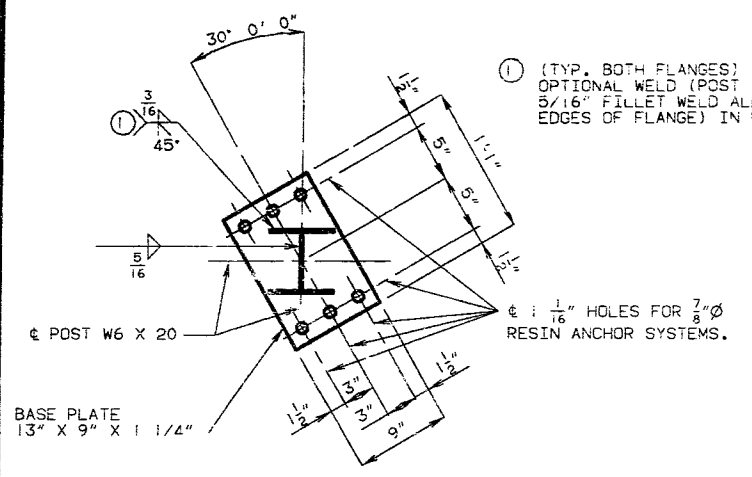
DATE 1/9/90

335
 REHAB. (T-BEAM) SEPT. 1985
 REVISED OCT. 1989

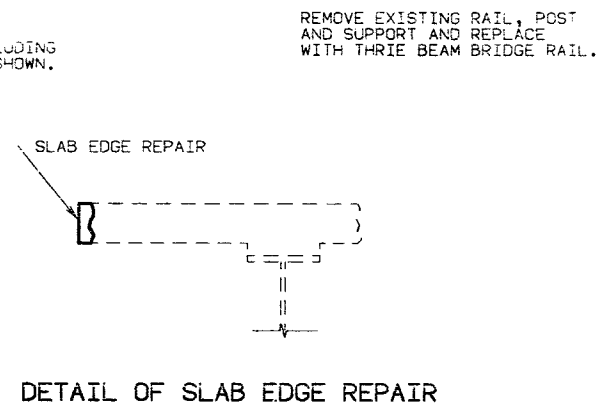
DESIGNED DEC. 1989
 DETAILED DEC. 1989
 CHECKED DEC. 1989



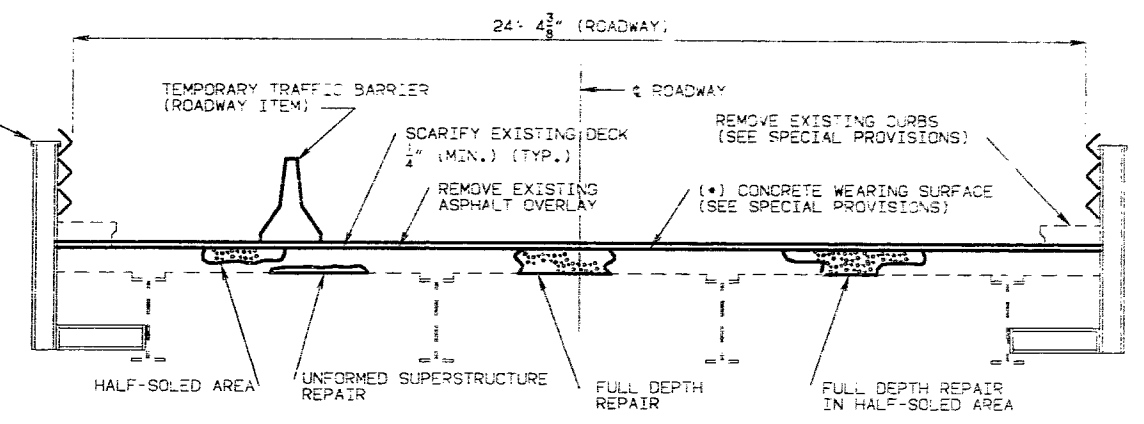
PLAN OF SLAB SHOWING RAIL POST SPACING



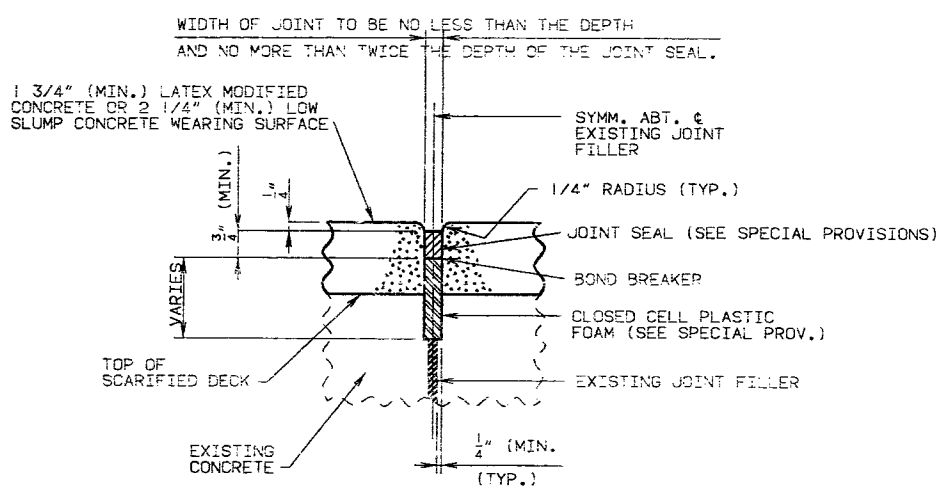
DETAILS OF BASE PLATE



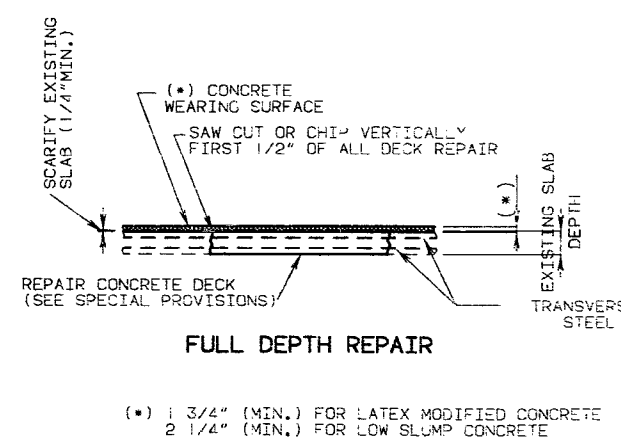
DETAIL OF SLAB EDGE REPAIR



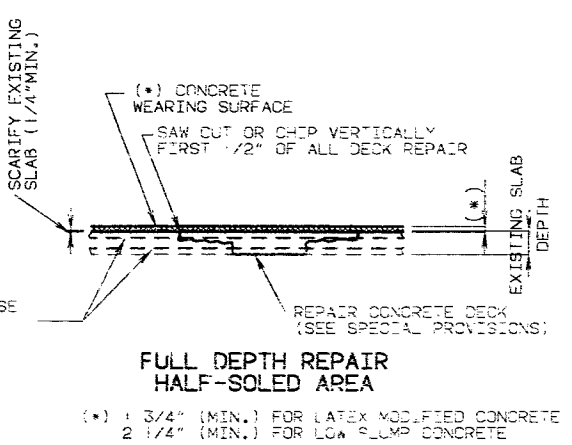
TYPICAL SECTION THRU SLAB



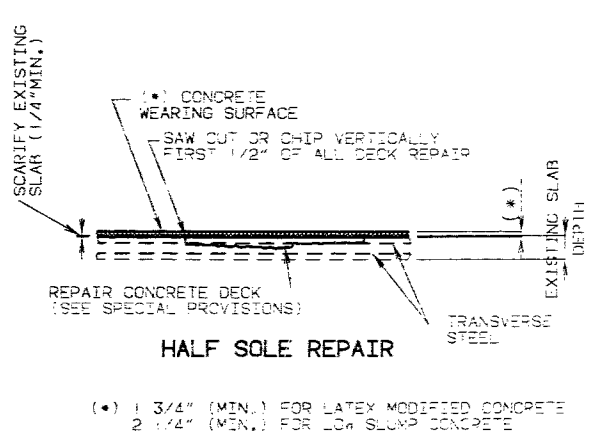
SECTION THRU JOINTS



FULL DEPTH REPAIR



FULL DEPTH REPAIR HALF-SOLED AREA



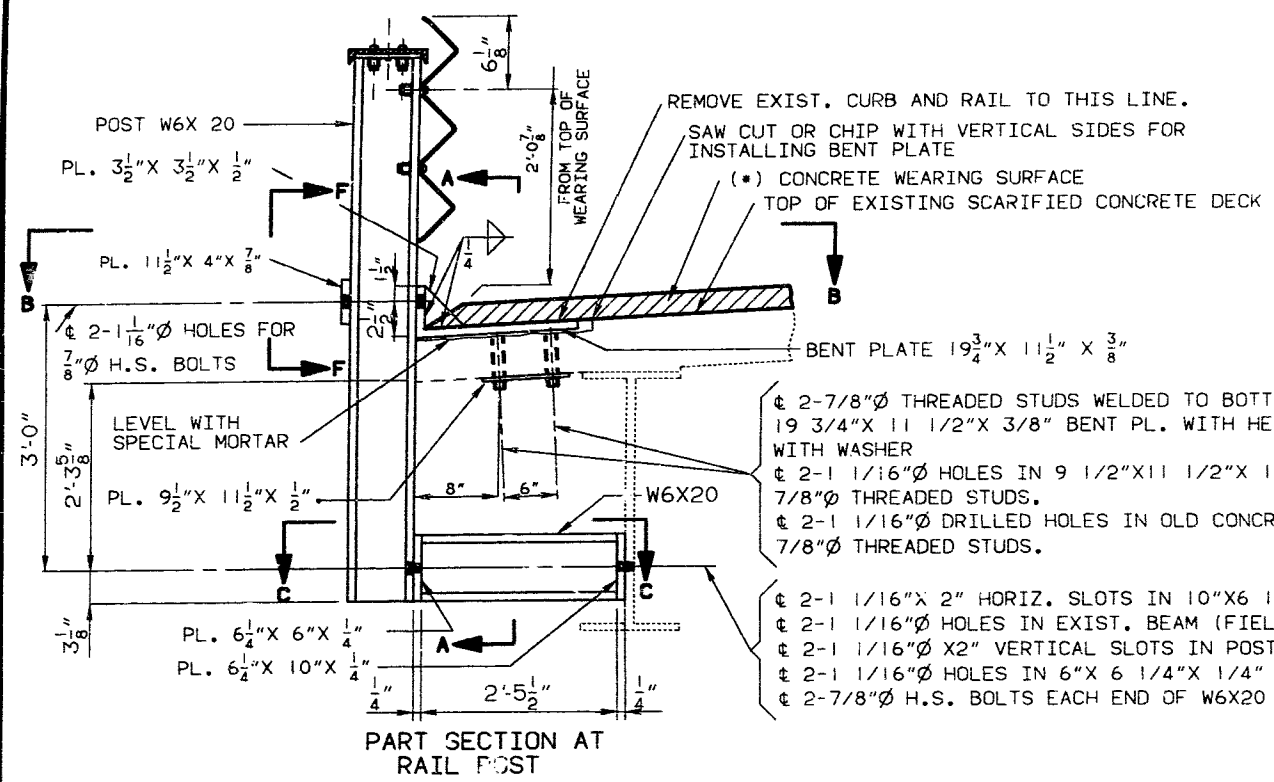
HALF SOLE REPAIR

336
 DETAILED DEC. 1989
 CHECKED DEC. 1989

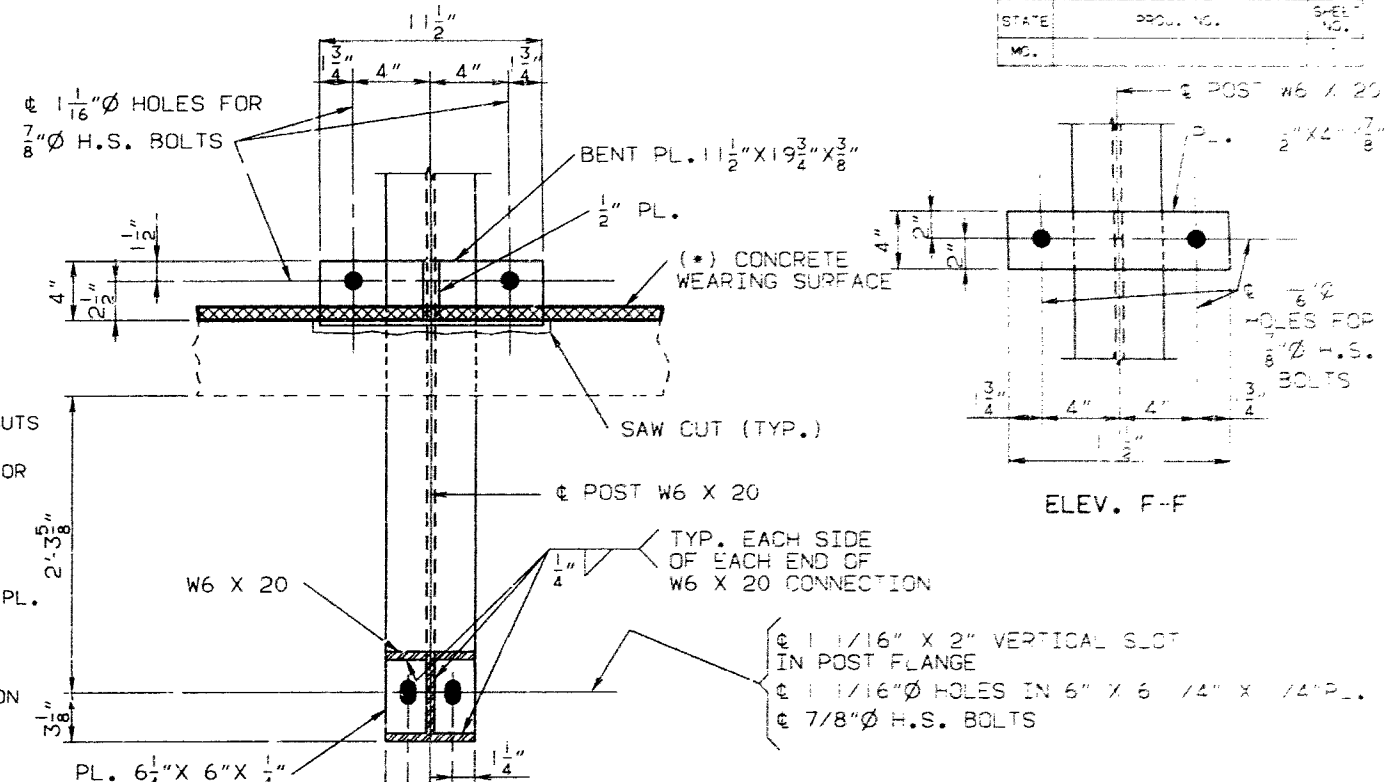
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 2 OF 3

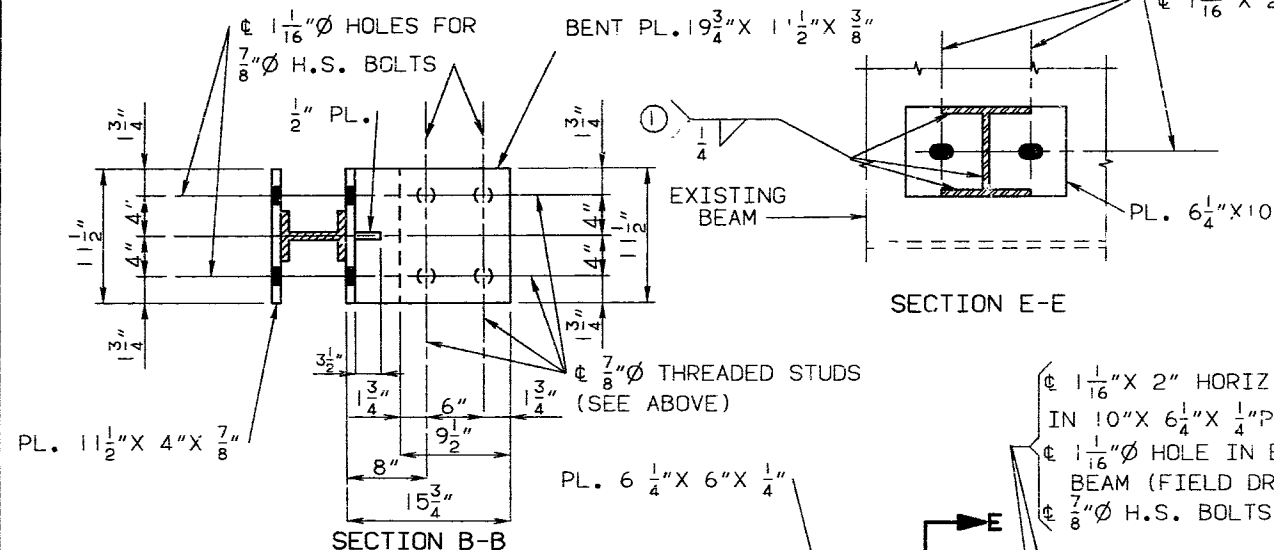
KNOX COUNTY H-771R



- ① 2-7/8" THREADED STUDS WELDED TO BOTTOM OF 19 3/4" X 11 1/2" X 3/8" BENT PL. WITH HEAVY HEX NUTS WITH WASHER
- ② 2-1 1/16" HOLES IN 9 1/2" X 11 1/2" X 1/2" PL. FOR 7/8" THREADED STUDS.
- ③ 2-1 1/16" DRILLED HOLES IN OLD CONCRETE FOR 7/8" THREADED STUDS.
- ④ 2-1 1/16" X 2" HORIZ. SLOTS IN 10" X 6 1/4" X 1/4" PL.
- ⑤ 2-1 1/16" HOLES IN EXIST. BEAM (FIELD DRILL)
- ⑥ 2-1 1/16" X 2" VERTICAL SLOTS IN POST FLANGE.
- ⑦ 2-1 1/16" HOLES IN 6" X 6 1/4" X 1/4" PL.
- ⑧ 2-7/8" H.S. BOLTS EACH END OF W6X20 CONNECTION

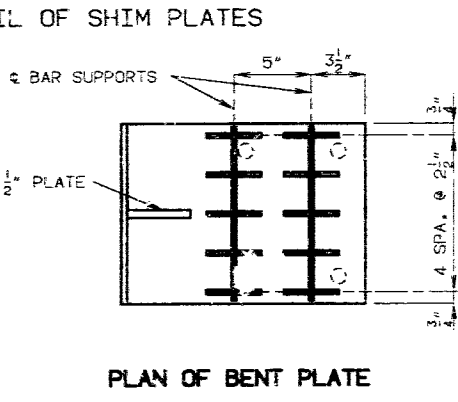
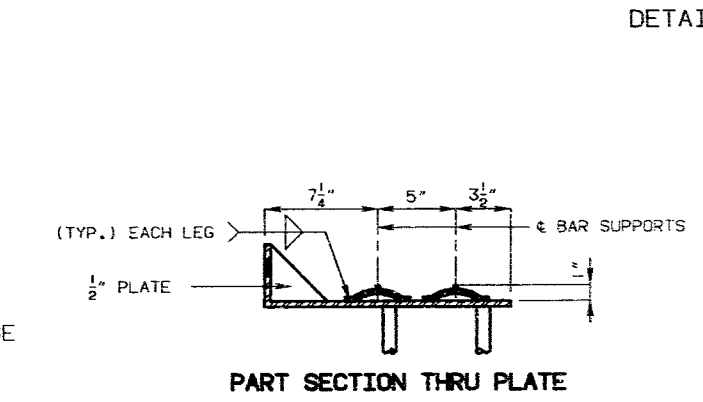
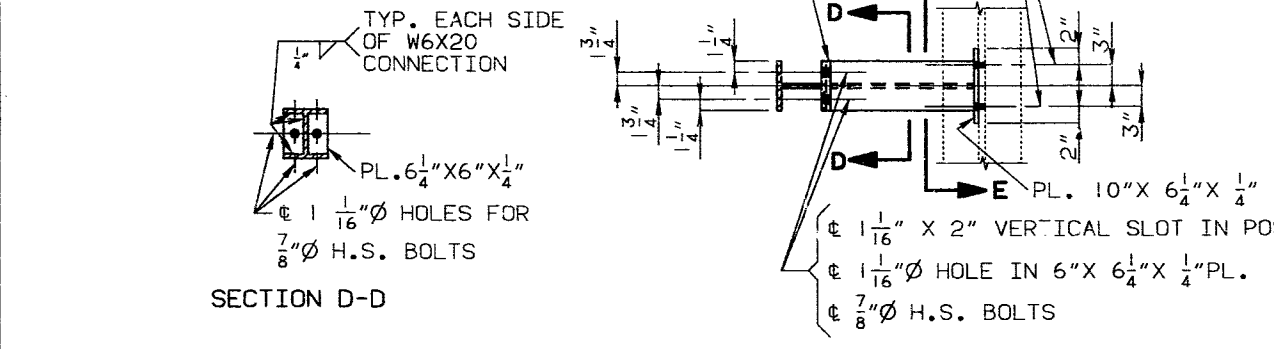
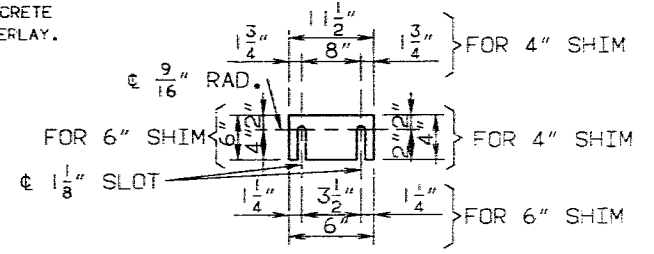


NOTE:
 SHIM PLATES 6" X 6" X 1/16" MAY BE USED BETWEEN POST W6X20 AND 6" X 6 1/4" X 1/4" PL. AND SHIM PLATES 11 1/2" X 4" X 1/16" MAY BE USED BETWEEN POST W6X20 AND 19 3/4" X 11 1/2" X 3/8" BENT PLATE AS REQUIRED FOR HORIZONTAL ALIGNMENT.
 SHIM PLATES MAY VARY IN THICKNESS FROM 1/16" TO THE THICKNESS REQUIRED, AND MAY BE USED IN MULTIPLES.
 SHIM PLATES SHALL BE GALVANIZED AFTER FABRICATION.



① TYP. EACH SIDE OF W6 X 20 CONNECTION

(*) ALT. "A" = 1 3/4" (MIN.) LATEX MODIFIED CONCRETE
 ALT. "B" = 2 1/4" (MIN.) LOW SLUMP CONCRETE OVERLAY.

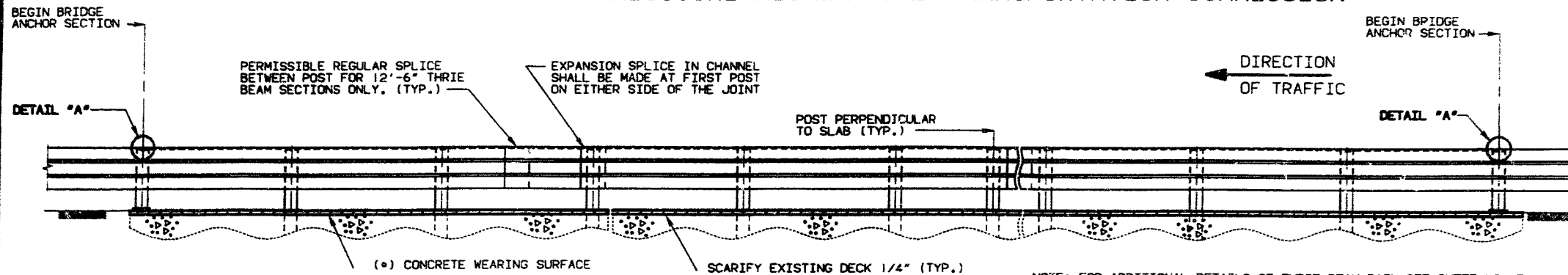


NOTE: BAR SUPPORTS SHALL BE BEAM BOLSTERS (B5) AND SHALL BE EPOXY COATED, PLASTIC COATED OR GALVANIZED.

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MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.	F-15-2(1), Sec A4B	1
SEC./SUR.	25 TWP. 62N RGE. 12W	

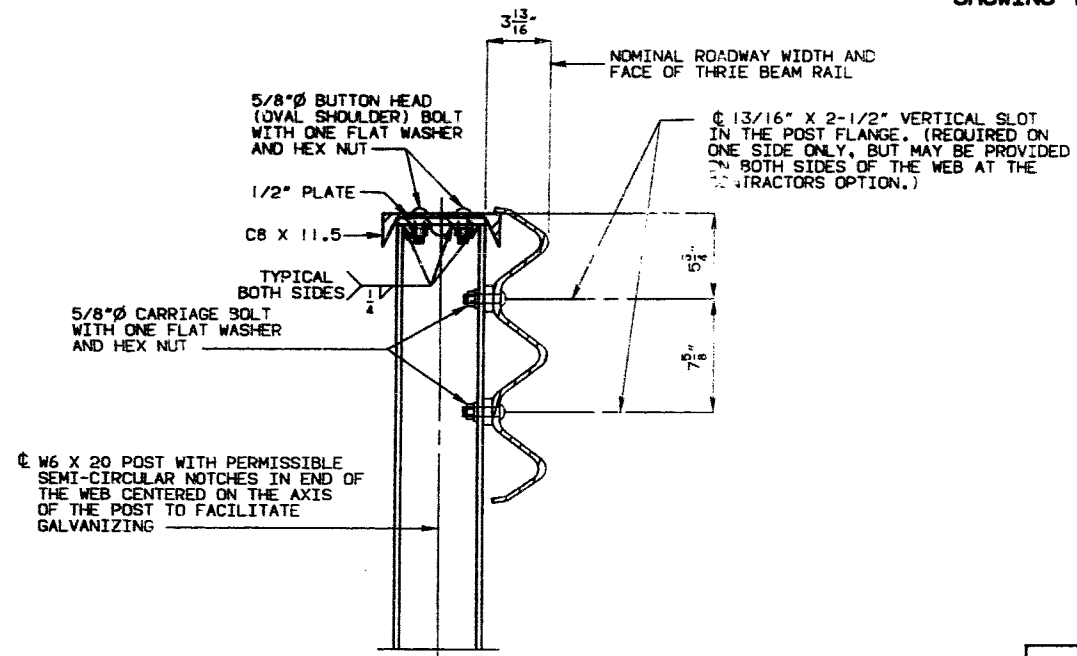


GENERAL NOTES FOR THRIE BEAM:
 DESIGN AASHTO 1989 SPECIFICATIONS.
 PANEL LENGTHS OF CHANNEL MEMBERS SHALL BE ATTACHED CONTINUOUSLY TO A MINIMUM OF FOUR POSTS AND A MAXIMUM OF SIX POSTS (EXCEPT AT THE END BENTS).
 ALL BOLTS, NUTS, WASHERS, AND PLATES ARE CONSIDERED AS PART OF THE THRIE BEAM RAIL FOR PAYMENT.
 ALL STEEL CONNECTING BOLTS AND FASTENERS FOR POSTS AND RAILING, AND ALL BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION, FOR PROTECTIVE COATING AND MATERIAL REQUIREMENT OF STEEL RAILING, SEE SECTION 1040 OF THE MO. STANDARD SPECIFICATIONS.
 RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION, AND ALIGNED ACCORDING TO SECTION 713 OF THE STANDARD SPECIFICATIONS, EXCEPT THAT THE RAIL POSTS SHALL BE ALIGNED BY THE USE OF SHIMS SO THAT IN THE FINAL ADJUSTMENT NO PART SHALL DEViate MORE THAN ONE INCH FROM TRUE HORIZONTAL ALIGNMENT. THE SHIMS SHALL BE 3" X 1-3/4" AND PLACED BETWEEN THE POST AND THRIE BEAM RAIL. THE THICKNESS OF THE SHIMS SHALL BE DETERMINED BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER BEFORE ORDERING THE MATERIAL FOR THIS WORK.

2 1/4" (MIN.) LOW SLUMP CONCRETE OVERLAY

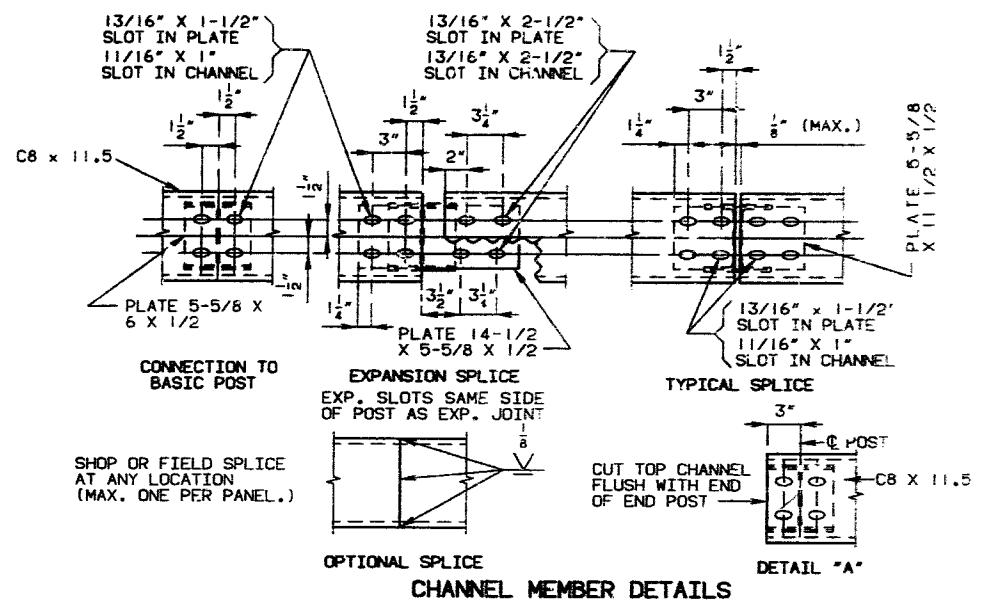
PART SECTION THRU SLAB SHOWING THRIE BEAM RAIL

NOTE: FOR ADDITIONAL DETAILS OF THRIE BEAM RAIL SEE SHEET NO. 3. FOR RAIL POST SPACING SEE SHEET NO. 2.



PART SECTION AT RAIL POST

NOTE: FOR DETAILS OF THRIE BEAM RAIL NOT SHOWN, SEE THE FOLLOWING SHEETS.

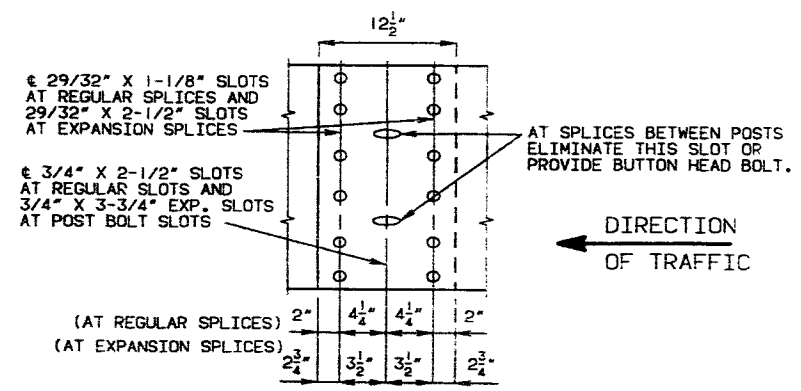


CHANNEL MEMBER DETAILS

AT THE EXPANSION SLOTS IN THE THRIE BEAM RAILS AND CHANNELS, TIGHTEN BOLTS, BACK OFF ONE-HALF TURN, AND BURR THREADS.
 USE 5/8 INCH BUTTON HEAD, OVAL SHOULDER BOLTS WITH HEX NUTS TO BE USED AT ALL SLOTS. (THICKNESS OF HEX NUTS = 3/8").
 THRIE BEAM GUARD RAIL ON THE BRIDGE SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. THE POST, POST ATTACHMENTS, CHANNELS AND CHANNEL SPLICE PLATES ARE TO BE FABRICATED FROM A-36 STEEL AND GALVANIZED.
 WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN THE BOLT HEAD AND THRIE BEAM). THEY SHALL BE RECTANGULAR IN SHAPE (3" X 1-3/4" X 3/16" MIN.) AND FLAT WITH A 1/16" X 1" SLOT, OR WHEN NECESSARY OF SUCH DESIGN TO FIT THE CONTOUR OF THE BEAM. (USE A 3" X 1-3/4" X 5/8" RECTANGULAR WASHER BETWEEN THE POST AND THE THRIE BEAM RAIL.)
 SPECIAL DRILLING OF THE THRIE BEAM MAY BE REQUIRED AT THE SPLICES. (ALL DRILLING DETAILS ARE TO BE SHOWN ON THE SHOP DRAWINGS.)
 FABRICATION OF THE STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE MO. STANDARD SPECIFICATIONS.

ESTIMATED QUANTITIES		
ITEMS		TOTAL
CURB REMOVAL FOR THRIE BEAM INSTALLATION	LIN. FT.	313
ASPHALT REMOVAL (BRIDGES)	SQ. FT.	3438
SUBSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.	14
SUPERSTRUCTURE REPAIR (UNFORMED) SEE SPECIAL PROVISIONS	SQ. FT.	57
REPAIRING CONCRETE DECK (HALF-SOLING)	SQ. FT.	132
FULL DEPTH REPAIR	SQ. FT.	398
SLAB EDGE REPAIR (BRIDGES)	LIN. FT.	127
CONCRETE WEARING SURFACE, SEE SPECIAL PROVISIONS (Low Slump)	SQ. YD.	437
BRIDGE GUARD RAIL (THRIE BEAM)	LIN. FT.	313

NOTE: OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.
 MAINTAIN ONE LANE OF TRAFFIC OVER STRUCTURE DURING CONSTRUCTION. (SEE ROADWAY PLANS)
 ROADWAY SURFACING ADJACENT TO BRIDGE ENDS TO MATCH EXISTING CONCRETE DECK PLUS 2"± (ROADWAY ITEM).
 THE CONTRACTOR SHALL USE ONE OF THE RESIN ANCHOR SYSTEMS LISTED IN THE JOB SPECIAL PROVISIONS FOR BRIDGE GUARD RAIL.
 THESE ANCHOR SYSTEMS SHALL BE GALVANIZED AND BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS EXCEPT THAT THREADED ROD STUDS SHALL EXTEND 3" ABOVE TOP OF EXISTING CONCRETE.
 COST OF FURNISHING AND INSTALLING THE ANCHOR SYSTEMS COMPLETE IN PLACE SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF BRIDGE RAIL (THRIE BEAM)



THRIE BEAM RAIL SPLICE DETAILS

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

REPAIRS TO BRIDGE OVER ROCK CREEK

STATE ROAD FROM EDINA SOUTH
 ABOUT 1.5 MILES S.E. OF EDINA
 PROJECT NO. F-15-2(1), Sec A4B STA. 681+02.5 ±
 JOB NO. 3P 305-15 RTE. 15

KNOX COUNTY

DATE 1/9/90

STD. 606.23
H-771P

REVISED OCT. 1989
 REHAB (T-BEAM) SEPT. 1985

DESIGNED DEC. 1989
 DETAILED DEC. 1989
 CHECKED DEC. 1989

SHEET NO. 1A OF 3

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