

FED. ROAD DIST. NO.	STATE	FED. <sup>Order</sup> PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	MO.	5-45874 (SC)	19		



Note: All piling shall be of reinforced concrete and shall conform with details and notes on Standard P-3.R.I.  
Estimated quantities shown on plans are based on the following length: 7 @ 30'-0". This indicated length is approximate only. Proper length to give required bearing and/or penetration will be authorized by the Engineer.  
All piles shall be driven to sustain a load of at least 30 ton per pile and with tips to at least Elev. 245.0.  
One concrete test pile, shall be driven in permanent position for Bent No. 1.



# BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams	No.	Size	Length	Mark	Location
End Brants No. 1 & 2						Superstructure				
8	#6	25'-9"	H1	Br. & Bkwl.		3.0	#3	3'-0"	C1	Curb
16	#6	27'-9"	H2	Beam		3.0	#3	4'-6"	C2	"
20	#3	8'-3"	H3	Wing		18	#6	19'-9"	C3	"
4	#4	26'-0"	H4	Backwall		82	#3	25'-9"	S1	Slab
4	#5	14'-9"	H5	Wing		40	#3	28'-0"	S2	"
8	#6	11'-3"	T1	"		102	#5	19'-6"	S3	"
46	#4	9'-9"	U3	Beam	2-H5 CUT 4	5-V4 CUT 10				
28	#4	6'-6"	U4	"						
104	#4	3'-9"	V3	Backwall						
10	#4	8'-9"	V4	Wing						
4	#4	5'-9"	V5	"						
					T1					
					H2					

Design Specifications A.A.S.H.O.-1949.  
Loading H15-44  
Class "B" Concrete Stress 4,000 psi  
Reinforcing Steel Stress 18,000 psi  
Structural Steel Stress 13,000 psi  
All concrete shall be Class "B".  
Rivets 3/4" holes 3/4" except in handrail where rivets shall be 5/8" holes 3/4". Field connections shall be riveted except as noted in the handrail details, or if the Contractor desires to eliminate all field riveting on this project, he may substitute 3/4" turned bolts for connections of diaphragms and handrail brackets to beams, and for connections of handrails past to handrail brackets. Rafter head bolts will be required for field connections of 6" Ship Channel handrail. See Special Provisions. Heads and nuts of turned bolts shall be American Standard Heavy.  
Paint: Shop, none; field, contract. surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by the Contractor. Red lead required shall be furnished by the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for fabricated Structural Steel.

ESTIMATED QUANTITIES				
Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu.Yds.	50		50
Class "B" Concrete	Cu.Yds.	20.3	23.4	43.7
Reinforcing Steel	Lbs.	2,170	6,210	8,380
Fabricated Structural Steel	Lbs.		17,970	17,970
Gray Iron Alloy Castings	Lbs.		430	430
Concrete Piles in Place	Lin. Ft.	189		189
Concrete Pile Cut-offs	Lin. Ft.	21		21
Concrete Test Piles	Lin. Ft.	40		40
Class 2 Excavation for Structures	Cu.Yd.	4		4

Note: Excavation for bridge made above Elev. 266.00 will be paid for as Class 1 Excavation for Structures.  
Excavation for bridge made below Elev. 266.00 will be paid for as Class 2 Excavation for Structure.

B.M. 35 Elev. 269.62 N. in R. 12" Ash 50' Rt. Sta. 494 + 65.

STATE ROAD FROM GIDEON EAST  
ABOUT 7 MILES S.E. OF GIDEON  
PROJECT NO. S-456 (S) (SC) STA. 493+34

NEW MADRID COUNTY

SUBMITTED BY J. W. Enelow DATE 4/9/1952  
 APPROVED BY Rev. M. Whitten DATE 4/3/1952

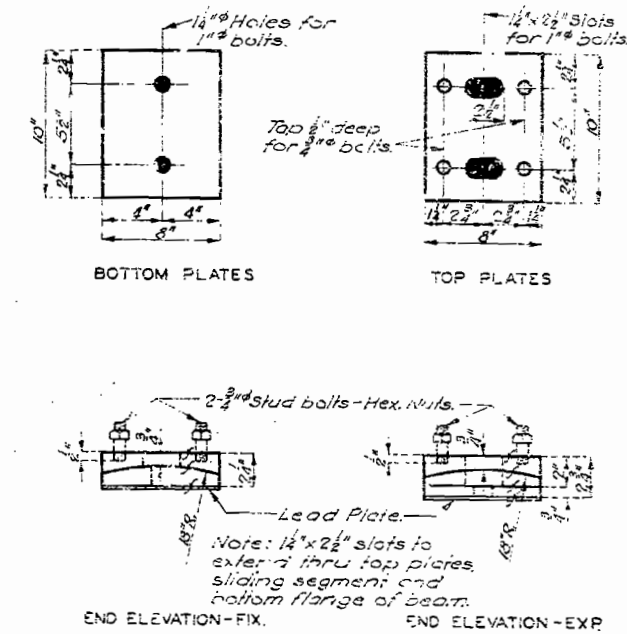
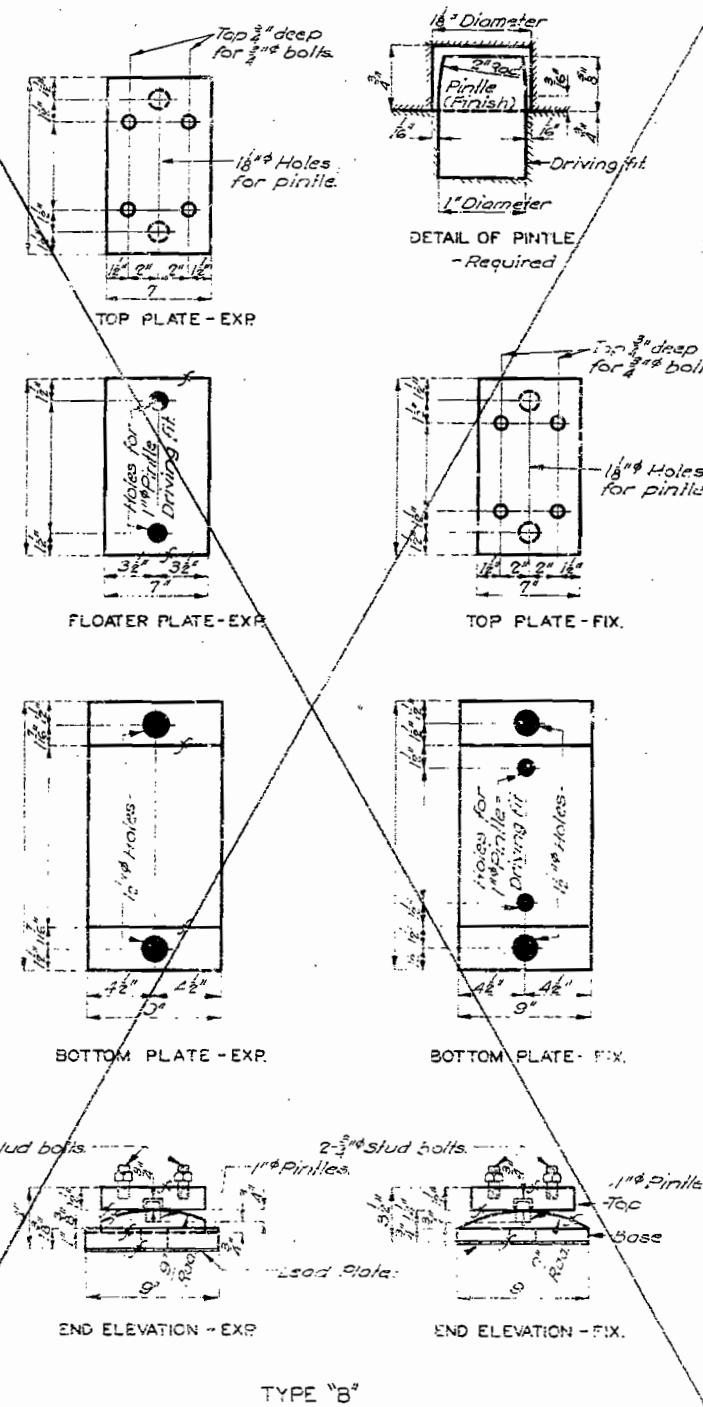
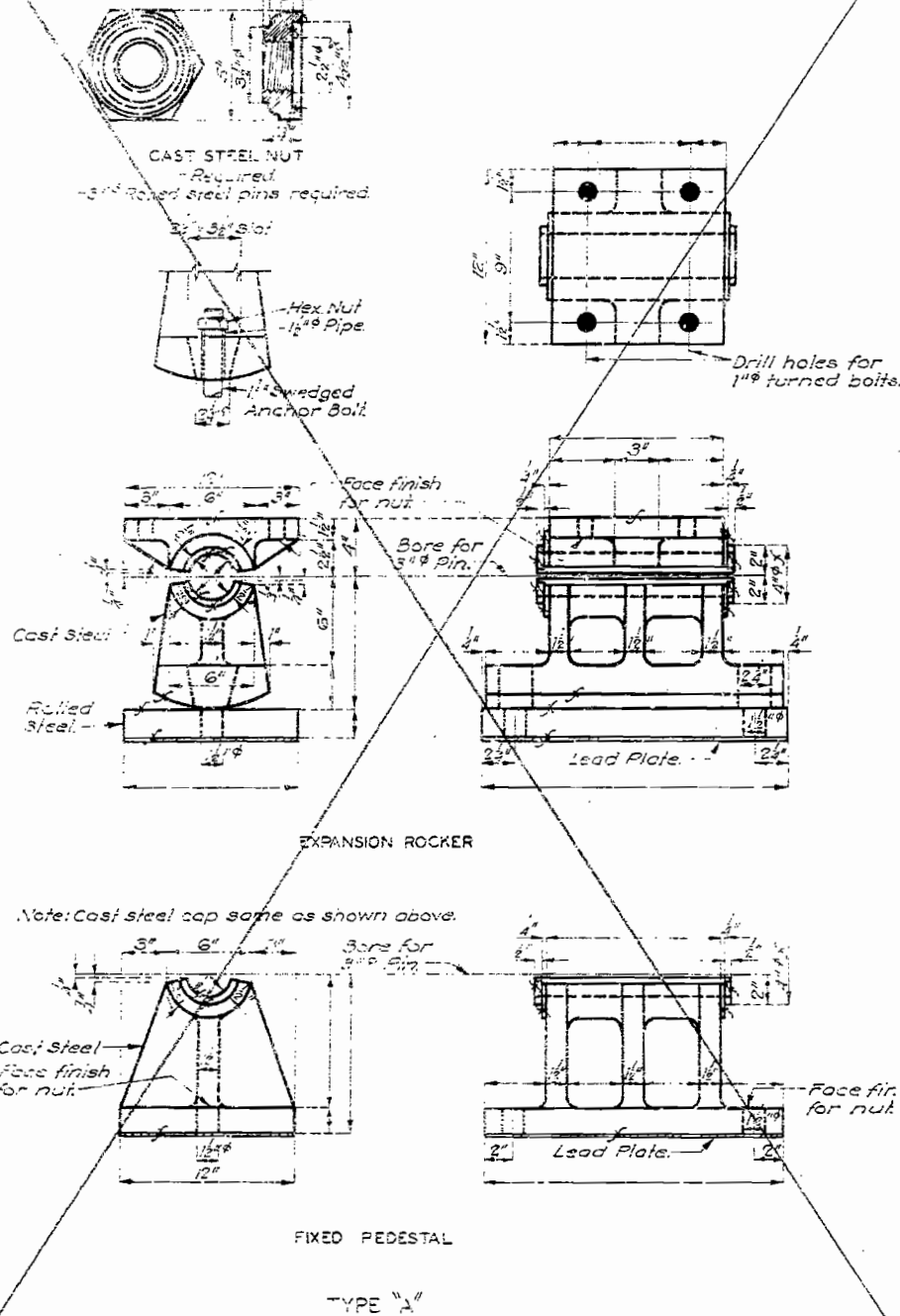
STD.P3R1
STD.C-110R3
L-457



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# MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
5	MO	5-456(5)	10	10



Required: 4 Sets

Each set consists of 5 plates each.

TYPE "C"

## GENERAL NOTES:

Finish all surfaces marked *S*.

All fillets for Type "A" castings shall have 3" radius.

Material for Type "A" castings shall be Cast steel, except as noted. Material for Type "B" and Type "C" castings shall be either gray iron alloy or cast steel, but payment will be made as Gray Iron Alloy.

All pins, bolts, nuts, pipe sleeves, roller steel, and pintles shall be paid for as Structural Steel.

Anchor bolts for Type "A" and Type "B" castings shall be 1/2" swedged bolts with Hex nuts and shall extend 10" into concrete.

Anchor bolts for Type "C" castings shall be 1/2" swedged bolts, no heads or nuts and shall extend 10" into concrete. Top ends of anchor bolts shall be above the top of castings but not higher than 1" below the top surface of the bottom flange of beam.

Lead plates under bearing shall be approximately 3" thickness and weigh 6#/sq. Ft. Cost of lead plates shall be included in price bid for other items.

BRIDGE OVER DRAINAGE DITCH NO. 62

STATE ROAD FROM GIDEON EAST

ABOUT 7 MILES S.E. OF GIDEON

PROJECT NO. S-456 (5) (SC) STA. 493+34

NEW MADRID COUNTY

## DETAILS OF BEARING CASTINGS

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

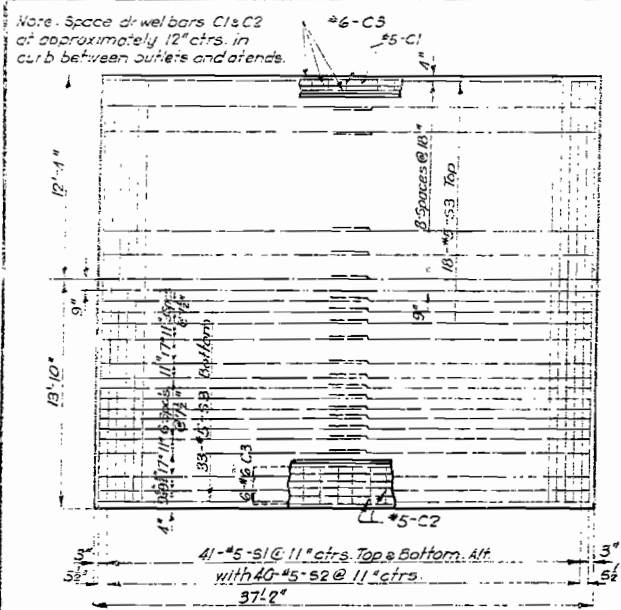
Sheet No. 3 of 4

L-457

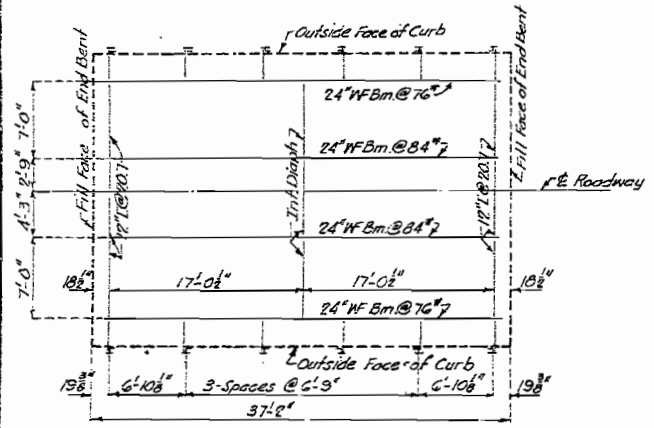
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MISSOURI STATE HIGHWAY DEPARTMENT

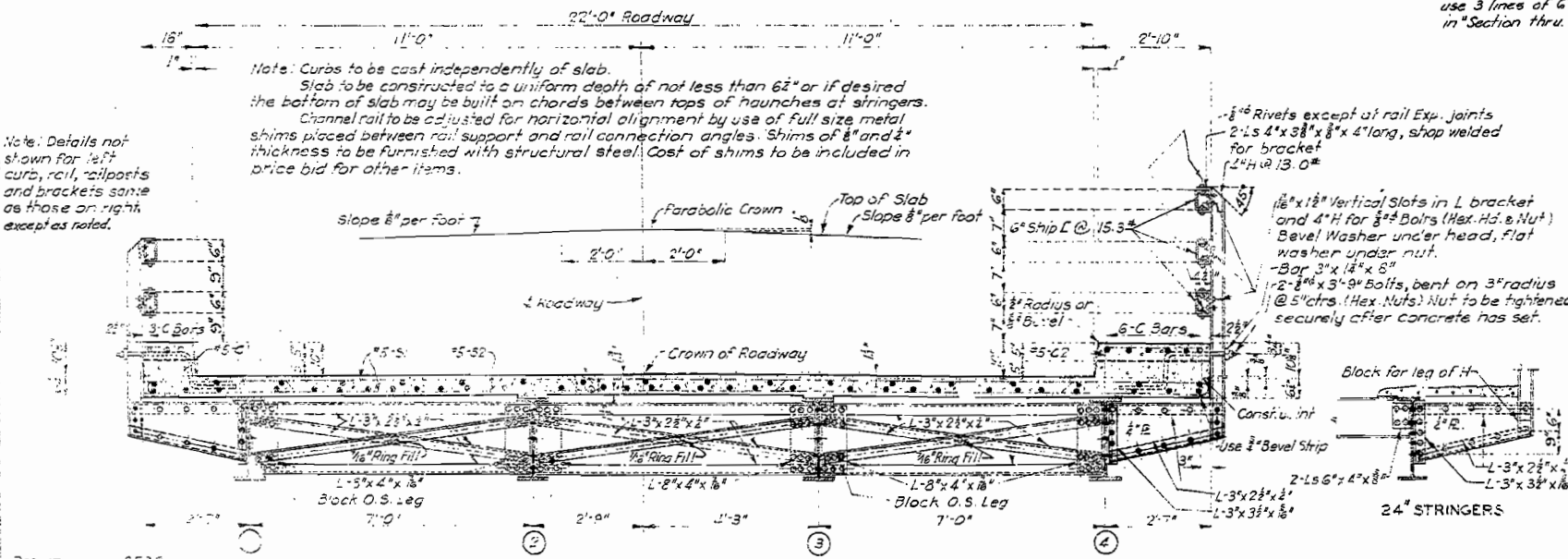
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	5-436(7) (SC)	19		



PLAN OF SLAB SHOWING REINFORCING

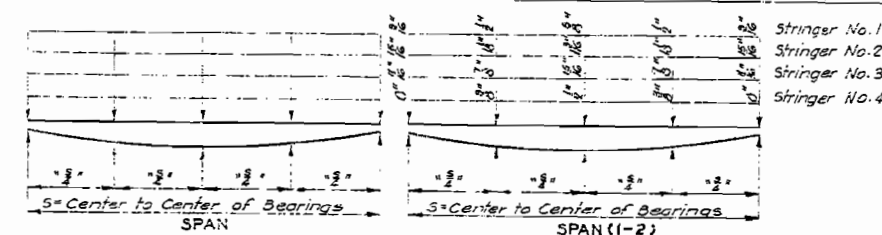


PLAN OF STRUCTURAL STEEL



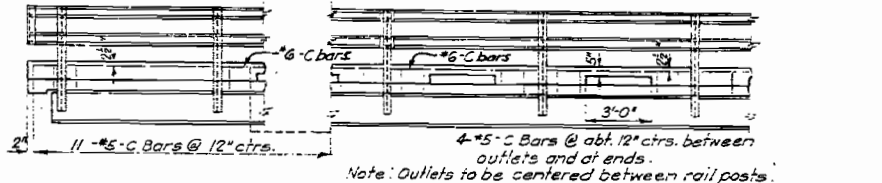
SECTION THRU SPANS REQUIRING 24" 27" & 30" STRINGERS

SECTIONS AT ENDS OF SPANS

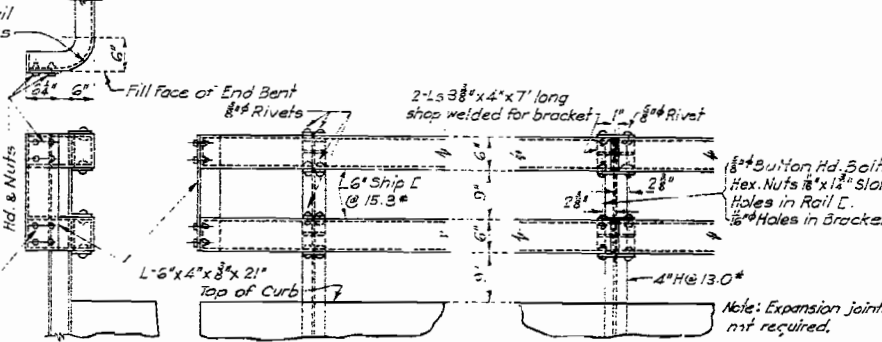


Note: Slab shall be built parallel to grade and to a minimum thickness of 64". Dead load deflection, vertical curve (if any) crown and any difference in depth of stringers shall be taken care of by haunching to stringers by the amounts shown above. This additional concrete is included in "Estimated Quantities".

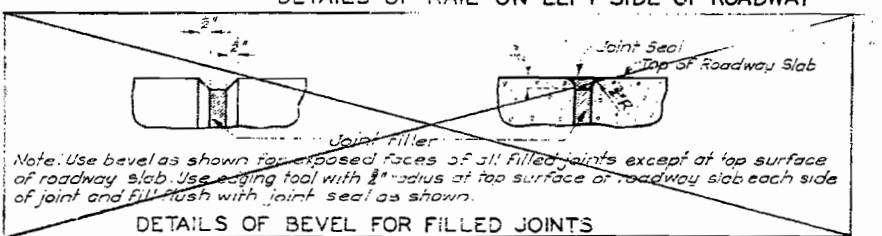
SLAB HAUNCHING DIAGRAMS



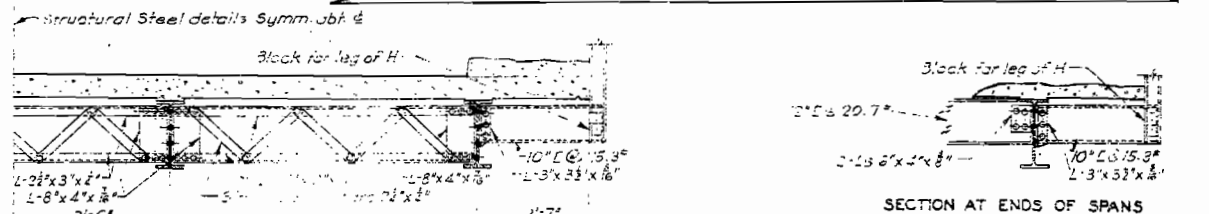
TYPICAL CURB DETAILS



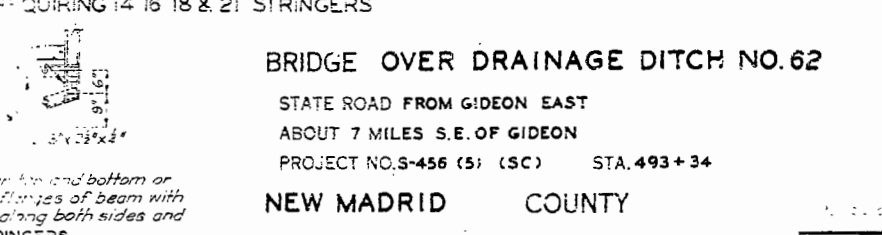
DETAILS OF RAIL ON LEFT SIDE OF ROADWAY



DETAILS OF BEVEL FOR FILLED JOINTS



PART SECTION THRU SPANS REQUIRING 14" 16" 18" & 21" STRINGERS



BRIDGE OVER DRAINAGE DITCH NO. 62

STATE ROAD FROM GIDEON EAST  
ABOUT 7 MILES S.E. OF GIDEON  
PROJECT NO. 5-456 (5) (SC) STA. 493+34  
NEW MADRID COUNTY

Drawn 9528j  
Traced March 1956 By J.T.F.-B.R.G.  
Checked Mar. 1952 By C.S.A.

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

Sheet No. 4 of 4.

L-457

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All piles shall be driven to sustain a load of at least 30 ton per pile and with tips to at least Elev. 245.0.

GENERAL NOTES:

Design Specifications A.A.S.H.O. - 1949.  
Loading H18-44  
Class "B" Concrete Stress 1,000 psi  
Reinforcing Steel Stress 18,000 psi  
Structural Steel Stress 18,000 psi  
All concrete shall be Class "B."  
Rivets  $\frac{3}{4}$ " & Holes  $\frac{1}{2}$ " except in handrail where rivets shall be  $\frac{3}{4}$ " & holes  $\frac{1}{2}$ ". Field connections shall be riveted except as noted in the handrail details, or if the Contractor desires to eliminate all field riveting on this project, he may substitute  $\frac{3}{4}$ " turned bolts for connections of diaphragms and handrail brackets to beams, and for connections of handrail post to handrail brackets. Buffon head bolts will be required for field connections of G-Strip Channel handrail. See Special Provisions. Heads and nuts of turned bolts shall be American Standard Heavy.

Paint: Shop, none; Field, contract surfaces of bolted field connections are coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by the Contractor. Red lead required shall be furnished by the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for fabricated Structural Steel.

Note: Excavation for bridge made above Elev. 266.00 will be paid for as Class 1 Excavation for Structures.  
Excavation for bridge made below Elev. 266.00 will be paid for as Class 2 Excavation for Structure.

B.M. <sup>45</sup> Elev. 269.62 N. in R. 12" Ash 50' Rt. Sta. 494 + 65.

BRIDGE OVER DRAINAGE DITCH NO. 62

STATE ROAD FROM GIDEON EAST

ABOUT 7 MILES S.E. OF GIDEON

PROJECT NO. S-456 (5) (SC) STA. 493+34

NEW MADRID COUNTY

SUBMITTED BY V. W. Enelow DATE 4/9/1952

DATE 4/3/1952

STD.P3R1

NY 100-1108

1457

Drawn Mar. 1952 by E.R.G.  
Checked Mar 1952 by C.S.A.

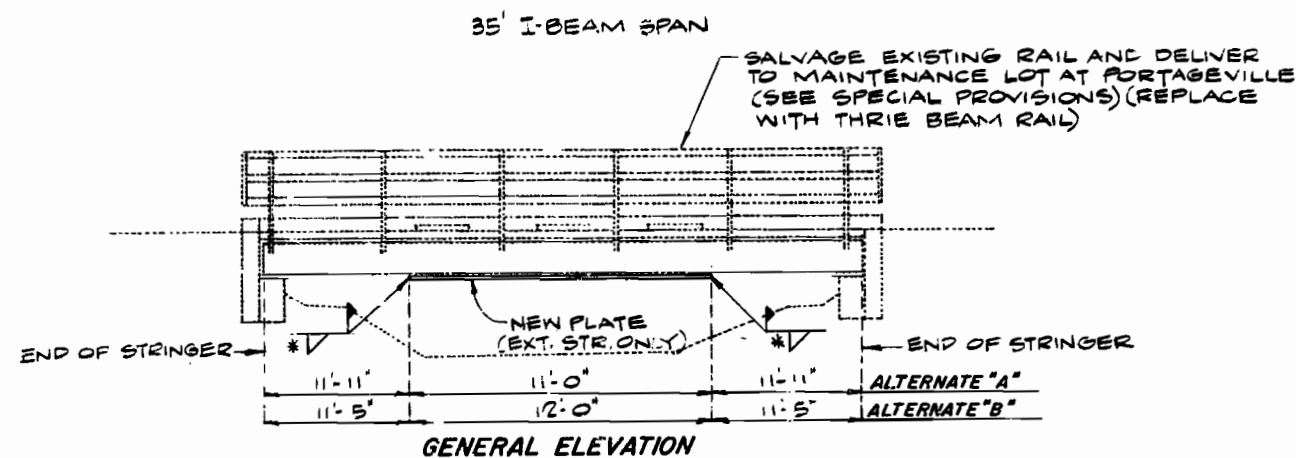
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Sheet No. 1A of 1.

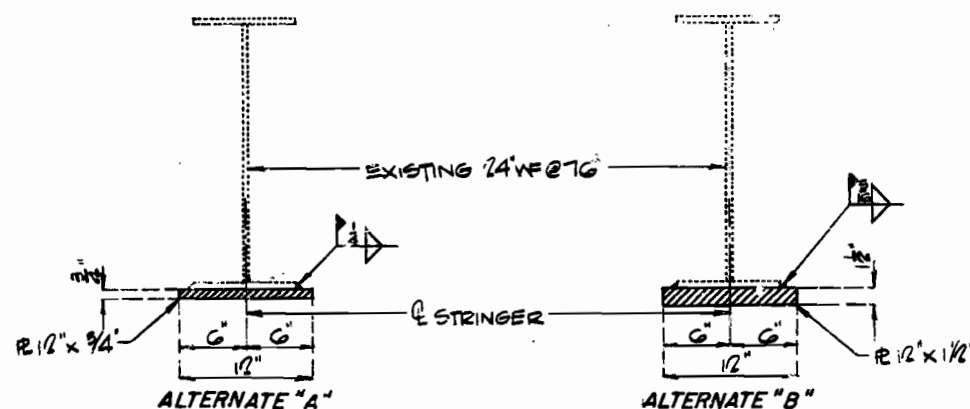


# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO.
MO	RS-1246(4)	1
SEC / SUR	19 & 30 W P 21 N	RGE 12 E



\*  $\frac{5}{16}$ " FOR  $\frac{1}{2}$ " PLATE  
 \*  $\frac{1}{4}$ " FOR  $\frac{3}{4}$ " PLATE



NOTE: FOR APPLICATION RATES OF POLYMER MODIFIED ASPHALT AND COVER AGGREGATE, SEE SHEET NO. 2.

## GENERAL NOTES:

DESIGN SPECIFICATIONS:  
 A.A.S.H.T.O. - 1989

DESIGN LOADING:

1987 MISSOURI LEGAL LOADS  
 NO FUTURE WEARING SURFACE

DESIGN UNIT STRESSES:

STRUCTURAL CARBON STEEL  $f_s = 10,000$  P.S.I.

PAINT:

SYSTEM B IN ACCORDANCE WITH SECTION 712.12 AND 712.13. COLOR OF FINAL FIELD COAT SHALL BE ALUMINUM. (SEE SPECIAL PROVISIONS)

OLD AND NEW WORK:

OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

DIMENSIONS:

LONGITUDINAL DIMENSIONS ARE BASED ON THE ORIGINAL DESIGN PLANS. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD BEFORE ORDERING NEW STEEL.

TRAFFIC:

MAINTAIN ONE LANE OF TRAFFIC DURING CONSTRUCTION. (SEE TRAFFIC CONTROL PLANS)

STRINGER SUPPORT:

THE EXISTING STRINGERS SHALL BE LIFTED  $\frac{1}{2}$ " AT MIDSPAN AND SUPPORTED DURING WELDING OF NEW STEEL PLATES WHEN STRENGTHENING EXISTING STRINGERS AS SHOWN FOR ALT. "A". TEMPORARY SUPPORTS MUST BE CAPABLE OF SAFELY SUPPORTING APPROXIMATELY 19 TONS<sup>(1)</sup> PER GIRDER. NO LIFTING OR SUPPORT OF EXISTING STRINGERS SHALL BE REQUIRED FOR ALT. "B". (SEE SPECIAL PROVISIONS).

<sup>(1)</sup> (Does not include any traffic load)

ESTIMATED QUANTITIES		
ITEM		TOTAL
REMOVAL AND STORAGE OF EXISTING BRIDGE RAIL	LIN. FT.	74
ASPHALT REMOVAL (BRIDGES)	SQ. FT.	818
MODIFIED DECK REPAIR	SQ. FT.	8
ASPHALT CEMENT (ASPHALTIC CONCRETE) 60-10 OR AC10	TON	0.6
MINERAL AGGREGATE (ASPHALTIC CONCRETE) TYPE A MIX	TON	11
POLYMER MODIFIED ASPHALT (SEAL COAT)	GAL.	40
COVER AGGREGATE (SEE SPECIAL PROVISIONS)	TON	?
SLAB EDGE REPAIR (BRIDGES)	LIN. FT.	6
( ) STRENGTHENING EXISTING STRINGERS *	LUMP SUM	1
BRIDGE GUARD RAIL (THREE BEAM)	LIN. FT.	68
CURB REMOVAL FOR THREE BEAM INSTALLATION	LIN. FT.	74
Bridge Anchor Section (Three Beam)	Each	4

\* SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF STRENGTHENING THE EXISTING EXTERIOR STRINGERS. ALTERNATE "A" SHALL INCLUDE LIFTING AND SUPPORTING EXISTING EXTERIOR STRINGERS DURING WELDING OF NEW STEEL PLATES. ALTERNATE "B" SHALL NOT REQUIRE LIFT OR SUPPORT OF ANY EXISTING STRINGERS.

PAYMENT FOR LIFTING AND SUPPORTING EXISTING EXTERIOR STRINGERS (IF REQUIRED), NEW STEEL, PAINTING AND ALL INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LUMP SUM FOR STRENGTHENING EXISTING STRINGERS.

## REPAIRS TO BRIDGE OVER DRAINAGE DITCH NO. 62

STATE ROAD FROM GIDEON TO PORTAGEVILLE

ABOUT 6 MILES EAST OF GIDEON

PROJECT NO. RS-1246(4)

STA. 493+34

JOB NO. 105 318- 162

RTE. 162

NEW MADRID

COUNTY

DATE 11/6/89

STD.
STD. 606.00
L-457R

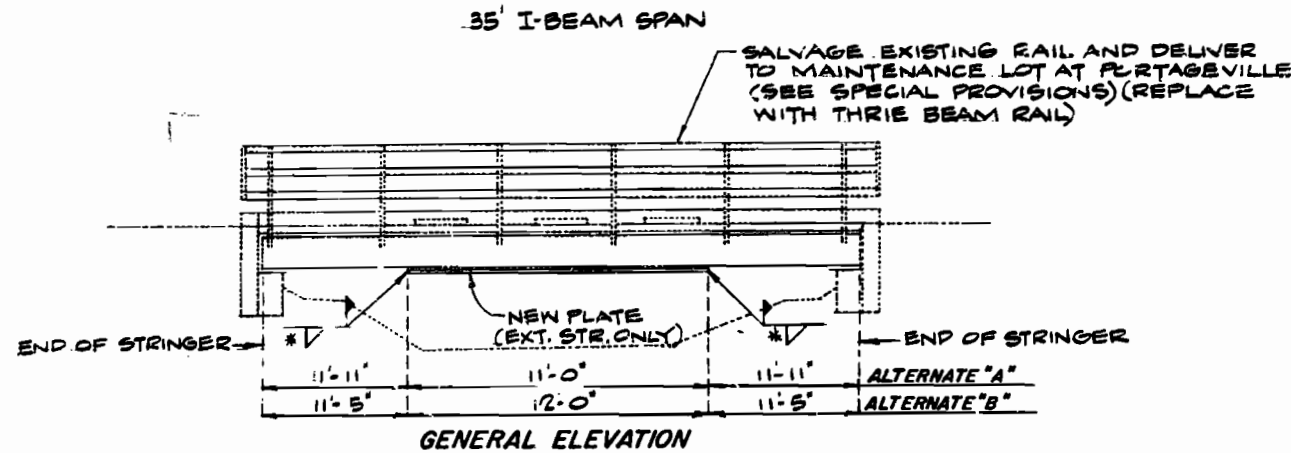
DESIGNED JUNE 1987  
 DETAILED JUNE 1987  
 CHECKED JUNE 1987

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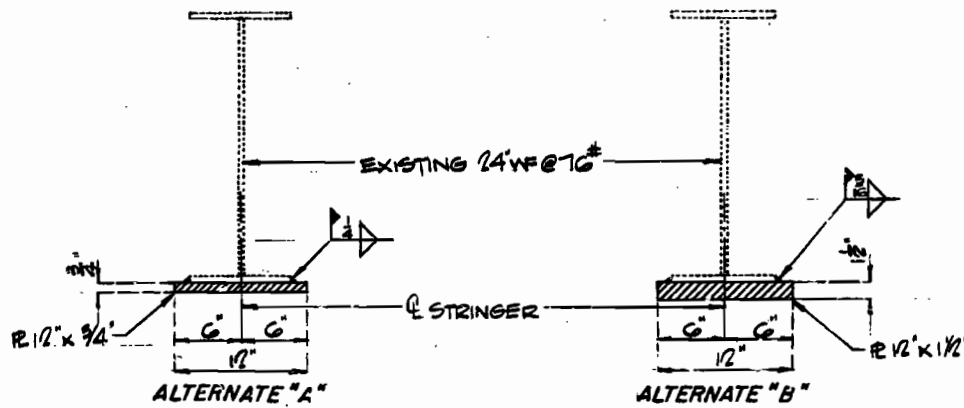
Sheet No. 1 of 4.

# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO	RS-1246(4)	1
SEC / SUR	19 330 W 21 N	RGE 12 E



\*  $\frac{5}{8}$ " FOR  $\frac{1}{2}$ " PLATE  
\*  $\frac{1}{4}$ " FOR  $\frac{3}{4}$ " PLATE



SECTION THRU EXISTING EXTERIOR STRINGERS

NOTE: FOR APPLICATION RATES OF POLYMER MODIFIED ASPHALT AND COVER AGGREGATE, SEE SHEET NO. 2.

## GENERAL NOTES:

- DESIGN SPECIFICATIONS: A.A.S.H.T.O. - 1989
- DESIGN LOADING: 1987 MISSOURI LEGAL LOADS  
NO FUTURE WEARING SURFACE
- DESIGN UNIT STRESSES: STRUCTURAL CARBON STEEL  $f_s = 10,000$  P.S.I.
- PAINT: SYSTEM B IN ACCORDANCE WITH SECTION 712.12 AND 712.13. COLOR OF FINAL FIELD COAT SHALL BE ALUMINUM. (SEE SPECIAL PROVISIONS)  
OLD AND NEW WORK  
OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.
- DIMENSIONS: LONGITUDINAL DIMENSIONS ARE BASED ON THE ORIGINAL DESIGN PLANS. ALL DIMENSIONS SHALL BE VERIFIED IN FIELD BEFORE ORDERING NEW STEEL.
- TRAFFIC: MAINTAIN ONE LANE OF TRAFFIC DURING CONSTRUCTION. (SEE TRAFFIC CONTROL PLANS)
- STRINGER SUPPORT: THE EXISTING STRINGERS SHALL BE LIFTED  $\frac{1}{2}$ " AT MIDSPAN AND SUPPORTED DURING WELDING OF NEW STEEL PLATES WHEN STRENGTHENING EXISTING STRINGERS AS SHOWN FOR ALT. "A". TEMPORARY SUPPORTS MUST BE CAPABLE OF SAFELY SUPPORTING APPROXIMATELY 19 TONS PER GIRDER. NO LIFTING OR SUPPORT OF EXISTING STRINGERS SHALL BE REQUIRED FOR ALT. "B". (SEE SPECIAL PROVISIONS).

① (Does not include any traffic load)

ESTIMATED QUANTITIES		
ITEM		TOTAL
REMOVAL AND STORAGE OF EXISTING BRIDGE RAIL	LIN. FT.	74
ASPHALT REMOVAL (BRIDGES)	SQ. FT.	818
MODIFIED DECK REPAIR	SQ. FT.	8
ASPHALT CEMENT (ASPHALTIC CONCRETE) 60-70 OR AC 10	TON	0.6
MINERAL AGGREGATE (ASPHALTIC CONCRETE) TYPE A MIX	TON	12
POLYMER MODIFIED ASPHALT (SEAL COAT)	GAL.	50
COVER AGGREGATE (SEE SPECIAL PROVISIONS)	TON	2
SLAB EDGE REPAIR (BRIDGES)	LIN. FT.	19
( ) STRENGTHENING EXISTING STRINGERS *	LUMP SUM	1
BRIDGE GUARD RAIL (THREE BEAM)	LIN. FT.	68
GUARD REMOVAL FOR THREE BEAM INSTALLATION	LIN. FT.	74
Bridge Anchor Section (Three Beam)	Each	4

\* SEE SPECIAL PROVISIONS FOR ALTERNATE METHODS OF STRENGTHENING THE EXISTING EXTERIOR STRINGERS. ALTERNATE "A" SHALL INCLUDE LIFTING AND SUPPORTING EXISTING EXTERIOR STRINGERS DURING WELDING OF NEW STEEL PLATES. ALTERNATE "B" SHALL NOT REQUIRE LIFTING OR SUPPORT OF ANY EXISTING STRINGERS.  
PAYMENT FOR LIFTING AND SUPPORTING EXISTING EXTERIOR STRINGERS (IF REQUIRED), NEW STEEL, PAINTING AND ALL INCIDENTALS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER LUMP SUM FOR STRENGTHENING EXISTING STRINGERS.

## REPAIRS TO BRIDGE OVER DRAINAGE DITCH NO. 62

STATE ROAD FROM GIDEON TO PORTAGEVILLE

ABOUT 6 MILES EAST OF GIDEON

PROJECT NO. RS-1246(4)

STA. 493+34

JOB NO. DS 318-162

RTE. 162

NEW MADRID

COUNTY

DATE 11/6/89

STD.
STD. 606.00
L-457R

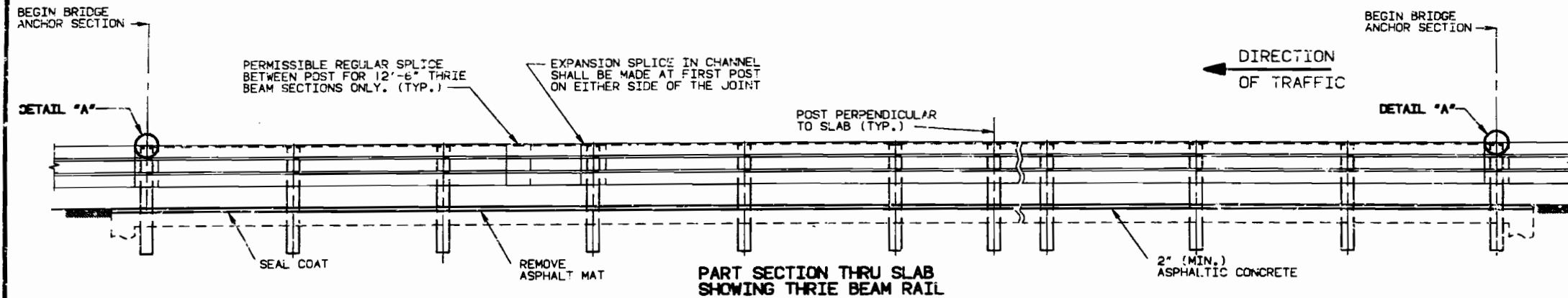
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DETAILED JUNE 1987  
CHECKED JUNE 1987

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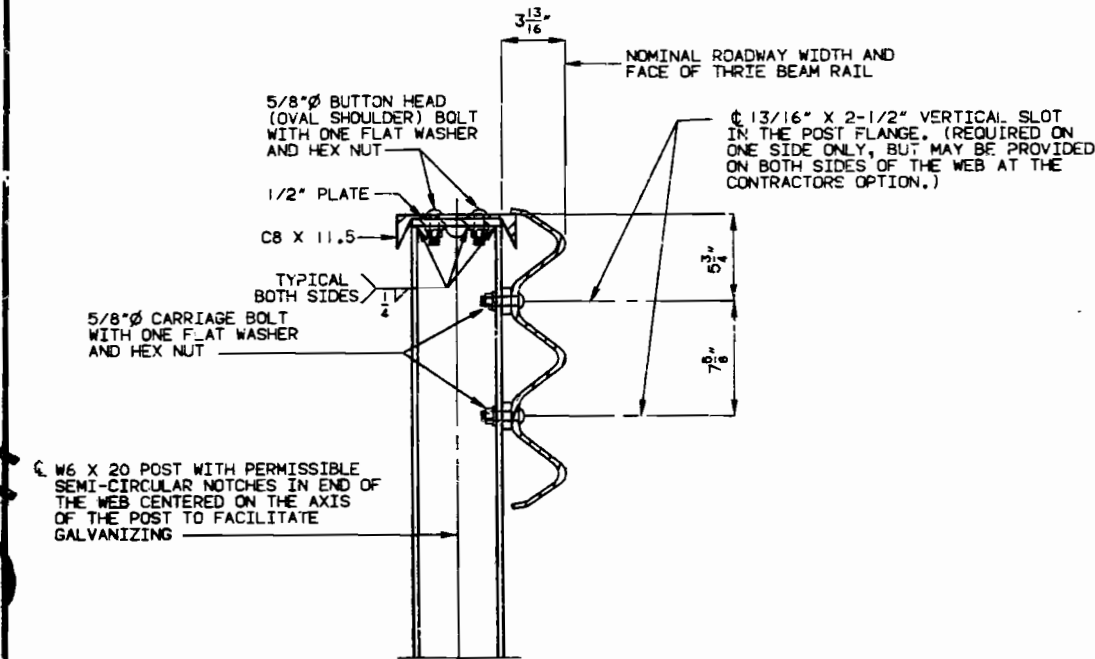
Sheet No. 1 of 4

# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

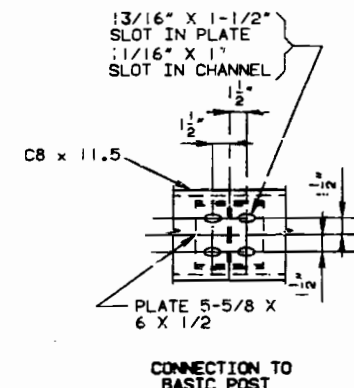
STATE	PROJ. NO.	SHEET NO.
MO.		2



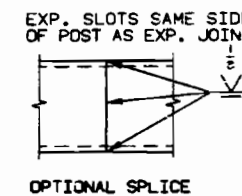
NOTE: POLYMER MODIFIED ASPHALT EMULSION, GRADE CRS-2P (POLYMER MODIFIED), SHALL BE APPLIED AT A RATE OF .35 GAL. PER SQ. YD.  
COVER AGGREGATE (SEE SPECIAL PROVISIONS) SHALL BE APPLIED AT A RATE OF .015 TON PER SQ. YD.



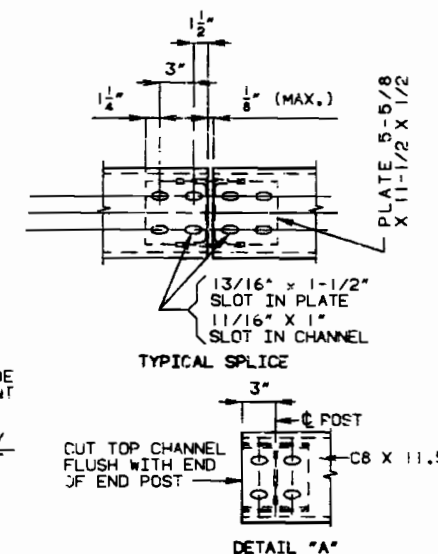
PART SECTION AT RAIL POST  
NOTE: FOR DETAILS OF THRIE BEAM RAIL NOT SHOWN, SEE THE FOLLOWING SHEETS.



SHOP OR FIELD SPLICE AT ANY LOCATION (MAX. ONE PER PANEL.)



CHANNEL MEMBER DETAILS



## GENERAL NOTES FOR THRIE BEAM RAIL:

- 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 POST, 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 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\"/>

AT THE EXPANSION SLOTS IN THE THRIE BEAM RAILS AND CHANNELS, TIGHTENED BOLTS, BACK OFF ONE-HALF TURN AND BURR THREADS.

5/8 INCH DUTTON HEAD OVAL SHOULDER BOLTS WITH HEX NUTS TO BE USED AT ALL SLOTS. (THICKNESS OF HEX NUTS SHALL BE 3/8\"/>

THRIE BEAM GUARD RAIL TO BE MADE OF STEEL AND SHALL BE 12 GAGE. THE POST, 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\"/>

SPECIAL DRILLING OF THE THRIE BEAM MAY BE REQUIRED AT THE SPLICES. (ALL DRILLING DETAILS ARE TO BE SHOWN ON THE SHOP DRAWINGS.)

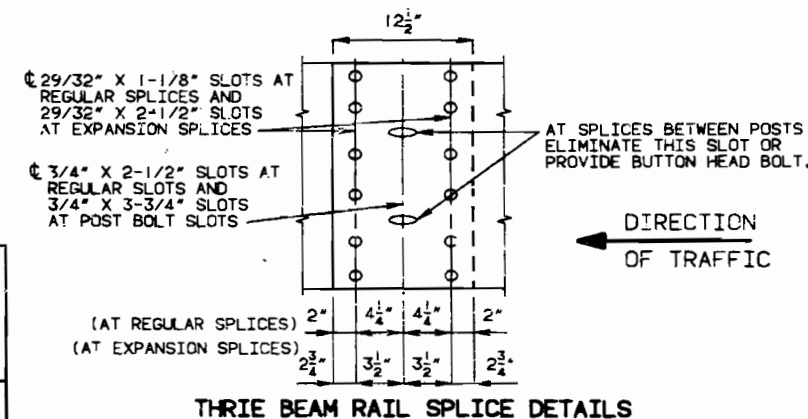
FABRICATION OF THE STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH SECTION 712 OF THE STANDARD SPECIFICATIONS.

EXPANSION SPLICES IN THE THRIE BEAM RAIL SHALL BE MADE ON STRUCTURE AT BRIDGE ENDS.

CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD BEFORE ORDERING MATERIALS.

MINIMUM LENGTH OF THRIE BEAM SECTIONS IS EQUAL TO 0.5 POST SPACE.

SP DETAILS OF BRIDGE ANCHOR SECTION SEE SHT. 4.



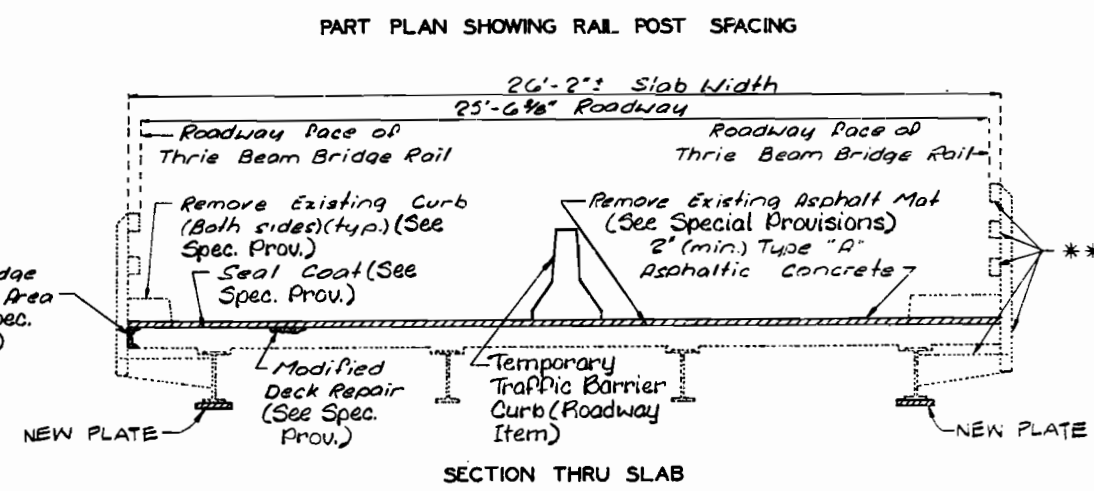
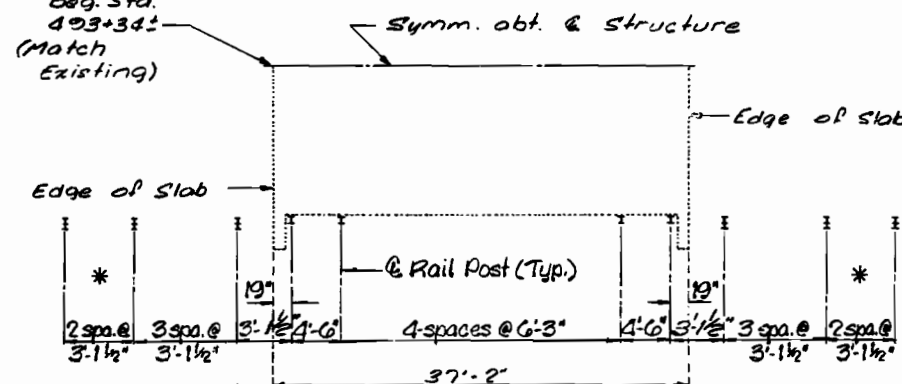
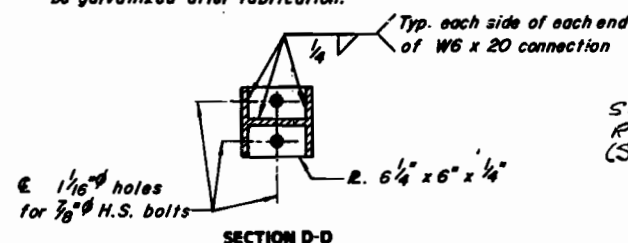
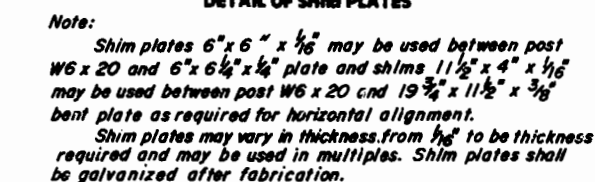
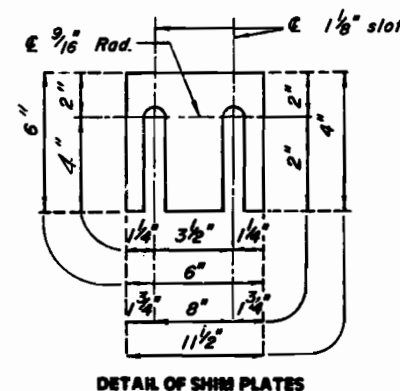
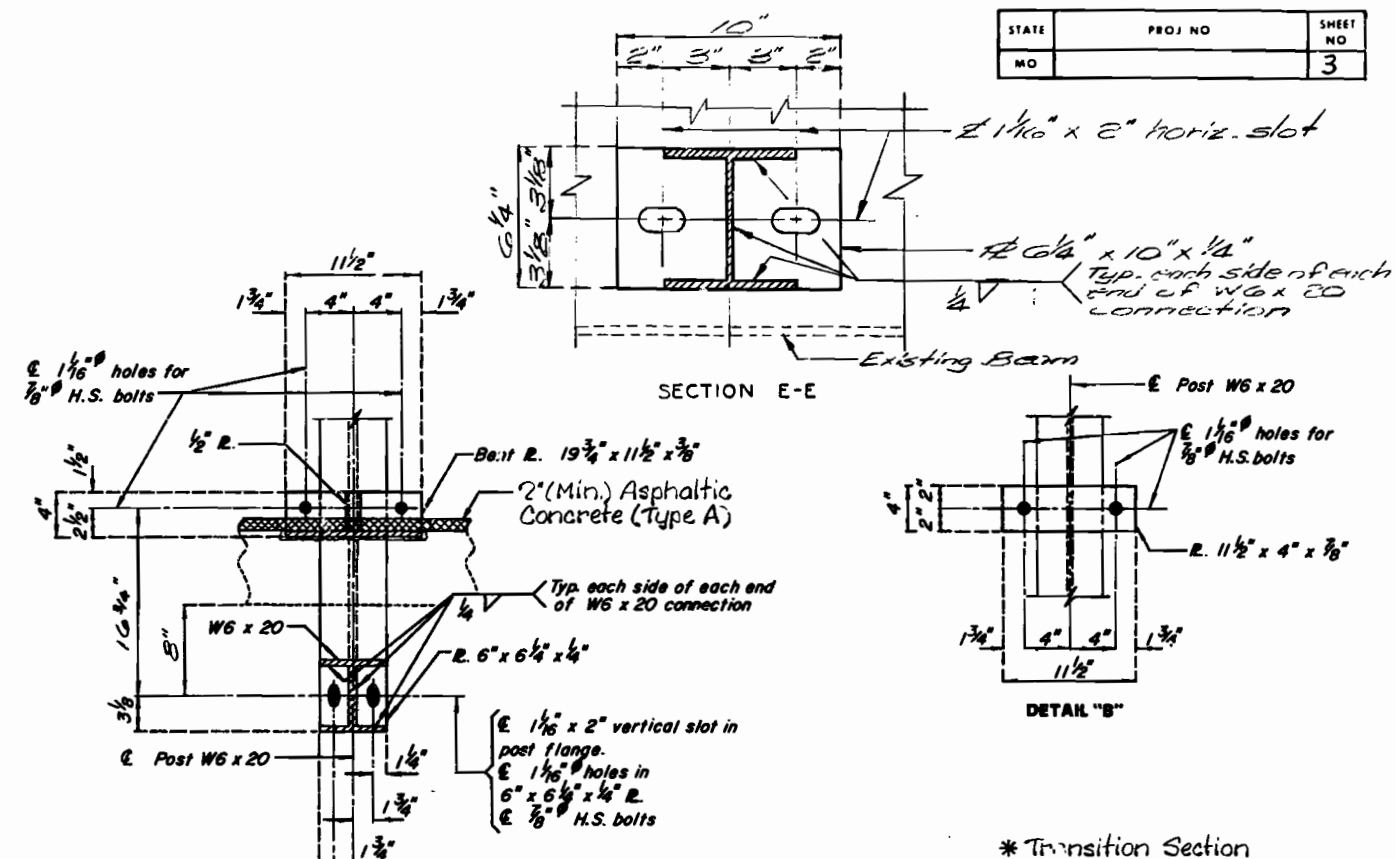
DETAILED SEPT. 1989  
CHECKED SEPT. 1989

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

SHEET NO. 2 OF 4

NEW MADRID COUNTY L-457R





NEW MADRID COUNTY

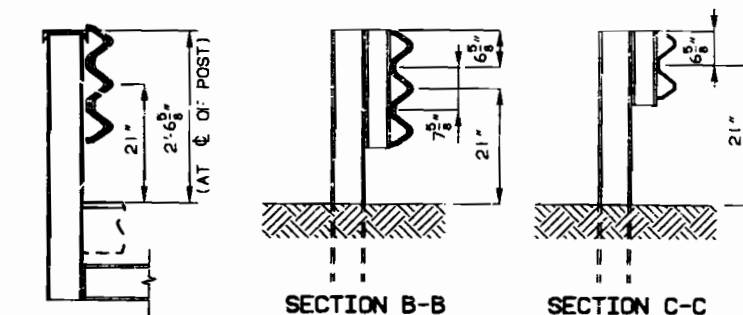
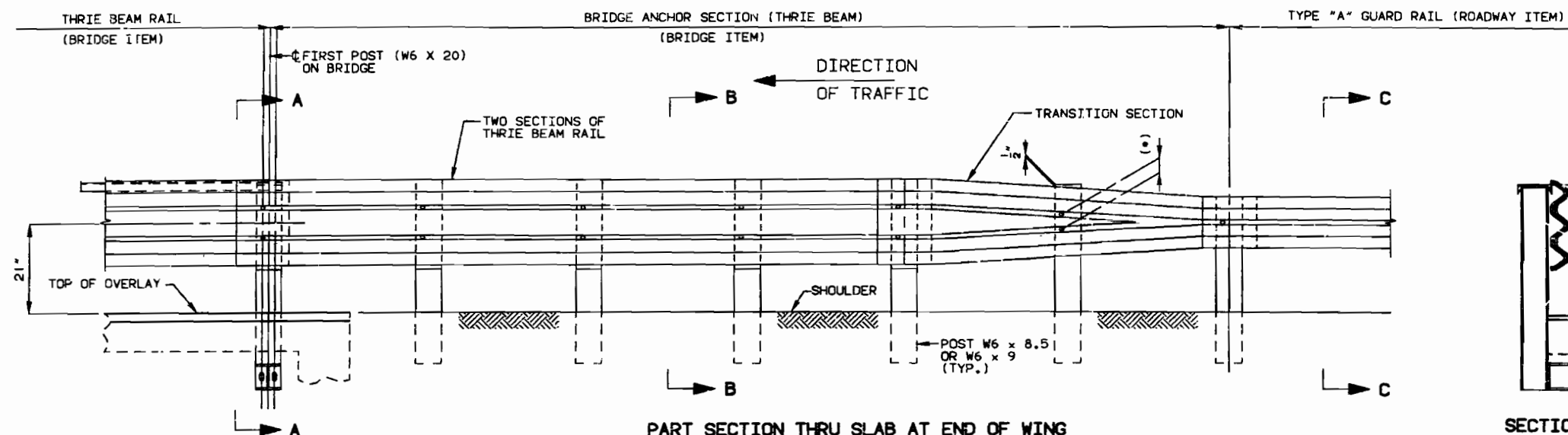
L-457R

DETAILED Feb 1986  
CHECKED Feb 1986

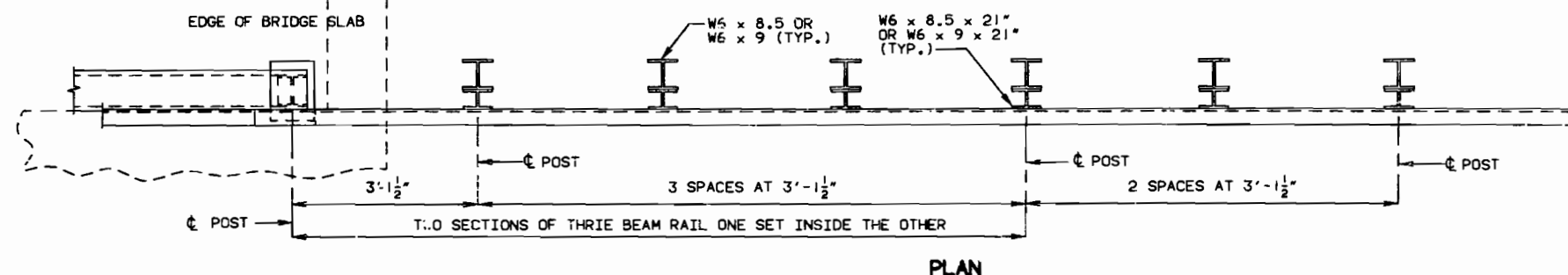
**Note:** This drawing is not to scale.. Follow dimensions.

Sheet No. 3 of 4

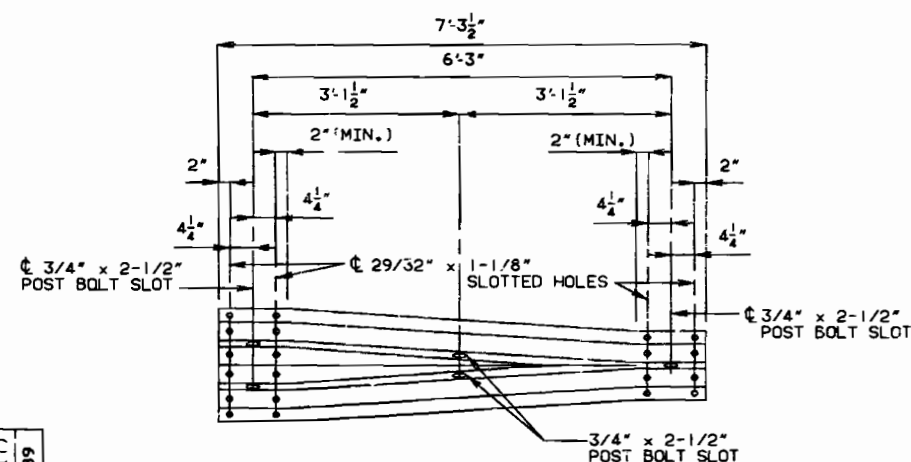
STATE	PROJ. NO.	SHEET NO.
MO.		4



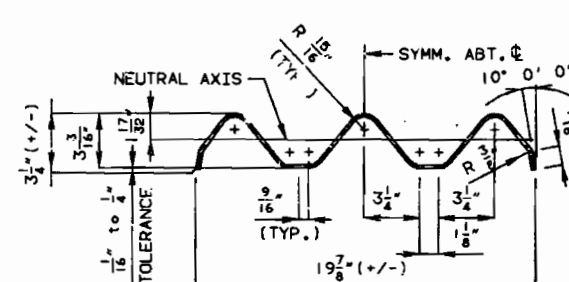
SECTION A-A



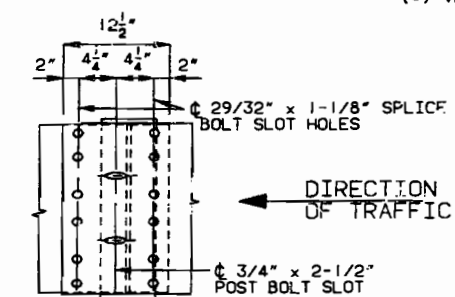
### PLAN



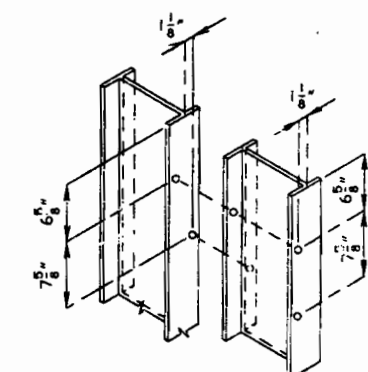
### TRANSITION SECTION



SECTION THRU THRIE BEAM RAIL



THREE BEAM RAIL SPLICE AT POST  
(BRIDGE ANCHOR SECTION)



(ALL HOLES 13/16" DIAMETER)  
HOLE PUNCHING DETAILS  
(FOR STEEL POST & BLOCKS)

**NOTES:**

DESIGN AASHTO 1989 SPECIFICATIONS (FOR THREE BEAM RAIL  
DESIGN ONLY).

THE THREE BEAM RAILS AND THE TRANSITION SECTION FOR THE  
BRIDGE ANCHOR SECTION SHALL BE MADE OF STEEL AND  
SHALL BE 10 GAGE. ZINC COATING SHALL BE TYPE 2.

FOR PROTECTIVE COATING AND MATERIAL REQUIREMENTS, SEE SECTION 1040 OF THE MISSOURI STANDARD SPECIFICATIONS.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY  
PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

WASHERS SHALL BE USED AT ALL POST BOLTS (BETWEEN BOLT HEAD AND BEAM). THEY SHALL BE RECTANGULAR IN SHAPE (3" X 1-3/4" X 3/16" MIN.) AND FLAT, OR WHEN NECESSARY OF SUCH DESIGN AS TO FIT THE CONTOUR OF THE THRIE BEAM RAILING. WASHERS SHALL HAVE A 11/16" X 1" SLOTTED HOLE.

USE 5/8"Ø BUTTON-HEAD OVAL, SHOULDER BOLTS WITH HEX NUTS AT ALL SLOTS. (THE THICKNESS OF THE HEX NUTS = 3/8".)

ALL LAP SPLICES SHALL BE MADE IN THE DIRECTION OF TRAFFIC.

SEE MISSOURI STANDARD PLANS DRAWING 606.00 FOR DETAILS  
NOT SHOWN.

(\*) VERIFY BY RAIL TRANSITION PRODUCER.

ANCHOR SEC.	REVISED ( )
AUG. 1988	SEPT. 1989

DETAILED SEPT. 1989  
CHECKED SEPT. 1989

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

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NEW MADRID COUNTY

L-457R