Missouri Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

December 9, 2024
7:16:05am

COUNTY : RIPLEY **BRIDGE :** S0889 1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/15/2024 **SUBMITTAL YEAR :** 2024

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	SE
3	County	RIPLEY
8	Federal ID No.	8892
27	Year Built	1933
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	HISTORICAL SIGNIF UNKNWN
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	MO
5C	Designated Level of Service	MAINLINE
5D	Route Number	00142
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 142 E
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000001107
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	VARNER
	Code	75778
9	Location	S 36 T 23 N R 3 E
11	Milepoint	91.87 miles
16	Latitude	36 D 35 M 40 S
17	Longitude	90 D 41 M 43 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	1181
30	AADT Year	2023
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	12%
114	Future AADT	1772
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	LOGAN CR
42B	Type of Service Under	WATERWAY
28B	Lanes Under Structure	00
54A	Vert. Clearance Ref.	N/A
54B	Vert. Clearance	0 Ft. 0 In.
55A	Rt. Lat Clear Ref.	N/A
55B	Rt. Lat Clearance	0 Ft. 0 In.
56	Left Lat Clearance	0 Ft. 0 In.
38	Navigation Control	PERMIT NOT REQ
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	19.38 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	15.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	20 Ft. 0 In.
48	Maximum Span Length	42 Ft. 12 In.
49	Structure Length	147 Ft. 12 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	20 Ft. 0 In.
52	Deck Width (Out-Out)	20 Ft. 12 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = S0889 and Inventory_Appraisal_Submittal_Year = 2024

Missouri Department of Transportation
Bridge Inventory and Inspection System
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RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/15/2024 **SUBMITTAL YEAR :** 2024

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 10
41	Structure Status	POSTED FOR LOAD
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	23 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	14 Tons.
70	Bridge Posting Code	30.0-39.9% BELOW

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	28.2 Percent
	Deficiency Rating	STRUCTURAL
	Funding Eligibility	FULL
75A	Proposed Work	REPLACEMENT SUBSTND LOAD
75B	Work Done By	Contract
76	New Struc Length	180 Ft. 5 In.
94	Struc Improve Cost	$ 1,044,000
95	Roadway Improve Cost	$ 104,000
96	Total Project Cost	$ 1,566,000
97	Year of Cost Estimates	2024

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	4
68	Deck Geometry App. Rating	2
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	4
72	Approach Road App. Rating	6
113	Scour Assess App. Rating	8

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	4
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	6 BITUMINOUS
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	0 NONE

CONDITION RATING INFORMATION

58	Deck Cond. Rating	4
59	Superstructure Cond. Rating	5
60	Substructure Cond. Rating	5
61	Channel /Channel Protection Cond. Rating	5
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	1 / 24	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

98	Neighboring State Code
98B	Neighboring State % Respon
99	Neighboring State Struc. No.

APPROVED POSTING INFORMATION

Approved Posting Category S-16

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	16	22	39

General Text for Posting Sign

TRKS OVR 16 TNS 15MPH ON BR EXCPT SNGLE UNIT TRKS WT LIMIT 22 TNS&ALL OTHR TRKS WT LIMIT 39 TNS.

FIELD POSTING INFORMATION

Field Posting Category S-16

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	16	22	39

General Text for Posting Sign

TRKS OVR 16 TNS 15MPH ON BR EXCPT SNGLE UNIT TRKS WT LIMIT 22 TNS&ALL OTHR TRKS WT LIMIT 39 TNS.

Design_No = S0889 and Inventory_Appraisal_Submittal_Year = 2024

Missouri Department of Transportation
State Bridge Inspection Report

December 09, 2024
7:13:20AM

COUNTY: RIPLEY **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 8892** **BRIDGE: S0889**

GENERAL STRUCTURE INFORMATION

ROUTE: MO142E	**# SPANS:** 4	**PLACE CODE:** 75778 VARNER	
FEATURE: LOGAN CR	**LANES ON:** 2	**LENGTH:** 148 FT 0 IN	
STATUS: P-POSTLOAD	**LANES UNDER:** 0	**MAXIMUM SPAN:** 43 FT 1 IN	
LOG MILE: 91.338	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 20 FT 0 IN	
DETOUR: 19.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 20 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MINOR ARTERIAL	**OUT TO OUT:** 21 FT 0 IN	
BUILT: 1933	**NBI OWNER:** MODOT	**AADT:** 1181	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 36 T 23 R 3 E	**MAINTENANCE DISTRICT:** SE	**AADT TRUCK:** 12.4%	
LATITUDE: 36 35 39.92 (DMS)	**MAINTENANCE COUNTY:** RIPLEY	**FUTURE AADT:** 1772	
LONGITUDE: 90 41 43.05 (DMS)	**SUB AREA:** 7H12	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 01/11/2024 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: JERROD JERNIGAN **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

DATE: **RESPONSIBILITY:** **CATEGORY:**
FREQUENCY: **CALCULATED INTERVAL**:** **NBI:**
TEAM LEADER: **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: 07/23/2020 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 72 **CALCULATED INTERVAL**:** 72 **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** **METHOD:** WT TAPE
INSPECTOR 2: ED HESS **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 01/11/2024 **RESPONSIBILITY:** DISTRICT **CATEGORY:** SHALLOW-WADE
FREQUENCY: 60 **CALCULATED INTERVAL**:** 24 **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** **METHOD:** PROBE
INSPECTOR 2: JERROD JERNIGAN **INSPECTOR 4:**

** When calculated interval exceeds the frequency, a justification comment per BIRM is required.

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: RIPLEY **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 8892** **BRIDGE: S0889**

STRUCTURE POSTING

APPROVED CATEGORY: S-16 TRKS OVR 16 TNS 15MPH ON BR EXCPT SNGLE UNIT TRKS WT LIMIT 22 TNS&ALL OTHR TRKS WT LIMIT 39 TNS.
Ton 1: 16 **Ton 2:** 22 **Ton 3:** 39
COMMENTS:

FIELD CATEGORY: S-16 TRKS OVR 16 TNS 15MPH ON BR EXCPT SNGLE UNIT TRKS WT LIMIT 22 TNS&ALL OTHR TRKS
Ton 1: 16 **Ton 2:** 22 **Ton 3:** 39 **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 08/28/2008)--(30'-43'-43'-30') SMP WF GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION **COMMENTS:** (DENNIB1, 01/14/2020)--EXPOSED REBAR
RATING : 01/31/2022

[ITEM 59] SUPER: 5-FAIR CONDITION **COMMENTS:** (SHRUBM1, 03/05/2012)--TOP FLANGE RUSTING
RATING : 05/18/2001

[ITEM 60] SUB: 5-FAIR CONDITION **COMMENTS:** (DENNIB1, 01/14/2020)--SPALLS & SCALING
RATING : 01/14/2020

[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE **COMMENTS:** (DENNIB1, 01/14/2020)--EROSION ON BOTH SLOPES
RATING : 01/14/2020

[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED **COMMENTS:**
RATING : 05/18/2001
EVALUATION TYPE :

[ITEM 71] WATERWAY ADEQUACY: SIGNIFICANT DELAY APPRCH **COMMENTS:**
RATING : 05/18/2001

[ITEM 72] APPRRDWY ALIGNMENT: 6-SATISFACTORY **COMMENTS:**
RATING : 05/18/2001

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *01/22/2018* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *01/22/2018* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	ALL	

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *01/22/2018* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *01/22/2018* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	GOOD	

DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*ASPHALT*	*BITUMINOUS MAT*	*1 IN*	*2016*		*GOOD*

COMMENT:

DECK PROTECTION	*NOTAPPLICABLE*	*NONE*

COMMENT:

MEMBRANE	*NOTAPPLICABLE*	*NONE*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
BANK PROTECTION	*ROCK*	*GROUTED*	*BOTH*	

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MINOR		
SPALLS	THROUGHOUT		MODERATE		
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-2	*DECK*	*REINFORCED CONCRETE*	*CAST-IN-PLACE*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
EFFLORESCENCE	THROUGHOUT		LIGHT		
REBAR EXPOSED	THROUGHOUT		MODERATE		
SPALLS	THROUGHOUT		MANY		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-3 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
EFFLORESCENCE	THROUGHOUT		MODERATE		
REBAR EXPOSED	THROUGHOUT		MINOR		
SPALLS	THROUGHOUT		MANY		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-4 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MINOR		
EFFLORESCENCE	THROUGHOUT		LIGHT		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*SIMPLE SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	30 FT 11 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		MODERATE		
RUSTING	TOP FLANGE		MODERATE		
SECTION LOSS	AT JOINTS		MINOR		
SECTION LOSS	TOP FLANGE		MINOR		

MAIN SPANS-2	NON-COMPOSITE	43 FT 1 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		MODERATE		
RUSTING	TOP FLANGE		MODERATE		
SECTION LOSS	AT JOINTS		MINOR		
SECTION LOSS	TOP FLANGE		MINOR		

MAIN SPANS-3	NON-COMPOSITE	43 FT 1 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		MODERATE		
RUSTING	TOP FLANGE		MODERATE		
SECTION LOSS	AT JOINTS		MINOR		
SECTION LOSS	TOP FLANGE		MINOR		

MAIN SPANS-4	NON-COMPOSITE	30 FT 11 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		MODERATE		
RUSTING	TOP FLANGE		MODERATE		
SECTION LOSS	AT JOINTS		MODERATE		
SECTION LOSS	TOP FLANGE		MINOR		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	LA-15 DEGREES	20 FT 2 IN	REINFORCED CONCRETE	NON-INTEGRAL		(STEGEC, 05/10/2005)--PROFILE GRADE ELEVATION = 321.0 (FLAT)

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
FOOTING	REINFORCED CONCRETE	SPREAD			
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
EXPANSION BEARING	STEEL	SLIDING FLAT PLATE			
RUSTING	THROUGHOUT		MINOR		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
BENT-2	LA-15 DEGREES	21 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		(STEGEC, 05/10/2005)--PROFILE GRADE ELEVATION = 321.0 (FLAT)

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
DELAMINATION	RANDOM		MODERATE		
REBAR EXPOSED	THROUGHOUT		MODERATE		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
SCALING	WATERLINE		MODERATE		
FOOTING	REINFORCED CONCRETE	SPREAD			
EXPANSION BEARING	STEEL	SLIDING FLAT PLATE			
RUSTING	THROUGHOUT		LIGHT		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
BENT-3	LA-15 DEGREES	21 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		(STEGEC, 05/10/2005)--PROFILE GRADE ELEVATION = 321.0 (FLAT)

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
SCALING	WATERLINE		MODERATE		
FOOTING	REINFORCED CONCRETE	SPREAD			
EXPANSION BEARING	STEEL	SLIDING FLAT PLATE			
RUSTING	THROUGHOUT		LIGHT		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
BENT-4	LA-15 DEGREES	21 FT 6 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		(STEGEC, 05/10/2005)--PROFILE GRADE ELEVATION = 321.0 (FLAT)

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			

BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SPALLS	THROUGHOUT		FEW		(SHRUBM1, 03/05/2012)--HIGH STEEL SPALLS
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SCALING	WATERLINE		MODERATE		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	SLIDING FLAT PLATE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	THROUGHOUT		LIGHT		

ABUTMENT-5 LA-15 DEGREES 20 FT 2 IN REINFORCED CONCRETE NON-INTEGRAL (STEGEC, 05/10/2005)--PROFILE GRADE ELEVATION = 321.0 (FLAT)

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	SLIDING FLAT PLATE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	THROUGHOUT		HEAVY		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: RIPLEY **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 8892** **BRIDGE: S0889**

CLEARANCES UNDER BRIDGE

**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

STRUCTURE PAINT INFORMATION

CONDITION: POOR **RUST AMOUNT :** 6=1.0% OF SURFACE RUSTED **STEEL TONS :** 32

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :**	**PAINT TYPE :** S SYSTEM	**MANUFACTURE :** WATSON
NAME :	**NAME :**	**NAME :** CAL SULPH/LEAD PAINT	**SURFACE PREP :** HAND CLEANED
PAINT COLOR :	**PAINT COLOR :**	**PAINT COLOR :** GRAY	
PAINT YEAR : 1933	**PAINT YEAR :**	**PAINT YEAR :** 2008	
MILS :	**MILS :**	**MILS :** 9	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT ROUTINE	WEST	REPLACE POSTING SIGN	POSTING	2	01/11/2024	

UTILITY ATTACHMENTS

UTILITY	*OWNER*	*METHOD*	*MEASUREMENT TYPE*	*VALUE*	*NUMBER*	*UTILITY ATTACHMENT COMMENT*

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT
2027	SE0032	1	2027	REPLACE BRIDGE	

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

NOTE: The items listed in this section are updated whenever computer edits are ran on a structure after the inspection updates have been entered in to TMS.

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	1/20/2017
[Item 68] Deck Geometry Rating:	2-BASICALLY INTOLRBLE REQ	5/18/2001
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	28.2%	3/6/2024
Deficiency:	STRUCTURAL	1/31/2022
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

NOTE: The above structure length and cost estimates are computer generated using algorithims in the TMS system. These algorthims are generalized to use NBI items to come up with a new structure length and width to calculate a new area which is taken times a representative cost per square foot. The actual structure size and cost may vary significantly from these numbers once site specific engineering is done.

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

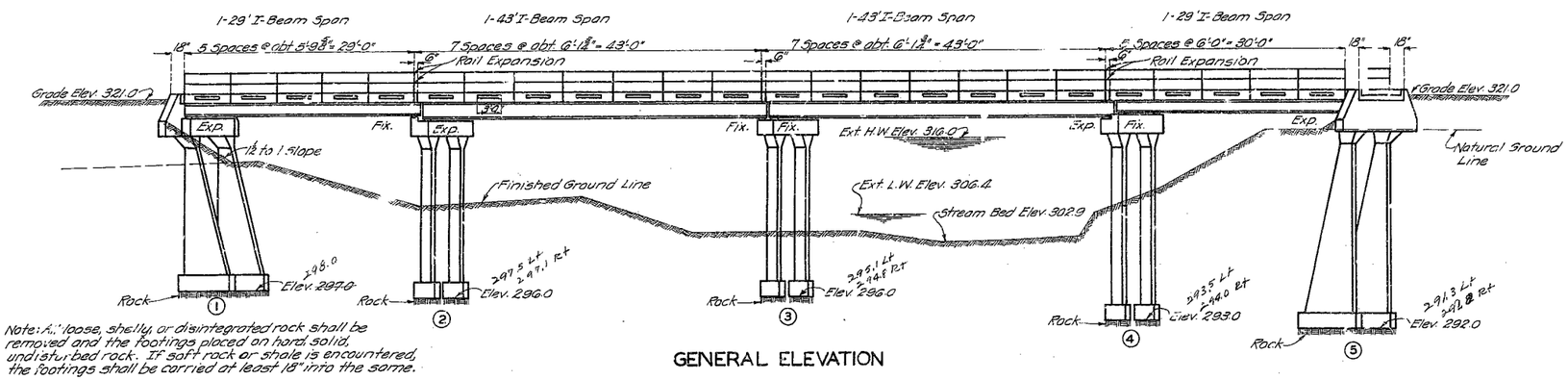
STATUS: **DATE:**

NOTES:

MISSOURI STATE HIGHWAY DEPARTMENT

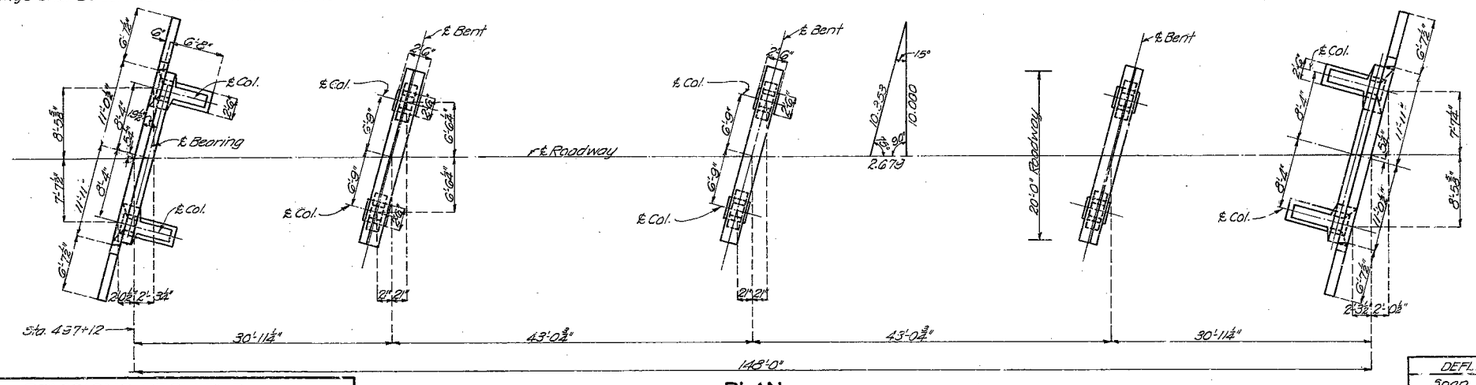
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	NRS 9 400A(SB)	19		

Note: Outlets in curbs to be centered between rail posts.



Note: A "loose, shelly, or disintegrated rock shall be removed and the footings placed on hard, solid, undisturbed rock. If soft rock or shale is encountered, the footings shall be carried at least 18" into the same.

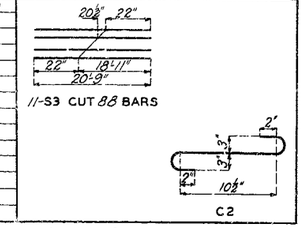
GENERAL ELEVATION



PLAN

BILL OF REINFORCING STEEL (SUPER.)

No.	Size	Length	Mark	Location	Bending Sketch and Cutting Diagrams
16	⅜" ℄	30'-3"	C1	Curb	
202	½" ℄	2'-0"	C2	"	
32	⅜" ℄	22'-9"	C3	"	
552	⅜" ℄	20'-9"	S1	Slab	
52	½" ℄	30'-9"	S2	"	
88	⅜" ℄	20'-9"	S3	"	
16	½" ℄	21'-3"	S4	"	
104	½" ℄	22'-6"	S5	"	



Note: Dimensions given are along center line of bars and are for computed lengths.

GENERAL NOTES:

Loading: One 10 Ton Truck, 80% of weight on rear axle, 30% impact, 14'-0" wheel base, 6'-0" gage, 10" tire.

Exposed edges to be beveled ¾" where no other bevel is noted. Concrete in slab and curbs to be 1:2:3½ mix, Class "X". All other concrete to be 1:2:4 mix: Class "B". Bridge excavation in accordance with Section I of Standard Specifications issued April 1, 1930, except that quantities paid for will be computed from Ext. L.W. Elev. 306.4 where existing ground line is below this elevation.

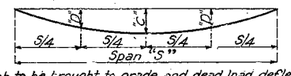
I-Beams with fastenings, spacers, handrail, handrail posts with fastenings will be paid for as structural steel. Cost of metallic edge moulding will be included in unit bid price for concrete. Rivets ¾"℄, holes 13/16"℄, except in handrail where rivets shall be ⅞"℄, holes 15/16"℄. Field connections riveted except as noted.

Detail shop drawings shall be submitted to the State Highway Department in duplicate and shall be approved before steel is fabricated.
Where rubber compound is specified on plans for use in partition and expansion joints, the premoulded joint shall be securely stitched to one face of concrete with copper wire. See Special Provisions in regard to permissible substitution of beams and basis of payment.

Paint: Shop, none: Field, contact 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 contractor. ~~All paint required will be furnished by the Missouri State Highway Department~~. See Special Provisions.

B.M. Elev. 313.31 Nail in root 20' S. Oak 36' Lt. Sta. 497+25.

DEFLECTIONS		
Span	"C"	"D"
29'-0"	3/16"	1/4"
43'-0"	1/16"	1/2"

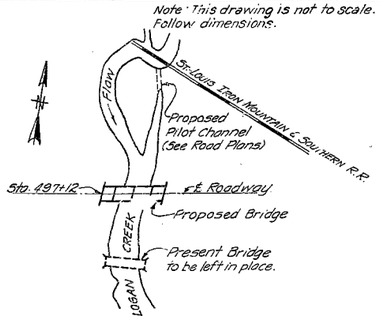


Note: Floor slab to be brought to grade and dead load deflection taken care of by increasing slab thickness. Depth of slab at outside face of curb to be kept uniform and bottom surface of slab warped between curb and outside beam to obtain required thickness at beam. Payment will be allowed for additional concrete required for thickening slab. This additional concrete is included in "Estimated Quantities."

DEAD LOAD DEFLECTION DIAGRAM

REVISIONS REQUIRED

SEE SHEET NO. 5 OF 5 FOR THE FOLLOWING ITEMS:
(1) Type of Handrail.
(2) Width of Curb.
(3) Type of Diaphragm.
Note: Details on any other sheet conflicting with those shown on Sheet No. 5 are **VOID.**

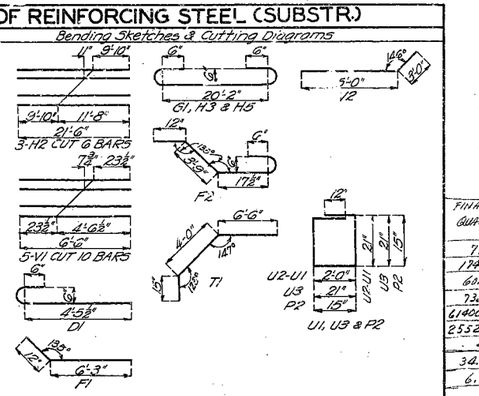


LOCATION SKETCH

Drawn Jan. 1931 By R.J.G.
Traced Jan. 1931 By R.J.G.
Checked Feb. 1931 By JHM.
Assembled April 1933 By H.C.M.-G.W.
Checked April 1933 By R.M.S.

BILL OF REINFORCING STEEL (SUBSTR.)

No	Size	Length	Mark	Location
		Bents No. 1 & 5		
20	⅜"℄	5'-9"	D1	Footing
12	⅜"℄	7'-3"	F1	Haunch
12	⅜"℄	7'-6"	F2	"
12	⅜"℄	12'-3"	H1	Wing
6	⅜"℄	21'-6"	H2	"
16	⅜"℄	22'-9"	H3	Beam
4	⅜"℄	20'-9"	H4	"
14	⅜"℄	22'-9"	H5	"
10	⅜"℄	6'-6"	V1	Wing
12	⅜"℄	8'-0"	V2	Haunch
18	⅜"℄	3'-6"	V3	Backwall
10	⅜"℄	19'-3"	V4	Col. Bt. #1
10	⅜"℄	24'-3"	V5	Col. Bt. #5
8	⅜"℄	11'-9"	T1	Wing
4	⅜"℄	21'-0"	T2	Backwall
42	⅜"℄	8'-6"	U1	Beam
		Bents No. 2, 3 & 4		
24	⅜"℄	5'-9"	D1	Footing
36	⅜"℄	7'-3"	F1	Haunch
16	⅜"℄	20'-0"	P1	Col. Bt. #2 & 3
8	⅜"℄	23'-0"	P3	Col. Bt. #4
38	⅜"℄	22'-9"	G1	Beam
6	⅜"℄	20'-9"	G2	"
44	⅜"℄	21'-6"	U2	Beam Bts. #2 & 4
24	⅜"℄	21'-0"	U3	Beam Bt. #3
82	⅜"℄	6'-0"	P2	Columns



Note: Dimensions given are along ℄ of bars and are for computed lengths.
Reinforcing bars ¾" or over in diameter, which are bent to an angle greater than 90° shall be of structural grade.

ESTIMATED QUANTITIES

FINAL QUAN.	ITEM		SUPERSTR.	SUBSTR.	TOTAL
77.5	Excavation Class 1	Cu. Yds.		75	75
194.5	Excavation Class 2	Cu. Yds.		180	180
60.4	Concrete 1:2:4 mix, Class "B"	Cu. Yds.		61.3	61.3
73.2	Concrete 1:2:3½ mix, Class "X"	Cu. Yds.	73.2		73.2
61400	Fabricated Structural Steel	Lbs.	62900		62900
25520	Reinforcing Steel	Lbs.	18400	7120	25520
4	Cl. 2 exc. below plan grade	C.Y.			
34.6	Heating Concrete, Gr. A	C.Y.			
6.7	" " Gr. B	C.Y.			

Note: Bridge excavation above Elev. 307.0 will be paid for as Class 1 Bridge Excavation.
Bridge excavation below Elev. 307.0 will be paid for as Class 2 Bridge Excavation.

BRIDGE OVER LOGAN CREEK

STATE ROAD FROM DONIPHAN TO OXLY

ABOUT 0.5 MILE WEST OF OXLY

PROJECT NO. N.R.S. 400A (SB) STA. 497+12

RIPLEY COUNTY

SUBMITTED BY M.R. Sowers DATE BRIDGE ENGINEER 5/4/33

APPROVED BY T.H. Cutler DATE CHIEF ENGINEER 5/4/33

Sheet No. 1 of 5.

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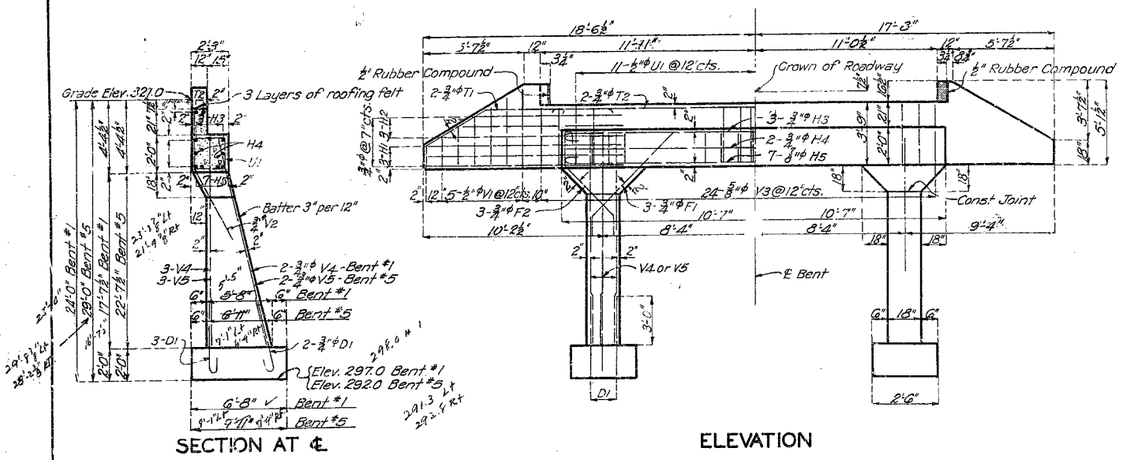
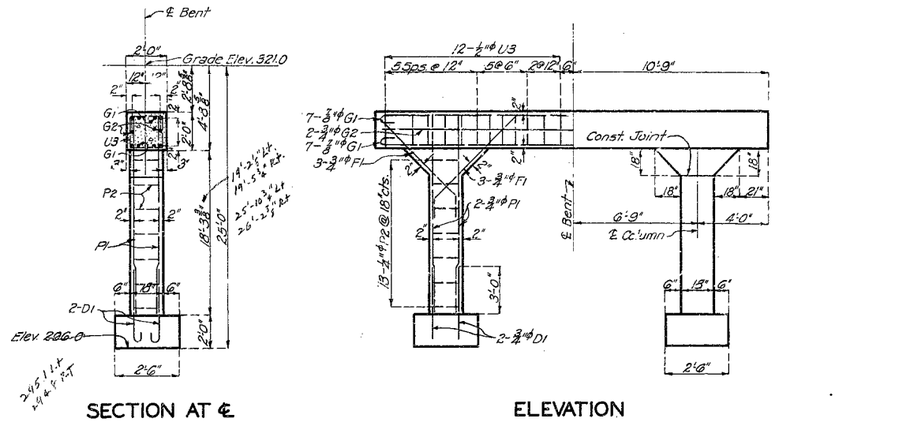
F.A.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YR.	SHEET NO.	TOTAL SHEETS
5	MO.	NRS400A (SB)	19		

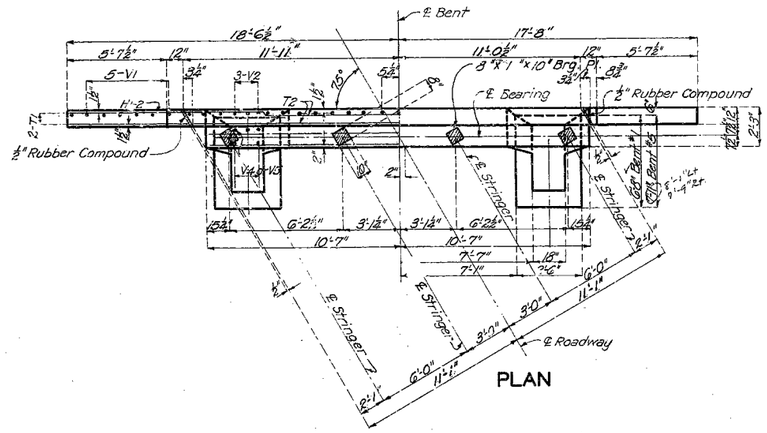


SECTION AT ℄ ELEVATION



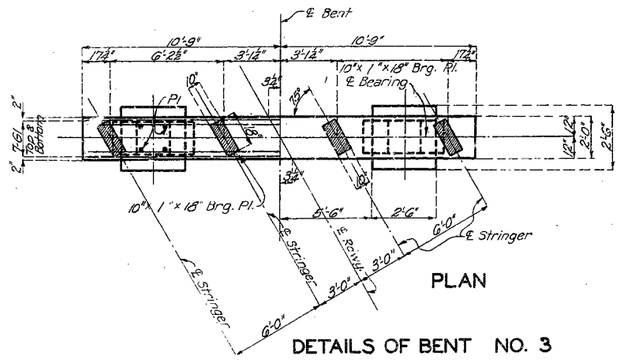
SECTION AT ℄ ELEVATION

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



PLAN

DETAILS OF END BENTS NO. 1 & 5



PLAN

DETAILS OF BENT NO. 3

BRIDGE OVER LOGAN CREEK

STATE ROAD FROM DONIPHAN TO OXLY

ABOUT 0.5 MILE WEST OF OXLY

PROJECT NO. NRS400A (SB) STA. 497+12

RIPLEY COUNTY

Drawn Sept 1930 by I.B.
Traced Sept 1930 by G.W. & R.J.G.
Assembled April 1933 by H.C.M.-G.W.
Checked April 1933 by P.H.S.

Sheet No. 2 of 5.

F.A.

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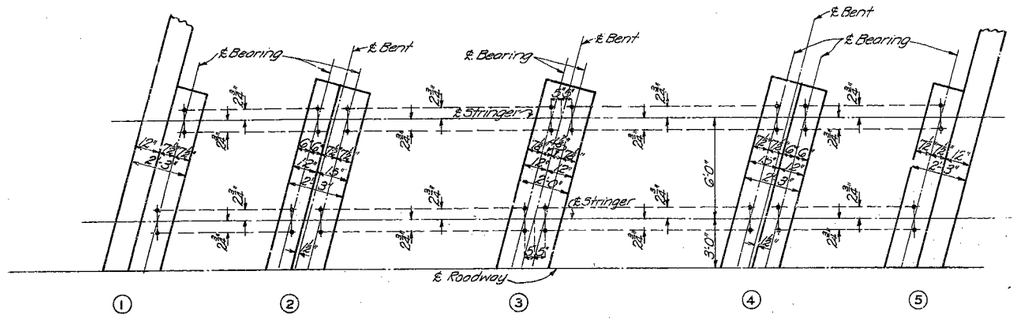
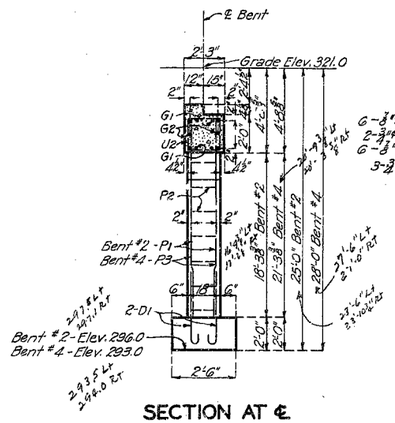
MISSOURI STATE HIGHWAY DEPARTMENT

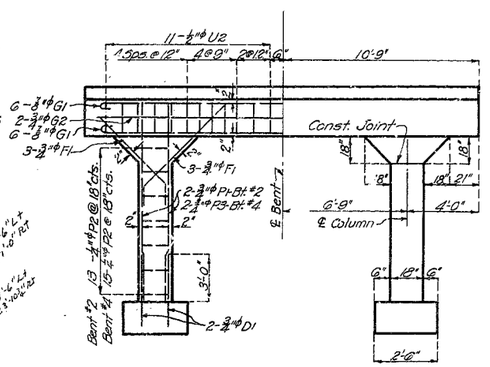
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YR.	SHEET NO.	TOTAL SHEETS
5	MO.	NRS 400 A (SB)	19		



HALF ANCHOR BOLT PLAN

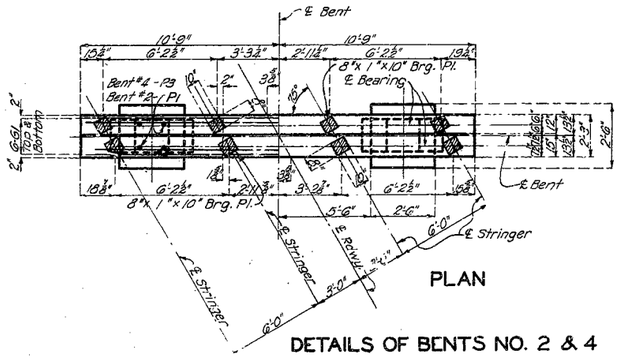


SECTION AT ℄



ELEVATION

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



PLAN

DETAILS OF BENTS NO. 2 & 4

BRIDGE OVER LOGAN REEK

STATE ROAD FROM DONIPHAN TO OXLY

ABOUT 0.5 MILE WEST OF OXLY

PROJECT NO. NRS 400 A (SB) **STA.** 497+12

RIPLEY **COUNTY**

43

Drawn Sept. 1930 by I.B.
Traced Sept. 1930 by G.W. & R.J.G.
Assembled April 1933 by H.C.M.-G.W.
Checked April 1933 by P.H.S.

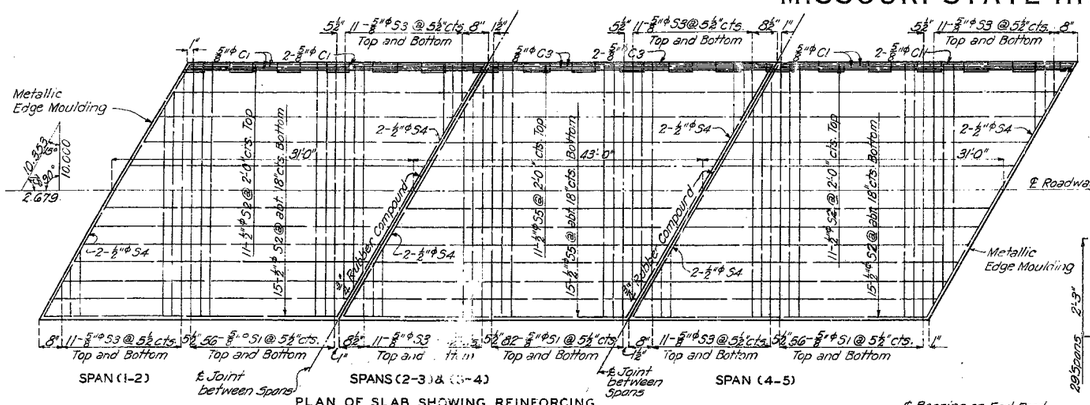
F.A.

S-889

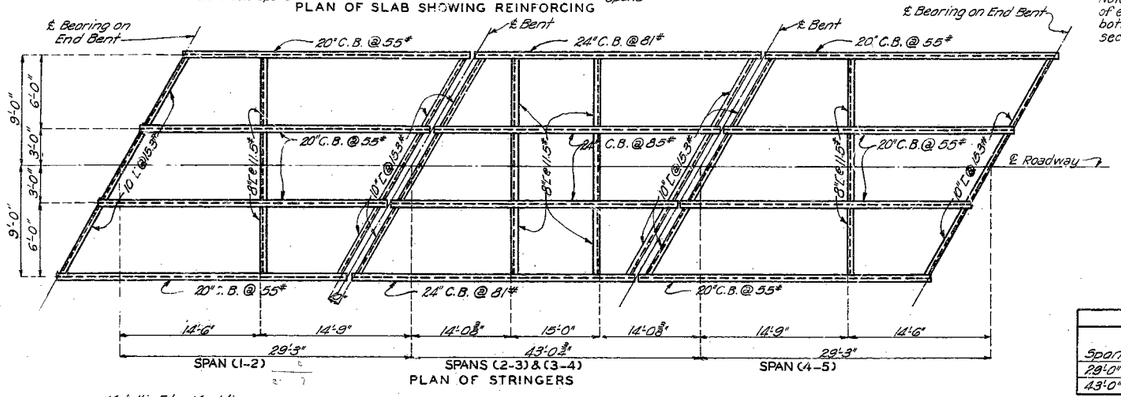
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	NRS 400A (SB)	19		

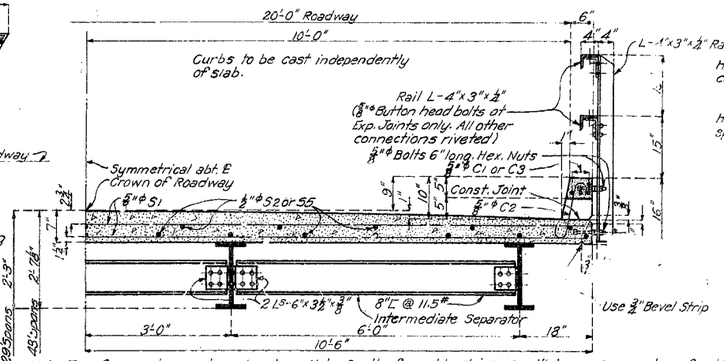
Note: Space dowel bars "C2" at approximately 12" cts. in curbs between outlets and at ends.



PLAN OF SLAB SHOWING REINFORCING



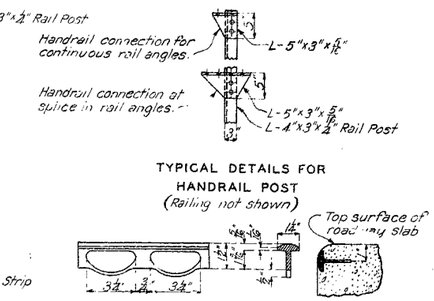
PLAN OF STRINGERS



Note: Top of channel separators at ends of each I-Beam Span to be flush with bottom of Floor Slab as shown in section thru end bent.

Note: Depth of outside stringers will in some cases be a fraction of an inch less than that of inside stringers and in order to keep bottom of slab horizontal it will be necessary to haunch slab down to top of outside stringers.

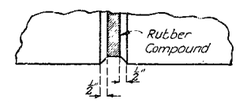
HALF SECTION THRU SPAN



TYPICAL DETAILS FOR HANDRAIL POST
(Railing not shown)

Note: An approved equivalent may be substituted for edge moulding shown above.

METALLIC EDGE MOULDING



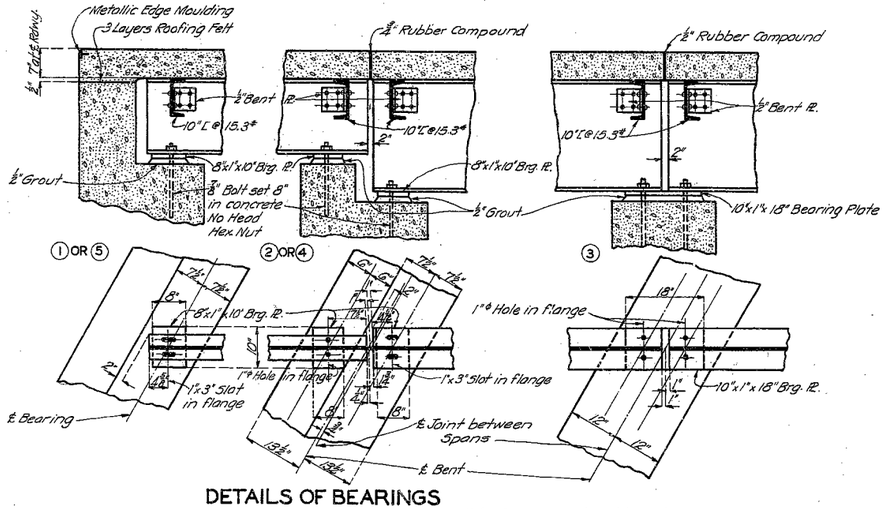
Note: Use bevel as shown for exposed faces of all joints consisting of rubber compound except at top surface of roadway slab. Use edging tool with ¼" radius at top surface of roadway slab each side of rubber compound joint.

DETAIL OF BEVEL FOR RUBBER COMPOUND JOINTS

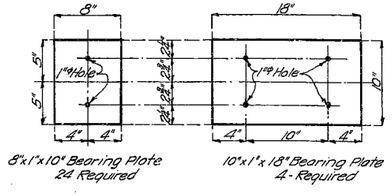
No Subs

PERMISSIBLE BEAM SUBSTITUTIONS				
	Standard I-Beams		Bethlehem Beams	
Span	Inside	Outside	Inside	Outside
29'-0"	20"@65.4#	20"@65.4#	20"@55#*	20"@55#
43'-0"	24"@105#	24"@90#	26"@125#*	26"@81#*

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



DETAILS OF BEARINGS



DETAILS OF BEARING PLATES

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

Drawn Jan. 1931 By R.J.G.
Traced Jan. 1931 By R.J.G. Assembled April 1933 By H.C.M.
Checked Feb. 1931 By [illegible] Checked April 1933 By P.H.S.

BRIDGE OVER LOGAN CREEK

STATE ROAD FROM DONIPHAN TO OXLY
ABOUT 0.5 MILE WEST OF OXLY
PROJECT NO. NRS 400A (SB) STA. 497+13

RIPLEY COUNTY

Sheet No. 4 of 5 Sheets F.A. S-889

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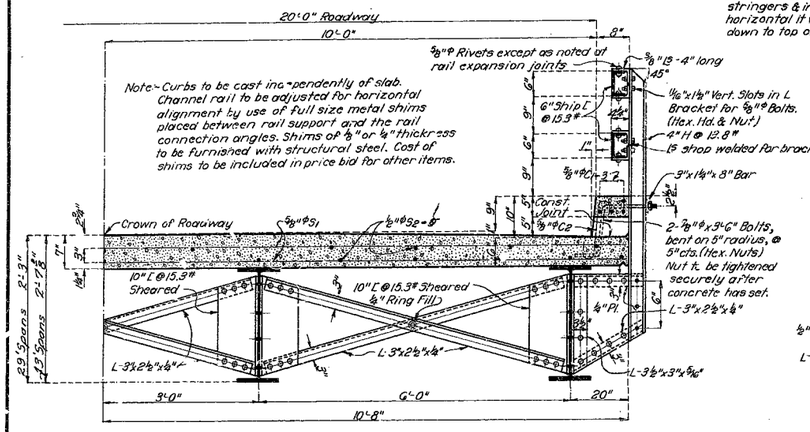
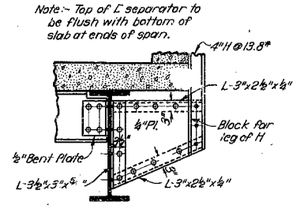
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	N.R.S. 400A(SB)	19		

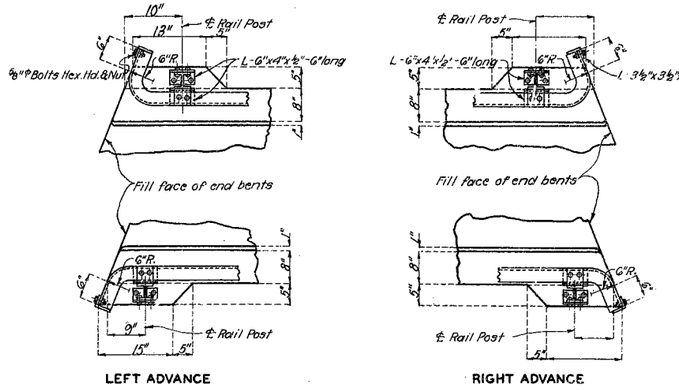


HALF CROSS SECTION THRU SPAN

Note:- Depth of outside stringers will in some cases be a fraction of an inch less than that of inside stringers & in order to keep bottom of slab horizontal it will be necessary to haunch slab down to top of outside stringers.



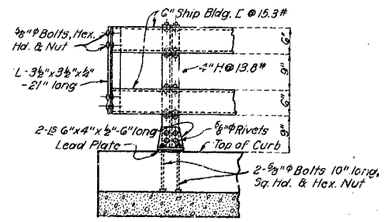
DETAIL OF RAIL BRACKETS AT ENDS OF SPAN



LEFT ADVANCE

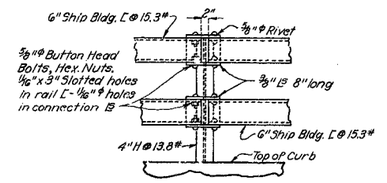
RIGHT ADVANCE

PLAN OF RAIL AT END BENTS FOR SKEWS

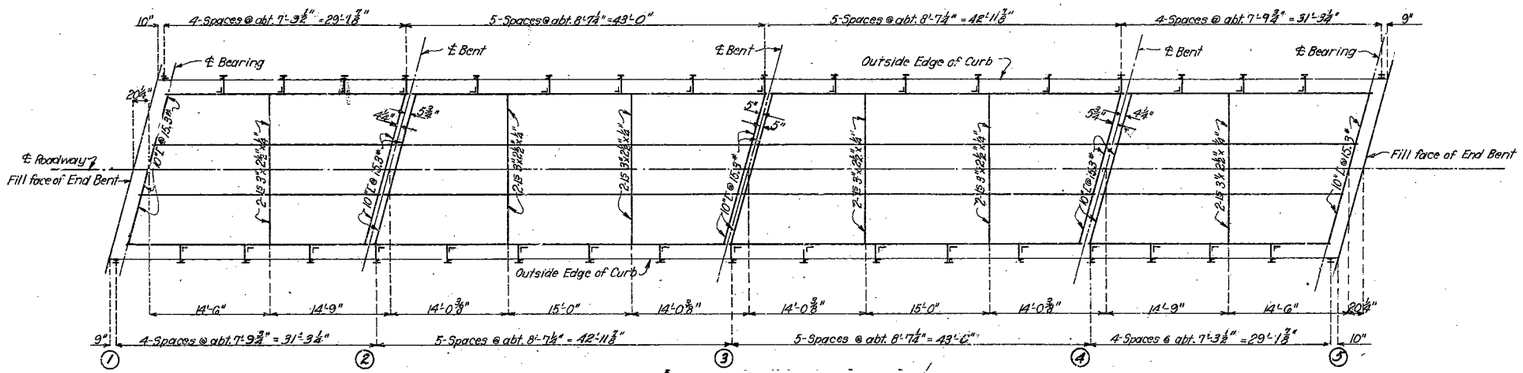


SECTION THRU SLAB AT END BENTS

Note:- Top of curbs under end posts shall be finished to a smooth surface parallel to grade. Not less than one nor more than four soft lead plates of 1/8" thickness shall be used under angles of each end rail post for aligning rail to correct elevation. Plates shall be 8 1/2"x6" and shall be punched 7/8"ø on same gauge as angles. No grouting permitted. Cost of lead plates to be included in price bid for other items.



DETAILS OF RAIL EXPANSION JOINT



PLAN SHOWING ARRANGEMENT OF HANDRAIL POSTS, DIAPHRAGMS AND SEPARATORS

Note:- Outlets to be centered between rail posts.

PART ELEVATION OF HANDRAIL & CURB

45

Drawn July 1933 By H.E.C.
Traced July 1933 By H.E.C.
Checked July 1933 By N.W.R.

Assembled Aug. 1933 By H.A. & H.E.C.
Checked Aug. 1933 By [illegible]

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

Sheet No. 5 of 5

BRIDGE OVER LOGAN CREEK

STATE ROAD FROM DONIPHAN TO OXLEY

ABOUT 0.5 MILE WEST OF OXLEY

PROJECT NO. N.R.S. 400A (SB) STA. 497+12

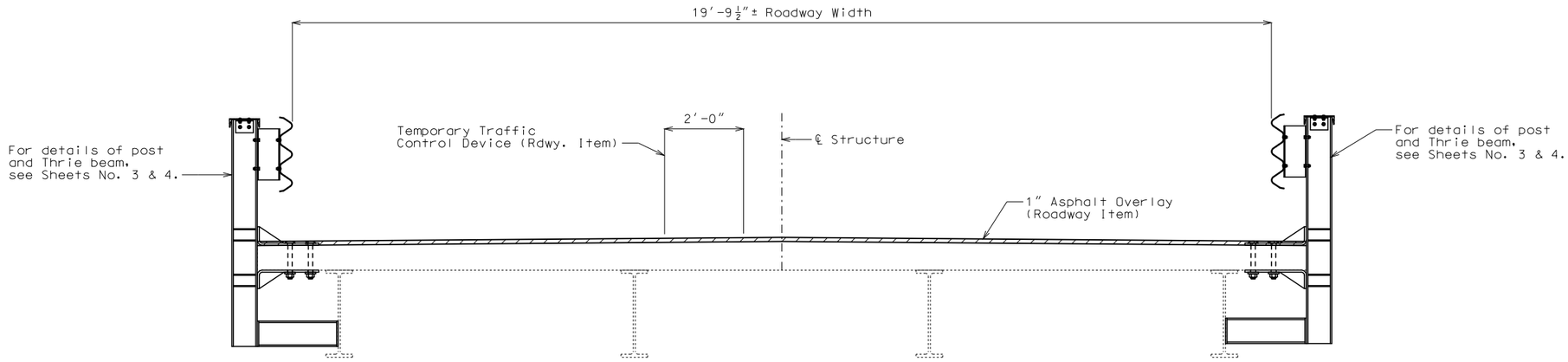
RIPLEY COUNTY

F.A.

S-889

SEC/SUR 36 TWP 23N RGE 3E

U.I.P. AND REHABILITATE EXISTING (29′, 43′, 43′, 29′) I-BEAM GIRDER SPANS



SECTION THUR SLAB

General Notes:

Design Specifications:
2002 - AASHTO (17th Edition) Standard Specifications
Load Factor Design
Bridge Deck Rating = 6

Traffic Control:
Traffic over structure to be maintained during construction (See Roadway Traffic Control Plans).

Miscellaneous:

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

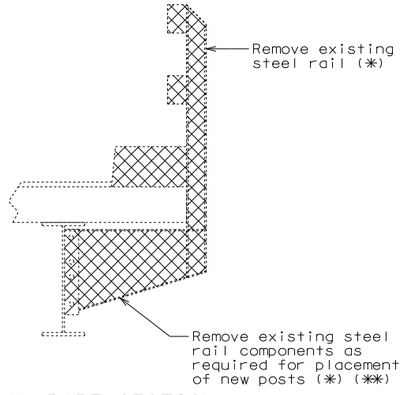
The area exposed by the removal of concrete and not covered with new concrete or asphalt shall be coated with an approved qualified special mortar in accordance with Sec 704.
Contractor shall verify all dimensions in field before ordering new material.

(*) Payment for removal of existing brush curbs, steel rail and its components will be considered completely covered by the contract unit price for Removal of Existing Curb and Rail per linear foot.

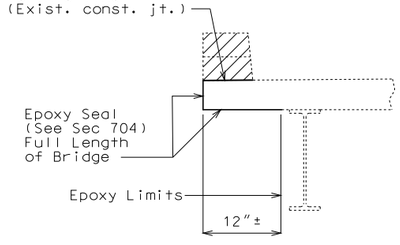
(**) After removal of steel rail components, H.S. Bolts shall be installed in existing holes. See Special Provisions for Rivet Removal and Replacement except that the cost of all work and materials to complete this item will be considered completely covered by the contract unit price for Removal of Existing Curb and Rail.

The surface of existing I-Beam exposed by removal of existing steel rail components shall be coated with one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1045. Payment for gray epoxy-mastic primer, material and labor, will be considered completely covered by the contract unit price for other items.

Temporary Barrier shall not be attached to the bridge.



TYPICAL PART SECTION SHOWINING STEEL POST AND RAIL COMPONENTS REMOVAL



TYPICAL PART SECTION THRU SLAB SHOWING AREA OF CONCRETE CURB REMOVAL AND EPOXY SEAL LIMITS

Estimated Quantities		Total
Removal of Existing Curb and Rail	linear foot	296
Clean and Epoxy Seal	sq. foot	444
Bridge Guardrail (Thrie Beam)	linear foot	288

REPAIRS TO BRIDGE OVER LOGAN CREEK

ROUTE 142 FROM RTE. N TO RTE. T
ABOUT 1 MILE EAST OF RTE. N
STA. 497+12.00± (MATCH EXISTING)

STD. 606.23
STD. 617.10

Detailed July 2016
Checked Aug. 2016

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

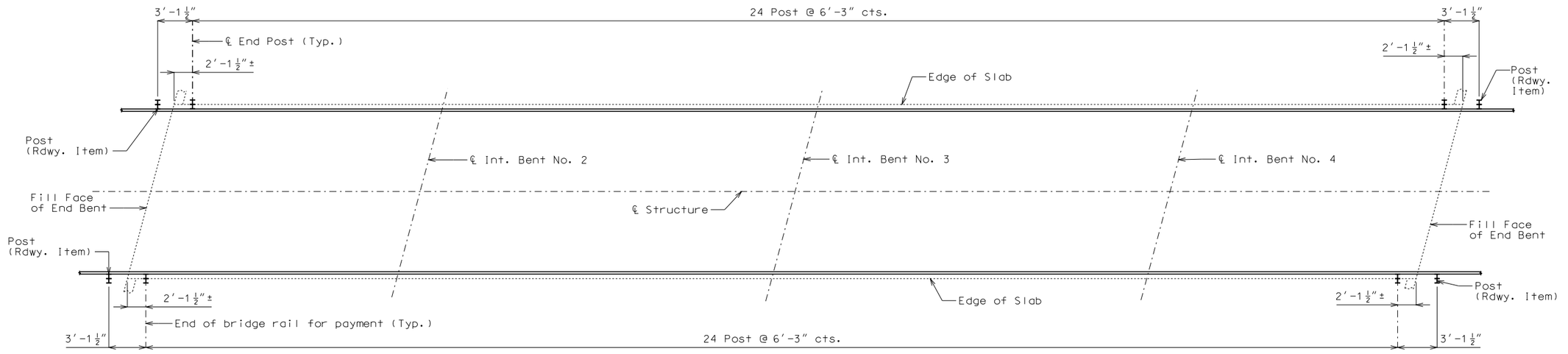
STATE OF MISSOURI
TRAVIS S. STUMP
NUMBER PE-2010000870
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 8/9/2016
ROUTE 142 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY RIPLEY
JOB NO. J9S3171
CONTRACT ID.
PROJECT NO.
BRIDGE NO. S08891

DESCRIPTION	DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)



PLAN OF SLAB SHOWING POST SPACING

Note:
Work this sheet with Sheets No. 1, 3 & 4.

Detailed July 2016
Checked Aug. 2016

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

STATE OF MISSOURI
TRAVIS S. STUMP
NUMBER PE-2010000870
PROFESSIONAL ENGINEER

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DATE PREPARED
8/9/2016

ROUTE	STATE
142	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
RIPLEY

JOB NO.
J9S3171

CONTRACT ID.

PROJECT NO.

BRIDGE NO.
S08891

DESCRIPTION	DATE

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105 WEST CAPITOL
JEFFERSON CITY, MO 65102
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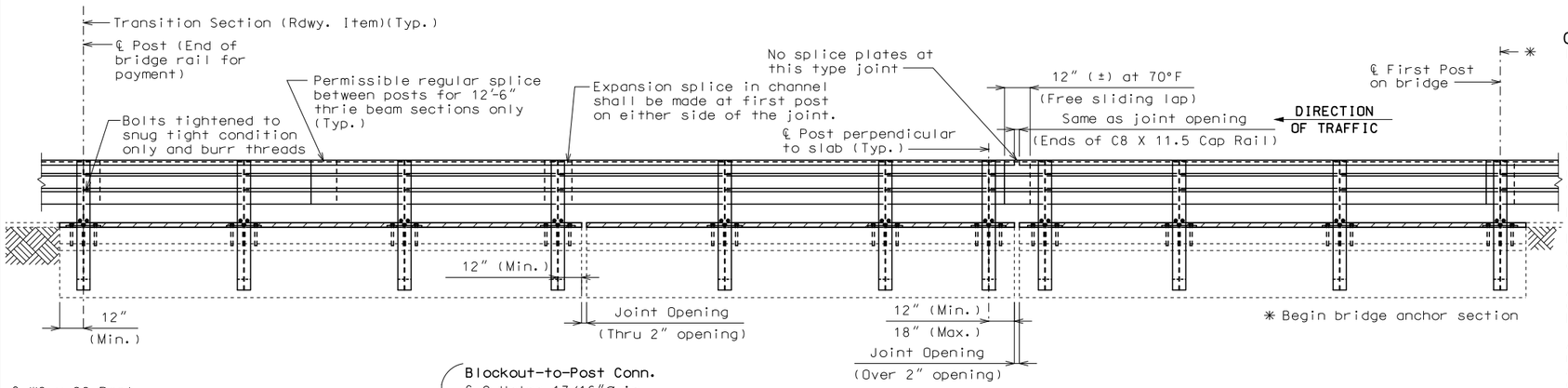
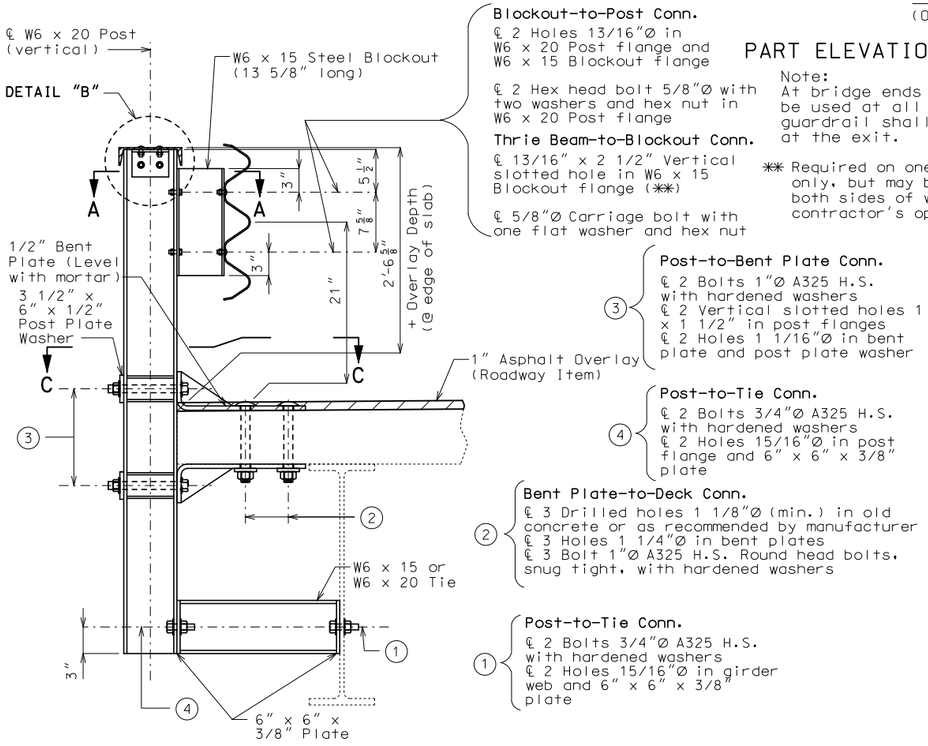


PART ELEVATION SHOWING THRIE BEAM RAIL

Note:
At bridge ends for head to head traffic, guardrail shall be used at all four corners and for single directional traffic, guardrail shall be used at entrance ends only unless required at the exit.

** Required on one side of web only, but may be provided on both sides of web at the contractor's option.



Blockout-to-Post Conn.
℄ 2 Holes 13/16"Ø in W6 x 20 Post flange and W6 x 15 Blockout flange
℄ 2 Hex head bolt 5/8"Ø with two washers and hex nut in W6 x 20 Post flange

Thrie Beam-to-Blockout Conn.
℄ 13/16" x 2 1/2" Vertical slotted hole in W6 x 15 Blockout flange (**)
℄ 5/8"Ø Carriage bolt with one flat washer and hex nut

Post-to-Bent Plate Conn. (3)
℄ 2 Bolts 1"Ø A325 H.S. with hardened washers
℄ 2 Vertical slotted holes 1 1/16" x 1 1/2" in post flanges
℄ 2 Holes 1 1/16"Ø in bent plate and post plate washer

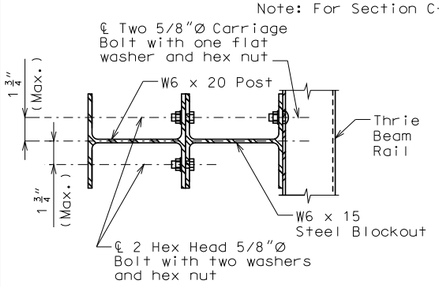
Post-to-Tie Conn. (4)
℄ 2 Bolts 3/4"Ø A325 H.S. with hardened washers
℄ 2 Holes 15/16"Ø in post flange and 6" x 6" x 3/8" plate

Bent Plate-to-Deck Conn. (2)
℄ 3 Drilled holes 1 1/8"Ø (min.) in old concrete or as recommended by manufacturer
℄ 3 Holes 1 1/4"Ø in bent plates
℄ 3 Bolt 1"Ø A325 H.S. Round head bolts, snug tight, with hardened washers

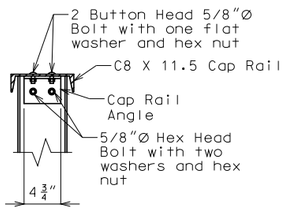
Post-to-Tie Conn. (1)
℄ 2 Bolts 3/4"Ø A325 H.S. with hardened washers
℄ 2 Holes 15/16"Ø in girder web and 6" x 6" x 3/8" plate

PART SECTION AT RAIL POST

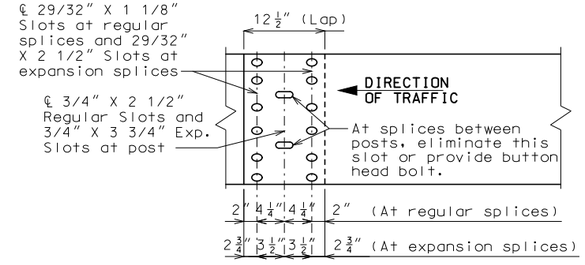
Note: For Section C-C see sheet No. 4.



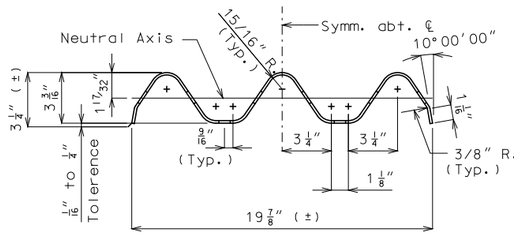
SECTION A-A



DETAIL B



THRIE BEAM RAIL SPLICE DETAILS



SECTION THRU THRIE BEAM RAIL

GENERAL NOTES:

Design Specifications: 2002 - AASHTO 17th Edition

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts (except at end bents).

All bolts, nuts, washers, and plates will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713 except that the rail posts shall be aligned by the use of shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be 3" x 1 3/4" and placed between the blockout and the thrie beam rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material for this work.

At the expansion slots in the thrie beam rails and channels, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

At the thrie beam connection to blockout on wings, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

Minimum length of thrie beam sections is equal to one post space.

5/8"Ø button-head, oval shoulder bolts with 3/8" min. thickness hex nuts shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12 gage steel.

Posts, cap rail angles, bent plates, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Washers shall be used at all post bolts between the bolt head and beam. The flat washers shall be rectangular in shape 3" x 1 3/4" x 3/16" minimum and with a 11/16" x 1" slot, or when necessary of such design as to fit the contour of the beam. A 3" x 1 3/4" x 5/8" rectangular washer shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

Fabrication of structural steel shall be in accordance with Sec 1080.

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.

In addition to the expansion provisions at the expansion joints, expansion splices in the thrie beam rail and the channel shall be provided at other locations so that the maximum length without expansion provisions does not exceed 200 ft.

Contractor shall verify all dimensions before ordering materials.

Shim plates 6" x 6" x 1/16" may be used between the top of the post and the channel member as required for vertical alignment.

See slab sheet for rail post spacing.

See Missouri Standard Plans 606.00 for details not shown.

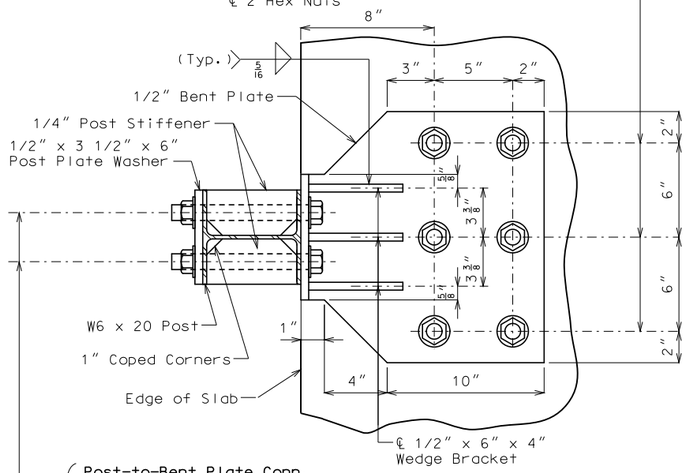
DATE PREPARED 8/9/2016
ROUTE 142 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY RIPLEY
JOB NO. J9S3171
CONTRACT ID.
PROJECT NO.
BRIDGE NO. S08891

DESCRIPTION | DATE

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

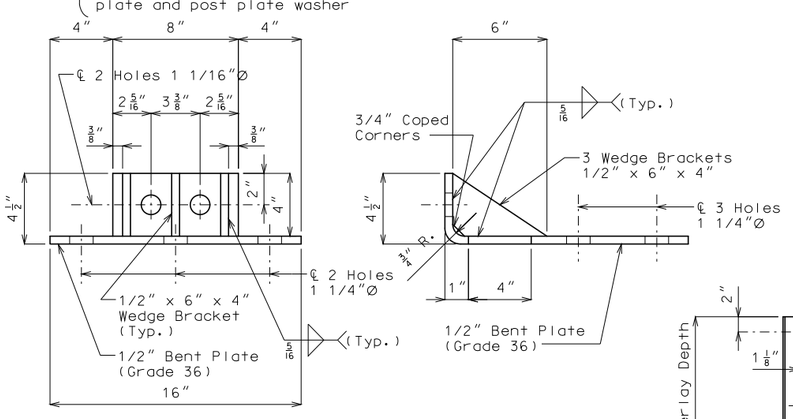
Bent Plate-to-Deck Conn.
℄ 2 Resin Anchor Systems to include:
℄ 2 Drilled Holes 1 1/8"Ø (min.) in slab or as recommended by manufacturer
℄ 2 Holes 1 1/4"Ø in bent plate
℄ 2 Threaded rods 1"Ø A449 H.S., snug tight, 8" (min.) embedment in slab.
℄ 2 Hardened Locking Washers 2 1/2"Ø
℄ 2 Hex Nuts



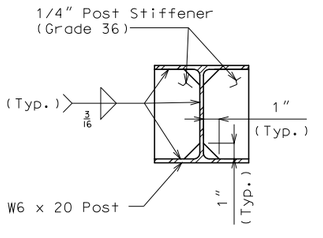
SECTION C-C

Note: For location of Section C-C, see Sheet No. 3.

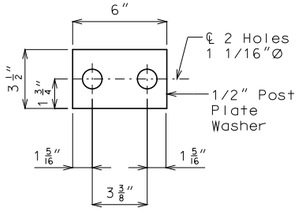
Post-to-Bent Plate Conn.
℄ Bolt 1"Ø A325 H.S. with hardened washers and hex nuts
℄ Vertical Slotted Hole 1 1/16" x 1 1/2" in post flanges
℄ Holes 1 1/16"Ø in bent plate and post plate washer



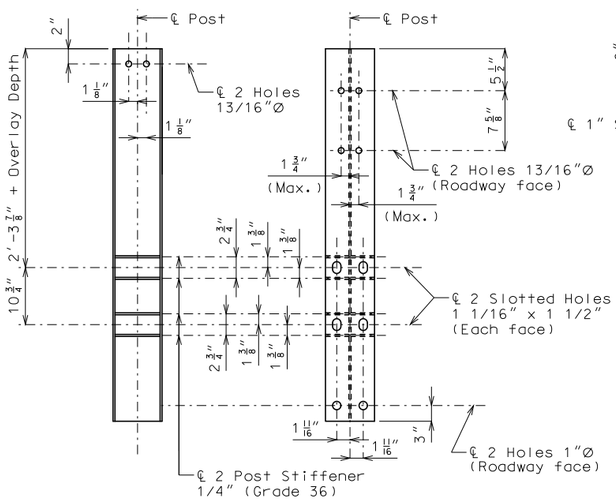
1/2" BENT PLATE AND WEDGE BRACKET



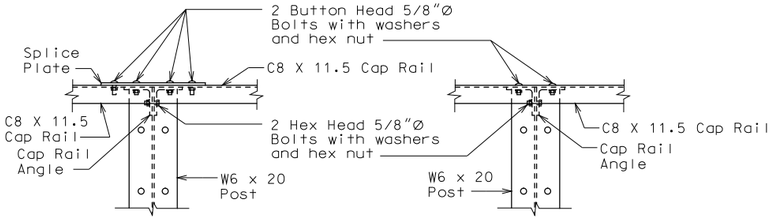
POST STIFFENER



POST PLATE WASHER

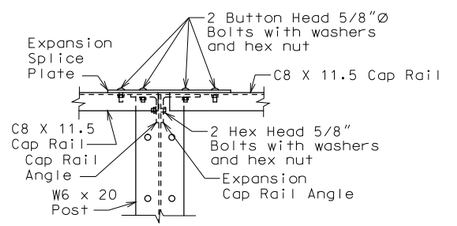


DETAILS OF POST

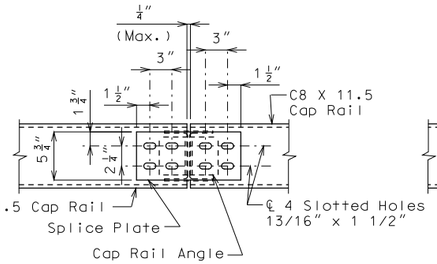


TYPICAL SPLICE ELEVATION

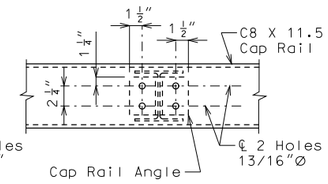
CONNECTION TO RAIL POST ELEVATION



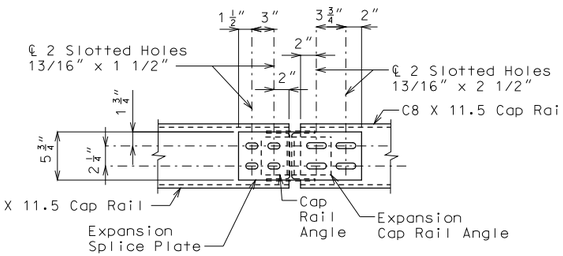
EXPANSION SPLICE ELEVATION



TYPICAL SPLICE PLAN

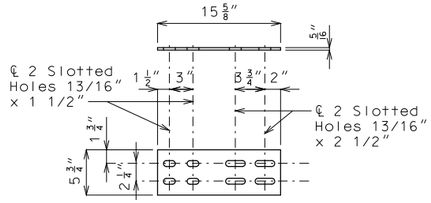


CONNECTION TO RAIL POST PLAN



EXPANSION SPLICE PLAN

Expansion slots same side of post as exp. joint

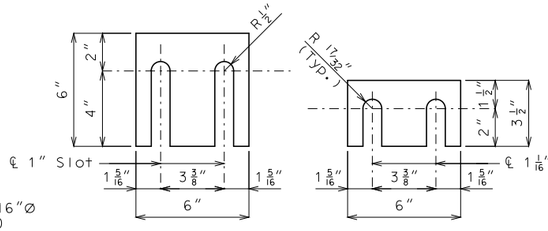


EXPANSION SPLICE PLATE

SIDE VIEW

CAP RAIL ANGLE

∠3 1/2 x 3 x 1/2 ∠1 1/2 x 3 x 1/2 ∠2 1/2 x 3 x 5/16



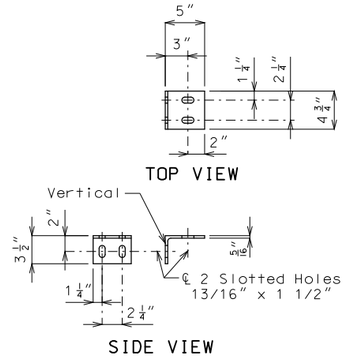
DETAIL OF SHIM PLATES

Notes:

Shim plates 6"x 6" x 1/16" may be used between post W6 x 20 and 6" x 6" x 3/8" plate and shim plates 6" x 3 1/2" x 1/16" may be used between post W6 x 20 and 1/2" bent plate connection as required for horizontal alignment.

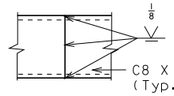
Shim plates may vary in thickness from 1/16" to the thickness required, and may be used in multiples.

Shim plates shall be galvanized after fabrication.



EXPANSION CAP RAIL ANGLE

∠5 x 3 1/2 x 5/16



OPTIONAL SPLICE

Shop or field splice at any location (Max. one per panel)

Detailed July 2016
Checked Aug. 2016

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

STATE OF MISSOURI
TRAVIS S. STUMP
NUMBER PE-2010000870
PROFESSIONAL ENGINEER
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DATE PREPARED 8/9/2016
ROUTE 142 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY RIPLEY
JOB NO. J9S3171
CONTRACT ID.
PROJECT NO.
BRIDGE NO. S08891

DESCRIPTION
DATE

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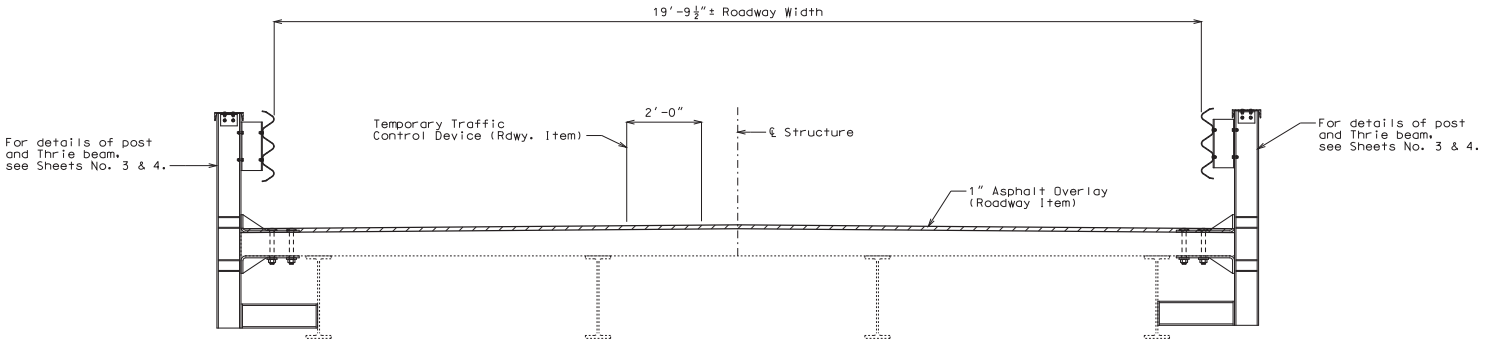
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SEC/SUR	36	TWP	23N	RGE	3E

U.I.P. AND REHABILITATE EXISTING (29′, 43′, 43′, 29′) I-BEAM GIRDER SPANS



SECTION THUR SLAB

General Notes:

Design Specifications:
2002 - AASHTO (17th Edition) Standard Specifications
Load Factor Design
Bridge Deck Rating = 6

Traffic Control:
Traffic over structure to be maintained during construction (See Roadway Traffic Control Plans).

Miscellaneous:

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

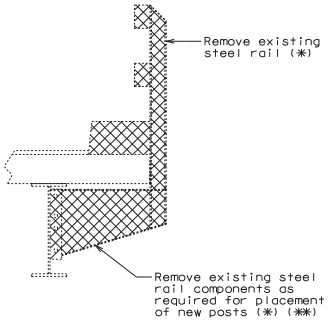
The area exposed by the removal of concrete and not covered with new concrete or asphalt shall be coated with an approved qualified special mortar in accordance with Sec 704.
Contractor shall verify all dimensions in field before ordering new material.

(*) Payment for removal of existing brush curbs, steel rail and its components will be considered completely covered by the contract unit price for Removal of Existing Curb and Rail per linear foot.

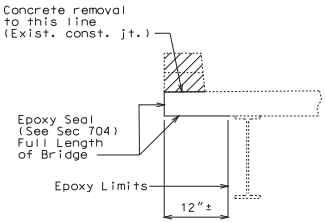
(**) After removal of steel rail components, H.S. Bolts shall be installed in existing holes. See Special Provisions for Rivet Removal and Replacement except that the cost of all work and materials to complete this item will be considered completely covered by the contract unit price for Removal of Existing Curb and Rail.

The surface of existing I-Beam exposed by removal of existing steel rail components shall be coated with one coat of gray epoxy-mastic primer (non-aluminum) in accordance with Sec 1045. Payment for gray epoxy-mastic primer, material and labor, will be considered completely covered by the contract unit price for other items.

Temporary Barrier shall not be attached to the bridge.



TYPICAL PART SECTION
SHOWINING STEEL POST
AND RAIL COMPONENTS REMOVAL



TYPICAL PART SECTION THRU
SLAB SHOWING AREA
OF CONCRETE CURB REMOVAL
AND EPOXY SEAL LIMITS

Estimated Quantities		Total
Removal of Existing Curb and Rail	linear foot	296
Clean and Epoxy Seal	sq. foot	444
Bridge Guardrail (Thrie Beam)	linear foot	288

REPAIRS TO BRIDGE OVER LOGAN CREEK

ROUTE 142 FROM RTE. N TO RTE. T
ABOUT 1 MILE EAST OF RTE. N
STA. 497+12.00± (MATCH EXISTING)

STD. 606.23
STD. 617.10

Detailed July 2016
Checked Aug. 2016

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DATE PREPARED
8/9/2016

ROUTE	STATE
142	MO
DISTRICT	SHEET NO.
BR	1

COUNTY
RIPLEY

JOB NO.
J9S3171

CONTRACT ID.
161118-H07

PROJECT NO.
J9S3171

BRIDGE NO.
S08891

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

AS-BUILT PLANS

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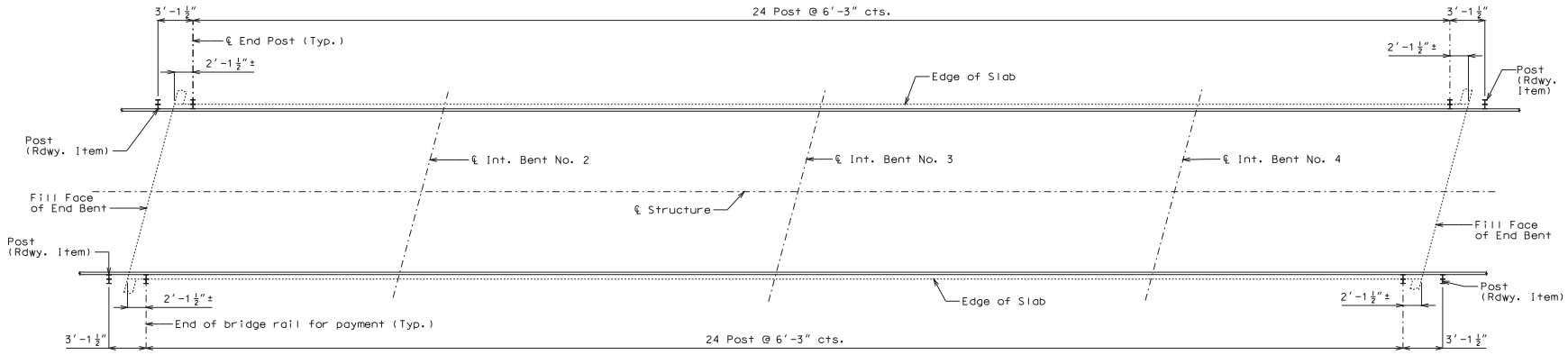

PLAN OF SLAB SHOWING POST SPACING

Note:

Work this sheet with Sheets No. 1, 3 & 4.

Detailed July 2016
Checked Aug. 2016

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

Sheet No. 2 of 4

STATE OF MISSOURI
TRAVIS S. STUMP
NUMBER PE-2010000870
PROFESSIONAL ENGINEER
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DATE PREPARED
8/9/2016

ROUTE	STATE
142	MO

DISTRICT	SHEET NO.
BR	2

COUNTY
RIPLEY

JOB NO.
J9S3171

CONTRACT ID.
161118-H07

PROJECT NO.
J9S3171

BRIDGE NO.
S08891

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

AS-BUILT PLANS

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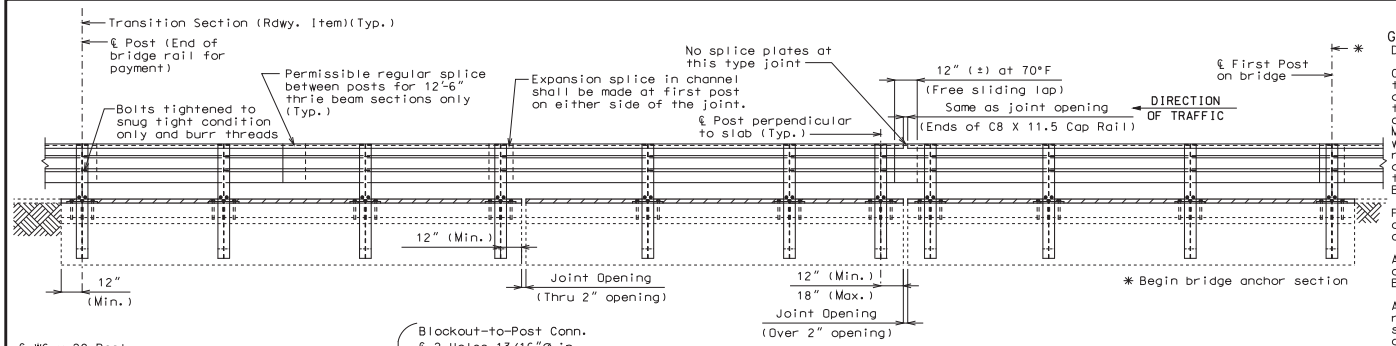
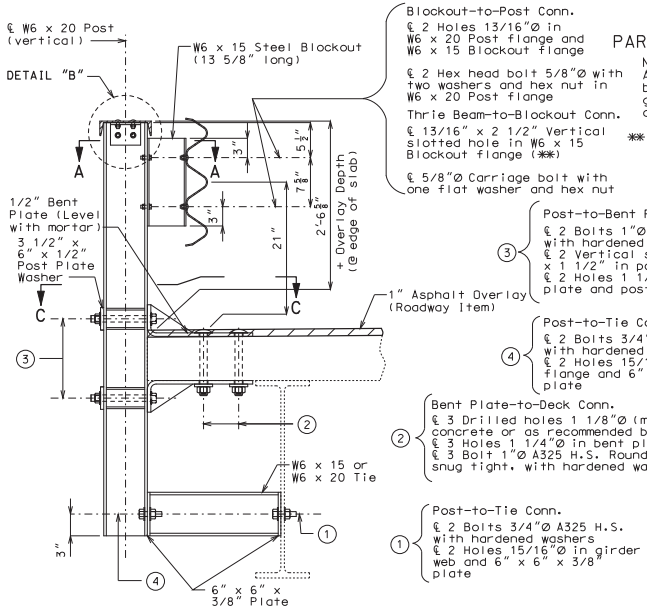


PART ELEVATION SHOWING THRIE BEAM RAIL

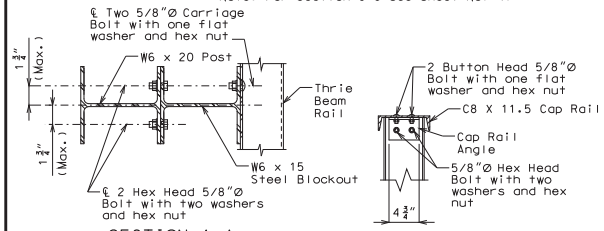
Note:
At bridge ends for head to head traffic, guardrail shall be used at all four corners and for single directional traffic, guardrail shall be used at entrance ends only unless required at the exit.

** Required on one side of web only, but may be provided on both sides of web at the contractor's option.



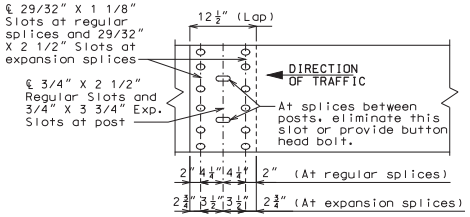
PART SECTION AT RAIL POST

Note: For Section C-C see sheet No. 4.

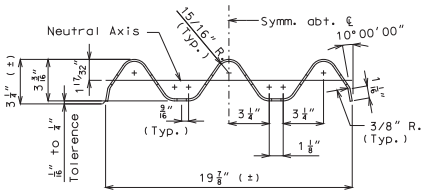


SECTION A-A

DETAIL B



THRIE BEAM RAIL SPLICE DETAILS



SECTION THRU THRIE BEAM RAIL

GENERAL NOTES:

Design Specifications: 2002 - AASHTO 17th Edition

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts (except at end bents).

All bolts, nuts, washers, and plates will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713 except that the rail posts shall be aligned by the use of shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be 3" x 1 3/4" and placed between the blockout and the thrie beam rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material for this work.

At the expansion slots in the thrie beam rails and channels, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

At the thrie beam connection to blockout on wings, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

Minimum length of thrie beam sections is equal to one post space.

5/8"Ø button-head, oval shoulder bolts with 3/8" min. thickness hex nuts shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12 gage steel.

Posts, cap rail angles, bent plates, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Washers shall be used at all post bolts between the bolt head and beam. The flat washers shall be rectangular in shape 3" x 1 3/4" x 3/16" minimum and with a 11/16" x 1" slot, or when necessary of such design as to fit the contour of the beam. A 3" x 1 3/4" x 5/8" rectangular washer shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

Fabrication of structural steel shall be in accordance with Sec 1080.

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.

In addition to the expansion provisions at the expansion joints, expansion splices in the thrie beam rail and the channel shall be provided at other locations so that the maximum length without expansion provisions does not exceed 200 ft.

Contractor shall verify all dimensions before ordering materials.

Shim plates 6" x 6" x 1/16" may be used between the top of the post and the channel member as required for vertical alignment.

See slab sheet for rail post spacing.

See Missouri Standard Plans 606.00 for details not shown.

DATE PREPARED 8/9/2016

ROUTE	STATE
142	MO
DISTRICT	SHEET NO.
BR	3

COUNTY RIPLEY

JOB NO. J9S3171

CONTRACT ID. 161118-H07

PROJECT NO. J9S3171

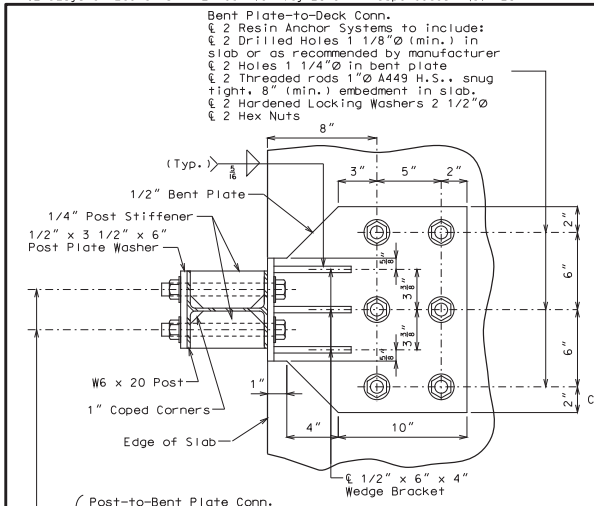
BRIDGE NO. S08891

DESCRIPTION | DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

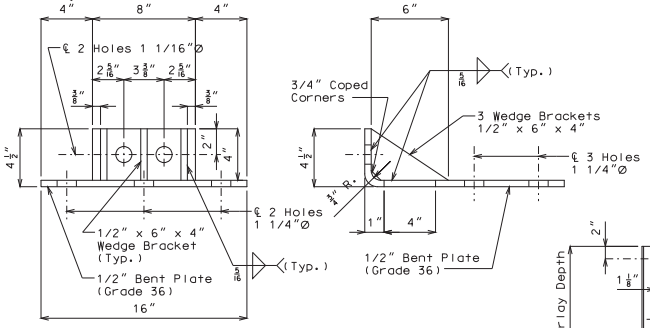
AS-BUILT PLANS

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

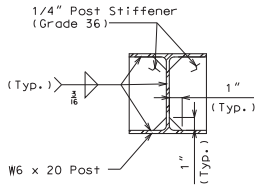


SECTION C-C

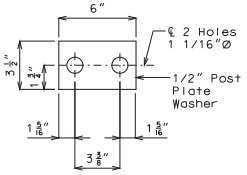
Note: For location of Section C-C, see Sheet No. 3.



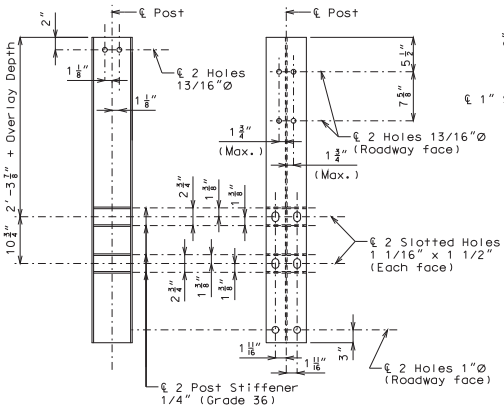
1/2" BENT PLATE AND WEDGE BRACKET



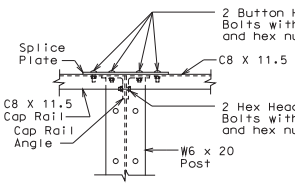
POST STIFFENER



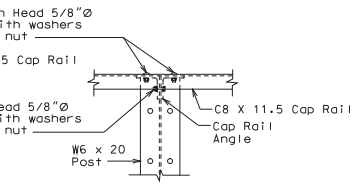
POST PLATE WASHER



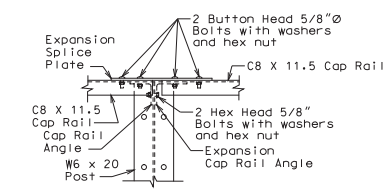
DETAILS OF POST



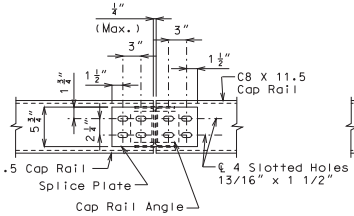
TYPICAL SPLICE ELEVATION



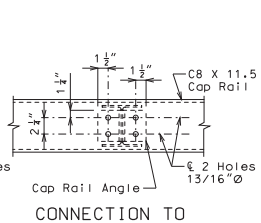
CONNECTION TO RAIL POST ELEVATION



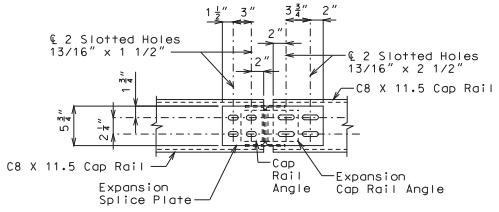
EXPANSION SPLICE ELEVATION



TYPICAL SPLICE PLAN

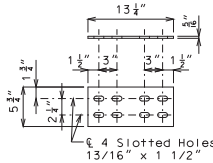


CONNECTION TO RAIL POST PLAN

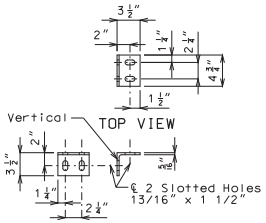


EXPANSION SPLICE PLAN

Expansion slots same side of post as exp. joint



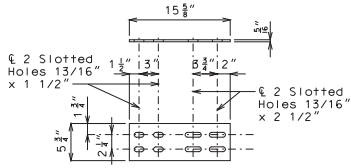
SPLICE PLATE



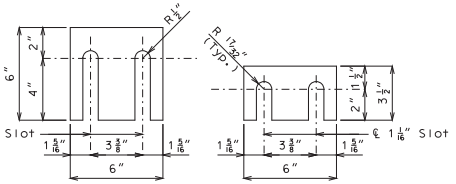
SIDE VIEW

CAP RAIL ANGLE

∠3 1/2 x 3 1/2 x 1/2 x 2 3/4 x 1 5/16 x 5/16



EXPANSION SPLICE PLATE



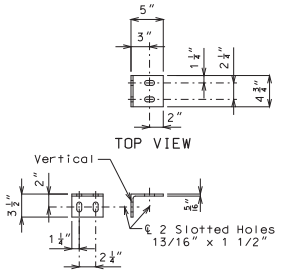
DETAIL OF SHIM PLATES

Notes:

Shim plates 6"x 6" x 1/16" may be used between post W6 x 20 and 6" x 6" x 3/8" plate and shim plates 6" x 3 1/2" x 1/16" may be used between post W6 x 20 and 1/2" bent plate connection as required for horizontal alignment.

Shim plates may vary in thickness from 1/16" to the thickness required, and may be used in multiples.

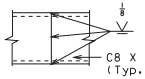
Shim plates shall be galvanized after fabrication.



SIDE VIEW

EXPANSION CAP RAIL ANGLE

∠5 x 3 1/2 x 5/16



OPTIONAL SPLICE

Shop or field splice at any location (Max. one per panel)

Detailed July 2016
Checked Aug. 2016

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

DATE PREPARED 8/9/2016

ROUTE	STATE
142	MO
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BR	4

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