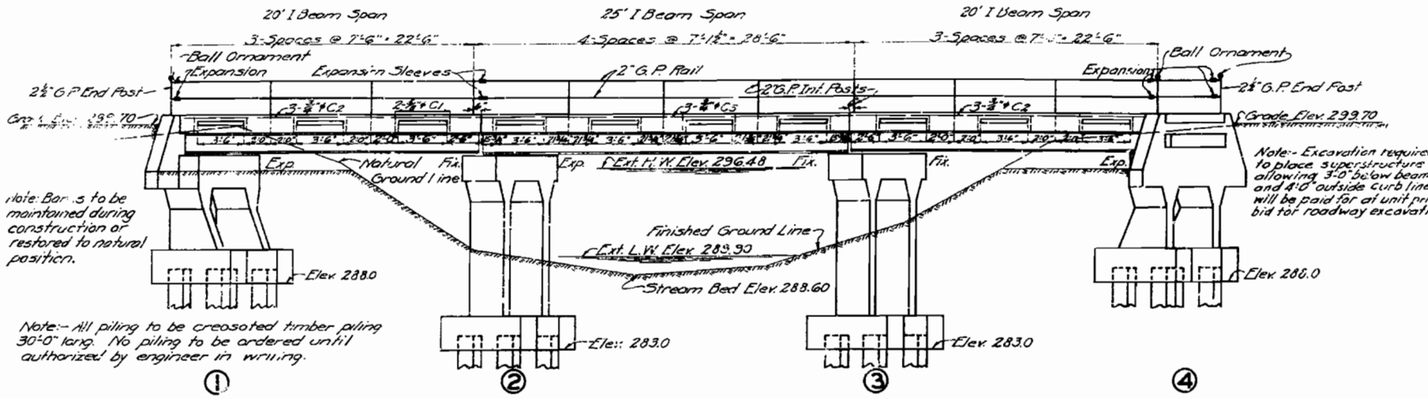
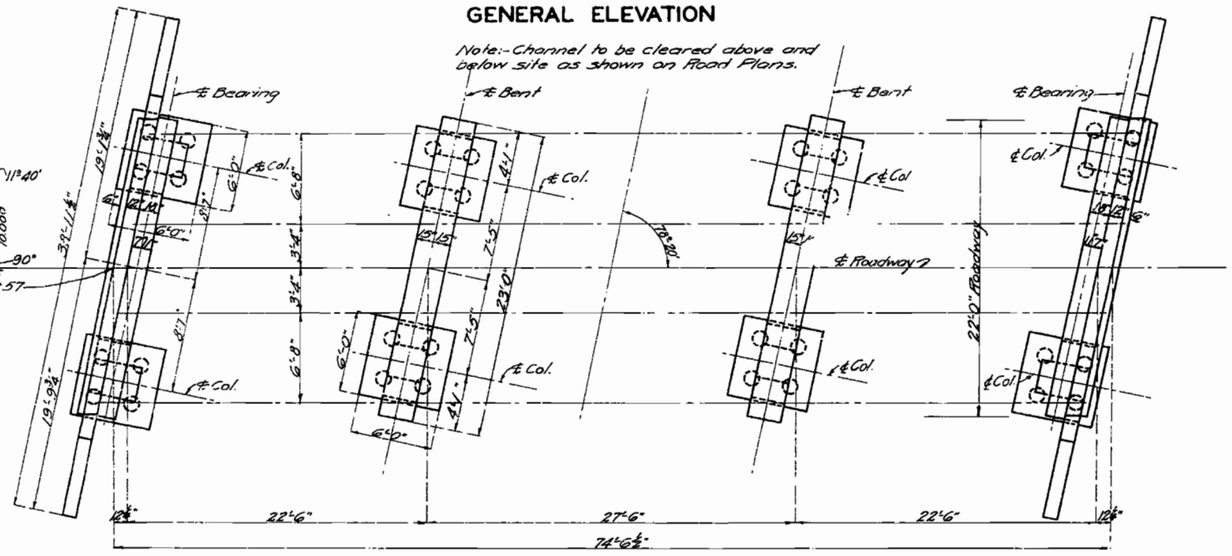
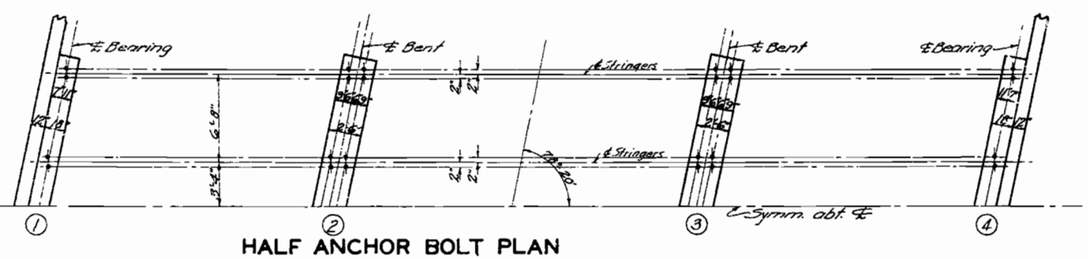
MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO	(118)(US 60)	19		



GENERAL ELEVATION





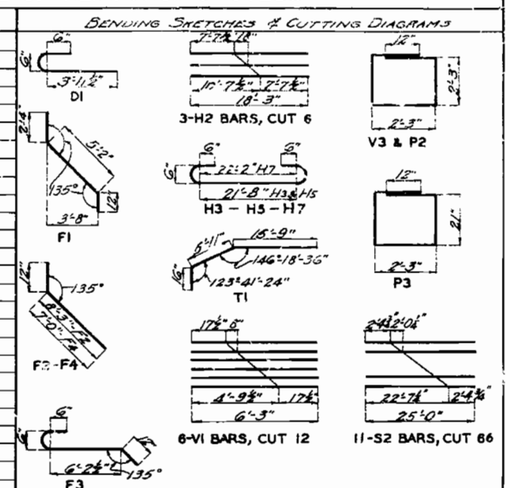
HALF ANCHOR BOLT PLAN

LOCATION SKETCH

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location
40	¾"ϕ	5'-3"	D1	Footing
16	¾"ϕ	8'-6"	F1	Haunches
16	¾"ϕ	9'-3"	F2	"
16	¾"ϕ	8'-6"	F3	"
16	¾"ϕ	8'-0"	F4	"
8	¾"ϕ	11'-9"	H1	Wing
6	¾"ϕ	18'-3"	H2	"
12	¾"ϕ	24'-3"	H3	Beam
8	¾"ϕ	22'-3"	H4	"
6	¾"ϕ	24'-3"	H5	"
2	¾"ϕ	17'-6"	H6	Backwall
8	¾"ϕ	24'-0"	T1	Wing
12	½"ϕ	6'-3"	V1	"
12	½"ϕ	5'-3"	V2	"
44	½"ϕ	10'-0"	V3	Beam
24	¾"ϕ	6'-6"	V4	Columns
44	½"ϕ	4'-6"	V5	Backwall
16	¾"ϕ	11'-6"	P1	Column
24	¾"ϕ	10'-0"	P2	"
60	½"ϕ	9'-0"	P3	Beam
20	1"ϕ	24'-9"	H7	"
	Superstructure			
80	⅝"ϕ	12"	C1	Curb
12	¾"ϕ	22'-3"	C2	"
6	¾"ϕ	27'-3"	C3	"
276	⅝"ϕ	23'-3"	S1	Slab
66	⅝"ϕ	25'-0"	S2	"
56	⅝"ϕ	22'-3"	S3	"
28	⅝"ϕ	27'-3"	S4	"
12	⅝"ϕ	23'-9"	S5	"

Bending Sketches & Cutting Diagrams



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

GENERAL NOTES:-

Concrete in slab and curb to be 1:2:3½ mix, Class "A" concrete.
All other concrete to be 1:2:4 mix, Class "B" concrete.
Exposed edges to be beveled ¾" where no other bevel is noted.
Shop drawings for structural steel and handrail shall be submitted to the State Highway Department in duplicate and shall be approved before steel is fabricated.
Paint: Shop; None.
Field; Surfaces inaccessible after erection, four coats of red lead. NO OTHER PAINT TO BE APPLIED BY CONTRACTOR.
All paint will be furnished by the Missouri State Highway Department.
Two name plates, type "C" as shown on Std. 581B, to be furnished and placed by contractor. Cost of name plates to be included in price bid for other items.
Where bituminous felt is used in expansion or partition joints in concrete, stitch felt in vertical joints securely to the face of concrete with copper wire.
Floor slab to be brought to grade and dead load deflection taken care of by increasing slab thickness. See Sheet No. 2.
Bridge excavation in accordance with Section 1 of Standard Specifications issued April 1, 1930.
Piles to be driven to sustain a load of 12 ton per pile.
Field connections - ¾"ϕ Rivets - Open holes 13/16".
See sheet No 3 and special provisions regarding permissible substitutions of beams.

ESTIMATED QUANTITIES

Item	Substr.	Superstr.	Total
Excavation Class 1 Cu. Yds.	165		165
Excavation Class 2 Cu. Yds.	110		110
Concrete 1:2:3½ mix "A" Cu. Yds.		41.1	41.1
Concrete 1:2:4 mix "B" Cu. Yds.	71.0		71.0
Fabricated Struc. Steel Lbs.		22750	22750
Reinforcing Steel Lbs.	5600	11430	17030
Creos. Timber Piling Lin. Ft.	960		960
Creos. Timber Pile Cut-Offs Lin. Ft.	96		96
Gas Pipe Handrail Lin. Ft.		349	349

Note:- Bridge excavation above Elev. 290.0 will be paid for as Class 1 Bridge Excavation. Bridge excavation below Elev. 290.0 will be paid for as Class 2 Bridge Excavation.

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

B.M. Elev. 294.96. Nail in root of 15" persimmon 175' Lt. Sta. 209+05.

BRIDGE OVER DRAINAGE DITCH

STATE ROAD FROM ESSEX TO GRAY RIDGE
ABOUT 1.0 MILE EAST OF HUNTERVILLE
PROJECT NO. 118 B (U.S. 60) STA. 212 + 57
STODDARD COUNTY

SUBMITTED BY M.R. Lay DATE 5/13/31 BRIDGE ENGINEER
APPROVED BY T.H. Cutler DATE 5/13/31 CHIEF ENGINEER

STD. 581B
J-740

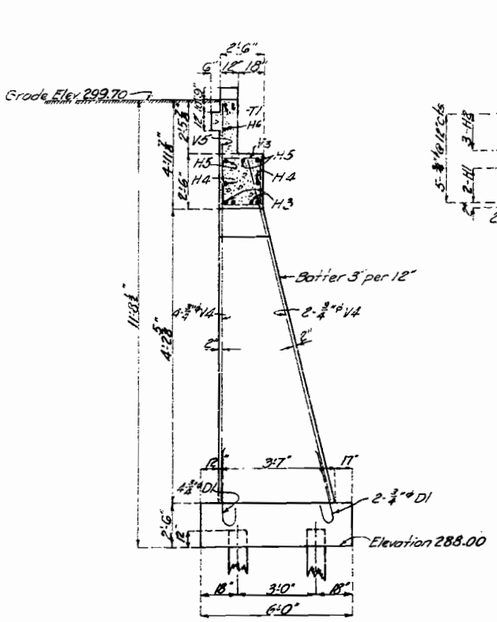
Drawn Apr. 1931 by C.M.G.
Traced Apr. 1931 by C.A.F.
Checked Apr. 1931 by A.O.U.

Sheet No. 1 of 3.

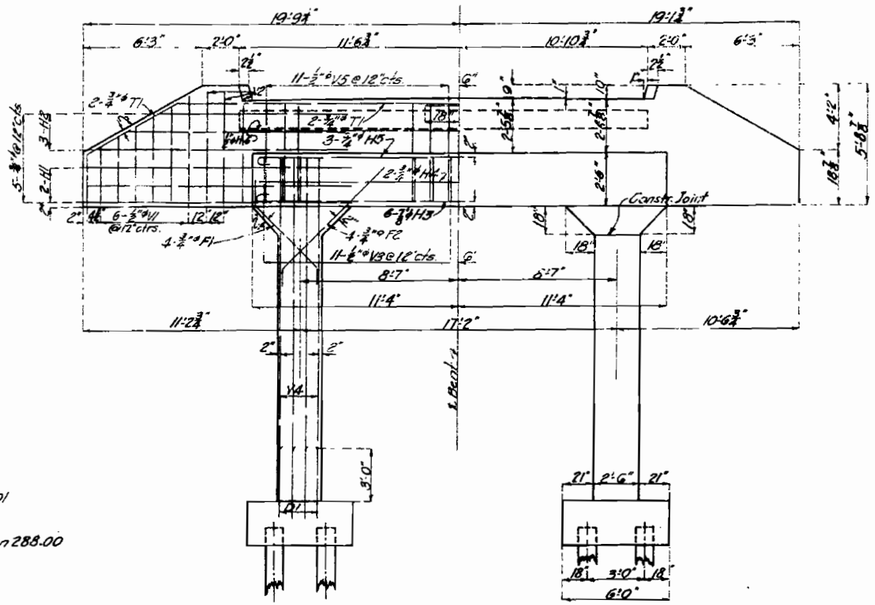
F.A.

MISSOURI STATE HIGHWAY DEPARTMENT

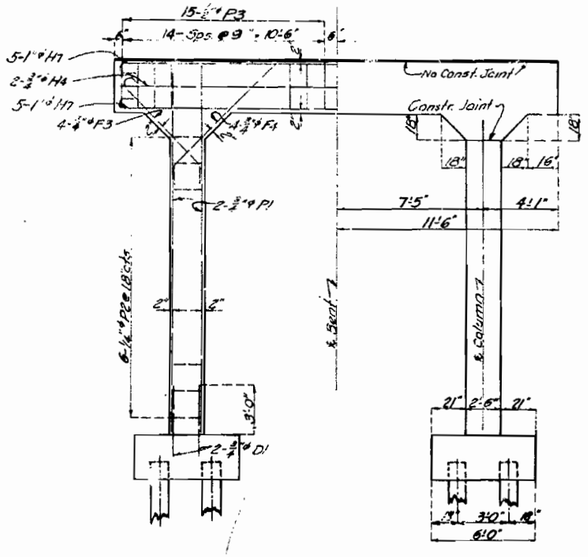
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	118B (US 60)	1931		



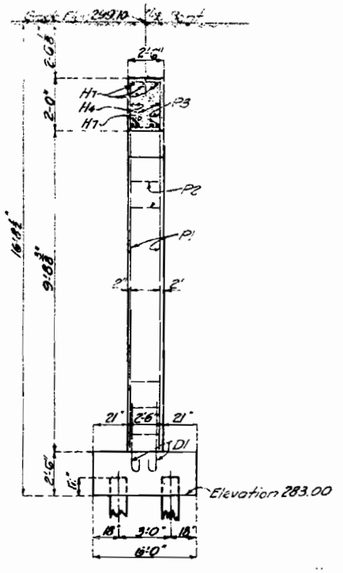
SECTION AT ℄



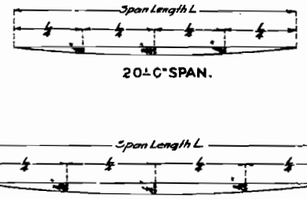
ELEVATION



ELEVATION

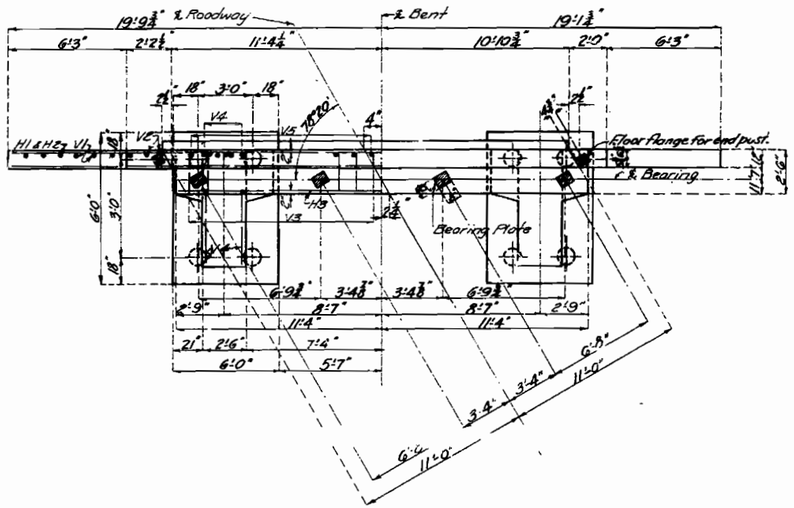


SECTION AT ℄



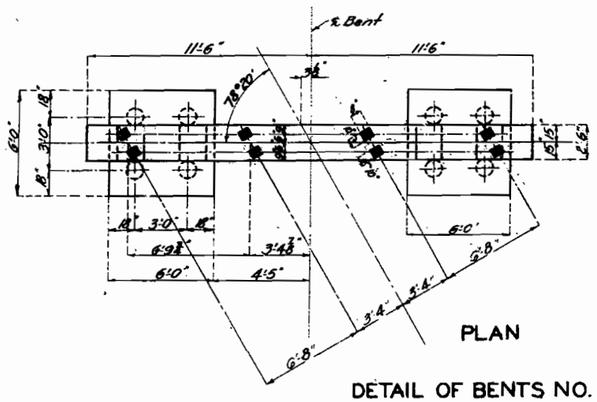
Floor slab to be brought to grade and dead load deflection taken care of by increasing slab thickness. Depth of slab at outside face of curb to be kept uniform and bottom surface of slab warped between curb and outside beam to obtain required thickness at beam. Payment will be allowed for additional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

DEAD LOAD DEFLECTION DIAGRAMS



PLAN

DETAILS OF BENTS NO. 1 & 4



PLAN

DETAIL OF BENTS NO. 2 & 3

BRIDGE OVER DRAINAGE DITCH

STATE ROAD FROM ESSEX TO GRAY RIDGE

ABOUT 1.0 MILE EAST OF HUNTERVILLE

PROJECT NO. 118B (US 60) STA. 212+57

STODDARD COUNTY

SUBMITTED BY M.R. Lack BRIDGE ENGINEER DATE 5/13/31

APPROVED BY T.H. Cutler CHIEF ENGINEER DATE 5/12/31

FINISHED

STD. S-813

J-740

Assembled April 1931 by C.M.G.
Checked April 1931 by A.O.U.
Drawn Oct. 1930 by H.B.A.
Traced Oct. 1930 by G.W.
Checked ,193 by

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

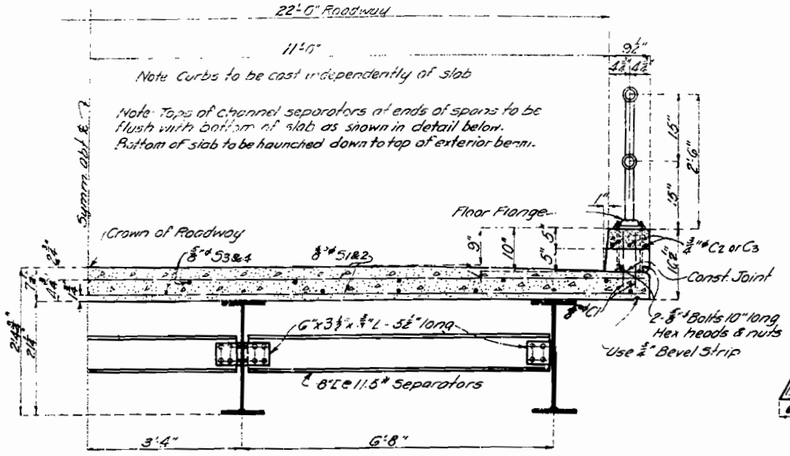
Sheet No. 2 of 3.

F.A.

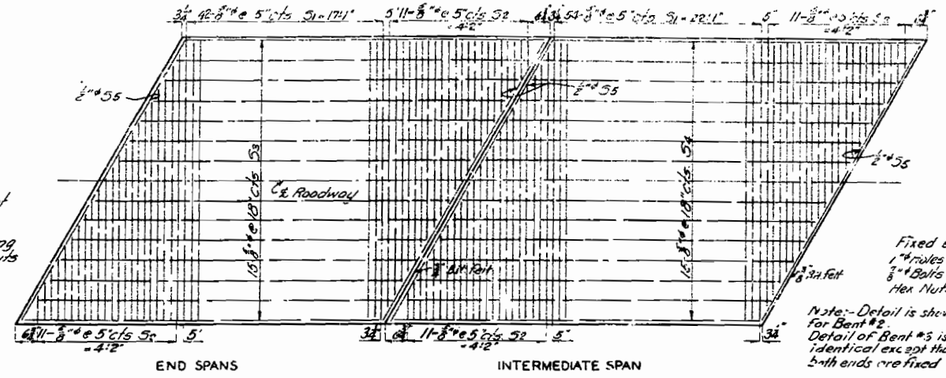
3/2

MISSOURI STATE HIGHWAY DEPARTMENT

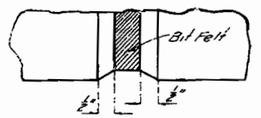
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	MO.	118B (U.S.60)	1931		



HALF SECTION THRU BEAM SPANS



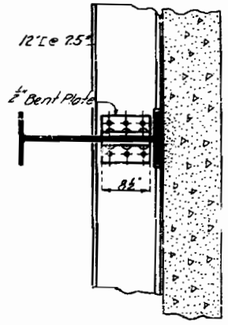
PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

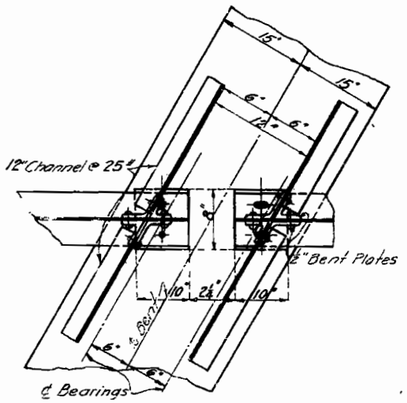


Note. Use bevel as shown for exposed faces of all joints consisting of bituminous felt except at top surface of roadway slab. Use edging tool at top surface of roadway slab each side of felt joint.

DETAIL OF BEVEL FOR BITUMINOUS FELT JOINTS

DETAIL OF BEVEL FOR CONST. JOINT AT CURB

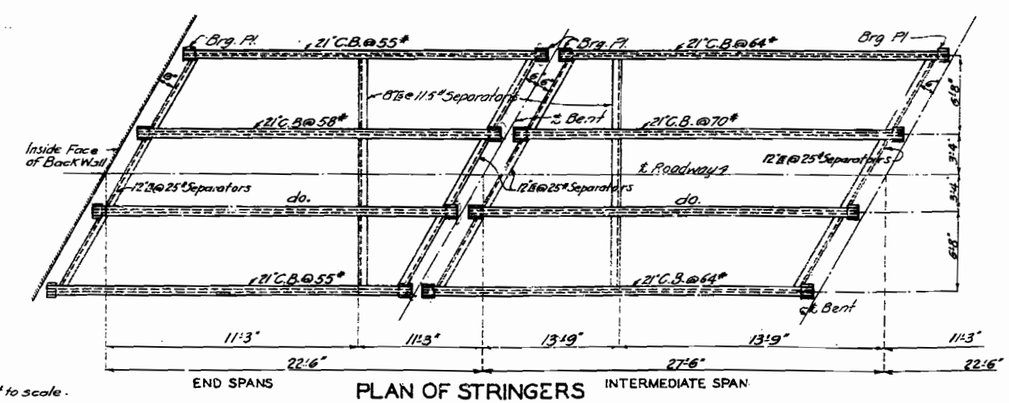




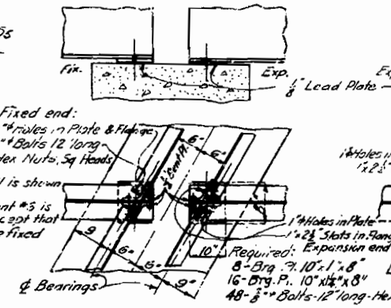
DETAILS OF END CHANNEL SEPARATORS

PLAN OF SLAB SHOWING TOP REINFORCEMENT

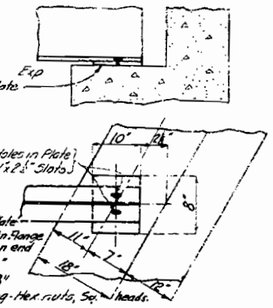
Note: Bearing Plates Spans (1-2)&(3-4) - 10"x1¼"x8"
Span (2-3) - 10"x1"x8"



PLAN OF STRINGERS



DETAILS OF BEARINGS ON BENTS NO. 2 & 3



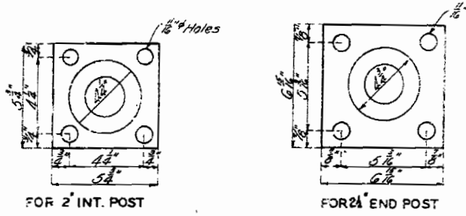
DETAILS OF BEARINGS ON BENTS NO. 1 & 4

Permissible I Beam Substitution :

	Outside Beam	Inside Beam
Span (1-2)&(3-4)	20"I @ 65.4# / 20"Beth.I @ 56#	20"I @ 65.4# / 20"Beth.I @ 62#
(2-3)	20"I @ 75# / 22"Beth.I @ 62.5#	20"I @ 81.4# / 22"Beth.I @ 67.5#

Note:- See special provision for condition under which substitutions may be made and for basis of payment.

Note: Tops of ∠'s to be finished within as n[illegible]y ⅛" of final elevation c. bottom of plates as possible. Plates to be seated to proper elevation by inserting soft lead plates between top of bent and bottom of plate over entire bearing area. Cost of lead plates to be included in price bid for other items.



DETAILS OF FLOOR FLANGES

BRIDGE OVER DRAINAGE DITCH

STATE ROAD FROM ESSEX TO GRAY RIDGE
ABOUT 1.0 MILE EAST OF HUNTERVILLE
PROJECT NO. 118B (US 60) STA. 212+57

STODDARD COUNTY

SUBMITTED BY W.R. Sack / BRIDGE ENGINEER DATE 5/13/31
APPROVED BY T.H. Cutler / CHIEF ENGINEER DATE 5/13/31

STD. S-818
J-740

Assembled April 1931 by C.M.B.
Checked Apr. 1931 by A.O.U.
Drawn Nov 1930 by
Traced Jan. 1931 by G.W.
Checked 193 by

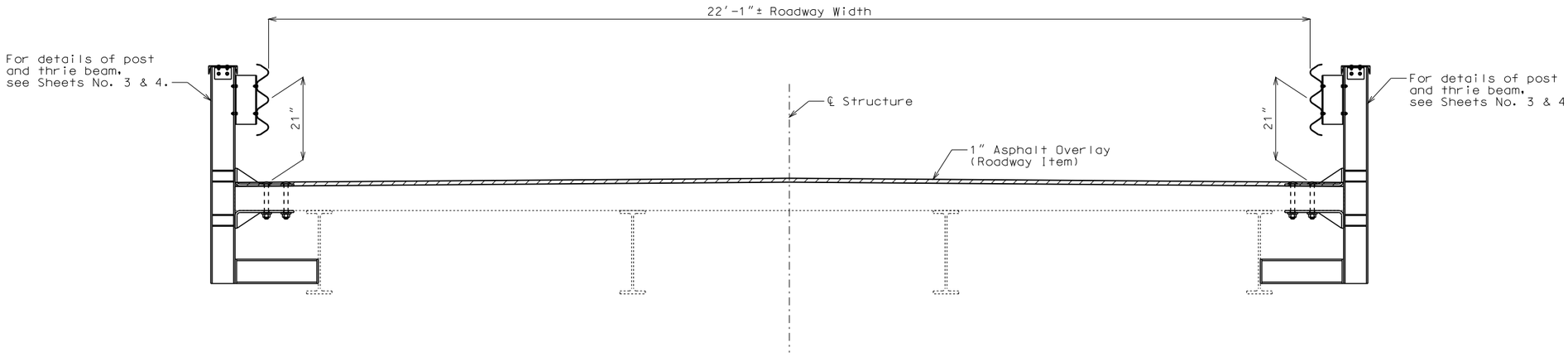
Note: This drawing is not to scale. Follow dimensions.

F.A.

SEC/SUR 7 TWP 25N RGE 12E

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

U.I.P. and Rehab. Existing (20')(25')(20') I-Beam Girder Span



SECTION THRU SLAB

General Notes:

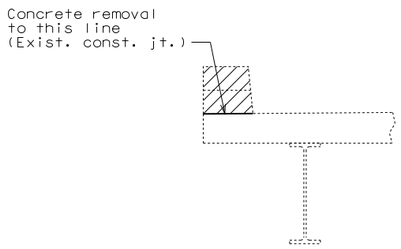
Design Specifications:
2002 - AASHTO 17th Edition
Load Factor Design
Bridge Deck Rating = 4

Traffic Control:
Traffic over structure to be maintained during construction.

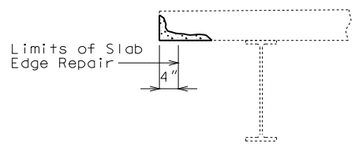
Miscellaneous:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Estimated Quantities		
Item		Total
Removal of Existing Curb and Rail	linear foot	150
Slab Edge Repair	linear foot	120
Bridge Guardrail (Thrie Beam)	linear foot	150



TYPICAL PART SECTION THRU SLAB SHOWING AREA OF CONCRETE CURB REMOVAL



TYPICAL PART SECTION THRU SLAB SHOWING AREA OF CONCRETE OVERHANG REPAIR

REPAIRS TO BRIDGE OVER DRAINAGE DITCH

STATE ROAD FROM ESSEX TO GRAY RIDGE
ABOUT 1.0 MILE EAST OF HUNTERVILLE
STA. 212+57.00± (Match Existing)

STD. 606.22
STD. 617.10

Detailed Dec. 2013
Checked Jan. 2014

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

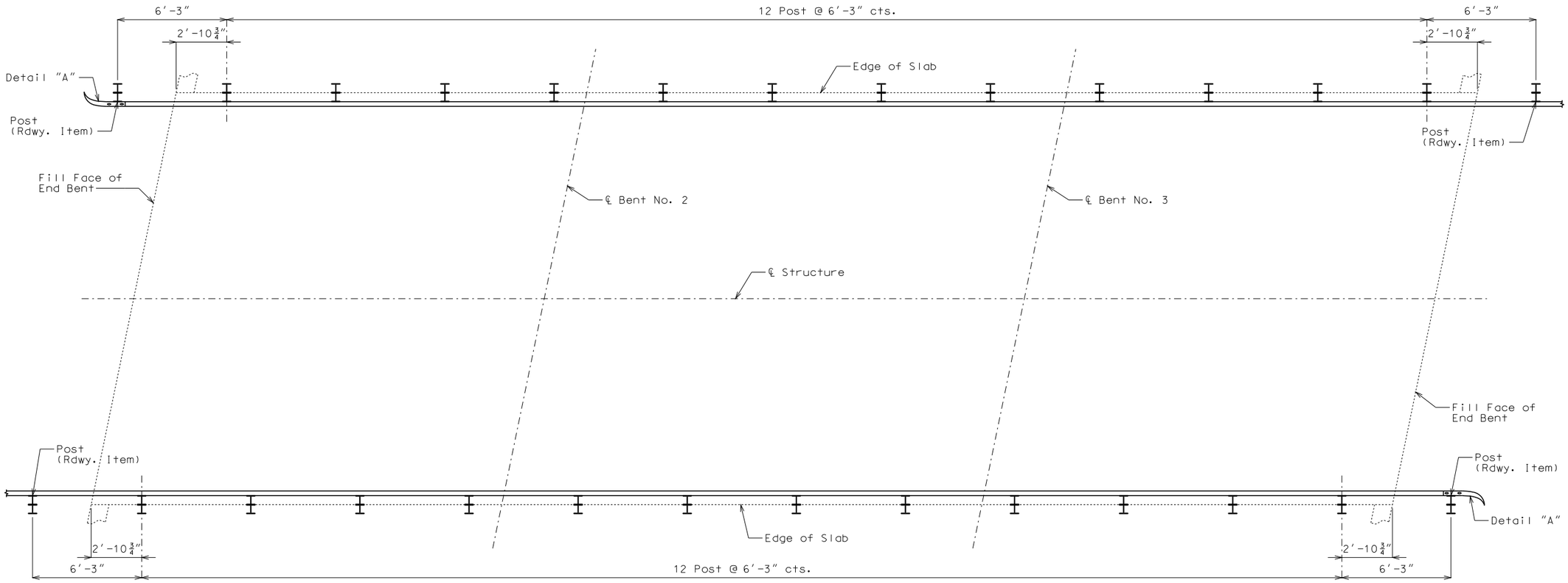
STATE OF MISSOURI
BRYAN A HARTNAGEL
NUMBER PE-2002024473
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 2/25/2014
ROUTE 114 | STATE MO
DISTRICT BR | SHEET NO. 1
COUNTY STODDARD
JOB NO. J9S3054
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J07401

DESCRIPTION | DATE

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

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



PLAN OF SLAB SHOWING POST SPACING

Note:

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

Detailed Dec. 2013
Checked Jan. 2014

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

STATE OF MISSOURI
BRYAN A. HARTNAGEL
NUMBER PE-2002024473
PROFESSIONAL ENGINEER

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
2/25/2014

ROUTE	STATE
114	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
STODDARD

JOB NO.
J9S3054

CONTRACT ID.

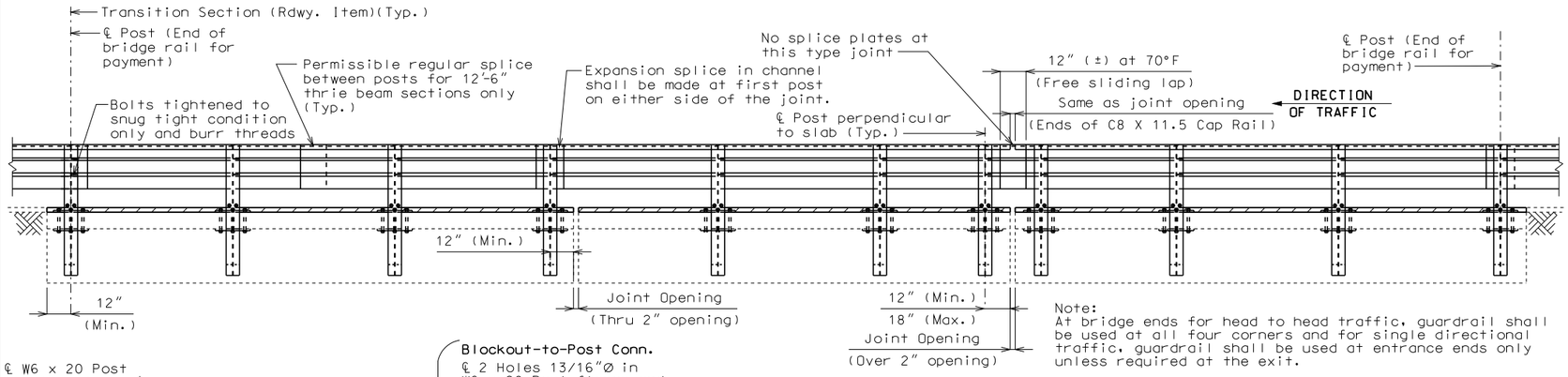
PROJECT NO.

BRIDGE NO.
J07401

DESCRIPTION	DATE

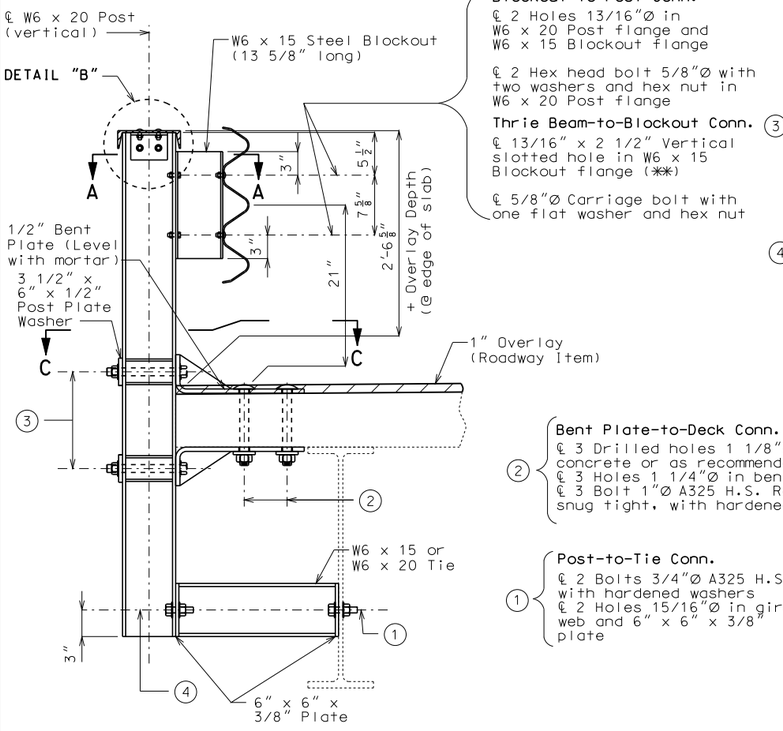
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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



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.

PART ELEVATION SHOWING THRIE BEAM RAIL



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

③ **Post-to-Bent Plate Conn.**
℄ 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

④ **Post-to-Tie Conn.**
℄ 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

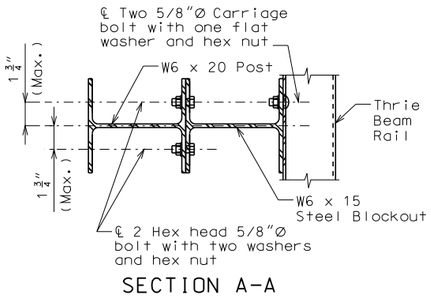
② **Bent Plate-to-Deck Conn.**
℄ 3 Drilled holes 1 1/8"Ø (min.) in old concrete or as recommended by manufacturer
℄ 3 Holes 1 1/4"Ø in bent plates
℄ 3 Bolt 1"Ø A325 H.S. Round head bolts, snug tight, with hardened washers

① **Post-to-Tie Conn.**
℄ 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

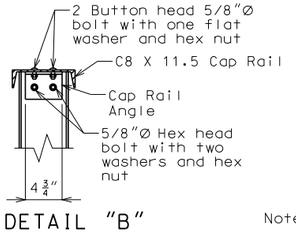
(✱✱) Required on one side of web only, but may be provided on both sides of web at the contractor's option.

PART SECTION AT RAIL POST

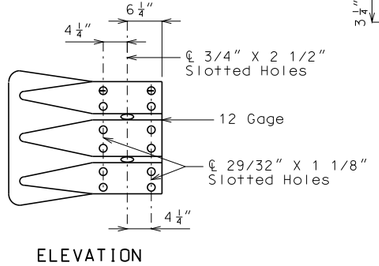
Note: For Sections C-C & D-D, see Sheet No. 4.



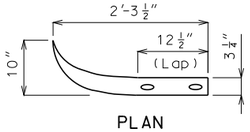
SECTION A-A



DETAIL "B"



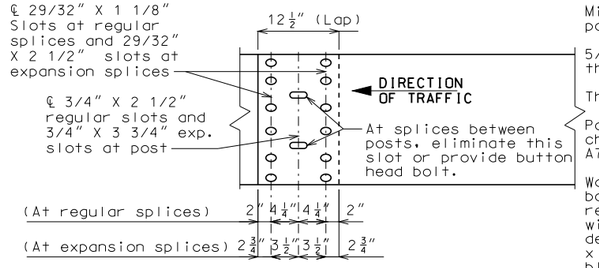
ELEVATION



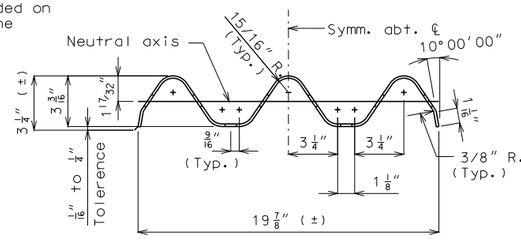
PLAN

DETAIL "A"

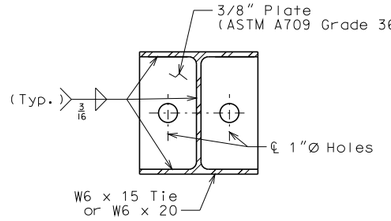
Note: For location of Detail "A", see Sheet No. 2.



THRIE BEAM RAIL SPLICE DETAILS



SECTION THRU THRIE BEAM RAIL



SECTION THRU W6 X 15 TIE OR W6 X 20

NOTES:

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, plates and elastomeric materials 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 rail 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.

Delineators shall be placed on top of the C8 x 11.5 cap rail as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators shall be affixed with 2-1 1/2" long x 1/4" diameter bolts. The diameter of the bolt's head shall be twice the diameter of the hole, with a minimum of 1/2". Washers shall be used with the bolts and shall have 1/2" diameter holes. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

STATE OF MISSOURI
BRYAN A. HARTNAGEL
NUMBER PE-2002024473
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 2/25/2014
ROUTE 114 | STATE MO
DISTRICT BR | SHEET NO. 3
COUNTY STODDARD
JOB NO. J9S3054
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J07401

DESCRIPTION | DATE

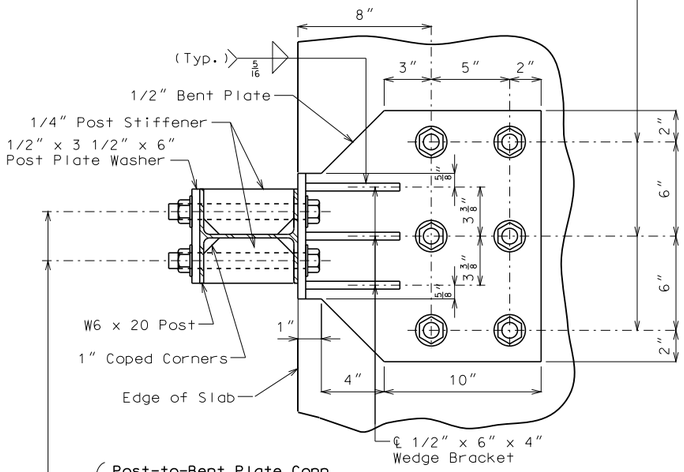
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

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

Detailed Dec. 2013
Checked Jan. 2014

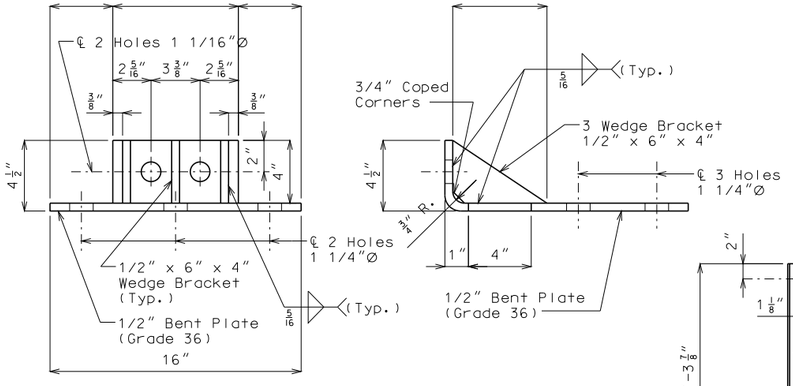
Note: This drawing is not to scale. Follow dimensions.

Bent Plate-to-Deck Conn.
℄ 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 1"Ø A449 H.S. Round head bolts, snug tight.
℄ 2 Hardened locking washers 2 1/2"Ø

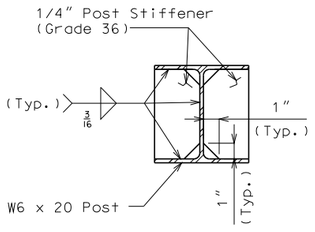


SECTION C-C

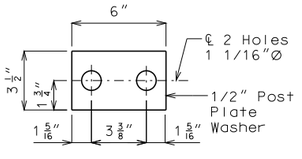
Post-to-Bent Plate Conn.
℄ Bolt 1"Ø A325 H.S. with hardened washers
℄ Vertical slotted hole 1 1/16" x 1 1/2" in post flanges
℄ Holes 1 1/16"Ø in bent plate and post plate washer



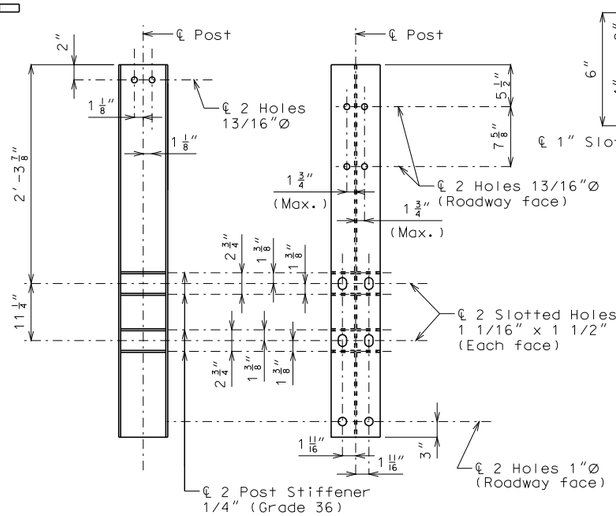
1/2" BENT PLATE AND WEDGE BRACKET



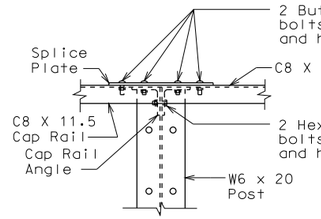
POST STIFFENER



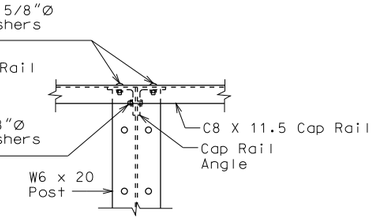
POST PLATE WASHER



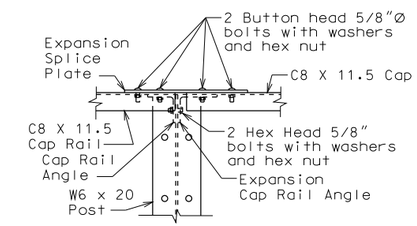
DETAILS OF POST



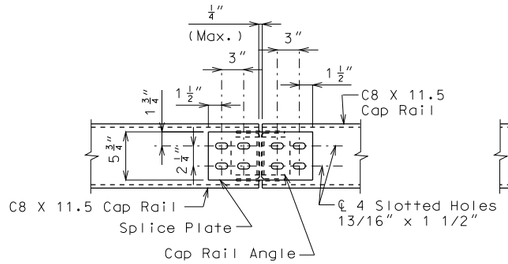
TYPICAL SPLICE ELEVATION



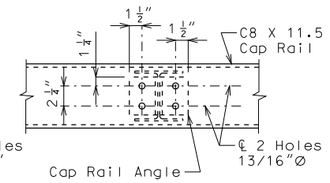
CONNECTION TO RAIL POST ELEVATION



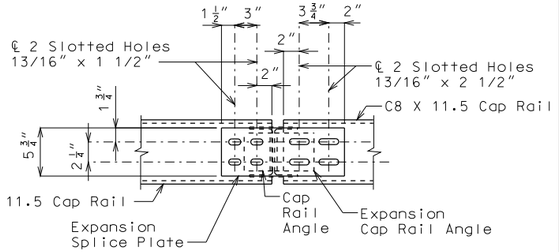
EXPANSION SPLICE ELEVATION



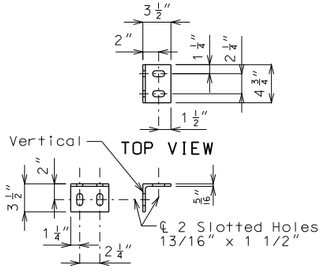
TYPICAL SPLICE PLAN



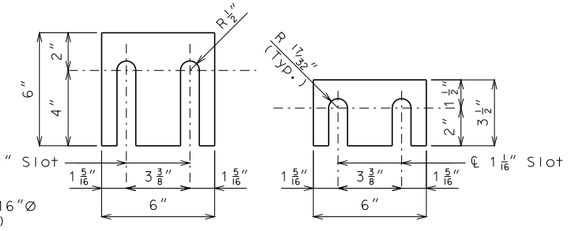
CONNECTION TO RAIL POST PLAN



EXPANSION SPLICE PLAN
Expansion slots same side of post as exp. joint



CAP RAIL ANGLE
∠3 1/2 x 3 1/2 x 5/16



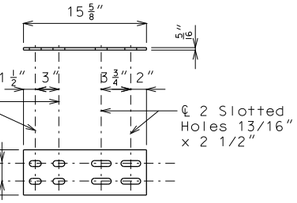
DETAIL OF SHIM PLATES

Notes:

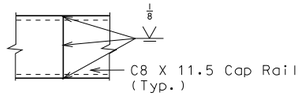
Shim plates 6"x 6" x 1/16" may be used between post W6 x 20 and 6" x 6"x 3/8" plate and shim plates 6" x 3 1/2" x 1/16" may be used between post W6 x 20 and 1/2" bent plate connection as required for horizontal alignment.

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

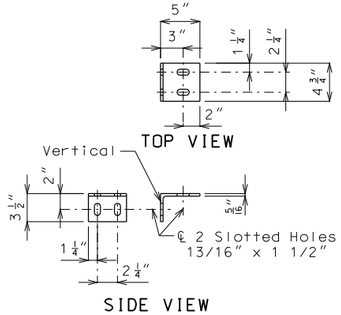
Shim plate shall be galvanized after fabrication.



EXPANSION SPLICE PLATE



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



EXPANSION CAP RAIL ANGLE
∠5 x 3 1/2 x 5/16

Detailed Dec. 2013
Checked Jan. 2014

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

STATE OF MISSOURI
BRYAN A HARTNAGEL
NUMBER PE-2002024473
PROFESSIONAL ENGINEER
THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED 2/25/2014
ROUTE 114 | STATE MO
DISTRICT BR | SHEET NO. 4
COUNTY STODDARD
JOB NO. J9S3054
CONTRACT ID.
PROJECT NO.
BRIDGE NO. J07401

DESCRIPTION
DATE

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

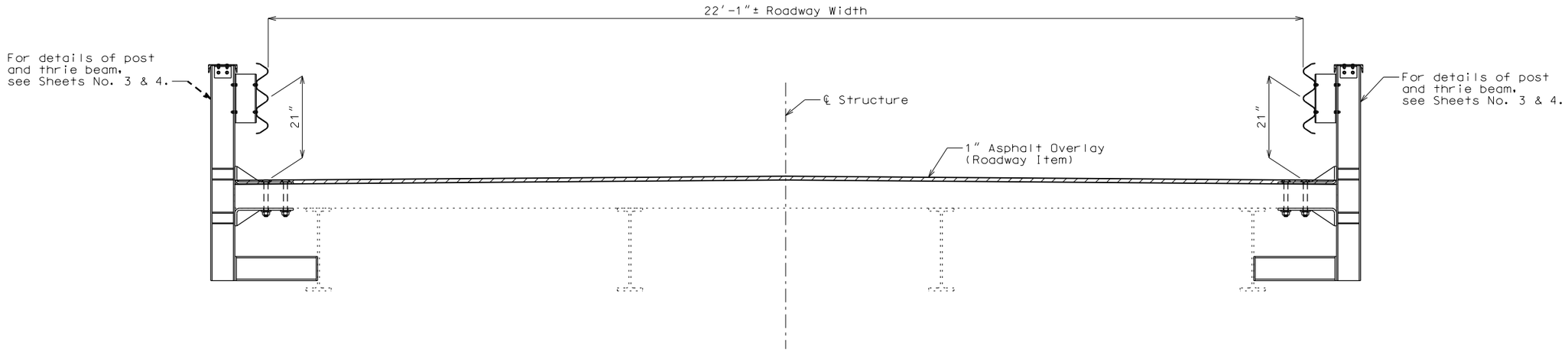
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

SEC/SUR 7 TWP 25N RGE 12E

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

U.I.P. and Rehab. Existing (20')(25')(20') I-Beam Girder Span

FINAL PLANS



SECTION THRU SLAB

General Notes:

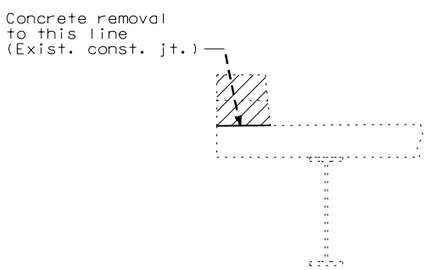
Design Specifications:
2002 - AASHTO 17th Edition
Load Factor Design
Bridge Deck Rating = 4

Traffic Control:
Traffic over structure to be maintained during construction.

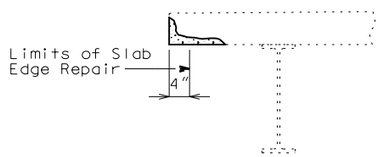
Miscellaneous:
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.

The area exposed by the removal of concrete and not covered with new concrete shall be coated with an approved qualified special mortar in accordance with Sec 704.

Estimated Quantities		
Item		Total
Removal of Existing Curb and Rail	linear foot	150
Slab Edge Repair	linear foot	57.3
Bridge Guardrail (Thrie Beam)	linear foot	150



TYPICAL PART SECTION THRU SLAB SHOWING AREA OF CONCRETE CURB REMOVAL



TYPICAL PART SECTION THRU SLAB SHOWING AREA OF CONCRETE OVERHANG REPAIR

REPAIRS TO BRIDGE OVER DRAINAGE DITCH

STATE ROAD FROM ESSEX TO GRAY RIDGE
ABOUT 1.0 MILE EAST OF HUNTERVILLE
STA. 212+57.00± (Match Existing)

STD. 606.22
STD. 617.10

Detailed Dec. 2013
Checked Jan. 2014

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

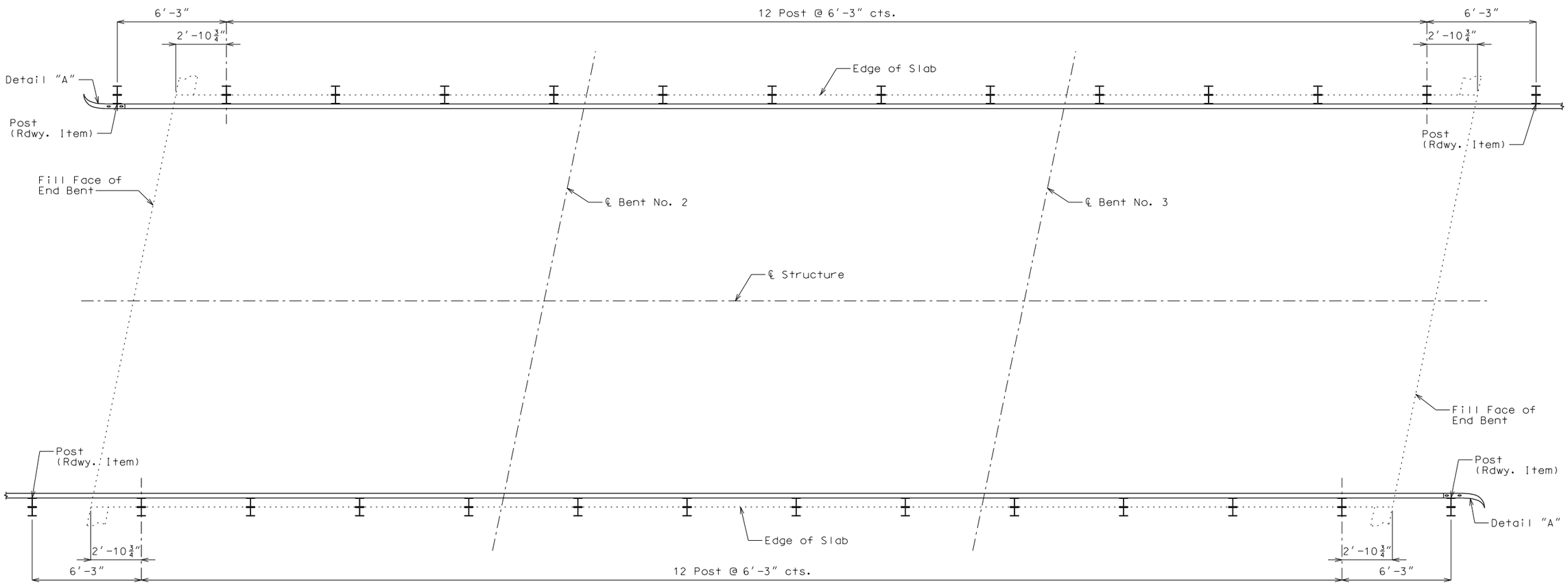
DATE PREPARED

ROUTE	STATE
114	MO
DISTRICT	SHEET NO.
BR	1

COUNTY: STODDARD
JOB NO.: J9S3054
CONTRACT ID.: 140523-H06
PROJECT NO.: FAF-S700(33)
BRIDGE NO.: J07401

DESCRIPTION | DATE

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.

DATE PREPARED

ROUTE	STATE
114	MO
DISTRICT	SHEET NO.
BR	2

COUNTY
STODDARD

JOB NO.
J9S3054

CONTRACT ID.
140523-H06

PROJECT NO.
FAF-S700(33)

BRIDGE NO.
J07401

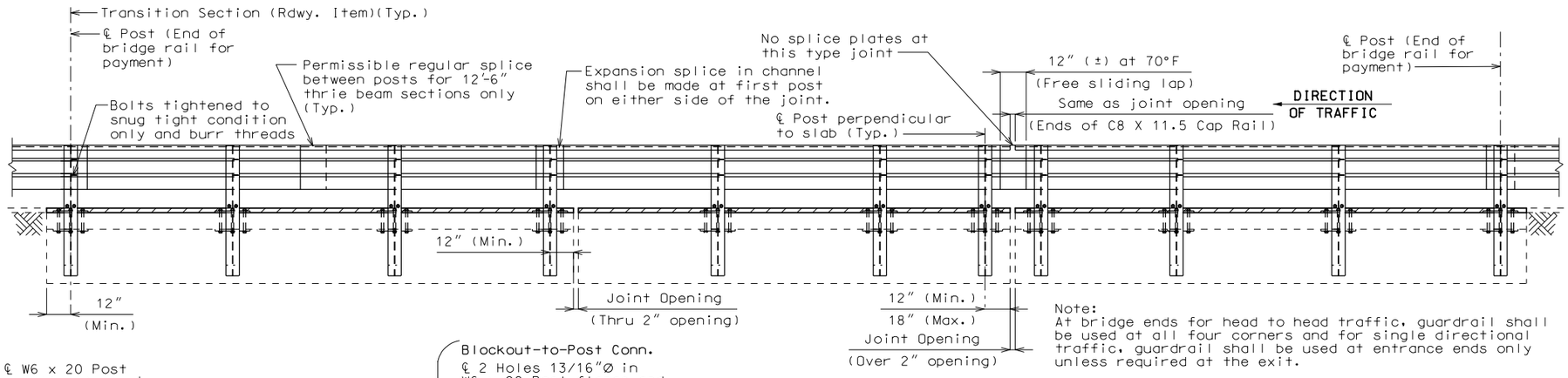
DESCRIPTION	DATE

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

Detailed Dec. 2013
Checked Jan. 2014

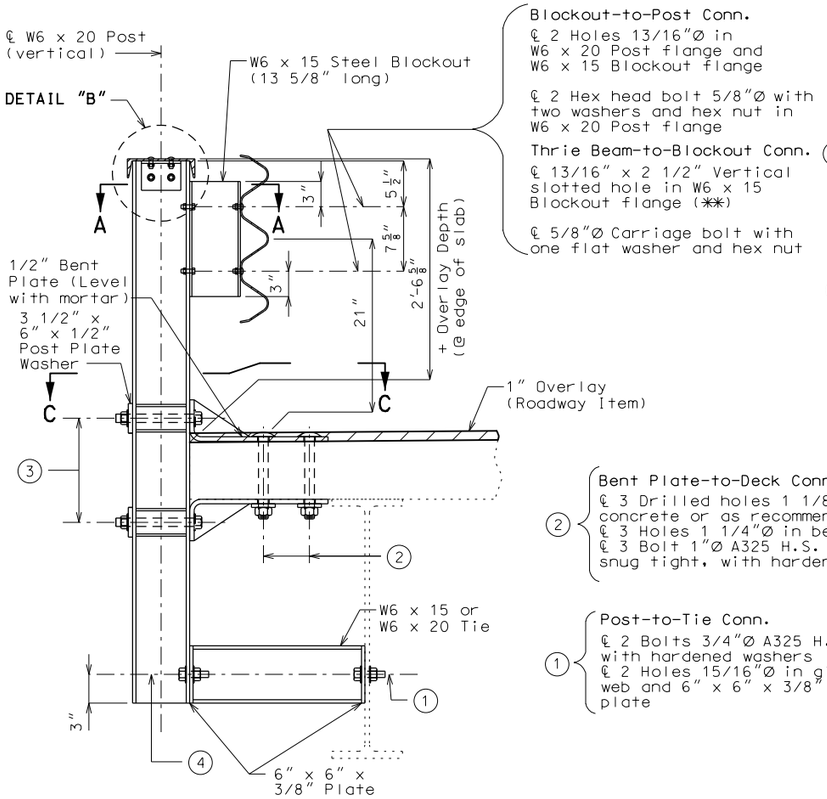
Note: This drawing is not to scale. Follow dimensions.

FINAL PLANS



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.

PART ELEVATION SHOWING THRIE BEAM RAIL



PART SECTION AT RAIL POST

Note: For Sections C-C & D-D, see Sheet No. 4.

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

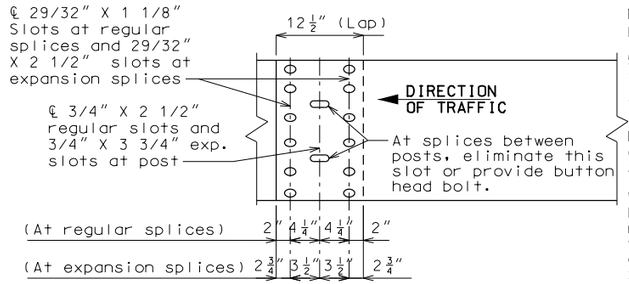
③ **Post-to-Bent Plate Conn.**
℄ 2 Bolts 1"Ø A325 H.S. with hardened washers
℄ 2 Vertical slotted holes 1 1/16" x 1 1/2" in post flanges
℄ 2 Holes 1 1/16"Ø in bent plate and post plate washer

④ **Post-to-Tie Conn.**
℄ 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

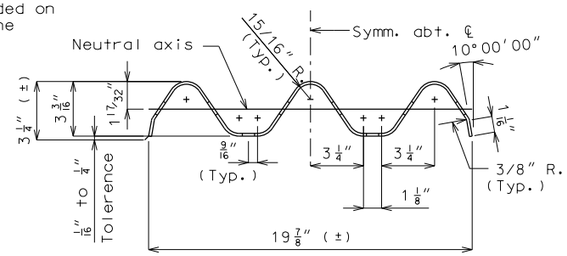
② **Bent Plate-to-Deck Conn.**
℄ 3 Drilled holes 1 1/8"Ø (min.) in old concrete or as recommended by manufacturer
℄ 3 Holes 1 1/4"Ø in bent plates
℄ 3 Bolt 1"Ø A325 H.S. Round head bolts, snug tight, with hardened washers

① **Post-to-Tie Conn.**
℄ 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

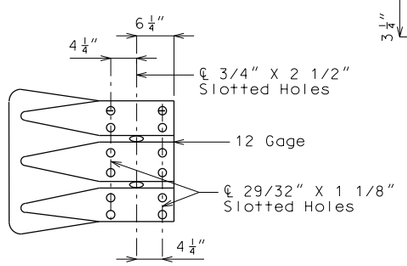
(✱✱) Required on one side of web only, but may be provided on both sides of web at the contractor's option.



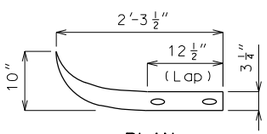
THRIE BEAM RAIL SPLICE DETAILS



SECTION THRU THRIE BEAM RAIL



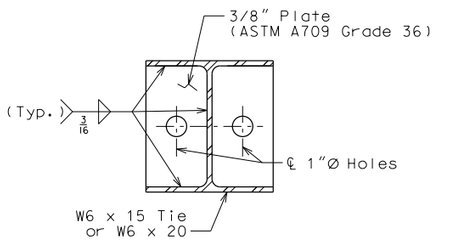
ELEVATION



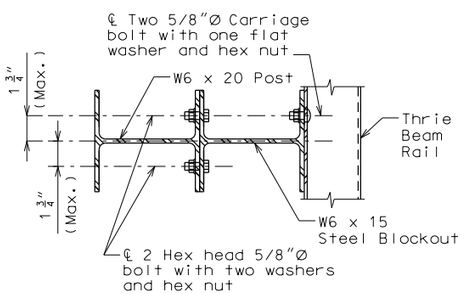
PLAN

DETAIL "A"

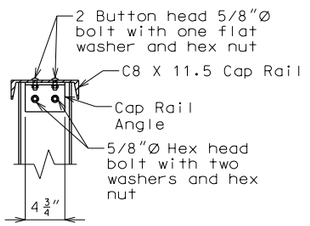
Note: For location of Detail "A", see Sheet No. 2.



SECTION THRU W6 X 15 TIE OR W6 X 20



SECTION A-B



DETAIL "B"

NOTES:

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, plates and elastomeric materials 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 rail 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.

Delineators shall be placed on top of the C8 x 11.5 cap rail as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators shall be affixed with 2-1 1/2" long x 1/4" diameter bolts. The diameter of the bolt's head shall be twice the diameter of the hole, with a minimum of 1/2". Washers shall be used with the bolts and shall have 1/2" diameter holes. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Delineators will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

DATE PREPARED

ROUTE	STATE
114	MO
DISTRICT	SHEET NO.
BR	3

COUNTY: STODDARD
JOB NO.: J9S3054
CONTRACT ID.: 140523-H06
PROJECT NO.: FAF-S700(33)
BRIDGE NO.: J07401

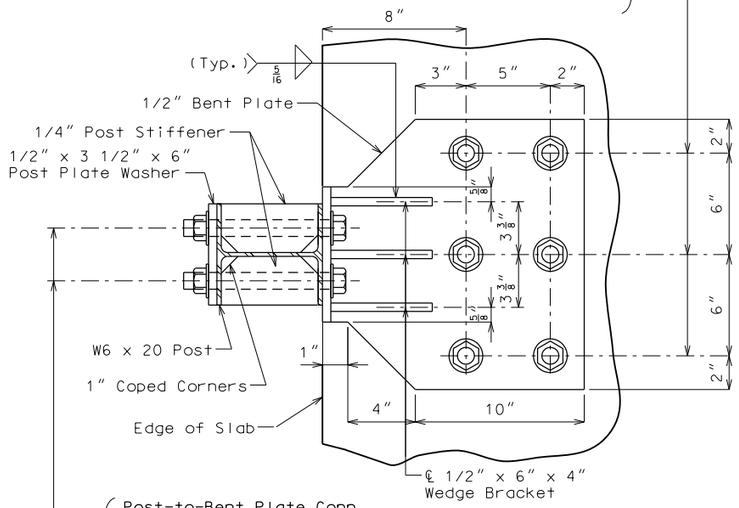
DESCRIPTION | DATE

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

Detailed Dec. 2013
Checked Jan. 2014

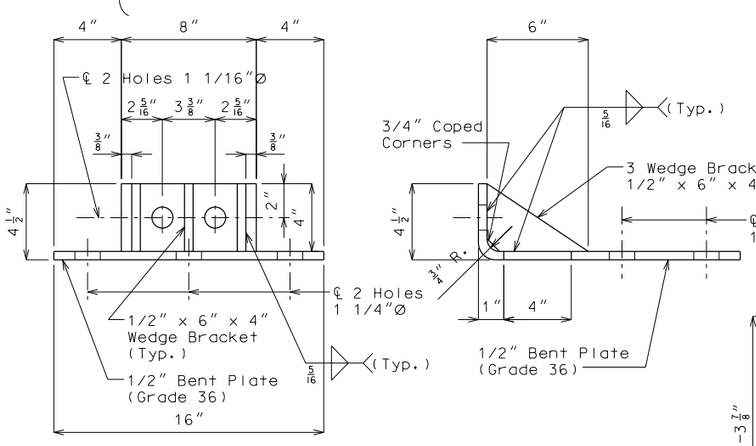
Note: This drawing is not to scale. Follow dimensions.

Bent Plate-to-Deck Conn.
℄ 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 1"Ø A449 H.S. Round head bolts, snug tight.
℄ 2 Hardened locking washers 2 1/2"Ø

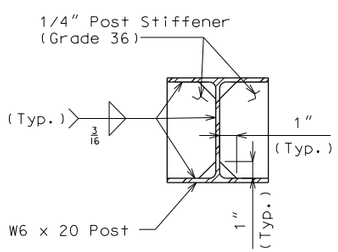


SECTION C-C

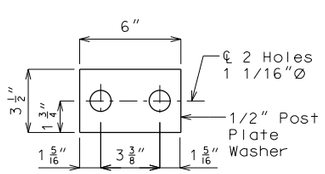
Post-to-Bent Plate Conn.
℄ Bolt 1"Ø A325 H.S. with hardened washers
℄ Vertical slotted hole 1 1/16" x 1 1/2" in post flanges
℄ Holes 1 1/16"Ø in bent plate and post plate washer



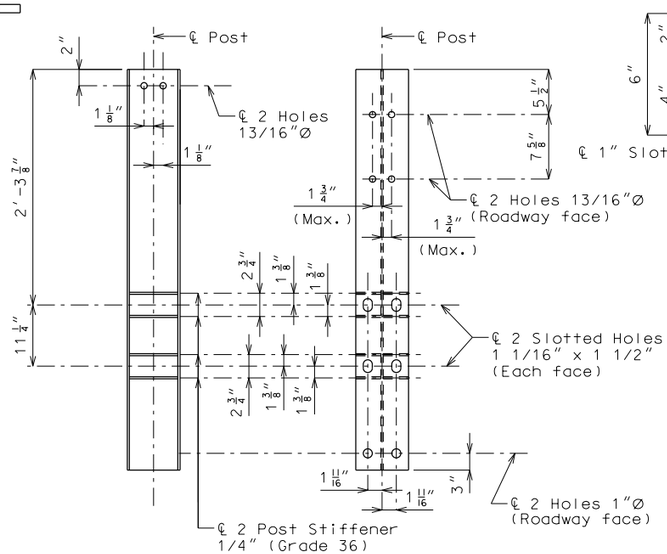
1/2" BENT PLATE AND WEDGE BRACKET



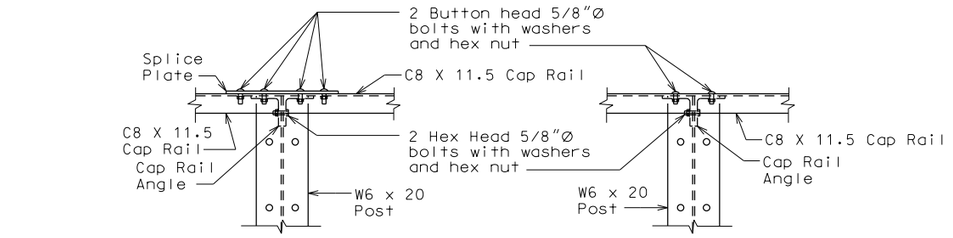
POST STIFFENER



POST PLATE WASHER

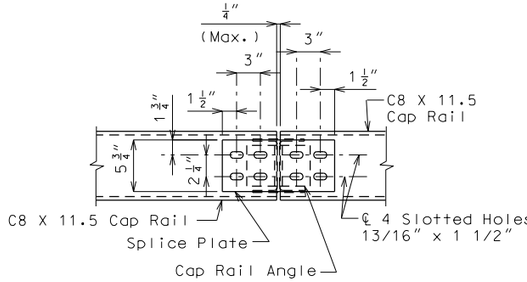


DETAILS OF POST

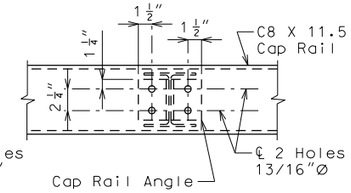


TYPICAL SPLICE ELEVATION

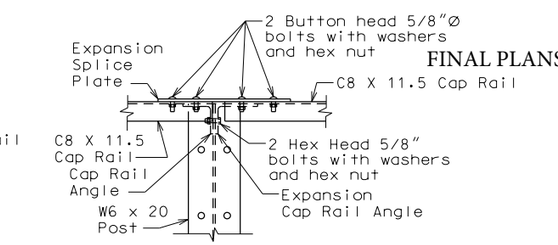
CONNECTION TO RAIL POST ELEVATION



TYPICAL SPLICE PLAN

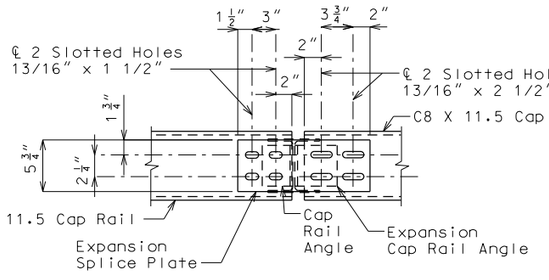


CONNECTION TO RAIL POST PLAN



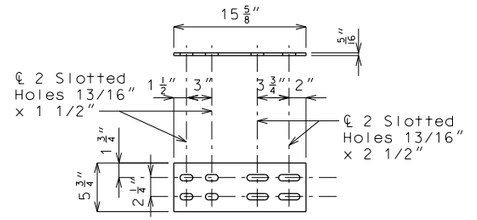
FINAL PLANS

EXPANSION SPLICE ELEVATION

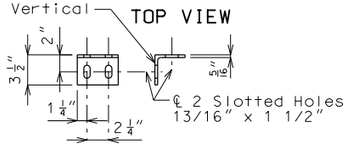


EXPANSION SPLICE PLAN

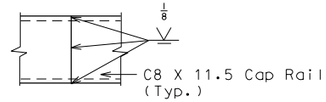
Expansion slots same side of post as exp. joint



EXPANSION SPLICE PLATE

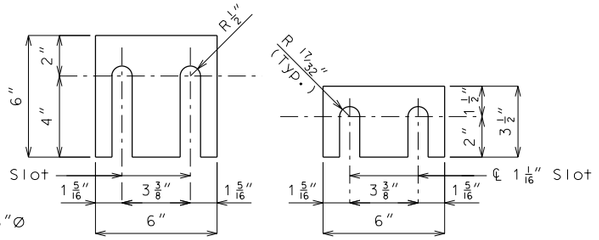


CAP RAIL ANGLE
∠3 1/2 x 3 1/2 x 5/16



OPTIONAL SPLICE

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



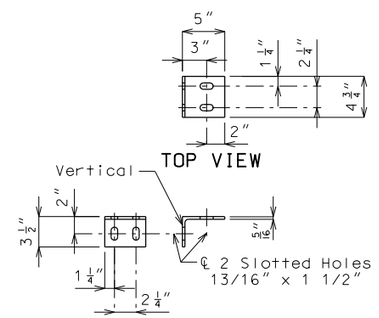
DETAIL OF SHIM PLATES

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 plate shall be galvanized after fabrication.



EXPANSION CAP RAIL ANGLE
∠5 x 3 1/2 x 5/16

Detailed Dec. 2013
Checked Jan. 2014

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

DATE PREPARED

ROUTE	STATE
114	MO
DISTRICT	SHEET NO.
BR	4

COUNTY: STODDARD
JOB NO.: J9S3054
CONTRACT ID.: 140523-H06
PROJECT NO.: FAF-S700(33)
BRIDGE NO.: J07401

DESCRIPTION

DATE

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

Missouri Department of Transportation
State Bridge Inspection Report

March 05, 2024
6:58:05AM

COUNTY: STODDARD **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 5500** **BRIDGE: J0740**

GENERAL STRUCTURE INFORMATION

ROUTE: MO114E	**# SPANS:** 3	**PLACE CODE:** 61616 RICHLAND	
FEATURE: DRAIN DTCH #5	**LANES ON:** 2	**LENGTH:** 75 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 0	**MAXIMUM SPAN:** 27 FT 6 IN	
LOG MILE: 10.495	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 24 FT 0 IN	
DETOUR: 4.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 22 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 23 FT 7 IN	
BUILT: 1931	**NBI OWNER:** MODOT	**AADT:** 873	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 7 T 25 R 12 E	**MAINTENANCE DISTRICT:** SE	**AADT TRUCK:** 14.3%	
LATITUDE: 36 49 22.58 (DMS)	**MAINTENANCE COUNTY:** STODDARD	**FUTURE AADT:** 1222	
LONGITUDE: 89 47 27.37 (DMS)	**SUB AREA:** 7H11	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 10/16/2023 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 12 **CALCULATED INTERVAL**:** 12
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: 05/09/2017 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DAMAGE POST INCIDI
FREQUENCY: 999 **CALCULATED INTERVAL**:** **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** DAVE MUSSER **METHOD:** VISUAL
INSPECTOR 2: KEVIN RAITHEL **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 10/16/2023 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 12 **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** **METHOD:** VISUAL
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
06/03/2014	120	CHANNEL CROSS SECTIONS	NO		DISTRICT	WT TAPE

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: STODDARD **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 5500** **BRIDGE: J0740**

STRUCTURE POSTING

APPROVED CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-1 NO POSTING REQUIRED
Ton 1: **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 09/12/2008)--(22'-27'-22') SMP WF GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION **COMMENTS:** (DENNIB1, 10/27/2015)--40% SATURATION
RATING : 10/12/2011

[ITEM 59] SUPER: 5-FAIR CONDITION **COMMENTS:** (DENNIB1, 10/25/2016)--SEC LOSS TOP FLG DECK LIFTING 1"
RATING : 10/12/2011

[ITEM 60] SUB: 5-FAIR CONDITION **COMMENTS:** (BLALOR1, 10/30/2013)--MODERATE DISINTEGRATION AND SPALLS NEAR BRG AREAS, BACKWALL SPALLED
RATING : 10/12/2011

[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE **COMMENTS:**
RATING : 05/18/2001

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

[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV **COMMENTS:**
RATING : 05/18/2001

[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD **COMMENTS:**
RATING : 05/18/2001

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *08/12/2015* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
STEEL	OTHER	BOTH	(DENNIB1, 10/30/2019)--THRIE BEAM

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *08/12/2015* ***COMMENTS:***

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

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *08/12/2015* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *08/12/2015* ***COMMENTS:***

Design_No = J0740

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*	*1.5 IN*	*2015*		*GOOD*
COMMENT:							
	DECK PROTECTION	*NOTAPPLICABLE*	*NONE*				
COMMENT:							
	MEMBRANE	*LIQUID SEALANT*	*BUILT-UP*				
COMMENT:							

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	*REINFORCED CONCRETE*	*CURB OUTLET*		

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		*CLOSED EXPANSION JOINT*	*FELT*	*FILLED JOINT*				
COMMENT:								
ABUTMENT-4		*CLOSED EXPANSION JOINT*	*FELT*	*FILLED JOINT*				
COMMENT:								

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

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
DELAMINATION	THROUGHOUT		MODERATE		
DETERIORATION	AT JOINTS		MODERATE		
DETERIORATION	EDGE		MINOR		
PATCHES	RANDOM		LARGE		
REBAR EXPOSED	BOTTOM		FEW		
SATURATION	THROUGHOUT		MODERATE	40 %	
SPALLS	THROUGHOUT		MODERATE		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

MAIN SPANS-2 *DECK* *REINFORCED CONCRETE* *CAST-IN-PLACE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	THROUGHOUT		MODERATE		
DETERIORATION	EDGE		MINOR		
PATCHES	RANDOM		MEDIUM		
SATURATION	THROUGHOUT		MODERATE	20 %	
SPALLS	THROUGHOUT		MEDIUM		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	THROUGHOUT		MODERATE		
DETERIORATION	EDGE		MINOR		
PATCHES	RANDOM		MEDIUM		
SATURATION	THROUGHOUT		MODERATE	20 %	
SPALLS	THROUGHOUT		MEDIUM		
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	22 FT 6 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		CONSIDERABLE		(LAMBEJ1, 10/12/2011)--1 IN LIFTING ON EXT. GIRDERS
RUSTING	AT JOINTS		MEDIUM		
RUSTING	TOP FLANGE		HEAVY		
SECTION LOSS	AT BEARING		MODERATE		(DENNIB1, 10/25/2016)--ALL BOTTOM FLANGES PLATTED AT BEARING
SECTION LOSS	TOP FLANGE		MODERATE		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	27 FT 6 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		CONSIDERABLE		(LAMBEJ1, 10/12/2011)--1 IN LIFTING ON EXTERIOR GIRDERS
RUSTING	AT JOINTS		MEDIUM		
RUSTING	TOP FLANGE		HEAVY		
SECTION LOSS	AT BEARING		MINOR		(DENNIB1, 10/25/2016)--ALL BOTTOM FLANGES PLATED AT BEARING
SECTION LOSS	TOP FLANGE		MODERATE		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	22 FT 6 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	TOP FLANGE		CONSIDERABLE		(LAMBEJ1, 10/12/2011)--1 IN LIFTING ON EXTERIOR GIRDERS
RUSTING	AT JOINTS		MEDIUM		(DENNIB1, 10/25/2016)--ALL BOTTOM FLANGES PLATED AT BEARING
RUSTING	TOP FLANGE		HEAVY		
SECTION LOSS	BOTTOM		MODERATE		(LAMBEJ1, 10/12/2011)--BOTTOM FLANGE SECTION LOSS ON ALL GIRDERS AT BEARING PLATES (BLALOR1, 11/01/2013)--SMALL HOLE RUSTED THRU BOTTOM FLG @ SE CORNER
SECTION LOSS	TOP FLANGE		SEVERE		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	LA-12 DEGREES	21 FT 10 IN	REINFORCED CONCRETE	OPEN CONCRETE		

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION	CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			OTHER	BEAM CAP THROUGHOUT		NOT APPLICABLE		
			SPALLS			MINOR		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FOOTING	REINFORCED CONCRETE	TIMBER PILE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			SPALLS	RANDOM		MODERATE		
FIXED BEARING	STEEL	FLAT PLATE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			RUSTING	THROUGHOUT		HEAVY		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION
BENT-2	LA-12 DEGREES	23 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION	CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			HORIZONTAL CRACKS	THROUGHOUT		MANY		
			VERTICAL CRACKS	THROUGHOUT		MANY		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			SPALLS	THROUGHOUT		FEW		
			VERTICAL CRACKS	THROUGHOUT		MEDIUM		
FOOTING	REINFORCED CONCRETE	TIMBER PILE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FIXED BEARING	STEEL	FLAT PLATE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			RUSTING	THROUGHOUT		MODERATE		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION
BENT-3	LA-12 DEGREES	23 FT 0 IN	REINFORCED CONCRETE	MULTIPLE COLUMN

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION	CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
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
			SCALING	GROUND LINE		MEDIUM		
FOOTING	REINFORCED CONCRETE	TIMBER PILE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FIXED BEARING	STEEL	FLAT PLATE						
			CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
			RUSTING	THROUGHOUT		HEAVY		

ABUTMENT-4 *LA-12 DEGREES* *21 FT 10 IN* *REINFORCED CONCRETE* *OPEN CONCRETE*

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	THROUGHOUT		MEDIUM		

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	THROUGHOUT		SEVERE		

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	TIMBER PILE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FIXED BEARING	STEEL	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

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

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: STODDARD **DISTRICT: SE** **CLASS: STATBR** **FED-ID: 5500** **BRIDGE: J0740**

CONDITION: FAIR **RUST AMOUNT :** 7 = .2% OF SURFACE RUSTED **STEEL TONS :** 11

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 :		**PAINT YEAR :**		**PAINT YEAR :** 2008	
MILS :		**MILS :**		**MILS :** 12	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*

UTILITY ATTACHMENTS

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

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT
2025	9S3725	0	2025	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:	5-BETTER THAN MINIMUM	1/21/2011
[Item 68] Deck Geometry Rating:	4-MEETS MINIMUM TOLERABLE	1/7/2009
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	57.0%	3/8/2022
Deficiency:	STRUCTURAL	11/15/2011
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 Department of Transportation
Bridge Inventory and Inspection System
Structural Inventory & Appraisal Sheet

March 5, 2024
7:01:16am

COUNTY : STODDARD **BRIDGE :** J0740 1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/17/2024 **SUBMITTAL YEAR :** 2023

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	SE
3	County	STODDARD
8	Federal ID No.	5500
27	Year Built	1931
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	NOT ELIGIBLE FOR NR OF HP
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	00114
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 114 E
12	Base Hwy. Network	NO
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	07-RURAL MAJOR COLLECTOR
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	RICHLAND
	Code	61616
9	Location	S 7 T 25 N R 12 E
11	Milepoint	10.56 miles
16	Latitude	36 D 49 M 23 S
17	Longitude	89 D 47 M 27 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	864
30	AADT Year	2022
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	14%
114	Future AADT	1210
115	Future AADT Year	2042

UNDERRECORD INFORMATION

6	Features Intersected	DRAIN DTCH #5
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	3.75 miles
32	Approach Roadway Width	23 Ft. 11 In.
34	Skew	12.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	21 Ft. 12 In.
48	Maximum Span Length	27 Ft. 7 In.
49	Structure Length	75 Ft. 2 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	21 Ft. 12 In.
52	Deck Width (Out-Out)	23 Ft. 7 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = J0740 and Inventory_Appraisal_Submittal_Year = 2023

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

March 5, 2024
7:01:16am

COUNTY : STODDARD **BRIDGE :** J0740 1 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/17/2024 **SUBMITTAL YEAR :** 2023

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	40 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	24 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	57.0 Percent
	Deficiency Rating	STRUCTURAL
	Funding Eligibility	PARTIAL
75A	Proposed Work	REHAB-GENERAL DETERIORAT
75B	Work Done By	Contract
76	New Struc Length	101 Ft. 8 In.
94	Struc Improve Cost	$ 402,000
95	Roadway Improve Cost	$ 40,000
96	Total Project Cost	$ 603,000
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	5
68	Deck Geometry App. Rating	4
69	Underclearance App. Rating	N
71	Waterway Adeq. App. Rating	8
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	8

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	STEEL
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	3
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.	1 BUILT UP
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	6
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	10 / 23	
91	Gen. Insp. Frequency	12	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.

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = J0740 and Inventory_Appraisal_Submittal_Year = 2023