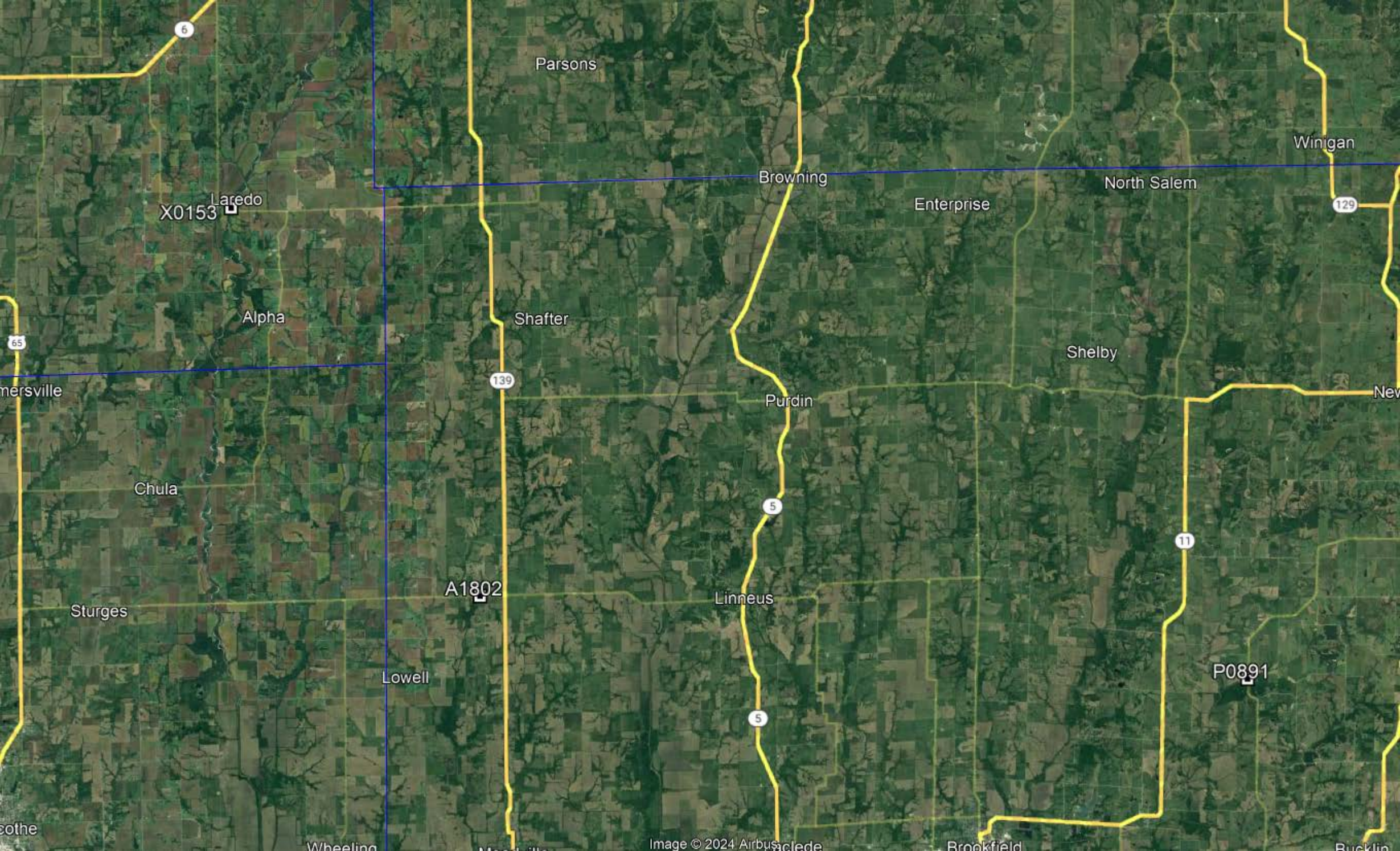

Parsons
Winigan
Browning
North Salem
Laredo
X0153
Enterprise
129
Alpha
Shafter
65
Shelby
139
Purdin
Chula
5
11
A1802
Linneus
Sturges
P0891
Lowell
5
Image © 2024 Airbus

BRIDGE MEMORANDUM

Job No.: JNW0013 **Bridge No.:** A18021
County: Linn **Route:** B (Low Volume) over Parsons Creek

Final Layout:	U.I.P., Redeck & Make Composite Existing (40'-52'-40') Continuous Wide Flange Beam Spans
Roadway Width:	26'-0" plus 16" Type D Barriers each side
Alignment:	Tangent
Skew:	33° L.A.
Profile Grade:	Match existing ±
Loading:	H15-44 (1965), HS20-44 (New construction)
Begin Station:	364+47.50± (match existing)
Traffic Handling:	Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.
Traffic Information:	AADT = 97 (2023), Truck = 14.6% = 14 AADT = 121 (2043), Truck = 14.6% = 18
Existing Bridge:	Redeck A1802 and use in place.
Condition Ratings:	Deck = 3, Superstructure = 6, Substructure = 7
Load Posting:	No posting required (to be maintained)

General Notes:

- Remove existing bridge deck including curbs, rails and top of wings.
- Install 6¾" CIP sliding slab with 3/16" cross slope (without precast panels), stay-in-place forms permitted.
- Increase existing haunch 1" to match existing profile grade.
- Make End Bents No. 1 & 4 semi-integral.
- Install 16" wide, Type D Barriers.
- Install Slab Drains as required.
- Install Shear Connectors to make composite.
- Apply Gray Epoxy-Mastic Primer on sides & bottom of top flange & entire bottom flange for whole length of bridge.
- Clean & Recoat existing bearings at Int. Bents No. 2 & 3.
- Clean & Recoat existing piles at Intermediate Bents No. 2 & 3 with Aluminum Epoxy-Mastic Primer.
- Install 20' Bridge Approach Slab (Minor) at End Bents No. 1 & 4.
- No conduit, lighting, utility supports, or sidewalks are to be included in the final plans.
- Existing paint system is System S over System A (lead based).
- Bridge deck may be finished with a vibratory screed. Include note B3.25 on plans.

Special Notes:

- Provide object markers at each corner of bridge (Roadway Item).
- Remove existing Bridge Approach Pavement (Roadway Item).
- Roadway surfacing adjacent to bridge ends to match top of bridge deck (Roadway Item).
- Rubblized existing bridge deck may be used on spill slopes (Roadway Item).
- An asbestos and lead inspection has been performed on this structure (A1802). Results indicate that both asbestos and lead are present. The Bridge Division will include this report in the electronic deliverables folder when submitting contract documents to the Design Division for the letting (Bridge Item).
- Girders to be recoated in a future, paint-only contract (Estimated cost of $46,300).

Estimated Working / Calendar Days = **30** / **45**
FY26 Estimated Construction Cost[1] = $407,000

[1]Does not include STIP inflation from Planning

Bridge contact is Ted Koester, SPM 573-751-4229

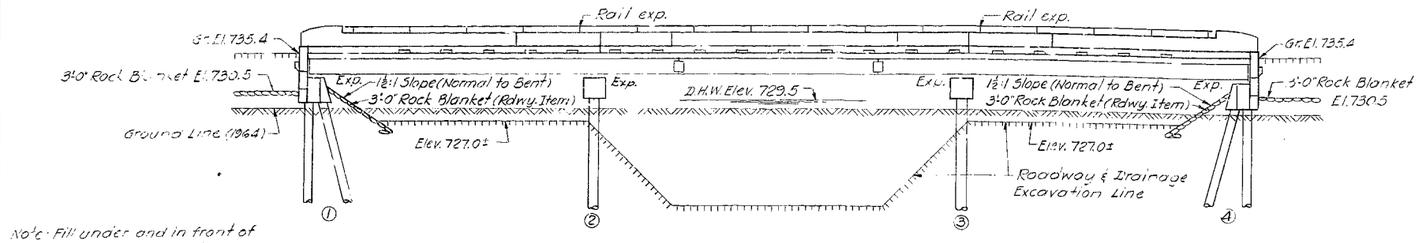
District contact is Brian Rosenthal, TPM 816-387-2499

Ted Koester	4/23/24		
Prepared by: Structural Project Manager	*Date*	*District: Transportation Project Manager*	*Date*
		District: District Bridge Engineer	*Date*

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	

40'-52'-40' Cont. I.t Beam Spans (Composite)

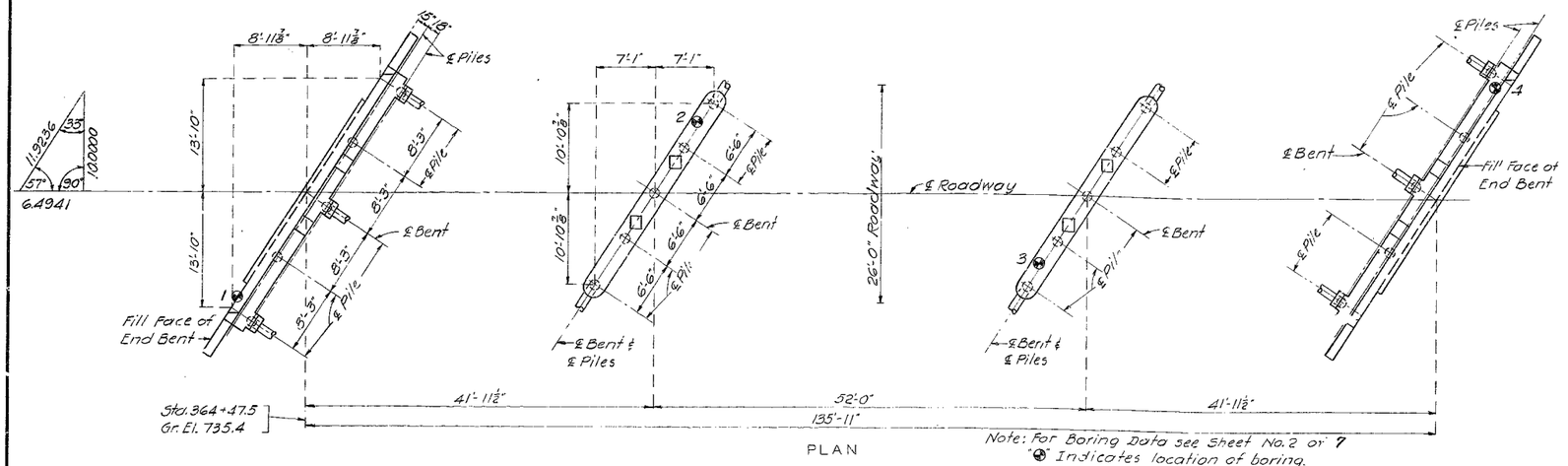


Note: Fill under and in front of end bents to be firmly tamped

GENERAL ELEVATION

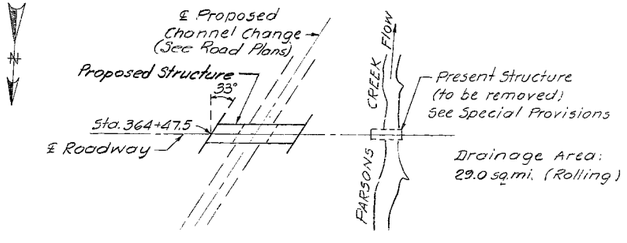
PILE DATA					
Bent No.		1	2	3	4
Type		Trestle	Trestle	Trestle	Trestle
Kind		C.I.P.	C.I.P.	C.I.P.	C.I.P.
Number		5	5	5	5
Approx. Length	Ft.	50	55	55	50
Design Bearing	Ton	30	29	29	30
Min. Tip Penetration	Elev.	702.0	697.0	697.0	702.0
Pile Standard		52.02	52.02	52.02	52.02
Hammer, Energy req'd. (Min.)*	ft	8000	8000	8000	8000

Note: * Minimum energy requirement of hammer based on plan length of piles. All piles shall be driven to the minimum penetrations and to not less than the design bearings noted.



PLAN

Note: For Boring Data see Sheet No. 2 or 7
⊕ Indicates location of boring.



LOCATION SKETCH

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961

Design Loading:
415-4.1 15 #/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#

Design Unit Stresses:
Class B Concrete (substructure) f_c = 1,200 psi
Class B1 Concrete (superstructure) f_c = 1,600 psi
Reinforcing Steel f_s = 20,000 psi
Structural Steel (A.S.T.M A36-62T) f_s = 20,000 psi

Surface Seal:
Superstructure deck to be surface sealed.

Fabricated Steel:
Field connections, High Strength Bolts ¾" ϕ, holes 13/16" ϕ except as noted.

ESTIMATED QUANTITIES				
ITEM		SUBST.	SUPERSTR.	TOTAL
Cast-In-Place Concrete Piles	Lin.Ft.	1050		1050
Class B Concrete	Cu.Yd.	43.4		43.4
Class B1 Concrete	Cu.Yd.		108.1	108.1
Reinforcing Steel	Lb.	5160	28,810	33,970
Fabricated Structural Carbon Steel	Lb.		44,740	44,740
Bridge Rail (Single tube Type)	Lin.Ft.		250	250

Note: Cost of any required excavation for bridge will be included in price bid for other items.

B.M. El. 751.04 X on N. end abutment 11' Rt. Sta. 367+32 (U.S.G.S. Datum)

BRIDGE OVER PARSONS CREEK

STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139

ABOUT 7.8 MILES N. OF MEADVILLE

PROJECT NO. S-231(4) C058-B(2) (SB) **STA.** 364 + 47.5

LINN **COUNTY**

SUBMITTED BY D. B. Jenkins BRIDGE ENGINEER DATE 1/11/66

APPROVED BY M. J. Snider CHIEF ENGINEER DATE 1/11/66

STD. 52.02
STD. 54.00
A-1802

DESIGNED Oct. 1965 BY Riks
DETAILED Nov. 1965 BY Riks
CHECKED Dec 1965 BY EPPLE

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

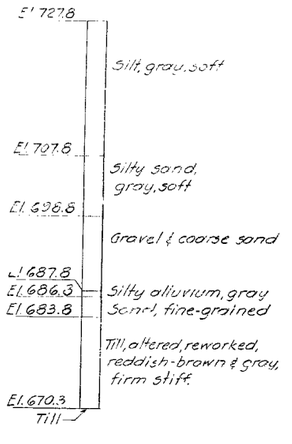
Sheet No. 1 of 7.

SEE SIGNAL PLANS FOR BROWN LINES

915

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	8	



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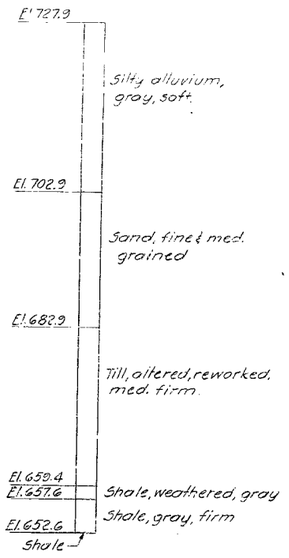
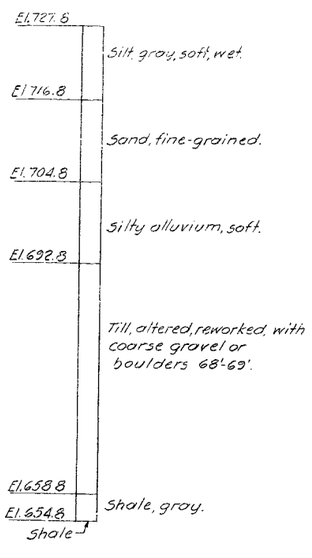


2
(Core)



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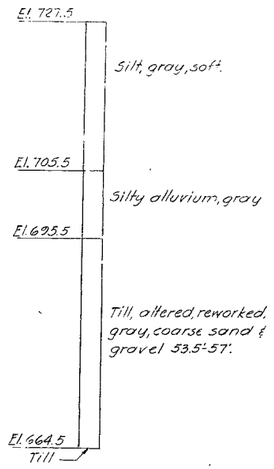


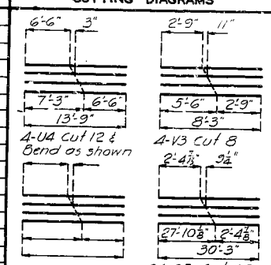
4

BORING DATA

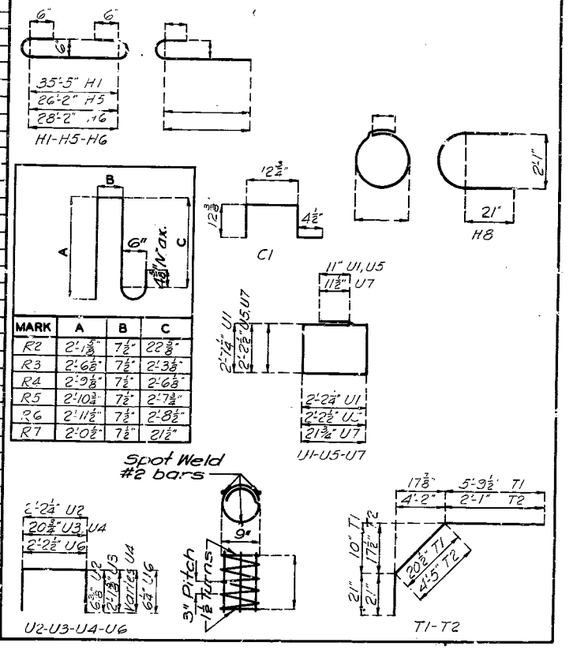
COMPLETE BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION
		End Bents No. 1 & 4		
16	#6	38'-0"	H1	Bm.
4	#6	36'-0"	H2	"
4	#6	34'-3"	H3	Bk. wall
12	#6	6'-3"	H4	Wings
8	#6	9'-3"	T1	Wings
8	#6	8'-"	T2	"
72	#4	10'-6"	U1	Bm.
16	#4	3'-3"	U2	"
6	#7	6'-0"	U3	Buttress
12	#7	13'-9"	U4	"
136	#5	2'-9"	V1	Bk. wall
8	#4	6'-0"	V2	Wings
8	#4	8'-3"	V3	"
12	#6	2'-9"	V4	Buttress
		Int. Bents No. 2 & 3		
8	#8	28'-9"	H5	Bm.
8	#8	30'-9"	H6	"
4	#6	26'-9"	H7	"
16	#7	6'-9"	H8	"
48	#4	9'-9"	U5	Bm.
20	#4	3'-3"	U6	"
4	#4	9'-0"	U7	"
		Superstructure		
274	#5	3'-6"	C1	Curb
8	#6	21'-6"	C2	"
8	#6	26'-9"	C3	"
8	#6	22'-3"	C4	"
24	#5	4'-9"	R1	End Post
4	#5	5'-9"	R2	" "
4	#5	6'-6"	R3	" "
4	#5	7'-0"	R4	" "
4	#5	7'-3"	R5	" "
8	#5	7'-3"	R6	" "
302	#5	5'-6"	R7	Parapet
8	#5	25'-3"	R8	"
16	#5	11'-"	R9	"
16	#5	9'-9"	R10	"
8	#5	31'-9	R11	"
8	#5	26'-6"	R12	"
470	#5	28'6"	S1	Slab
145	#4	28'-0"	S2	"
150	#5	28'-3"	S3	"
56	#4	16'-0"	S4	"
68	#5	30'-3"	S5	"
4	#4	17'-6"	S6	"

BENDING SKETCHES & CUTTING DIAGRAMS



NO.	SIZE	LENGTH	MARK	LOCATION



BRIDGE OVER PARSONS CREEK

STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139

ABOUT 7.8 MILES N. OF MEADVILLE

PROJECT NO. S-231(4) Cos8-8(2) (SB) **STA.** 364+47.5

LINN **COUNTY**

A-1802

466

No. 902	Revised
June 1961	Dec. 1964

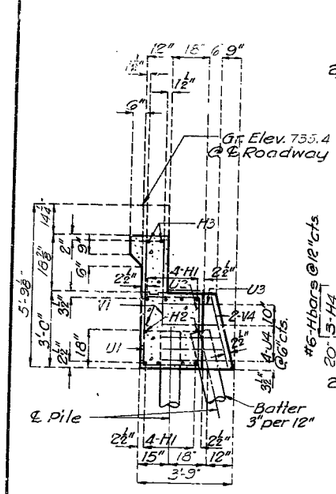
DETAILED Oct. 1965 BY Riks

CHECKED Dec 1965 BY EPPLE

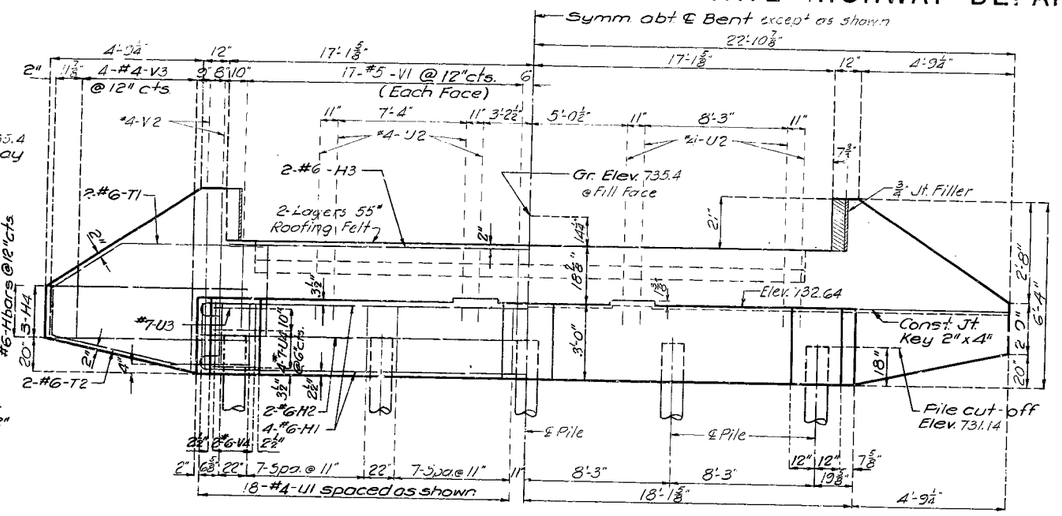
Note: This drawing is not to scale. Follow dimensions.

MISSOURI STATE HIGHWAY DEPARTMENT

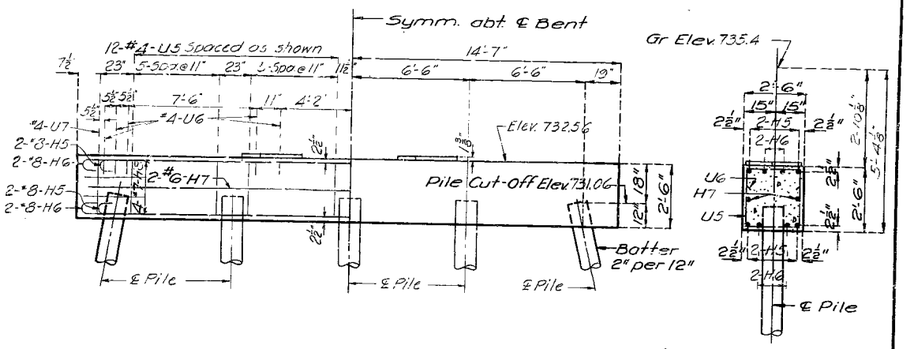
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	9	



SECTION AT ℄

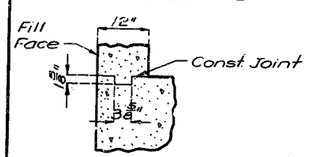


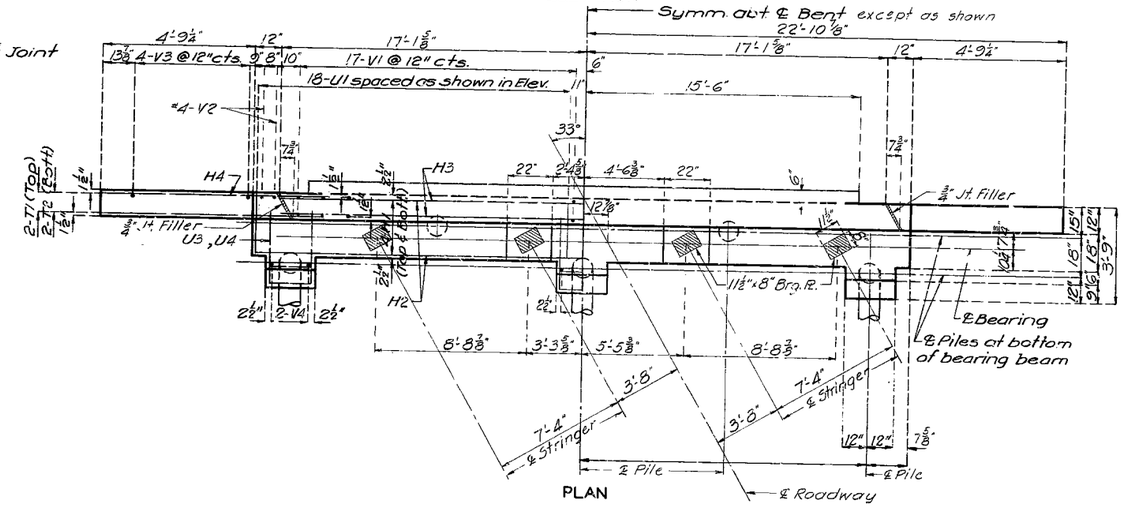
ELEVATION



ELEVATION

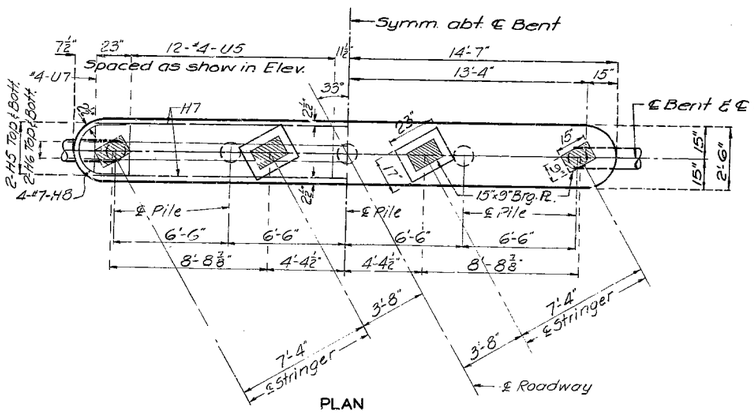
SECTION AT ℄





DETAILS OF END BENTS NO. 1 & 4

Note: Fill at end bents No. 1 & 4 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.



DETAILS OF INTERMEDIATE BENTS NO. 2 & 3

467

No.	Revised	July 1965
1		

DETAILED Oct. 1965 BY Riks
CHECKED Dec. 1965 BY EPPLE

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

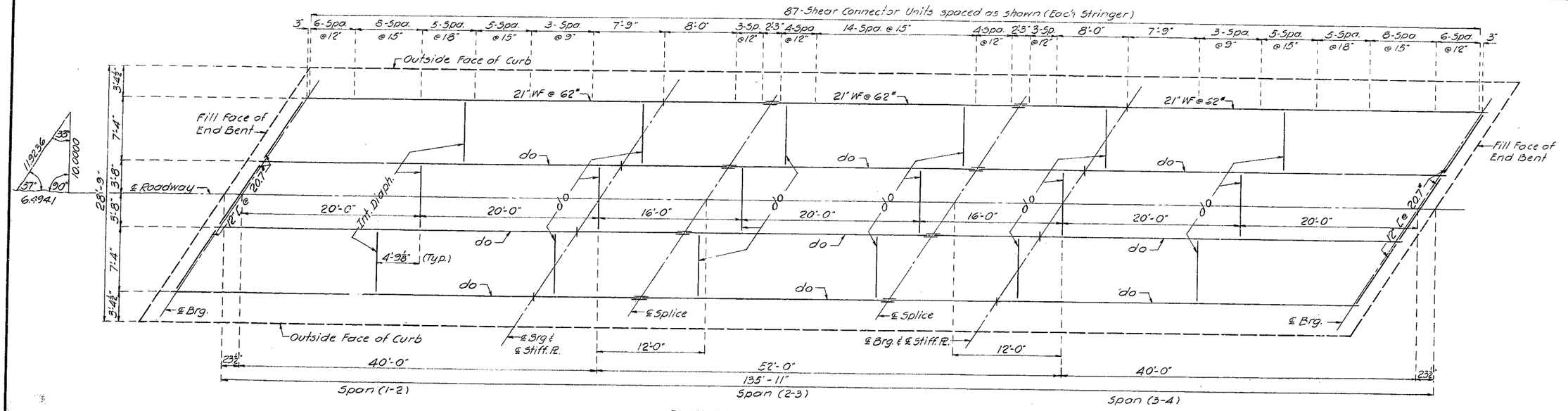
BRIDGE OVER PARSONS CREEK
STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139
ABOUT 7.8 MILES N. OF MEADVILLE
PROJECT NO. S-231(4) C058-B(2) (SB) **STA.** 364+47.5
LINN **COUNTY**

Sheet No. 3 of 7.

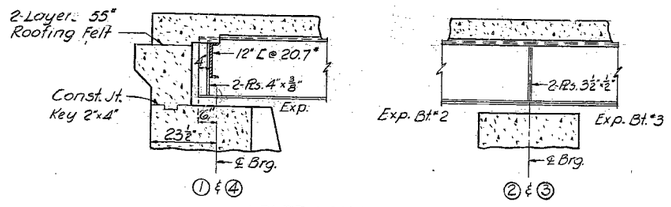
A-1802

MISSOURI STATE HIGHWAY DEPARTMENT

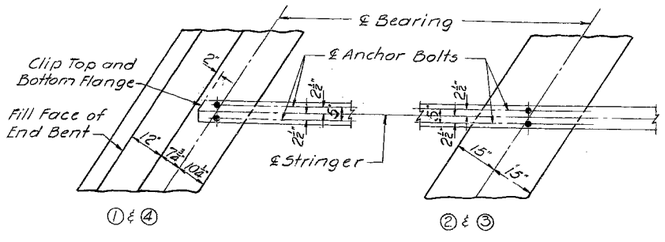
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	10	



PLAN OF STRUCTURAL STEEL



PART LONGITUDINAL SECTION



PART ANCHOR BOLT PLAN

468

DETAILED Oct. 1965 BY Riks
CHECKED Dec. 1965 BY EPPLE

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

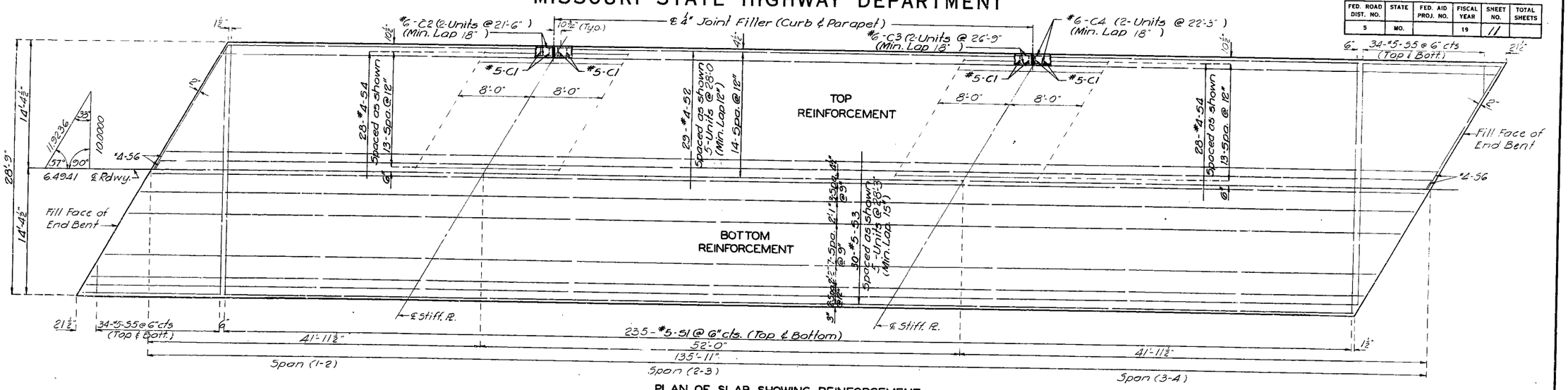
BRIDGE OVER PARSONS CREEK
STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139
ABOUT 7.8 MILES N. OF MEADVILLE
PROJECT NO. S-251(4) C058-B(2) (SB) **STA.** 364+47.5
LINN **COUNTY**

Sheet No. 4 of 7.

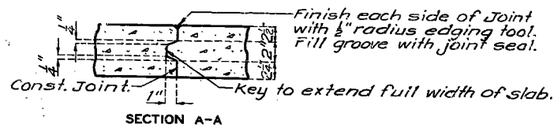
A-1802

MISSOURI STATE HIGHWAY DEPARTMENT

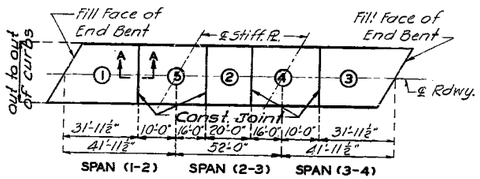
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	11	



PLAN OF SLAB SHOWING REINFORCEMENT



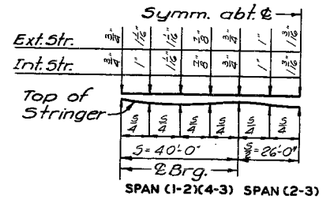
SECTION A-A



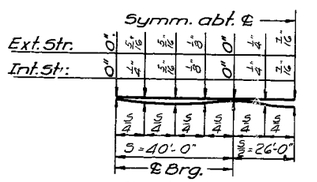
	Sequence of Pours				
	Direction				
Basic Sequence	1	2	3	4	5
	Either Direction				
Alternate "A" Pours	1		5+2		4+3
	End to 5		1 to 4		2 to End
Alternate "B" Pours	1+5+2			4+3	
	End to 4			2 to End	
Alternate "C" Pours	1+5+2+4+3				
	End to End				

Note: The contractor shall observe the basic pouring sequence and shall pour and satisfactorily finish the slab pours at a rate of not less than 12.0 cubic yards per hour. However, he may use one of the longer alternate pours if he elects to use an approved oscillating screed type, self propelled mechanical finishing machine and can demonstrate to the engineer that he can pour and satisfactorily finish the slab pours at a rate of not less than 25.0 cubic yards per hour. Finishing machine loads will not be permitted on concrete less than 48 hours old.

SLAB POURING SEQUENCE

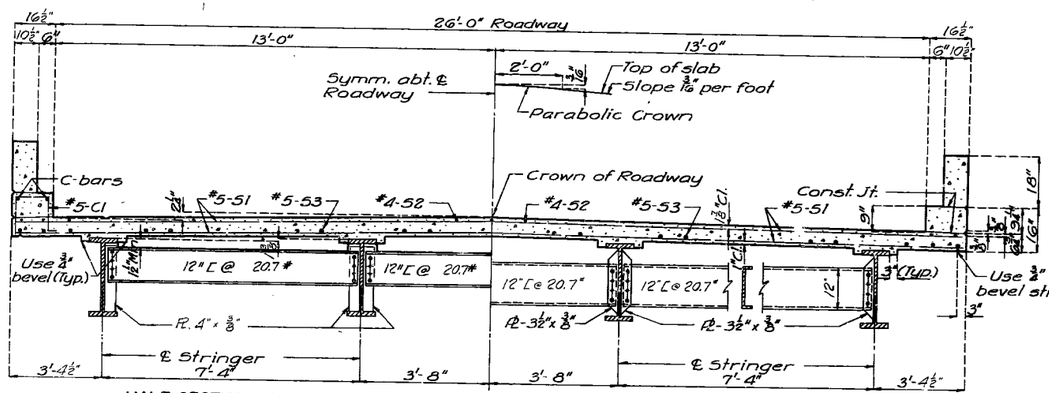


THEORETICAL SLAB HAUNCHING DIAGRAM



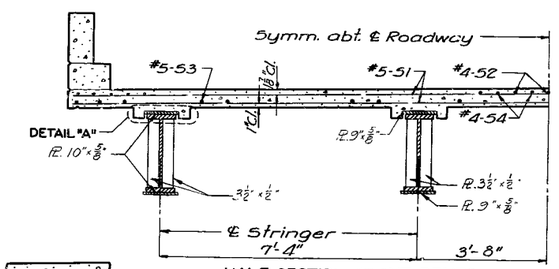
10 % Structural Steel

DEAD LOAD DEFLECTION

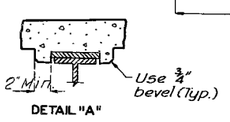


HALF SECTION NEAR END DIAPH.

HALF SECTION NEAR INT. DIAPH.



HALF SECTION AT INT. BENTS



DETAIL "A"

Note: For details and reinforcement of curb and parapet not shown see sheet No. 7 of 7.

BRIDGE OVER PARSONS CREEK

STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139

ABOUT 7.8 MILES N. OF MEADVILLE

PROJECT NO. S-231(4) COSB-8(2) (SB) **STA.** 364+47.5

LINN **COUNTY**

A-1802

469

No.	Revised	Aug. 1965
41.26.1A		
Oct. 1964		

DETAILED Nov. 1965 BY Riks

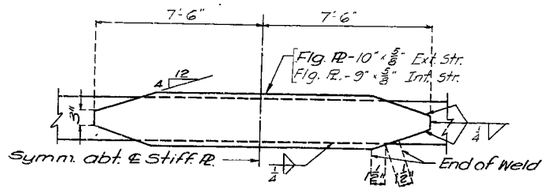
CHECKED Dec. 1965 BY EPPLE

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

Sheet No. 5 of 7.

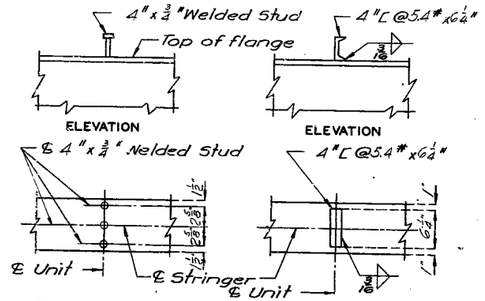
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT



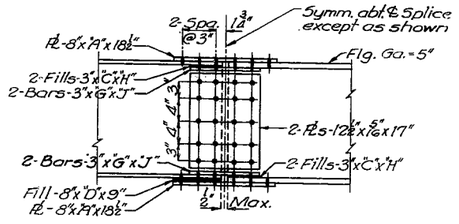
INT. BENTS NO. 2 & 3

DETAILS OF FLANGE PLATES – TOP & BOTTOM FLANGE



Note: Locate channel connectors with back toward ends of spans.

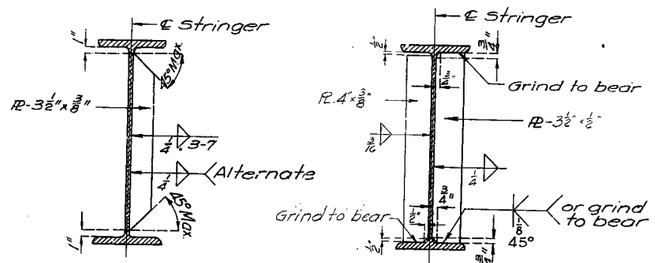
DETAILS OF SHEAR CONNECTORS

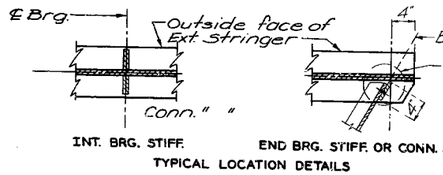


WF Sects	"A"	"C"	"D"	"G"	"H"	"J"
21"We62" to 62"	7/16"	—	—	3/8"	—	12 3/8"

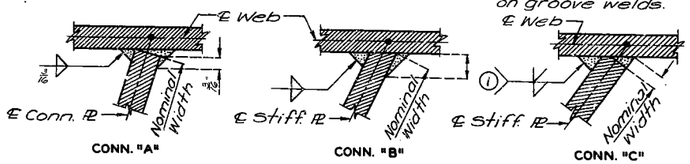
Note: 15/16"ø Reamed Holes for 7/8"ø high strength bolts.

DETAIL OF 21" WF BEAM SPLICE



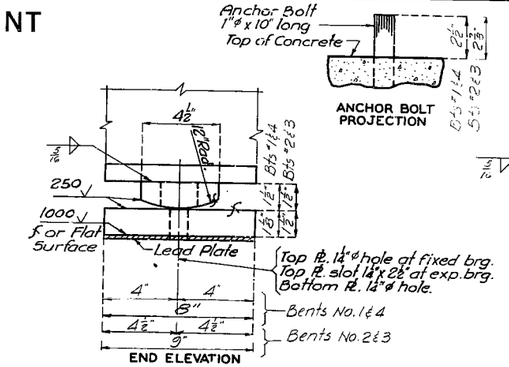


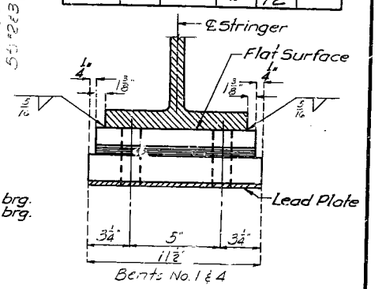
TYPICAL LOCATION DETAILS

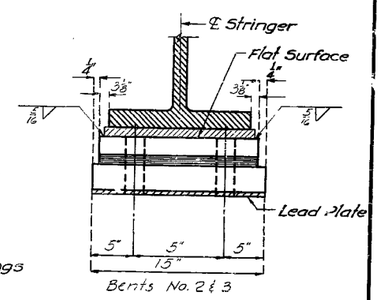


① Groove weld penetration = " Min. Only welding processes having good penetration will be permitted on groove welds.

WELDING DETAILS







Required: -Fixed Bearings
16-Expansion Bearings

TYPE "C" BEARINGS
(Estimated Weight 1038#)

NOTES: TYPE "C" BEARINGS

Lead plates under bearings shall be approximately ½" thickness and weigh 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.
"Estimated weight" does not include weight of anchor bolts.

Where flat surface is indicated, tolerance shall be .003 in/in in any direction.
Anchor Bolts for Type "C" Bearings shall be 1"ø swedged bolts 10" long with no heads or nuts. Top of Anchor Bolts shall be set approximately 4" below top of bearing.

FED. ROAD DIST. NO.	STATE	FED. AID P.ROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	12	

470

DETAILED Nov. 1965 BY Riks
CHECKED Dec. 1965 BY EPPLE

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

Sheet No. 6 of 7.

NO CONSTRUCTION CHANGES

BRIDGE OVER PARSONS CREEK
STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139
ABOUT 7.8 MILES N. OF MEADVILLE
PROJECT NO. S-231(4) C055-8(2) (SB) **STA.** 364 + 47.5
LINN **COUNTY**

A-1802

MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	13	

GENERAL NOTES:

All handrail posts shall be set normal to grade.

Aluminum tube handrail shall be bent to conform to vertical and horizontal alignment of parapet.

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be ⅛". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

All parts of handrail, except anchor bolts, nuts, washers, and set screws are to be of aluminum material.

The contract unit price per linear foot of "Bridge Rail" shall include furnishing and erecting the handrail complete with anchor bolts, shims and Insulating compound.

All fillets ¼" except as noted.

All drafts 3° except as noted.

Pipe rail to be fabricated in two or three panel lengths unless otherwise approved.

Omit set screw on side near filled joint in parapet at all expansion posts.

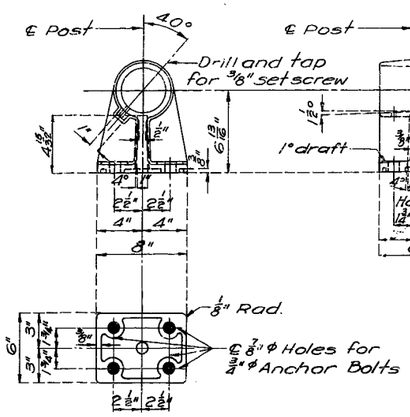
Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.

Concrete end posts to be vertical.

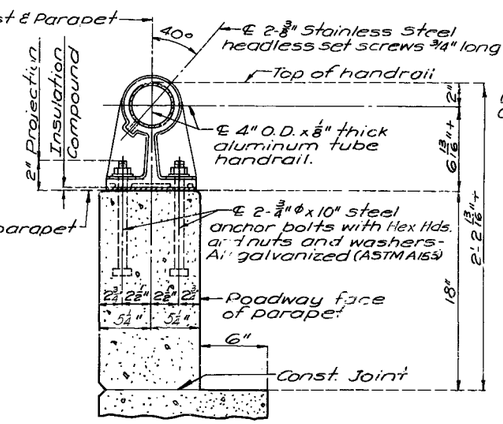
All exposed edges of end posts, parapets and curbs shall have ½" radius.

If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.

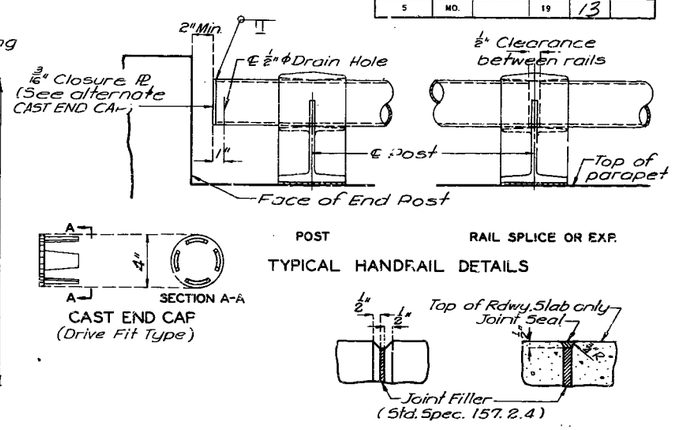
Integrally cast test coupons and a coat of clear lacquer specified in Std. Spec. 56.2.4 and 56.3.5 respectively will not be required for these rail posts.



POST DETAILS



SECTION THRU HANDRAIL



CAST END CAP
(Drive Fit Type)

TYPICAL HANDRAIL DETAILS

FILLED JOINT DETAILS

SINGLE TUBE ALUMINUM RAILING

Rail Post Spa. 23" — 4-Spaces @ 8'-1" = 32'-4" — 7-Spaces @ 8'-1" = 56'-7" — 4-Spaces @ 8'-1" = 32'-4" — 23"

℄ Rail Post — ℄ Rail Post — ℄ Rail Post — ℄ Rail Post

℄ ¼" Jt. Filler (Curb & Parapet) Typ.

43-"5-R" @ 10" cts (Bend at outlets) — 63-"5-R7 @ 10" cts (Bend at outlets) — 45-"5-R7 @ 10" cts (Bend at outlets)

11'-9" — 10'-0" — 10'-0" — 11'-9"

℄ ¼" Jt. Filler (Parapet only) Typ.

2-"5-R8 — 2-"5-R9 — 2-"5-R10 — 2-"5-R11 — 2-"5-R10 — 2-"5-R9 — 2-"5-R12

2-"6-C2 — 2-"6-C3 — 2-"6-C4

137-"5-C1 Spaced as shown in detail below.

18-Spaces @ 6'-0" cts (Outlets)

7'-11½" — 35'-11¼" — 52'-0" — 37'-1⅞" — 9'-1⅞"

SECTION NEAR LEFT CURB AND PARAPET

Rail Post Spa. 23⅜" — 4-Spaces @ 8'-1" = 32'-4" — 7-Spaces @ 8'-1" = 56'-7" — 4-Spaces @ 8'-1" = 32'-4" — 23"

℄ Rail Post — ℄ Rail Post — ℄ Rail Post — ℄ Rail Post

℄ ¼" Jt. Filler (Curb & Parapet) Typ.

45-"5-R7 @ 10" cts (Bend at outlets) — 63-"5-R7 @ 10" cts (Bend at outlets) — 43-"5-R7 @ 10" cts (Bend at outlets)

11'-9" — 10'-0" — 10'-0" — 11'-9"

℄ ¼" Jt. Filler (Parapet only) Typ.

2-"5-R12 — 2-"5-R9 — 2-"5-R10 — 2-"5-R11 — 2-"5-R10 — 2-"5-R9 — 2-"5-R8

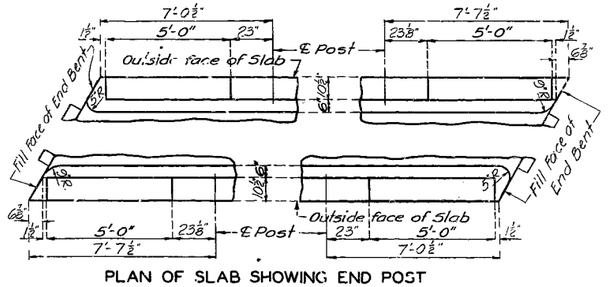
2-"6-C4 — 2-"6-C3 — 2-"6-C2

137-"5-C1 Spaced as shown in detail below.

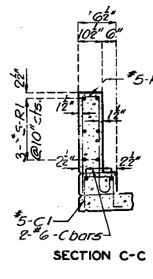
18-Spaces @ 6'-0" cts (Outlets)

9'-1⅞" — 37'-1⅞" — 52'-0" — 35'-11¼" — 7'-11¼"

ELEVATION OF RIGHT CURB AND PARAPET

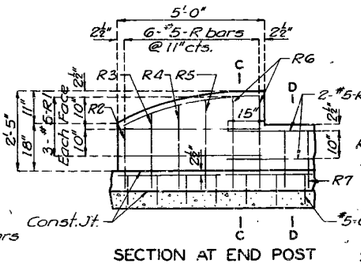


PLAN OF SLAB SHOWING END POST

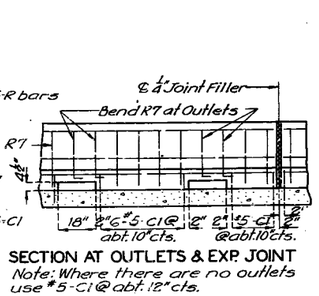


SECTION C-C

SECTION D-D



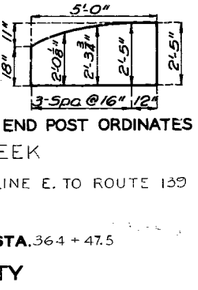
SECTION AT END POST



SECTION AT OUTLETS & EXP JOINT

Note: Where there are no outlets use #5-C1 @ abt. 12" cts.

Note: For horizontal curb and parapet bars use minimum lap of 15" for #5 and 18" for #6.



END POST ORDINATES

BRIDGE OVER PARSONS CREEK

STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139

ABOUT 7.8 MILES N. OF MEADVILLE

PROJECT NO. S-231(4) / COSB-8(2) (SB) **STA.** 364 + 47.5

LINN **COUNTY**

A-1802

No.	Date	Revised
1.5.2 L.A.	Nov. 1963	Oct. 1965

DETAILED Nov. 1965 BY Riks

CHECKED Dec. 1965 BY EPPLE

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

Sheet No. 7 of 7.

NO CONSTRUCTION CHANGES

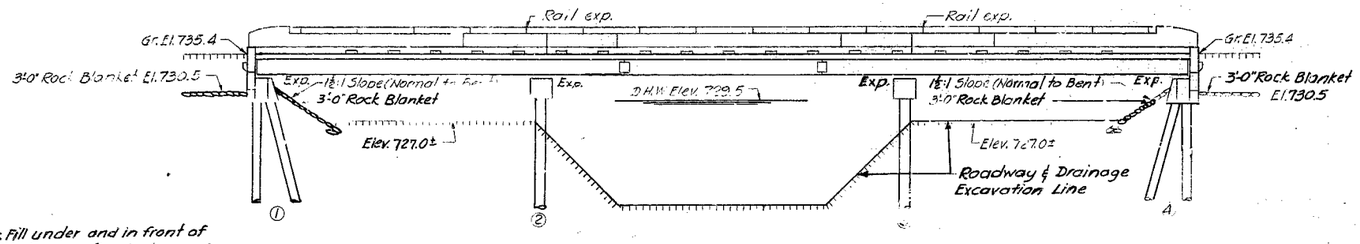
471

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	7	

FINAL PLANS

(40'-52'-40') Cont. W Beam Spans (Composite)

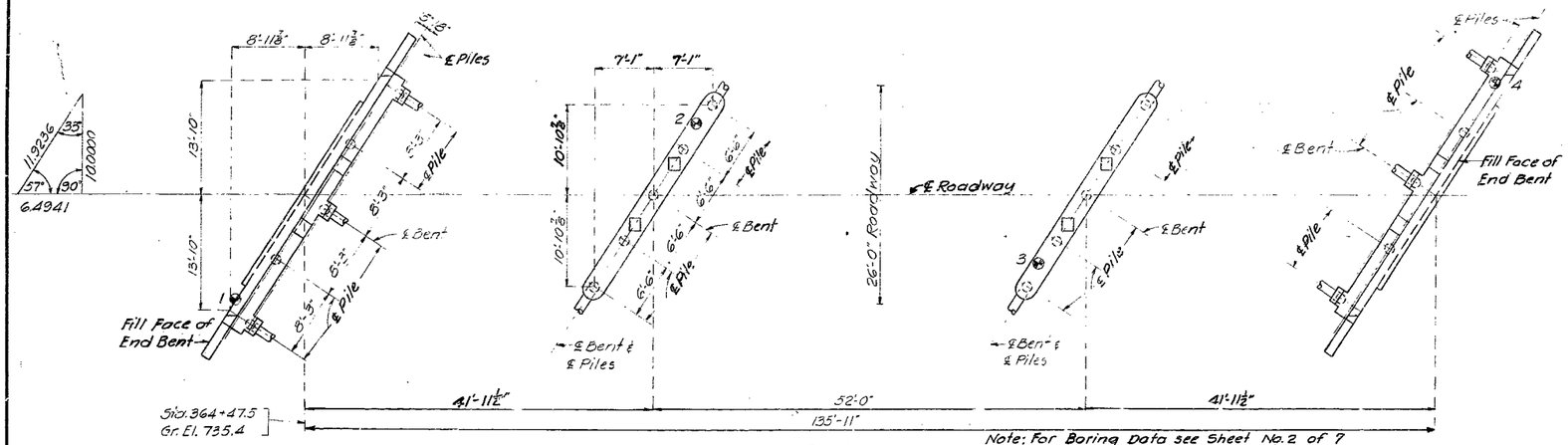


Note: Fill under and in front of end bents was firmly tamped

GENERAL ELEVATION

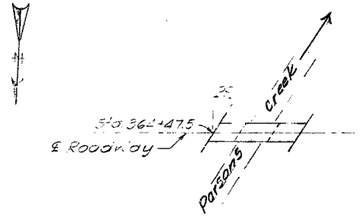
PILE DATA					
Bent No.		1	2	3	4
Type		Trestle	Trestle	Trestle	Trestle
Kind		C.I.P.	C.I.P.	C.I.P.	C.I.P.
Number		5	5	5	5
Approx. Length	Ft.	50	55	55	50
Design Bearing	Ton	30	29	29	30
Min. Tip Penetration	Elev.	702.0	697.0	697.0	702.0
Pile Standard		52.02	52.02	52.02	52.02
Hammer, Energy req'd. (Min.)*		8000	8000	8000	8000

Note: * Minimum energy requirement of hammer based on plan length of piles. All piles were driven to the minimum penetrations and to not less than the design bearings noted.



Note: For Boring Data see Sheet No. 2 of 7
"⊕" Indicates location of boring.

PLAN



LOCATION SKETCH

Drainage Area:
29.0 sq.mi. (Rolling)

FINAL QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
Cast-In-Place Concrete Piles	Lin.Ft.	1015		1015
Class B Concrete	Cu.Yd.	43.4		43.4
Class B1 Concrete	Cu.Yd.		108.1	108.1
Reinforcing Steel	Lb.	5160	28,810	33,970
Fabricated Structural Carbon Steel	Lb.		44,710	44,710
Bridge Rail (Sing.'s tube Type)	Lin.Ft.		249	249

GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1961

Design Loading:
H15-44 15 #/sq. ft. Future Wearing Surface
Earth 120# Equivalent Fluid Pressure 30#

Design Unit Stresses:
Class B Concrete (substructure) f_c = 1,200 psi
Class B1 Concrete (superstructure) f_c = 1,600 psi
Reinforcing Steel f_s = 20,000 psi
Structural Steel (A.S.T.M. A36-62T) f_s = 20,000 psi

Surface Seal:
Superstructure deck was surface sealed.

Fabricated Steel:
Field connections, High Strength Bolts ¾"ϕ, holes 13/16"ϕ except as noted.

B.M. Elev. 735.97 ☐ On S.W. Cor. Wing 14'Lt. Sta. 365+85 (U.S.G.S. Datum)

BRIDGE OVER PARSONS CREEK

STATE ROAD FROM LIVINGSTON CO. LINE E. TO ROUTE 139

ABOUT 7.0 MILES N. OF MEADVILLE FINISHED

PROJECT NO. S-231(4) (SB) **STA.** 364 + 47.5
C058-B(2)

LINN **COUNTY**

SUBMITTED BY D.B. Jenkins BRIDGE ENGINEER DATE 1/11/66 FINISHED

APPROVED BY M.J. Linden CHIEF ENGINEER DATE 1/11/66

STD. 52.02
STD. 54.00
A-1802

422

DESIGNED Oct. 1965 BY Riks
DETAILED Nov. 1965 BY Riks
CHECKED Dec 1965 BY EPPLE

FINISHED

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

Sheet No. 1A of 1

Missouri Department of Transportation
State Bridge Inspection Report

June 25, 2024
10:13:50AM

COUNTY: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1495** **BRIDGE: A1802**

GENERAL STRUCTURE INFORMATION

ROUTE: RTBE	**# SPANS:** 3	**PLACE CODE:** 14446 CLAY	
FEATURE: PARSONS CR	**LANES ON:** 2	**LENGTH:** 136 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 0	**MAXIMUM SPAN:** 52 FT 0 IN	
LOG MILE: 10.624	**COMPASS DIRECTION:** EAST to WEST	**APPROACH ROADWAY:** 20 FT 0 IN	
DETOUR: 24.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 26 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 28 FT 10 IN	
BUILT: 1966	**NBI OWNER:** MODOT	**AADT:** 97	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 36 T 59 R 22 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 14.6%	
LATITUDE: 39 52 51.44 (DMS)	**MAINTENANCE COUNTY:** LINN	**FUTURE AADT:** 121	
LONGITUDE: 93 18 59.87 (DMS)	**SUB AREA:** 7A36	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/19/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: KEVIN RAITHEL **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: 12/29/2014 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 120 **CALCULATED INTERVAL**:** **NBI:** NO
TEAM LEADER: **INSPECTOR 3:** **METHOD:** WT TAPE
INSPECTOR 2: WESLEY CARMACK **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 09/19/2022 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 24 **NBI:** NO
TEAM LEADER: KEVIN RAITHEL **INSPECTOR 3:** **METHOD:** VISUAL
INSPECTOR 2: **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: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1495** **BRIDGE: A1802**

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, 12/10/2009)--(42'-52'-42') CONT COMP WF GDR SPANS

[ITEM 58] DECK: 3-SERIOUS CONDITION
RATING : 09/26/2018
COMMENTS: (STEPHS2, 09/26/2018)--SATURATION SPAN 1
(STEPHS2, 09/15/2020)--PATCHES THROUGHOUT

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION
RATING : 09/27/2016
COMMENTS: (STEPHS2, 09/27/2016)--RUSTING TOP FLANGE GIRDERS

[ITEM 60] SUB: 7-GOOD CONDITION
RATING : 05/18/2001
COMMENTS:

[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE
RATING : 05/18/2001
COMMENTS: (BOWDEJ1, 12/01/2004)--W. BANK ERODING

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

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

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *12/10/2009* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	CURB	BOTH	
REINFORCED CONCRETE	PARAPET	BOTH	
ALUMINUM	CIRCULAR TUBE	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1495** **BRIDGE: A1802**

[ITEM 36D] RAIL END TREATMENT RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH		

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 SEAL COAT*				*GOOD*

COMMENT: (STEPHS2, 09/26/2018)--CINDERSEAL 2017

	DECK PROTECTION	*NOTAPPLICABLE*	*NONE*				

COMMENT:

	MEMBRANE	*NOTAPPLICABLE*	*NONE*				

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	*REINFORCED CONCRETE*	*CURB OUTLET*		
DRAINAGE	*ASPHALT*	*DRAIN BASIN-END BENT*		

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
BANK PROTECTION	*ROCK*	*BLANKET*	*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
DELAMINATION	THROUGHOUT		MODERATE		
LEACHING	THROUGHOUT		MODERATE		
MAP CRACKS	THROUGHOUT		MANY		
PATCHES	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		HEAVY	70 %	
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	THROUGHOUT		MODERATE		
LEACHING	THROUGHOUT		MEDIUM		
MAP CRACKS	THROUGHOUT		MANY		
PATCHES	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		HEAVY	60 %	
SPALLS	THROUGHOUT		FEW		
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	THROUGHOUT		MODERATE		
LEACHING	THROUGHOUT		MODERATE		
MAP CRACKS	THROUGHOUT		MANY		
PATCHES	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		HEAVY	40 %	
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

SUPERSTRUCTURE COMPONENTS

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

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	42 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MEDIUM		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	COMPOSITE	52 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MEDIUM		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	COMPOSITE	42 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	TOP FLANGE		MEDIUM		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*LA-33 DEGREES*	*36 FT 3 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
SHOVING	THROUGHOUT		MINOR		

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE

CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**	
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/				
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**	

BENT-2 LA-33 DEGREES 29 FT 2 IN REINFORCED CONCRETE PILE CAP

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**
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	GROUND LINE		MINOR		
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-3 LA-33 DEGREES REINFORCED CONCRETE PILE CAP

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**
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	GROUND LINE		MINOR		
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

ABUTMENT-4 LA-33 DEGREES REINFORCED CONCRETE NON-INTEGRAL

CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SHOVING	THROUGHOUT		MINOR		
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

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: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1495** **BRIDGE: A1802**

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: FAIR **RUST AMOUNT :** 6=1.0% OF SURFACE RUSTED **STEEL TONS :** 22

ORIGINAL PAINT

PAINT TYPE : A SYSTEM
NAME : RED LEAD
PAINT COLOR : ALUMINUM
PAINT YEAR : 1967
MILS : 3

CONTRACT REPAINT

PAINT TYPE :
NAME :
PAINT COLOR :
PAINT YEAR :
MILS :

DEPARTMENT REPAINT

PAINT TYPE : S SYSTEM
NAME : CAL SULPH/LEAD PAINT
PAINT COLOR : GRAY
PAINT YEAR : 2003
MILS : 14
MANUFACTURE : ARMOR SHIELD
SURFACE PREP : NEEDLE SCALE

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS: (MENEET, 09/27/2012)--REDECK CANDIDATE.

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

Design_No = A1802

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	1/25/2005
[Item 68] Deck Geometry Rating:	6-EQ TO PRESENT MIN CRITR	3/2/2023
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	73.0%	3/2/2023
Deficiency:	STRUCTURAL	2/3/2015
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:

BRIDGE MEMORANDUM

Job No.: JNW0013 **Bridge No.:** P08911
County: Linn **Route:** U (Low Volume) over Long Branch

Final Layout:	U.I.P., Redeck & Make Composite Existing (35'-35'-35') Simple Wide Flange Beam Spans
Roadway Width:	22'-0" plus 16" Type D Barriers each side
Alignment:	Tangent
Skew:	15° R.A.
Profile Grade:	Match existing ±
Loading:	H10-44 (1953), HS20-44 (New construction)
Begin Station:	325+47.00± (match existing)
Traffic Handling:	Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.
Traffic Information:	AADT = 298 (2023), Truck = 21.6% = 64 AADT = 372 (2043), Truck = 21.6% = 80
Existing Bridge:	Redeck P0891 and use in place.
Condition Ratings:	Deck = 4, Superstructure = 5, Substructure = 6
Load Posting:	Posted for 15 tons (to be removed)

General Notes:

- Remove existing bridge deck including curbs, rails and top of wings.
- Install 6½" CIP sliding slab with 3/16" cross slope (without precast panels), stay-in-place forms permitted.
- Increase existing haunch 1/4" to match existing profile grade.
- Install concrete diaphragms at Int. Bents No. 2 & 3 to make continuous.
- Make End Bents No. 1 & 4 semi-integral.
- Install 16" wide, Type D Barriers.
- Install Slab Drains as required.
- Install Shear Connectors to make composite.
- Install cover plates to strengthen existing beams to remove load posting.
- Clean & Recoat existing piles at Intermediate Bents No. 2 & 3 with Aluminum Epoxy-Mastic Primer.
- Install 20' Bridge Approach Slab (Minor) at End Bents No. 1 & 4
- No conduit, lighting, utility supports, or sidewalks are to be included in the final plans.
- Existing paint system is System C (not lead based).
- Bridge deck may be finished with a vibratory screed. Include note B3.25 on plans.

Special Notes:

- Provide object markers at each corner of bridge (Roadway Item).
- Remove existing Bridge Approach Pavement (Roadway Item).
- Roadway surfacing adjacent to bridge ends to match top of bridge deck (Roadway Item).
- Rubblized existing bridge deck may be used on spill slopes (Roadway Item).
- An asbestos and lead inspection has been performed on this structure (P0891). Results indicate that asbestos is not present and lead is present. The Bridge Division will include this report in the electronic deliverables folder when submitting contract documents to the Design Division for the letting (Bridge Item).
- Girders to be recoated in a future, paint-only contract (Estimated cost of $37,000).

Estimated Working / Calendar Days = **30** / **45**
FY26 Estimated Construction Cost[1] = $275,000

[1]Does not include STIP inflation from Planning

Bridge contact is Ted Koester, SPM 573-751-4229

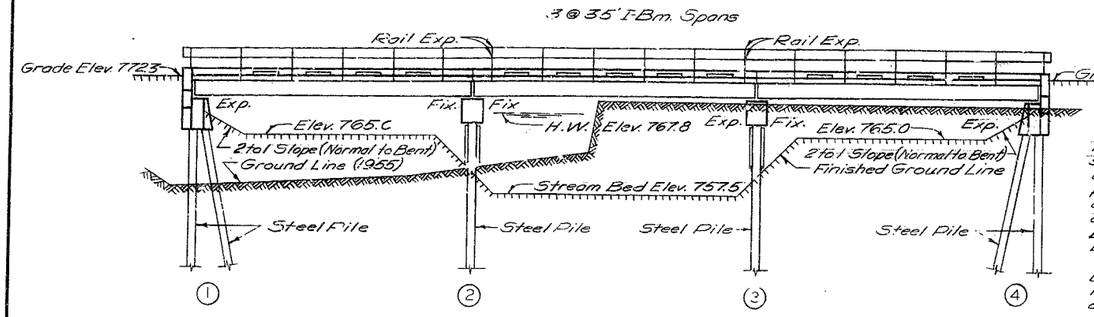
District contact is Brian Rosenthal, TPM 816-387-2499

Ted Koester	5/3/24		
Prepared by: Structural Project Manager	*Date*	*District: Transportation Project Manager*	*Date*
		District: District Bridge Engineer	*Date*

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-1485(1) (SU)	19		

5



GENERAL ELEVATION

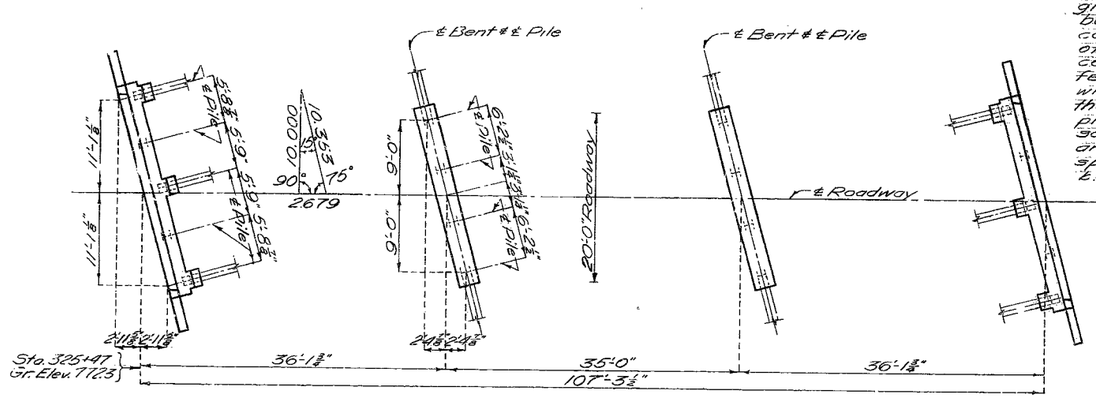
Note: Old roadway fill shall be removed to elevation 765.0 at Bent No. 4. Payment for this excavation outside the limits of excavation for substructure will be made at unit contract price for Roadway Excavation.

Note: All piling shall be 10" Bearing Piles @ 42 lbs. and shall conform with details and notes on sheet No. 2 of design plans. Estimated quantities shown on plans are based on the following lengths: 5 @ 35'-0" and 13 @ 45'-0". These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer.

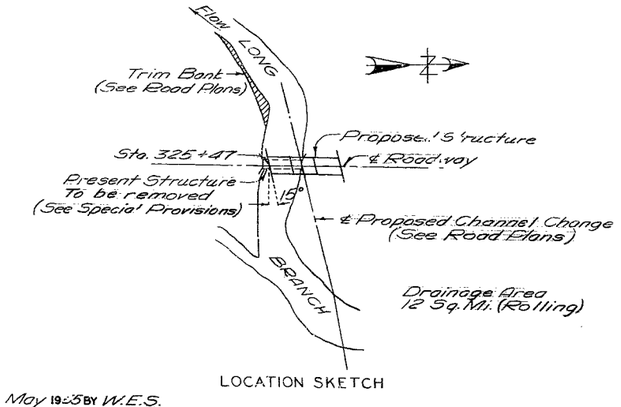
All piles shall be driven to or into solid rock, boulders, shale, or cemented gravel, or to not less than full length authorized and to sustain a load of at least 30 tons per pile.

A gravity hammer may be used for driving if desired.

Note: Steel Piles of End Bent No. 1 shall be coated with a heavy coating of an approved bituminous mastic paint from the bottom of the concrete cap to a point 3 feet below the existing ground line. Steel piles of End Bent No. 4 shall be so coated from the bottom of the concrete cap to a point 3 feet below the cap. Steel piles of Intermediate Bents No. 2 and 3 shall be so coated from a point 1 foot above to a point 3 feet below finished ground line. In no case will it be required to place the coating below the water line. Payment for excavating around piles below present ground line and backfilling same, furnishing bituminous mastic paint and cleaning and painting steel surfaces specified will be included in the unit price bid for other items.



PLAN



LOCATION SKETCH

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1953
Loading H 10-44
Structural Steel Stress 18,000 #/a."
Reinforcing Steel Stress 18,000 #/a."
Class "B" Concrete Stress 1,000 #/a."
All concrete shall be Class "B."

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 except as noted for steel piles. Red lead required shall be furnished by Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Steel.

Where joint filler is specified on the plans it shall conform with the requirements of Section 38-19(1) h of the Standard Specifications for Premoulded Material for Filler.

For requirements on welding electrodes see Special Provisions. Qualification of welding operators will be required.

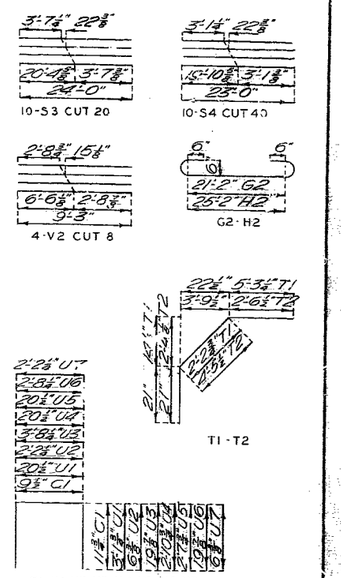
Rivets ⅞" ø, holes 15/16" ø except where otherwise noted.

Field connections shall be riveted except as noted in handrail details. If the Contractor desires to eliminate all field riveting on this project he may use machine bolts except for the ⅞" rivet head bolts specified for handrail. Heads and nuts of machine bolts shall be American Standard Regular.

COMPLETE BILL OF REINFORCING BILL

No.	Size	Length	Mark	Location
End Bents No. 1 & 4				
4	#6	24'0"	H1	Bk. Wall
16	#6	27'9"	H2	Beam
8	#6	25'9"	H3	"
12	#6	7'3"	H4	Wing
4	#6	5'9"	H5	"
8	#6	9'3"	T1	Wing
8	#6	8'9"	T2	"
48	#7	8'0"	U1	Beam
16	#4	3'3"	U2	"
112	#4	7'0"	U3	"
12	#7	7'6"	U4	"
12	#7	7'0"	U5	"
96	#4	3'3"	V1	Bk. Wall
8	#4	9'3"	V2	Wing
4	#4	7'0"	V3	"
24	#7	3'9"	W4	Beam
Int. Bents No. 2 & 3				
2	#6	21'5"	G1	Beam
16	#6	23'9"	G2	"
88	#4	6'0"	U6	"
8	#4	3'3"	U7	"
Superstructure				
152	#5	2'9"	C1	Curb
6	#6	35'9"	C2	"
6	#6	35'6"	C3	"
6	#6	34'9"	C4	"
362	#4	22'0"	S1	Slab
128	#4	18'9"	S2	"
20	#4	24'0"	S3	"
110	#4	23'0"	S4	"
6	#4	22'9"	S5	"
64	#4	18'0"	S6	"

Cutting Diagrams & Bending Sketches



ESTIMATED QUANTITIES

Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	70		70
Class "B" Concrete	Cu. Yds.	40.0	51.4	91.4
* Fabricated Structural Steel	Lbs.	1720	36,740	38,460
Gray Iron Alloy Castings	Lbs.		1285	1285
Reinforcing Steel	Lbs.	4610	10,110	14,720
Steel Piling in place	Lin. Ft.	706		706
Steel Piling Cut-offs	Lin. Ft.	54		54

Note: All excavation for bridge will be paid for as Class 1 Excavation for Structures.

Estimated weight of Fabricated Structural Steel in substructure consists of weight of piles for Bents 2 & 3.

* Final pay weight for Fabricated Structural Steel will be based on using field rivets except for bolted connections specified for handrail.

B.M. Elev. 765.5 Nail & Washer in South East Side 10" Willow ± 120' Lt. Sta. 325+14 (U.S.G.S. Datum)

BRIDGE OVER LONG BRANCH

STATE ROAD FROM RTE. 129 WEST AND SOUTH TO RTE. 36

ABOUT 8.0 MILES N.W. OF BUCKLIN

PROJECT NO. S-1485(1) (SU) **STA.** 325+47

LINN **COUNTY**

SUBMITTED BY J. A. Williams, State Bridge Engineer DATE 6/1/1955

APPROVED BY Rex M. Whitton, Chief Engineer DATE 6/1/1955

FINISHED

STD C-110R3

P-891

DRAWN May 1955 BY W.E.S.

CHECKED May 1955 BY A.F.K.

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 1 OF 4

FINISHED

FINISHED

SEE FINAL PLANS BROWN-LINES

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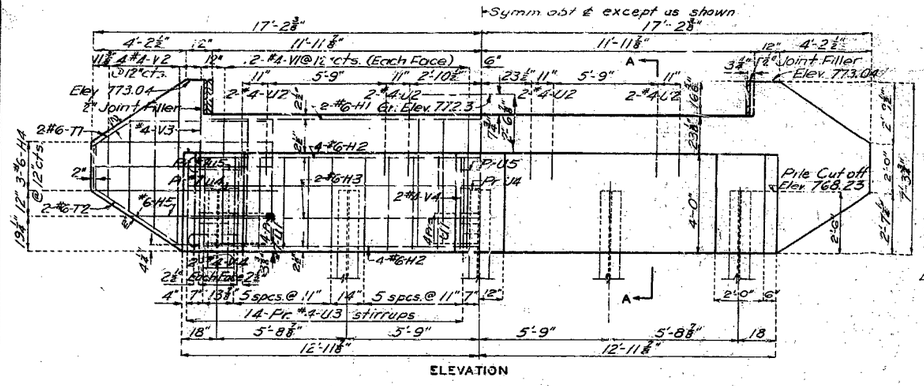
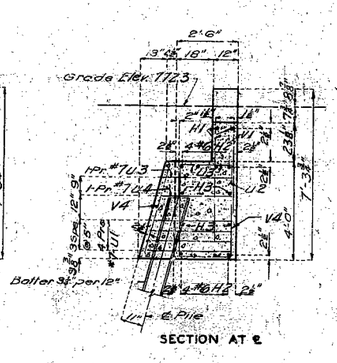
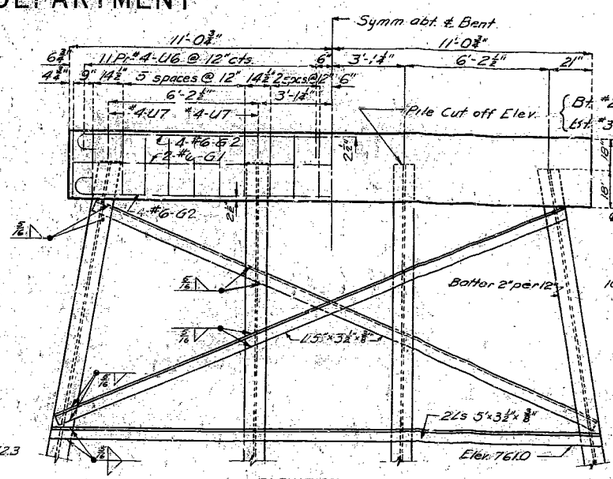
MISSOURI STATE HIGHWAY DEPARTMENT

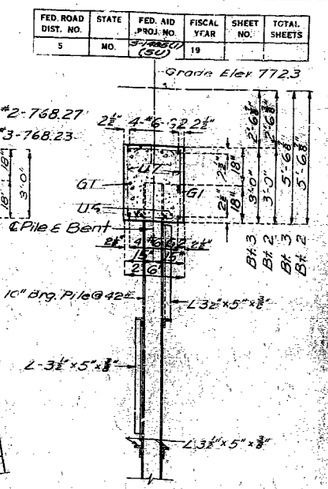
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-1485(1) (SU)	19		

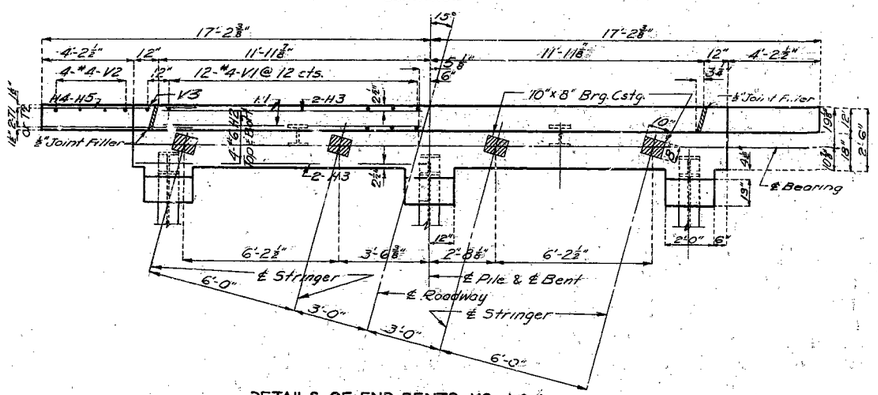
6



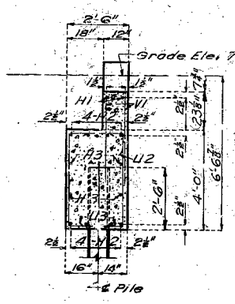


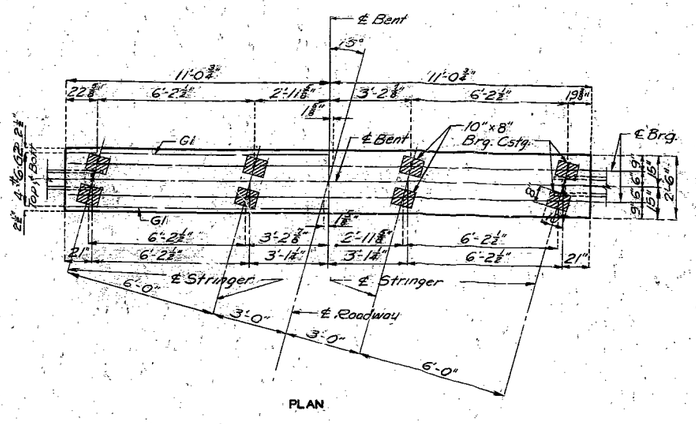




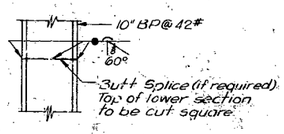


DETAILS OF END BENTS NO. 1 & 4





DETAILS OF INTERMEDIATE BENTS NO. 2 & 3



DETAILS OF STEEL PILE SPLICE

BRIDGE OVER LONG BRANCH

STATE ROAD FROM RTE. 129 WEST & SOUTH TO ROUTE 36
ABOUT 6.0 MILES N.W. OF BUCKLIN
PROJECT NO. S-1485(1) (SU) STA. 325+47
LINN COUNTY

FINISHED
FINISHED
FINISHED
P-891

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Drawn May 1955 by W.E.S. & W.J.K.
Checked May 1955 by U.F.K.

Note This drawing is not to scale, Follow Dimensions

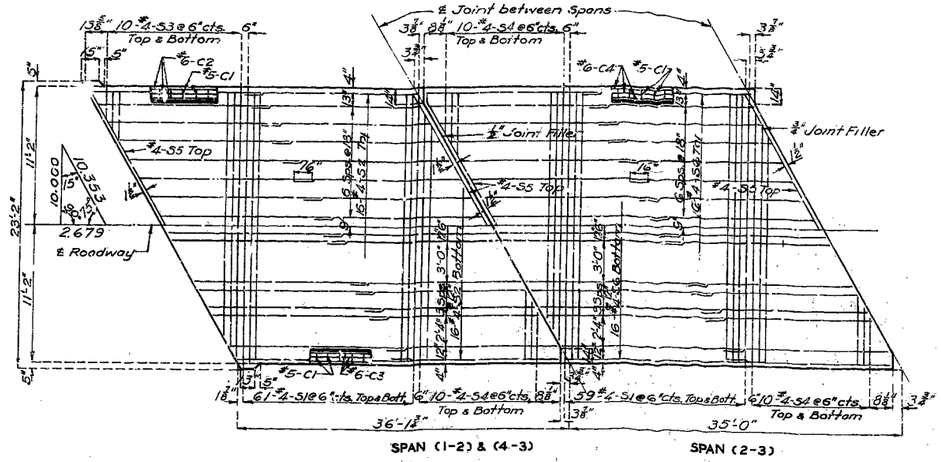
Sheet No. 2 of 4

NO CONSTRUCTION CHANGES

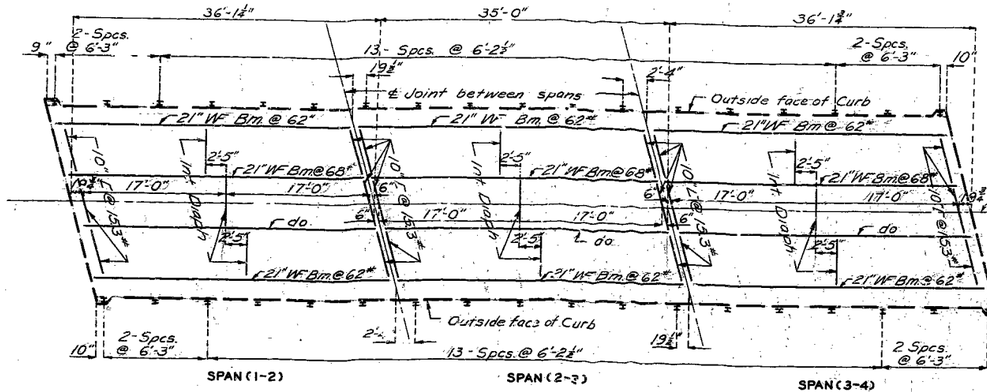
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-1485(I) (SU)	19		

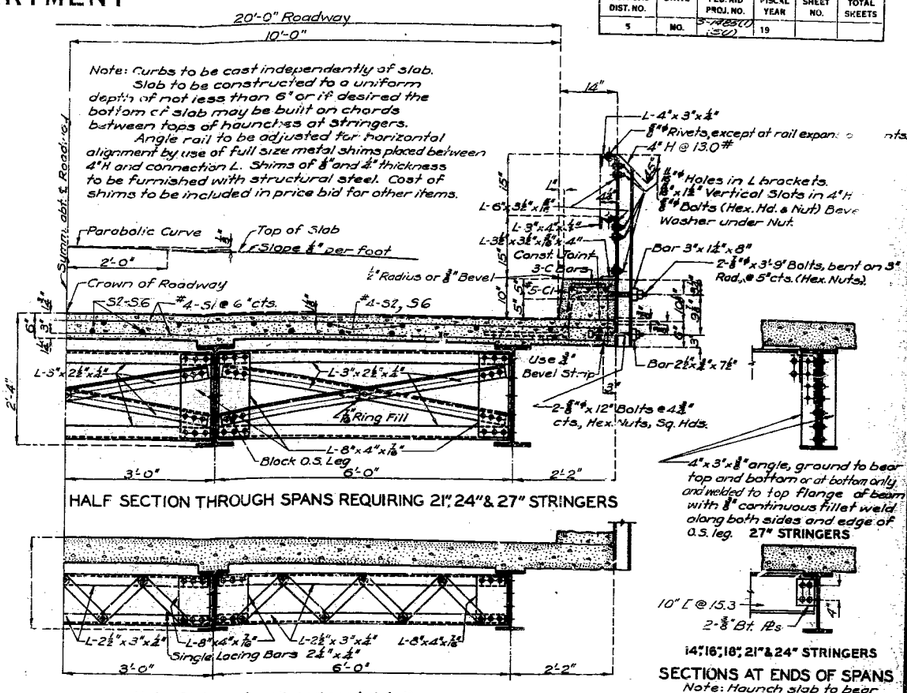
Note: Space towel bars C1 at approximately 12" centers in curbs between outlets and at ends.



PLAN OF SLAB SHOWING REINFORCEMENT

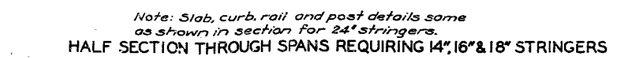


PLAN OF STRUCTURAL STEEL



HALF SECTION THROUGH SPANS REQUIRING 21", 24" & 27" STRINGERS

14", 16", 18", 21" & 24" STRINGERS

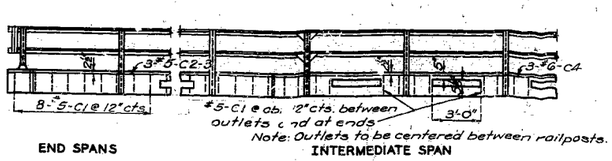


Note: Slab, curb, rail and post details same as shown in section for 24" stringers.

HALF SECTION THROUGH SPANS REQUIRING 14", 16" & 18" STRINGERS

SECTIONS AT ENDS OF SPANS

Note: Haunch slab to bear on [separators.

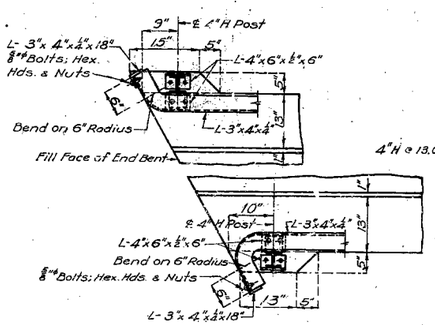


END SPANS — INTERMEDIATE SPAN

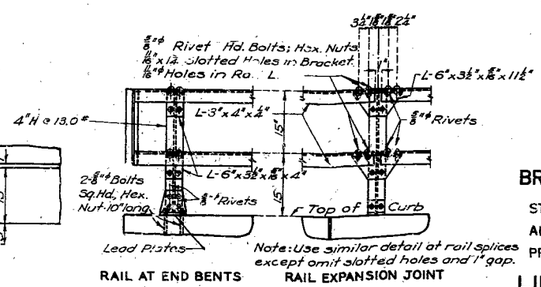
Note: Outlets to be centered between railposts.

TYPICAL CURB DETAILS

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 ⅛" thickness shall be used under angles of each end rail post for aligning rail to correct elevation. Plates shall be 8½"x 6" and shall be punched ⅞" ø on same gauge as the angles. No grouting permitted. Cost of lead plates to be included in price bid for other items.



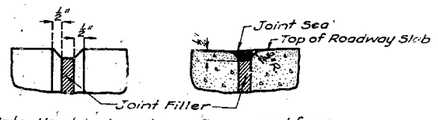
LOCATION OF POSTS AT END BENTS



RAIL AT END BENTS — RAIL EXPANSION JOINT

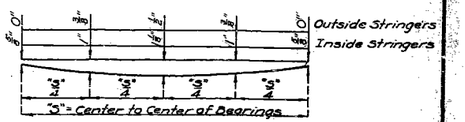
Note: Use similar detail at rail splices except omit slotted holes and 1" gap.

DETAILS OF RAIL



Note: Use bevel as shown for exposed faces of all filled joints except at top surface of roadway slab. Use edging tool with ⅜" radius at top surface of roadway slab each side of joint and fill flush with joint seal as shown.

DETAILS OF BEVEL FOR FILLED JOINTS



Note: Slab shall be built parallel to grade and to a minimum thickness of 6". Dead load deflection, vertical curve (if any), crown and any difference in depth of stringers shall be taken care of by haunching to stringers by the amounts shown above. This additional concrete is included in "Estimated Quantities."

SLAB HAUNCHING DIAGRAM

BRIDGE OVER LONG BRANCH

STATE ROAD FROM RTE. I29 WEST & SOUTH TO ROUTE 36

ABOUT 8.0 MILES N.W. OF BUCKLIN

PROJECT NO. S-1485(I) (SU) STA. 325+47

LINN COUNTY

FINISHED

FINISHED

FINISHED

P-891

Assembled May 1955 by W.E.S. & W.J.K.
Checked May 1955 by Q.F.K.

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

Sheet No. 3 of 4

NO CONSTRUCTION CHANGES

R 7-20, 1-10
Rev. Feb. 1955

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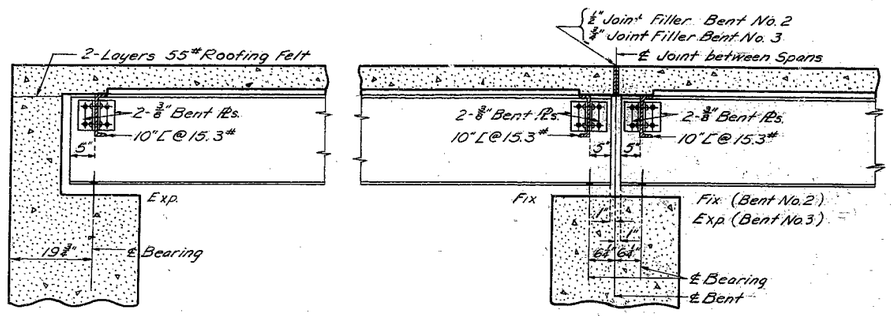
MISSOURI STATE HIGHWAY DEPARTMENT

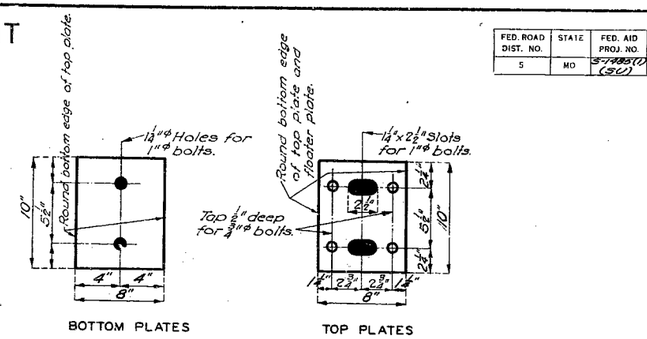
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	S-1485(1) (SU)	19		

8



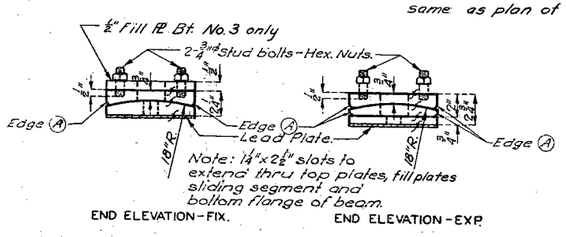
END BENTS NO. 1 & 4 — INT. BENTS NO. 2 & 3

PART LONGITUDINAL SECTION NEAR ℄



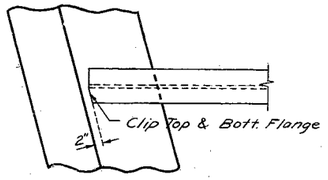
BOTTOM PLATES — TOP PLATES

Note: Plan of Fill Plate same as plan of Top Casting.

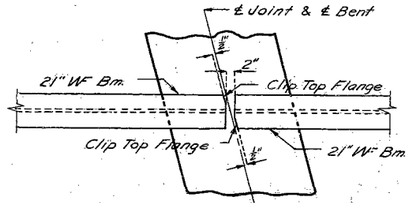


END ELEVATION-FIX. — END ELEVATION-EXP.

Required: 12 Sets 8"x10" Each set consists of 5 plates each.
4 - 8"x10" Fill Plates

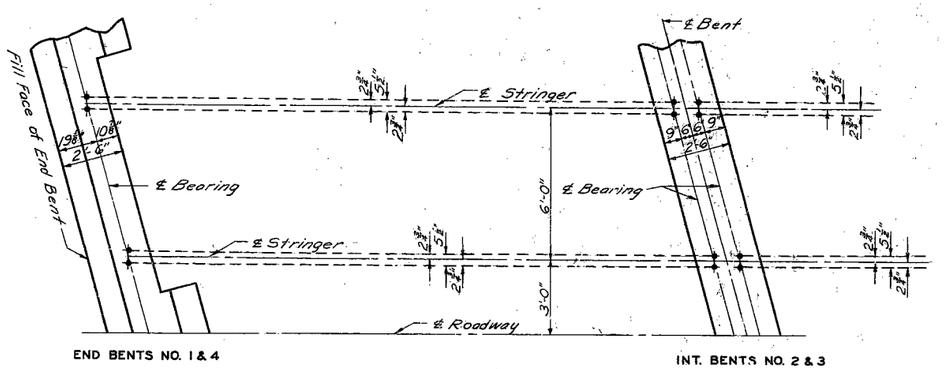


END BENTS NO. 1 & 4



INT. BENTS NO. 2 & 3

PART PLAN OF STRINGERS



END BENTS NO. 1 & 4 — INT. BENTS NO. 2 & 3

PART ANCHOR BOLT PLAN

GENERAL NOTES:

Finish all surfaces marked X.

Bearing castings shall be either gray iron alloy or cast steel, but payment will be made as Gray Iron Alloy.

All bolts and nuts shall be paid for as structural steel.

Anchor bolts for castings shall be 1"ϕ swedged bolts, no heads or nuts shall extend 10" into concrete. Top ends of anchor bolts shall be above the top of castings but not higher than ¼" below the top surface of the bottom flange of beam.

Lead plates under bearings shall be approximately ⅛" in thickness and weight 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.

Fill plates may be made a part of top castings if desired, but payment for fill plates will be made as structural steel.

Edge Ⓐ to be rounded. (Radius ⅛" to ⅜")

BRIDGE OVER LONG BRANCH

STATE ROAD FROM RTE. 129 WEST & SOUTH TO ROUTE 36

ABOUT 8.0 MILES N.W. OF BUCKLIN

PROJECT NO. S-1485(1) (SU) STA. 325+47

LINN COUNTY

FINISHED FINISHED FINISHED

P-891

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Assembled May 1955 by W.E.S. & W.J.K.
Checked May 1955 by A.F.K.

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

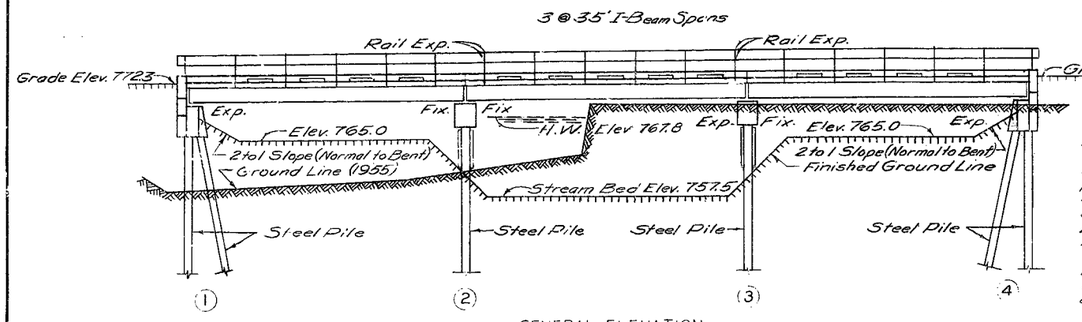
Sheet No. 4 of 4

NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

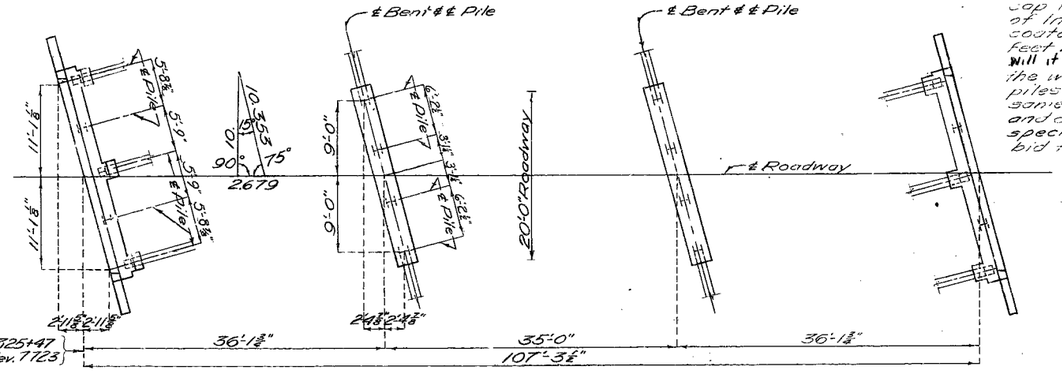
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-1485(1) (SU)	1956		

FINAL PLANS



GENERAL ELEVATION

Note: Old roadway fill was removed to elevation 765.0 of Bent No. 4. Payment for this excavation outside the limits of excavation for substructure was made at unit contract price for Roadway Excavation.



PLAN

Note: All piling were 10" Bearing Piles @ 42# and did conform with details and notes on sheet No. 2 of design plans. Estimated quantities shown on plans are based on the following lengths: 5 @ 35'-0" and 13 @ 45'-0". These indicated lengths are approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer.

All piles were driven to or into solid rock, boulders, shale, or cemented gravel; or to not less than full length authorized and to sustain a load of at least 30 tons per pile.

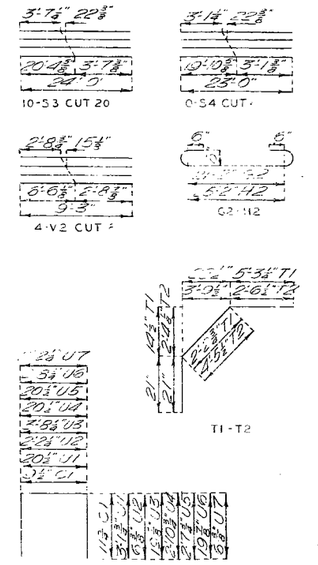
A gravity hammer was used for driving, as required.

Note: Steel Piles of End Bent No. 1 were coated with a heavy coating of an approved bituminous mastic paint from the bottom of the concrete cap to a point 3 feet below the existing ground line. Steel piles of End Bent No. 4 were so coated from the bottom of the concrete cap to a point 3 feet below the cap. Steel piles of Intermediate Bents No. 2 and 3 were so coated from a point 1 foot above to a point 3 feet below finished ground line. In no case will it be required to place the coating below the water line. Payment for excavating around piles below present ground line and backfilling same, furnishing bituminous mastic paint and cleaning and painting steel surfaces specified was included in the unit price bid for other items.

COMPLETE BILL OF REINFORCING BILL

No.	Size	Length	Mark	Location
		End Bents No. 1 & 4		
4	#6	24'0"	H1	Bk. Wall
16	#6	27'9"	H2	Beam
9	#6	25'9"	H3	"
12	#6	7'3"	H4	Wing
4	#6	5'9"	H5	"
8	#6	9'3"	T1	Wing
8	#6	8'9"	T2	"
48	#7	9'0"	U1	Beam
16	#4	3'3"	U2	"
112	#4	7'0"	U3	"
12	#7	7'6"	U4	"
12	#7	7'0"	U5	"
96	#4	3'3"	V1	Bk. Wall
3	#4	9'3"	V2	Wing
4	#4	7'0"	V3	"
24	#4	3'9"	V4	Beam
		Int. Bent: No. 2 & 3		
4	#6	21'9"	G1	Beam
16	#6	23'9"	G2	"
28	#4	6'0"	U6	"
8	#4	3'3"	U7	"
		Superstructure		
52	#5	2'9"	C1	Curb
6	#6	32'7"	C2	"
6	#6	7'-0"	C3	"
6	#6	34'9"	C4	"
362	#4	22'0"	S1	Slab
128	#4	18'9"	S2	"
20	#4	24'0"	S3	"
20	#4	23'0"	S4	"
6	#4	22'9"	S5	"
64	#4	18'0"	S6	"

Cutting Diagrams & Bending Sketches



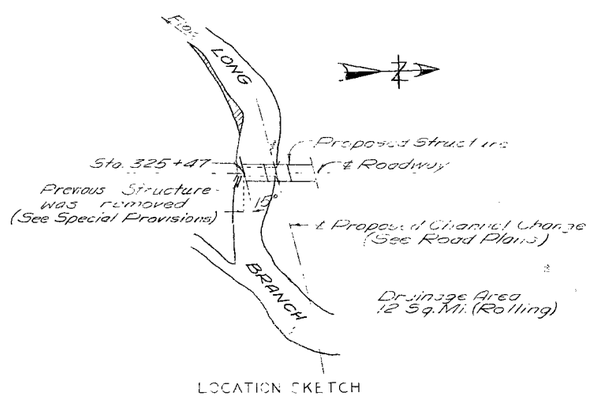
FINAL QUANTITIES

Item		Substr.	Superstr.	Total
Class I Excavation for Structures	Cu Yds.	32.0		32.0
Class "B" Concrete	Cu Yds.	40.0	51.4	91.4
Fabricated Structural Steel	Lbs.	1800	36940	38740
Gray Iron Alloy Castings	Lbs.		1280	1280
Reinforcing Steel	Lbs.	4610	10110	14720
Steel Piles in Place	Lin. Ft.	788		788
Steel Piles Cut-offs	Lin. Ft.	28		28

Note: All excavation for bridge was paid for as Class I Excavation for Structures.

Weight of Fabricated Structural Steel in substructure consists of weight of angles for Bents 2 & 3. Total pay weight for Fabricated Structural Steel was based on using field rivets except for bolted connections specified for handrail.

B.M. Elev. 765.5 Nail & Washer in South East Side 10" Willow ± 120' Lt. Sta. 325+14 (U.S.C.G.S. Datum)



LOCATION SKETCH

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1953
Loading H10-44
Structural Steel Stress 18,000 #/sq."
Reinforcing Steel Stress 18,000 #/sq."
Class "B" Concrete Stress 1,000 #/sq."
All concrete was Class "B."

Paint on Shop, mine, and contact surfaces of bolted field connections one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint was applied by Contractor, except as noted for steel piles. Red lead required was furnished by Contractor. Payment for cleaning and painting such surfaces was included in unit price bid for Fabricated Structural Steel.

Where joint filler is specified on the plans it did conform with the requirements of Section 38-19A(1)h of the Standard Specifications for Preformed Material for Filler.

For requirements on welding electrodes see Special Provisions. Qualification of welding operators will be required.

Rivets ⅞" ø, holes 15/16" ø except where otherwise noted.

Field connections were riveted except as noted in handrail details. The Contractor desired to eliminate all field riveting on this project, he used machine bolts except for the ⅞" rivet head bolts specified for handrail. Heads and nuts of machine bolts were American Standard Regular.

BRIDGE OVER LONG BRANCH

STATE ROAD FROM RTE 129 WEST AND SOUTH TO RTE 36 [illegible]

ABOUT 8.0 MILES N.W. OF BUCKLIN

PROJECT NO. S-1485(1) (SU) **STA.** 325+47

LINN **COUNTY**

SUBMITTED BY J. A. Gilliam BRIDGE ENGINEER DATE 6/1/1955

APPROVED BY Ralph M. Patton CHIEF ENGINEER DATE 6/1/1955

FINISHED

FINISHED

FINISHED

STRUCTURE NO. P-891

DRAWN May 1955 BY W.E.S.

CHECKED [illegible] 1955 BY [illegible]

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 1A of 1.

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FINAL PLANS

Missouri Department of Transportation
State Bridge Inspection Report

June 25, 2024
10:14:34AM

COUNTY: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7958** **BRIDGE: P0891**

GENERAL STRUCTURE INFORMATION

ROUTE: RTUS	**# SPANS:** 3	**PLACE CODE:** 09406 BUCKLIN	
FEATURE: LONG BR	**LANES ON:** 1	**LENGTH:** 107 FT 0 IN	
STATUS: P-POSTLOAD	**LANES UNDER:** 0	**MAXIMUM SPAN:** 36 FT 2 IN	
LOG MILE: 7.119	**COMPASS DIRECTION:** SOUTH to NORTH	**APPROACH ROADWAY:** 20 FT 0 IN	
DETOUR: 26.00 MILES	**DIRECTION OF TRAFFIC:** 1-LN/2-WAY	**CURB TO CURB:** 20 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MINOR COLLECTOR	**OUT TO OUT:** 22 FT 4 IN	
BUILT: 1955	**NBI OWNER:** MODOT	**AADT:** 298	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 17 T 58 R 18 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 21.6%	
LATITUDE: 39 50 47.25 (DMS)	**MAINTENANCE COUNTY:** LINN	**FUTURE AADT:** 373	
LONGITUDE: 92 56 38.64 (DMS)	**SUB AREA:** 7A02	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/20/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: KEVIN RAITHEL **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: 03/09/2022 **RESPONSIBILITY:** DISTRICT **CATEGORY:** CHANNEL CROSS SEC
FREQUENCY: 72 **CALCULATED INTERVAL**:** 6 **NBI:** NO
TEAM LEADER: SCOTT STEPHENS **INSPECTOR 3:** **METHOD:** WT TAPE
INSPECTOR 2: **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

DATE: 09/20/2022 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 24 **NBI:** NO
TEAM LEADER: KEVIN RAITHEL **INSPECTOR 3:** **METHOD:** VISUAL
INSPECTOR 2: **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

STRUCTURE POSTING

APPROVED CATEGORY: S-5 CENTERLINE OF BRIDGE AND TRUCKS OVER 15 TONS 15 MPH ON BRIDGE.
Ton 1: 15 **Ton 2:** **Ton 3:**
COMMENTS: (RAITHK, 09/28/2022)--INTACT

FIELD CATEGORY: S-5 CENTERLINE OF BRIDGE AND TRUCKS OVER 15 TONS 15 MPH ON BRIDGE.
Ton 1: 15 **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS: (RAITHK, 09/28/2022)--INTACT

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 12/10/2009)--(36'-35'-36') SMP WF GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION **COMMENTS:** (STEPHS2, 09/18/2020)--FULL DEPTH PATCHES AND SATURATION THROUGHOUT.
RATING : 09/18/2020

[ITEM 59] SUPER: 5-FAIR CONDITION **COMMENTS:** (STEPHS2, 09/27/2018)--RUSTING TOP FLANGE DECK LIFTING
RATING : 09/27/2018

[ITEM 60] SUB: 6-SATISFACTORY CONDITION **COMMENTS:** (STEPHS2, 09/27/2018)--RUSTY PILING, PAINTED 2016
RATING : 09/30/2014

[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE **COMMENTS:** (BOWDEJ1, 11/30/2004)--LEVEE DWSTR RESTRICTING FLOW (MINOR)
RATING : 09/30/2014

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

[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGT **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: *DOESNT MEET CURRNT STND-0* ***RATING :*** *12/31/2002* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
STEEL	ANGLE-DOUBLE	BOTH	
REINFORCED CONCRETE	CURB	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36D] RAIL END TREATMENT RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7958** **BRIDGE: P0891**

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	FAIR	(MENEET, 11/17/2011)--PAVEMENT IS BREAKING UP.

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	CINDER SEAL				POOR
COMMENT:							
	DECK PROTECTION	NOTAPPLICABLE	NONE				
COMMENT:							
	MEMBRANE	NOTAPPLICABLE	NONE				
COMMENT:							

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	REINFORCED CONCRETE	CURB OUTLET		
DRAINAGE	ASPHALT	DRAIN BASIN-END BENT		

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	RIP RAP	BOTH	

DECK COMPONENTS

SPAN TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	COMMENTS
MAIN SPANS-1	DECK	REINFORCED CONCRETE	CAST-IN-PLACE	(GOODMJ1, 12/31/2002)--DECK BOLTED

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BOLTED	AT ABUTMENTS		XTERIOR GIRDEF		
DETERIORATION	EDGE		HEAVY		
EFFLORESCENCE	THROUGHOUT		MINOR		
FULL DEPTH PATCHES	THROUGHOUT		FEW	10 %	
SATURATION	RANDOM		MODERATE	30 %	
SCALING	THROUGHOUT		LIGHT		
SPALLS	RANDOM		SMALL		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BOLTED	AT INTERMEDIATE BENT		XTERIOR GIRDEF		
DETERIORATION	EDGE		HEAVY		
EFFLORESCENCE	THROUGHOUT		MEDIUM		
FULL DEPTH PATCHES	THROUGHOUT		FEW	20 %	
SATURATION	RANDOM		HEAVY	50 %	
SCALING	THROUGHOUT		LIGHT		
SPALLS	RANDOM		SMALL		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
BOLTED	AT ABUTMENTS		XTERIOR GIRDEF		
DETERIORATION	EDGE		HEAVY		
EFFLORESCENCE	THROUGHOUT		MODERATE		
SATURATION	RANDOM		HEAVY	50 %	
SCALING	THROUGHOUT		LIGHT		
SPALLS	RANDOM		SMALL		
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	36 FT 2 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	GIRDERS		MINOR		(MENEET, 11/23/2011)--EXT. GIRDERS.
PACK RUST	THROUGHOUT		MODERATE		
SECTION LOSS	TOP FLANGE		MEDIUM		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL
MAIN SPANS-2	NON-COMPOSITE	35 FT 0 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	GIRDERS		MINOR		(MENEET, 11/23/2011)--EXT. GIRDERS.
PACK RUST	THROUGHOUT		MODERATE		
SECTION LOSS	THROUGHOUT		MINOR		
SECTION LOSS	TOP FLANGE		MEDIUM		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL
MAIN SPANS-3	NON-COMPOSITE	36 FT 2 IN	NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DECK LIFTING	GIRDERS		MINOR		(MENEET, 11/23/2011)--EXT. GIRDERS.
PACK RUST	THROUGHOUT		MODERATE		
SECTION LOSS	THROUGHOUT		MINOR		
SECTION LOSS	TOP FLANGE		MEDIUM		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*RA-15 DEGREES*	*26 FT 0 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION
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
PILING	STEEL	H-SHAPE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	THROUGHOUT		MODERATE		

BENT-2 RA-15 DEGREES 22 FT 2 IN REINFORCED CONCRETE PILE CAP

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
SCALING	THROUGHOUT		LIGHT		
CROSS BRACING	STEEL	ANGLE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PILING	STEEL	H-SHAPE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	GROUND LINE		LIGHT		
RUSTING	THROUGHOUT		LIGHT		(STEPHS2, 09/27/2018)--PAINTED 2016
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	THROUGHOUT		MODERATE		
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	THROUGHOUT		MODERATE		

BENT-3 RA-15 DEGREES 22 FT 2 IN REINFORCED CONCRETE PILE CAP

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
SCALING	THROUGHOUT		LIGHT		
CROSS BRACING	STEEL	ANGLE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PILING	STEEL	H-SHAPE			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	GROUND LINE		MODERATE		
RUSTING	THROUGHOUT		LIGHT		(STEPHS2, 09/27/2018)--PAINTED 2016
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	THROUGHOUT		MINOR		

ABUTMENT-4 RA-15 DEGREES 26 FT 0 IN REINFORCED CONCRETE NON-INTEGRAL

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	MATERIAL	CONSTRUCTION			
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
VERTICAL CRACKS	THROUGHOUT		FEW		

PILING	STEEL	H-SHAPE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	SLIDING CURVED/FLAT PL/			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
PACK RUST	THROUGHOUT		MEDIUM		

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

CONDITION: FAIR **RUST AMOUNT :** 7 = .2% OF SURFACE RUSTED **STEEL TONS :** 20

ORIGINAL PAINT		CONTRACT REPAINT		DEPARTMENT REPAINT			
PAINT TYPE :		**PAINT TYPE :**		**PAINT TYPE :**	C SYSTEM	**MANUFACTURE :**	
NAME :		**NAME :**		**NAME :**	INORGANIC ZINC/VINYL	**SURFACE PREP :**	
PAINT COLOR :		**PAINT COLOR :**		**PAINT COLOR :**	GREEN		
PAINT YEAR :		**PAINT YEAR :**		**PAINT YEAR :**	1987		
MILS :		**MILS :**		**MILS :**	7		

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: LINN **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 7958** **BRIDGE: P0891**

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

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	3/19/2002
[Item 68] Deck Geometry Rating:	4-MEETS MINIMUM TOLERABLE	9/24/2020
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	50.0%	3/7/2024
Deficiency:	STRUCTURAL	9/24/2020
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	YIELD TO ONCOMING TRAFFIC		
2	B - ONE LANE BRIDGE		

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**
STATUS: **DATE:**
NOTES:

BRIDGE MEMORANDUM

Job No.: JNW0013 **Bridge No.:** X01531
County: Grundy **Route:** E (Low Volume) over Medicine Creek Drainage Ditch

Final Layout: U.I.P., Redeck & Make Composite Existing (55'-75'-75'-55') Continuous Wide Flange Beam Spans
Roadway Width: 24'-0" plus 16" Type D Barriers each side
Alignment: Tangent
Skew: Square
Profile Grade: Match existing ±
Loading: H-10 (1944), HS20-44 (New construction)
Begin Station: 294+53.00± (match existing)
Traffic Handling: Structure to be closed during construction. Traffic to be maintained on other routes during construction. See roadway plans for traffic control.
Traffic Information: AADT = 271 (2023), Truck = 26.3% = 71
AADT = 339 (2043), Truck = 26.3% = 89
Existing Bridge: Redeck X0153 and use in place.
Condition Ratings: Deck = 4, Superstructure = 7, Substructure = 7
Load Posting: No posting required (to be maintained)

General Notes:

- Remove existing bridge deck including curbs, rails and top of wings.
- Install 6½" CIP sliding slab with 3/16" cross slope (without precast panels), stay-in-place forms permitted.
- Increase existing haunch ½" to match existing profile grade.
- Make End Bents No. 1 & 5 semi-integral.
- Install 16" wide, Type D Barriers.
- Install Slab Drains as required.
- Install Shear Connectors to make composite.
- Apply Gray Epoxy-Mastic Primer on sides & bottom of top flange for whole length of bridge.
- Clean & Recoat existing bearings at Int. Bents No. 2 & 3.
- Install 20' Bridge Approach Slab (Minor) at End Bents No. 1 & 5.
- No conduit, lighting, utility supports, or sidewalks are to be included in the final plans.
- Existing paint system is System B (lead based).
- Bridge deck may be finished with a vibratory screed. Include note B3.25 on plans.

Special Notes:

- Provide object markers at each corner of bridge (Roadway Item).
- Remove existing Bridge Approach Pavement (Roadway Item).
- Roadway surfacing adjacent to bridge ends to match top of bridge deck (Roadway Item).
- Rubblized existing bridge deck may be used on spill slopes (Roadway Item).
- An asbestos and lead inspection has been performed on this structure (X0153). Results indicate that asbestos is not present and lead is present. The Bridge Division will include this report in the electronic deliverables folder when submitting contract documents to the Design Division for the letting (Bridge Item).
- Girders to be recoated in a future, paint-only contract (Estimated cost of $96,000).

Estimated Working / Calendar Days = **30** / **45**
FY26 Estimated Construction Cost[1] = $407,000

[1]Does not include STIP inflation from Planning

Bridge contact is Ted Koester, SPM 573-751-4229

District contact is Brian Rosenthal, TPM 816-387-2499

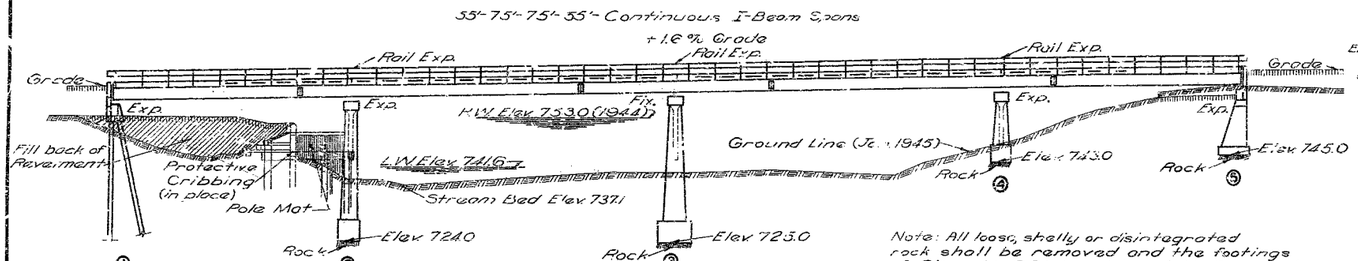
Ted Koester — 4/23/24
Prepared by: Structural Project Manager — *Date*

District: Transportation Project Manager — *Date*

District: District Bridge Engineer — *Date*

MISSOURI STATE HIGHWAY DEPARTMENT

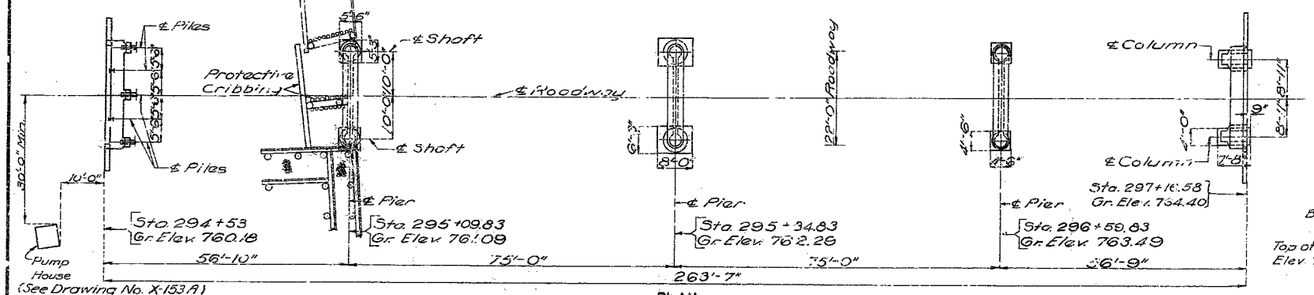
ROAD SYSTEM NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
S	MO.	38-123(2)X	19		

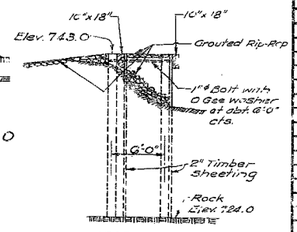


GENERAL ELEVATION

Note:
All steel piling shall be 10" x 10" WF Beams @ 42# and shall conform with details and notes on Sheet No. 2 of design plans. Estimated quantities shown on plans are based on 42'-0" lengths. This indicated length is approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer. See Special Provisions.

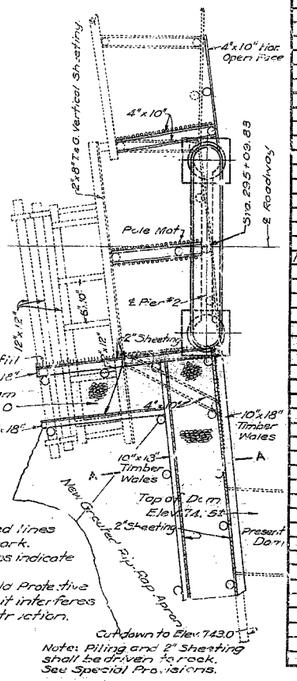
All piles shall be driven to practical refusal on or into solid rock, boulders, shale or cemented gravel or to not less than the full length authorized and to sustain a load of at least 40 ton per pile. A gravity hammer weighing at least 3000# may be used if desired.





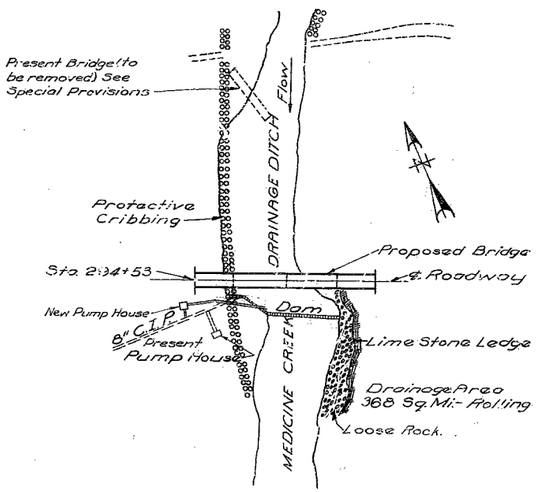
SECTION A-A

Note: All loose, shelly or disintegrated rock shall be removed and the footings of Piers No. 2, 3 & 4 and Bent No. 5 placed on hard, solid undisturbed rock. If soft rock or shale is encountered the footings shall be carried at least 18" into and cast against vertical faces of same.



Note: Light dotted lines indicate old work. Heavy lines indicate new work. Remove old Protective Cribbing where it interferes with new construction.

Note: Piling and 2" Sheeting shall be driven to rock. See Special Provisions.



LOCATION SKETCH

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1944
Loading H-10 A.A.S.H.O.
Structural Steel Stress 18,000 #/sq".
Reinforcing Steel Stress 18,000 #/sq".
Concrete Class "B" 1,000 #/sq".
All concrete shall be Class "B"
Rivets ⅞", except as noted.
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 the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Steel.

Where joint filler is specified on plans it shall conform with the requirements of Section 30-19A(1) of the Standard Specifications for Premoulded Material Filler.

Qualification of all welding operators and electrodes will be required in accordance with specifications, except that a proper certification of electrodes previously qualified will be acceptable.

Surfaces of piles on end bent from bottom of concrete caps to 3'-0" below present ground line shall be painted with one coat of an approved brand of emulsified asphalt paint. Payment for excavating around piles below present ground line and backfilling same, furnishing emulsified asphalt paint and cleaning and painting steel surfaces specified will be included in the unit price bid for other items.

ESTIMATED QUANTITIES

Item		Substructure	Superstructure	Total
Class 1 Excavation for Structures	Cu. Yds.	133		133
Class 2 Excavation for Structures	Cu. Yds.	218		218
Class "B" Concrete	Cu. Yds.	139.7	141.0	314.7
Reinforcing Steel	Lbs.	15,660	23,780	39,440
Steel Castings	Lbs.	6,460		6,460
Steel Piles In Place	Lin. Ft.	192		192
Steel Pile Cut-offs	Lin. Ft.	15		15
Fabricated Structural Steel	Lbs.	400	57,200	57,600
Creosoted Timber	F.B.M.			3,420
Creosoted Timber Piles In Place	Lin. Ft.			309
Creosoted Timber Pile Cut-offs	Lin. Ft.			45
Grouted Rip Rap (Bank and Apron)	Cu. Yds.			60

Note: Excavation for bridge made above Elev. 743.5 will be paid for as Class 1 Excavation for Structures.

Excavation for bridge made below Elev. 743.5 will be paid for as Class 2 Excavation for Structures.

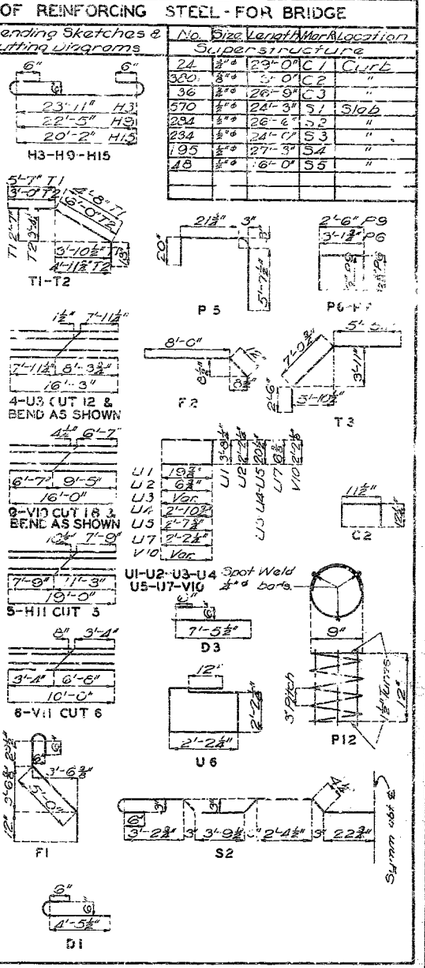
Excavation of all existing materials under bridge shall be made to not less than 3'-0" below bottom of steel and not less than 4'-0" outside of curb lines. Payment for this excavation outside limits of excavation for structure will be made at unit contract price for Roadway Excavation.

See Special Provisions for removing and replacing protective cribbing as required for construction of Pier No. 2 and as required for extension of present dam.

COMPLETE BILL OF REINFORCING STEEL - FOR BRIDGE

No.	Size	Length	Mark	Location
		End Bent No. 1		
5	¾"	22'-3"	H1	Backwall
6	¾"	22'-9"	H2	"
8	¾"	26'-6"	H3	Beam
1	¾"	24'-3"	H4	"
4	¾"	6'-9"	H5	Wing
4	¾"	7'-3"	H6	"
1	¾"	8'-0"	H7	"
8	¾"	19'-6"	P12	Wall & Anc. Bolt
4	¾"	11'-9"	T1	Wing
4	¾"	10'-6"	T2	"
52	⅝"	7'-0"	U1	Beam
12	⅝"	3'-3"	U2	"
12	⅝"	16'-5"	U3	"
6	⅝"	7'-6"	U4	"
6	⅝"	7'-0"	U5	"
24	⅝"	6'-9"	V7	Backwall
12	⅝"	3'-9"	V2	Beam
2	¾"	3'-3"	V3	Wing
2	¾"	4'-9"	V4	"
2	⅝"	6'-0"	V5	"
2	⅝"	7'-3"	V6	"
4	⅝"	3'-9"	V7	"
		Piers No. 2 & 4		
32	1"	2'-0"	D2	Footing
34	1"	20'-3"	H12	Web
12	¾"	21'-3"	H13	Cap
6	¾"	23'-0"	H14	"
9	1"	22'-9"	H15	Wing
16	1"	16'-0"	P1	Shaft
16	1"	17'-0"	P2	"
16	1"	13'-6"	P3	"
16	1"	14'-6"	P4	"
16	1"	8'-9"	D3	Footing
132	¾"	9'-6"	P5	Cap
30	¾"	11'-3"	P6	"
22	¾"	10'-8"	P7	Web
22	¾"	11'-9"	P8	"
6	¾"	3'-6"	P9	Cap
16	1"	11'-9"	P10	Shaft
22	¾"	9'-0"	P11	Web
24	¾"	19'-9"	P12	Walls
		End Bent No. 3		
20	¾"	5'-9"	D1	Footing
8	¾"	9'-3"	F1	Haunch
8	¾"	9'-0"	F2	"
2	¾"	22'-3"	H17	Backwall
6	¾"	22'-3"	H8	"
9	1"	23'-0"	H9	Beam
2	¾"	23'-0"	H10	"
5	¾"	19'-0"	H11	Wing
8	¾"	19'-9"	P12	Walls
4	¾"	15'-0"	T3	Wing
24	¾"	9'-9"	U6	Beam
12	¾"	3'-3"	U7	"
44	⅝"	6'-6"	V8	Backwall
20	¾"	13'-3"	V9	Col.
18	¾"	16'-0"	V10	"
6	¾"	10'-0"	V11	Wing
4	¾"	7'-3"	V12	"
13	¾"	10'-9"	H16	"
8	¾"	9'-0"	V13	Col.

Bending Sketches & Cutting Diagrams



B.M. Elev. 753.45 V-Nails in N. Root of 60" Elm 90° Rt. Sta 294+50. (U.S.G.S. Datum).

BRIDGE OVER MEDICINE CREEK D.D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE

ABOUT 0.5 MILE EAST OF LAREDO

PROJECT NO. S-123(2) (SE) STA. 294+53

GRUNDY COUNTY

SUBMITTED BY J. W. Enslow, BRIDGE ENGINEER, DATE 12/11/1945

APPROVED BY Chas. H. Brown, CHIEF ENGINEER, DATE 12/11/1945

STD C-110R3

X-153

Designed Sept. 1945 by R.A.B.
Drawn Oct. 1945 by G.W.
Traced Nov. 1945 by K.R.W.
Checked Nov. 1945 by D.K.M.

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

Sheet No. 1 of 5.

Revised 7-17-1947

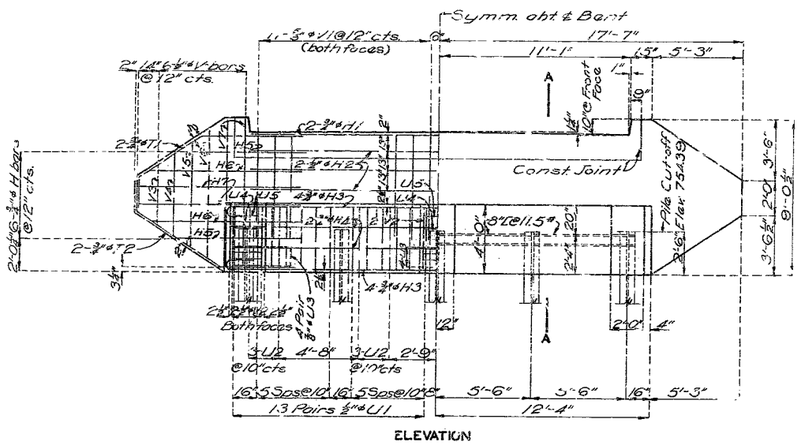
FINAL PLANS

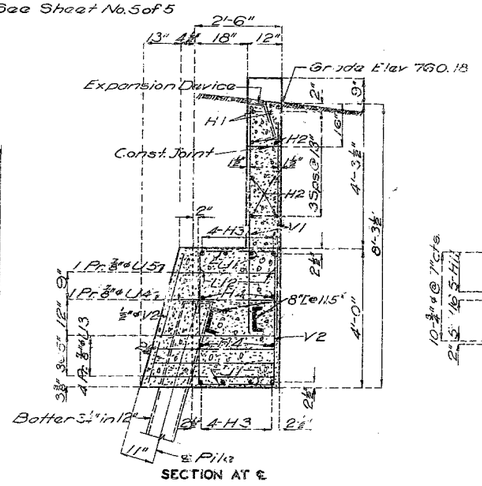
MISSOURI STATE HIGHWAY DEPARTMENT

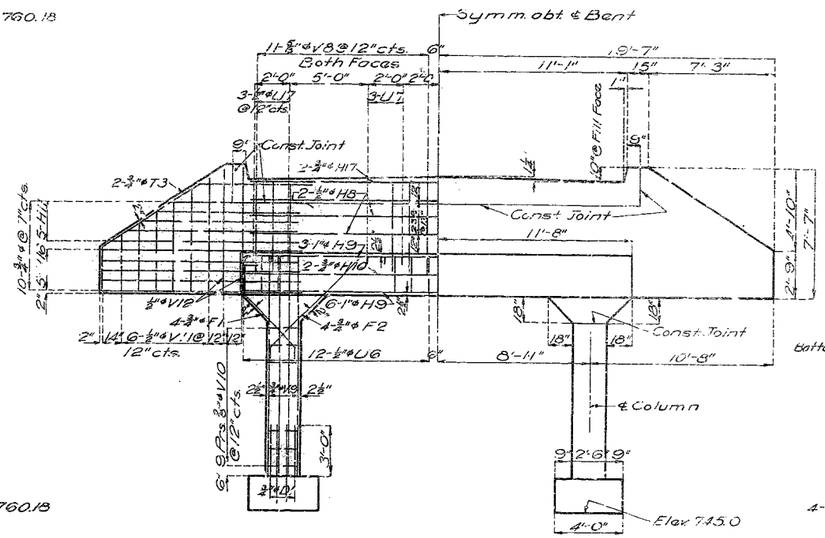
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123(2) (SE)	19		

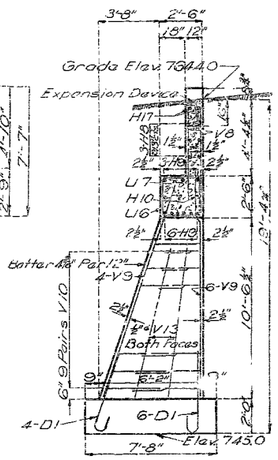
Note: Top of backwall and Exp device for End Bents No. 1 & 5 to conform to Crown of Roadway slab. Backwalls above Const Joints shall not be poured until the structural steel Expansion devices have been installed. For details of Exp Device See Sheet No. 5 of 5

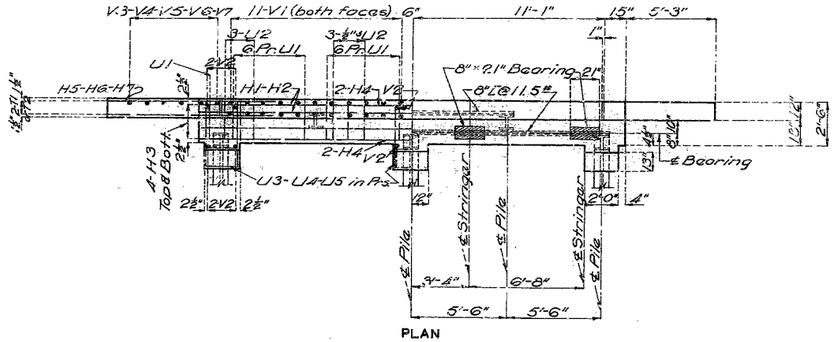
Note: Fill at End Bents No. 1 & 5 shall not be carried above bottom of backwall until superstructure is in place.



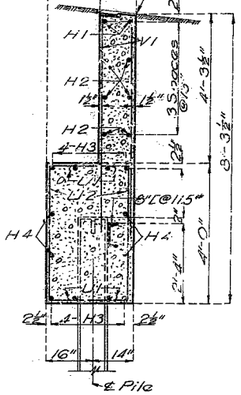


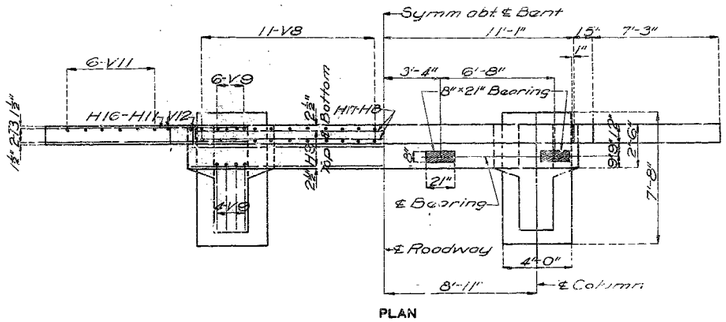




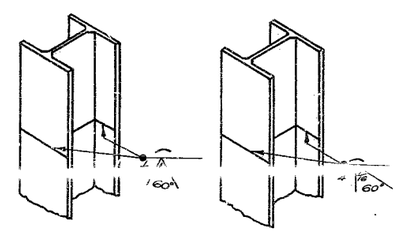


DETAILS OF END BENT NO. 1

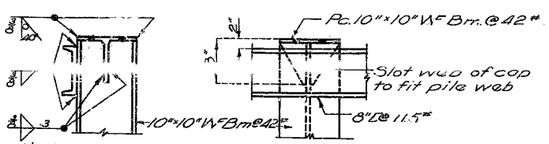




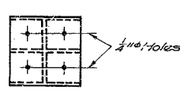
DETAILS OF END BENT NO. 5



BUTT SPLICE FOR STEEL PILING



DETAILS OF PILE CAP



PLAN OF PILE CAP

BRIDGE OVER MEDICINE CREEK D.D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE

ABOUT 0.5 MILE EAST TO LAREDO

PROJECT NO. S-123(2) (SE) STA. 294+53

GRUNDY COUNTY

FINISHED

X-153

Designed Sept. 1945 by R.A.B.
Drawn Oct. 1945 by G.W.
Traced Oct. 1945 by K.R.W.
Checked Nov. 1945 by D.F.M.

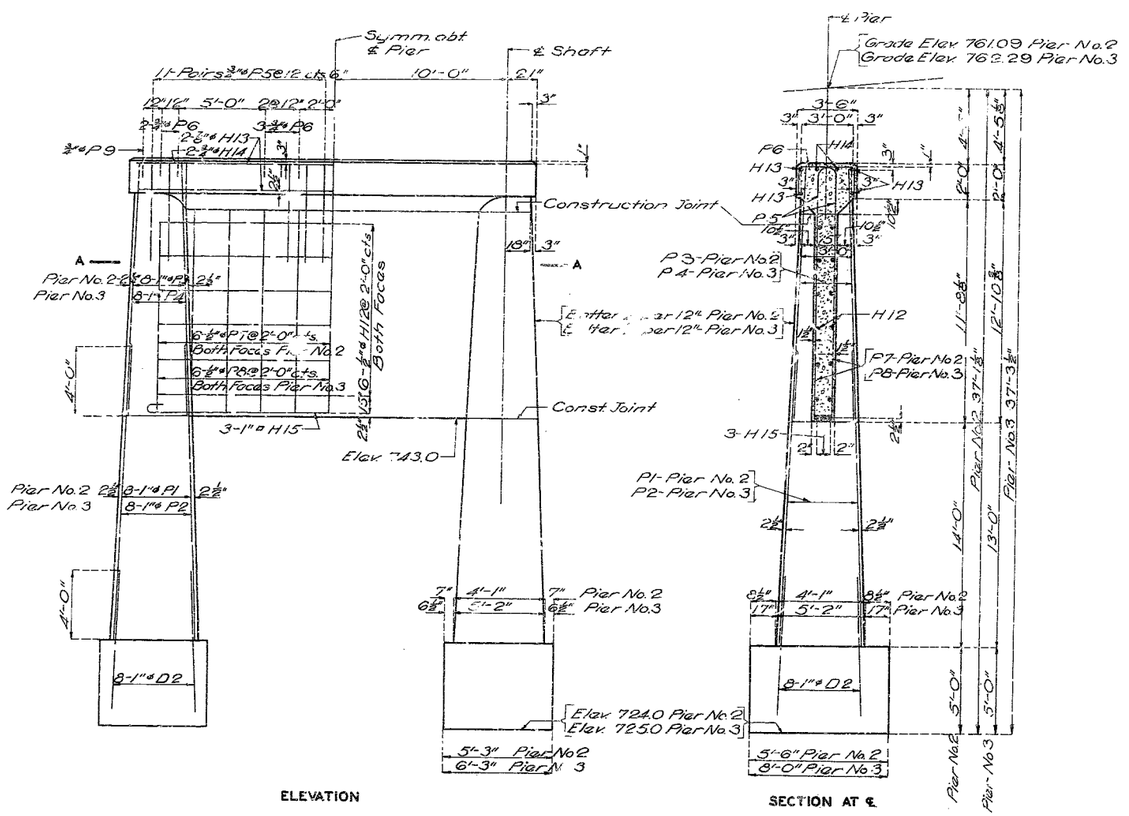
Note: This drawing is not to scale. Follow dimensions.

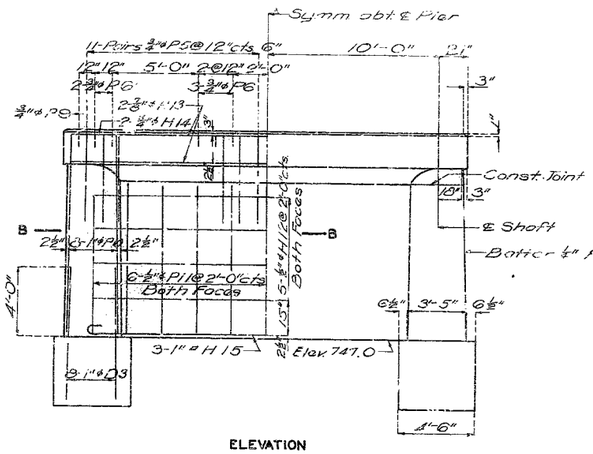
FINISHED

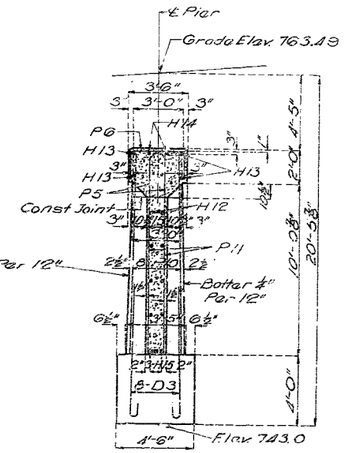
2 0

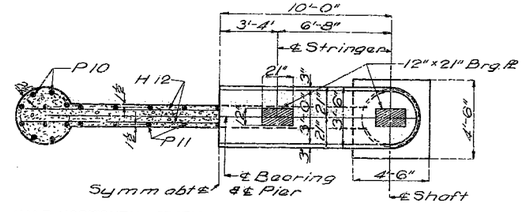
MISSOURI STATE HIGHWAY DEPARTMENT

ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123(2) (3E)	19		

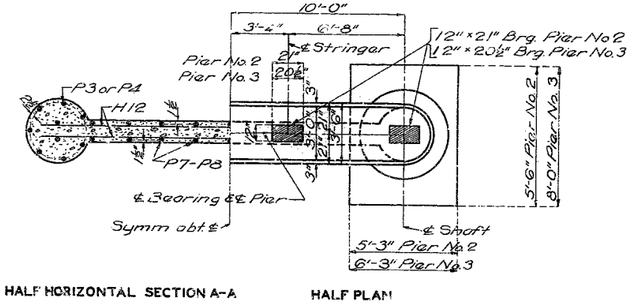


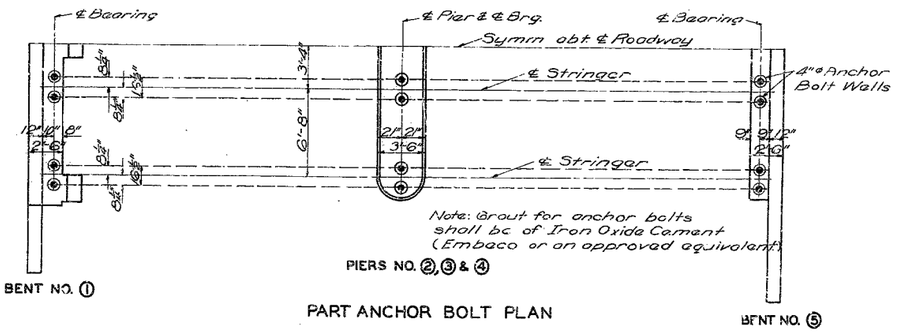






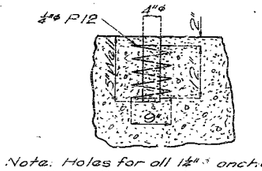
DETAILS OF PIERS NO. 4





Note: Grout for anchor bolts shall be of Iron Oxide Cement (Embaco or an approved equivalent)

PART ANCHOR BOLT PLAN



Note. Holes for all 1½"ø anchor bolts shall be formed in substructure by placing and setting with template 4"ø Wells of depth shown above.

PART SECTION SHOWING ANCHOR BOLT WELL

DETAILS OF PIERS NO. 2 & 3

BRIDGE OVER MEDICINE CREEK D. D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE

ABOUT 0.5 MILE EAST TO LAREDO

PROJECT NO. S-123(2) (SE) STA. 29+53

GRUNDY COUNTY

Designed Oct 1945 by R.R.B.
Drawn Oct 1945 by G.W.
Traced Oct 1945 by K.R.W.
Checked Nov. 1945 by J.K.M.

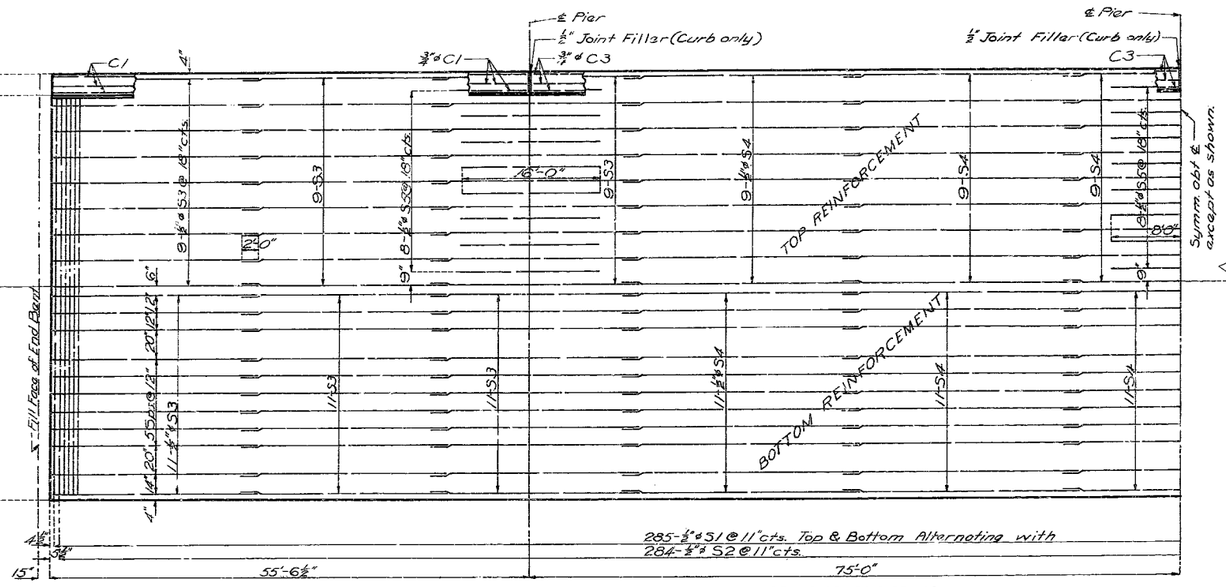
Note: This drawing is not to scale. Follow dimensions

Sheet No. 3 of 5.

X-153

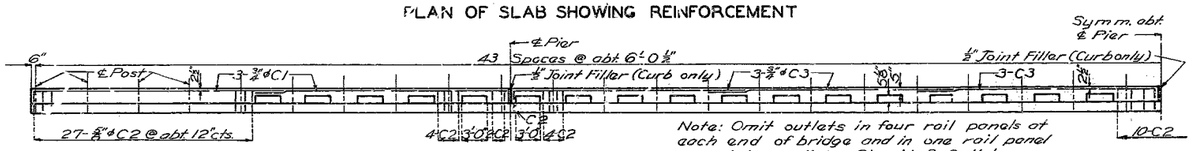
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123(23) (SE)	19		



SPANS (1-2) & (4-5) SPANS (2-3) & (3-4)

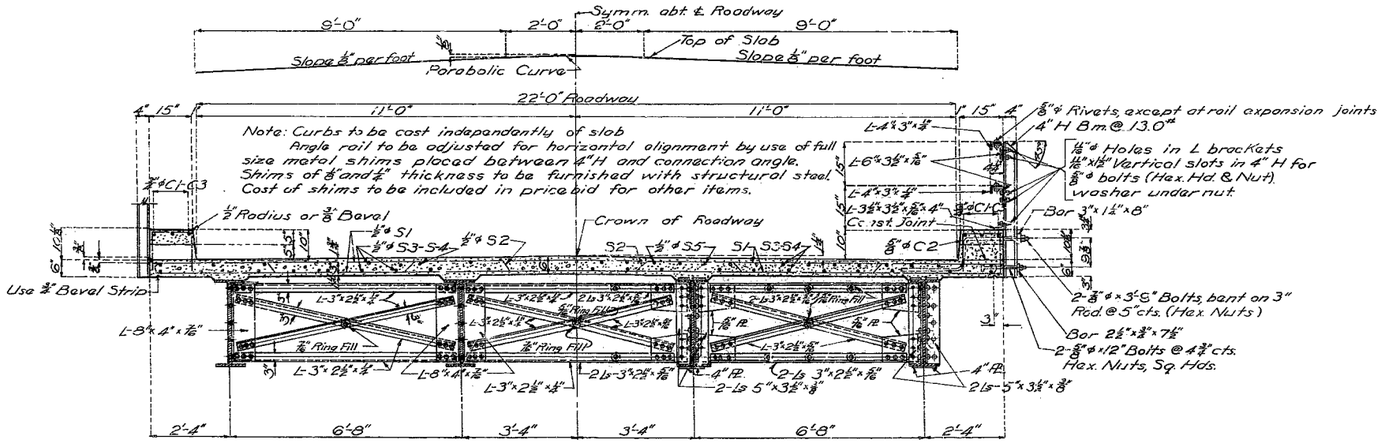
PLAN OF SLAB SHOWING REINFORCEMENT



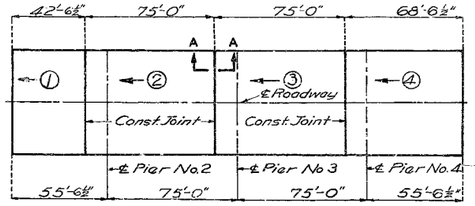
Note: Space ⅝" ø C2 bars at abt. 12" cts. between outlets and at ends.

Note: Omit outlets in four rail panels at each end of bridge and in one rail panel over intermediate Pier No. 3. Outlets shall be centered between rail posts.

PART ELEVATION OF CURB

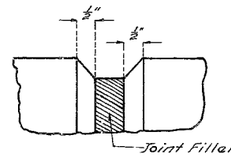


HALF SECTION NEAR INTERMEDIATE DIAPHRAGM HALF SECTION AT PIERS NO. 2, 3 & 4



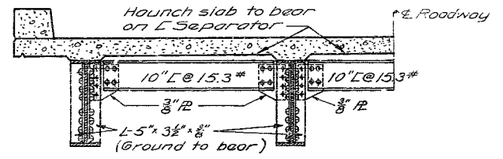
Note: The slab shall be poured in sections of the size shown above and in the sequence indicated by the numbers ①,②,③ & ④. The separate pours shall also progress in the direction indicated by the arrows. Longitudinal construction joints will not be permitted. Slab pouring sequence may be reversed if desired starting at the opposite end of the four span continuous series, pouring each section in a direction opposite to that shown and maintaining specified lengths of the section in their order.

SLAB POURING SEQUENCE

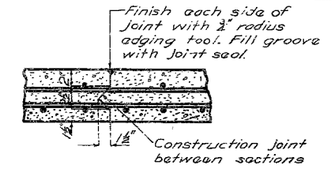


Note: Use bevel as shown for exposed faces of all filled joints.

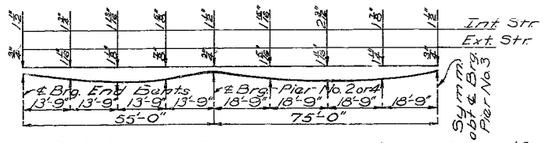
DETAILS OF BEVEL FOR FILLED JOINTS



PART SECTION SHOWING END DIAPHRAGM BENTS NO. 1 & 5



SECTION A-A



Note: Slab shall be built parallel to grade and to a uniform thickness of 6". Dead load deflection and crown shall be taken care of by haunching to stringers by the amounts shown above. This additional concrete is included in "Estimated Quantities."

SLAB HAUNCHING DIAGRAM

BRIDGE OVER MEDICINE CREEK D. D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE
ABOUT 0.3 MILE EAST TO LAREDO
PROJECT NO. S-123 (2) (SE) STA. 294 +53

GRUNDY COUNTY

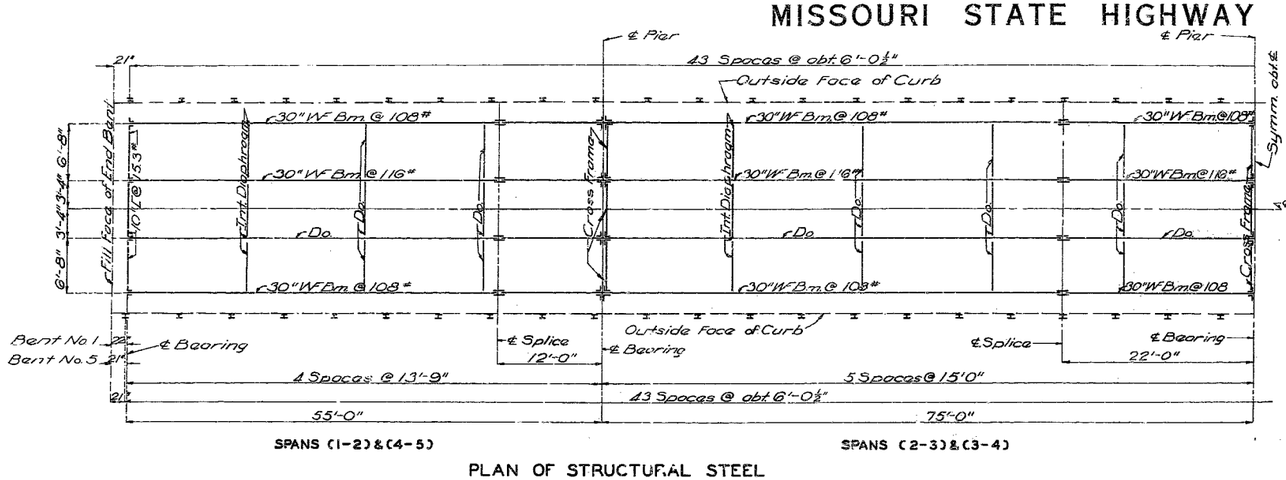
X-153

Designed Sept 1945 by R.A.B.
Drawn Oct 1945 by G.W.
Traced Oct 1945 by K.R.W.
Checked Nov 1945 by [illegible]

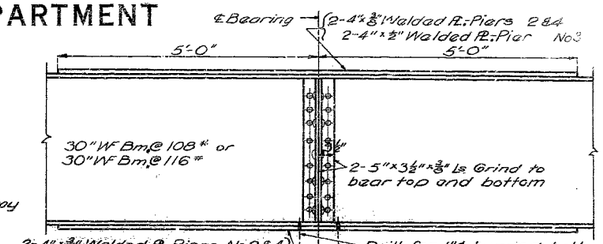
Note: This drawing is not to scale. Follow dimensions.

MISSOURI STATE HIGHWAY DEPARTMENT

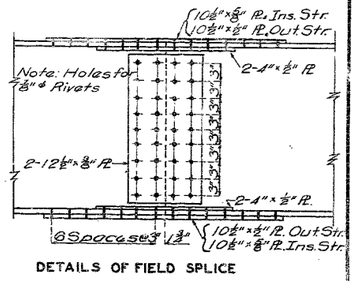
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123 (23) (SE)	19		



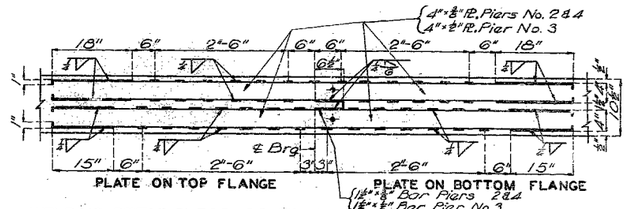
PLAN OF STRUCTURAL STEEL



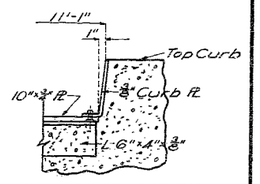
DETAIL OF STIFFENER ANGLES AT ℄ BEARING - PIERS NO. 2, 3 & 4



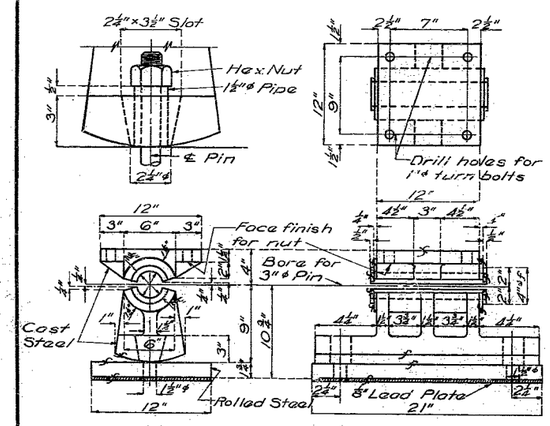
DETAILS OF FIELD SPLICE

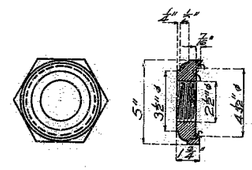


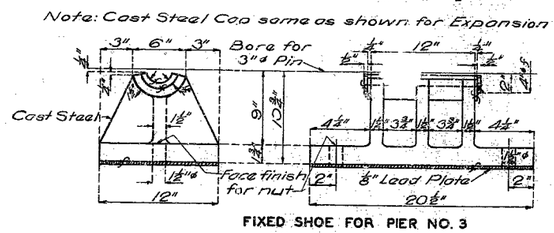
WELDING DETAILS FOR COVER PLATES OVER PIERS NO. 2 & 3



PART SECTION SHOWING CURB PLATE

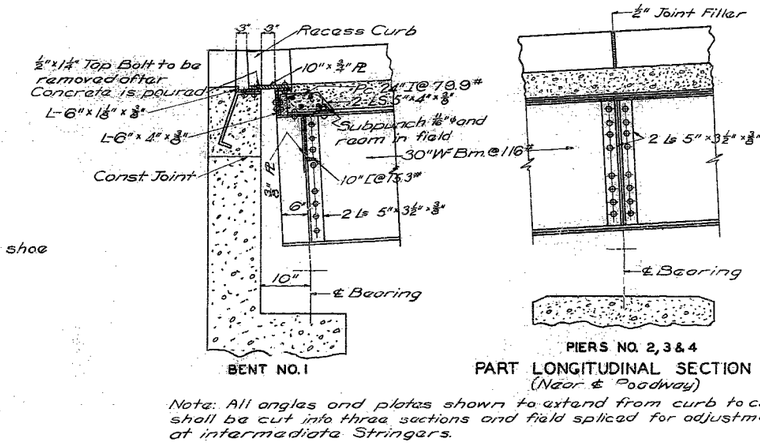




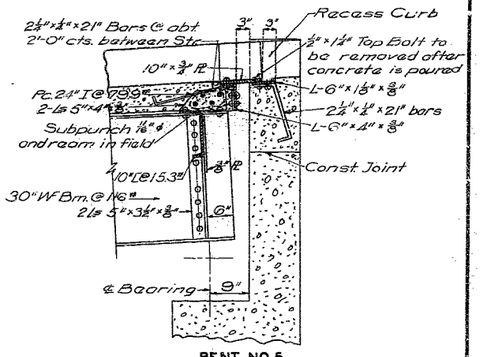


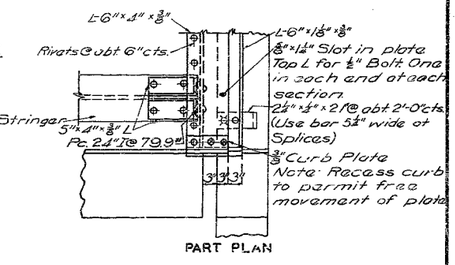
Note: All angles and plates shall have ¾" radius. Finish all surfaces marked "f". All pins, bolts and rolled plates will be paid for as structural steel. Anchor bolts shall be 1¼"ϕ swedged bolts with Hex. Nuts and shall extend 12" into concrete. All finished surfaces shall be painted with one coat of white lead and tallow.

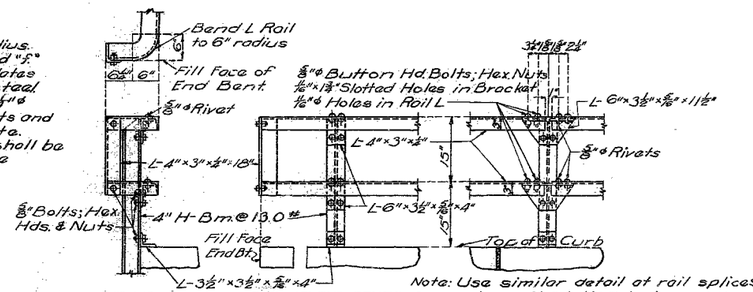
DETAILS OF SHOES



Note: All angles and plates shown to extend from curb to curb shall be cut into three sections and field spliced for adjustment at intermediate Stringers.







DETAILS OF RAIL

Designed Oct 1945 by R.A.B.
Drawn Oct 1945 by G.W.
Traced Oct 1945 by K.R.W.
Checked Nov 1945 by D.K.M.

Note: This drawing is not to scale: Follow dimensions

BRIDGE OVER MEDICINE CREEK D.D.

STATE ROAD FROM LAREDO EAST TO [illegible] N COUNTY LINE
ABOUT 0.5 MILE EAST TO LAREDO
PROJECT NO. S-123 (2) (SE) STA. 294+53
GRUNDY COUNTY FINISHED [illegible]

Sheet No. 5 of 5.

X-153

65

FINISHED

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	Mo.	S-123(2) (SE)	1947	6	25

Grundy County

55'-75'-75'-55' Continuous I-Beam Spans
+1.6% Grade
Rail Exp.
Grade
Exp.
Fix.
H.W. Elev. 753.0 (1944)
Ground Line (June 1944)
Ground Line (Jan. 1945)
Fill back of Revetment
Protective Cribbing (in place)
Pole Mat
L.W. Elev. 741.6
Stream Bed Elev. 737.1
Hard Black Shale
Elev. 722.0 Lt. Flg
Elev. 722.5 Rt. Flg
Elev. 740.0
Rock
Elev. 745.0
Bent No. 4 Footings lowered to Elev. 740 and 60 Steel Piles driven
4-10"x10" WF Bearing Piles driven to refusal
① ② ③ ④ ⑤

Note:
All steel piling shall be 10"x10" WF Beams @ 42# and shall conform with details and notes on Sheet No. 2 of design plans. Estimated quantities shown on plans are based on 42'-0" lengths. The indicated length is approximate only. Proper lengths to give required bearing and/or penetration will be authorized by the Engineer. See Special Provisions.
All piles shall be driven to practical refusal on or into solid rock, boulders, shale or cemented gravel or to not less than the full length authorized and to sustain a load of at least 40 ton per pile. A gravity hammer weighing at least 3000# may be used if desired. A McKiernan-Terry Double Acting Steam Hammer was used.

GENERAL ELEVATION

Note: All loose, shelly or disintegrated rock shall be removed and the footings of Piers No. 2, 3 & 4 and Bent No. 5 placed on hard, solid undisturbed rock. If soft rock or shale is encountered the footings shall be carried at least 18" into and cast against vertical faces of same.

10"x18"
Elev. 743.0
Grouted Rip-Rap
1" ø Bolt with 2 Cast Washer Cast at abt. 6'-0" c/s.
6'-0"
2" Timber Sheeting
Rock Elev. 724.0

SECTION A-A

4"x10" Hor. Open Face
4"x10"
Elev. 729.5 - 09.83
Sta. 295+09.83
℄ Roadway
Pole Mat
℄ Pier #2
2" Sheeting
Backfill
10"x18"
Top of Dam Elev. 743.0
10"x18" Timber Wales
A
Void
New Grouted Rip-Rap Apron
Present Dam
Cut down to Elev. 743.0
Note: Piling and 2" Sheeting shall be driven to rock. See Special Provisions.

See Special Sheet showing details on Grouted Rip-Rap

Note: Light dotted lines indicate old work.
Heavy lines indicate new work.
Remove old Protective Cribbing where it interferes with new construction.

℄ Piles
Protective Cribbing
℄ Shaft
10'-0"
℄ Roadway
℄ Pier
Sta. 294+53
Gr. Elev. 760.18
Sta. 295+09.83
Gr. Elev. 761.09
Sta. 295+84.83
Gr. Elev. 762.29
Sta. 296+59.83
Gr. Elev. 763.49
Sta. 297+16.58
Gr. Elev. 764.40
35'-0"
56'-10"
75'-0"
75'-0"
56'-9"
263'-7"
Pump House (See Drawing No. X-153A)
22'-0" Roadway
℄ Column

PLAN

Present Bridge (to be removed) See Special Provisions
DRAINAGE DITCH Flow
Protective Cribbing
Sta. 294+53
Proposed Bridge
℄ Roadway
New Pump House
6" CI Present Pump House
Dam
Lime Stone Ledge
Drainage Area 388 Sq. Mi. - Rolling
Loose Rock.
MEDICINE CREEK

LOCATION SKETCH

GENERAL NOTES:

Design Specifications A.A.S.H.O. 1944
Loading H-10 A.A.S.H.O.
Structural Steel Stress 18,000 #/□".
Reinforcing Steel Stress 16,000 #/□".
Concrete Class 'B' 1,000 #/□".
All concrete shall be Class 'B'.
Rivets ⅞" ø except as noted.
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 the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Steel.
Where joint filler is specified on plans it shall conform with the requirements of Section 38-19A(1) of the Standard Specifications for Premoulded Material Filler.
Qualification of all welding operators and electrodes will be required in accordance with specifications, except that a proper certification of electrodes previously qualified will be acceptable.
Surfaces of piles on end bent from bottom of concrete caps to 3'-0" below present ground line shall be painted with one coat of an approved brand of emulsified asphalt paint. Payment for excavating around piles below present ground line and backfilling same, furnishing emulsified asphalt paint and cleaning and painting steel surfaces as specified will be included in the unit price bid for other items.

FINAL QUANTITIES

Item	Substr.	Total
Moving Crane Track to drive steel piles Bent 4 - Force Account		$ 76.65
Repairing floor of low-water bridge with by-pass Force Account		$ 65.90
Drilling footing test holes Bents 2 & 3 Lin. Ft.	66	66
Deduction Vertical for bevel haunches		$ 104.30

FINAL QUANTITIES

Item		Substr.	Superstr.	Total
Class 1 Excavation for Structures	Cu. Yds.	127.5		127.5
Class 2 Excavation for Structures	Cu. Yds.	2815		2815
Class 'A' Concrete	Cu. Yds.	193.8	181.0	374.8
Reinforcing Steel	Lbs.	14307	25750	40057
Steel Castings	Lbs.	6460		6460
Steel Piles in Place	Lin. Ft.	315		315
Steel Pile Cut-offs	Lin. Ft.	55		55
Fabricated Structural Steel	Lbs.	400	15080	15480
Creosoted Timber	F.B.M.			5420
Creosoted Timber Piles in Place	Lin. Ft.			341
Creosoted Timber Pile Cut-offs	Lin. Ft.			73
Grouted Rip Rap (Dam and Apron)	Cu. Yds.			532
Class 2 Excavation (Contract plus 50%)	Cu. Yds.	27.5		27.5

(Approximate Estimate)

Note: Excavation for bridge made below Elev. 743.5 will be paid for as Class 1 Excavation for Structures.
Excavation for bridge made below Elev. 743.5 will be paid for as Class 2 Excavation for Structures.
Excavation of all existing materials under bridge shall be made to not less than 3'-0" below bottom of steel, and not less than 4'-0" outside of curb lines. Payment for this excavation outside limits of excavation for structure will be made at unit contract price for Roadway Excavation.
See Special Provisions for removing and replacing protective cribbing as required for construction of Pier No. 2 and as required for extension of present dam.

Designed Sept. 1945 by A.A.B.
Drawn Oct. 1945 by G.W.
Traced Nov. 1945 by K.R.W.
Checked Nov. 1945 by D.M.

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

COMPLETE BILL OF REINFORCING STEEL - FOR BRIDGE

No.	Size	Length	Mark	Location
End Bent No. 1				
2	⅜ø	22'-3"	H1	Backwall
6	½ø	22'-9"	H2	"
8	⅜ø	26'-6"	H3	Beam
4	⅜ø	24'-3"	H4	"
4	⅜ø	5'-9"	H5	Wing
4	⅜ø	7'-3"	H6	"
4	⅜ø	8'-0"	H7	"
8	⅜ø	19'-9"	P12	Welds Rec. Bolt
4	⅜ø	11'-9"	T1	Wing
4	⅜ø	10'-6"	T2	"
52	⅜ø	7'-0"	U1	Beam
12	⅜ø	3'-3"	U2	"
12	⅜ø	16'-3"	U3	"
6	⅜ø	7'-6"	U4	"
6	⅜ø	7'-0"	U5	"
44	⅜ø	6'-9"	V1	Backwall
12	⅜ø	3'-9"	V2	Beam
2	⅜ø	9'-3"	V3	Wing
2	⅜ø	4'-9"	V4	"
2	⅜ø	6'-0"	V5	"
2	⅜ø	7'-3"	V6	"
4	⅜ø	8'-9"	V7	"
Piers No. 2, 3 & 4				
32	1" ø	8'-0"	D2	Footing
34	⅜ø	20'-3"	H12	Web
12	⅜ø	21'-3"	H13	Cap
6	⅜ø	23'-0"	H14	"
9	1" ø	22'-9"	H15	Web
16	1" ø	18'-0"	P1	Shaft
16	1" ø	17'-0"	P2	"
13	1" ø	13'-6"	P3	"
16	1" ø	14'-6"	P4	"
16	1" ø	8'-9"	D3	Footing
132	⅜ø	9'-6"	P5	Cap
30	⅜ø	41'-3"	P6	"
22	⅜ø	10'-6"	P7	Web
22	⅜ø	11'-9"	P8	"
6	⅜ø	3'-6"	P9	Cap
16	1" ø	11'-9"	P10	Shaft
22	⅜ø	9'-0"	P11	Web
24	⅜ø	19'-9"	P12	Welds
End Bent No. 5				
20	⅜ø	5'-9"	D1	Footing
8	⅜ø	9'-3"	F1	Haunch
8	⅜ø	9'-0"	F2	"
2	⅜ø	22'-3"	H17	Backwall
6	½ø	22'-3"	H8	"
9	1" ø	23'-0"	H9	Beam
2	⅜ø	23'-0"	H10	"
5	⅜ø	19'-0"	H11	Wing
8	⅜ø	19'-9"	P12	Welds
4	⅜ø	15'-0"	F3	Wing
24	⅜ø	9'-9"	U6	Beam
12	⅜ø	3'-3"	U7	"
14	⅜ø	6'-6"	V8	Backwall
20	⅜ø	13'-3"	V9	Col.
18	⅜ø	16'-0"	V10	"
6	⅜ø	10'-0"	V11	Wing
4	⅜ø	7'-3"	V12	"
10	⅜ø	10'-9"	H16	"
8	⅜ø	9'-0"	V13	Col.

Note: See Sheet No. 5 for Pile Layout

Bending Sketches & Cutting Diagrams

6" 6" 23'-11" H3 22'-5" H9 20'-2" H15
H3-H9-H15

5'-7" T1 3'-0" T2 2'-6" T1 3'-10½" T2 4'-11½" T2
T1-T2

2½" 3" 20' 5'-7½" 2'-6" P9 3'-1½" P6 6" P9 6" P6
P5 P6-P9

1½" 7'-11½" 8'-3½" 16'-3"
4-U3 CUT 12 & BEND AS SHOWN

8'-0" 7'-10¾" 5'-5½" 3'-4½" 2'-6" 5'-10½"
F2 T3

4½" 6'-7" 8'-7½" 9'-5½" 16'-0"
9-V10 CUT 18 & BEND AS SHOWN

U1 19¾" U2 6¾" U3 Var. U4 2'-10½" U5 2'-7¾" U7 2'-2½" V10 Var.
U1-U2-U3-U4 U5-U7-V10 Spot Weld 4 #4 bars

1½" 1'-2½" 1'-3½"
C2

10½" 7'-9" 7'-6" 11'-3" 19'-0"
5-H11 CUT 5

6" 7'-5½"
D3

9" 3'-4" 2'-4" 6'-8" 10'-0"
6-V11 CUT 6

12" 2'-2½" 2'-2½"
U6

3'-6¾" 1'-0" 12" 2'-6" 3'-6"
F1

3" Pitch 12" Horiz. 12"
P12

3'-2¾" 3'-9½" 3'-4½" 3'-2¾" Symm. about ℄
S2

6" 4'-5½"
D1

B.M. Elev. 753.45 X-Nails in N. Root of 60" Elm 90' Rt. Sta. 294+50. (U.S.G.S. Datum).

BRIDGE OVER MEDICINE CREEK D.D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE
ABOUT 0.5 MILE EAST OF LAREDO
PROJECT NO. S-123(2) (SE) STA. 294+53
GRUNDY COUNTY

FINISHED

SUBMITTED BY J. W. Ervelow BRIDGE ENGINEER DATE 12/11/1945
APPROVED BY C. W. Brown CHIEF ENGINEER DATE 12/11/1945

FINISHED

STD. DRWG. X-153

FINAL PLANS

Revised 7-17-1947

MISSOURI STATE HIGHWAY DEPARTMENT

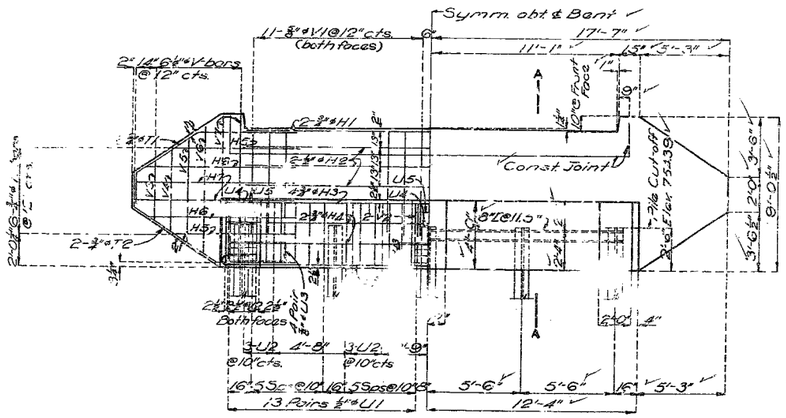
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123(2) (SE)	1945	7	15

2 Grundy Co.

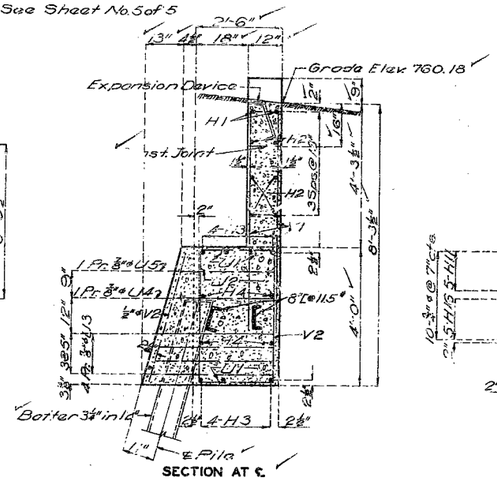
FINAL PLANS

Note: Top of backwall and Exp. device for End Bents No. 1 & 5 to conform to Crown of Roadway slab. Backwalls above Const. Joints shall not be poured until the structural steel Expansion devices have been installed. For details of Exp. Device See Sheet No. 5 of 5

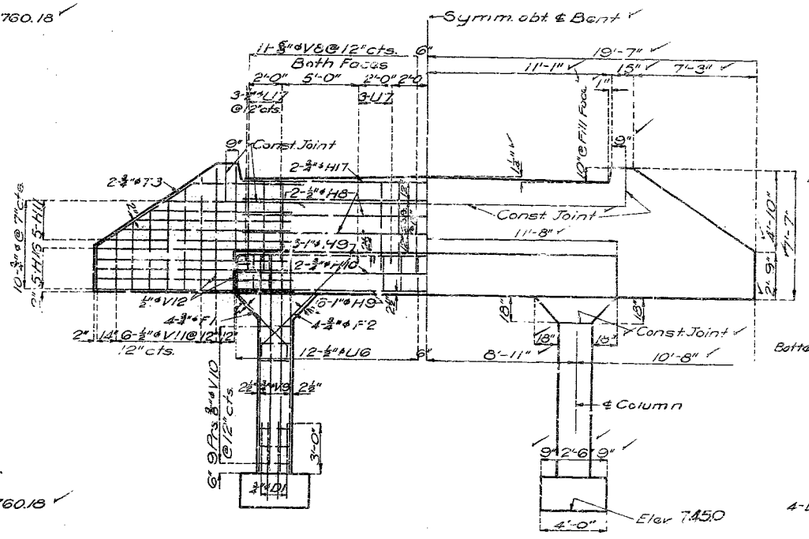
Note: Fill of End Bents No. 1 & 5 shall not be carried above bottom of backwall until superstructure is in place.



ELEVATION



SECTION AT ℄



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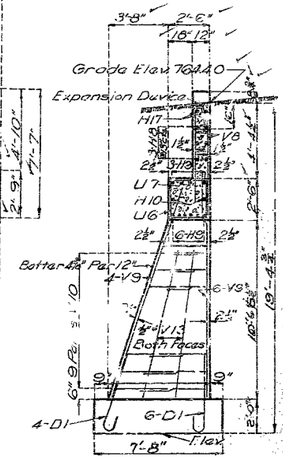

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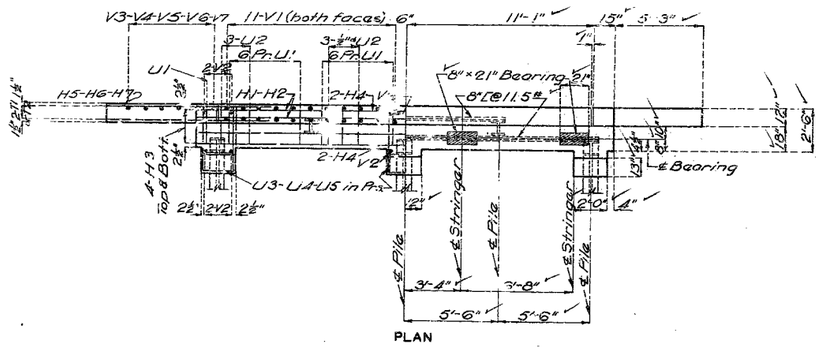
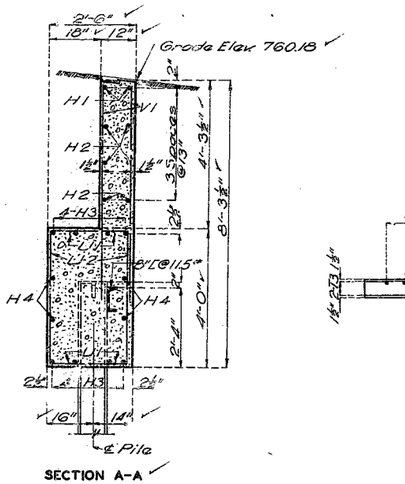
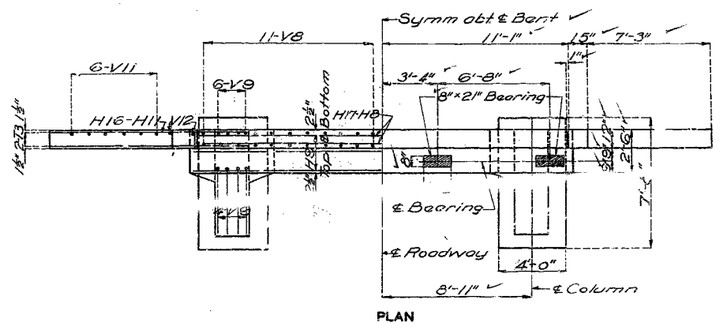


PLAN



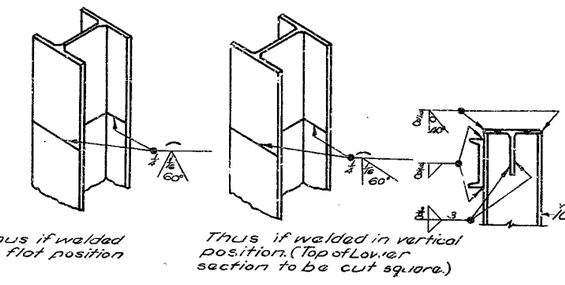
SECTION A-A

DETAILS OF END BENT NO. 1

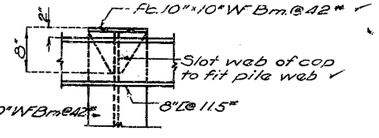


PLAN

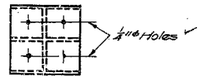
DETAILS OF END BENT NO. 5



BUTT SPLICE FOR STEEL PILING



DETAILS OF PILE CAP



PLAN OF PILE CAP

BRIDGE OVER MEDICINE CREEK D.D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE
ABOUT 0.5 MILE EAST TO LAREDO
PROJECT NO. S-123 (2) (SE) STA. 294+53
GRUNDY COUNTY

FINISHED

FINISHED X-153

Designed Sept. 1945 by R.A.B.
Drawn Oct. 1945 by G.W.
Traced Oct. 1945 by K.R.W.
Checked Nov. 1945 by D.M.M.

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

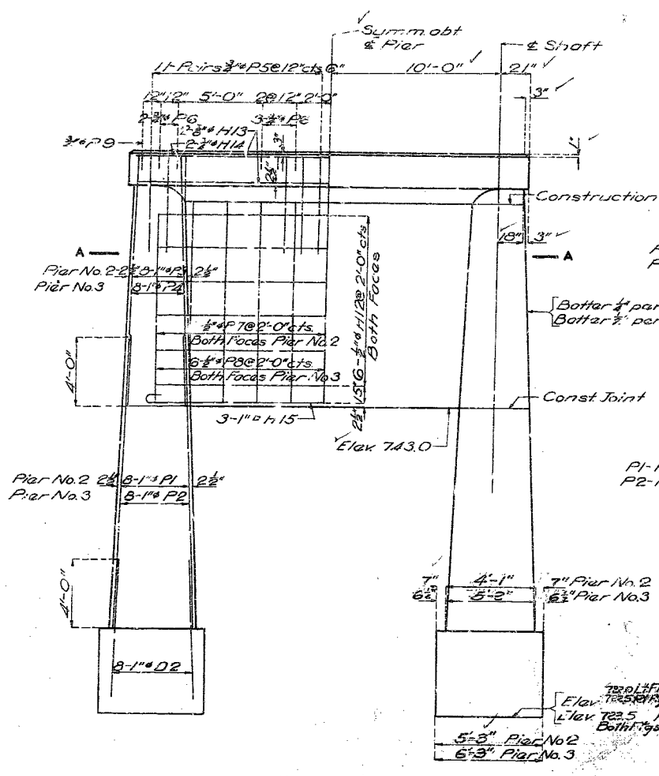
Sheet No. 2 of 15 Sheets

FINAL PLANS

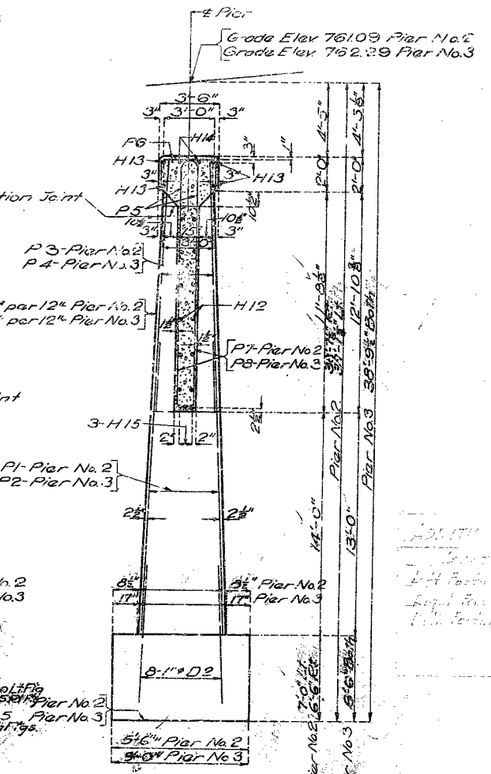
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	S-123(2) (S2)	1947	8	25

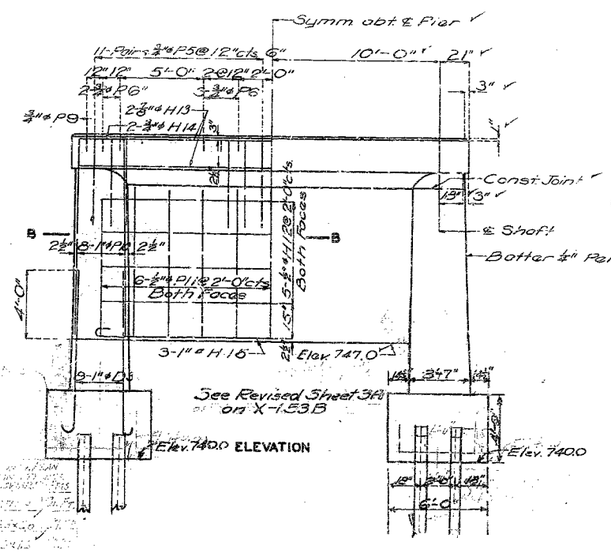
FINAL PLANS Grundy County

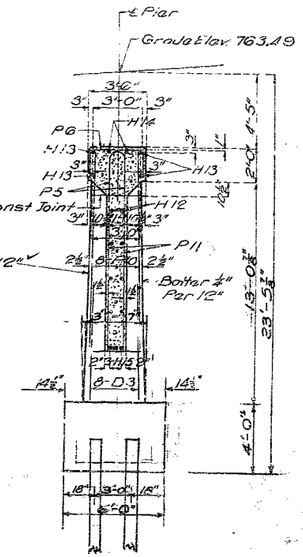


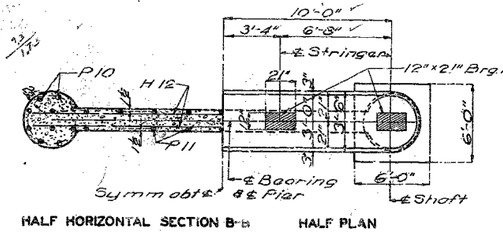
ELEVATION



SECTION AT ℄

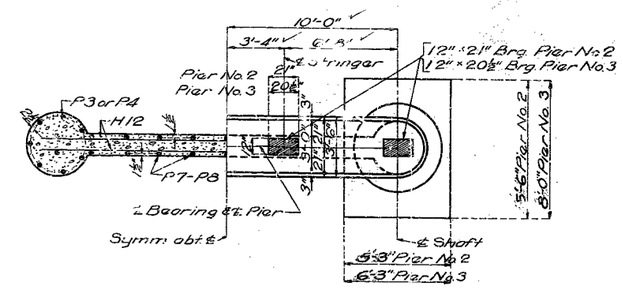




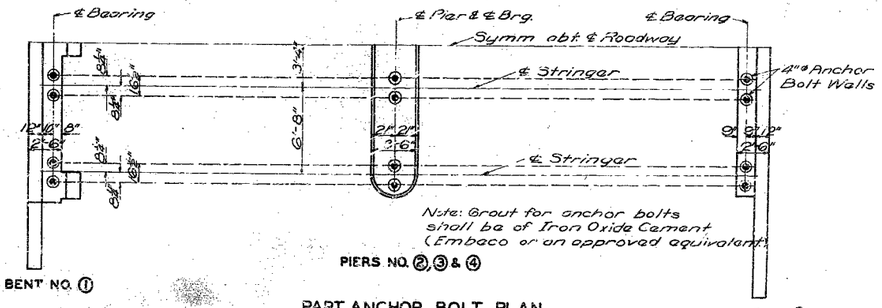


HALF HORIZONTAL SECTION B-B HALF PLAN

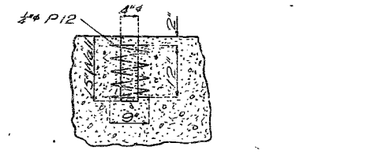
DETAILS OF PIERS NO. 4



HALF HORIZONTAL SECTION A-A HALF PLAN



PART ANCHOR BOLT PLAN



Note: Holes for all 1¼"ø anchor bolts shall be formed in substructure by placing and setting with template 4"ø Wells of depth shown above.

PART SECTION SHOWING ANCHOR BOLT WELL

DETAILS OF PIERS NO. 2 & 3

BRIDGE OVER MEDICINE CREEK D. D.

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE
ABOUT 0.5 MILE EAST TO LAREDO
PROJECT NO. S-123(2) (SE) STA. 204+53

GRUNDY COUNTY

FINISHED

Designed Oct 1945 by R.R.B.
Drawn Oct 1945 by G.W.
Traced Oct 1945 by K.R.W.
Checked Nov. 1945 by [illegible]

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

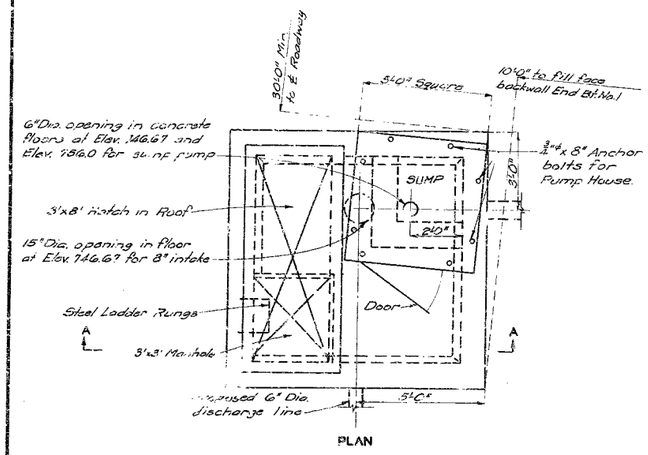
Sheet No. 3 1 of 35 Sheets

FINISHED X-153

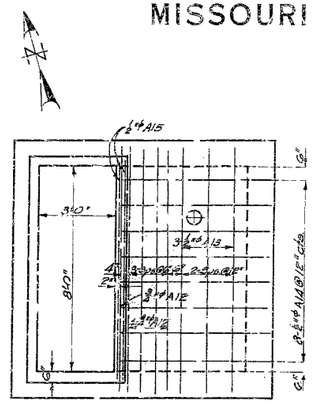
FINAL PLANS

MISSOURI STATE HIGHWAY DEPARTMENT

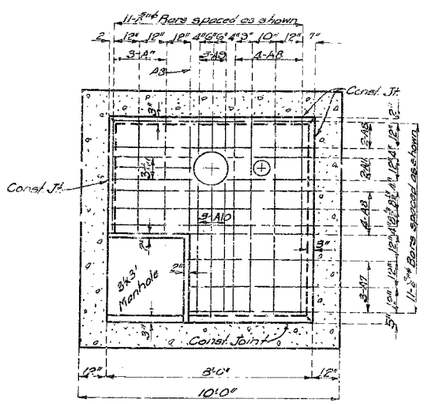
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	MO	S-123 (2) (SE)	19		



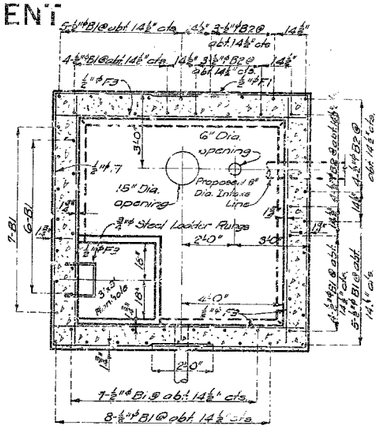
PLAN



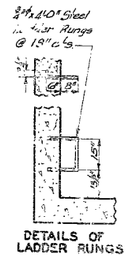
REINFORCING IN SLAB AT ELEV. 756.0



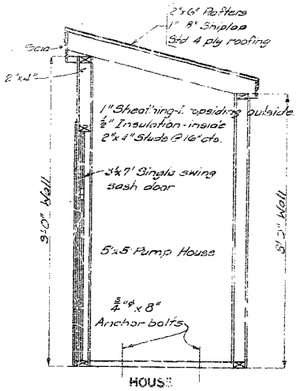
REINFORCING IN SLAB AT ELEV. 746.67



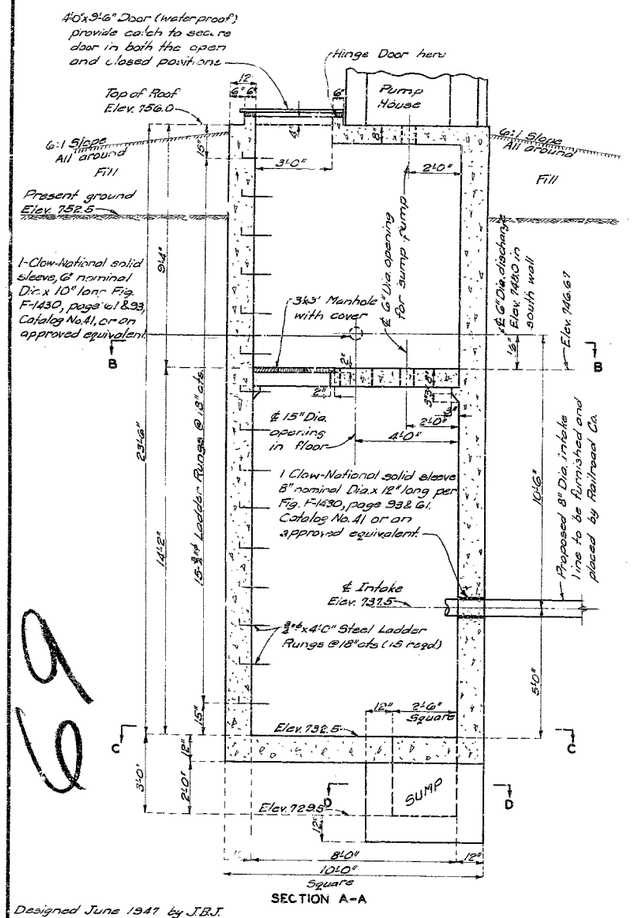
SECTION B-B



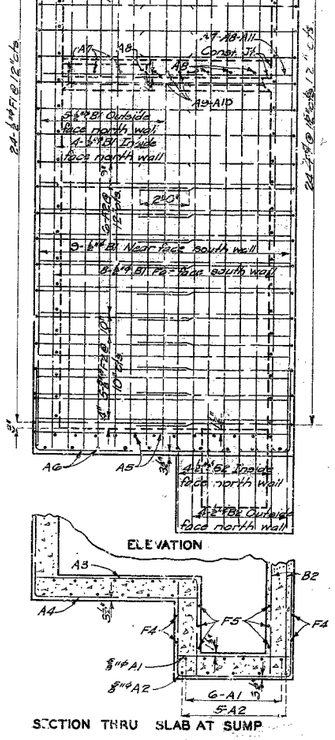
DETAILS OF LADDER RUNGS



HOUSE

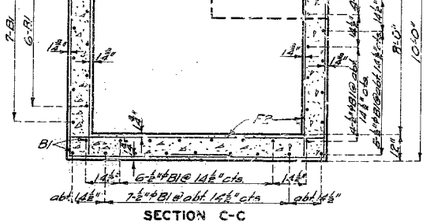


SECTION A-A

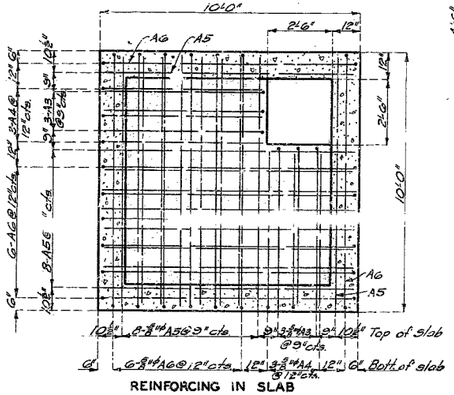


ELEVATION

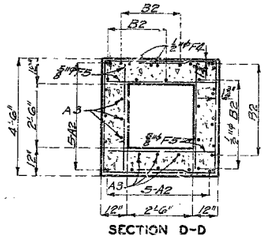
SECTION THRU SLAB AT SUMP



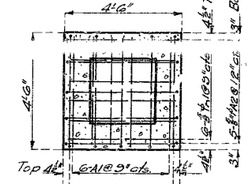
SECTION C-C



REINFORCING IN SLAB AT ELEV. 732.5



SECTION D-D



REINFORCING IN SUMP SLAB

Note: See Special Provisions for final location of pump well.

GENERAL NOTES:

All concrete shall be Class "B".

See Special Provisions for requirements for lumber, damp proofing, painting, and excavation.

Pour footings integral with walls. No construction joints permitted.

Openings shall be provided in concrete roof for electrical conduits as directed by the Railroad Company's Engineer.

Final location of pipe sleeves and anchor bolts for centrifugal pump will be furnished by Railroad Company's Engineer before pouring concrete. Cost of pipe sleeves, anchor bolts, and ladder rungs shall be included in price bid for other items.

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Bending Sketches
12	⅝"	4'-3"	A1	
10	⅝"	11'-3"	A2	
6	⅝"	9'0"	A3	
6	⅝"	5'0"	A4	
18	⅝"	3'-6"	A5	
14	⅝"	18'-3"	A6	
6	⅝"	4'6"	A7	
11	⅝"	7'9"	A8	
3		15"	A9	
3	¾"	5'0"	A10	
5	¾"	3'0"	A11	
5	¾"	9'9"	A12	
3	¾"	9'9"	A13	
46	¾"	26'0"	B1	
14	¾"	27'0"	B2	
48	¾"	21'6"	F1	
44	¾"	9'9"	F2	
56	¾"	9'9"	F3	
4	¾"	10'6"	F4	
12	¾"	4'3"	F5	
8	⅝"	5'9"	A14	
2	⅞"	8'9"	A15	

A3, A2, A4, F1-F4, A1

ESTIMATED QUANTITIES

Class 1 Excavation for Structures	Cu. Yds.	36
Class 2 Excavation for Structures	Cu. Yds.	79
Class "B" Concrete	Cu. Yds.	591
Reinforcing Steel	Lbs.	3350
Pump House	Lump Sum	1

Excavation for pump well made above Elev. 743.5 will be paid for as Class 1 Excavation for Structures. Excavation for pump well made below Elev. 743.5 will be paid for as Class 2 Excavation for Structures.

PUMP WELL AND PUMP HOUSE

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE

ABOUT 0.5 MILE EAST OF LAREDO

PROJECT NO. S-123 (2) (SE) STA. 294+53

GRUNDY COUNTY

SUBMITTED BY V. W. Carlson DATE 8/8/1947 BRIDGE ENGINEER

APPROVED BY C. H. Brown DATE 8/8/1947 CHIEF ENGINEER

FINISHED

STD. C-110 R3

X-153 A

Designed June 1947 by J.B.J.
Drawn June 1947 by G.W.
Traced June 1947 by J.N.N.
Checked July 1947 by O.K.M.

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

Sheet No. 1 of 1

SEE FINAL PLANS

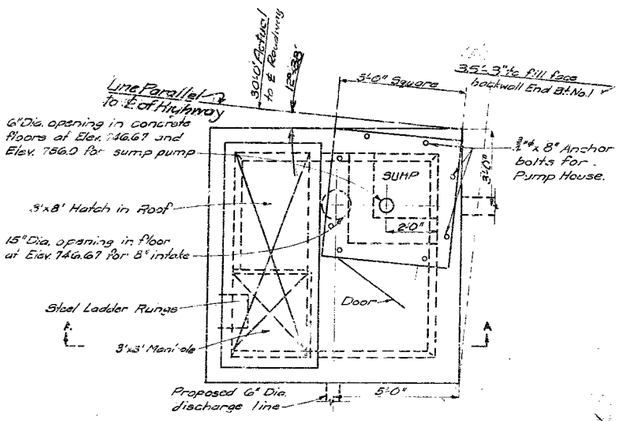
FINISHED

MISSOURI STATE HIGHWAY DEPARTMENT

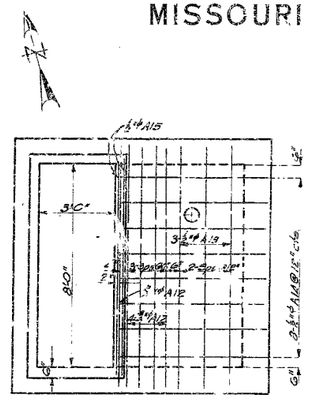
FED. ROAD DIST. NO.	STATE NO.	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
		S-123 (2) (SE)	1947	9	25

GRUNDY COUNTY

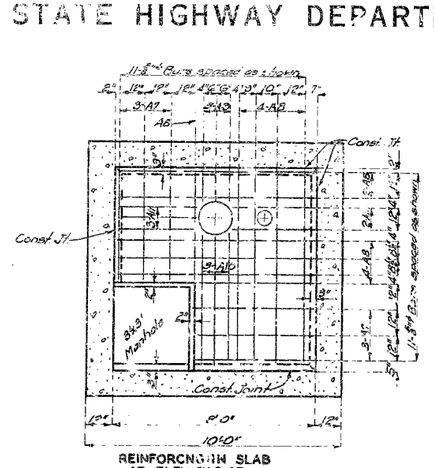
FINAL PLANS



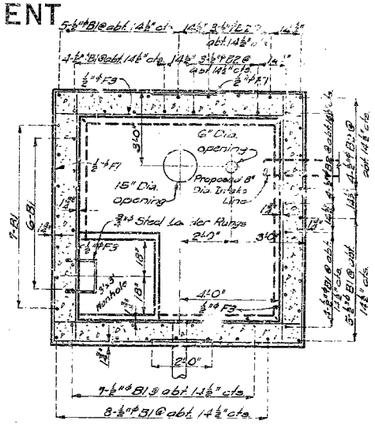
PL



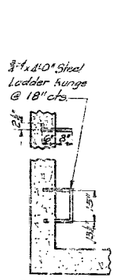
REINFORCING IN SLAB AT ELEV. 756.0



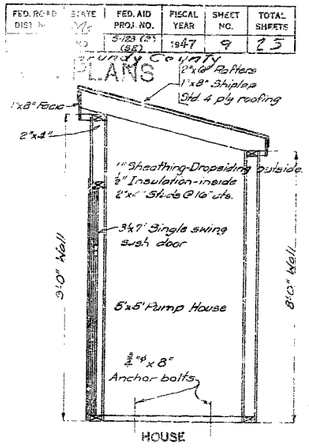
REINFORCING IN SLAB AT ELEV. 746.67



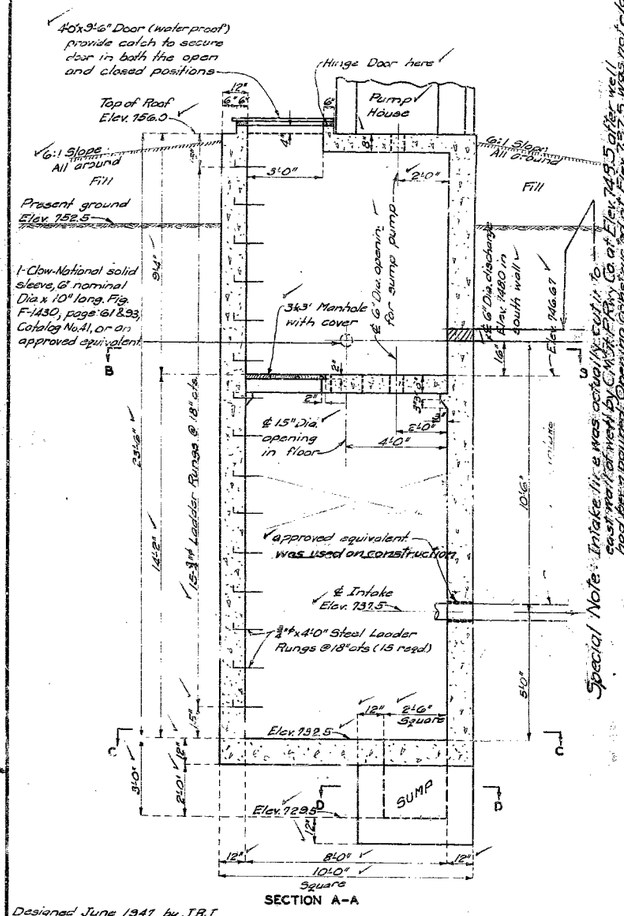
SECTION B-B



DETAILS OF LADDER RUNGS

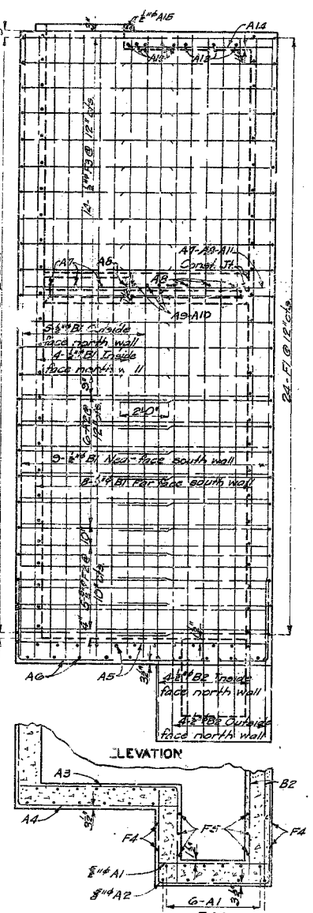


HOUSE

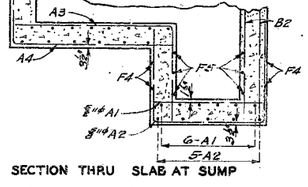


SECTION A-A

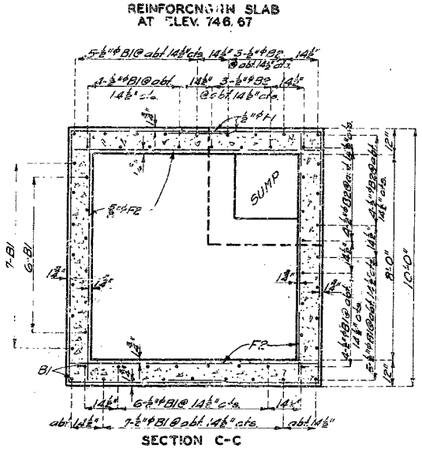
Special Note: Intake line was originally cut in east wall of well by CM&StP Ry Co at Elev. 749.5 and had been poured. Opening was cut to Elev. 737.5 and 12" c-c Elev. 732.5 was poured.



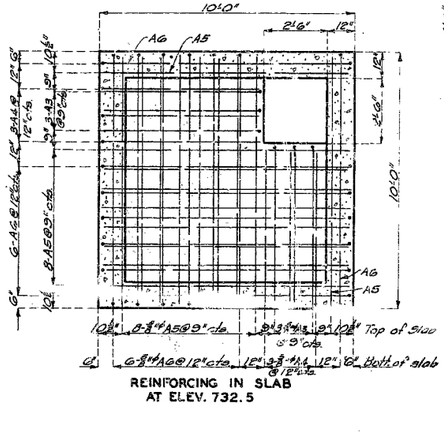
ELEVATION



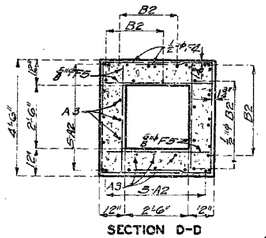
SECTION THRU SLAB AT SUMP



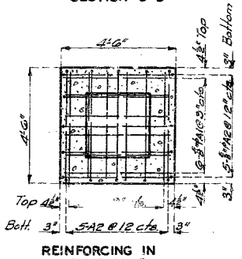
SECTION C-C



REINFORCING IN SLAB AT ELEV. 732.5



SECTION D-D



REINFORCING IN SUMP SLAB

Note: See Special Provisions for final location of pump well. See layout detail in upper left corner of this sheet as supplied by CM&St.Paul Rwy Co. to the Division Engineer.

GENERAL NOTES:

All concrete shall be Class "B".

See Special Provisions for requirements for lumber, damp proofing, painting, and excavation.

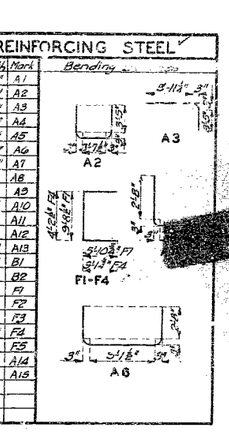
Pour footings integral with walls. No construction joints permitted.

Openings shall be provided in concrete roof for electrical conduits as directed by the Railroad Company's Engineer.

Final location of pipe sleeves and anchor bolts for centrifugal pump will be furnished by Railroad Company's Engineer before pouring concrete. Cost of pipe sleeves, anchor bolts, and ladder rungs shall be included in price bid for other items.

BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Bending
12	¾"	4'3"	A1	
10	⅝"	11'-3"	A2	
6	⅝"	9'9"	A3	
2	¾"	9'0"	A4	
18	¾"	3'6"	A5	
14	¾"	15'3"	A6	
6	¾"	4'6"	A7	
11	¾"	7'9"	A8	
3	⅝"	5'0"	A10	
3	⅝"	3'0"	A11	
5	⅝"	9'9"	A12	
3	⅝"	9'9"	A13	
44	⅝"	2'10"	B1	
14	⅝"	2'10"	B2	
48	⅝"	2'6"	F1	
44	⅝"	9'9"	F2	
56	⅝"	9'8"	F3	
4	⅝"	10'6"	F4	
12	⅝"	4'3"	F5	
8	⅝"	5'9"	A14	
2	⅝"	8'9"	A15	



FINAL QUANTITIES

Class 1 Excavation for Structures	Cu. Yds.	59.5
Class 2 Excavation for Structures	Cu. Yds.	79.0
Class "B" Concrete	Cu. Yds.	39.1
Reinforcing Steel	Lbs.	3550
Pump House	Lump Sum	
1/2 Excess Contract Item 50%	Cu. Yds.	3.0

Excavation for pump well made above Elev. 743.5 will be paid for as Class 1 Excavation for Structures.

Excavation for pump well made below Elev. 743.5 will be paid for as Class 2 Excavation for Structures.

1-Pump Well Contingents; No. 2 Special Metal Interior Sump Form. See Separate Sketch No. 3 Stabilization Gravel in Place 3 Cu. yds.

PUMP WELL AND PUMP HOUSE

STATE ROAD FROM LAREDO EAST TO LINN COUNTY LINE

ABOUT 0.5 MILE EAST OF LAREDO

PROJECT NO. S-123 (2) (SE) STA. 294+53

GRUNDY COUNTY FINISHED

SUBMITTED BY V. W. Earslow BRIDGE ENGINEER DATE 8/8/1947 FINISHED

APPROVED BY C. W. Brown CHIEF ENGINEER DATE 8/8/1947

STD. C-110 R3

X-153 A

Designed June 1947 by J.B.J.
Drawn June 1947 by G.M.
Traced June 1947 by J.M.N.
Checked July 1947 by D.K.M.

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

Sheet No. 1A of 1

FINAL PLANS

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Missouri Department of Transportation
State Bridge Inspection Report

June 25, 2024
10:15:18AM

COUNTY: GRUNDY **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 9559** **BRIDGE: X0153**

GENERAL STRUCTURE INFORMATION

ROUTE: RTEE	**# SPANS:** 4	**PLACE CODE:** 80224 WILSON	
FEATURE: MEDICINE CR DRAIN	**LANES ON:** 2	**LENGTH:** 264 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 0	**MAXIMUM SPAN:** 75 FT 0 IN	
LOG MILE: 5.582	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 21 FT 0 IN	
DETOUR: 22.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 22 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 24 FT 0 IN	
BUILT: 1947	**NBI OWNER:** MODOT	**AADT:** 271	
REHAB:	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 12 T 60 R 23 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 26.3%	
LATITUDE: 40 1 35.50 (DMS)	**MAINTENANCE COUNTY:** GRUNDY	**FUTURE AADT:** 339	
LONGITUDE: 93 26 9.41 (DMS)	**SUB AREA:** 7A23	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 10/06/2023 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: BRYCE ACTON **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

(STEPHS2, 06/05/2019)--HAD BEEN PREVIOUSLY INSPECTED BY SNOOPER CREW AND HAD BEEN GIVEN TO DISTRICT WHICH THEY MISSED SEEING.

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: 04/17/2024 **RESPONSIBILITY:** BRIDGEDIV **CATEGORY:** QUALITY ASSURANCE
FREQUENCY: 999 **CALCULATED INTERVAL**:** **NBI:** NO
TEAM LEADER: KEVIN RAITHEL **INSPECTOR 3:** **METHOD:**
INSPECTOR 2: ADAM ZENTZ **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

(RAITHK, 04/19/2024)--USING THE FIELD VERIFICATION MODEL (FVM) - AS A THIRD PARTY INSPECTOR, I TOOK THE PREVIOUS INSP REPORT INTO THE FIELD AND VERIFIED THOROUGHNESS OF REPORT WITH ASSIGNED CONDITION AND APPRAISAL RATINGS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD
08/19/2020	72	CHANNEL CROSS SECTIONS	NO	73	DISTRICT	WT TAPE

UNDERWATER INSPECTION INFORMATION

DATE: 10/06/2023 **RESPONSIBILITY:** DISTRICT **CATEGORY:** DRY
FREQUENCY: 60 **CALCULATED INTERVAL**:** 46 **NBI:** NO
TEAM LEADER: BRYCE ACTON **INSPECTOR 3:** **METHOD:** VISUAL
INSPECTOR 2: **INSPECTOR 4:**

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

UNDERWATER INSPECTION COMMENTS

(STEPHS2, 11/23/2021)--WATER 3 TO 4 FEET AT PIERS 2 AND 3 10.26.2021

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: GRUNDY **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 9559** **BRIDGE: X0153**

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, 02/02/2010)--(56'-75'-75'-56') CONT NON-COMP WF GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION
RATING : 05/26/2015
COMMENTS: (MADSEJ, 05/10/2017)--APPROXIMATELY 40% SATURATION, PATCHES, SPALLS, AND DELAMINATIONS THROUGHOUT THE EAST SPAN.

[ITEM 59] SUPER: 7-GOOD CONDITION
RATING : 05/18/2001
COMMENTS: (MADSEJ, 05/10/2017)--LIGHT TO MEDIUM SPOTTY PACKRUST THROUGHOUT THE GIRDER TO FLANGES.

[ITEM 60] SUB: 7-GOOD CONDITION
RATING : 05/18/2001
COMMENTS: (MADSEJ, 05/10/2017)--A FEW VERTICAL CRACKS THROUGHOUT BOTH ABUTMENT BEAMCAPS.

[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE
RATING : 05/18/2001
COMMENTS: (MADSEJ, 05/10/2017)--POOR UPSTREAM CHANNEL ALIGNMENT. STEEP ERODING AND SLOUGHING BANKS THROUGHOUT THE CHANNEL.

[ITEM 113] SCOUR: 5-FOUNDATION STABLE
RATING : 01/16/2003
EVALUATION TYPE :
COMMENTS: (CALLAC, 01/16/2003)--ITEM 113 FIELD RATING = 5

ITEM 113 = 5 BASED ON USGS EVALUATION, UNDERMINING DUE TO COMBINATION SCOUR, LOW APPROACHES, CHANNEL DEGRADATION
(ACTONB1, 10/20/2023)--MINOR SCOUR @ BENT 2&3 COLUMN BOTTOMS

[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGT
RATING : 05/18/2001
COMMENTS:

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *06/07/2004* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DETERIORATION	THROUGHOUT		ADVANCED	
SCALING	THROUGHOUT		MODERATE	

MATERIAL	CONSTRUCTION	DIRECTION
STEEL	ANGLE-DOUBLE	BOTH

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
COLLISION DAMAGE	THROUGHOUT		MINOR	(RACKEM, 09/04/2005)--SPAN 3 SOUTH SIDE. (STEPHS2, 11/23/2021)--PAINTED 2020

[ITEM 36B] TRANSITION RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: GRUNDY **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 9559** **BRIDGE: X0153**

[ITEM 36D] RAIL END TREATMENT RATING: *NOT PROVIDED-0* ***RATING :*** *05/18/2001* ***COMMENTS:*** *(RAITHK, 04/19/2024)--NE COLLISION MINOR DAMAGE*

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 SEAL COAT*	*.3 IN*			*GOOD*

COMMENT: (STEPHS2, 11/23/2021)--NEW OVERLAY 2021

DECK PROTECTION	*NOTAPPLICABLE*	*NONE*

COMMENT:

MEMBRANE	*NOTAPPLICABLE*	*NONE*

COMMENT:

DRAINAGE COMPONENTS:

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DETERIORATION	THROUGHOUT		MODERATE	

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		*CLOSED EXPANSION JOINT*	*STEEL*	*FLAT PLATE*				*POOR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
COVERED WITH MAT	THROUGHOUT		NOT APPLICABLE	
PACK RUST	THROUGHOUT		MEDIUM	

ABUTMENT-5		*CLOSED EXPANSION JOINT*	*STEEL*	*FLAT PLATE*				*POOR*

COMMENT:

COVERED WITH MAT	THROUGHOUT		NOT APPLICABLE
PACK RUST	THROUGHOUT		MEDIUM

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
DETERIORATION	EDGE		MODERATE		
FULL DEPTH PATCHES	THROUGHOUT		FEW		
PATCHES	THROUGHOUT		LARGE		
SATURATION	THROUGHOUT		MODERATE	30 %	
SPALLS	THROUGHOUT		FEW		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
PATCHES	THROUGHOUT		LARGE		
SATURATION	THROUGHOUT		MINOR	25 %	
SPALLS	THROUGHOUT		FEW		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
FULL DEPTH PATCHES	THROUGHOUT		FEW		
PATCHES	THROUGHOUT		LARGE		
SATURATION	THROUGHOUT		MINOR	25 %	
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
FULL DEPTH PATCHES	THROUGHOUT		FEW		
PATCHES	THROUGHOUT		LARGE		
SATURATION	THROUGHOUT		MODERATE	40 %	
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

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

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	56 FT 10 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	TOP FLANGE		LIGHT		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	75 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	TOP FLANGE		LIGHT		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	75 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	TOP FLANGE		LIGHT		

MAIN SPANS-4 NON-COMPOSITE 56 FT 9 IN NO

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PACK RUST	TOP FLANGE		LIGHT		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		*24 FT 8 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
VERTICAL CRACKS	THROUGHOUT		FEW		
PILING	STEEL	H-SHAPE			
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
EXPANSION BEARING	STEEL	ROCKER			
PACK RUST	THROUGHOUT		MEDIUM		

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
PIER-2		*23 FT 6 IN*	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
MINOR SCOUR	WATERLINE		AT BENT		
SCALING	WATERLINE		LIGHT		
FOOTING	REINFORCED CONCRETE	SPREAD			
WEB BEAM	REINFORCED CONCRETE	CAST-IN-PLACE			
EXPANSION BEARING	STEEL	ROCKER			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
PIER-3	*23 FT 6 IN*	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*		

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			
MINOR SCOUR	WATERLINE		AT BENT		
SCALING	WATERLINE		LIGHT		
FOOTING	REINFORCED CONCRETE	SPREAD			
WEB BEAM	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

FIXED BEARING	STEEL	PEDESTAL(ROTATING)			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
PIER-4	*23 FT 6 IN* *REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
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***
SCALING	WATERLINE		LIGHT		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
WEB BEAM	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ABUTMENT-5	*24 FT 8 IN* *REINFORCED CONCRETE*	*OPEN CONCRETE*			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	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***
HIGH STEEL SPALLS	THROUGHOUT		FEW		
VERTICAL CRACKS	THROUGHOUT		FEW		
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***
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
PACK RUST	THROUGHOUT		MEDIUM		

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

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: GRUNDY **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 9559** **BRIDGE: X0153**

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: GOOD **RUST AMOUNT :** 7 = .2% OF SURFACE RUSTED **STEEL TONS :** 82

ORIGINAL PAINT		CONTRACT REPAINT		DEPARTMENT REPAINT	
PAINT TYPE :		**PAINT TYPE :**		**PAINT TYPE :**	B SYSTEM
NAME :		**NAME :**		**NAME :**	BASIC LEAD CHROMIUM
PAINT COLOR :		**PAINT COLOR :**		**PAINT COLOR :**	ALUMINUM
PAINT YEAR :		**PAINT YEAR :**		**PAINT YEAR :**	1987
MILS :		**MILS :**		**MILS :**	8
				MANUFACTURE :	
				SURFACE PREP :	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT ROUTINE	SLOPE	PLACE RIP-RAP	SLOPE	3	05/10/2017	(SIMPSB, 03/12/2004)--NE CORNER
DISTRICT SPECIAL	ABUTMENT-BEARINGS	CLEAN, PAINT, AND RESET	SUBSTRUCTURE	3	05/10/2017	

UTILITY ATTACHMENTS

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

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

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	12/27/2011
[Item 68] Deck Geometry Rating:	4-MEETS MINIMUM TOLERABLE	12/31/2002
[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001
Sufficiency Rating:	55.4%	3/7/2024
Deficiency:	STRUCTURAL	1/4/2016
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: