

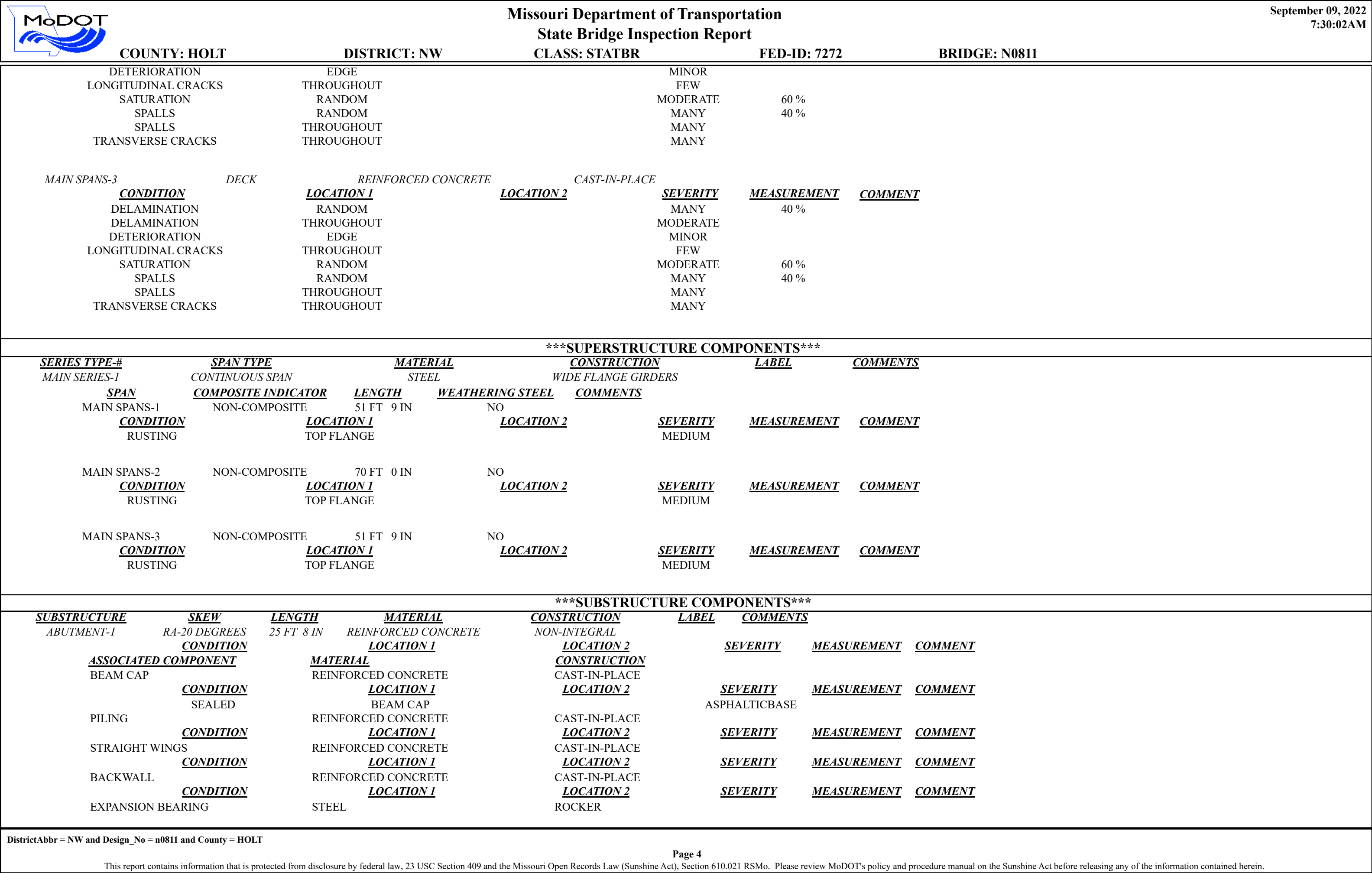
		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>September 09, 2022</div> <div>7:30:02AM</div>			
COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR		FED-ID: 7272		BRIDGE: N0811	
***GENERAL STRUCTURE INFORMATION***							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: RTTE</div> <div>FEATURE: MILL CR</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 2.296</div> <div>DETOUR: 20.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1962</div> <div>REHAB:</div> <div>LOCATION: S 4 T 59 R 38 W</div> <div>LATITUDE: 39 57 12.33 (DMS)</div> <div>LONGITUDE: 95 10 4.35 (DMS)</div>		<div># SPANS: 3</div> <div>LANES ON: 2</div> <div>LANES UNDER: 0</div> <div>COMPASS DIRECTION: NORTH to SOUTH</div> <div>DIRECTION OF TRAFFIC: 2-WAY TRAF</div> <div>FUNCTIONAL CLASS: RL-MAJOR COLLECTOR</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: HOLT</div> <div>SUB AREA: 7A20</div>		<div>PLACE CODE: 41798 LEWIS</div> <div>LENGTH: 174 FT 0 IN</div> <div>MAXIMUM SPAN: 70 FT 0 IN</div> <div>APPROACH ROADWAY: 20 FT 0 IN</div> <div>CURB TO CURB: 20 FT 0 IN</div> <div>OUT TO OUT: 22 FT 4 IN</div> <div>AADT: 102</div> <div>AADT YEAR: 2021</div> <div>AADT TRUCK: 9.8%</div> <div>FUTURE AADT: 133</div> <div>FUTURE AADT YEAR: 2041</div>		<div>DATE: 11/09/2021</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2:</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
						GENERAL INSPECTION COMMENTS			
***FRACTURE CRITICAL INSPECTION INFORMATION***					***INDEPTH INSPECTION INFORMATION***				
<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
FRACTURE CRITICAL INSPECTION COMMENTS					INDEPTH INSPECTION COMMENTS				
***SPECIAL INSPECTION INFORMATION***					***UNDERWATER INSPECTION INFORMATION***				
<div>DATE: 11/09/2021</div> <div>FREQUENCY: 12</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 11</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: DECK</div> <div>NBI: NO</div> <div>METHOD: VISUAL</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
SPECIAL INSPECTION COMMENTS					UNDERWATER INSPECTION COMMENTS				
OTHER SPECIAL INSPECTIONS					OTHER UNDERWATER INSPECTIONS				
<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div> <div>06/30/2014</div> <div>120</div> <div>CHANNEL CROSS SECTIONS</div> <div>NO</div> <div>DISTRICT</div> <div>WT TAPE</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				
DistrictAbbr = NW and Design_No = n0811 and County = HOLT									
<div>Page 1</div> <div>This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.</div>									

		<b>Missouri Department of Transportation</b>			September 09, 2022	
		<b>State Bridge Inspection Report</b>			7:30:02AM	
COUNTY: HOLT		DISTRICT: NW	CLASS: STATBR	FED-ID: 7272	BRIDGE: N0811	
***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:
COMMENTS:		PROBLEM DIRECTION:				
***GENERAL COMMENTS/MAJOR RATED ITEMS***						
GENERAL COMMENTS: (BOWDEJ1, 12/31/2009)--(51'-70'-51') CONT WF GDR SPANS						
[ITEM 58] DECK: 3-SERIOUS CONDITION			COMMENTS: (STEPHS2, 11/29/2016)--60% DELAMS TOP DECK AND SATURATION			
RATING : 12/29/2010						
[ITEM 59] SUPER: 6-SATISFACTORY CONDITION			COMMENTS: (STEPHS2, 01/09/2018)--RUST ON GIRDERS			
RATING : 01/09/2018						
[ITEM 60] SUB: 6-SATISFACTORY CONDITION			COMMENTS: (STEPHS2, 11/18/2013)--UNDERMINING AT BENT 3			
RATING : 11/18/2013						
[ITEM 61] BANK/CHANNEL: 6-WIDESPREAD MINOR DAMAGE			COMMENTS: (BOWDEJ1, 04/09/2004)--BOTH BANKS ERODING			
RATING : 05/18/2001						
[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED			COMMENTS:			
RATING : 05/18/2001						
EVALUATION TYPE :						
[ITEM 71] WATERWAY ADEQUACY: DECK ABOVE FLOOD ELEV			COMMENTS:			
RATING : 05/18/2001						
[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD			COMMENTS:			
RATING : 05/18/2001						
***RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS***						
[ITEM 36A] BRIDGE RAILING RATING: DOESNT MEET CURRNT STND-0			RATING : 01/05/2007		COMMENTS:	
<u>MATERIAL</u>		<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>		
REINFORCED CONCRETE		CURB	BOTH			
STEEL		CHANNEL-12"	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:	
DistrictAbbr = NW and Design_No = n0811 and County = HOLT						
Page 2						
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		State Bridge Inspection Report				7:30:02AM	
COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR		FED-ID: 7272	
				BRIDGE: N0811			
APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>CONDITION*</u>	
ASPHALT		BITUMINOUS MAT		BOTH		FAIR	
***DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS***							
DECK PROTECTIVE COMPONENTS:							
<u>SERIES TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SERIES-1		WEARING SURFACE		ASPHALT		CINDER SEAL	
<u>COMMENT:</u>							
		DECK PROTECTION		LIQUID SEALANT		INTERNALLY SEALED	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
DRAINAGE COMPONENTS:							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
DRAINAGE		REINFORCED CONCRETE		CURB OUTLET			
EXPANSION DEVICE COMPONENTS:							
<u>SUB UNIT-#</u>		<u>SUB LABEL</u>		<u>COMPONENT</u>		<u>MATERIAL</u>	
<u>COMMENT:</u>							
BANK/SLOPE PROTECTION COMPONENTS:							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
***DECK COMPONENTS***							
<u>SPAN TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SPANS-1		DECK		REINFORCED CONCRETE		CAST-IN-PLACE	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
DELAMINATION		RANDOM				MANY	
DELAMINATION		THROUGHOUT				MODERATE	
DETERIORATION		EDGE				MINOR	
LONGITUDINAL CRACKS		THROUGHOUT				FEW	
SATURATION		RANDOM				MODERATE	
SPALLS		RANDOM				MANY	
SPALLS		THROUGHOUT				MANY	
TRANSVERSE CRACKS		THROUGHOUT				MANY	
MAIN SPANS-2		DECK		REINFORCED CONCRETE		CAST-IN-PLACE	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
DELAMINATION		RANDOM				MANY	
DELAMINATION		THROUGHOUT				MODERATE	
DistrictAbbr = NW and Design_No = n0811 and County = HOLT							
Page 3							
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# Missouri Department of Transportation

## State Bridge Inspection Report

**September 09, 2022**  
**7:30:02AM**

**COUNTY: HOLT**

**DISTRICT: NW**

**CLASS: STATBR**

**FED-ID: 7272**

**BRIDGE: N0811**


			<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		THROUGHOUT		MEDIUM		
BENT-2	RA-20 DEGREES	22 FT 0 IN	REINFORCED CONCRETE	PILE CAP			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	PILING		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	RUSTING		GROUND LINE		LIGHT		
	FIXED BEARING		STEEL	PEDESTAL(ROTATING)			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-3	RA-20 DEGREES	22 FT 0 IN	REINFORCED CONCRETE	PILE CAP			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	PILING		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	RUSTING		GROUND LINE		LIGHT		
	EXPANSION BEARING		STEEL	ROCKER			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
ABUTMENT-4	RA-20 DEGREES	25 FT 8 IN	REINFORCED CONCRETE	INTEGRAL			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	SEALED		BEAM CAP		ASPHALTICBASE		
	PILING		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	STRAIGHT WINGS		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	BACKWALL		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	EXPANSION BEARING		STEEL	ROCKER			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	RUSTING		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.


<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>
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		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>September 09, 2022</div> <div>7:30:02AM</div>																	
COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR		FED-ID: 7272		BRIDGE: N0811															
<div><div><u>CLEARANCES UNDER BRIDGE</u></div><div><div>**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.</div><table><tr><td><u>RECORD #</u></td><td><u>ROUTE</u></td><td><u># LANES</u></td><td><u>DIRECTION OF TRAFFIC</u></td><td><u>RIGHT LATERAL CLEARANCE</u></td><td><u>LEFT LATERAL CLEARANCE</u></td><td><u>UR-ID</u></td></tr><tr><td><u>VERTICAL CLEARANCE TYPE**</u></td><td><u>VALUE</u></td><td><u>DIRECTION</u></td><td><u>DATE</u></td><td><u>COMMENT</u></td><td></td><td></td></tr></table></div></div>										<u>RECORD #</u>	<u>ROUTE</u>	<u># LANES</u>	<u>DIRECTION OF TRAFFIC</u>	<u>RIGHT LATERAL CLEARANCE</u>	<u>LEFT LATERAL CLEARANCE</u>	<u>UR-ID</u>	<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>		
<u>RECORD #</u>	<u>ROUTE</u>	<u># LANES</u>	<u>DIRECTION OF TRAFFIC</u>	<u>RIGHT LATERAL CLEARANCE</u>	<u>LEFT LATERAL CLEARANCE</u>	<u>UR-ID</u>																	
<u>VERTICAL CLEARANCE TYPE**</u>	<u>VALUE</u>	<u>DIRECTION</u>	<u>DATE</u>	<u>COMMENT</u>																			
***STRUCTURE PAINT INFORMATION***																							
CONDITION: GOOD		RUST AMOUNT : 7 = .2% OF SURFACE RUSTED			STEEL TONS : 41																		
<u>ORIGINAL PAINT</u>		<u>CONTRACT REPAINT</u>			<u>DEPARTMENT REPAINT</u>																		
PAINT TYPE : A SYSTEM		PAINT TYPE :			PAINT TYPE :		MANUFACTURE :																
NAME : RED LEAD		NAME :			NAME :		SURFACE PREP :																
PAINT COLOR : ALUMINUM		PAINT COLOR :			PAINT COLOR :																		
PAINT YEAR : 1963		PAINT YEAR :			PAINT YEAR :																		
MILS : 5		MILS :			MILS :																		
***REQUESTED WORK ITEMS***																							
GENERAL WORK COMMENTS:																							
<i>RESPONSIBILITY</i>	<i>LOCATION</i>	<i>ITEM</i>	<i>CATEGORY</i>	<i>PRIORITY</i>	<i>DATE</i>	<i>WORK ITEM COMMENT</i>																	
***UTILITY ATTACHMENTS***																							
<i>UTILITY</i>	<i>OWNER</i>	<i>METHOD</i>	<i>MEASUREMENT TYPE</i>	<i>VALUE</i>	<i>NUMBER</i>	<i>UTILITY ATTACHMENT COMMENT</i>																	
***PROGRAM NOTES INFORMATION***																							
<u>YEAR</u>	<u>PROJECT #</u>	<u>MONTH LET</u>	<u>YEAR LET</u>	<u>ITEMS</u>	<u>COMMENT</u>																		
DistrictAbbr = NW and Design_No = n0811 and County = HOLT																							
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<b>COUNTY: HOLT</b>			<b>DISTRICT: NW</b>		<b>CLASS: STATBR</b>	
			<b>FED-ID: 7272</b>		<b>BRIDGE: N0811</b>	
<b>***COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS***</b>				<b>***ADVANCED SIGN INFORMATION***</b>		
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.				<b>SIGN #</b>		
				<b>SIGN TYPE</b>		
				<b>PROBLEM</b>		
				<b>PROBLEM DIRECTION</b>		
<b><u>Rated Item</u></b>				<b><u>Rating</u></b>		
				<b><u>Rating Date</u></b>		
[Item 67] Structure Evaluation Rating:				5-BETTER THAN MINIMUM		
[Item 68] Deck Geometry Rating:				4-MEETS MINIMUM TOLERABLE		
[Item 69] Underclearance:				N-NOT APPLICABLE		
Sufficiency Rating:				54.0%		
Deficiency:				STRUCTURAL		
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 algorithms in the TMS system. These algorithms 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.						
				<b>***OUTFALL INSPECTION INFORMATION***</b>		
				<b># OUTFALLS:</b>		
				<b>INSPECTOR:</b>		
				<b>STATUS:</b>		
				<b>DATE:</b>		
				<b>NOTES:</b>		

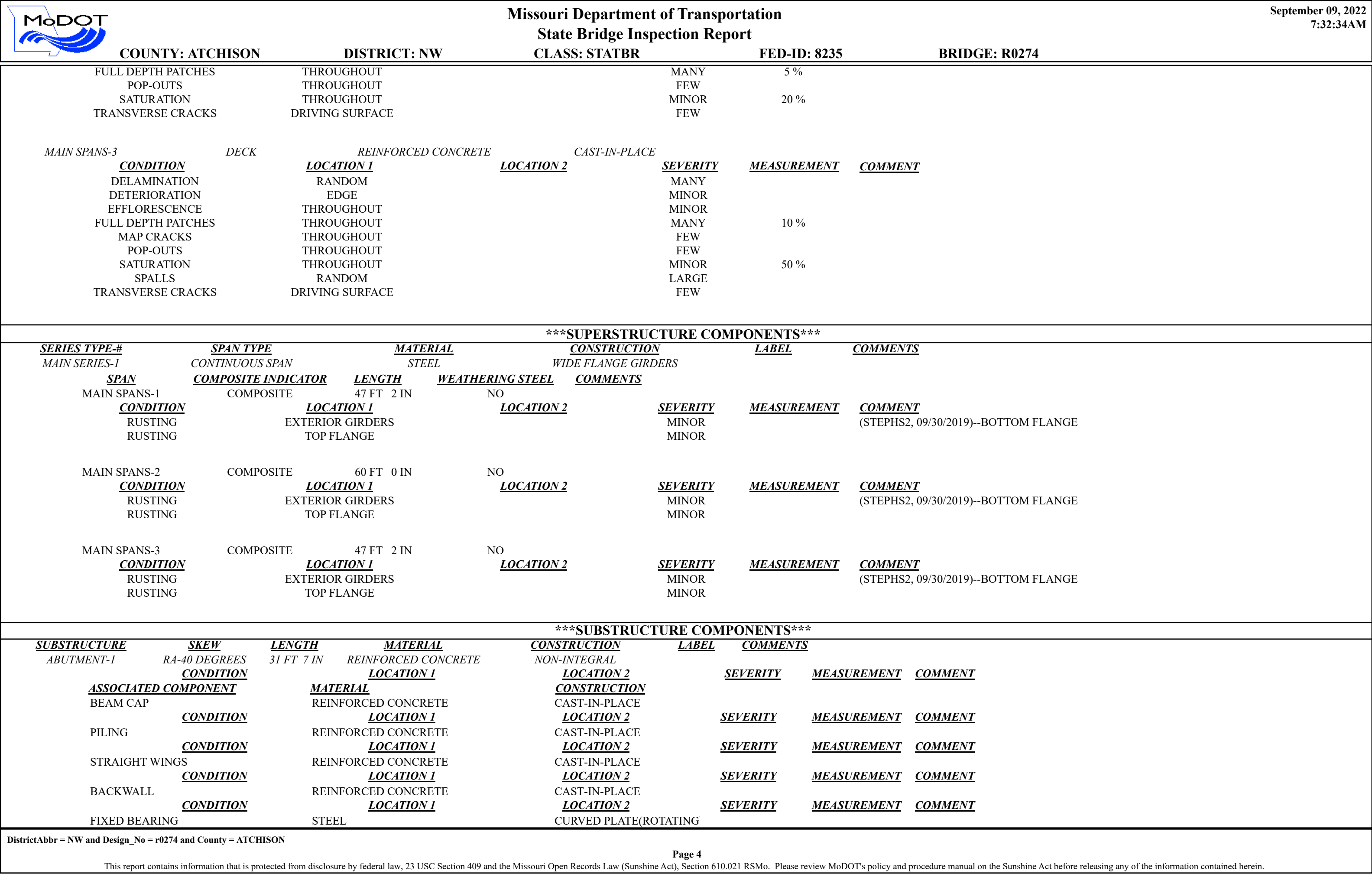




		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>September 09, 2022</div> <div>7:32:34AM</div>			
COUNTY: ATCHISON		DISTRICT: NW		CLASS: STATBR		FED-ID: 8235		BRIDGE: R0274	
***GENERAL STRUCTURE INFORMATION***							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: RTFS</div> <div>FEATURE: ROCK CR</div> <div>STATUS: P-POSTLOAD</div> <div>LOG MILE: 2.462</div> <div>DETOUR: 99.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1962</div> <div>REHAB:</div> <div>LOCATION: S 9 T 66 R 40 W</div> <div>LATITUDE: 40 32 43.65 (DMS)</div> <div>LONGITUDE: 95 27 .19 (DMS)</div>		<div># SPANS: 3</div> <div>LANES ON: 1</div> <div>LANES UNDER: 0</div> <div>COMPASS DIRECTION: NORTH to SOUTH</div> <div>DIRECTION OF TRAFFIC: 1-LN/2-WAY</div> <div>FUNCTIONAL CLASS: RL-MINOR COLLECTOR</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: ATCHISON</div> <div>SUB AREA: 7A33</div>		<div>PLACE CODE: 58700 POLK</div> <div>LENGTH: 154 FT 0 IN</div> <div>MAXIMUM SPAN: 60 FT 0 IN</div> <div>APPROACH ROADWAY: 20 FT 0 IN</div> <div>CURB TO CURB: 20 FT 0 IN</div> <div>OUT TO OUT: 22 FT 4 IN</div> <div>AADT: 82</div> <div>AADT YEAR: 2021</div> <div>AADT TRUCK: 12.5%</div> <div>FUTURE AADT: 107</div> <div>FUTURE AADT YEAR: 2041</div>		<div>DATE: 09/21/2021</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: SCOTT STEPHENS</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2:</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
						<div>GENERAL INSPECTION COMMENTS</div>			
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<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
<div>FRACTURE CRITICAL INSPECTION COMMENTS</div>					<div>INDEPTH INSPECTION COMMENTS</div>				
***SPECIAL INSPECTION INFORMATION***					***UNDERWATER INSPECTION INFORMATION***				
<div>DATE: 12/23/2019</div> <div>FREQUENCY: 72</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2: CHANNEL CROSS SECTION</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY: DISTRICT</div> <div>CALCULATED INTERVAL**: 66</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: CHANNEL CROSS SEC</div> <div>NBI: NO</div> <div>METHOD: WT TAPE</div>				
<div>SPECIAL INSPECTION COMMENTS</div>					<div>UNDERWATER INSPECTION COMMENTS</div>				
OTHER SPECIAL INSPECTIONS					OTHER UNDERWATER INSPECTIONS				
<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				
<div>DistrictAbbr = NW and Design_No = r0274 and County = ATCHISON</div>									
<div>Page 1</div> <div>This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.</div>									

		Missouri Department of Transportation			September 09, 2022	
		State Bridge Inspection Report			7:32:34AM	
COUNTY: ATCHISON		DISTRICT: NW		CLASS: STATBR	FED-ID: 8235	BRIDGE: R0274
***STRUCTURE POSTING***						
APPROVED CATEGORY: S-4		CENTERLINE OF BRIDGE.				
Ton 1:		Ton 2:		Ton 3:		
COMMENTS:						
FIELD CATEGORY: S-4		CENTERLINE OF BRIDGE.				
Ton 1:		Ton 2:		Ton 3:	PROBLEM:	PROBLEM DIRECTION:
COMMENTS:						
***GENERAL COMMENTS/MAJOR RATED ITEMS***						
GENERAL COMMENTS: (BOWDEJ1, 10/13/2009)--(47'-60'-47') CONT COMP WF GDR SPANS						
[ITEM 58] DECK: 4-POOR CONDITION		COMMENTS: (STEPHS2, 09/30/2019)--DECK SATURATION				
RATING : 09/30/2019						
[ITEM 59] SUPER: 6-SATISFACTORY CONDITION		COMMENTS: (STEPHS2, 09/11/2015)--RUSTING TOP FLANGE				
RATING : 09/11/2015						
[ITEM 60] SUB: 5-FAIR CONDITION		COMMENTS: (STEPHS2, 09/25/2013)--LOWERED BECAUSED OF EXPOSED PILE LENGTH				
RATING : 09/25/2013						
[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE		COMMENTS: (BOWDEJ1, 02/10/2004)--CHANNEL DEEPENING - SE DITCH ERODING				
RATING : 09/11/2015						
[ITEM 113] SCOUR: 5-FOUNDATION STABLE		COMMENTS: (STEPHS2, 09/25/2013)--SCOUR OCCURING AT BENT 2. 18FT OF SHELL PILE EXPOSED.				
RATING : 09/25/2013						
EVALUATION TYPE :						
[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGT		COMMENTS:				
RATING : 05/18/2001						
[ITEM 72] APPRRDWY ALIGNMENT: 8-VERYGOOD		COMMENTS:				
RATING : 05/18/2001						
***RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS***						
[ITEM 36A] BRIDGE RAILING RATING: DOESNT MEET CURRNT STND-0		RATING : 10/13/2009		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
REINFORCED CONCRETE	CURB	BOTH				
STEEL	CHANNEL-12"	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:		
DistrictAbbr = NW and Design_No = r0274 and County = ATCHISON						
Page 2						
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		State Bridge Inspection Report				7:32:34AM	
COUNTY: ATCHISON		DISTRICT: NW		CLASS: STATBR		FED-ID: 8235	
				BRIDGE: R0274			
APPROACH PAVEMENT: *Overall condition assigned for each approach pavemenet component is shown below.							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>CONDITION*</u>	
ASPHALT		BITUMINOUS MAT		BOTH		GOOD	
***DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS***							
DECK PROTECTIVE COMPONENTS:							
<u>SERIES TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SERIES-1		WEARING SURFACE		PLAIN CONCRETE		MONOLITHIC	
<u>COMMENT:</u>							
		DECK PROTECTION		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
DRAINAGE COMPONENTS:							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
DRAINAGE		REINFORCED CONCRETE		CURB OUTLET			
EXPANSION DEVICE COMPONENTS:							
<u>SUB UNIT-#</u>		<u>SUB LABEL</u>		<u>COMPONENT</u>		<u>MATERIAL</u>	
<u>COMMENT:</u>							
BANK/SLOPE PROTECTION COMPONENTS:							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
BANK PROTECTION		EARTH FILL		NOT APPLICABLE		BOTH	
***DECK COMPONENTS***							
<u>SPAN TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SPANS-1		DECK		REINFORCED CONCRETE		CAST-IN-PLACE	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
DELAMINATION		RANDOM				MANY	
DETERIORATION		EDGE				MINOR	
FULL DEPTH PATCHES		RANDOM				FEW	
FULL DEPTH PATCHES		THROUGHOUT				MANY	
POP-OUTS		THROUGHOUT				FEW	
SATURATION		THROUGHOUT				MINOR	
SPALLS		RANDOM				FEW	
TRANSVERSE CRACKS		DRIVING SURFACE				FEW	
MAIN SPANS-2		DECK		REINFORCED CONCRETE		CAST-IN-PLACE	
<u>CONDITION</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
DELAMINATION		RANDOM				MANY	
DETERIORATION		EDGE				MINOR	
DistrictAbbr = NW and Design_No = r0274 and County = ATCHISON							
Page 3							
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# Missouri Department of Transportation

## State Bridge Inspection Report

**September 09, 2022**  
**7:32:34AM**

**COUNTY: ATCHISON**      **DISTRICT: NW**      **CLASS: STATBR**      **FED-ID: 8235**      **BRIDGE: R0274**


<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-2	RA-40 DEGREES	26 FT 3 IN	REINFORCED CONCRETE	PILE CAP		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
	<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	PILING	STEEL	PIPE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	LOCAL SCOUR	GROUND LINE		PILE EXPOSED		(STEPHS2, 09/30/2019)--PAINTED 2018
	RUSTING	GROUND LINE		MODERATE		
	FIXED BEARING	STEEL	CURVED PLATE(ROTATING			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-3	RA-40 DEGREES	26 FT 3 IN	REINFORCED CONCRETE	PILE CAP		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
	<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	PILING	STEEL	PIPE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	LOCAL SCOUR	GROUND LINE		PILE EXPOSED		
	RUSTING	GROUND LINE		MODERATE		
	FIXED BEARING	STEEL	CURVED PLATE(ROTATING			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
ABUTMENT-4	RA-40 DEGREES	31 FT 7 IN	REINFORCED CONCRETE	NON-INTEGRAL		
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>
	<u>ASSOCIATED COMPONENT</u>	<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	EROSION	GROUND LINE		MINOR		(MENEET, 03/14/2012)--SE CORNER.
	PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	FIXED BEARING	STEEL	CURVED PLATE(ROTATING			
	<u>CONDITION</u>	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>


**\*\*\*OVER/UNDER ROUTES CLEARANCE INFORMATION\*\*\***

<b><u>CLEARANCES OVER DECK</u></b>				
**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.				
<b><u>VERTICAL CLEARANCE TYPE**</u></b>	<b><u>VALUE</u></b>	<b><u>DIRECTION</u></b>	<b><u>DATE</u></b>	<b><u>COMMENT</u></b>

**DistrictAbbr = NW and Design\_No = r0274 and County = ATCHISON**

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		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>September 09, 2022</div> <div>7:32:34AM</div>																	
COUNTY: ATCHISON		DISTRICT: NW		CLASS: STATBR		FED-ID: 8235		BRIDGE: R0274															
<div><div>CLEARANCES UNDER BRIDGE</div><div>**NOTE: Vertical clearances for permitting purposes are taken as 2 inches less than the actual field measured clearance.</div><table><tr><td>RECORD #</td><td>ROUTE</td><td># LANES</td><td>DIRECTION OF TRAFFIC</td><td>RIGHT LATERAL CLEARANCE</td><td>LEFT LATERAL CLEARANCE</td><td>UR-ID</td></tr><tr><td>VERTICAL CLEARANCE TYPE**</td><td>VALUE</td><td>DIRECTION</td><td>DATE</td><td>COMMENT</td><td></td><td></td></tr></table></div>										RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID	VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT		
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VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT																			
***STRUCTURE PAINT INFORMATION***																							
CONDITION: GOOD		RUST AMOUNT : 7 = .2% OF SURFACE RUSTED			STEEL TONS : 27																		
<u>ORIGINAL PAINT</u>		<u>CONTRACT REPAINT</u>			<u>DEPARTMENT REPAINT</u>																		
PAINT TYPE : A SYSTEM		PAINT TYPE :			PAINT TYPE :		MANUFACTURE :																
NAME : RED LEAD		NAME :			NAME :		SURFACE PREP :																
PAINT COLOR : ALUMINUM		PAINT COLOR :			PAINT COLOR :																		
PAINT YEAR : 1964		PAINT YEAR :			PAINT YEAR :																		
MILS : 4		MILS :			MILS :																		
***REQUESTED WORK ITEMS***																							
GENERAL WORK COMMENTS: (WILSOJ, 03/13/2002)--EROSION HOLES AT NORTH WEST AND SOUTH EAST CORNER.																							
<i>RESPONSIBILITY</i>	<i>LOCATION</i>	<i>ITEM</i>	<i>CATEGORY</i>	<i>PRIORITY</i>	<i>DATE</i>	<i>WORK ITEM COMMENT</i>																	
DISTRICT ROUTINE	AROUND SUBSTRUCTURE	PLACE GABIONS	CHANNEL	2	09/25/2013																		
***UTILITY ATTACHMENTS***																							
<i>UTILITY</i>	<i>OWNER</i>	<i>METHOD</i>	<i>MEASUREMENT TYPE</i>	<i>VALUE</i>	<i>NUMBER</i>	<i>UTILITY ATTACHMENT COMMENT</i>																	
***PROGRAM NOTES INFORMATION***																							
<u>YEAR</u>	<u>PROJECT #</u>	<u>MONTH LET</u>	<u>YEAR LET</u>	<u>ITEMS</u>	<u>COMMENT</u>																		
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<b>***COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS***</b>					<b>***ADVANCED SIGN INFORMATION***</b>																																														
<div>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.</div> <table><thead><tr><th><u>Rated Item</u></th><th><u>Rating</u></th><th><u>Rating Date</u></th></tr></thead><tbody><tr><td>[Item 67] Structure Evaluation Rating:</td><td>4-MEETS MINIMUM TOLERABLE</td><td>2/28/2002</td></tr><tr><td>[Item 68] Deck Geometry Rating:</td><td>5-BETTER THAN MINIMUM</td><td>1/8/2021</td></tr><tr><td>[Item 69] Underclearance:</td><td>N-NOT APPLICABLE</td><td>5/18/2001</td></tr><tr><td>Sufficiency Rating:</td><td>45.7%</td><td>3/31/2022</td></tr><tr><td>Deficiency:</td><td>STRUCTURAL</td><td>10/1/2019</td></tr><tr><td>Funding Eligibility:</td><td></td><td>----</td></tr><tr><td>Estimated New Structure Length:</td><td></td><td>----</td></tr><tr><td>Estimated Structure Cost:</td><td></td><td>----</td></tr><tr><td>Estimated Total Project Cost:</td><td></td><td>----</td></tr><tr><td>Year of Cost Estimate:</td><td></td><td>----</td></tr></tbody></table> <div>NOTE: The above structure length and cost estimates are computer generated using algorithms in the TMS system. These algorithms 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.</div>					<u>Rated Item</u>	<u>Rating</u>	<u>Rating Date</u>	[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	2/28/2002	[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	1/8/2021	[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001	Sufficiency Rating:	45.7%	3/31/2022	Deficiency:	STRUCTURAL	10/1/2019	Funding Eligibility:		----	Estimated New Structure Length:		----	Estimated Structure Cost:		----	Estimated Total Project Cost:		----	Year of Cost Estimate:		----	<table><thead><tr><th>SIGN #</th><th>SIGN TYPE</th><th>PROBLEM</th><th>PROBLEM DIRECTION</th></tr></thead><tbody><tr><td>1</td><td></td><td>YIELD TO ONCOMING TRAFFIC</td><td></td></tr><tr><td>2</td><td></td><td>B - ONE LANE BRIDGE</td><td></td></tr></tbody></table>		SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION	1		YIELD TO ONCOMING TRAFFIC		2		B - ONE LANE BRIDGE	
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Missouri Department of Transportation  
Bridge Inventory and Inspection System  
Structural Inventory & Appraisal Sheet

February 23, 2023  
10:24:49am

COUNTY : HOLT      BRIDGE : A1906 2      REVIEW STATUS : APPROVED      NBI STATUS : T  
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S      RUN DATE : 1/26/2023      SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION

1 State MISSOURI  
2 District NW  
3 County HOLT  
8 Federal ID No. 1596  
27 Year Built 1972  
106 Year Reconstructed 0  
42A Type of Service On HIGHWAY  
21 Structure Maintenance  
22 Structure Owner  
33 Br. Median Code  
37 Historical Significance  
101 Parallel Struc Desg NONE EXISTS  
103 Temporary Structure NOT TEMPORARY  
112 NBIS Bridge Length

ROUTE DESIGNATION INFORMATION

5A Record Type 2ND RTE THAT GOES 'UNDR'S Code : B  
5B Route Signing Prefix IS  
5C Designated Level of Service MAINLINE  
5D Route Number 00029  
5E Directional Suffix NOT APPLICABLE  
7 Facility Carried US 59 S  
12 Base Hwy. Network  
13A LRS Inventory Route No.  
13B Subroute No.  
20 Toll Status ON FREE ROAD  
26 Functional Classification 01-RU PRINCIPL ARTRIAL-IS  
28A Lanes on Structure 02  
100 STRAHNET Designation ON A DEFENSE HWY  
104 National Highway System ON NHS  
105 Federal Lands Highway  
110 Designated Nat. Network YES

STRUCTURE LOCATION INFORMATION

4 Place UNION  
Code 74680  
9 Location S 2 T 62 N R 40 W  
11 Milepoint 98.71 miles  
16 Latitude 40 D 12 M 28 S  
17 Longitude 95 D 22 M 28 S

STRUCTURE TRAFFIC INFORMATION

29 AADT 6872  
30 AADT Year 2021  
102 Direction of Traffic 1-WAY TRAFFIC  
109 AADT Truck Percent 36%  
114 Future AADT  
115 Future AADT Year

UNDERRECORD INFORMATION

6 Features Intersected IS 29  
42B Type of Service Under HIGHWAY  
28B Lanes Under Structure 02  
54A Vert. Clearance Ref.  
54B Vert. Clearance  
55A Rt. Lat Clear Ref.  
55B Rt. Lat Clearance  
56 Left Lat Clearance  
38 Navigation Control  
39 Nav Vertical Clear  
40 Nav Horizontal Clear  
111 Nav. Pier Protection  
116 Nav. Cl. Vert. Clear

STRUCTURE GEOMETRIC INFORMATION

10 Inventory Rte. Vert. Clear 17 Ft. 5 In.  
19 By pass Detour Length 50.00 miles  
32 Approach Roadway Width  
34 Skew  
35 Struct. Flared  
47 Total Horiz. Clear 34 Ft. 1 In.  
48 Maximum Span Length 98 Ft. 9 In.  
49 Structure Length 308 Ft. 1 In.  
50A Left Curb/Sidewalk Width  
50B Right Curb/Sidewalk Width  
51 Curb to Curb Br. Width  
52 Deck Width (Out-Out)  
53 Vert. Clearance Over Deck



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

February 23, 2023  
10:24:49am

COUNTY : HOLT BRIDGE : A1906 2 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION		MATERIAL/CONSTRUCTION INFORMATION	
31	Design Load	43A	Main Struc. Mat type STEEL CONTINUOUS
41	Structure Status	43B	Main struc Constr. Type STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	45	# of Main Spans
64	Operating Rating	44A	Appr Struc. Mat type
65	Inventory Rating Meth	44B	Appr Struc. Cnstr. type
66	Inventory Rating	46	# of Approach Span
70	Bridge Posting Code	107	Deck Mat/Constr.
PROPOSED IMPROVEMENT INFORMATION		108A	Wear Surf Mat/Constr.
Sufficiency Rating		108B	Membrane Mat/Constr.
Deficiency Rating		108C	Deck Protect Mat/Constr.
Funding Eligibility		CONDITION RATING INFORMATION	
75A	Proposed Work	58	Deck Cond. Rating
75B	Work Done By	59	Superstructure Cond. Rating
76	New Struc Length	60	Substructure Cond. Rating
94	Struc Improve Cost	61	Channel /Channel Protection Cond. Rating
95	Roadway Improve Cost	62	Culvert Cond. Rating
96	Total Project Cost	INSPECTION INFORMATION	
97	Year of Cost Estimates	90	Gen. Insp Date
APPRAISAL RATING INFORMATION		91	Gen. Insp. Frequency
36A	Br. Rail App. Rating	92A	Frac. Critical Inspection
36B	Transition Rail App. Rating	93A	Frac. Critical Insp. Date
36C	Approach Rail App. Rating	92B	Underwater Inspection
36D	Rail End Treat. App. Rating	93B	Underwater Insp. Date
67	Struc Eval App. Rating	92C	Special Inspection
68	Deck Geometry App. Rating	93C	Special Inspection Date
69	Underclearance App. Rating	BORDER BRIDGE INFORMATION	
71	Waterway Adeq. App. Rating	98	Neighboring State Code
72	Approach Road App. Rating	98B	Neighboring State % Respon
113	Scour Assess App. Rating	99	Neighboring State Struc. No.
APPROVED POSTING INFORMATION		FIELD POSTING INFORMATION	
Approved Posting Category		Field Posting Category	
Ton1 Ton2 Ton3		Ton1 Ton2 Ton3	
Tonnage Values for Posting Sign		Tonnage Values for Posting Sign	
General Text for Posting Sign		General Text for Posting Sign	



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

February 23, 2023  
10:24:49am

COUNTY : HOLT BRIDGE : A1906 2 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	HOLT
8	Federal ID No.	1596
27	Year Built	1972
106	Year Reconstructed	1994
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	US
5C	Designated Level of Service	MAINLINE
5D	Route Number	00059
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	US 59 S
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000005879
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	UNION
	Code	74680
9	Location	S 2 T 62 N R 40 W
11	Milepoint	27.57 miles
16	Latitude	40 D 12 M 28 S
17	Longitude	95 D 22 M 28 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	918
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	24%
114	Future AADT	1239
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 29
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	17 Ft. 1 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	30 Ft. 2 In.
56	Left Lat Clearance	38 Ft. 9 In.
38	Navigation Control	N/A
39	Nav Vertical Clear	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.
111	Nav. Pier Protection	
116	Nav. Cl. Vert. Clear	

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	50.00 miles
32	Approach Roadway Width	21 Ft. 12 In.
34	Skew	15.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	34 Ft. 1 In.
48	Maximum Span Length	98 Ft. 9 In.
49	Structure Length	308 Ft. 1 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	34 Ft. 1 In.
52	Deck Width (Out-Out)	36 Ft. 9 In.
53	Vert. Clearance Over Deck	99 Ft. 99 In.



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

February 23, 2023  
10:24:49am

COUNTY : HOLT BRIDGE : A1906 2 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION		
31	Design Load	H 15	43A	Main Struc. Mat type	STEEL CONTINUOUS
41	Structure Status	OPEN NO RESTRICTIONS	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	ALLOWABLE STRESS	45	# of Main Spans	3
64	Operating Rating	36 Tons.	44A	Appr Struc. Mat type	STEEL
65	Inventory Rating Meth	ALLOWABLE STRESS	44B	Appr Struc. Cnstr. type	STRINGER/MULTIBEAM - GRD
66	Inventory Rating	22 Tons.	46	# of Approach Span	1
70	Bridge Posting Code	=>LEGAL LOADS	107	Deck Mat/Constr.	1 CONCRETE CIP
PROPOSED IMPROVEMENT INFORMATION			108A	Wear Surf Mat/Constr.	4 LOW SLUMP
Sufficiency Rating 19.5 Percent			108B	Membrane Mat/Constr.	1 BUILT UP
Deficiency Rating STRUCTURAL			108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED
Funding Eligibility FULL			CONDITION RATING INFORMATION		
75A	Proposed Work	REPLACEMENT SUBSTND LOAD	58	Deck Cond. Rating	3
75B	Work Done By	Contract	59	Superstructure Cond. Rating	3
76	New Struc Length	337 Ft. 11 In.	60	Substructure Cond. Rating	5
94	Struc Improve Cost	\$ 1,960,000	61	Channel /Channel Protection Cond. Rating	N
95	Roadway Improve Cost	\$ 196,000	62	Culvert Cond. Rating	N
96	Total Project Cost	\$ 2,940,000	INSPECTION INFORMATION		
97	Year of Cost Estimates	2023	90	Gen. Insp Date	8 / 22
APPRAISAL RATING INFORMATION			91	Gen. Insp. Frequency	24 Months
36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND	92A	Frac. Critical Inspection	N Months
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND	93A	Frac. Critical Insp. Date	
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND	92B	Underwater Inspection	N Months
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND	93B	Underwater Insp. Date	
67	Struc Eval App. Rating	3	92C	Special Inspection	Y Months 24
68	Deck Geometry App. Rating	6	93C	Special Inspection Date	8 / 22
69	Underclearance App. Rating	9	BORDER BRIDGE INFORMATION		
71	Waterway Adeq. App. Rating	N	98	Neighboring State Code	
72	Approach Road App. Rating	4	98B	Neighboring State % Respon	
113	Scour Assess App. Rating	N	99	Neighboring State Struc. No.	
APPROVED POSTING INFORMATION			FIELD POSTING INFORMATION		
Approved Posting Category S-1			Field Posting Category S-1		
Ton1 Ton2 Ton3			Ton1 Ton2 Ton3		
Tonnage Values for Posting Sign			Tonnage Values for Posting Sign		
General Text for Posting Sign			General Text for Posting Sign		
NO POSTING REQUIRED			NO POSTING REQUIRED		



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

February 23, 2023  
10:24:49am

COUNTY : HOLT BRIDGE : A1906 2 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION			ROUTE DESIGNATION INFORMATION		
1	State	MISSOURI	5A	Record Type	1 RTE THAT GOES 'UNDER' S Code : A
2	District	NW	5B	Route Signing Prefix	IS
3	County	HOLT	5C	Designated Level of Service	MAINLINE
8	Federal ID No.	1596	5D	Route Number	00029
27	Year Built	1972	5E	Directional Suffix	NOT APPLICABLE
106	Year Reconstructed	0	7	Facility Carried	US 59 S
42A	Type of Service On	HIGHWAY	12	Base Hwy. Network	
21	Structure Maintenance		13A	LRS Inventory Route No.	
22	Structure Owner		13B	Subroute No.	
33	Br. Median Code		20	Toll Status	ON FREE ROAD
37	Historical Significance		26	Functional Classification	01-RU PRINCIPL ARTRIAL-IS
101	Parallel Struc Desg	NONE EXISTS	28A	Lanes on Structure	02
103	Temporary Structure	NOT TEMPORARY	100	STRAHNET Designation	ON A DEFENSE HWY
112	NBIS Bridge Length		104	National Highway System	ON NHS
			105	Federal Lands Highway	
			110	Designated Nat. Network	YES
STRUCTURE LOCATION INFORMATION			STRUCTURE TRAFFIC INFORMATION		
4	Place	UNION	29	AADT	6348
	Code	74680	30	AADT Year	2021
9	Location	S 2 T 62 N R 40 W	102	Direction of Traffic	1-WAY TRAFFIC
11	Milepoint	30.78 miles	109	AADT Truck Percent	34%
16	Latitude	40 D 12 M 28 S	114	Future AADT	
17	Longitude	95 D 22 M 28 S	115	Future AADT Year	
UNDERRECORD INFORMATION			STRUCTURE GEOMETRIC INFORMATION		
6	Features Intersected	IS 29	10	Inventory Rte. Vert. Clear	17 Ft. 1 In.
42B	Type of Service Under	HIGHWAY	19	By pass Detour Length	50.00 miles
28B	Lanes Under Structure	02	32	Approach Roadway Width	
54A	Vert. Clearance Ref.		34	Skew	
54B	Vert. Clearance		35	Struct. Flared	
55A	Rt. Lat Clear Ref.		47	Total Horiz. Clear	34 Ft. 1 In.
55B	Rt. Lat Clearance		48	Maximum Span Length	98 Ft. 9 In.
56	Left Lat Clearance		49	Structure Length	308 Ft. 1 In.
38	Navigation Control		50A	Left Curb/Sidewalk Width	
39	Nav Vertical Clear		50B	Right Curb/Sidewalk Width	
40	Nav Horizontal Clear		51	Curb to Curb Br. Width	
111	Nav. Pier Protection		52	Deck Width (Out-Out)	
116	Nav. Cl. Vert. Clear		53	Vert. Clearance Over Deck	



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

February 23, 2023  
10:24:49am

COUNTY : HOLT BRIDGE : A1906 2 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION		MATERIAL/CONSTRUCTION INFORMATION	
31	Design Load	43A	Main Struc. Mat type STEEL CONTINUOUS
41	Structure Status	43B	Main struc Constr. Type STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	45	# of Main Spans
64	Operating Rating	44A	Appr Struc. Mat type
65	Inventory Rating Meth	44B	Appr Struc. Cnstr. type
66	Inventory Rating	46	# of Approach Span
70	Bridge Posting Code	107	Deck Mat/Constr.
PROPOSED IMPROVEMENT INFORMATION		108A	Wear Surf Mat/Constr.
Sufficiency Rating		108B	Membrane Mat/Constr.
Deficiency Rating		108C	Deck Protect Mat/Constr.
Funding Eligibility		CONDITION RATING INFORMATION	
75A	Proposed Work	58	Deck Cond. Rating
75B	Work Done By	59	Superstructure Cond. Rating
76	New Struc Length	60	Substructure Cond. Rating
94	Struc Improve Cost	61	Channel /Channel Protection Cond. Rating
95	Roadway Improve Cost	62	Culvert Cond. Rating
96	Total Project Cost	INSPECTION INFORMATION	
97	Year of Cost Estimates	90	Gen. Insp Date
APPRAISAL RATING INFORMATION		91	Gen. Insp. Frequency
36A	Br. Rail App. Rating	92A	Frac. Critical Inspection
36B	Transition Rail App. Rating	93A	Frac. Critical Insp. Date
36C	Approach Rail App. Rating	92B	Underwater Inspection
36D	Rail End Treat. App. Rating	93B	Underwater Insp. Date
67	Struc Eval App. Rating	92C	Special Inspection
68	Deck Geometry App. Rating	93C	Special Inspection Date
69	Underclearance App. Rating	BORDER BRIDGE INFORMATION	
71	Waterway Adeq. App. Rating	98	Neighboring State Code
72	Approach Road App. Rating	98B	Neighboring State % Respon
113	Scour Assess App. Rating	99	Neighboring State Struc. No.
APPROVED POSTING INFORMATION		FIELD POSTING INFORMATION	
Approved Posting Category		Field Posting Category	
Ton1 Ton2 Ton3		Ton1 Ton2 Ton3	
Tonnage Values for Posting Sign		Tonnage Values for Posting Sign	
General Text for Posting Sign		General Text for Posting Sign	





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

February 23, 2023  
10:24:11am

COUNTY : HOLT BRIDGE : N0811 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	HOLT
8	Federal ID No.	7272
27	Year Built	1962
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	MO
5C	Designated Level of Service	MAINLINE
5D	Route Number	0000T
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT T E
12	Base Hwy. Network	NO
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	07-RURAL MAJOR COLLECTOR
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	LEWIS
	Code	41798
9	Location	S 4 T 59 N R 38 W
11	Milepoint	2.31 miles
16	Latitude	39 D 57 M 12 S
17	Longitude	95 D 10 M 4 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	102
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	10%
114	Future AADT	133
115	Future AADT Year	2041

UNDERRECORD INFORMATION

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

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	20.00 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	20.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	20 Ft. 0 In.
48	Maximum Span Length	69 Ft. 11 In.
49	Structure Length	173 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	20 Ft. 0 In.
52	Deck Width (Out-Out)	22 Ft. 4 In.
53	Vert. Clearance Over Deck	99 Ft. 99 In.

DistrictAbbr = NW and Design\_No = n0811 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and

Inventory Appraisal Submittal Year = 2022

Page: 1

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

February 23, 2023  
10:24:11am

COUNTY : HOLT BRIDGE : N0811 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION		
31	Design Load	H 15	43A	Main Struc. Mat type	STEEL CONTINUOUS
41	Structure Status	OPEN NO RESTRICTIONS	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	ALLOWABLE STRESS	45	# of Main Spans	3
64	Operating Rating	28 Tons.	44A	Appr Struc. Mat type	000
65	Inventory Rating Meth	ALLOWABLE STRESS	44B	Appr Struc. Cnstr. type	000
66	Inventory Rating	18 Tons.	46	# of Approach Span	0
70	Bridge Posting Code	=>LEGAL LOADS	107	Deck Mat/Constr.	1 CONCRETE CIP
PROPOSED IMPROVEMENT INFORMATION			108A	Wear Surf Mat/Constr.	6 BITUMINOUS
Sufficiency Rating 54.0 Percent			108B	Membrane Mat/Constr.	0 NONE
Deficiency Rating STRUCTURAL			108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED
Funding Eligibility PARTIAL			CONDITION RATING INFORMATION		
75A	Proposed Work	REHAB-GENERAL DETERIORAT	58	Deck Cond. Rating	3
75B	Work Done By	Contract	59	Superstructure Cond. Rating	6
76	New Struc Length	206 Ft. 8 In.	60	Substructure Cond. Rating	6
94	Struc Improve Cost	\$ 732,000	61	Channel /Channel Protection Cond. Rating	6
95	Roadway Improve Cost	\$ 73,000	62	Culvert Cond. Rating	N
96	Total Project Cost	\$ 1,098,000	INSPECTION INFORMATION		
97	Year of Cost Estimates	2023	90	Gen. Insp Date	11 / 21
APPRAISAL RATING INFORMATION			91	Gen. Insp. Frequency	24 Months
36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND	92A	Frac. Critical Inspection	N Months
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND	93A	Frac. Critical Insp. Date	
36C	Approach Rail App. Rating	DOES NOT MEET ACCEPT STND	92B	Underwater Inspection	N Months
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND	93B	Underwater Insp. Date	
67	Struc Eval App. Rating	5	92C	Special Inspection	N Months
68	Deck Geometry App. Rating	4	93C	Special Inspection Date	
69	Underclearance App. Rating	N	BORDER BRIDGE INFORMATION		
71	Waterway Adeq. App. Rating	8	98	Neighboring State Code	
72	Approach Road App. Rating	8	98B	Neighboring State % Respon	
113	Scour Assess App. Rating	8	99	Neighboring State Struc. No.	
APPROVED POSTING INFORMATION			FIELD POSTING INFORMATION		
Approved Posting Category S-1			Field Posting Category S-1		
Ton1 Ton2 Ton3			Ton1 Ton2 Ton3		
Tonnage Values for Posting Sign			Tonnage Values for Posting Sign		
General Text for Posting Sign			General Text for Posting Sign		
NO POSTING REQUIRED			NO POSTING REQUIRED		





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

February 23, 2023  
10:23:04am

COUNTY : ATCHISON BRIDGE : R0274 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	ATCHISON
8	Federal ID No.	8235
27	Year Built	1962
106	Year Reconstructed	0
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	NO MEDIAN
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	NONE EXISTS
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	MO
5C	Designated Level of Service	MAINLINE
5D	Route Number	0000F
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT F S
12	Base Hwy. Network	NO
13A	LRS Inventory Route No.	
13B	Subroute No.	
20	Toll Status	ON FREE ROAD
26	Functional Classification	08-RURAL MINOR COLLECTOR
28A	Lanes on Structure	01
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	NO

STRUCTURE LOCATION INFORMATION

4	Place	POLK
	Code	58700
9	Location	S 9 T 66 N R 40 W
11	Milepoint	2.48 miles
16	Latitude	40 D 32 M 44 S
17	Longitude	95 D 27 M 0 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	82
30	AADT Year	2021
102	Direction of Traffic	ONE LANE BRIDGE FOR 2-WAY
109	AADT Truck Percent	13%
114	Future AADT	107
115	Future AADT Year	2041

UNDERRECORD INFORMATION

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

STRUCTURE GEOMETRIC INFORMATION

10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
19	By pass Detour Length	124.38 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	40.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	20 Ft. 0 In.
48	Maximum Span Length	60 Ft. 0 In.
49	Structure Length	153 Ft. 10 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	20 Ft. 0 In.
52	Deck Width (Out-Out)	22 Ft. 4 In.
53	Vert. Clearance Over Deck	99 Ft. 99 In.





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

February 23, 2023  
10:23:04am

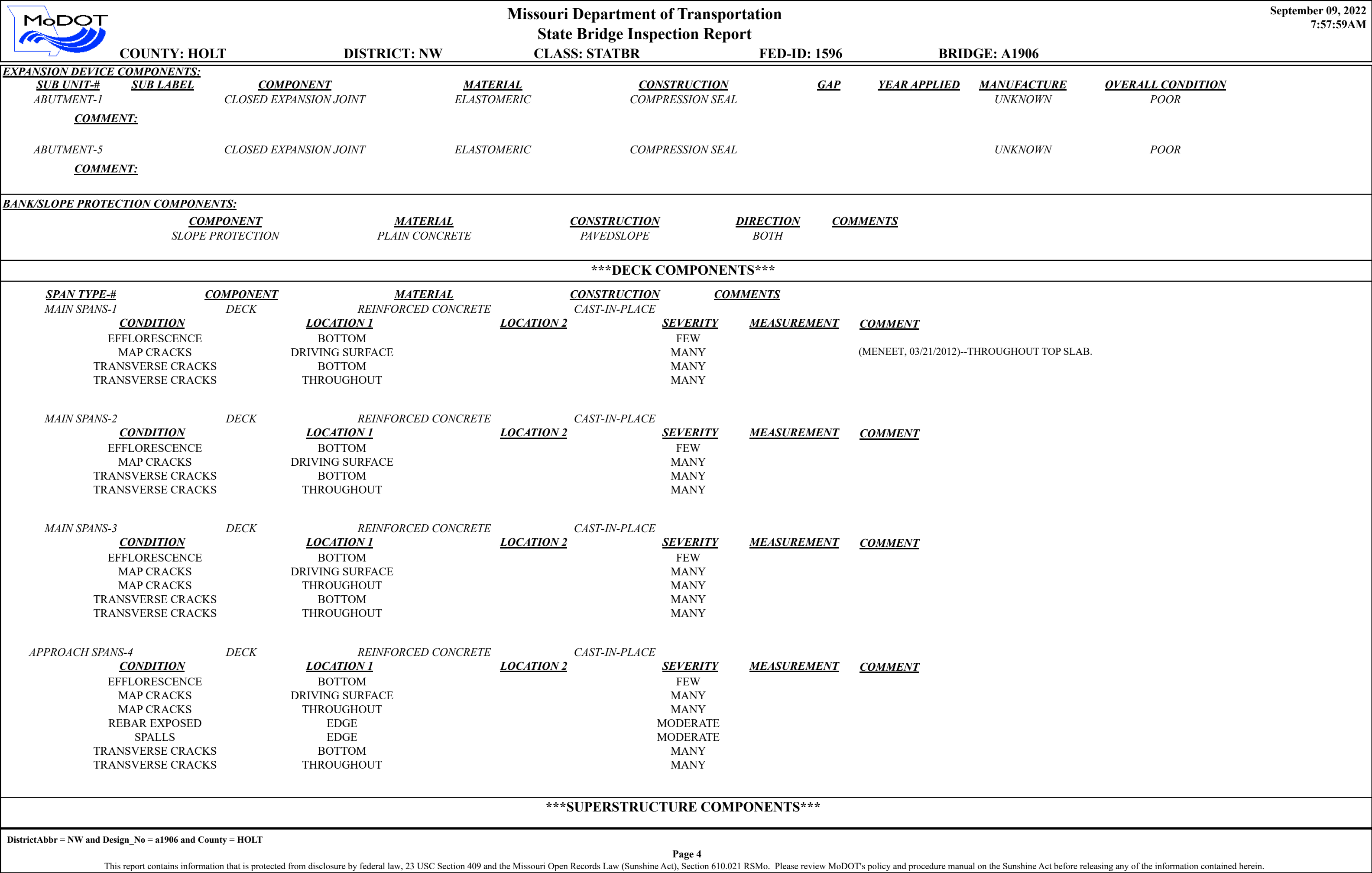
COUNTY : ATCHISON BRIDGE : R0274 REVIEW STATUS : APPROVED NBI STATUS : T  
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 1/26/2023 SUBMITTAL YEAR : 2022

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION			
31	Design Load	H 15	43A	Main Struc. Mat type	STEEL CONTINUOUS	
41	Structure Status	POSTED FOR LOAD	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD	
63	Oper. Rating Meth.	LOAD FACTOR	45	# of Main Spans	3	
64	Operating Rating	24 Tons.	44A	Appr Struc. Mat type	000	
65	Inventory Rating Meth	LOAD FACTOR	44B	Appr Struc. Cnstr. type	000	
66	Inventory Rating	14 Tons.	46	# of Approach Span	0	
70	Bridge Posting Code	20.0-29.9% BELOW	107	Deck Mat/Constr.	1 CONCRETE CIP	
			108A	Wear Surf Mat/Constr.	1 MONO CONCRETE	
			108B	Membrane Mat/Constr.	0 NONE	
			108C	Deck Protect Mat/Constr.	0 NONE	
PROPOSED IMPROVEMENT INFORMATION			CONDITION RATING INFORMATION			
	Sufficiency Rating	45.7 Percent	58	Deck Cond. Rating	4	
	Deficiency Rating	STRUCTURAL	59	Superstructure Cond. Rating	6	
	Funding Eligibility	FULL	60	Substructure Cond. Rating	5	
75A	Proposed Work	REPLACEMENT SUBSTND LOAD	61	Channel /Channel Protection Cond. Rating	5	
75B	Work Done By	Contract	62	Culvert Cond. Rating	N	
76	New Struc Length	187 Ft. 0 In.				
94	Struc Improve Cost	\$ 972,000	INSPECTION INFORMATION			
95	Roadway Improve Cost	\$ 97,000	90	Gen. Insp Date	9 / 21	
96	Total Project Cost	\$ 1,458,000	91	Gen. Insp. Frequency	24 Months	
97	Year of Cost Estimates	2023	92A	Frac. Critical Inspection	N Months	
			93A	Frac. Critical Insp. Date		
			92B	Underwater Inspection	N Months	
			93B	Underwater Insp. Date		
			92C	Special Inspection	N Months	
			93C	Special Inspection Date		
APPRAISAL RATING INFORMATION			BORDER BRIDGE INFORMATION			
36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND	98	Neighboring State Code		
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND	98B	Neighboring State % Respon		
36C	Approach Rail App. Rating	DOES NOT MEET ACCEPT STND	99	Neighboring State Struc. No.		
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND				
67	Struc Eval App. Rating	4	APPROVED POSTING INFORMATION			
68	Deck Geometry App. Rating	5	FIELD POSTING INFORMATION			
69	Underclearance App. Rating	N	Approved Posting Category	S-4	Field Posting Category	S-4
71	Waterway Adeq. App. Rating	7		Ton1 Ton2 Ton3		Ton1 Ton2 Ton3
72	Approach Road App. Rating	8	Tonnage Values for Posting Sign		Tonnage Values for Posting Sign	
113	Scour Assess App. Rating	5	General Text for Posting Sign		General Text for Posting Sign	
			CENTERLINE OF BRIDGE.		CENTERLINE OF BRIDGE.	

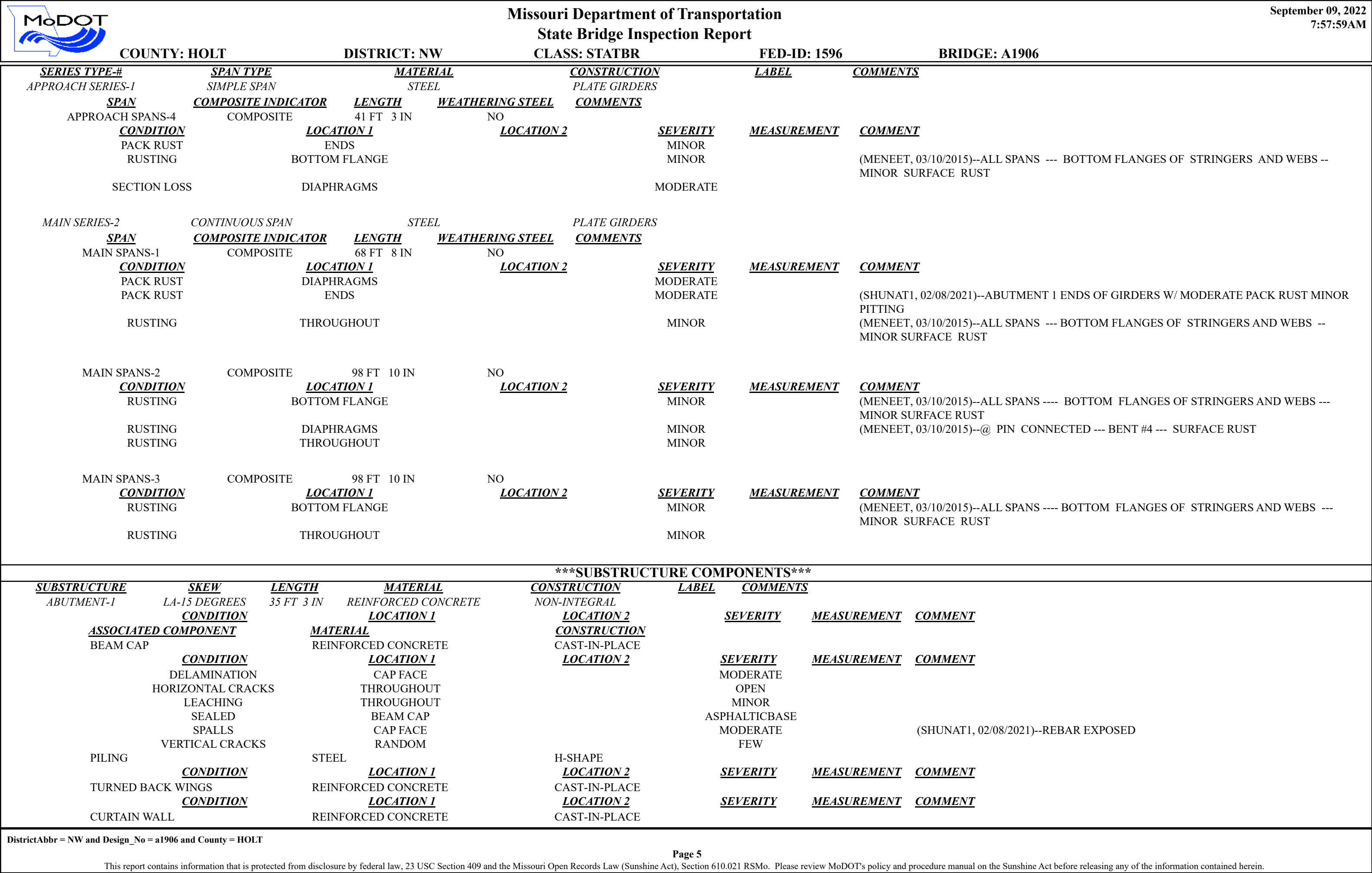
		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>September 09, 2022</div> <div>7:57:59AM</div>			
COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR		FED-ID: 1596		BRIDGE: A1906	
***GENERAL STRUCTURE INFORMATION***							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: US59S</div> <div>FEATURE: IS 29</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 27.407</div> <div>DETOUR: 50.00 MILES</div> <div>NHS: NO</div> <div>BUILT: 1972</div> <div>REHAB: 1994</div> <div>LOCATION: S 2 T 62 R 40 W</div> <div>LATITUDE: 40 12 27.54 (DMS)</div> <div>LONGITUDE: 95 22 27.96 (DMS)</div>		<div># SPANS: 4</div> <div>LANES ON: 2</div> <div>LANES UNDER: 4</div> <div>COMPASS DIRECTION: NORTH to SOUTH</div> <div>DIRECTION OF TRAFFIC: 2-WAY TRAF</div> <div>FUNCTIONAL CLASS: RL-MINOR ARTERIAL</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: NW</div> <div>MAINTENANCE COUNTY: HOLT</div> <div>SUB AREA: 7A20</div>		<div>PLACE CODE: 74680 UNION</div> <div>LENGTH: 308 FT 0 IN</div> <div>MAXIMUM SPAN: 98 FT 10 IN</div> <div>APPROACH ROADWAY: 22 FT 0 IN</div> <div>CURB TO CURB: 34 FT 0 IN</div> <div>OUT TO OUT: 36 FT 10 IN</div> <div>AADT: 918</div> <div>AADT YEAR: 2021</div> <div>AADT TRUCK: 24.1%</div> <div>FUTURE AADT: 1239</div> <div>FUTURE AADT YEAR: 2041</div>		<div>DATE: 08/23/2022</div> <div>RESPONSIBILITY: BRIDGEDIV</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 18</div> <div>TEAM LEADER: CURT RICKERSON</div> <div>ELEMENT: NO</div> <div>INSPECTOR 2: KEVIN WEGENER</div> <div>INSPECTOR 4:</div> <div>INSPECTOR 3:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>			
						<div>GENERAL INSPECTION COMMENTS</div>			
						<div>(SHUNAT1, 02/08/2021)--INSPECTION WAS THE RESPONSIBILITY OF BRIDGE DIVISION AND WAS DONE LATE BECAUSE OF STATEWIDE COVID TRAVEL RESTRICTIONS THAT WERE IN PLACE AT MODOT FOR APPROXIMATELY ONE YEAR</div>			
***FRACTURE CRITICAL INSPECTION INFORMATION***					***INDEPTH INSPECTION INFORMATION***				
<div>DATE:</div> <div>FREQUENCY:</div> <div>TEAM LEADER:</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY:</div> <div>CALCULATED INTERVAL**:</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY:</div> <div>NBI:</div> <div>METHOD:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
FRACTURE CRITICAL INSPECTION COMMENTS					INDEPTH INSPECTION COMMENTS				
***SPECIAL INSPECTION INFORMATION***					***UNDERWATER INSPECTION INFORMATION***				
<div>DATE: 08/23/2022</div> <div>FREQUENCY: 24</div> <div>TEAM LEADER: RANDY WEAVER</div> <div>INSPECTOR 2:</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>					<div>RESPONSIBILITY: BRIDGEDIV</div> <div>CALCULATED INTERVAL**: 18</div> <div>INSPECTOR 3:</div> <div>INSPECTOR 4:</div> <div>CATEGORY: PIN PLATES</div> <div>NBI: YES</div> <div>METHOD: LADDER, BUCKET TRK</div> <div>** When calculated interval exceeds the frequency, a justification comment per BIRM is required.</div>				
SPECIAL INSPECTION COMMENTS					UNDERWATER INSPECTION COMMENTS				
<div>(WEAVER1, 08/23/2022)--PINS TESTED GOOD 8-23-22</div> <div>(SHUNAT1, 02/08/2021)--INSPECTION WAS THE RESPONSIBILITY OF BRIDGE DIVISION AND WAS DONE LATE BECAUSE OF STATEWIDE COVID TRAVEL RESTRICTIONS THAT WERE IN PLACE AT MODOT FOR APPROXIMATELY ONE YEAR</div>									
<div>(WEAVER1, 08/22/2018)--PINS SHOT GOOD AT 40 DBS</div> <div>(MADSEJ, 09/09/2016)--8-16-16 PINS TESTED GOOD AT 36 DB</div>					OTHER UNDERWATER INSPECTIONS				
<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				
DistrictAbbr = NW and Design_No = a1906 and County = HOLT									
<div>Page 1</div> <div>This report contains information that is protected from disclosure by federal law, 23 USC Section 409 and the Missouri Open Records Law (Sunshine Act), Section 610.021 RSMo. Please review MoDOT's policy and procedure manual on the Sunshine Act before releasing any of the information contained herein.</div>									


		Missouri Department of Transportation			September 09, 2022	
		State Bridge Inspection Report			7:57:59AM	
COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR	FED-ID: 1596	BRIDGE: A1906
***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:
COMMENTS:		PROBLEM DIRECTION:				
***GENERAL COMMENTS/MAJOR RATED ITEMS***						
GENERAL COMMENTS: (BOWDEJ1, 03/06/2008)--(67'-99'-99'-3') CONT. PL. GDR. - (37') SIMPLE PL. GDR. (NON-COMP)						
[ITEM 58] DECK: 3-SERIOUS CONDITION		COMMENTS: (TALKEM1, 11/23/2011)--MANY CRACKS TOP DECK				
RATING : 08/21/2018		(WEAVER1, 09/13/2018)--DECK LOWERED TO 3-SERIOUS DUE TO OPEN MAP CRACKING & SEVERE DETERIORATION @ BENT 4 JOINT AREA				
[ITEM 59] SUPER: 3-SERIOUS CONDITION		COMMENTS: (MUSSED, 09/17/2012)--SUPERSTRUCTURE RATING LOWERED TO 7 DUE TO RUST WITH NO NOTEWORTHY SECTION LOSS.				
RATING : 08/23/2022		(MUSSED, 08/29/2014)--SUPERSTRUCTURE RATING LOWERED TO "6" DUE TO MINOR BULGING OF PIN PLATES AT SPAN 4.				
		(WEAVER1, 08/23/2022)--RATING LOWERED TO 3-SERIOUS DUE TO SEVERE SECTION LOSS IN GIRDER 3 @ ABUTMENT 5. BOTTOM OF WEB & VERTICAL STIFFNER WITH SEVERAL HOLES OVER BEARING.				
		SEVERE SECTION LOSS OF STRUTURAL STEEL AFFECTING LOAD CAPACITY.				
		BLOCKING IN STALLED AND FAR COMPLETED 8-23-22.				
[ITEM 60] SUB: 5-FAIR CONDITION		COMMENTS: (WEAVER1, 08/21/2018)--SUBSTRUCTURE LOWERED TO 6-SATISFACTORY BECAUSE ABUTMENT 1 HAS LARGE AREAS OF SPALLS WITH REBAR				
RATING : 02/08/2021		EXPOSED IN TOP OF CAP & SHALLOW DELAMINATIONS THROUGHOUT CAP				
[ITEM 61] BANK/CHANNEL: N-NOT APPLIC NO WATRWAY		COMMENTS:				
RATING : 05/18/2001						
[ITEM 113] SCOUR: N-NOT APPLIC NOT WATERW		COMMENTS:				
RATING : 05/18/2001						
EVALUATION TYPE :						
[ITEM 71] WATERWAY ADEQUACY: NOT APPLICABLE		COMMENTS:				
RATING : 05/18/2001						
[ITEM 72] APPRRDWY ALIGNMENT: 4-POOR		COMMENTS:				
RATING : 07/19/2004						
***RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS***						
[ITEM 36A] BRIDGE RAILING RATING: DOESNT MEET CURRNT STND-0		RATING : 01/09/2007		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
ALUMINUM	CIRCULAR TUBE	BOTH	(MENEET, 08/23/2019)--8' SECTION MISSING IN SPAN 3			
REINFORCED CONCRETE	PARAPET	BOTH				
REINFORCED CONCRETE	CURB	BOTH				
[ITEM 36B] TRANSITION RAILING RATING: DOESNT MEET CURRNT STND-0		RATING : 01/09/2007		COMMENTS:		
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>			
GALVANIZED STEEL	W-BEAM	ALL				
DistrictAbbr = NW and Design_No = a1906 and County = HOLT						
Page 2						
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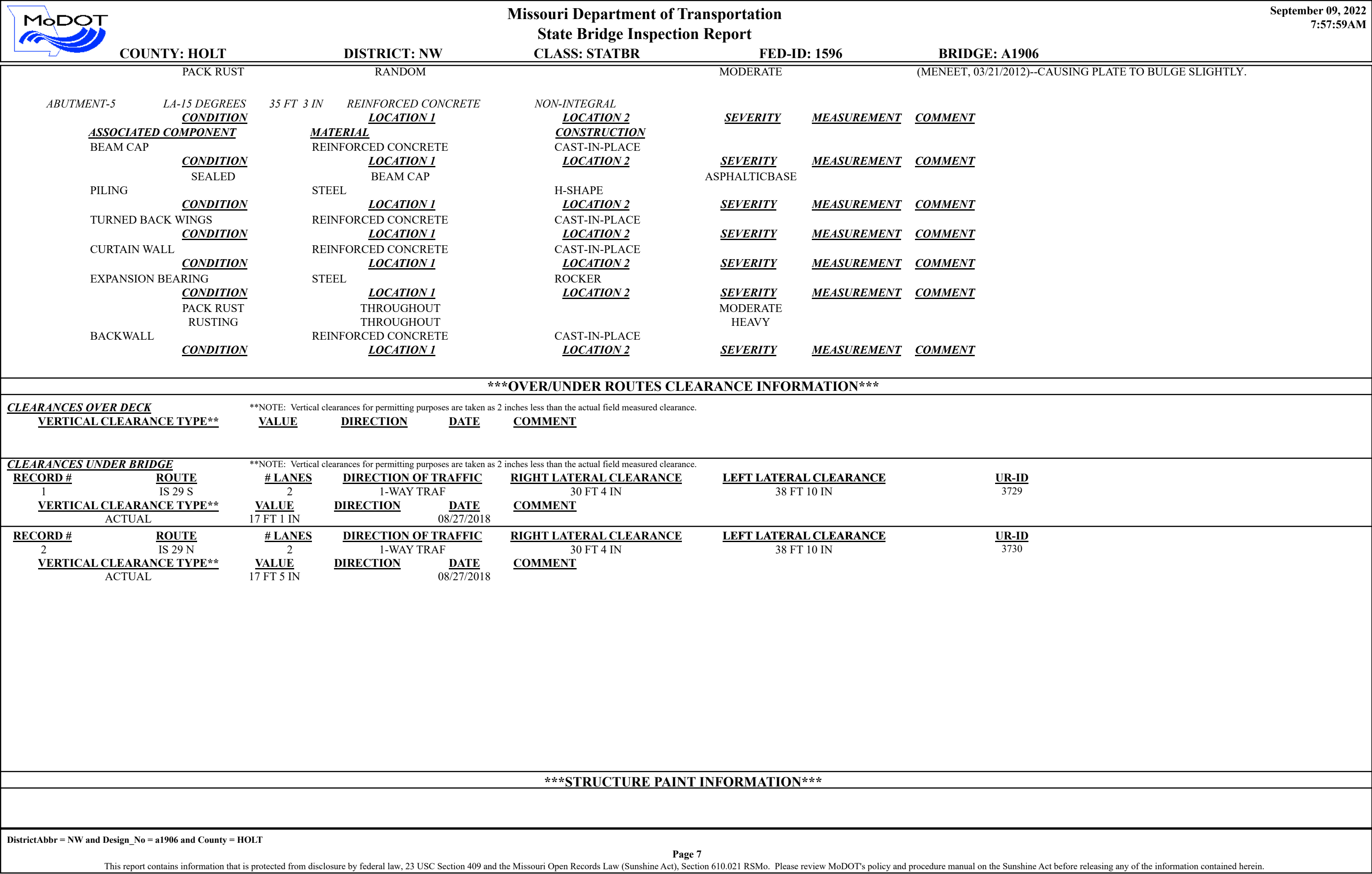







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COUNTY: HOLT		DISTRICT: NW		CLASS: STATBR		FED-ID: 1596	
						BRIDGE: A1906	
EXPANSION BEARING	<u>CONDITION</u>	STEEL	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	PACK RUST		THROUGHOUT		HEAVY		
	RUSTING		THROUGHOUT		HEAVY		
	TIPPED		THROUGHOUT		TO MAX		(SHUNAT1, 02/08/2021)--COVERED W/ MATERIAL
BACKWALL	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	SHOVING		THROUGHOUT		MINOR		
BENT-2		LA-15 DEGREES	35 FT 3 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
BEAM CAP	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	<u>CONDITION</u>	STEEL	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	RUSTING		THROUGHOUT		MINOR		
BENT-3		LA-15 DEGREES	35 FT 3 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
BEAM CAP	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	HORIZONTAL CRACKS		RANDOM		FEW		
	VERTICAL CRACKS		RANDOM		MANY		
COLUMN	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FIXED BEARING	<u>CONDITION</u>	STEEL	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
BENT-4		LA-15 DEGREES	35 FT 3 IN	REINFORCED CONCRETE	MULTIPLE COLUMN		
BEAM CAP	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>ASSOCIATED COMPONENT</u>		<u>MATERIAL</u>	<u>CONSTRUCTION</u>			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	COLUMN		REINFORCED CONCRETE	CAST-IN-PLACE			
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
FOOTING	<u>CONDITION</u>	REINFORCED CONCRETE	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
EXPANSION BEARING	<u>CONDITION</u>	STEEL	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	RUSTING		AT BEAM CAP		MINOR		
FIXED BEARING	<u>CONDITION</u>	STEEL	<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
	<u>CONDITION</u>		<u>LOCATION 1</u>	<u>LOCATION 2</u>	<u>SEVERITY</u>	<u>MEASUREMENT</u>	<u>COMMENT</u>
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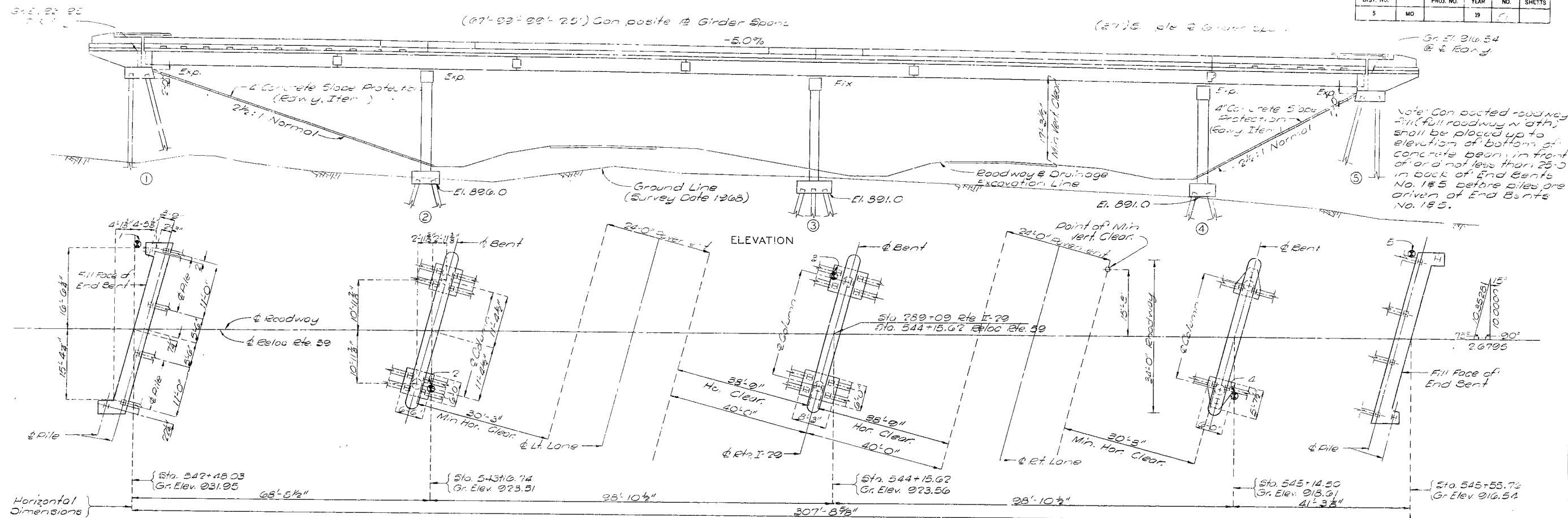




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CONDITION: POOR		RUST AMOUNT : 4=10% OF SURFACE RUSTED		STEEL TONS : 105																																																																											
<u>ORIGINAL PAINT</u>		<u>CONTRACT REPAINT</u>		<u>DEPARTMENT REPAINT</u>																																																																											
PAINT TYPE :		PAINT TYPE :		PAINT TYPE : B SYSTEM		MANUFACTURE :																																																																									
NAME :		NAME :		NAME : BASIC LEAD CHROMIUM		SURFACE PREP :																																																																									
PAINT COLOR :		PAINT COLOR :		PAINT COLOR : ALUMINUM																																																																											
PAINT YEAR :		PAINT YEAR :		PAINT YEAR : 1975																																																																											
MILS :		MILS :		MILS : 6																																																																											
***REQUESTED WORK ITEMS***																																																																															
GENERAL WORK COMMENTS:																																																																															
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YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT																																																																										
***COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS***					***ADVANCED SIGN INFORMATION***																																																																										
<div><div>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.</div><table><tr><td>Rated Item</td><td>Rating</td><td>Rating Date</td></tr><tr><td>[Item 67] Structure Evaluation Rating:</td><td>3-BASICALLY INTOL CORRECT</td><td>8/25/2022</td></tr><tr><td>[Item 68] Deck Geometry Rating:</td><td>6-EQ TO PRESENT MIN CRITR</td><td>3/19/2019</td></tr><tr><td>[Item 69] Underclearance:</td><td>9-SUPR TO PRES DESIRABLE</td><td>5/18/2001</td></tr><tr><td>Sufficiency Rating:</td><td>19.5%</td><td>8/25/2022</td></tr><tr><td>Deficiency:</td><td>STRUCTURAL</td><td>10/3/2018</td></tr><tr><td>Funding Eligibility:</td><td>FULL</td><td>----</td></tr><tr><td>Estimated New Structure Length:</td><td>338 FT.</td><td>----</td></tr><tr><td>Estimated Structure Cost:</td><td>\$1,960,062</td><td>----</td></tr><tr><td>Estimated Total Project Cost:</td><td>\$2,940,093</td><td>----</td></tr><tr><td>Year of Cost Estimate:</td><td>2022</td><td>----</td></tr></table><div>NOTE: The above structure length and cost estimates are computer generated using algorithmis in the TMS system. These algorithmis 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.</div></div> <table><tr><td>SIGN #</td><td>SIGN TYPE</td><td>PROBLEM</td><td>PROBLEM DIRECTION</td></tr><tr><td>1</td><td></td><td></td><td></td></tr></table>					Rated Item	Rating	Rating Date	[Item 67] Structure Evaluation Rating:	3-BASICALLY INTOL CORRECT	8/25/2022	[Item 68] Deck Geometry Rating:	6-EQ TO PRESENT MIN CRITR	3/19/2019	[Item 69] Underclearance:	9-SUPR TO PRES DESIRABLE	5/18/2001	Sufficiency Rating:	19.5%	8/25/2022	Deficiency:	STRUCTURAL	10/3/2018	Funding Eligibility:	FULL	----	Estimated New Structure Length:	338 FT.	----	Estimated Structure Cost:	\$1,960,062	----	Estimated Total Project Cost:	\$2,940,093	----	Year of Cost Estimate:	2022	----	SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION	1																																					
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					# OUTFALLS:	INSPECTOR:																																																																									
					STATUS:	DATE:																																																																									
					NOTES:																																																																										

# MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	1	



PLAN

Note: For boring data see sheet No. 4 of 14.  
 ③ Indicates location of boring.

## GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1969.

Design Loading:

H15-44 15#/sq. ft. Future Wearing Surface  
 Earth 120# Equivalent Fluid Pressure 30#  
 Fatigue Stress: Case II

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  $f_s = 20,000$  psi;  
 Structural Steel (A.S.T.M. A-572-60) Grade 50  $f_s = 27,000$  psi;  
 Steel Piles  $f_b = 5,000$  psi.

Fabricated Steel:

Field connections, High Strength Bolts  $\frac{3}{4}$ "  $\phi$ ,  
 holes  $\frac{1}{16}$ "  $\phi$  except as noted.  
 Paint: Shop, one coat red lead, in accordance with Std. Spec.  
 712.12 and 1045.4 or 1045.5, surface of shear connectors and  
 top surface of upper girder flange plates in contact  
 with concrete shall not be painted.  
 Field, two coats, by contract, first coat brown,  
 second coat aluminum in accordance with Std. Spec. 712.12.

All concrete and reinforcement in end posts,  
 parapets and curbs is included with superstructure  
 quantities.

Dayweight for fabricated steel will be based on  
 welded field splices regardless of type used.  
 All reinforcing bars in top of substructure beams  
 or caps shall be spaced to clear anchor bolts for  
 bearings by at least 1".

PILE DATA					
BENT NO.	1	2	3	4	5
Pile Type and Size	H10x42	H10x42	H10x42	H10x42	H10x42
Number	6	8	10	6	6
Approximate Length Ft.	112	87	83	83	100
Design Bearing Tons	34	45	45	54	54
Hammer Energy required Ft-lbs	11,100	11,200	11,300	12,600	12,600

Minimum energy requirement of hammer based on plan  
 length and design bearing value of piles.  
 All pile shall be driven to practical refusal.

S.M. Elev. 916.54 Top Iron Pin 133.5' R/L 5-3 540-60.5 (E-e 59)  
 Geod. Sta = 205 - 5.5 E Datum (1929 Adj.)

## BRIDGE UNDER RELOCATED ROUTE 59

STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG

ABOUT 1 MILE NORTH OF CRAIG

PROJECT NO. I-29-2(71) RTE. I-29 STA. 289+09.00

HOLT COUNTY

SUBMITTED BY *W. A. Canley* DATE: 6-26-72  
 BRIDGE ENGINEER  
 APPROVED BY *Robert M. Hunter* DATE: 6-26-72  
 CHIEF ENGINEER

STD 611 60
STD. 705 32A
A-1906

ESTIMATED QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Class I Excavation	Cu Yd	85	85
Structural Steel Pile (10")	Ln Ft	3130	3130
Class B Concrete	Cu Yd	142.0	142.0
Class B1 Concrete	Cu Yd	310.0	310.0
Reinforcing Steel	Lb	26520	78480
Fabricated Structural Carbon Steel	Lb	175,230	175,230
Fabricated Structural Low Alloy Steel	Lb	28,950	28,950
Painting (2 Coats)	Ton	101.8	101.8
Bridge Rail (One Tube)	Ln Ft	649	649

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

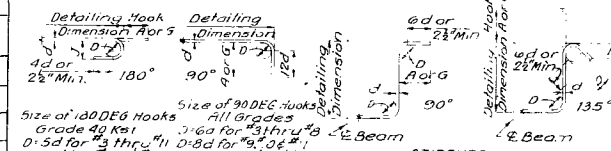
Sheet No. 1 of 14

DESIGNED Dec. 1970 BY *Arion*  
 DETAILED May 1971 BY *BOWDEN*  
 CHECKED May 1971 BY *Enr*

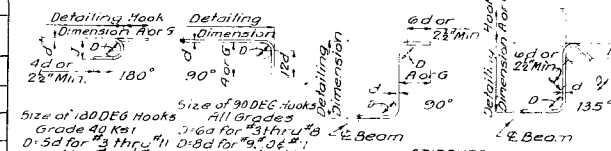
## MISSOURI STATE HIGHWAY DEPARTMENT

NO. REQD.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP SUBSTR. VARS.	NO. EA.	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
						B	C	D	E	F	H	K				
						FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.				
BENT NO. 1																
4	6H1	BEAM	17	X		19	7.000						20 3	20 3	122	
2	6H2	BEAM	20	X		36	7.500						36 8	36 8	110	
4	6H3	BEAM	18	X		36	7.500						38 0	38 0	228	
6	4H4	BACK WALL	20	X		37	6.500						37 7	37 7	151	
2	6H5	BACK WALL	20	X		37	6.500						37 7	37 7	113	
4	6H6	BEAM	17	X		18	3.750						19 0	19 0	114	
6	6H7	WING	20	X V	2	13	7.000						13 7	13 7		
		INCR. = 37.500 IN.				7	4.000						7 4	7 4	94	
4	6H8	WING	20	X		14	9.000						14 9	14 9	89	
6	6H9	WING	20	X V	2	13	7.000						13 7	13 7		
		INCR. = 37.500 IN.				7	4.000						7 4	7 4	94	
4	6F1	WING	15	X		12.125	4 1.000	12.125	9.500	7.500	9.500	7.500	6 1	6 0	36	
4	6F2	WING	15	X		12.125	5 4.000	12.125	7.500	9.500	7.500	9.500	7 4	7 4	44	
2	6T1	CURTAIN WALL	19	X		5	7.500	3 1.000					8 9	8 7	26	
2	6T2	WING	25	X		22.000	11 0.875	2 0.000			4 1.000	10 3.500	14 11	14 10	45	
2	6T3	WING	25	X		22.000	11 0.875	2 0.000			4 1.000	10 3.500	14 11	14 10	45	
2	6T4	CURTAIN WALL	19	X		5	6.500	3 7.000					9 2	9 0	27	
16	4U1	BEAM	13	S X		2	9.000	2 8.500	3 3.000	2 8.000			12 2	11 11	127	
14	4U2	BEAM	10	S X			6.000	2 9.000					3 9	3 7	34	
19	4U3	BEAM	13	S X		2	9.000	3 0.750	3 3.000	3 0.250			12 10	12 7	160	
5	7U4	BEAM	11	X			5 1.000	2 9.000	4 4.000				12 2	11 10	121	
4	4U5	CURTAIN WALL	10	S X			2 7.500	6.000					5 9	5 7	15	
5	7U6	BEAM	14	X		5	1.000	2 6.000	4 3.625		4 2.000	13.000	11 11	11 8	119	
4	4U7	CURTAIN WALL	10	S X			3 1.000	6.000					6 8	6 6	17	
70	5V1	BACKWALL	20	X		6	4.000						6 4	6 4	462	
44	4V2	WING	20	X V	4	2	0.000						2 0	2 0		
		INCR. = 4.125 IN.				5	5.000						5 5	5 5	109	
8	5V3	WING	20	X		6	9.000						6 9	6 9	36	
2	4V4	CURTAIN WALL	20	X		5	2.000						5 2	5 1	7	
2	6V5	BEAM	20	X		3	2.000						3 2	3 2	10	
8	5V6	WING	20	X		6	9.000						6 9	6 9	56	
2	4V8	CURTAIN WALL	20	X		5	1.000						5 1	5 1	7	
2	6V9	BEAM	20	X		2	9.000						2 9	2 9	8	
10	2W1	BEAM	22	X		12.000	0.125						10 0	10 0	32	
BENT NO. 2																
20	10D1	FOOTING	20	X		5	0.000						5 0	5 0	430	
8	6D2	FOOTING	10	X			3 0.000	14.000					7 2	6 10	82	
8	6D3	FOOTING	10	X			3 3.000	14.000					7 8	7 4	88	
40	3P1	COLUMN	16	X		2	3.000						7 7	7 9	117	
20	10V16	COLUMN	20	X		22	7.000						22 7	22 7	1944	
2	10H16	BEAM	20	X		22	9.000						22 9	22 9	196	
4	9H17	BEAM	17	X		16	8.000						17 8	17 8	240	
2	6H18	BEAM	20	X		32	3.000						32 3	32 3	97	
8	11H19	BEAM	20	X		32	3.000						32 3	32 3	1371	
4	11H20	BEAM	17	X		15	2.000						16 4	16 4	347	
4	9H22	BEAM	17	X		18	0.000						19 0	19 0	258	
8	7H23	BEAM	7	X		3	10.000	2 5.000					8 11	8 11	146	
BENT NO. 3																
12	8D4	FOOTING	20	X		8	0.000									
12	5D5	FOOTING	20	X		5	9.000									
4	8D7	FOOTING	10	X				3 6.000	7 3.000							
36	11D10	FOOTING	20	X		5	6.000									
40	3P3	COLUMN	16	X		2	3.000									
36	11V17	COLUMN	20	X		23	0.000									
2	10H16	BEAM	20	X		22	9.000									
4	6H18	BEAM	20	X		32	3.000									
9	11H19	BEAM	20	X		32	3.000									
8	11H20	BEAM	17	X		15	2.000									
8	7H15	BEAM	7	X		3	10.000	2 5.000								
4	11H24	BEAM	17	X		17	2.000									
4	11H25	BEAM	17	X		18	0.000									
1	5U12	BEAM	13	S X		2	3.500	3 9.000	2 3.500	3 9.000			13 1	12 9	13	
1	5U13	BEAM	13	S X		2	3.500	4 1.250	2 3.500	4 1.250			13 10	13 6	14	
3	4U16	BEAM	10	S X			6.000	2 6.000					3 6	3 4	7	
15	5U18	BEAM	13	S X		2	6.000	3 9.000	2 6.000	3 9.000			13 6	13 2	206	
14	5U19	BEAM	13	S X		20.000	3 9.000	20.000	3 9.000				11 10	11 6	168	
19	5U21	BEAM	13	S X		2	6.000	1 1.250	2 6.000	4 1.250			14 3	13 11	275	
14	5U22	BEAM	13	S X		20.000	4 1.250	20.000	4 1.250				12 7	12 3	179	
10	2W1	BEAM	22	X		12.000	0.125						10 0	10 0	32	
BENT NO. 4																
12	6D8	FOOTING	10	X				3 3.000	18.000							
18	8D9	FOOTING	20	X		4	0.000						4 0	4 0	192	
32	3P2	COLUMN	16	X		2	3.000						7 9	7 9	93	
18	8V18	COLUMN	20	X		17	8.000						17 8	17 8	849	
2	6H18	BEAM	20	X		32	3.000						32 3	32 3	97	
8	11H19	BEAM	20	X		32	3.000						32 3	32 3	1371	
8	7H23	BEAM	7	X		3	10.000	2 5.000					8 11	8 11	146	
4	10H26	BEAM	17	X		16	8.000						17 9	17 9	306	
6	10H27	BEAM	17	X		14	6.000						15 7	15 7	402	
4	10H29	BEAM	17	X		18	0.000						19 1	19 1	328	
10	2W1	BEAM	22	X		12.000	0.125						10 0	10 0	32	
2	4U24	BEAM	10	S X			6.000	2 5.000					3 5	3 3	4	
12	5U25	BEAM	13	S X		2	5.000	3 0.000	2 5.000	3 0.000			11 10	11 6	144	
8	5U26	BEAM	13	S X		19.000	3 0.000	19.000	3 0.000				10 2	9 10	82	
16	5U28	BEAM	13	S X		2	5.000	3 4.250	2 5.000	3 4.250			12 7	12 3	204	
8	5U29	BEAM	13	S X		19.000	3 4.250	19.000	3 4.250				10 11	10 7	88	
14	4U32	BEAM	10	S X			6.000	2 5.000					3 5	3 3	28	

## STANDARD HOOKS



## STIRRUP HOOKS



BAR SIZE	180° HOOKS		90° HOOKS	
	A or C	J	A or G	
#3	5"	2 3/4"	6"	
#4	6"	3 3/4"	8"	
#5	7"	4 3/4"	10"	
#6	8"	5 3/4"	12"	
#7	9"	6 3/4"	14"	
#8	10"	7"	16"	
#9	12"	8"	19"	
#10	13"	9"	22"	
#11	14"	10"	25"	
#14	21 1/2"	20 3/4"	21 7/8"	
#18	21 1/2"	21 3/4"	31 5/8"	

BAR SIZE	STIRRUP HOOK DIMENSIONS		GRADES 40-50-60 KSI	
	D	90° HOOK	135° HOOK	APPROX. H
#3	1 1/4"	4"	4"	2 1/2"
#4	2"	4 1/2"	4 1/2"	3"
#5	2 1/2"	5"	5"	3 1/2"
#6	3"	6"	6"	4"

Note: Unless otherwise noted diameter D is the same for all bends and hooks on a bar.

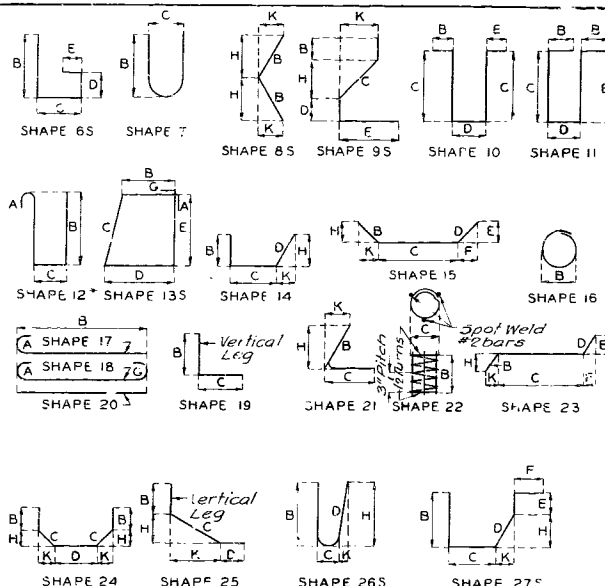
Note: All Standard Hooks and Bends other than 180 DEG. to be bent with same procedure as for 90 DEG. Standard Hooks.

Note: Hooks and bends shall be in accordance with the procedures as shown on this sheet. Nominal Lengths are based on, out to out dimensions shown in bending diagrams and are listed for fabricators use. Payweights are based on Actual Lengths.

5~ stirrup.  
X~ bar is included in substructure quantities. Length~ Total lengths are measured along centerline bar to the nearest inch.  
V~ bar dimensions vary in equal increments between dimensions shown on this line and the following line.  
No. Ea.~ Number of bars of each length.

\* All hooks and bends for shape No. 12 (only) are based on D=5d.

## BENDING DIAGRAMS



54

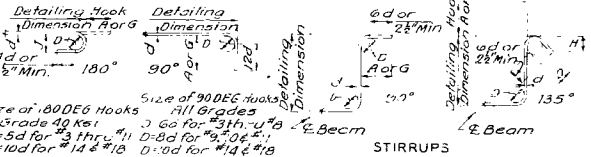
STD. 90.7  
JULY 1969  
REVISED  
JUNE 1970DETAILED June 1971 BY BOWDEN  
CHECKED 1971 BY

MISSOURI STATE HIGHWAY DEPARTMENT

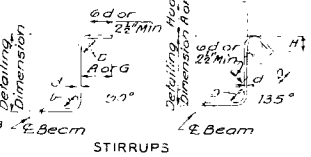
NO	HEQD.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EA.	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT			
									B	C	D	E	F	H	K							
FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	LBS.						
BENT NO 5																						
2		6H2	BEAM	20	X				36	7.500				36	8.36	8	110					
4		6H3	BEAM	18	X				36	7.500				38	0.38	0	228					
6		6H4	BACK WALL	20	X				37	6.500				37	7.37	7	151					
2		6H5	BACK WALL	20	X				37	6.500				37	7.37	7	113					
4		6H8	WING	20	X				14	9.000				14	9.14	9	89					
4		6H14	BEAM	17	X				18	0.000				18	8.18	8	112					
4		6H10	BEAM	17	X				19	8.000				20	4.20	4	122					
6		6H11	WING	20	X	V		2	14	3.000				14	3.14	3						
			INCR. = 36.500 IN.						8	2.000				8	2.8	2	101					
6		6H12	WING	20	X	V		2	14	9.000				14	0.14	0						
			INCR. = 48.000 IN.						5	0.000				6	0.6	0	90					
4		6F3	WING	15	X				12.125	4	1.000	12.125	9.500	7.500	9.500	7.500	6	1.6	0	36		
4		6F4	WING	15	X				12.125	5	4.000	12.125	7.500	9.500	7.500	9.500	7	4.7	4	44		
2		6T5	CURTAIN WALL	19	X				6	1.000	3	2.000					5	3.9	1	27		
2		6T6	WING	25	X				22.000	10	8.250	2	0.000		3	2.000	10	2.500	14	6.14	5	43
2		6T7	CURTAIN WALL	19	X				5	3.000	3	7.000					8	10.8	8	26		
2		6T8	WING	25	X				22.000	9	11.375	2	5.000		2	0.000	9	9.000	14	2.14	1	42
16		4U1	BEAM	13	S	X			2	9.000	2	8.500	3	3.000	2	8.000		12	2.11	11	127	
12		4U2	BEAM	10	S	X				6.000	2	9.000					3	9.3	7	29		
19		4U3	BEAM	13	S	X			2	9.000	3	0.750	3	3.000	3	C.250		12	10.12	7	160	
5		7U4	BEAM	11	X				5	1.000	2	9.000	4	4.000			12	2.11	10	121		
4		4U5	CURTAIN WALL	10	S	X				2	7.500	6.000					5	9.5	7	15		
5		7U6	BEAM	14	X				5	1.000	2	6.000	4	3.750		4	2.000	13.500	11	11.9	9	120
4		4U7	CURTAIN WALL	10	S	X				3	1.000	6.000					6	8.6	6	17		
10		2W1	BEAM	22	X				12.000	9.125							9	9.12	9	33		
2		6V5	BEAM	20	X				3	0.000							2	3.2		10		
2		6V9	BEAM	20	X				2	9.000							2	9.2	9	8		
22		4V10	WING	20	X	V		2	2	C.300							2	0.2	0			
			INCR. = 4.000 IN.						4	10.000							4	10.4	10	30		
8		5V11	WING	20	X				6	9.000							6	9.6	9	56		
2		4V12	CURTAIN WALL	20	X				5	7.000							5	7.5	7	7		
8		5V13	WING	20	X				6	8.000							6	8.6	8	53		
22		4V14	WING	20	X	V		2	5	0.000							5	0.5	0			
			INCR. = 3.000 IN.						2	C.000							0	2.0		51		
2		4V15	CURTAIN WALL	20	X				4	9.000							4	9.4	9	6		
70		5V1	BACK WALL	20	X				6	4.000							6	4.6	4	462		
SUPERSTRUCTURE																						
1148		551	SLAB	20					36	6.000				36	6.36	6	43704					
72		552	SLAB	20		V		4	33	10.000				33	10.33	10						
			INCR. = 22.375 IN.						2	2.000				2	2.2	2	1352					
72		553	SLAB	20		V		4	34	0.00				34	2.34	2						
			INCR. = 22.375 IN.						2	6.000				2	6.2	6	1377					
190		554	SLAB	20					54	6.000				54	6.54	6	10800					
259		455	SLAB	20					39	1.000				39	1.39	1	6762					
72		456	SLAB	20					24	0.000				24	0.24	0	1124					
38		537	SLAB	20					37	8.000				37	8.37	8	1493					
37		458	SLAB	20					37	8.000				37	8.37	8	931					

NO.	REQD.	MARK NO.	LOCATION	SHAPE NO.	STIRRUP	SUBSTR.	VARIES	NO. EA.	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT	
									B	C	D	E	F	H	K					
FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	FT	IN.	LBS.				
SUPERSTR. CONT.																				
614		5C1	CURB	10					3.000	12.750	13.500				3	9	3	5	2188	
60		5C2	CURB	10						13.250	13.500				3	4	3	1	193	
8		6C3	CURB	20					14	9.000					14	9	14	9	177	
8		5C4	CURB	20					34	5.000					34	5	34	5	414	
8		5C5	CURB	20					50	0.000					50	0	50	0	417	
8		5C6	CURB	20					51	0.000					51	0	51	0	426	
4		5C7	CURB	20					37	8.000					37	8	37	8	926	
8		5R1	END POST	20					4	9.000					4	9	4	9	40	
4		5R2	END POST	10						2	8.125	9.000				6	1	5	10	24
4		5R3	END POST	10						2	10.500	9.000				6	6	6	3	26
4		5R4	END POST	10						3	0.000	9.000				6	11	6	8	28
4		5R5	END POST	10						3	2.000	9.000				7	1	6	10	29
4		5R6	END POST	10						3	2.750	9.000				7	3	7	0	29
4		5R7	END POST	10						3	3.375	9.000				7	4	7	1	30
4		5R8	END POST	10						3	4.250	9.000				7	6	7	3	30
9		5R9	END POST	10						3	4.625	9.000				7	6	7	3	60
16		5R10	END POST	10						4	9.000	7.750				10	2	9	11	165
354		5R11	PARAPET	12					2	0.375	8.500					5	4	5	2	3524
34		5R12		10					6.000	19.500	8.500					4	6	4	1	145
10		5R13		20					10	6.000						10	8	10	8	178
8		5R14		20					56	7.000						56	7	56	7	472
34		5R15		20					10	9.000						10	9	10	9	359
16		5R16		20					39	0.000						39	0	39	0	651
16		5R17		20					45	6.000						45	6	45	6	759
8		5R18		20					37	8.000						37	8	37	8	314
END OF BAR LIST																				

STANDARD HOOKS



STIRRUP HOOKS



END HOOK DIMENSIONS				STIRRUP HOOK DIMENSIONS			
180° HOOKS		90° HOOKS		180° HOOKS		90° HOOKS	
BAR SIZE	GRADE 41	ALL GRADES	ALL GRADES	BAR SIZE	GRADE 41	ALL GRADES	ALL GRADES
#3	5"	2 3/4"	6"	#3	1 1/2"	4"	4"
#4	6"	3 1/2"	8"	#4	2"	4 1/2"	4 1/2"
#5	7"	4 1/2"	10"	#5	2 1/2"	5"	5"
#6	8"	5 1/2"	12"	#6	3"	6"	6"
#7	9"	6 1/2"	14"				
#8	10"	7"	16"				
#9	12"	8"	18"				
#10	13"	9"	22"				
#11	14"	10"	24"				
#14	21"	20 1/2"	27"				
#18	27 1/2"	27 1/2"	34 1/2"				

Note: Unless otherwise noted diameter D is the same for all bends and hooks on a bar.

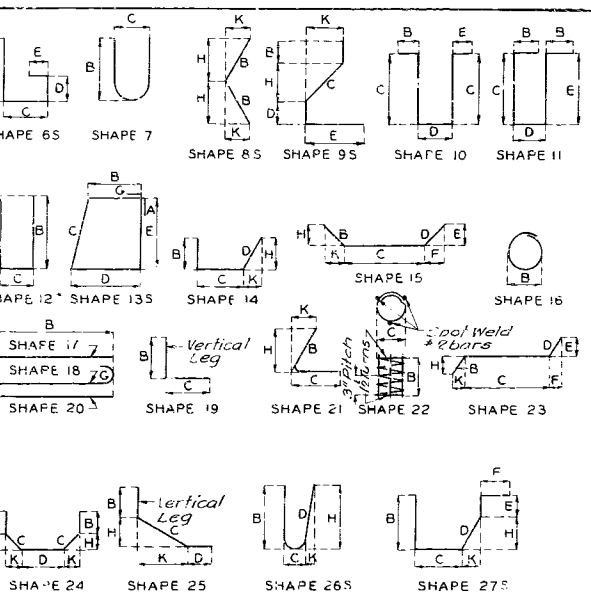
Note: All Standard Hooks and Bends other than 180 DEG. to be bent with same procedure as for 90 DEG. Standard Hooks.

Note: Hooks and bends shall be in accordance with the procedures as shown on this sheet. Nominal Lengths are based on, out to out dimensions shown in bending diagrams and are listed for Fabricators use. Payweights are based on Actual Lengths.

5~ stirrup.  
X~ bar is included in substructure quantities. Length~ Total lengths are measured along centerline bar to the nearest inch.  
V~ bar dimensions vary in equal increments between dimensions shown on this line and the following line.

No. Ea.~ Number of bars of each length.  
\* All hooks and bends for shape No. 12 (only) are based on D=5d.

BENDING DIAGRAMS



55

STD. 90.7  
JULY 1969  
REVISED  
JUNE 1970

DETAILED June 1971 BY BOWDEN  
CHECKED 1971 BY

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

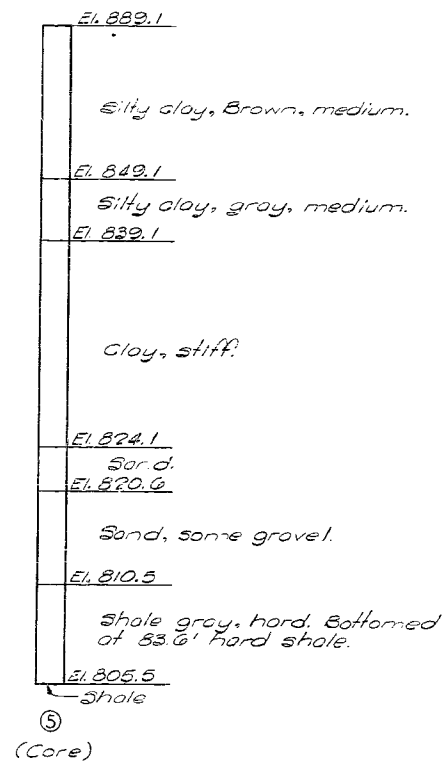
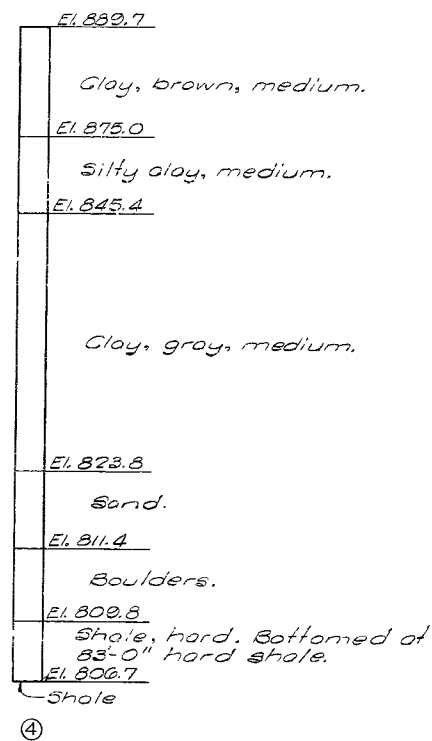
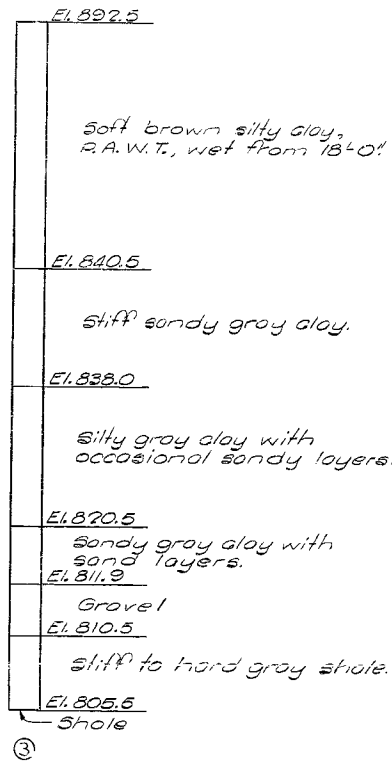
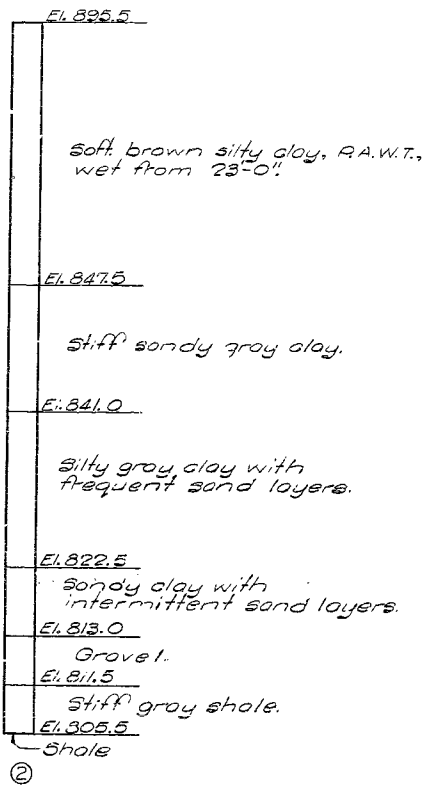
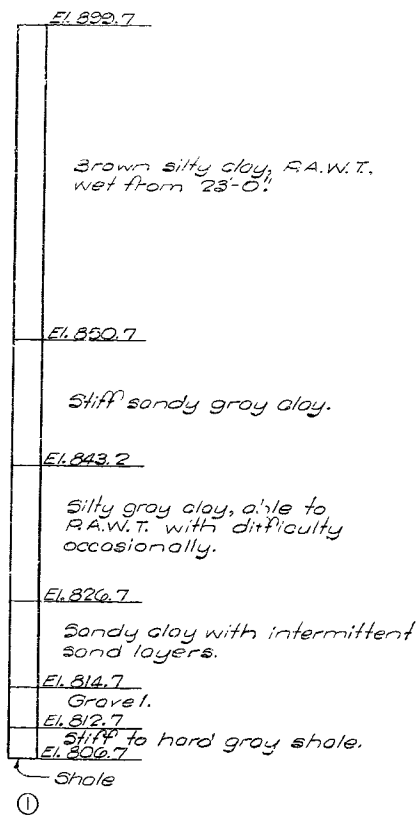
Sheet No. 5 of 14

HOLT COUNTY

A-1906

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	50	



Note: For location of boring see sheet No. 1 of 14.

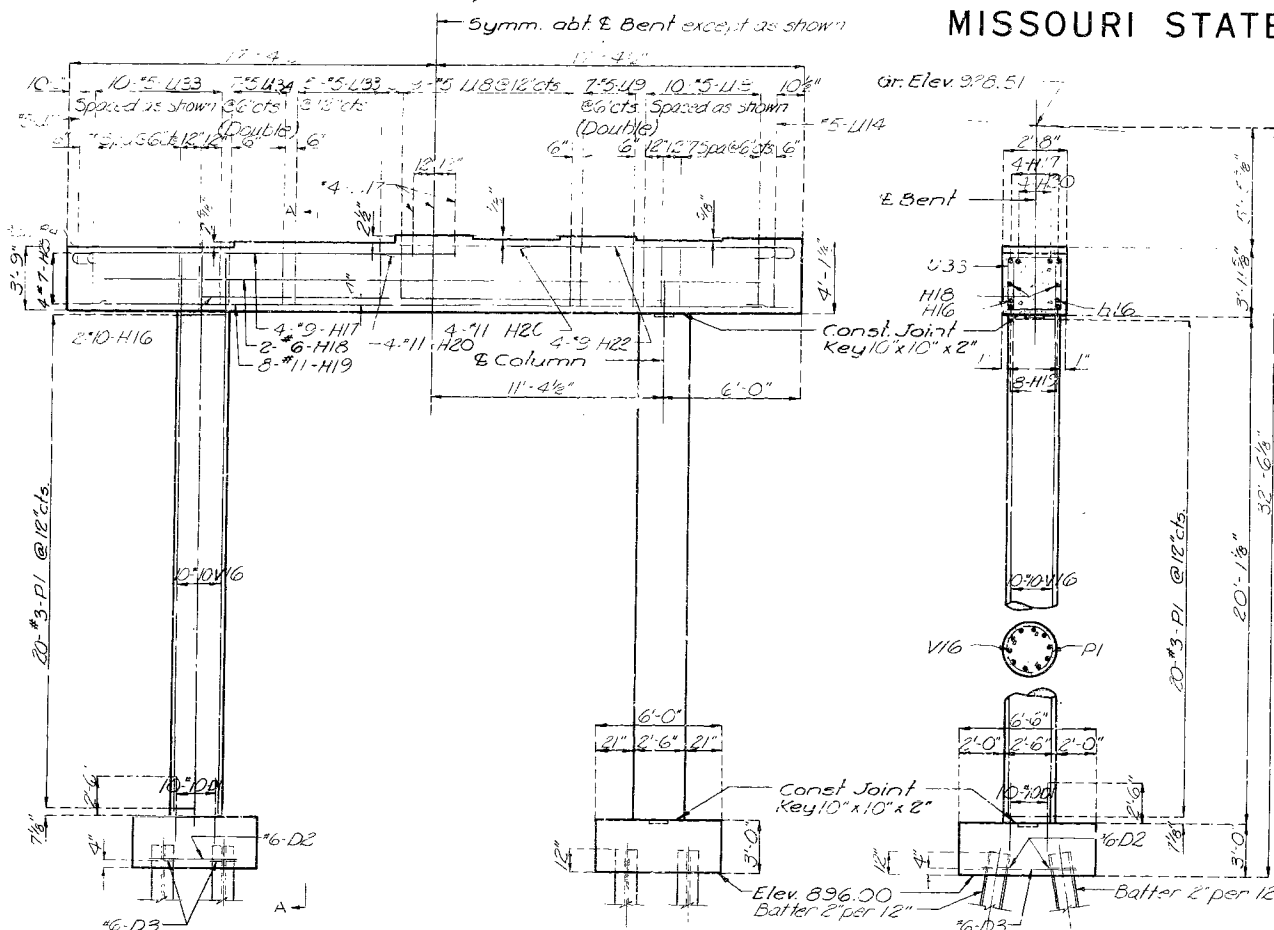
BORING DATA



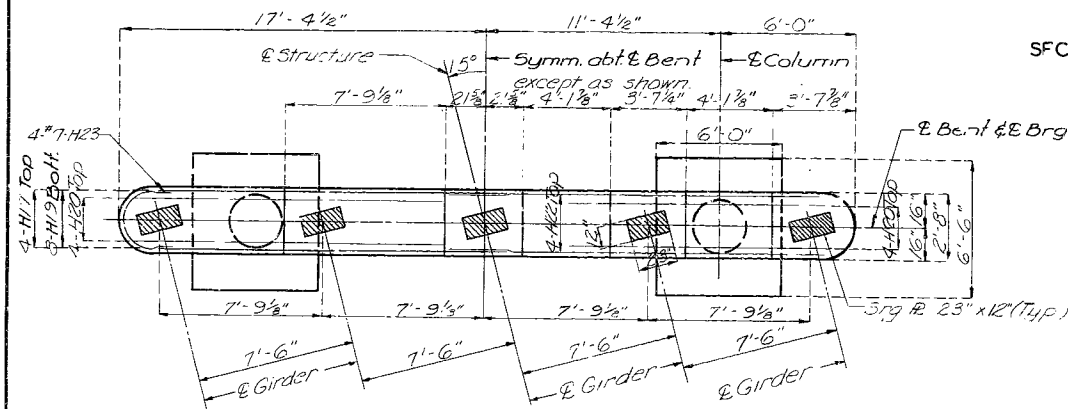


# MISSOURI STATE HIGHWAY DEPARTMENT

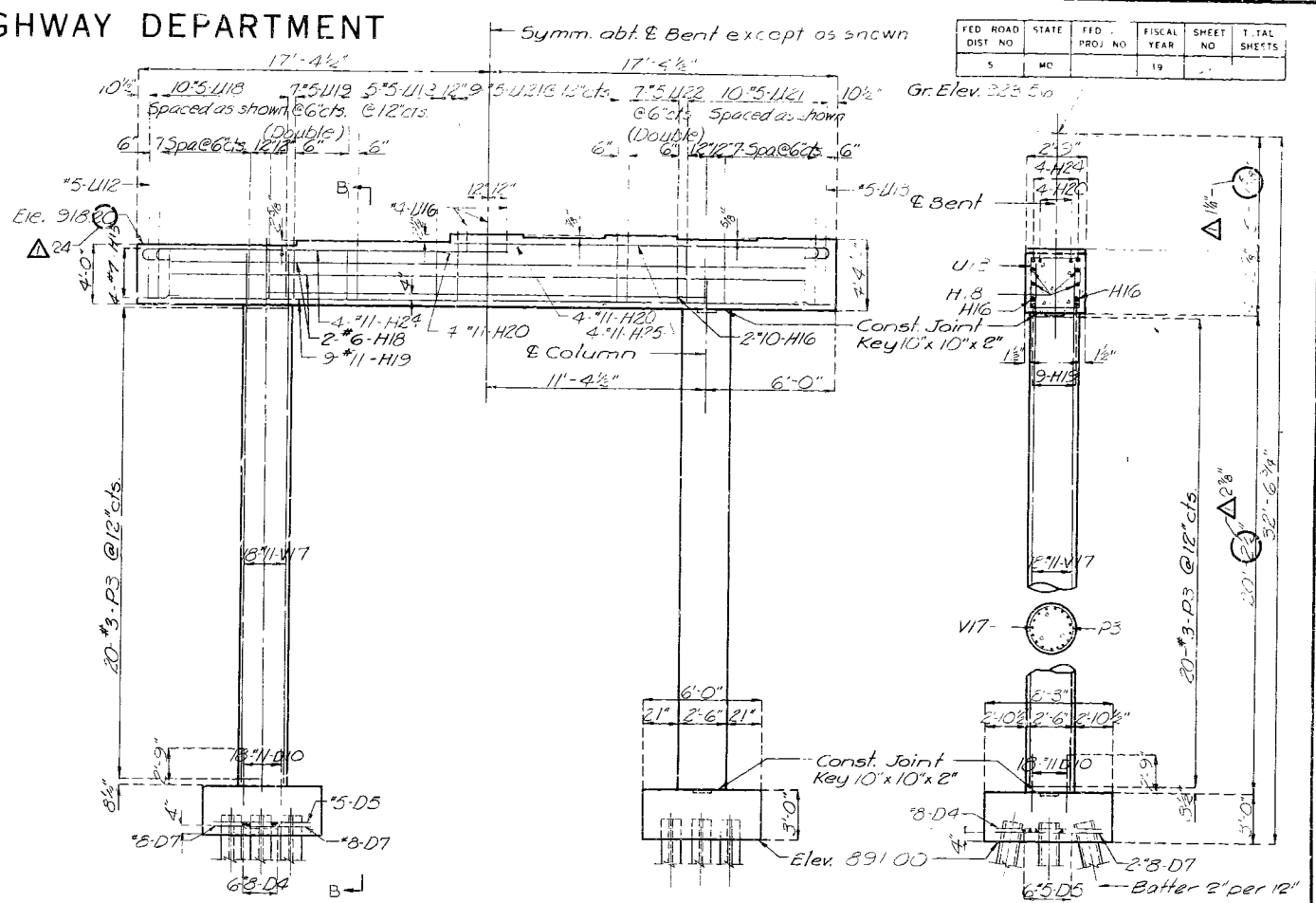
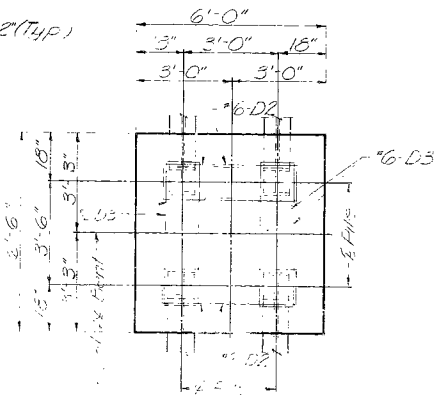
FED. ROAD DIST. NO.	STATE	FED. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19		



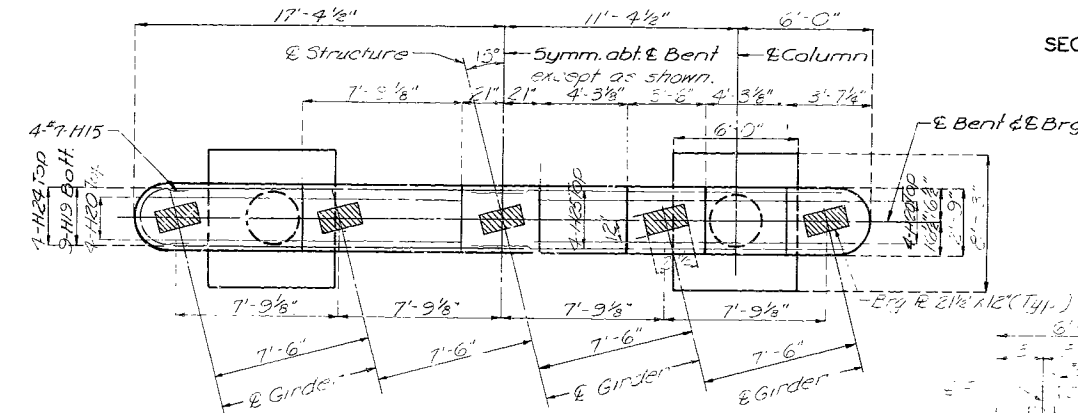
ELEVATION



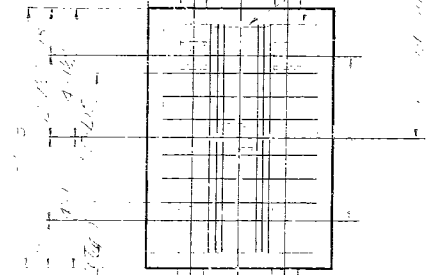
SECTION A-A



ELEVATION



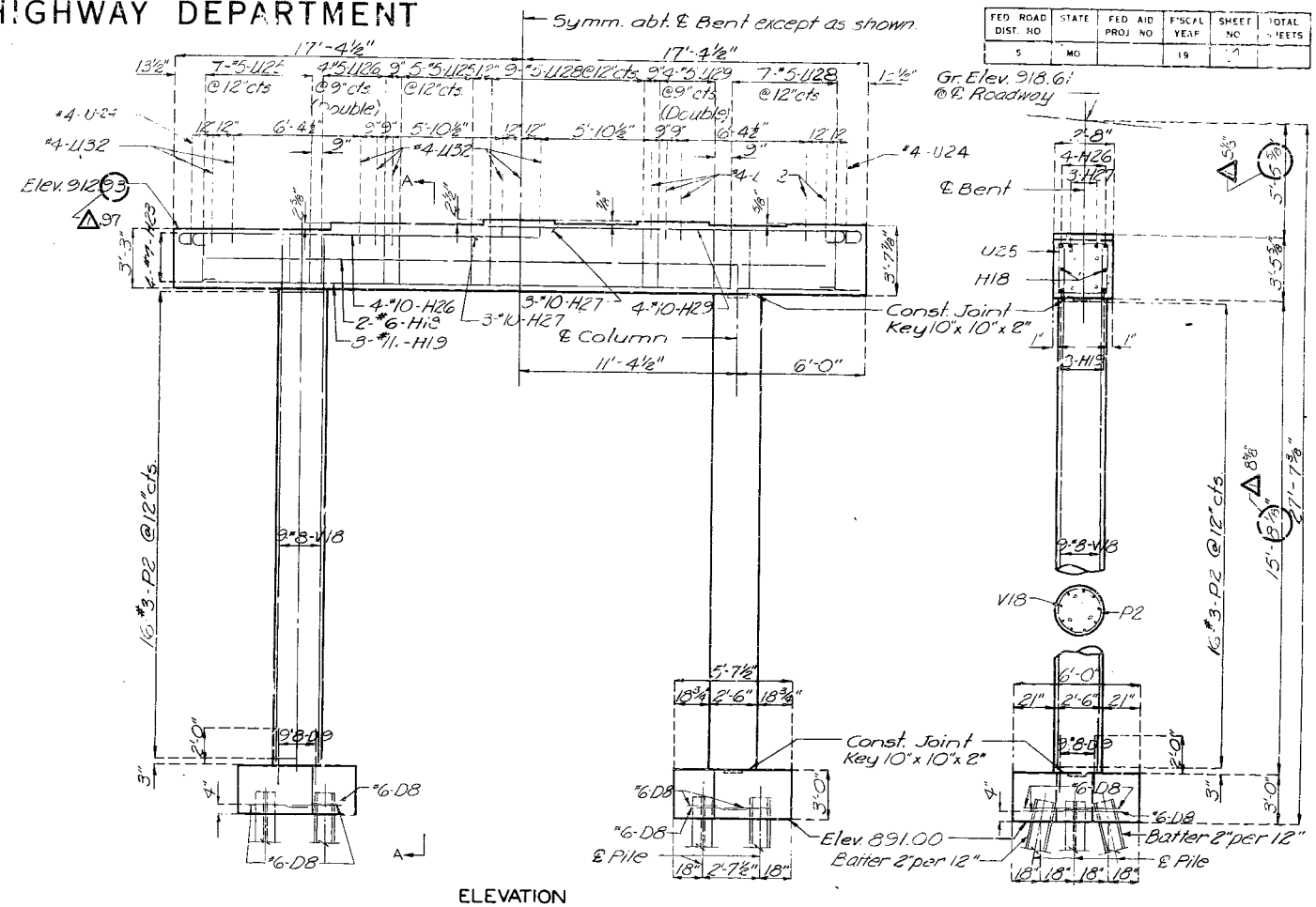
SECTION B-B



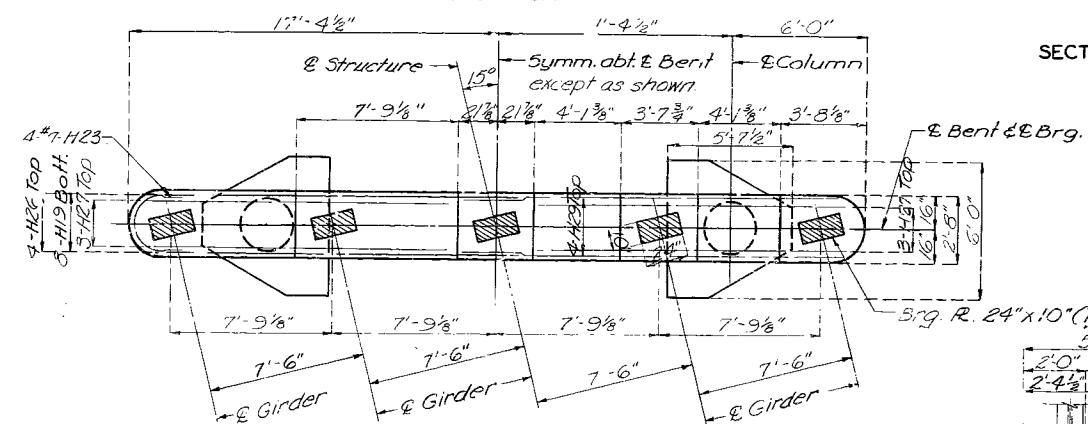
DETAIL OF FOOTING BENT NO. 3 SHOWING REINFORCEMENT



## MISSOURI STATE HIGHWAY DEPARTMENT



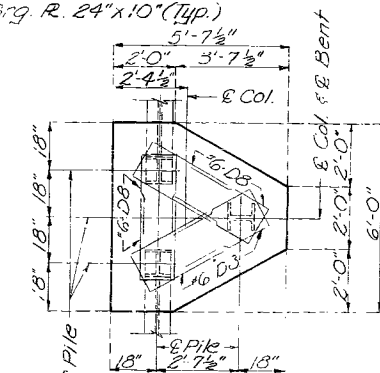
ELEVATION



SECTION A-A

PLAN

DETAILS OF INTERMEDIATE BENT NO. 4



DETAIL OF FOOTING BENT NO.4  
SHOWING REINFORCEMENT

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

Sheet No. 7 of 14.  $\Delta$  Revised July 9, 1974

HOLT COUNTY

A-1906

95

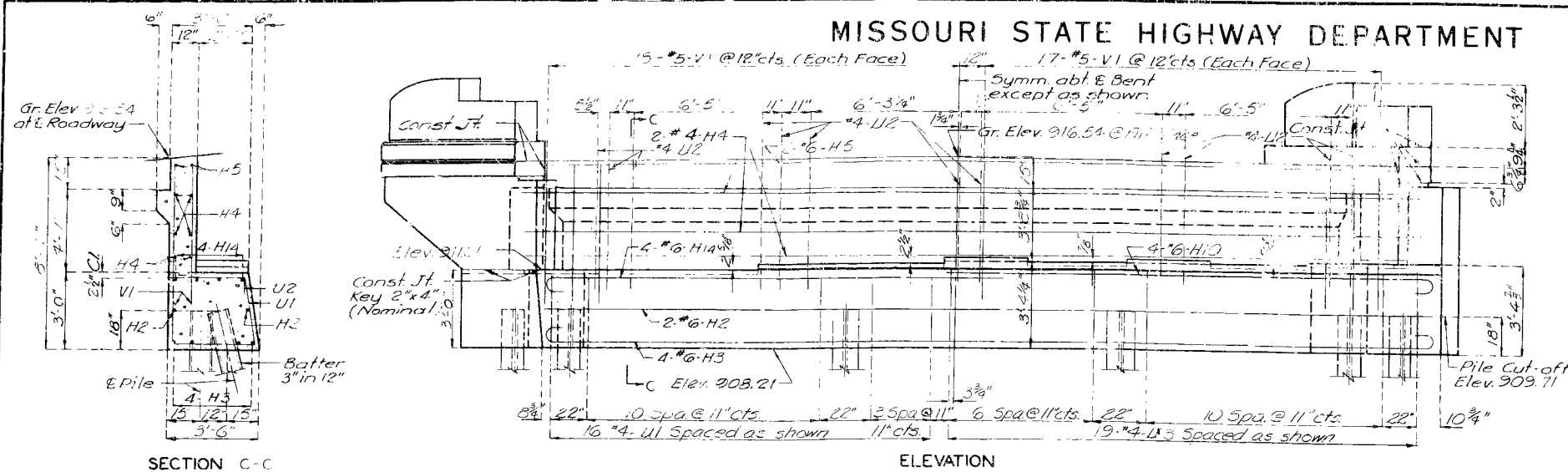
NO. 191	REVISED
MARCH 1964	APRIL 1969

DETAILED *May 1971* BY *Saunier*  
CHECKED *1-12-71* BY *R.L.*

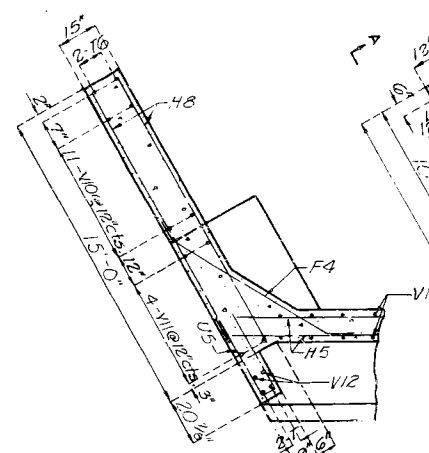
Note: Field bending shall be required at wings for #6 H bars in backwalls with Expansion Device and for F bars when necessary to conform to slope of wing.

See bridge rail sheet for reinforcement of end posts, parapets and curbs.

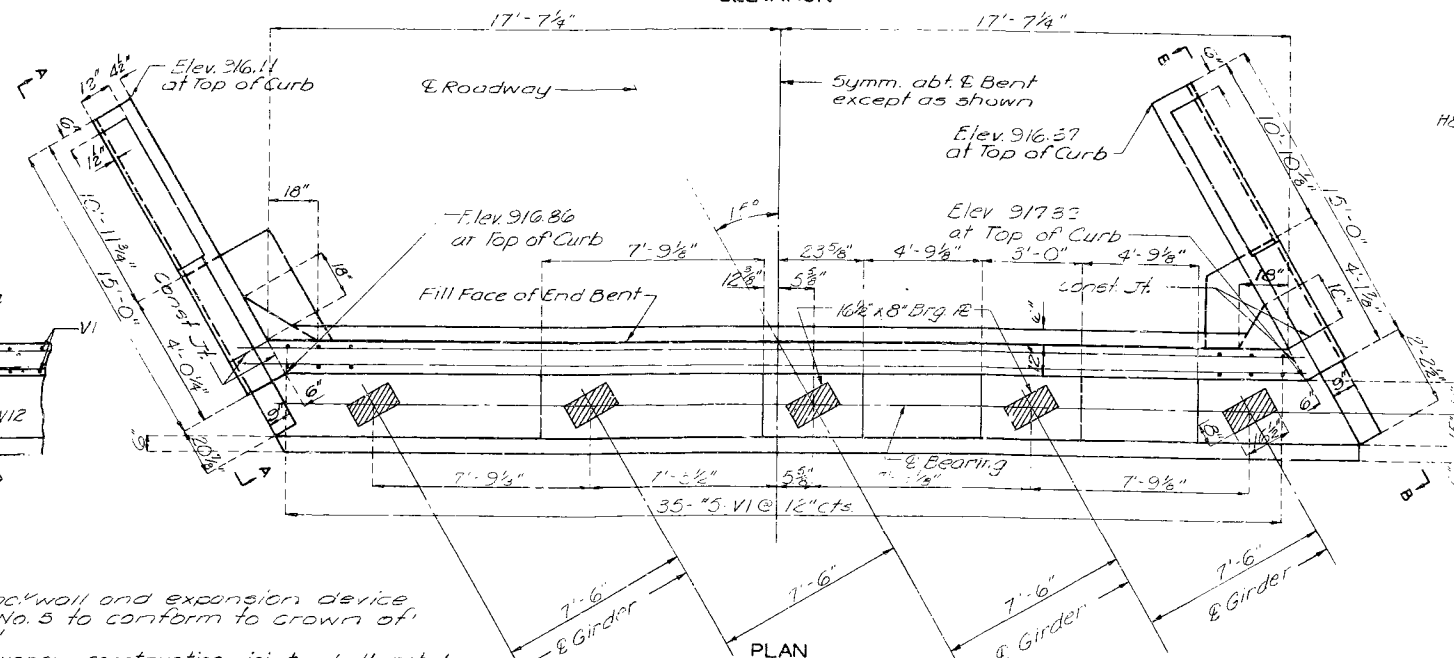
FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO		19	1	



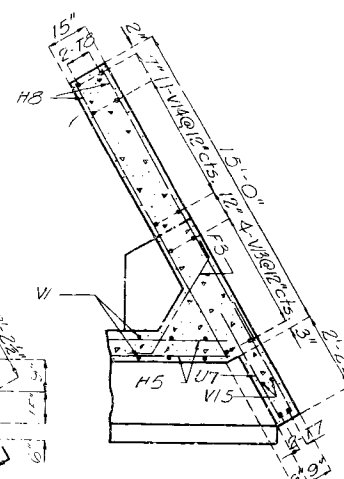
SECTION C-C



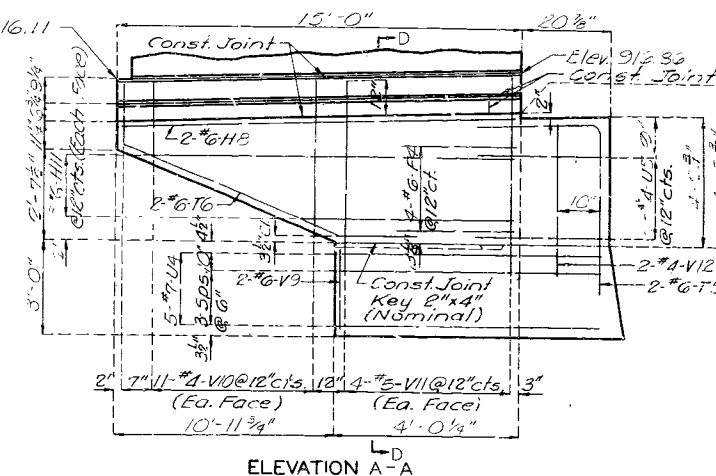
SECTION THRU WING



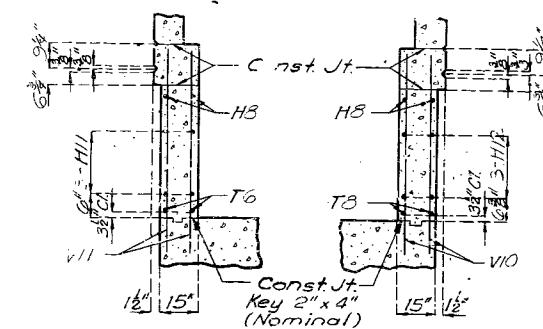
## PLAN



SECTION THRU  
WING

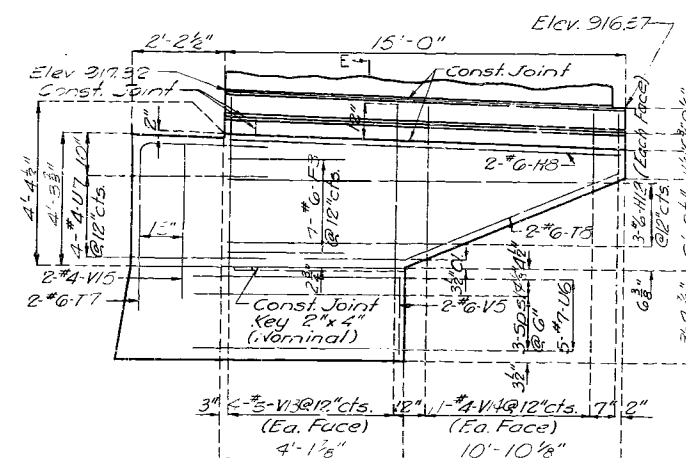


ELEVATION A-A



PART SECTION D-D

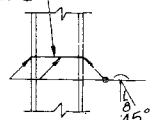
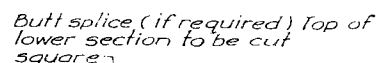
PART SECTION E-E



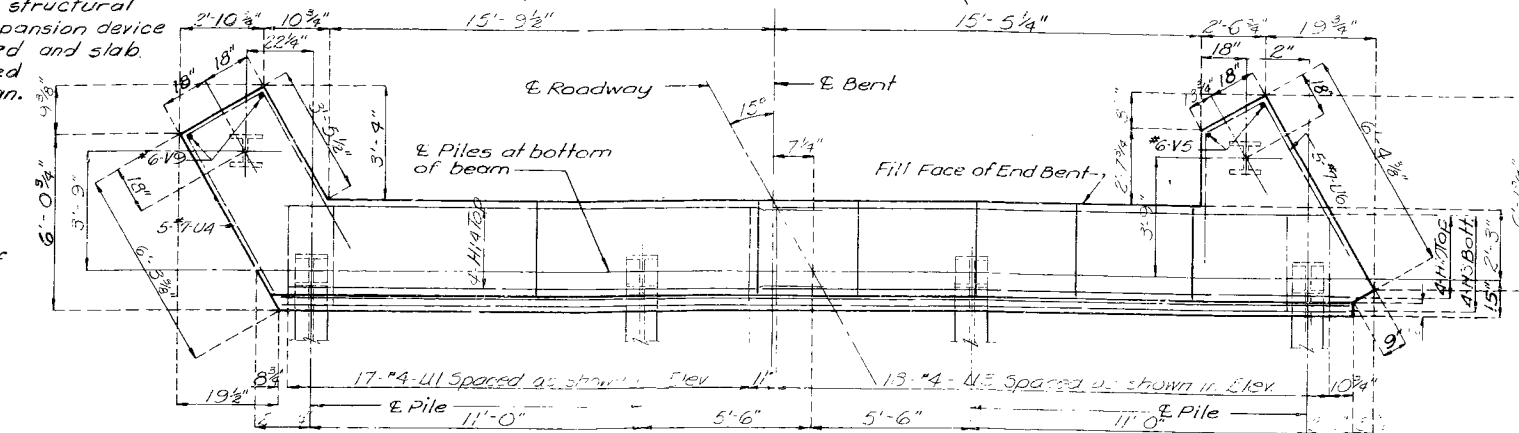
ELEVATION B-B

Note: "Top of bac." wall and expansion device for end bent No. 5 to conform to crown of roadway slop."

Backwall above upper construction joint shall not be poured until the structural steel of the expansion device has been installed and slab has been poured in adjacent span.



STEEL PILE SPLICE



PLAN OF BEAM  
(BELOW LOWER CONSTRUCTION JOINT)

DETAILS OF END BENT NO. 5

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

Sheet No. = of 12

HOLT COUNTY

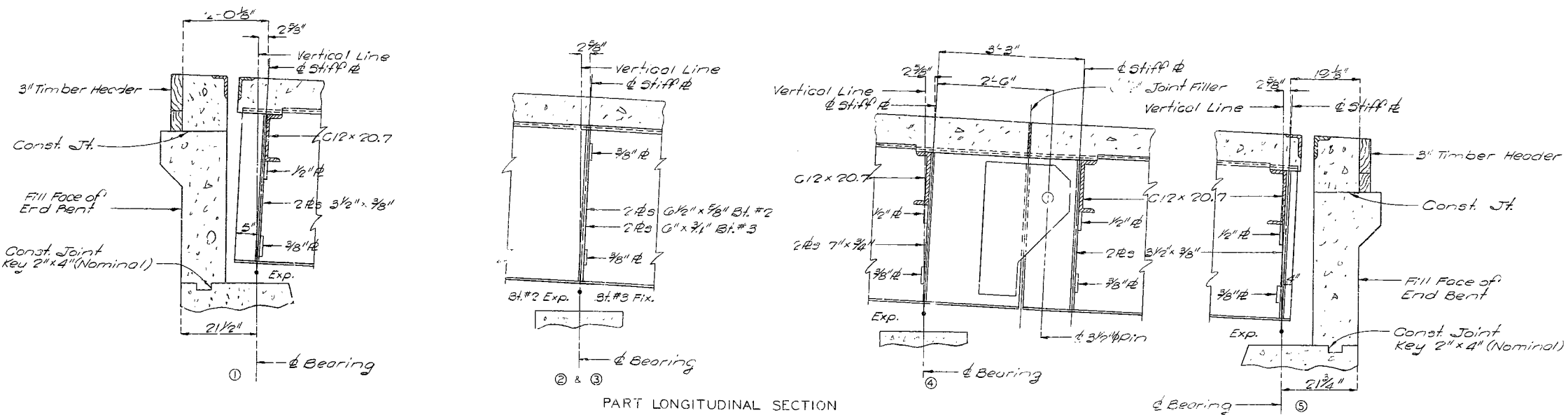
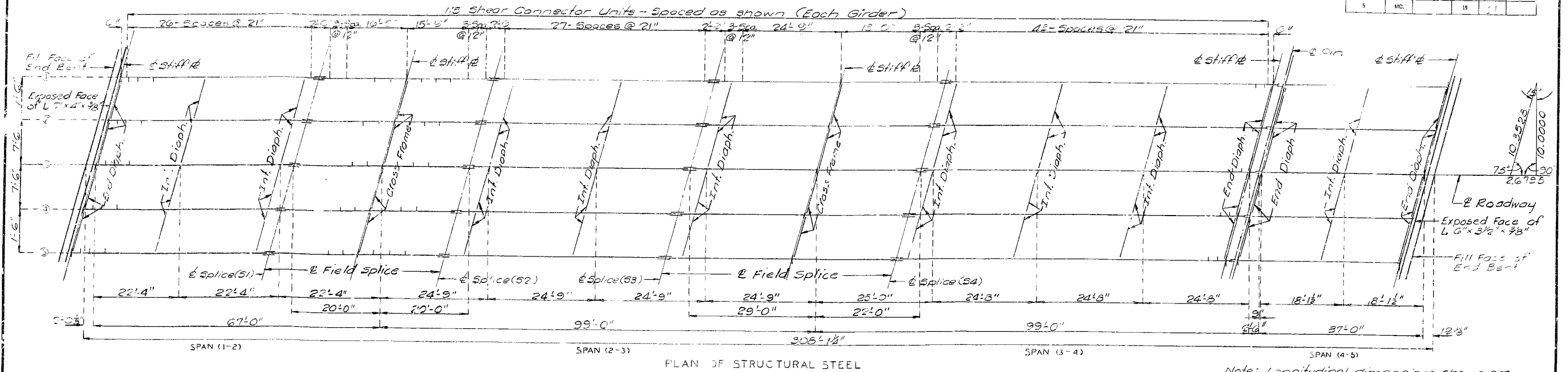
A-1906

STD. 12.3	REVISED
APRIL 1965	APRIL 1969

DETAILED *May* 1971 BY *Sounier*  
CHECKED *...* 1971 BY *...*

# MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1	



DETAILED APR. 1971 BY J. WILSON & J. BOWDEN  
CHECKED MAY 1971 BY J. L. J.

PART ANCHOR BOLT PLAN  
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 2 of 14.

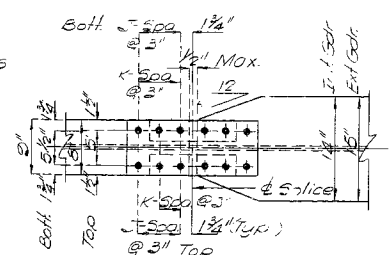
HOLT COUNTY

A-1906

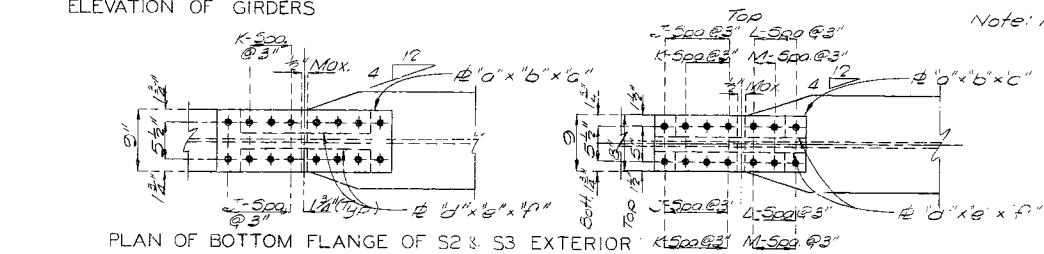
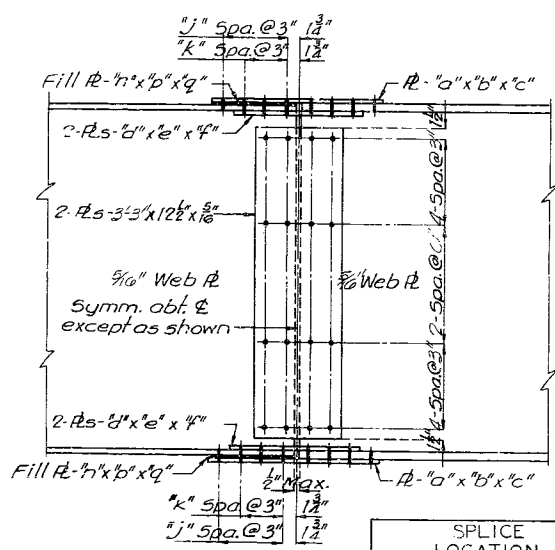
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
5	MO.		19	10	

[illegible]

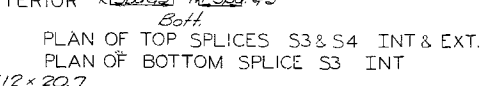
### ELEVATION OF GIRDERS



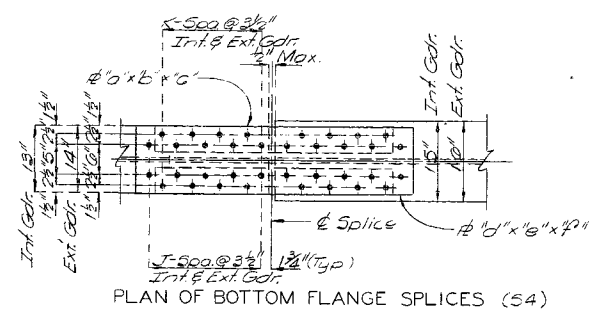
PLAN OF TOP & BOTTOM SPLICES S1 INT. & EXT.  
PLAN OF TOP SPLICE S2 INT. & EXT.  
PLAN OF BOTTOM SPLICE S2 INT.



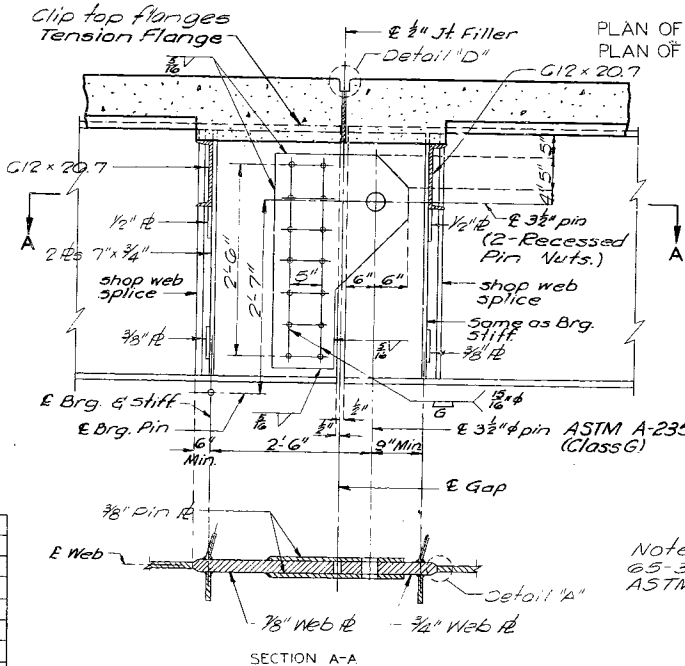
PLAN OF BOTTOM FLANGE OF S2 & S3 EXTERIOR



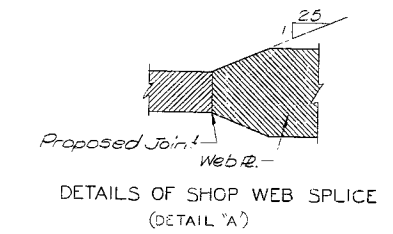
Note: Shop welded web splices may be fabricated by the contractor when detailed on the shop drawings and approved by the engineer. No additional payment will be made for optional shop welded web splices.



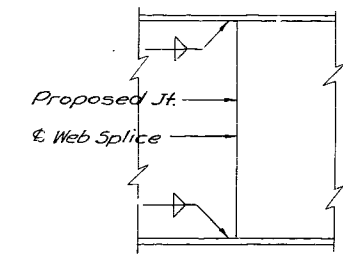
PLAN OF BOTTOM FLANGE SPLICES (54)



PIN PLATE CONNECTION

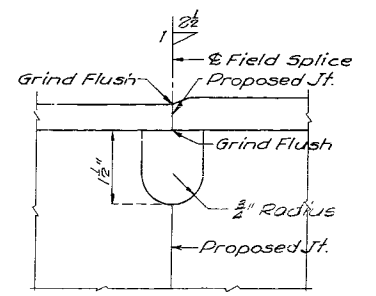


DETAILS OF SHOP WEB SPLICE  
(DETAIL "A")



SHOP WEB SPLICE

Note: For detail of field flange splice see sheet No. 11 of 14.



WELDED FIELD SPLICE

SPLICE LOCATION	TABLE OF DIMENSIONS - FIELD SPLICES												
	a	b	c	d	e	f	j	k	n	p	q	r	m
51 & 52 (Int. & Ext.) Top	5"	3/8"	13 3/4"	3"	3/8"	12 3/4"	2	1	8"	3/8"	9"		
51 Bott. (Same as 51 Top)													
52 Bott. Int. Gdr.	9"	3/8"	13 3/4"	3 1/2"	3/8"	15 1/2"	2	2	9"	3/8"	9"		
52 Bott. Ext. Gdr.	9"	1/2"	2' 0 1/4"	3 1/2"	3/8"	18 1/2"	3	2	9"	1/2"	12"		
53 & 54 (Int. & Ext.) Top	8"	3/8"	21 1/2"	3"	3/8"	15 1/2"	3	2	8"	3/8"	12"		1
53 Bott. Int. Gdr.	9"	3/8"	21 1/2"	3 1/2"	3/8"	21 1/2"	3	2	9"	3/8"	12"		2
53 Bott. Ext. Gdr.	9"	1/2"	2' 0 1/4"	3 1/2"	3/8"	18 1/2"	3	2	9"	1/2"	12"		
54 Bott. Int. Gdr.	13	1/2"	5' 2 1/2"	5 1/2"	1/2"	4' 7 1/2"	8	7	13"	1/2"	2' 7"		
54 Bott. Ext. Gdr.	14"	1 1/2"	5' 2 1/2"	6"	1 1/2"	5' 2 1/2"	9	8	14"	1 1/2"	2' 5 1/2"		

Note. Field splices may be field welded or field bolted.

Note Castings to be ASTM A27, Grade 65-35 or equal. Forgings to be ASTM A235, Class E or equal.

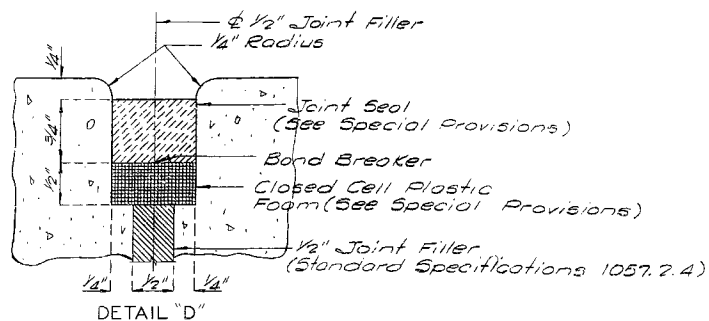
RECESSED PIN NUT  
(Cast or Forged Steel)

Dimension Per AISC

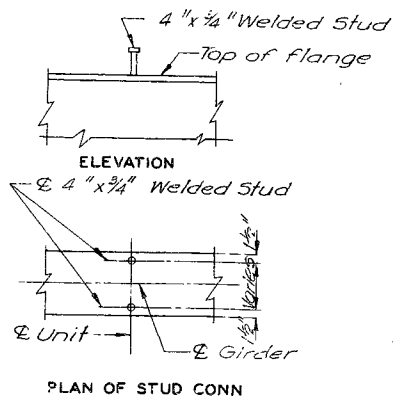
# MISSOURI STATE HIGHWAY DEPARTMENT

Note: Weight of 354 lbs. of shear connectors is included in weight of fabricated structural Carbon Steel.

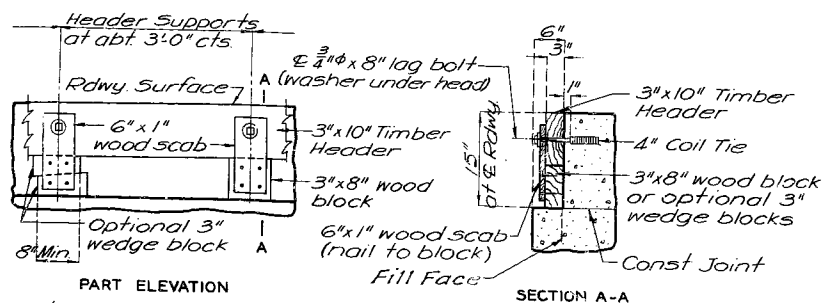
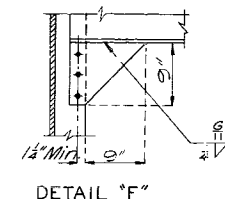
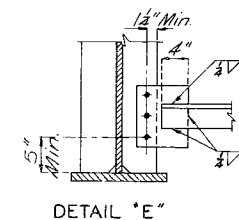
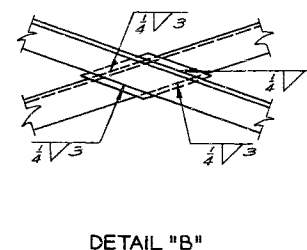
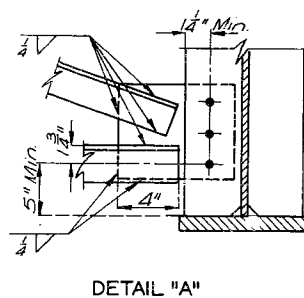
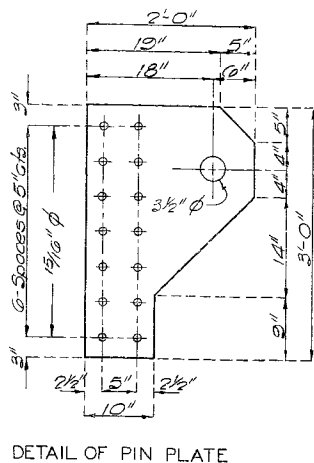
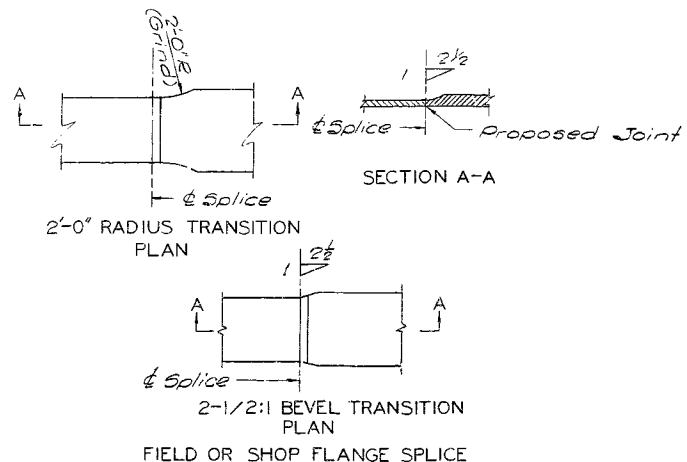
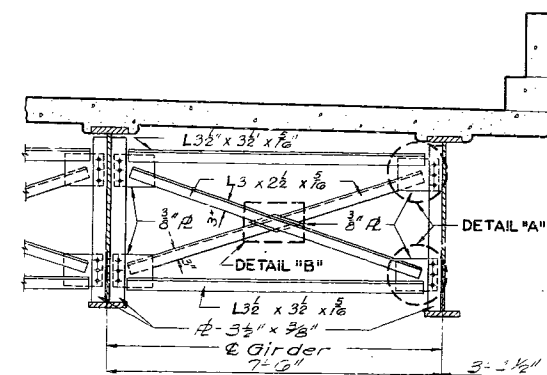
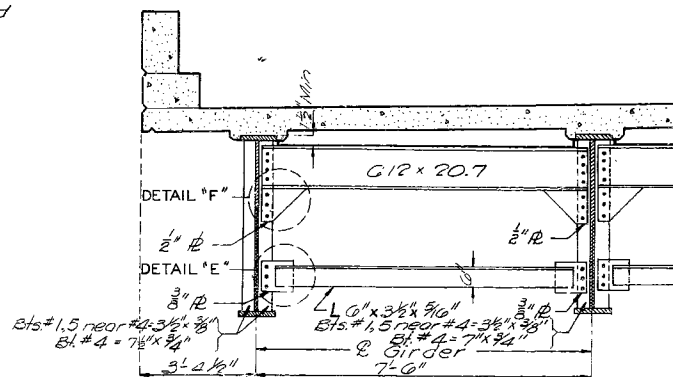
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	11	



Note: For detail "D" see sheet No. 10 of 14.

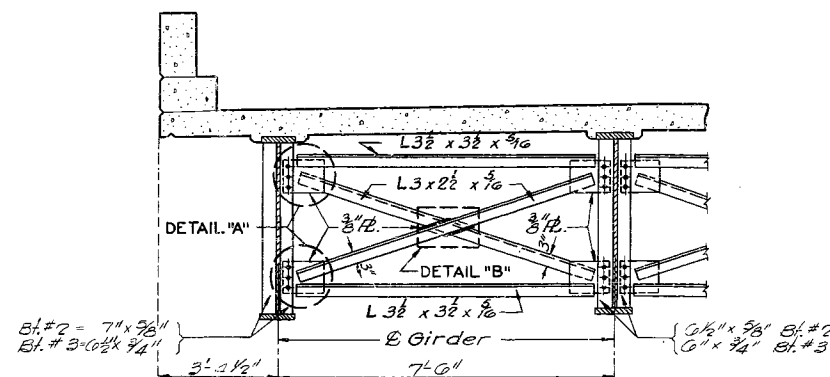


DETAILS OF SHEAR CONNECTORS



Note: Cost of timber headers complete in place to be included in price bid for concrete.

DETAILS OF TIMBER HEADER AT END BENTS



# MISSOURI STATE HIGHWAY DEPARTMENT

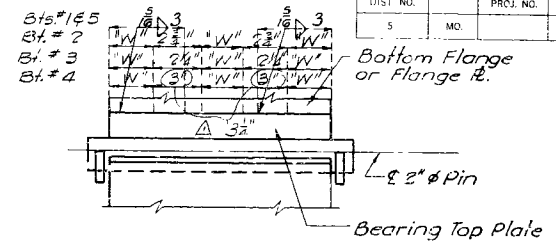
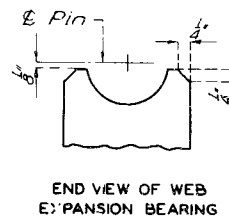
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1-7	

## NOTES: TYPE "D" BEARINGS

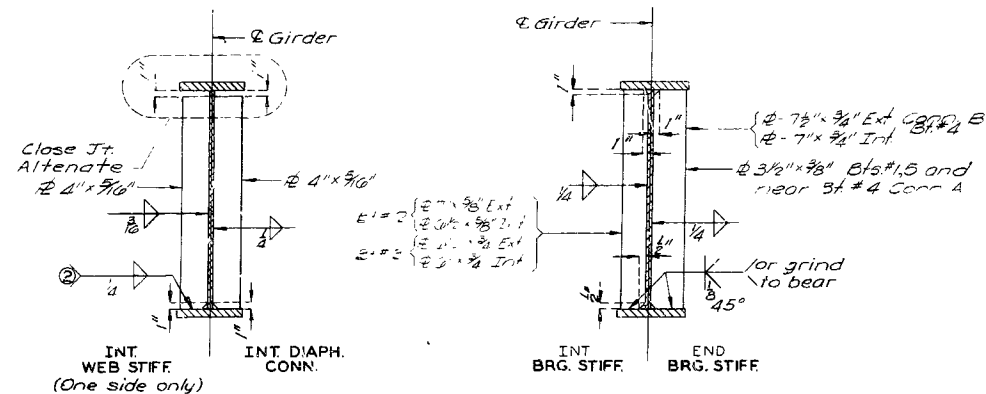
Lead plates under bearings shall be approximately 8" thickness and weigh 8" sq. ft. Cost of lead plates shall be included in price bid for other items. "Estimated weight" does not include weight of anchor bolts.

Anchor Bolts for Type "D" Bearings shall be 1 1/2" swaged bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for Fixed Bearings, no nuts for Expansion Bearings.

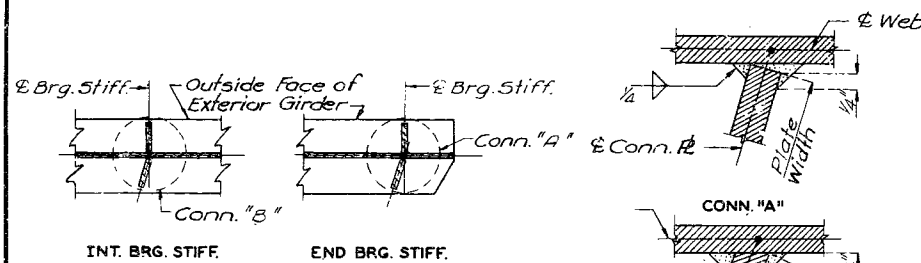
"f" indicates machine finish surface.



## WELDING DETAILS

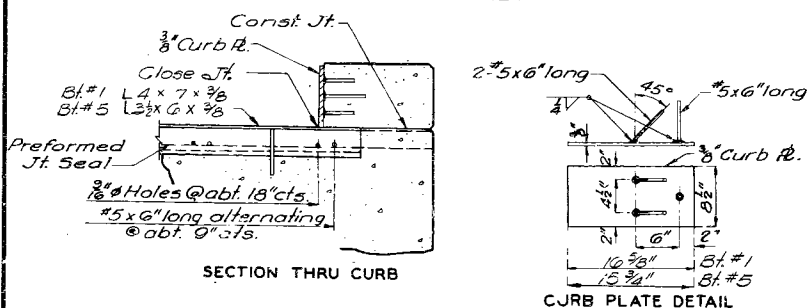


② Weld to compression flange as located on Elevation of Girder. Weld may be omitted on interior girders when Int. Diaph. Conn. R. is required on both sides.



## TYPICAL LOCATION DETAILS

## WELDING DETAILS



## SECTION THRU CURB

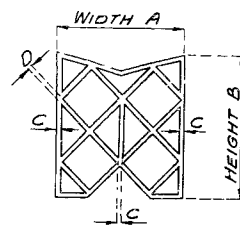
## CURB PLATE DETAIL

TYPE	GROOVE SIZE		SEAL SIZE *	
	①	②	WIDE	HIGH
A' OR B'	2 3/8"	5 3/4"	4"	4 3/8"
A' OR B'	2 1/2"	4 1/2"	3 1/2"	3 1/2"

\* See table of Seal Tolerances.

Note: Decrease by 1/8" Bt. #1 & 1/4" Bt. #5 for every 10° increase in temperature or increase by 1/8" Bt. #1 & 1/4" Bt. #5 for every 10° decrease in temperature.

Note to Fabricator: The Contractor shall select one of the seals listed above for a given joint. See Special Provisions for the requirements of this seal before detailing the Shop Drawings for this material.

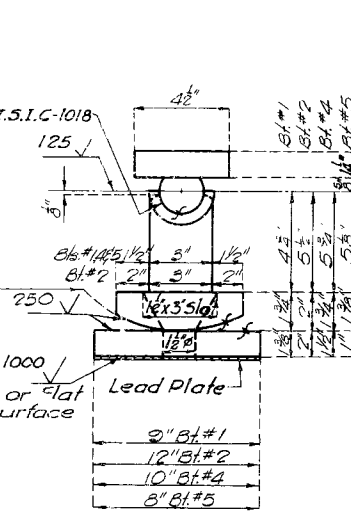


## TYPE A

## TYPE B

TYPE	TABLE OF SEAL TOLERANCES				
	A WIDTH	B HEIGHT	C SHELL	D WEBS	E WEBS
BT NO. 1	4.000 +0.312 -0.000	4.718 ±0.250	0.250 +0.046 -0.031	0.137 +0.046 -0.015	0.111 +0.046 -0.031
BT NO. 5	5.500 +0.350 -0.000	5.500 ±0.127	0.137 +0.046 -0.015	0.137 +0.046 -0.015	0.137 +0.046 -0.015

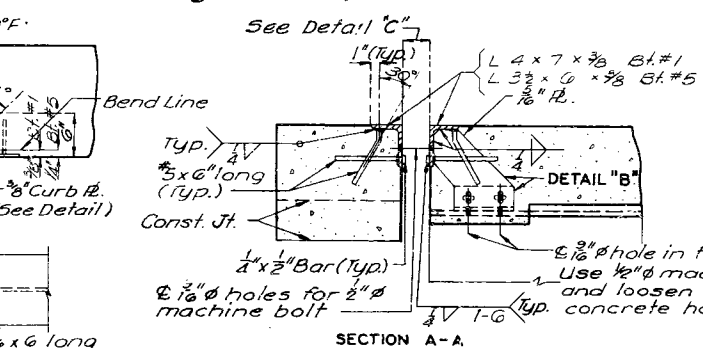
Note: This drawing is not to scale. Follow dimensions.



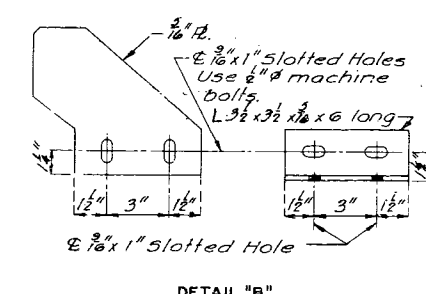
Required: 5-Bent #1  
5-Bent #2  
5-Bent #4  
5-Bent #5

## TYPE "D" BEARINGS

(Estimated Weight 2,200#)



## SECTION A-A



## DETAIL "B"

Note: Expansion Device shall be fabricated in one section except that when the length is over 50 feet, splicing is permissible. The expansion device shall be bent to conform to crown and grade of roadway.

No. 5 bars for expansion device shall be structural grade.

Approved stud welded anchors or deformed bar anchors (ASTM A496) may be used in lieu of #5 bars shown.

Preformed elastic joint seal shall be installed before curbs are poured.

#6 Curb plate shall be installed with curb.

Payment for furnishing and placing structural steel for expansion device shall be made under price bid for Fabricated Structural Carbon Steel.

Payment for furnishing and placing preformed joint sealer shall be made under price bid for other items. See Special Provisions.

EXPANSION DEVICE AT END BENT NO. 1 & 5

DETAILED April 1971 BY BOWDEN  
CHECKED May 1971 BY RIKS

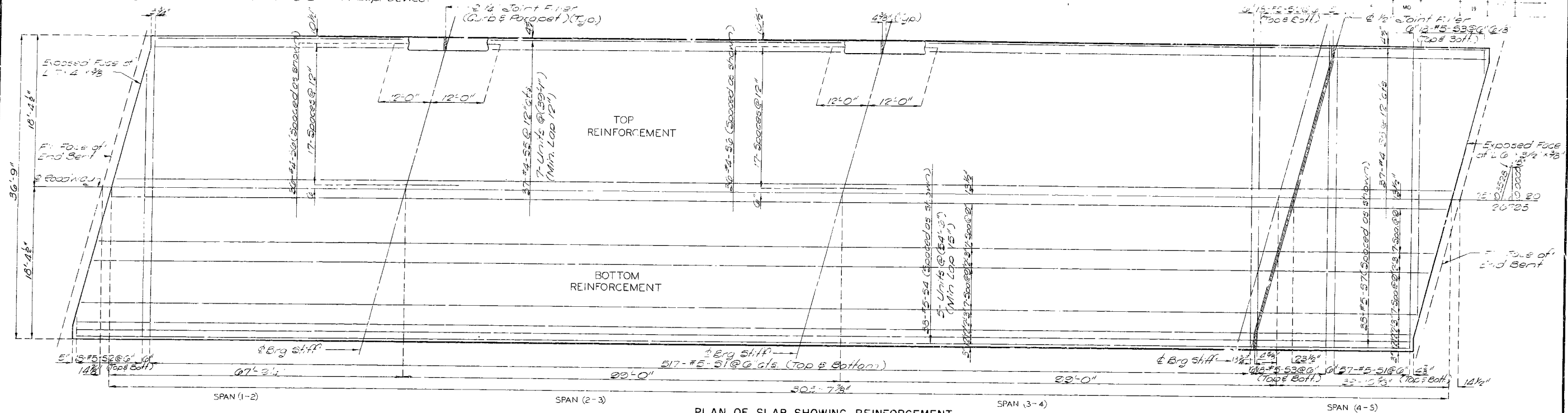
Sheet No. 12 of 14. Rev 12-5-72

HOLT COUNTY

A-1906

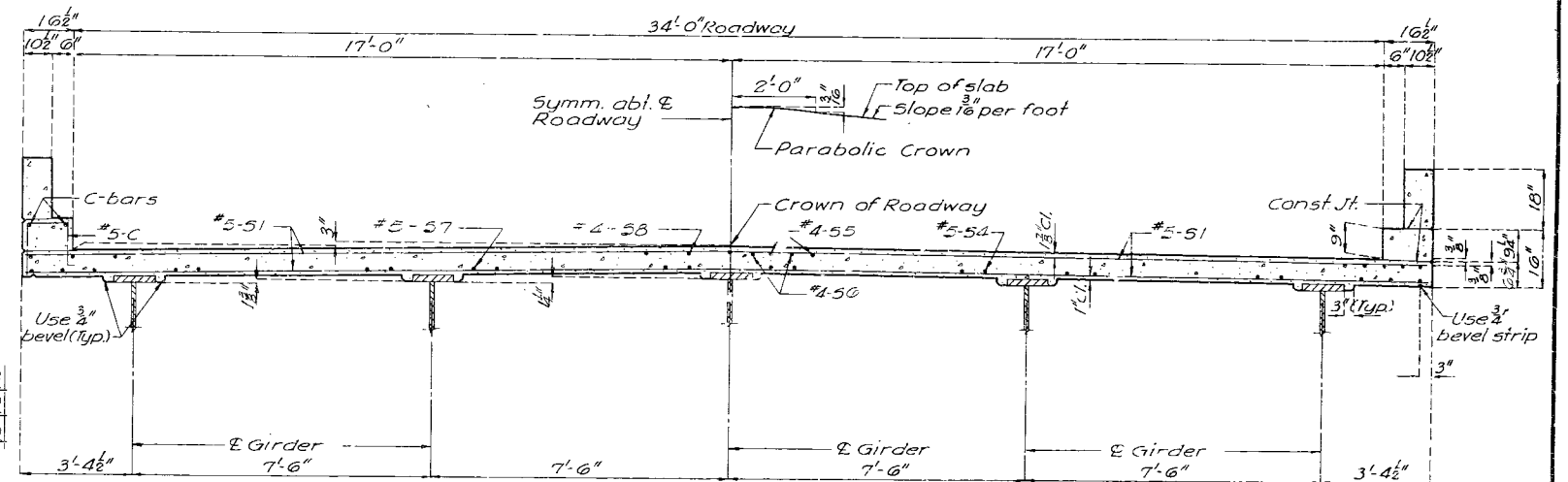
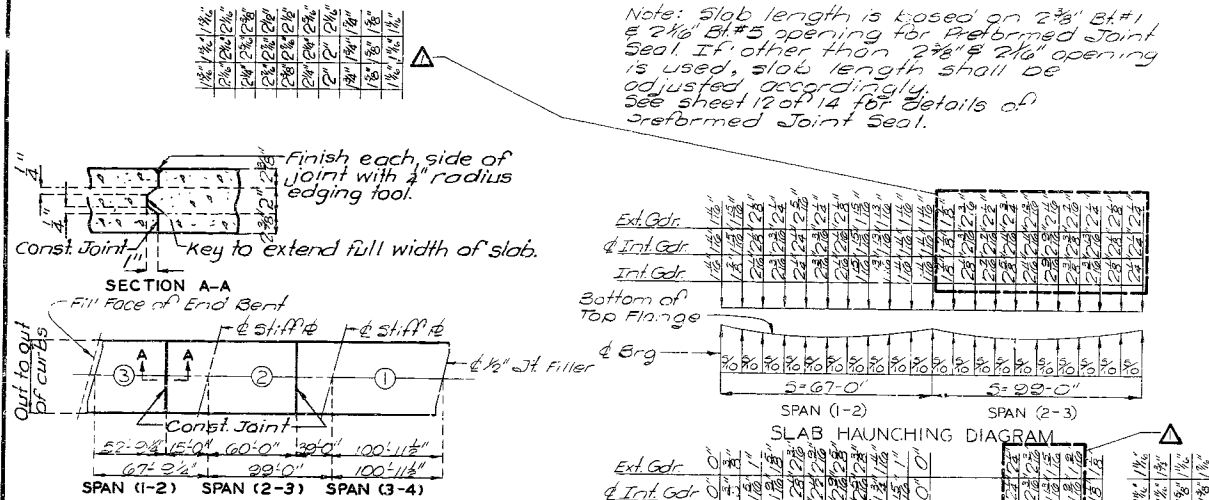
# MISSOURI STATE HIGHWAY DEPARTMENT

Note: Longitudinal Reinforcing steel shall be placed so that ends shall not be more than 1" from 3/4" L at Exp. Device.



PLAN OF SLAB SHOWING REINFORCEMENT

Note: Longitudinal dimensions shown are taken parallel to grade at crown of roadway.



HALF SECTION NEAR E SPAN (4-5)

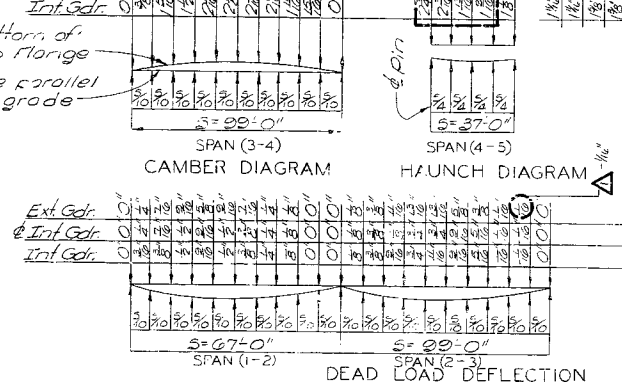
HALF SECTION NEAR INT. BENT NO. 3

Sequence of Pours			
Basic Sequence	1	2	3
End to 2	1 to 3	2 to End	
Alternate "A" Pours	1+2	3	
End to 3	2 to End		
Alternate "B" Pours	1+2+3		
End to End			

Note: The contractor shall pour and satisfactorily finish the slab pours at a rate of not less than 55 cubic yards per hour, unless he elects to use an approved retarder to relax the set of the concrete to 2.5 hours in which case he may reduce his pouring and finishing rate to not less than 25 cubic yards per hour.

SLAB POURING SEQUENCE

DETAILED May 1971 BY BOWDEN  
CHECKED May 1971 BY R.L.S.

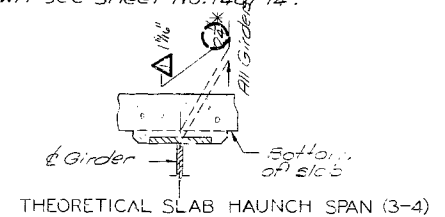


Note: This drawing is not to scale. Follow dimensions.

15 % Structural Steel - Continuous Spans  
11 % Structural Steel - Simple Span  
(% of dead load deflection due to weight of structural steel.)

\* Dimension may vary if girder camber after erection differs from plan camber by more than the % of D.L. deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variable haunching.

Note: Span (4-5) shall be poured before pouring 1-2, 3, 4. shown in slab pouring sequence. Note: Camber shall be 1/4 inch for dead load deflection due to concrete and structural steel only.



THEORETICAL SLAB HAUNCH SPAN (3-4)

HOLT COUNTY

A-1906

Sheet No. 13 of 14. Revised July 9, 1974



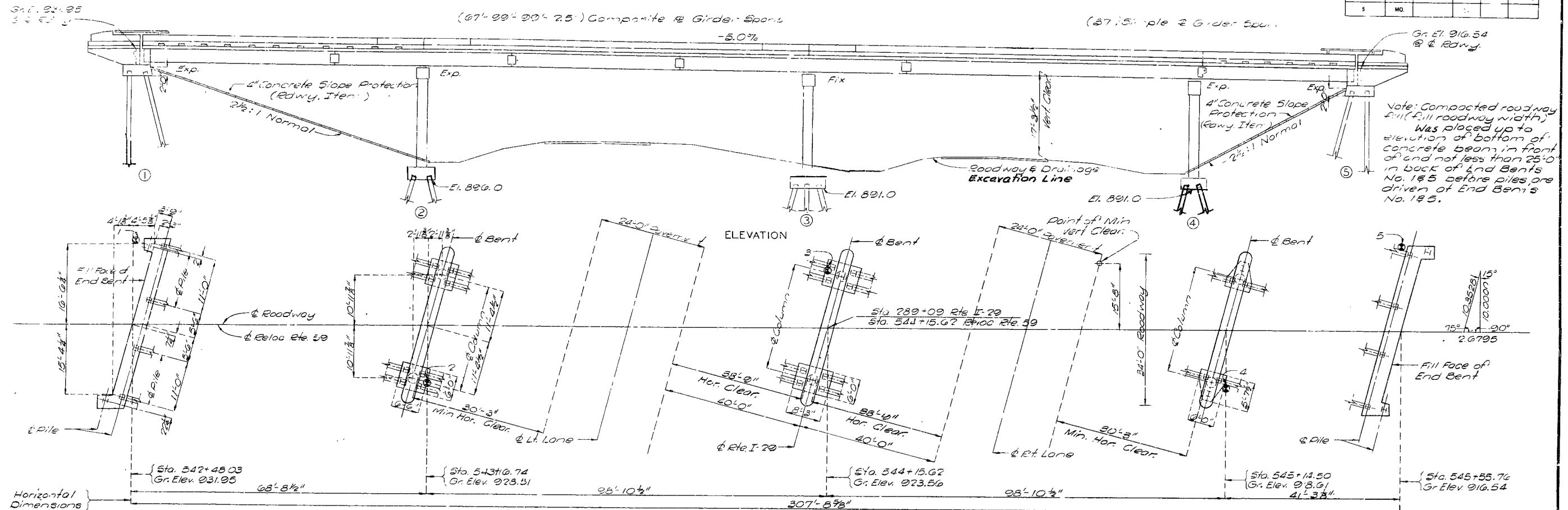
FED ROAD DIST NO	STATE	FED AID PROJ. NO	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	1	

## HOLT COUNTY

# MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

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



## GENERAL NOTES:

Design Specifications: A.A.S.H.O. - 1960.

Design Loading:

H15-44 15#/sq. ft. Future Wearing Surface  
Eort 120# Equivalent Fluid Pressure 30"  
Fatigue Stress: Class II

Design Unit Stresses:

Class B Concrete (substructure)  $f'_c = 1,200$  psi  
Class B1 Concrete (superstructure)  $f'_c = 600$  psi  
Reinforcing Steel  $f_s = 20,000$  psi  
Structural Steel  $f_s = 20,000$  psi  
Structural Steel (A.S.T.M. A-572-66) Grade 50  $f_s = 27,000$  psi  
Steel Piles  $f_b = 20,000$  psi  
Fabricated Steel:

Field connections, High Strength Bolts  $\frac{3}{4}" \phi$ , holes  $\frac{1}{16}" \phi$  except as noted.  
Paint: Shop, one coat red lead, in accordance with Std. Spec. 712.12 and 1045.4 or 1045.5; surface of shear connectors and top surface of upper girder flange plates in contact with concrete was painted.  
Field, two coats by contractor, first coat brown, second coat aluminum in accordance with Std. Spec. 712.12.

All concrete and reinforcement in end posts, parapets and curbs was included with superstructure quantities.  
Payweight for fabricated steel was based on welded field splices regardless of type used.  
All reinforcing bars in top of substructure beams or caps, as spaced to clear anchor bolts for bearings by at least  $\frac{1}{2}"$ .

PILE DATA					
BENT NO.	1	2	3	4	5
Pile Type and Size	HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
Number	6	6	10	6	6
Average Length	110'	83'	83'	83'	100'
Bearing	Tons	P-Ref.	P-Ref.	P-Ref.	P-Ref.
Hammer Energy Max.	19,150	19,150	19,150	19,150	19,150

Minimum energy requirement of hammer based on plan length and design bearing value of piles.  
All pile were driven to practical refusal.

B.M. Elev. 917.27 - Sta. 545+29.7 - 16' R/L on Rt. Curb @ F.F. Face Abut #5

## BRIDGE UNDER RELOCATED ROUTE 59

STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG

ABOUT 1 MILE NORTH OF CRAIG.

PROJECT NO. I-29-2(71) RTE. I-29 STA. 289+09.00

HOLT COUNTY

SUBMITTED BY: W. B. Caney DATE: 6-26-72

APPROVED BY: Robert H. Hunter DATE: 6-26-72

STD 611.6J
STD. 706.30A
A-1908

FINAL QUANTITIES			
ITEM	SUBSTR.	SUPERSTR.	TOTAL
Class I Excavation	CU.Yd.	89.3	89.3
Structural Steel Pile (10")	Lin.Ft.	3257	3257
Class B Concrete	CU.Yd.	142.0	142.0
Class B1 Concrete	CU.Yd.	310.0	310.0
Reinforcing Steel	Lb.	26870	78,480
Fabricated Structural Carbon Steel	Lb.	181,900	181,900
Fabricated Structural Low Alloy Steel	Lb.	28,940	28,940
Painting (2 Coats)	Sq.Yd.	105.1	105.1
Bridge Rail (One Tube)	Lin.Ft.	649	649

DESIGNED Dec. 1970 BY Anon  
DETAILED May 1971 BY BOWDEN  
CHECKED May 1971 BY Etk

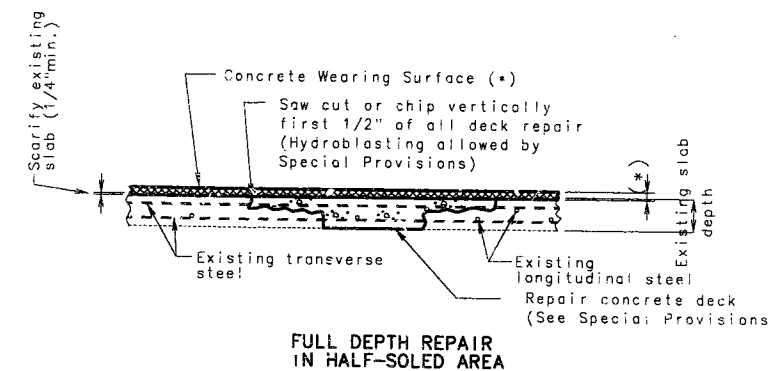
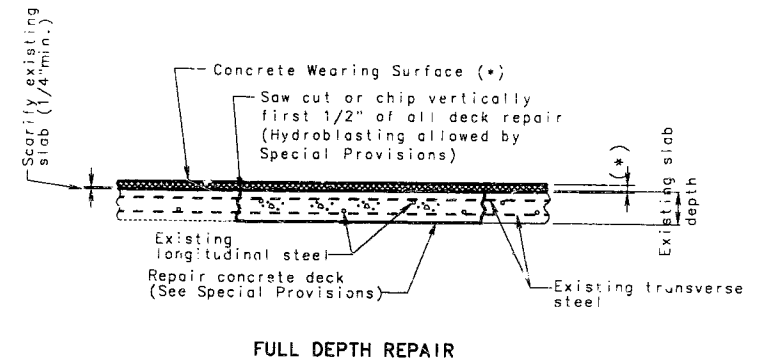
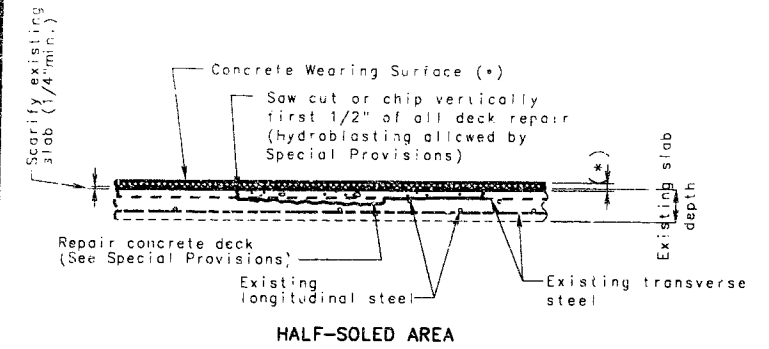
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 14. FINAL PLANS

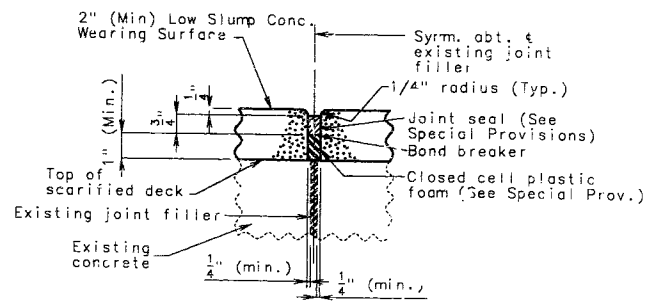
67

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

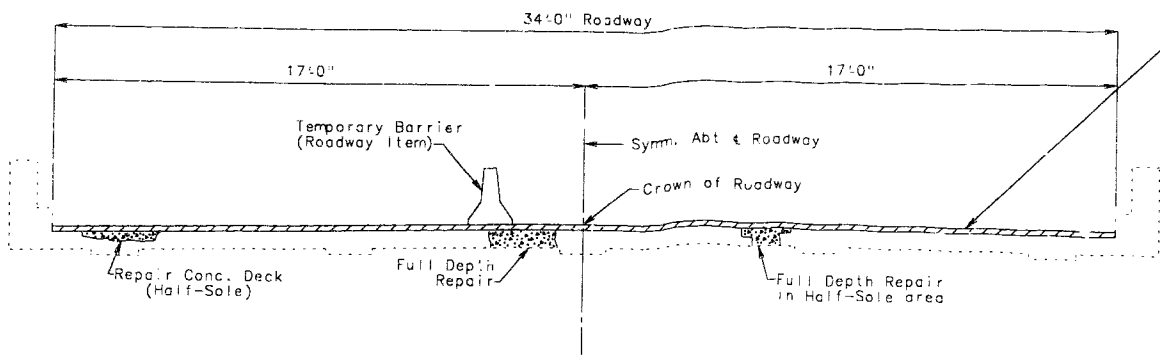
STATE	PROJ. NO.	SHEET NO.
MO.		5
SEC./SUR. 2	TWP. 62N	RGE. 10W



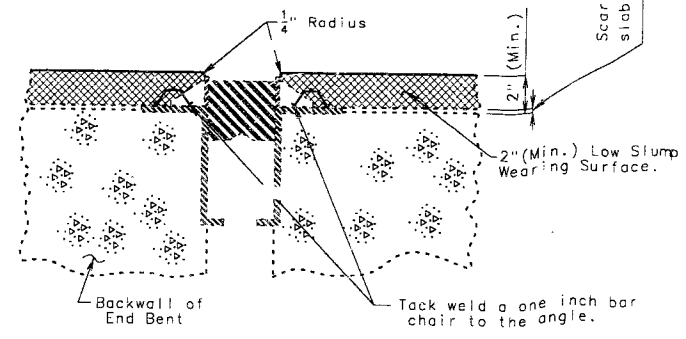
\* 2" (Min.) Low Slump Concrete Wearing Surface.



DETAIL OF TRANSVERSE JT. NEAR BT. NO. 4



SECTION THRU SLAB



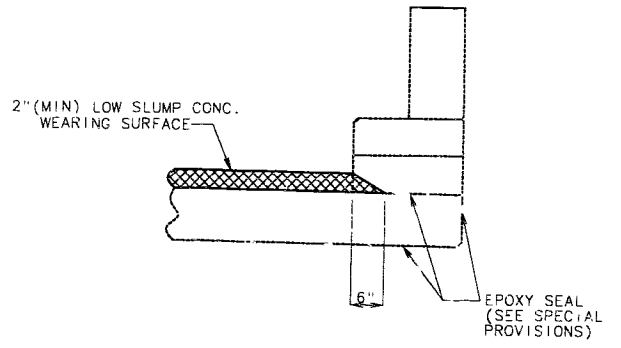
PART CROSS SECTION THRU ARMORED EXPANSION JOINT AT END BENT NO. 1 & 5

ESTIMATED QUANTITIES		
ITEM		TOTAL
Asphalt Removal (Bridges)	Sq. Ft.	10462
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	100
Full Depth Repair	Sq. Ft.	50
Low Slump Concrete Wearing Surface	Sq. Yd.	1163

SEE FINAL PLANS

GENERAL NOTES:

Traffic Maintained:  
Maintain one lane of traffic over structure during construction.  
Existing Work:  
Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.  
Approaches:  
Roadway surfaces adjacent to bridge ends to match bridge overlay. (See Rdwy. Plans)



TYPICAL SECTION OF EXISTING CURB SHOWING OUTLET

REPAIRS TO  
BRIDGE OVER RTE. 1-29  
STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG  
ABOUT 1 MILE NORTH OF CRAIG  
PROJECT NO. STA. 542+48.03  
JOB NO. J1P0721 R.T.E. 59  
HOLT COUNTY

STD.
STD.
A19062

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

SHEET NO. 1 OF 1

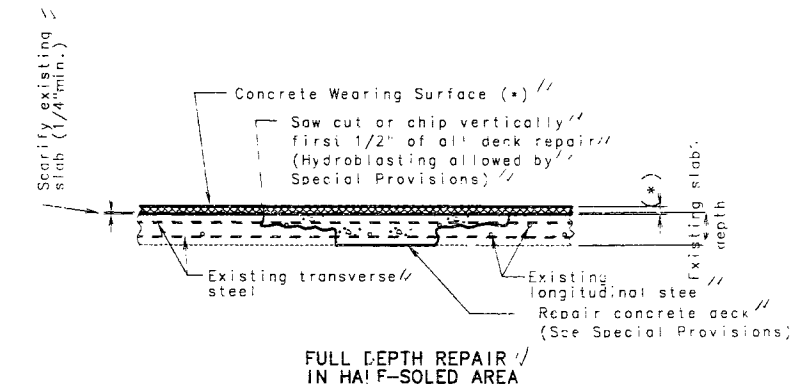
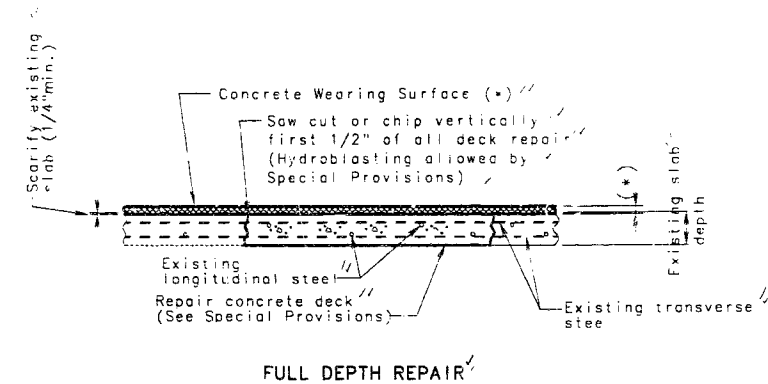
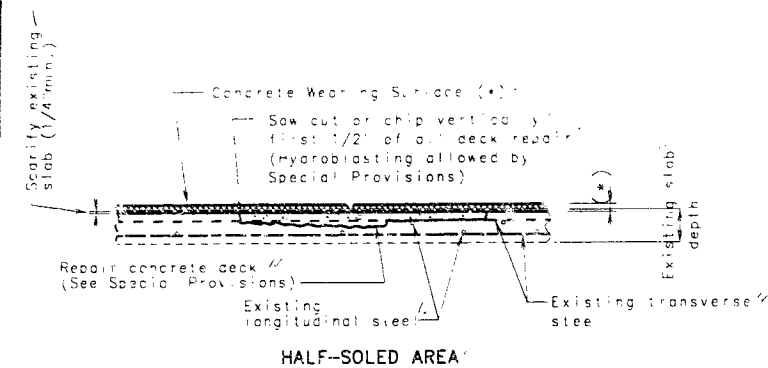
DATE: 5/10/84

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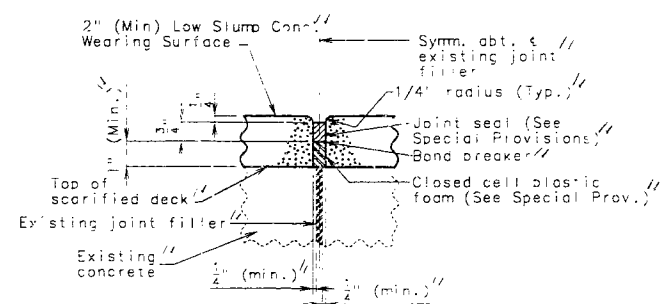
DESIGNED MAR. 1994  
DETAILED MAR. 1994  
CHECKED APR. 1994  
FRT SH. SEC 4, 1/5, A  
FRT SH. (P/S STR) REVISED  
FEB. 1991 AUG. 1991

# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

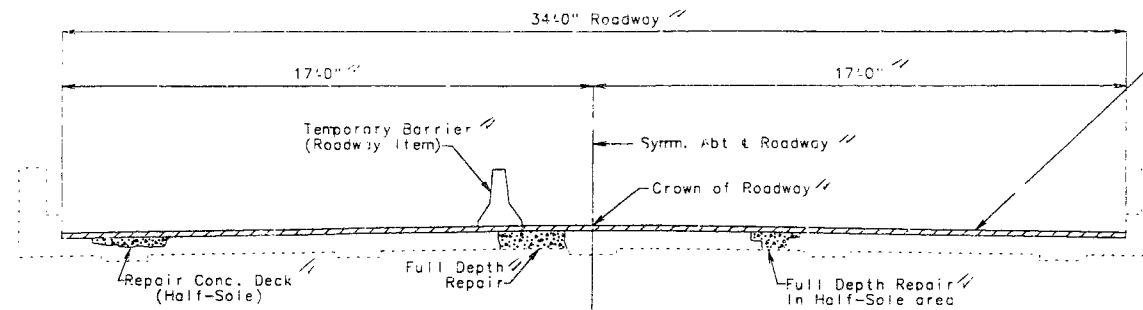
STATE MO  
 NO. 0044-830(10)M  
 SEC./SUR. 2



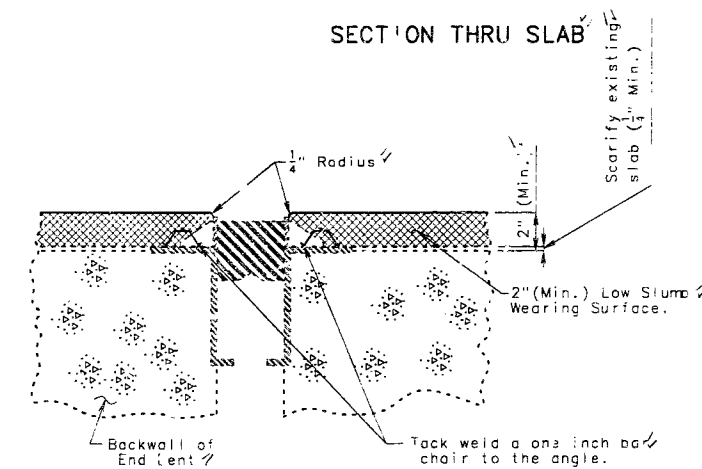
2" (Min.) Low Slump Concrete Wearing Surface.



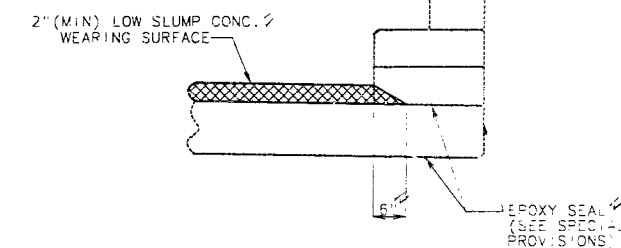
DETAIL OF TRANSVERSE JT. NEAR BT. NO. 4



SECTION THRU SLAB



PART CROSS SECTION THRU ARMORED EXPANSION JOINT AT END BENT NO. 1 & 5



TYPICAL SECTION OF EXISTING CURB SHOWING OUTLET

ESTIMATED QUANTITIES		
ITEM		TOTAL
Asphalt Removal (Bridges)	Sq. Ft.	10452
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	0
Full Depth Repair	Sq. Ft.	0
Low Slump Concrete Wearing Surface	Sq. Yd.	1163

REPAIRS TO  
 BRIDGE OVER RTE. 1-29  
 STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG  
 ABOUT 1 MILE NORTH OF CRAIG  
 PROJECT NO. STA. 542+48.03  
 JOB NO. J1P0721 RTE. 59  
 HOLT COUNTY

STD.  
 STD.  
 A19062

DESIGNED MAR. 1994  
 DETAILED MAR. 1994  
 CHECKED APR. 1994

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

SHEET NO. 1 OF 1

DATE: 5/10/94

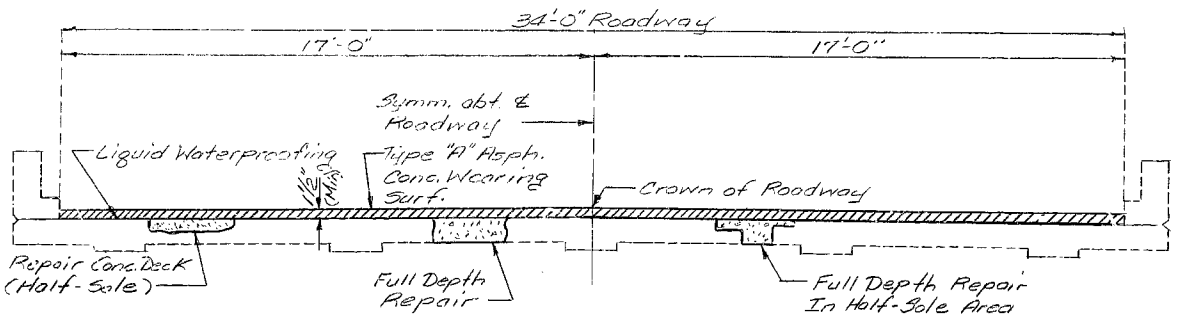
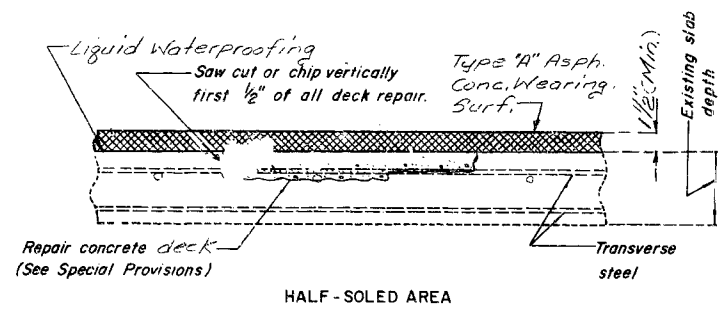
John MacArthur 10-17-94 B. Spack 10-17-94

40 218

REVISED: AUG. 1991  
 PREPARED BY: SEC 4  
 PREPARED BY: SEC 4

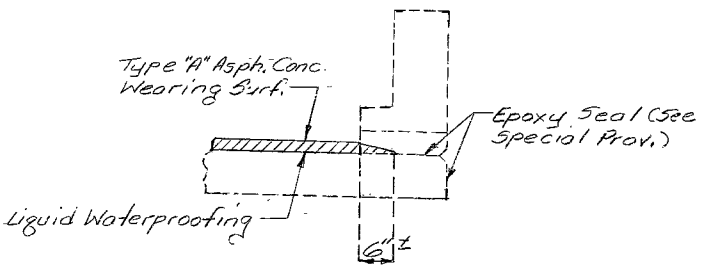
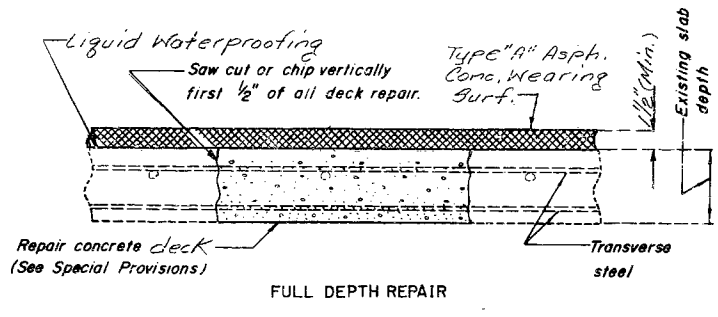
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO.	SHEET NO.
MO	1-S-59-401	9
SEC./SUR	2 TWP. 62N R. 40W	

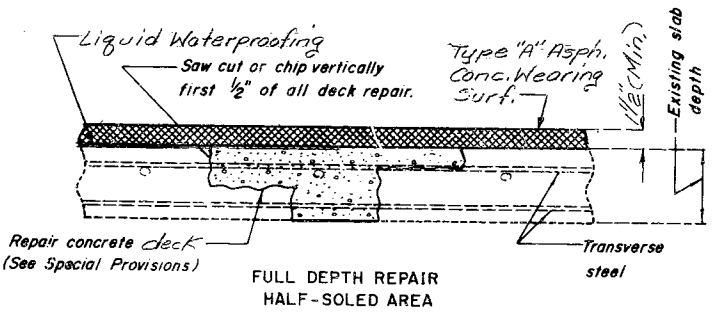


TYPICAL SECTION THRU EXISTING SLAB

Note: Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.  
Contractor shall verify all dimensions in field before ordering new material.  
One lane of traffic to be maintained over structure during construction.



TYPICAL SECTION OF CURB SHOWING OUTLETS



ESTIMATED QUANTITIES		
ITEM		TOTAL
Bridge Deck Waterproofing (Liquid)	Sq. Yd.	1155
Repairing Conc. Deck (Half-Soling)	Sq. Ft.	312
Full Depth Repair	Sq. Ft.	104
Asphalt Cement (Asph. Conc.) (60-70 or AC20) Type 'A' Mix	Ton	4.8
Mineral Aggregate (Asph. Conc.) Type 'A' Mix	Ton	91
Preformed Compression Jt. Seal (3.5 In.)	Lin. Ft.	70

REPAIRS TO:  
**BRIDGE** OVER RTE. I-29  
STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG  
ABOUT 1 MILE NORTH OF CRAIG  
PROJECT NO. STA. 542+ 3.03  
JOB NO. 1-S-59-401 RTE. 59  
HOLT COUNTY  
DATE 9/11/85

STD.
STD.
A-1906R

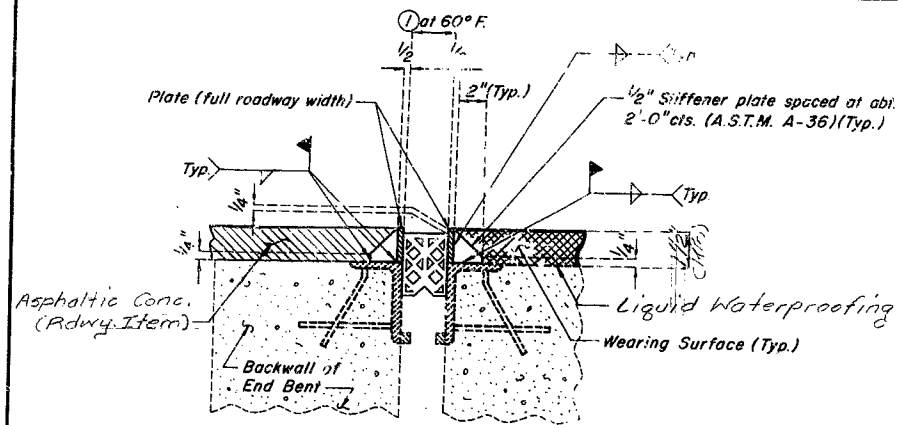
DESIGNED AUG. 1985  
DETAILED AUG. 1985  
CHECKED AUG. 1985

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

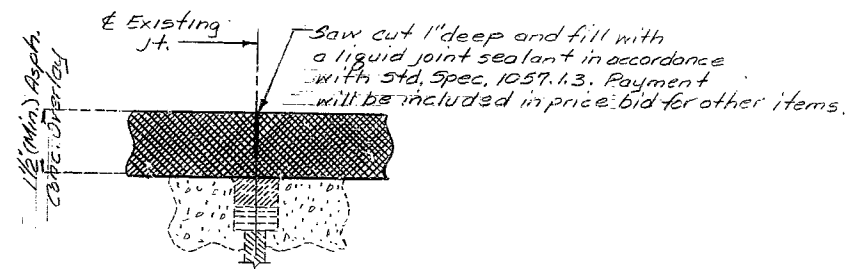
Sheet No. 1 of 2

516

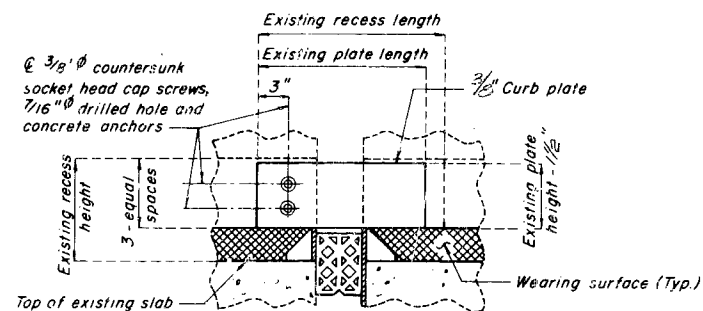
STATE	PROJ NO	SHEET NO
MO	1-S-50-401	5



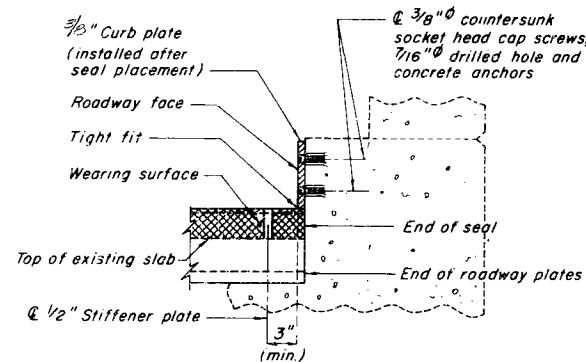
PART CROSS SECTION THRU  
ARMORED EXPANSION JOINT AT END BENT NO. 1&5



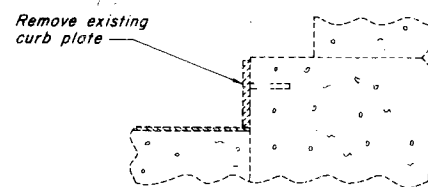
DETAIL OF TRANSVERSE JT. NEAR BT. NO. 4



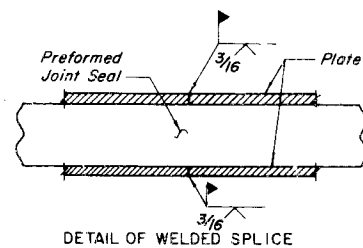
PART ELEVATION OF CURB



PART SECTION THRU CURB



PART SECTION THRU  
EXISTING CURB



DETAIL OF WELDED SPLICE

#### NOTES:

Plan dimensions are based on right angles.

Compression seal and plates shall be bent to conform to new crown and grade of roadway.

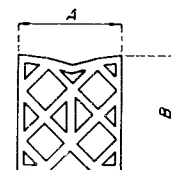
See special provisions for the requirements of compression joint seal.

The removal and replacement of the curb plate where required, and the installation of the bars and plates shall be included in the contract unit price per linear foot of the preformed compression joint seal.

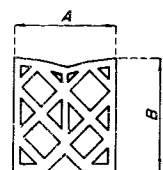
Dimension ① shall be increased  $\frac{3}{32}$  for each 10° fall in temperature and decreased  $\frac{3}{32}$  for each 10° rise in temperature at installation.

Curb plate (A.S.T.M. A36) shall be galvanized in accordance with A.S.T.M. A-123 and A.S.T.M. A-153. Concrete anchors shall be the cone expansion type for hot-dip galvanized bolts.

Two layers of 50# roofing felt shall be placed between the curb plate and recess in curb.



TYPE A1



TYPE B3

TABLE OF TRANSVERSE BRIDGE SEAL DIMENSIONS			
TYPE	"A" (WIDTH)	①	REQUIRED MOVEMENT RANGE
A1 OR B3	2.5"	1-5/8"	.9"
A1 OR B3	3.0"	1-7/8"	1.0"
A1 OR B3	3.5"	2-1/4"	1.3"
A1 OR B3	4.0"	2-5/8"	1.6"
A1 OR B3	4.5"	2 3/4"	1.9"
A1 OR B3	5.0"	2-7/8"	2.0"

NOTE: "B" HEIGHT SHALL NOT BE LESS THAN "A" WIDTH.

Note: The contractor shall make a field measurement of the gap. If the contractor's field measurement indicates a different gap then a new joint seal size shall be selected from the above table and submitted to the engineer for approval.

Bts. #1 & 5

517

PREFORMED-EXISTING	BRUSH CURB
08-80	REVIS: APRIL 1985

DETAILED AUG. 1985  
CHECKED AUG. 1985

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

Sheet No. 2 of 2

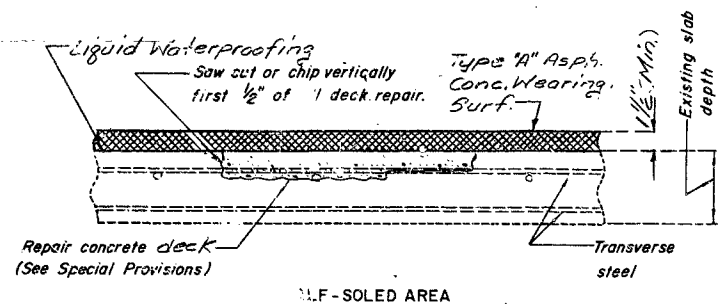
HOLT COUNTY

A-1906R

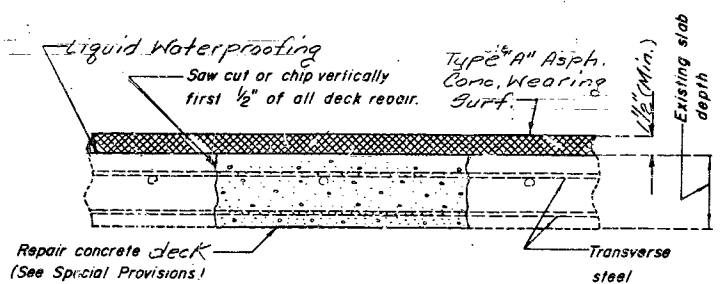
# MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

VERTICAL PLANS

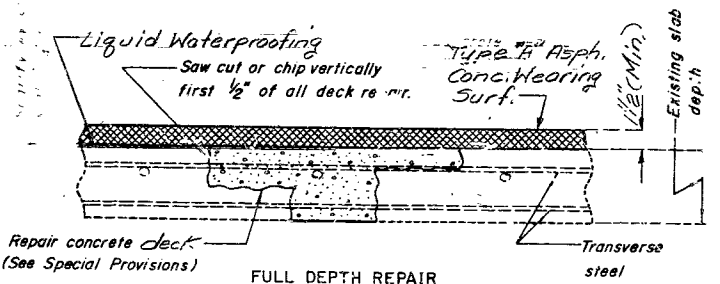
STATE	PROJ NO	SHEET NO
MO	1-S-59-401	41
SEC./SUR	2 TWP 62N RGE 40W	



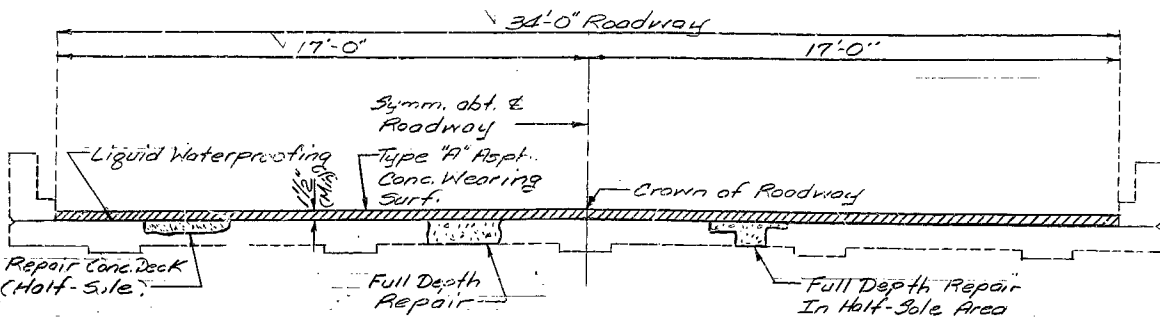
HALF-SOLED AREA



FULL DEPTH REPAIR

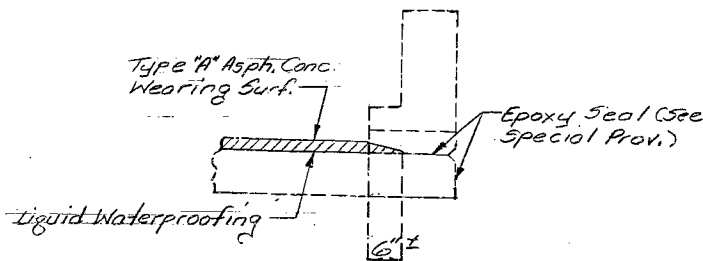


FULL DEPTH REPAIR  
HALF-SOLED AREA



TYPICAL SECTION THRU EXISTING SLAB

Note: Outline of old work is indicated by light dashed lines. Heavy lines indicate new work. Contractor shall verify all dimensions in field before ordering new material. One lane of traffic to be maintained over structure during construction.



TYPICAL SECTION OF CURB SHOWING OUTLETS

FINAL QUANTITIES		
ITEM		TOTAL
Bridge Deck Waterproofing (Liquid)	Sq. Yd.	1155
Repairing Conc. Deck (Half-Soling)	Sq. Ft.	0
Full Depth Repair	Sq. Ft.	0
Asphalt Cement (Asph. Conc.) (60-70 or AC20) Type 'A' Mix Ton	Ton	0
Mineral Aggregate (Asph. Conc.) Type 'A' Mix	Ton	0
Preformed Compression Jt. Seal (3.5 In.)	Lin. Ft.	70
Cont. 502.01 - Asphalt Cement AC-20	Ton	5.5
Cont. 502.02 - Min. Aggregate Type 'A' Mix	Ton	90

NOTE: REPAIR WORK WAS NOT REQUIRED ON THIS BRIDGE.

REPAIRS TO:

BRIDGE OVER RTE. I-29

STATE ROAD FROM MOUND CITY TO NORTH OF CRAIG

ABOUT 1 MILE NORTH OF CRAIG

PROJECT NO. 1-S-59-401 A&B STA. 542+48.03

JOB NO 1-S-59-401

RTE. 59

HOLT

COUNTY

DATE 9/11/85

STD.
STD.
A-1906R

DESIGNED AUG. 1985  
DETAILED AUG. 1985  
CHECKED AUG. 1985

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

Sheet No. 1A of 2

518



# STRUCTURAL REHABILITATION CHECKLIST

Bridge No.: **A1906**

Job No.: **JNW0008**

Route: **59**

Over: **I-29**

County: **Holt**

Date of Field Check: **11/08/2022**

\* \* \* Please include photographs for all items that apply. \* \* \*

1

## OVERLAY

\* Type of existing overlay: ☐ None ☒ Asphalt ☒ Low Slump ☐ Silica Fume ☐ Latex ☐ Epoxy ☐ Other: \_\_\_\_\_

\* Existing overlay thickness: \_\_\_\_\_ " \* Year overlay was applied: \_\_\_\_\_ ☒ Unknown

\* % of overlay repaired or patched: \_\_\_\_\_ % \* Replace overlay: ☐ Yes ☐ No

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3391, DSCN3396, DSCN3397**  
#

2A

## DECK REPAIRS (Deck repair quantities are required even if a Deck Test request has been ordered for this structure.)

\* Half-sole repairs: \_\_\_\_\_ sq. ft. (round up to the nearest 50 sq. ft.) \* Full depth repairs: \_\_\_\_\_ sq. ft. (round up to the nearest 50 sq. ft.)

\* Existing deck repair (patching): \_\_\_\_\_ sq. ft. (round up to the nearest 25 sq. ft.)

\* Slab edge repairs: \_\_\_\_\_ lin. ft. (covers the outer 4" of the slab edge) \* Superstructure repair (Unformed): \_\_\_\_\_ sq. ft. (covers the remaining slab cantilever beyond the outer 4")

\* Clean & epoxy coat slab edge: \_\_\_\_\_ lin. ft. (in lieu of edge repairs) \* Cantilever replacement: \_\_\_\_\_ lin. ft.

\* Total surface hydro demolition of bridge deck: ☐ Yes ☒ No \* Full deck replacement (redeck): ☒ Yes ☐ No ☐ Optional (half-sole, full depth and exist. deck repair quantities still required)

\* Deck repairs with voided tube replacement: ☐ Yes ☒ No \* Superstructure replacement: ☐ Yes ☒ No ☐ Optional (minimum of 10% of half-sole repair quantity) \* Full bridge replacement: ☐ Yes ☐ No ☒ Optional (Deck repair quantities required for cost comparison of alternatives)

\* How were the quantities obtained? ☐ Visual ☐ Bridge Inspection Report ☐ Sounded ☐ Other \_\_\_\_\_

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3391, DSCN3396, DSCN3397**  
#

**DECK REPAIRS CONT.****\* ISSUES / PROBLEMS WITH PRECAST PRESTRESSED DECK PANELS**

Spans	Location in Span						Deterioration		Describe
	At Panel Jt.	Btwn (mid) Panel Jt.	End		Mid	End	Type	Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	

\* Notes: **N/A**

(Deterioration may include water saturation, efflorescence, rust staining, cracking, spalling, exposed steel, disintegration of panel edges at joints, etc. Typically observed at or near panel joints. The location and "Type" of deterioration should be recorded.)

Picture  
#

**APPROACH SLABS**

\* Is there a bridge approach slab in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other \_\_\_\_\_

\* Is there rdwy. approach pavement in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other \_\_\_\_\_

\* Is the approach slab sinking at the end bent? ☐ N/A ☒ Yes ☐ No \_\_\_\_\_

\* Are repairs needed to the bridge approach slab driving surface? ☐ Yes ☐ No \_\_\_\_\_  
(Typically a roadway item but will be reported to District on the Bridge Memorandum.)

\* Full replacement of bridge approach slab? ☒ Yes ☐ No **Both directions** \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3392, DSCN3399, DSCN3394, DSCN3398**  
#

4

**SLAB DRAINS**

\* Is the drainage system working adequately? ☒ Yes ☐ No

\* Recommendations: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3401, DSCN3402**  
#

5

**CURBS & RAILS**

\* Existing curb (left side): ☐ Safety Barrier Curb ☒ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☐ Steel Channel

☐ Other \_\_\_\_\_ ☒ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing curb (right side): ☐ Safety Barrier Curb ☒ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☐ Steel Channel

☐ Other \_\_\_\_\_ ☒ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing median curb: Type: \_\_\_\_\_ Width \_\_\_\_\_ " Height \_\_\_\_\_ "

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Approach rail attachment: ☒ None ☐ Not attached ☐ 4 Hole ☐ 5 Hole ☐ Turn-down ☐ Other \_\_\_\_\_

\* If the existing handrails will be removed, does the local maintenance supervisor wish to keep them? ☐ Yes ☒ No

Storage address: location: \_\_\_\_\_

address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ zip: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3391**  
#

6

**EXPANSION DEVICES**

Bent	Type	Recommendations			Gap Left	Gap Right	Temperature & Other Info
W 1		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"	"	
2		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
3		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
4		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
E 5		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	

\* Notes:

Picture # DSCN3394, DSCN3398

7

**BEARINGS**

Bent	Coating	Recommendations				Notes (indicate which bearings at each bent)
W 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
E 5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\* Notes:

Picture # (Provide Pictures of Each Bearing)

DSCN3405, DSCN3407, DSCN3408, DSCN3413, DSCN3416, DSCN3420, DSCN3421, DSCN3422, DSCN3423, DSCN3424, DSCN3433, DSCN3435, DSCN3440, DSCN3442, DSCN3444, DSCN3449, DSCN3450, DSCN3451, DSCN3452, DSCN3453

8

**COATING SYSTEM (PAINT)**\* Existing coating system: ☐ green ☒ gray ☐ other

\* Date last coated: 1975

\* Is existing coating peeling? ☐ Yes (Overcoat is not an option) ☐ No

\* Coating recommendation:

☒ Blast clean & recoat all steel ☐ Clean & overcoat all steel☐ Blast clean & recoat only at joint locations ☐ Blast & recoat at joint locations and clean & overcoat all other steel

Note: Pull-off test required for overcoat (Calcium Sulfonate) option. Bridge Division will request pull-off tests.

\* Notes:

Picture # DSCN3404

**SUPERSTRUCTURE REPAIRS** (Repairs needed not previously stated.)**Concrete Slab Superstructure or Girder:** (above the bearings) \_\_\_\_\_

(Example: Deck solid slabs, voided slabs, box girders,

deck girders &amp; prestressed girders) \_\_\_\_\_

**Steel:** (Example: Beams, stringers, girders, diaphragms, cross-frames, misc. steel)**Member** (Check all that apply) (Attach pictures)**Describe & Locate**\_\_\_\_\_ ☐ Section Loss \_\_\_\_\_ % ☐ Cracks \_\_\_\_\_ in. \_\_\_\_\_\_\_\_\_\_ ☐ Section Loss \_\_\_\_\_ % ☐ Cracks \_\_\_\_\_ in. \_\_\_\_\_\_\_\_\_\_ ☐ Section Loss \_\_\_\_\_ % ☐ Cracks \_\_\_\_\_ in. \_\_\_\_\_\_\_\_\_\_ ☐ Section Loss \_\_\_\_\_ % ☐ Cracks \_\_\_\_\_ in. \_\_\_\_\_**Notes:** Remove hanger plate connections (Span 1 and Bent 2)Replace superstructure**Picture #** DSCN3409, DSCN3410, DSCN3411, DSCN3412, DSCN3414, DSCN3415, DSCN3419, DSCN3423, DSCN3426, DSCN3428, DSCN3435, DSCN3436, DSCN3437, DSCN3439, DSCN3440, DSCN3441, DSCN3443, DSCN3445, DSCN3446,**SUBSTRUCTURE REPAIR**

<b>Bent</b>	<b>Formed Repair</b>	<b>Unformed Repair</b>	<b>Seal Concrete Beam Cap Bts.</b>	<b>Coat Exposed Pile @ Int. Pile Cap Bts.</b>	<b>Describe (Beam, Backwall, Wing, etc.)</b>
<u>W 1</u>	_____ sq. ft.	<u>10</u> sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Abutment</u>
<u>2</u>	_____ sq. ft.	<u>5</u> sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Beam cap at hanger plate connection</u>
<u>3</u>	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
<u>4</u>	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
<u>E 5</u>	<u>25</u> sq. ft.	_____ sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<u>Abutment</u>

\* Does the structure need graffiti protection? ☒ No ☐ Bottom 8' of Concrete ☐ End Bents ☐ Other \_\_\_\_\_

\* Notes: \_\_\_\_\_

**Picture #** DSCN3409, DSCN3410, DSCN3411, DSCN3412, DSCN3414, DSCN3415, DSCN3419, DSCN3423, DSCN3426, DSCN3428, DSCN3435, DSCN3436, DSCN3437, DSCN3439, DSCN3440, DSCN3441, DSCN3443, DSCN3445, DSCN3446,

11		SIGNS, SIGNALS &/OR LIGHTING ATTACHED TO STRUCTURE	
* Are there signs attached directly to this structure?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	quantity _____	location _____
* Describe proposed work to be done to signs. _____			
* Are there signals attached directly to this structure?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	quantity _____	location _____
* Describe proposed work to be done to signals. _____			
* Is there aviation lighting attached to this structure?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Red _____ qnty.	<input type="checkbox"/> Green _____ qnty.
* Is there navigational lighting attached to this structure?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Red _____ qnty.	<input type="checkbox"/> Green _____ qnty.
* Is there roadway lighting attached to this structure?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A		
* Describe proposed work to be done to lighting. _____			
_____			
* Notes:	N/A _____		

Type		Qty.	Size	Owner	Condition			
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other			<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other			<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other			<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other			<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove

\* Notes: **N/A**

13

**CATHODIC PROTECTION SYSTEM**

\* Is there a cathodic system on this structure? ☐ Yes ☒ No ☐ Remove ☐ Do not alter ☐ Abandon in place (grooved system)

\* Is it on and working? ☐ Yes ☐ No ☐ Unknown \_\_\_\_\_

\* Notes: \_\_\_\_\_

\_\_\_\_\_

Picture

#

14

**CHANNEL ALIGNMENT, SLOPE PROTECTION & SCOUR**

\* Is channel aligned to bridge opening? ☒ Yes ☐ No Describe \_\_\_\_\_

\* Is drift a continual problem? ☐ Yes ☒ No Describe & Locate \_\_\_\_\_

\* Is erosion a problem? ☐ Yes ☒ No Describe & Locate \_\_\_\_\_

\* Describe slope protection in place. **East - concrete, West - Rock** \_\_\_\_\_

* Scour	At Footing	At Piling	Depth	Bent	Recommendation
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____

\* Describe needed work. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Picture **DSCN3427, DSCN3456**

#

15

**TRAFFIC LANES**

\* Number of lanes striped: on structure **2** under structure \_\_\_\_\_

\* Shoulder width: ☐ None on structure \_\_\_\_\_ (left) \_\_\_\_\_ (right) under structure \_\_\_\_\_ (left) \_\_\_\_\_ (right)

\* Sidewalk widths: on structure \_\_\_\_\_ (left) \_\_\_\_\_ (right) under structure \_\_\_\_\_ (left) \_\_\_\_\_ (right)

\* Median width: on structure \_\_\_\_\_ under structure \_\_\_\_\_

\* Proposed improvements for lanes/shoulders/sidewalks: \_\_\_\_\_

\_\_\_\_\_

Picture **DSCN3391**

#



16

**GENERAL AREA CONDITIONS**

\* Primary area: ☐ Commercial ☐ Industrial ☐ Residential ☒ Agricultural ☐ Military ☐ Other \_\_\_\_\_

\* Posted speed limit on structure: 55 mph

\* Posted load on structure: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Single Unit: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Semi (tractor/trailer): \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

\* Are both signs in place?

☐ Yes ☐ No

\* Do pedestrians and/or bicyclists regularly use this structure? ☐ Yes ☐ No ☒ Undetermined

\* Notes: \_\_\_\_\_  
 \_\_\_\_\_

Picture **DSCN3391**  
 #

17

**MAINTENANCE**

\* What work has been done to this structure that may not be reflected on existing bridge plans? \_\_\_\_\_

**Various patching of the deck**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Picture **DSCN3392**  
 #

18

**ADDITIONAL FIELD NOTES**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Picture  
 #

19

**STAGING / DETOUR**

\* **Traffic Control:** ☒ Close structure    ☐ Stage construction on structure    ☐ Cross over traffic to adjacent structure    ☒ Detour

☐ Other option \_\_\_\_\_

\* **Define probable detour route.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

20

**PERSONS ASSISTING WITH CHECKLIST**

Name	<u>Joyce Reynolds</u>	Title	<u>Project Manager</u>	Ph.	<u>( 816 ) 387 - 2411</u>
Name	<u>Bryce Acton</u>	Title	<u>District Bridge Engineer</u>	Ph.	<u>( 816 ) 390 - 3641</u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>

21

**REQUIRED SIGNATURES**

*I have reviewed the information on this checklist and believe it to be as accurate as possible.*

Name	_____	Date	_____
	<i>Transportation Project Manager</i>		
Name	<u>Bryce Acton</u>	Date	<u>12-6-2022</u>
	<i>District Bridge Engineer</i>		

The structural rehabilitation checklist indicates how the bridge is functioning and aging.

All deterioration should be noted, even if it is known that the work will not be completed under the proposed project.

Send **NEW** Structural Rehabilitation Checklist by email

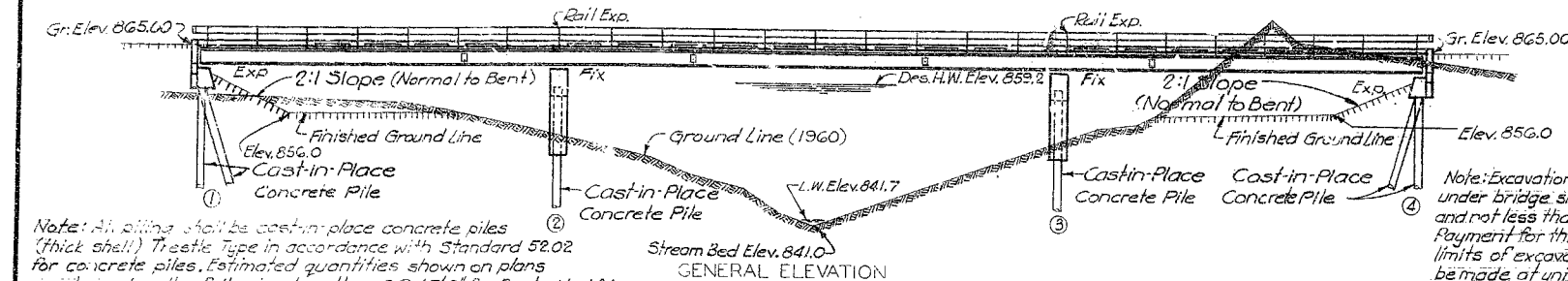
To: "Bridge Survey Processor"

Cc: Structural Project Manager or Structural Resource Manager

# MISSOURI STATE HIGHWAY DEPARTMENT

FED. AID DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YER.	SH. NO.	TOTAL SHEETS
5	Mo.		19	30	

50'-70'-50' Cont. I-Beam Spans



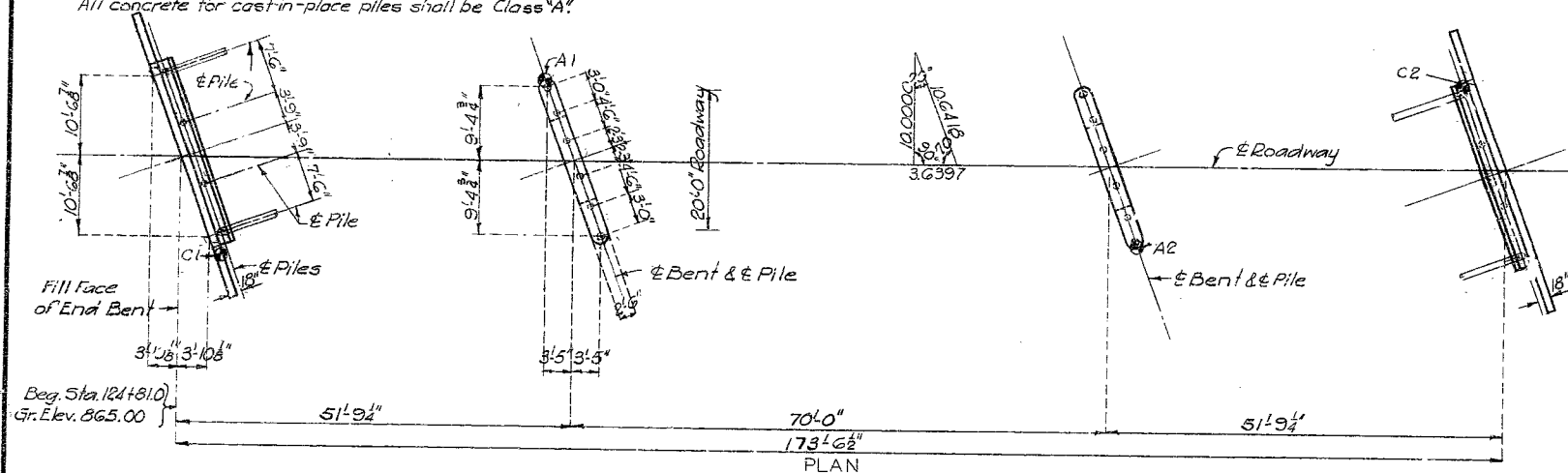
Note: All piling shall be cast-in-place concrete piles (thick shell) Treble Type in accordance with Standard 52.02 for concrete piles. Estimated quantities shown on plans are based on the following lengths: 8 @ 45'-0" for Bents No. 1 & 4 and 12 @ 50'-0" for Bents No. 2 & 3. These indicated lengths are approximate only. Proper lengths to give required bearing and penetration are to be determined by the Contractor.

All piles shall be driven to the minimum penetration noted and to not less than the specified "Plan" capacities unless excessive lengths are required to obtain "Plan" capacities in which cases the Engineer will authorize lesser capacities, but in no cases below "Computed" capacities.

All concrete for cast-in-place piles shall be Class "A".

DATA FOR PILE DRIVING			
Bent No.	1 & 4	2 & 3	
"Plan" Capacity Per Pile	28.5	30.0	
"Computed" Capacity Req'd. Per Pile	19.0	26.0	
Min. Penetration (Pile Tip Elev.)	825.0	820.0	

Note: Excavation of all existing materials under bridge shall be made to Elev. 856.0 and not less than 4'-0" outside of curb lines. Payment for this excavation outside the limits of excavation for substructure will be made at unit contract price for Roadway Excavation.



Note: For log of soundings see Sheet No. 2 of 6.

## GENERAL NOTES

Design Specifications A.A.S.H.O. - 1957.

Loading H15-44 (1-Lane)

Structural Steel Stress (A.S.T.M. A7-58T) 18,000#/in.<sup>2</sup>

Structural Steel Stress (A.S.T.M. A36-GOT) 20,000#/in.<sup>2</sup>

Reinforcing Steel Stress: 20,000#/in.<sup>2</sup>

Class B Concrete Stress: 1,200#/in.<sup>2</sup>

Class B1 Concrete Stress: 1,600#/in.<sup>2</sup>

Superstructure concrete shall be Class B1 (Air Entrained)

Substructure concrete shall be Class B. (Air Entrained)

Rivets 3/4" holes 1/8" except where otherwise noted.

Field connections shall be riveted except as noted in handrail details or if the Contractor desires to eliminate all field rivetting on this project, he may use high strength steel bolts with hardened washers for the beam splices and machine bolts for other field connections. Heads and nuts of machine bolts shall be American Standard Regular.

Where joint filler is specified on the plans it shall conform with the requirements of Section 157.2.5 of the Standard Specifications.

Paint; Shop, none; Field, contact surfaces of bolted field connections, except where high strength bolts are used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint to be applied by Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for Fabricated Structural Carbon Steel. Red lead required shall be furnished by Contractor.

Qualification of welding operators will be required.

Fabricated Structural Carbon Steel for wide flange beams and splice plates shall be A.S.T.M. A36-GOT and all other steel shall be A.S.T.M. A7-58T except as noted for bearings.

Steel shells for cast-in-place piles shall be painted as specified for steel piles in Section 52.4.7 of the Standard Specifications.

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

## ESTIMATED QUANTITIES

Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu. Yds. 50		50
Class B Concrete	Cu. Yds. 54.4		54.4
Class B1 Concrete	Cu. Yds.	87.9	87.9
* Fabricated Structural Carbon Steel	Lbs.	82,360	82,360
Reinforcing Steel	Lbs. 4,630	23,610	28,240
Cast-in-Place Concrete Piles	Lin. Ft. 960		960

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

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

COMPLETE BILL OF REINFORCING STEEL									
No.	Size	Length	Mark	Location	No.	Size	Length	Mark	Location
End Bents No. 1 & 4					Superstructure				
16	#6	27'-6"	H1	Beam	232	#5	3'-0"	C1	Curt.
4	#6	25'-3"	H2	"	12	#6	27'-0"	C2	"
4	#6	23'-6"	H3	"	12	#6	36'-0"	C3	"
12	#6	8'-0"	H4	Wing	12	#6	26'-0"	C4	"
4	#4	23'-6"	H5	Beam					
4	#6	8'-3"	H6	Wing	568	#5	22'-0"	S1	Slab
					348	#4	30'-0"	S2	"
					56	#4	16'-0"	S3	"
92	#5	5'-0"	V1	Bk Wall	24	#5	24'-0"	S4	"
12	#6	9'-0"	V2	Wings	2	#5	23'-3"	S5	"
4	#4	6'-6"	V3	Bk Wall					
Int. Bents No. 2 & 3									
20	#6	20'-9"	G1	Beam					
32	#5	14'-9"	P1	Encasmt					
12	#6	7'-6"	P2	Beam					
32	#4	11'-9"	U3	Beam					
16	#4	3'-3"	U2	"					
4	#4	10'-0"	U4	"					
48	#5	10'-9"	V4	Encasmt					

B.M. Elev. 859.8 "x" c/n north end N.W. conc. wall of C.B. & Q. Bridge #89.21 70' Lt. of Sta. 124+81.3 (U.S.C. & G. Datum -1954 Adj.)

## BRIDGE OVER MILL CREEK

STATE ROAD FROM FOREST CITY TO FORBES

ABOUT 6.0 MILES N.W. OF FORBES

PROJECT NO. S-1236(1)ST

STA. 124+81.0

HOLT

COUNTY

SUBMITTED BY D.B. Jenkins DATE 9/2/61  
 APPROVED BY J.F. Corbett DATE 9/2/61  
 CHIEF ENGINEER

STD. 52.02  
 STD. 54.00  
 N-811

Sheet No. 1 of 6.

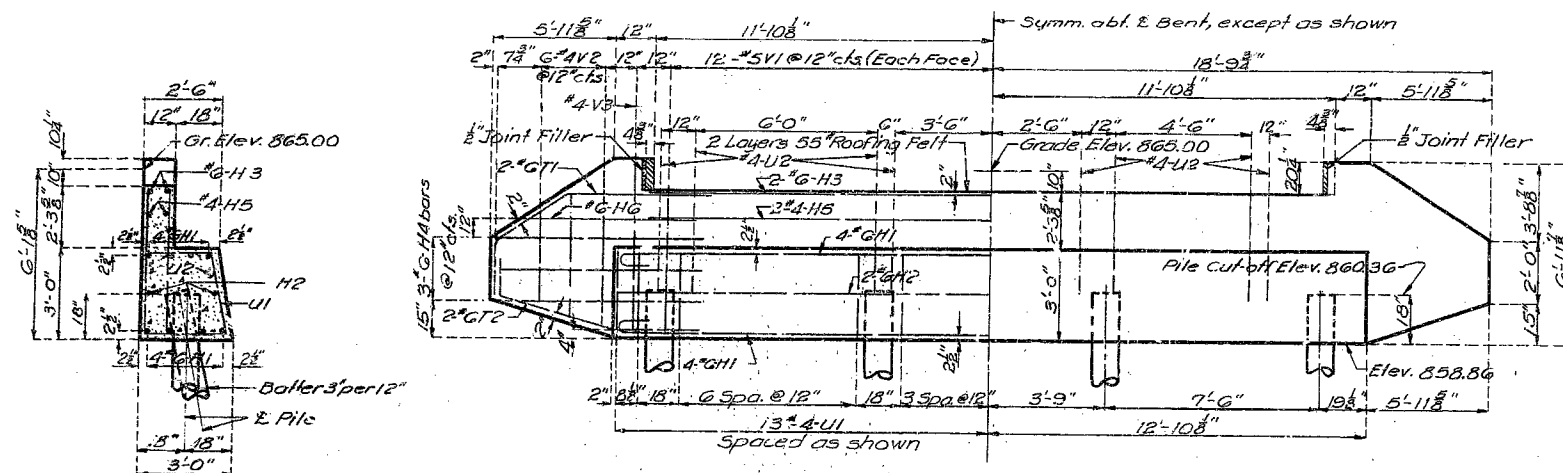
SEE FINAL PLANS BROWN-LINES

Drawn Oct. 1960 by B.R.G.  
 Checked Aug. 1961 by LEG. & J.J.C.

212

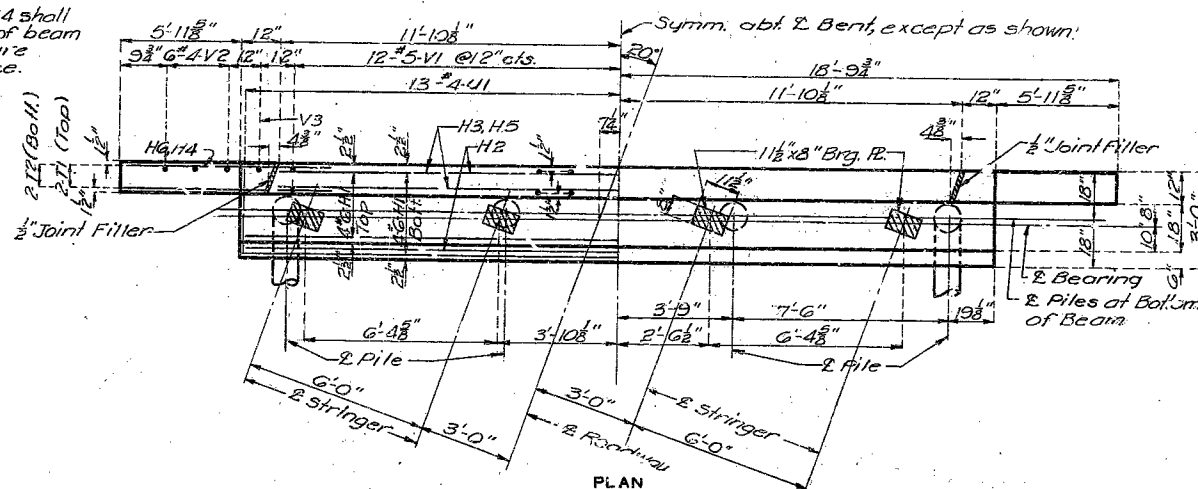
# MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISC. YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	31	



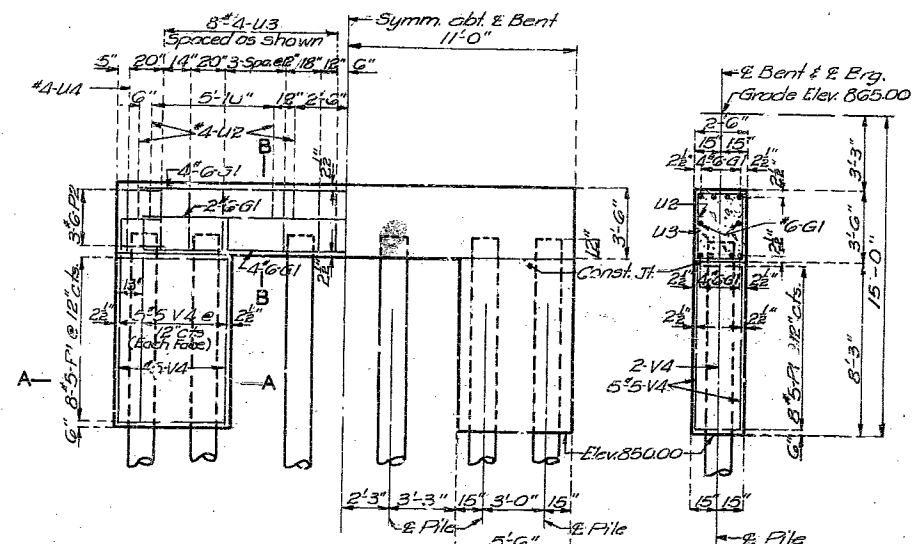
SECTION AT E

Note: Fill at End Bents No. 1 & 4 shall not be carried above bottom of beam and wings until superstructure spans (1-2) and (3-4) are in place.



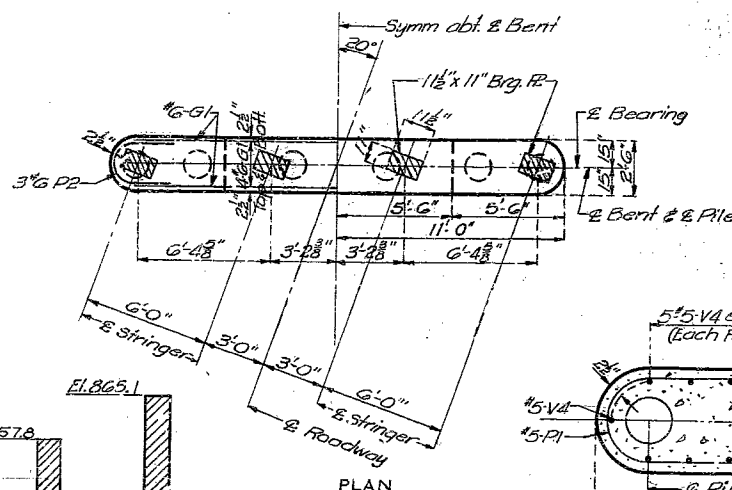
ELEVATION

DETAILS OF END BENTS NO. 1 & 4

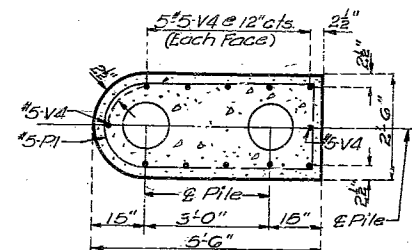


ELEVATION

SECTION B-B

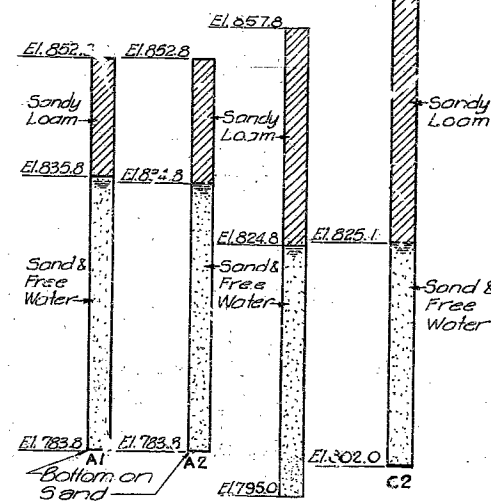


PLAN



SECTION A-A

DETAILS OF INT. BENTS NO. 2 & 3



LOG OF SOUNDINGS

Note: C1, C2 taken with core drill. A1, A2 taken with auger.

Sheet No. 2 of 6.

## BRIDGE OVER MILL CREEK

STATE ROAD FROM FOREST CITY TO FORBES

ABOUT 6.0 MILES N.W. OF FORBES

PROJECT NO. S-1236(1) (ST) STA. 124+81.0 FINISHED

HOLT

COUNTY

N-811

NO CONSTRUCTION CHANGES

Assembled June 1961 by R.D.L. & J.R.W.  
checked Aug. 1961 by L.E.G. & J.J.C.

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

FINISHED

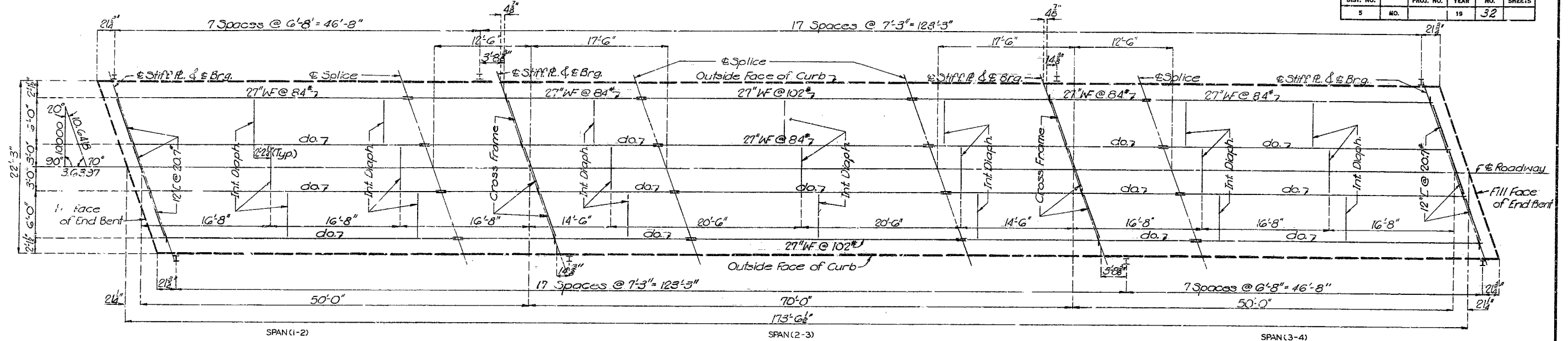
Square or Skewed T-Bm. Conc. Cap Type End

With or without Conc. App. Slab at End Rt. 3-4-60

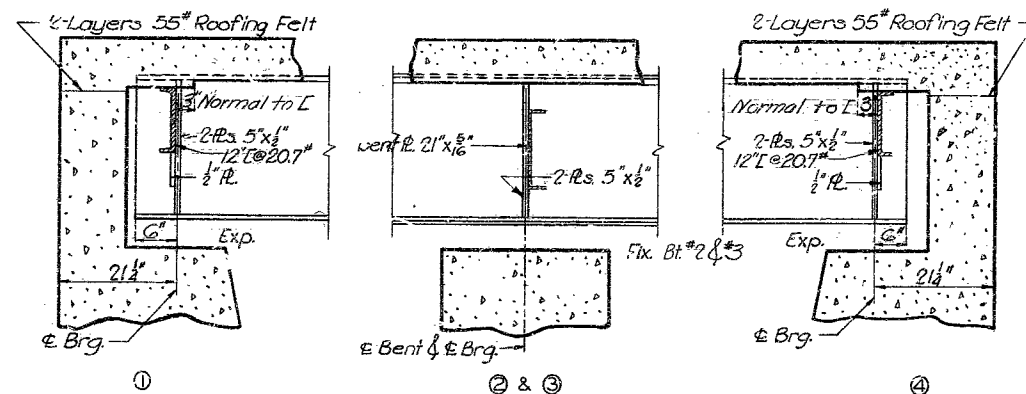
213

# MISSOURI STATE HIGHWAY DEPARTMENT

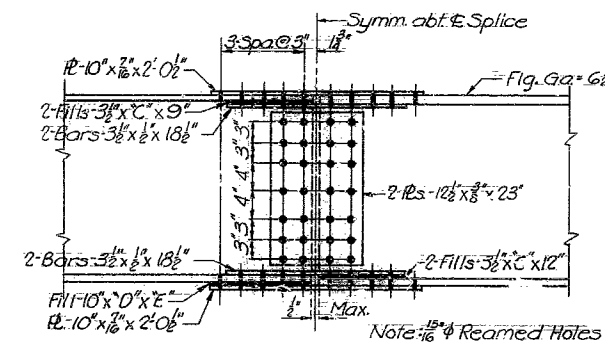
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	32	



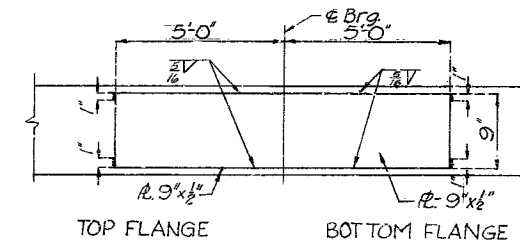
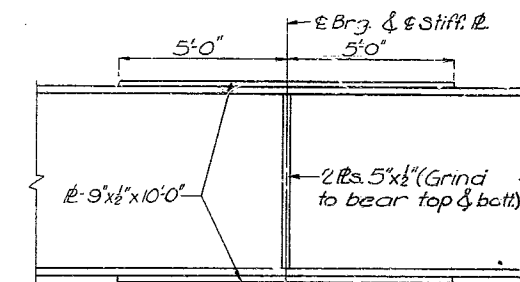
PLAN OF STRUCTURAL STEEL



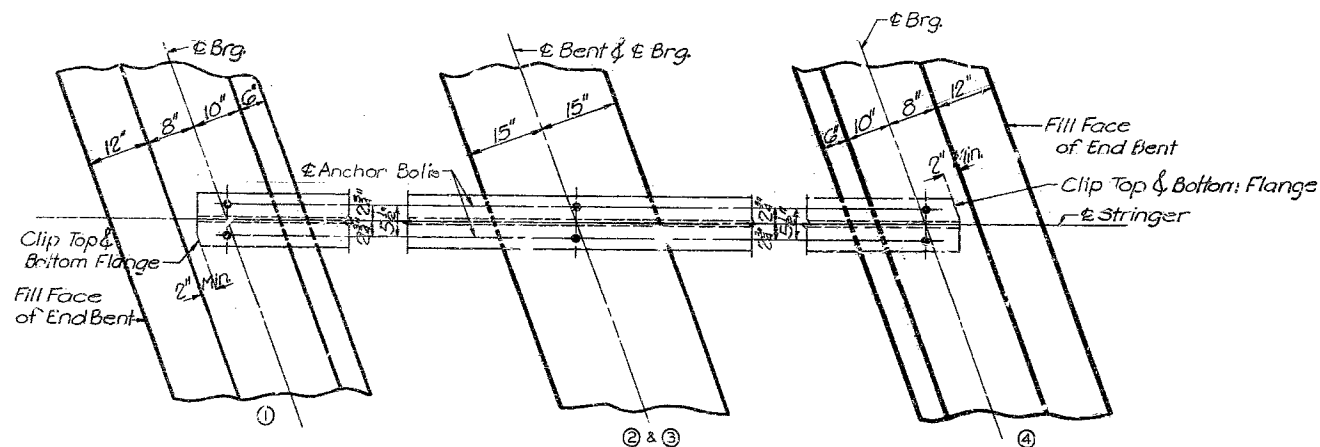
PART LONGITUDINAL SECTION



DETAIL OF BEAM SPLICES



DETAILS OF FLANGE PLATES AT INT. BENT NO. 2 & 3



PART ANCHOR BOLT PLAN

Drawn Oct. 1960 by B.E.G.  
Checked Aug. 1961 by L.E.G. & J.J.C.

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

Sheet No. 3 of 6

NO CONSTRUCTION CHANGES

BRIDGE OVER MILL CREEK

STATE ROAD FROM FOREST CITY TO FORBES

ABOUT 6.0 MILES N.W. OF FORBES

PROJECT NO. S-1236(1)(ST) STA. 124+81

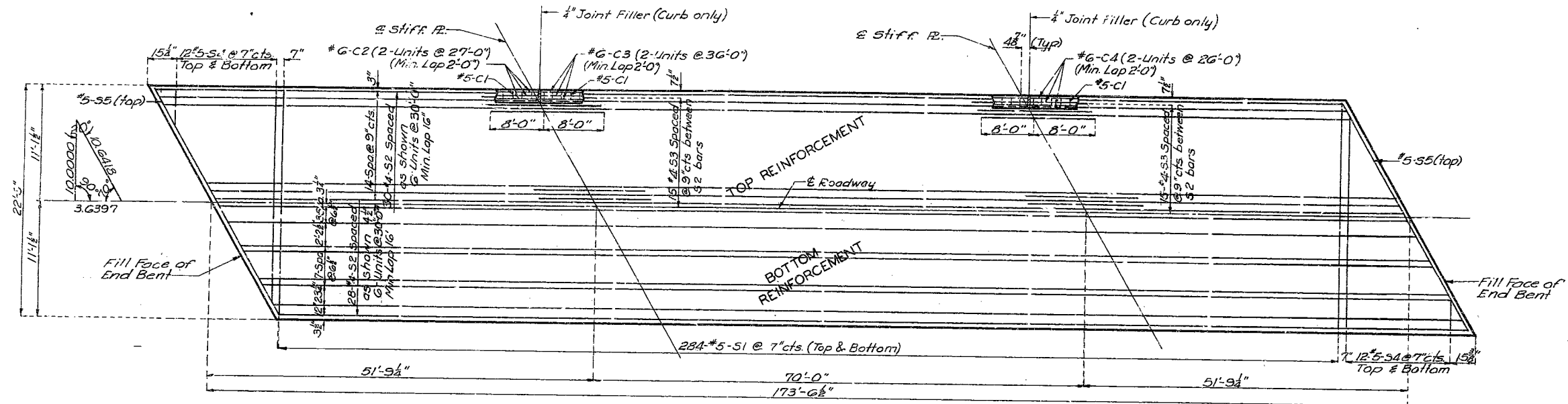
HOLT

COUNTY

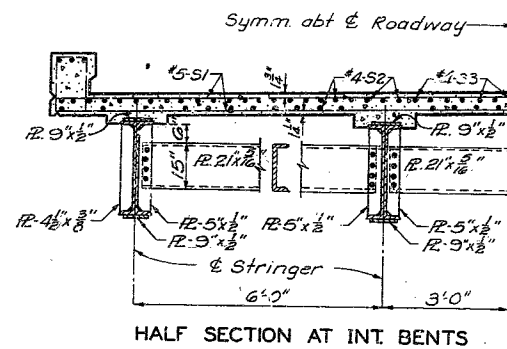
N-811

# MISSOURI STATE HIGHWAY DEPARTMENT

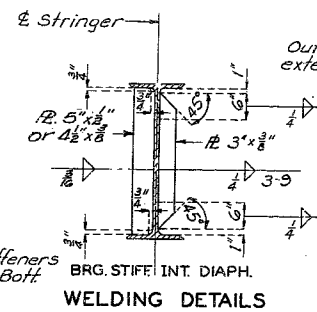
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	33	



PLAN OF SLAB SHOWING REINFORCEMENT

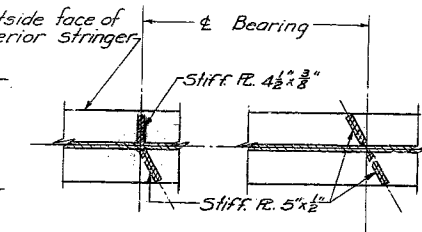


HALF SECTION AT INT. BENTS

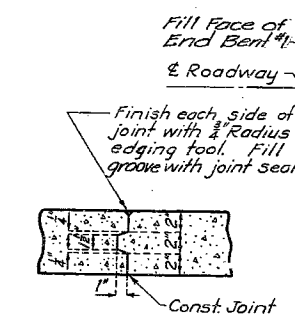


Note: Grind stiffeners to bear top & bott

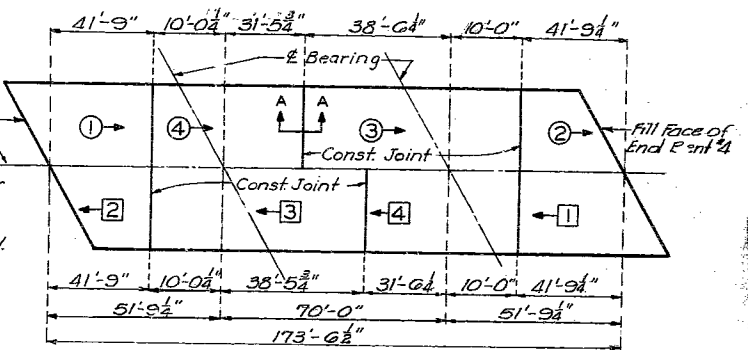
BRG. STIFF. INT. DIAPH. WELDING DETAILS



EXT. STIFFENER INT. STIFFENER  
DETAIL OF BEARING. STIFFENER ALIGNMENT

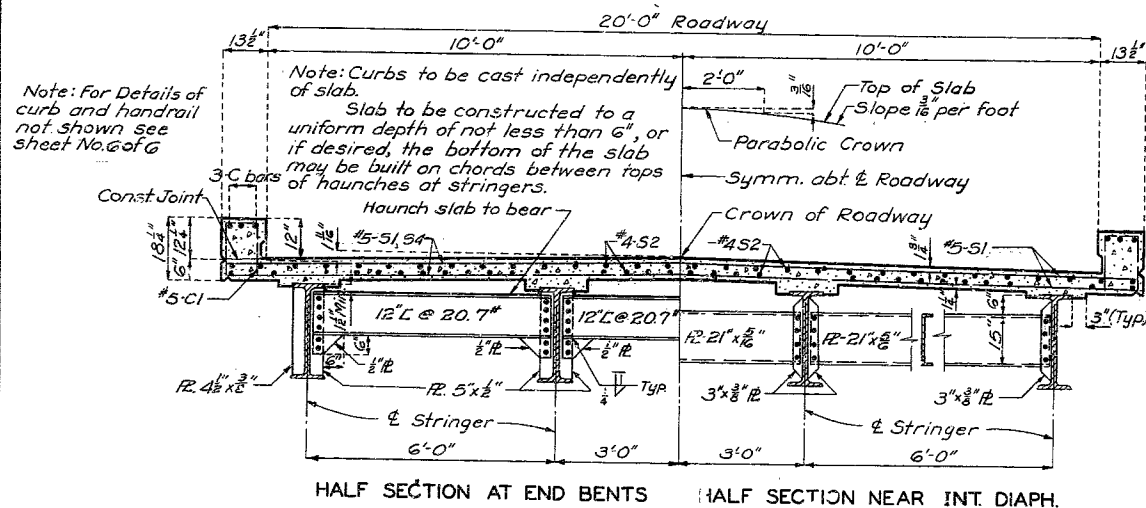


Note: Key to extend full width of slab.



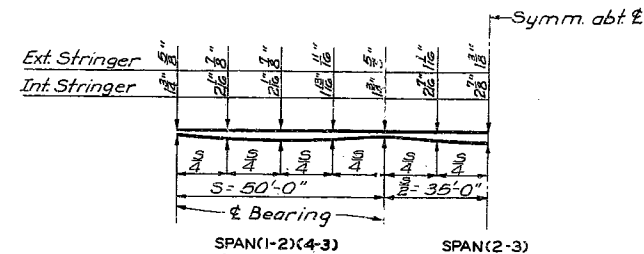
Note: The slab shall be poured in sections of the lengths shown above and in the sequence indicated by the numbers ①, ②, ③ & ④ or as an alternate by the numbers ①, ②, ③ & ④. The separate pours shall progress in the direction indicated by the arrows. Longitudinal construction joints will not be permitted. The above pouring sequence and the number of construction joints may be altered by the Engineer in order to obtain a more satisfactory surface finish. See Section 53.4.12 of Standard Specifications.

SLAB POURING SEQUENCE



HALF SECTION AT END BENTS

HALF SECTION NEAR INT. DIAPH.



Note: The slab shall be built parallel to grade and to a uniform thickness of 6". Dead load deflection, crown and 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 MILL CREEK  
STATE ROAD FROM FOREST CITY TO FORBES  
ABOUT 6.0 MILES N.W. OF FORBES  
PROJECT NO. S-1236 (1) (ST) STA. 124+81.0  
HOLT COUNTY

FINISHED

FINISHED

Assembled June 1961 by R.D.L. & J.R.W.  
Checked Aug. 1961 by L.E.G. & J.V.C.

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

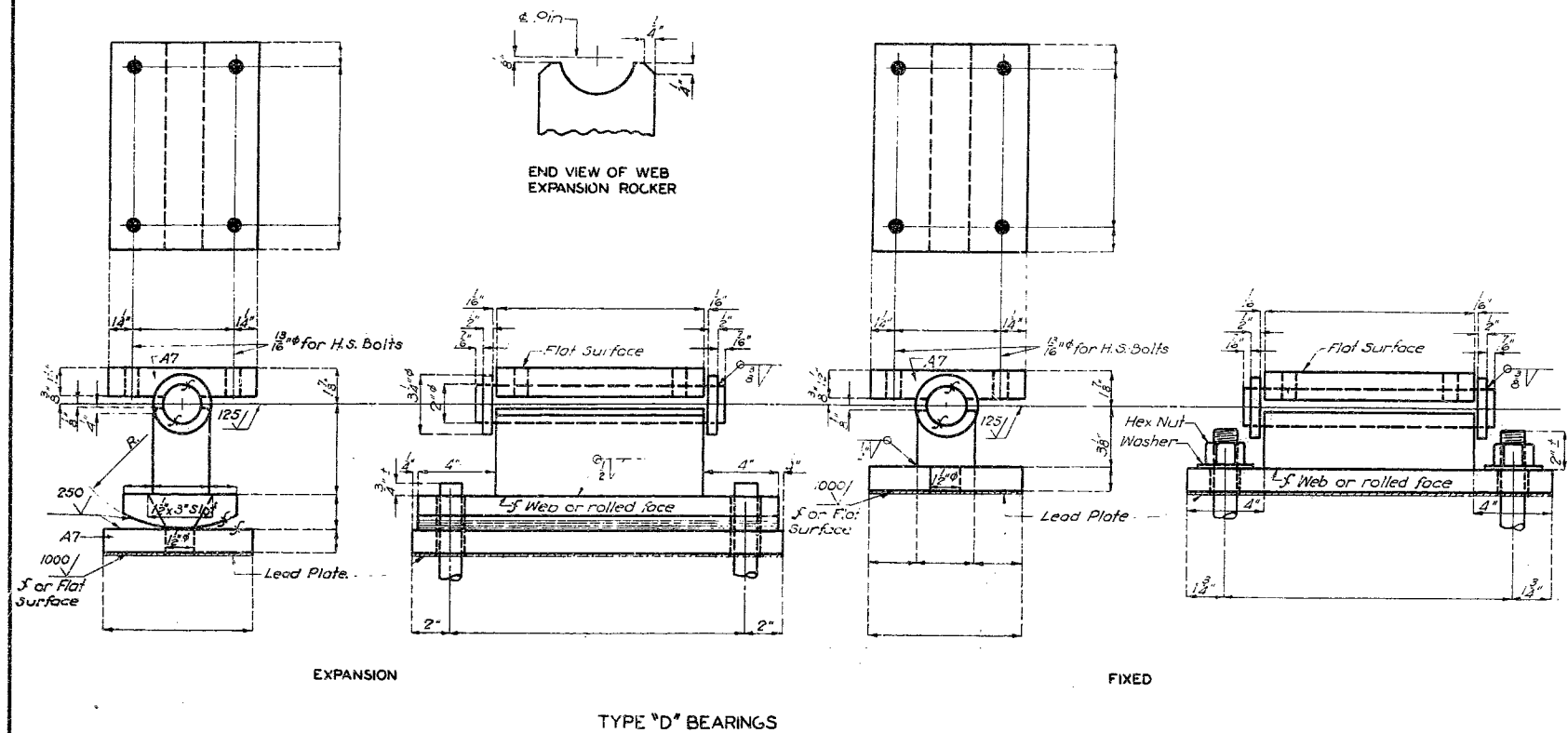
Sheet No. 4 of 6.

NO CONSTRUCTION CHANGES Cont. I-Bm. H15 (1-Lane) 20' Rdwy. Feb. 1961

N-811

MISSOURI STATE HIGHWAY DEPARTMENT

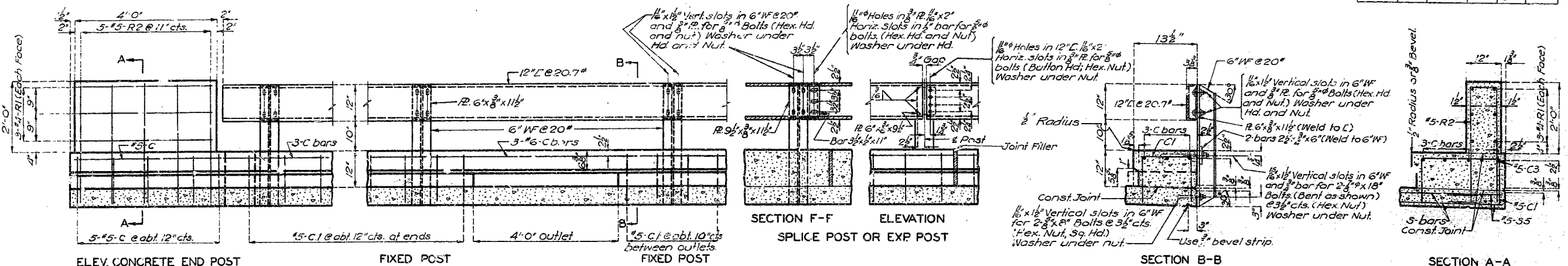
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO		19	34	





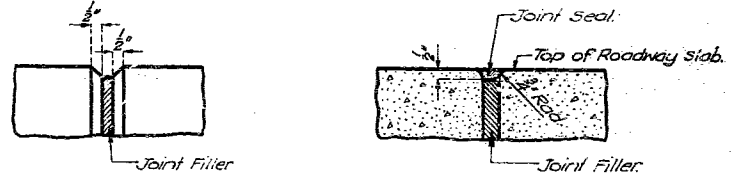
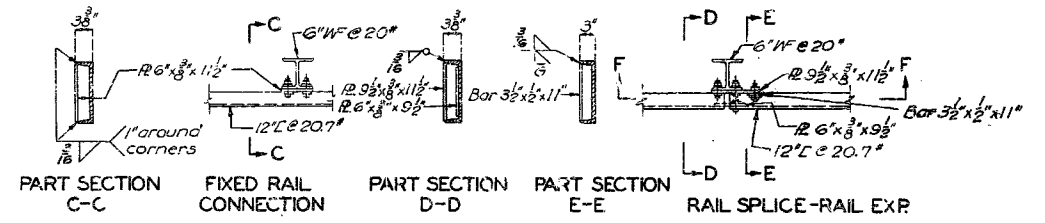
# MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	35	



Note: Outlets to be centered between rail posts. For location of outlets if any, see Sheet No. 1 of design plans. C1 bars in curb to be spaced at abt. 12" cts. from end post to end post on bridges having no outlets.

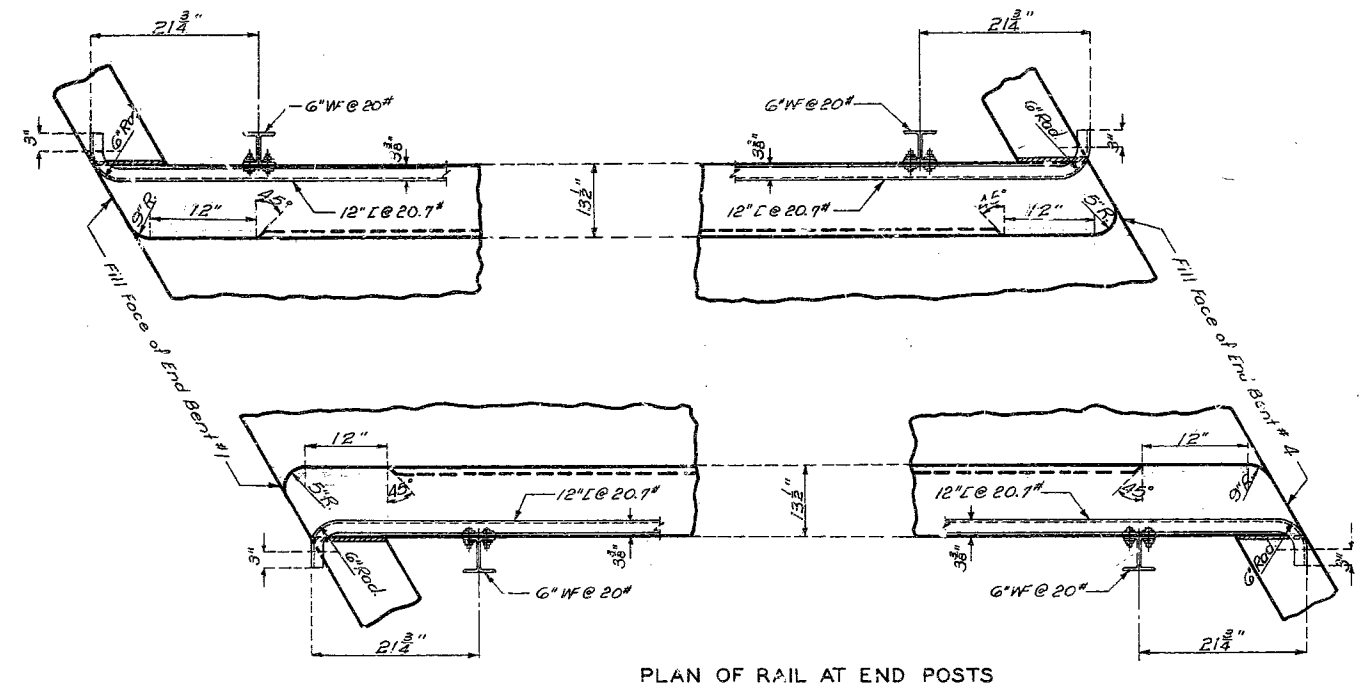
Note: Channel rail to be adjusted for horizontal alignment by use of full size metal shims placed between 6" WF and connection R. Shims of 1/2" and 3/4" thickness to be furnished with structural steel. Cost of shims to be included in price bid for other items.



Note: Use bevel as shown for exposed faces of all filled joints except at top surface of roadway slab. Use edging tool with 1/2" radius at top surface of roadway slab each side of joint and fill flush with joint seal as shown.

## GENERAL NOTES:

Top of curbs and end posts to be built parallel to grade. Vertical faces of end posts to be vertical. All exposed edges of end posts to be beveled 1/2". 6" WF posts to be set normal to grade. 12" E rails shall be fabricated to conform to horizontal and vertical alignment of curb.



PLAN OF RAIL AT END POSTS

**BRIDGE OVER MILL CREEK**  
 STATE ROAD FROM FOREST CITY TO FORBES  
 ABOUT 6.0 MILES N. W. OF FORBES  
 PROJECT NO. S-1236(1)(ST) STA. 124+81.0

**HOLT COUNTY**

Assembled June 1961 by B.E.G. & J.R.W.  
 Checked Aug. 1961 by L.E.G. & J.J.C.

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

Sheet No. 6 of 6

NO CONSTRUCTION CHANGES

N-811



# STRUCTURAL REHABILITATION CHECKLIST

Bridge No.: **N0811**

Job No.: **JNW0008**

Route: **T**

Over: **Mill Creek**

County: **Holt**

Date of Field Check: **11/08/2022**

\* \* \* Please include photographs for all items that apply. \* \* \*

1

## OVERLAY

\* Type of existing overlay: ☐ None ☒ Asphalt ☐ Low Slump ☐ Silica Fume ☐ Latex ☐ Epoxy ☐ Other: \_\_\_\_\_

\* Existing overlay thickness: \_\_\_\_\_ " \* Year overlay was applied: \_\_\_\_\_ ☒ Unknown

\* % of overlay repaired or patched: \_\_\_\_\_ % \* Replace overlay: ☐ Yes ☐ No

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3605, DSCN3603**  
#

2A

## DECK REPAIRS *(Deck repair quantities are required even if a Deck Test request has been ordered for this structure.)*

\* Half-sole repairs: \_\_\_\_\_ sq. ft. (round up to the nearest 50 sq. ft.) \* Full depth repairs: \_\_\_\_\_ sq. ft. (round up to the nearest 50 sq. ft.)

\* Existing deck repair (patching): \_\_\_\_\_ sq. ft. (round up to the nearest 25 sq. ft.)

\* Slab edge repairs: \_\_\_\_\_ lin. ft. (covers the outer 4" of the slab edge) \* Superstructure repair (Unformed): \_\_\_\_\_ sq. ft. (covers the remaining slab cantilever beyond the outer 4")

\* Clean & epoxy coat slab edge: \_\_\_\_\_ lin. ft. (in lieu of edge repairs) \* Cantilever replacement: \_\_\_\_\_ lin. ft.

\* Total surface hydro demolition of bridge deck: ☐ Yes ☐ No \* Full deck replacement (redeck): ☒ Yes ☐ No ☐ Optional (half-sole, full depth and exist. deck repair quantities still required)

\* Deck repairs with voided tube replacement: ☐ Yes ☐ No \* Superstructure replacement: ☐ Yes ☒ No ☐ Optional (minimum of 10% of half-sole repair quantity) sq. ft. \* Full bridge replacement: ☐ Yes ☒ No ☐ Optional (Deck repair quantities required for cost comparison of alternatives)

\* How were the quantities obtained? ☐ Visual ☐ Bridge Inspection Report ☐ Sounded ☐ Other \_\_\_\_\_

\* Notes: **N/A**  
\_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3605, DSCN3603**  
#

**DECK REPAIRS CONT.****\* ISSUES / PROBLEMS WITH PRECAST PRESTRESSED DECK PANELS**

Spans	Location in Span						Deterioration		Describe
	At Panel Jt.	Btwn (mid) Panel Jt.	End		Mid	End	Type	Amount	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft	

\* Notes: **N/A**

(Deterioration may include water saturation, efflorescence, rust staining, cracking, spalling, exposed steel, disintegration of panel edges at joints, etc. Typically observed at or near panel joints. The location and "Type" of deterioration should be recorded.)

Picture  
#

**APPROACH SLABS**\* Is there a bridge approach slab in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other\* Is there rdwy. approach pavement in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other\* Is the approach slab sinking at the end bent? ☐ N/A ☐ Yes ☐ No

\* Are repairs needed to the bridge approach slab driving surface? ☐ Yes ☐ No  
(Typically a roadway item but will be reported to District on the Bridge Memorandum.)

\* Full replacement of bridge approach slab? ☒ Yes ☐ No

\* Notes:

Picture  
#

4

**SLAB DRAINS**

\* Is the drainage system working adequately? ☒ Yes ☐ No

\* Recommendations: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3605, DSCN3603**

#

5

**CURBS & RAILS**

\* Existing curb (left side): ☐ Safety Barrier Curb ☐ Curb/parapet ☒ Blockouts ☐ Thrie Beam ☐ Baluster ☒ Steel Channel

☐ Other \_\_\_\_\_ ☐ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing curb (right side): ☐ Safety Barrier Curb ☐ Curb/parapet ☒ Blockouts ☐ Thrie Beam ☐ Baluster ☒ Steel Channel

☐ Other \_\_\_\_\_ ☐ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing median curb: Type: \_\_\_\_\_ Width \_\_\_\_\_ " Height \_\_\_\_\_ "

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Approach rail attachment: ☒ None ☐ Not attached ☐ 4 Hole ☐ 5 Hole ☐ Turn-down ☐ Other \_\_\_\_\_

\* If the existing handrails will be removed, does the local maintenance supervisor wish to keep them? ☐ Yes ☐ No

Storage address: location: \_\_\_\_\_

address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ zip: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3605, DSCN3603**

#

6

**EXPANSION DEVICES**

Bent	Type	Recommendations			Gap Left	Gap Right	Temperature & Other Info
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	

\* Notes: **N/A**Picture  
#

7

**BEARINGS**

Bent	Coating	Recommendations				Notes (indicate which bearings at each bent)
<b>N 1</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>Replace all 4</b>
<b>2</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>3</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>S 4</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Replace all 4</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

\* Notes:

Picture # (Provide Pictures of Each Bearing)

DSCN3612, DSCN3619, DSCN3620, DSCN3621, DSCN3623, DSCN3624, DSCN3625, DSCN3626, DSCN3632, DSCN3633, DSCN3634, DSCN3635, DSCN3636, DSCN3637, DSCN3638, DSCN3639

8

**COATING SYSTEM (PAINT)**\* Existing coating system: \_\_\_\_\_ ☐ green ☒ gray ☐ other \_\_\_\_\_\* Date last coated: **1963**\* Is existing coating peeling? ☐ Yes (Overcoat is not an option) ☐ No

\* Coating recommendation:

☒ Blast clean & recoat all steel ☐ Clean & overcoat all steel☐ Blast clean & recoat only at joint location ☐ Blast & recoat at joint locations and clean & overcoat all other steel

Note: Pull-off test required for overcoat (Calcium Sulfonate) option. Bridge Division will request pull-off tests.

\* Notes:

Picture **DSCN3611**  
#

**SUPERSTRUCTURE REPAIRS** (Repairs needed not previously stated.)

**Concrete Slab Superstructure or Girder:** (above the bearings) \_\_\_\_\_

(Example: Deck solid slabs, voided slabs, box girders,

deck girders &amp; prestressed girders) \_\_\_\_\_

**Steel:** (Example: Beams, stringers, girders, diaphragms, cross-frames, misc. steel)

**Member** (Check all that apply) (Attach pictures)

**Describe & Locate**

_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____

 Notes: **N/A**

 Picture  
#

**SUBSTRUCTURE REPAIR**

Bent	Formed Repair	Unformed Repair	Seal Concrete Beam Cap Bts.	Coat Exposed Pile @ Int. Pile Cap Bts.	Describe (Beam, Backwall, Wing, etc.)
<b>N 1</b>	_____ sq. ft.	_____ sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
<b>2</b>	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>2 Piles</b>
<b>3</b>	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>2 Piles</b>
<b>S 4</b>	_____ sq. ft.	_____ sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
_____	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____

 \* Does the structure need graffiti protection? ☒ No ☐ Bottom 8' of Concrete ☐ End Bents ☐ Other \_\_\_\_\_

\* Notes: \_\_\_\_\_

 Picture **DSCN3615, DSCN3630**  
#





13

**CATHODIC PROTECTION SYSTEM**

\* Is there a cathodic system on this structure? ☐ Yes ☒ No ☐ Remove ☐ Do not alter ☐ Abandon in place (grooved system)

\* Is it on and working? ☐ Yes ☐ No ☐ Unknown \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture

#

14

**CHANNEL ALIGNMENT, SLOPE PROTECTION & SCOUR**

\* Is channel aligned to bridge opening? ☒ Yes ☐ No Describe \_\_\_\_\_

\* Is drift a continual problem? ☐ Yes ☒ No Describe & Locate \_\_\_\_\_

\* Is erosion a problem? ☒ Yes ☐ No Describe & Locate **Along banks under bridge and erosion at both abutments** \_\_\_\_\_

\* Describe slope protection in place. **None** \_\_\_\_\_

* Scour	At Footing	At Piling	Depth	Bent	Recommendation
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____

\* Describe needed work. **Rock and rip-rap along banks and under bridge neat abutments** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Picture **DSCN3606, DSCN3607**

#

15

**TRAFFIC LANES**

\* Number of lanes striped: on structure **2** under structure \_\_\_\_\_

\* Shoulder width: ☐ None on structure \_\_\_\_\_ (left) (right) under structure \_\_\_\_\_ (left) (right)

\* Sidewalk widths: on structure \_\_\_\_\_ (left) (right) under structure \_\_\_\_\_ (left) (right)

\* Median width: on structure \_\_\_\_\_ under structure \_\_\_\_\_

\* Proposed improvements for lanes/shoulders/sidewalks: \_\_\_\_\_

\_\_\_\_\_

Picture **DSCN3603**

#

16

**GENERAL AREA CONDITIONS**

\* Primary area: ☐ Commercial ☐ Industrial ☐ Residential ☒ Agricultural ☐ Military ☐ Other \_\_\_\_\_

\* Posted speed limit on structure: \_\_\_\_\_ mph

\* Posted load on structure: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Single Unit: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Semi (tractor/trailer): \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

\* Are both signs in place?

☐ Yes ☐ No

\* Do pedestrians and/or bicyclists regularly use this structure? ☐ Yes ☐ No ☐ Undetermined

\* Notes: \_\_\_\_\_  
 \_\_\_\_\_

Picture DSCN3603

#

17

**MAINTENANCE**

\* What work has been done to this structure that may not be reflected on existing bridge plans? \_\_\_\_\_

Various patching of the deck

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Picture DSCN3605

#

18

**ADDITIONAL FIELD NOTES**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Picture

#

19

**STAGING / DETOUR**

\* **Traffic Control:** ☒ Close structure ☐ Stage construction on structure ☐ Cross over traffic to adjacent structure ☐ Detour

☐ Other option \_\_\_\_\_

\* Define probable detour route. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

20

**PERSONS ASSISTING WITH CHECKLIST**

Name Joyce Reynolds Title Project Manager Ph. ( 816 ) 387 - 2411

Name Bryce Acton Title District Bridge Engineer Ph. ( 816 ) 390 - 3641

Name \_\_\_\_\_ Title \_\_\_\_\_ Ph. ( ) -

Name \_\_\_\_\_ Title \_\_\_\_\_ Ph. ( ) -

Name \_\_\_\_\_ Title \_\_\_\_\_ Ph. ( ) -

21

**REQUIRED SIGNATURES**

*I have reviewed the information on this checklist and believe it to be as accurate as possible.*

Name \_\_\_\_\_ Date \_\_\_\_\_  
*Transportation Project Manager*

Name Bryce Acton Date 12-6-2022  
*District Bridge Engineer*

The structural rehabilitation checklist indicates how the bridge is functioning and aging.

All deterioration should be noted, even if it is known that the work will not be completed under the proposed project.

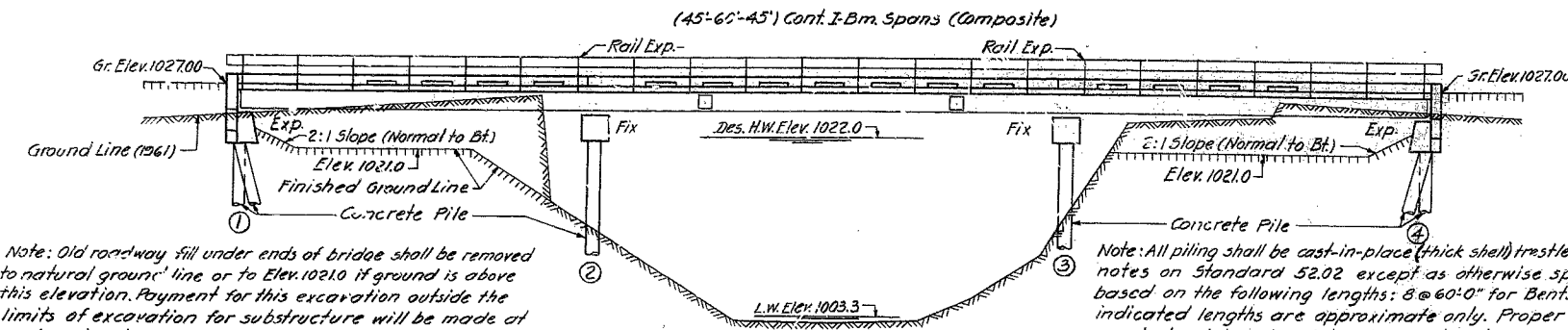
Send **NEW** Structural Rehabilitation Checklist by email

To: "Bridge Survey Processor"

Cc: Structural Project Manager or Structural Resource Manager

# MISSOURI STATE HIGHWAY DEPARTMENT

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

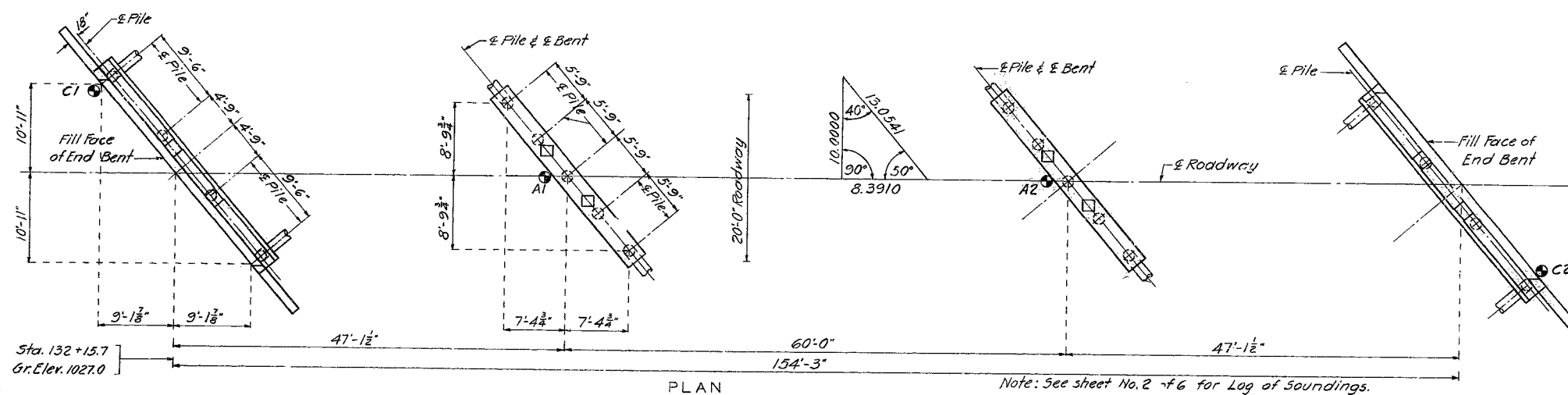


DATA FOR PILE DRIVING		
Bent No.	1 & 4	2 & 3
Plan Capacity Per Pile	29.5 T	30.0 T
Computed Capacity Per Pile	125 T	270 T
Min. Penetration (Pile tip Elev.)	280.0	280.0

Note: All piling shall be cast-in-place (thick shell) prestress type concrete piles and shall conform with details and notes on Standard 52.02 except as otherwise specified. Estimated quantities shown on plans are based on the following lengths: 8@60'-0" for Bents No. 1 & 4 and 10@70'-0" for Bents No. 2 & 3. These indicated lengths are approximate only. Proper lengths to give required bearing and penetration are to be determined by the Contractor.

All piles shall be driven to the minimum penetrations noted and to not less than the specified "Plan" capacities unless excessive lengths are required to "obtain" "Plan" capacities in which cases the Engineer will authorize lesser capacities, but in no cases below "Computed" capacities.

GENERAL ELEVATION



Note: See sheet No. 2 & 6 for Log of Soundings.

## GENERAL NOTES:

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

Loading H15-44 (1-Lane)

Structural Steel Stress (A.S.T.M. A7-58T) 18,000 psi

Structural Steel Stress (A.S.T.M. A36-60T) 20,000 psi

Reinforcing Steel Stress 20,000 psi

Concrete, Class B Stress 1,200 psi

Concrete, Class B1 Stress 1,600 psi

Superstructure concrete shall be Class B1 (Air-Entrained)

Substructure concrete shall be Class B (Air-Entrained)

Rivets 3/4", holes 1 1/8" except where otherwise noted.

Field connections shall be riveted except as noted in handrail details or, if the Contractor desires to eliminate all field riveting on this project, he may use High Strength Steel bolts with hardened washers for the beam splices and machine bolts for other field connections. Heads and nuts of machine bolts shall be American Standard Regular.

Qualification of welding operators will be required.

Paint: Shop, none; Field, contact surfaces of bolted field connections, except where high strength bolts are used, 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 shells of cast-in-place 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 Carbon Steel.

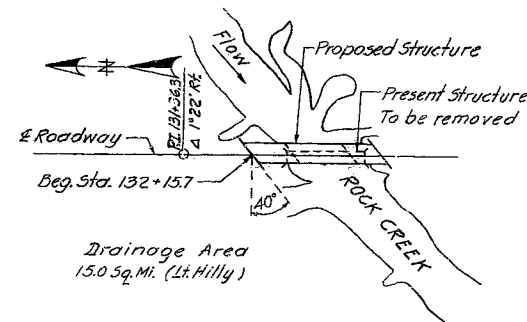
Steel shells for cast-in-place piles shall be painted as specified for steel piles in Section 52.4.7 of the Standard Specifications.

Where joint filler is specified on the plans, it shall conform with the requirements of Section 157.2.5 of the Standard Specifications.

Fabricated structural carbon steel for wide flange beams, flange and splice plates shall be A.S.T.M. A36-60T and all other steel shall be A.S.T.M. A7-58T except as noted for bearings.

Permits must be obtained for all truck loads over legal length.

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



LOCATION SKETCH

COMPLETE BILL OF REINFORCING STEEL					
No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams
End Bents No. 1 & 4					
16	#6	33'-3"	H1	Bm.	2'-1 1/2" 8 3/8"
4	#6	31'-3"	H2	"	2'-5 1/2" 8 3/8"
4	#6	29'-0"	H3	Bk wall	2'-7 1/2" 2'-1 1/2"
12	#6	8'-3"	H4	Wing	6'-0 1/2" 2'-5 1/2"
4	#6	6'-0"	H5	"	23'-9" 8'-6"
29'-5 1/2" Cut 58					
6'-V2 Cut 12					
8	#6	11'-6"	T1	Wing	6'
8	#6	10'-0"	T2	"	8 1/2" C2
62	#4	11'-3"	U1	Bm.	2'-2 1/2" U2
18	#4	3'-3"	U2	"	25'-5" G1
116	#5	4'-6"	V1	Bk wall	30'-8" H1
12	#4	8'-6"	V2	Wing	G1-H1
4	#4	6'-0"	V3	"	C2-U2
Int. Bents No. 2 & 3					
16	#6	28'-0"	G1	Bm.	2'-10 3/8" 6'-6 1/2" T1
4	#6	26'-0"	G2	"	5'-4 1/2" 2'-9" T2
16	#4	3'-3"	U2	"	21" 17 3/8" T1
48	#4	9'-9"	U3	"	5'-6" T2
Superstructure					
12	#6	25'-0"	C1	Curb	21" 17 3/8" T1
212	#5	3'-0"	C2	"	5'-6" T2
12	#6	31'-0"	C3	"	T1-T2
12	#6	24'-0"	C4	"	2'-2 1/2" 2'-2 1/2"
464	#5	22'-0"	S1	Slab	2'-8 1/2" 2'-8 1/2"
348	#4	26'-9"	S2	"	2'-2 1/2" 2'-2 1/2"
58	#5	16'-0"	S3	"	2'-8 1/2" 2'-8 1/2"
58	#5	23'-9"	S4	"	2'-8 1/2" 2'-8 1/2"
2	#5	28'-9"	S5	"	2'-8 1/2" 2'-8 1/2"

ESTIMATED QUANTITIES			
Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu. Yd.	20	20
Cast-in-Place Concrete Piles	Lin. Ft.	1180	1180
Class B Concrete	Cu. Yd.	40.0	40.0
Class B1 Concrete	Cu. Yd.	76.5	76.5
Reinforcing Steel	Lb.	3920	21,440
Fabricated Structural Carbon Steel	Lb.		54,750

Note: All excavation for bridge will be paid for as Class I Excavation for Structures.  
\* Final pay weight for Fabricated Structural Carbon Steel will be based on using field rivets except for bolted connections specified for handrail.

FINISHED

B.M. 14 Elev. 1025.22, Spike in brace post 57' Rt. Sta. 129+81

## BRIDGE OVER ROCK CREEK

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. SB  
ABOUT 7.5 MILES W. OF WESTBORO

PROJECT NO. S-2109 (1) (SF) STA. 132+15.7

ATCHISON COUNTY

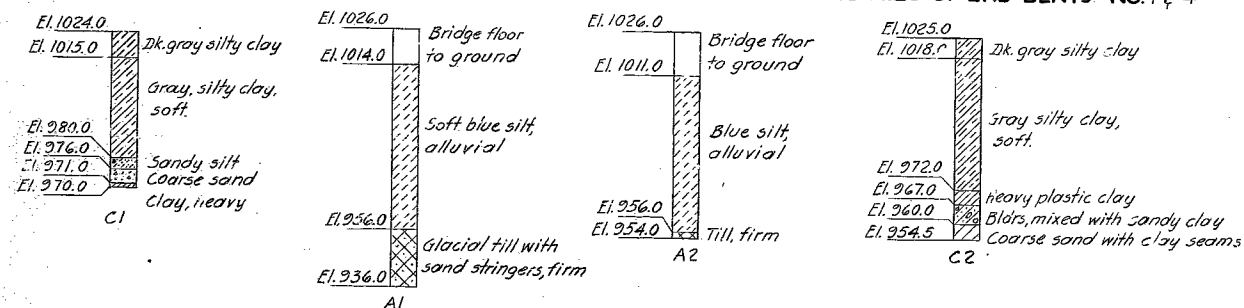
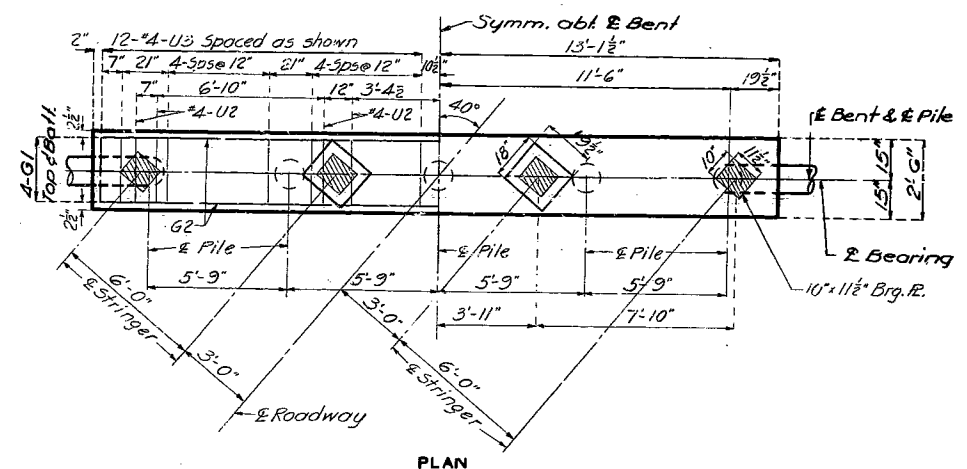
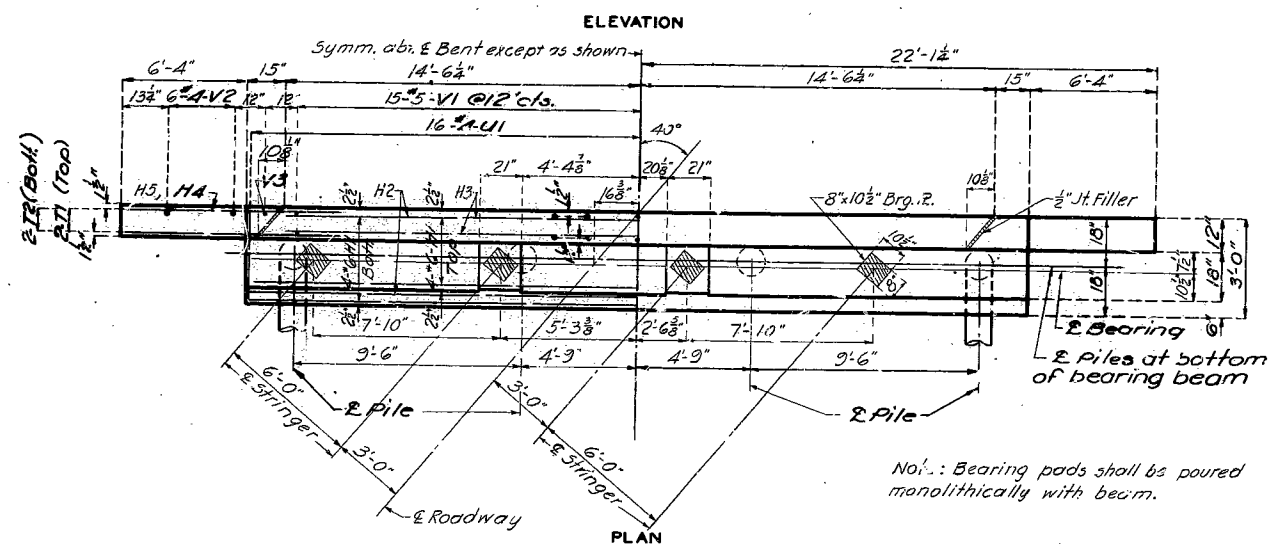
SUBMITTED BY *D.B. Jenkins* DATE *1/17/62*  
APPROVED BY *J.J. Carbeck* DATE *1/17/62*

STD. 52.02
STD. 54.00
R-274

Drawn Dec. 1961 by J.R.R.  
Checked Jan. 1962 by R.D.L.

395

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



Note: All soundings bottom on Till.  
Soundings C1, C2 taken with core drill.  
Soundings A1, A2 taken with auger.  
See sheet No.1 of G for location of soundings marked thus

LOG OF SOUNDINGS

Assembled Dec. 1961 by J.R.R.  
Checked Jan. 1962 by R.D.L.

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

Sheet No. 2 of 6.

BRIDGE OVER ROCK CREEK

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. SB  
ABOUT 7.5 MILES W. OF WESTBORO  
PROJECT NO. S-2109 (1) (SF) STA. 132+15.7

ATCHISON COUNTY

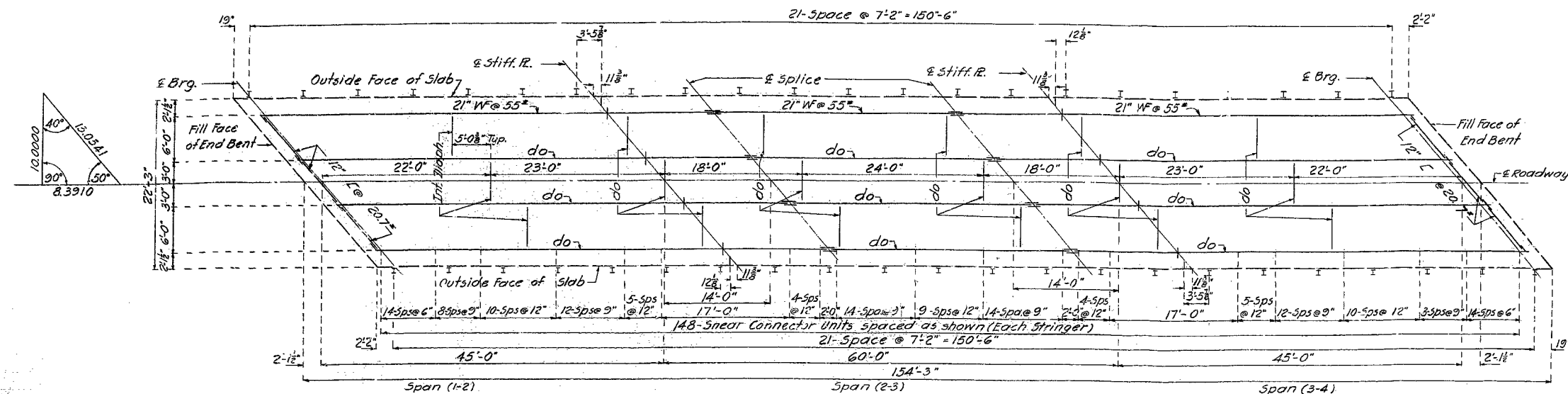
**二、**

R-274

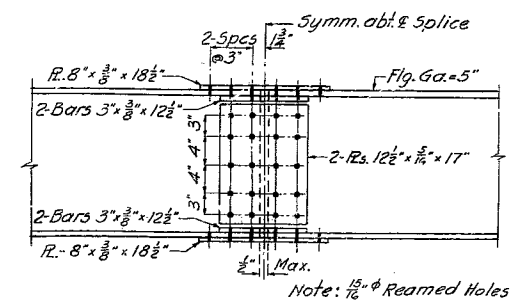
NO CONSTRUCTION CHANGES

# MISSOURI STATE HIGHWAY DEPARTMENT

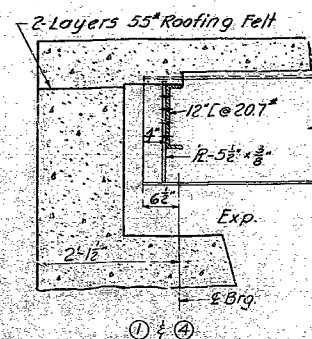
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5	MO.		19	14	



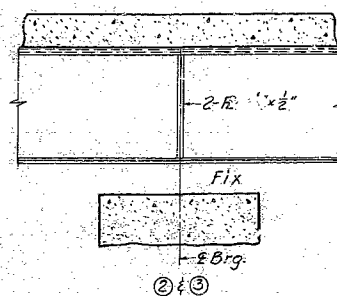
PLAN OF STRUCTURAL STEEL



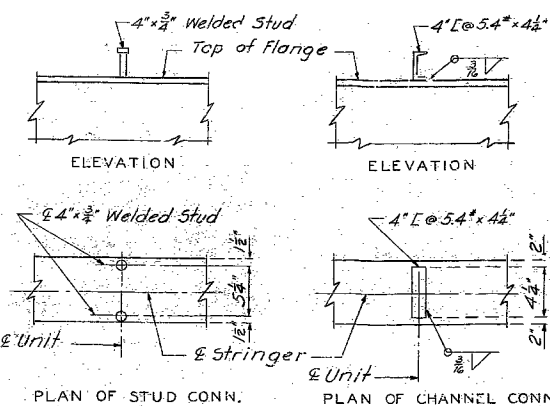
DETAILS OF BEAM SPLICE



PART LONGITUDINAL SECTION

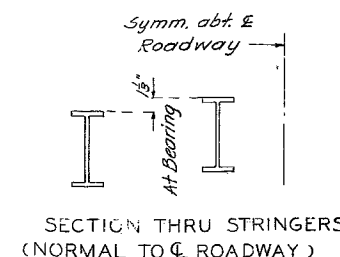


PART ANCHOR BOLT PLAN



DETAILS OF FLANGE PLATES - TOP & BOTTOM FLANGE INT. BENTS NO. 2 & 3

PLAN OF STUD CONN.  
PLAN OF CHANNEL CONN.  
Note: See Special Provisions for shear connectors.  
Weight of 728# of shear connectors (based on studs) is included in weight of fabricated structural carbon steel.  
Pay weight for shear connectors will be based on weight of type furnished.  
Locate channel connectors with backs toward ends of spans.  
DETAILS OF SHEAR CONNECTORS



SECTION THRU STRINGERS (NORMAL TO ROADWAY)

BRIDGE OVER ROCK CREEK  
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. 53  
ABOUT 7.5 MILES W. OF WESTBORO  
PROJECT NO. 5-2109(1) (SF) STA. 132 + 15.7  
ATCHISON COUNTY

Drawn Dec. 1961 by J.R.R.  
Checked Jan. 1962 by R.D.L.

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

Sheet No. 3 of 6

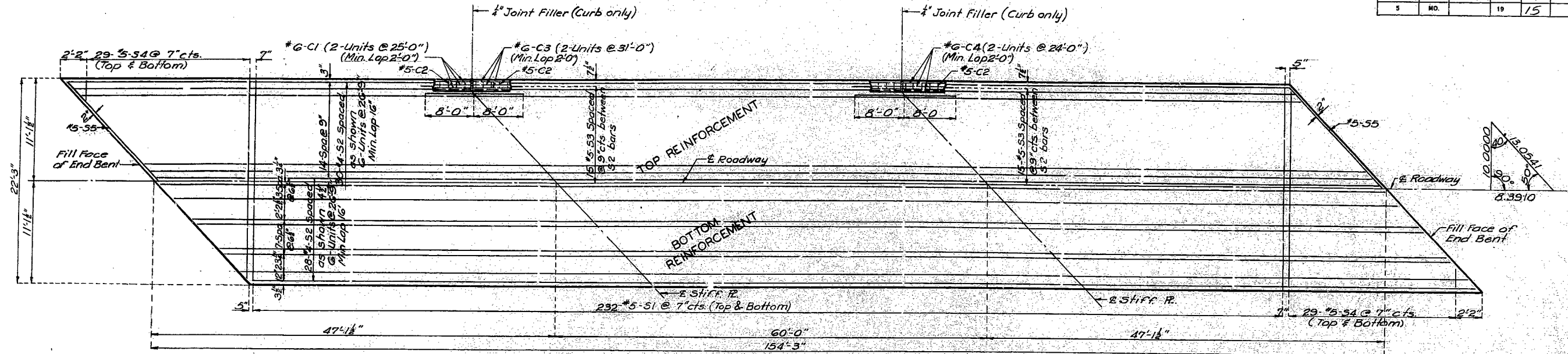
NO CONSTRUCTION CHANGES

R-274

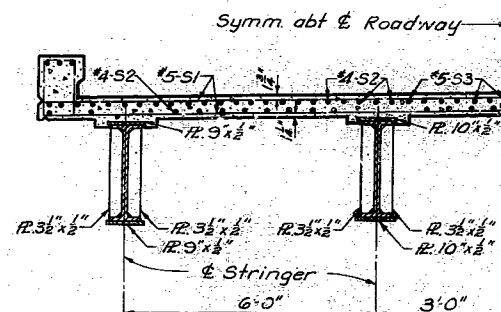


# MISSOURI STATE HIGHWAY DEPARTMENT

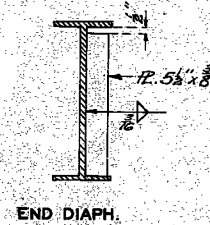
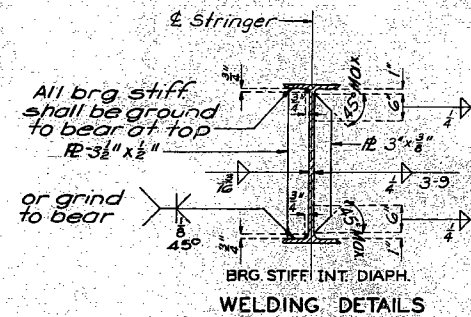
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	15	



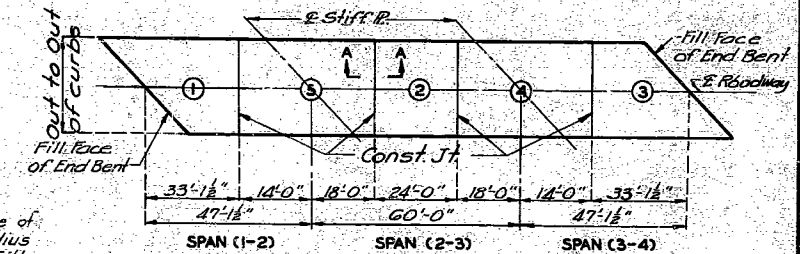
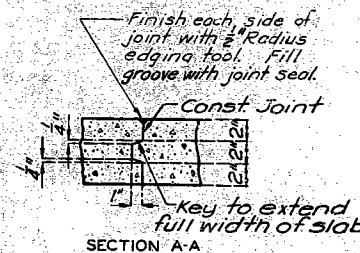
PLAN OF SLAB SHOWING REINFORCEMENT



HALF SECTION AT INT BENTS



TYPICAL DETAIL LOCATING STIFF R.



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

Note: The above "Basic" pouring sequence shall be observed unless the contractor can demonstrate to the engineer that he is equipped to pour and satisfactorily finish the bridge slabs at a rate of not less than 300 cu. yds. per hour and can maintain this rate throughout the alternate pour he elects to use.

FINISHED SLAB POURING SEQUENCE

## BRIDGE OVER ROCK CREEK

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. SB  
ABOUT 7.5 MILES W. OF WESTBORO  
PROJECT NO. S-2:09(1) (SF) STA. 132+15.7  
ATCHISON COUNTY FINISHED

Note: The slab shall be built parallel to grade and to a minimum thickness of 6". Dead load deflection (10% due to weight of structural steel) and vertical curve (if any) shall be taken care of by haunching to the top of stringer by the dimensions shown. The additional concrete (flange, flange plates, splice plates, etc. excluded) is included in Estimated Quantities.

SLAB HAUNCHING DIAGRAM

FINISHED

Sheet No. 4 of 6.

NO CONSTRUCTION CHANGES

R-274

398

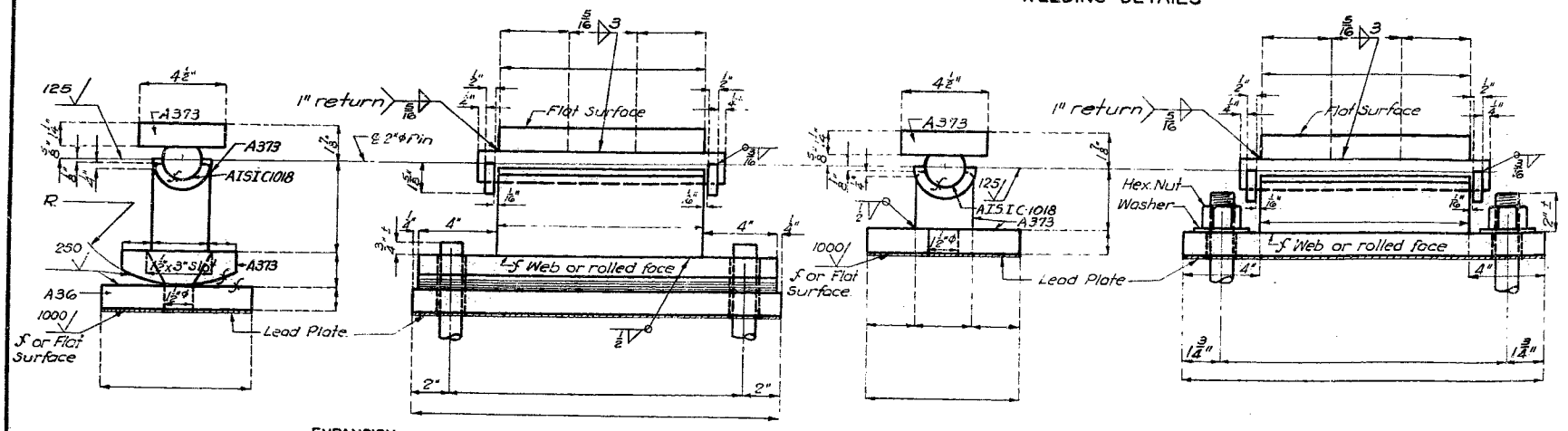
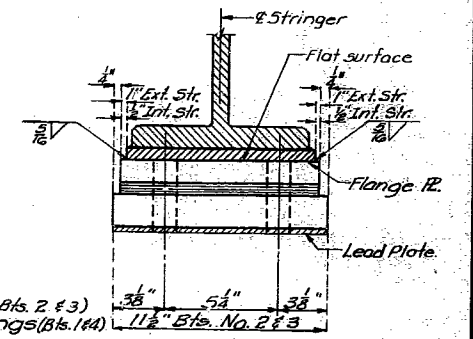
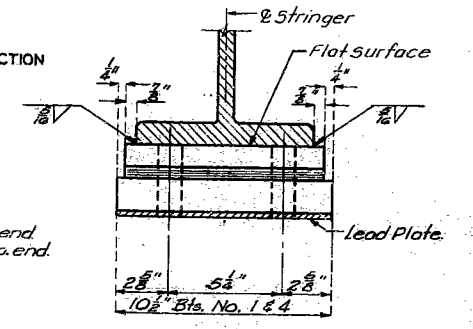
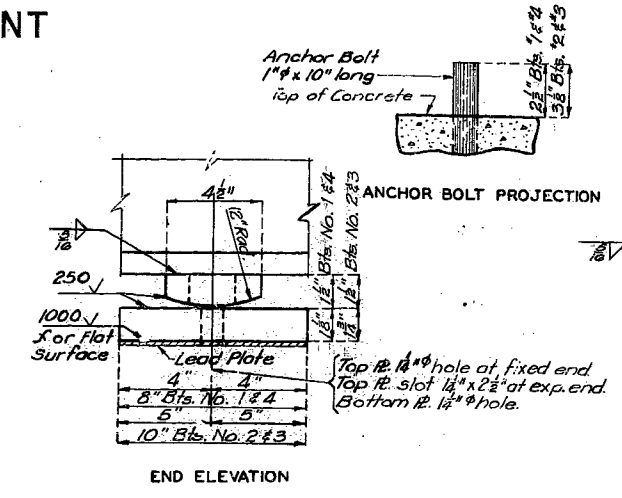
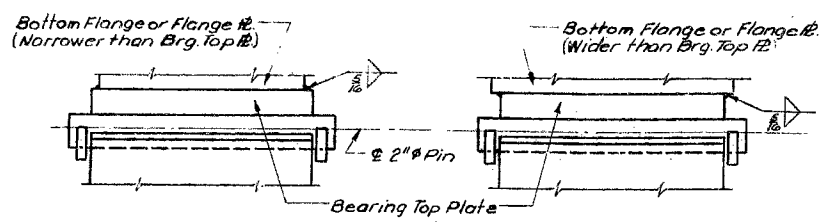
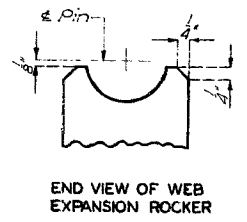
No. 4120.1 Revised Dec. 1961

Assembled Dec. 1961 by J. R. R. & J. R. W.  
Checked Jan. 1962 by R. D. L.

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	16	



Required:

TYPE "D" BEARINGS  
(Estimated Weight )

Required:

FIXED

Required: 8-Fixed Bearings (Bts. 2 #3)  
8-Expansion Bearings (Bts. 1 #4)

TYPE "C" BEARINGS  
(Estimated Weight 335#)

GENERAL NOTES:

Material for Type "D" Bearings shall be as noted except A.S.T.M. A7 Steel meeting the carbon and manganese requirements of A-373 Steel may be substituted for A-373.

Material for Type "C" Bearings shall be A.S.T.M. A-36 Steel.

Anchor Bolts for Type "D" Bearings shall be 1/2" swaged bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for Fixed Bearings, no nuts for Expansion Bearings.

Anchor Bolts for Type "C" Bearings shall be 1" swaged bolts, 10" long with no heads or nuts. Top of Anchor Bolts shall be set approximately 1" below top of bearing.

Lead Plates under bearings shall be approximately 8" thickness and weigh 8" 1 Sq. Ft. Cost of lead plates shall be included in price bid for other items.

Material for bearings will be paid for as Fabricated Structural Carbon Steel. "Estimated Weight" does not include weight of anchor bolts.

FINISHED

BRIDGE OVER ROCK CREEK

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. S.B  
ABOUT 7.5 MILES W. OF WESTBORO  
PROJECT NO. S-2109(1) (SF) STA. 132+157

ATCHISON COUNTY

FINISHED

FINISHED

Note: This drawing is not to scale. Follow dimensions

Sheet No. 5 of 6.

R-274

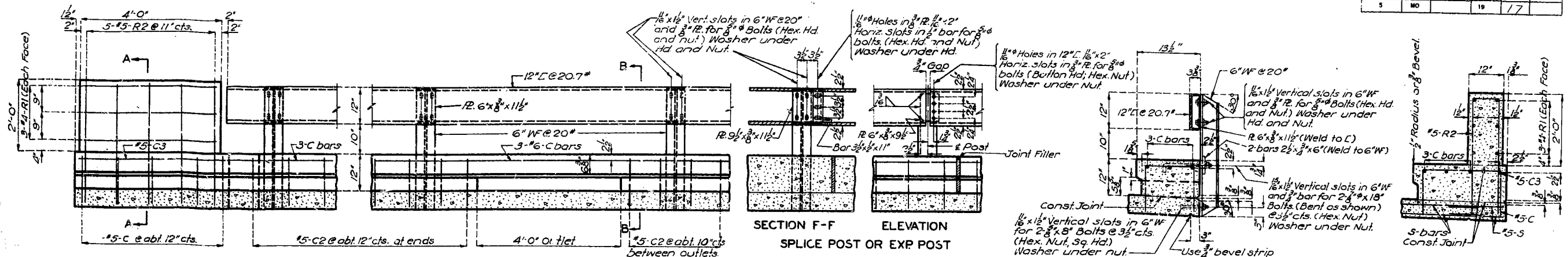
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No. 4.3 Revised  
Dec. 1961

Assembled Dec. 1961 by J. R. R. & J. R. W.  
Checked Jan. 1962 by R. D. L.

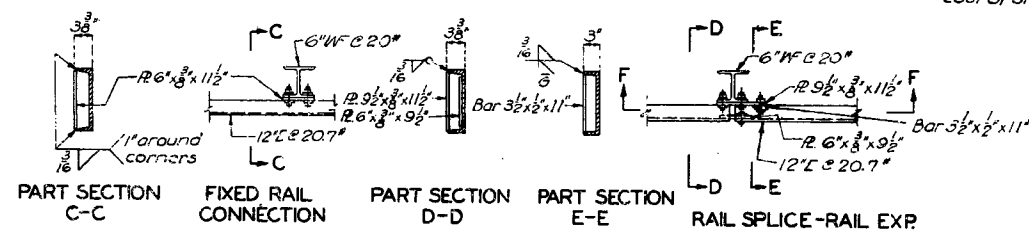
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1004

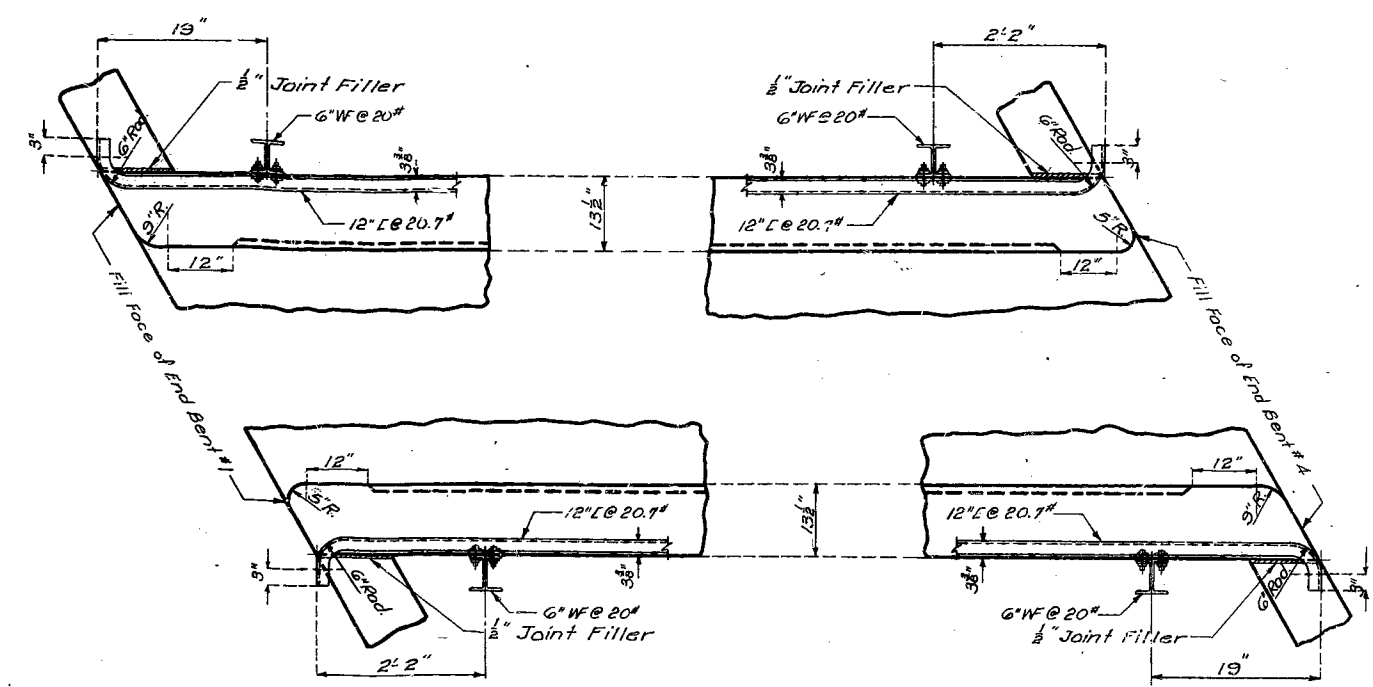
[illegible]

Note: Outlets to be centered between rail posts. For location of outlets if any, see Sheet No. 1 of design plans.  
C2 bars in curb to be spaced at abt. 12" cis. from end post to end post on bridges having no outlets.

*Note: Channel rail to be adjusted for horizontal alignment by use of full size metal shims placed between 6" WF and connection fl. shims of  $\frac{3}{8}$ " and  $\frac{1}{2}$ " thickness to be furnished with structural steel. Cost of shims to be included in price bid for other items.*



PLAN OF RAIL AT END POSTS



PLAN OF RAIL AT END POSTS

### DETAILS OF BEVEL FOR FILLED JOINTS

GENERAL NOTES:

Top of curbs and end posts to be built parallel to grade. Vertical faces of end posts to be vertical. All exposed edges of end posts to be beveled  $\frac{1}{2}$ " 6" W posts to be set normal to grade.

12" C rails shall be fabricated to conform to horizontal and vertical alignment of curb.

FINISHED

BRIDGE OVER ROCK CREEK  
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. SB  
ABOUT 7.5 MILES W. OF WATBORO  
PROJECT NO. S-2109(1) (SF) S 132+157  
ATCHISON COUNTY FINISHED

FINISHED

Sheet No. 6 of 6

NO CONSTRUCTION CHANGES

R-274

Assembled Dec. 1961 by J.R.R. & J.R.W.  
Checked Jan. 1962 by R.D.L.

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.	5-2109(1)	19	12	

## FINAL PLANS

COMPLETE BILL OF REINFORCING STEEL					
No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams
End Bents No. 1 & 4					
16	#6	33'-3"	H1	Bm.	2'-1 1/2" 8 3/4"
4	#6	3'-3"	H2	"	2'-1 1/2" 8 3/4"
4	#6	29'-0"	H3	Bk. wall	2'-1 1/2" 8 3/4"
12	#6	8'-3"	H4	Wing	2'-1 1/2" 8 3/4"
4	#6	6'-0"	H5	"	2'-1 1/2" 8 3/4"
Int. Bents No. 2 & 3					
16	#6	28'-0"	G1	Bm.	2'-10 3/8" 6'-6 1/2" T1
4	#6	26'-0"	G2	"	3'-4 1/2" 2'-9" T2
16	#4	3'-3"	U2	"	2'-10 3/8" 6'-6 1/2" T1
48	#4	9'-9"	U3	"	3'-4 1/2" 2'-9" T2
Superstructure					
12	#6	25'-0"	C1	Curb	2'-2 1/2" 2'-2 1/2"
212	#5	3'-0"	C2	"	2'-2 1/2" 2'-2 1/2"
12	#6	31'-0"	C3	"	2'-2 1/2" 2'-2 1/2"
12	#6	24'-0"	C4	"	2'-2 1/2" 2'-2 1/2"
464	#5	22'-0"	S1	Slab	2'-8 1/2" 2'-8 1/2"
348	#4	26'-9"	S2	"	2'-8 1/2" 2'-8 1/2"
58	#5	16'-0"	S3	"	2'-8 1/2" 2'-8 1/2"
58	#5	23'-9"	S4	"	2'-8 1/2" 2'-8 1/2"
2	#5	28'-0"	S5	"	2'-8 1/2" 2'-8 1/2"

QUANTITIES			
Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu. Yd.	54	54
Cast-in-Place Concrete Piles	Lin. Ft.	1087	1087
Class B Concrete	Cu. Yd.	40.0	40.0
Class B1 Concrete	Cu. Yd.	76.5	76.5
Reinforcing Steel	Lb.	3920	21440
* Fabricated Structural Carbon Steel	Lb.	51820	51820
Removal of Bridge	Lamp Sam.		1

Note: All excavation for bridge paid for as Class I Excavation for Structures.  
\* Final pay weight for Fabricated Structural Carbon Steel based on using field rivets except for bolted connections specified for handrail.

## FINISHED

B.M. # 14, Elev. 1024.40, 15' 14" S.E. Cor. Cap Bent #1 Sta. 132+15.7

## BRIDGE OVER ROCK CREEK

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. SB  
ABOUT 7.5 MILES W. OF WESTBORO  
PROJECT NO. 5-2109(1) (SF) STA. 132+15.7

ATCHISON COUNTY

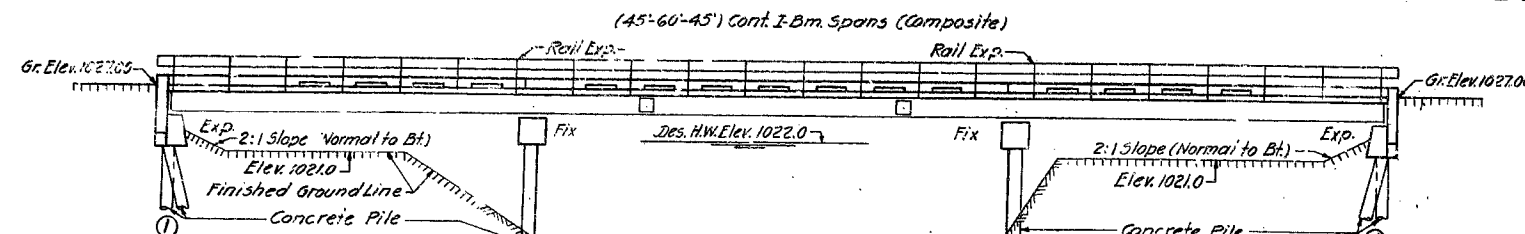
FINISHED

SUBMITTED BY *D.B. Jenkins* DATE 1/17/62  
APPROVED BY *J.F. Connett* DATE 1/17/62  
CHIEF ENGINEER

STD. 52.02
STD. 54.00
R-274

Sheet No. 1A of 1

## FINAL PLANS

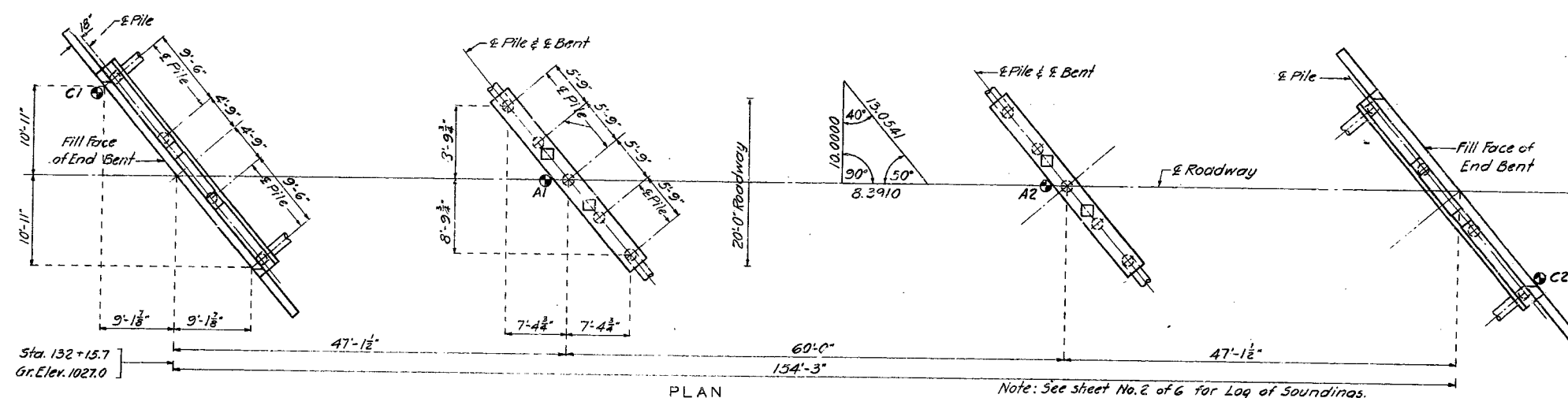


Note: Old roadway fill under ends of bridge removed to natural ground line or to Elev. 1021.0 in ground is above this elevation. Payment for this excavation outside the limits of excavation for substructure made at unit contract price for Roadway Excavation.

Note: All piling cast-in-place (thick shell) restle type concrete piles and conform with details and notes on Standard 52.02 except as otherwise specified. quantities shown on plans are based on the following lengths: 8@60'-0" for Bents No. 1 & 4 and 10@70'-0" for Bents No. 2 & 3. These indicated lengths are approximate only. Proper lengths to give required bearing and penetration determined by the Contractor.

All piling driven to the minimum penetrations noted and to not less than the specified "Plan" capacities unless excessive lengths are required to obtain "Plan" capacities in which cases the Engineer authorized lesser capacities, but in no cases below "Computed" capacities.

GENERAL ELEVATION



Note: See Sheet No. 2 of 6 for Log of Soundings.

## GENERAL NOTES:

Design Specifications A.A.S.H.O.-1961  
Loading H15-44 (1-Lane)  
Structural Steel Stress (A.S.T.M. A7-58T) 18,000 psi  
Structural Steel Stress (A.S.T.M. A36-60T) 20,000 psi  
Reinforcing Steel Stress 20,000 psi  
Concrete, Class B Stress 1200 psi  
Concrete, Class B1 Stress 1600 psi  
Superstructure concrete Class B1 (Air-Entrained)  
Substructure concrete Class B (Air-Entrained)  
Rivets 3/4" dia, holes 1 1/8" dia except where otherwise noted.  
Field connections

High Strength Steel bolts with hardened washers for the beam splices and machine bolts for other field connections. Heads and nuts of machine bolts are American Standard Regular.

Qualification of welding operators was required.

Point: Shop, none; Field: contact surfaces of bolted field connections, except where high strength bolts are used, one coat of red lead and surfaces inaccessible after erection three coats of red lead. No other paint applied by Contractor except as noted for steel shells of cast-in-place piles. Red lead required was furnished by Contractor. Payment for cleaning and painting such surfaces included in unit price bid for Fabricated Structural Carbon Steel.

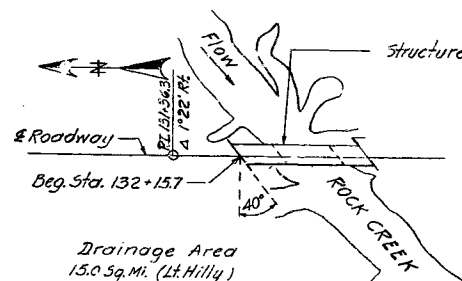
Steel shells for cast-in-place piles painted as specified for steel piles in Section 52.4.7 of the Standard Specifications.

Where joint filler is specified on the plans, it conforms with the requirements of Section 157.2.5 of the Standard Specifications.

Fabricated structural carbon steel for wide flange beams, flange and splice plates A.S.T.M. A36-60T and all other steel A.S.T.M. A7-58T except as noted for bearings.

Permits obtained for all truck loads over legal length.

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



LOCATION SKETCH

Drawn Dec. 1961 by J.R.R.  
Checked Jan 1962 by R.D.L.

# STRUCTURAL REHABILITATION CHECKLIST

Bridge No.: **R0274**

Job No.: **JNW0008**

Route: **F**

Over: **Rock Creek**

County: **Atchison**

Date of Field Check: **11/08/2022**

\* \* \* Please include photographs for all items that apply. \* \* \*

1

## OVERLAY

\* Type of existing overlay: ☐ None ☒ Asphalt ☐ Low Slump ☐ Silica Fume ☐ Latex ☐ Epoxy ☒ Other: **Scrub Seal**

\* Existing overlay thickness: \_\_\_\_\_"

\* Year overlay was applied: \_\_\_\_\_ ☒ Unknown

\* % of overlay repaired or patched: \_\_\_\_\_%

\* Replace overlay: ☐ Yes ☐ No

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3466**  
#

2A

## DECK REPAIRS (Deck repair quantities are required even if a Deck Test request has been ordered for this structure.)

\* Half-sole repairs: \_\_\_\_\_ sq. ft.  
(round up to the nearest 50 sq. ft.)

\* Full depth repairs: \_\_\_\_\_ sq. ft.  
(round up to the nearest 50 sq. ft.)

\* Existing deck repair (patching): \_\_\_\_\_ sq. ft.  
(round up to the nearest 25 sq. ft.)

\* Slab edge repairs: \_\_\_\_\_ lin. ft.  
(covers the outer 4" of the slab edge)

\* Superstructure repair (Unformed): \_\_\_\_\_ sq. ft.  
(covers the remaining slab cantilever beyond the outer 4")

\* Clean & epoxy coat slab edge: \_\_\_\_\_ lin. ft.  
(in lieu of edge repairs)

\* Cantilever replacement: \_\_\_\_\_ lin. ft.

\* Total surface hydro demolition of bridge deck: ☐ Yes ☒ No  
(half-sole, full depth and exist. deck repair quantities still required)

\* Full deck replacement (redeck): ☒ Yes ☐ No ☐ Optional

\* Superstructure replacement: ☐ Yes ☒ No ☐ Optional

\* Deck repairs with voided tube replacement: ☐ Yes ☒ No  
(minimum of 10% of half-sole repair quantity)  
\_\_\_\_\_ sq. ft.

\* Full bridge replacement: ☐ Yes ☒ No ☐ Optional  
(Deck repair quantities required for cost comparison of alternatives)

\* How were the quantities obtained? ☐ Visual ☐ Bridge Inspection Report ☐ Sounded ☐ Other \_\_\_\_\_

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3466**  
#

**DECK REPAIRS CONT.****\* ISSUES / PROBLEMS WITH PRECAST PRESTRESSED DECK PANELS**

Spans	Location in Span						Deterioration		Describe
	At Panel Jt.	Btwn (mid) Panel Jt.	End	Mid	End	Type	Amount		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		sq. ft		

\* Notes: **N/A**

(Deterioration may include water saturation, efflorescence, rust staining, cracking, spalling, exposed steel, disintegration of panel edges at joints, etc. Typically observed at or near panel joints. The location and "Type" of deterioration should be recorded.)

Picture  
#

**APPROACH SLABS**

\* Is there a bridge approach slab in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other \_\_\_\_\_

\* Is there rdwy. approach pavement in place? ☐ Yes ☐ No \* Type: ☐ Concrete ☒ Asphalt ☐ Other \_\_\_\_\_

\* Is the approach slab sinking at the end bent? ☐ N/A ☒ Yes ☐ No \_\_\_\_\_

\* Are repairs needed to the bridge approach slab driving surface? ☐ Yes ☐ No \_\_\_\_\_  
(Typically a roadway item but will be reported to District on the Bridge Memorandum.)

\* Full replacement of bridge approach slab? ☒ Yes ☐ No **Both directions** \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3466, DSCN3473**  
#

4

**SLAB DRAINS**

\* Is the drainage system working adequately? ☒ Yes ☐ No

\* Recommendations: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3466, DSCN3473**

#

5

**CURBS & RAILS**

\* Existing curb (left side): ☐ Safety Barrier Curb ☒ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☒ Steel Channel

☐ Other \_\_\_\_\_ ☐ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing curb (right side): ☐ Safety Barrier Curb ☒ Curb/parapet ☐ Blockouts ☐ Thrie Beam ☐ Baluster ☒ Steel Channel

☐ Other \_\_\_\_\_ ☐ Handrail ☐ Fence \_\_\_\_\_

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Remove hand rail ☐ Yes ☐ No

\* Add curb blockout ☐ Yes ☐ No

\* Existing median curb: Type: \_\_\_\_\_ Width \_\_\_\_\_ " Height \_\_\_\_\_ "

\* Does curb need repair ☐ Yes ☐ No

\* Curb repair \_\_\_\_\_ lin. ft.

\* Approach rail attachment: ☒ None ☐ Not attached ☐ 4 Hole ☐ 5 Hole ☐ Turn-down ☐ Other \_\_\_\_\_

\* If the existing handrails will be removed, does the local maintenance supervisor wish to keep them? ☐ Yes ☐ No

Storage address: location: \_\_\_\_\_

address: \_\_\_\_\_

city: \_\_\_\_\_ state: \_\_\_\_\_ zip: \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture **DSCN3466, DSCN3473**

#



6

## EXPANSION DEVICES

Bent	Type	Recommendations			Gap Left	Gap Right	Temperature & Other Info
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"	"	

\* Notes: **N/A**Picture  
#

7

## BEARINGS

Bent	Coating	Recommendations			Notes (indicate which bearings at each bent)	
<b>N 1</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>May need to replace bearing 1 (east ext. bearing)</b>	
<b>2</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<b>3</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<b>S 4</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

\* Notes:

Picture # (Provide Pictures of Each Bearing)

DSCN3476, DSCN3477, DSCN3478, DSCN3481, DSCN3487, DSCN3488, DSCN3489, DSCN3490, DSCN3496, DSCN3499, DSCN3501, DSCN3502, DSCN3503, DSCN3507, DSCN3508, DSCN3509, DSCN3510

8

## COATING SYSTEM (PAINT)

\* Existing coating system: \_\_\_\_\_ ☐ green ☒ gray ☐ other \_\_\_\_\_\* Date last coated: **1964**\* Is existing coating peeling? ☐ Yes (Overcoat is not an option) ☐ No

\* Coating recommendation:

☒ Blast clean & recoat all steel ☐ Clean & overcoat all steel☐ Blast clean & recoat only at joint location ☐ Blast & recoat at joint locations and clean & overcoat all other steel

Note: Pull-off test required for overcoat (Calcium Sulfonate) option. Bridge Division will request pull-off tests.

\* Notes:

Picture **DSCN3474**  
#

**SUPERSTRUCTURE REPAIRS** (Repairs needed not previously stated.)

**Concrete Slab Superstructure or Girder:** (above the bearings) \_\_\_\_\_

(Example: Deck solid slabs, voided slabs, box girders,

deck girders &amp; prestressed girders) \_\_\_\_\_

**Steel:** (Example: Beams, stringers, girders, diaphragms, cross-frames, misc. steel)

**Member** (Check all that apply) (Attach pictures)

**Describe & Locate**

_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____
_____	<input type="checkbox"/> Section Loss _____ %	<input type="checkbox"/> Cracks _____ in.	_____

**Notes:** \_\_\_\_\_

 Picture  
#

**SUBSTRUCTURE REPAIR**

Bent	Formed Repair	Unformed Repair	Seal Concrete Beam Cap Bts.	Coat Exposed Pile @ Int. Pile Cap Bts.	Describe (Beam, Backwall, Wing, etc.)
<b>N 1</b>	_____ sq. ft.	<b>10</b> sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Abutment</b>
<b>2</b>	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
<b>3</b>	_____ sq. ft.	<b>10</b> sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____
<b>S 4</b>	_____ sq. ft.	_____ sq. ft.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Abutment</b>
_____	_____ sq. ft.	_____ sq. ft.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	_____

 \* Does the structure need graffiti protection? ☒ No ☐ Bottom 8' of Concrete ☐ End Bents ☐ Other \_\_\_\_\_

\* Notes: \_\_\_\_\_

 Picture **DSCN3479, DSCN3480, DSCN3491, DSCN3494**  
#

11						
SIGNS, SIGNALS &/OR LIGHTING ATTACHED TO STRUCTURE						
*	Are there signs attached directly to this structure?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	quantity _____	location _____	
*	Describe proposed work to be done to signs. _____					
*	Are there signals attached directly to this structure?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	quantity _____	location _____	
*	Describe proposed work to be done to signals. _____					
*	Is there aviation lighting attached to this structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Red _____ <i>qty.</i>	<input type="checkbox"/> Green _____ <i>qty.</i>
*	Is there navigational lighting attached to this structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	<input type="checkbox"/> Red _____ <i>qty.</i>	<input type="checkbox"/> Green _____ <i>qty.</i>
*	Is there roadway lighting attached to this structure?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A		
*	Describe proposed work to be done to lighting. _____					
*	Notes: <b>N/A</b> _____					

Picture #

UTILITIES ATTACHED TO STRUCTURE									
Type			Qty.	Size	Owner	Condition			
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other				<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other				<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other				<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove
<input type="checkbox"/> Conduit	<input type="checkbox"/> Pipeline	<input type="checkbox"/> Other				<input type="checkbox"/> Repaint	<input type="checkbox"/> Repair	<input type="checkbox"/> Replace	<input type="checkbox"/> Remove

\* Notes: **N/A**

13

**CATHODIC PROTECTION SYSTEM**

\* Is there a cathodic system on this structure? ☐ Yes ☒ No ☐ Remove ☐ Do not alter ☐ Abandon in place (grooved system)

\* Is it on and working? ☐ Yes ☐ No ☐ Unknown \_\_\_\_\_

\* Notes: \_\_\_\_\_

Picture

#

14

**CHANNEL ALIGNMENT, SLOPE PROTECTION & SCOUR**

\* Is channel aligned to bridge opening? ☒ Yes ☐ No Describe \_\_\_\_\_

\* Is drift a continual problem? ☐ Yes ☒ No Describe & Locate \_\_\_\_\_

\* Is erosion a problem? ☒ Yes ☐ No Describe & Locate **South abutment undermined with pile exposed**

\* Describe slope protection in place. \_\_\_\_\_

* Scour	At Footing	At Piling	Depth	Bent	Recommendation
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____
	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____

\* Describe needed work. **Place rock at north spill slope and south spill slope (moderate bank erosion)**

Picture

#

DSCN3485, DSCN3493, DSCN3505, DSCN3511, DSCN3512, DSCN3513, DSCN3495

15

**TRAFFIC LANES**

\* Number of lanes striped: on structure **1** under structure \_\_\_\_\_

\* Shoulder width: ☐ None on structure \_\_\_\_\_ (left) \_\_\_\_\_ (right) under structure \_\_\_\_\_ (left) \_\_\_\_\_ (right)

\* Sidewalk widths: on structure \_\_\_\_\_ (left) \_\_\_\_\_ (right) under structure \_\_\_\_\_ (left) \_\_\_\_\_ (right)

\* Median width: on structure \_\_\_\_\_ under structure \_\_\_\_\_

\* Proposed improvements for lanes/shoulders/sidewalks: \_\_\_\_\_

Picture

#

DSCN3466

16

**GENERAL AREA CONDITIONS**

\* Primary area: ☐ Commercial ☐ Industrial ☐ Residential ☒ Agricultural ☐ Military ☐ Other \_\_\_\_\_

\* Posted speed limit on structure: 55 mph

\* Posted load on structure: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Single Unit: \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

Semi (tractor/trailer): \_\_\_\_\_ tons @ \_\_\_\_\_ mph ☒ NA

\* Are both signs in place?

☐ Yes ☐ No

\* Do pedestrians and/or bicyclists regularly use this structure? ☐ Yes ☐ No ☒ Undetermined

\* Notes: \_\_\_\_\_  
\_\_\_\_\_

Picture **DSCN3466**

#

17

**MAINTENANCE**

\* What work has been done to this structure that may not be reflected on existing bridge plans? \_\_\_\_\_

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Picture

#

18

**ADDITIONAL FIELD NOTES**


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Picture

#

19

**STAGING / DETOUR**

\* **Traffic Control:** ☒ Close structure    ☐ Stage construction on structure    ☐ Cross over traffic to adjacent structure    ☐ Detour

☐ Other option \_\_\_\_\_

\* **Define probable detour route.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

20

**PERSONS ASSISTING WITH CHECKLIST**

Name	<u>Joyce Reynolds</u>	Title	<u>Project Manager</u>	Ph.	<u>( 816 ) 387 - 2411</u>
Name	<u>Bryce Acton</u>	Title	<u>District Bridge Engineer</u>	Ph.	<u>( 816 ) 390 - 3641</u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>
Name	_____	Title	_____	Ph.	<u>(     )     -     </u>

21

**REQUIRED SIGNATURES**

*I have reviewed the information on this checklist and believe it to be as accurate as possible.*

Name	_____	Date	_____
	<i>Transportation Project Manager</i>		
Name	<u>Bryce Acton</u>	Date	<u>12/6/2022</u>
	<i>District Bridge Engineer</i>		

The structural rehabilitation checklist indicates how the bridge is functioning and aging.

All deterioration should be noted, even if it is known that the work will not be completed under the proposed project.

Send **NEW** Structural Rehabilitation Checklist by email

To: "Bridge Survey Processor"

Cc: Structural Project Manager or Structural Resource Manager