

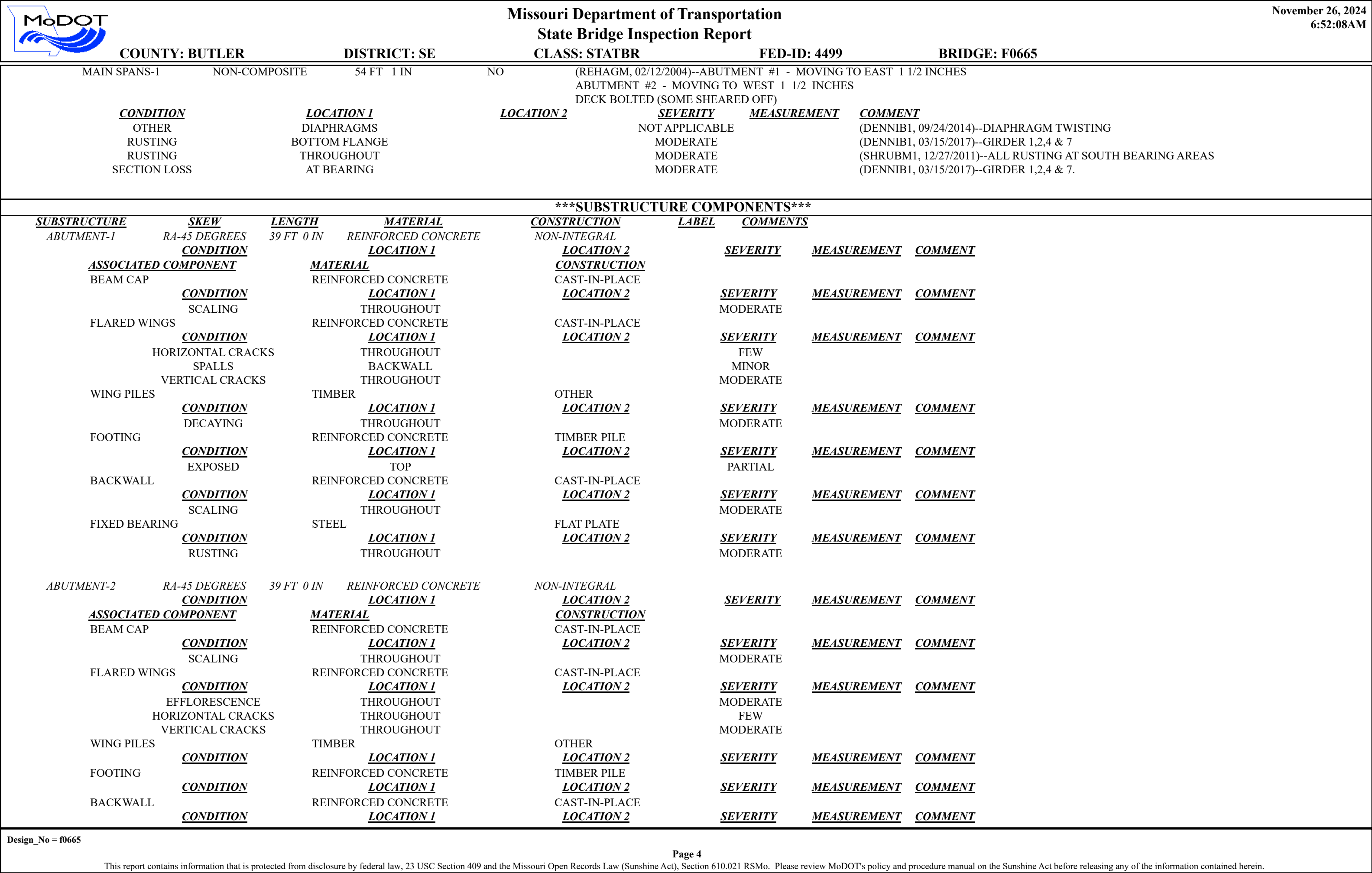
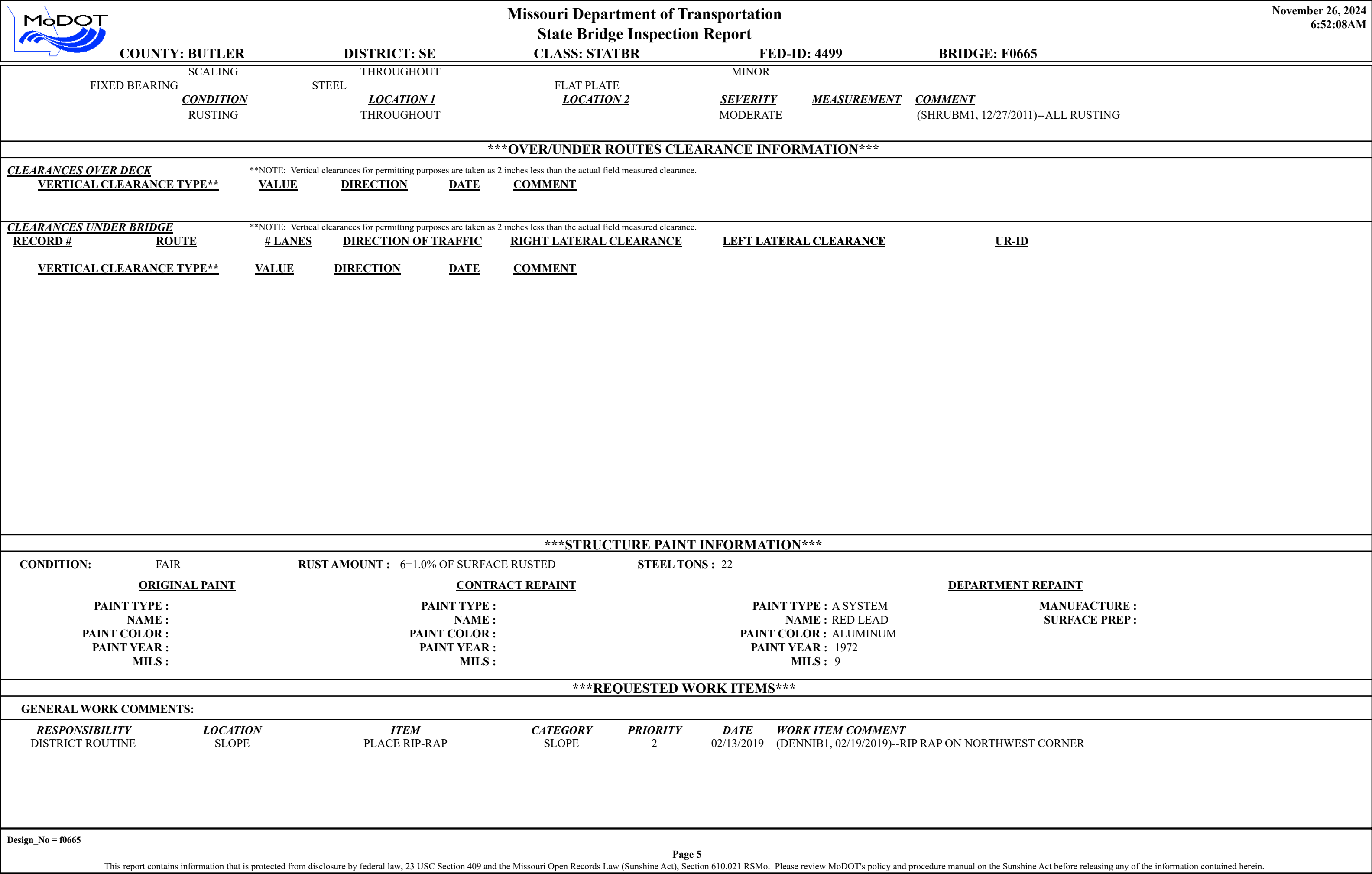

		<div>Missouri Department of Transportation</div> <div>State Bridge Inspection Report</div>				<div>November 26, 2024</div> <div>6:52:08AM</div>			
COUNTY: BUTLER		DISTRICT: SE		CLASS: STATBR		FED-ID: 4499		BRIDGE: F0665	
GENERAL STRUCTURE INFORMATION							***BRIDGE INSPECTION INFORMATION***		
<div>ROUTE: US67S</div> <div>FEATURE: HARVIELL DRAIN DTC</div> <div>STATUS: A-OPEN</div> <div>LOG MILE: 189.092</div> <div>DETOUR: 26.00 MILES</div> <div>NHS: YES</div> <div>BUILT: 1922</div> <div>REHAB: 1941</div> <div>LOCATION: S 27 T 23 R 5 E</div> <div>LATITUDE: 36 36 28.55 (DMS)</div> <div>LONGITUDE: 90 31 13.57 (DMS)</div>		<div># SPANS: 1</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-PRINCIPAL ARTERIAL</div> <div>NBI OWNER: MODOT</div> <div>NBI MAINTAINED: MODOT</div> <div>MAINTENANCE DISTRICT: SE</div> <div>MAINTENANCE COUNTY: BUTLER</div> <div>SUB AREA: 7H38</div>		<div>PLACE CODE: 51392 NEELY</div> <div>LENGTH: 54 FT 0 IN</div> <div>MAXIMUM SPAN: 54 FT 1 IN</div> <div>APPROACH ROADWAY: 24 FT 0 IN</div> <div>CURB TO CURB: 26 FT 0 IN</div> <div>OUT TO OUT: 28 FT 10 IN</div> <div>AADT: 6412</div> <div>AADT YEAR: 2023</div> <div>AADT TRUCK: 26.7%</div> <div>FUTURE AADT: 11221</div> <div>FUTURE AADT YEAR: 2043</div>		<div>DATE: 02/21/2023</div> <div>RESPONSIBILITY: DISTRICT</div> <div>FREQUENCY: 24</div> <div>CALCULATED INTERVAL**: 24</div> <div>TEAM LEADER: STEVE RIGHTNOWAR</div> <div>ELEMENT: YES</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: 04/14/2020</div> <div>FREQUENCY: 72</div> <div>TEAM LEADER: ED HESS</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**: 72</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>** 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>05/09/2017</div> <div>999</div> <div>DAMAGE POST INCIDENT</div> <div>NO</div> <div>DISTRICT</div> <div>VISUAL</div>					<div>DATE</div> <div>FREQUENCY</div> <div>CATEGORY</div> <div>NBI</div> <div>CALCULATED INTERVAL</div> <div>RESPONSIBILITY</div> <div>METHOD</div>				
Design_No = f0665									
<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>									

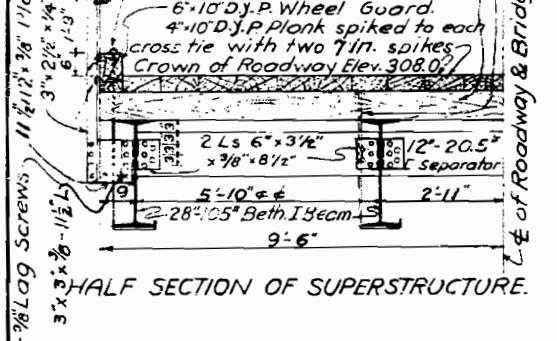
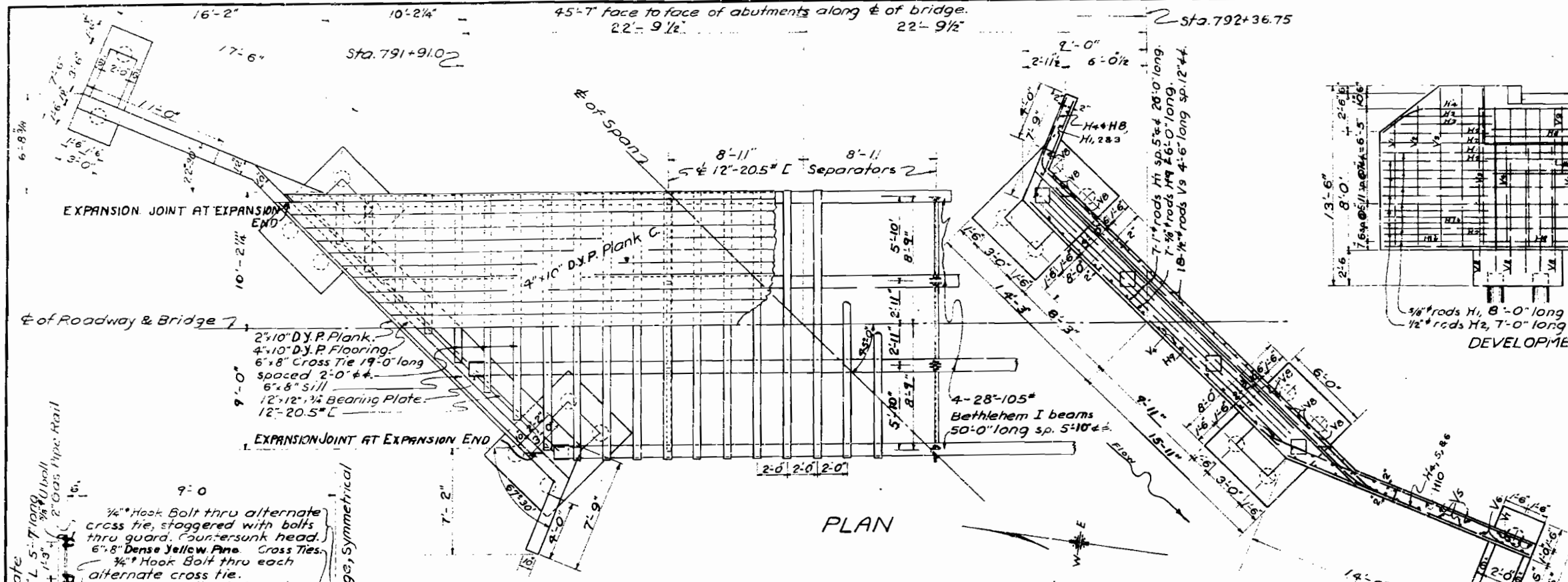
		Missouri Department of Transportation		November 26, 2024	
		State Bridge Inspection Report		6:52:08AM	
COUNTY: BUTLER		DISTRICT: SE		CLASS: STATBR	FED-ID: 4499
				BRIDGE: F0665	
STRUCTURE POSTING					
APPROVED CATEGORY: S-1		NO POSTING REQUIRED			
Ton 1:		Ton 2:		Ton 3:	
COMMENTS:					
FIELD CATEGORY: S-1		NO POSTING REQUIRED			
Ton 1:		Ton 2:		Ton 3:	PROBLEM:
COMMENTS:				PROBLEM DIRECTION:	
GENERAL COMMENTS/MAJOR RATED ITEMS					
GENERAL COMMENTS: (BOWDEJ1, 09/05/2008)--(54') SMP WF GDR SPAN (WIDENED AND REDECKED)					
[ITEM 58] DECK: 5-FAIR CONDITION		COMMENTS: (DENNIB1, 12/11/2012)--DECK IS SHIFTING AT ABUTMENTS			
RATING : 09/24/2014					
[ITEM 59] SUPER: 5-FAIR CONDITION		COMMENTS: (SHRUBM1, 12/27/2011)--SECTION LOSE AT GIRDER 7			
RATING : 12/27/2011					
[ITEM 60] SUB: 5-FAIR CONDITION		COMMENTS: (DENNIB1, 03/15/2017)--V & H CRACKS & SCALING			
RATING : 03/15/2017					
[ITEM 61] BANK/CHANNEL: 5-MAJOR DAMAGE		COMMENTS: (DENNIB1, 02/20/2019)--EROSION ON NORTH SLOPE			
RATING : 02/20/2019					
[ITEM 113] SCOUR: 8-STABLE FOR CALCULATED		COMMENTS:			
RATING : 05/18/2001					
EVALUATION TYPE :					
[ITEM 71] WATERWAY ADEQUACY: DECK/APPRCH OVERTOP SLIGT		COMMENTS:			
RATING : 05/18/2001					
[ITEM 72] APPRRDWY ALIGNMENT: 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 : 01/11/2011		COMMENTS:	
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>		
REINFORCED CONCRETE	CURB	BOTH			
REINFORCED CONCRETE	BALUSTER	BOTH			
[ITEM 36B] TRANSITION RAILING RATING: DOESNT MEET CURRNT STND-0		RATING : 01/11/2011		COMMENTS:	
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>		
GALVANIZED STEEL	W-BEAM	ALL			
[ITEM 36C] APPROACH RAILING RATING: MEETS CURRENT STANDARDS-1		RATING : 05/18/2001		COMMENTS:	
<u>MATERIAL</u>	<u>CONSTRUCTION</u>	<u>DIRECTION</u>	<u>COMMENTS</u>		
GALVANIZED STEEL	W-BEAM	ALL			
Design_No = f0665					
Page 2					
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				BRIDGE: F0665			
[ITEM 36D] RAIL END TREATMENT RATING: MEETS CURRENT STANDARDS-I							
RATING : 01/11/2007							
COMMENTS:							
<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>		<u>COMMENTS</u>	
GALVANIZED STEEL		BREKAWAY SYSTEM		ALL			
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>	
REINFORCED CONCRETE		SLAB		BOTH		<u>COMMENTS</u>	
DRAINAGE, EXPANSION DEVICES, BANK/SLOPE, AND DECK PROTECTIVE COMPONENTS							
<u>DECK PROTECTIVE COMPONENTS:</u>							
<u>SERIES TYPE-#</u>		<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SERIES-1		WEARING SURFACE		ASPHALT		BITUMINOUS MAT	
<u>THICKNESS</u>		<u>YEAR APPLIED</u>		<u>MANUFACTURE</u>		<u>OVERALL CONDITION</u>	
2 IN						FAIR	
<u>COMMENT:</u>							
		DECK PROTECTION		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
		MEMBRANE		NOTAPPLICABLE		NONE	
<u>COMMENT:</u>							
<u>DRAINAGE COMPONENTS:</u>							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
DRAINAGE		REINFORCED CONCRETE		CURB OUTLET		<u>COMMENTS</u>	
<u>EXPANSION DEVICE COMPONENTS:</u>							
<u>SUB UNIT-#</u>		<u>SUB LABEL</u>		<u>COMPONENT</u>		<u>MATERIAL</u>	
						<u>CONSTRUCTION</u>	
<u>GAP</u>		<u>YEAR APPLIED</u>		<u>MANUFACTURE</u>		<u>OVERALL CONDITION</u>	
<u>COMMENT:</u>							
<u>BANK/SLOPE PROTECTION COMPONENTS:</u>							
<u>COMPONENT</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>		<u>DIRECTION</u>	
						<u>COMMENTS</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>COMMENTS</u>		<u>LOCATION 1</u>		<u>LOCATION 2</u>		<u>SEVERITY</u>	
POP-OUTS		THROUGHOUT				FEW	
SCALING		THROUGHOUT				MEDIUM	
SPALLS		RANDOM				SMALL	
TRANSVERSE CRACKS		THROUGHOUT				FEW	
SUPERSTRUCTURE COMPONENTS							
<u>SERIES TYPE-#</u>		<u>SPAN TYPE</u>		<u>MATERIAL</u>		<u>CONSTRUCTION</u>	
MAIN SERIES-1		SIMPLE SPAN		STEEL		WIDE FLANGE GIRDERS	
<u>SPAN</u>		<u>COMPOSITE INDICATOR</u>		<u>LENGTH</u>		<u>WEATHERING STEEL</u>	
						<u>COMMENTS</u>	
Design_No = f0665							
Page 3							
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UTILITY ATTACHMENTS																																																														
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PROGRAM NOTES INFORMATION																																																														
<div><div>YEAR</div><div>2027</div></div> <div><div>PROJECT #</div><div>SE0140</div></div> <div><div>MONTH LET</div><div>1</div></div> <div><div>YEAR LET</div><div>2027</div></div> <div><div>ITEMS</div><div>REPLACE BRIDGE</div></div> <div><div>COMMENT</div></div>																																																														
COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS					***ADVANCED SIGN INFORMATION***																																																									
<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><div>Rated Item</div></td><td><div>Rating</div></td><td><div>Rating Date</div></td></tr><tr><td>[Item 67] Structure Evaluation Rating:</td><td>4-MEETS MINIMUM TOLERABLE</td><td>1/14/2004</td></tr><tr><td>[Item 68] Deck Geometry Rating:</td><td>2-BASICALLY INTOLRBLE REQ</td><td>2/23/2015</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>36.9%</td><td>1/31/2022</td></tr><tr><td>Deficiency:</td><td>FUNCTIONAL</td><td>1/14/2004</td></tr><tr><td>Funding Eligibility:</td><td>FULL</td><td>----</td></tr><tr><td>Estimated New Structure Length:</td><td>75 FT.</td><td>----</td></tr><tr><td>Estimated Structure Cost:</td><td>\$524,925</td><td>----</td></tr><tr><td>Estimated Total Project Cost:</td><td>\$787,388</td><td>----</td></tr><tr><td>Year of Cost Estimate:</td><td>2024</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>Rated Item</div>	<div>Rating</div>	<div>Rating Date</div>	[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	1/14/2004	[Item 68] Deck Geometry Rating:	2-BASICALLY INTOLRBLE REQ	2/23/2015	[Item 69] Underclearance:	N-NOT APPLICABLE	5/18/2001	Sufficiency Rating:	36.9%	1/31/2022	Deficiency:	FUNCTIONAL	1/14/2004	Funding Eligibility:	FULL	----	Estimated New Structure Length:	75 FT.	----	Estimated Structure Cost:	\$524,925	----	Estimated Total Project Cost:	\$787,388	----	Year of Cost Estimate:	2024	----	<table><tr><td><div>SIGN #</div><div>1</div></td><td><div>SIGN TYPE</div></td><td><div>PROBLEM</div></td><td><div>PROBLEM DIRECTION</div></td></tr><tr><td colspan="4">***OUTFALL INSPECTION INFORMATION***</td></tr><tr><td><div># OUTFALLS:</div></td><td colspan="3"><div>INSPECTOR:</div></td></tr><tr><td><div>STATUS:</div></td><td colspan="3"><div>DATE:</div></td></tr><tr><td><div>NOTES:</div></td><td colspan="3"></td></tr></table>					<div>SIGN #</div> <div>1</div>	<div>SIGN TYPE</div>	<div>PROBLEM</div>	<div>PROBLEM DIRECTION</div>	***OUTFALL INSPECTION INFORMATION***				<div># OUTFALLS:</div>	<div>INSPECTOR:</div>			<div>STATUS:</div>	<div>DATE:</div>			<div>NOTES:</div>			
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GENERAL NOTES

Concentrated load 15 ton tractor and 10 ton trailers with 25% impact.

Concrete in footing, 1:3:5 mix.

mix. All other concrete, 1:2:4 mix.

Rub exposed surfaces free from form marks to a smooth and uniform appearance. No plastering permitted.

Bevel exposed edges 1/2" where no other bevel is shown.

Rods to be blocked to the proper elevation, wired at intersections and positively secured against displacement. Arrangement and spacing to be approved by engineer before concrete is poured.

Provide expansion joints as shown consisting of a heavy coat of tar or three layers of tar paper applied on trowelled surface.

Detail shop drawings shall be submitted to the State Highway Department in quadruplicate and shall be approved before steel work is fabricated.

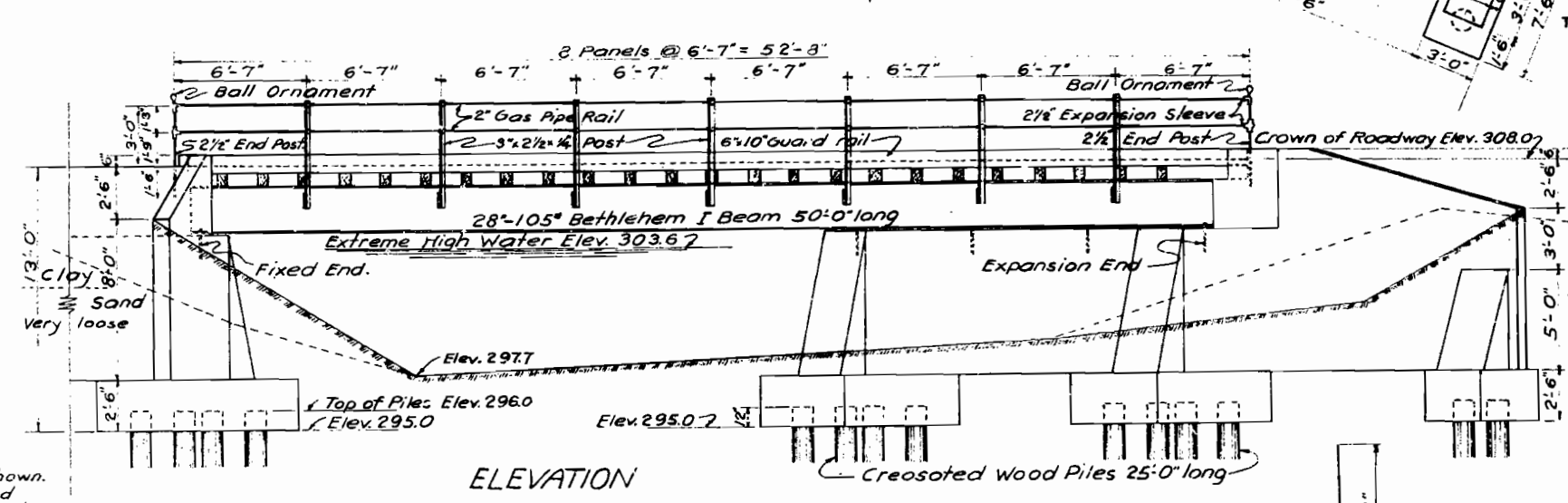
Rivets 3/4" diameter. Field connections, 3/4" turned bolts.

All metal to be painted one shop coat of red lead and two field coats of an approved brand as per specifications, field coats to be of different colors.

ALL LUMBER TO BE DENSE YELLOW PINE CREOSOTED. FLOOR PLANK DRESSED TO UNIFORM WIDTH AND THICKNESS (5:1 SLE)

All piles to be creosoted and shall be driven to sustain without settlement, a load of 20 tons.

Reinforcing rods of billet steel, structural grade, deformed type other than twisted squares. Net sectional areas not less than that of plain rods of the sizes given.



ADDITIONAL BARS			
NO.	SIZE	LENGTH	REMARKS
14	5/8"	7'-8"	H1 STRAIGHT
18	1/2"	7'-0"	H2 STRAIGHT
4	1/2"	6'-0"	H3
4	1/2"	26'-6"	H4 Bent in Field
22	5/8"	17'-6"	H5 Straight
4	5/8"	17'-6"	H6 Bent in Field
14	1"	28'-0"	H7 STRAIGHT
16	1/2"	22'-0"	H8 Bent in Field
2	1/2"	8'-5"	V1 STRAIGHT
8	1/2"	9'-9"	V2
12	1/2"	10'-8"	V3
44	1/2"	6'-9"	V4
8	1/2"	9'-0"	V5
6	1/2"	7'-10"	V6
8	5/8"	9'-3"	V7
24	3/4"	15'-10"	V8 SEE SKETCH
36	1/2"	4'-6"	V9 STRAIGHT

ESTIMATED QUANTITIES

Concrete, 1:2:4 mix. 70.4 Cu. Yds.

Concrete, 1:3:5 mix. 21.4 " "

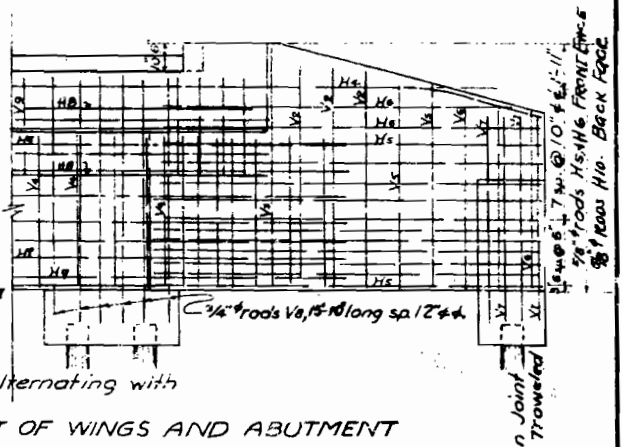
Reinforcing Steel 3850 Pounds

Structural Steel 24160 "

Gas Pipe Rail 229 Lin. Feet.

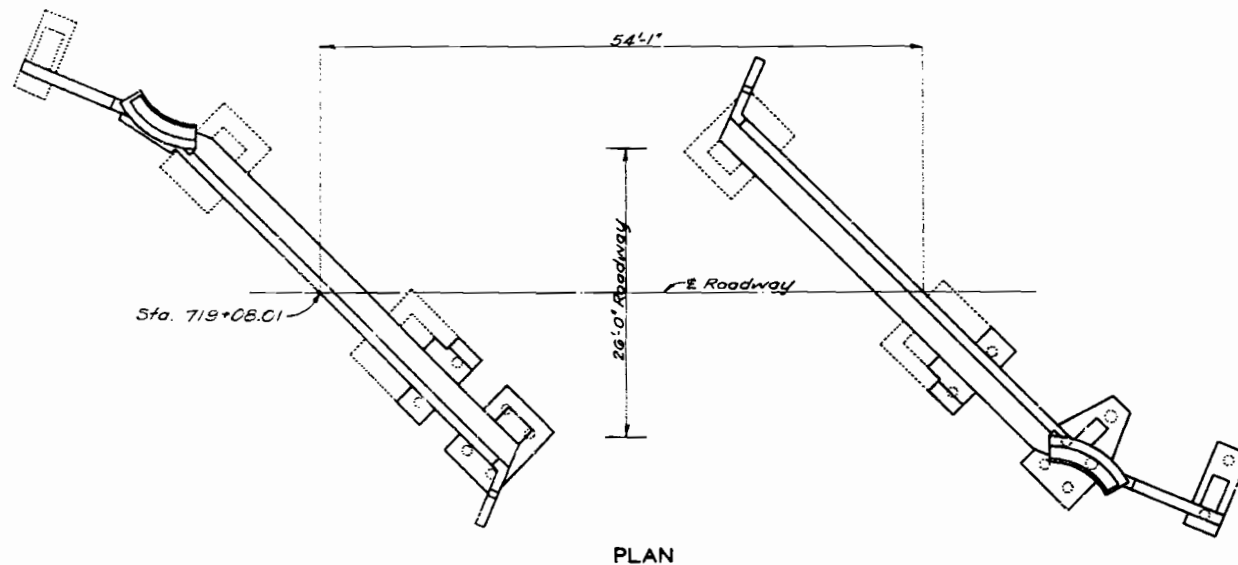
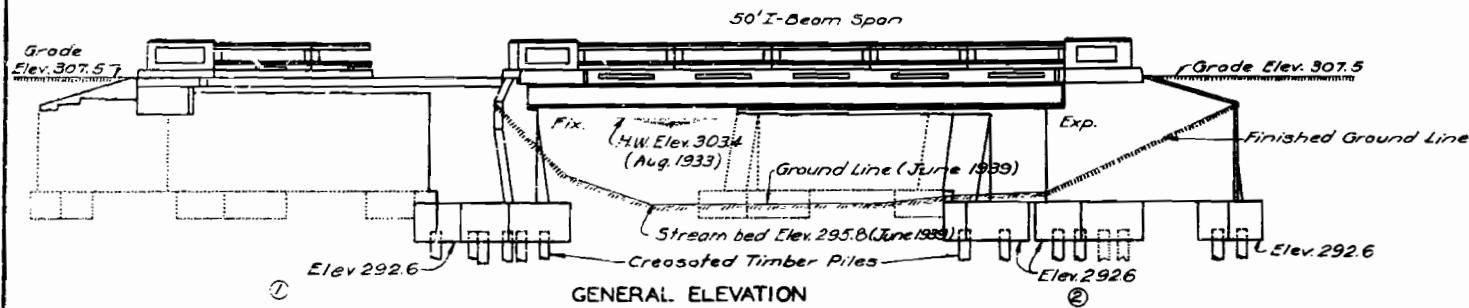
Lumber 6,820 Ft. B.M.

Creosoted Wood Piles, 500 Lin. Feet

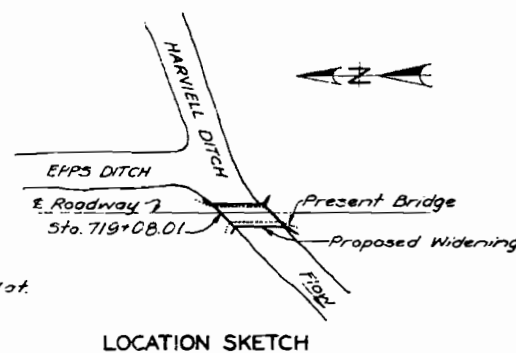


MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE PROJ. NO.	FED. AID YEAR	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO. 58-73 48-B(4)	1937	1937	19	1



Note: Light dotted lines indicate old work. Heavy lines indicate new work.



LOCATION SKETCH

GENERAL NOTES:

Design Specifications A.A.S.H.O.
Loading H-15 A.A.S.H.O.
Reinforcing Steel Stress 18,000 ψ s.
Structural Steel Stress 18,000 ψ s.
Concrete Class "B" 3000 ψ s.
All concrete shall be Class "B".
Rivets $\frac{3}{4}$ " Holes $\frac{1}{8}$ ". All field connections shall be riveted.

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

Paint: Shop, none. Field, surfaces inaccessible after erection three coats of red lead. No other paint to be applied by Contractor. Red lead required shall be furnished by the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for structural steel. All rubber compound shall be gray in color.

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams	No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams
3	3"	5'-3"	H1	Wing		30	3"	7'-6"	D1	Footing	
2	3"	5'-6"	H2	"		10	3"	5'-6"	D2	"	
2	3"	2'-6"	H3	"		14	3"	2'-6"	D3	"	
3	3"	3'-0"	H4	"		5	3"	7'-3"	D4	"	
12	3"	13'-9"	H5	Abutment		1	3"	5'-0"	D5	"	
8	3"	12'-9"	H6	"		1	3"	6'-6"	D6	"	
3	3"	10'-3"	H7	"		1	3"	8'-3"	D7	"	
7	3"	12'-3"	H8	Wing		2	3"	13'-3"	D8	"	
4	3"	7'-6"	H9	"		5	3"	9'-9"	D9	"	
2	3"	5'-3"	H10	"		4	3"	6'-0"	C4	Curb	
2	3"	4'-9"	H11	"		2	3"	7'-6"	C5	"	
2	3"	3'-6"	H12	"		14	3"	4'-0"	C6	"	
18	3"	17'-3"	H13	"		2	3"	6'-0"	C7	"	
2	3"	15'-6"	H14	"							
2	3"	12'-6"	H15	"							
3	3"	13'-0"	H16	Abutment		28	3"	3'-9"	R3	Post	
6	3"	14'-9"	H17	Ctff.		6	3"	6'-0"	R4	"	
9	3"	16'-0"	H18	Abutment		6	3"	6'-9"	R5	"	
8	3"	13'-9"	H19	"							
1	3"	12'-3"	H20	"		2	3"	5'-9"	T6	Wing	
						2	3"	5'-6"	T7	"	
2	3"	13'-3"	V1	Wing		2	3"	8'-9"	T2	"	
10	3"	3'-9"	V2	"		2	3"	12'-0"	T3	"	
4	3"	3'-6"	V3	"		7	3"	12'-9"	T4	Ctff.	
12	3"	14'-0"	V4	Abutment		2	3"	11'-9"	T5	Wing	
25	3"	4'-0"	V5	"		4	3"	5'-6"	D10	Footing	
15	3"	8'-0"	V6	"							
9	3"	10'-0"	V7	"							
14	3"	10'-3"	V8	"		32	3"	35'-6"	S1	Slab	
4	3"	7'-3"	V9	"		39	3"	31'-0"	S2	"	
2	3"	5'-9"	V10	Wing		39	3"	29'-3"	S3	"	
2	3"	9'-0"	V11	"		108	3"	27'-6"	S4	"	
13	3"	10'-6"	V12	"		4	3"	18'-9"	S5	"	
3	3"	12'-0"	V13	"		4	3"	24'-9"	S6	"	
2	3"	8'-3"	V14	Abutment		20	3"	9'-6"	S7	"	
1	3"	9'-3"	V15	"							
9	3"	19'-9"	V16	Wing		6	3"	28'-9"	C1	Curb	
1	3"	8'-3"	V17	"		52	3"	3'-9"	C2	"	
3	3"	7'-3"	V18	Abutment		6	3"	23'-6"	C3	"	
4	3"	6'-3"	V19	Ctff.		14	3"	4'-0"	C4	"	
4	3"	3'-9"	V20	"		28	3"	3'-9"	R3	Post	
3	3"	2'-0"	V21	Footing		50	3"	9'	R1	Rail	
6	3"	6'-6"	V22	Wing		32	3"	8'-6"	R2	"	
						40	3"	7'-3"	R6	Subpost	
						320	3"	18'	R7	Reinforcing	
						8	3"	10'-9"	R8	Rail	
						6	3"	6'-0"	R4	Post	
						6	3"	6'-9"	R5	"	

ESTIMATED QUANTITIES

Item	Supers	Substn	Total
Class 1 Excavation for Structures	Cu.Yds.	85	85
Class 2 Excavation for Structures	Cu.Yds.	62	62
Class "B" Concrete (Handrail)	Cu.Yds.	6.3	1.6
Class "B" Concrete	Cu.Yds.	42.2	64.4
Reinforced Structural Steel	Lbs.	19560	19560
Reinforcing Steel	Lbs.	10790	3910
Creosoted Timber Piles in Place	Lin.Ft.	325	325
Special Work (See Special Provisions) Lump Sum			

Note: Excavation for bridge made above Elev. 297.0 will be paid for as Class 1 Excavation for Structures.

Excavation for bridge made below Elev. 297.0 will be paid for as Class 2 Excavation for Structures.

Weight of bars included in weight of reinforcing steel.

B.M. Elev. 303.24 N.I.R. 24' Elm 100' Rt. Sta. 719+25. Add 0.16' for U.S.G.S. Datum

BRIDGE OVER HARVELL DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH

ABOUT 6.5 MILES S.W. OF HARVELL

PROJECT SN-FA 58-B(4) (U.S. 67) STA. 719+08.01

BUTLER

COUNTY

SUBMITTED BY

APPROVED BY

N.R. Sack DATE 1/17/41
C.W. Brown DATE 1/17/41
BRIDGE ENGINEER
CHIEF ENGINEER

STD. C-110R2

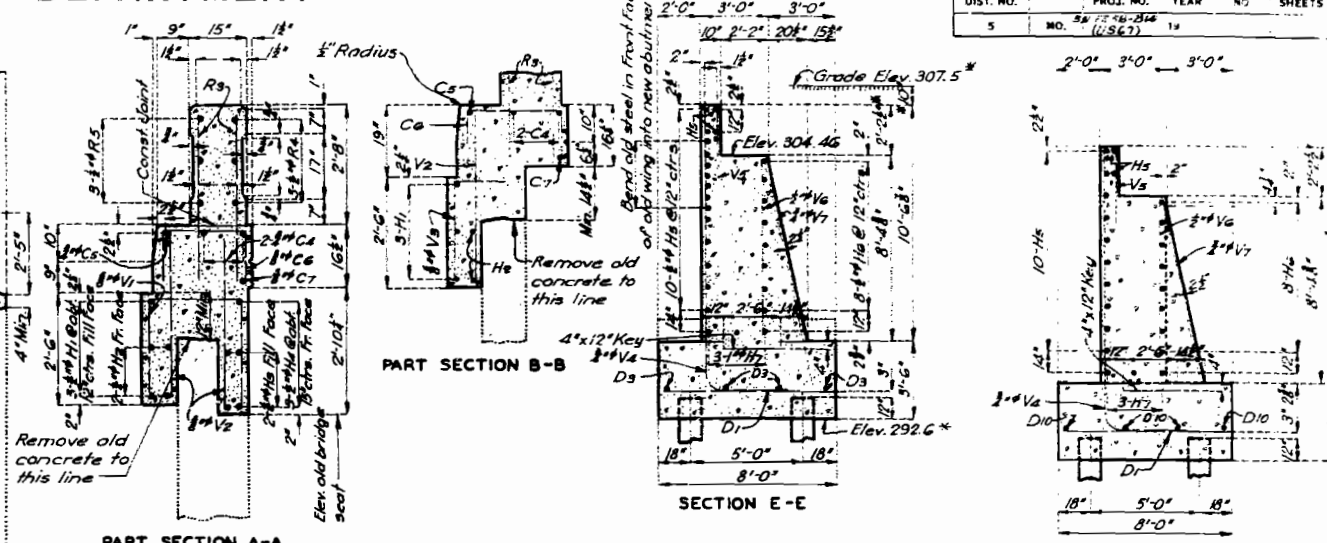
F-665R

Drawn July 1940 by D.K.M.
Traced Nov. 1940 by G.W.
Checked Jan. 1941 by RAB.

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

Sheet No. 1 of 5.

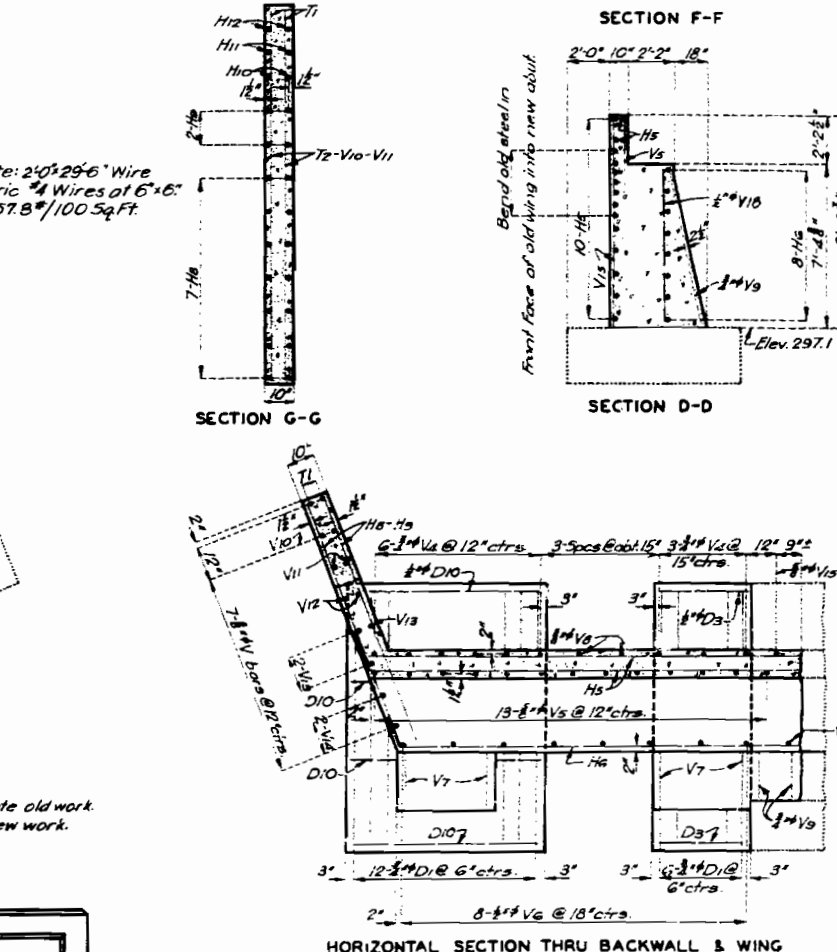
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	SA 72-48-214 (11567)	19		



Note: End Post developed on wing
For details of post not
shown see Sheet No. 5.

Note: All old, exposed reinforcing bars to be stripped and extended into new concrete where possible.

*All dimensions tying into old concrete are based on plans of old bridge and not on actual measurements of existing structure. For construction use dimensions marked thus * in locating working points and vary other dimensions, angles & elevations if required to properly tie into existing substructure.*



Note: Curb reinforcing not shown.

PART ELEVATION J-J

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 6.5 MILES S.W. OF HARVIELL
PROJECT SN-F.A. 58-B(4)(S. 67) STA. 719+08.01

F-665R

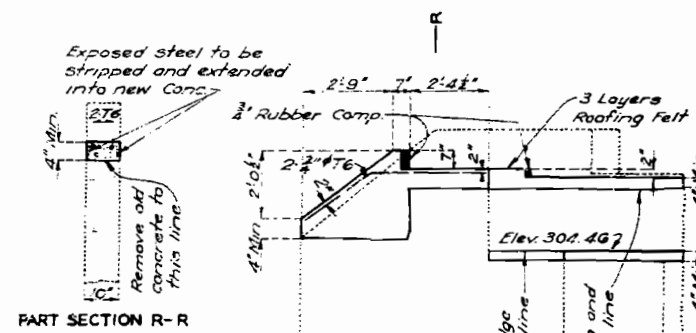
Drawn June 1940 By D. K. M.
Traced Sept. 1940 By J. T. F.
Checked Jan. 1941 By RAB.

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

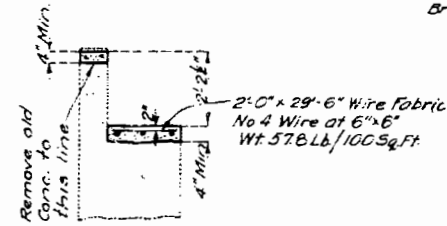
Sheet No. 2 of 5.

MISSOURI STATE HIGHWAY DEPARTMENT

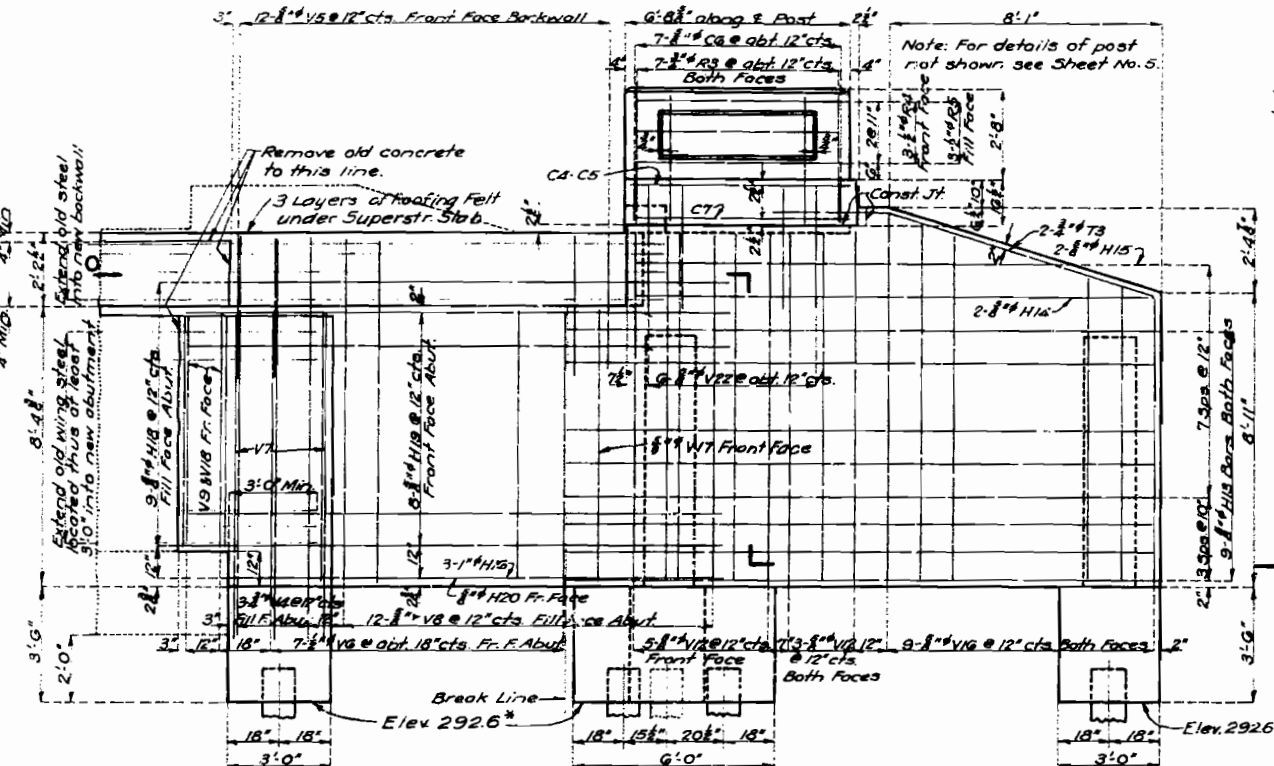
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	SN-FA 58-B(4)	1940	3	5



PART SECTION R-R

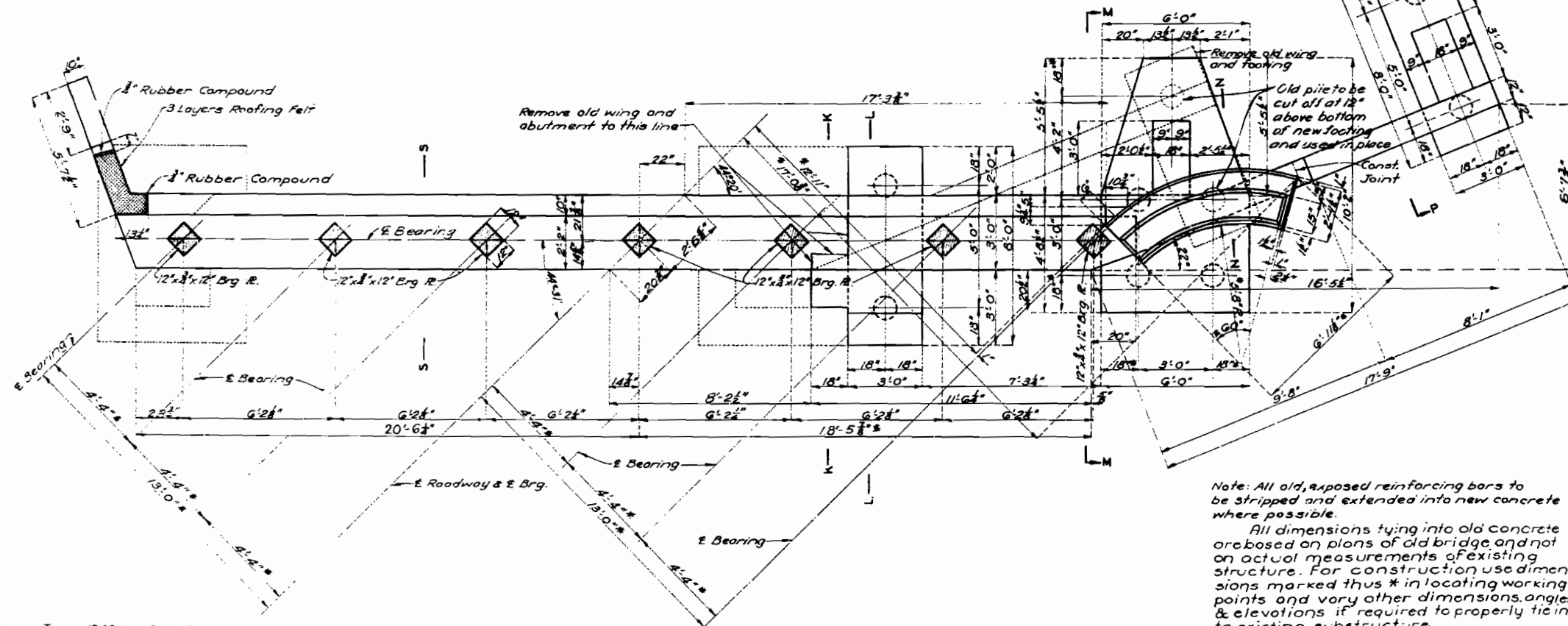


PART SECTION S-S



DEVELOPED FRONT ELEVATION
Note: End Post developed on wing.

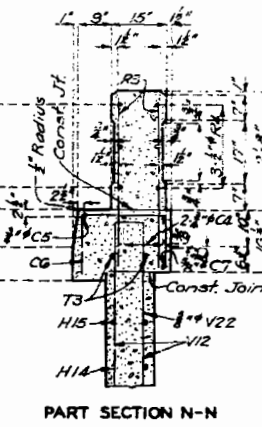
Note: Light dotted lines indicate old work.
Heavy lines indicate new work.



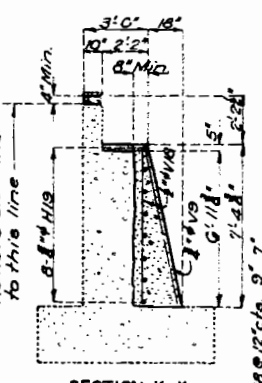
PLAN

DETAILS OF ABUTMENT NO. 2

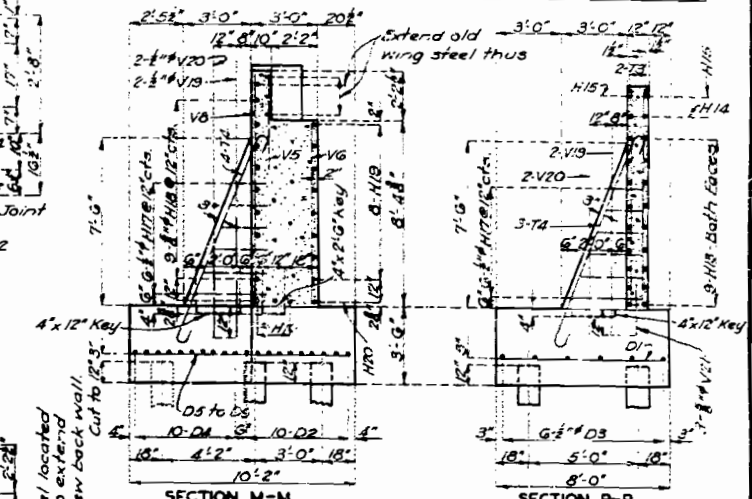
Note: This drawing is not to scale. Follow dimensions.



PART SECTION N-N

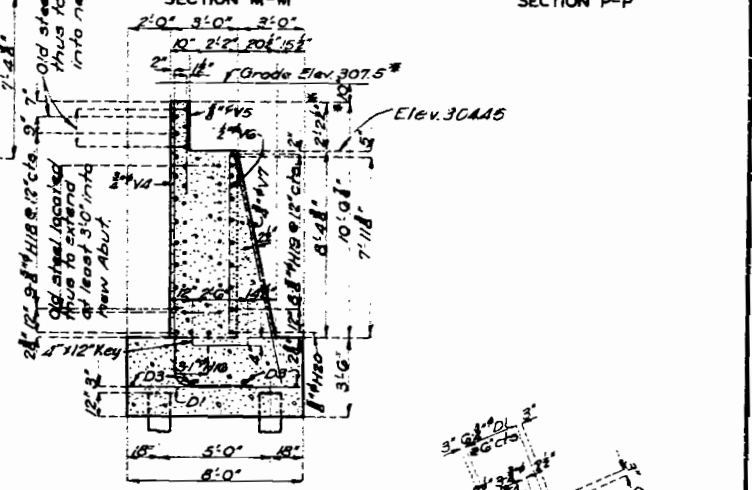


SECTION K-K

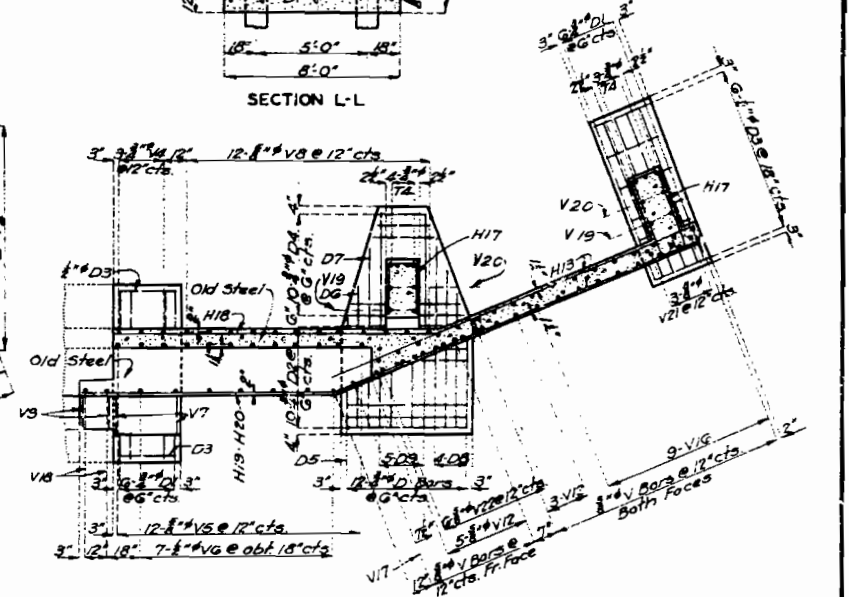


SECTION M-M

SECTION P-P



SECTION L-L



HORIZONTAL SECTION O-O THROUGH BACKWALL AND WING

Note: All old, exposed reinforcing bars to be stripped and extended into new concrete where possible.

All dimensions tying into old concrete are based on plans of old bridge and not on actual measurements of existing structure. For construction use dimensions marked thus * in locating working points and vary other dimensions, angles & elevations if required to properly tie in to existing substructure.

BRIDGE OVER HARVIELL DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 6.5 MILES SW OF HARVIELL
PROJECT SN-FA 58-B(4) (US 67) STA. 719+0.801

BUTLER

COUNTY

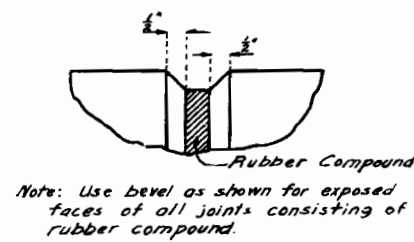
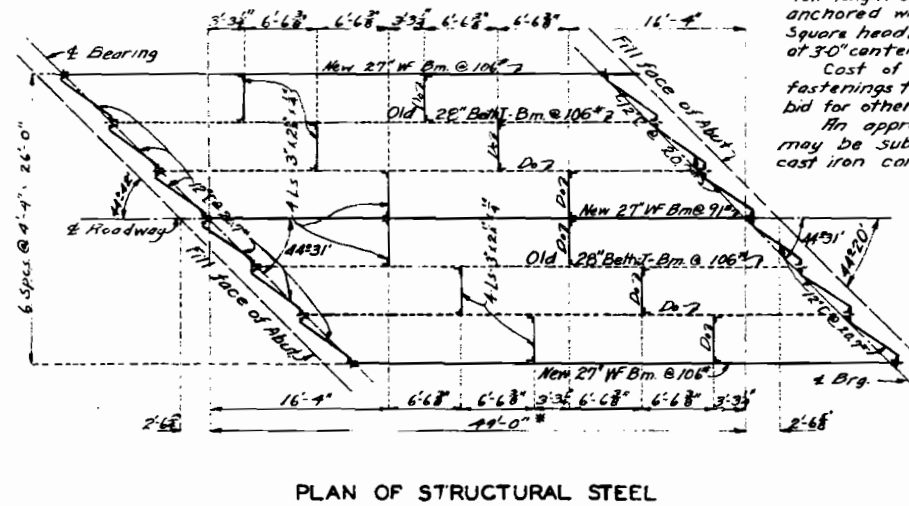
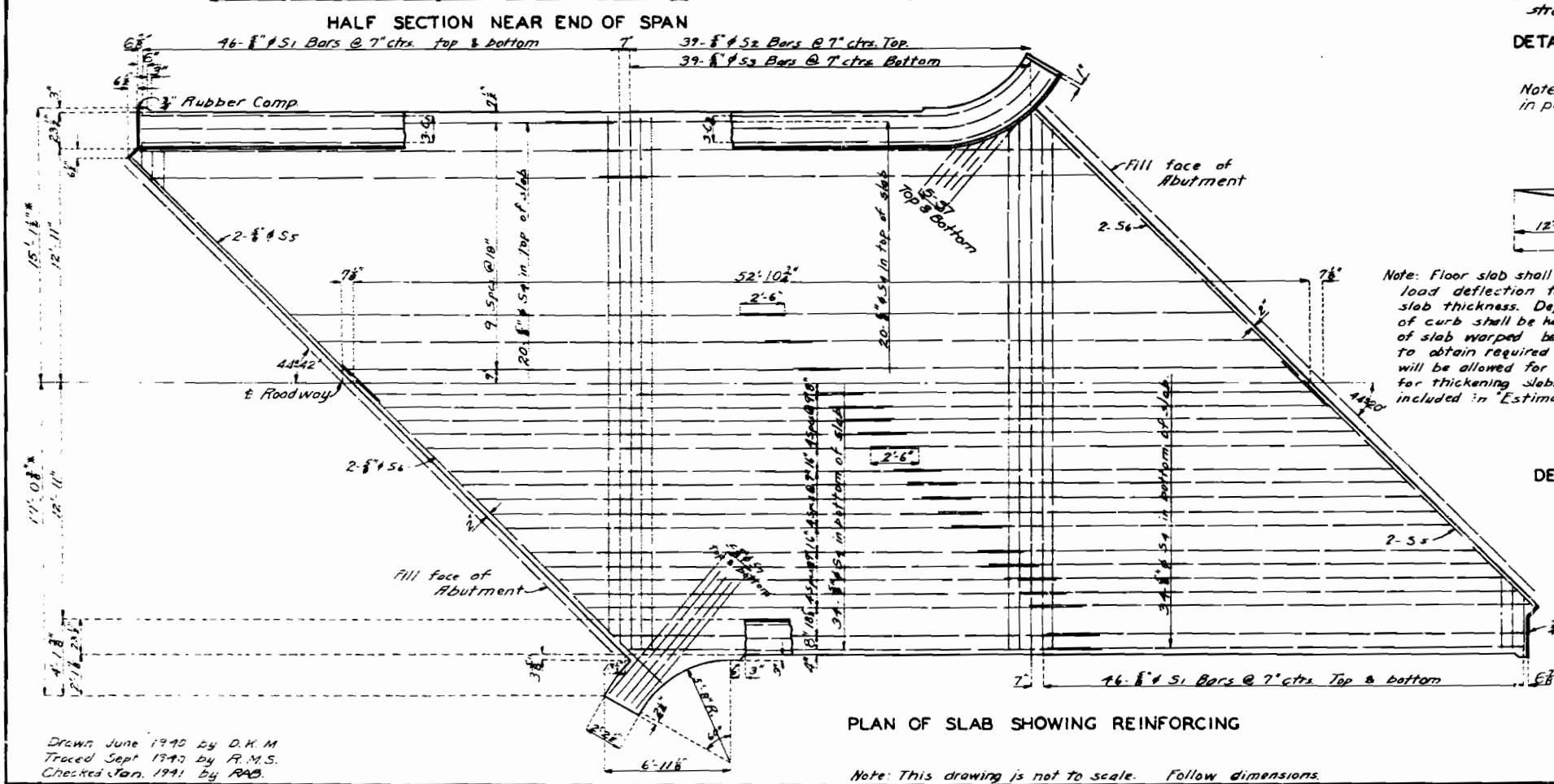
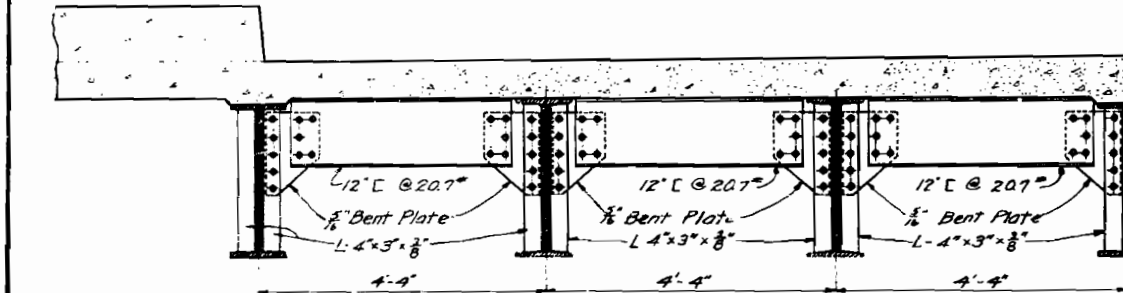
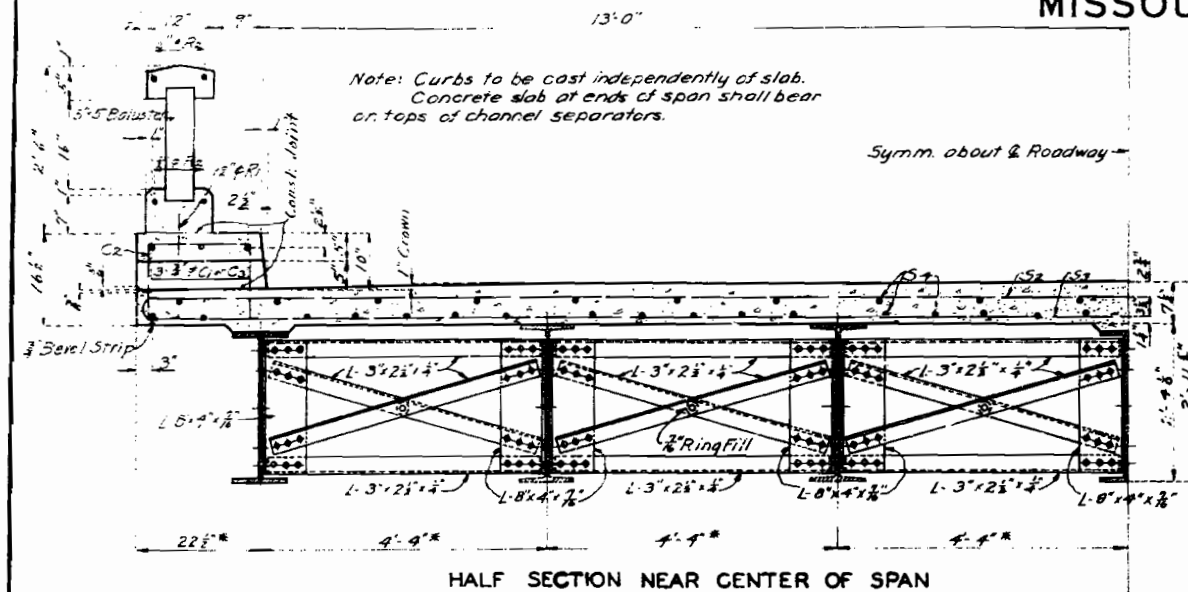
F-665R

Sheet No. 3 of 5.

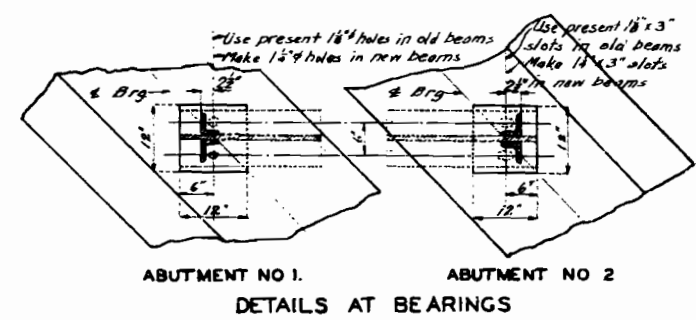
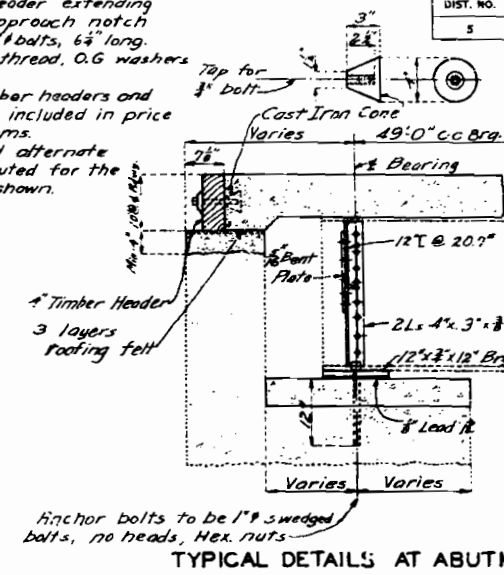
Drawn June 1940 by D.K.M.
Traced Aug. 1940 by G.W.
Checked Jan. 1941 by RAB.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	5A-58-B(4)	19	19	



Note: 4" Timber header extending full length of approach notch anchored with 3" bolts, 64" long. Square head, 3" thread, O.G. washers at 30" centers. Cost of timber headers and fastenings to be included in price bid for other items. An approved alternate may be substituted for the cast iron cone shown.

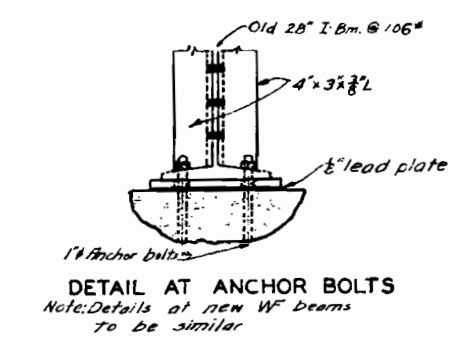
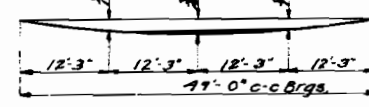


Note: All bearing plates shall be straightened to plane surfaces.

DETAILS OF BEARING PLATES

14-12"x12" Plates required

Note: Cost of lead plates to be included in price bid for other items.



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

DEFLECTION DIAGRAM

BRIDGE OVER HARVIELL DITCH

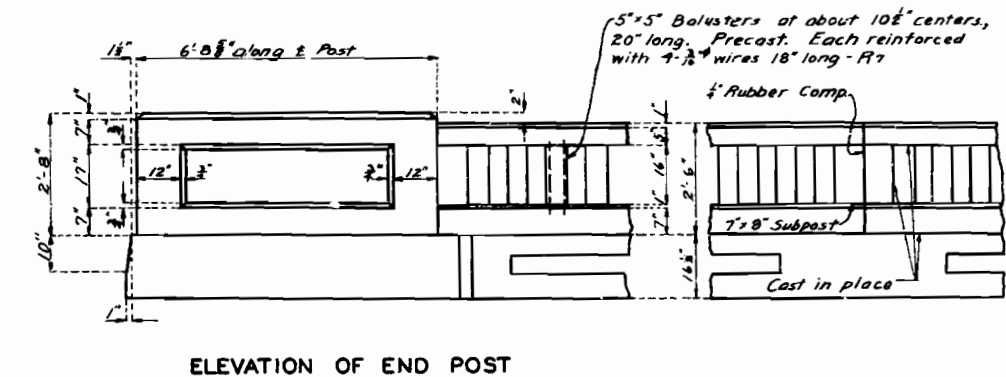
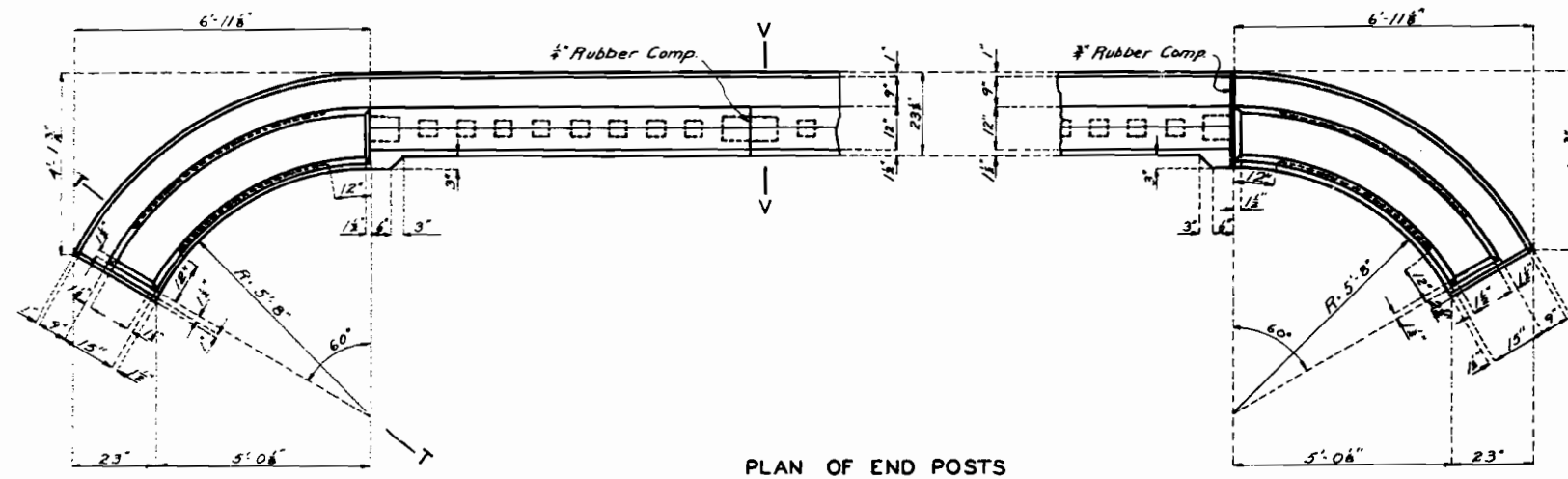
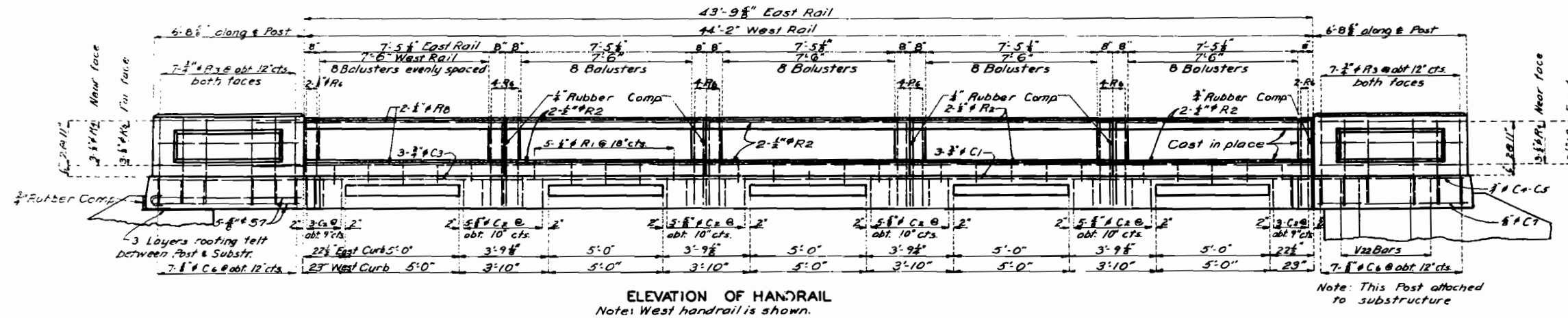
STATE ROAD FROM JUNCTION ROUTE 14 SOUTH ABOUT 4.5 MILES S.W. OF HARVIELL

PROJECT SN-FA. 58-B(4) (U.S. 67) STA. 719+08.01

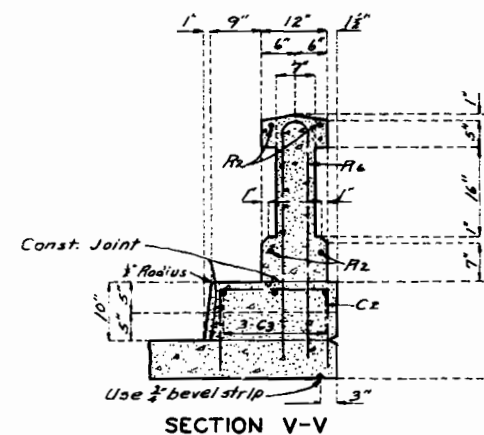
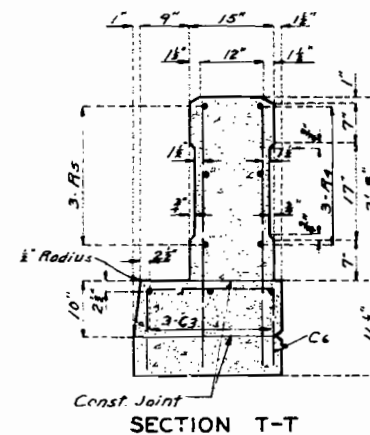
BUTLER COUNTY

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	98-2750-BU (1592)	19		



Note: Balusters to be beveled $\frac{1}{4}"$.
Corners of rail, subposts and posts
to be beveled $\frac{1}{4}"$.



BRIDGE OVER HARVIELL DITCH
STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 6.5 MILES S.W. OF HARVIELL
PROJECT SN-F.A 58-B(4)(US 67) STA. 719+08.01
BUTLER COUNTY

Drown July 1940 by D K M
Traced August 1940 by R M S
Checked Jan 1941 by RAB.

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

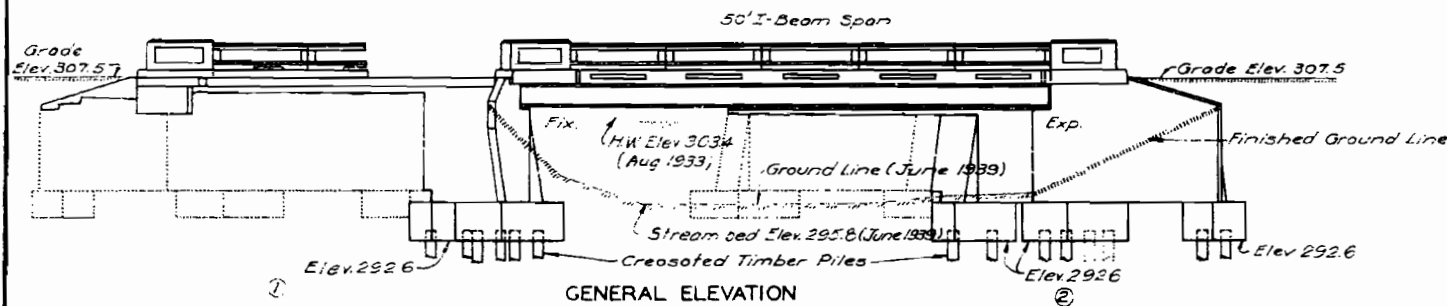
Sheet No. 5 of 5.

F-665R

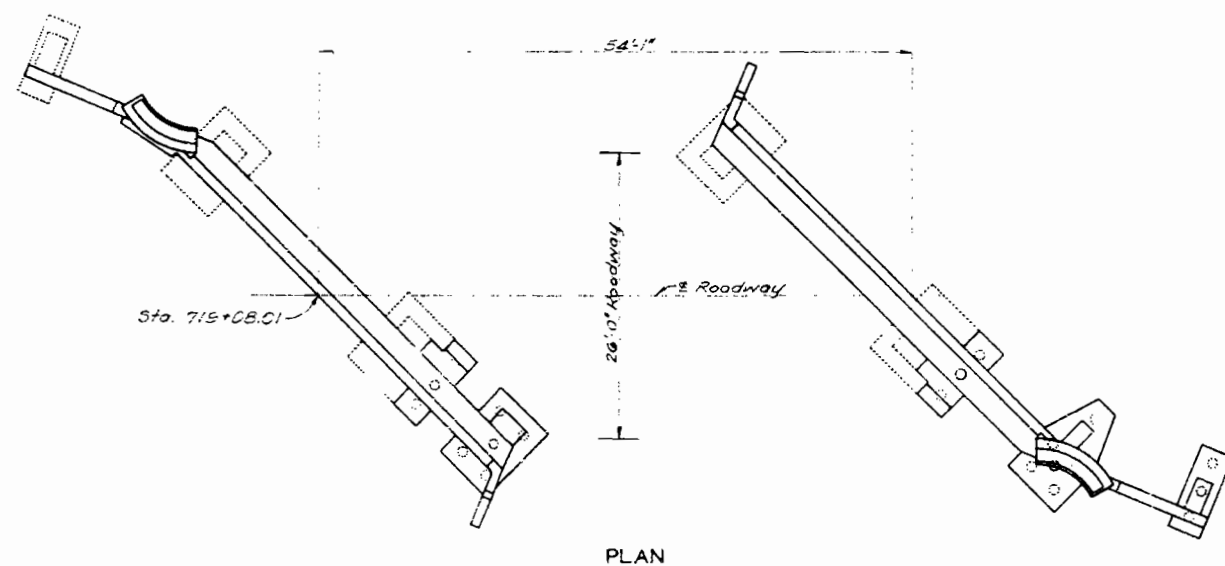
MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

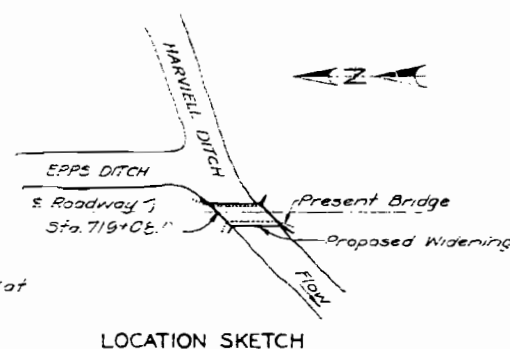
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	148 B(4)	1935	15	



Note: Piles driven to sustain a load of at least 17 tons per pile.



Note: Light dotted lines indicate old work. Heavy lines indicate new work.



Drainage Area 9 Sq. Miles - Flat

GENERAL NOTES:

Design Specifications A.A.S.H.O.
Loading H-15 A.A.S.H.O.
Reinforcing Steel Stress 18,000 psi
Structural Steel Stress 18,000 psi
Concrete Class "B" 3000 psi
All concrete shall be Class "B".
Rivets 3/4", Holes 1 1/8". All field connections shall be riveted.
Qualification of all welding operators and electrodes will be required in accordance with Specifications, except that a proper certification of electrodes previously qualified will be acceptable.

Paint: Shop, none. Field, surfaces inaccessible after erection three coats of red lead. No other paint to be applied by Contractor. Red lead required shall be furnished by the Contractor. Payment for cleaning and painting such surfaces will be included in unit price bid for structural steel.
All rubber compound shall be gray in color.

COMPLETE BILL OF REINFORCING STEEL

No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams	No.	Size	Length	Mark	Location	Bending Sketches & Cutting Diagrams
Substructure						Substructure (Cont'd)					
3	5/8"	5'-3"	H1	Wing	4'-10 1/2" 4'-2"	30	7/8"	7'-6"	D1	Footing	2'-0 1/2" 3'-2 1/2" 4'-7 1/2" 2'-7 1/2"
2	5/8"	5'-6"	H2	"	7'-4 1/2" 4'-10 1/2"	10	5/8"	5'-6"	D2	"	
2	5/8"	2'-6"	H3	"	12'-3"	14	5/8"	2'-6"	D3	"	
3	5/8"	3'-0"	H4	"	7'-8 BARS CUT 7	5	5/8"	7'-3"	D4	"	3'-6 1/2" 3'-9 1/2" 3'-11 1/2" 7'-3 1/2"
12	1 1/2"	13'-9"	H5	Abutment		1	5/8"	5'-0"	D5	"	7'-3"
8	1 1/2"	12'-9"	H6	"		1	5/8"	6'-3"	D6	"	5-D4 BARS CUT 5 2-D8 BARS CUT 2
3	1 1/2"	10'-3"	H7	"		1	5/8"	8'-3"	D7	"	
7	1 1/2"	12'-3"	H8	Wing	14'-3"	2	5/8"	13'-3"	D8	"	2'-3 1/2" 2'-3" 7'-1"
4	5/8"	7'-6"	H9	"	5'-4 1/2" 9'-6"	2	5/8"	9'-9"	D9	"	14'-3" 6'-8" 7'-2"
2	5/8"	5'-3"	H10	"	9'-4 1/2" 5'-4 1/2"	14	5/8"	7'-6"	C5	"	3'-9" 1'-6 1/2" 1'-6 1/2" 7'-3"
2	5/8"	4'-3"	H11	"	14'-9"	4	5/8"	6'-0"	C6	Curb	7'-3 1/2" 7'-3 1/2" 7'-3 1/2" 7'-3 1/2"
2	5/8"	3'-6"	H12	"	6-H17 BARS CUT 6 & BEND AS SHOWN	2	5/8"	7'-6"	C5	"	
18	5/8"	17'-3"	H13	"		2	5/8"	6'-0"	C7	"	
2	5/8"	15'-6"	H14	"							
2	5/8"	12'-6"	H15	"							
3	1 1/2"	13'-0"	H16	Abutment							
6	1 1/2"	14'-9"	H17	Ctff							
3	1 1/2"	16'-0"	H18	Abutment							
6	1 1/2"	13'-9"	H19	"							
1	1 1/2"	12'-3"	H20	"							
Superstructure						Superstructure					
2	5/8"	13'-3"	V1	Wing	6'-4 1/2" 6'-10 1/2"	2	5/8"	3'-9"	R3	Post	TI-T2-T3
0	5/8"	3'-9"	V2	"	13'-3"	6	5/8"	6'-0"	R4	"	2'-10 1/2" 2'-10 1/2" 2'-10 1/2" 2'-10 1/2"
4	5/8"	3'-6"	V3	"	2-VI BARS CUT 2 & BEND AS SHOWN	6	5/8"	6'-9"	R5	"	2'-10 1/2" 2'-10 1/2" 2'-10 1/2" 2'-10 1/2"
12	5/8"	14'-0"	V4	Abutment		2	5/8"	5'-9"	T6	Wing	30'-7 1/2" 2'-10 1/2" 2'-10 1/2" 2'-10 1/2"
25	5/8"	4'-0"	V5	"		2	5/8"	8'-3"	T2	"	35'-6" 9'-2 1/2" 9'-2 1/2"
15	5/8"	8'-0"	V6	"		2	5/8"	12'-0"	T3	"	46-SI BARS CUT 92 & BEND AS SHOWN SI-S2-T4
6	5/8"	10'-0"	V7	"		2	5/8"	12'-5"	T4	"	
14	5/8"	10'-3"	V8	"		4	5/8"	11'-9"	T5	Wing	19'-2" 22'-6" 3'-4 1/2"
4	5/8"	7'-3"	V9	"		4	5/8"	5'-6"	D10	Footing	19'-2" 22'-6" 3'-4 1/2"
2	5/8"	5'-9"	V10	Wing							
2	5/8"	9'-0"	V11	"							
13	5/8"	10'-6"	V12	"							
3	5/8"	12'-0"	V13	"							
2	5/8"	8'-3"	V14	Abutment							
9	5/8"	9'-3"	V15	"							
1	5/8"	19'-9"	V16	Wing							
1	5/8"	8'-8"	V17	"							
3	5/8"	7'-3"	V18	Abutment							
4	5/8"	6'-3"	V19	Ctff							
4	5/8"	3'-9"	V20	"							
3	5/8"	2'-0"	V21	Footing							
6	5/8"	6'-6"	V22	Wing							

ESTIMATED QUANTITIES

Item	Superstr.	Substr.	Total
Class 1 Excavation for Structures	Cu Yds.	101.0	101.0
Class 2 Excavation for Structures	Cu Yds.	68.5	68.5
Class "B" Concrete (Handrail)	Cu Yds.	6.3	7.9
Class "B" Concrete	Cu Yds.	42.2	106.6
Fabricated Structural Steel	Lbs.	19740	19740
Reinforcing Steel	Lbs.	10790	10790
Creosoted Timber Piles in Place	Lin. Ft.	331	331
Special Work (See Special Provisions)	Lump Sum		

Note: Excavation for bridge made above Elev. 297.0 will be paid for as Class 1 Excavation for Structures.
Excavation for bridge made below Elev. 297.0 will be paid for as Class 2 Excavation for Structures.
Height of bar mat is included in weight of reinforcing steel.

B M Elev. 303.24 N.R. 24' E. 100' R. Sta. 719+25. Add C. 15' for U.S.G.S. Datum

BRIDGE OVER HARVIELL DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 6.5 MILES S.W. OF HARVIELL
PROJECT SN-FA 58-B(4) (U.S. 67) STA. 719+08.01

BUTLER COUNTY

W. R. Luck, 11/7/40
C. L. Brown, 11/7/40
FINAL PLANS

STD. CH-10R2

665R

Drawn July, 1940 by S. K. M.
Traced Nov. 1940 by G. W.
Checked Jan. 1941 by P. A. B.

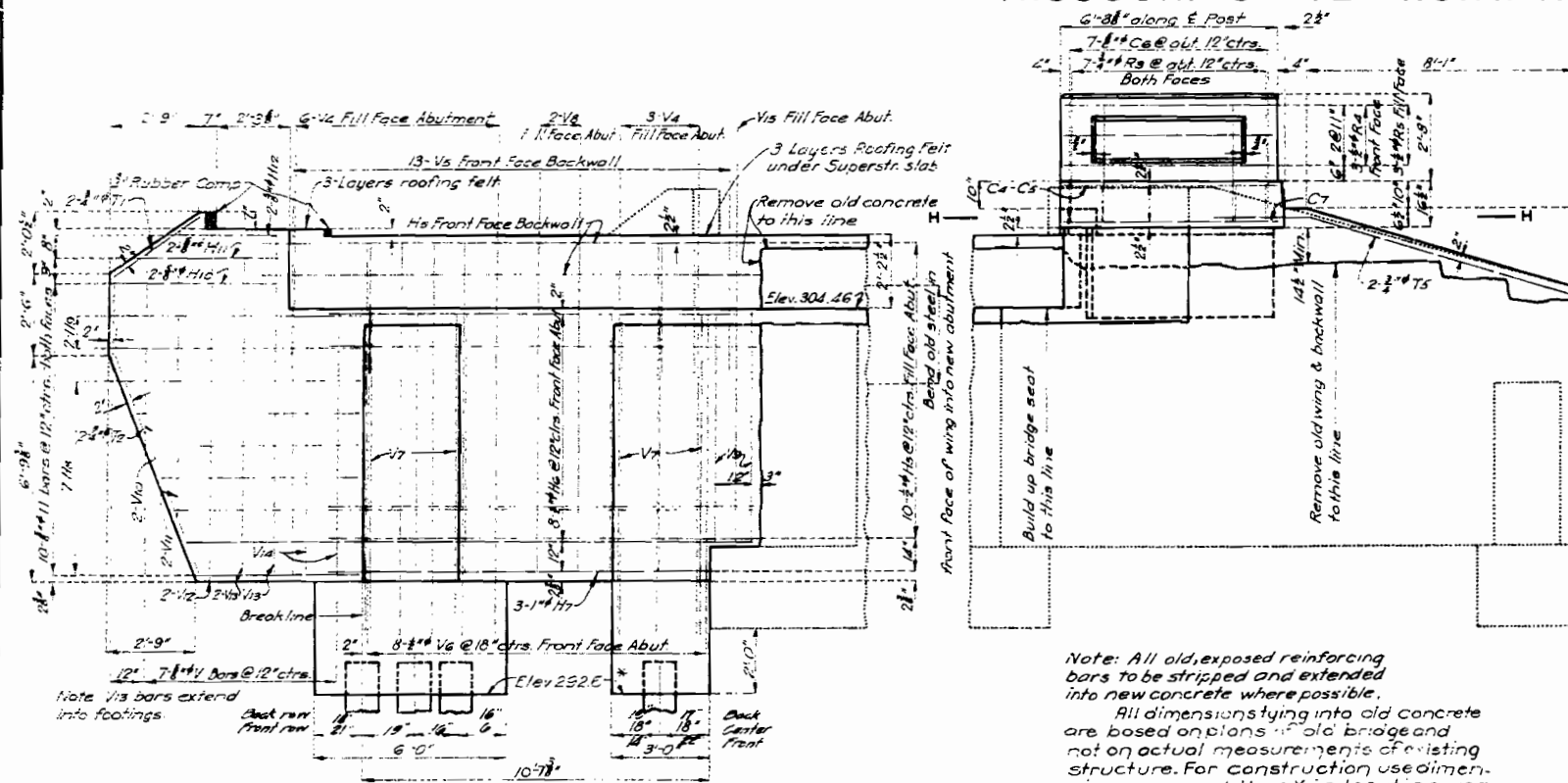
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 5

MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

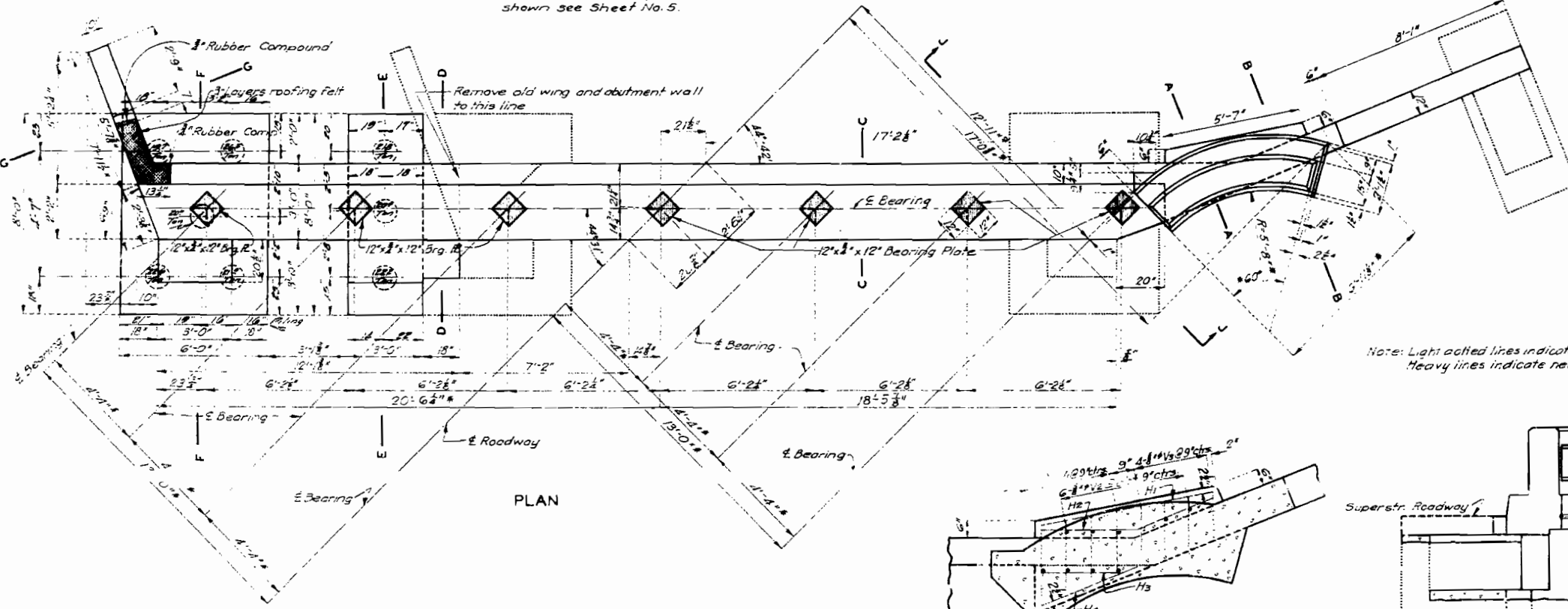
FED. ROAD DIST. NO.	STATE PROJ. NO.	FED. AID YEAR	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO	1940	1940	19	20



DEVELOPED FRONT ELEVATION

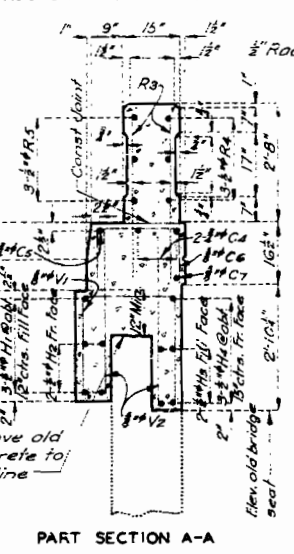
Note: End Post developed on wing
For details of post not shown see Sheet No. 5.

Note: All old, exposed reinforcing bars to be stripped and extended into new concrete where possible.
All dimensioning into old concrete are based on plans of old bridge and not on actual measurements of existing structure. For construction use dimensions marked thus * in locating working points and vary other dimensions, angles & elevations if required to properly tie into existing substructure.

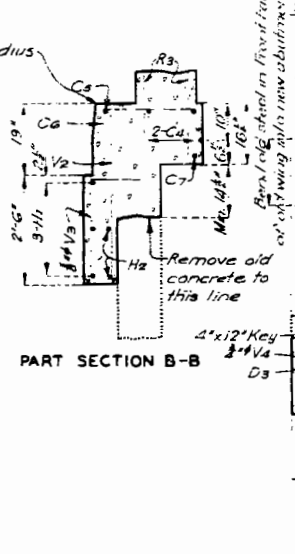


DETAILS OF ABUTMENT NO. 1

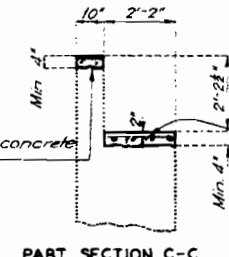
Note: This drawing is not to scale. Follow dimensions.



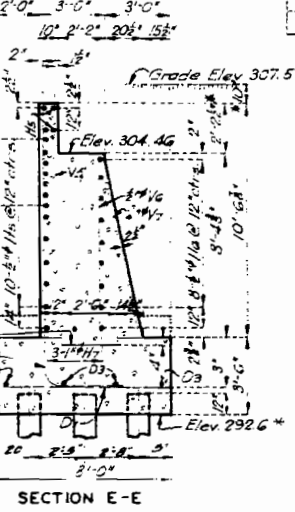
PART SECTION A-A



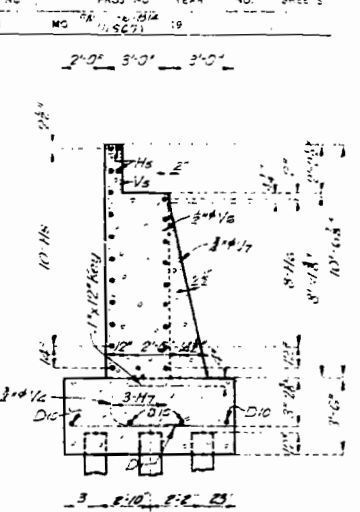
PART SECTION B-B



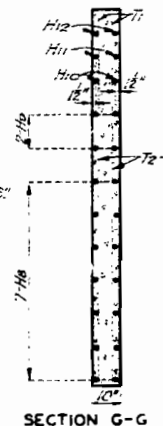
PART SECTION C-C



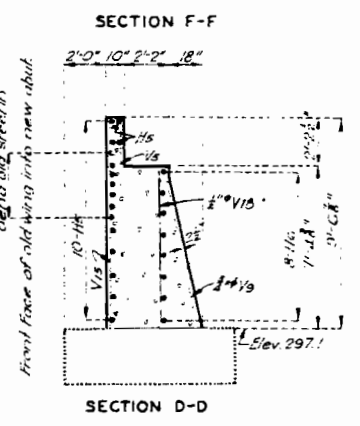
SECTION E-E



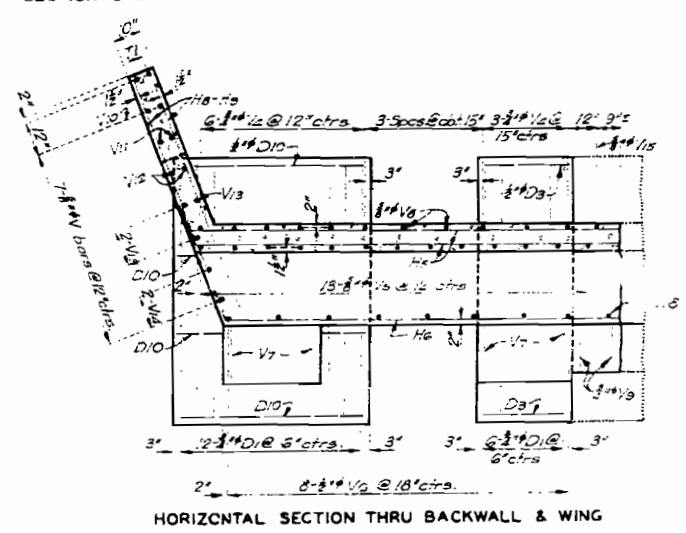
SECTION F-F



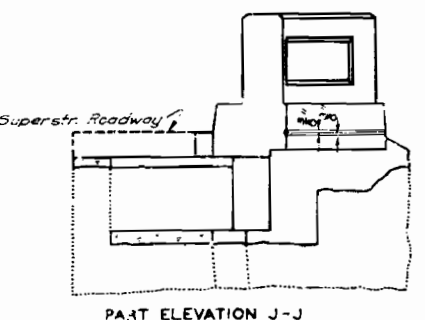
SECTION G-G



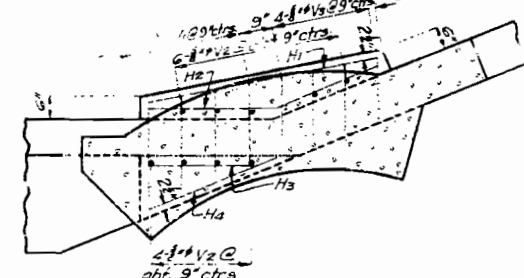
SECTION D-D



HORIZONTAL SECTION THRU BACKWALL & WING



PART ELEVATION J-J



PART SECTION H-H

Note: Curb reinforcing not shown.

BRIDGE OVER HARVIELL DITCH

STATE ROAD FROM JUNCTION ROUTE 14 SOUTH
ABOUT 6.5 MILES S.W. OF HARVIELL
PROJECT SN-FA 58-B(4)U.S 671 STA. 719+08.01

BUTLER COUNTY

FINAL PLANS

F-6-5P

Sheet No. 2 of 5

Drawn June 1940 By D. K. M.
Paced Sept. 1940 By J. T. F.
Checked Jan. 1941 By RAC

453



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

November 26, 2024
6:56:35am

COUNTY : BUTLER BRIDGE : F0665 R REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 3/15/2024 SUBMITTAL YEAR : 2024

GENERAL STRUCTURE INFORMATION			ROUTE DESIGNATION INFORMATION		
1	State	MISSOURI	5A	Record Type	ROUTE CARRIED 'ON' STRUCT
2	District	SE	5B	Route Signing Prefix	US
3	County	BUTLER	5C	Designated Level of Service	MAINLINE
8	Federal ID No.	4499	5D	Route Number	00067
27	Year Built	1922	5E	Directional Suffix	NOT APPLICABLE
106	Year Reconstructed	1941	7	Facility Carried	US 67 S
42A	Type of Service On	HIGHWAY	12	Base Hwy. Network	YES
21	Structure Maintenance	STATE HIGHWAY AGENCY	13A	LRS Inventory Route No.	0000000015
22	Structure Owner	STATE HIGHWAY AGENCY	13B	Subroute No.	00
33	Br. Median Code	NO MEDIAN	20	Toll Status	ON FREE ROAD
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP	26	Functional Classification	02-RU PRINCPL ARTRIAL-OTH
101	Parallel Struc Desg	NONE EXISTS	28A	Lanes on Structure	02
103	Temporary Structure	NOT TEMPORARY	100	STRAHNET Designation	RTE NOT A DEFENSE HWY
112	NBIS Bridge Length	YES	104	National Highway System	ON NHS
			105	Federal Lands Highway	NOT APPLICABLE
			110	Designated Nat. Network	YES
STRUCTURE LOCATION INFORMATION			STRUCTURE TRAFFIC INFORMATION		
4	Place	NEELY	29	AADT	6412
	Code	51392	30	AADT Year	2023
9	Location	S 27 T 23 N R 5 E	102	Direction of Traffic	2-WAY TRAFFIC
11	Milepoint	190.20 miles	109	AADT Truck Percent	27%
16	Latitude	36 D 36 M 29 S	114	Future AADT	11221
17	Longitude	90 D 31 M 14 S	115	Future AADT Year	2043
UNDERRECORD INFORMATION			STRUCTURE GEOMETRIC INFORMATION		
6	Features Intersected	HARVIELL DRAIN DTC	10	Inventory Rte. Vert. Clear	99 Ft. 99 In.
42B	Type of Service Under	WATERWAY	19	By pass Detour Length	26.25 miles
28B	Lanes Under Structure	00	32	Approach Roadway Width	23 Ft. 11 In.
54A	Vert. Clearance Ref.	N/A	34	Skew	45.00 Degrees
54B	Vert. Clearance	0 Ft. 0 In.	35	Struct. Flared	NO
55A	Rt. Lat Clear Ref.	N/A	47	Total Horiz. Clear	25 Ft. 11 In.
55B	Rt. Lat Clearance	0 Ft. 0 In.	48	Maximum Span Length	54 Ft. 2 In.
56	Left Lat Clearance	0 Ft. 0 In.	49	Structure Length	54 Ft. 2 In.
38	Navigation Control	PERMIT NOT REQ	50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
39	Nav Vertical Clear	0 Ft. 0 In.	50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
40	Nav Horizontal Clear	0 Ft. 0 In.	51	Curb to Curb Br. Width	25 Ft. 11 In.
111	Nav. Pier Protection		52	Deck Width (Out-Out)	28 Ft. 10 In.
116	Nav. Cl. Vert. Clear		53	Vert. Clearance Over Deck	99 Ft. 99 In.

Design_No = f0665 and Inventory_Appraisal_Submittal_Year = 2024



Missouri Department of Transportation
Bridge Inventory and Inspection System
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COUNTY : BUTLER BRIDGE : F0665 R REVIEW STATUS : APPROVED NBI STATUS : T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT RUN DATE : 3/15/2024 SUBMITTAL YEAR : 2024

LOAD RATING AND POSTING INFORMATION			MATERIAL/CONSTRUCTION INFORMATION		
31	Design Load	H 15	43A	Main Struc. Mat type	STEEL
41	Structure Status	OPEN NO RESTRICTIONS	43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
63	Oper. Rating Meth.	LOAD FACTOR	45	# of Main Spans	1
64	Operating Rating	35 Tons.	44A	Appr Struc. Mat type	000
65	Inventory Rating Meth	LOAD FACTOR	44B	Appr Struc. Cnstr. type	000
66	Inventory Rating	21 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 36.9 Percent			108B	Membrane Mat/Constr.	0 NONE
Deficiency Rating FUNCTIONAL			108C	Deck Protect Mat/Constr.	0 NONE
Funding Eligibility FULL			CONDITION RATING INFORMATION		
75A	Proposed Work	REPLACEMENT SUBSTND LOAD	58	Deck Cond. Rating	5
75B	Work Done By	Contract	59	Superstructure Cond. Rating	5
76	New Struc Length	75 Ft. 6 In.	60	Substructure Cond. Rating	5
94	Struc Improve Cost	\$ 525,000	61	Channel /Channel Protection Cond. Rating	5
95	Roadway Improve Cost	\$ 52,000	62	Culvert Cond. Rating	N
96	Total Project Cost	\$ 787,000	INSPECTION INFORMATION		
97	Year of Cost Estimates	2024	90	Gen. Insp Date	2 / 23
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	MEETS ACCEPTBLE STND	93B	Underwater Insp. Date	
67	Struc Eval App. Rating	4	92C	Special Inspection	N Months
68	Deck Geometry App. Rating	2	93C	Special Inspection Date	
69	Underclearance App. Rating	N	BORDER BRIDGE INFORMATION		
71	Waterway Adeq. App. Rating	6	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		

Design_No = f0665 and Inventory_Appraisal_Submittal_Year = 2024

Bridge Number:

F0665R

Route/County:

67 / Butler

Asbestos-Containing Material Present?

Yes: ☐

No: ☒

If yes, see report for location(s).

Structural Steel Present?

Yes: ☒

No: ☐

If No, then skip the following.

Lead-Based Paint (LBP) Present?

Yes: ☒

No: ☐

Trusses LBP?

Yes: ☐ No: ☐

Girder LBP? → ends

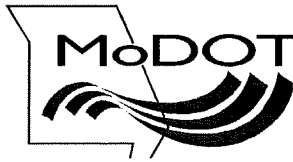
Yes: ☒ No: ☐

Railing LBP?

Yes: ☐ No: ☐

Pile LBP?

Yes: ☐ No: ☐



MEMORANDUM

Missouri Department of Transportation Construction and Materials Central Laboratory

TO: TMS

FROM: Leonard Vader *Leonard Vader*
Environmental Chemist

DATE: May 15, 2019

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route 67
Bridge F-0665R
Butler County

We are providing you with the results of the inspection on the above referenced bridge. The inspection report contains an asbestos and a heavy metals survey. The asbestos inspection included identifying suspect asbestos-containing material and NVLAP accredited testing to confirm the presence of asbestos.

Form T746 – This will show if samples were taken, where from, and, if the sample was found to contain asbestos, our estimated quantity of material present. Under the column “Friability Category” this is the meaning for the following:

N-ACM – No asbestos detected.

I NF – Asbestos is present. Material shall be handled carefully by a licensed abatement worker and kept wet if removing as part of a maintenance activity.

II NF – Asbestos is present. If removal is required for the maintenance activity, use an abatement contractor.

In accordance with Missouri Department of Natural Resources’ Technical Bulletin “Managing Construction and Demolition Waste” dated January 31, 2003, a heavy metal paint survey has been performed on the above referenced bridge. This survey includes locating concrete which has been painted with something other than traffic paint or graffiti, and testing the painted surface(s) to determine if hazardous heavy metals are present. If the bridge is being removed completely, or the maintenance repairs include removing the painted concrete, then, non-hazardous painted concrete may be used as clean fill materials, if properly handled. You must contact the Central Office Design Division for proper handling of the reported painted surfaces.

Although our survey included observing and sampling all accessible areas, it is possible that potentially hidden asbestos-containing materials may exist within the structure. Should you have any questions regarding these reports, please contact me at (573) 751-9252.

sm/lv

[http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared documents/asbestos/districts/southeast \(se\)/mt/f0665r/f0665r asbestos cover letter.docx](http://sharepoint/systemdelivery/cm/chemicallab/environmental/shared%20documents/asbestos/districts/southeast(se)/mt/f0665r/f0665r%20asbestos%20cover%20letter.docx)

Attachments

F = Friable

Asbestos Survey Report

22

Leonard Vader

7020101818MOIR2672

Over Harviell Drain Ditch

Bridge

Bridge F-0665R

All necessary work to handle this material is the contractor's responsibility.

I NF = Category I Nonfriable

Asbestos Survey Report



Bridge F-0665R

* = Tested By Point Count Procedure

**MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Metals Survey Report of Painted Concrete, Block, Brick Surfaces for Clean Fill Purposes**

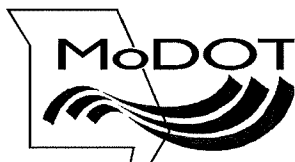
ROUTE:
MODOT JOB NO.:
DISTRICT:
COUNTY:
SURVEYED BY:
DATE OF SURVEY:

67
N/A
SE
Butler
Robert Marshall <i>RM</i>
April 23, 2019

TESTED BY:	N/A
DATE OF TESTS:	N/A
PARCEL NO.:	Brid
SITE ADDRESS:	Over
TYPE(S) OF STRUCTURE(S):	Brid

[illegible]


All results are by XRF unless otherwise indicated: a = USEPA SW-846 Method 3050
b = USEPA SW-846 Method 7471



MEMORANDUM

Missouri Department of Transportation Construction and Materials Central Laboratory

TO: TMS

FROM: Robert Marshall 
Environmental Chemist, Lead License #161121-300005166

DATE: May 29, 2019

SUBJECT: Materials
Job No. N/A
Route 67/Butler County
Bridge F-0665R

On April 23, 2019, a Lead Based Paint (LBP) survey was performed on the subject bridge. Painted girder and girder ends were present. The following results show the existing paint system on the girder and girder ends is LBP. Therefore any painting project on the railing and girder will be subject to DHSS notification and regulation:

	Girder end	Girder
	19MRSM133	19MRSM136
Lead (Pb)	> 5.0 mg/cm ² (Positive)	> 5.0 mg/cm ² (Positive)

In addition, a heavy metals screening was also performed on the painted structural steel. The following results are for informational purposes only:

	Girder end	Girder
	19MRSM134	19MRSM135
Arsenic (As)	< LOD *	45719 ppm **
Chromium (Cr)	< LOD	61 ppm
Lead (Pb)	217667 ppm **	688898 ppm
Cadmium (Cd)	202 ppm	1274 ppm
Selenium (Se)	< LOD	< LOD *
Barium (Ba)	423 ppm	117 ppm
Mercury (Hg)	< LOD	< LOD
Silver (Ag)	< LOD	< LOD

*< LOD = below the detection limit of the instrument

**ppm = parts per million

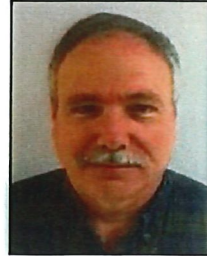
Should any further screenings be required, please contact Todd Bennett, Chemical Laboratory Director, at (573) 751-1045. Should you have any questions regarding the screenings, feel free to call me at (573) 751-9252.

rm/lv

[http://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/southeast \(sc\)/mt/f0665r/f0665r lbp letter.docx](http://sp/sites/cm/chemicallab/environmental/shared%20documents/asbestos/districts/southeast%20(sc)/mt/f0665r/f0665r%20lbp%20letter.docx)

CERTIFICATION NUMBER:
7020101818MOIR2672

THIS CERTIFIES
Leonard A. Vader
HAS COMPLETED THE CERTIFICATION
REQUIREMENTS FOR
Inspector



APPROVED: **10/22/2018**
EXPIRES: **10/22/2019**

TRAINING DATE: **10/18/2018**


Director of Air Pollution Control Program

CERTIFICATION NUMBER:
7020101818MOIR18860

THIS CERTIFIES
Robert S Marshall
HAS COMPLETED THE CERTIFICATION
REQUIREMENTS FOR
Inspector



APPROVED: **10/22/2018**
EXPIRES: **10/22/2019**

TRAINING DATE: **10/18/2018**


Director of Air Pollution Control Program