Missouri Department of Transportation
State Bridge Inspection Report

December 19, 2022
12:38:47PM

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 981** **BRIDGE: A1191**

GENERAL STRUCTURE INFORMATION

ROUTE: MO19S	**# SPANS:** 4	**PLACE CODE:** 17668 CUBA CITY	
FEATURE: IS 44	**LANES ON:** 6	**LENGTH:** 195 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 56 FT 0 IN	
LOG MILE: 122.874	**COMPASS DIRECTION:** NORTH to SOUTH	**APPROACH ROADWAY:** 90 FT 0 IN	
DETOUR: 12.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 90 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MINOR ARTERIAL	**OUT TO OUT:** 92 FT 8 IN	
BUILT: 1966	**NBI OWNER:** MODOT	**AADT:** 10290	
REHAB: 1999	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2021	
LOCATION: S 30 T 39 R 4 W	**MAINTENANCE DISTRICT:** CD	**AADT TRUCK:** 10.2%	
LATITUDE: 38 4 22.90 (DMS)	**MAINTENANCE COUNTY:** CRAWFORD	**FUTURE AADT:** 15435	
LONGITUDE: 91 24 22.45 (DMS)	**SUB AREA:** 7D17	**FUTURE AADT YEAR:** 2041	

BRIDGE INSPECTION INFORMATION

DATE: 05/11/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 20
TEAM LEADER: MICHAEL MEYERHOFF **ELEMENT:** NO
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

(RAITHK, 11/09/2020)--SPANS MAY HAVE SOME SAGGING 2020

FRACTURE CRITICAL INSPECTION INFORMATION

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

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

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

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

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

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

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

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

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

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

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 981** **BRIDGE: A1191**

STRUCTURE POSTING

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

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

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 08/28/2008)--(41'-56'-56'-41') CONT VOIDED CONC SLAB SPANS (WIDENED BOTH SIDES IN 99)

[ITEM 58] DECK: 5-FAIR CONDITION
RATING : 11/09/2020
COMMENTS: (TRAMPA, 10/27/2016)--CRACKING, LEACHING, DETER, SPALL
(RAITHK, 11/09/2020)--EXTENSIVE MAP CRKING AND MANY FAILED PATCHES

[ITEM 59] SUPER: 5-FAIR CONDITION
RATING : 11/09/2020
COMMENTS: (TRAMPA, 10/27/2016)--MODERATE DETERIORATION AT BOTH LONGITUDINAL JOINTS - SPALLING

[ITEM 60] SUB: 6-SATISFACTORY CONDITION
RATING : 05/18/2001
COMMENTS: (TRAMPA, 10/27/2016)--CRACKING, LEACHING ON THE NORTH OLD ABUTMENT; MINOR SPALL;

[ITEM 61] BANK/CHANNEL: N-NOT APPLIC NO WATRWAY
RATING : 05/18/2001
COMMENTS:

[ITEM 113] SCOUR: N-NOT APPLIC NOT WATERW
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS:

[ITEM 71] WATERWAY ADEQUACY: NOT APPLICABLE
RATING : 05/18/2001
COMMENTS:

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
VERTICAL CRACKS	THROUGHOUT		FEW	

[ITEM 36B] TRANSITION RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

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

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 981** **BRIDGE: A1191**

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
REINFORCED CONCRETE	SLAB	BOTH	GOOD	

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*LOW SLUMP*	*2.2 IN*			*FAIR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MANY	
PATCHES	THROUGHOUT		LARGE	(STEGEC, 01/31/2017)--DELAMINATED AREAS WERE PATCHED WITH QUICKCRETE LATEX MODIFIED HIGH EARLY STRENGTH CONCRETE IN 2014. ONE SMALL SPALL AND A FEW CRACKS IN 2016
SPALLS	RANDOM		MODERATE	

DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*	*2016*	*STAR MACRO*

COMMENT:

MEMBRANE	*NOTAPPLICABLE*	*NONE*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

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

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
BANK PROTECTION	*PLAIN CONCRETE*	*PAVEDSLOPE*	*BOTH*	

DECK COMPONENTS

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	DRIVING SURFACE		HEAVY		
MAP CRACKS	THROUGHOUT		MANY		
PATCHES	AT JOINTS		MANY		(RAITHK, 11/09/2020)--FAILING

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

DELAMINATION	THROUGHOUT	MODERATE
MAP CRACKS	THROUGHOUT	SEVERE
PATCHES	THROUGHOUT	MANY
SPALLS	DRIVING SURFACE	FEW

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	DRIVING SURFACE		MODERATE		
PATCHES	THROUGHOUT		MANY		
SPALLS	DRIVING SURFACE		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	DRIVING SURFACE		MODERATE		
MAP CRACKS	THROUGHOUT		FEW		
PATCHES	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*REINFORCED CONCRETE*	*VOIDED SLAB*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	41 FT 3 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT JOINTS		MODERATE		
DETERIORATION	EDGE		MINOR		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	56 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT JOINTS		MODERATE		
DETERIORATION	EDGE		MINOR		
OTHER	EDGE		NOT APPLICABLE		(RAITHK, 11/09/2020)--MINOR COLL DAMAGE

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	56 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT INTERMEDIATE BENT		MINOR		
DETERIORATION	AT JOINTS		MODERATE		
DETERIORATION	EDGE		MINOR		
LEACHING	BOTTOM		MODERATE		(MADSEJ, 09/09/2014)--WATER LEACHING THROUGH A FEW VOID DRAIN HOLES.
MAP CRACKS	THROUGHOUT		MEDIUM		
OTHER	EDGE		NOT APPLICABLE		(RAITHK, 11/09/2020)--MINOR COLL DAMAGE

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-4	NON-COMPOSITE	41 FT 3 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT JOINTS		MODERATE		
DETERIORATION	EDGE		MINOR		
DIAGONAL CRACKS	AT JOINTS		FEW		
LEACHING	BOTTOM		MINOR		(MADSEJ, 09/09/2014)--WATER LEACHING THROUGH A FEW VOID DRAIN HOLES.

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		34 FT 9 IN	REINFORCED CONCRETE	NON-INTEGRAL		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
DETERIORATION	AT CONST JT		MODERATE		
LEACHING	RANDOM		MODERATE		
VERTICAL CRACKS	BEAM CAP		FEW		
PILING	STEEL	H-SHAPE			
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
DETERIORATION	RANDOM		MINOR		

BENT-2		REINFORCED CONCRETE	MULTIPLE COLUMN			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT		**MATERIAL**	**CONSTRUCTION**			
COLUMN		REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
HORIZONTAL CRACKS		TOP		FEW		
FOOTING		REINFORCED CONCRETE	H-PILE			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-3		REINFORCED CONCRETE	MULTIPLE COLUMN			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT		**MATERIAL**	**CONSTRUCTION**			
COLUMN		REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
HIGH STEEL SPALLS		BOTTOM		FEW		
HORIZONTAL CRACKS		TOP		FEW		
VERTICAL CRACKS		RANDOM		FEW		
FOOTING		REINFORCED CONCRETE	SPREAD			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-4		REINFORCED CONCRETE	MULTIPLE COLUMN			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT		**MATERIAL**	**CONSTRUCTION**			
COLUMN		REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
HORIZONTAL CRACKS		TOP		FEW		
FOOTING		REINFORCED CONCRETE	H-PILE			
CONDITION		**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

ABUTMENT-5		34 FT 9 IN	REINFORCED CONCRETE	NON-INTEGRAL		
CONDITION			**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT			**MATERIAL**	**CONSTRUCTION**			
BEAM CAP			REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION			**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DETERIORATION			AT CONST JT		MINOR		
LEACHING			RANDOM		LIGHT		

VERTICAL CRACKS	RANDOM		FEW		
PILING	STEEL		H-SHAPE		
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
STRAIGHT WINGS	REINFORCED CONCRETE		CAST-IN-PLACE		
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

CLEARANCES UNDER BRIDGE

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

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	IS 44 E	2	1-WAY TRAF	10 FT 7 IN	18 FT 7 IN	2305

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 4 IN			

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 44 W	2	1-WAY TRAF	10 FT 7 IN	18 FT 7 IN	2306

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 1 IN		11/30/2011	

STRUCTURE PAINT INFORMATION

CONDITION: **RUST AMOUNT :** **STEEL TONS :**

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :**	**PAINT TYPE :**	**MANUFACTURE :**
NAME :	**NAME :**	**NAME :**	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :**	**PAINT COLOR :**	
PAINT YEAR :	**PAINT YEAR :**	**PAINT YEAR :**	
MILS :	**MILS :**	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

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

UTILITY ATTACHMENTS

UTILITY	*OWNER*	*METHOD*	*MEASUREMENT TYPE*	*VALUE*	*NUMBER*	*UTILITY ATTACHMENT COMMENT*
OTHER		STRAP	DIAMETER	1 IN	1	

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	12/2/2020
[Item 68] Deck Geometry Rating:	7-BETTER THAN PRESENT MIN	3/25/2002
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	1/26/2022
Sufficiency Rating:	74.1%	2/22/2022
Deficiency:	NOT DEFICIENT	5/18/2001
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

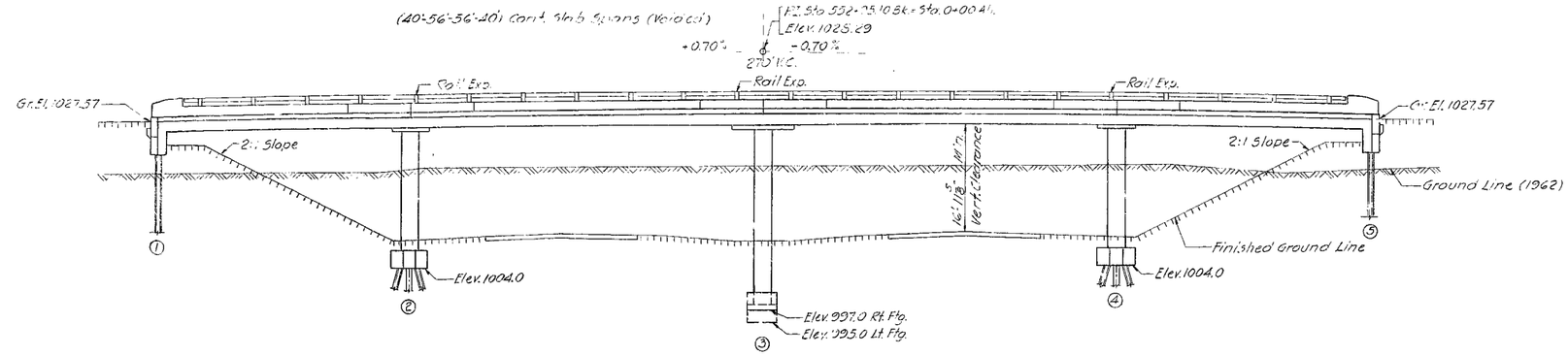
 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

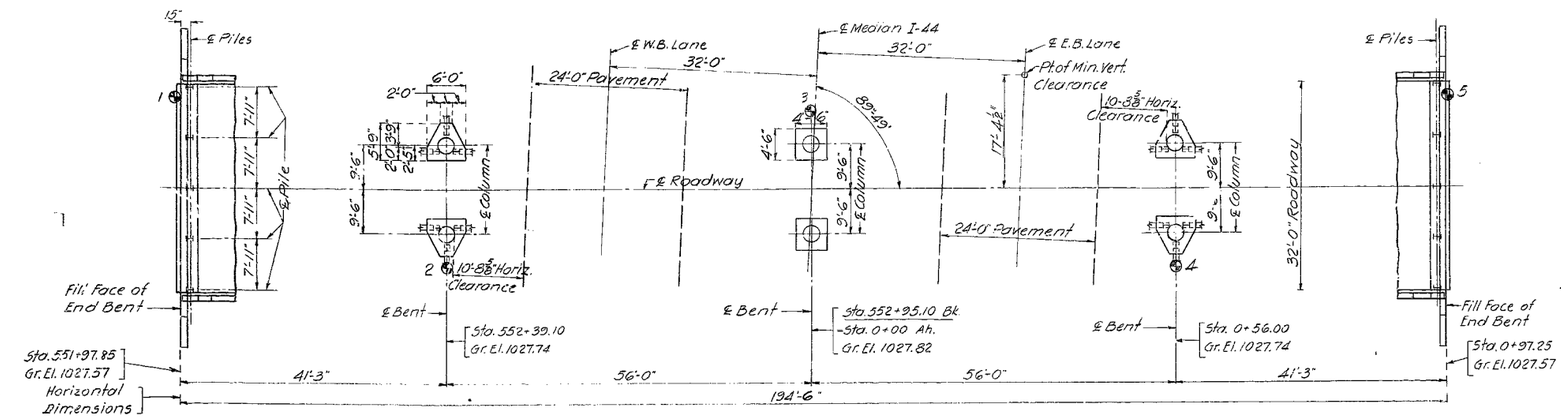
NOTES:

MISSOURI STATE HIGHWAY DEPARTMENT

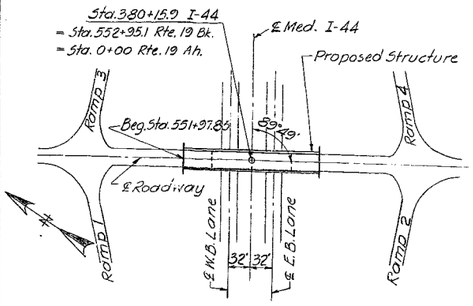
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1 V 5	



GENERAL ELEVATION



PLAN



LOCATION SKETCH

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yd.	70		70
Steel Piles in Place (10")	Lin. Ft.	544		544
Steel Pile Cut-offs (10")	Lin. Ft.	66		66
Class B Concrete	Cu. Yd.	16.5		16.5
Class B1 Concrete	Cu. Yd.		433.3	433.9
Reinforcing Steel	Lb.	400	115,860	116,260
Bridge Rail (Single tube type)	Lin. Ft.		368	368

Note: All concrete and reinforcement above footings in Intermediate bents is included in superstructure quantities.

FOOTING AND PILE DATA

	BENT NO.	1 & 5	2	4	3
SPREAD FOOTING	Foundation Material				Rock
	Design Brg. Tons/Sq. Ft.				9.3
	See Standard Specification 50.4.2				
BEARING PILE	Pile Type & Size	10 BP 42			
	Number (each Bent)	5	6	6	
	Approximate Length Ft.	40	20	15	
	Design Bearing Value Tons	26	55	55	
	* Hammer Energy Req'd Ft. Lb.	7000	12,100	12,400	

All pile shall be driven to practical refusal at 1.9 times the design bearing value.
* Minimum Energy requirement of hammer based on plan length and design bearing value of pile.
Footings for Bent No. 3 shall be carried 6" into hard, solid, undisturbed rock or 18" into soft rock or shale and cast against vertical faces of same.

GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O. - 1961

DESIGN LOADING: H20-44 (135 lb/sq ft. Future Wearing Surface)
Earth 120" Equivalent Fluid Pressure 30"

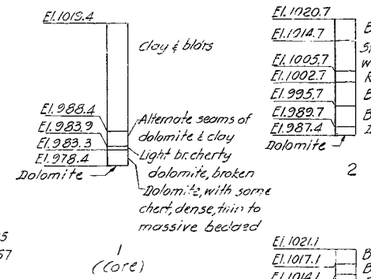
DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel Pile (A.S.T.M. A36-62T) fs = 9,000 psi

CONCRETE:
Superstructure concrete shall be Class B1
Substructure concrete shall be Class B or Class B1 except payment will be on the basis of Class B.

SURFACE SEAL:
Superstructure deck to be surface sealed.

FILLED JOINTS:
Where joint filler is specified on the plans it shall conform to Standard Specification 15T. 2.4.

WELDING:
See Standard Specification 55. 3.13 for qualification of welding operators.



Note: "⊕" Indicates location of boring.

BORING DATA

B.M. Elev 1017.75, ⊂ on N.E. cor. Hdwl. of Drop Inlet Pipe 100' Lt. Sta. 380+60

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 380 + 15.9

CRAWFORD **COUNTY**

SUBMITTED BY D. B. Jenkins, BRIDGE ENGINEER DATE 1/21/66

APPROVED BY M. J. Snider, CHIEF ENGINEER DATE 1/21/66

DESIGNED Aug. 1964 BY Brautigam
DETAILED Sept. 1964 BY Riks
CHECKED Nov 1965 BY Rhodes

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

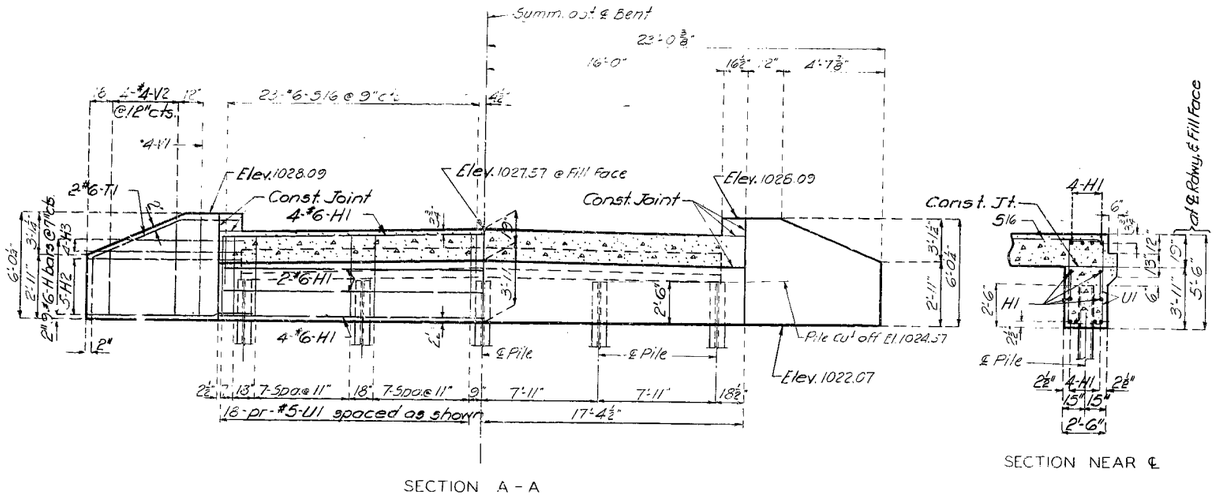
Sheet No. 1 of 5.

STD. 54.00
A-1191

131

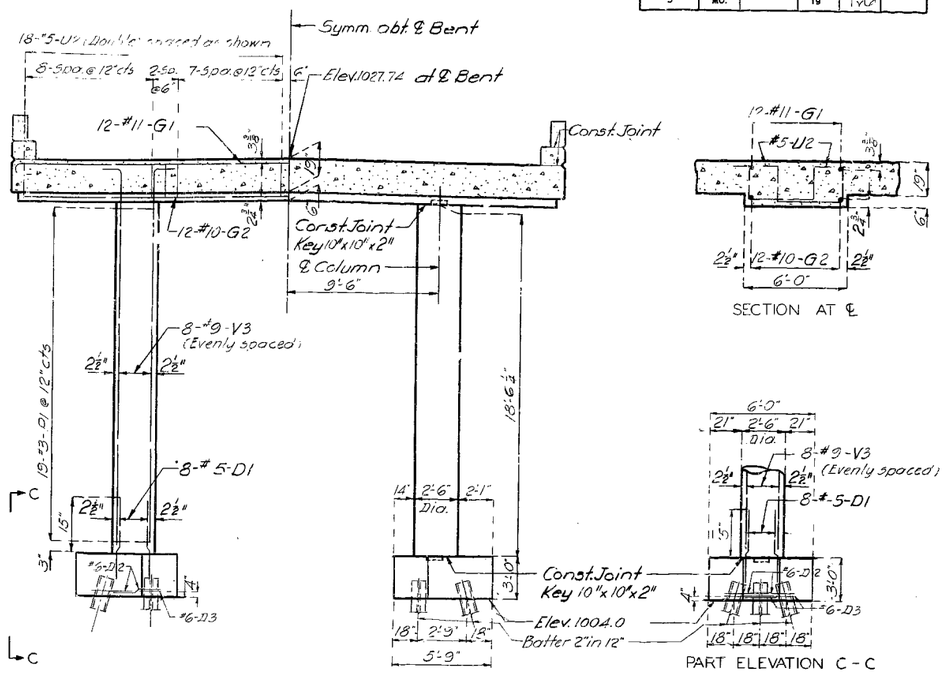
MISSOURI STATE HIGHWAY DEPARTMENT

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



SECTION A - A

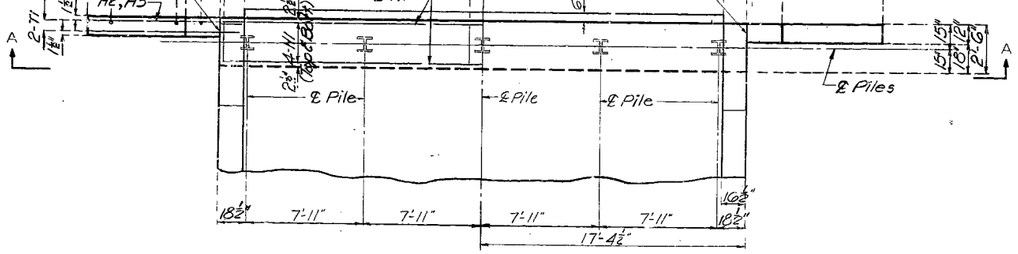
SECTION NEAR ℄



SECTION B - B

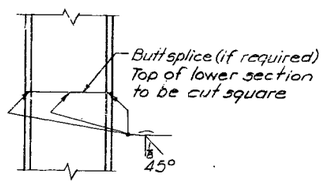
SECTION AT ℄

PART ELEVATION C - C

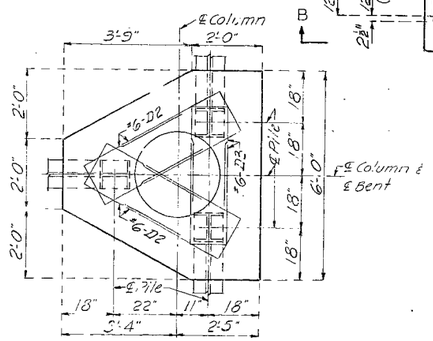


PLAN

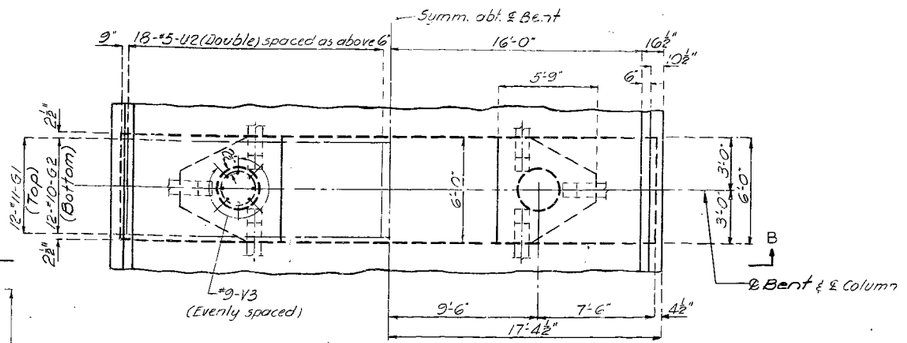
DETAILS OF END BENTS NO. 1 & 5



DETAIL OF STEEL PILE SPLICE
(Steel BP Section Only)



PLAN OF FOOTING SHOWING REINFORCEMENT



PLAN

DETAILS OF INT. BENTS NO. 2 & 4

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 380 + 15.9

CRAWFORD **COUNTY**

No.	Revised
52.2	Oct. 1965
Feb. 1962	

Drawn Sept. 1964 by Riks
Checked Nov 1965 by Rhodes

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

Sheet No. 2 of 5

A-1191

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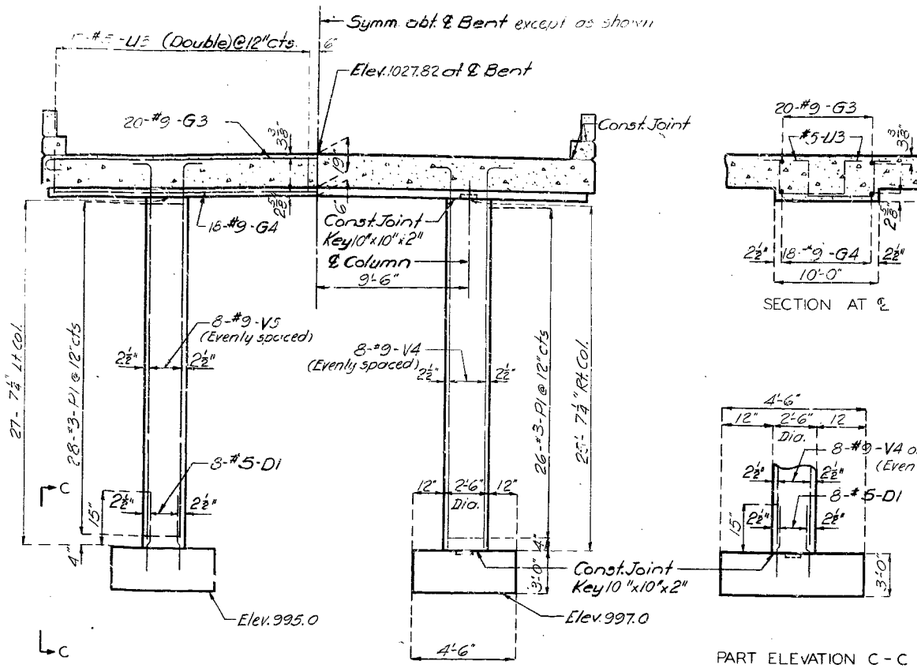
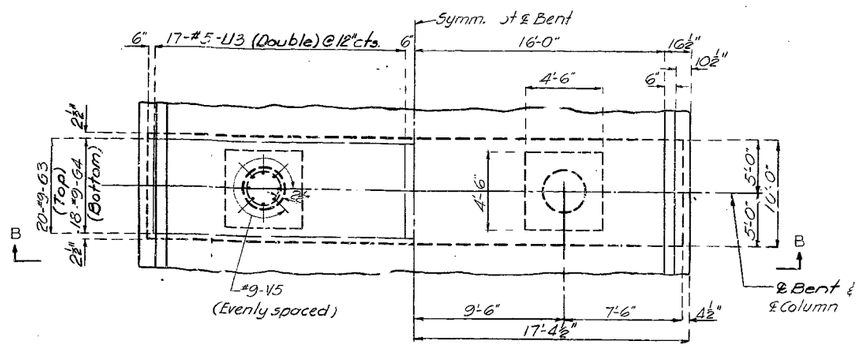
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	17	



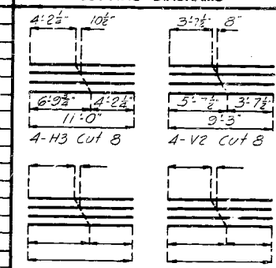


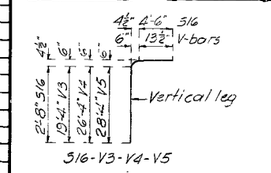
DETAILS OF INT. BENT NO. 3

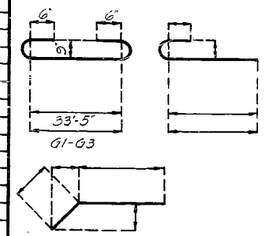
COMPLETE BILL OF REINFORCING STEEL

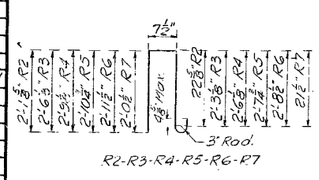
NO.	SIZE	LENGTH	MARK	LOCATION
Superstructure				
336	#5	4'-9"	C1	Curb
16	#5	21'-3"	C2	"
16	#5	28'-6"	C3	"
24	#5	4'-9"	R1	End Post
4	#5	5'-9"	R2	"
4	#5	6'-6"	R3	"
4	#5	7'-0"	R4	"
4	#5	7'-3"	R5	"
8	#5	7'-3"	R6	"
444	#5	5'-6"	R7	Parapet
16	#5	27'-6"	R8	"
48	#5	9'-9"	R9	"
16	#5	35'-9"	R10	"
448	#5	34'-6"	S1	Slab
92	#5	24'-0"	S2	"
92	#5	28'-6"	S3	"
56	#10	30'-0"	S4	"
56	#10	22'-0"	S5	"
54	#11	13'-9"	S11	"
28	#11	32'-0"	S7	"
28	#11	25'-6"	S8	"
27	#11	15'-9"	S9	"
48	#9	42'-3"	S10	"
46	#9	30'-9"	S11	"
44	#9	20'-9"	S12	"
48	#10	58'-3"	S13	"
46	#10	32'-6"	S14	"
44	#10	22'-6"	S15	"
18	#5	16'-0"	S17	"
Superstr. End Bents No. 1 & 5				
24	#6	34'-6"	H1	Bm.
20	#6	7'-3"	H2	Wing
8	#6	11'-0"	H3	"
92	#6	7'-9"	S16	Slab
8	#6	10'-3"	T1	Wing
144	#5	8'-5"	U1	Bm.
4	#4	5'-9"	V1	Wing
8	#4	9'-3"	V2	"
Superstr. Int. Bents No. 2 & 4				
24	#11	36'-9"	G1	Bm.
24	#10	33'-9"	G2	Drop Panel
144	#5	8'-3"	U2	Bm.
32	#9	21'-3"	V3	Col.
-	#3	8'-0"	P1	"
Superstr. Int. Bent No. 3				
20	#9	36'-9"	G3	Bm.
18	#9	33'-9"	G4	Drop Panel
68	#5	10'-9"	U3	Bm.
8	#9	28'-3"	V4	Rt. Col.
8	#9	30'-3"	V5	Lt. Col.
54	#3	8'-0"	P1	Rt. Col. & Lt. Col.

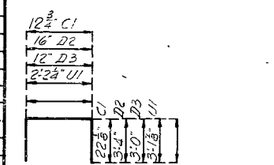
BENDING SKETCHES & CUTTING DIAGRAMS











NO.	SIZE	LENGTH	MARK	LOCATION
Substructure Int. Bents No. 2 & 4				
32	#5	21'-6"	D1	Ftg.
16	#6	8'-0"	D2	"
8	#6	7'-0"	D3	"
Substructure Int. Bent No. 3				
16	#5	21'-6"	D1	Ftg.

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR
ABOUT 1.0 MILE N. OF CUBA
PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 380 + 15.9

CRAWFORD **COUNTY**

133

No. 52.4	Feb. 1962
Revised	Oct. 1963

Drawn Sept. 1964 by Riks
Checked Nov. 1965 by Rhodes

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

Sheet No. 3 of 5

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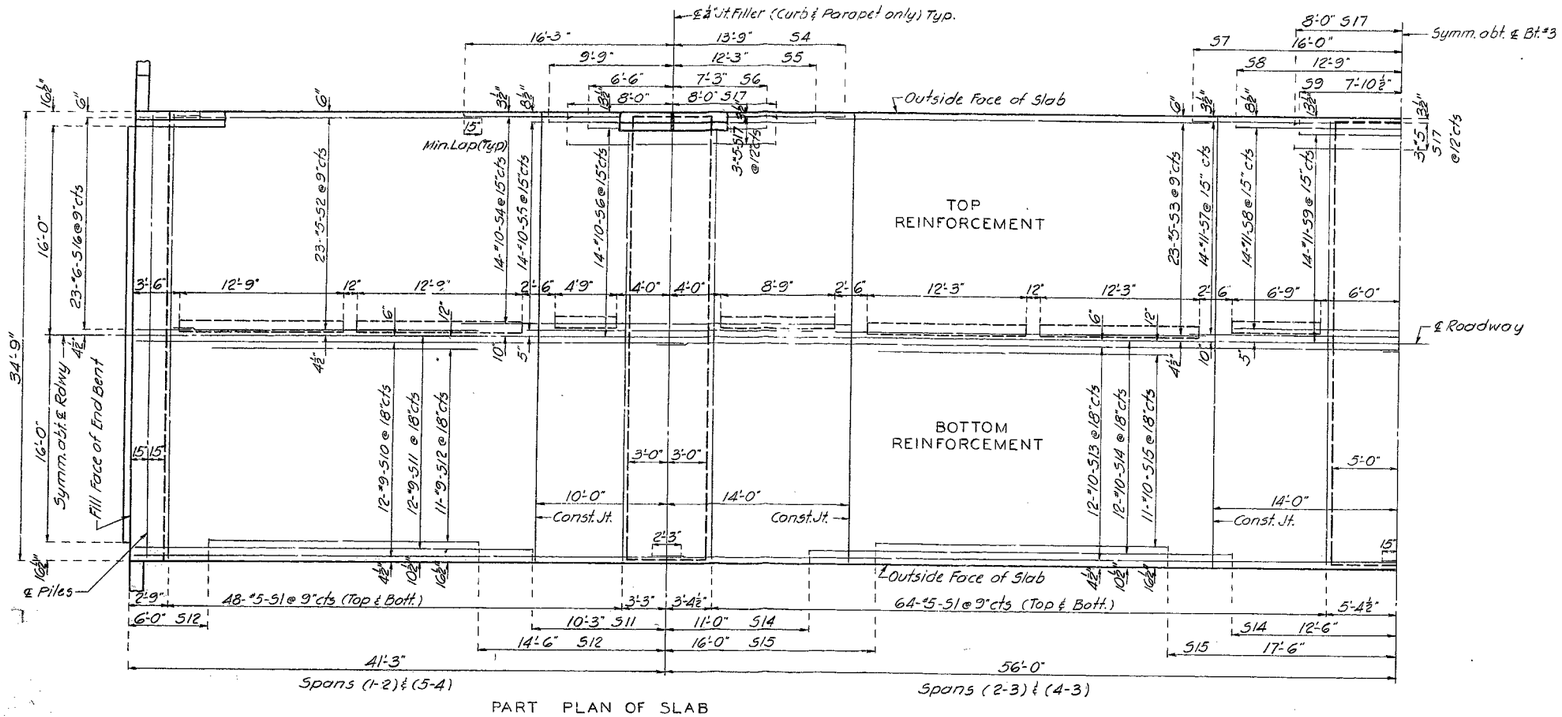
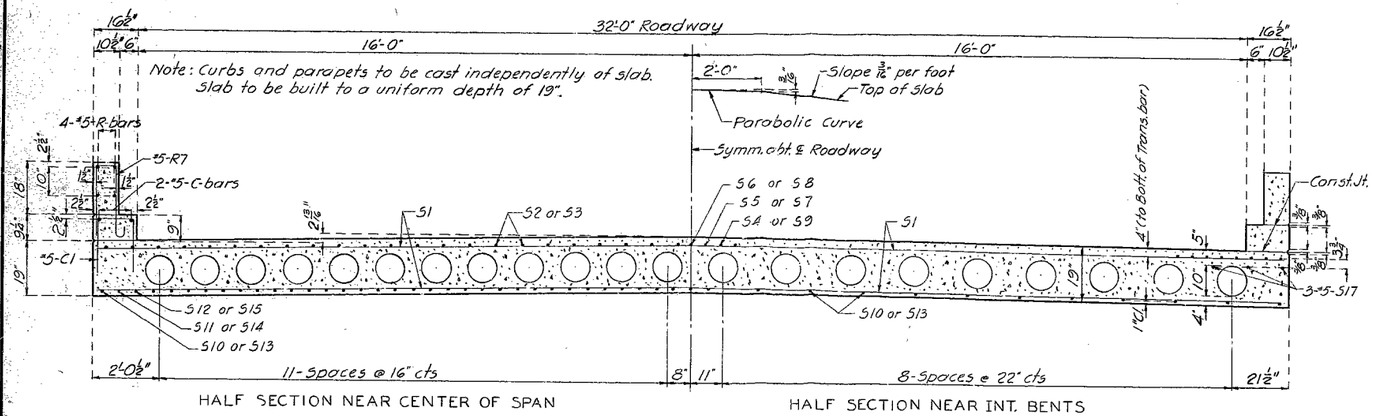
Note: For location of reinforcing steel in curb and parapet see Elevation of Curb and Parapet, sheet No. 5 of 5 and Half section near ℄ of span of this sheet.

MISSOURI STATE HIGHWAY DEPARTMENT

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



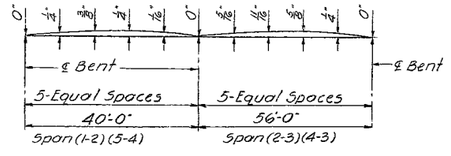
PART PLAN OF SLAB



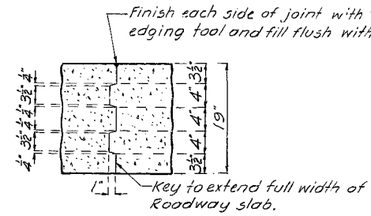
HALF SECTION NEAR CENTER OF SPAN

HALF SECTION NEAR INT. BENTS

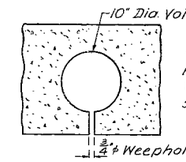
Note: Fiber tubes for producing voids shall have an outside diameter of 10.0" and wall thickness of .225" and shall be anchored to joists carrying the floor form at not more than 4'-0" centers. See Special Provisions for metal tube alternate for voids.



CAMBER DIAGRAM



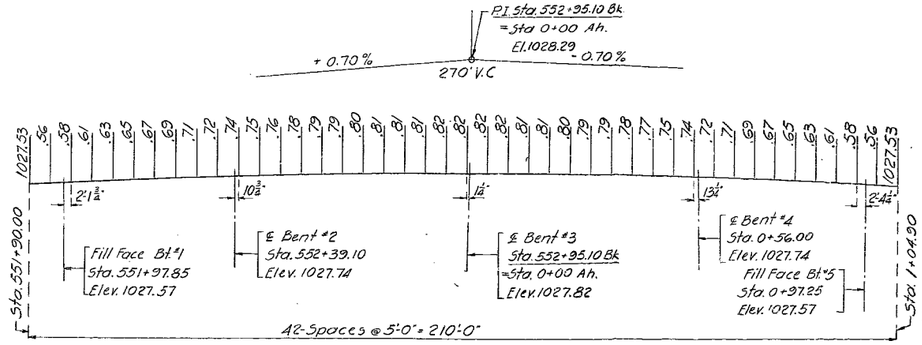
DETAILS OF SLAB CONSTRUCTION JOINT KEY



Note: One ¾" ϕ weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.

DETAIL OF WEEPHOLE IN VOIDS

Note: The contractor shall use an approved oscillating screed type, self-propelled mechanical finishing machine and shall pour and satisfactorily finish the roadway slab at a rate of not less than 33 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring through some or all of these joints.
Finishing machine load will not be permitted on concrete less than 48 hours old.



PROFILE GRADE ELEVATIONS

BRIDGE: ROUTE 19 UNDERPASS
STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR
ABOUT 1.0 MILE N. OF CUBA
PROJECT NO. J-44-3(11) (RTE. I-44) **STA.** 380 + 15.9
CRAWFORD **COUNTY**

A-1191

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DETAILED Sept. 1964 BY Riks
CHECKED Nov. 1965 BY Rhodes

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

Sheet No. 4 of 5.

MISSOURI STATE HIGHWAY DEPARTMENT

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

GENERAL NOTES:

All handrail posts shall be set normal to grade.

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

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

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

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

All fillets 1/4" except as noted.

All drafts 3° except as noted.

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

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

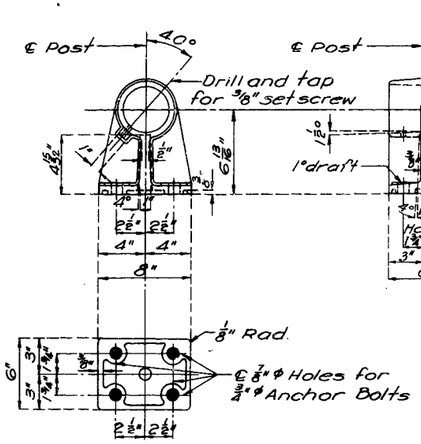
Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.

All exposed edges of end posts shall have 1/2" bevel. All exposed edges of curbs and parapets shall have 1/2" radius or 3/8" bevel.

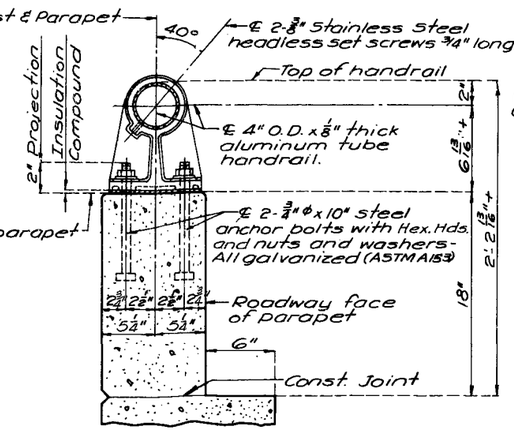
If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.

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

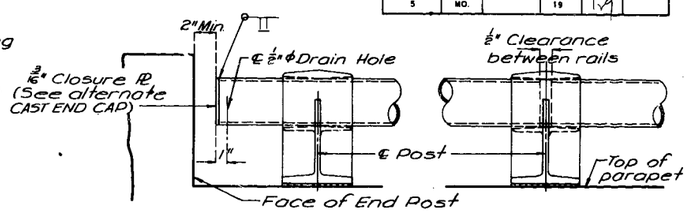
Concrete end posts to be vertical.



POST DETAILS

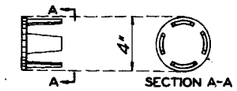


SECTION THRU HANDRAIL

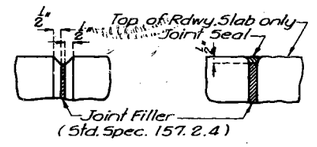


POST RAIL SPLICE OR EXP.

TYPICAL HANDRAIL DETAILS

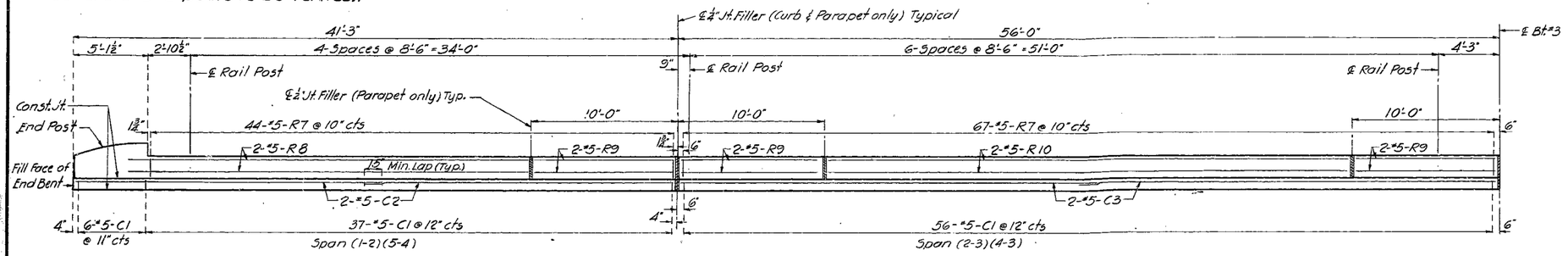


CAST END CAP
(Drive Fit Type)



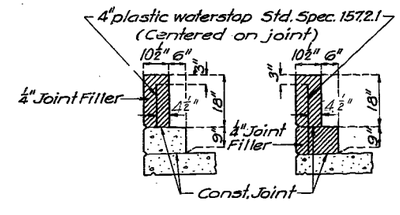
FILLED JOINT DETAILS

SINGLE TUBE ALUMINUM RAILING



PART ELEVATION OF CURB AND PARAPET

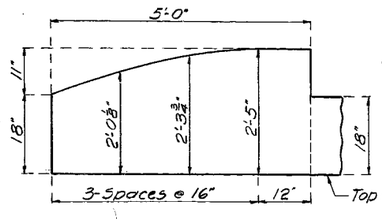
Note: Longitudinal Dimensions shown are taken at top of parapet



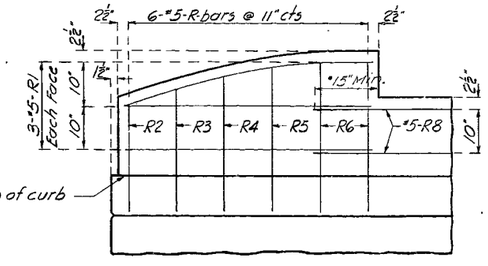
Note: Plastic waterstop shall be placed in all parapet and curb filled joints.

Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

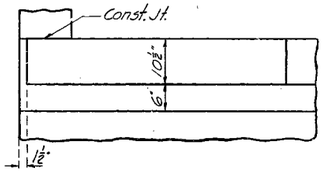
DETAILS OF PLASTIC WATERSTOP



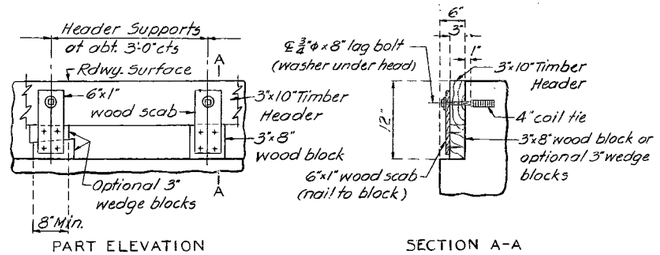
ELEVATION SHOWING END POST ORDINATES



ELEVATION SHOWING REINFORCEMENT



PLAN OF END POST



PART ELEVATION

SECTION A-A

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

DETAILS OF TIMBER HEADER

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 380+15.9

CRAWFORD **COUNTY**

A-1191

135

No.	Revised
15.2	Oct. 1965
1963	Nov. 1965

DETAILED Sept. 1964 BY Riks

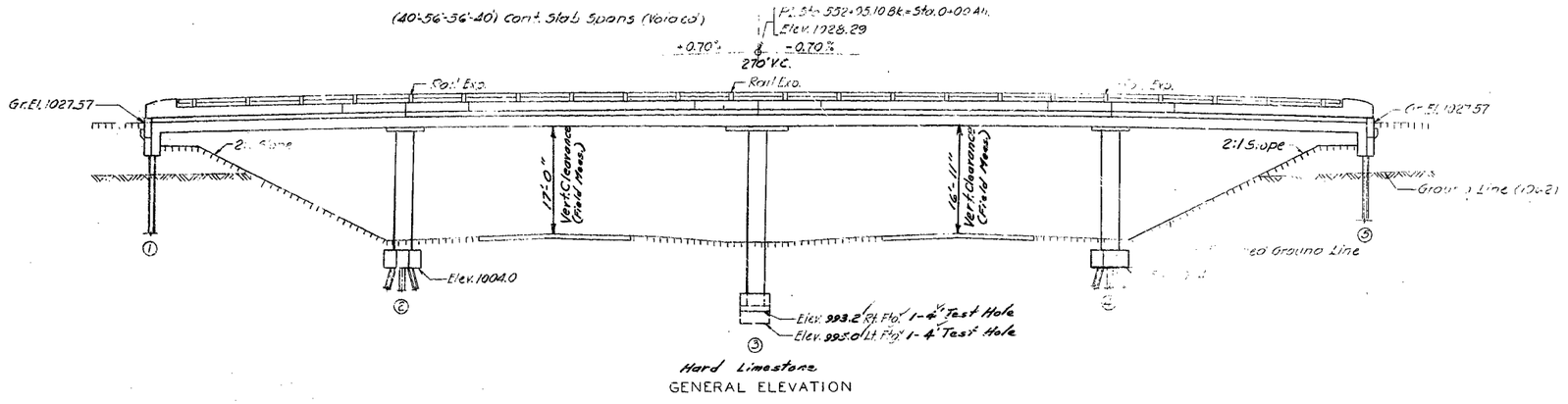
CHECKED Nov. 1965 BY Rhodes

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

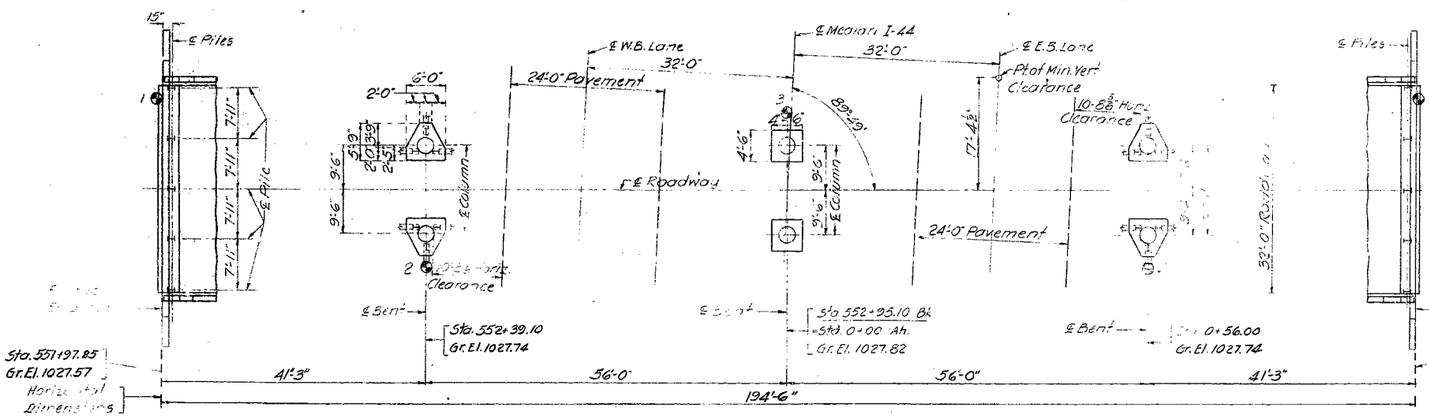
MISSOURI STATE HIGHWAY DEPARTMENT

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

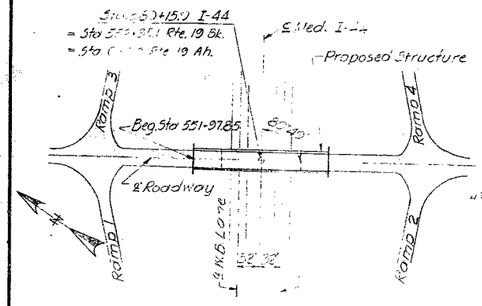
FINAL PLANS



GENERAL ELEVATION



PLAN



LOCATION SKETCH

QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yd.	77.0		77.0
Steel Piles in Place	Lin. Ft.	488		488
Steel Pile Cut-offs	Lin. Ft.	122		122
Class B Concrete	Cu. Yd.	16.5		16.5
Class B1 Concrete	Cu. Yd.		434.6	434.6
Reinforcing Steel	Lb.	400	115,860	116,260
Bridge Rail (Single Type)	Lin. Ft.		368	368
Foundation Test Holes	Lin. Ft.	8		8
Class 1 Excavation +25%	Cu. Yd.	6.0		6.0

Note: All concrete and reinforcement above footings in Intermediate bents is included in superstructure quantities.

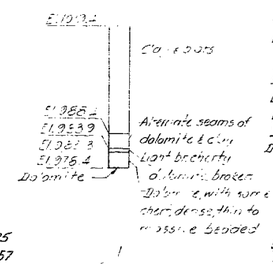
FOOTING AND PILE DATA

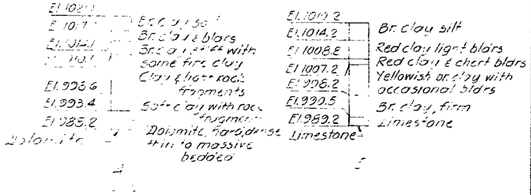
	BENT NO.	1 & 5	2	4	3
SPREAD FOOTING	Foundation Material				Rock
	Design Brg. Tons/Sq. Ft.				3.3
	Standard Specification 50.4.2				
BEARING PILE	Type & Size	HP 12 x 53			
	Number (each bent)	5	6	6	
	Approximate Length Ft.	20	20	15	
	Design Bearing Value Tons	26	55	55	
	*Hammer Energy Reqd Ft. Lb.	7000	12400	10400	

All pile were driven to practical refusal at 1.9 times the design bearing value.

* Minimum Energy requirement of hammer based on plan length and design bearing value of pile.

Footings for Bent No. 3, were carried 6" into hard, solid, undisturbed rock or 18" into soft rock or shale and cast against vertical faces of same.





Note: ⊕ Indicates location of borings

BORING DATA

B.M.* "D" on Pt. Wing End Bt. 1, 17' Rt. Sta. 551+97.85 Elev. 1028.09

FINISHED

GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O. - 1961

DESIGN LOADING: [illegible] (Future Wearing Surface) [illegible] Fluid Pressure 30#

DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel [illegible] (ASTM A 432-62T) fs 18,000 psi

CONCRETE:
Superstructure concrete was Class B1
Substructure concrete was Class B

SURFACE SEAL:
Superstructure deck was surface sealed.

FILLED JOINTS:
Where joint filler is specified on the plans it conform to Standard Specification 157.2.4.

WELDING:
See Standard Specification 55.3.1.3 for qualification of welding operators.

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) STA. 380 + 15.9

CRAWFORD COUNTY

SUBMITTED BY D. B. Jenkins, BR. ENGINEER DATE 11/21/66

APPROVED BY M. E. Snider, BR. ENGINEER DATE 11/21/66

FINAL PLANS

STD. 54.00

A-1191

DESIGNED Aug 1964 BY Brattain
DETAILED Sept 1964 BY Pitts
CHECKED Nov 1965 BY Rhodes

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

Sheet No. 1A of 2

FINAL PLANS

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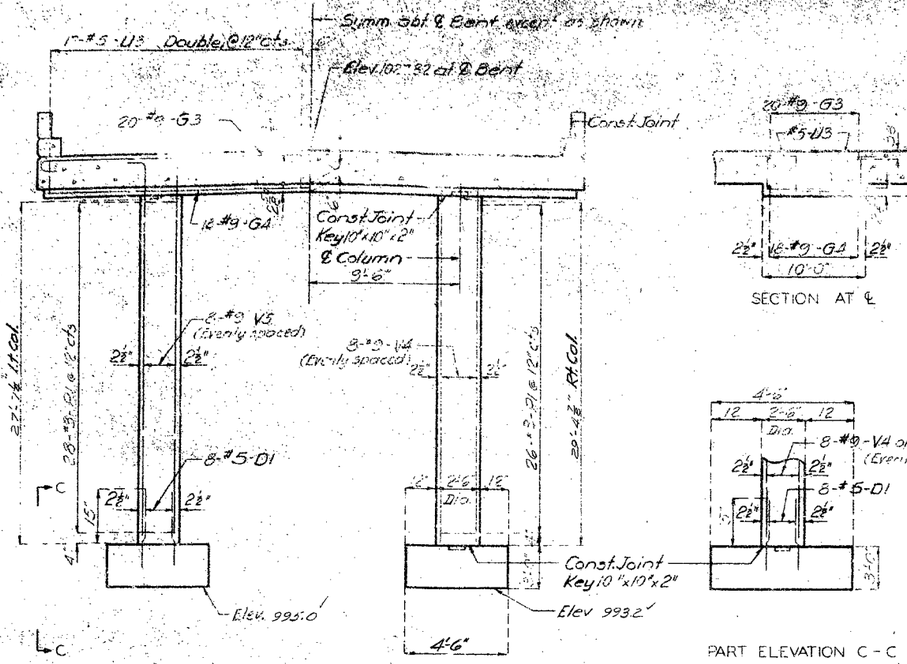
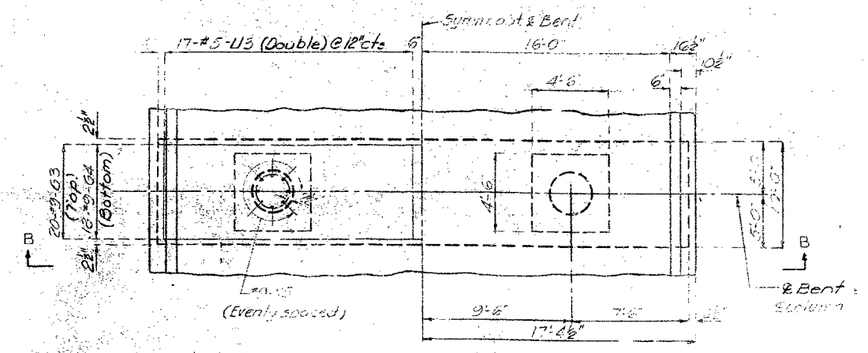
FINAL PLANS

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	137	



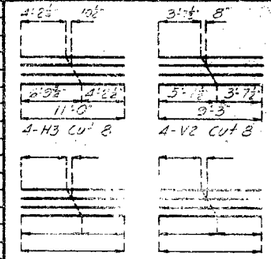


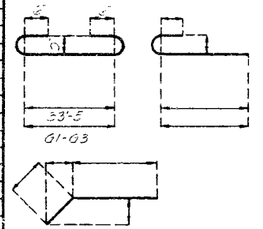
DETAILS OF INT. BENT NO. 3

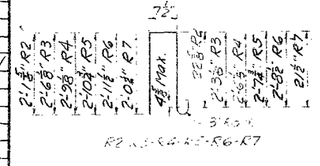
COMPLETE BILL OF REINFORCING STEEL

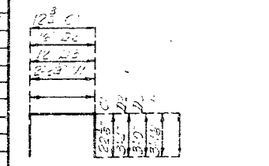
NO.	SIZE	LENGTH	MARK	LOCATION
Superstructure				
396	#5	4'-9"	C1	Curb
16	#5	21'-3"	C2	"
16	#5	25'-6"	C3	"
24	#5	4'-9"	R1	End Post
4	#5	5'-9"	R2	"
4	#5	6'-6"	R3	"
4	#5	7'-0"	R4	"
8	#5	7'-3"	R5	" "
8	#5	7'-3"	R6	" "
444	#5	5'-6"	R7	Parapet
16	#5	27'-6"	R8	"
48	#5	3'-9"	R9	"
16	#5	35'-9"	R10	"
448	#5	34'-6"	S1	Slab
92	#5	24'-0"	S2	"
92	#5	28'-6"	S3	"
56	#10	30'-0"	S4	"
56	#10	22'-0"	S5	"
54	#10	13'-9"	S6	"
28	#11	32'-0"	S7	"
28	#11	25'-6"	S8	"
27	#11	15'-9"	S9	"
48	#9	42'-3"	S10	"
46	#9	30'-9"	S11	"
44	#9	20'-9"	S12	"
48	#10	58'-3"	S13	"
46	#10	32'-6"	S14	"
44	#10	22'-6"	S15	"
18	#5	16'-0"	S17	"
Superst. End Bents No. 1 & 5				
24	#6	34'-6	H1	Bm.
20	#6	7 3	H2	wing
8	#6	11'-0"	H3	"
92	#6	7'-9"	S16	Slab
8	#6	10'-3"	T1	Wing
144	#5	8'-6"	U1	Bm.
—	#4	5'-9"	V1	Wing
3	#4	9'-	V2	"
Superstr. Int Bents No. 2 & 4				
24	#11	36'-9	G1	Bm.
24	#10	33'-9	G2	Drop Panel
144	#5	8'-3	U2	Bm.
92	#5	21 3	V5	Col.
76	#3	8 0	P1	"
Superstr. Int Bent No 3				
20	#9	36'-9	G3	Bm.
18	#9	33'-9	G4	"
6	#5	10'-9"	U3	"
—	#9	28'-3"	V4	"
8	#9	30'-3	V5	"
54	#3	8'-0"	P1	"

BENDING SKETCHES & CUTTING DIAGRAMS









NO. 52.4	Feb 1962	Revised Oct. 1963

Drawn Sept 1964 by RHL
Checked Nov 1965 by RHodes

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

BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR
ABOUT 1.0 MILE N. OF CUBA
PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 380+15.9

CRAWFORD **COUNTY**

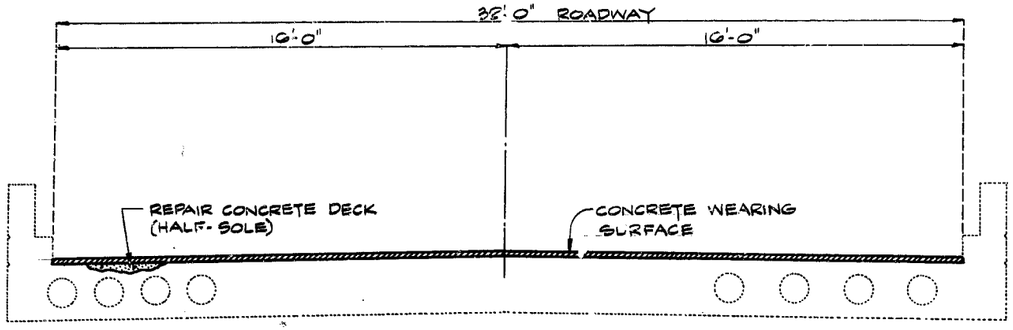
Sheet No 34 of 2

FINISHED FINAL PLANS A-1191

FINAL PLANS

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO.
MO.		63
SEC/SUR 30	TWP 34N	RGE 4W



TYPICAL SECTION THRU SLAB

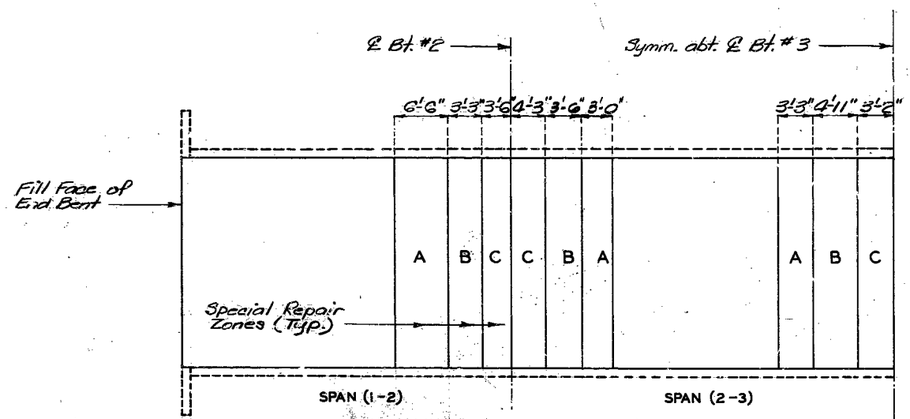
ESTIMATED QUANTITIES		
ITEM		TOTAL
REPAIR CONCRETE DECK (HALF-SOLING)	SQ.FT.	632
( ) CONCRETE WEARING SURFACE *	SQ.YD.	69?

* SEE JOB SPECIAL PROVISIONS FOR ALTERNATE USE OF CONCRETE WEARING SURFACE. ALTERNATE "A" = 1 3/4" (MIN.) LATEX MODIFIED CONCRETE. ALTERNATE "B" = 2 1/4" (MIN.) LOW SLUMP CONCRETE.

GENERAL NOTES:

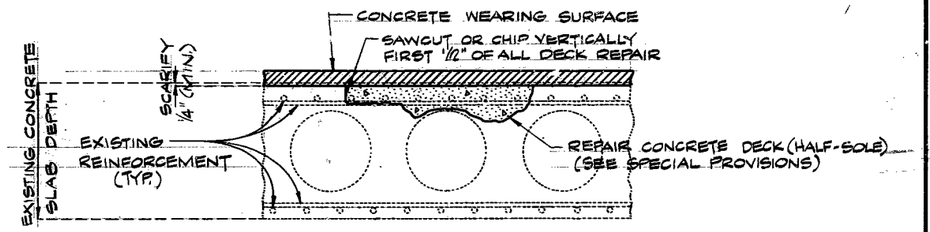
OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

ONE LANE OF TRAFFIC OVER STRUCTURE TO BE MAINTAINED DURING CONSTRUCTION. (SEE TRAFFIC CONTROL PLAN)



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

Note: Sequence of Repair: Zone A, Zone B, then Zone C. Any repairs in the remainder of the bridge that is within 4'-0" of Zone A shall be completed before removing concrete in Zone A. Zones with the same letter designation may be repaired at the same time.



HALF-SOLE AREA

REPAIRS TO
BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. IR-44-3(54) **STA.** 380+15.9

JOB NO. 6-I-44-822 **RTE.** I-44

CRAWFORD **COUNTY**

DATE 7/30/87

STD.
STD.
A-1191R

DESIGNED JAN. 1987
DETAILED JAN. 1987
CHECKED JAN. 1987

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

Sheet No. 1 of 1.

506

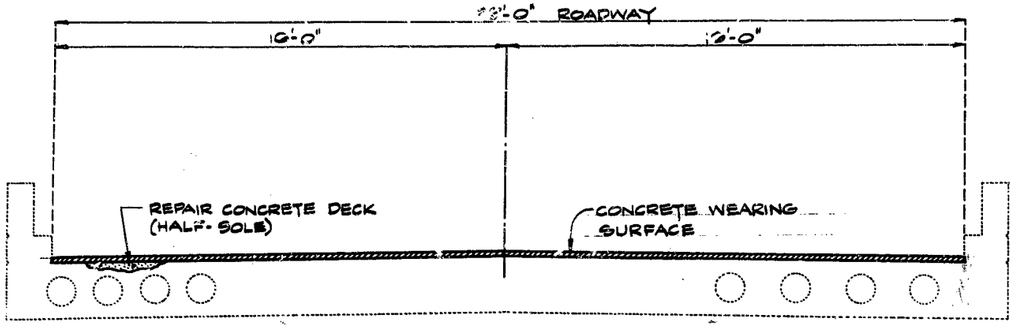
(63)

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO	-	63
SEC / SUB 30	TWP 34N	RGE 4W

63

501



TYPICAL SECTION THRU SLAB

FINAL PLANS

FINAL QUANTITIES

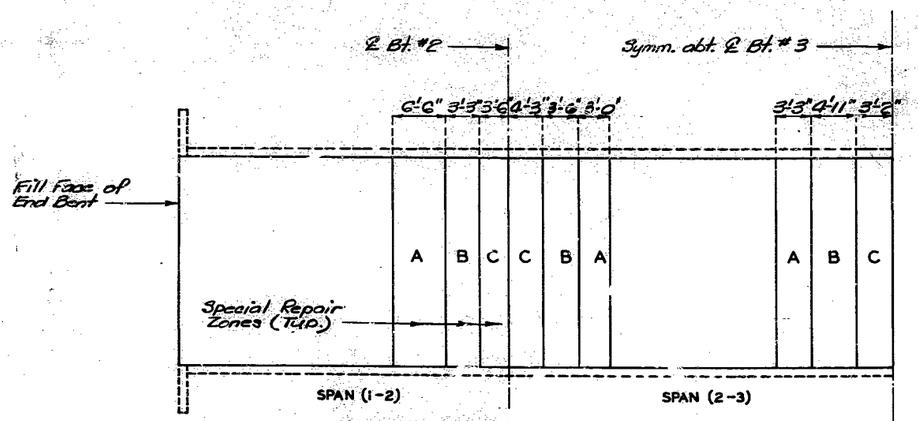
ITEM		TOTAL
REPAIR CONCRETE DECK (HALF-SOLING)	SQ. FT.	306
(Low Slump) CONCRETE WEARING SURFACE *	SQ. YD.	69

* SEE JOB SPECIAL PROVISIONS FOR ALTERNATE USE OF CONCRETE WEARING SURFACE. ALTERNATE "A" = 1 3/4" (MIN.) LATEX MODIFIED CONCRETE. ALTERNATE "B" = 2 1/4" (MIN) LOW SLUMP CONCRETE.

GENERAL NOTES:

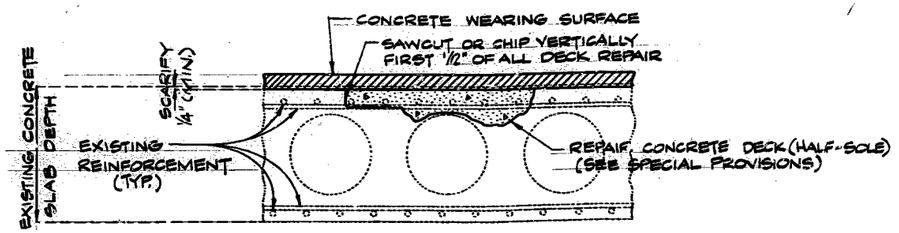
OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

ONE LANE OF TRAFFIC OVER STRUCTURE TO BE MAINTAINED DURING CONSTRUCTION. (SEE TRAFFIC CONTROL PLAN)



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

Note: Sequence of Repair: Zone A, Zone B, then Zone C. Any repairs in the remainder of the bridge that is within 4'-0" of Zone A shall be completed before removing concrete in Zone A. Zones with the same letter designation may be repaired at the same time.



HALF-SOLE AREA

DESIGNED JAN. 1987
DETAILED JAN. 1987
CHECKED JAN. 1987

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

Sheet No. 1A of 1.

REPAIRS TO BRIDGE: ROUTE 19 UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 1.0 MILE N. OF CUBA

PROJECT NO. IR-44-3(54) STA. 380+15.9

JOB NO. 6-I-44-822 RTE. I-44

CRAWFORD COUNTY

DATE 7/30/87

STD.
STD.
A-1191R

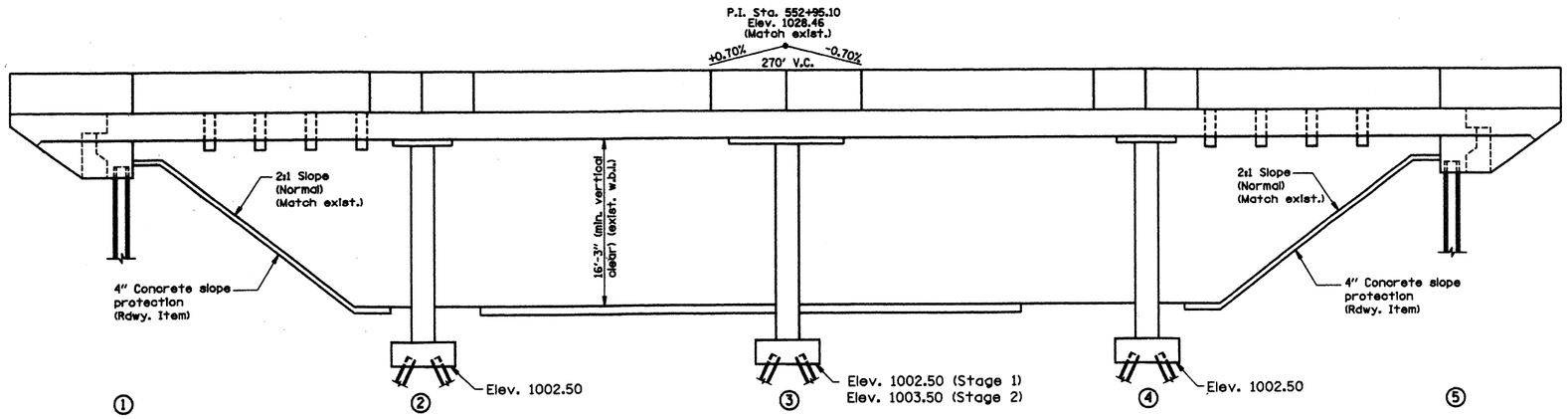
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	60
	SEC. / SUR. 30 TWP. 39 RGE. 4W	

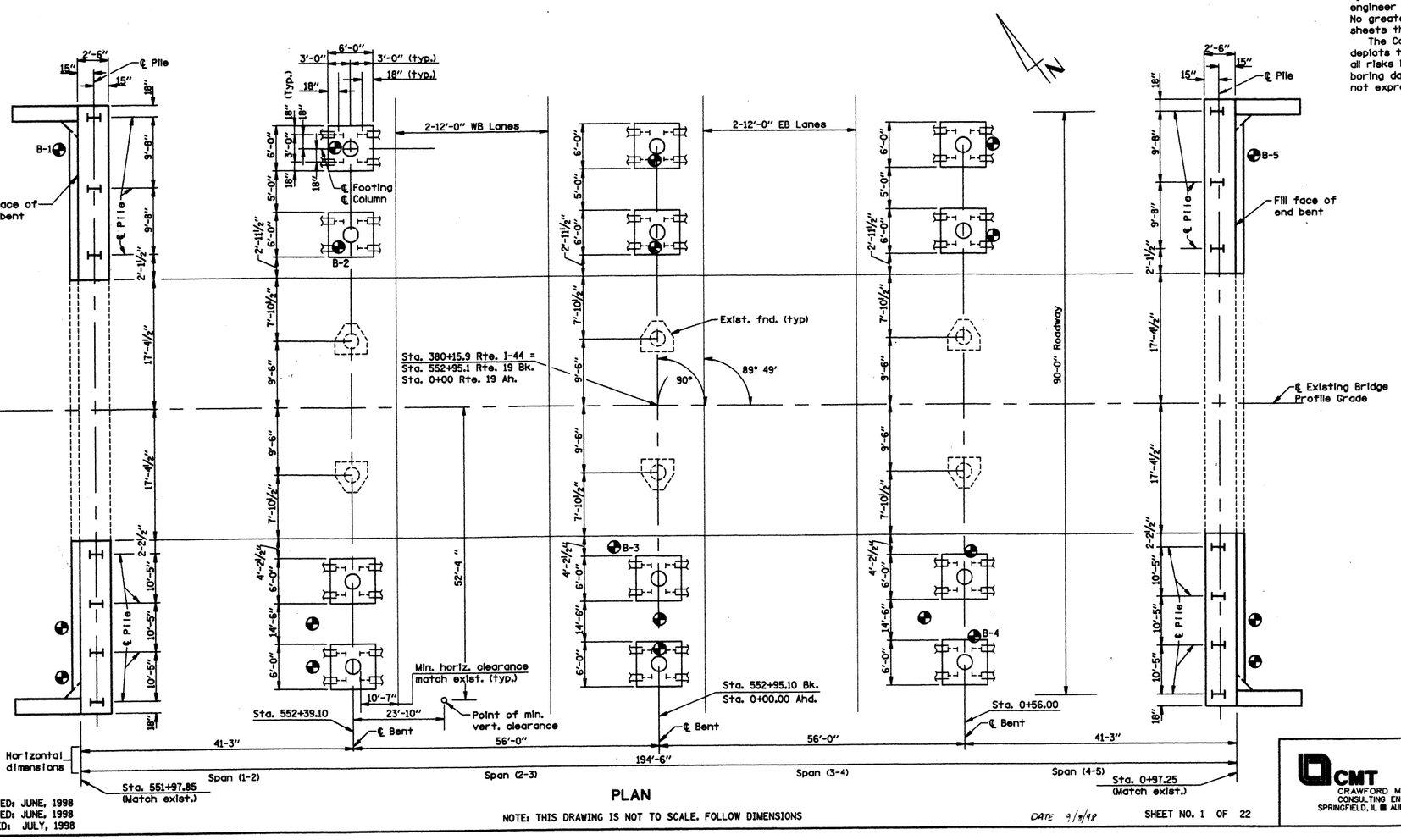
JD 990122-20

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

WIDEN SUBSTRUCTURE AND SUPERSTRUCTURE
EXISTING (40'-56'-56'-40') CONTINUOUS CONCRETE SLAB SPANS (VOIDED)



GENERAL ELEVATION



PLAN

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

DESIGNED: JUNE, 1998
DETAILED: JUNE, 1998
CHECKED: JULY, 1998

Y:/3840901/ELEVOOLDGN
PLOT 48

Checked by [illegible] Date 9/21/00

61

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature _____ Date _____

Note: Roadway fill WAS completed to the final roadway section and up to the elevation of the bottom of the end bent beam within the limits of the structure and for not less than 25' in back of the fill face of the end bents before piles are driven for any bents falling within the embankment section.

Note: For General Notes, Estimated Quantities and Pile Data, see sheet No. 2.

NOTICE AND DISCLAIMER REGARDING BORING LOG DATA

The locations of all subsurface boring for this structure are shown on the bridge plan sheet for this structure. Boring data for the numbered locations is shown on sheet No. 3. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations performed by the department for the design of this project, is available from the district materials engineer or project contact upon written request as outlined in the project special provisions. No greater significance or weight should be given to the boring data depicted on the plan sheets than to subsurface data available from the district or elsewhere.

The Commission does not represent or warrant that any such boring data accurately depicts the conditions to be encountered in constructing this project. A contractor assumes all risks it may encounter in basing its bid prices, time or schedule of performance on the boring data depicted here on those available from the district, or any other documentation not expressly warranted, which the contractor may obtain from the commission.

⊕ - Indicates location of borings

FINAL PLANS
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Signature _____ Date SEP 01 2000

STATE OF MISSOURI
RANDY MAYO
NUMBER E-20856
REGISTERED PROFESSIONAL ENGINEER

B.M. ELEV. 1029.71 BOLT 51' RT ℄
END BENT NO. 5 OF BRIDGE A-11912 STA. 0+97.25

ROUTE 19 OVER I-44

STATE ROAD: ROUTE 19 AT I-44
AT CUBA

PROJECT NO.
JOB NO. J9P0470

STA. 551+97.85
ROUTE 19

CRAWFORD COUNTY

STD. 609.00
STD. 611.60
STD. 706.35

STATE OF MISSOURI
GREGORY L. LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER
9/25/98

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

GENERAL ELEVATION AND PLAN

CRAWFORD COUNTY | A11912

DATE 9/9/98 SHEET NO. 1 OF 22

FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F. -19-2 (12)	61

JD 990122-20

QUANTITIES

	ITEM		SUBSTR.	SUPERSTR.	TOTAL
	Removal and Storage of Existing Bridge Rail	lin. ft.		368	368
	Curb Removal (Bridges)	lin. ft.		389	389
	Partial Removal of Substructure Concrete	lump sum	1		1
	Class 1 Excavation	cu. yd.	245.5		245.5
	Bridge Approach Slab (Bridge)	sq. yd.		500	500
	Structural Steel Piles (10 in.)	lin. ft.	1166		1166
	Pre-Bore for Piling	lin. ft.	221		221
	Pile Point Reinforcement	each	62		62
	Class B Concrete (Substr.)	cu. yd.	39.9		39.9
	Class B1 Concrete (Supstr. Voided Slabs)	cu. yd.		88.9	88.9
	Class B2 Concrete (Supstr. Voided Slabs)	cu. yd.		590.0	590.0
*	Safety Barrier Curb	lin. ft.		425	425
	Low Slump Concrete Wearing Surface (Bridge)	sq. yd.		1268	1268
	Reinforcing Steel (Bridges)	pound	1680	187,490	189,170
	Conduit System on Structure	lump sum		1	1
	Slab Drain	each		16	16
	Vertical Drain at End Bents	each	2		2

* Safety barrier curb
slip-form

Note:

All reinforcement in the end bents and in columns at int. bents is included in the superstructure quantities.
All concrete in the end bents and in columns at int. bents is included in the superstructure quantities.
In order to maintain grade and minimum thickness of overlay shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations of thickness of overlay.
Remove and store existing bridge rail at MoDOT Cuba maintenance lot.

GENERAL NOTES:

Design Specifications: A.A.S.H.T.O. -1996 and Interim 1997
Load Factor Design
Seismic Performance Category A
Acceletation Coefficient = .10

Design Loading
HS20-44
No Future Wearing Surface
Earth 120#/cu. ft., Equivalent Fluid Pressure 45#/cu. ft.

Design Unit Stresses

Class B Concrete (Footing)	3,000 psi f'c
Class B2 Concrete (Superstructure except Safety Barrier Curb)	4,000 psi f'c
Class B1 Concrete (Int. bent columns, End Bents below const. jt. at bottom of slab and safety barrier curb)	4,000 psi f'c
Reinforcing Steel (Grade 60)	60,000 psi fy
Steel Pile (ASTM 709 Grade 36)	9,000 psi fb

Joint Filler: All joint filler shall meet the requirements of Std. Spec. 1057.2.4, except as noted.

Reinforcing Steel: Minimum clearance to reinforcing steel shall be 1½", unless otherwise shown.

Construction Clearance:
A minimum vertical clearance of 14'-9" from crown of exist. lanes and a minimum clear opening of 28'-0" for each lane of Rte I-44 shall be maintained during construction.

Contractor shall verify all dimensions in field beforing ordering new material.

Traffic over structure to be maintained during construction see sheet No. 4.

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

Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars, unless otherwise noted.

Resin Anchors
Cost of furnishing and installing resin anchor systems complete in place shall be included in the contract unit price bid for concrete.
The contractor shall use one of the resin anchor systems listed in the job special provisions.

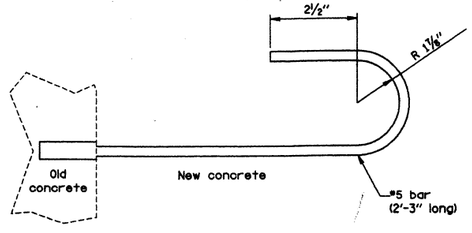
These resin anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions and that a #5 grade 60 reinforcing bar 2'-3" long shall be substituted for the ⅝" dia. threaded rod stud.

The ⅝" diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 Lbs. in concrete with f 'c=4,000 psi. See special provisions.

STATE OF MISSOURI
RANDY L. MAYO
NUMBER E-20856
REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2000 Date



DETAIL OF RESIN ANCHOR SYSTEM

FINAL PLANS
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature Date

STATE OF MISSOURI
GREGORY L. LAW
NUMBER E-31469
REGISTERED PROFESSIONAL ENGINEER
8/31/99

PILE DATA

BENT NO.			1	2	3	4	5
Pile Type and Size			HP10x42	HP10x42	HP10x42	HP10x42	HP10x42
Number			7	16	16	16	7
Approximate Length	ft.	(Stage 1 / Stage 2)	43/36	22 (LT) 15 (RT)/19 (LT) 16 (RT)	12 (LT) 13 (RT)/12 (LT) 18 (RT)	14/14	37/38
Design Bearing	tons	(Stage 1 / Stage 2)	47/42	36/28	38/30	36/28	47/42
Hammer Energy Required	ft.-lbs.	(Stage 1 / Stage 2)	10600/9500	8500/7000	8800/7000	8500/7000	10600/9500

Minimum energy requirement of hammer is based on plan length and design bearing value of piles.
All piles were driven to *refusal on rock*.
Prebore for piles at Bent 1 and Bent 5 to natural ground.
Prebore for piles at Bent 3 to elevation: Stage 1 992.0 , Stage 2 993.0
Manufactured pile point reinforcement were used on all piles. See Special Provisions.

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 2 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

QUANTITIES AND GENERAL NOTES

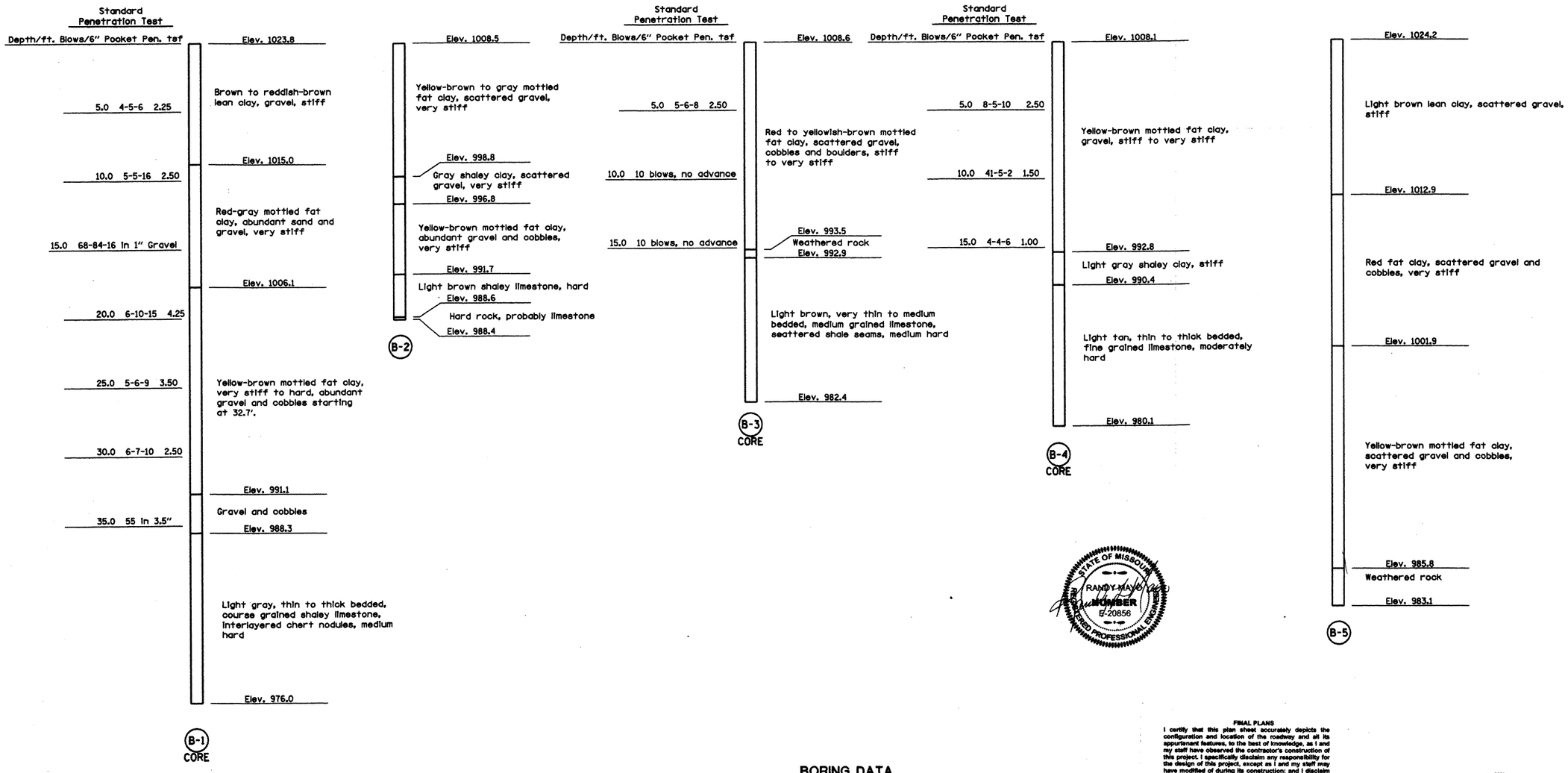
CRAWFORD COUNTY | A11912

Y:/9840901/QUANTGOLDGN
PLOT 48
Checked by
Date: 7-28-00

FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	62

IA-990083-20



BORING DATA

Note: For location of borings see sheet No. 1

STATE OF MISSOURI
RANDY MAYO
NUMBER E-20856
REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of this project, except as I and my staff may have directed or ordered that the project be constructed.

Signature

SEP 01 2000
Date

STATE OF MISSOURI
GREGORY L LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER

8/25/98

Date: 9/21-00
Checked by: [illegible]

Y:/9840901/BORLGOOLDGN
PLOT 48

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 3 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

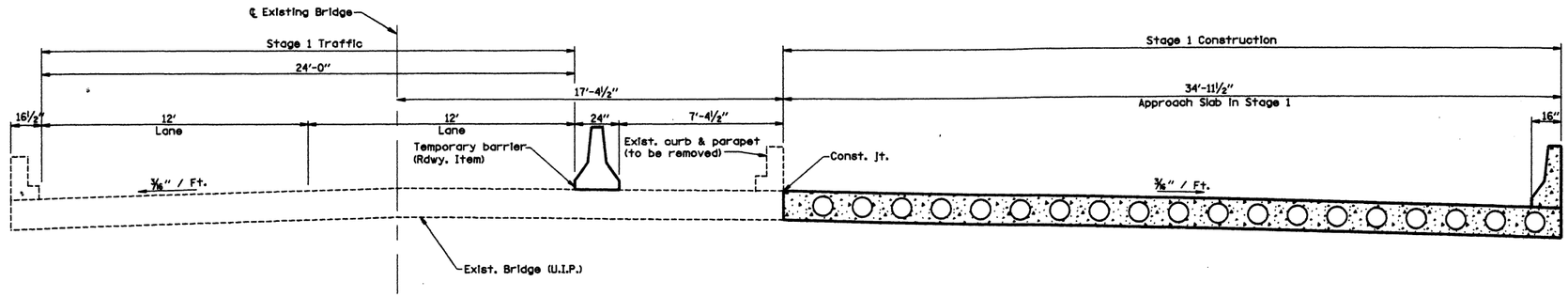
BORING DATA

CRAWFORD COUNTY | **A11912**

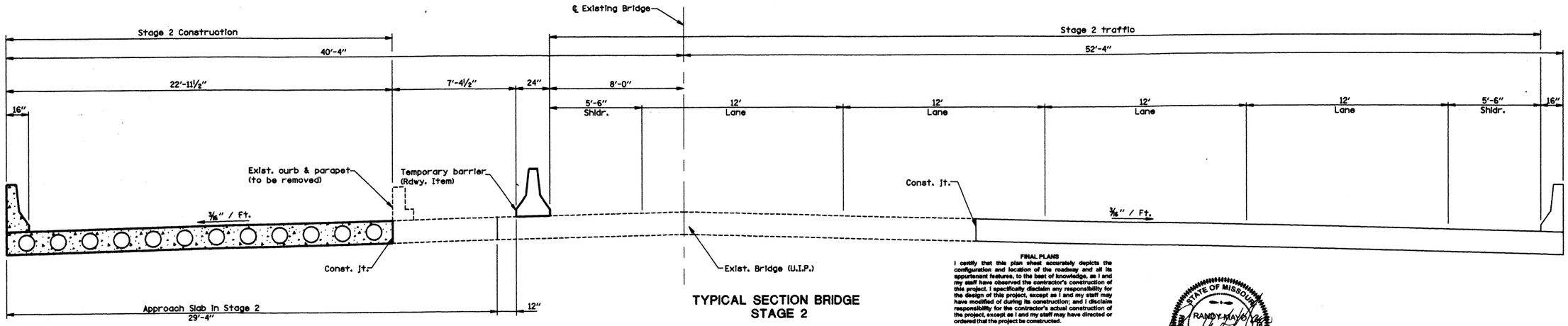
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F. - 19-2(12)	63

FED. AID PROJ. NO. 0122-20



TYPICAL SECTION BRIDGE STAGE 1



TYPICAL SECTION BRIDGE STAGE 2

FINAL PLANS

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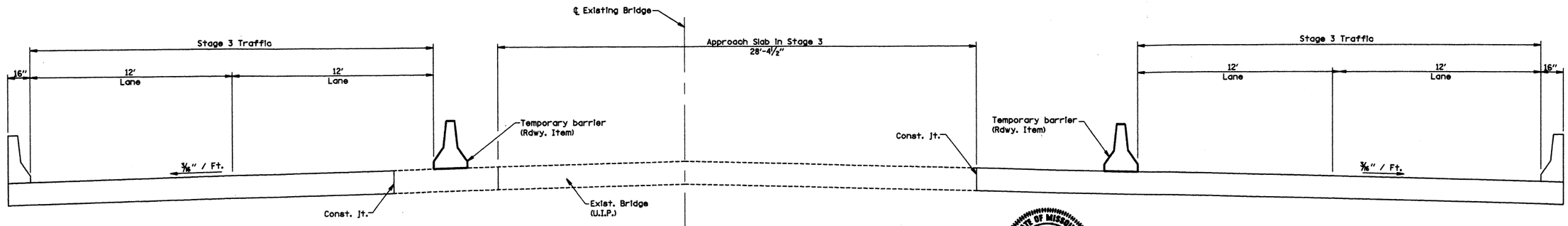
Signature — Date: SEP 01 2000

STATE OF MISSOURI — RANDY L. MAYO — NUMBER E-20856 — REGISTERED PROFESSIONAL ENGINEER



TYPICAL SECTION BRIDGE STAGE 3

STATE OF MISSOURI — REGISTERED PROFESSIONAL ENGINEER — GREGORY L. LAW — NUMBER E-21489

8/24/98

CMT — CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS — SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

STAGE CONSTRUCTION

CRAWFORD COUNTY | **A11912**

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 4 OF 22

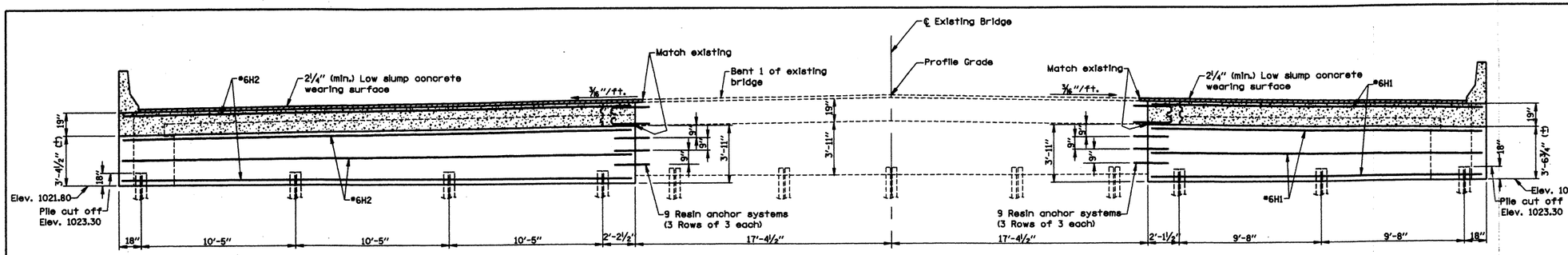
Y:/9840901/STGOOLDGN
PLOT 24

Date: 4-21-00
Checked by:

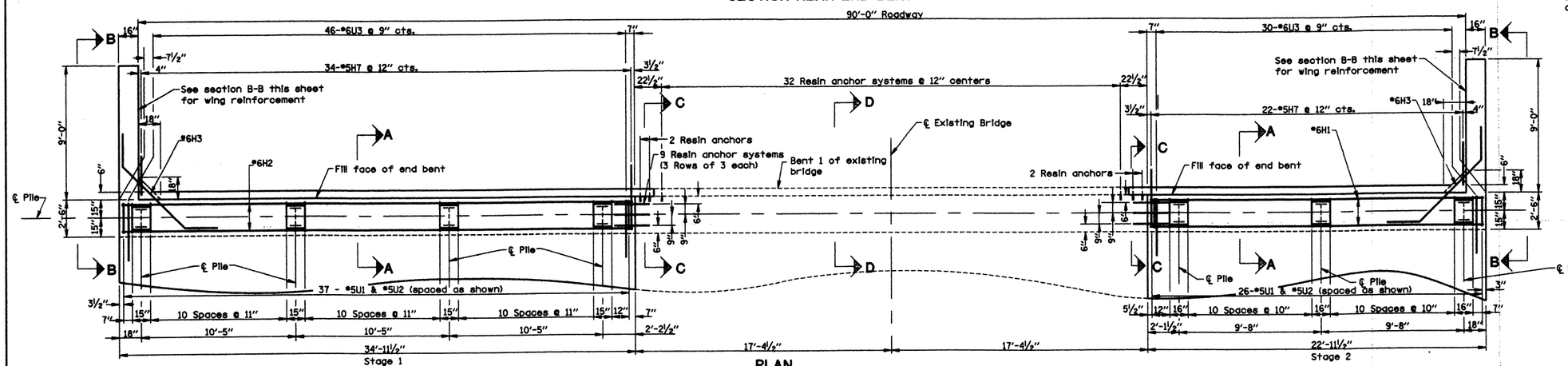
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	64

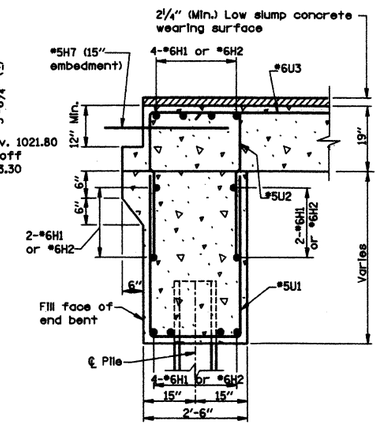
ID, 99P122-20



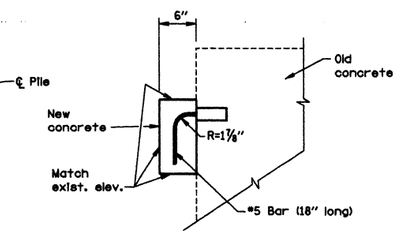
SECTION NEAR END BENT



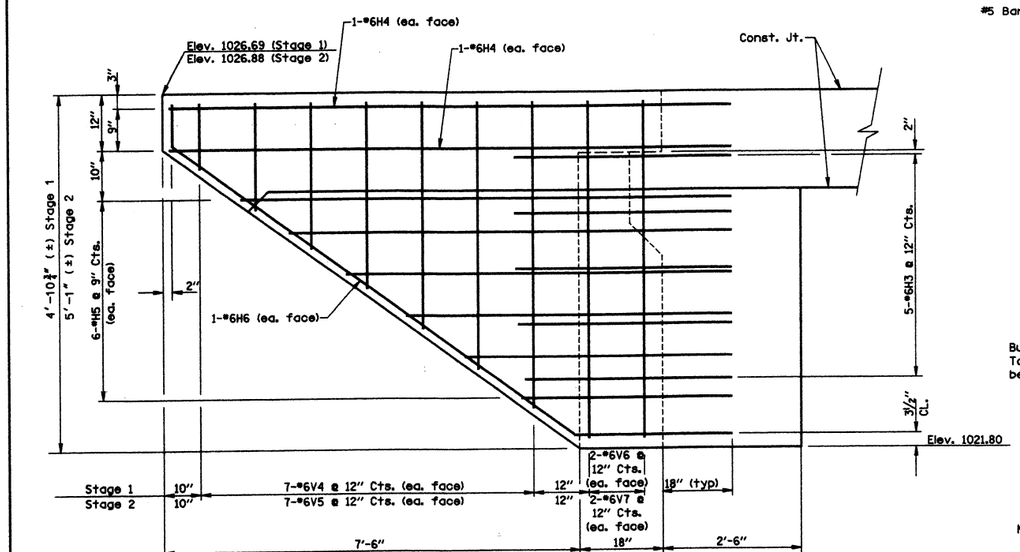
PLAN



SECTION A-A

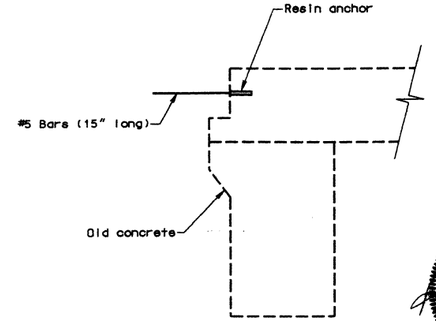


SECTION C-C

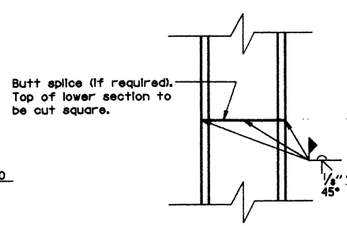


ELEVATION B-B

Stage 1 shown
Stage 2 opposite hand



SECTION D-D



DETAIL OF STEEL PILE SPLICE

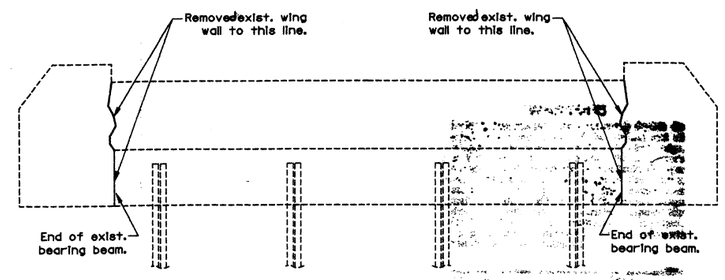
STATE OF MISSOURI
RANDY MAYO
NUMBER E-20856
REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified it during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Randy L. Mayo — Signature

SEP 01 2000 — Date



SECTION NEAR EXISTING WING WALL

STATE OF MISSOURI
GREGORY L LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER

8/31/98

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 1		
ITEM		QUANTITY
Class 1 Excavation	cu. yd.	16.6
Structural Steel Pile (10 in.)	lin. ft.	254
Pile Point Reinforcing	each	7
Pre-Bore for Piling	lin. ft.	0
Vertical Drain at End Bents	each	1

Note: These quantities are included in the estimated quantities table on sheet No. 2.

Notes:

For reinforcement of the safety barrier curb see sheet No. 17, 18 & 19

For details of resin anchor systems see sheet no. 2

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

END BENT NO. 1

CRAWFORD COUNTY — A11912

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 5 OF 22

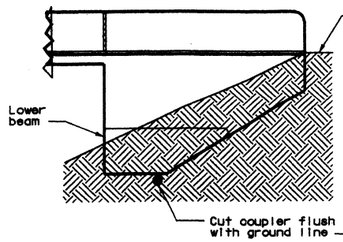
Y:/9840901/BENT001.DGN
PLOT 48

Date: 9-21-00
Checked by: [illegible]

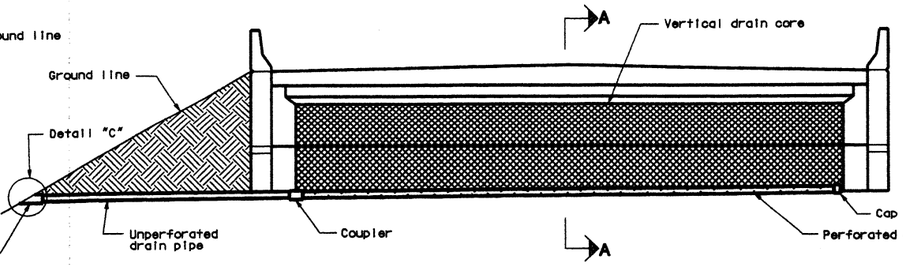
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.E.-19-2(12)	65

ID 990122-20

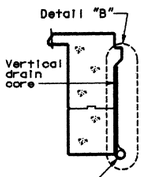


ELEVATION OF WING



ELEVATION AT END BENT

VERTICAL DRAIN AT END BENTS

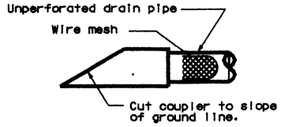


SECTION A-A

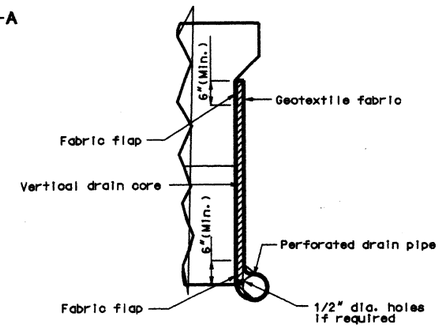
4" diameter corrugated polyethylene (PE) drain pipe.

Placeddrain pipe at fill face of end bent and slope to lowest grade of ground line, also missing the lower beam of end bent by 1-1/2". (See Elevation At End Bent)

Perforated pipe shall be placed at fill face side at the bottom of end bent and plain pipe shall be used where the vertical drain ends to the exit at ground line.



DETAIL "C"



DETAIL "B"

STATE OF MISSOURI
RANDY MAYO
NUMBER
E-20856
REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2000 Date

FINAL PLANS

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Signature Date

STATE OF MISSOURI
GREGORY L. LAW
NUMBER
E-21489
REGISTERED PROFESSIONAL ENGINEER

8/22/98

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

VERTICAL DRAIN AT END BENT

CRAWFORD COUNTY | **A11912**

Y:/9840901/VERTDRN.DGN
PLOT 12

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

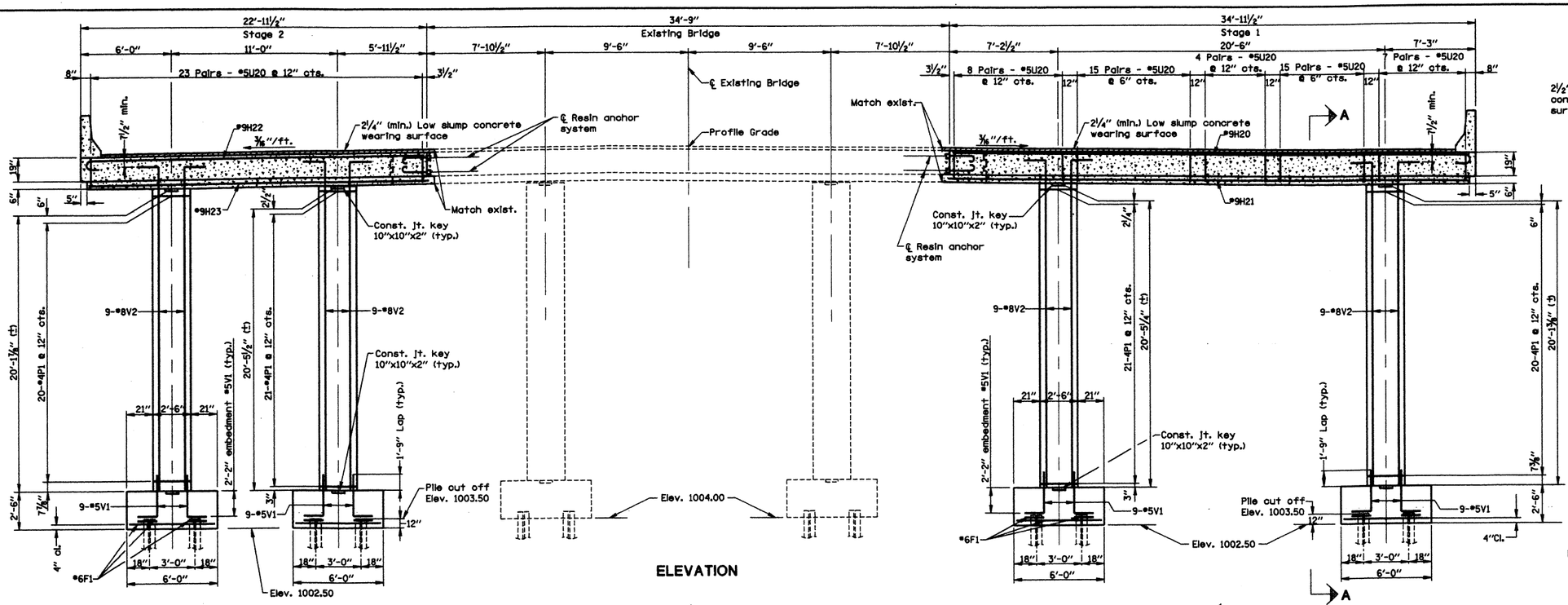
SHEET NO. 6 OF 22

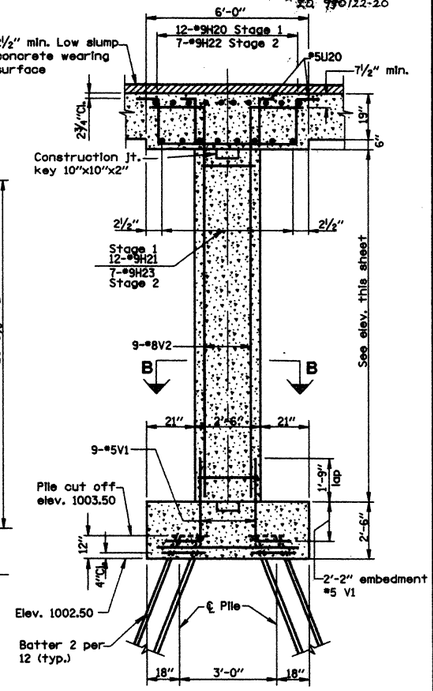
Checked by: [illegible] Date: 7/21/00

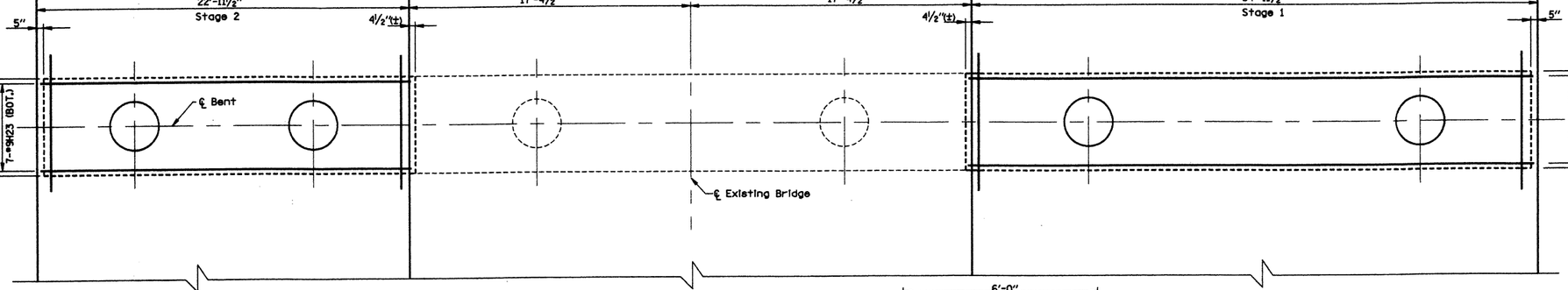
FINAL PLANS

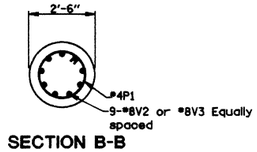
STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F. - 19-2.(12)	66

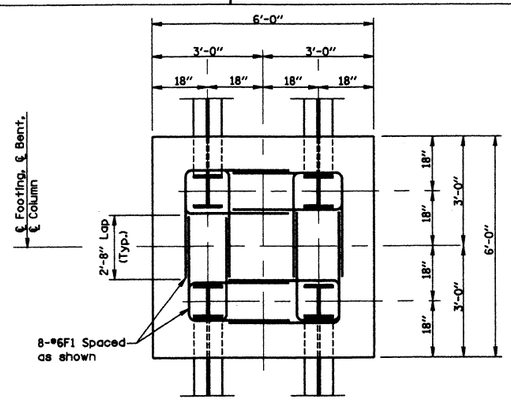
Job No. 990122-20











SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 2		
ITEM		QUANTITY
Class 1 Excavation	cu. yds.	71.6
Structural Steel Pile (10")	lin. ft.	252
Pile Point Reinforcement	each	16
Class B Concrete (Substructure)	cu. yds.	13.3
Reinforcing Steel (Bridge)	pound	560
Pre-Bore for Piling	lin. ft.	32

Note: These quantities are included in the estimated quantities table on sheet No. 2.

FINAL PLANS

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Signature Date

Notes:
For details of closure pour see sheet No. 11
For details of resin anchor system see sheet No. 2
For details of steel splice see sheet No. 5
For reinforcement of safety [illegible] see sheet No. 17, 18 & 19

FINAL PLANS

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STATE OF MISSOURI RANDY MAYO NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER

Signature SEP 01 2000 Date

STATE OF MISSOURI GREGORY L LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER

6/25/98

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

INTERMEDIATE BENT NO. 2

CRAWFORD COUNTY | A11912

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 7 OF 22

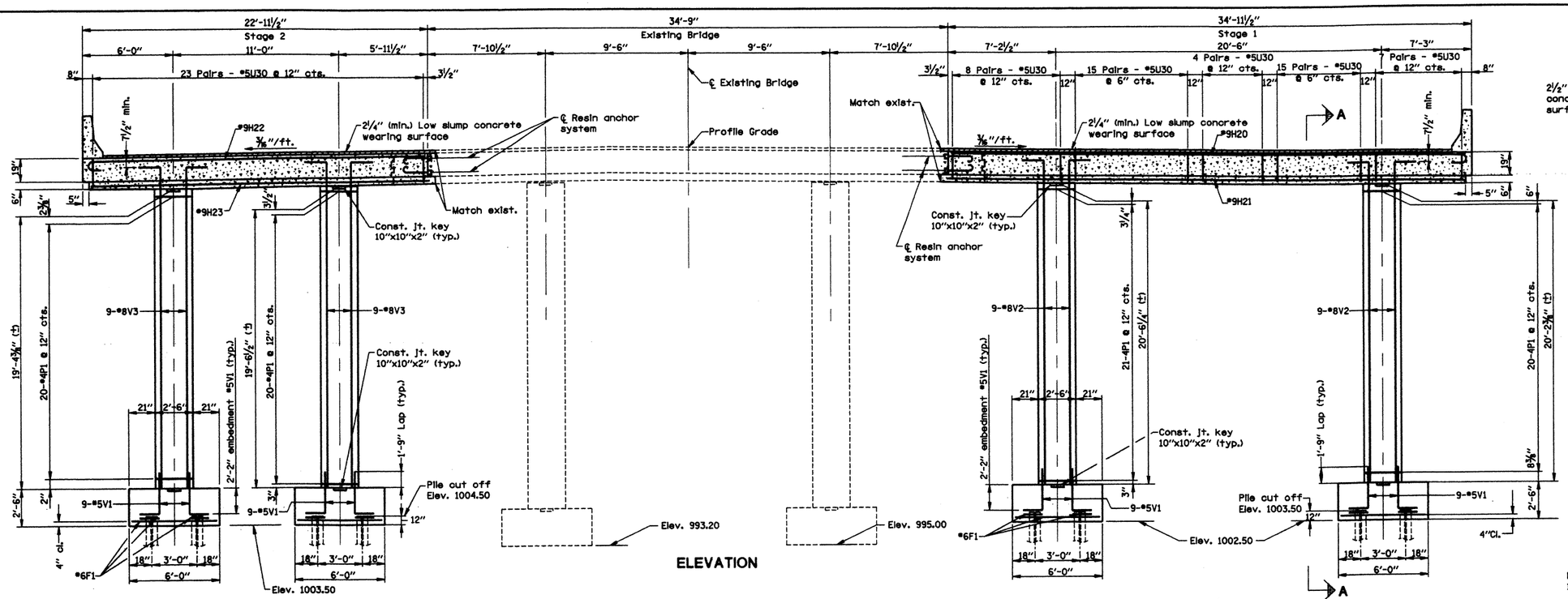
Y:/3940901/BENT002.DGN
PLOT 48

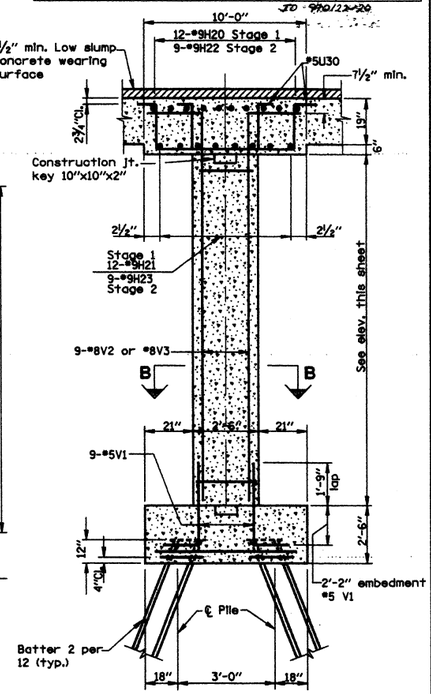
Date: 4-21-00
Checked by

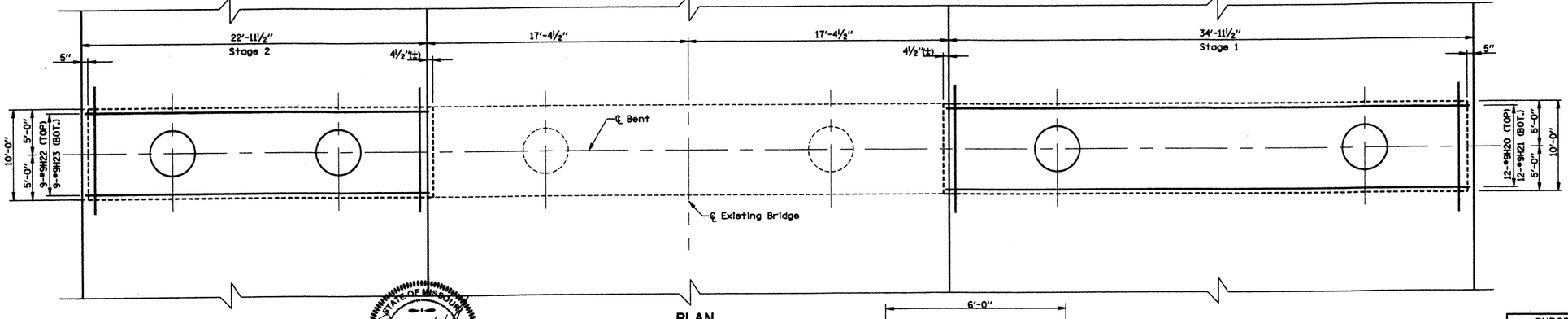
FINAL PLANS

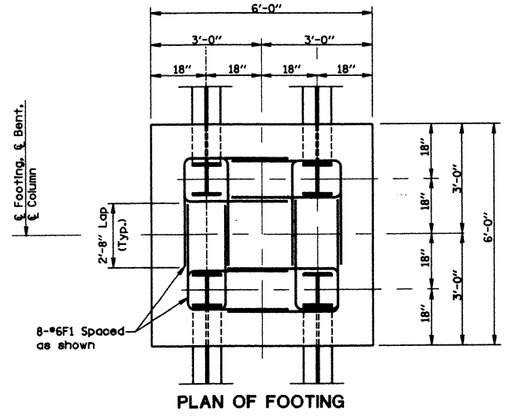
STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	67

JD - 990/22-220









SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 3		
ITEM		QUANTITY
Class 1 Excavation	cu. yds.	66.9
Structural Steel Pile (10")	lin. ft.	231
Pile Point Reinforcement	each	16
Pre-Bore for Piling	lin. ft.	168
Class B Concrete (Substructure)	cu. yds.	13.3
Reinforcing Steel (Bridge)	pound	560

Note: These quantities are included in the estimated quantities table on sheet No. 2.

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification(s) of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature Date

STATE OF MISSOURI RANDY MAYO NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER

Notes:
For details of closure pour see sheet No. 11
For details of resin anchor system see sheet No. 2
For details of steel splice see sheet No. 5
For reinforcement of safety barrier curb see sheet No. 17, 18 & 19

FINAL PLANS

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Signature SEP 01 2000 Date

STATE OF MISSOURI GREGORY L LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER 8/27/98

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

INTERMEDIATE BENT NO. 3

CRAWFORD COUNTY | A11912

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 8 OF 22

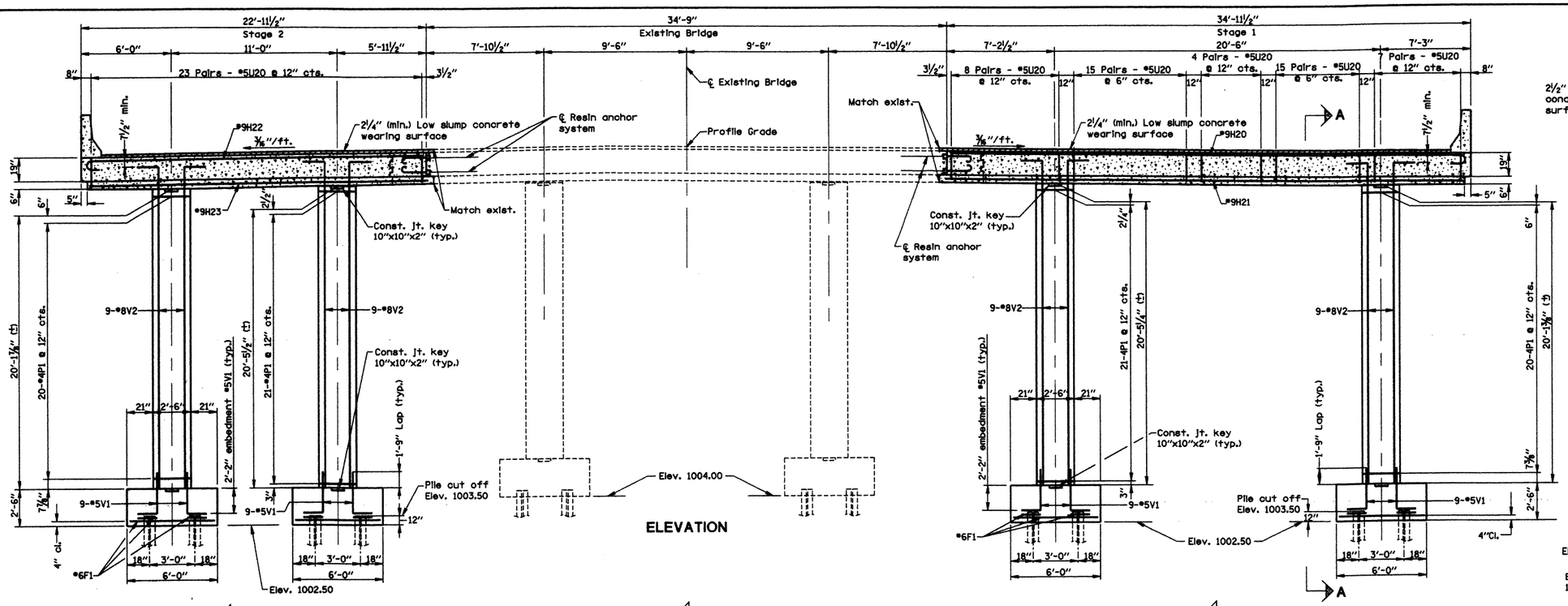
Y:/9840901/BENT003.DGN
PLOT 48

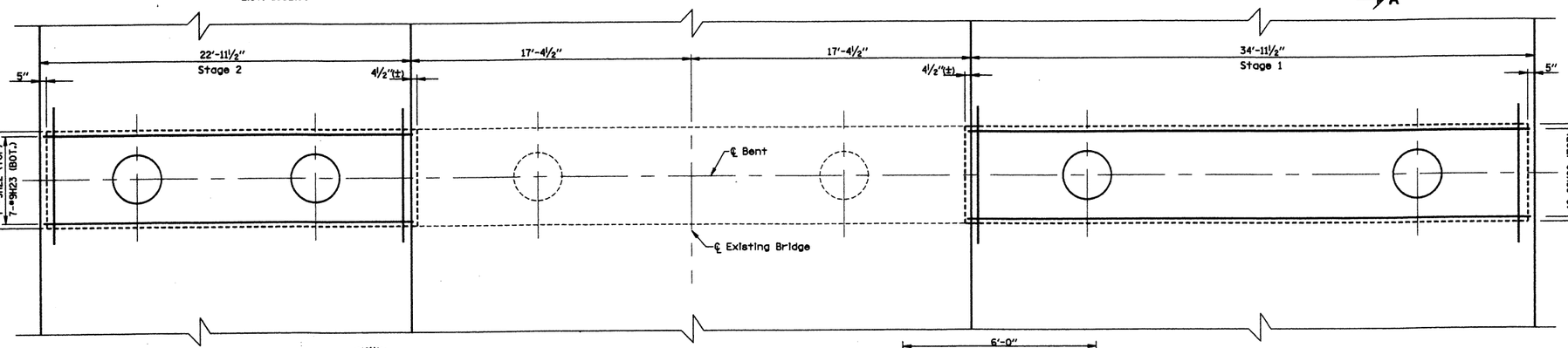
Date: 9-28-00
Checked by: [illegible]

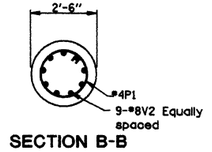
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	68

ID 990123-20







SECTION B-B

FINAL PLANS

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Signature Date

STATE OF MISSOURI RANDY MAYO NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER

Notes:
For details of closure pour see sheet No. 11
For details of resin anchor system see sheet No. 2
For details of steel splice see sheet No. 5
For reinforcement of safety barrier curb see sheet No. 17, 18 & 19

FINAL PLANS

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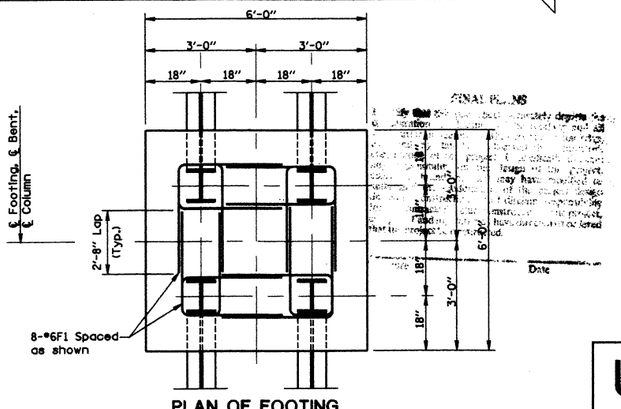
Signature SEP 01 2000 Date



FINAL PLANS

Date

STATE OF MISSOURI GREGORY L LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER 8/25/98

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 4		
ITEM		QUANTITY
Class 1 Excavation	cu. yds.	73.6
Structural Steel Pile (10")	lin. ft.	199
Pile Point Reinforcement	each	16
Class B Concrete (Substructure)	cu. yds.	13.3
Reinforcing Steel (Bridge)	pound	560
Pre-Bore for Piling	lin. ft	21

Note: These quantities are included in the estimated quantities table on sheet No. 2.

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

INTERMEDIATE BENT NO. 4

CRAWFORD COUNTY | A11912

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

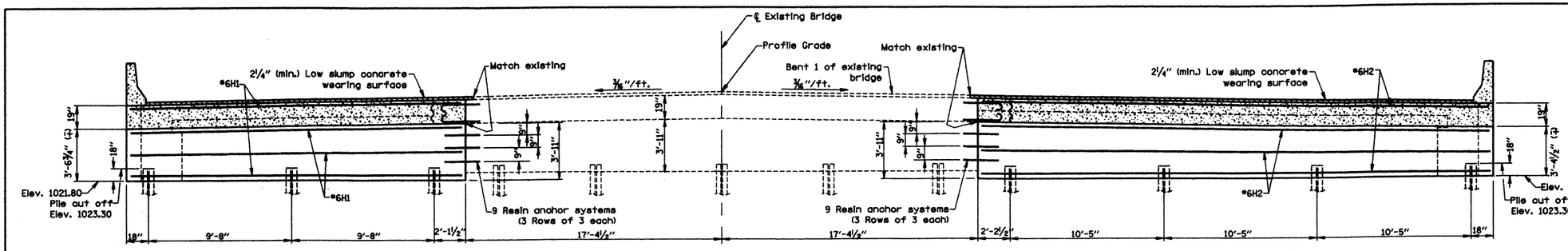
SHEET NO. 9 OF 22

Y:/9840901/BENT004.DGN
PLOT 48

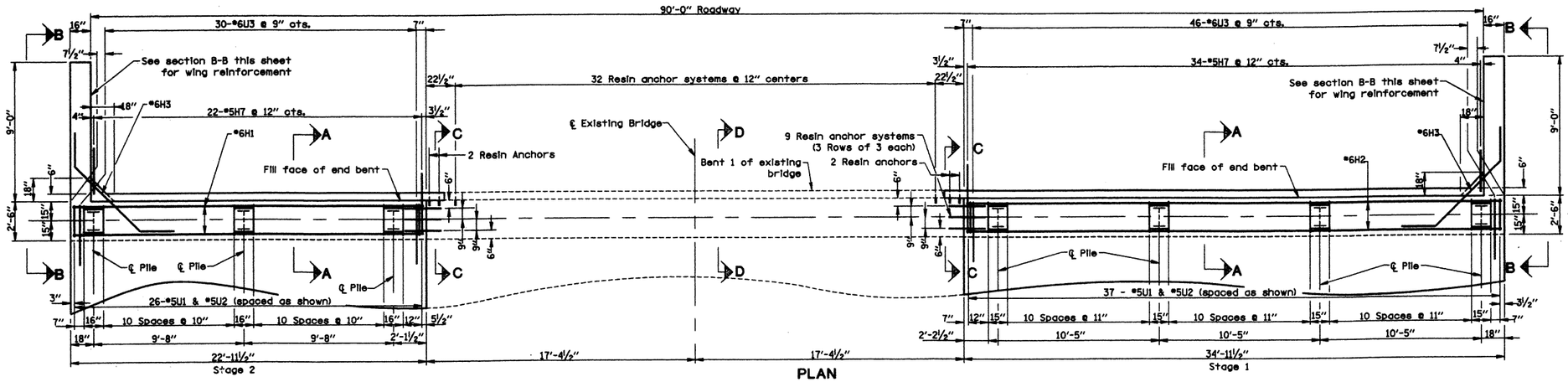
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F-19-2(12)	69

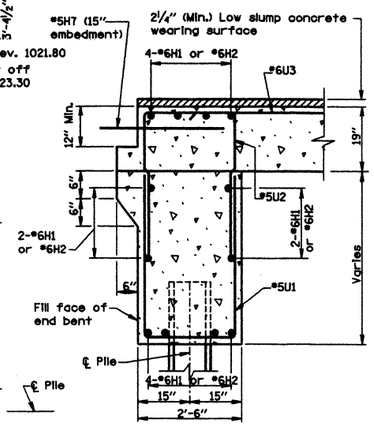
JD 990122-20



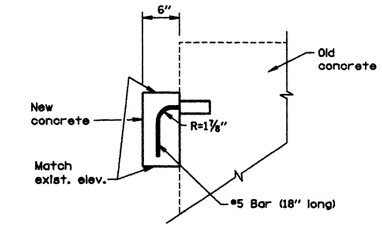
SECTION NEAR END BENT



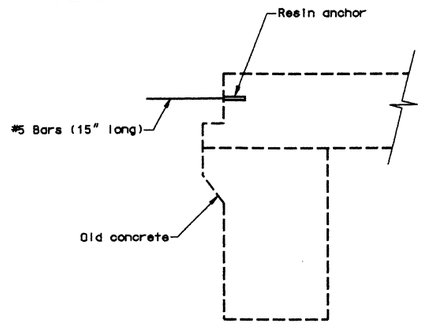
PLAN



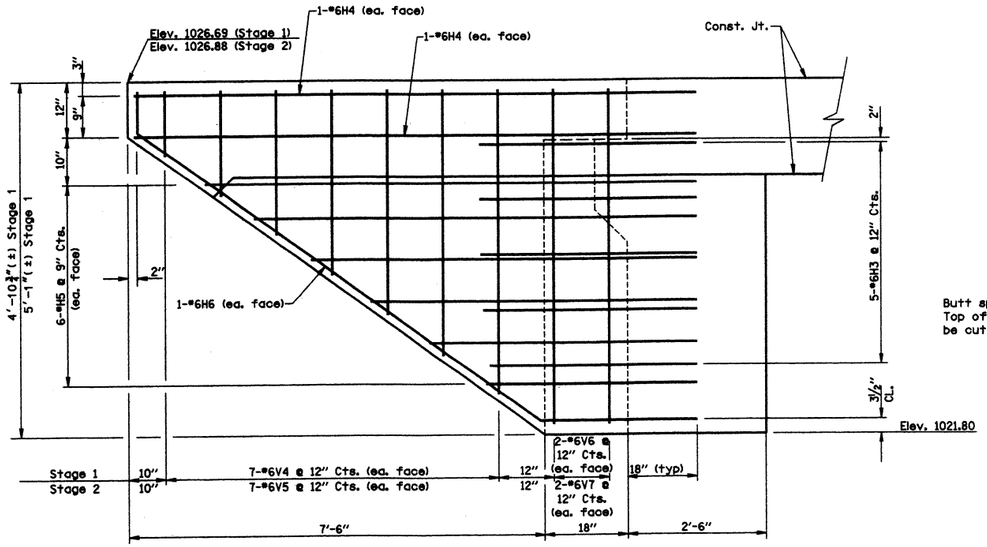
SECTION A-A



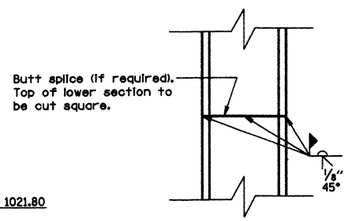
SECTION C-C



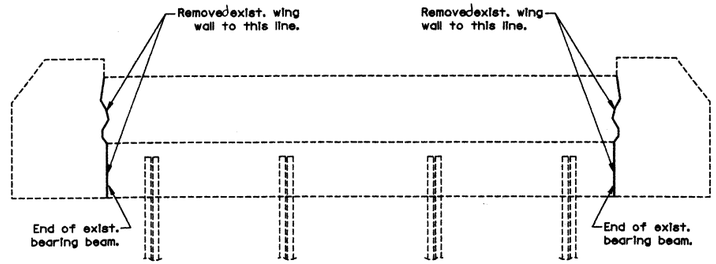
SECTION D-D



ELEVATION B-B
Stage 2 shown
Stage 1 opposite hand



DETAIL OF STEEL PILE SPLICE



SECTION NEAR EXISTING WING WALL

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature Date

STATE OF MISSOURI
GREGORY L. LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER
8/31/98

SUBSTRUCTURE QUANTITY TABLE FOR BENT NO. 5		
ITEM		QUANTITY
Class 1 Excavation	cu. yd.	16.6
Structural Steel Pile (10")	lin. ft.	230
Pile Point Reinforcement	each	7
Pre-Bore for Piling	lin. ft.	0
Vertical Drain at End Bents	each	1

Note: These quantities are included in the estimated quantities table on sheet No. 2.

Notes:

For reinforcement of the safety barrier curb see sheet No. 17, 18 & 19

For details of resin anchor systems see sheet no. 2

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

END BENT NO. 5

CRAWFORD COUNTY | A11912

SHEET NO. 10 OF 22

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

Y:/9840901/BENT005.DGN
PLOT 48

SEP 01 2000
Date

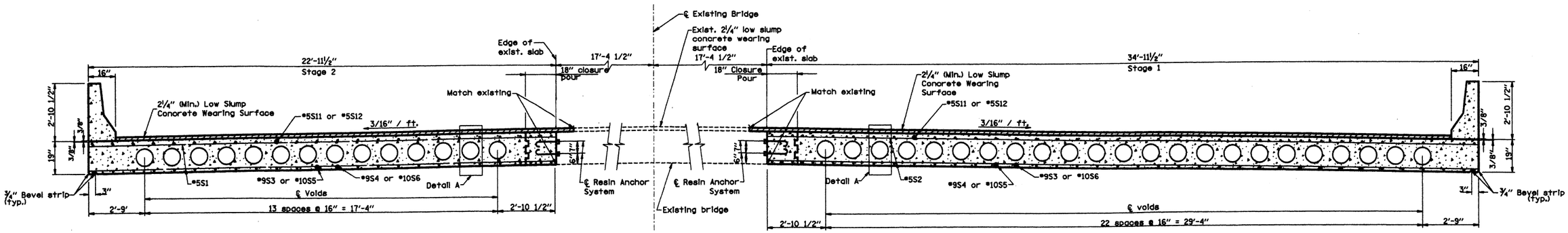
Date: 7-21-00

Checked by:

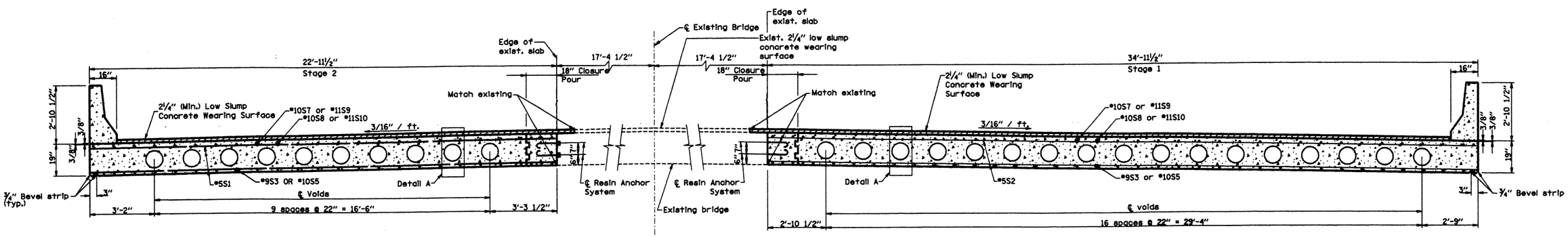
70

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	70

ID.990122-20



PARTIAL SECTION THRU SLAB NEAR MID-SPAN

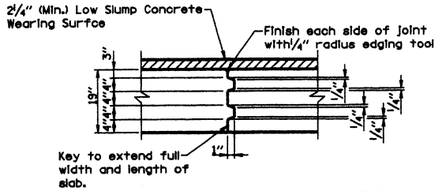


PARTIAL SECTION THRU SLAB NEAR INTERMEDIATE BENTS

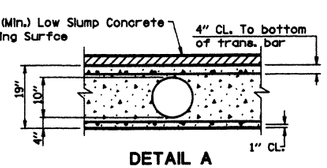
Note: The contractor shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the roadway slab at the rate of less than 25 cubic yards per hour. The contractor shall observe the transverse construction joints shown on the plans, unless he can demonstrate to the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which permits a continous pouring through some or all of these joints.

Use expansive Class B2 concrete in closure pour (see special provisions). Release forms before closure pour is placed.

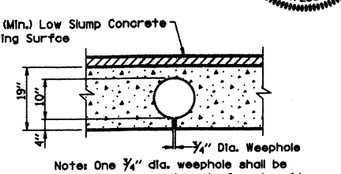
Tubes for producing voids shall have an outside diameter of 10.00" and shall be anchored at no more than 4'-0" centers. Fiber tubes shall have a wall thickness of not less than .225".



DETAIL OF SLAB CONSTRUCTION JOINT KEY



DETAIL A



Note: One ¾" dia. weephole shall be provided near each end of each void. Weepholes shall be placed in lines parallel to bents.

DETAIL OF WEEPHOLE IN VOIDS

STATE OF MISSOURI — RANDY MAYO — NUMBER E-20856 — REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified it during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature — SEP 01 2000 — Date

STATE OF MISSOURI — GREGORY L LAW — NUMBER E-21489 — REGISTERED PROFESSIONAL ENGINEER — 8/25/98

CMT — CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS — SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

SECTIONS THRU SLAB

CRAWFORD COUNTY | **A11912**

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 11 OF 22

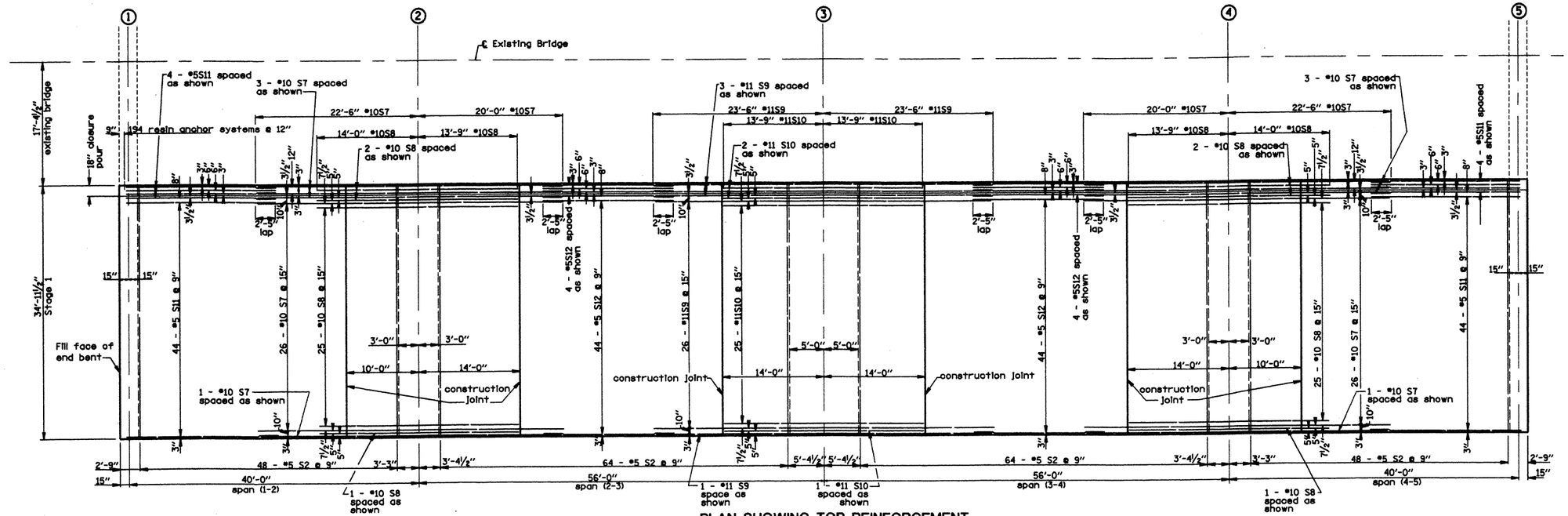
Y:\98\40901\SEC001.DGN
PLOT 24

Checked by: Date: 4-20-2000

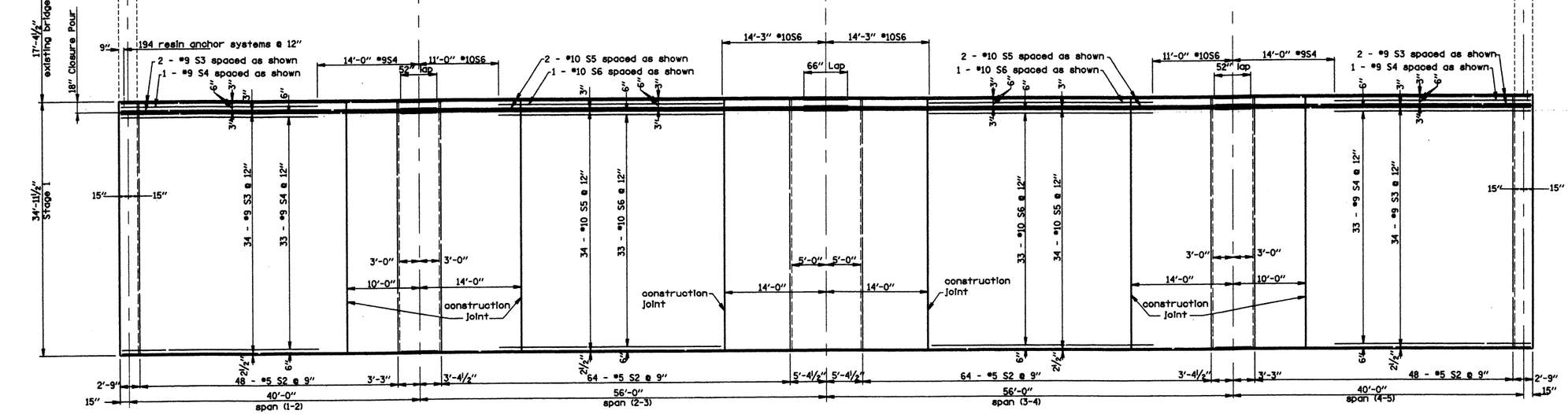
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	71

JD 990122-20.



PLAN SHOWING TOP REINFORCEMENT



PLAN SHOWING BOTTOM REINFORCEMENT

GREGORY L. LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

8/25/98

RANDY MAYO NUMBER E-20866 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

SEP 01 2000

Date

I contend that this project be constructed.

Randy L. Mayo

Author

Date: 9/31/00

Checked by: [illegible]

Y:/9840901/PLN002.DGN
PLOT 96

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 12 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

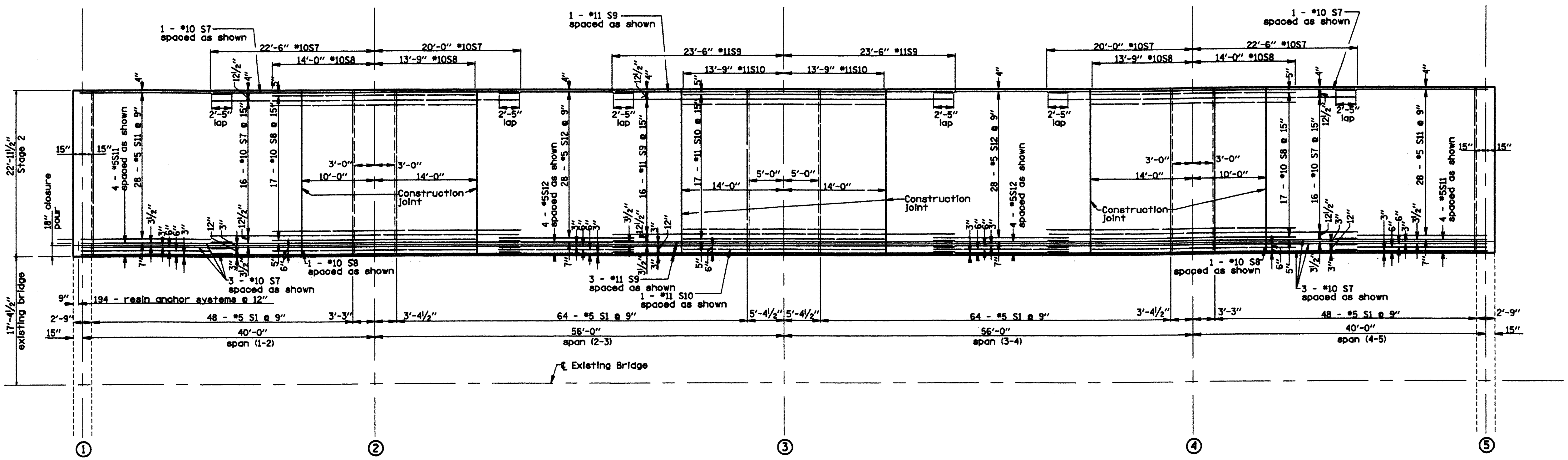
SLAB REINFORCEMENT - STAGE 1

CRAWFORD COUNTY | A11912

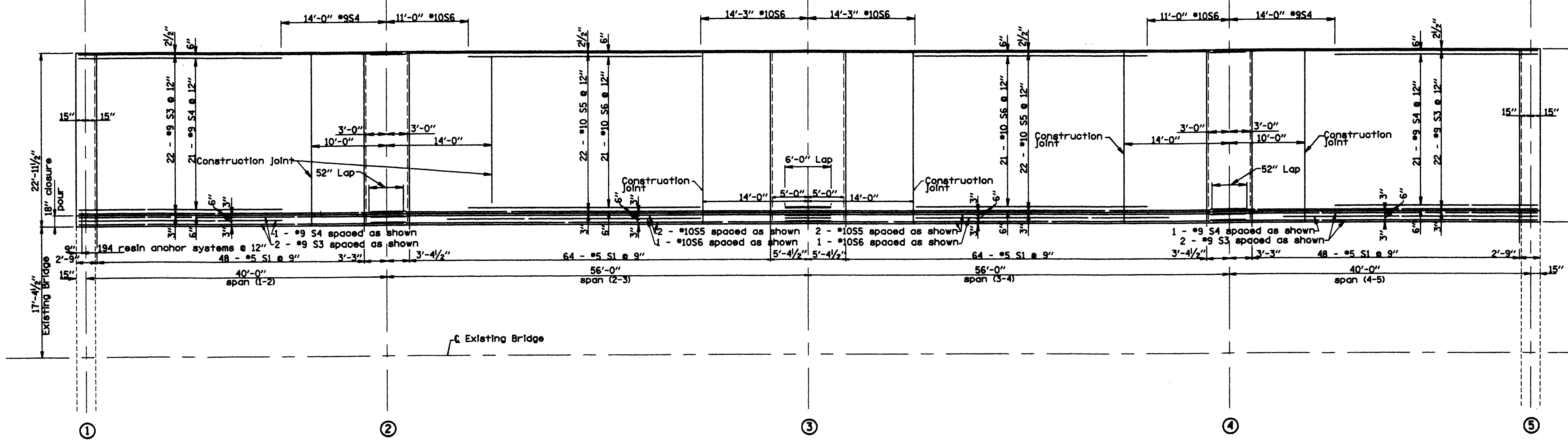
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F. - 19-2(12)	72

J.D. 9901227-30



PLAN SHOWING TOP REINFORCEMENT



PLAN SHOWING BOTTOM REINFORCEMENT

any responsibility for the design of this project, except as I and my staff may have modified it during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2000 Date

Checked by: Date: 9-21-00

Y:/9840901/PLN003.DGN PLOT 96

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 13 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

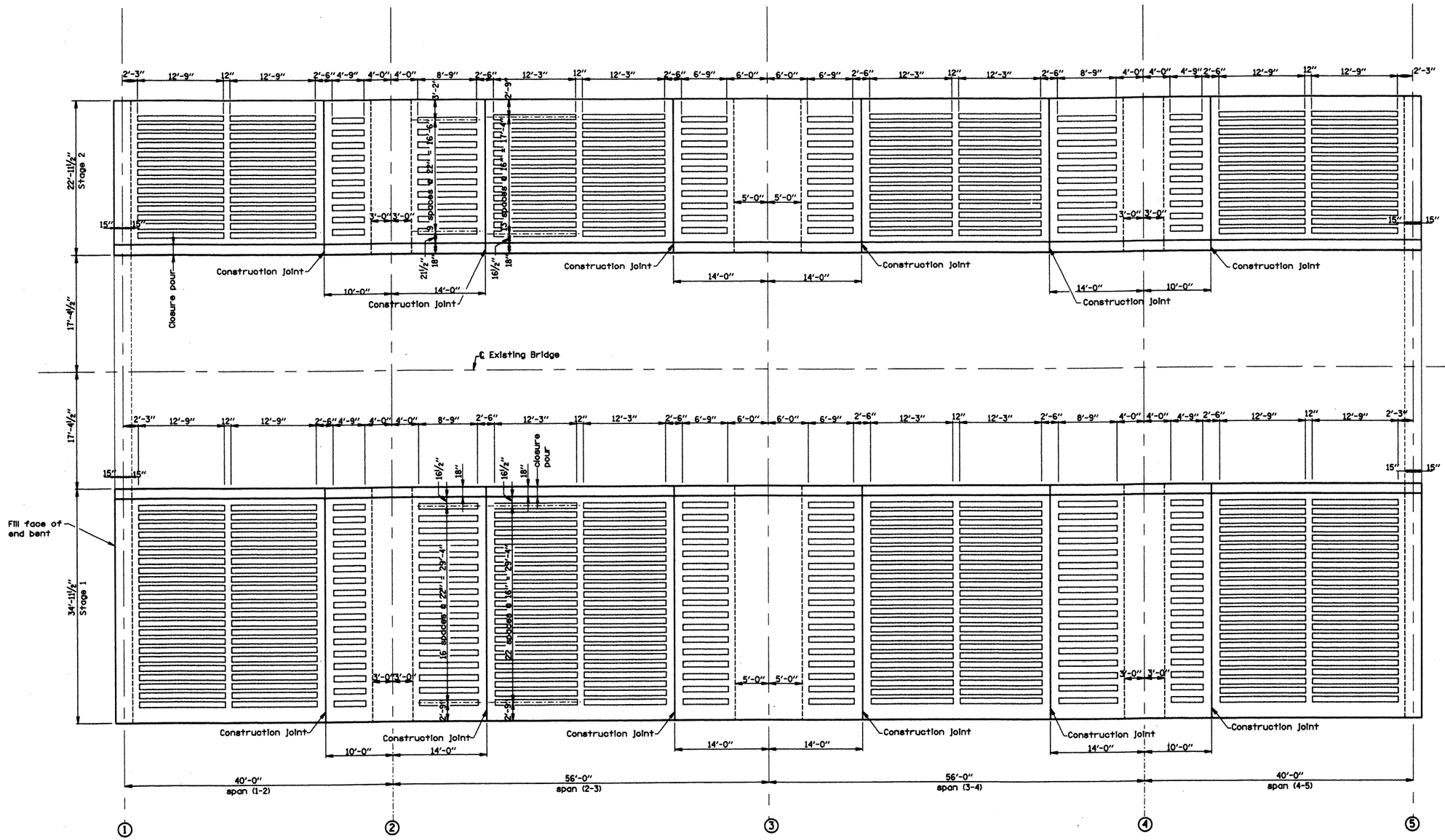
SLAB REINFORCEMENT - STAGE 2

CRAWFORD COUNTY A11912

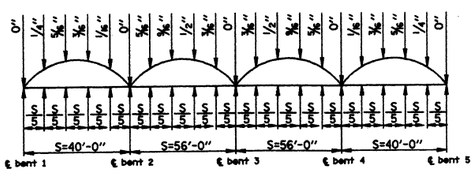
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F-19-2(12)	73

ID 990122-20...



PLAN OF SLAB SHOWING VOIDS



CAMBER DIAGRAM

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 14 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

SLAB VOIDS AND CAMBER

CRAWFORD COUNTY — A11912

GREGORY L LAW NUMBER E-21459 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI

8/12/98

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

Y:/9840901/PLN005.DGN
PLOT 96

Checked by: Date: 6/21-98

SEP 01 2000
Date

Signature

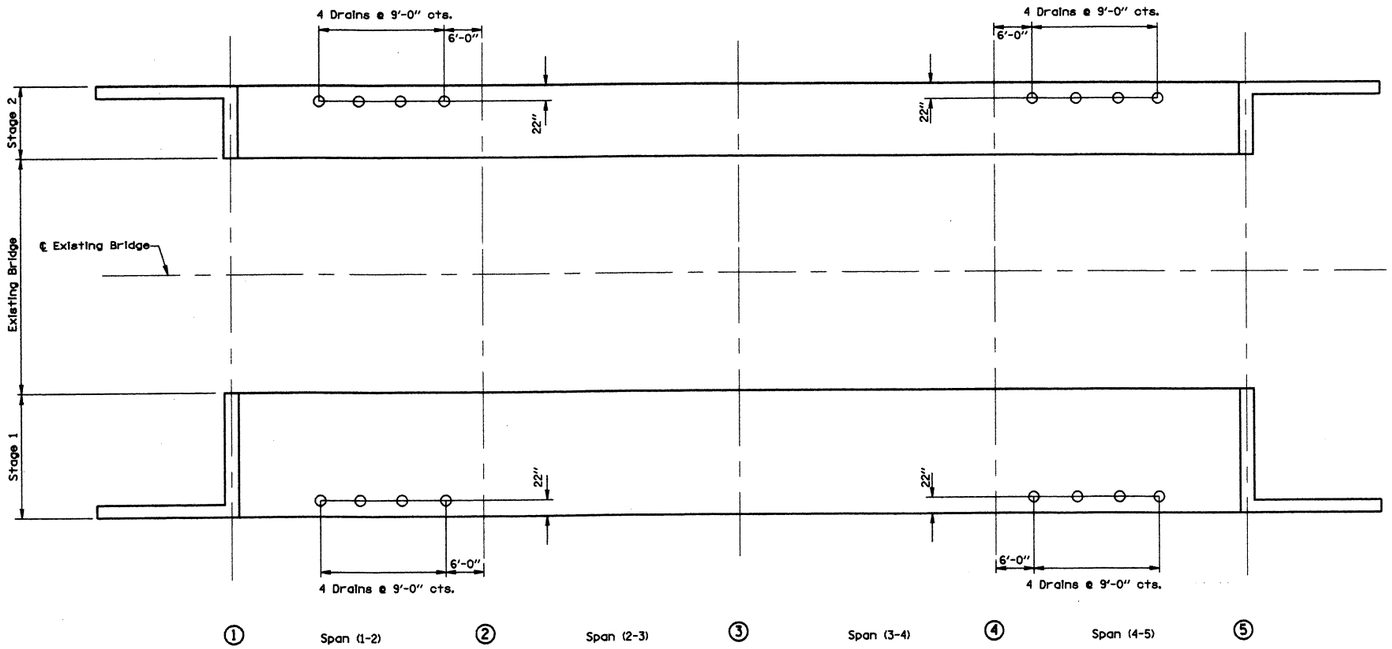
and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for this design of this project, except as I and my staff may have incidentally for the its construction; and I disclaim responsibility for the contractor's actual compliance with the plans of the project, except as I and my staff may have directed or ordered that the project be modified.

74

FINAL PLANS

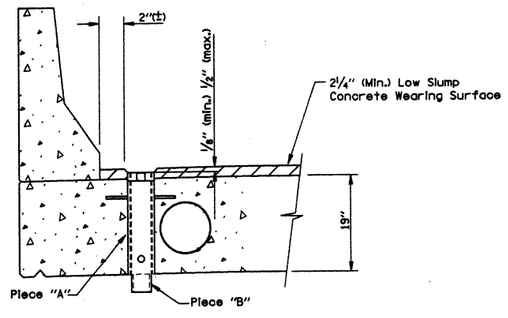
STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	74

ID 990122-20

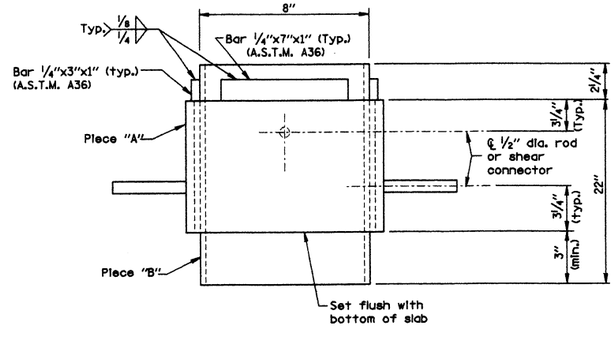


SLAB DRAIN LOCATION PLAN

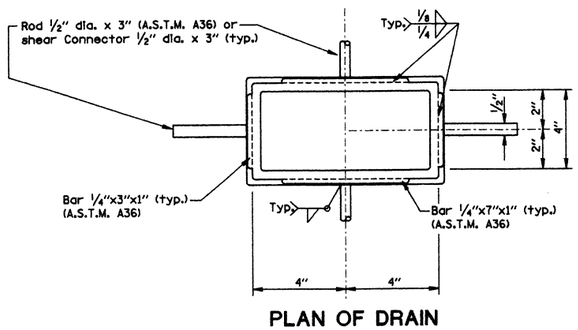
Notes:
Slab drains may be fabricated of ~~either 1/4" welded sheets of ASTM A709 Grade 36 steel or from~~ 1/4" structural steel tubing ASTM ~~A500 or~~ A501.
Outside dimensions of drains are:
Piece "A" = 8¾"x4¾"
Piece "B" = 8"x4"
Piece "A" shall be cast in the concrete. Prior to placement of wearing surface, Piece "B" shall be inserted into Piece"A".
Locate Piece "A" in slab by dimensions shown.
Shift reinforcing steel in field where necessary to clear drain.
Pieces "A" and "B" shall be galvanized in accordance with ASTM A123.
All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.
Shop drawings will not be required for the slab drains.



PART ELEVATION OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF DRAIN

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2000 Date

STATE OF MISSOURI RANDY MAYER NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER

STATE OF MISSOURI GREGORY L LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER 8/31/98

Checked by: Date: 4-21-00

Y:/9840901/SLBDRN001.DGN
PLOT 96

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 15 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

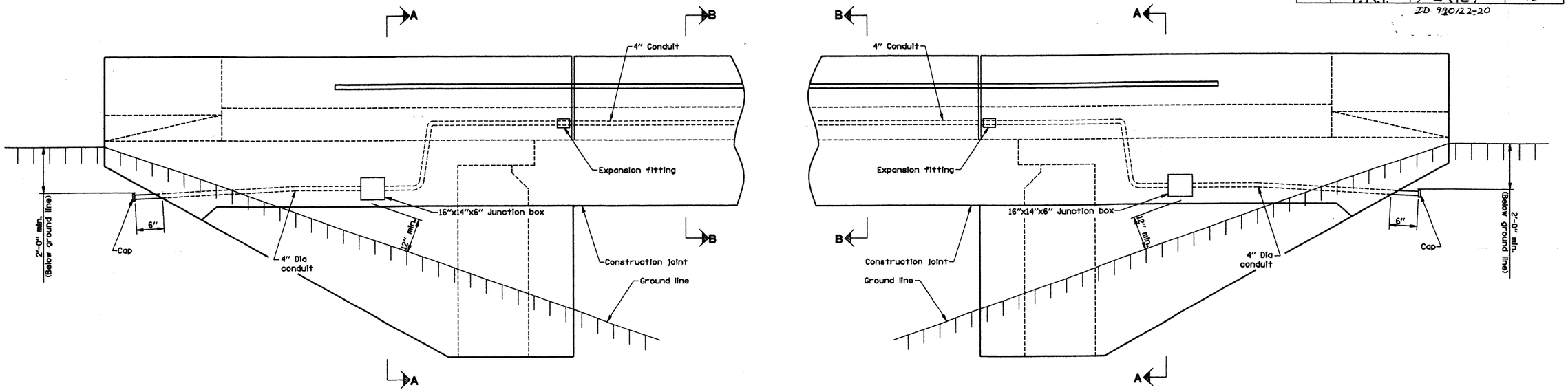
SLAB DRAINS

CRAWFORD COUNTY | A11912

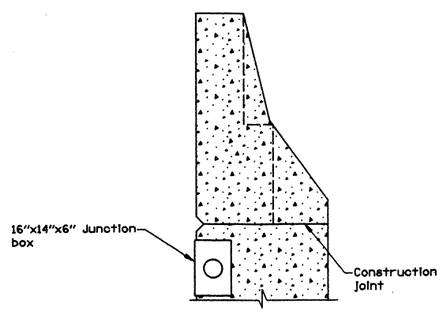
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F-19-2(12)	75

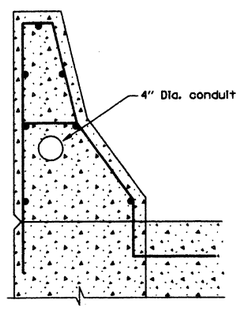
ED 980122-20



ELEVATION OF RIGHT SAFETY BARRIER CURB



PART SECTION A-A



PART SECTION B-B

Notes:

All conduit shall be rigid non-metallic schedule 40 heavy wall PVC (polyvinyl chloride plastic) with 3" minimum cover in concrete. Each section of conduit shall bear the underwriters laboratories, Inc., (UL) label.

Shift reinforcing steel in field where necessary to clear conduit and junction boxes.

Expansion fittings shall provide a minimum movement in either direction of ½" at filled joints. Expansion fittings shall be equal to Carlon Electrical Construction Products or Cantex, Inc.

All end bent junction boxes shall be PVC molded flush mounted and equal to Carlon Electrical Construction Products or Cantex, Inc. The conduit terminations shall be permanent or separable. The conduit terminations and covers shall be of watertight construction and shall meet requirements for NEMA 4 enclosure.

Weepholes shall be provided at appropriate locations to drain any moisture in the conduit system.

Payment for furnishing and installing Conduit System, complete-in-place, will be paid for at the contract unit price for Conduit Systems on Structure, lump sum.

STATE OF MISSOURI
RANDY MAYO LANGER
E-20856
REGISTERED PROFESSIONAL ENGINEER

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature

SEP 01 2000
Date

STATE OF MISSOURI
GREGORY L LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER

8/31/98

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

CONDUIT SYSTEM

CRAWFORD COUNTY | A11912

Date: 9-21-00
Checked by:

Y:/9840901/COSYSOOLDGN
PLOT 48

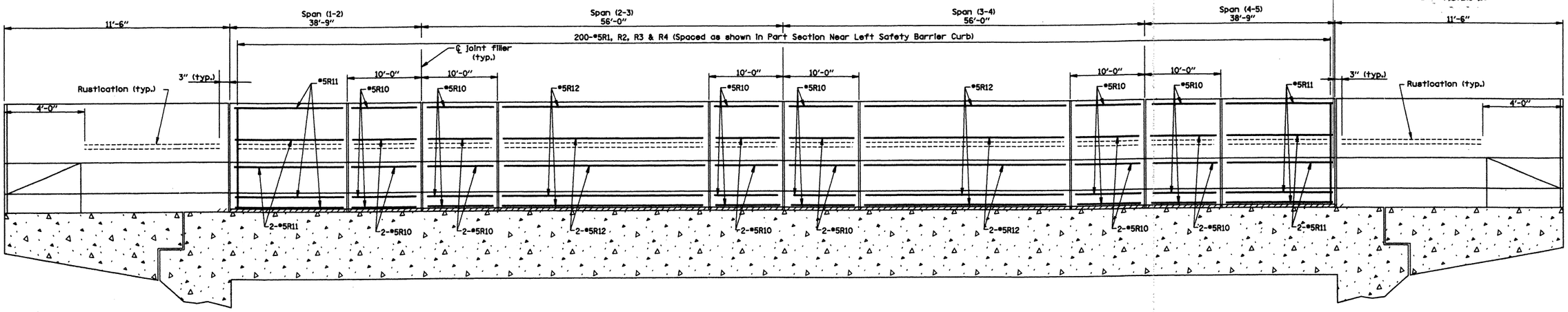
DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 16 OF 22

FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12) ID 99012.2-20	76

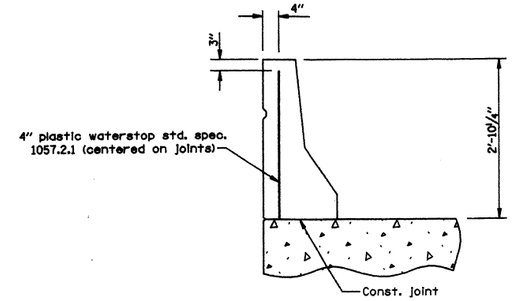


SECTION NEAR LEFT SAFETY BARRIER CURB (RIGHT BARRIER CURB SIMILAR)

Note: Longitudinal dimensions are horizontal arc dimensions

For details of rustication see sheet No. 19

For details of conduit system see sheet no. 16



DETAIL OF PLASTIC WATERSTOP

Note: Plastic waterstop shall be placed in all safety barrier curb filled joints.

Cost of plastic waterstop complete in place to be included in contract unit price for safety barrier curb.

Note:
Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints normal to grade.

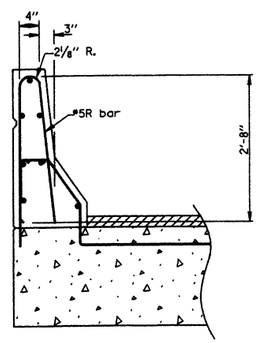
All exposed edges of safety barrier curb shall have either a ½" radius ~~or a ¾" bevel~~, unless otherwise noted.

When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.

Concrete for the safety barrier curb shall be class B1.

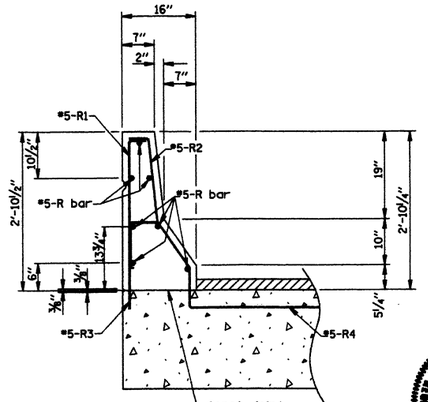
Measurement of the safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from fill face of end bent to fill face of end bent

Wheel Radius used on curb ?



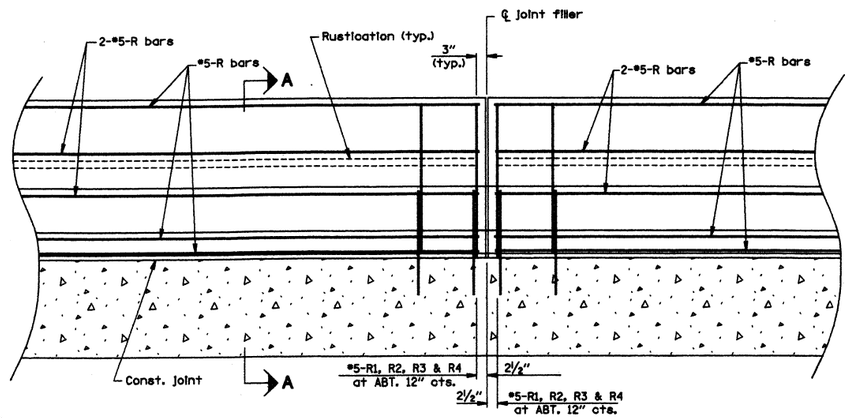
R-BAR PERMISSIBLE ALTERNATE SHAPE

The R1 and R2 bar combination may be furnished as one bar, or as shown, at the contractor's option. (All dimensions are out to out.)



SECTION A-A

Note:
Use a minimum lap of 2'-11" for #5 horizontal safety barrier curb bars. The cross-sectional area above the slab = 2.52 sq. ft.



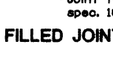
PART SECTION NEAR LEFT SAFETY BARRIER CURB

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2000 Date

STATE OF MISSOURI RANDY MAYO NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER



FILLED JOINT DETAIL

STATE OF MISSOURI GREGORY L. LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER

8/27/98

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

SAFETY BARRIER CURB

CRAWFORD COUNTY | **A11912**

Y:/9940901/SEC003.DGN
PLOT: 46
DETAILED: JUNE, 1998
CHECKED: JULY, 1998

Checked by: [illegible] Date: 7-21-98

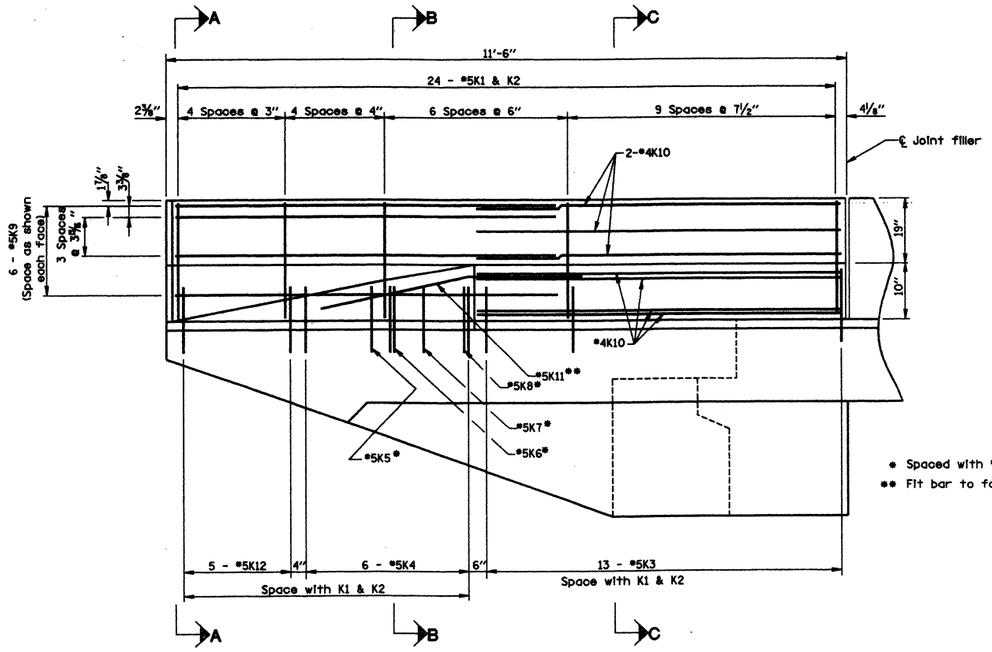
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 17 OF 22

77

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F. - 19-2(12)	77

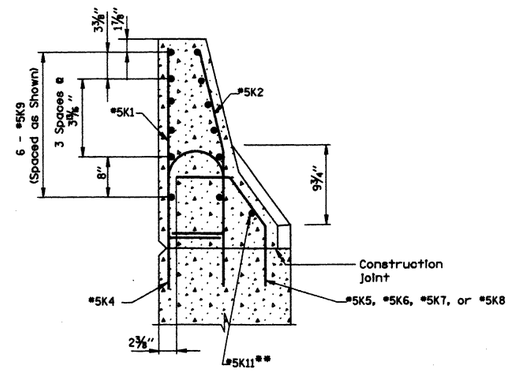
ID 990128-20



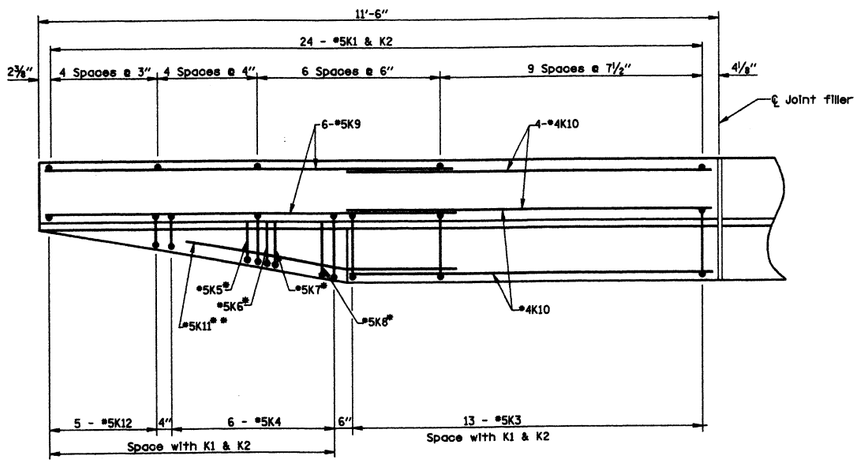
* Spaced with *5K4 bars
** Fit bar to follow transition face of curb

Note: Use a minimum lap of 2'-0" between K9 & K10 bars

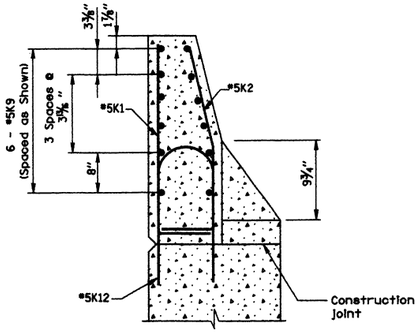
PART ELEVATION BENT NO.1 - STAGE 2 (STAGE 1 OPPOSITE HAND)
BENT NO. 5 SIMILAR



PART SECTION B-B

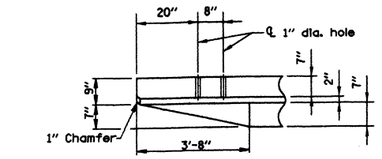


PLAN



Note: * Each side of joint location

PART SECTION A-A



PART PLAN

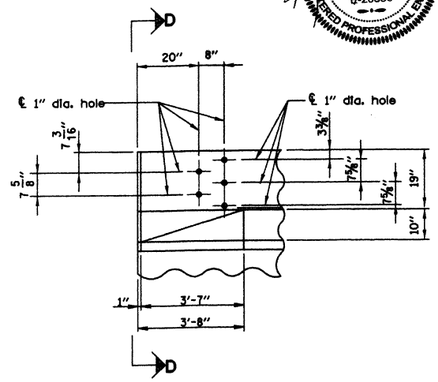
FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

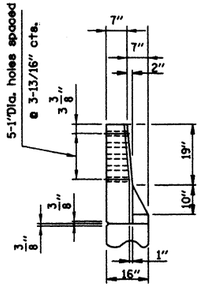
Signature

SEP 01 2000
Date

STATE OF MISSOURI
RANDY MAYO LAW
NUMBER
E-20856
REGISTERED PROFESSIONAL ENGINEER

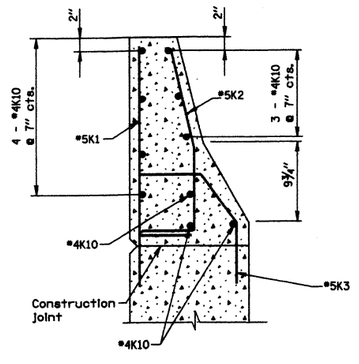


PART ELEVATION

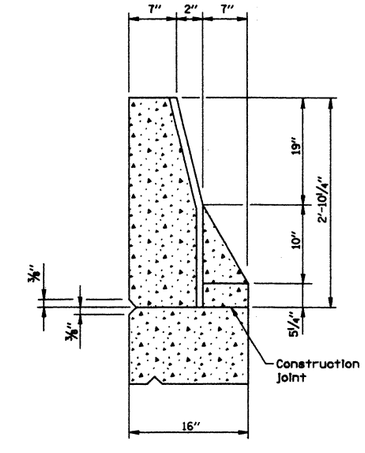


PART ELEVATION D-D

DETAILS OF GUARD RAIL ATTACHMENT



PART SECTION C-C



END ELEVATION

GREGORY L. LAW NUMBER E-31489 REGISTERED PROFESSIONAL ENGINEER STATE OF MISSOURI
8/31/98

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

S.B.C. AT END BENTS
CRAWFORD COUNTY | **A11912**

Date: 4-21-00
Checked by: [illegible]

Y:/9840901/BENT006.DGN
PLOT 48

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

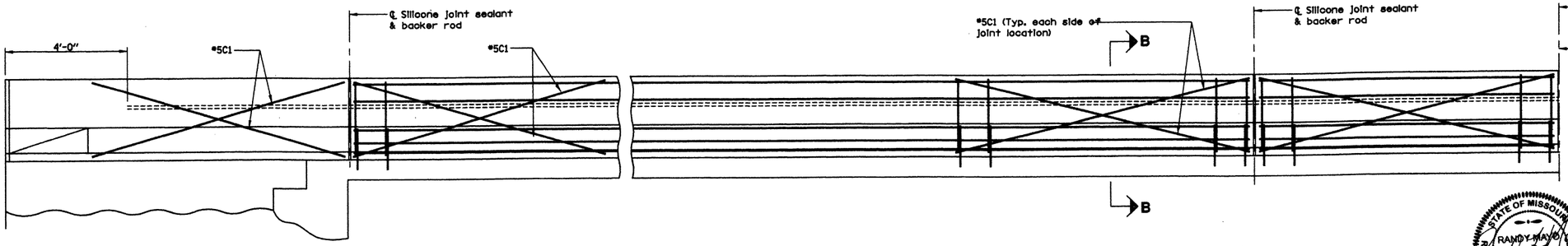
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 18 OF 22

FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	78

ID 990122-20



FINAL PLANS

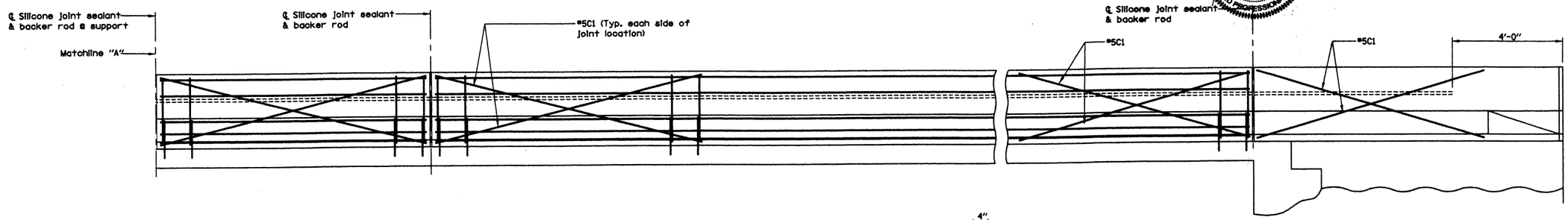
I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature

SEP 01 2000

Date

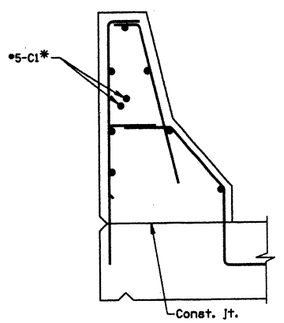
STATE OF MISSOURI — RANDY MAYO — NUMBER E-20856 — REGISTERED PROFESSIONAL ENGINEER



TYPICAL SECTION NEAR SAFETY BARRIER CURB AT SUPPORT LOCATIONS (OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB)

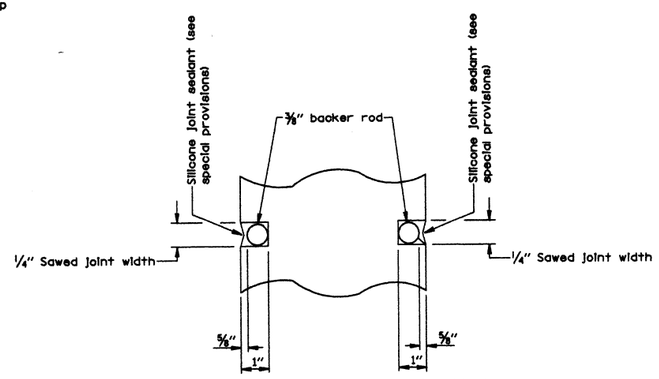
Note:
Top of safety barrier curb shall be built parallel to grade with safety barrier curb joints normal to grade.
When the safety barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement, complete-in-place.
Concrete in the safety barrier curb shall be Class B1.
Measurements of the safety barrier curb is to the nearest linear foot for each structure, measured along the outside top of slab from fill face of end bent to fill face of end bent.

Note:
Joint sealant and backer rods shall be used on all slip-form bridge safety barrier curbs instead of joint filler.
Plastic waterstop shall not be used with slip-form option.
C Bars (Slip-form option only) shall be used in addition to cast-in-place conventional forming reinforcement for bridge safety barrier curb.
See sheet No. 16 for Conduit System.



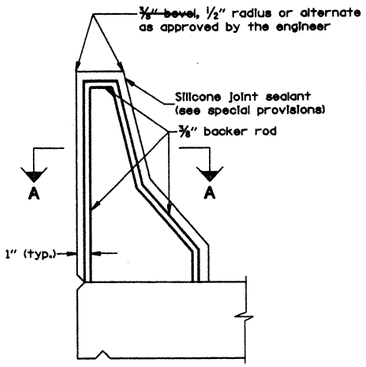
Note: * Each side of joint location

PART SECTION B-B

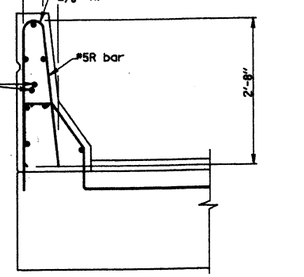


Note: Cost of silicone joint sealant and backer rod complete-in-place to be included on the contract unit price for safety barrier curb.

SECTION A-A

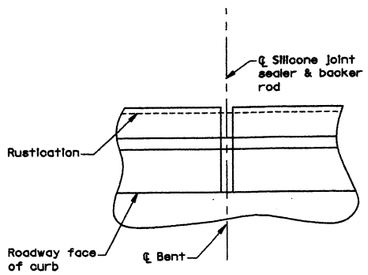


SECTION THRU JOINT

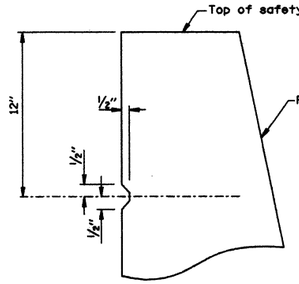


R-BAR PERMISSIBLE ALTERNATE SHAPE

The R1 and R2 bar combination may be furnished as one bar, or as shown, at the contractor's option.

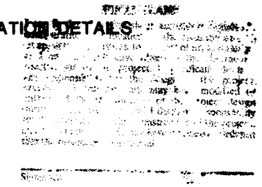


PART PLAN SHOWING SAFETY BARRIER CURB JOINT



PART PLAN SHOWING RUSTICATION DETAILS

RUSTICATION DETAILS



STATE OF MISSOURI — GREGORY L. LAW — NUMBER E-21489 — REGISTERED PROFESSIONAL ENGINEER

8/27/98

OPTIONAL SLIP-FORM BRIDGE SAFETY BARRIER CURB

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

OPTIONAL SLIP FORM S.B.C.

CRAWFORD COUNTY | **A11912**

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

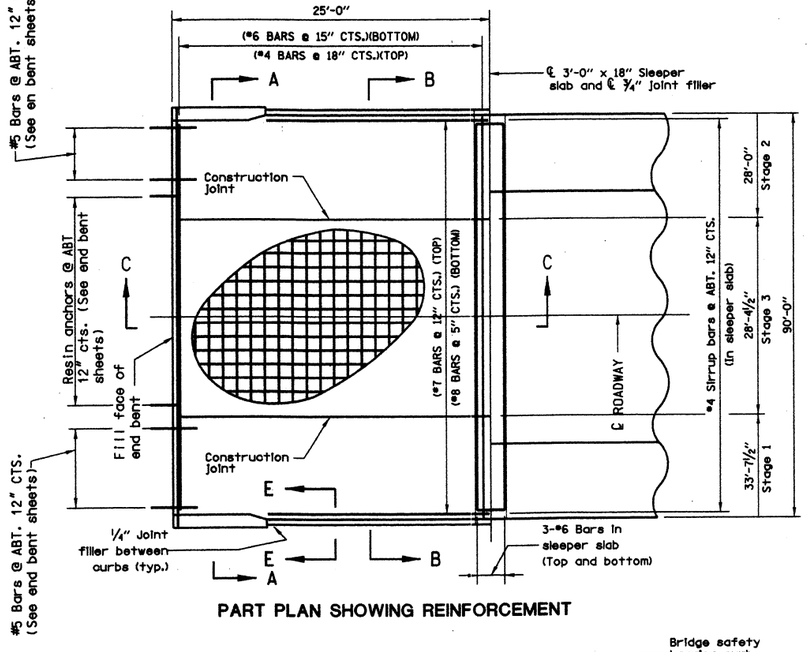
SHEET NO. 19 OF 22

Y:\9840901\SEC005.DGN
PLOT: 1:1
Date: 7/31/00
Checked by: [illegible]

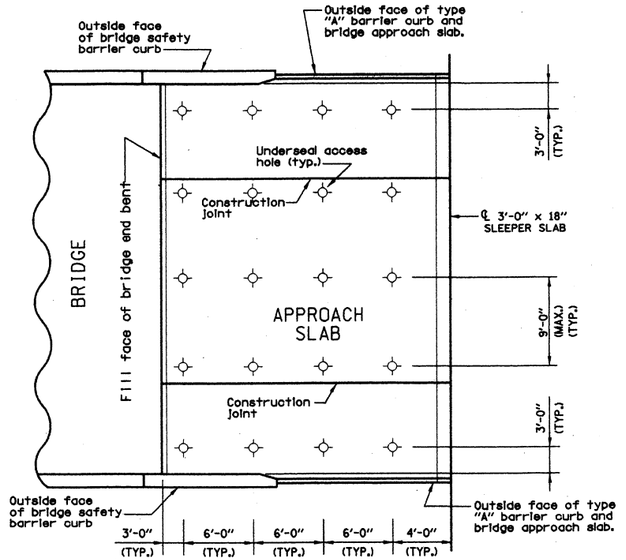
FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F-19-2(12)	79

ID 990122-20



PART PLAN SHOWING REINFORCEMENT



PART PLAN

(Showing typical underseal access hole locations)

General Notes

All concrete for the bridge approach slab and sleeper slab shall be in accordance with section 503 (f ' c = 4,000 psi) of the Missouri Standard Specifications.

All joint filler shall meet the requirements of section 1057.2.5 of the Missouri Standard Specifications except as noted.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated grade 60 with fy = 60,000 psi.

Minimum clearance to reinforcing steel shall be 1½" unless otherwise shown.

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by lap splicing the #4 & #6 bars 27" and 40" respectively.

Mechanical bar splices will be permitted and shall develope at least 125 percent of the specified yield strength of the reinforcing bars being spliced. The contractor shall furnish the Engineer the manufacturers certification that this requirement is met and is required to follow the manufacturers recommendation for installation.

Mechanical bar splices shall be epoxy coated in accordance with Mo. Std. spec. 710.

When lap splice is required for the use of a mechanical bar splice, the minimum lap length shall be 40" for transverse approach slab bar splices.

Hooks and bends shall be in accordance with the C.R.S.I. Manual of Standard Practice for detailing reinforced concrete structures, stirrup and tie dimensions.

The contractor shall pour and satisfactorily finish the bridge slab before pouring the bridge approach slabs.

Longitudinal construction joints in approach slab and sleeper slab shall be aligned with longitudinal construction joints in bridge slab.

Payment for furnishing all material, labor and excavation necessary to construct the approach slab, including the timber header, sleeper slab, underdrain, and Type 5 Aggregate Base and all other appurtenances and incidental work as shown on this sheet, complete-in-place, shall be considered as completely covered under the contract unit price for "Bridge Approach Slab (Bridge)", per sq. yd.

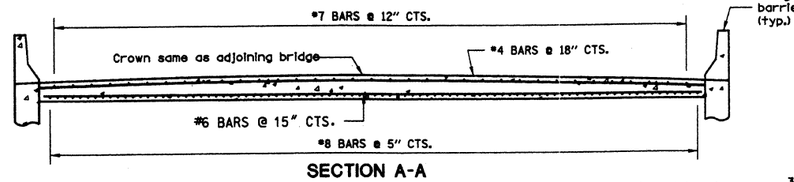
For Concrete Approach Pavement details see roadway plans.

At the contractors option, grade 40 reinforcement may be substituted for the grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment. No Additional payment will be made for this substitution.

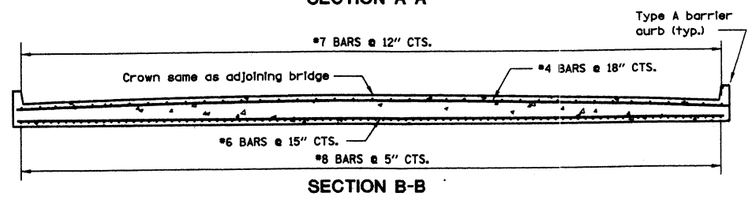
See Missouri standard plans drawing 609.00 for details of Type A Barrier Curb.

When grade 40 reinforcement is substituted for the grade 60 #5 dowel bars connecting the bridge approach slab to the bridge abutment, the reinforcement may be bent up to 90° with a 2" minimum radius near the abutment to allow compaction of the backfill material near the abutment. Damage to epoxy coating shall be repaired according to Mo. Std. Spec. 710.3.3.

4" diameter corrugated polyethylene (PE) drain pipe.

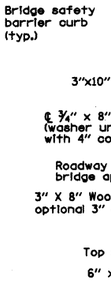


SECTION A-A

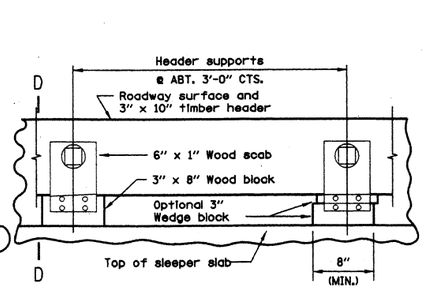


SECTION B-B

Note: With the approval of the engineer, the contractor may crown the bottom of the approach slab to match the crown of the roadway surface.



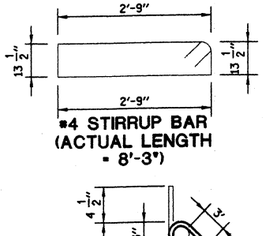
SECTION D-D



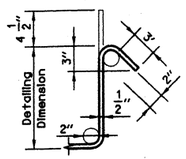
PART ELEVATION

NOTE: Remove timber header when concrete pavement is placed

DETAILS OF TIMBER HEADER

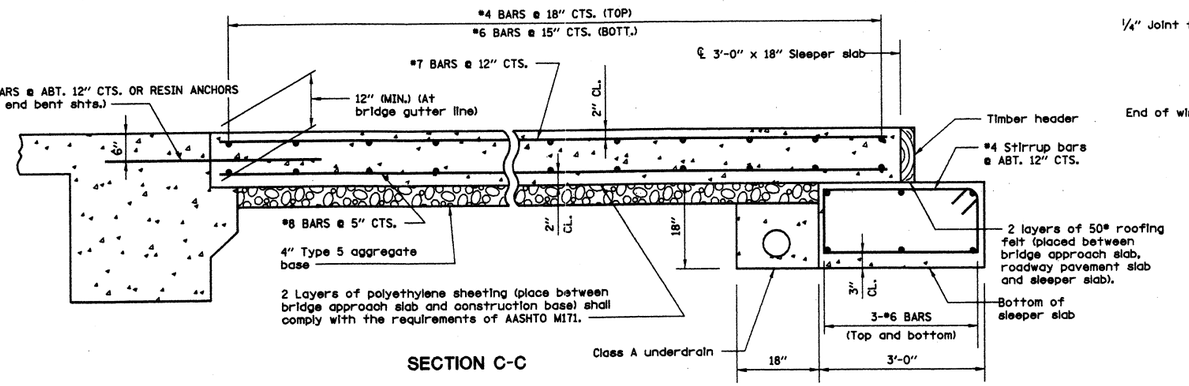


#4 STIRRUP BAR (ACTUAL LENGTH = 8'-3")

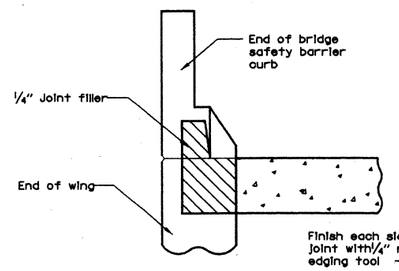


TYPICAL 135° STIRRUP HOOK DIMENSIONS BENDING DIAGRAM

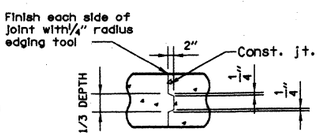
NOTE:
Nominal lengths based on out to out dimensions shown in bending diagram and are listed for fabricators use (Nearest inch)



SECTION C-C

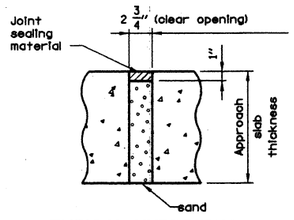


SECTION E-E (BETWEEN CURBS)



CONST. JOINT DETAIL

(If required)



TYPICAL UNDERSEAL ACCESS HOLE DETAIL

FINAL PLANS

I am by that the plan sheet was originally digitized for calculation and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified as authorized the modification of the project design during its construction and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature _____ Date 9/25

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER GREGORY L. LAW NUMBER E-21489

Gregory L. Law 9/24/98

STATE OF MISSOURI REGISTERED PROFESSIONAL ENGINEER RANDY MAJOR NUMBER E-20656

any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

SEP 01 2000

Date

Signature

Date: 9-21-00

Checked by:

Y:/9840901/APSLBOO1.DGN
PLOT 48

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

SHEET NO. 20 OF 22

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

APPROACH SLAB DETAILS

CRAWFORD COUNTY | A11912

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F.-19-2(12)	80

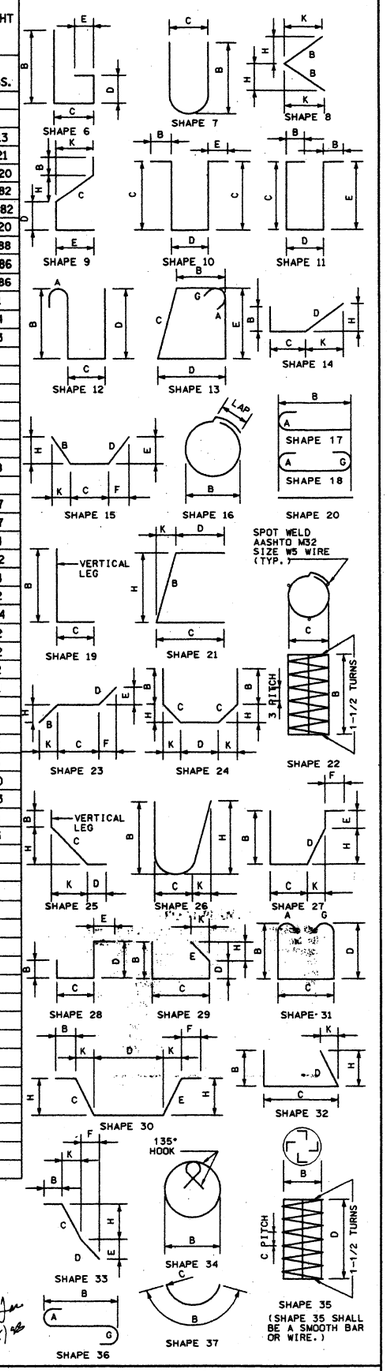
IB-990122-20

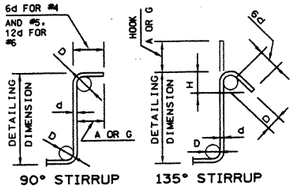
BILL OF REINFORCING STEEL

NO. REQ'D	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			Substructure																									
			Int. Bents																									
			2, 3, & 4																									
96	6	F1	Footing		10		X					3	6.000		16.000									8	4	8	0	1154
108	5	V1	Footing & column		19		X		4	0.000		10.000												4	10	4	8	526
			Superstructure																									
			End Bents 1 & 5																									
24	6	H1	Beam		20				22	7.000														22	7	22	7	814
24	6	H2	Beam		20				34	7.000														34	7	34	7	1247
20	6	H3	Wing Brace		30							21.000		6	9.000	21.000				15.000		15.000		10	3	10	2	305
16	6	H4	Wing		20				10	10.000														10	10	10	10	260
48	6	H5	Wing		20			V	8	9	4.000													9	4	9	4	
			Increment = 12.50 Inches		20					4	1.500													4	2	4	2	485
8	6	H6	Wing		25						9.000	8	2.000	3	0.000					3	7.000	7	4.000	11	11	11	10	142
112	5	H7	Beam & Slab		20				2	6.000														2	6	2	6	292
126	5	U1	Beam		10	S						3	2.000	2	3.000									8	7	8	4	1095
126	5	U2	Beam & Slab		10	S						3	9.000	2	3.000									9	9	9	7	1259
152	6	U3	Beam & Slab		19	S			3	2.000		4	2.000											7	4	7	2	1636
28	6	V4	Wing		20			V	4	13.250															13		13	
			Increment = 6.375 Inches		20					4	3.500													4	4	4	4	114
28	6	V5	Wing		20			V	4																14		14	
			Increment = 6.625 Inches		20					4	5.250													4	5	4	5	116
8	6	V6	Wing		20					4	7.000													4	7	4	7	55
8	6	V7	Wing		20					4	9.000													4	9	4	9	57
			Int. Bents 2, 3, & 4																									
36	9	H20	Slab		17					34	7.000													35	10	35	10	4386
36	9	H21	Slab		20					34	7.000													34	7	34	7	4233
23	9	H22	Slab		17					22	7.000													23	10	23	10	1864
23	9	H23	Slab		20					22	7.000													22	7	22	7	1766
288	5	U20	Slab		10	S					10.000		20.750	3	9.000	10.000								8	11	8	4	2503
144	5	U30	Slab		10	S					10.000		20.750	6	4.000	10.000								11	6	10	11	1640
245	4	P1	Column		34	S			2	3.000														7	10	7	10	1282
90	8	V2	Column		19				21	6.000		16.000												22	10	22	8	5448
18	8	V3	Column		19				20	9.000		16.000												22	1	21	11	1053

BILL OF REINFORCING STEEL

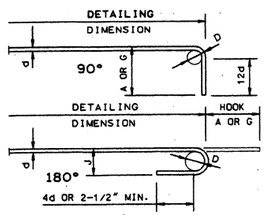
NO. REQ'D	MARK NO. SIZE	MARK NO. MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			Slab																									
448	5	S1	Slab		20					22	6.000													22	6	22	6	10,513
448	5	S2	Slab		20					34	6.000													34	6	34	6	16,121
120	9	S3	Slab		20					44	2.000													44	2	44	2	18,020
112	9	S4	Slab		20					27	0.000													27	0	27	0	10,282
120	10	S5	Slab		20					60	0.000													60	0	60	0	30,982
112	10	S6	Slab		20					30	9.000													30	9	30	9	14,820
100	10	S7	Slab		20					42	6.000													42	6	42	6	18,288
92	10	S8	Slab		20					27	9.000													27	9	27	9	10,986
50	11	S9	Slab		20					47	0.000													47	0	47	0	12,486
46	11	S10	Slab		20					27	6.000													27	6	27	6	6721
160	5	S11	Slab		20					19	11.000													19	11	19	11	3324
160	5	S12	Slab		20					17	4.000													17	4	17	4	2893
			Barrier Curb																									
64	5	C1	Barrier Curb (Slip form optional only)		20					10	0.000													10	0	10	0	668
400	5	R1	Barrier Curb		19	S				2	8.000		3.500											3	0	2	11	1217
400	5	R2	Barrier Curb		15	S				2	8.125		3.500									2	8.000	3.000	3	0	2	11	1217
400	5	R3	Barrier Curb		19	S					19.000		6.000											2	1	2	0	834
400	5	R4	Barrier Curb		27	S							6.000		11.125		9.000		12.000		9.125		6.375	3	2	3	0	1252
84	5	R10	Barrier Curb		20					9	9.000													9	9	9	9	854
28	5	R11	Barrier Curb		20					28	6.000													28	6	28	6	832
28	5	R12	Barrier Curb		20					35	9.000													35	9	35	9	1044
96	5	K1	Barrier Curb		19	S				2	7.000		5.125											3	0	2	11	292
96	5	K2	Barrier Curb		14	S					5.125		13.125		18.000						2.000		17.875	3	0	2	11	292
52	5	K3	Barrier Curb		27	S				2	8.000		5.125		12.000		22.125				9.875		6.875	5	11	5	9	312
24	5	K4	Barrier Curb		7					2	8.000		6.000											6	5	6	5	161
4	5	K5	Barrier Curb		25	S					22.125		6.750		4.375						5.500		4.000	2	9	2	8	11
4	5	K6	Barrier Curb		25	S					22.125		7.875		4.375						6.500		4.500	2	10	2	9	11
4	5	K7	Barrier Curb		25	S					22.125		9.625		4.375						7.875		5.500	3	0	2	11	12
4	5	K8	Barrier Curb		25	S					22.125		11.250		4.375						9.250		6.500	3	2	3	1	13
48	5	K9	Barrier Curb		20					5	7.000													5	7	5	7	280
40	4	K10	Barrier Curb		20					7	7.000													7	7	7	7	203
4	5	K11	Barrier Curb		8					2	2.125											2	2.000	2.375	4	4	4	4	18
20	5	K12	Barrier Curb		7					2	2.000		6.000											5	5	5	5	113





STIRRUP HOOK DIMENSIONS			
GRADES 40 - 50 - 60 PSI			
BAR SIZE	D (IN.)	90° HOOK A OR G	135° HOOK A OR G	135° HOOK APPROX. H
#4	2"	4-1/2"	4-1/2"	3"
#5	2-1/2"	6"	5-1/2"	3-3/4"
#6	4-1/2"	12"	8"	4-1/2"

NOTE: UNLESS OTHERWISE NOTED DIAMETER "D" IS THE SAME FOR ALL BENDS AND HOOKS ON THE BAR.



END HOOK DIMENSIONS				
		ALL GRADES		
BAR SIZE	D (IN.)	180° HOOKS A OR G	180° HOOKS J	90° HOOKS A OR G
#3	2-1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3-3/4"	7"	5"	10"
#6	4-1/2"	8"	6"	12"
#7	5-1/4"	10"	7"	14"
#8	6"	11"	8"	16"
#9	9-1/2"	15"	11-3/4"	19"
#10	10-3/4"	17"	13-1/4"	22"
#11	12"	19"	14-3/4"	2'-0"
#14	18-1/4"	2'-3"	21-3/4"	2'-7"

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
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.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATORS USE. (NEAREST INCH)
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTH.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.

STATE OF MISSOURI GREGORY L LAW NUMBER E-21489 REGISTERED PROFESSIONAL ENGINEER
8/25/98

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

BILL OF REINFORCING STEEL

CRAWFORD COUNTY | **A11912**

SHEET NO. 21 OF 22

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

DETAILED: JUNE, 1998
CHECKED: JULY, 1998
Y:/9840901/BTBL001.DGN
PLOT 48

RANDY MAYES NUMBER E-20856 REGISTERED PROFESSIONAL ENGINEER

construction of this project. I specifically disclaim any responsibility for the design of this project except as I and my staff may have modified or during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

SEP 01 2000
Date

Signature

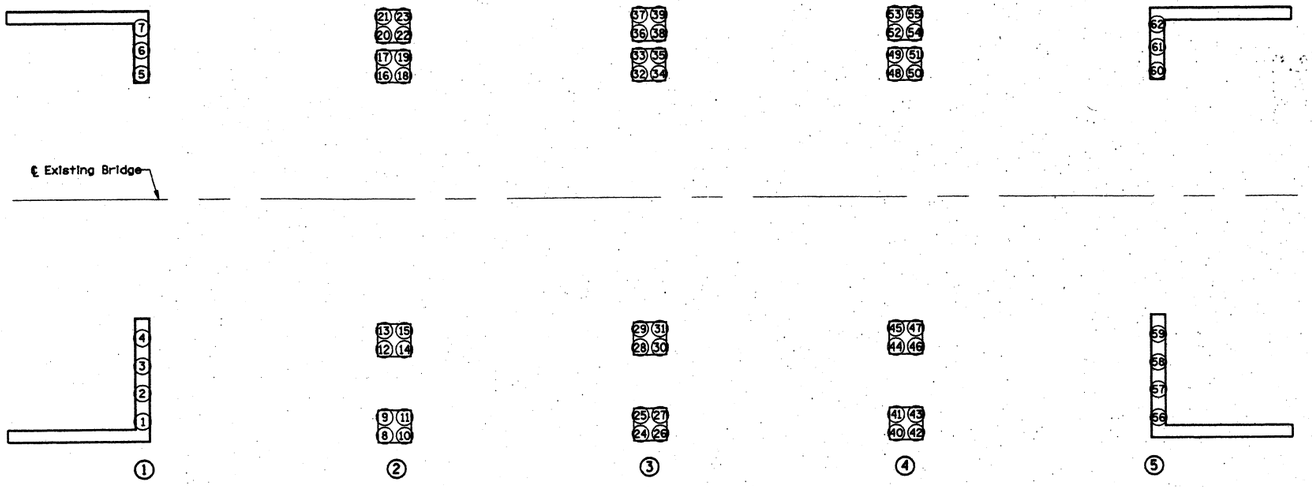
CHECKED BY: [illegible] DATE: 9-23-00

81

FINAL PLANS

STATE	PROJECT NUMBER	SHEET NO.
MO.	F.A.F-19-2(12)	81

ID 990122-20



PART PLAN SHOWING PILE NUMBERING FOR RECORDING 'AS BUILT PILE' DATA

Note: Indicate in remark column
A.) If piling were driven to practicle refusal
B.) Pile batter if other than shown on bent detail sheet
C.) Type of piling used

Note: This sheet to be completed by MoDOT construction personnel.

STATE OF MISSOURI
RANDY MAYO
NUMBER
E-20856
REGISTERED PROFESSIONAL ENGINEER

"AS BUILT PILE" DATA

PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			END BENT NO. 1
1	34'		REFUSAL ON ROCK
2	39'		"
3	37'		"
4	35'		"
5	38'		"
6	36'		"
7	35'		"
			INTERMEDIATE BENT NO. 2
8	11'		"
9	11'		"
10	17'		1- 8' Splice "
11	17'		"
12	18'		"
13	17'		"
14	14'		"
15	14'		"
16	11'		"
17	20'		1- 8' Splice "
18	11'		"
19	15'		"
20	18'		"
21	18'		"
22	13'		"
23	11'		"

"AS BUILT PILE" DATA

PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
			INTERMEDIATE BENT NO. 3
24	13'		REFUSAL ON ROCK
25	12'		"
26	11'		"
27	12'		"
28	12'		"
29	13'		1- 8' Splice "
30	12'		"
31	12'		"
32	18'		"
33	17'		"
34	16'		"
35	16'		"
36	15'		1- 8' Splice "
37	12'		"
38	12'		"
39	12'		"
			INTERMEDIATE BENT NO. 4
40	14'		"
41	14'		"
42	13'		"
43	13'		"
44	12'		"
45	12'		"
46	12'		"

"AS BUILT PILE" DATA

PILE NO.	LENGTH IN PLACE (FT.)	COMPUTED BEARING (TONS)	REMARKS
47	12'		REFUSAL ON ROCK
48	12'		"
49	12'		"
50	12'		"
51	11'		"
52	13'		"
53	11'		"
54	13'		"
55	13'		"
			END BENT NO. 5
56	30'		"
57	31'		"
58	32'		"
59	31'		"
60	36'		"
61	35'		"
62	35'		"

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff may have modified of during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature SEP 01 2010 Date

FINAL PLANS

I certify that this plan sheet accurately depicts the configuration and location of the roadway and all its appurtenant features, to the best of my knowledge, as I and my staff have observed the contractor's construction of this project. I specifically disclaim any responsibility for the design of this project, except as I and my staff have modified or authorized the modification of the project design during its construction; and I disclaim responsibility for the contractor's actual construction of the project, except as I and my staff may have directed or ordered that the project be constructed.

Signature Date

STATE OF MISSOURI
GREGORY L LAW
NUMBER E-21489
REGISTERED PROFESSIONAL ENGINEER
8/25/10

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO

AS-BUILT PILE DATA

CRAWFORD COUNTY | A11912

SHEET NO. 22 OF 22

NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

DETAILED: JUNE, 1998
CHECKED: JULY, 1998

Y:/9940901/PILDATA001.DGN
PLOT 48

Checked by: [illegible] Date: 9/21/00

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
106	Year Reconstructed	1999
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
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	00019
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 19 S
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000000054
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
28A	Lanes on Structure	06
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	122.60 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	10290
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	10%
114	Future AADT	15435
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 1 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	10 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	11.78 miles
32	Approach Roadway Width	89 Ft. 11 In.
34	Skew	0.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	89 Ft. 11 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 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	89 Ft. 11 In.
52	Deck Width (Out-Out)	92 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 20
41	Structure Status	A - OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	56 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	34 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	74.1 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	18 Ft. 8 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	5
59	Superstructure Cond. Rating	5
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 20	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	MO 19 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	06	
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	209.50 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	14315
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 4 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 Ft. 11 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	

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 19 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	06
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	84.67 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	13263
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 1 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 Ft. 11 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	

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 19 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	06
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	85.35 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	13263
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 1 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 Ft. 11 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	

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P

RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	MO 19 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	06	
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	207.83 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	14315
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 4 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 Ft. 11 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	

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	981
27	Year Built	1966
106	Year Reconstructed	1999
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
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	00019
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 19 S
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000000054
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
28A	Lanes on Structure	06
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	CUBA CITY
	Code	17668
9	Location	S 30 T 39 N R 4 W
11	Milepoint	123.59 miles
16	Latitude	38 D 4 M 23 S
17	Longitude	91 D 24 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	10290
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	10%
114	Future AADT	15435
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 1 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	10 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	11.88 miles
32	Approach Roadway Width	89 Ft. 11 In.
34	Skew	0.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	89 Ft. 11 In.
48	Maximum Span Length	56 Ft. 1 In.
49	Structure Length	194 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	89 Ft. 11 In.
52	Deck Width (Out-Out)	92 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1191

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

December 19, 2022
12:37:48pm

COUNTY : CRAWFORD **BRIDGE :** A1191 2 **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 20
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	56 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	34 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	74.1 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	5
59	Superstructure Cond. Rating	5
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	5 / 22	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1191

Bridge Number:

A-1191R2

ACM Present?

Yes: [ ] No: [X]

If yes, see report for location(s).

Structural Steel Present?

Yes: [ ] No: [X]

If No, then skip the following.

LBP Present?

Yes: [ ] No: [ ]

Trusses LBP?

Yes: [ ] No: [ ]

Girder LBP?

Yes: [ ] No: [ ]

Railing LBP?

Yes: [ ] No: [ ]

Pile LBP?

Yes: [ ] No: [ ]

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Diane Roegge
Environmental Chemist

DATE: August 11, 2015

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route 19
Bridge A-1191R2
Crawford 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) 526-4359.

db/fr/dr
http://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/central (cd)/mt/bridge a-1191r2/dr1508114.docx
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE: 19
MODOT JOB NO.: N/A
DISTRICT: CC
COUNTY: Crawford
DATE OF SURVEY: August 10, 2015
PARCEL NO.: Bridge A-1191R2

SURVEYED BY: Frank Reichart and Diane Roegge
CERTIFICATION #: 7118110514MOIR11239, F.R.
CERTIFICATION #: 7118110514MOIR7165, D.R.
SITE ADDRESS: Over I-44, Exit #208, Cuba
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
	No samples taken. No suspect ACM located.			
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE:	19	**TESTED BY:**	Frank Reichart and Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7118110514MOIR11239, F.R.
DISTRICT:	CC	**CERTIFICATION #:**	7118110514MOIR7165, D.R.
COUNTY:	Crawford	**SITE ADDRESS:**	Over I-44, Exit #208, Cuba
DATE OF TESTS:	N/A	**TYPE(S) OF STRUCTURE(S):**	Bridge
PARCEL NO.:	Bridge A-1191R2		

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

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

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	19	**TESTED BY:**	Frank Reichart and Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7118110514MOIR11239, F.R.
DISTRICT:	CC	**CERTIFICATION #:**	7118110514MOIR7165, D.R.
COUNTY:	Crawford	**SITE ADDRESS:**	Over I-44, Exit #208, Cuba
DATE OF TESTS:	N/A	**TYPE(S) OF STRUCTURE(S):**	Bridge
PARCEL NO.:	Bridge A-1191R2		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
			None Located	F			
			None Located	II NF			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = 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:	19	**TESTED BY:**	N/A
MODOT JOB NO.:	N/A	**DATE OF TESTS:**	N/A
DISTRICT:	CC	**PARCEL NO.:**	Bridge A-1191R2
COUNTY:	Crawford	**SITE ADDRESS:**	Over I-44, Exit #208, Cuba
SURVEYED BY:	Frank Reichart	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	August 10, 2015		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

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

Expiration Date **11/5/2015**

Training Date: **11/5/2014**

Certificate Number: 7118110514MOIR11239

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Francis J. Reichart

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/31/2014
Date

Kyra L Moore
Director of Air Pollution Control Program

Expiration Date **11/5/2015**

Certificate Number: 7118110514MOIR7165

Training Date: **11/5/2014**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Diane R. Roegge

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/31/2014
Date

Kyra L Moore
Director of Air Pollution Control Program

Missouri Department of Transportation
State Bridge Inspection Report

December 19, 2022
1:35:34PM

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 982** **BRIDGE: A1192**

GENERAL STRUCTURE INFORMATION

ROUTE: RTHE	**# SPANS:** 4	**PLACE CODE:** 04618 BENTON	
FEATURE: IS 44	**LANES ON:** 2	**LENGTH:** 223 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 58 FT 0 IN	
LOG MILE: 0.057	**COMPASS DIRECTION:** NORTH to SOUTH	**APPROACH ROADWAY:** 38 FT 0 IN	
DETOUR: 26.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 28 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 30 FT 10 IN	
BUILT: 1966	**NBI OWNER:** MODOT	**AADT:** 2254	
REHAB: 1984	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2021	
LOCATION: S 12 T 39 R 4 W	**MAINTENANCE DISTRICT:** CD	**AADT TRUCK:** 4.5%	
LATITUDE: 38 7 11.90 (DMS)	**MAINTENANCE COUNTY:** CRAWFORD	**FUTURE AADT:** 3156	
LONGITUDE: 91 18 52.13 (DMS)	**SUB AREA:** 7D17	**FUTURE AADT YEAR:** 2041	

BRIDGE INSPECTION INFORMATION

DATE: 05/11/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 20
TEAM LEADER: MICHAEL MEYERHOFF **ELEMENT:** NO
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

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

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

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

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

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

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

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

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

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

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

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 982** **BRIDGE: A1192**

STRUCTURE POSTING

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

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

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 08/28/2008)--(52'-58'-58'-52') CONT VOIDED CONC SLAB SPANS (COLLISION BT 3 WEST COL. (FIRE) 2004)

[ITEM 58] DECK: 6-SATISFACTORY CONDITION **COMMENTS:** (TRAMPA, 10/27/2016)--CRACK, LE, DETER
RATING : 05/18/2001 (RAITHK, 11/11/2020)--MANY DELAMS

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION **COMMENTS:** (TRAMPA, 10/27/2016)--EDGE AND SLAB CRACKS WITH LIGHT TO MODERATE EFFORESCENCE THROUGHOUT; DETER
RATING : 05/18/2001

[ITEM 60] SUB: 6-SATISFACTORY CONDITION **COMMENTS:** (TRAMPA, 10/27/2016)--V AND H CRACKS ON COLUMNS AND ABUTMENTS; SOME DELAM;
RATING : 05/18/2001

[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: 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 :*** *02/09/2007* ***COMMENTS:***

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

[ITEM 36B] TRANSITION RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/09/2007* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 982** **BRIDGE: A1192**

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/09/2007* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	TURN DOWN SECTION > 45	BOTH S.W.	(RAITHK, 02/19/2019)--SW AND NE ONTO RAMP

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	FAIR	

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*LOW SLUMP*	*2.2 IN*			*FAIR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DEBONDING	RANDOM		MINOR	(MADSEJ, 09/09/2014)--SPAN 2
DEBONDING	EDGE		MINOR	
MAP CRACKS	THROUGHOUT		MANY	
PATCHES	EDGE		FEW	

DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*	*2022*	*SILANE*

COMMENT:

MEMBRANE	*LIQUID SEALANT*	*BUILT-UP*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

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

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	*EARTH FILL*	*BERM*	*BOTH*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
ERODING	THROUGHOUT		MINOR	

DECK COMPONENTS

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		LARGE	10 %	

LONGITUDINAL CRACKS	RANDOM		MANY	
TRANSVERSE CRACKS	RANDOM		MANY	

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	OVER INTERMEDIATE BENT		LARGE	15 %	
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW	15 %	
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	OVER INTERMEDIATE BENT		FEW		
LONGITUDINAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*REINFORCED CONCRETE*	*VOIDED SLAB*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	52 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MINOR		
DETERIORATION	ENDS		MINOR		
DIAGONAL CRACKS	ENDS		FEW		
LEACHING	BOTTOM		MINOR		(MADSEJ, 09/09/2014)--A FEW VOID DRAINS (RAITHK, 11/11/2020)--ALONG THE ENDS
TRANSVERSE CRACKS	RANDOM		FEW		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	58 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
LEACHING	BOTTOM		MINOR		(MADSEJ, 09/09/2014)--A FEW VOID DRAINS
TRANSVERSE CRACKS	RANDOM		FEW		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	58 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MINOR		
FIRE DAMAGE	EDGE		MODERATE		(GREENA2, 05/12/2022)--6'X10' SPALL
LEACHING	BOTTOM		MINOR		(MADSEJ, 09/09/2014)--A FEW VOID DRAINS

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-4	NON-COMPOSITE	52 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

DETERIORATION	EDGE	MINOR	(RAITHK, 11/11/2020)--MOD EDGE DET E SIDE @ INT BT
LEACHING	BOTTOM	MINOR	(MADSEJ, 09/09/2014)--A FEW VOID DRAINS
TRANSVERSE CRACKS	BOTTOM	FEW	

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		*30 FT 9 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
DETERIORATION	ENDS		MINOR		
LEACHING	RANDOM		MINOR		
VERTICAL CRACKS	RANDOM		FEW		
PILING	STEEL	H-SHAPE			
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
DETERIORATION	THROUGHOUT		MINOR		

BENT-2	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DELAMINATION	BOTTOM		FEW		
HORIZONTAL CRACKS	TOP		FEW		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-3	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLLISION DAMAGE	AT COLUMNS		MINOR		
HORIZONTAL CRACKS	THROUGHOUT		FEW		
SPALLS	AT COLUMNS		FEW		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-4	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
HORIZONTAL CRACKS	TOP		FEW		
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

ABUTMENT-5	*30 FT 9 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DETERIORATION	ENDS		MINOR		
LEACHING	THROUGHOUT		MINOR		
VERTICAL CRACKS	THROUGHOUT		FEW		
PILING	STEEL	H-SHAPE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DETERIORATION	THROUGHOUT		MINOR		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

CLEARANCES UNDER BRIDGE

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

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	IS 44 E	2	1-WAY TRAF	12 FT 7 IN	18 FT 7 IN	2308

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 10 IN		10/19/2010	

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 44 W	2	1-WAY TRAF	12 FT 7 IN	18 FT 7 IN	2309

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	17 FT 0 IN		10/19/2010	

STRUCTURE PAINT INFORMATION

CONDITION: **RUST AMOUNT :** **STEEL TONS :** 0

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :**	**PAINT TYPE :**	**MANUFACTURE :**
NAME :	**NAME :**	**NAME :**	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :**	**PAINT COLOR :**	
PAINT YEAR :	**PAINT YEAR :**	**PAINT YEAR :**	
MILS :	**MILS :**	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL WITH SILANE	DECK	3	08/31/2028	

UTILITY ATTACHMENTS

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

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	3/25/2002
[Item 68] Deck Geometry Rating:	4-MEETS MINIMUM TOLERABLE	2/22/2022
[Item 69] Underclearance:	6-EQ TO PRESENT MIN CRITR	1/26/2022
Sufficiency Rating:	57.4%	2/22/2022
Deficiency:	NOT DEFICIENT	5/18/2001
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

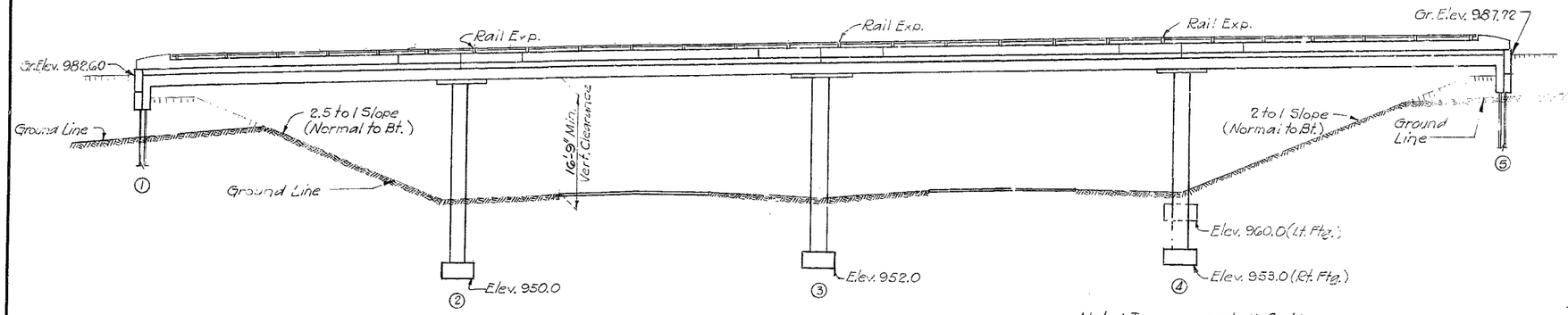
STATUS: **DATE:**

NOTES:

MISSOURI STATE HIGHWAY DEPARTMENT

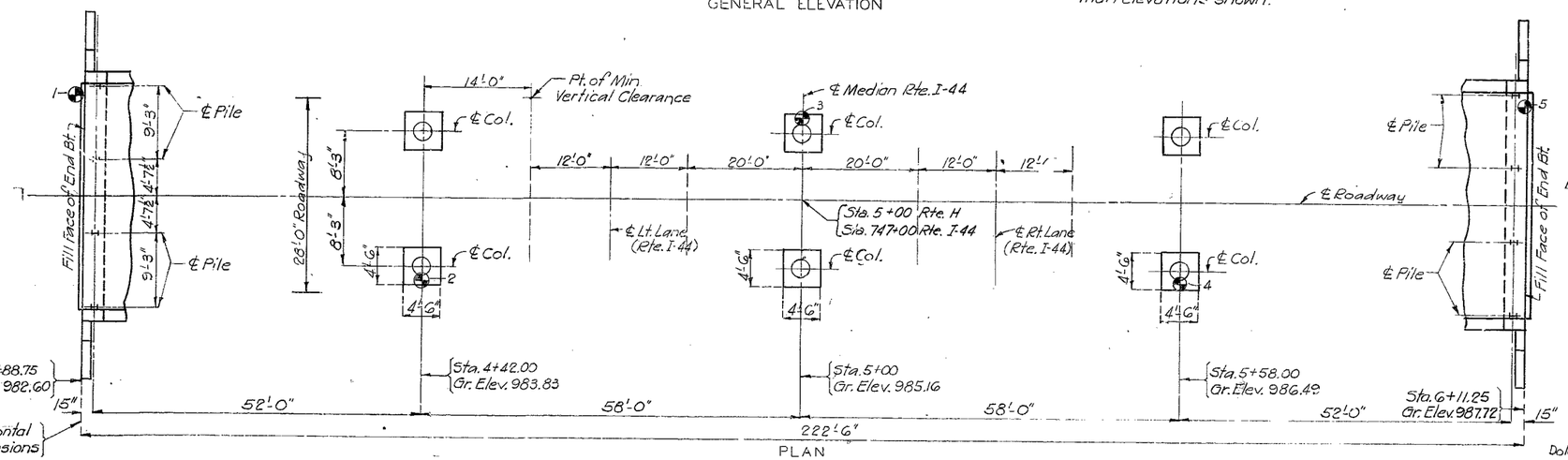
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	157	

(52'-58'-58'-52') Cont. Slab Spans (Voided)
+2.30% Grade



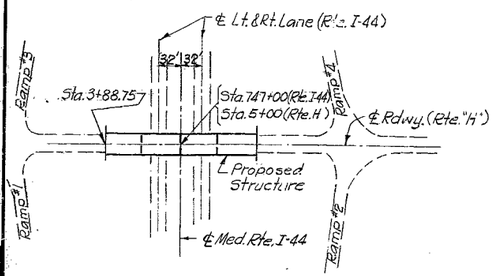
GENERAL ELEVATION

Note: In no case shall footings of Bent No. 4 be placed higher than elevations shown.



PLAN

Note: "⊕" Indicates location of boring.



LOCATION SKETCH

ESTIMATED QUANTITIES

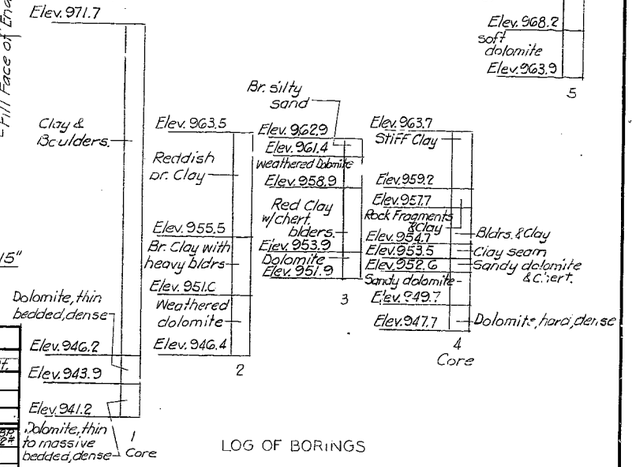
ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu.Yds.	135		135
Steel Piles in Place (10")	Lin.Ft.	236		236
Steel Piles Cut-Offs (10")	Lin.Ft.	24		24
Class B Concrete	Cu.Yds.	11.4		11.4
Class B1 Concrete	Cu.Yds.		461.0	461.0
Reinforcing Steel	Lbs.	140	113,445	113,585
Bridge Rail (Single tube type)	Lin.Ft.		424	424

Note: All concrete and reinforcement above footings in intermediate bents is included in superstructure quantities.
No payment for excavation will be allowed at End Bents No. 1 & 5.

FOOTING AND PILE DATA

	BENT NO.	1	2	3	4 Lt.	4 Rt.	5 Lt.	5 Rt.
SPREAD FOOTING	Foundation Material		Rock	Rock	Rock	Rock		
	Design Brg. Tons/Sq. Ft.		80	7.3	7.0	8.0		
	See Standard Specification 50.4.2							
BEARING PILE *	Pile Type & Size		10 BP 57				10 BP 57	10 BP 57
	Number		4				2	2
	Approximate Length Ft.		35				20	40
	Design Bearing Value Ton.		33.5				33.5	33.5
	Hammer Energy Req'd. Ft. Lbs.		7,000				7,000	7,000

* Minimum energy requirements of hammer based on length and design bearing value of piles.
All pile shall be driven to practical refusal at 1.9 times the design bearing value.



LOG OF BORINGS

B.M. Elev. 964.52 Mine Spike Base 18" Oak 125' Lt. Sta. 748+50

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. I-44-3(11)(RTE. I-44) **STA.** 747+00

CRAWFORD **COUNTY**

SUBMITTED BY [signature] BRIDGE ENGINEER DATE 1/21/66

APPROVED BY [signature] CHIEF ENGINEER DATE 1/21/66

GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O - 1961

DESIGN LOADING: H15-44 (15#/Sq.Ft. Future Wearing Surface)
Earth 120# Equivalent Fluid Pressure 30#

DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel Pile, (A.S.T.M. A-36-62T) fb = 6,000 psi

CONCRETE:
Superstructure concrete shall be Class B1
Substructure concrete shall be Class B or Class B1 except payment will be on the basis of Class B.

SURFACE SEAL:
Superstructure deck to be surface sealed. (See special provisions)

CONSTRUCTION CLEARANCE:
A minimum vertical clearance of 13'6" from slab of existing lanes and a minimum lateral clearance of 28'-0" centered on each existing lane shall be maintained during construction.

DESIGNED Aug. 1964 BY Jones
DETAILED Oct. 1964 BY Griffith
CHECKED Nov. 1965 BY Bryniarski

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

Sheet No. 1 of 5.

STD. 54.00
A-1192

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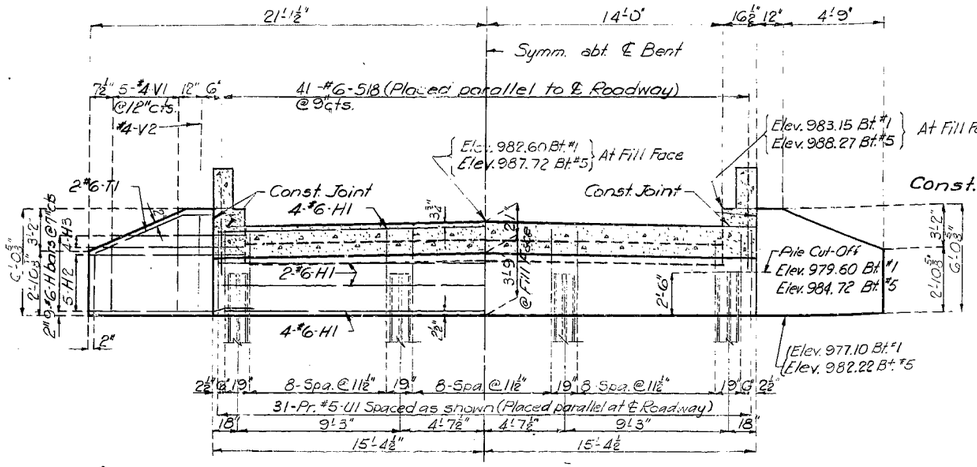
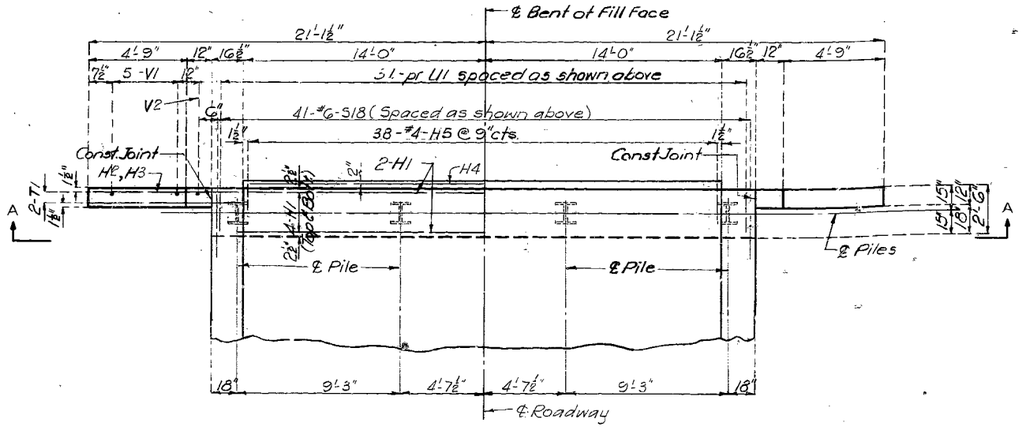
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	139	



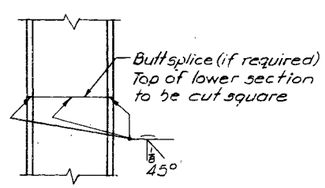
SECTION A – A

SECTION NEAR ℄

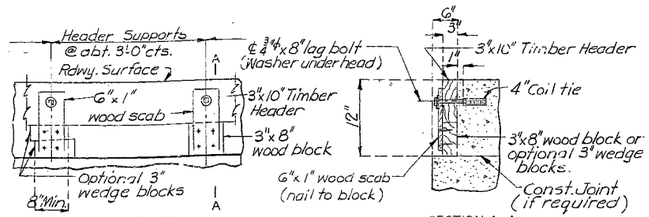


PLAN

DETAILS OF END BENTS NO. 1 & 5



DETAIL OF STEEL PILE SPLICE
(Steel B.P. Section Only)



PART ELEVATION

SECTION A–A

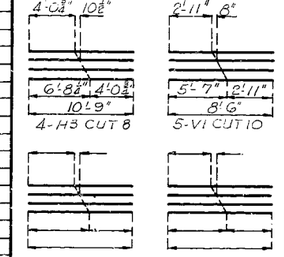
Note: Cost of timber headers complete in place to be included in price bid for concrete.

DETAILS OF TIMBER HEADER

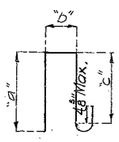
COMPLETE BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION
Superstructure				
446	#5	5'-9"	C1	Curb
16	#5	27'-3"	C2	"
16	#5	29'-9"	C3	"
24	#5	4'-9"	R1	End Post
4	#5	5'-9"	R2	" "
4	#5	6'-6"	R3	" "
4	#5	7'-0"	R4	" "
4	#5	7'-3"	R5	" "
8	#5	7'-5"	R6	" "
426	#5	5'-6"	R7	Parapet
32	#5	20'-3"	R8	Parapet
48	#5	9'-9"	R9	"
32	#5	19'-6"	R10	"
42	#10	55'-0"	S1	Slab
42	#9	60'-0"	S2	"
40	#10	41'-0"	S3	"
40	#11	29'-3"	S4	"
40	#9	33'-0"	S5	"
40	#9	25'-0"	S6	"
50	#10	32'-9"	S7	"
48	#10	26'-3"	S8	"
48	#11	18'-3"	S9	"
21	#10	32'-0"	S11	"
20	#11	27'-0"	S12	"
20	#11	18'-0"	S13	"
82	#5	37'-6"	S15	"
82	#5	27'-6"	S16	"
536	#5	30'-6"	S17	"
82	#6	8'-0"	S18	"
End Bents No. 1 & 5				
24	#6	30'-6"	H1	Beam
20	#6	7'-3"	H2	"
8	#6	10'-9"	H3	"
2	#4	27'-3"	H4	App. Hch.
8	#6	10'-0"	T1	Wing
76	#4	2'-6"	H5	App. Hch.
184	#5	8'-9"	U1	Beam
10	#4	8'-6"	V1	Wing
4	#4	5'-9"	V2	"
Int. Bents No. 2 & 3				
36	#5	2'-6"	D1	Ftg.
12	#10	33'-0"	G1	Beam
22	#9	29'-9"	G2	"
20	#10	12'-6"	G3	"
116	#3	8'-0"	P1	Col.
148	#5	8'-9"	U2	
18	#8	31'-0"	P2	Col. Bt. #2
18	#8	30'-3"	P3	Col. Bt. #3

BENDING SKETCHES & CUTTING DIAGRAMS



Bar	"a"	"b"	"c"
R2	2'-1⅜"	7½"	2'-2⅜"
R3	2'-6⅛"	7½"	2'-3⅜"
R4	2'-9⅜"	7½"	2'-6⅜"
R5	2'-10½"	7½"	2'-7½"
R6	2'-11⅝"	7½"	2'-8⅝"
R7	2'-0⅝"	7½"	2'-1⅜"



R2-R3-R4
R5-R6-R7

NO.	SIZE	LENGTH	MARK	LOCATION
Int. Bent No. 4				
18	#5	2'-6"	D1	Ftg.
6	#10	33'-0"	G1	Beam
11	#9	29'-9"	G2	"
10	#10	12'-6"	G3	"
51	#3	8'-0"	P1	Col.
74	#5	8'-9"	U2	Beam
9	#8	23'-6"	P4	Lt. Col.
9	#8	30'-6"	P5	Rt. Col.

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. I-44-3(11)(P.T.E.I-44) **STA.** 747+00

CRAWFORD **COUNTY**

No. 52.1	Mar. 1962	Revised

Drawn Sept 1964 by Griffith
Checked Nov 1965 by Bryniarski

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

Sheet No. 2 of 5.

A-1192

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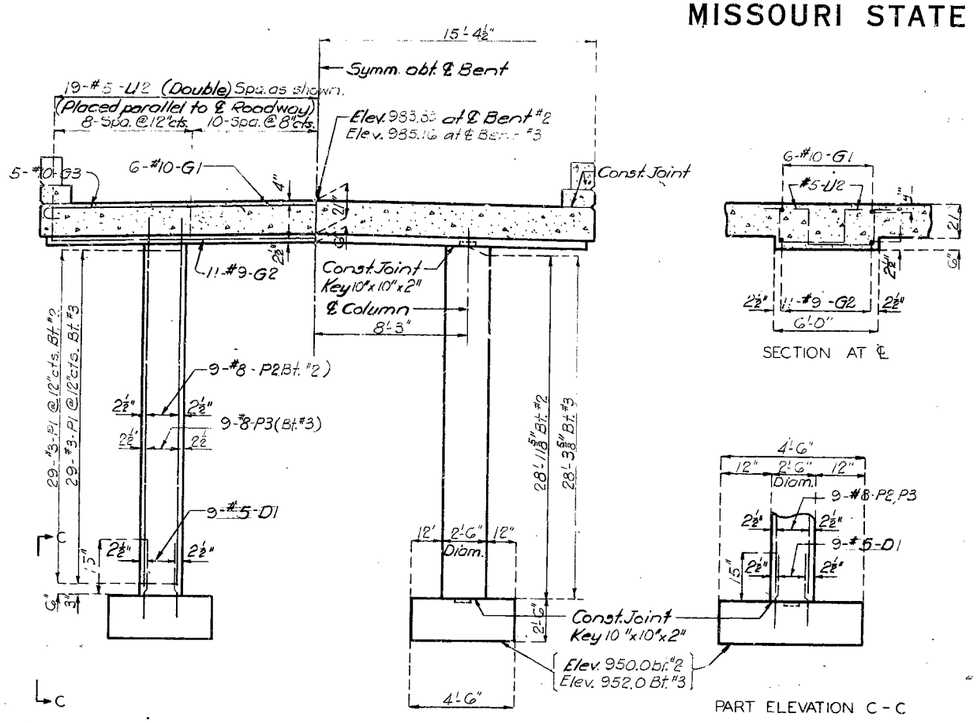
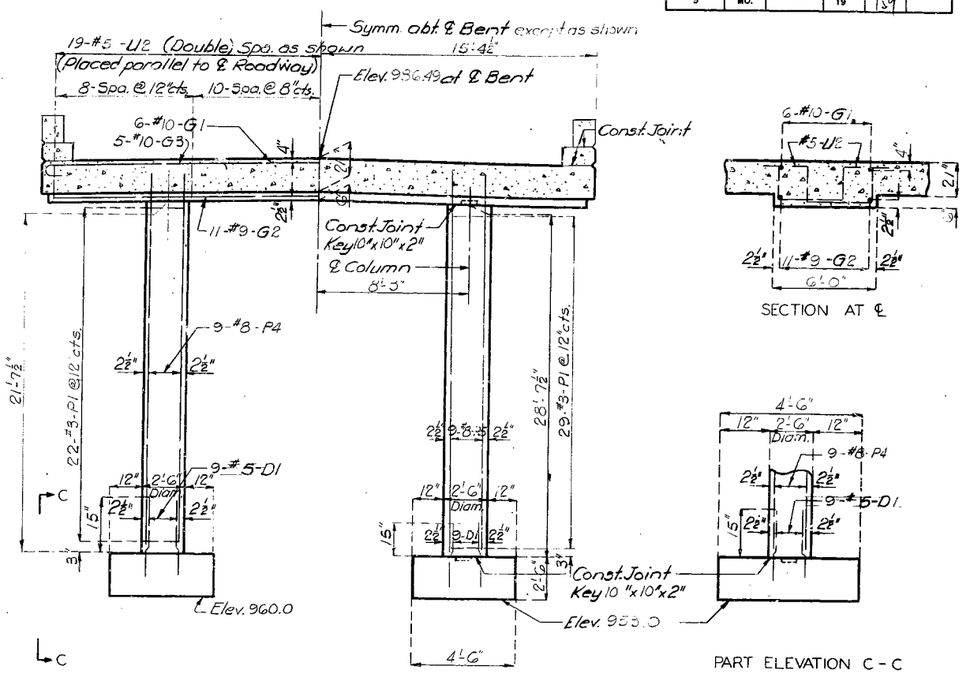
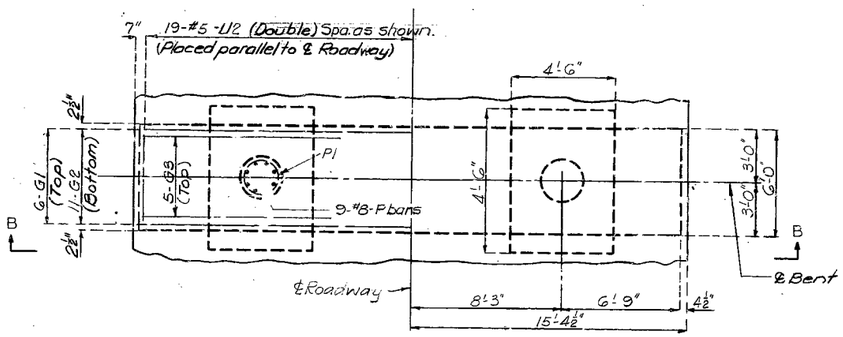
MISSOURI STATE HIGHWAY DEPARTMENT

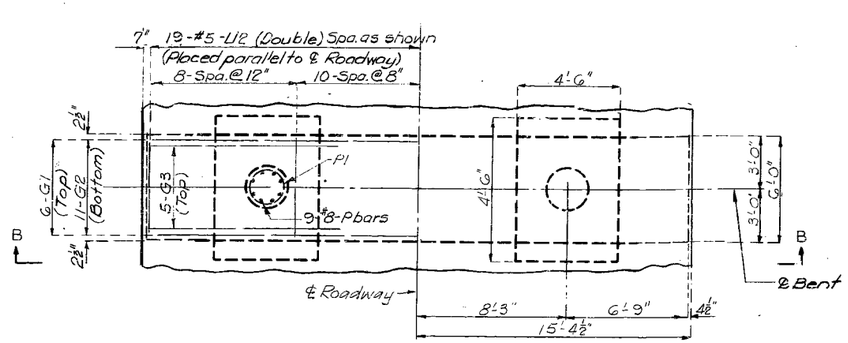
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	139	







DETAILS OF INT. BENTS NO. 2 & 3



DETAILS OF INT. BENT NO. 4

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO L[illegible]SBURG SPUR

ABOUT 7.0 MILES N E. OF CUBA

PROJECT NO. I-44-3(11)(RTE. I-44) **STA.** 747+00

CRAWFORD **COUNTY**

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No. 52.5	Mar. 1968	Revised	Oct. 1963

Drawn Sept 1964 **by** Griffith
Checked Nov. 1965 **by** Bryniarski

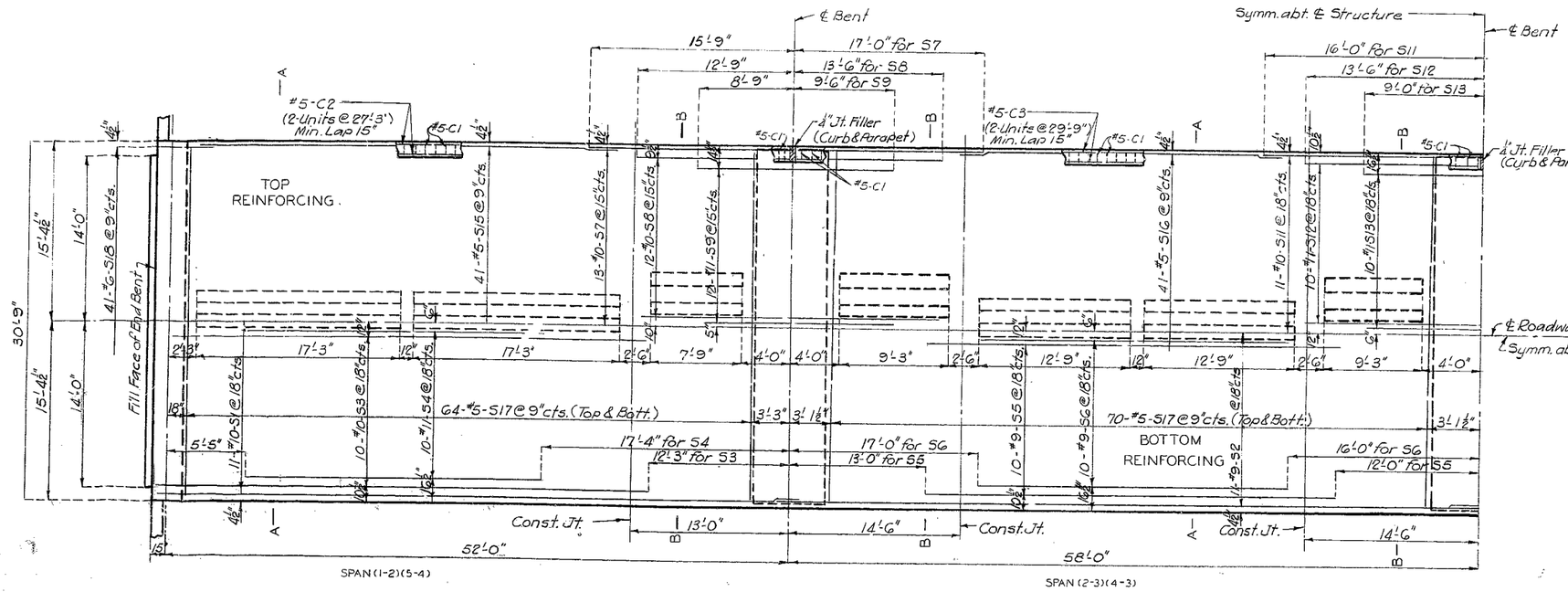
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 3 **of** 5.

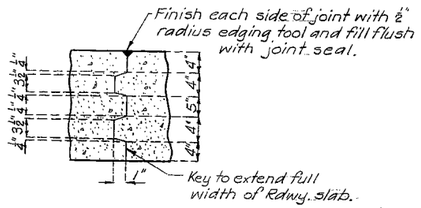
A-1192

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	160	

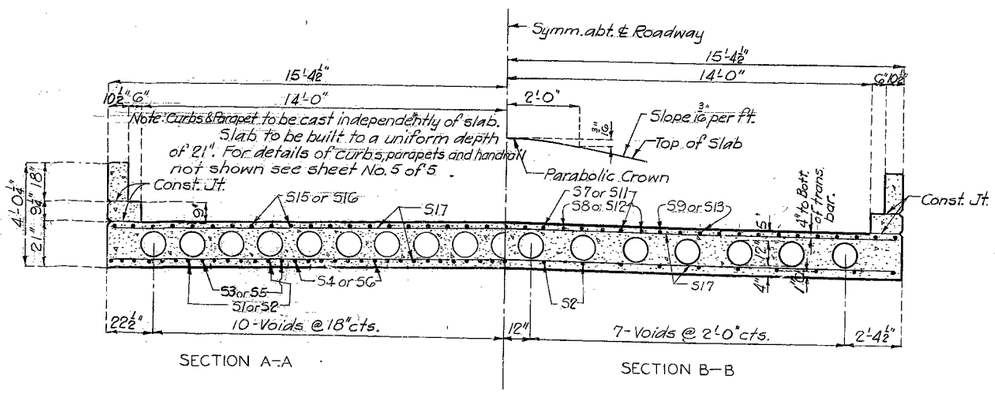


PLAN OF SLAB

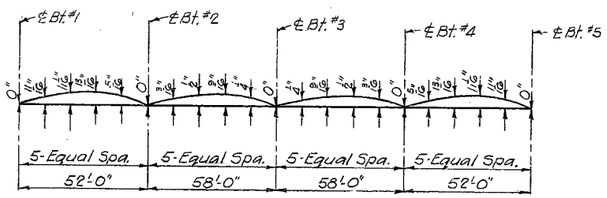


DETAIL OF SLAB CONSTRUCTION JOINT KEY

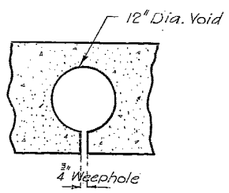
Note: Longitudinal dimensions shown are horizontal.



SECTION A–A SECTION B–B



CAMBER DIAGRAM



Note: One ¾" weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.

DETAIL OF WEEPHOLE IN VOIDS

Note: The contractor shall use an approved oscillating screed type, self-propelled mechanical finishing machine and shall pour and satisfactorily finish the roadway slab at a rate of not less than 32.5 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring through some or all of these joints. Finishing machine load will not be permitted on concrete less than 48 hours old.

Note: Fiber tubes for producing voids shall have an outside diameter of 12.0" and a wall thickness of .225" and shall be anchored to joists carrying the floor form at not more than 4'0" centers. See Special Provisions for metal tube alternate for voids.

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. I44-3(11)(RTE. I-44) **STA.** 747+00

CRAWFORD **COUNTY**

A-1192

DETAILED Sept. 1964 BY Griffith

CHECKED Nov. 1965 BY Brynjarski

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

Sheet No. 4 of 5.

MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO.		19	1161	

GENERAL NOTES:

All handrail posts shall be set normal to grade.

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

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

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

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

All fillets 1/4" except as noted.

All drafts 3° except as noted.

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

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

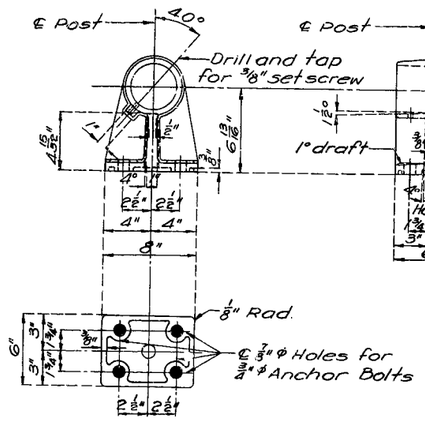
Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.

Concrete end posts to be vertical.

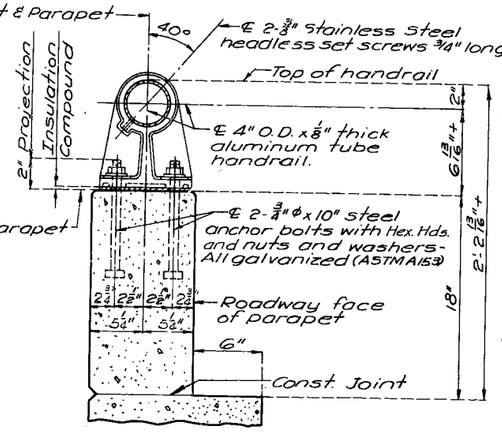
All exposed edges of end posts, parapets and curbs shall have 1/2" radius.

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

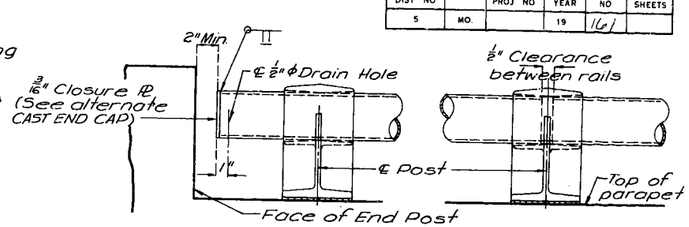
Integrally cast test coupons and a coat of clear lacquer specified in Std. Spec. 56.2.4 and 56.3.5 respectively will not be required for these rail posts.

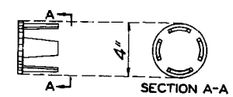


POST DETAILS



SECTION THRU HANDRAIL

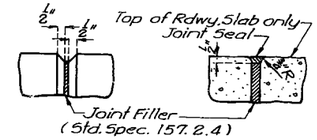




CAST END CAP
(Drive Fit Type)

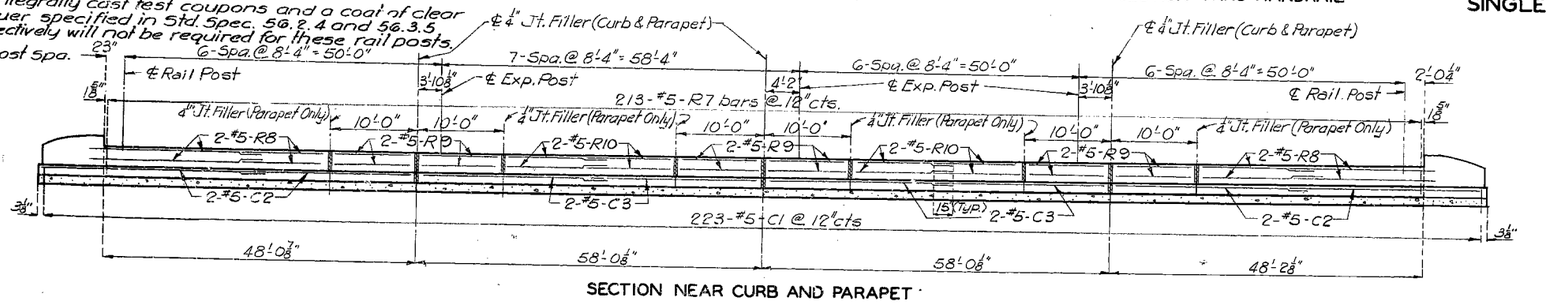
POST RAIL SPLICE OR EXP.

TYPICAL HANDRAIL DETAILS



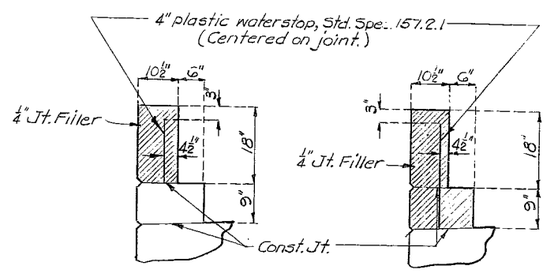
FILLED JOINT DETAILS

SINGLE TUBE ALUMINUM RAILING



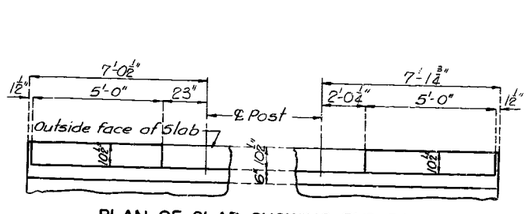
SECTION NEAR CURB AND PARAPET

Note: Longitudinal dimensions shown are parallel to grade at top of parapet.

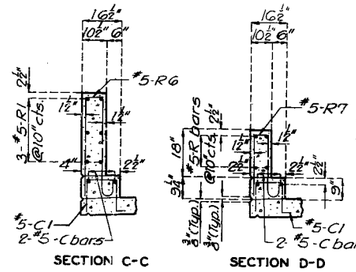


Note: Plastic waterstop shall be placed in all parapet and curb filled joints. (Except at End Bents.) Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

DETAILS OF PLASTIC WATERSTOP

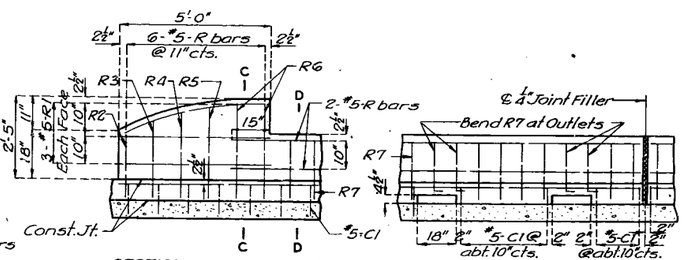


PLAN OF SLAB SHOWING END POST



SECTION C-C

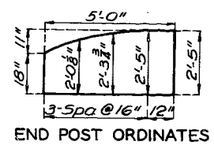
SECTION D-D



SECTION AT END POST

SECTION AT OUTLETS & EXP. JOINT
Note: Where there are no outlets use #5-C1 @ abt. 12" cts.

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



END POST ORDINATES

BRIDGE: ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N. E. OF CUBA

PROJECT NO. I-44-3(11)(RTE. I-44) **STA.** 747+00

CRAWFORD **COUNTY**

A-1192

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No. 1.5.2 Sq.	Revised
Nov 1965	Oct. 1965

DETAILED Nov 1965 BY Griffith

CHECKED Nov. 1965 BY Brymarski

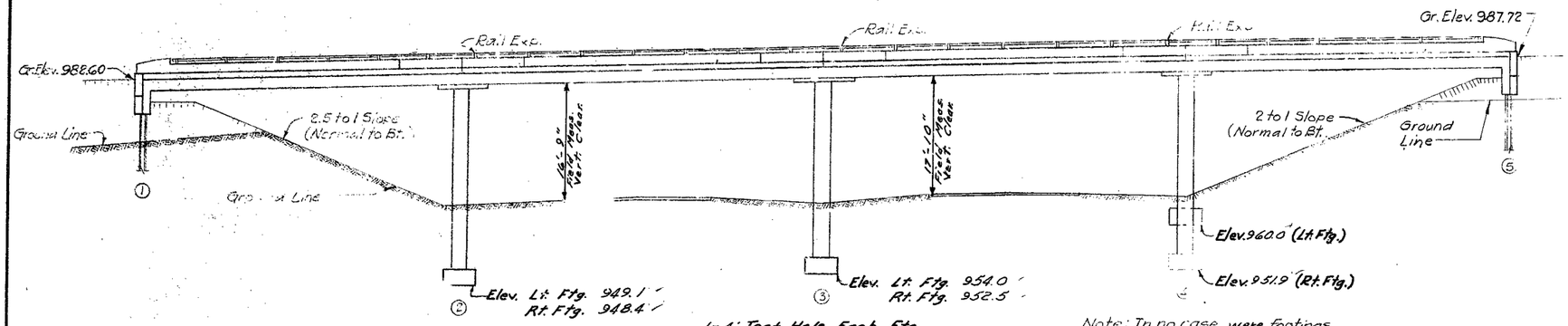
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 5.

MISSOURI STATE HIGHWAY DEPARTMENT

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

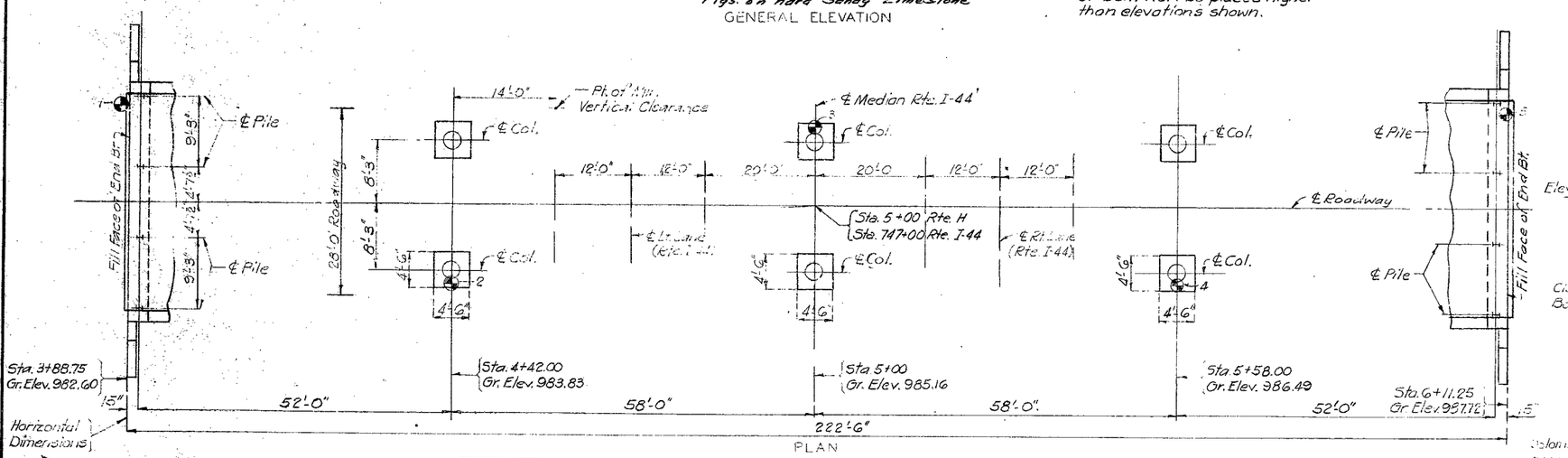
(52'-58'-58'-52') Cont'l. Slab Spans (Voided)
+2.30% Grade



1-4" Test Hole Each Ftg.
Ftgs. on hard Sandy Limestone

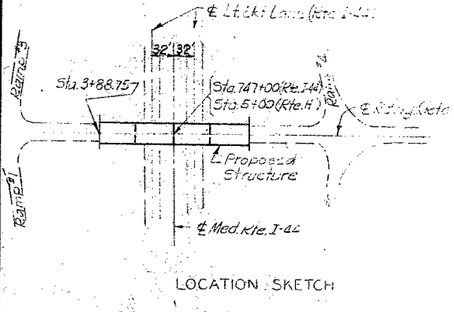
GENERAL ELEVATION

Note: In no case were footings of Bent No. 4 be placed higher than elevations shown.



PLAN

Note: "⊕" Indicates location of boring.



LOCATION SKETCH

QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu.Yds.	127.5		127.5
Steel Piles in Place (10")	Lin.Ft.	221		221
Steel Piles Cut-Offs (10")	Lin.Ft.	39		39
Class B Concrete	Cu.Yds.	11.4		11.4
Class B1 Concrete	Cu.Yds.		461.2	461.2
Reinforcing Steel	Lbs.	140	113,445	113,585
Bridge Rail (Single tube type)	Lin.Ft.		424	424
Class 1 Exc. (Plus 25%)	Cu.Ft.	3.5		3.5
Test Holes	Lin.Ft.	24		24

Note: All concrete and reinforcement above footings in intermediate bents is included in superstructure quantities.
No payment for excavation was allowed at End Bents No. 1 & 5.

FOOTING AND PILE DATA

	BENT NO.	1	2	3	4 Rt.	4 Lt.	5 Rt.
SPREAD FOOTING	Foundation Material		Rock	Rock	Rock	Rock	
	Design Brg. Tons/Sq. Ft.	3.0	7.5	7.5	9.0		
	See Standard Specification 50.4.2						
BEARING PILE	Pile Type & Size	Steel 10"				Steel 10"	Steel 10"
	Number	4				2	2
	Approximate Length Ft.	35				20	40
	Design Bearing Value Ton.	33.5				33.5	28.5
	* Hammer Energy Reqd. Ft. Lbs.	7000				7000	7000

* Minimum energy requirements of hammer based on pile length and design bearing value of piles.
All pile were driven to practical refusal at 1.9 times the design bearing value.

GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O.-1961

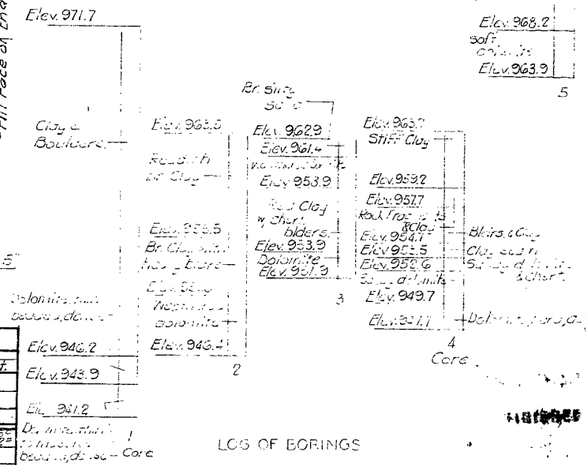
DESIGN LOADING: H15-44 (15#/sq.ft. Future Wearing Surface)
Earth 120#, Equivalent Fluid Pressure 30#

DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel Pile, (A.S.T.M. A-36-62T) Fb = 16,000 psi

CONCRETE:
Superstructure concrete . Class B1
Substructure concrete . Class B or Class B1 except payment on the basis of Class B.

SURFACE SEAL:
Superstructure deck . surface sealed.
(See special provisions)

CONSTRUCTION CLEARANCE:
A minimum vertical clearance of 13'-6" from slab of existing lanes and a minimum lateral clearance of 28'-0" centered on each existing lane maintained during construction.



LOG OF BORINGS

B.M.* "D" on N.E. Cor. Lt. Wing Wall of (South) End Bent No. 5, 16' Lt. of Sta. 6+11.25 (Rte. "H") Elev. 988.27

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. I-44-3(10)(RTE I-44) **STA.** 747+00

CRAWFORD **COUNTY**

SUBMITTED BY D. B. Jenkins BRIDGE ENGINEER DATE 1/21/66

APPROVED BY M. J. Snider CHIEF ENGINEER DATE 1/21/66

FINISHED

STD. 50.00

A-1192

DESIGNED Aug. 1964 BY Jones
DETAILED Oct. 1964 BY Griffith
CHECKED Nov. 1965 BY Bryniarski

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

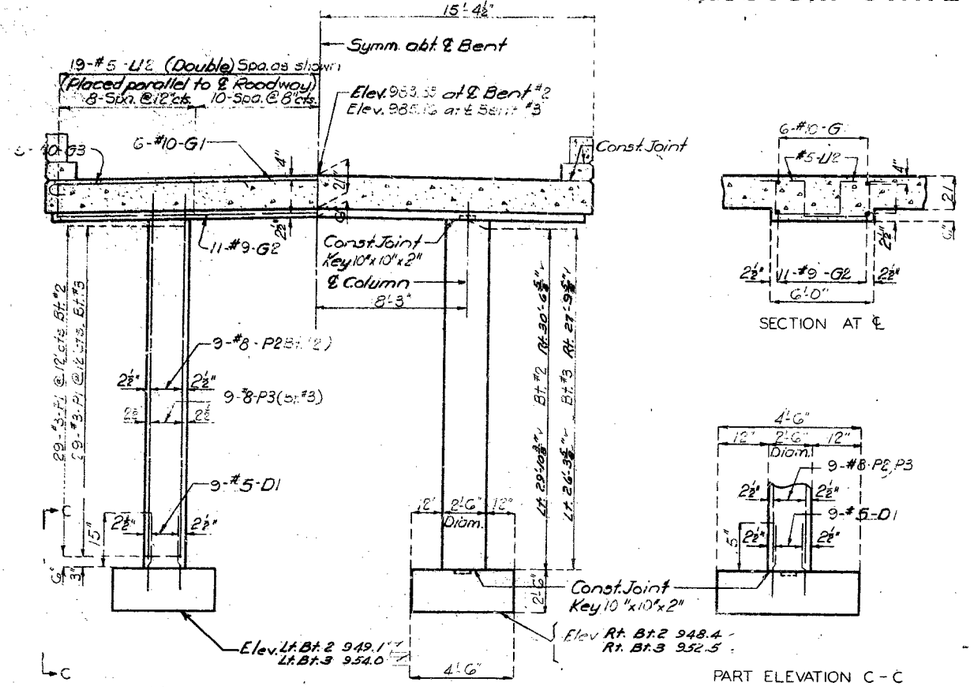
Sheet No. 1A of 2.

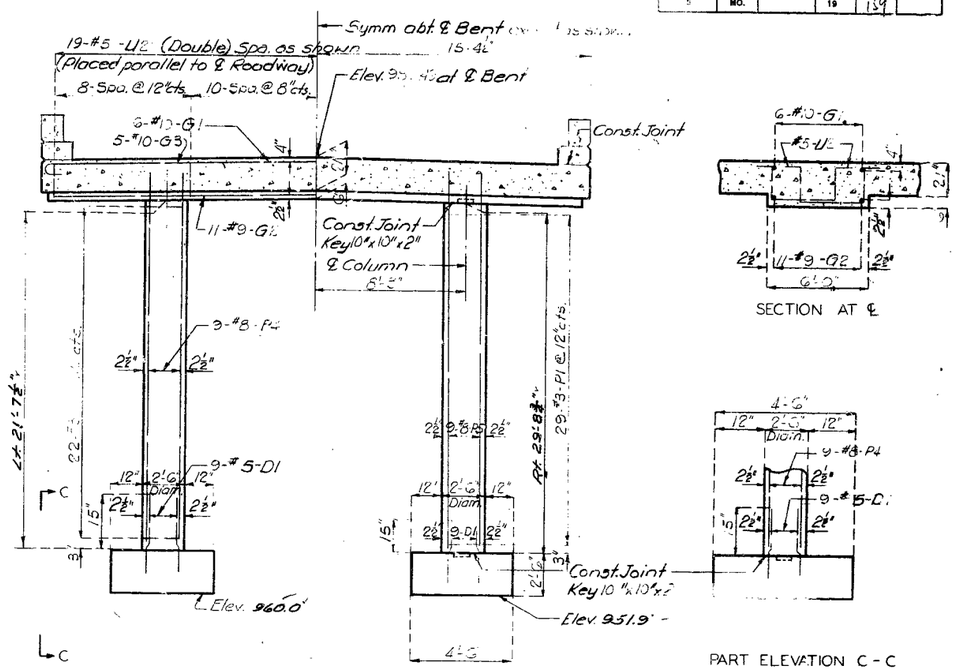
FINAL PLANS

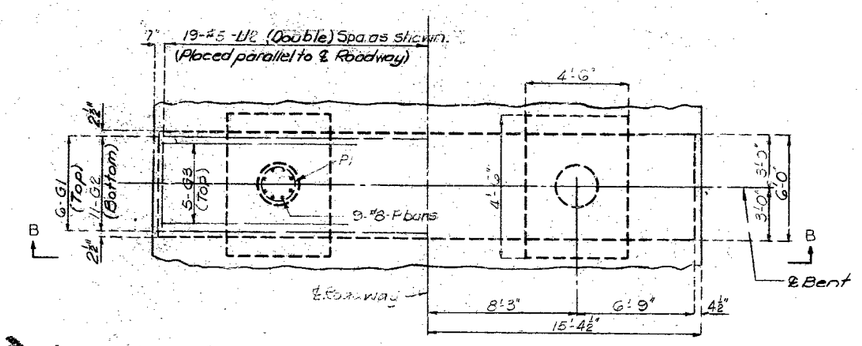
143

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	139	

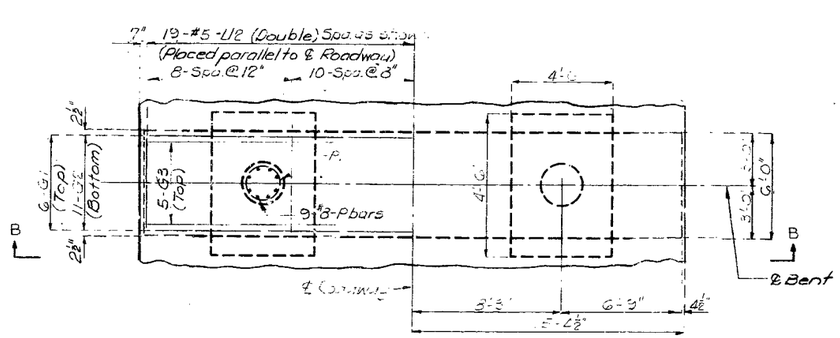






PLAN

DETAILS OF INT. BENTS NO. 2 & 3



PLAN

DETAILS OF INT. BENT NO. 4

BRIDGE ROUTE H UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 7.0 MILES N. E. OF CUBA

PROJECT NO. I-44-3(10)(RTE I-44) **STA.** 747+00

CRAWFORD **COUNTY**

144

No. 58.5	Mar. 1968	Revised	Oct. 1963

Drawn Sept 1964 by Griffith
Checked Nov. 1965 by Bryniarski

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

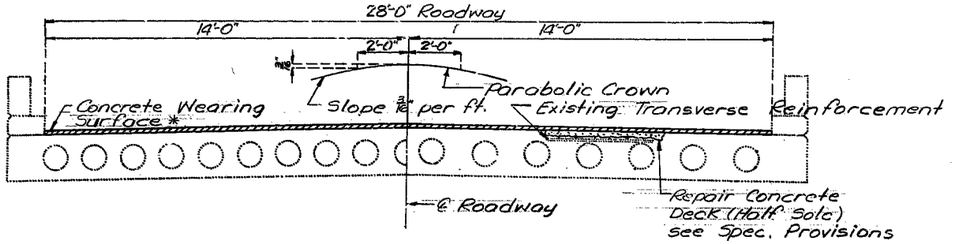
Sheet No. 3A of 2

A-192

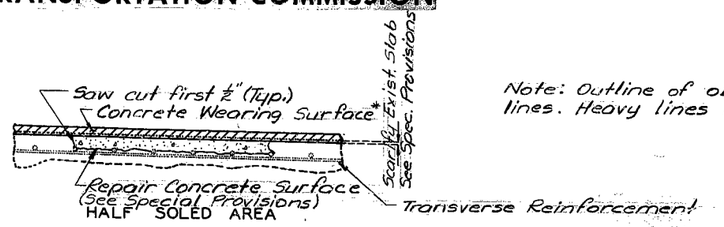
FINAL PLANS

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
8	MO.		19	6	



PART SECTION THRU SLAB

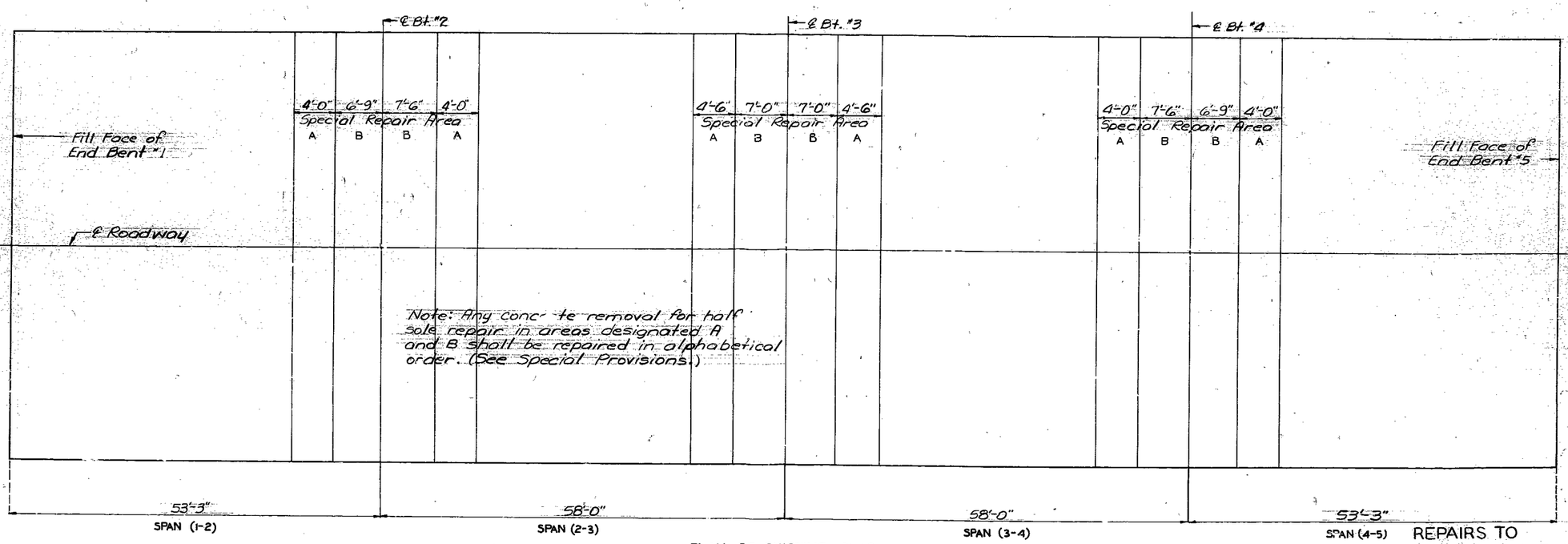


Note: Outline of old work is indicated by light dotted lines. Heavy lines indicate new work.

ESTIMATED QUANTITIES		
ITEM		TOTAL
Concrete Wearing Surface (*)	Sq. Yd.	692
Repairing Concrete Deck (Half Soling)	Sq. Ft.	125

See Job Special Provisions for alternate use of Concrete Wearing Surface.

*Alternate A=1½" Latex Modified Concrete,
Alternate B=2" Low Slump Concrete.



PLAN OF EXISTING SLAB

REPAIRS TO
BRIDGE ROUTE H UNDERPASS
STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR
ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. IR-44-3(57) STA. 747+00

JOB NO. 6-1044-3060 RTE. I-44

SEE FINAL PLANS

DETAILED May 1980
CHECKED May 1980

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

Sheet No. / of / .

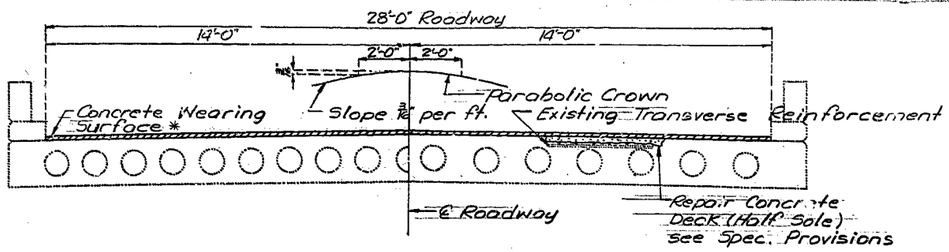
CRAWFORD COUNTY

A-1192R

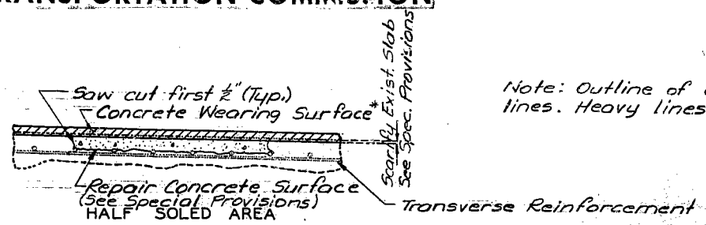
X 56

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	6	



PART SECTION THRU SLAB



HALF SOLED AREA

Note: Outline of old work is indicated by light dotted lines. Heavy lines indicate new work.

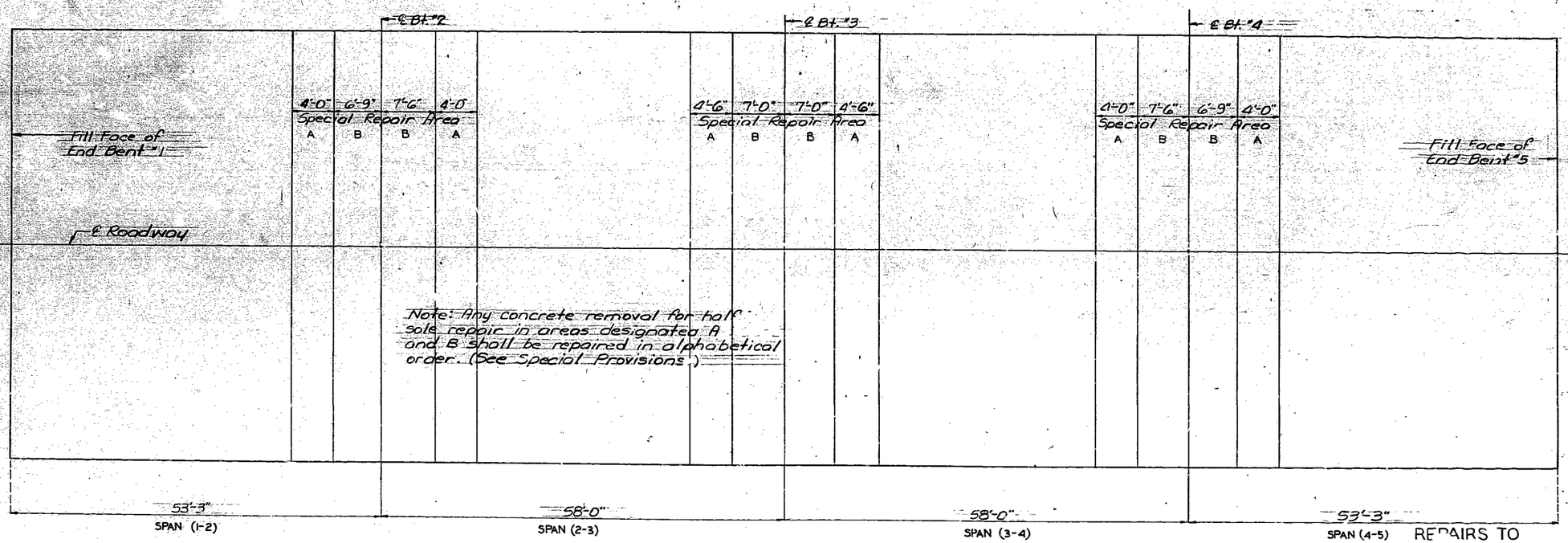
FINAL PLANS

ESTIMATED QUANTITIES		
ITEM		TOTAL
Concrete Wearing Surface (*)	Sq. Yd.	293
Repairing Concrete Deck (Half Soling)	Sq. Ft.	692

See Job Special Provisions for alternate use of Concrete Wearing Surface.

~~Alternate A-1½" Latex Modified Concrete~~

*Alternate B-2" Low Slump Concrete was used.



PLAN OF EXISTING SLAB

REPAIRS TO
BRIDGE ROUTE H UNDERPASS
STATE ROAD FROM PHELPS COUNTY LINE TO EASBURG SPUR
ABOUT 7.0 MILES N.E. OF CUBA

PROJECT NO. IR-44-3(50) STA. 747+00

JOB NO. 6-1044-3060 RTE. I-44

DETAILED May 1980
CHECKED May 1980

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

Sheet No. 1A of 1.

CRAWFORD COUNTY

A-1192R

459

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	RT H E	
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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	215.50 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	15925
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 10 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	RT H E	
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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	213.78 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	15925
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 10 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
106	Year Reconstructed	1984
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
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	0000H
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT H 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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	0.06 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	2254
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	3156
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 9 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	12 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	26.25 miles
32	Approach Roadway Width	38 Ft. 1 In.
34	Skew	0.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	27 Ft. 11 In.
52	Deck Width (Out-Out)	30 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	ALLOWABLE STRESS
64	Operating Rating	48 Tons.
65	Inventory Rating Meth	ALLOWABLE STRESS
66	Inventory Rating	20 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	57.4 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	4
69	Underclearance App. Rating	6
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	5 / 22	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
106	Year Reconstructed	1984
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
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	0000H
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT H 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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	0.06 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	2254
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	3156
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 9 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	12 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	26.04 miles
32	Approach Roadway Width	38 Ft. 1 In.
34	Skew	0.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	27 Ft. 11 In.
52	Deck Width (Out-Out)	30 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	A - OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	ALLOWABLE STRESS
64	Operating Rating	48 Tons.
65	Inventory Rating Meth	ALLOWABLE STRESS
66	Inventory Rating	20 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	57.4 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	18 Ft. 8 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	4
69	Underclearance App. Rating	6
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 20	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT H E
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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	79.35 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	12845
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 9 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1192

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

December 19, 2022
1:36:17pm

COUNTY : CRAWFORD **BRIDGE :** A1192 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	982
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
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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	BENTON
	Code	04618
9	Location	S 12 T 39 N R 4 W
11	Milepoint	78.72 miles
16	Latitude	38 D 7 M 12 S
17	Longitude	91 D 18 M 52 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	12845
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 9 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	223 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	

Design_No = a1192

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

December 19, 2022
1:36:17pm

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LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
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36D	Rail End Treat. App. Rating
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68	Deck Geometry App. Rating
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72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1192

Bridge Number: A1192R

Route/County: H/Crawford

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?

Yes: ☐ No: ☐

Railing LBP?

Yes: ☐ No: ☐

Pile LBP?

Yes: ☐ No: ☐

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Diane Roegge
Environmental Chemist

DATE: June 6, 2017

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route H
Bridge A-1192R
Crawford 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) 526-4359.

db/fr/dr
http://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/central (cd)/mt/a1192r/dr16060625.docx
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:	H	**SURVEYED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165
DISTRICT:	CD	**SITE ADDRESS:**	Over I-44, Exit #214
COUNTY:	Crawford	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	June 8, 2017		
PARCEL NO.:	Bridge A-1192R		

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
17MD1R 354	Insulating Compound	Under 53-Tube Rail Posts, Over Concrete	II NF	20 Sq. Ft.
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: H
MODOT JOB NO.: N/A
DISTRICT: CD
COUNTY: Crawford
DATE OF TESTS: June 19, 2017
PARCEL NO.: Bridge A-1192R

TESTED BY: Diane Roegge
CERTIFICATION #: 7020102516MOIR7165
SITE ADDRESS: Over I-44, Exit #214
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

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

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	H	**TESTED BY:**	Diane Roegge
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165
DISTRICT:	CD	**SITE ADDRESS:**	Over I-44, Exit #214
COUNTY:	Crawford	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	June 19, 2017		
PARCEL NO.:	Bridge A-1192R		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
202-40.43	17MD1R 354	Insulating Compound	Under 53-Tube Rail Posts, Over Concrete	II NF	20 Sq. Ft.	Chrysotile	1-3
			None Located	F			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = 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:	H	**TESTED BY:**	N/A
MODOT JOB NO.:	N/A	**DATE OF TESTS:**	N/A
DISTRICT:	CD	**PARCEL NO.:**	Bridge A-1192R
COUNTY:	Crawford	**SITE ADDRESS:**	Over I-44, Exit #214
SURVEYED BY:	Diane Roegge	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	June 8, 2017		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

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

Expiration Date **10/25/2017**

Training Date: **10/25/2016**

Certificate Number: 7020102516MOIR7165

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Diane R Roegge

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/2/2016
Date

Kyra L Moore
Director of Air Pollution Control Program

December 19, 2022

Scoping Estimate for Rehab:
Rte. H (Minor) over I-44 (Major)
Crawford County
Bridge No. A11922
Job No. J5P3515

Total Estimate: $434,000

Listing of Items	Units					Cost/Unit	Total Cost
Removal of Miscellaneous ACM (Non-Friable)	20					$125 sf	$2,500
Total Surface Hydro Demolition	222.5 x	28	/	9 x		$50 sy	$34,611
Removal of Concrete Wearing Surface	222.5 x	28	x			$2.60 sf	$16,198
Removal of Existing Deck Repair	125 x					$60 sf	$7,500
Bridge Approach Slab (Major)	0 x	20.00 x	2 /	9 x		$300.00 sy	$0
Supplementary Wearing Surface Material	5					$700 cy	$3,500
Latex Modified Concrete Wearing Surface	222.5 x	28	/	9 x		$150 sy	$103,833
Diamond Grinding	222.5 x	28	/	9 x		$8 sy	$5,538
Curb Blockout	222.52 x	2 x				$155 lf	$68,981
Substructure Repair (Formed or Unformed)	10 x	1 x				$165.00 sf	$1,650
Half-Sole Repair	222.5 x	28 x	20% x			$80 sf	$99,680
Full Depth Repair	222.5 x	28 x	0% x			$110 sf	$0
Slab Edge Repair (Bridges)	222.5 x	2	3% x			$200 lf	$2,670
Cleaning and Epoxy Coating	222.5 x	2 x	4.25			$12 sf	$22,695
Protective Coating - Concrete Bents and Piers (Epoxy)	196.35 x	3 x				$12.00 sf	$7,069
Cored Slab Drain	0 x	2 x				$650.00 ea	$0
Open Cell Foam Joint Seal	28 x	2 x				$115.00 lf	$6,440
Miscellaneous Items/Contingency	3%						$11,486
Staging	10%						$39,435

Joe Alderson, SLE
Bridge Division
(573) 522-8722

Bridge Memorandum

Job No.: J5P3515 **Bridge No.:** A11922

County: Crawford **Rte.:** H (Minor) over I-44 (Major)

Final Layout:	Use-in-Place, Redeck and Make Composite Existing (45',45',45') Simple Wide Flange Beam Spans
Roadway Width:	22'-0" plus 16" Type H Barriers
Alignment:	Tangent
Skew:	Square
Grade:	Match existing plus 1" ± (Add 1" to existing haunch)
Loading:	H15-44 (1957), HS20-44 (new construction)
Beg. Station:	274+72.00 ± (match existing)
Traffic Handling:	Structure to be closed to traffic during construction.
Existing Bridge:	Redeck N0910 and use in place.
Condition Ratings:	Deck = 4, Superstructure = 5, Substructure = 6
Load Posting:	Posted S4 for Centerline Only - Operating Rating = 26 tons (to be removed by making composite)

GENERAL NOTES:

Remove existing bridge deck (non-composite), which includes curbs, end posts and rails as necessary.
Install 8" cast-in-place slab (P/S panels not allowed) with 3/16" per 1' cross slope. (3" Future Wearing Surface)
Stay-in-place forms for slab are permitted.
Make end bents integral.
Install 16" wide, Type H Barriers.
Estimated 100 sf of substructure repair (formed). 50 sf on Bent No. 2 beam cap and 50 sf on Bent No. 3 beam cap.
Apply Protective Coating - Concrete Bents and Piers (Epoxy) to all bents.
Make spans composite by adding shear connectors.
Install Slab Drains as required.
Recoat existing piles at Bents No. 2 & 3 with aluminum epoxy-mastic primer.
Provide saw cut joints in slab at CL of Int. Bents No. 2 & 3.
A vibratory screed is allowed.

AADT (2019) = 340, AADT Truck = 9.4% = 32
AADT (2039) = 425, AADT Truck = 9.4% = 40

SPECIAL NOTES:

Roadway surfacing adjacent to bridge ends to match top of bridge deck (Roadway Item).
Install object markers at bridge ends (Roadway Item).
Remove and re-key gabions further into stream bank to prevent further scouring (Roadway Item).
Rubblized existing bridge deck may be used on spill slopes (Roadway Item).
Sandblast and recoat all existing structural steel with System G (Gray) in a separate, paint-only contract at an estimated cost of $47,000.
An asbestos and lead inspection has been performed on this structure (N0910). Results indicate that lead is present. The Bridge Division will include the inspection report in the electronic deliverables folder when submitting contract documents to the Design Division for the Letting (Bridge Item).

District Contact is Richard Orr, TPM (816) 387-2483
Bridge Division Contact is Joseph Alderson, SPM (573) 522-8722

FY'25 Programmed Bridge STIP Amount:	$219,000
FY'25 Programmed Total Construction STIP Amount:	$299,000
Estimated Working/Calendar Days (not including painting):	**20/30**
Estimated Working/Calendar Days for painting:	**25/40**
FY'25 Estimated Bridge Construction Cost*:	**$434,000**

* Does not include inflation from Planning (3% compounded annually)

Bridge: _____ Date: _____

Intermediate Structural Designer

Bridge: _____ Date: _____

Structural Project Manager

District: _____ Date: _____

Transportation Project Manager

District: _____ Date: _____

District Bridge Engineer

December 19, 2022

Scoping Estimate for Rehab:
Rte. H (Minor) over I-44 (Major)
Crawford County
Bridge No. A11922
Job No. J5P3515

							Total Estimate:	**$434,000**
Listing of Items	**Units**						**Cost/Unit**	**Total Cost**
Removal of Miscellaneous ACM (Non-Friable)	20						$125 sf	**$2,500**
Total Surface Hydro Demolition	222.5	x	28	/	9	x	$50 sy	**$34,611**
Removal of Concrete Wearing Surface	222.5	x	28	x			$2.60 sf	**$16,198**
Removal of Existing Deck Repair	125	x					$60 sf	**$7,500**
Bridge Approach Slab (Major)	0	x	20.00	x	2 /	9 x	$300.00 sy	**$0**
Supplementary Wearing Surface Material	5						$700 cy	**$3,500**
Latex Modified Concrete Wearing Surface	222.5	x	28	/	9	x	$150 sy	**$103,833**
Diamond Grinding	222.5	x	28	/	9	x	$8 sy	**$5,538**
Curb Blockout	222.52	x	2	x			$155 lf	**$68,981**
Substructure Repair (Formed or Unformed)	10	x	1	x			$165.00 sf	**$1,650**
Half-Sole Repair	222.5	x	28	x	20%	x	$80 sf	**$99,680**
Full Depth Repair	222.5	x	28	x	0%	x	$110 sf	**$0**
Slab Edge Repair (Bridges)	222.5	x	2		3%	x	$200 lf	**$2,670**
Cleaning and Epoxy Coating	222.5	x	2	x	4.25		$12 sf	**$22,695**
Protective Coating - Concrete Bents and Piers (Epoxy)	196.35	x	3	x			$12.00 sf	**$7,069**
Cored Slab Drain	0	x	2	x			$650.00 ea	**$0**
Open Cell Foam Joint Seal	28	x	2	x			$115.00 lf	**$6,440**
Miscellaneous Items/Contingency	3%							**$11,486**
Staging	10%							**$39,435**

Joe Alderson, SLE
Bridge Division
(573) 522-8722

Br. No. A11922 County: Crawford Date: 3/27/2023

Job No. J5P3515 Name: C. Ruether

Calendar/Working Days: Redeck

Bridge Removal:		SF	@	1300	SF/day	=			
Prebore:		LF	@	130	LF/day	=			
Substructure Excavation:		CY	@	69	CY/day	=			
Drive Piling:		LF	@	330	LF/day	=			
Intermediate Bent (3 column):		bents	@	4	days/each	=			
Rock Sockets:		LF	@	18	LF/day	=			
Drilled Shafts:		LF	@	25	LF/day	=			
End Bents:		bents	@	4	days/each	=			
P/S I-Girder Erection:		spans	@	1.5	days/span	=			
Structural Steel Erection:		lbs	@	60000	lbs/day	=			
Hinge Modification:		ea	@	1	ea/day	=			
Structural Deck Concrete:		CY	@	275	CY/day	=			
P/S Panel Erection:		spans	@	1.4	days/span	=			
Reinforcing Steel (Substr):		lbs	@	4000	lbs/day	=			
Reinforcing Steel (Super):		lbs	@	6200	lbs/day	=			
Total Superstructure (Steel):		spans	@	10.2	days/span	=			
Total Superstructure (PSI):		spans	@	7	days/span	=			
Safety Barrier Curb:	0	LF	@	525	LF/day	=	0.0	days	
Bridge Approach Slab:	2	slabs	@	8	days/each	=	16	days	
Painting:		SF	@	730	SF/day	=			
Mill Deck (1/4 "):		SF	@	1625	SF/day	=			
Hydro Demolition:		SF	@	400	SF/day	=			
Remove Bridge Deck:	6230	SF	@	2187.5	SF/day	=	2.8	days	
Asphalt Overlay:		SF	@	8000	SF/day	=			
Low Slump Overlay:		SYD	@	325	SYD/day	=			
Polymer Concrete Overlay:		SF	@	4300	SF/day	=			
Expansion Joint Replacement:		LF	@	30	LF/day	=			
Replace or Widen Deck:	0	SF	@	525	SF/day	=	0.0	days	
Half - Sole Repair:		SF	@	200	SF/day	=			
Full Depth Repair:		SF	@	78	SF/day	=			
Slab Edge Repair:		LF	@	43	LF/day	=			
Unformed Substr Repair:		SF	@	53	SF/day	=			
Unformed Super Repair:		SF	@	60	SF/day	=			
Clean and Repaint Steel:		SF	@	1800	SF/day	=			
MSE Wall:		SF	@	800	SF/day	=			
						Sum =	18.8	days	
						Calendar days = Use =	25	days	
						Working days = Use =	15	days	

February 21, 2020

Estimate for Paint:
H (Minor) over I-44 (Major)
Crawford County
Bridge No. A11922
Job No. J5P3515

			Total Estimate:	$47,000
Listing of Items	**Units**		**Cost/Unit**	**Total Cost**
Surface Preparations for Recoating Structural Steel	3400	x	$9.00 sf	**$30,600**
Field Application of Inorganic Zinc Primer (System G)	3400	x	$3.00 sf	**$10,200**
Intermediate Field Coat (System G)	1000	x	$3.00 sf	**$3,000**
Finish Field Coat (System G)	1000	x	$3.00 sf	**$3,000**

Caleigh Ruether
Bridge Division
(314) 453-1785

Bridge No. A11922 | Crawford County | C. Ruether | Date 03/27/2023

Working Days and Estimating Quantities for Recoating Structural Steel

Input

Wide Flange Bridge
Bridge Width = 20'
Tons of steel = 31.8 tons

Girder/Stringer Depth = 2.025'
Length to be Painted = 132.1667'

Surface Preparation for Recoating = 3400 ft^2
Inorganic Zinc Primer = 3400 ft^2
Intermediate Field Coat = 1000 ft^2
Finish Field Coat = 1000 ft^2

Pay Items

Surface Preparation for Recoating Structural Steel

1) Install Work Platform (if necessary)

Length = 132.1667' Width = 20' **Area = 2643.333' ft^2**

Number of platfoms = 1 Rate = 1/day 1 Working Days

2) Installing Sand Blasting Containment

Length = 132.1667' Width = 20' Height = 6.025' # sides = 2 # ends = 2

Needs top ? No Needs bottom ? Yes Area = 4476.942' ft^2

Base Production Rate = 1000 sf/day Rate Change = 100%

Production Rate = 1000 sf/day 4.48 Working Days
Use 5.00 Working Days

3) Disposal of Hazardous Waste

Waste Fraction = 0.075 ton/ton of steel **Weight = 2.383125 tons**

Production Rate = 2 per 15 tons Use 2.00 Working Days

3) SSPC-SP10 Surface Preparation

Production Rate Change = 50% **Area = 3400 ft^2**

Production Rate = 500 sf/day 6.80 Working Days
Use 7.00 Working Days

Inorganic Zinc Primer

Area = 3400 ft^2

Production Rate = 900 sf/day 3.78 Working Days
Use 4.00 Working Days

Intermediate Field Coat

Area = 1000 ft^2

Production Rate = 900 sf/day 1.11 Working Days
Use 2.00 Working Days

Finish Field Coat

Area = 1000 ft^2

Production Rate = 900 sf/day 1.11 Working Days
Use 2.00 Working Days

85% of Total Working Days = 20
Calendar Days = 30

Missouri Department of Transportation
State Bridge Inspection Report

December 20, 2022
7:03:51AM

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 1148** **BRIDGE: A1383**

GENERAL STRUCTURE INFORMATION

ROUTE: RTFS	**# SPANS:** 4	**PLACE CODE:** 39242 KNOBVIEW	
FEATURE: IS 44	**LANES ON:** 2	**LENGTH:** 203 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 58 FT 0 IN	
LOG MILE: 15.166	**COMPASS DIRECTION:** SOUTH to NORTH	**APPROACH ROADWAY:** 20 FT 0 IN	
DETOUR: 12.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 26 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 28 FT 10 IN	
BUILT: 1966	**NBI OWNER:** MODOT	**AADT:** 857	
REHAB: 1987	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2021	
LOCATION: S 4 T 38 R 5 W	**MAINTENANCE DISTRICT:** CD	**AADT TRUCK:** 11.5%	
LATITUDE: 38 2 39.39 (DMS)	**MAINTENANCE COUNTY:** CRAWFORD	**FUTURE AADT:** 1200	
LONGITUDE: 91 29 13.62 (DMS)	**SUB AREA:** 7D17	**FUTURE AADT YEAR:** 2041	

BRIDGE INSPECTION INFORMATION

DATE: 05/11/2022 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 20
TEAM LEADER: MICHAEL MEYERHOFF **ELEMENT:** NO
INSPECTOR 2: JOE GREEN **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

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

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

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

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

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

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

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

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

SPECIAL INSPECTION COMMENTS

UNDERWATER INSPECTION INFORMATION

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

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

UNDERWATER INSPECTION COMMENTS

OTHER SPECIAL INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

OTHER UNDERWATER INSPECTIONS

DATE	FREQUENCY	CATEGORY	NBI	CALCULATED INTERVAL	RESPONSIBILITY	METHOD

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 1148** **BRIDGE: A1383**

STRUCTURE POSTING

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

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

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 08/28/2008)--(43'-58'-58'-43') CONT VOIDED CONC SLAB SPANS

[ITEM 58] DECK: 6-SATISFACTORY CONDITION
RATING : 11/09/2020
COMMENTS: (TRAMPA, 10/27/2016)--CRACK & LE;
(RAITHK, 11/09/2020)--MANY DELAMS THRUOUT

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION
RATING : 11/09/2020
COMMENTS: (MADSEJ, 09/09/2014)--VERTICAL AND HORIZONTAL CRACKS ON THE SLAB EDGE OVER THE INTERMEDIATE BENTS WITH LIGHT EFFLORESCENCE.
(RAITHK, 11/09/2020)--DET AT INT BENTS THRUOUT

[ITEM 60] SUB: 6-SATISFACTORY CONDITION
RATING : 05/18/2001
COMMENTS: (MADSEJ, 09/09/2014)--CRACKING, LEACHING, AND DETERIORATION ON ALL WINGWALLS.

[ITEM 61] BANK/CHANNEL: N-NOT APPLIC NO WATRWAY
RATING : 05/18/2001
COMMENTS:

[ITEM 113] SCOUR: N-NOT APPLIC NOT WATERW
RATING : 05/18/2001
EVALUATION TYPE :
COMMENTS:

[ITEM 71] WATERWAY ADEQUACY: NOT APPLICABLE
RATING : 05/18/2001
COMMENTS:

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

[ITEM 36A] BRIDGE RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/09/2007* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	PARAPET	BOTH	
REINFORCED CONCRETE	CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DETERIORATION	THROUGHOUT		MODERATE	
REBAR EXPOSED	THROUGHOUT		MODERATE	
SCALING	THROUGHOUT		MEDIUM	

ALUMINUM	CIRCULAR TUBE	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/09/2007* ***COMMENTS:***

[ITEM 36C] APPROACH RAILING RATING: *MEETS CURRENT STANDARDS-1* ***RATING :*** *05/18/2001* ***COMMENTS:***

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 1148** **BRIDGE: A1383**

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	ALL	

[ITEM 36D] RAIL END TREATMENT RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *02/09/2007* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	TURN DOWN SECTION > 45	ALL	(RAITHK, 02/19/2019)--MINOR COLL DAMAGE NE SIDE WRAPPED ONTO NW AND SE RAMPS

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	POOR	

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*LOW SLUMP*	*2.2 IN*			*FAIR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MEDIUM	
TRANSVERSE CRACKS	THROUGHOUT		FEW	

DECK PROTECTION	*LIQUID SEALANT*	*INTERNALLY SEALED*	*2022*	*SILANE*	*GOOD*

COMMENT:

MEMBRANE	*LIQUID SEALANT*	*BUILT-UP*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

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

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	*EARTH FILL*	*BERM*	*BOTH*	

DECK COMPONENTS

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
TRANSVERSE CRACKS	RANDOM		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

DELAMINATION	OVER INTERMEDIATE BENT		FEW
TRANSVERSE CRACKS	OVER INTERMEDIATE BENT		MANY
TRANSVERSE CRACKS	RANDOM		FEW

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	OVER INTERMEDIATE BENT		FEW		
TRANSVERSE CRACKS	OVER INTERMEDIATE BENT		MANY		
TRANSVERSE CRACKS	RANDOM		FEW		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW		
DIAGONAL CRACKS	RANDOM		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
MAIN SERIES-1	*CONTINUOUS SPAN*	*REINFORCED CONCRETE*	*VOIDED SLAB*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	43 FT 4 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT INTERMEDIATE BENT		MINOR		

MAIN SPANS-2	NON-COMPOSITE	58 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT INTERMEDIATE BENT		MINOR		

MAIN SPANS-3	NON-COMPOSITE	58 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	AT INTERMEDIATE BENT		MINOR		

MAIN SPANS-4	NON-COMPOSITE	43 FT 4 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*LA-15 DEGREES*	*29 FT 9 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	ENDS		MINOR		
SPALLS	RANDOM		SMALL		

PILING	STEEL	H-SHAPE

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

DETERIORATION	THROUGHOUT			MODERATE		
BENT-2	*LA-15 DEGREES*	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***				
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
HORIZONTAL CRACKS	TOP		FEW			
FOOTING	REINFORCED CONCRETE	SPREAD				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
BENT-3	*LA-15 DEGREES*	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***				
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
HORIZONTAL CRACKS	TOP		FEW			
FOOTING	REINFORCED CONCRETE	SPREAD				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
BENT-4	*LA-15 DEGREES*	*REINFORCED CONCRETE*	*MULTIPLE COLUMN*			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***				
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
HORIZONTAL CRACKS	TOP		FEW			
FOOTING	REINFORCED CONCRETE	SPREAD				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
ABUTMENT-5	*LA-15 DEGREES*	*29 FT 9 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***				
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
DETERIORATION	ENDS		MINOR			
SPALLS	RANDOM		SMALL		(RAITHK, 11/09/2020)--DID NOT SEE 2020	
PILING	STEEL	H-SHAPE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
STRAIGHT WINGS	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
DETERIORATION	THROUGHOUT		MODERATE			

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: CRAWFORD **DISTRICT: CD** **CLASS: STATBR** **FED-ID: 1148** **BRIDGE: A1383**

CLEARANCES UNDER BRIDGE

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

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	IS 44 E	2	1-WAY TRAF	10 FT 7 IN	18 FT 7 IN	2688

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 10 IN			

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 44 W	2	1-WAY TRAF	10 FT 7 IN	18 FT 7 IN	2689

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 1 IN		11/29/2011	

STRUCTURE PAINT INFORMATION

CONDITION: **RUST AMOUNT :** **STEEL TONS :** 0

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :**	**PAINT TYPE :**	**MANUFACTURE :**
NAME :	**NAME :**	**NAME :**	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :**	**PAINT COLOR :**	
PAINT YEAR :	**PAINT YEAR :**	**PAINT YEAR :**	
MILS :	**MILS :**	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	*LOCATION*	*ITEM*	*CATEGORY*	*PRIORITY*	*DATE*	*WORK ITEM COMMENT*
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL WITH SILANE	DECK	3	08/31/2028	

UTILITY ATTACHMENTS

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

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	3/7/2003
[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	3/5/2019
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	1/26/2022
Sufficiency Rating:	68.6%	2/22/2022
Deficiency:	NOT DEFICIENT	3/7/2003
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

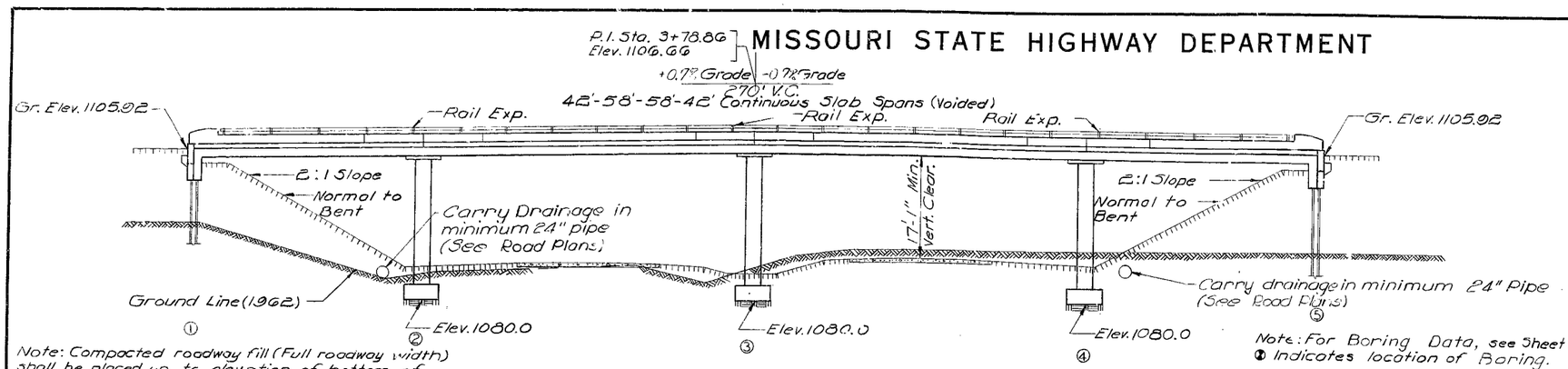
 # OUTFALLS: **INSPECTOR:**

STATUS: **DATE:**

NOTES:

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1/0	



GENERAL ELEVATION

Note: Compacted roadway fill (Full roadway width) shall be placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of End Bents Nos. 1 and 5 before steel piles are driven.

Note: For Boring Data, see Sheet 2 of 5.
① Indicates location of Boring.

Note: In no case shall footings of Bent No. 3 be placed higher than elevations shown.

GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O. - 1961

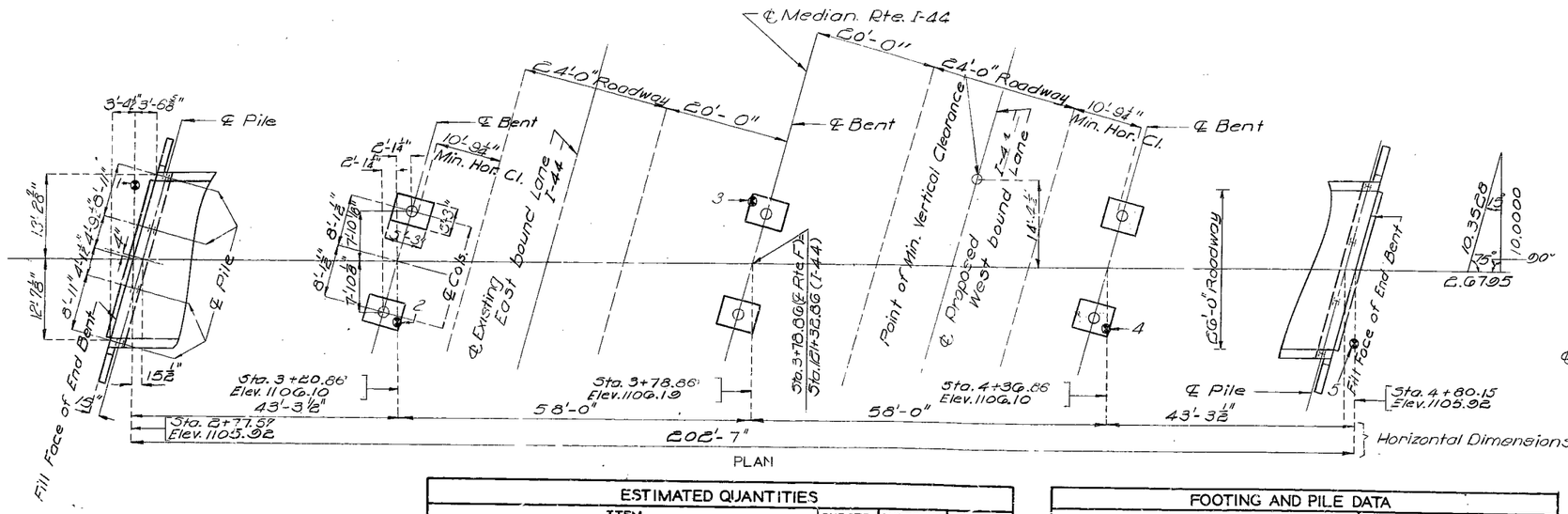
DESIGN LOADING: H15-44 (15#/sq. ft. Future Wearing Surface)
Earth Pressure 120 Lbs.
Equivalent Fluid Pressure 30 Lbs.

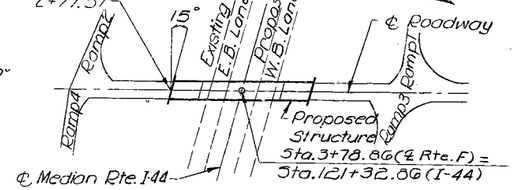
DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel Piles (A.S.T.M. A36-62T) 6,000 psi

CONCRETE:
Superstructure concrete shall be Class B1
Substructure concrete shall be Class B or Class B1 except payment will be on the basis of Class B.

SURFACE SEAL:
Superstructure deck to be surface sealed.

FALSEWORK:
Falsework over existing lane shall be constructed with a minimum vertical clearance of 13'6" from crown of existing lane and a minimum lateral clearance of 23'-0" centered on existing lane.





LOCATION SKETCH

ESTIMATED QUANTITIES

ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yds.	90		90
Steel Piles in Place (10")	Lin. Ft.	216		216
Steel Piles Cut-offs (10")	Lin. Ft.	24		24
Class B Concrete	Cu. Yds.	15.3		15.3
Class B1 Concrete	Cu. Yds.		383.1	383.1
Reinforcing Steel	Lbs.	670	96,320	96,990
Bridge Rail (Single Tube Type)	Lin. Ft.		384	384

Note: No payment for excavation will be allowed at End Bents #1 & 5
All concrete and reinforcement above footings in intermediate bents is included in superstructure quantities.
Footings shall be carried 5" into hard, solid, undisturbed rock or 18" into sandstone and cast against vertical faces of same.

FOOTING AND PILE DATA

	BENT NO.	1	2, 3 & 4	5
SPREAD FOOTING	Foundation Material		Sandstone or Limestone	
	Design Brg. Tons/Sq. Ft.		5.5	
	See Standard Specification 50.4.2			
BEARING PILE	Pile Type & Size	10BP42		10BP42
	Number	4		4
	Approximate Length Ft.	@ 30' Lt. @ 40' Rt.		25'
	Design Bearing Value Tons	26.5		26.5
	* Hammer Energy Req'd. Ft.Lb.	7000		7000

*Minimum Energy requirement of hammer based on plan length and design bearing value of piles.
All pile shall be driven to practical refusal at 1.9 times the design bearing value.

B.M. Elev. 1090.90 N. & W. in Root 18" B. Oak
120' Lt. Sta. 122+25 (Rte. I-44)

BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S. W. OF CUBA

PROJECT NO. I-44-3(11)(RTE. I-44) **STA.** 121+32.86

CRAWFORD **COUNTY**

SUBMITTED BY D.B. Jenkins BRIDGE ENGINEER DATE 1/21/65

APPROVED BY M.J. Amiet CHIEF ENGINEER DATE 1/21/65

DESIGNED Dec. 1964 BY Deifallah
DETAILED Dec. 1964 BY Deifallah
CHECKED Nov. 1965 BY Sommerer

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

Sheet No. 1 of 5.

STD. 54.00
A-1383

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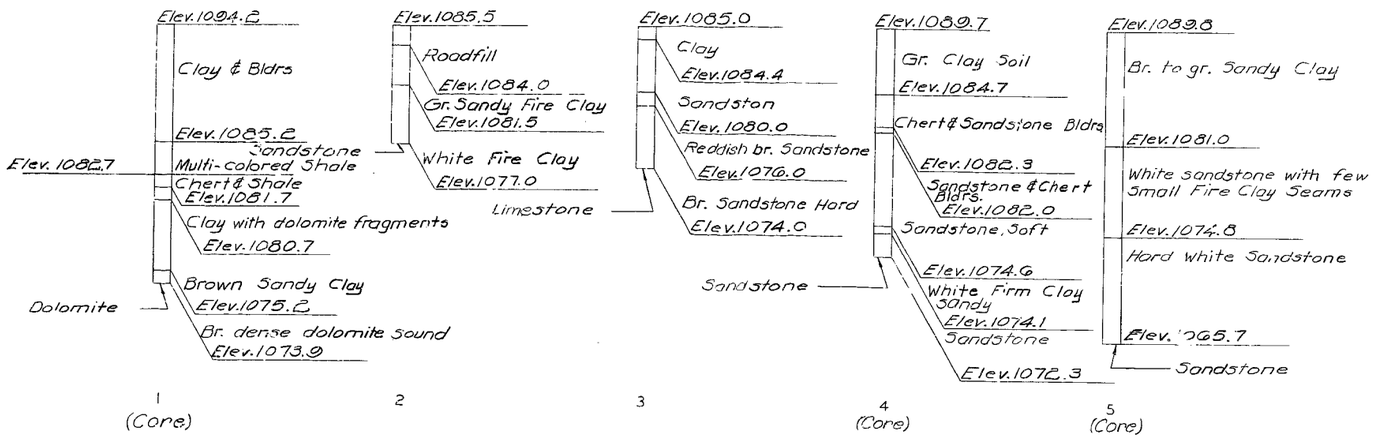
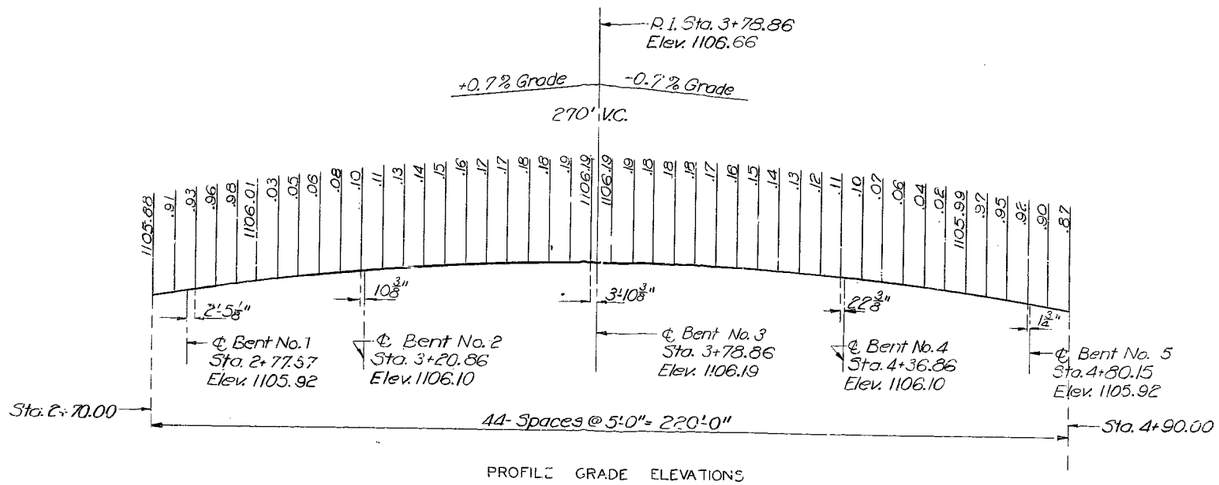
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	111	



BORING DATA

Note: For location of borings see Sheet 1 of 5.



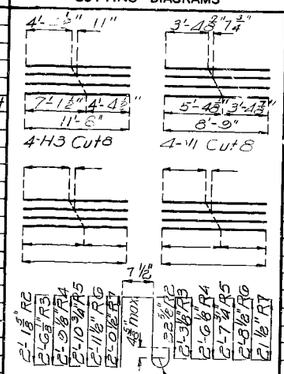
PROFILE GRADE ELEVATIONS

(Taken along crown of Roadway)

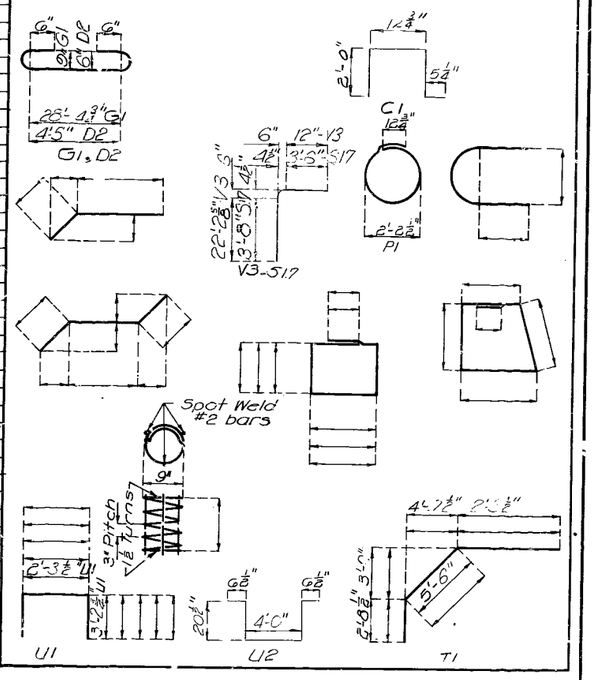
COMPLETE BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	LOCATION
Superstructure				
404	#5	5'-6"	C1	Curb
16	#5	22'-3"	C2	"
15	#5	29'-6"	C3	"
8	#5	4'-9"	R1	End Post
4	#5	5'-9"	R2	"
4	#5	6'-6"	R3	"
4	#5	7'-0"	R4	"
4	#5	7'-3"	R5	"
8	#5	7'-3"	R6	"
464	#5	5'-6"	R7	Curb
48	#5	9'-9"	R8	Parapet
8	#5	33'0"	R9	"
16	#5	37'-9"	R10	"
8	#5	32'-6"	R11	"
40	#9	44'-6"	S1	Slab
38	#9	32'-3"	S2	"
36	#9	62'-6"	S3	"
38	#9	37'-0"	S4	"
36	#11	29'-6	S5	"
40	#11	29'-0"	S6	"
36	#11	22'-0"	S7	"
38	#11	14'-9"	S8	"
20	#11	32'-6"	S9	"
18	#11	25'-0"	S10	"
19	#11	18'-0"	S11	"
76	#5	30'-3"	S12	"
76	#5	23'-6"	S13	"
476	#5	29'-3"	S14	"
40	#9	60'-0"	S15	"
Superstructure End Bts. #1 & #5				
24	#6	29'-6"	H1	Beam
20	#6	7'-3"	H2	Wing
8	#6	11'-8"	H3	"
124	#5	8'-0"	U1	Beam
8	#4	8'-0"	V1	Wing
4	#4	5'-0"	V2	"
8	#6	10'-6"	T1	"
76	#6	7'-9"	S17	Beam
Superstructure Int. Bts. 2, 3 & 4				
21	#11	31'-9"	G1	Beam
21	#11	68'-9"	G2	Drop Panel
7	#3	8'-0"	P1	Column
132	#3	8'-0"	P1	Column
174	#5	8'-6"	U2	Beam
54	#8	64'-0"	V3	Column
9	#8	6.40'	V3	"
9	#8	5.20'	V3	"
Substructure Int. Bts. 2, 3 & 4				
54	#5	2'-6"	D1	Ftg.
72	#5	7'-0"	D2	"

BENDING SKETCHES & CUTTING DIAGRAMS



NO.	SIZE	LENGTH	MARK	LOCATION



BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S.W. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 121+32.86

CRAWFORD **COUNTY**

A-1383

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No. 902	Revised
June 1961	

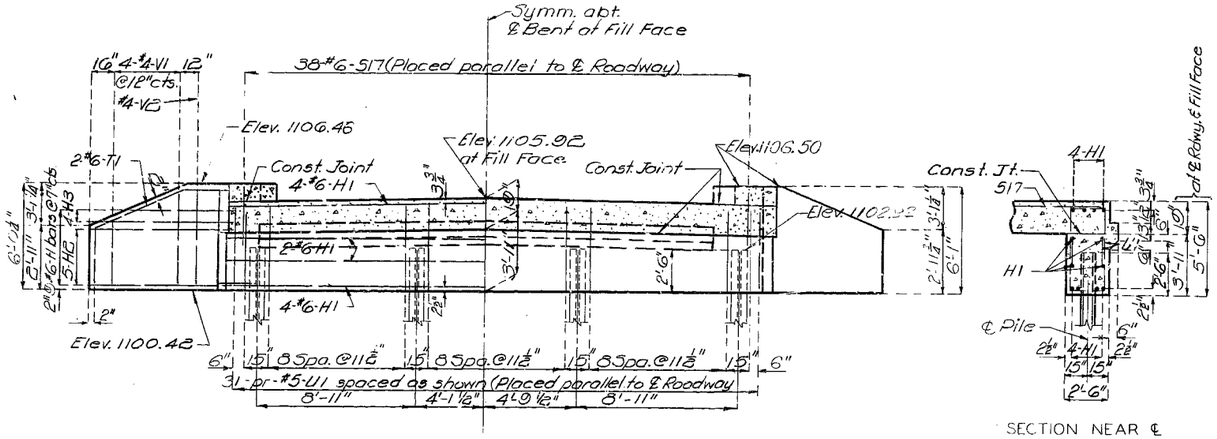
DETAILED Dec. 1964 BY Deifoliah

CHECKED Nov. 1965 BY Sommerer

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

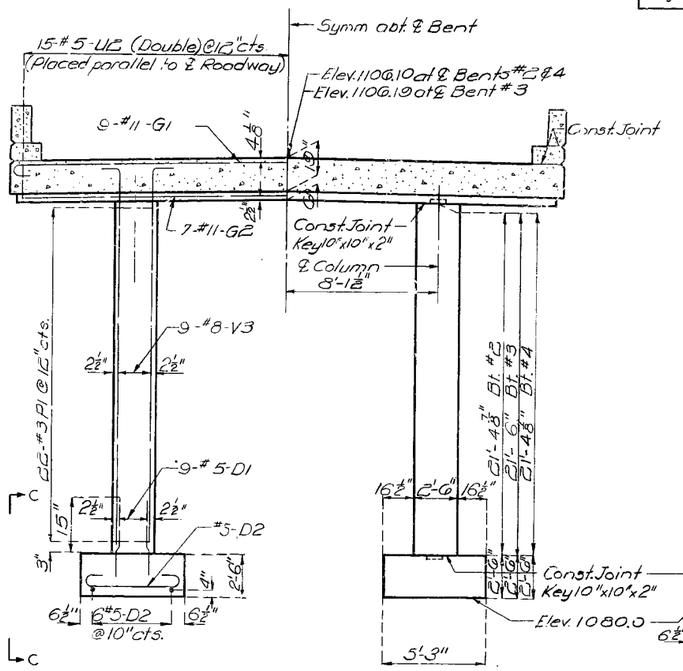
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		14	112	

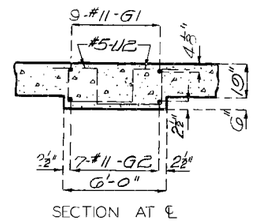


SECTION A - A

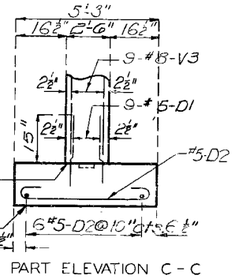
SECTION NEAR ℄



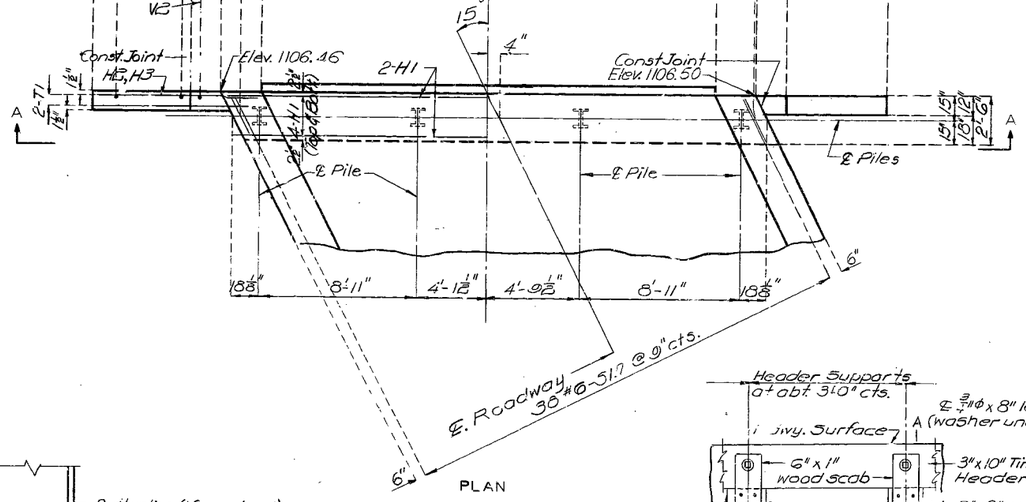
SECTION B - B



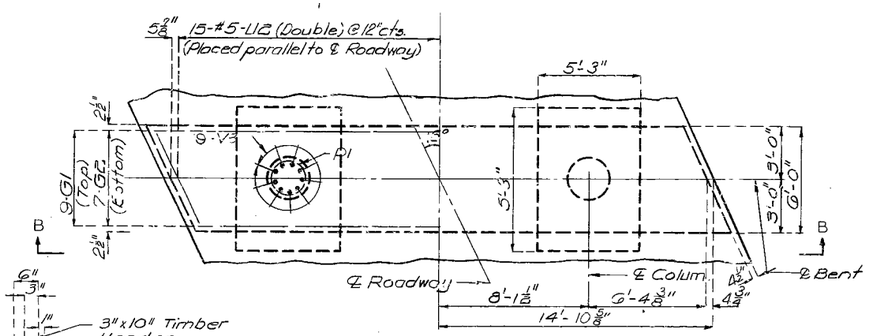
SECTION AT ℄



PART ELEVATION C - C

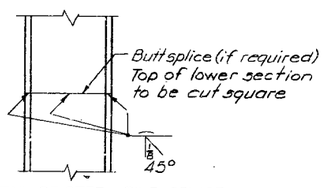


PLAN

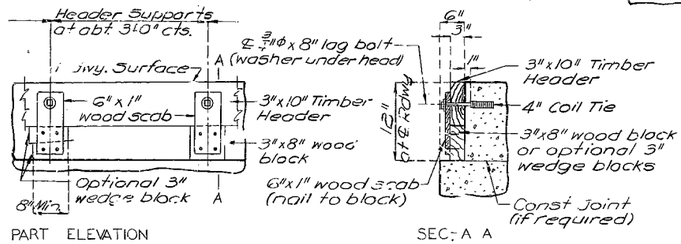


PLAN

DETAILS OF END BENTS NO. 3.5



DETAIL OF STEEL PILE SPLICE



PART ELEVATION SECTION A A

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

DETAIL OF TIMBER HEADER

DETAILS OF INT. BENTS NO. 2, 3 & 4

BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY TO LEASBURG SPUR

ABOUT 5.7 MILES S.W. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) STA. 121+32.86

CRAWFORD **COUNTY**

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No. 52.2	Feb. 1962	Revised	Oct. 1963

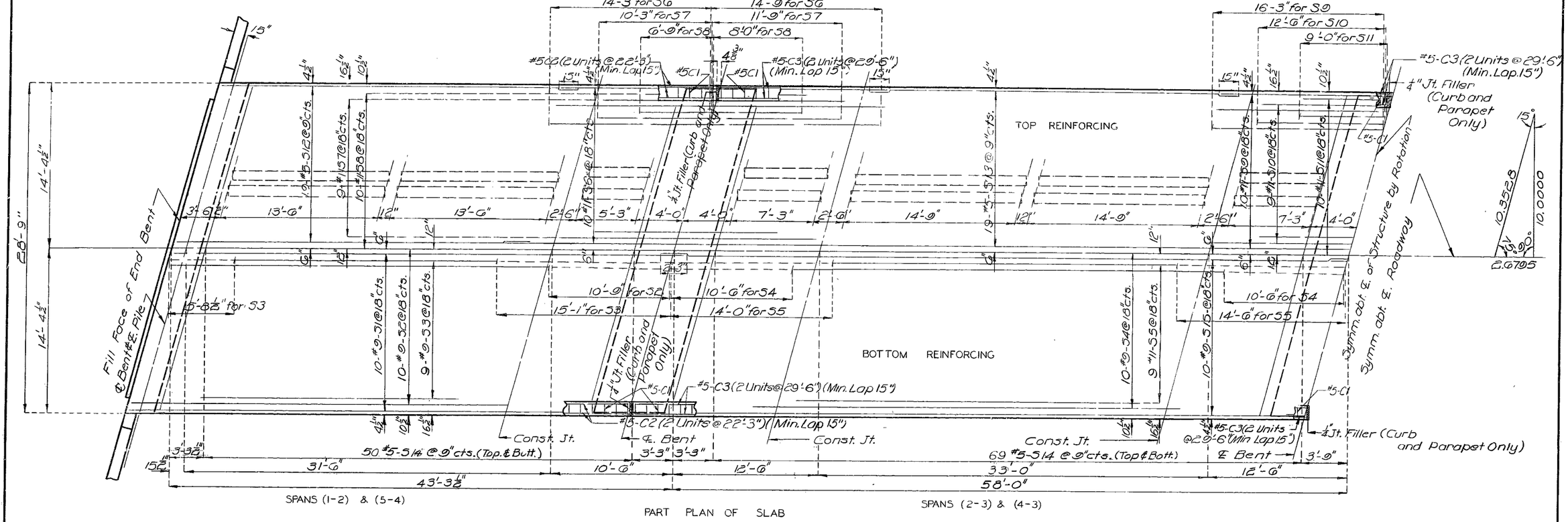
Drawn Dec. 1964 by Deifallah
Checked Nov. 1965 by Sommerer

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

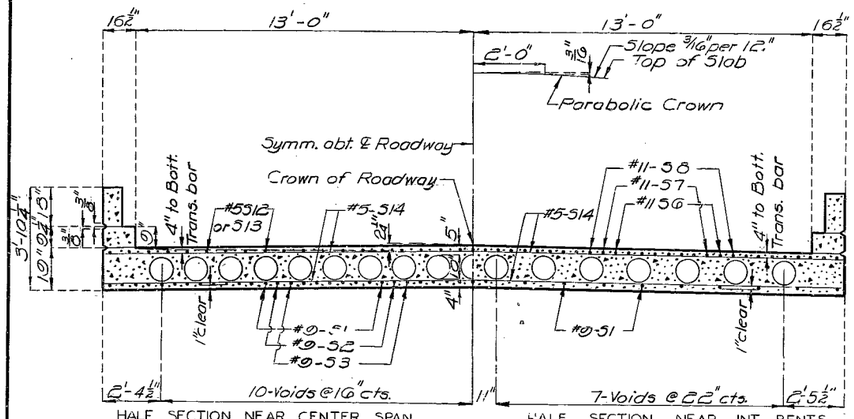
A-1383

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1/3	

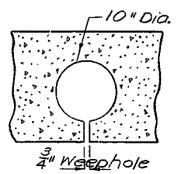


PART PLAN OF SLAB



HALF SECTION NEAR CENTER SPAN — HALF SECTION NEAR INT. BENTS

Note: Fiber tubes for producing voids shall have an outside diameter of 10" and a wall thickness of 0.225" and shall be anchored to joists carrying the floor form at not more than 4'-0" centers. See special provisions for metal tube alternate for voids.

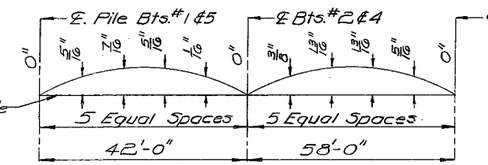


DETAIL OF WEEPHOLE IN VOIDS

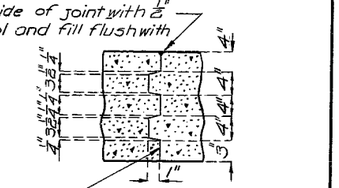
Note: One ¾" weephole shall be provided near each end of each void. Weepholes shall be placed in straight lines parallel to bents.

Note: The contractor shall use an approved oscillating screed type, self-propelled mechanical finishing machine and shall pour and satisfactorily finish the roadway slab at a rate of not less than 2.9 cubic yards per hour. He shall observe the transverse construction joints shown on plans unless he can demonstrate to the satisfaction of the engineer that he is equipped to pour and satisfactorily finish the roadway slab at a rate which will permit a continuous pouring through some or all of these joints.

Finishing machine load will not be permitted on concrete less than 48 hours old.



SPANS (1-2) & (5-4) CAMBER DIAGRAM — SPANS (2-3) & (4-3)



DETAIL OF SLAB CONST. JOINT KEY

BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S. W. OF CUBA

PROJECT NO. I-44-3(11) (RTE. I-44) **STA.** 121+32.86

CRAWFORD **COUNTY**

DETAILED Dec. 1964 BY Deifalloh

CHECKED Nov. 1965 BY Sommerer

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

Sheet No. 4 of 5.

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MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO		19	114	

GENERAL NOTES:

All handrail posts shall be set normal to grade.

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

Aluminum washer shims between top of parapet and post base may be used for adjusting handrail alignment. Maximum thickness of shims to be 1/8". Where more tilting of post is required for proper alignment, concrete bearing areas shall be ground down.

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

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

All fillets 1/4" except as noted.

All drafts 3° except as noted.

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

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

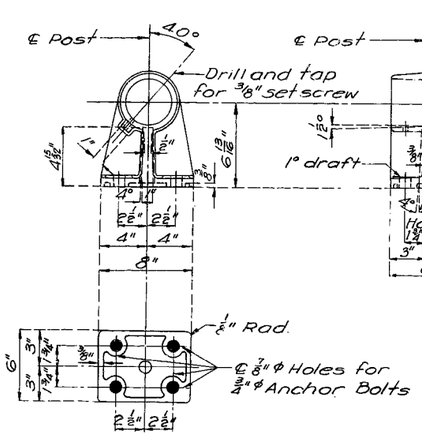
Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.

All exposed edges of end posts shall have 1/2" bevel. All exposed edges of curbs and parapets shall have 1/4" radius or 3/8" bevel.

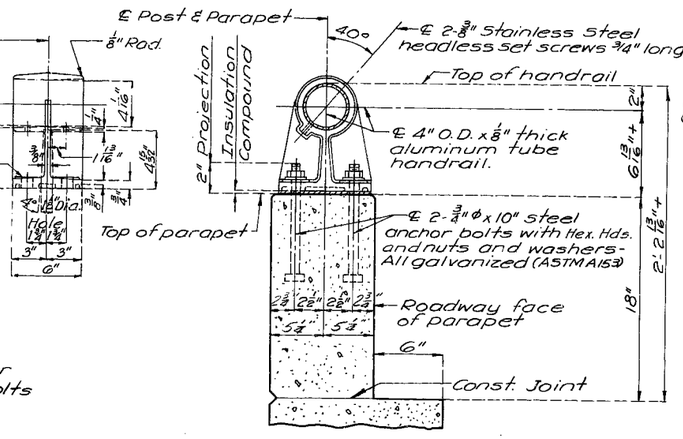
If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.

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

Concrete end posts to be vertical.

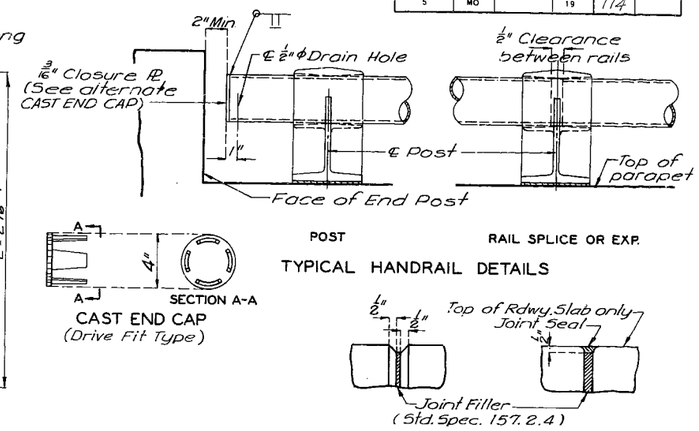


POST DETAILS



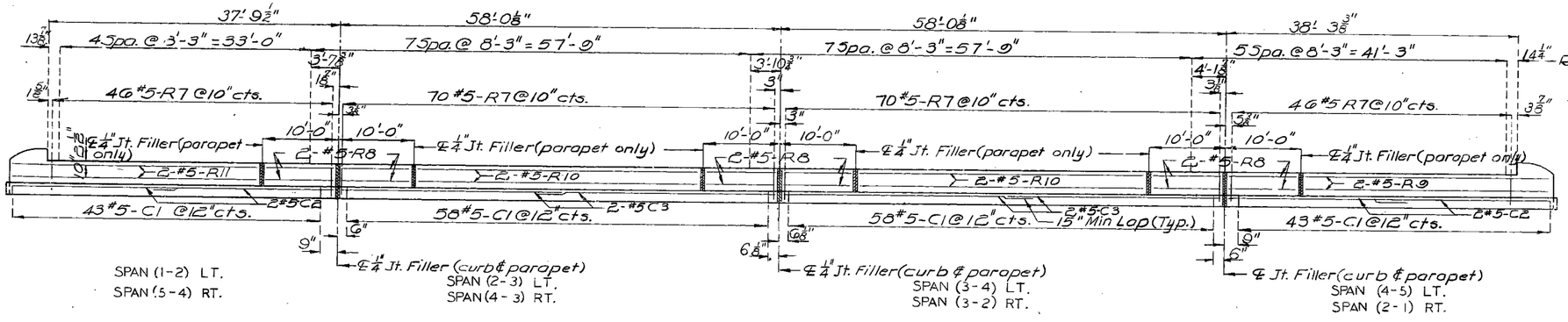
SECTION THRU HANDRAIL

SINGLE TUBE ALUMINUM RAILING



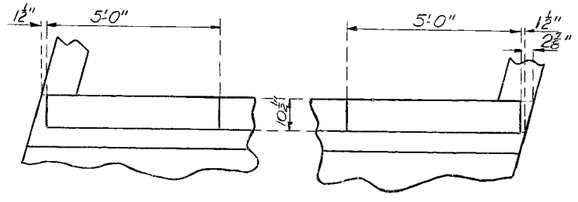
TYPICAL HANDRAIL DETAILS

FILLED JOINT DETAILS

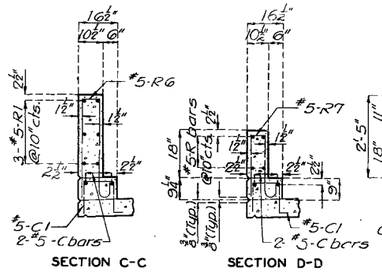


ELEVATION OF CURB & PARAPET

Note: Longitudinal Dimensions shown are taken at top of parapet.

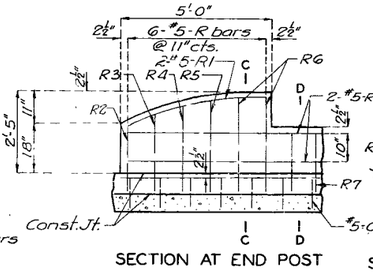


PLAN OF SLAB SHOWING END POSTS

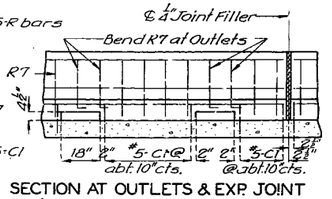


SECTION C-C

SECTION D-D

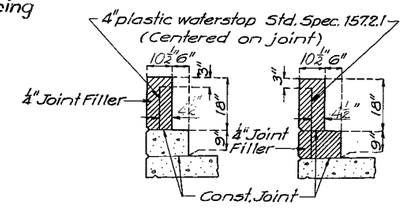


SECTION AT END POST



SECTION AT OUTLETS & EXP. JOINT

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

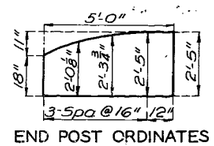


Note: Plastic waterstop shall be placed in all parapet and curb filled joints.

Cost of plastic waterstop complete in place to be included in unit price bid for concrete.

DETAILS OF PLASTIC WATERSTOP

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



END POST ORDINATES

BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S. W. OF CUBA

PROJECT NO I-44-3(11) (RTE. I-44) **STA.** 121+32.86

CRAWFORD **COUNTY**

A-1383

160

No.	Revised	Oct. 1965
1.5.2		

DETAILED DEC. 1965 BY Niedner

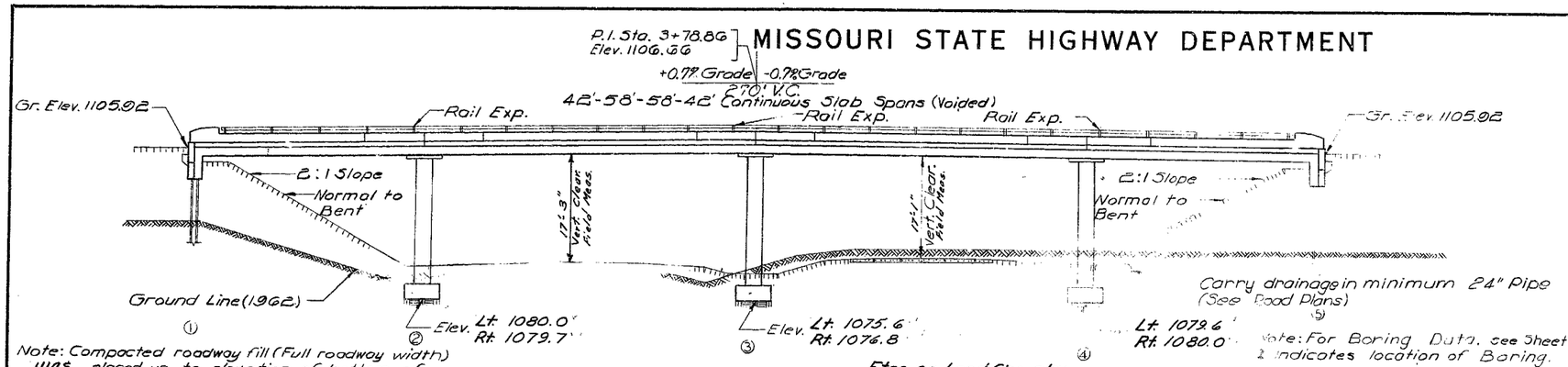
CHECKED Nov. 1965 BY Sommerer

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

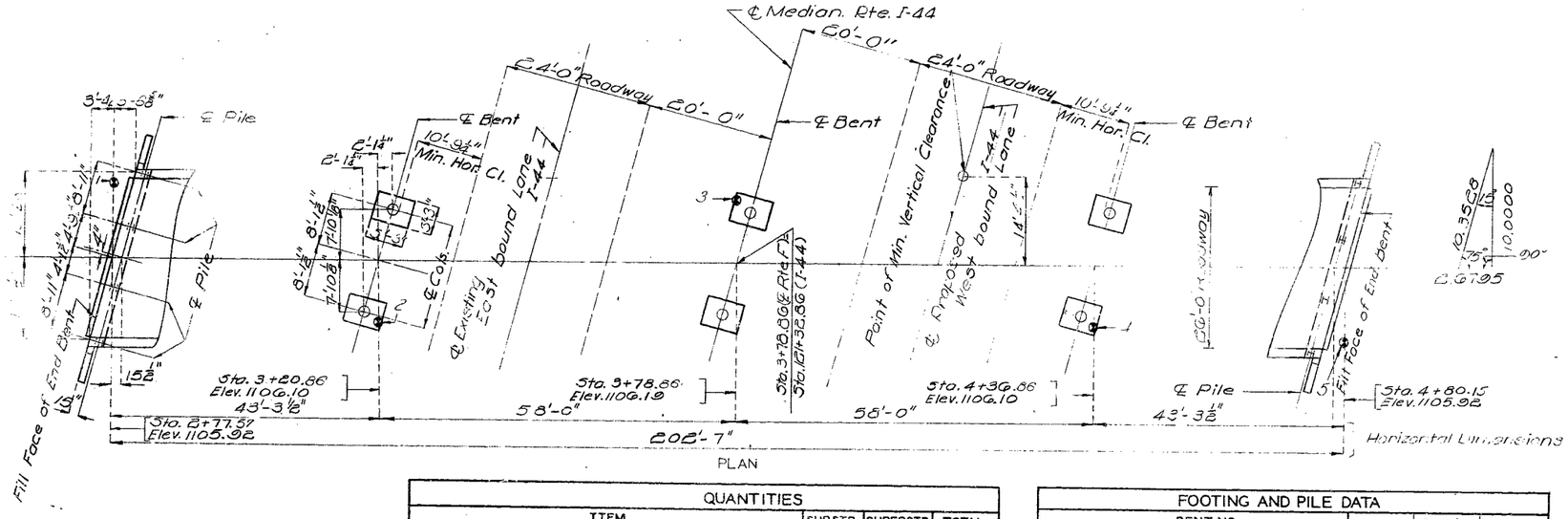
Sheet No. 5 of 5.

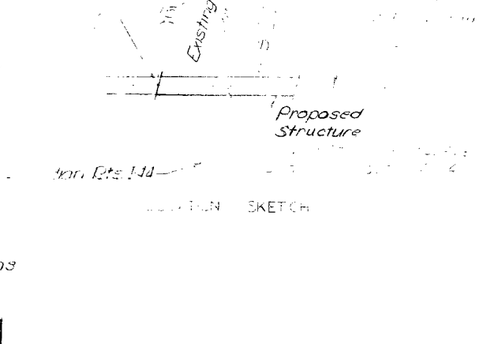
MISSOURI STATE HIGHWAY DEPARTMENT

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



Note: Compacted roadway fill (Full roadway width) was placed up to elevation of bottom of concrete beam in front of and not less than 25'-0" in back of End Bents Nos. 1 and 5 before steel piles were driven.





GENERAL NOTES

SPECIFICATIONS: Design Specification A.A.S.H.O.-1961

DESIGN LOADING: H15-44 (15 #/sq. ft. Future Wearing Surface)
Earth Pressure 130 Lbs.
Equivalent Fluid Pressure 30 Lbs.

DESIGN UNIT STRESSES:
Reinforcing Steel Stress 20,000 psi
Concrete, Class B Stress 1,200 psi
Concrete, Class B1 Stress 1,600 psi
Steel Piles (A.S.T.M. A.36-62T) 18,000 psi

CONCRETE:
Superstructure concrete **was** Class B1.
Substructure concrete **was** Class B.

SURFACE SEAL:
Superstructure deck **was** surface sealed.

FALSEWORK:
... **was** ... trusted
with ...
... 28" ...

QUANTITIES				
ITEM		SUBSTR.	SUPERSTR.	TOTAL
Class. 1 Excavation for Structures	Cu. Yds.	78.5		78.5
Class. 1 Excavation Plus 25%	Cu. Yds.	17.5		17.5
Steel Piles in Place (10")	Lin. Ft.	195		195
Steel Piles Cut-offs (10")	Lin. Ft.	45		45
Class B Concrete	Cu. Yds.	15.3		15.3
Class B1 Concrete	Cu. Yds.		384.6	384.6
Reinforcing Steel	Lbs.	670	96,620	97,290
Bridge Rail (Single Tube Type)	Lin. Ft.		384	384
Test Holes	Lin. Ft.	24		24

Note: No payment for excavation **was** allowed at End Bents ... All concrete and reinforcement above footings in ... bents is included in ... quantities.

Footings **were** carried 6' into hard, solid ... rock or 18" into sandstone and cast against vertical faces of same.

FOOTING AND PILE DATA					
	BENT NO.	1	2, 3 & 4	5
SPREAD FOOTING	Foundation Material		Sandstone or Limestone	
	Design Brg. Tons/Sq. Ft.		5.5	
	See Standard Specification 50.4.2			
BEARING PILE	Pile Type & Size	10BP42		10BP42
	Number	4		4
	Approximate Length Ft.	@ 30' Lt. & @ 40' Rt.		25'
	... Driving Value Tons	26.5		26.5
	... Sq. In. Ft. Lb.	7000		7000

... ment of hammer based ... aring value of piles.
... ctrical resistance of 1.9 ... ms.

U.S.G.S. DATUM

B.M.# "I" on S.W. Cor. Wing Wall of (South) End Bent No. 1, 13.5' Lt. of Sta. 2+77.57 (Rte. "F") Elev. 1106.50

BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S. W. OF CUBA

PROJECT NO. I-44-3(11)(RTE. I-44) **STA.** 121+32.86

CRAWFORD **COUNTY**

SUBMITTED BY D.B. Jenkins BRIDGE ENGINEER DATE 1/21/66

APPROVED BY M.J. Amiet CHIEF ENGINEER DATE 1/21/66

DESIGNED Dec. 1964 BY Del Fallon
DETAILED Dec. 1964 BY Del Fallon
CHECKED ... 19... BY ...

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

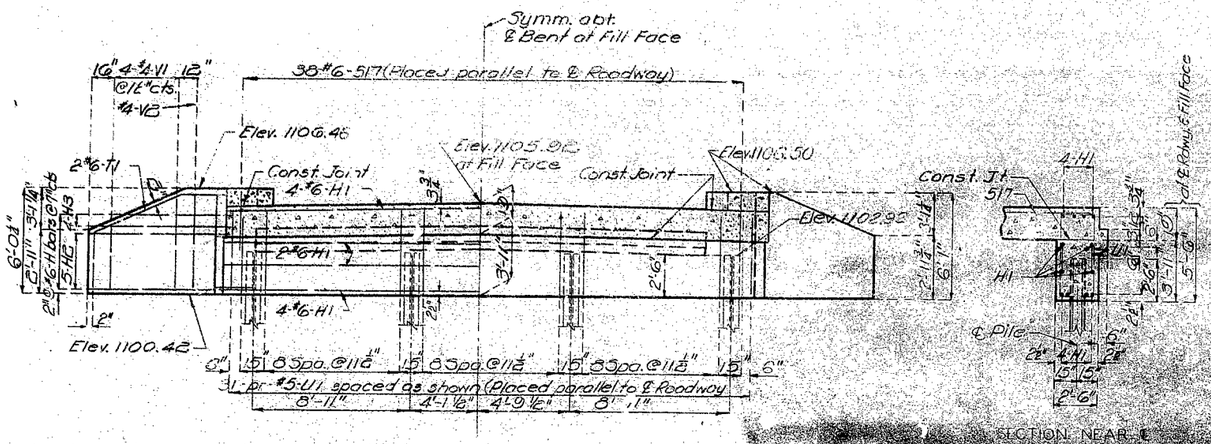
STD. 54.00
A-1383

Sheet No. 1A of 2.

FINAL PLANS

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	112	



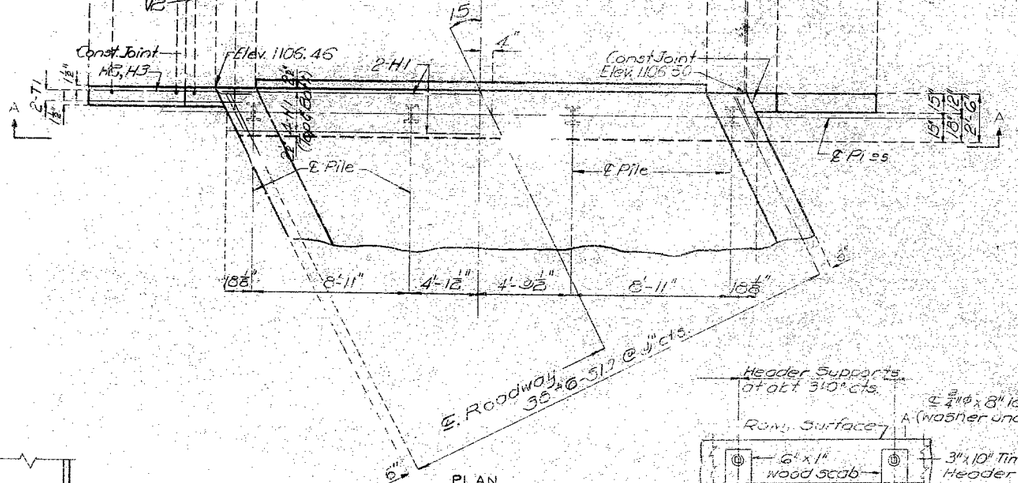
SECTION A - A

SECTION NEAR ℄ Fill & Fill Face

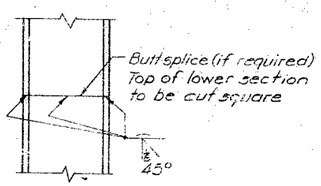
SECTION B - B

SECTION AT ℄

PART ELEVATION C - C

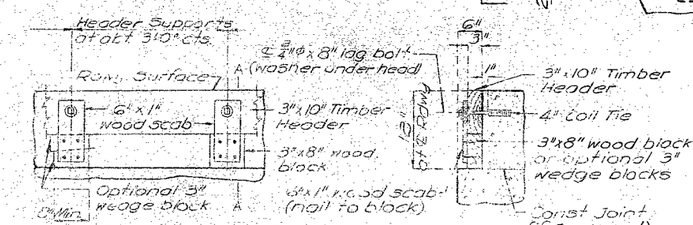


PLAN



DETAIL OF STEEL PILE SPLICE

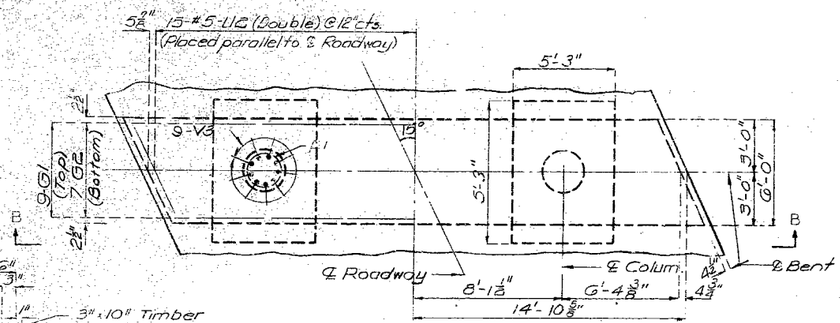
DETAILS OF END BENTS NO. 1 & 5



PART ELEVATION SECTION A-A

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

DETAIL OF TIMBER HEADER



PLAN

DETAILS OF INT. BENTS NO. 2, 3 & 4

BRIDGE : ROUTE F UNDERPASS

STATE ROAD FROM PHELPS COUNTY TO LEASBURG SPUR
ABOUT 5.7 MILES S.W. OF CUBA
PROJECT NO. I-44-3(11) (RTE. I-44) STA. 121+32.86

CRAWFORD **COUNTY**

No.	Revised	Oct. 1963
52.2	Feb. 1962	

Drawn Dec. 1964 by Deifalloh
Checked Nov. 1965 by Sommerer

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

Sheet No. 3A of 12 Sheets

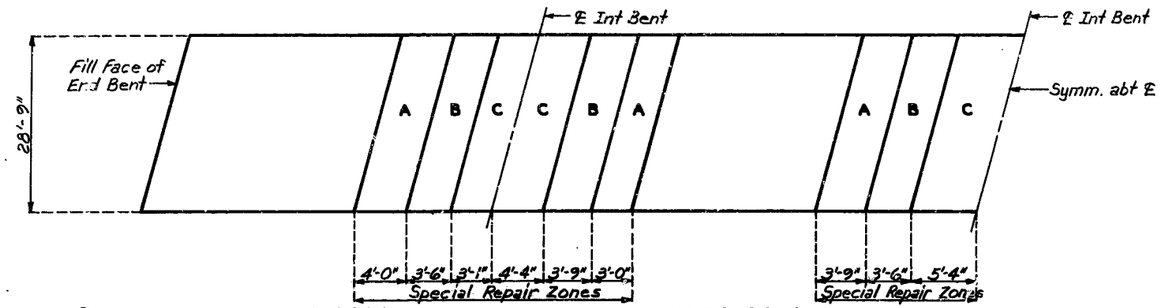
FINAL PLANS

A-1383

112

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO		1
SEC / SUR 4	TWP 38N RGE 5W	



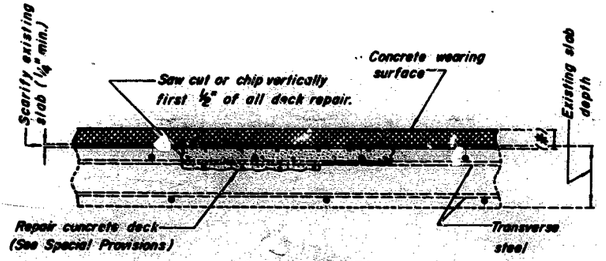
SPANS (1-2) (5-4) SPANS (2-3) (4-3)

HALF PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

Note: Sequence of repair, Zone A, Zone B, then Zone C. Any repair in the remainder of the bridge that is within 4'-0" of Zone A shall be completed before removing old concrete in Zone A. Zones with the same letter designation may be repaired at the same time.

GENERAL NOTES:

Outline of old work is indicated by light dashed lines. Heavy lines indicate new work.
Maintain one lane of traffic during construction. (See Road Plans)
Roadway surfacing adjacent to bridge ends to match bridge overlay.

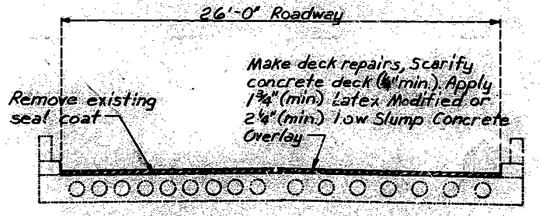


HALF-SOLED AREA

(#) 1¾" (min.) for latex modified concrete
2¼" (min.) for low slump concrete

ESTIMATED QUANTITIES		
ITEM		TOTAL
Seal Coat Removal	Sq. Ft.	5,267
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	53
* Concrete Wearing Surface ( )	Sq. Yd.	585

* 1¾" (min.) latex modified concrete or 2¼" (min.) low slump concrete. See Special Provisions.



SECTION THRU. SLAB

REPAIRS TO BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR
ABOUT 5.7 MILES S.W. OF CUBA
PROJECT NO. IR-44-3(55) STA. 121+32.86 (℄ MED.)
JOB NO. 6-1044-809 RTE. I-44
CRAWFORD COUNTY
DATE 9/25/97

STD.
STD.
A-1383R

DETAILED JUNE 1987
CHECKED JUNE 1987

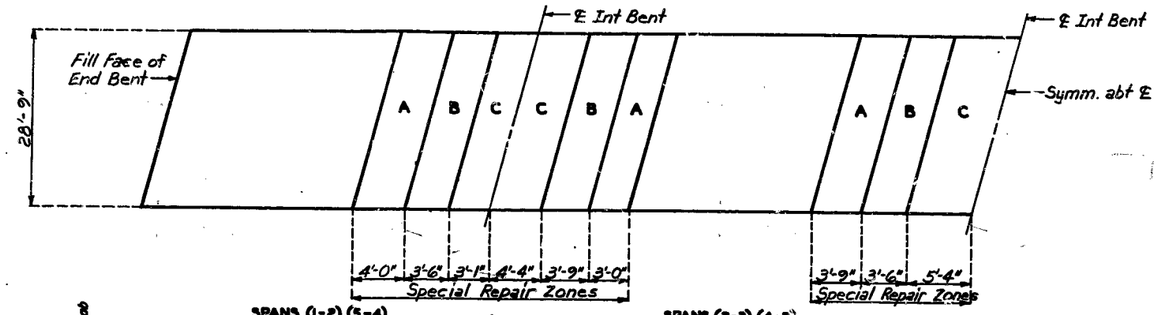
Note: This drawing is not to scale. Follow dimensions.

SEE FINAL PLANS
Sheet No. 1 of 1.

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO	SHEET NO
MO	IR-44-3(55)	1
SEC /SUR	TWP 38N RGE 5W	

FINAL PLANS



HALF PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

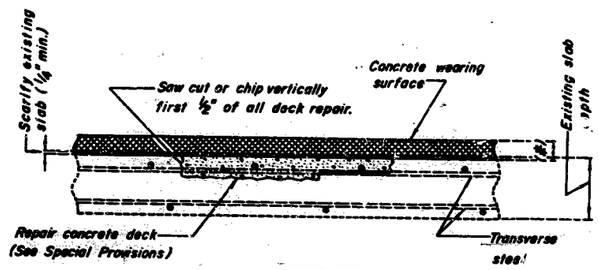
Note: Sequence of repair, Zone A, Zone B, then Zone C. Any repair in the remainder of the bridge that is within 4'-0" of Zone A shall be completed before removing old concrete in Zone A. Zones with the same letter designation may be repaired at the same time.

GENERAL NOTES:

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

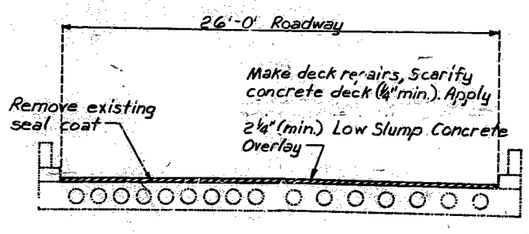
Maintain one lane of traffic during construction. (See Road Plans)

Roadway surfacing adjacent to bridge ends to match bridge overlay.



HALF-SOLED AREA

(#) 2¼" (min.) for low slump concrete



SECTION THRU. SLAB

FINAL QUANTITIES

ITEM		TOTAL
Seal Coat Removal	Sq. Ft.	5,267
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	1176
* Concrete Wearing Surface ( )	Sq. Yd.	58

* 2¼" (min.) low slump concrete. See Special Provisions.

DETAILED JUNE 1987
CHECKED JUNE 1987

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

Sheet No. 1A of 1.

REPAIRS TO BRIDGE: ROUTE F UNDERPASS

STATE ROAD FROM PHELPS CO. LINE TO LEASBURG SPUR

ABOUT 5.7 MILES S.W. OF CUBA

PROJECT NO. IR-44-3(55) STA. 121+32.86 (℄ MED.)

JOB NO. 6-1044-809 RTE. I-44

CRAWFORD COUNTY

DATE 9/25/87

STD.
STD.
A-1383R

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT F 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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	89.55 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	15048
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 1 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY :	**CRAWFORD**	**BRIDGE :**	**A1383 R**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**P**
RECORD TYPE :	**2ND RTE THAT GOES 'UNDR'S**			**RUN DATE :**	**3/8/2022**	**SUBMITTAL YEAR :**	**2021**

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
106	Year Reconstructed	1987
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	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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	15.25 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	857
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	12%
114	Future AADT	1200
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 1 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	10 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	11.88 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	15.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	25 Ft. 11 In.
52	Deck Width (Out-Out)	28 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	ALLOWABLE STRESS
64	Operating Rating	48 Tons.
65	Inventory Rating Meth	ALLOWABLE STRESS
66	Inventory Rating	23 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	68.6 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	5
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	000
44B	Appr Struc. Cnstr. type	000
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	5 / 22	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	RT F 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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	202.94 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	14247
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 10 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1383

Missouri Department of Transportation
Bridge Inventory and Inspection System
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December 20, 2022
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COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
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	1 RTE THAT GOES 'UNDER' S	Code : A
5B	Route Signing Prefix	IS	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00044	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	RT F 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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	204.58 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	14247
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 10 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
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	00044
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT F 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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	90.27 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	15048
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	35%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
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	16 Ft. 1 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	

Design_No = a1383

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

December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 11/30/2022 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load
41	Structure Status
63	Oper. Rating Meth.
64	Operating Rating
65	Inventory Rating Meth
66	Inventory Rating
70	Bridge Posting Code

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating
	Deficiency Rating
	Funding Eligibility
75A	Proposed Work
75B	Work Done By
76	New Struc Length
94	Struc Improve Cost
95	Roadway Improve Cost
96	Total Project Cost
97	Year of Cost Estimates

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating
36B	Transition Rail App. Rating
36C	Approach Rail App. Rating
36D	Rail End Treat. App. Rating
67	Struc Eval App. Rating
68	Deck Geometry App. Rating
69	Underclearance App. Rating
71	Waterway Adeq. App. Rating
72	Approach Road App. Rating
113	Scour Assess App. Rating

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	
107	Deck Mat/Constr.	
108A	Wear Surf Mat/Constr.	
108B	Membrane Mat/Constr.	
108C	Deck Protect Mat/Constr.	

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date
91	Gen. Insp. Frequency
92A	Frac. Critical Inspection
93A	Frac. Critical Insp. Date
92B	Underwater Inspection
93B	Underwater Insp. Date
92C	Special Inspection
93C	Special Inspection Date

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = a1383

Missouri Department of Transportation
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December 20, 2022
7:02:21am

COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	CD
3	County	CRAWFORD
8	Federal ID No.	1148
27	Year Built	1966
106	Year Reconstructed	1987
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	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	KNOBVIEW
	Code	39242
9	Location	S 4 T 38 N R 5 W
11	Milepoint	15.13 miles
16	Latitude	38 D 2 M 39 S
17	Longitude	91 D 29 M 14 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	857
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	12%
114	Future AADT	1200
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 44
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 1 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	10 Ft. 6 In.
56	Left Lat Clearance	18 Ft. 8 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	11.78 miles
32	Approach Roadway Width	20 Ft. 0 In.
34	Skew	15.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	26 Ft. 3 In.
48	Maximum Span Length	58 Ft. 1 In.
49	Structure Length	203 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	25 Ft. 11 In.
52	Deck Width (Out-Out)	28 Ft. 10 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = a1383

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

December 20, 2022
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COUNTY : CRAWFORD **BRIDGE :** A1383 R **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/8/2022 **SUBMITTAL YEAR :** 2021

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	A - OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	ALLOWABLE STRESS
64	Operating Rating	48 Tons.
65	Inventory Rating Meth	ALLOWABLE STRESS
66	Inventory Rating	23 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	68.6 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	18 Ft. 8 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	DOES NOT MEET ACCEPT STND
36B	Transition Rail App. Rating	DOES NOT MEET ACCEPT STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	DOES NOT MEET ACCEPT STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	5
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	8
113	Scour Assess App. Rating	N

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	4
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 20	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

FIELD POSTING INFORMATION

Field Posting Category S-1

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

NO POSTING REQUIRED

Design_No = a1383

Bridge Number: A1383R

Route/County: F/Crawford

Asbestos-Containing Material Present?

Yes: [X] No: [ ]

If yes, see report for location(s).

Structural Steel Present?

Yes: [ ] No: [X]

If No, then skip the following.

Lead-Based Paint (LBP) Present?

Yes: [ ] No: [ ]

Trusses LBP?

Yes: [ ] No: [ ]

Girder LBP?

Yes: [ ] No: [ ]

Railing LBP?

Yes: [ ] No: [ ]

Pile LBP?

Yes: [ ] No: [ ]

MEMORANDUM

Missouri Department of Transportation
Construction and Materials
Central Laboratory

TO: TMS

FROM: Diane Roegge
Environmental Chemist

DATE: June 5, 2017

SUBJECT: Materials
Asbestos Inspection & Heavy Metal Paint Survey
Route F
Bridge A-1383R
Crawford 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) 526-4359.

db/fr/dr
http://sp/sites/cm/chemicallab/environmental/shared documents/asbestos/districts/central (cd)/mt/a1383r/dr17060514.docx
Attachments

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All Suspect ACM

ROUTE:	F	**SURVEYED BY:**	Diane Roegge DR
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165, D.R.
DISTRICT:	CD	**SITE ADDRESS:**	Over I-44, Exit #203
COUNTY:	Crawford	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	June 5, 2017		
PARCEL NO.:	Bridge A-1383R		

Sample ID	Type of Materials	Location of Material	Friability Category	Field Measure
17MD1R 306	Insulating Compound	Under 48-Tube Rail Posts, Over Concrete	II NF	18 Sq. Ft.
	Bridge Paint is not a suspect ACM per MSDS's on file.			

N-ACM = Non-Asbestos Containing Material I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable
NAFD = No Asbestos Fiber Detected * = Tested By Point Count Procedure

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
Nonfriable Asbestos-Containing Materials
(Abatement not required if not made friable during demolition.)

ROUTE: F
MODOT JOB NO.: N/A
DISTRICT: CD
COUNTY: Crawford
DATE OF TESTS: June 15, 2017
PARCEL NO.: Bridge A-1383R

TESTED BY: Diane Roegge
CERTIFICATION #: 7020102516MOIR7165, D.R.
SITE ADDRESS: Over I-44, Exit #203
TYPE(S) OF STRUCTURE(S): Bridge

Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
		None Located	I NF			

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

I NF = Category I Nonfriable

MISSOURI DEPARTMENT OF TRANSPORTATION
CONSTRUCTION AND MATERIALS
Asbestos Survey Report
All materials requiring removal or special handling.

ROUTE:	F	**TESTED BY:**	Diane Roegge DR
MODOT JOB NO.:	N/A	**CERTIFICATION #:**	7020102516MOIR7165, D.R.
DISTRICT:	CD	**SITE ADDRESS:**	Over I-44, Exit #203
COUNTY:	Crawford	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF TESTS:	June 15, 2017		
PARCEL NO.:	Bridge A-1383R		

Bid Item No.	Sample ID	Type of Material	Location of Material	Friability Category	Field Measure	Asbestos Type	Percent
202-40.43	17MD1R 306	Insulating Compound	Under 48-Tube Rail Posts, Over Concrete	II NF	18 Sq. Ft.	Chrysotile	2-6
			None Located	F			

I NF = Category I Nonfriable II NF = Category II Nonfriable F = Friable * = 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:	F	**TESTED BY:**	N/A
MODOT JOB NO.:	N/A	**DATE OF TESTS:**	N/A
DISTRICT:	CD	**PARCEL NO.:**	Bridge A-1383R
COUNTY:	Crawford	**SITE ADDRESS:**	Over I-44, Exit #203
SURVEYED BY:	Diane Roegge	**TYPE(S) OF STRUCTURE(S):**	Bridge
DATE OF SURVEY:	June 5, 2017		

Sample ID	Color/Location of Material/Substrate	Metals (ppm)							
		As	Cr	Pb	Cd	Se	Ba	Hg	Ag
	No samples taken. No painted surfaces located.								

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

Expiration Date **10/25/2017**

Training Date: **10/25/2016**

Certificate Number: 7020102516MOIR7165

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Diane R Roegge

has successfully completed the requirements for certification as a INSPECTOR. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

12/2/2016
Date

Kyra L Moore
Director of Air Pollution Control Program

December 19, 2022

Scoping Estimate for Rehab:
Rte. F (Minor) over I-44 (Major)
Crawford County
Bridge No. A13832
Job No. J5P3515

Total Estimate: $346,000

Listing of Items	Units					Cost/Unit	Total Cost
Removal of Miscellaneous ACM (Non-Friable)	18					$125 sf	**$2,250**
Total Surface Hydro Demolition	202.58 x	26	/	9 x		$50 sy	**$29,262**
Removal of Concrete Wearing Surface	202.58 x	26	x			$2.60 sf	**$13,695**
Removal of Existing Deck Repair	176 x					$60 sf	**$10,560**
Bridge Approach Slab (Major)	0 x	20.00 x	2 /	9 x		$300.00 sy	**$0**
Supplementary Wearing Surface Material	5					$700 cy	**$3,500**
Latex Modified Concrete Wearing Surface	202.58 x	26	/	9 x		$150 sy	**$87,786**
Diamond Grinding	202.58 x	26	/	9 x		$8 sy	**$4,682**
Curb Blockout (increased $5 for curb repair)	202.34 x	2 x				$160 lf	**$64,749**
Substructure Repair (Formed or Unformed)	10 x	1 x				$165.00 sf	**$1,650**
Half-Sole Repair	202.58 x	26 x	20% x			$80 sf	**$84,275**
Full Depth Repair	202.58 x	26 x	0% x			$110 sf	**$0**
Slab Edge Repair (Bridges)	202.58 x	2	0% x			$200 lf	**$0**
Cleaning and Epoxy Coating	202.58 x	2 x	4.08			$12 sf	**$19,837**
Protective Coating - Concrete Bents and Piers (Epoxy)	196.35 x	3 x				$12.00 sf	**$7,069**
Cored Slab Drain	0 x	2 x				$650.00 ea	**$0**
Open Cell Foam Joint Seal	26.917 x	2 x				$115.00 lf	**$6,191**
Miscellaneous Items/Contingency	3%						**$10,065**
Staging	0%						**$0**

Joe Alderson, SLE
Bridge Division
(573) 522-8722

Bridge Memorandum

Job No.: J5P3515 **Bridge No.:** A13832

County: Crawford **Rte.:** F (Minor) over I-44 (Major)

Final Layout:	Use-in-Place, Redeck and Make Composite Existing (45',45',45') Simple Wide Flange Beam Spans
Roadway Width:	22'-0" plus 16" Type H Barriers
Alignment:	Tangent
Skew:	Square
Grade:	Match existing plus 1" ± (Add 1" to existing haunch)
Loading:	H15-44 (1957), HS20-44 (new construction)
Beg. Station:	274+72.00 ± (match existing)
Traffic Handling:	Structure to be closed to traffic during construction.
Existing Bridge:	Redeck N0910 and use in place.
Condition Ratings:	Deck = 4, Superstructure = 5, Substructure = 6
Load Posting:	Posted S4 for Centerline Only - Operating Rating = 26 tons (to be removed by making composite)

GENERAL NOTES:

Remove existing bridge deck (non-composite), which includes curbs, end posts and rails as necessary.
Install 8" cast-in-place slab (P/S panels not allowed) with 3/16" per 1' cross slope. (3" Future Wearing Surface)
Stay-in-place forms for slab are permitted.
Make end bents integral.
Install 16" wide, Type H Barriers.
Estimated 100 sf of substructure repair (formed). 50 sf on Bent No. 2 beam cap and 50 sf on Bent No. 3 beam cap.
Apply Protective Coating - Concrete Bents and Piers (Epoxy) to all bents.
Make spans composite by adding shear connectors.
Install Slab Drains as required.
Recoat existing piles at Bents No. 2 & 3 with aluminum epoxy-mastic primer.
Provide saw cut joints in slab at CL of Int. Bents No. 2 & 3.
A vibratory screed is allowed.

AADT (2019) = 340, AADT Truck = 9.4% = 32
AADT (2039) = 425, AADT Truck = 9.4% = 40

SPECIAL NOTES:

Roadway surfacing adjacent to bridge ends to match top of bridge deck (Roadway Item).
Install object markers at bridge ends (Roadway Item).
Remove and re-key gabions further into stream bank to prevent further scouring (Roadway Item).
Rubblized existing bridge deck may be used on spill slopes (Roadway Item).
Sandblast and recoat all existing structural steel with System G (Gray) in a separate, paint-only contract at an estimated cost of $47,000.
An asbestos and lead inspection has been performed on this structure (N0910). Results indicate that lead is present. The Bridge Division will include the inspection report in the electronic deliverables folder when submitting contract documents to the Design Division for the Letting (Bridge Item).

District Contact is Richard Orr, TPM (816) 387-2483
Bridge Division Contact is Joseph Alderson, SPM (573) 522-8722

FY'25 Programmed Bridge STIP Amount:	$219,000
FY'25 Programmed Total Construction STIP Amount:	$299,000
Estimated Working/Calendar Days (not including painting):	**20/30**
Estimated Working/Calendar Days for painting:	**25/40**
FY'25 Estimated Bridge Construction Cost*:	**$346,000**

* Does not include inflation from Planning (3% compounded annually)

Bridge: _____ Date: _____

Intermediate Structural Designer

Bridge: _____ Date: _____

Structural Project Manager

District: _____ Date: _____

Transportation Project Manager

District: _____ Date: _____

District Bridge Engineer

December 19, 2022

Scoping Estimate for Rehab:
Rte. F (Minor) over I-44 (Major)
Crawford County
Bridge No. A13832
Job No. J5P3515

								Total Estimate:	**$346,000**
Listing of Items	**Units**							**Cost/Unit**	**Total Cost**
Removal of Miscellaneous ACM (Non-Friable)	18							$125 sf	**$2,250**
Total Surface Hydro Demolition	202.58	x	26		/	9	x	$50 sy	**$29,262**
Removal of Concrete Wearing Surface	202.58	x	26		x			$2.60 sf	**$13,695**
Removal of Existing Deck Repair	176	x						$60 sf	**$10,560**
Bridge Approach Slab (Major)	0	x	20.00	x	2	/	9 x	$300.00 sy	**$0**
Supplementary Wearing Surface Material	5							$700 cy	**$3,500**
Latex Modified Concrete Wearing Surface	202.58	x	26		/	9	x	$150 sy	**$87,786**
Diamond Grinding	202.58	x	26		/	9	x	$8 sy	**$4,682**
Curb Blockout (increased $5 for curb repair)	202.34	x	2	x				$160 lf	**$64,749**
Substructure Repair (Formed or Unformed)	10	x	1	x				$165.00 sf	**$1,650**
Half-Sole Repair	202.58	x	26	x	20%	x		$80 sf	**$84,275**
Full Depth Repair	202.58	x	26	x	0%	x		$110 sf	**$0**
Slab Edge Repair (Bridges)	202.58	x	2		0%	x		$200 lf	**$0**
Cleaning and Epoxy Coating	202.58	x	2	x	4.08			$12 sf	**$19,837**
Protective Coating - Concrete Bents and Piers (Epoxy)	196.35	x	3	x				$12.00 sf	**$7,069**
Cored Slab Drain	0	x	2	x				$650.00 ea	**$0**
Open Cell Foam Joint Seal	26.917	x	2	x				$115.00 lf	**$6,191**
Miscellaneous Items/Contingency	3%								**$10,065**
Staging	0%								**$0**

Joe Alderson, SLE
Bridge Division
(573) 522-8722

Br. No. A13832 County: Crawford Date: 3/27/2023

Job No. J5P3515 Name: C. Ruether

Calendar/Working Days: Redeck

Bridge Removal:		SF	@	1300	SF/day	=			
Prebore:		LF	@	130	LF/day	=			
Substructure Excavation:		CY	@	69	CY/day	=			
Drive Piling:		LF	@	330	LF/day	=			
Intermediate Bent (3 column):		bents	@	4	days/each	=			
Rock Sockets:		LF	@	18	LF/day	=			
Drilled Shafts:		LF	@	25	LF/day	=			
End Bents:		bents	@	4	days/each	=			
P/S I-Girder Erection:		spans	@	1.5	days/span	=			
Structural Steel Erection:		lbs	@	60000	lbs/day	=			
Hinge Modification:		ea	@	1	ea/day	=			
Structural Deck Concrete:		CY	@	275	CY/day	=			
P/S Panel Erection:		spans	@	1.4	days/span	=			
Reinforcing Steel (Substr):		lbs	@	4000	lbs/day	=			
Reinforcing Steel (Super):		lbs	@	6200	lbs/day	=			
Total Superstructure (Steel):		spans	@	10.2	days/span	=			
Total Superstructure (PSI):		spans	@	7	days/span	=			
Safety Barrier Curb:	0	LF	@	525	LF/day	=	0.0	days	
Bridge Approach Slab:	2	slabs	@	8	days/each	=	16	days	
Painting:		SF	@	730	SF/day	=			
Mill Deck (1/4 "):		SF	@	1625	SF/day	=			
Hydro Demolition:		SF	@	400	SF/day	=			
Remove Bridge Deck:	5267	SF	@	2187.5	SF/day	=	2.4	days	
Asphalt Overlay:		SF	@	8000	SF/day	=			
Low Slump Overlay:		SYD	@	325	SYD/day	=			
Polymer Concrete Overlay:		SF	@	4300	SF/day	=			
Expansion Joint Replacement:		LF	@	30	LF/day	=			
Replace or Widen Deck:	0	SF	@	525	SF/day	=	0.0	days	
Half - Sole Repair:		SF	@	200	SF/day	=			
Full Depth Repair:		SF	@	78	SF/day	=			
Slab Edge Repair:		LF	@	43	LF/day	=			
Unformed Substr Repair:		SF	@	53	SF/day	=			
Unformed Super Repair:		SF	@	60	SF/day	=			
Clean and Repaint Steel:		SF	@	1800	SF/day	=			
MSE Wall:		SF	@	800	SF/day	=			
						Sum =	18.4	days	
						Calendar days = Use =	25	days	
						Working days = Use =	15	days	

February 21, 2020

Estimate for Paint:
F (Minor) over I-44 (Major)
Crawford County
Bridge No. A13832
Job No. J5P3515

			Total Estimate:	$47,000
Listing of Items	**Units**		**Cost/Unit**	**Total Cost**
Surface Preparations for Recoating Structural Steel	3400	x	$9.00 sf	**$30,600**
Field Application of Inorganic Zinc Primer (System G)	3400	x	$3.00 sf	**$10,200**
Intermediate Field Coat (System G)	1000	x	$3.00 sf	**$3,000**
Finish Field Coat (System G)	1000	x	$3.00 sf	**$3,000**

Caleigh Ruether
Bridge Division
(314) 453-1785

Bridge No. A13832 | Crawford County | C. Ruether | Date 03/27/2023

Working Days and Estimating Quantities for Recoating Structural Steel

Input

Wide Flange Bridge
Bridge Width = 20'
Tons of steel = 31.8 tons

Girder/Stringer Depth = 2.025'
Length to be Painted = 132.1667'

Surface Preparation for Recoating = 3400 ft^2
Inorganic Zinc Primer = 3400 ft^2
Intermediate Field Coat = 1000 ft^2
Finish Field Coat = 1000 ft^2

Pay Items

Surface Preparation for Recoating Structural Steel

1) Install Work Platform (if necessary)

Length = 132.1667' Width = 20' **Area = 2643.333' ft^2**

Number of platfoms = 1 Rate = 1/day 1 Working Days

2) Installing Sand Blasting Containment

Length = 132.1667' Width = 20' Height = 6.025' # sides = 2 # ends = 2

Needs top ? No Needs bottom ? Yes Area = 4476.942' ft^2

Base Production Rate = 1000 sf/day Rate Change = 100%

Production Rate = 1000 sf/day 4.48 Working Days
Use 5.00 Working Days

3) Disposal of Hazardous Waste

Waste Fraction = 0.075 ton/ton of steel **Weight = 2.383125 tons**

Production Rate = 2 per 15 tons Use 2.00 Working Days

3) SSPC-SP10 Surface Preparation

Production Rate Change = 50% **Area = 3400 ft^2**

Production Rate = 500 sf/day 6.80 Working Days
Use 7.00 Working Days

Inorganic Zinc Primer

Area = 3400 ft^2

Production Rate = 900 sf/day 3.78 Working Days
Use 4.00 Working Days

Intermediate Field Coat

Area = 1000 ft^2

Production Rate = 900 sf/day 1.11 Working Days
Use 2.00 Working Days

Finish Field Coat

Area = 1000 ft^2

Production Rate = 900 sf/day 1.11 Working Days
Use 2.00 Working Days

85% of Total Working Days = 20
Calendar Days = 30