Missouri Department of Transportation
State Bridge Inspection Report

February 23, 2023
9:18:42AM

COUNTY: DAVIESS **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1281** **BRIDGE: A1589**

GENERAL STRUCTURE INFORMATION

ROUTE: MO6E	**# SPANS:** 4	**PLACE CODE:** 36782 JEFFERSON	
FEATURE: IS 35	**LANES ON:** 2	**LENGTH:** 246 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 70 FT 0 IN	
LOG MILE: 43.644	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 34 FT 0 IN	
DETOUR: 30.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 28 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MINOR ARTERIAL	**OUT TO OUT:** 30 FT 10 IN	
BUILT: 1966	**NBI OWNER:** MODOT	**AADT:** 765	
REHAB: 1990	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2022	
LOCATION: S 28 T 59 R 29 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 9.5%	
LATITUDE: 39 53 58.68 (DMS)	**MAINTENANCE COUNTY:** DAVIESS	**FUTURE AADT:** 1033	
LONGITUDE: 94 9 4.82 (DMS)	**SUB AREA:** 7A11	**FUTURE AADT YEAR:** 2042	

BRIDGE INSPECTION INFORMATION

DATE: 11/03/2021 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: SCOTT STEPHENS **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

FRACTURE CRITICAL INSPECTION INFORMATION

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

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

FRACTURE CRITICAL INSPECTION COMMENTS

INDEPTH INSPECTION INFORMATION

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

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

INDEPTH INSPECTION COMMENTS

SPECIAL INSPECTION INFORMATION

DATE: **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

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH

COUNTY: DAVIESS **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1281** **BRIDGE: A1589**

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, 01/26/2010)--(52'-70'-70'-52') CONT COMP WF GDR SPANS

[ITEM 58] DECK: 4-POOR CONDITION
RATING : 11/17/2015
COMMENTS: (STEPHS2, 11/17/2015)--SATURATION SPAN 4
(STEPHS2, 12/16/2019)--EXC ESSIVE CRACKS.

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION
RATING : 01/26/2010
COMMENTS: (STEPHS2, 12/16/2019)--RUSTING GIRDERS

[ITEM 60] SUB: 7-GOOD CONDITION
RATING : 12/16/2019
COMMENTS: (STEPHS2, 12/16/2019)--CONDITION OF ABUTMENTS 1 AND 5.

[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 :*** *01/26/2010* ***COMMENTS:***

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

[ITEM 36B] TRANSITION RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *01/26/2010* ***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: DOESNT MEET CURRNT STND-0 *RATING :* 01/26/2010 *COMMENTS:*

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT/CONCRETE	BITUMINOUS MAT/SLAB	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	OTHER	OTHER				
COMMENT:							
	DECK PROTECTION	LIQUID SEALANT	INTERNALLY SEALED		2005	PAVON INDECK	
COMMENT:							
	MEMBRANE	LIQUID SEALANT	BUILT-UP				
COMMENT:							

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
DRAINAGE	REINFORCED CONCRETE	CURB OUTLET		

EXPANSION DEVICE COMPONENTS:

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

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE 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
DETERIORATION	EDGE		MODERATE		
EFFLORESCENCE	THROUGHOUT		FEW		
LONGITUDINAL CRACKS	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		MODERATE	30 %	
TRANSVERSE CRACKS	THROUGHOUT		MODERATE		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	THROUGHOUT		FEW		
LONGITUDINAL CRACKS	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		MODERATE	30 %	
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	THROUGHOUT		FEW		
LONGITUDINAL CRACKS	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		MINOR	30 %	
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
EFFLORESCENCE	THROUGHOUT		FEW		
LONGITUDINAL CRACKS	THROUGHOUT		MANY		
SATURATION	THROUGHOUT		MINOR	50 %	
TRANSVERSE CRACKS	THROUGHOUT		MANY		

SUPERSTRUCTURE COMPONENTS

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

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	COMPOSITE	52 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUST	GIRDER ENDS		MINOR		
RUSTING	TOP FLANGE		MINOR		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	COMPOSITE	70 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUST	GIRDER ENDS		MINOR		
RUSTING	TOP FLANGE		MINOR		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	COMPOSITE	70 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUST	GIRDER ENDS		MINOR		
RUSTING	TOP FLANGE		MINOR		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-4	COMPOSITE	52 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUST	GIRDER ENDS		MINOR		
RUSTING	TOP FLANGE		MINOR		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1	*LA-20 DEGREES*	*29 FT 0 IN*	*REINFORCED CONCRETE*	*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**
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
CURTAIN WALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DIAPHRAGM	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
DIAGONAL CRACKS	AT GIRDERS		FINE		
EFFLORESCENCE	THROUGHOUT		MEDIUM		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-2 LA-20 DEGREES 28 FT 11 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-3 LA-20 DEGREES 28 FT 11 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FIXED BEARING	STEEL	PEDESTAL(ROTATING)			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**

BENT-4 LA-20 DEGREES 28 FT 11 IN REINFORCED CONCRETE MULTIPLE COLUMN

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
EXPANSION BEARING	STEEL	ROCKER			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT

ABUTMENT-5 LA-20 DEGREES 29 FT 0 IN REINFORCED CONCRETE 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
VERTICAL CRACKS	RANDOM		FEW		
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CURTAIN WALL	REINFORCED CONCRETE	CAST-IN-PLACE			
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
DIAPHRAGM	REINFORCED CONCRETE	CAST-IN-PLACE			
DIAGONAL CRACKS	AT GIRDERS		FINE		
EFFLORESCENCE	THROUGHOUT		MINOR		
EXPANSION BEARING	STEEL	ROCKER			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EXPANSION BEARING	STEEL	ROCKER			

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

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: DAVIESS **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1281** **BRIDGE: A1589**

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 35 S	2	1-WAY TRAF	10 FT 6 IN	31 FT 0 IN	3009

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 10 IN		09/27/2022	

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 35 N	2	1-WAY TRAF	10 FT 6 IN	31 FT 0 IN	3010

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 8 IN		09/27/2022	

STRUCTURE PAINT INFORMATION

CONDITION: GOOD **RUST AMOUNT :** 8=.1% OF SURFACE RUSTED **STEEL TONS :** 63

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :**	**PAINT TYPE :** S SYSTEM	**MANUFACTURE :**
NAME :	**NAME :**	**NAME :** CAL SULPH/LEAD PAINT	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :**	**PAINT COLOR :** ALUMINUM	
PAINT YEAR : 1968	**PAINT YEAR :**	**PAINT YEAR :** 1999	
MILS :	**MILS :**	**MILS :** 9	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

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

UTILITY ATTACHMENTS

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

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	4-MEETS MINIMUM TOLERABLE	2/24/2022
[Item 68] Deck Geometry Rating:	5-BETTER THAN MINIMUM	3/20/2002
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	1/24/2022
Sufficiency Rating:	54.7%	2/24/2022
Deficiency:	STRUCTURAL	12/21/2015
Funding Eligibility:	PARTIAL	----
Estimated New Structure Length:	279 FT.	----
Estimated Structure Cost:	$1,100,186	----
Estimated Total Project Cost:	$1,650,279	----
Year of Cost Estimate:	2023	----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

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

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

February 23, 2023
10:20:52am

COUNTY : DAVIESS **BRIDGE :** A1589 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	DAVIESS
8	Federal ID No.	1281
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	00035	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	MO 6 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	JEFFERSON
	Code	36782
9	Location	S 28 T 59 N R 29 W
11	Milepoint	49.49 miles
16	Latitude	39 D 53 M 59 S
17	Longitude	94 D 9 M 5 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	6302
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	26%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
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. 7 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	69 Ft. 11 In.
49	Structure Length	246 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	

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:20:52am

COUNTY :	**DAVIESS**	**BRIDGE :**	**A1589 R**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**T**
RECORD TYPE :	**1 RTE THAT GOES 'UNDER' S**			**RUN DATE :**	**1/26/2023**	**SUBMITTAL YEAR :**	**2022**

LOAD RATING AND POSTING INFORMATION

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	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
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

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:20:52am

COUNTY : DAVIESS **BRIDGE :** A1589 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	DAVIESS
8	Federal ID No.	1281
27	Year Built	1966
106	Year Reconstructed	1990
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	00006
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 6 E
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000003556
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	06-RURAL MINOR ARTERIAL
28A	Lanes on Structure	02
100	STRAHNET Designation	RTE NOT A DEFENSE HWY
104	National Highway System	NOT ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	JEFFERSON
	Code	36782
9	Location	S 28 T 59 N R 29 W
11	Milepoint	43.90 miles
16	Latitude	39 D 53 M 59 S
17	Longitude	94 D 9 M 5 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	768
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	9%
114	Future AADT	1037
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	16 Ft. 7 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	10 Ft. 6 In.
56	Left Lat Clearance	30 Ft. 10 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	30.00 miles
32	Approach Roadway Width	34 Ft. 1 In.
34	Skew	20.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	27 Ft. 11 In.
48	Maximum Span Length	69 Ft. 11 In.
49	Structure Length	246 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.

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

Missouri Department of Transportation
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February 23, 2023
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COUNTY : DAVIESS **BRIDGE :** A1589 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 15
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	31 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	19 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	54.7 Percent
	Deficiency Rating	STRUCTURAL
	Funding Eligibility	PARTIAL
75A	Proposed Work	REHAB-GENERAL DETERIORAT
75B	Work Done By	Contract
76	New Struc Length	278 Ft. 10 In.
94	Struc Improve Cost	$ 1,100,000
95	Roadway Improve Cost	$ 110,000
96	Total Project Cost	$ 1,650,000
97	Year of Cost Estimates	2023

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	4
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	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
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.	9 OTHER
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	7 INTERNALLY SEALED

CONDITION RATING INFORMATION

58	Deck Cond. Rating	4
59	Superstructure Cond. Rating	6
60	Substructure Cond. Rating	7
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	11 / 21	
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

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:20:52am

COUNTY : DAVIESS **BRIDGE :** A1589 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	DAVIESS
8	Federal ID No.	1281
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	00035
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	MO 6 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	JEFFERSON
	Code	36782
9	Location	S 28 T 59 N R 29 W
11	Milepoint	65.61 miles
16	Latitude	39 D 53 M 59 S
17	Longitude	94 D 9 M 5 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	8371
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	26%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
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. 8 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	69 Ft. 11 In.
49	Structure Length	246 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	

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:20:52am

COUNTY :	**DAVIESS**	**BRIDGE :**	**A1589 R**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**T**
RECORD TYPE :	**2ND RTE THAT GOES 'UNDR'S**			**RUN DATE :**	**1/26/2023**	**SUBMITTAL YEAR :**	**2022**

LOAD RATING AND POSTING INFORMATION

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	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
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

DistrictAbbr = NW and Design_No = a1589 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:21:17am

COUNTY : HARRISON **BRIDGE :** A2291 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 2ND RTE THAT GOES 'UNDR'S **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	HARRISON
8	Federal ID No.	1979
27	Year Built	1968
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	00035
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT N 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	MARION
	Code	46046
9	Location	S 5 T 65 N R 27 W
11	Milepoint	107.18 miles
16	Latitude	40 D 27 M 59 S
17	Longitude	93 D 58 M 37 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	7511
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	52%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
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. 0 In.
19	By pass Detour Length	20.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	85 Ft. 11 In.
49	Structure Length	238 Ft. 10 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	

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

Missouri Department of Transportation
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Structural Inventory & Appraisal Sheet

February 23, 2023
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COUNTY :	**HARRISON**	**BRIDGE :**	**A2291 R**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**T**
RECORD TYPE :	**2ND RTE THAT GOES 'UNDR'S**			**RUN DATE :**	**1/26/2023**	**SUBMITTAL YEAR :**	**2022**

LOAD RATING AND POSTING INFORMATION

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	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
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

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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COUNTY : HARRISON **BRIDGE :** A2291 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	HARRISON
8	Federal ID No.	1979
27	Year Built	1968
106	Year Reconstructed	1992
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	0000N
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	RT N 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	MARION
	Code	46046
9	Location	S 5 T 65 N R 27 W
11	Milepoint	0.62 miles
16	Latitude	40 D 27 M 59 S
17	Longitude	93 D 58 M 37 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	911
30	AADT Year	2021
102	Direction of Traffic	2-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	1184
115	Future AADT Year	2041

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	04
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	15 Ft. 11 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	30 Ft. 6 In.
56	Left Lat Clearance	28 Ft. 7 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	20.00 miles
32	Approach Roadway Width	38 Ft. 1 In.
34	Skew	0.00 Degrees
35	Struct. Flared	NO
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	85 Ft. 11 In.
49	Structure Length	238 Ft. 10 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	38 Ft. 1 In.
52	Deck Width (Out-Out)	40 Ft. 8 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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Structural Inventory & Appraisal Sheet

February 23, 2023
10:21:17am

COUNTY : HARRISON **BRIDGE :** A2291 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

LOAD RATING AND POSTING INFORMATION

31	Design Load	H 20
41	Structure Status	OPEN NO RESTRICTIONS
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	60 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	36 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	48.9 Percent
	Deficiency Rating	STRUCTURAL
	Funding Eligibility	FULL
75A	Proposed Work	REPLACEMENT SUBSTND LOAD
75B	Work Done By	Contract
76	New Struc Length	272 Ft. 4 In.
94	Struc Improve Cost	$ 1,577,000
95	Roadway Improve Cost	$ 158,000
96	Total Project Cost	$ 2,366,000
97	Year of Cost Estimates	2023

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	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	3
68	Deck Geometry App. Rating	7
69	Underclearance App. Rating	5
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	STEEL CONTINUOUS
43B	Main struc Constr. Type	STRINGER/MULTIBEAM - GRD
45	# of Main Spans	2
44A	Appr Struc. Mat type	STEEL
44B	Appr Struc. Cnstr. type	STRINGER/MULTIBEAM - GRD
46	# of Approach Span	2
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	6 BITUMINOUS
108B	Membrane Mat/Constr.	1 BUILT UP
108C	Deck Protect Mat/Constr.	0 NONE

CONDITION RATING INFORMATION

58	Deck Cond. Rating	4
59	Superstructure Cond. Rating	3
60	Substructure Cond. Rating	6
61	Channel /Channel Protection Cond. Rating	N
62	Culvert Cond. Rating	N

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 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	Y	Months	24
93C	Special Inspection Date	9 / 22		

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

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

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

February 23, 2023
10:21:17am

COUNTY : HARRISON **BRIDGE :** A2291 R **REVIEW STATUS :** APPROVED **NBI STATUS :** T
RECORD TYPE : 1 RTE THAT GOES 'UNDER' S **RUN DATE :** 1/26/2023 **SUBMITTAL YEAR :** 2022

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	NW
3	County	HARRISON
8	Federal ID No.	1979
27	Year Built	1968
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	00035	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	RT N 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	MARION
	Code	46046
9	Location	S 5 T 65 N R 27 W
11	Milepoint	7.92 miles
16	Latitude	40 D 27 M 59 S
17	Longitude	93 D 58 M 37 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	7888
30	AADT Year	2021
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	57%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	IS 35
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	15 Ft. 11 In.
19	By pass Detour Length	20.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	38 Ft. 1 In.
48	Maximum Span Length	85 Ft. 11 In.
49	Structure Length	238 Ft. 10 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	

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

February 23, 2023
10:21:17am

COUNTY :	**HARRISON**	**BRIDGE :**	**A2291 R**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**T**
RECORD TYPE :	**1 RTE THAT GOES 'UNDER' S**			**RUN DATE :**	**1/26/2023**	**SUBMITTAL YEAR :**	**2022**

LOAD RATING AND POSTING INFORMATION

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
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45	# of Main Spans	
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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

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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

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH and Inventory_Appraisal_Submittal_Year = 2022

Missouri Department of Transportation
State Bridge Inspection Report

February 23, 2023
9:19:14AM

COUNTY: HARRISON **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1979** **BRIDGE: A2291**

GENERAL STRUCTURE INFORMATION

ROUTE: RTNE	**# SPANS:** 4	**PLACE CODE:** 46046 MARION	
FEATURE: IS 35	**LANES ON:** 2	**LENGTH:** 239 FT 0 IN	
STATUS: A-OPEN	**LANES UNDER:** 4	**MAXIMUM SPAN:** 86 FT 0 IN	
LOG MILE: 0.612	**COMPASS DIRECTION:** WEST to EAST	**APPROACH ROADWAY:** 38 FT 0 IN	
DETOUR: 20.00 MILES	**DIRECTION OF TRAFFIC:** 2-WAY TRAF	**CURB TO CURB:** 38 FT 0 IN	
NHS: NO	**FUNCTIONAL CLASS:** RL-MAJOR COLLECTOR	**OUT TO OUT:** 40 FT 10 IN	
BUILT: 1968	**NBI OWNER:** MODOT	**AADT:** 923	
REHAB: 1992	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2022	
LOCATION: S 5 T 65 R 27 W	**MAINTENANCE DISTRICT:** NW	**AADT TRUCK:** 5.2%	
LATITUDE: 40 27 59.18 (DMS)	**MAINTENANCE COUNTY:** HARRISON	**FUTURE AADT:** 1200	
LONGITUDE: 93 58 37.22 (DMS)	**SUB AREA:** 7A03	**FUTURE AADT YEAR:** 2042	

BRIDGE INSPECTION INFORMATION

DATE: 09/13/2022 **RESPONSIBILITY:** BRIDGEDIV
FREQUENCY: 24 **CALCULATED INTERVAL**:** 18
TEAM LEADER: CURT RICKERSON **ELEMENT:** NO
INSPECTOR 2: **INSPECTOR 4:**
INSPECTOR 3:

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

GENERAL INSPECTION COMMENTS

(STEGEC, 03/04/2021)--INSPECTION WAS THE RESPONSIBILITY OF BRIDGE DIVISION AND WAS DONE LATE BECAUSE OF STATEWIDE COVID TRAVEL RESTRICTIONS THAT WERE IN PLACE AT MODOT FOR APPROXIMATELY ONE YEAR.

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: 09/13/2022 **RESPONSIBILITY:** BRIDGEDIV **CATEGORY:** PIN PLATES
FREQUENCY: 24 **CALCULATED INTERVAL**:** 18 **NBI:** YES
TEAM LEADER: RANDY WEAVER **INSPECTOR 3:** **METHOD:** LADDER, PLATFORMTK
INSPECTOR 2: CHRISTOPHER BYRD (NTL) **INSPECTOR 4:**

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

SPECIAL INSPECTION COMMENTS

(WEAVER1, 09/14/2022)--PINS TESTED GOOD IN 2022

(STEGEC, 03/04/2021)--INSPECTION WAS THE RESPONSIBILITY OF BRIDGE DIVISION AND WAS DONE LATE BECAUSE OF STATEWIDE COVID TRAVEL RESTRICTIONS THAT WERE IN PLACE AT MODOT FOR APPROXIMATELY ONE YEAR.

(RICKEC, 08/29/2018)--PINS TESTED GOOD

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

DistrictAbbr = NW and Design_No = a2291 and County = ANDREW, ATCHISON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LINN, LIVINGSTON, MERCER, NODAWAY, PUTNAM, SULLIVAN, WORTH

COUNTY: HARRISON **DISTRICT: NW** **CLASS: STATBR** **FED-ID: 1979** **BRIDGE: A2291**

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, 04/27/2007)--(29') COMP I-BMS - (3'-86'-86'-3') CONT COMP PL GDRS - (29') COMP I-BMS SPANS

[ITEM 58] DECK: 4-POOR CONDITION
RATING : 08/29/2018
COMMENTS: (MUSSED, 08/15/2014)--DECK RATED 5 DUE TO HEAVY SATURATION TO OVERHUNG AND SPALLING WITH REBAR EXPOSED
(STEGEC, 03/11/2021)--DECK RATED 4 DUE TO 40% SATURATION IN SPAN 3 ; MANY LARGE PATCHES IN ALL SPANS

[ITEM 59] SUPER: 3-SERIOUS CONDITION
RATING : 09/14/2022
COMMENTS: (STEGEC, 03/11/2021)--SUPERSTRUCTURE RATING LOWERED FROM 5 TO 4 DUE TO 3/4 TO 1 INCH PACK RUST BULGING HANGER PLATES IN CRITICAL STRESS AREAS ; UNEQUAL LOAD TRANSFER AT ABUTS DUE TO PACK RUSTED ROCKER BEARINGS
(WEAVER1, 09/14/2022)--RATING LOWERED TO 3-SERIOUS DUE TO ADVANCED SECTION (>50%) LOSS IN HANGER PLATES AND IN GIRDER ENDS OF SEVERAL GIRDERS IN SPANS 1 AND 4; FAR COMPLETED 9-14-22.

[ITEM 60] SUB: 6-SATISFACTORY CONDITION
RATING : 08/29/2018
COMMENTS: (MUSSED, 08/15/2014)--V-CRACKS IN ABUTMENT BACKWALL WITH EFFLORESENCE
(RICKEC, 08/29/2018)--SUB RATED 6 DUE TO MOD SPALLS ON BACKWALL UNDER JOINT @ ABUT 5

[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 :*** *11/18/2009* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	P/C SAFETY BARRIER CURB	BOTH	
ALUMINUM	CIRCULAR TUBE	BOTH	

[ITEM 36B] TRANSITION RAILING RATING: *DOESNT MEET CURRNT STND-0* ***RATING :*** *11/18/2009* ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	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 :*** 03/11/2021 ***COMMENTS:***

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	BREKAWAY SYSTEM	ALL	

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT/CONCRETE	BITUMINOUS MAT/SLAB	BOTH		

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
APPROACH SERIES-1	*WEARING SURFACE*	*ASPHALT*	*BITUMINOUS MAT*	*.3 IN*	*2011*		*VERY POOR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MEDIUM	

MEMBRANE *LIQUID SEALANT* *BUILT-UP*

COMMENT:

MAIN SERIES-2	*WEARING SURFACE*	*ASPHALT*	*BITUMINOUS MAT*	*.3 IN*			*POOR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MEDIUM	

DECK PROTECTION *NOTAPPLICABLE* *NONE*

COMMENT:

MEMBRANE *LIQUID SEALANT* *BUILT-UP*

COMMENT:

APPROACH SERIES-3	*WEARING SURFACE*	*ASPHALT*	*BITUMINOUS MAT*				*POOR*

COMMENT:

MEMBRANE *LIQUID SEALANT* *BUILT-UP*

COMMENT:

DRAINAGE COMPONENTS:

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

EXPANSION DEVICE COMPONENTS:

SUB UNIT-#	SUB LABEL	COMPONENT	MATERIAL	CONSTRUCTION	GAP	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
ABUTMENT-1		CLOSED EXPANSION JOINT	ELASTOMERIC	COMPRESSION SEAL				VERY POOR
COMMENT: (TALKEM1, 12/27/2011)--COVERED BY ASPHALT								
ABUTMENT-5		CLOSED EXPANSION JOINT	ELASTOMERIC	COMPRESSION SEAL				VERY POOR
COMMENT: (TALKEM1, 12/27/2011)--COVERED BY ASPHALT								

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	PLAIN CONCRETE	PAVEDSLOPE	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
FAILING	THROUGHOUT		NOT APPLICABLE	(BOWDEJ1, 12/09/2009)--SLID DOWN 4" ON ABUT 1 AND 2" ON ABUT 5

DECK COMPONENTS

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW	10 %	
DETERIORATION	EDGE		HEAVY		
EFFLORESCENCE	THROUGHOUT		MODERATE		
PATCHES	RANDOM		LARGE	30 %	
REBAR EXPOSED	EDGE		MANY		
SPALLS	THROUGHOUT		LARGE		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW	20 %	
EFFLORESCENCE	THROUGHOUT		MINOR		
PATCHES	RANDOM		LARGE	20 %	
SPALLS	THROUGHOUT		LARGE		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW	30 %	
EFFLORESCENCE	THROUGHOUT		MODERATE		
PATCHES	RANDOM		LARGE	30 %	
SATURATION	RANDOM		HEAVY	40 %	
SPALLS	AT JOINTS		MODERATE		
SPALLS	THROUGHOUT		LARGE		
TRANSVERSE CRACKS	THROUGHOUT		MANY		

APPROACH SPANS-4	DECK	REINFORCED CONCRETE	CAST-IN-PLACE	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	RANDOM		FEW	10 %	
DETERIORATION	EDGE		HEAVY		

EFFLORESCENCE	THROUGHOUT		MINOR	
PATCHES	RANDOM		LARGE	10 %
REBAR EXPOSED	EDGE		MANY	
SPALLS	AT JOINTS		MINOR	
SPALLS	THROUGHOUT		LARGE	
TRANSVERSE CRACKS	THROUGHOUT		MANY	

SUPERSTRUCTURE COMPONENTS

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
APPROACH SERIES-1	*SIMPLE SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
APPROACH SPANS-1	COMPOSITE	33 FT 8 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	AT JOINTS		MODERATE		
RUSTING	CANTILEVERS		HEAVY		
SECTION LOSS	AT JOINTS		MODERATE		(BOWDEJ1, 12/09/2009)--TOP FLG @ EXT GDR

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION
MAIN SERIES-2	*CONTINUOUS SPAN*	*STEEL*	*PLATE GIRDERS*

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	COMPOSITE	86 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	AT JOINTS		MODERATE		
RUSTING	THROUGHOUT		LIGHT		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	COMPOSITE	86 FT 0 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	AT JOINTS		MODERATE		
RUSTING	THROUGHOUT		LIGHT		
SECTION LOSS	AT JOINTS		MODERATE		(BOWDEJ1, 12/09/2009)--TOP FLG @ EXT GDR

SERIES TYPE-#	SPAN TYPE	MATERIAL	CONSTRUCTION
APPROACH SERIES-3	*SIMPLE SPAN*	*STEEL*	*WIDE FLANGE GIRDERS*

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
APPROACH SPANS-4	COMPOSITE	33 FT 8 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
RUSTING	AT JOINTS		MODERATE		
SECTION LOSS	AT JOINTS		MODERATE		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		*40 FT 6 IN*	*REINFORCED CONCRETE*	*NON-INTEGRAL*		

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
ASSOCIATED COMPONENT	**MATERIAL**	**CONSTRUCTION**			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
SEALED	BEAM CAP		ASPHALTICBASE		
VERTICAL CRACKS	RANDOM		FEW		
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			

CURTAIN WALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
HORIZONTAL CRACKS	THROUGHOUT		RANDOM		
LEACHING	THROUGHOUT		MEDIUM		
VERTICAL CRACKS	THROUGHOUT		RANDOM		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
BRG NO LOAD	THROUGHOUT		NOT APPLICABLE		(BOWDEJ1, 12/09/2009)--2ND ROCKER FROM S.
RUSTING	THROUGHOUT		HEAVY		

BENT-2 *37 FT 6 IN* *REINFORCED CONCRETE* *MULTIPLE COLUMN* *(MENEET, 03/30/2016)--BENT 2 GIRDER 1 BULGING AT PIN PLATE.*

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***
VERTICAL CRACKS	RANDOM		FINE		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FIXED BEARING	STEEL	HANGER PLATE/PIN			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
PACK RUST	RANDOM		BULGING		
RUSTING	THROUGHOUT		MODERATE		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	THROUGHOUT		MODERATE		

BENT-3 *37 FT 6 IN* *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SPALLS	FRONT FACE		MINOR		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FIXED BEARING	STEEL	PEDESTAL(ROTATING)			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
RUSTING	THROUGHOUT		LIGHT		

BENT-4 *37 FT 6 IN* *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
BEAM CAP	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
SPALLS	FRONT FACE		MINOR		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
FOOTING	REINFORCED CONCRETE	CAST IN PLACE PILE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
FIXED BEARING	STEEL	HANGER PLATE/PIN			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
PACK RUST	RANDOM		BULGING		(BOWDEJ1, 12/09/2009)--EXTERIOR ONLY
RUSTING	THROUGHOUT		MODERATE		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
RUSTING	THROUGHOUT		MODERATE		
SECTION LOSS	RANDOM		INITIAL		

ABUTMENT-5 *40 FT 6 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**
SEALED	BEAM CAP		ASPHALTICBASE		
VERTICAL CRACKS	RANDOM		FEW		
PILING	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
CURTAIN WALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BACKWALL	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
SPALLS	THROUGHOUT		LARGE		
EXPANSION BEARING	STEEL	ROCKER			
CONDITION	**LOCATION 1**	**LOCATION 2**	**SEVERITY**	**MEASUREMENT**	**COMMENT**
BRG NO LOAD	THROUGHOUT		NOT APPLICABLE		(BOWDEJ1, 12/09/2009)--N. INTERIOR
RUSTING	THROUGHOUT		MEDIUM		

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

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 35 S	2	1-WAY TRAF	30 FT 7 IN	28 FT 7 IN	4610

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	15 FT 11 IN		02/21/2020	

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
2	IS 35 N	2	1-WAY TRAF	30 FT 7 IN	28 FT 7 IN	4611

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	16 FT 0 IN		02/21/2020	

STRUCTURE PAINT INFORMATION

CONDITION: FAIR **RUST AMOUNT :** 7 = .2% OF SURFACE RUSTED **STEEL TONS :** 90

ORIGINAL PAINT	CONTRACT REPAINT	DEPARTMENT REPAINT	
PAINT TYPE :	**PAINT TYPE :** C SYSTEM	**PAINT TYPE :**	**MANUFACTURE :**
NAME :	**NAME :** INORGANIC ZINC/VINYL	**NAME :**	**SURFACE PREP :**
PAINT COLOR :	**PAINT COLOR :** GREEN	**PAINT COLOR :**	
PAINT YEAR :	**PAINT YEAR :** 1992	**PAINT YEAR :**	
MILS :	**MILS :** 6	**MILS :**	

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT
DISTRICT ROUTINE	ROADWAY SURFACE	REM/REP LOOSE SEAL OR MAT	DECK	2	08/29/2018	
CONTRACT	ENTIRE BRIDGE	SHOTBLAST AND PAINT	PAINT	2	08/29/2018	(RICKEC, 08/30/2018)--CLEAN AND PAINT BRNGS & GIRDERS @ ALL JNT AREAS ABUT 1 & 5 AND AT BNT 2 & 4
DISTRICT SPECIAL	SEE COMMENT	REPAIR EXPANSION DEVICE	EXPANSION DEVICE	2	08/29/2018	(BOWDEJ1, 12/09/2009)--COMPRESSION JOINT SEALS
DISTRICT ROUTINE	ROADWAY SURFACE	REPAIR CONCRETE>100 SF	DECK	2	08/29/2018	
DISTRICT ROUTINE	ROADWAY SURFACE	APPLY CINDER SEAL	DECK	2	08/29/2018	(RICKEC, 08/30/2018)--MODERATE SATURATION OF DECK IN SPANS 1 & 3
DISTRICT ROUTINE	APPROACH ROADWAY	SEAL JOINTS - HOT POUR	APPROACH	3	08/29/2018	
CONTRACT	SEE COMMENT	REPLACE EXPANSION DEVICE	EXPANSION DEVICE	2	09/14/2022	(WEAVER1, 09/14/2022)--BRIDGE NEEDS REPLACEMENT OR COMPLETE REHAB OF DEKC AND SUPERSTRUCTURE (WEAVER1, 09/14/2022)--HANGER PLATE ASSEMBLIES NEED TO BE REMOVED/REPLACED ASAP
CONTRACT			REDECK	2	09/14/2022	

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

COUNTY: HARRISON | DISTRICT: NW | CLASS: STATBR | FED-ID: 1979 | BRIDGE: A2291

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:	3-BASICALLY INTOL CORRECT	9/21/2022
[Item 68] Deck Geometry Rating:	7-BETTER THAN PRESENT MIN	4/20/2017
[Item 69] Underclearance:	5-BETTER THAN MINIMUM	1/11/2022
Sufficiency Rating:	48.9%	9/21/2022
Deficiency:	STRUCTURAL	10/3/2018
Funding Eligibility:	FULL	----
Estimated New Structure Length:	272 FT.	----
Estimated Structure Cost:	$1,577,328	----
Estimated Total Project Cost:	$2,365,992	----
Year of Cost Estimate:	2023	----

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

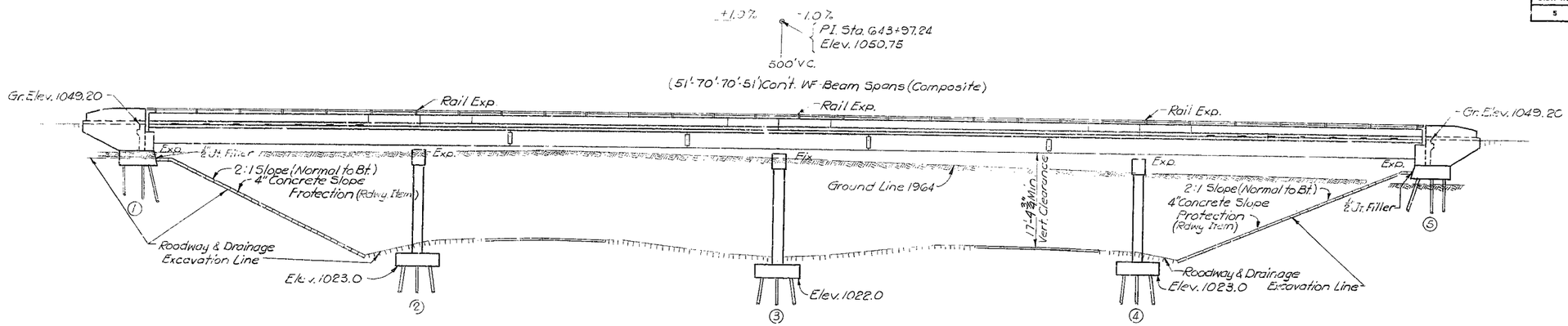
SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

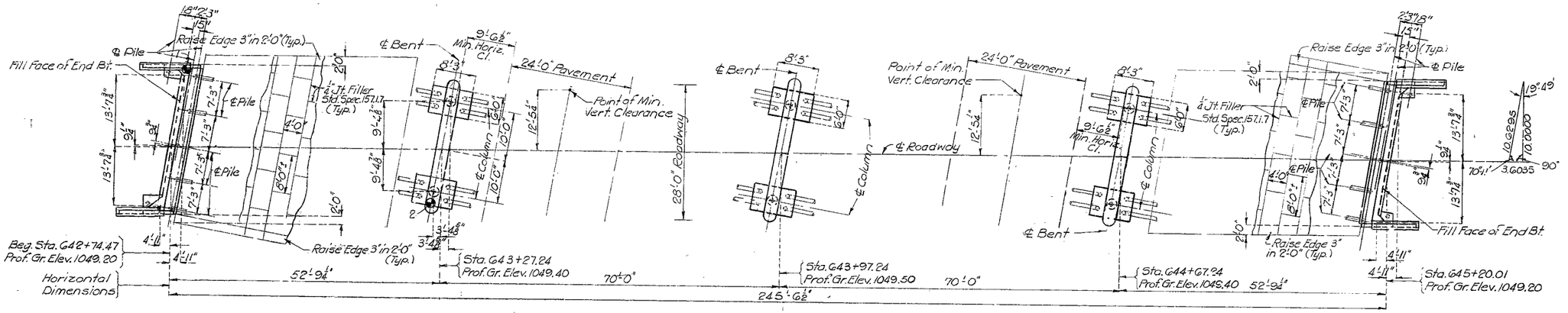
OUTFALL INSPECTION INFORMATION

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

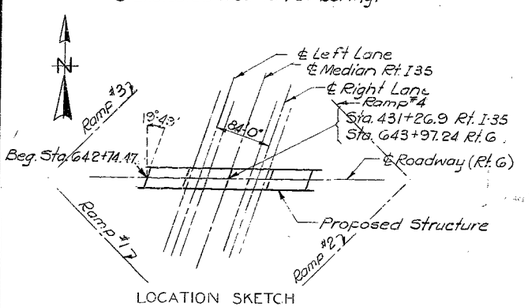
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	58	





Note: For boring data see sheet No. 2 of 8.
"⊕" Indicates location of boring.



ESTIMATED QUANTITIES

Item		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu.Yd.	140		140
Cast-in-place Concrete Piles	Lin. Ft.	850		850
Class B Concrete	Cu.Yd.	112.5		112.5
Class B1 Concrete	Cu.Yd.		207.1	207.1
Reinforcing Steel	Lbs.	15,610	57,440	73,110
Painting	Tons		62.3	62.3
Fabricated Structural Carbon Steel	Lbs.		126100	126100
Bridge Rail (Single Tube Type)	Lin. Ft.		485	485

Note: All concrete and reinforcing in end posts, parapets and curbs is included with superstructure quantities.

PILE DATA

BENT NO.		1	2	3	4	5
Type		Foundation				
Kind		Cast-in-place				
Number		7	10	10	10	7
Approximate Length	Ft.	25	20	20	20	25
Design Bearing	Tons	27	25	26	25	27
Min. Tip Penetration	Elev.	1020.0	1010.0	1010.0	1010.0	1020.0
Pile Standard		52.02	52.02	52.02	52.02	52.02
Hammer Energy required	Ft-lbs	8,000	8,000	8,000	8,000	8,000

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

B.M. #19 Elev. 1043.40 Br. Spike in Power Pole 29'C' Lt. Sta. 429+86 (I-35) U.S.G.S. Datum (1929 Adj.)

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18) (RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

213

DESIGNED April 1966 BY P.C. Shen
DETAILED May 1966 BY Griffith & Bunch
CHECKED June 1966 BY Johnson & Tam

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

Sheet No. 1 of 8.

SUBMITTED BY _____ BRIDGE ENGINEER DATE 5/15/66

APPROVED BY _____ CHIEF ENGINEER DATE 5/23/66

STD. 52.02
STD. 54.00
A-1589

SEE PINK PLANS BROWN-LINES

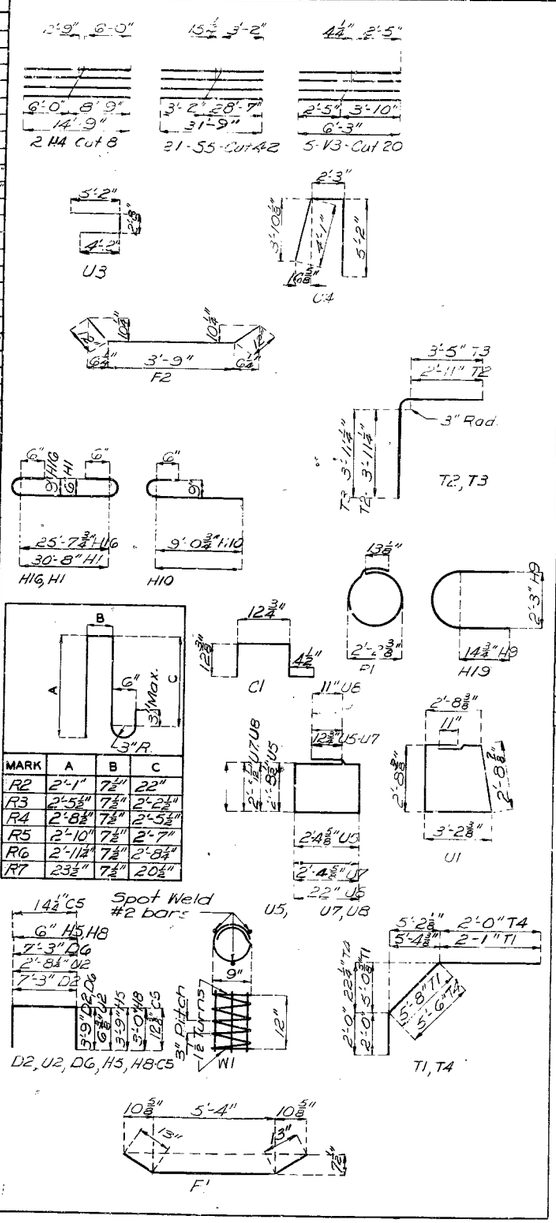
MISSOURI STATE HIGHWAY DEPARTMENT

FED ROAD DIST NO	STATE	FED AID PROJ NO	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	Mo		19	89	

COMPLETE BILL OF REINFORCING STEEL

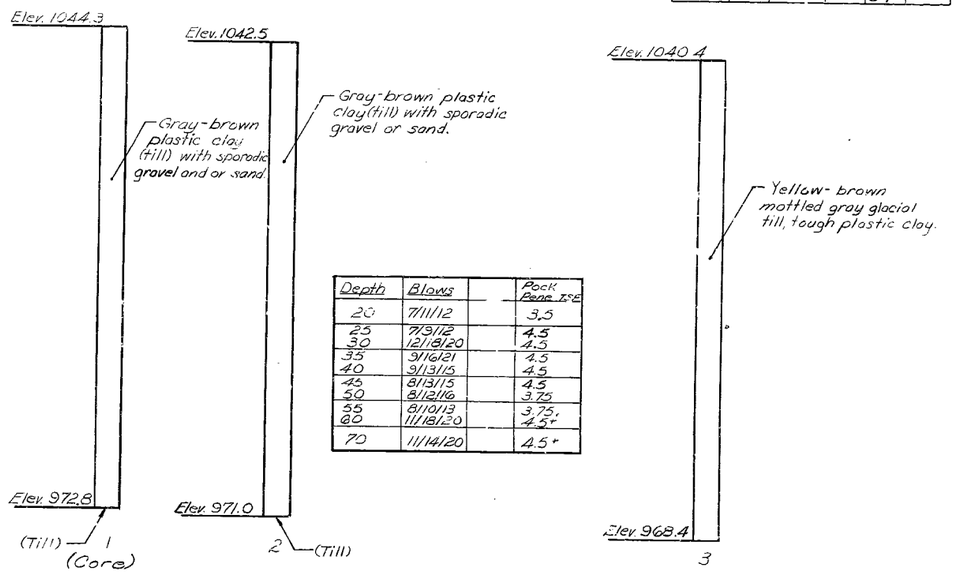
NO.	SIZE	LENGTH	MARK	LOCATION
End Bents Nos 1 & 5				
16	#6	33'-3"	H1	Beam
4	#6	31'-3"	H2	"
8	#4	31'-0"	H3	"
8	#6	14'-9"	H4	Wing "A"
6	#4	8'-0"	H5	Curtain Wall
8	#6	9'-9"	H6	Wing
4	#6	31'-0"	H7	BK wall
6	#4	6'-6"	H8	Curtain Wall
8	#6	7'-6"	F1	Haunch Wg "A"
8	#6	5'-9"	F2	" Wg "B"
60	#4	12'-3"	U1	Beam
18	#4	3'-9"	U2	"
10	#7	12'-0"	U3	Wing "A"
10	#7	11'-6"	U4	" "B"
116	#5	5'-3"	V1	BK wall
20	#4	5'-6"	V2	Wing
20	#4	6'-3"	V3	Wing
12	#4	5'-3"	V4	"
8	#4	4'-3"	V5	Curtain Wall
4	#6	9'-9"	T1	"
4	#6	7'-3"	T2	"
4	#6	7'-9"	T3	"
4	#6	9'-6"	T4	"
16	#2	19'-9"	W1	Beam
8	#6	2'-9"	V8	Beam
Int. Bent No. 3				
4	#9	29'-0"	H16	Beam
2	#6	26'-3"	H17	"
7	#11	26'-3"	H18	"
8	#7	6'-0"	H19	"
6	#9	10'-9"	H10	"
43	#5	11'-3"	U5	"
2	#5	10'-9"	U8	"
16	#8	20'-9"	V6	Col.
38	#3	8'-0"	P1	"
18	#8	2'-3"	D1	Ftg.
4	#8	14'-9"	D6	"
8	#8	6'-0"	D5	"
12	#5	5'-9"	D4	"
8	#2	19'-9"	W1	Beam
Int. Bent Nos. 2 & 4				
8	#9	29'-0"	H16	Beam
4	#6	26'-3"	H17	"
14	#11	26'-3"	H18	"
16	#7	6'-0"	H19	"
12	#9	10'-9"	H10	"
86	#5	10'-9"	U7	"
4	#5	9'-6"	U8	"
36	#8	19'-6"	V7	Col.
68	#3	8'-0"	P1	"
36	#8	4'-0"	D1	Ftg.
8	#7	14'-9"	D2	"
16	#7	8'-0"	D3	"
24	#5	5'-9"	D4	"
16	#2	19'-9"	W1	Beam

BENDING SKETCHES & CUTTING DIAGRAMS



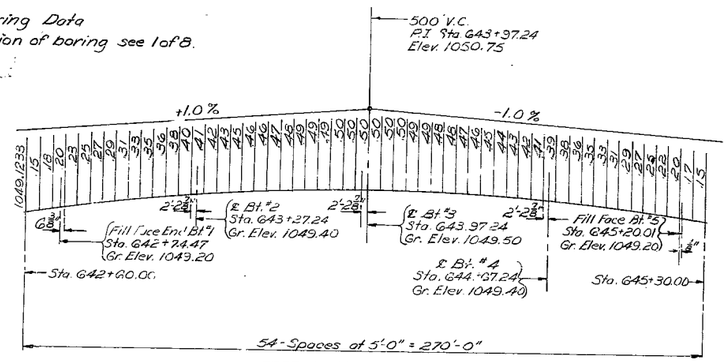
SUPERSTRUCTURE

NO.	SIZE	LENGTH	MARK	LOCATION
462	#5	3'-6"	C1	Curb
16	#3	26'-3"	C2	"
16	#5	35'-9"	C3	"
8	#5	9'-9"	C4	"
24	#5	9'-3"	R1	Curb Post
4	#5	5'-6"	P2	" "
4	#5	6'-3"	R3	"
4	#5	6'-9"	P4	"
4	#5	7'-0"	R5	"
24	#5	7'-3"	R6	"
490	#5	5'-3"	R7	Parapet
32	#5	21'-6"	R8	"
32	#5	25'-6"	R9	"
48	#5	9'-9"	R10	"
40	#5	3'-3"	C5	
1016	#5	30'-6"	S1	Slab
248	#4	31'-3"	S2	"
252	#5	35'-9"	S3	"
90	#4	16'-0"	S4	"
42	#5	31'-9"	S5	



Depth	Blows		Rock Penetration
20	7/11/12		3.5
25	7/9/12		4.5
30	12/18/20		4.5
35	9/16/21		4.5
40	9/13/15		4.5
45	8/13/15		4.5
50	8/12/16		3.75
55	8/10/13		3.75, 4.5"
60	11/18/20		4.5"
70	11/14/20		4.5"

Boring Data
For location of boring see 1 of 8.



PROFILE GRADE ELEVATIONS

GENERAL NOTES:

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

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

Design Unit Stresses:
Class B Concrete (substructure) f_c = 1,200 psi
Class B1 Concrete (superstructure) f_c = 1,600 psi
Reinforcing Steel f_s = 20,000 psi
Structural Steel (A.S.T.M. A36-63T) f_s = 20,000 psi

Surface Seal:
Superstructure deck to be surface sealed.

Fabricated Steel:
Field connections, High Strength Bolts 3/4" ϕ, holes 13/16" ϕ except as noted.

BRIDGE ROUTE 6 UNDERPASS
STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON
ABOUT 4.1 MILES N.W OF ALTAMONT
PROJECT NO. 1-IG-35-2(18)(RTE. I-35) **STA.** 431 + 26.9
DAVIESS **COUNTY**

214

No. 90.3	Revised
June 1961	Dec 1964

DETAILED APRIL 1966 BY BUNCH
CHECKED June 1966 BY Johnson

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

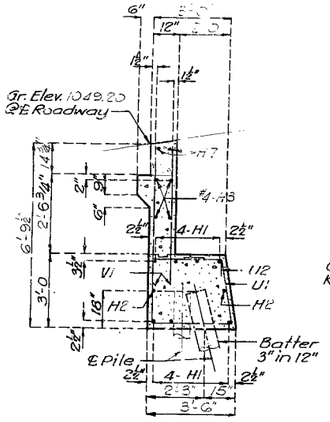
Sheet No. 2 of 3.

A-1589

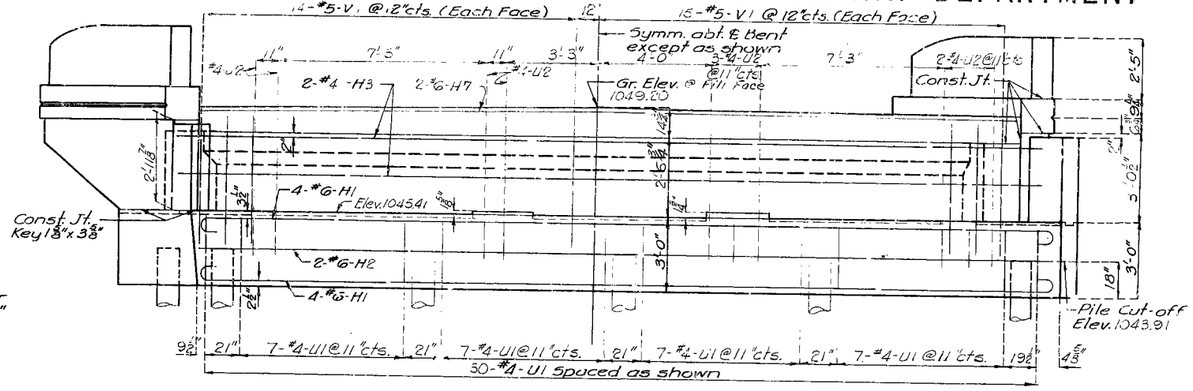
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

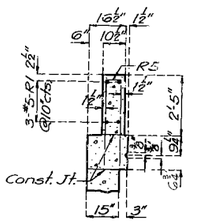
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	90	

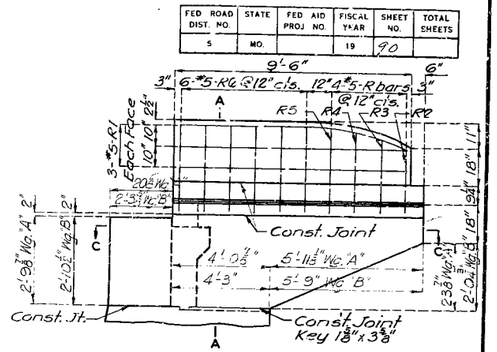


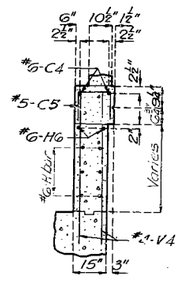
SECTION AT ℄

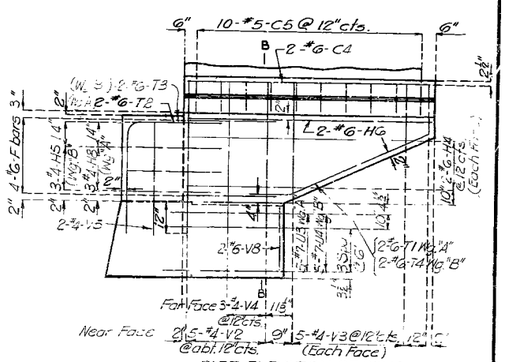


ELEVATION



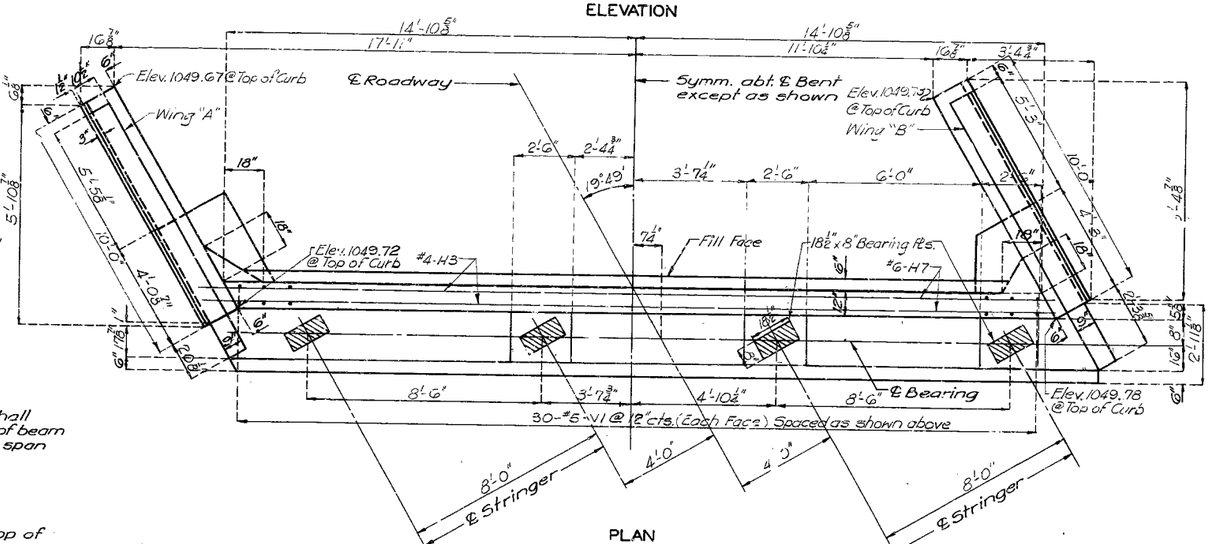






Note: Top of backwall and expansion device for end bents No.1&5 to conform to crown of roadway slab.

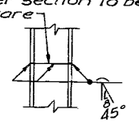
Backwall above upper construction joint shall not be poured until the structural steel of the expansion device has been installed and slab has been poured in adjacent span.



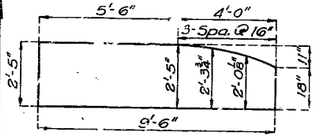
PLAN

Note: Fill at end bents No.1&5 shall not be carried above bottom of beam until adjacent superstructure span is in place.

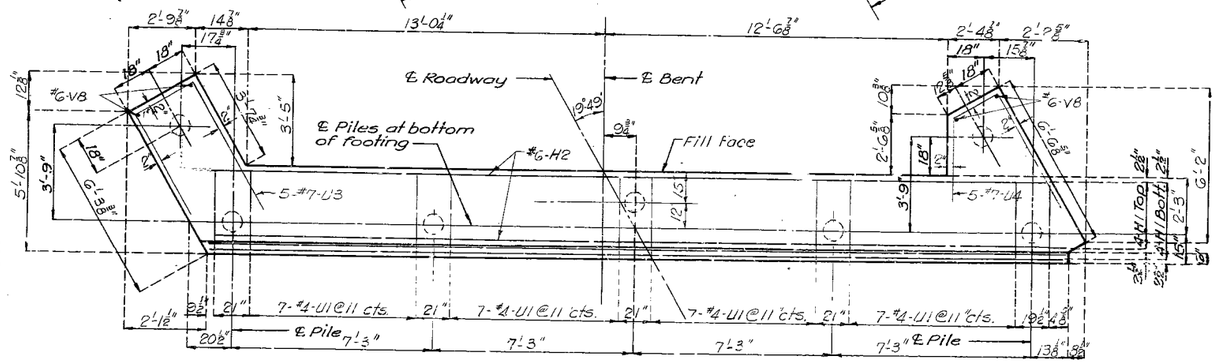
Butt splice (if required) Top of lower section to be cut square



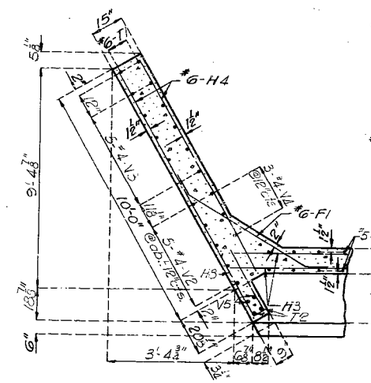
STEEL PILE SPLICE



END POST ORDINATES



PLAN OF BEAM



DETAILED May 1966 BY Griffith
CHECKED June 1966 BY Johnson

DETAILS OF END BENTS NO. 1&5

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

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18) (RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

Sheet No. 3 of 8

A-1589

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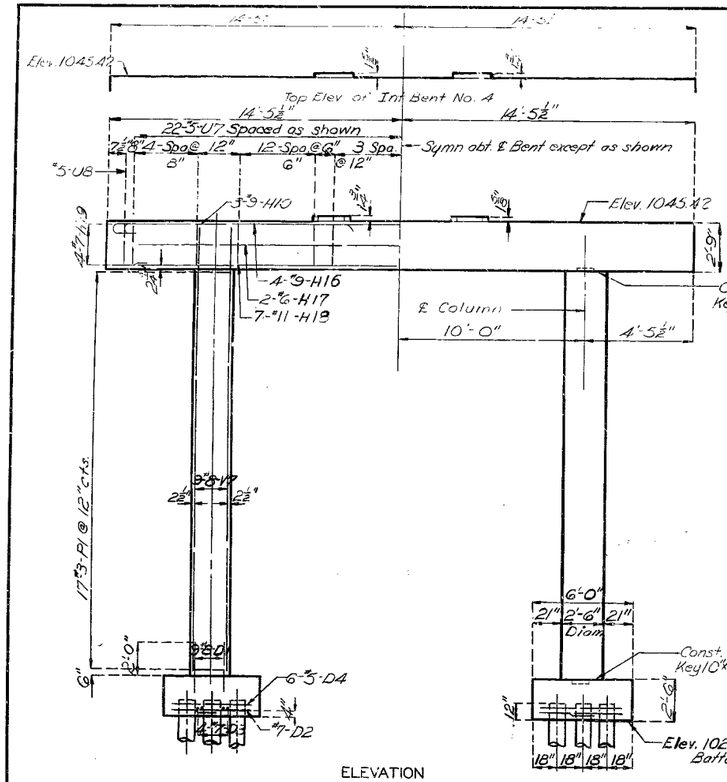
No.	Revised	April 1965
12.3		

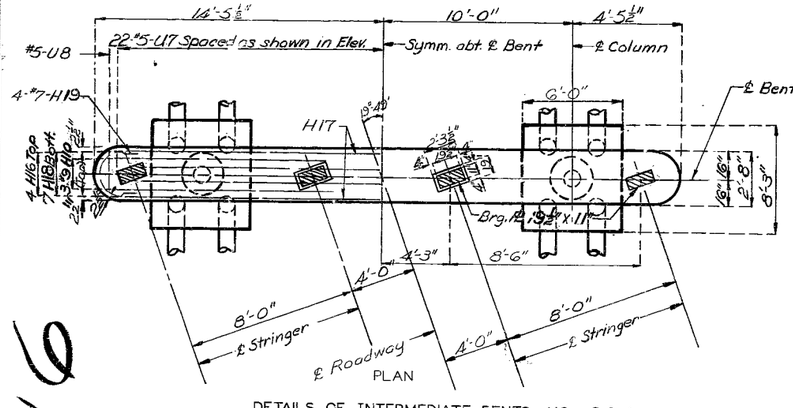
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	91	



ELEVATION

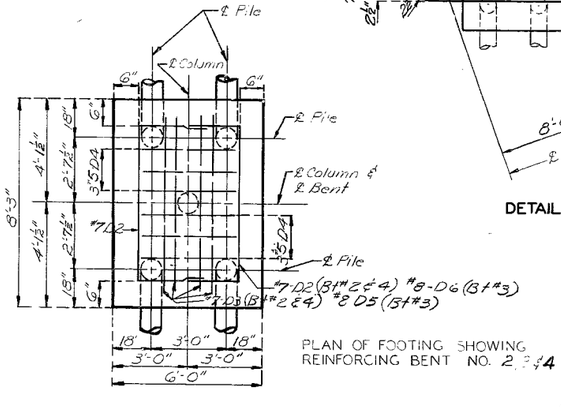
SECTION AT ℄



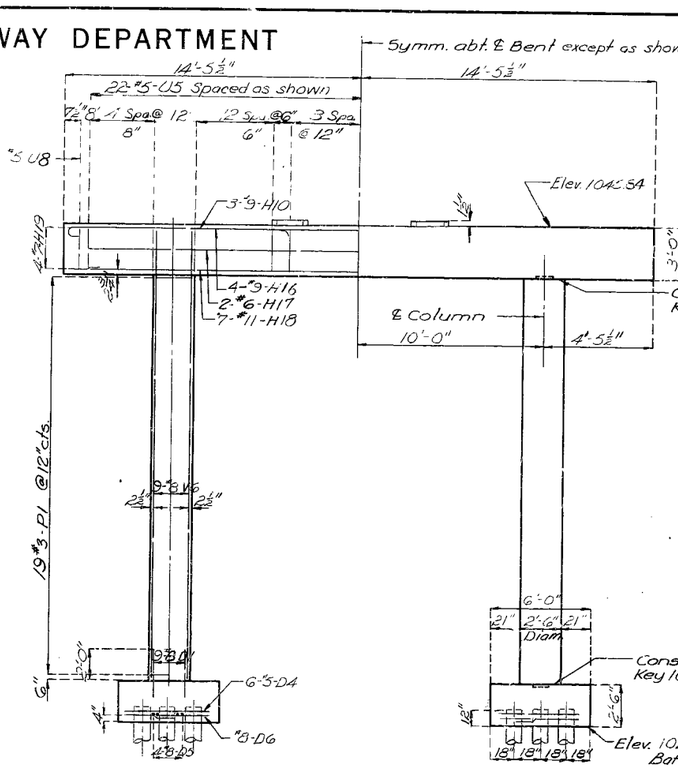
PLAN

DETAILS OF INTERMEDIATE BENTS NO. 2 & 4

Details of Bent No. 2 shown.
Details of Bent No. 4 similar except as shown.

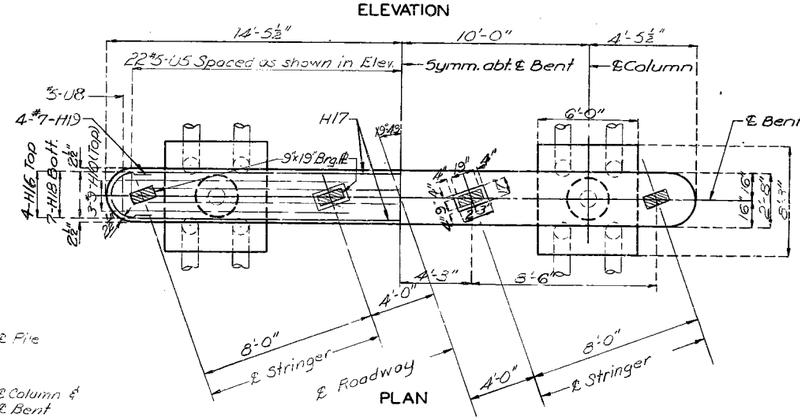


PLAN OF FOOTING SHOWING REINFORCING BENT NO. 2 & 4



ELEVATION

SECTION AT ℄



PLAN

DETAILS OF INTERMEDIATE BENT NO. 3

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2 (18) (RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

No.	Revised
191	Jan. 1965
Mar. 1964	

216

DETAILED APRIL 1966 BY BUNCH

CHECKED May 1966 BY Tam

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

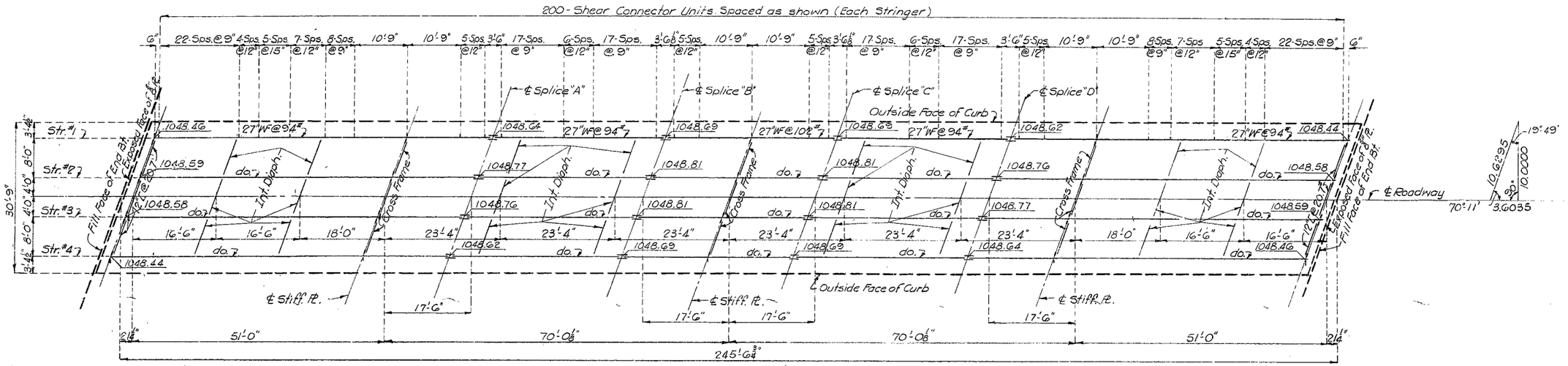
Sheet No. 4 of 8.

A-1589

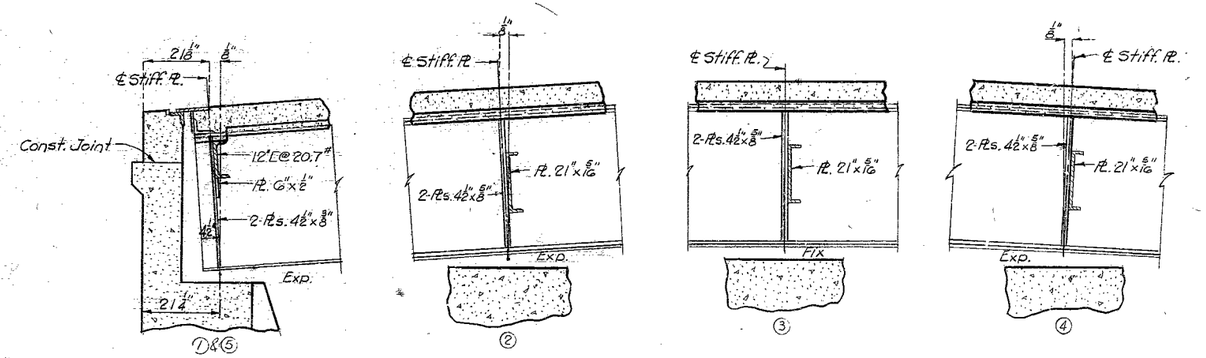
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

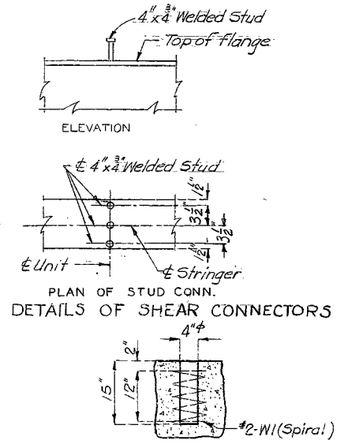
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	92	



PLAN OF STRUCTURAL STEEL



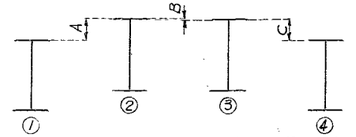
PART LONGITUDINAL SECTION



DETAILS OF SHEAR CONNECTORS

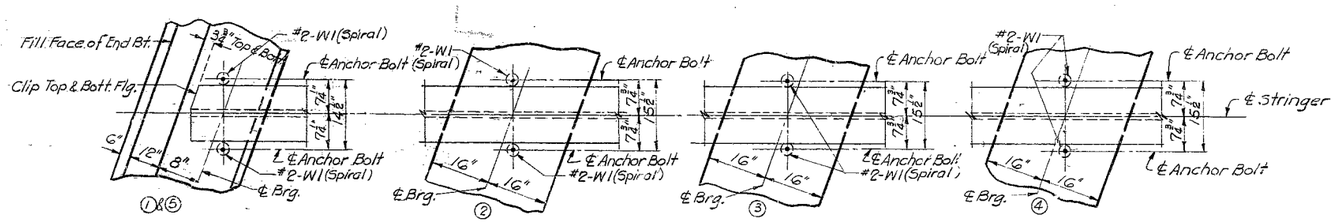
DETAIL OF ANCHOR BOLT WELL

Note: Longitudinal dimensions shown are taken parallel to grade at crown of roadway. Elevations shown are at top of top flange of stringers.



SECTION THRU STRINGER NORMAL TO ℄ ROADWAY

Location	A	B	C
Bt. #1 to Splice "A"	1⅜"	0"	1⅜"
Splice "A" to Splice "B"	Var.	Var.	Var.
Splice "B" to Splice "C"	1⅜"	0"	1⅜"
Splice "C" to Splice "D"	Var.	Var.	Var.
Splice "D" to Bt. #5	1⅜"	0"	1⅜"



PART ANCHOR BOLT PLAN

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18) (RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

DETAILED April 1966 BY Griffith

CHECKED May 1966 BY Tam

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

Sheet No. 5 of 8.

A-1589

NO CONSTRUCTION CHANGES

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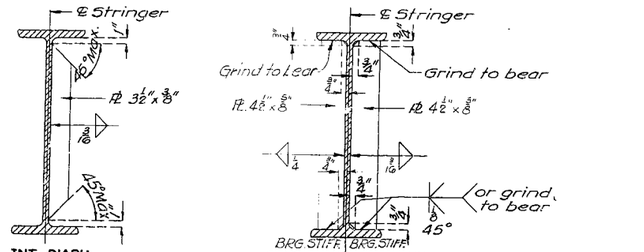
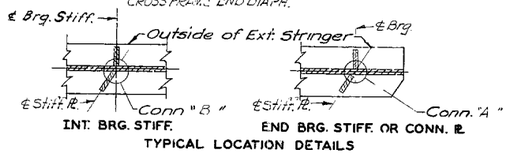
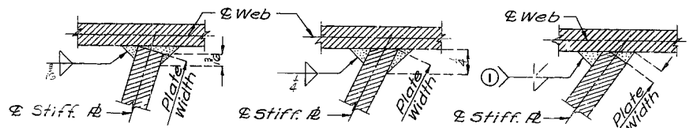
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	93	





TYPICAL LOCATION DETAILS



① Groove weld penetration = ⅜" min. Only welding procedures having good penetration will be permitted on groove welds.

WELDING DETAILS

NOTES: TYPE "D" BEARINGS

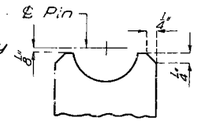
Lead plates under bearings shall be approximately ⅛" thickness and weigh 8# / sq. ft. Cost of lead plates shall be included in price bid for other items.

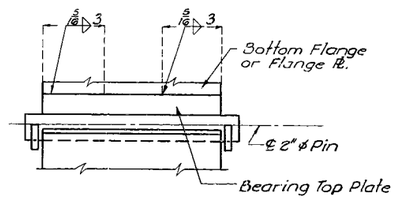
"Estimated weight" does not include weight of anchor bolts.

Rockers and pedestals shall be machined after welding.

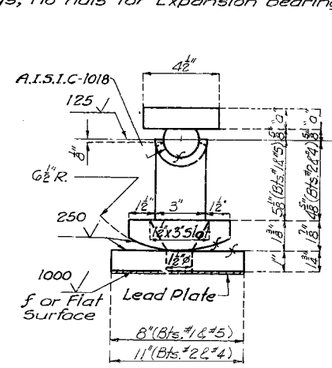
Where flat surface is indicated, tolerance shall be .003 in/in in any direction.

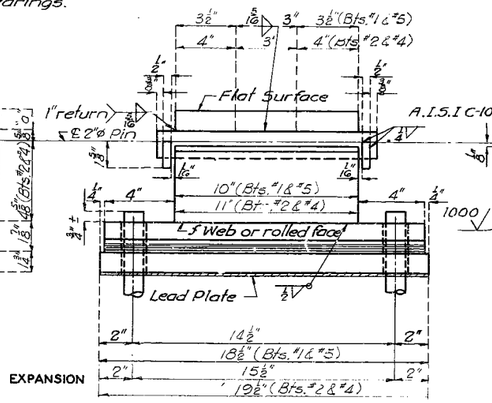
Anchor Bolts for Type "D" Bearings shall be 1¼" ø swedged bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for Fixed Bearings, no nuts for Expansion Bearings.

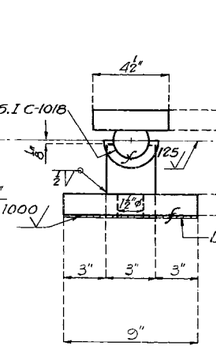


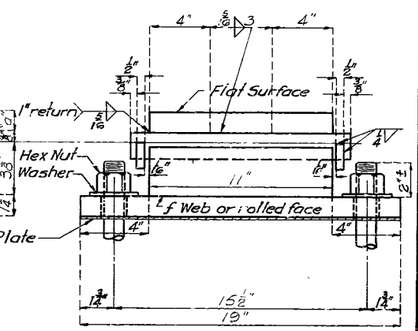


WELDING DETAILS

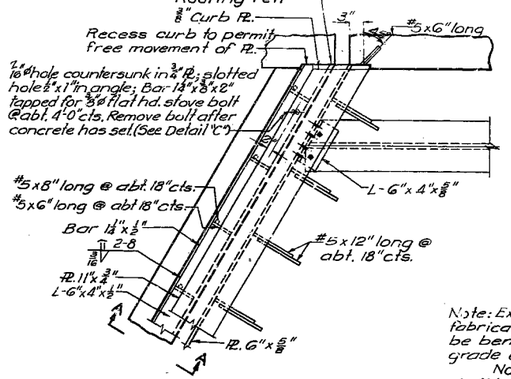


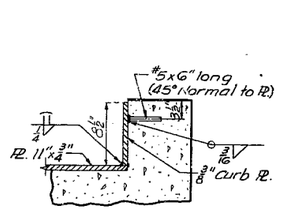


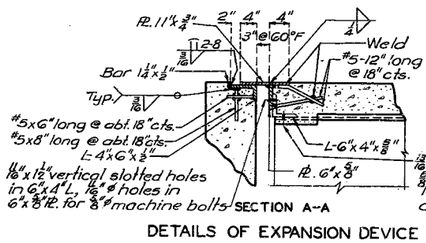




TYPE "D" BEARINGS
(Estimated Weight 3,308#)





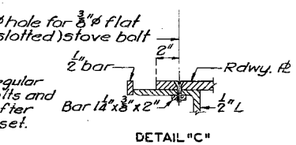


DETAILS OF EXPANSION DEVICE

Note: Expansion Device shall be fabricated in one section and shall be bent to conform to crown and grade of roadway.

No. 5 bars for expansion device shall be structural grade. Approved stud welded anchors may be used in lieu of #5 bars shown.

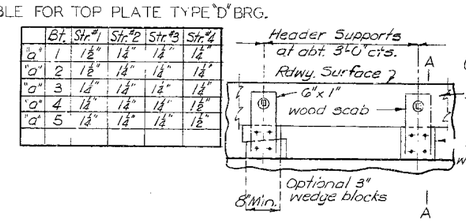
Use 2 Layers of 55# Roofing Felt between the sliding contact surface of curb plate and concrete backwall.

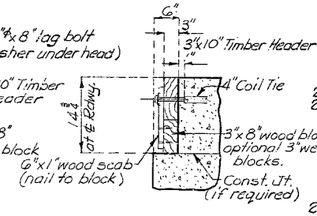


13/16" ø Holes. Use regular ⅞" ø machine bolts and loosen nuts after concrete has set.

TABLE FOR TOP PLATE TYPE "D" BRG.

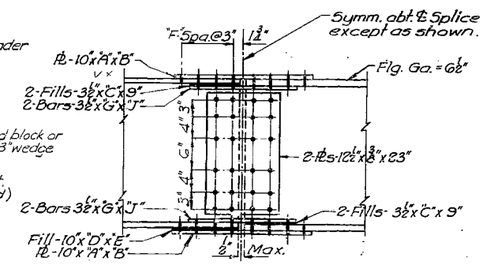
	Bt.	Str.#1	Str.#2	Str.#3	Str.#4
0"	1	12"	12"	12"	12"
"0"	2	12"	12"	14"	14"
"0"	3	12"	14"	14"	14"
"0"	4	12"	12"	14"	16"
"0"	5	12"	12"	12"	12"





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

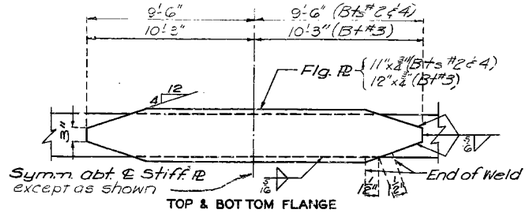
DETAILS OF TIMBER HEADER



WF SIZES	"A"	"B"	"C"	"D"	"E"	"F" SPA.	"G"	"J"
27 WF @ 94# to 102#	½"	2'-0½"	14Ga.	8Ga.	12"	3	⅝"	18½"
27 WF @ 94# to 94#	½"	2'-0½"	–	–	–	3	⅝"	18½"

Note: 13/16" ø Reamed Holes for ⅞" ø high strength bolts.

DETAIL OF 27" WF BEAM SPLICE



DETAILS OF FLANGE PLATES

BRIDGE: ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18)(RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

DETAILED Apr. 1966 BY Griffith

CHECKED May 1966 BY Tam

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

Sheet No. 6 of 8.

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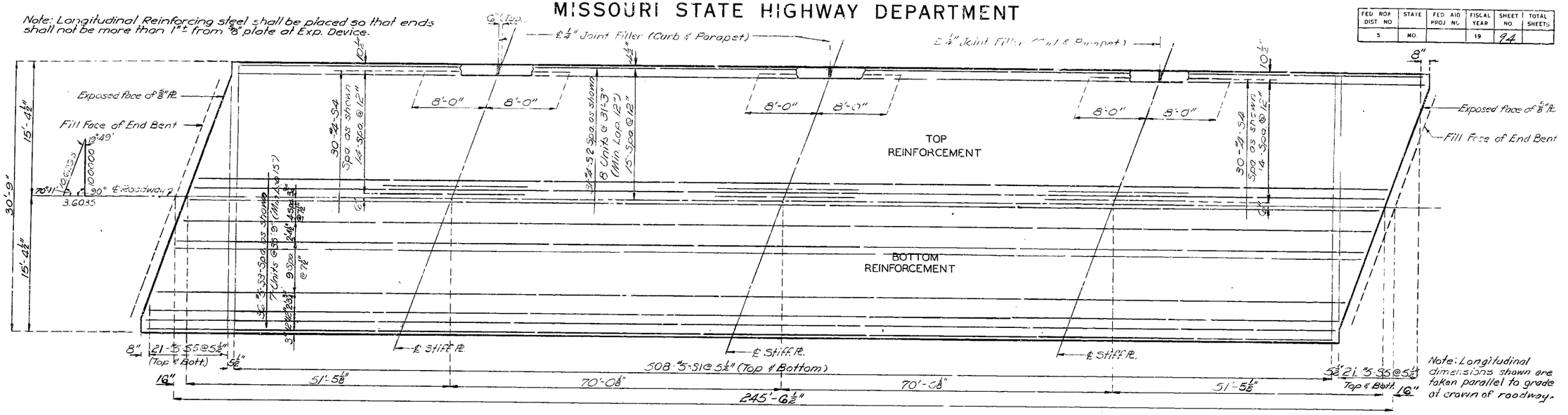
NO CONCRETE

MISSOURI STATE HIGHWAY DEPARTMENT

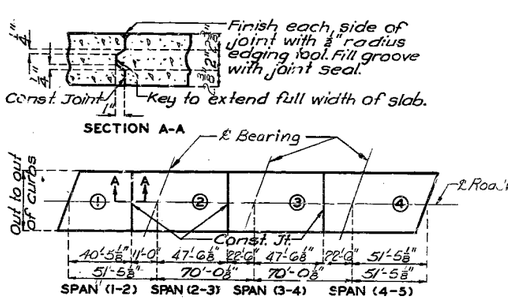
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	94	

Note: Longitudinal Reinforcing steel shall be placed so that ends shall not be more than 1" ± from 8" plate at Exp. Device.



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

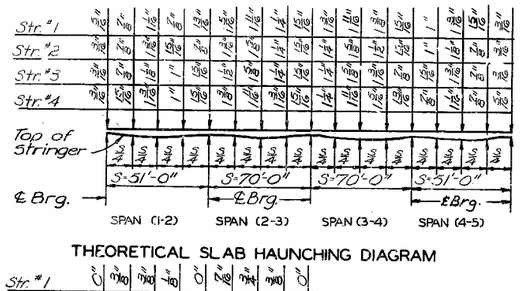
PLAN OF SLAB SHOWING REINFORCEMENT



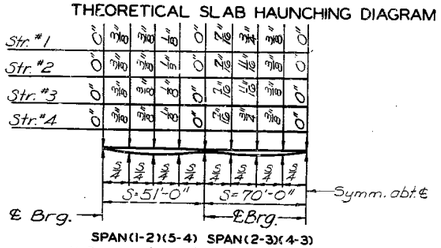
	Sequence of Pours Direction			
Basic Sequence	1	2	3	4
	End to 2	1 to 3	2 to 4	3 to End
Alternate "A" Pours	1+2		3	4
	End to 3		2 to 4	3 to End
Alternate "B" Pours	1+2		3+4	
	End to 3		2 to End	
Alternate "C" Pours	1+2+3+4			
	End to End			

Note: The contractor shall use an approved oscillating screed type, self-propelled mechanical finishing machine and shall pour and satisfactorily finish the slab pours at a rate of not less than 25 cubic yards per hour. He shall observe the basic pouring sequence, unless he can demonstrate to the engineer that he can pour and satisfactorily finish one of the longer alternate pours. Finishing machine loads will not be permitted on concrete less than 48 hours old.

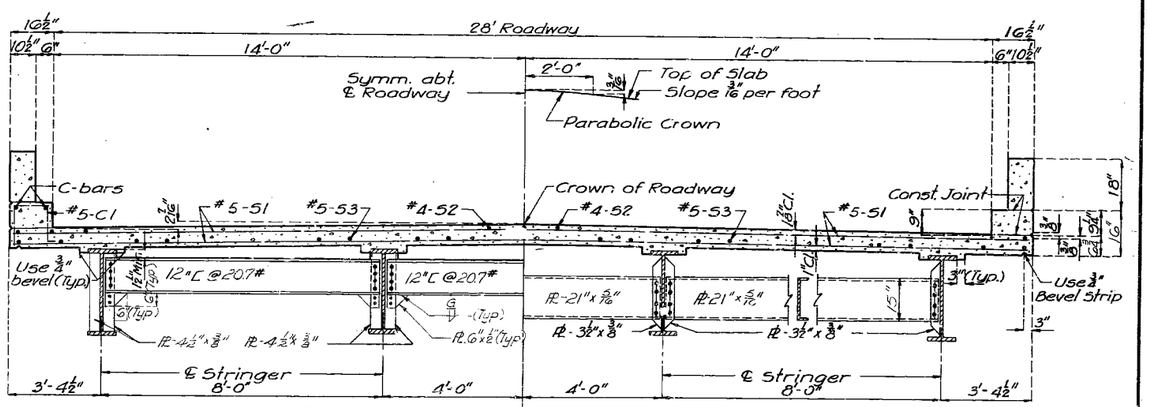
SLAB POURING SEQUENCE



THEORETICAL SLAB HAUNCHING DIAGRAM

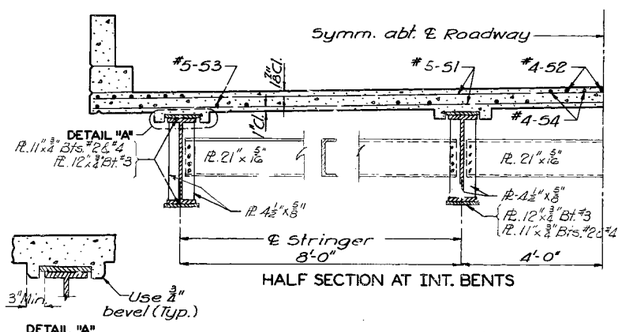


11.5 % Structural Steel
DEAD LOAD DEFLECTION



HALF SECTION NEAR END DIAPH.

HALF SECTION NEAR INT. DIAPH.



HALF SECTION AT INT. BENTS

Note: For details and reinforcement of curb and parapet not shown see sheet No. 8 of 8.

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 65 NEAR WINSTON

ABOUT 4.1 MILES NW. OF ALTAMONT

PROJECT NO. I-IG-35-2(18)(RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

219

No.	Revised
4, 28, 39	Dec. 1965
Oct. 1964	

DETAILED APRIL 1966 BY BUNCH

CHECKED June 1966 BY Johnson

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

Sheet No. 7 of 8.

A-1589

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	95	

GENERAL NOTES:

All handrail posts shall be set normal to grade.

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

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

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

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

All fillets ¼" except as noted.

All drafts 3° except as noted.

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

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

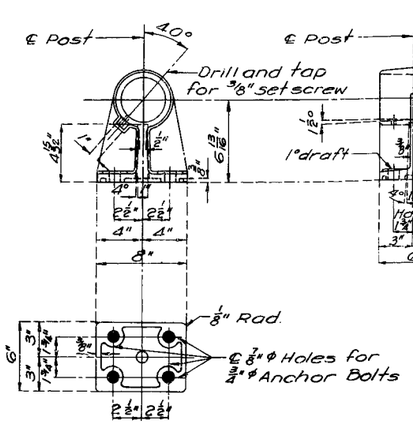
Top of curbs and parapets to be built parallel to grade with curb and parapet joints (except at end posts) normal to grade.

All exposed edges of end posts shall have ½" bevel. All exposed edges of curbs and parapets shall have ½" radius or ⅜" bevel.

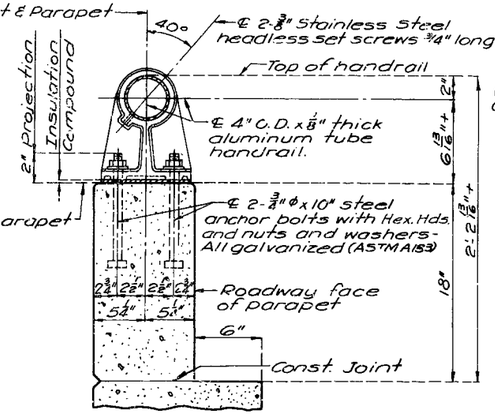
If the contractor desires, he may use drive fit cast aluminum end caps in lieu of welded aluminum closure plates.

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.

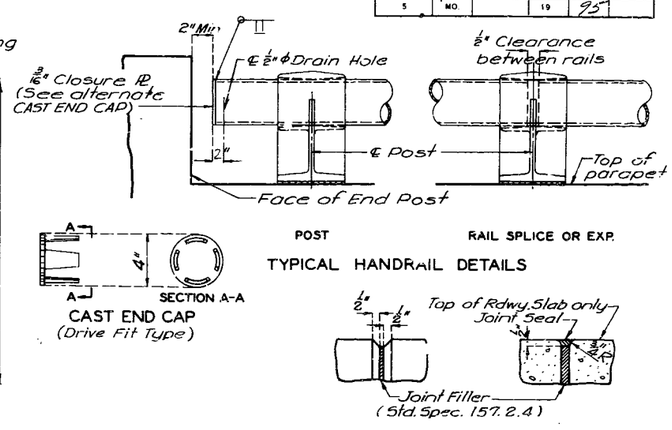
Concrete end posts to be vertical.



POST DETAILS



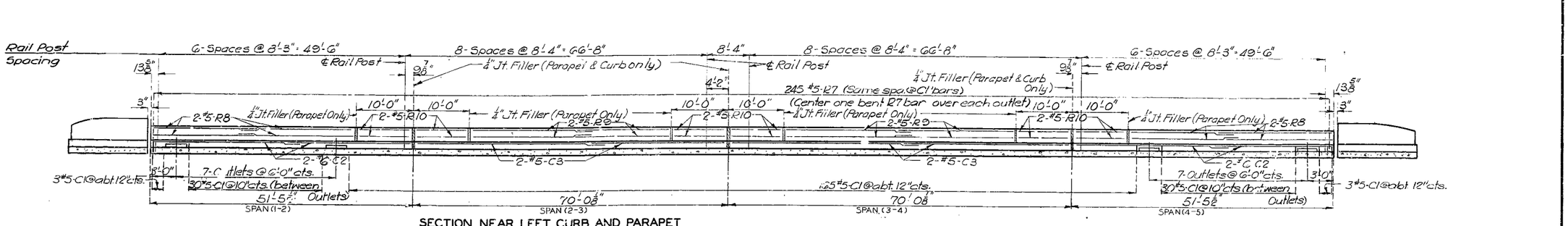
SECTION THRU HANDRAIL



TYPICAL HANDRAIL DETAILS

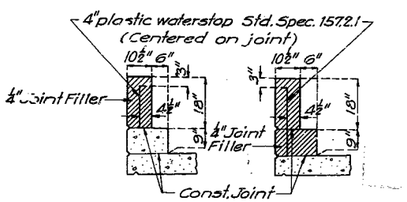
SINGLE TUBE ALUMINUM RAILING

FILLED JOINT DETAILS



SECTION NEAR LEFT CURB AND PARAPET

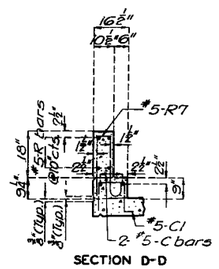
Note: Longitudinal dimensions are along top of parapet.

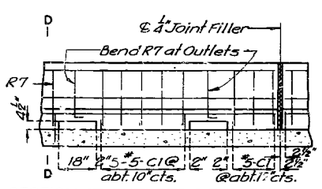


Note: Plastic waterstop shall be placed in all parapet and curb filled joints.

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

DETAILS OF PLASTIC WATERSTOP





SECTION AT OUTLETS & EXP. JOINT

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

BRIDGE : ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18) (RTE. I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

A-1589

2220

No.	Revised	Oct. 1965
1.5.2		
Nov. 1	59	

DETAILED May 1966 BY Griffith

CHECKED June 1966 BY Johnson

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

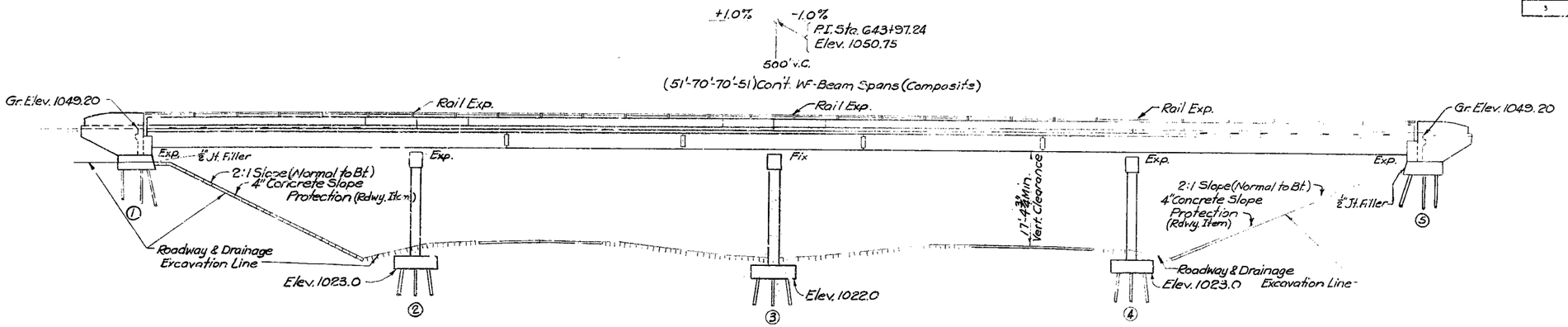
Sheet No. 8 of 8.

NO CONSTRUCTION

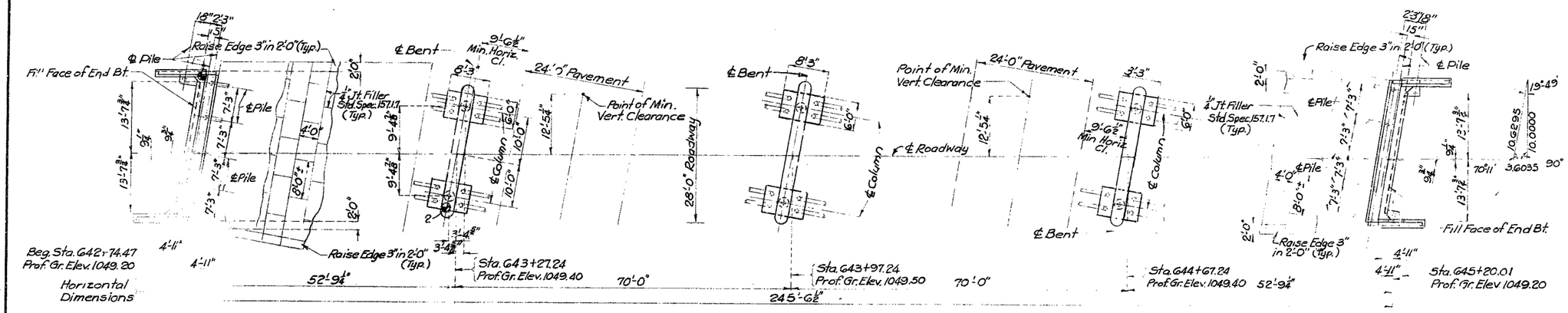
MISSOURI STATE HIGHWAY DEPARTMENT

FINAL PLANS

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

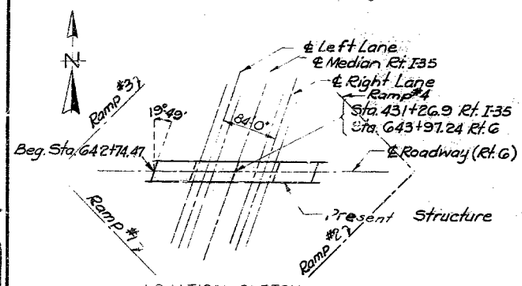


GENERAL ELEVATION



PLAN

Note: For boring data see sheet No. 2 of plans. Dr. indicates location of boring.



LOCATION SKETCH

FINAL QUANTITIES

Item		SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yd.	117.0		117.0
Cast-in-place Concrete Piles	Lin. Ft.	782		782
Class B Concrete	Cu. Yd.	112.5		112.5
Class B1 Concrete	Cu. Yd.		207.1	207.1
Reinforcing Steel	Lbs.	15,670	57,440	73,110
Painting	Tons		624	624
Fabricated Structural Carbon Steel	Lbs.		126,210	126,210
Bridge Rail (Single Tube Type)	Lin. Ft.		486	486

Note: All concrete and reinforcing in end posts, parapets and curbs is included with superstructure quantities.

PILE DATA

BENT NO.		1	2	3	4	5
Type		Foundation				
Kind		Cast-in place				
Number		7	10	10	10	7
Approximate Length	Ft.	25	15	15	13	25
Design Bearing	Tons	27	25	26	25	27
Min. Tip Penetration	Elev.	1020.0	1010.0	1010.0	1010.0	1020.0
Pile Standard		52.02	52.02	52.02	52.02	52.02
Hammer Energy required	Ft-lbs.	8,000	8,000	8,000	8,000	8,000

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

RECORDED

B.M. Elev. 1049.74 "D" on N.E. cor. of Lt. wingwall Abut. No. 5

BRIDGE ROUTE 6 UNDERPASS

STATE ROAD FROM S. OF CIVIL BEND TO U.S. 69 NEAR WINSTON

ABOUT 4.1 MILES N.W. OF ALTAMONT

PROJECT NO. I-IG-35-2(18) (RTE I-35) **STA.** 431+26.9

DAVIESS **COUNTY**

RECOMMENDED

SUBMITTED BY ..... BRIDGE ENGINEER ..... DATE .....

APPROVED BY ..... CHIEF ENGINEER ..... DATE .....

STD. 52.02
STD. 54.00
A-1589

221

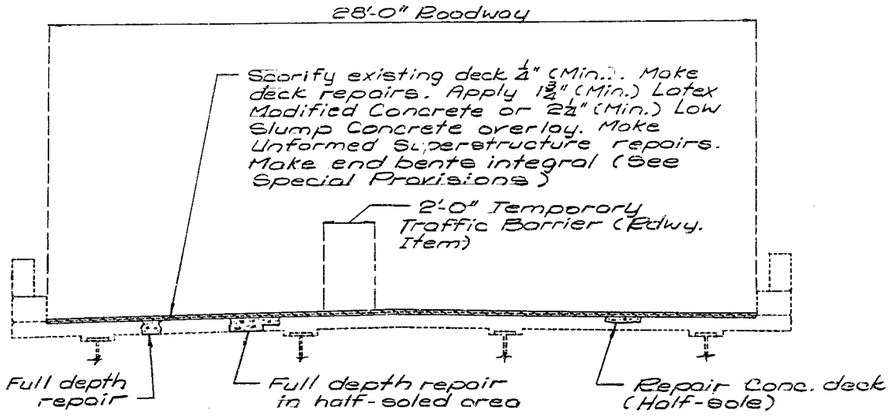
DESIGNED Apr. 1966 BY P.C. Shen
DETAILED May 1966 BY Griffith & Bunch
CHECKED June 1966 BY Johnson & Tam

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

Sheet No. 1A of 1. FINAL PLANS

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ NO.	SHEET NO.
MO		34
SEC/SUR 28	TWP 59N	RGE 29W



SECTION THRU SLAB

GENERAL NOTES:

Design Specifications:
A.A.S.H.T.O. - 1983 and Interims 1984 thru 1989.

Design Unit Stresses:
Class B1 Concrete f'c = 4,000 psi
Reinforcing Steel (Gr 60) fy = 60,000 psi

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

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

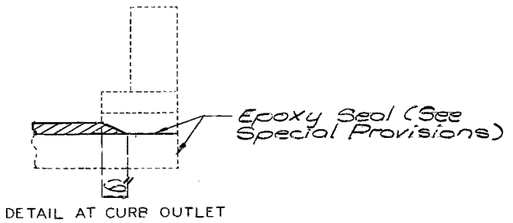
Bars bonded in old concrete not removed shall be clearly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.

Maintain one lane of traffic over structure during construction.

Roadway surfacing adjacent to bridge ends to match bridge overlay.

ESTIMATED QUANTITIES

ITEM		TOTAL
Superstructure Repair (Unformed) See Spec. Prov.	Sq. Ft.	120
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	132
Full Depth Repair	Sq. Ft.	66
Concrete Wearing Surface (See Spec. Prov.)	Sq. Yds.	764
Special Work (Bridges)	Lump Sum	1
Class B1 Concrete	Cu. Yds.	21.0
Reinforcing Steel (Bridges)	Lbs.	1200



DETAIL AT CURB OUTLET

108

DESIGNED May 1989
DETAILED May 1989
CHECKED June 1989

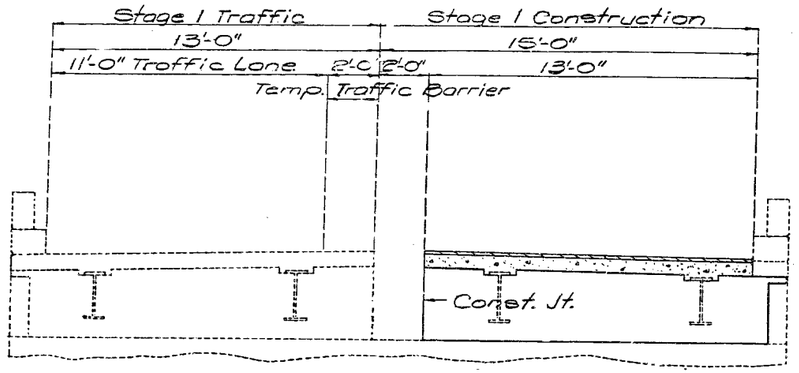
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 3

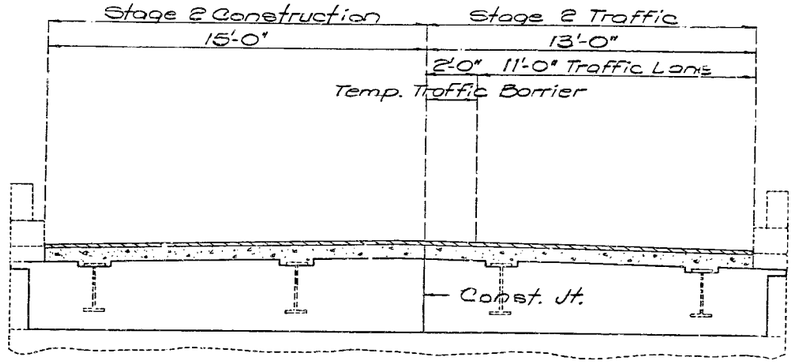
REPAIRS TO:
BRIDGE ROUTE 6 UNDERPASS
STATE ROAD FROM BETHANY TO CAMERON
ABOUT 2 MI. NORTH OF WINSTON
PROJECT NO. IR-35-2(58) **STA.** 431 + 26.9 (℄ MEDIAN)
JOB NO. (1-I-460-35) **RTE.** I-35
DAVIESS I-I 460 35 **COUNTY**
DATE 11/17/89

STD. STL. A-1589R

STATE	PROJ NO	SHEET NO
MO		35

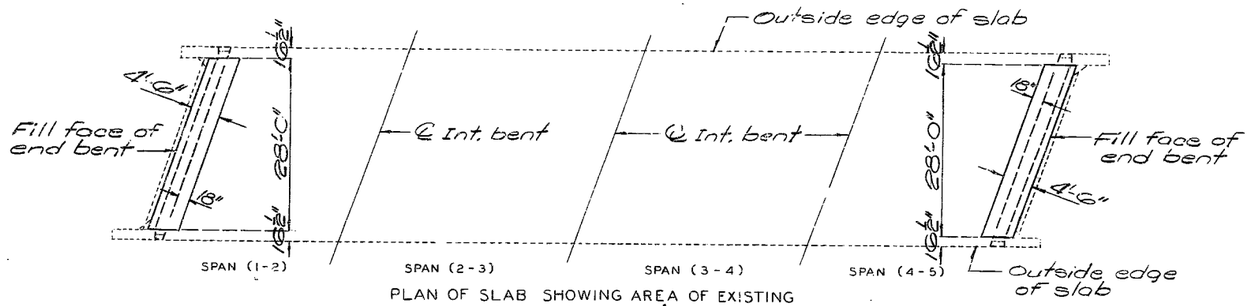


SECTION AT END BENT
(STAGE 1)

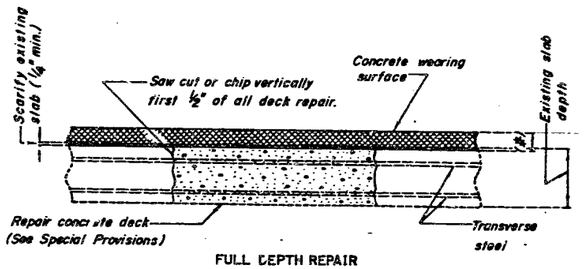


SECTION AT END BENT
(STAGE 2)

STAGE CONSTRUCTION SEQUENCE

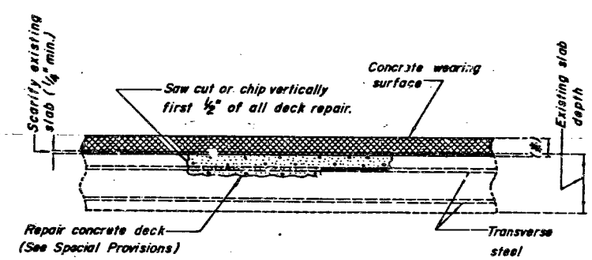


PLAN OF SLAB SHOWING AREA OF EXISTING SLAB REPLACEMENT



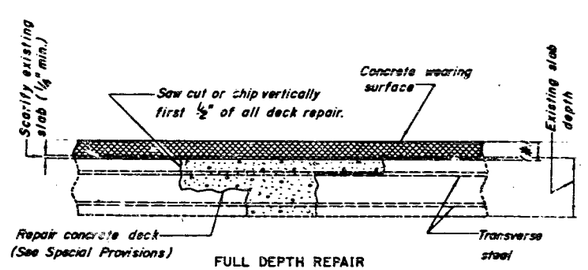
FULL DEPTH REPAIR

(*) 1¾" for latex modified concrete
2¼" for low slump concrete



HALF-SOLED AREA

(*) 1¾" for latex modified concrete
2¼" for low slump concrete



FULL DEPTH REPAIR
HALF-SOLED AREA

(*) 1¾" for latex modified concrete
2¼" for low slump concrete

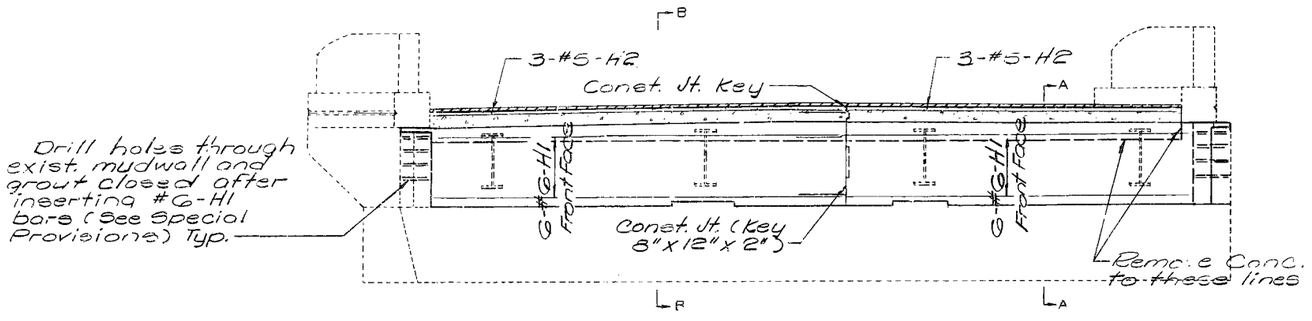
109

DETAILED May 1989
CHECKED June 1989

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

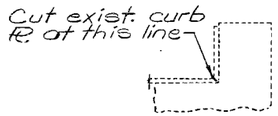
DAVIESS COUNTY A-1589R

STATE	PROJ NO	SHEET NO
MO		36

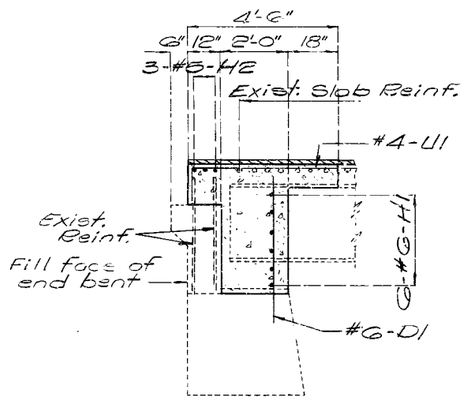


SECTION AT END BENT

BILL OF REINFORCING STEEL (EA. BENT)					
NO. REQD	SIZE & MARK	SHAPE	ACTUAL LENGTH	WEIGHT	BENDING DIAGRAM
12	6-H1	20	15'-8"	282	SHAPE 20
6	5-H2	20	15'-8"	98	4'-6"
20	6-D1	20	4'-3"	128	9"
27	4-U1	19	5'-2"	93	SHAPE 19

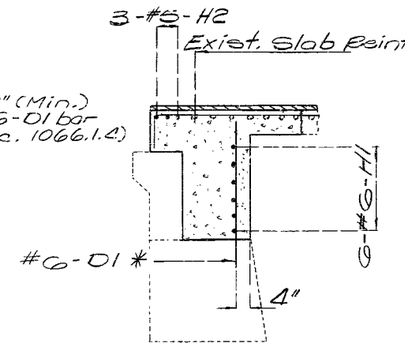


SECTION THRU EXIST. CURB AT EXP. DEVICE



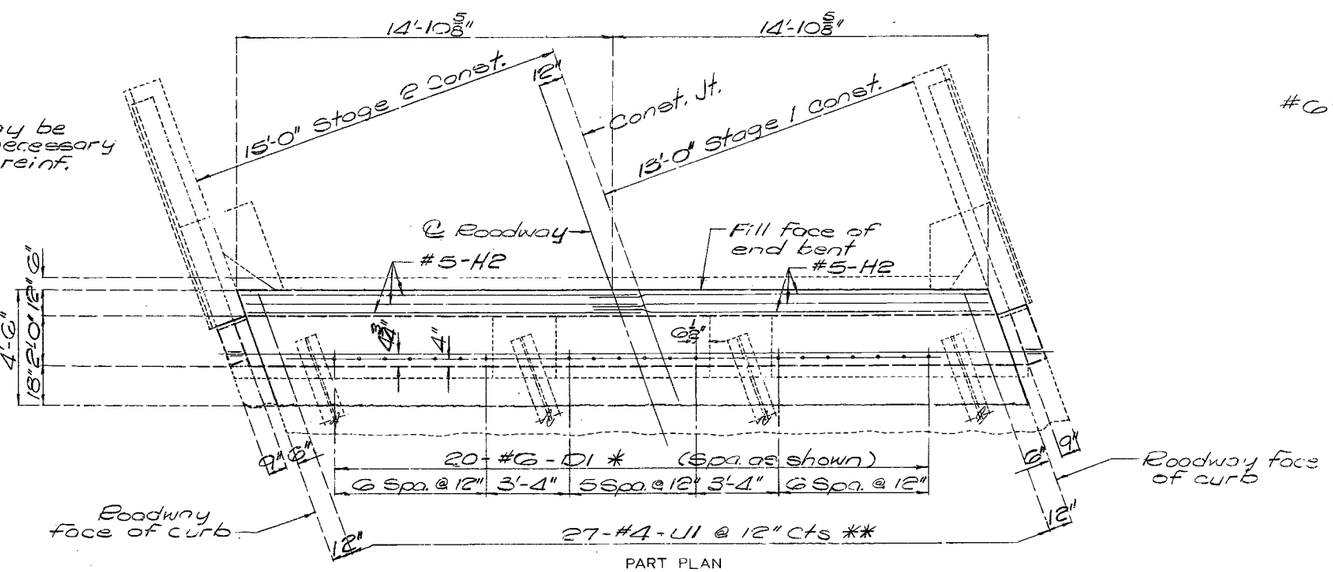
SECTION A-A

Note:
* Drill 1" ϕ hole 9" (Min.) deep and grout #6-D1 bar in place (Std. Spec. 1066.1.4)

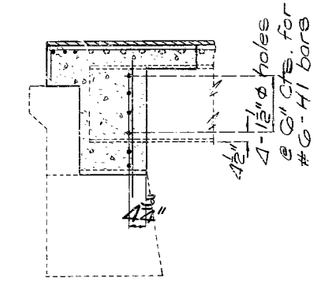


SECTION B-B

Note:
#6-D1 bars may be shifted where necessary to clear exist. reinf.



PART PLAN



WEB HOLE DETAILS IN EXISTING STRINGERS AT END BENTS

** Tie #4-U1 to existing longitudinal bars in the slab.

DETAILED May 1989
CHECKED June 1989

DETAILS OF END BENTS NO. 1 & 5

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

Sheet No. 3 of 3

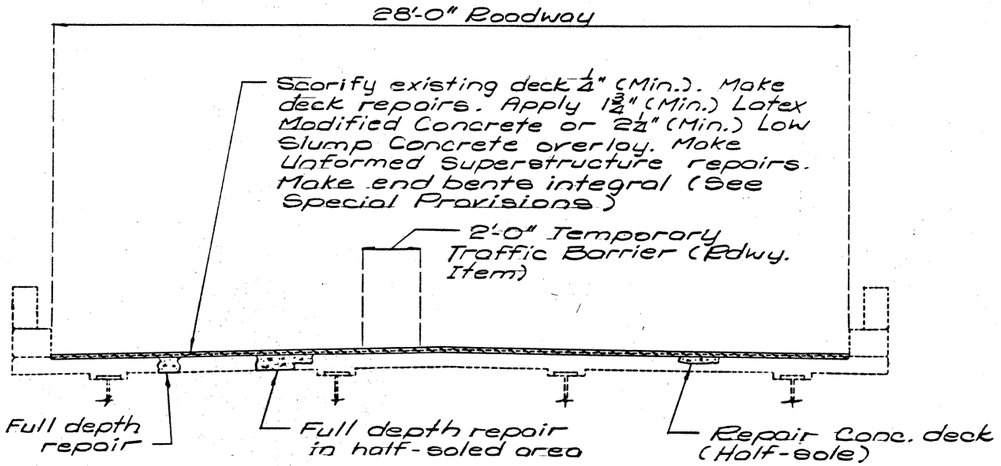
DAVIESS COUNTY

A-1589R

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FINAL PLANS

STATE	PROJ. NO	SHEET NO
MO.	IR-35-2(58)	34
SEC./SUR. 28	TWP. 59N	RGE. 29W



SECTION THRU SLAB

GENERAL NOTES:

Design Specifications:
A.A.S.H.T.O. - 1983 and Interims 1984 thru 1989.

Design Unit Stresses:
Class B1 Concrete f'c = 4,000 psi
Reinforcing Steel (Gr 60) fy = 60,000 psi

Minimum clearance to reinforcing steel shall be 1 1/2" unless otherwise shown.

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

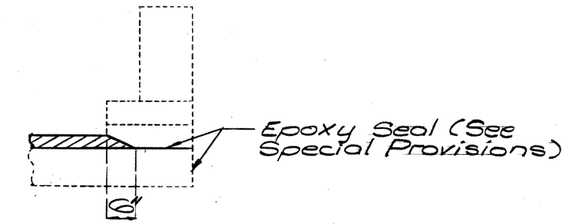
Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.

Maintain one lane of traffic over structure during construction.

Roadway surfacing adjacent to bridge ends to match bridge overlay.

FINAL QUANTITIES

ITEM		TOTAL
Superstructure Repair (Unformed) See Spec. Prov.	Sq. Ft.	211
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	681
Full Depth Repair	Sq. Ft.	0
Concrete Wearing Surface (See Spec. Prov.)	Sq. Yds.	764
Special Work (Bridges)	Lump Sum	1
Class B1 Concrete	Cu. Yds.	21.0
Reinforcing Steel (Bridges)	Lbs.	1200



DETAIL AT CURB OUTLET

40

DESIGNED May 1989
DETAILED May 1989
CHECKED June 1989

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

Sheet No. 1 of 3

REPAIRS TO:
BRIDGE ROUTE 6 UNDERPASS
STATE ROAD FROM BETHANY TO CAMERON
ABOUT 2 MI. NORTH OF WINSTON
PROJECT NO. IR-35-2(58) **STA.** 431 + 26.9 (℄ MEDIAN)
JOB NO. 1-I-460-35 **RTE.** I-35
DAVIESS **COUNTY**
DATE 11/17/89

STD.
STD.
A-1589R

PREPARED BY Steve Pittsenbarger DATE June 25, 1991 CHECKED BY [illegible] DATE 7-24-91

Missouri Department of Transportation

STRUCTURAL REHABILITATION CHECKLIST

Bridge No.:	A1589	**Job No.:**	NW0009
Route:	6	**Over:**	I-35
County:	Daviess	**Date of Field Check:**	10/26/2022

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

1

OVERLAY

* **Type of existing overlay:** ☑ None ☐ Asphalt ☐ Low Slump ☐ Silica Fume ☐ Latex ☐ Epoxy ☐ Other: _____

* **Existing overlay thickness:** _____ " * **Year overlay was applied:** _____ ☐ Unknown

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

* **Notes:** Crack sealing consistently across the entire deck

Picture # DSCN2779

2A

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

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

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

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

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

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

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

* **Cantilever replacement:** _____ lin. ft.

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

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

* **Superstructure replacement:** ☐ Yes ☑ No ☐ Optional

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

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

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

* **Notes:** _____

Picture # DSCN2779, DSCN2783

2B

DECK REPAIRS CONT.

*** ISSUES / PROBLEMS WITH PRECAST PRESTRESSED DECK PANELS**

Spans	At Panel Jt.	Btwn (mid) Panel Jt.	Location in Span: End	Mid	End	Deterioration: Type	Amount	Describe
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	
	☐	☐	☐	☐ ☐ ☐	☐		sq. ft	

* **Notes:** N/A

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

Picture # DSCN2779

3

APPROACH SLABS

* **Is there a bridge approach slab in place?** ☑ Yes ☐ No * **Type:** ☐ Concrete ☐ Asphalt ☑ Other **Unknown**

* **Is there rdwy. approach pavement in place?** ☐ Yes ☐ No * **Type:** ☐ Concrete ☐ Asphalt ☑ Other **Unknown**

* **Is the approach slab sinking at the end bent?** ☐ N/A ☐ Yes ☐ No **Some breaking deck, east end**

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

* **Full replacement of bridge approach slab?** ☑ Yes ☐ No

* **Notes:**

Picture # DSCN2775, DSCN2778, DSCN2780, DSCN2783

4

SLAB DRAINS

* **Is the drainage system working adequately?** ☑ Yes ☐ No

* **Recommendations:** Replace or blockout exist. Barrier and add slab drain system.

* **Notes:** _____

_____

Picture #

5

CURBS & RAILS

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

☐ Other _____ ☑ Handrail ☐ Fence _____

* Does curb need repai ☑ Yes ☐ No * Curb repair _____ lin. ft.

* Remove hand rail ☑ Yes ☐ No * Add curb blockou ☐ Yes ☐ No

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

☐ Other _____ ☑ Handrail ☐ Fence _____

* Does curb need repai ☑ Yes ☐ No * Curb repair _____ lin. ft.

* Remove hand rail ☑ Yes ☐ No * Add curb blockou ☐ Yes ☐ No

* **Existing median curb:** Type: _____ Width _____" Height _____"

* Does curb need repai ☐ Yes ☐ No * Curb repair _____ lin. ft.

* **Approach rail attachment:** ☐ None ☐ Not attached ☐ 4 Hole ☑ 5 Hole ☐ Turn-down ☐ Other _____

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

Storage address: *location:* _____

address: _____

city: _____ *state:* _____ *zip:* _____

* **Notes:** _____

_____

Picture # DSCN2783

6

EXPANSION DEVICES

Bent	Type	Recommendations	Gap Left	Gap Right	Temperature & Other Info
		☐ USE-IN-PLACE ☐ REPAIR ☐ REPLACE	"	"	
			"	"	
			"	"	
			"	"	
			"	"	
			"	"	

* Notes: N/A

Picture #

7

BEARINGS

Bent	Coating	Recommendations	Notes (indicate which bearings at each bent)
W 1	☐ CLEAN & OVERCOAT ☐ BLAST CLEAN & RECOAT	☐ USE-IN-PLACE ☐ REPAIR ☐ RESET ☐ REPLACE ☐ MAKE END BENT SLIDING SLAB ☐ MAKE END BENT INTEGRAL	Integral
2	☑		All
3	☑		All
4	☑		All
E 5	☐		Integral
	☐		

* Notes:

Picture # (Provide Pictures of Each Bearing)
DSCN2788, DSCN2790, DSCN2794, DSCN2795, DSCN2796, DSCN2809, DSCN2810, DSCN2811, DSCN2812

8

COATING SYSTEM (PAINT)

* Existing coating system: Sys S ☐ green ☑ gray ☐ other

* Date last coated: 1/26/99

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

* Coating recommendation:
☑ Blast clean & recoat all steel
☐ Clean & overcoat all steel
☐ Blast clean & recoat only at joint locatic
☐ Blast & recoat at joint locations and clean & overcoat all other steel

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

* Notes: Scattered areas of peeling

Picture # DSCN2814

9

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

Concrete Slab Superstructure or Girder: *(above the bearings)*
(Example: Deck solid slabs, voided slabs, box girders, deck girders & prestressed girders)

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

Member *(Check all that apply) (Attach pictures)*					**Describe & Locate**
N 1	☐ Section Loss	%	☐ Cracks	in.	Ext. top & bottom flange
2	☐ Section Loss	%	☐ Cracks	in.	
3	☐ Section Loss	%	☐ Cracks	in.	
S 4	☐ Section Loss	%	☐ Cracks	in.	Ext. top & bottom flange

Notes: Recomment removal of overhang between 1-2 and 4-5, clean girders add slab drains

Picture # DSCN2789

10

SUBSTRUCTURE REPAIR

Bent	**Formed Repair**	**Unformed Repair**	**Seal Concrete Beam Cap Bts.**	**Coat Exposed Pile @ Int. Pile Cap Bts.**	**Describe (Beam, Backwall, Wing, etc.)**
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	
	sq. ft.	sq. ft.	☐ Yes ☐ No	☐ Yes ☐ No	

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

* **Notes:** Substructure looks good, all bents

Picture # DSCN2797, DSCN2804

11

SIGNS, SIGNALS &/OR LIGHTING ATTACHED TO STRUCTURE

* **Are there signs attached directly to this structure?** ☐ Yes ☑ No quantity _____ location _____

* **Describe proposed work to be done to signs.** _____

* **Are there signals attached directly to this structure?** ☐ Yes ☑ No quantity _____ location _____

* **Describe proposed work to be done to signals.** _____

* **Is there aviation lighting attached to this structure?** ☐ Yes ☑ No ☐ N/A ☐ Red _____ *qnty.* ☐ Green _____ *qnty.*

* **Is there navigational lighting attached to this structure?** ☐ Yes ☑ No ☐ N/A ☐ Red _____ *qnty.* ☐ Green _____ *qnty.*

* **Is there roadway lighting attached to this structure?** ☐ Yes ☑ No ☐ N/A

* **Describe proposed work to be done to lighting.** _____

* **Notes:** _____

Picture #

12

UTILITIES ATTACHED TO STRUCTURE

Type	Qty.	Size	Owner	Condition
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove
☐ Conduit ☐ Pipeline ☐ Other				☐ Repaint ☐ Repair ☐ Replace ☐ Remove

* **Notes:** AT&T pedestal SE quad.

Picture # DSCN2786

13

CATHODIC PROTECTION SYSTEM

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

* **Is it on and working?** ☐ Yes ☐ No ☐ Unknown _____

* **Notes:** _____

_____

Picture #

14

CHANNEL ALIGNMENT, SLOPE PROTECTION & SCOUR

* **Is channel aligned to bridge opening?** ☐ Yes ☐ No Describe _____

* **Is drift a continual problem?** ☐ Yes ☐ No Describe & Locate _____

* **Is erosion a problem?** ☐ Yes ☐ No Describe & Locate _____

* **Describe slope protection in place.** _____

* Scour	At Footing	At Piling	Depth	Bent	Recommendation
	☐	☐			
	☐	☐			

* **Describe needed work.** N/A

_____

_____

Picture #

15

TRAFFIC LANES

* **Number of lanes striped:** on structure 2 under structure 4

* **Shoulder width:** ☑ None on structure _____ (left) _____ (right) under structure 4' (left) 10' (right)

* **Sidewalk widths:** on structure _____ (left) _____ (right) under structure _____ (left) _____ (right)

* **Median width:** on structure _____ under structure _____

* **Proposed improvements for lanes/shoulders/sidewalks:** _____

_____

Picture # DSCN2786

16

GENERAL AREA CONDITIONS

* **Primary area:** ☐ Commercial ☐ Industrial ☐ Residential ☑ Agricultural ☐ Military ☐ Other _____

* **Posted speed limit on structure:** 55 mph

* **Posted load on structure:** _____ tons @ _____ mph ☑ NA

Single Unit: _____ tons @ _____ mph ☑ NA

Semi (tractor/trailer): _____ tons @ _____ mph ☑ NA

* **Are both signs in place?** ☐ Yes ☐ No

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

* **Notes:** _____

Picture #

17

MAINTENANCE

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

Resurfacing recently to MO 6 and I-35. Guardrail upgraded to shield columns, intermediate bents adjacent to NB and SB I-35 in the median and outside shoulders.

Picture # DSCN2786, DSCN2783

18

ADDITIONAL FIELD NOTES

Concrete slope protection is "just okay" on both ends of the bridge. Water ponds at the base of the slope between the slope protection and columns at bents 2 and 4. Potential problem.

Picture # DSCN2791, DSCN2792, DSCN2807, DSCN2808,

19

STAGING / DETOUR

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

☐ Other option _____

* **Define probable detour route.** TBD

_____

_____

20

PERSONS ASSISTING WITH CHECKLIST

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

Name Rick Orr Title Project Manager Ph. (816) 387 - 2483

Name _____ Title _____ Ph. ( ) -

Name _____ Title _____ Ph. ( ) -

Name _____ Title _____ Ph. ( ) -

21

REQUIRED SIGNATURES

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

Name _____ **Date** _____

Transportation Project Manager

Name _____ **Date** _____

District Bridge Engineer

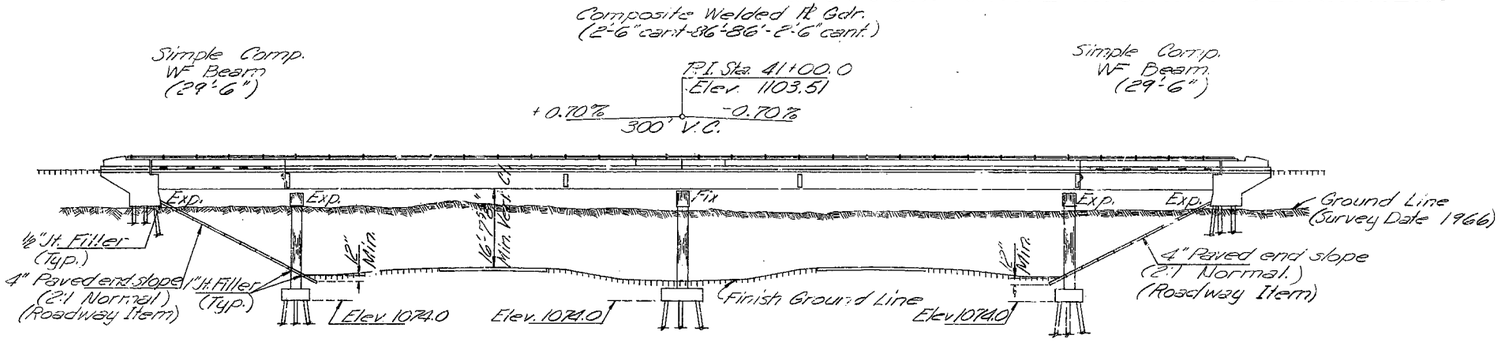
The structural rehabilitation checklist indicates how the bridge is functioning and aging.

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

Send **NEW** Structural Rehabilitation Checklist by email
To: "Bridge Survey Processor"
Cc: Structural Project Manager or Structural Resource Manager

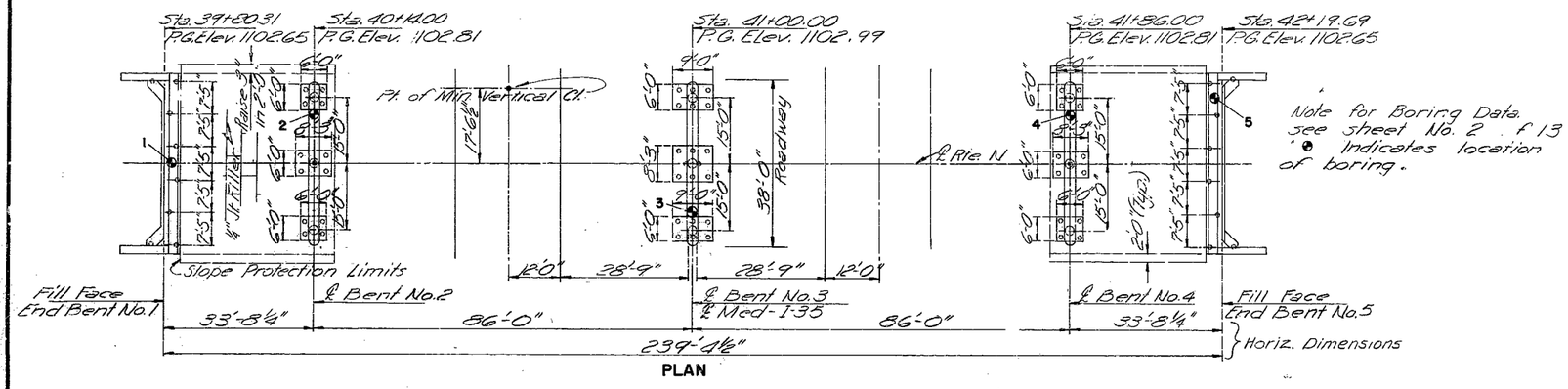
MISSOURI STATE HIGHWAY DEPARTMENT

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

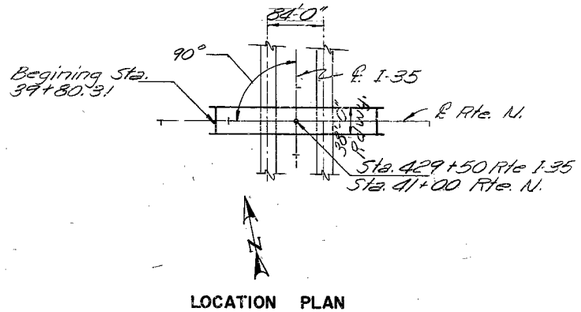


① ② ③ ④ ⑤

ELEVATION



PLAN



LOCATION PLAN

PILE DATA

BENT NO.		1	2	3	4	5
Size and Type		C.I.P. 14"	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"
Number		8	13	20	13	8
Approximate Length	Ft.	27'	13'	16'	15'	27'
Design Bearing	Tons	30	27	30	27	30
Minimum Tip Penetration	Elev.	1061.0			1051.0	1056.0
Pile Standard		52.02	52.02	52.02	52.02	52.02
Hammer Energy Required	Ft. Lbs	8000	8000	8000	8000	8000
Kind - (Foundation)		—	—	—	—	—
	⚠	1069.0	1064.0	1064.0	1064.0	1063.0

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

ESTIMATED QUANTITIES

ITEM	UNITS	SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yds.	175	—	175
Cast-in Place Concrete Piles	Lin. Ft.	1,116	—	1,116
Class B Concrete	Cu. Yds.	168.6		168.6
Class B1 Concrete	Cu. Yds.		278.5	278.5
Reinforcing Steel	Lbs.	21,670	82,980	104,650
Painting	Tons.		89.2	89.2
Fabricated Structural Carbon Steel (WF)	Lbs.		23,000	23,000
Fabricated Structural Carbon Steel (Grd.)	Lbs.		156,860	156,860
Bridge Railing (Single tube)	Lin. Ft.		496	496

Note: No payment for excavation will be allowed at end bents No.1 & 5.
All concrete and reinforcing in end posts, parapets and curbs is included with superstructure quantities.

Bench Marks (U.S.G.S. 1929 Adj.)
BM. 140 Elev. 1088.45
Sta. 422+36 - 139.4 Lt.
Br. Spike in P.P.

GENERAL NOTES:

SPECIFICATIONS:
A.A.S.H.O. - 1965

DESIGN LOADING:
H20-44 (15 #/sq. ft. Future Wearing Surface.)
Earth 120#, Equivalent Fluid Pressure 30#
Fatigue - Case I.

DESIGN UNIT STRESS:
Class B Concrete (substructure) f_c = 1200 p.s.i.
Class B1 Concrete (superstructure) f_c = 1,600 p.s.i.
Reinforcing Steel f_s = 20,000 p.s.i.
Structural Steel (A.S.T.M. A36-66 f_s = 20,000 p.s.i.

SURFACE SEAL:
"Superstructure deck to be surface sealed."

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

PAINTING:
Paint: Shop, none: Field, by contractor in accordance with Std. Spec. 55.4.10.

WELDING:

The minimum size of fillet welds shall be in accordance with A.W.S. D20-66, article 217(b) except the minimum size fillet weld connecting parts carrying primary stress shall be ¼".

STATE OF MISSOURI
ARTHUR G. LATHAM
NUMBER E-10699
REGISTERED PROFESSIONAL ENGINEER

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22) (RTE I-35) STA. 429+50
HARRISON **COUNTY**

SUBMITTED BY: D. Causey, BRIDGE ENGINEER, DATE 8-15-68
APPROVED BY: [illegible], CHIEF ENGINEER, DATE 8-15-68

STD. 52.02
STD. 54.00
A-2291

BURGWIN & MARTIN
CONSULTING ENGINEERS
DESIGNED A.G. Latham DETAILED G.L. Moore
DESIGN CK. W. McDonald DETAIL CK. C.B. Phillips

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

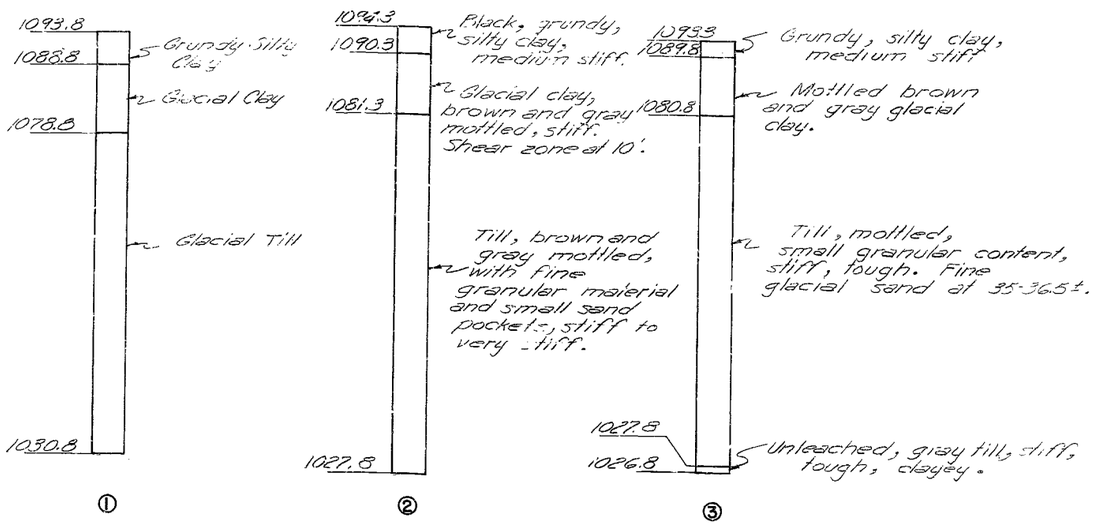
⚠ 9/24/68

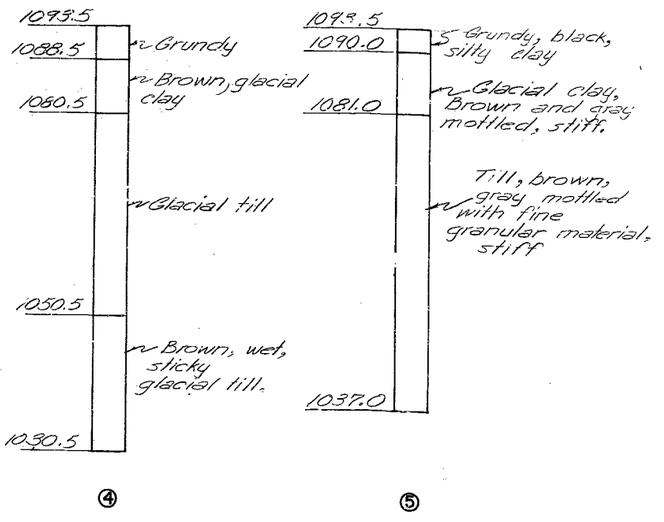
Sheet No. 1 of 13.

527

MISSOURI STATE HIGHWAY DEPARTMENT

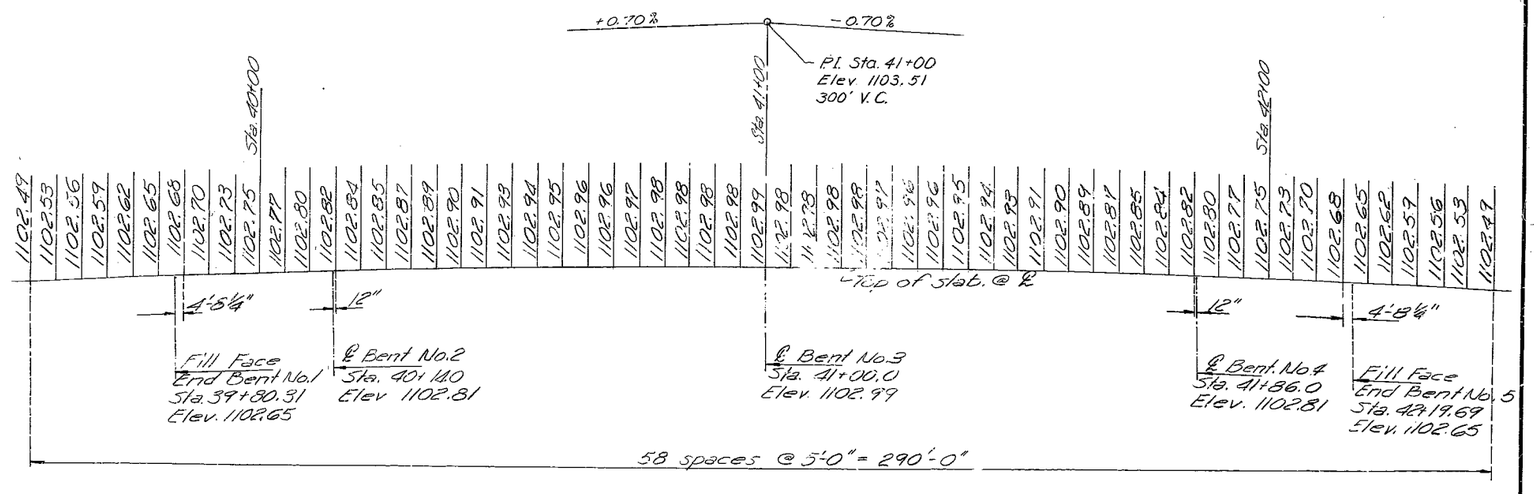
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	109	





BORING DATA

Note: For location of borings see sht 1 of 13.



PROFILE GRADE ELEVATION

528

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.G. Latham	DETAILED G.L. Moore
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) STA. 429+50
HARRISON **COUNTY**

A-2291

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	1:0	

COMPLETE BILL OF REINFORCING STEEL

END BENTS NO.1 & NO.5

NO.	SIZE	LENGTH	MARK	LOCATION
4	#6	40'-3"	H1	Bk wall
16	#4	20'-9"	H2	"
8	#8	42'-3"	H3	Beam
4	#7	40'-3"	H4	"
20	#7	15'-3"	H5	"
8	#8	23'-3"	H6	"
16	#8	12'-9"	H7	"
16	#6	11'-0"	H8	Bk wall
8	#6	21'-0"	H9	Beam
20	#6	6'-3"	H10	"
16	#6	15'-0"	H11	Wing
8	#6	10'-9"	H12	Wing
8		11'-0"	T1	Wing
8		2'-9"	T2	"
8	#6	10'-3"	T3	"
78	#4	12'-3"	U1	Beam
44	#4	8'-9"	U2	"
10	#4	6'-6"	U13	Wing
76	#4	3'-9"	U4	Beam
64	#5	7'-3"	V1	Bk wall
38	#5	5'-0"	V2	"
24	#4	7'-6"	V3	Wing
40	#4	'-0"	V4	"
8	#4	6'-3"	V5	"
20	#2	19'-6"	W1	A.B. Wells

INT. BENTS NO. 2 & NO. 4

NO.	SIZE	LENGTH	MARK	LOCATION
54	#8	4'-0"	D21	Ftg.
8	#7	7'-9"	D22	"
4	#7	14'-0"	D23	"
12	#5	5'-6"	D24	"
32	#6	7'-6"	D25	"
16	#9	6'-6"	H21	Beam
4	#9	37'-3"	H22	"
8	#5	9'-9"	H23	"
4	#9	39'-3"	H24	"
4	#10	11'-0"	H25	"
4	#6	34'-9"	H26	"
6	#10	34'-9"	H27	"
8	#9	34'-9"	H28	"
108	#3	8'-0"	I21	Col.
88	#4	10'-3"	U21	Beam
4	#4	3'-3"	U22	"
4	#4	2'-9"	U23	"
18	#4	3'-6"	U24	"
54	#8	19'-9"	V21	Col.
20	#2	19'-6"	W1	A.B. Wells

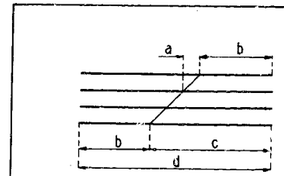
INT. BENT NO. 3

NO.	SIZE	LENGTH	MARK	LOCATION
27	#8	4'-0"	D31	Ftg.
12	#8	8'-6"	D32	"
4	#8	15'-6"	D33	"
6	#9	17'-6"	D34	"
12	#5	5'-6"	D35	"
6	#9	7'-9"	D36	"
6	#9	8'-6"	D37	"
8	#7	6'-6"	H31	Beam
2	#10	39'-0"	H32	"
4	#9	10'-6"	H33	"
2	#10	40'-0"	H34	"
2	#6	34'-9"	H36	"
6	#11	34'-9"	H37	"
2	#10	12'-0"	H35	"
51	#3	8'-0"	I31	Col.
48	#4	10'-3"	U31	Beam
26	#4	10'-6"	U32	"
3	#4	3'-6"	U33	"
28	#8	20'-3"	V31	Col.
10	#2	19'-6"	W1	A.B. Wells

SUPERSTRUCTURE

NO.	SIZE	LENGTH	MARK	LOCATION
82	#4	30'-3"	S1	Slab.
205	#4	35'-3"	S2	"
84	#6	30'-3"	S3	"
210	#6	36'-0"	S4	"
40	#4	16'-0"	S5	"
360	#6	40'-6"	S6	"
52	#5	3'-3"	C1	Curb
112	#5	3'-6"	C12	"
8	#6	10'-9"	C13	"
8	#6	30'-3"	C21	"
24	#5	30'-6"	C25	"
3	#5	4'-7"	R11	Parapet
4	#5	5'-9"	R12	"
4	#5	6'-6"	R13	"
1	#5	7'-0"	R14	"
1	#5	7'-3"	R15	"
8	#5	7'-6"	R16	"
496	#5	5'-3"	R17	"
4	#5	6'-0"	R18	"
4	#5	6'-9"	R19	"
16	#4	10'-0"	R110	"
16	#4	6'-9"	R111	"
20	#3	4'-3"	R112	"
16	#5	30'-3"	R113	"
48	#5	26'-9"	R114	"
16	#5	9'-7"	R115	"

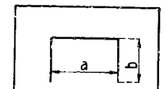
BENDING SKETCHES & CUTTING DIAGRAMS



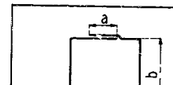
*BEND AS SHOWN

CUTTING SCHEDULE

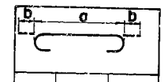
REMARKS	a	b	c	d	
4-H11 cut 1,3	18"	5'-3"	9'-9"	15'0"	
6-H3 cut 2d	9"	2'-1"	3'-5"	7'-6"	



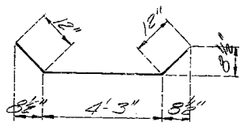
MARK	a	b
U3	6"	3'-0"
U2	2'-5"	3'-3½"
D23	7'-3"	3'-4½"
D25	16"	3'-1"
U22	2'-3"	6"
U23	2'-"	6"
U24	2'-5"	6½"
D33	5'-0"	3'-9"
D34	8'-0"	4'-9"
U33	2'-3"	6½"
U-4	2'-5"	6½"
R2	9"	2'-6"
R3	9"	2'-10½"
R4	7"	3'-1½"
R5	9"	3'-3"
R6	9"	3'-4½"
R8	9"	2'-7½"
R9	9"	3'-0"
R10	7½"	4'-8½"
C1	13"	13"



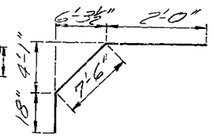
MARK	a	b	c
U21	13"	2'-2"	2'-5"
U31	13"	3'-2"	2'-5"
U32	12"	3'-2"	1'-7"



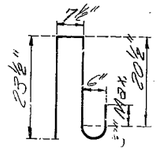
H13	40'-1"	13"
H16	21'-1"	13"
H22	34'-9"	15"
H24	36'-9"	15"
H32	34'-9"	19½"
H34	36'-9"	19½"



H-10

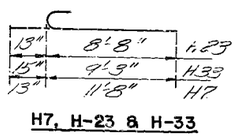


T-1

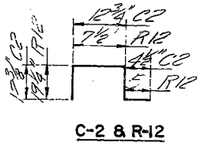


R-7

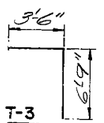
P-21



H7, H-23 & H-33



C-2 & R-12



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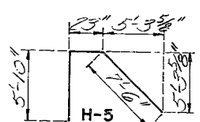
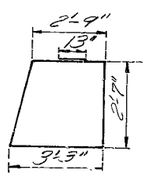
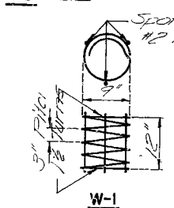


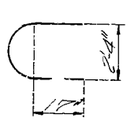
H-5



U-1



W-1



H-21 & H31

Note:
All bar dimensions to be out to out of bars.

Note:
All Hooks and bends to be in accordance with A.C.I Manual of Standard Practice for Detailing Reinforced Concrete Structures (A.C.I - 315-65.)

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO F-35-2(22) (RTE. I-35) STA. 429+50

HARRISON COUNTY

529

STD. 96.4	AUG. 1963
REVISED	NOV. 1967

BURGWIN & MARTIN
CONSULTING ENGINEERS

DESIGNED A.G. Latham DETAILED G.L. Moon
DESIGN CK. W. Mcdaniel DETAIL CK. C.B. Phillips

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

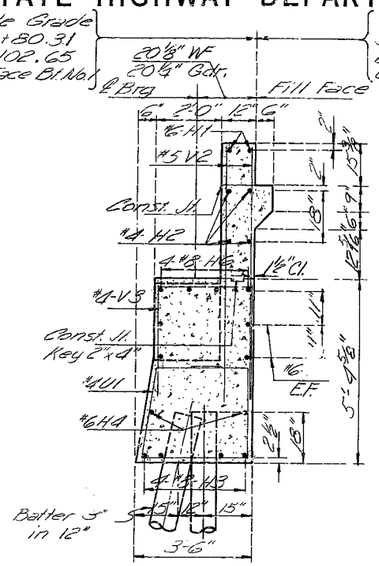
A-2291

MISSOURI STATE HIGHWAY DEPARTMENT

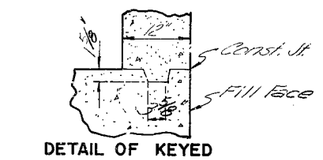
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	111	

Note: See sht. 13 of 13 for dimensions and reinforcing in end post, curb and parapet.

ELEVATION

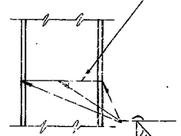


SECTION A-A

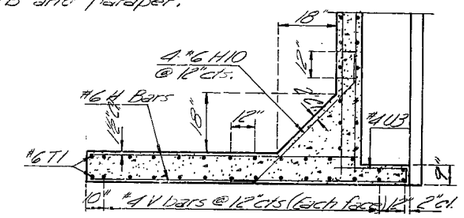


DETAIL OF KEYED CONSTRUCTION JOINT

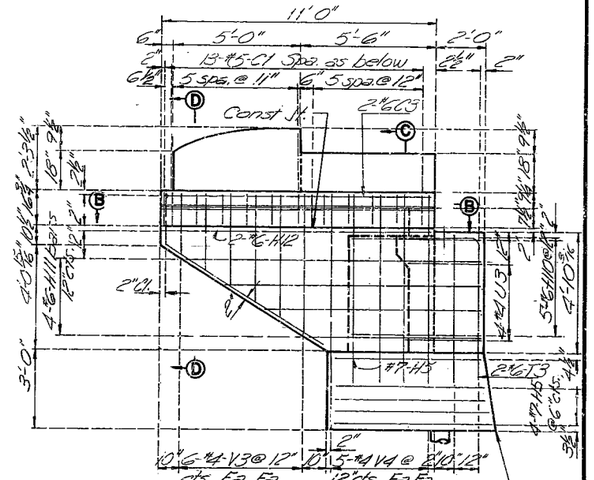
Butt splice (if required) Top of lower section to be cut square.



DETAIL OF STEEL PILE SPLICE



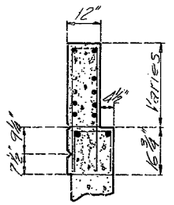
SECTION B-B



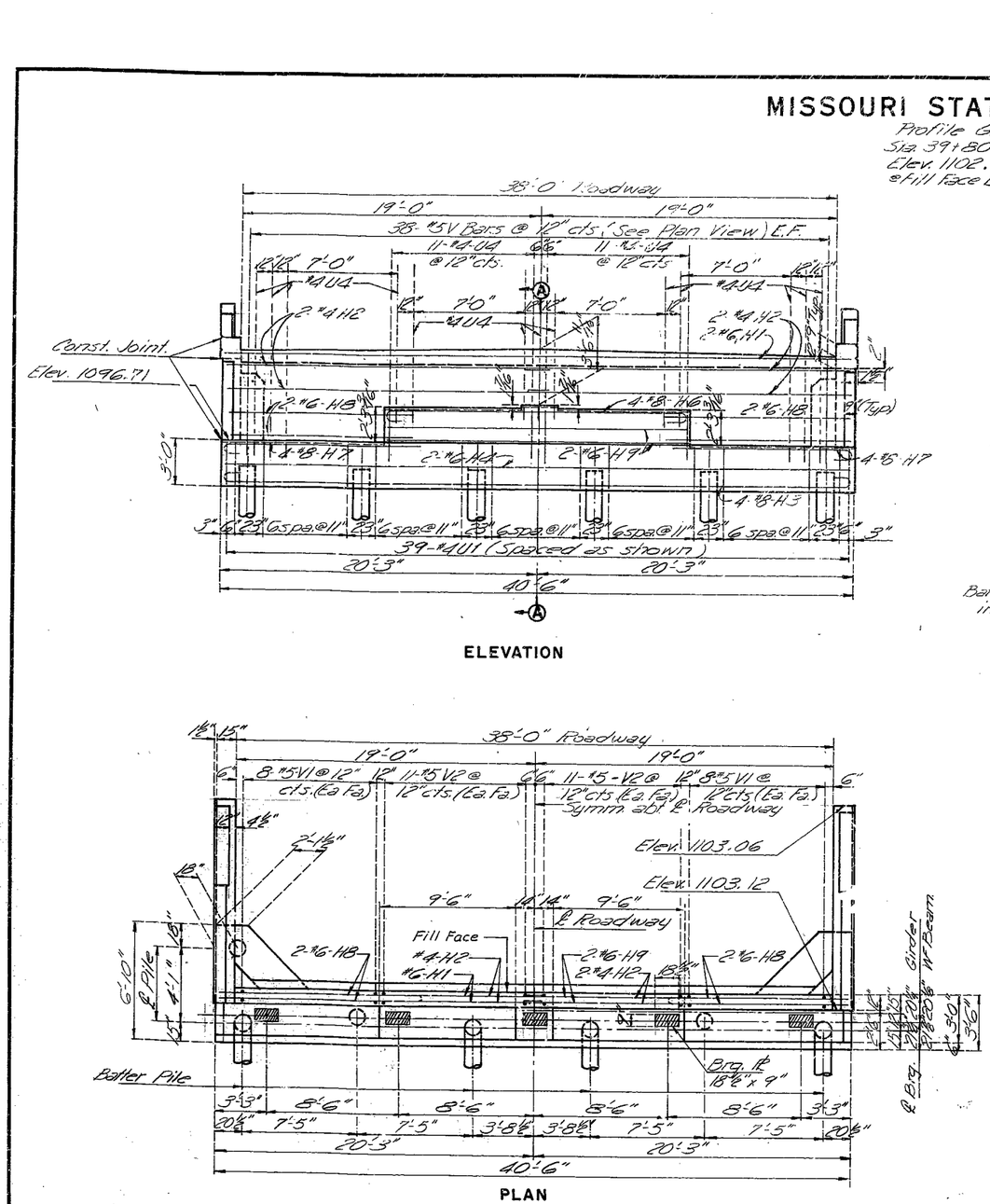
RIGHT & LEFT WING ELEVATION

Elev. 1093.71

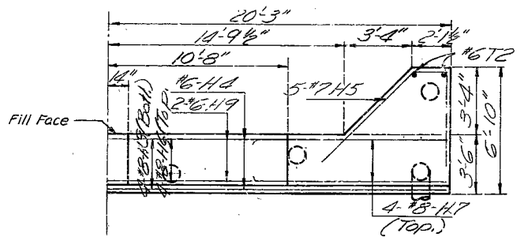
SECTION C-C



SECTION D-D



PLAN



PART PLAN OF BEAM

Note: Top of backwall and expansion device for end bent No.1 and No.5 to conform to crown of roadway slab.

Backwall above upper construction joint shall not be poured until the structural steel of the expansion device has been installed and slab has been poured in adjacent span. Fill at end bents No.1 & No.5 shall not be carried above bottom of beam and wings until adjacent superstructure span is in place.

DETAILS OF END BENTS NO. 1 & NO. 5

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) STA. 429+50
HARRISON COUNTY

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.B. Latham	DETAILED G.L. Moon
DESIGN CK. H. McDonald	DETAIL CK. C.B. Phillips

Note: This drawing not to scale. Follow dimensions.

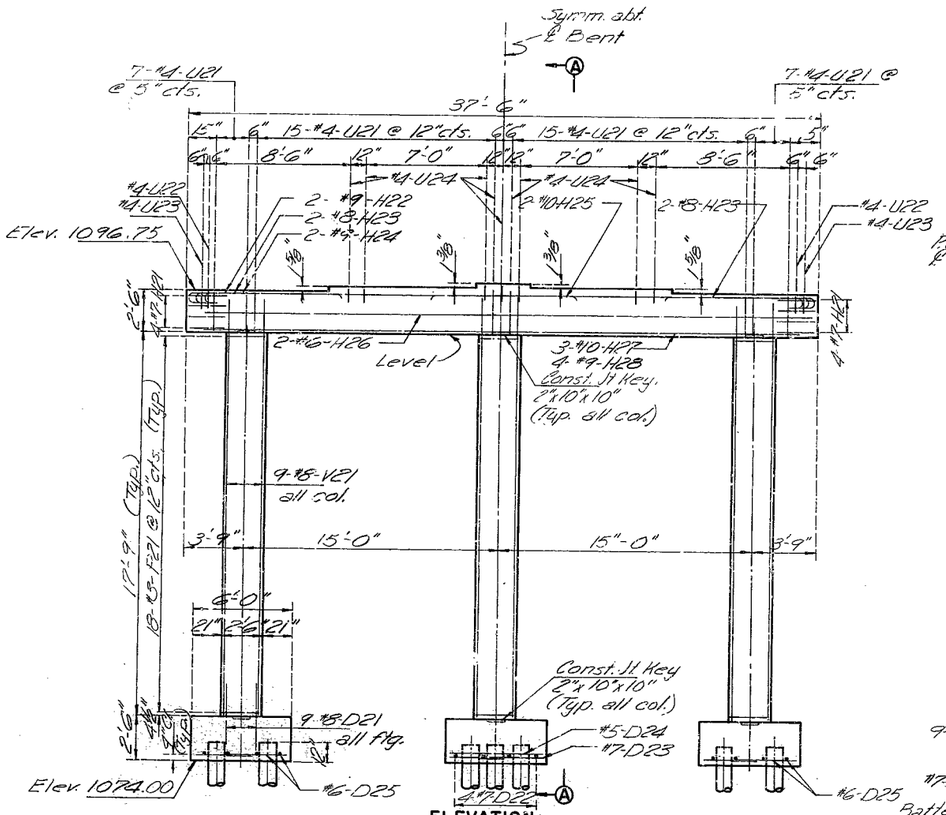
Sheet No. 4 of 13.

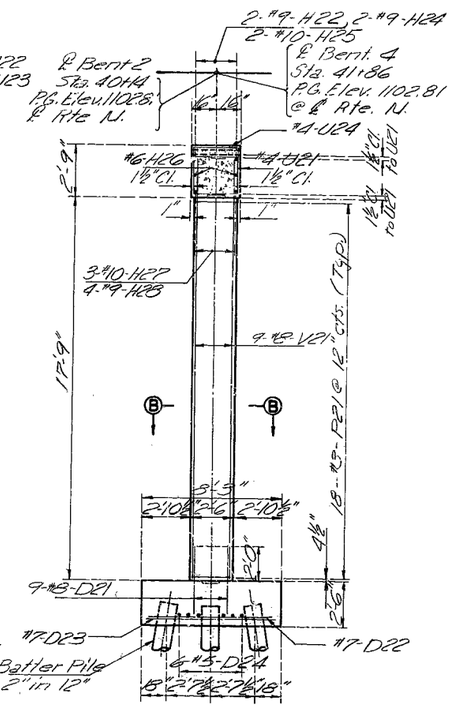
A-2291

530

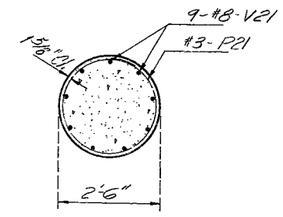
MISSOURI STATE HIGHWAY DEPARTMENT

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

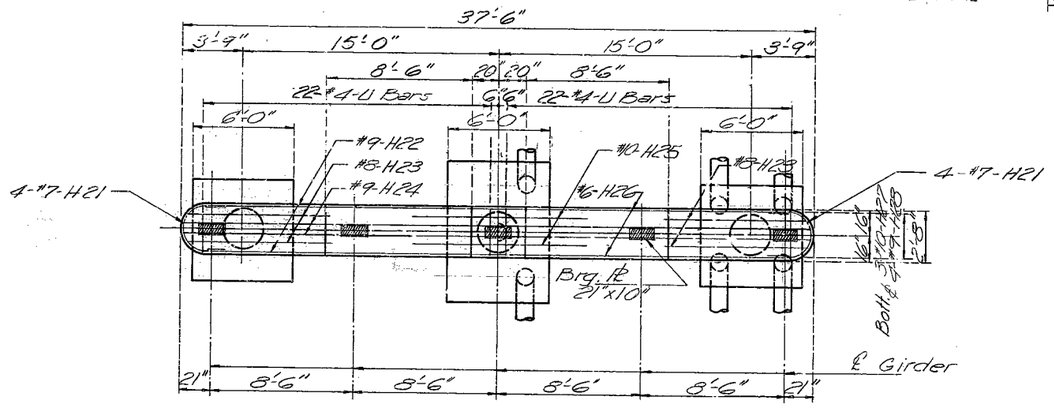




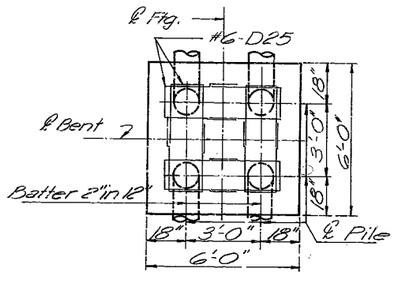
SECTION A-A



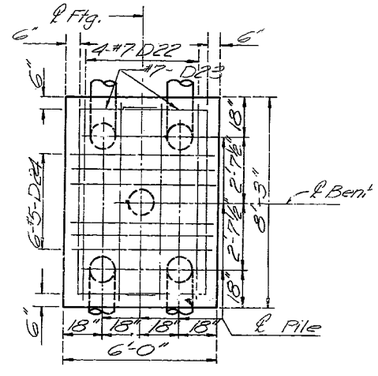
SECTION B-B



PLAN



EXT. FOOTING PLAN



INT. FOOTING PLAN

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) STA. 429+50
HARRISON COUNTY

531

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.G. Latham	DETAILED G.L. Moon
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

DETAILS OF INTERIOR BENTS NO.2 & NO. 4

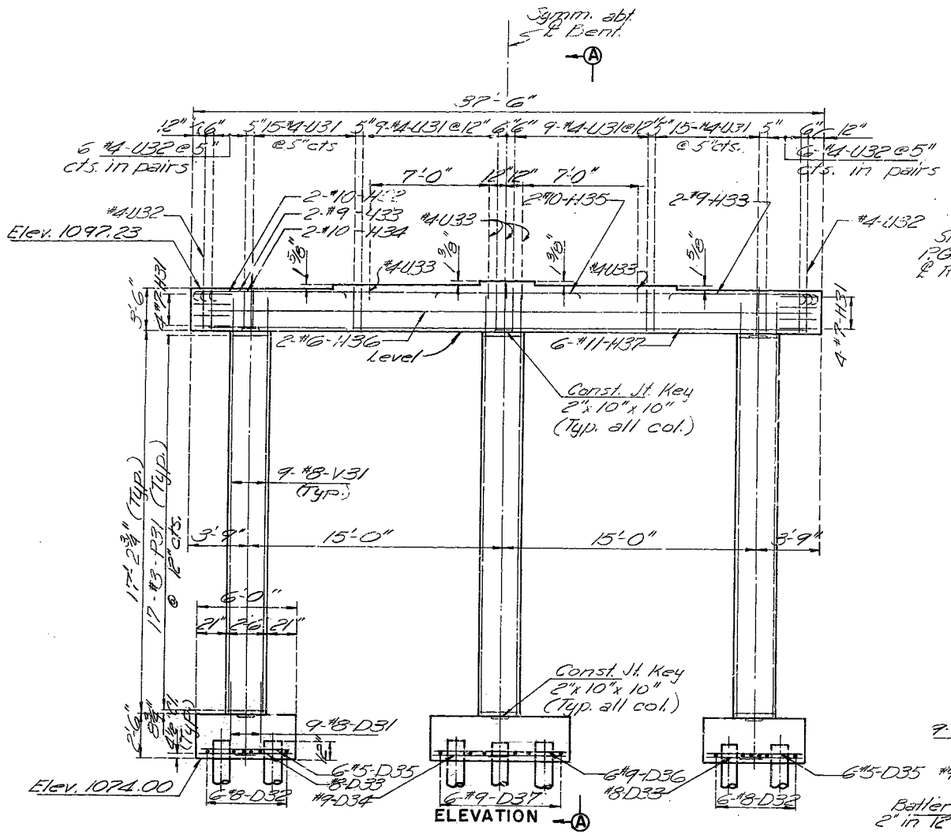
Sheet No. 5 of 13.

A-2291

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	113	

532



DETAILS OF INTERIOR BENT NO. 3

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. I-35-2(22)(RTE I-35) STA. 429+50

HARRISON COUNTY

BURGWIN & MARTIN
CONSULTING ENGINEERS

DESIGNED A.G. Latham DETAILED G.L. Moon
DESIGN CK. W. McDonald DETAIL CK. C.B. Phillips

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

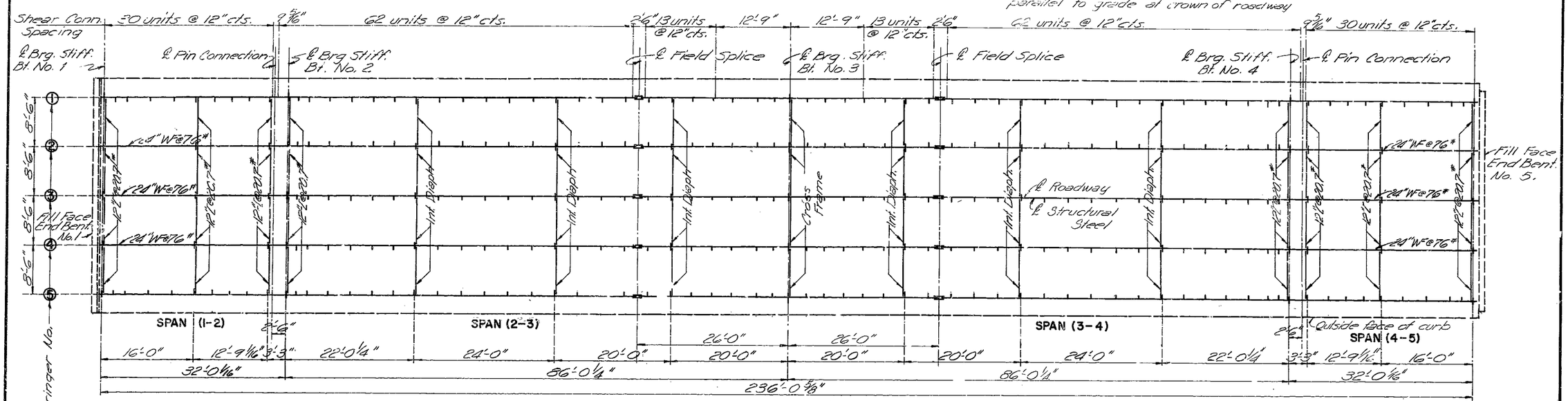
Sheet No. 6 of 13.

A-2291

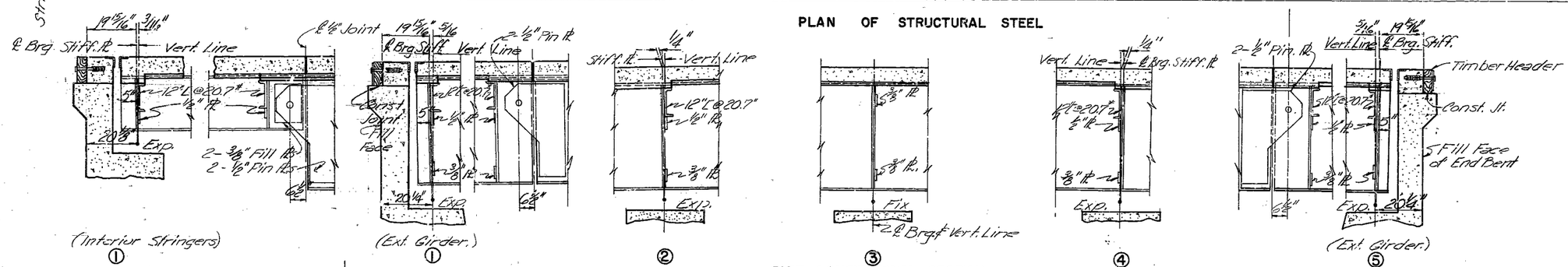
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	114	

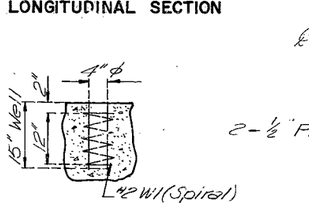
Note: Dimensions shown are parallel to grade at crown of roadway



PLAN OF STRUCTURAL STEEL



PART LONGITUDINAL SECTION



DETAIL OF ANCHOR BOLT WELLS

PART ANCHOR BOLT PLAN

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. I-35-2(72)(RTE. I-35) STA. 429+50

HARRISON COUNTY

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.C. Lathrop	DETAILED G.L. Moon
DESIGN CK. W.H. McDonald	DETAIL CK. C.B. Phillips

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

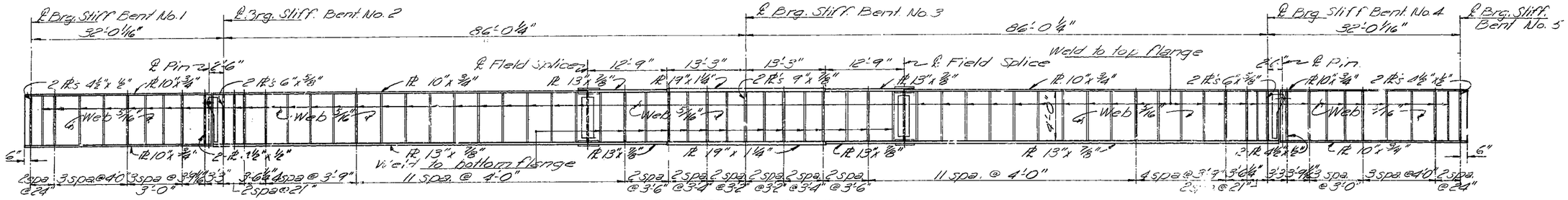
Sheet No. 7 of 13.

A-2291

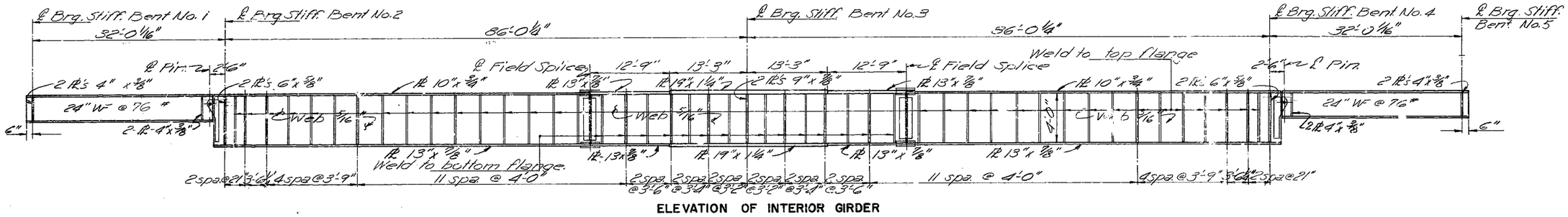
533

MISSOURI STATE HIGHWAY DEPARTMENT

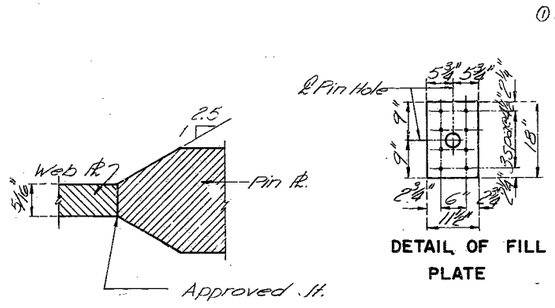
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	115	



ELEVATION OF EXTERIOR GIRDER

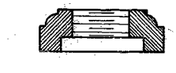


ELEVATION OF INTERIOR GIRDER

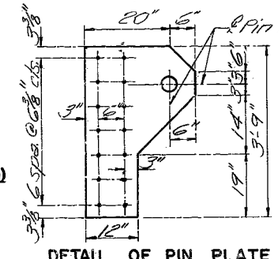


DETAIL "A"

DETAIL OF FILL PLATE

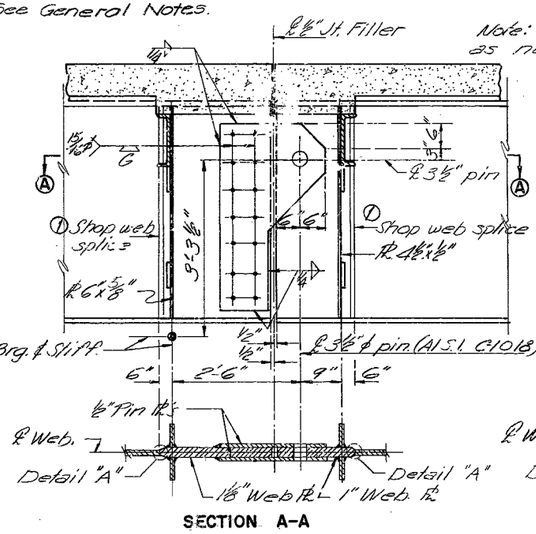


RECESSED PIN NUT
(CAST OR PRESSED STEEL)

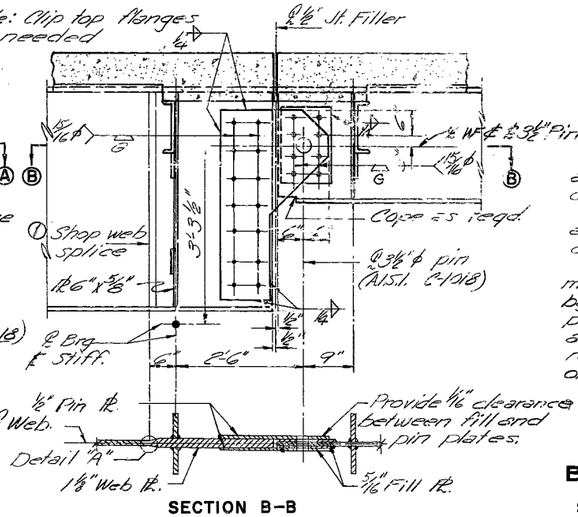


DETAIL OF PIN PLATE

① See General Notes.



SECTION A-A
HINGE DETAIL GIRDER TO GIRDER



SECTION B-B
HINGE DETAIL GIRDER TO WF. BEAM

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

Plate girders for spans (2-3) & (3-4) shall be fabricated to conform with Camber Diagram shown on sheet No. 10 of 13.

All intermediate stiffeners are 4" x 5/16 and are on one side of interior girders and on interior face only on exterior girders.

All longitudinal dimensions shown are taken parallel to grade at crown of roadway.

By approval of the engineer the contractor may omit any shop flange splice, if desired, by extending the heavier flange plate and providing approved modifications of details at field flange splices and elsewhere as required. Pay weight in any case will be based on material shown on design plans.

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. I-35-2(22)(RTE. I 35) STA. 429+50

HARRISON COUNTY

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.C. Latham	DETAILED G.L. Moon
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

Sheet No. 8 of 13.

A-2291

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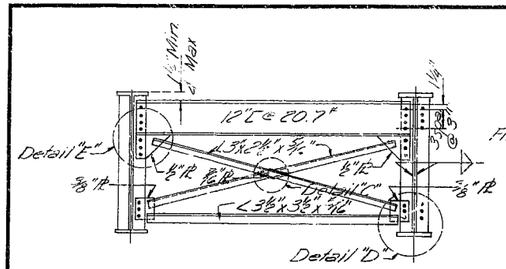
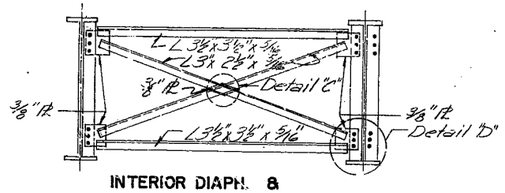
MISSOURI STATE HIGHWAY DEPARTMENT

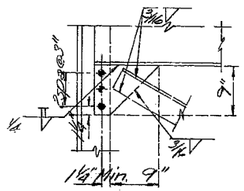
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	11	



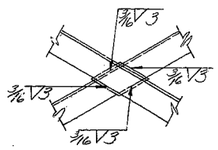
END DIAPHGRAM



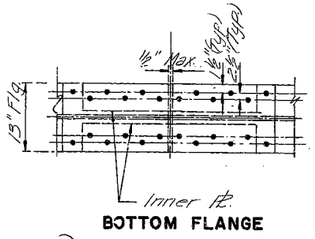
INTERIOR DIAPH. & CROSS FRAME DETAIL



DETAIL "E"

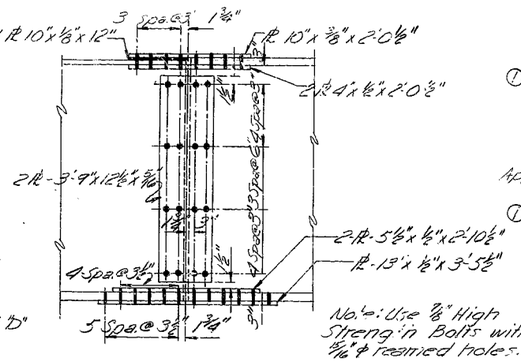


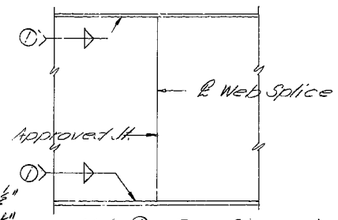
DETAIL "C"



BOTTOM FLANGE

DETAIL "D"

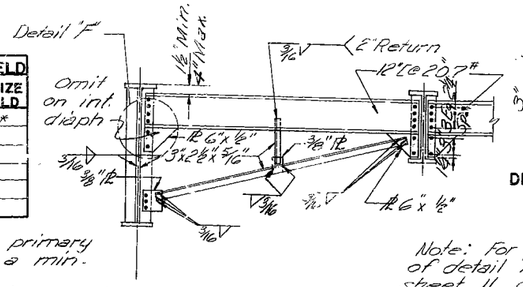




WEB SPLICE

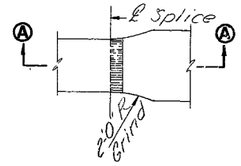
MIN. ALLOWABLE MATERIAL THICKNESS	FILLET WELD MINIMUM SIZE FILLET WELD**
To ½ inclusive	3/16"*
Over ½" to ¾"	¼"
Over ¾" to 1½"	5/16"
Over 1½" to 2½"	⅜"
Over 2½" to 6"	½"
Over 6"	5/8"

* Members carrying primary stresses shall have a min. fillet weld of ¼".
** Weld size need not exceed the thickness of the thinner part joined.

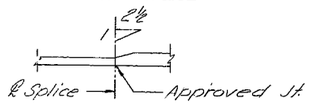


DETAIL "F"

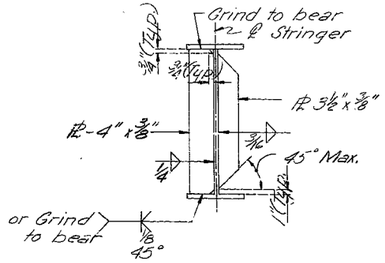
Note: For location of detail "A" see sheet 11 of 13.



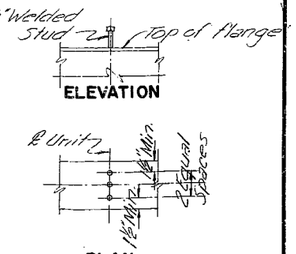
SHOP FLANGE SPLICE



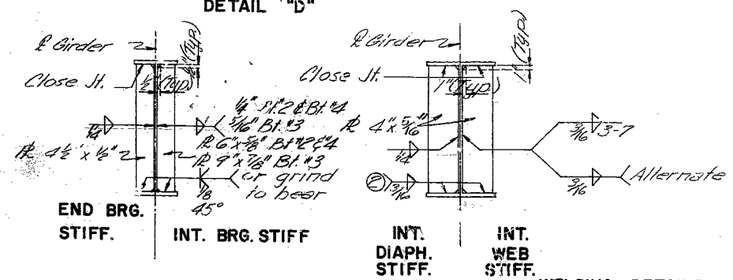
SECTION A–A



BRG. STIFF INT. DIAPH. CONN. ℓ



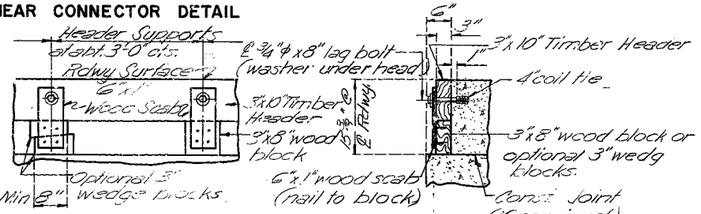
SHEAR CONNECTOR DETAIL



END BRG. STIFF. INT. BRG. STIFF INT. DIAPH. STIFF. INT. WEB STIFF.

WELDING DETAILS (Girder Spans)

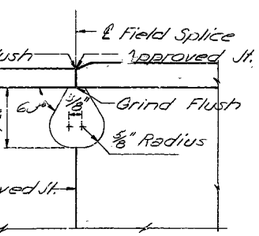
PLAN SHEAR CONNECTOR DETAIL



TIMBER HEADER DETAILS

Note: Payweight for Fabricated Structural Carbon steel will be based on welded splice regardless of the type used. See Special Provisions.

Note: By approval of the engineer the contractor may omit any shop flange splice, if desired, by extending the heavier flange plate and providing approved modifications of details at field flange splices and elsewhere as required.
Payweight in any case will be based on materials shown on design plans.
For radiographic and magnetic particle inspection see special provisions.
Welding procedure for field welding of flanges is similar to that shown for shop welding of flanges.



FIELD WELD SPLICE

② Note: Weld stiffeners of all girders to compression flange only. See sheet No 8 of 13 for location
Weld to compression flange may be omitted when connection plate is shown on both sides. See sht 7 of 13.

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) STA. 429+50
HARRISON COUNTY

BURGWIN & MARTIN
CONSULTING ENGINEERS
DESIGNED A.G. Latham | DETAILED G.L. Moon
DESIGN CK. W. McDonald | DETAIL CK. C.B. Phillips

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

Sheet No. 9 of 13.

A-229i

535

MISSOURI STATE HIGHWAY DEPARTMENT

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

NOTES: TYPE "D" BEARINGS

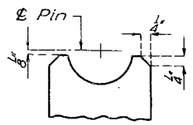
Lead plates under bearings shall be approximately $\frac{1}{8}$" thickness and weigh 8#/sq. ft. Cost of lead plates shall be included in price bid for other items.

"Estimated weight" does not include weight of anchor bolts.

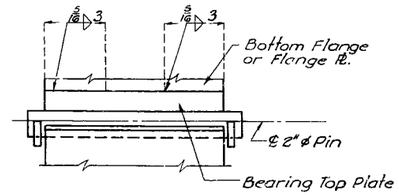
Rockers and pedestals shall be machined after welding.

Where flat surface is indicated, tolerance shall be .003 in/in in any direction.

Anchor Bolts for Type "D" Bearings shall be $1\frac{1}{4}$"ø swedged bolts and shall extend 12" into concrete, with hexagon nuts and plain washers for Fixed Bearings, no nuts for Expansion Bearings.

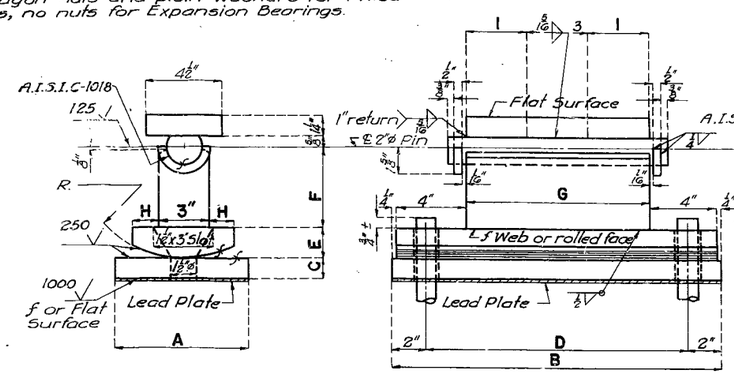


END VIEW OF WEB EXPANSION BEARING



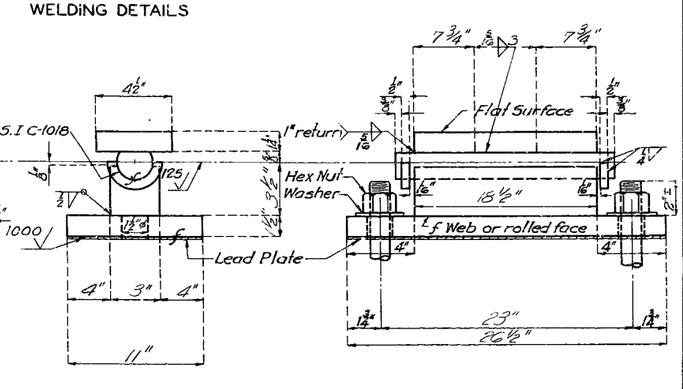
WELDING DETAILS

EXPANSION BEARING DIMENSIONS										
BENT NO.	A	B	C	D	E	F	G	H	I	R
1	9"	18½"	1⅜"	14½"	1¾"	4¾"	10"	1½"	3½"	6½"
2	10"	21"	1⅜"	17"	1¾"	5¾"	12½"	1½"	4¼"	7½"
4	10"	21"	1⅜"	17"	1¾"	5¾"	12½"	1½"	4¼"	7½"
5	9"	18½"	1⅜"	14½"	1¾"	4¾"	10"	1½"	3½"	6½"



EXPANSION

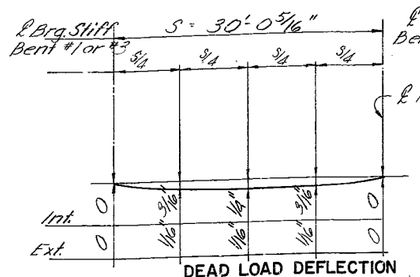
Required: 5 @ Bt Nos. 1,2,4 & 5



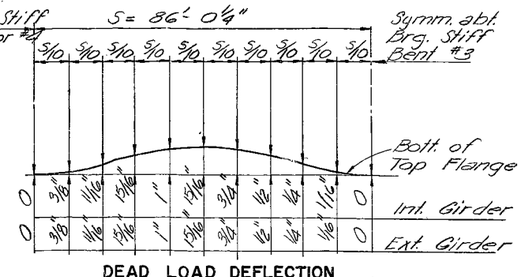
FIXED

Required: 5 @ Bent No. 3

TYPE "D" BEARINGS
(Estimated Weight 5,090)

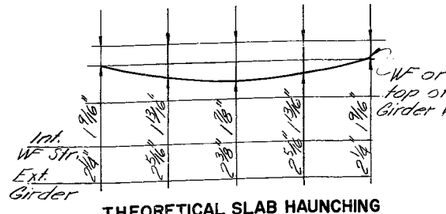


DEAD LOAD DEFLECTION
(10% Struct. Steel)



DEAD LOAD DEFLECTION
(15% Structural Steel.)

Note:
Camber includes allowance for vertical curve and dead load deflection for concrete slab and structural steel.



THEORETICAL SLAB HAUNCHING DIAGRAM

SPAN 1-2 SPAN 4-5

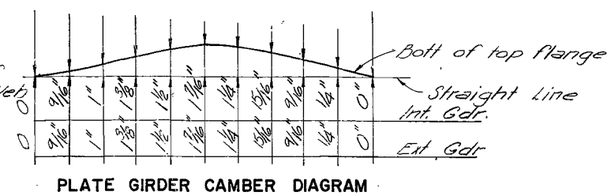


PLATE GIRDER CAMBER DIAGRAM

SPAN 2-3 SPAN 3-4

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. I-35-2(22)(RTE I-35) STA. 429+50

HARRISON COUNTY

BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.G. Latham	DETAILED G.L. Moon
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

Sheet No. 10 of 13.

A-2291

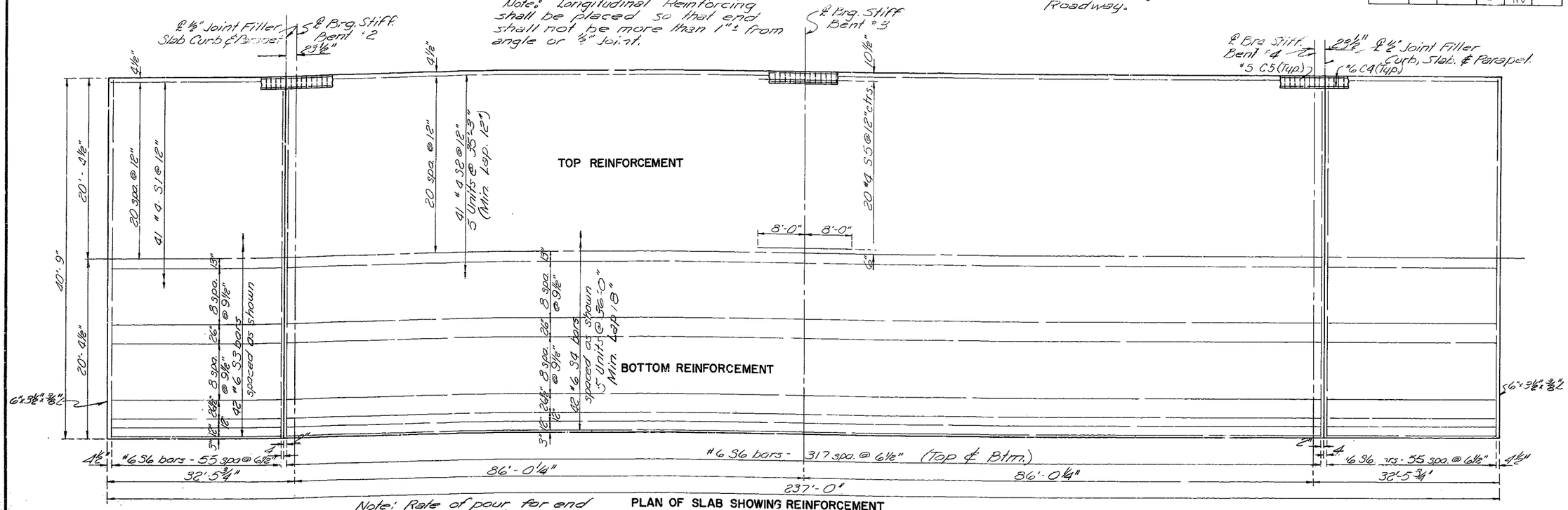
536

MISSOURI STATE HIGHWAY DEPARTMENT

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

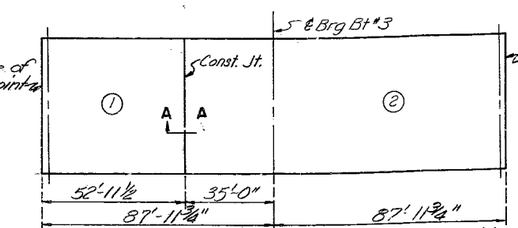
Note: Longitudinal Reinforcing shall be placed so that end shall not be more than 1" ± from angle or ½" Joint.

Note: Dimensions shown are parallel to grade at crown of Roadway.



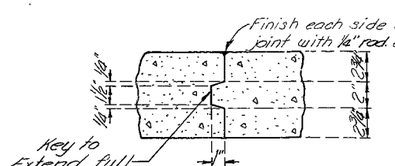
PLAN OF SLAB SHOWING REINFORCEMENT

Note: Rate of pour for end spans to be 25 cubic yards per hour.

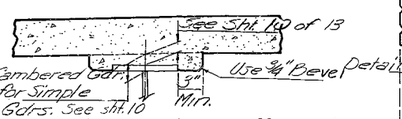


	SEQUENCE OF POURS	
	Direction	
Basic Sequence	1	2
	End to 2	1 to End
Alternate "A" Pour	1 + 2	
	End to End	

The contractor shall use a finishing machine. He shall furnish an approved retarder to retard the set of the concrete to 2.5 hours and shall pour and satisfactorily finish the slab pours at a rate of not less than 37 cubic yards per hour. (See standard specification 47.8.1 for payment of retarder). He shall observe the basic pouring sequence unless he can demonstrate to the engineer that he can pour and satisfactorily finish one of the longer alternate pours.
End spans shall be poured before 0 & ② above.

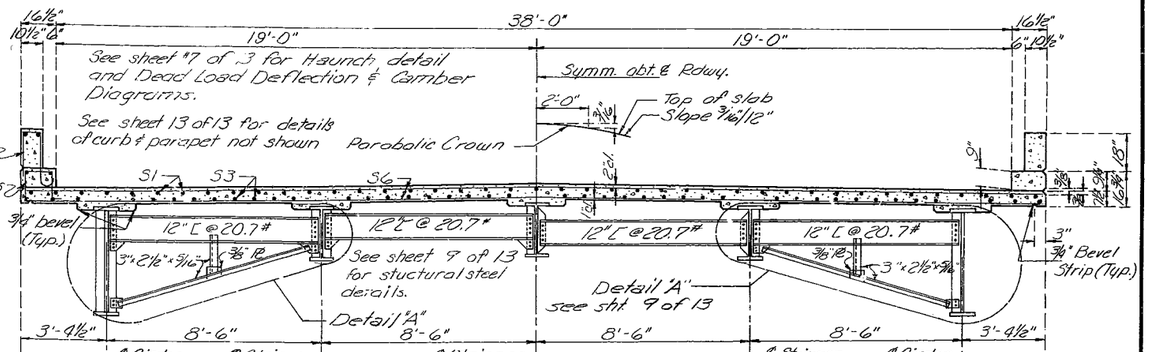


SEC. A-A



* Dimension may vary if girder camber after erection differs from plan camber by more than the ⅞ of D.L. deflection due to weight of structural steel. No payment will be made for additional forming or concrete required for variable haunching.

DETAIL "B"



HALF SECTION NEAR END DIAPHRAGM

HALF SECTION NEAR INT. DIA. SPAN (1-2) (4-5)

HALF SECTION NEAR BENT SPAN (2-3) (4-5)

BRIDGE

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) **STA.** 429+50
HARRISON **COUNTY**

A-2291

537

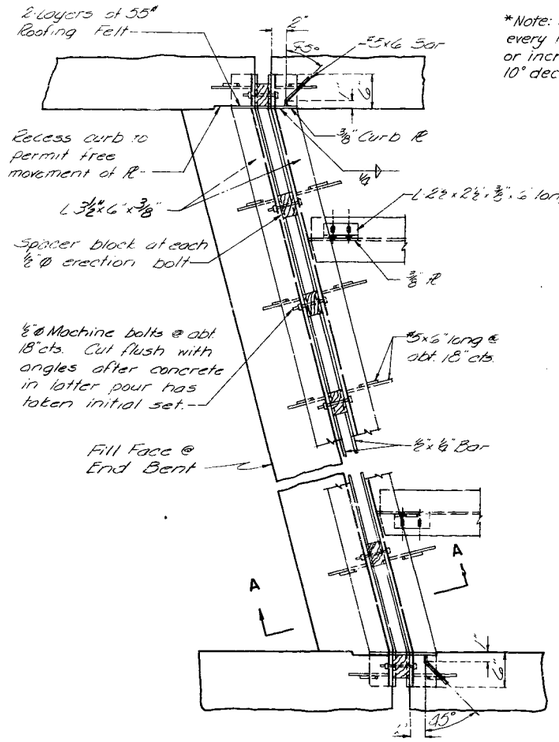
BURGWIN & MARTIN CONSULTING ENGINEERS	
DESIGNED A.C. Leathem	DETAILED E. Spencer
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

Sheet No. 11 of 13.

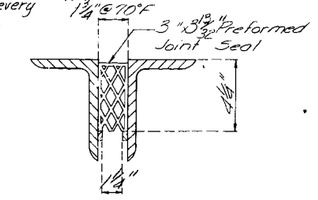
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		62	114	

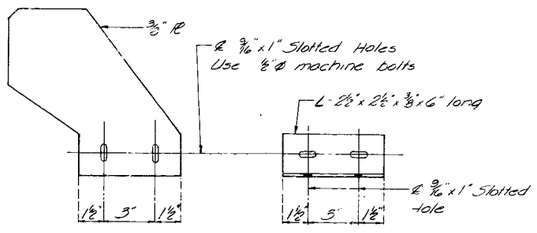


PART PLAN END BENT NO.

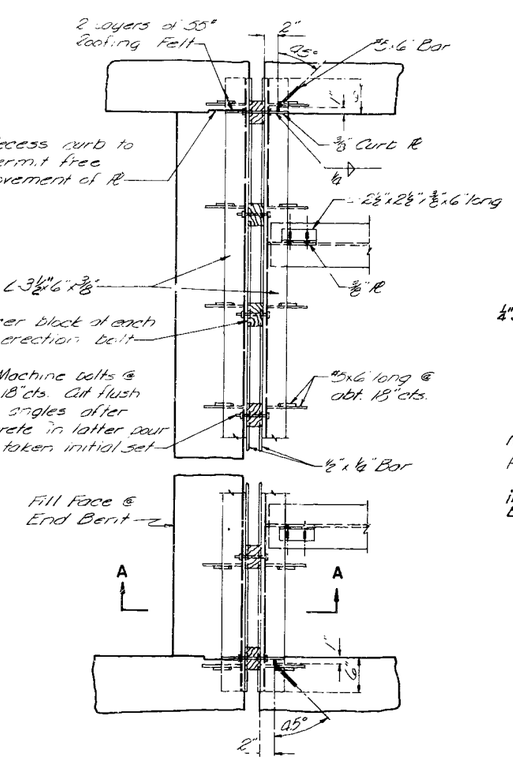
*Note: Decrease by 3/32" for every 10° increase in temp. or increase by 3/32" for every 10° decrease in temp.



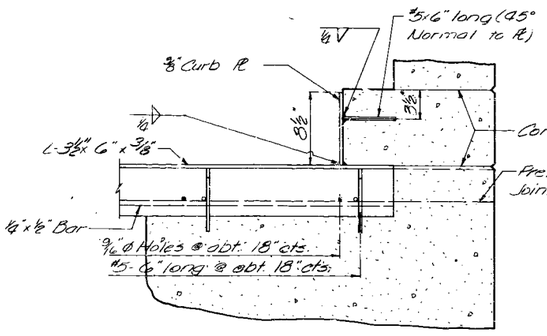
DETAIL JOINT SEAL



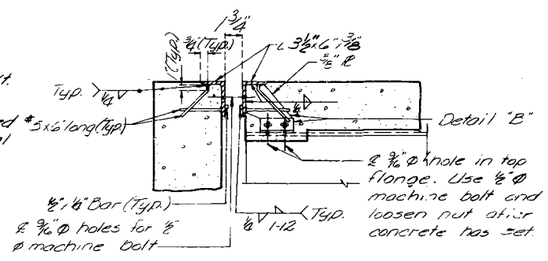
DETAIL "B"



PART PLAN END BENT NO. 1 & NO. 5

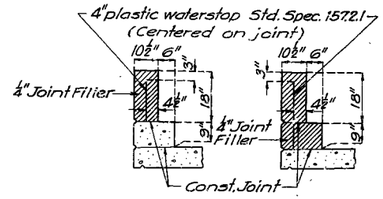


SECTION THRU CURB



SECTION A-A

DETAIL OF ARMORED SEAL EXPANSION JOINT



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

GENERAL NOTE:

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

No. 5 bars for expansion device shall be structural grade. Approved stud welded anchors may be used in lieu of #5 bars shown.

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

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

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BURGWIN & MARTIN
CONSULTING ENGINEERS

DESIGNED A.C. Latham	DETAILED G.L. Moon
DESIGN CK. W. McDonald	DETAIL CK. C.B. Phillips

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

Sheet No. 12 of 13.

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22)(RTE. I-35) **STA.** 429+50
HARRISON **COUNTY**

A-2291

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	170	

GENERAL HANDRAIL 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 a minimum of 2 panel lengths.

Omit set screw in side of rail posts adjacent to filled joints in curb and parapet at rail expansion points. Omit set screw in each side of rail post on end bents except where a gap is shown in rail over an expansion device.

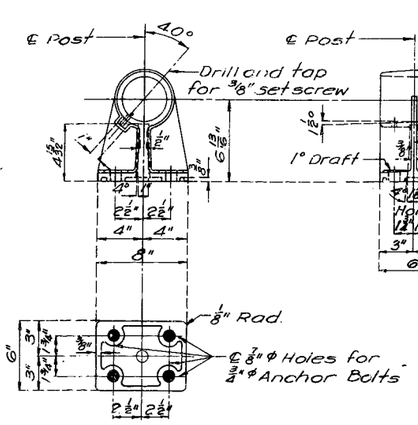
Top of curbs and parapets to be built parallel to grade with curb and parapet Joints (except at end bents) normal to grade.

Concrete end posts to be vertical.

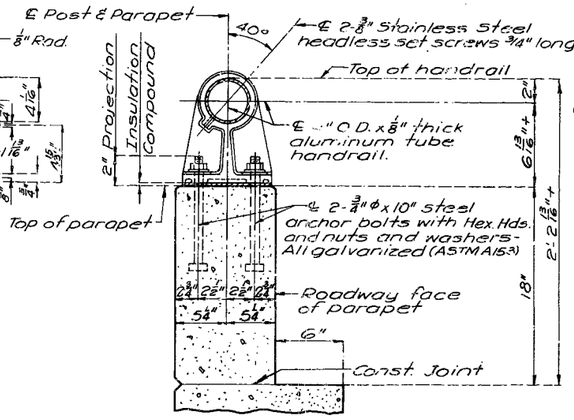
All exposed edges of end posts shall have 1/2" bevel. All exposed edges of curbs and parapets shall have 1/2" radius or 3/8" bevel unless otherwise noted.

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.



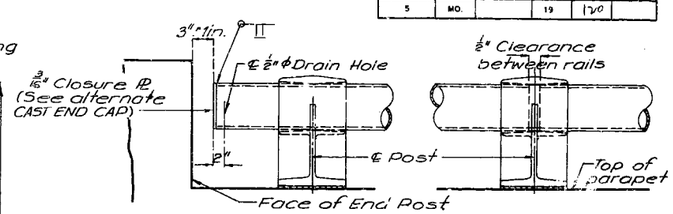
POST DETAILS

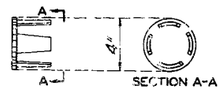


SECTION THRU HANDRAIL

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

SINGLE TUBE ALUMINUM RAILING

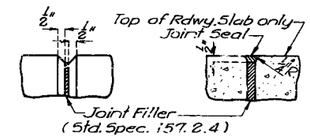




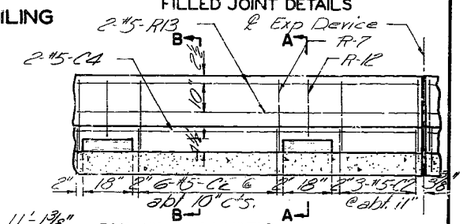
CAST END CAP
(Drive Fit Type)

POST RAIL SPLICE OR EXP.

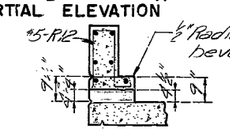
TYPICAL HANDRAIL DETAILS



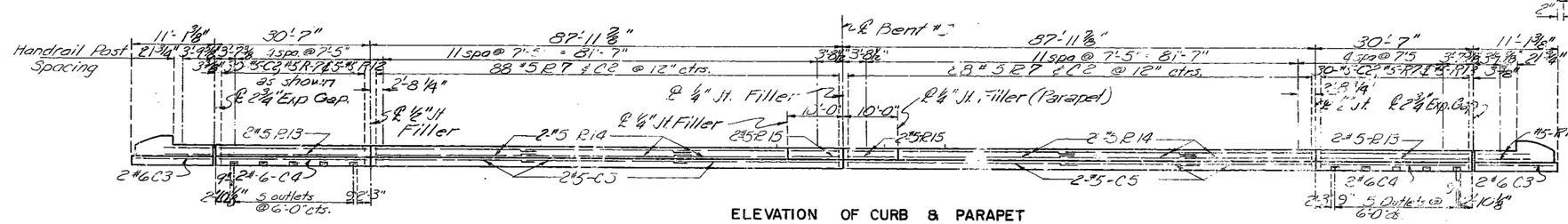
FILLED JOINT DETAILS



PARTIAL ELEVATION

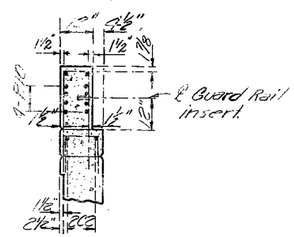


SECTION A-A

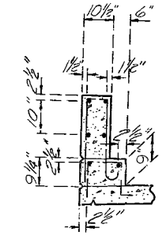


ELEVATION OF CURB & PARAPET

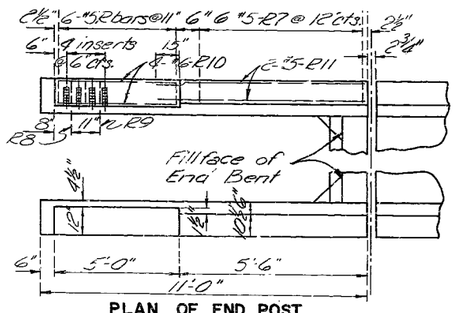
Note: For details of plastic waterstop see sheet No. 12 of 13.



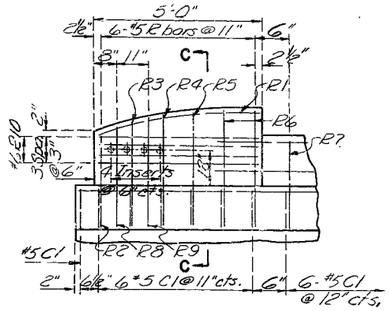
SECTION C-C



SECTION B-B



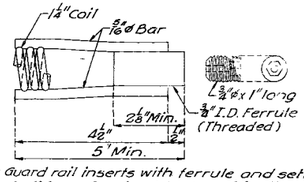
PLAN OF END POST



ELEVATION OF END POST

Note: See Standard Drawing 86.00 for modification of guard rail attachment.

END POST ORDINATES



Note: Guard rail inserts with ferrule and setting plug shall be galvanized and cast in the concrete. The inserts shall have a tensile strength of 20,000 lbs. in 3000 psi concrete. Setting plugs shall remain in place until guard rail is attached. Payment for furnishing and installing guard rail inserts shall be included in price bid for other items.

GUARD RAIL INSERT & PLUG

BRIDGE ROUTE N UNDERPASS

STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. I-35-2(22)(RTE I-35) STA. 429+50

HARRISON COUNTY

539

STD. 1.5.2	REVISED
MAR. 1964	FEB. 1968

BURGWIN & MARTIN
CONSULTING ENGINEERS

DESIGNED A.C. Latham DETAIL D. C. Spencer
DESIGN CK. W. McDonald DETAIL CK. C.R. Phillips

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

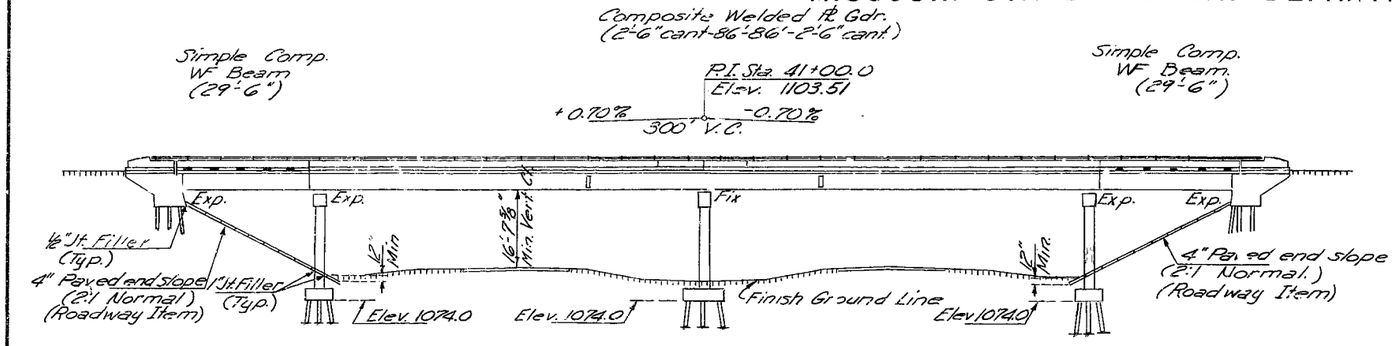
Sheet No. 13 of 13.

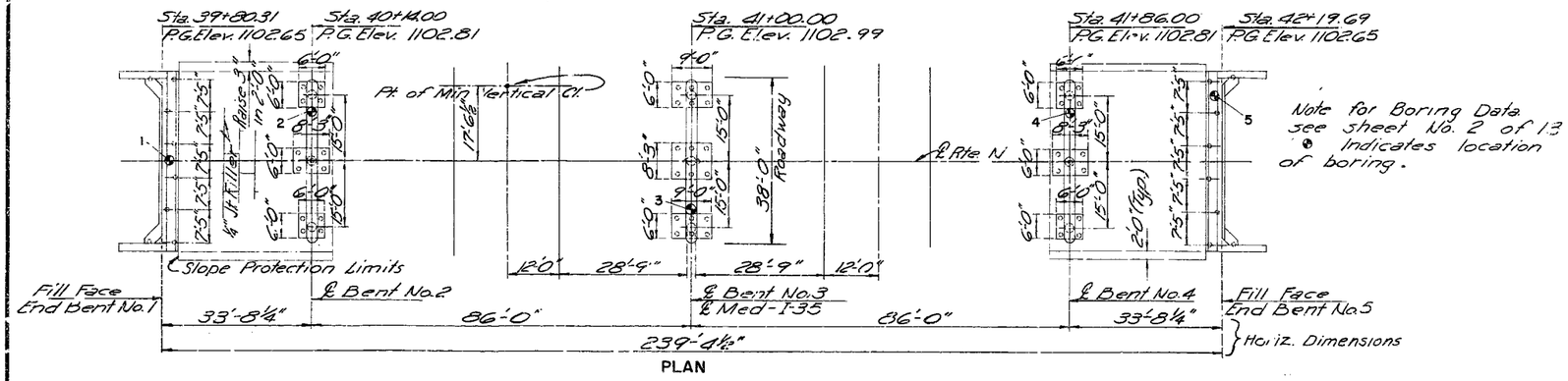
A-2291

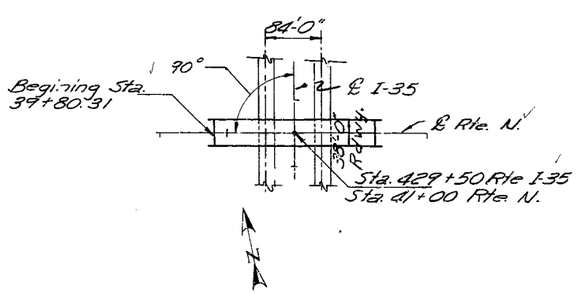
MISSOURI STATE HIGHWAY DEPARTMENT

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

FINAL PLANS







GENERAL NOTES:

SPECIFICATIONS:
A.A.S.H.O. - 1965

DESIGN LOADING:
H20-44 (15#/sq. ft. Future Wearing Surface.)
Earth 120#, Equivalent Fluid Pressure 30#
Fatigue - Case I.

DESIGN UNIT STRESS:
Class B Concrete (substructure) f_c = 1200 p.s.i.
Class B1 Concrete (superstructure) f_c = 1,600 p.s.i.
Reinforcing Steel f_s = 20,000 p.s.i.
Structural Steel (A.S.T.M. A36-66 f_s = 20,000 p.s.i.

SURFACE SEAL:
Superstructure deck was surface sealed."

FABRICATED STEEL:
Field connections, High Strength Bolts ⅞" ϕ, holes 15/16" ϕ except as noted.

PAINTING:
Paint: Shop, none Field, by contractor in accordance with Std. Spec. 55.4.10.

WELDING:

The minimum size of fillet welds were in accordance with A.W.S. D20-66, article 217(b) except the minimum size fillet weld connecting parts carrying primary stress were ¼".

PILE DATA							
BENT NO.			1	2	3	4	5
Size and Type			C.I.P. 14"	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"	C.I.P. 14"
Number			8	13	20	13	8
Average Length		Ft.	30'	22'	30'	24'	31'
Design Bearing		Tons	30	27	30	27	30
Minimum Tip Penetration		Elev.	1060.0			1051.0	1056.0
Pile Standard			52.02	52.02	52.02	52.02	52.02
Hammer Energy Required		Ft. Lbs.	8000	8000	8000	8000	8000
Kind - (Foundation)			—	—	—	—	—
		△	1069.0	1064.0	1064.0	1064.0	1069.0

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

Bench Marks (U.S.G.S. 1929 Adj.)
B.M. Elev. 1102.38 "a" on S.W. Cor. North Curb 19' Lt. Station 39+69 (Rte. N)

FINAL QUANTITIES					
ITEM	UNITS	SUBSTR.	SUPERSTR.	TOTAL
Class 1 Excavation for Structures	Cu. Yds.	176.5	—	176.5
Cast-in-Place Concrete Piles	Lin. Ft.	1680	—	1680
Class B Concrete	Cu. Yds.	168.6		168.6
Class B1 Concrete	Cu. Yds.		278.5	278.5
Reinforcing Steel	Lbs.	21730	82980	104710
Painting	Tons		89.1	89.1
Fabricated Structural Carbon Steel (WF)	Lbs.		18060	18060
Fabricated Structural Carbon Steel (Gdr.)	Lbs.		161440	161440
Bridge Railing (Single tube)	Lin. Ft.		496	496

Note: No payment for excavation was allowed at end bents No 1 & 5.
All concrete and reinforcing in end posts, parapets and curbs was included with superstructure quantities.

BRIDGE ROUTE N UNDERPASS
STATE ROAD FROM IOWA STATE LINE SOUTH TO RTE. N
ABOUT 3.0 MILES WEST OF BLYTHEDALE
PROJECT NO. I-35-2(22) (RTE I-35) STA. 429+50
HARRISON COUNTY

BURGWIN & MARTIN
CONSULTING ENGINEERS
DESIGNED J. Hall — DETAILED G.L. Dixon
DESIGN CK'D J. May — DETAIL CK'D J. Hall

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

△ 9/24/68

Sheet No. 1A of 1

SUBMITTED BY ..... BRIDGE ENGINEER DATE .....
APPROVED BY ..... CHIEF ENGINEER DATE .....

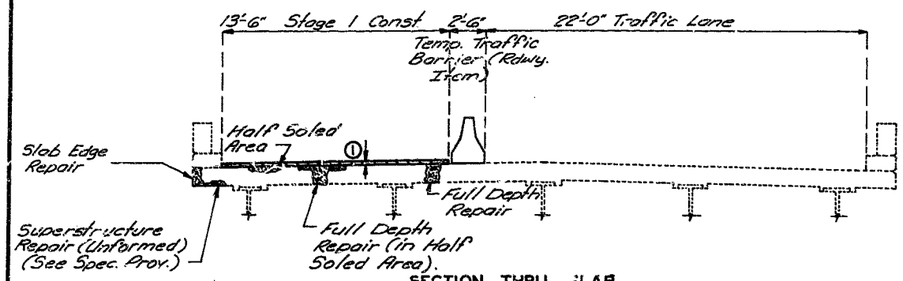
STD. 52.02
STD. 54.00
A-2291

FINAL PLANS

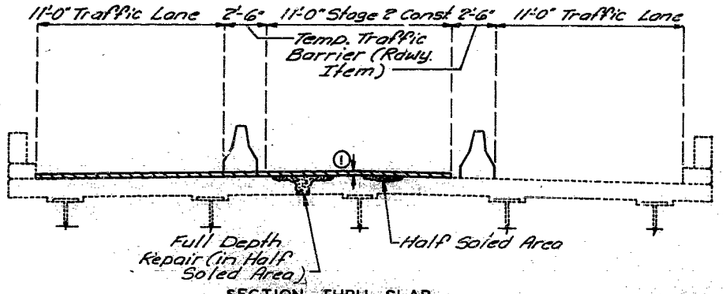
540

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO	SHEET NO.
MO.		30
SEC/SUR 5 & 6	TWP 65 N	RGE 27 W



SECTION THRU SLAB
SHOWING STAGE 1 CONSTRUCTION



SECTION THRU SLAB
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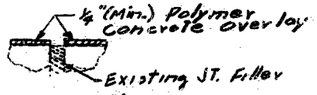
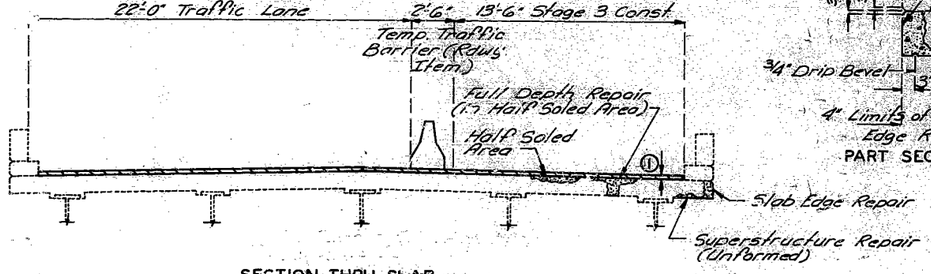
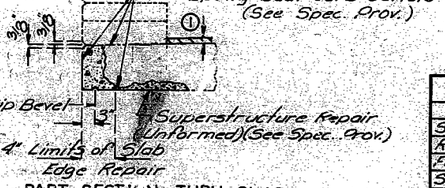


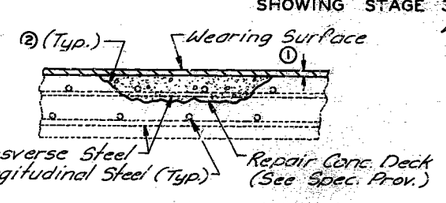
Section thru Existing Joint



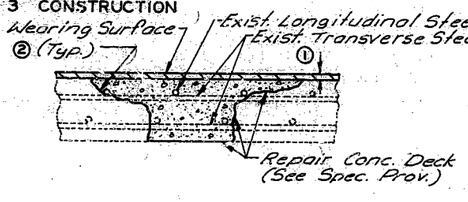
SECTION THRU SLAB
SHOWING STAGE 3 CONSTRUCTION



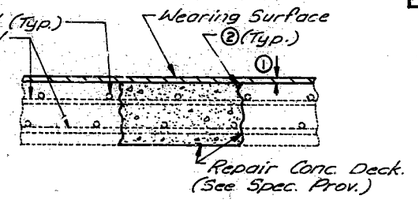
PART SECTION THRU SLAB



HALF-SOLED AREA



FULL DEPTH REPAIR
IN HALF-SOLED AREA



FULL DEPTH REPAIR

① ¼" (Min.) Polymer Concrete Overlay

② Saw cut or chip vertically first ½" of all deck repair (Hydroblasting allowed by Special Provisions).

GENERAL NOTES:

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

Approaches:
Roadway surfacing adjacent to bridge ends to match bridge overlay. (See Roadway Plans)

Traffic Maintained:
Maintain one lane of traffic in each direction over structure during construction.

Repainting:
System C by the contractor in accordance with Std. Spec. 712.13. (Color of final field coat shall be green.) (See Special Provisions.)

Protective Coating:
Seal backwall and top of bearing beam at End Bents 1 and 5. (See Special Provisions.)

ESTIMATED QUANTITIES

ITEM		TOTAL
Superstructure Repair (Uniformed)	Sq. Ft.	248
Repair Concrete Deck (Half-Soling)	Sq. Ft.	50
Full Depth Repair	Sq. Ft.	100
Slab Edge Repair (Bridges)	Lin. Ft.	30
Polymer Concrete Overlay	Sq. Yds.	1,011
Protective Coating-Conc. Srfs. (Deleterious Agents)	Lump Sum	1
Repainting (System C) Green	Lump Sum	1

BRIDGE RTE. N UNDERPASS

STATE ROAD RTE. I-35

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. F.A.I-35-2(61) STA. 429+50

JOB NO. J1I0512 RTE. I-35

HARRISON COUNTY

DATE 12/31/91

STD.
STD.
A-2291R

FY 93

DETAILED Nov. 1991
CHECKED Nov. 1991

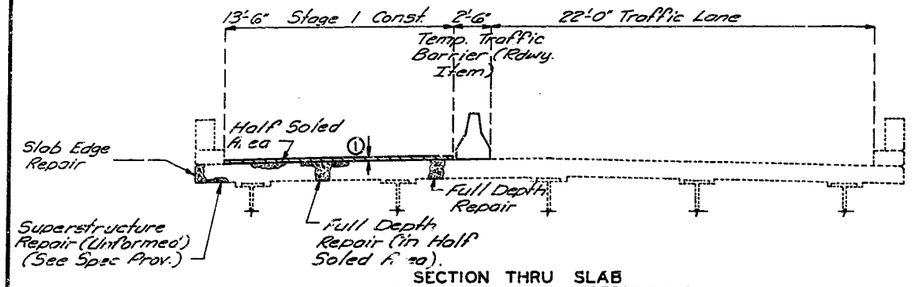
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 1 of 1

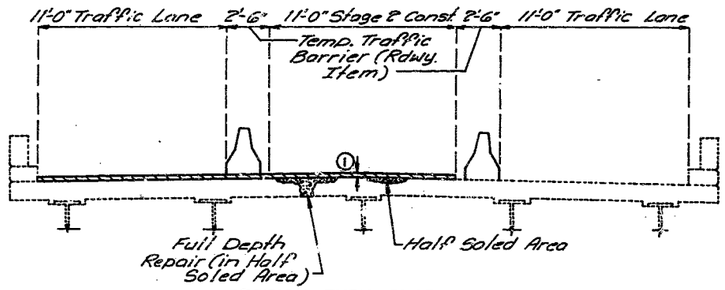
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FINAL PLANS

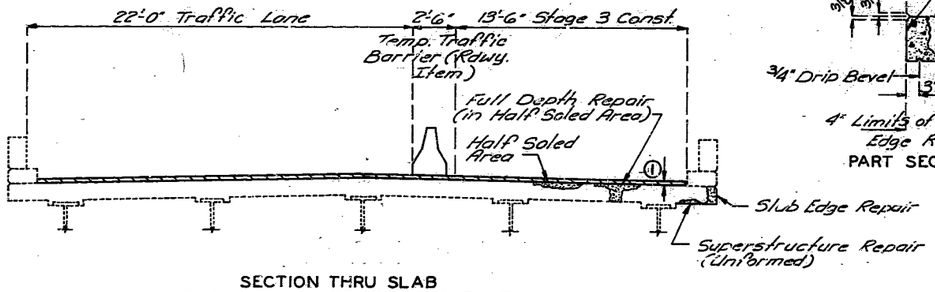
STATE	PROJ. NO.	SHEET NO.
MO.	I M-35-2(61)	30
SEC./SUR 5 & 6	TWP. 65 N	RGE. 27 W



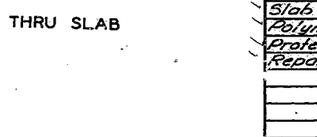
SECTION THRU SLAB
SHOWING STAGE 1 CONSTRUCTION



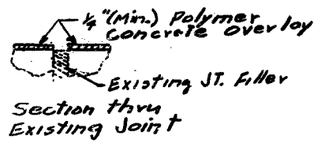
SECTION THRU SLAB
SHOWING STAGE 2 CONSTRUCTION



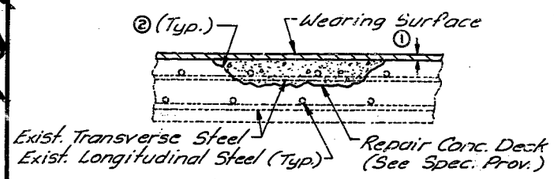
SECTION THRU SLAB
SHOWING STAGE 3 CONSTRUCTION



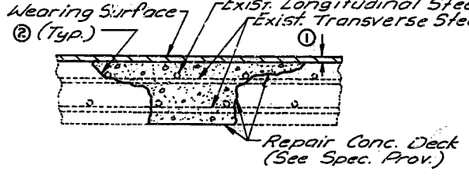
PART SECTION THRU SLAB



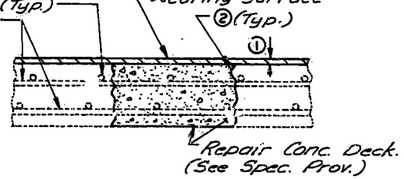
Section thru Existing Joint



HALF-SOLED AREA



FULL DEPTH REPAIR
IN HALF-SOLED AREA



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Protective Coating:
Seal backwall and top of bearing beam of End Bents 1 and 5. (See Special Provisions.)

FINAL QUANTITIES

ITEM		TOTAL
Superstructure Repair (Unformed)	Sq. Ft.	104
Repair Concrete Deck (Half-Soling)	Sq. Ft.	498
Full Depth Repair	Sq. Ft.	0
Slab Edge Repair (Bridges)	Lin. Ft.	90
Polymer Concrete Overlay	Sq. Yds.	1,011
Protective Coating-Conc. Bls. (Deleterious Agents)	Lump Sum	1
Repainting (System C) Green	Lump Sum	1

FY 457

DETAILED Nov. 1991
CHECKED Nov. 1991

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

Sheet No. 1 of 1

BRIDGE RTE. N UNDERPASS

STATE ROAD RTE. I-35

ABOUT 3.0 MILES WEST OF BLYTHEDALE

PROJECT NO. F.A.I-35-2(61) STA. 429+50

JOB NO. J1I0522 RTE. I-35

HARRISON COUNTY

DATE 12/31/91

S.D.
STD.
A-2291R

Prepared By: STEVE PITTSENBARGER Checked By: Don Blackburn