Missouri Department of Transportation
State Bridge Inspection Report

May 02, 2024
4:05:24PM

COUNTY: JACKSON **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 212** **BRIDGE: A0243**

GENERAL STRUCTURE INFORMATION

ROUTE: IS70E	**# SPANS:** 3	**PLACE CODE:** 38000 KANSAS CITY CITY	
FEATURE: CST E 11TH ST	**LANES ON:** 4	**LENGTH:** 153 FT 0 IN	
STATUS: P-POSTLOAD	**LANES UNDER:** 3	**MAXIMUM SPAN:** 62 FT 6 IN	
LOG MILE: 2.260	**COMPASS DIRECTION:** NORTH to SOUTH	**APPROACH ROADWAY:** 40 FT 0 IN	
DETOUR: 1.00 MILES	**DIRECTION OF TRAFFIC:** 1-WAY TRAF	**CURB TO CURB:** 48 FT 0 IN	
NHS: YES	**FUNCTIONAL CLASS:** UR-INTERSTATE	**OUT TO OUT:** 59 FT 6 IN	
BUILT: 1958	**NBI OWNER:** MODOT	**AADT:** 55722	
REHAB: 1984	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 5 T 49 R 33 W	**MAINTENANCE DISTRICT:** KC	**AADT TRUCK:** 18.4%	
LATITUDE: 39 6 2.89 (DMS)	**MAINTENANCE COUNTY:** JACKSON	**FUTURE AADT:** 75225	
LONGITUDE: 94 34 21.68 (DMS)	**SUB AREA:** 7C01	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/12/2023 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: TIMOTHY HAZLETT **ELEMENT:** YES
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

Missouri Department of Transportation
State Bridge Inspection Report

COUNTY: JACKSON **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 212** **BRIDGE: A0243**

STRUCTURE POSTING

APPROVED CATEGORY: S-C3 WEIGHT LIMIT 65 TONS.
Ton 1: 65 **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-C3 WEIGHT LIMIT 65 TONS.
Ton 1: 65 **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 10/07/2008)--(43'-62'-43') CONT CONC SOLID SLAB SPANS

[ITEM 58] DECK: 5-FAIR CONDITION **COMMENTS:** (OTISL1, 09/28/2017)--HEAVY EDGE DETER,LEACHING & SATURATION
RATING : 09/28/2017

[ITEM 59] SUPER: 5-FAIR CONDITION **COMMENTS:** (OTISL1, 09/28/2017)--HEAVY EDGE LEACHING, SATURATION.
RATING : 09/28/2017

[ITEM 60] SUB: 6-SATISFACTORY CONDITION **COMMENTS:** (OTISL1, 10/01/2019)--COLUMN CRACING/SPALL/DELAMINATE
RATING : 10/01/2019

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

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

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

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	SAFETY BARRIER CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
SPALLS	BOTTOM		FEW	
VERTICAL CRACKS	THROUGHOUT		FEW	

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	NORTHWEST	
GALVANIZED STEEL	THRIE BEAM TO W-BEAM	SOUTHWEST	

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

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	OTHER	NORTHWEST	
GALVANIZED STEEL	OTHER	SOUTHWEST	

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	FAIR	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
DETERIORATION	ENDS		MODERATE	

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	*WEARING SURFACE*	*PLAIN CONCRETE*	*LOW SLUMP*	*2.25 IN*			*FAIR*

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MANY	
PATCHES	THROUGHOUT		MODERATE	

DECK PROTECTION	*NOTAPPLICABLE*	*NONE*

COMMENT:

MEMBRANE	*NOTAPPLICABLE*	*NONE*

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

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

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

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

DECK COMPONENTS

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MEDIUM		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MINOR		
REBAR EXPOSED	EDGE		FEW		
SPALLS	EDGE		MODERATE		

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DETERIORATION	EDGE		MODERATE		
REBAR EXPOSED	EDGE		FEW		
SPALLS	EDGE		MODERATE		

SUPERSTRUCTURE COMPONENTS

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

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	43 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	AT INTERMEDIATE BENT		MEDIUM		
HORIZONTAL CRACKS	AT INTERMEDIATE BENT		FEW		
LEACHING	THROUGHOUT		HEAVY		
LONGITUDINAL CRACKS	EDGE		MODERATE		
SATURATION	EDGE		HEAVY		
SPALLS	OVERHANGS		MINOR		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	62 FT 6 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	EDGE		MINOR		
EFFLORESCENCE	AT INTERMEDIATE BENT		MEDIUM		
HORIZONTAL CRACKS	AT INTERMEDIATE BENT		FEW		
LEACHING	THROUGHOUT		HEAVY		
LONGITUDINAL CRACKS	EDGE		MODERATE		
SATURATION	EDGE		HEAVY		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	43 FT 9 IN	NO	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	AT INTERMEDIATE BENT		MEDIUM		
HORIZONTAL CRACKS	AT INTERMEDIATE BENT		FEW		
LEACHING	THROUGHOUT		MODERATE		
LONGITUDINAL CRACKS	EDGE		MODERATE		
SATURATION	EDGE		MODERATE		
SATURATION	THROUGHOUT		MINOR		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		*66 FT 4 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	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
LEACHING	VERTICAL FACE		MODERATE		
SATURATION	VERTICAL FACE		MODERATE		
FLARED WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

BENT-2 *REINFORCED CONCRETE* *MULTIPLE COLUMN*

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

BENT-3 *REINFORCED CONCRETE* *MULTIPLE COLUMN*

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

ABUTMENT-4 *59 FT 9 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***
LEACHING	EDGE		MODERATE		
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
TURNED BACK WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
EFFLORESCENCE	VERTICAL FACE		LIGHT		
MAP CRACKS	THROUGHOUT		MANY		
SATURATION	VERTICAL FACE		MINOR		
FLARED WINGS	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

CLEARANCES UNDER BRIDGE

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

RECORD #	ROUTE	# LANES	DIRECTION OF TRAFFIC	RIGHT LATERAL CLEARANCE	LEFT LATERAL CLEARANCE	UR-ID
1	CST E 11TH ST W	3	1-WAY TRAF	7 FT 0 IN		106560

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	14 FT 3 IN			

STRUCTURE PAINT INFORMATION

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

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

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	5-BETTER THAN MINIMUM	12/29/2017
[Item 68] Deck Geometry Rating:	2-BASICALLY INTOLRBLE REQ	3/20/2002
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	3/21/2003
Sufficiency Rating:	60.4%	2/26/2024
Deficiency:	FUNCTIONAL	3/20/2002
Funding Eligibility:	PARTIAL	----
Estimated New Structure Length:	187 FT.	----
Estimated Structure Cost:	$1,233,325	----
Estimated Total Project Cost:	$1,849,987	----
Year of Cost Estimate:	2024	----

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
State Bridge Inspection Report

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4:05:24PM

COUNTY: JACKSON **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 213** **BRIDGE: A0243**

GENERAL STRUCTURE INFORMATION

ROUTE: IS70W	**# SPANS:** 3	**PLACE CODE:** 38000 KANSAS CITY CITY	
FEATURE: CST E 11TH ST	**LANES ON:** 3	**LENGTH:** 153 FT 0 IN	
STATUS: P-POSTLOAD	**LANES UNDER:** 3	**MAXIMUM SPAN:** 62 FT 6 IN	
LOG MILE: 247.672	**COMPASS DIRECTION:** NORTH to SOUTH	**APPROACH ROADWAY:** 40 FT 0 IN	
DETOUR: 1.00 MILES	**DIRECTION OF TRAFFIC:** 1-WAY TRAF	**CURB TO CURB:** 52 FT 7 IN	
NHS: YES	**FUNCTIONAL CLASS:** UR-INTERSTATE	**OUT TO OUT:** 65 FT 6 IN	
BUILT: 1958	**NBI OWNER:** MODOT	**AADT:** 55722	
REHAB: 1984	**NBI MAINTAINED:** MODOT	**AADT YEAR:** 2023	
LOCATION: S 5 T 49 R 33 W	**MAINTENANCE DISTRICT:** KC	**AADT TRUCK:** 15.0%	
LATITUDE: 39 6 2.55 (DMS)	**MAINTENANCE COUNTY:** JACKSON	**FUTURE AADT:** 75225	
LONGITUDE: 94 34 20.86 (DMS)	**SUB AREA:** 7C01	**FUTURE AADT YEAR:** 2043	

BRIDGE INSPECTION INFORMATION

DATE: 09/12/2023 **RESPONSIBILITY:** DISTRICT
FREQUENCY: 24 **CALCULATED INTERVAL**:** 24
TEAM LEADER: TIMOTHY HAZLETT **ELEMENT:** YES
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

COUNTY: JACKSON **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 213** **BRIDGE: A0243**

STRUCTURE POSTING

APPROVED CATEGORY: S-C3 WEIGHT LIMIT 65 TONS.
Ton 1: 65 **Ton 2:** **Ton 3:**
COMMENTS:

FIELD CATEGORY: S-C3 WEIGHT LIMIT 65 TONS.
Ton 1: 65 **Ton 2:** **Ton 3:** **PROBLEM:** **PROBLEM DIRECTION:**
COMMENTS:

GENERAL COMMENTS/MAJOR RATED ITEMS

GENERAL COMMENTS: (BOWDEJ1, 10/07/2008)--(43'-62'-43') CONT CONC SOLID SLAB SPANS

[ITEM 58] DECK: 6-SATISFACTORY CONDITION **COMMENTS:** (BATUSJ1, 09/18/2013)--CRACKING & LEACHING
RATING : 05/18/2001

[ITEM 59] SUPER: 6-SATISFACTORY CONDITION **COMMENTS:** (BATUSJ1, 09/18/2013)--DECK EDGE DETER
RATING : 05/18/2001

[ITEM 60] SUB: 7-GOOD CONDITION **COMMENTS:** (OTISL1, 09/22/2021)--FEW VERTICAL CRACKS IN ABUTMENT WITH EFLLORENSE.
RATING : 09/22/2021

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

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

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

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

RAILING AND APPROACH PAVEMENT COMPONENTS AND RATINGS

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
REINFORCED CONCRETE	BARRIER CURB	BOTH	

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
EFFLORESCENCE	OUTSIDE FACE		MINOR	
SPALLS	TOP		FEW	
VERTICAL CRACKS	THROUGHOUT		MEDIUM	

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

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

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	W-BEAM	SOUTHEAST	

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

MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
GALVANIZED STEEL	OTHER	SOUTHEAST	(RACKEM, 10/04/2011)--CONTINUOUS RAIL.

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

MATERIAL	CONSTRUCTION	DIRECTION	CONDITION*	COMMENTS
ASPHALT	BITUMINOUS MAT	BOTH	FAIR	(OTISL1, 09/28/2017)--CRACKING @ BRIDGE ENDS

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

DECK PROTECTIVE COMPONENTS:

SERIES TYPE-#	COMPONENT	MATERIAL	CONSTRUCTION	THICKNESS	YEAR APPLIED	MANUFACTURE	OVERALL CONDITION
MAIN SERIES-1	WEARING SURFACE	PLAIN CONCRETE	LOW SLUMP	2.25 IN			FAIR

COMMENT:

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	COMMENT
MAP CRACKS	THROUGHOUT		MANY	
PATCHES	THROUGHOUT		FEW	
TRANSVERSE CRACKS	THROUGHOUT		MANY	

DECK PROTECTION	CARBON	CATHODIC PROTECTION

COMMENT:

MEMBRANE	NOTAPPLICABLE	NONE

COMMENT:

SECONDARY DECK PROTECTION	NOTAPPLICABLE	NONE

COMMENT:

DRAINAGE COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS

EXPANSION DEVICE COMPONENTS:

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

COMMENT:

BANK/SLOPE PROTECTION COMPONENTS:

COMPONENT	MATERIAL	CONSTRUCTION	DIRECTION	COMMENTS
SLOPE PROTECTION	PLAIN CONCRETE	PAVEDSLOPE	BOTH	

DECK COMPONENTS

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

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

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

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
EFFLORESCENCE	BOTTOM		HEAVY		
PATCHES	ENDS		LARGE		(OTISL1, 09/22/2021)--LANE #2
SPALLS	AT ABUTMENTS		MINOR		
TRANSVERSE CRACKS	BOTTOM		FEW		

SUPERSTRUCTURE COMPONENTS

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

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-1	NON-COMPOSITE	43 FT 9 IN	NO	(OTISL1, 10/01/2019)--PATCHES EDGE, FEW, RUSTSTAIN MINOR !IB

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	EDGE		MINOR		
EFFLORESCENCE	ENDS		MODERATE		
MAP CRACKS	EDGE		MANY		
PATCHES	THROUGHOUT		FEW		(OTISL1, 09/22/2021)--AT EDGE
SATURATION	EDGE		MINOR		
SHEAR CRACKS	ENDS		FEW		
TRANSVERSE CRACKS	RANDOM		FEW		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-2	NON-COMPOSITE	62 FT 6 IN	NO	(OTISL1, 10/01/2019)--PATCHES EDGE, FEW, RUSTSTAIN MINOR !IB

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
COLLISION DAMAGE	EXTERIOR GIRDERS		MINOR		
DELAMINATION	EDGE		MINOR		
PATCHES	THROUGHOUT		FEW		(OTISL1, 09/22/2021)--AT EDGE
REBAR EXPOSED	EDGE		FEW		
SATURATION	EDGE		MINOR		
SPALLS	EDGE		MINOR		
TRANSVERSE CRACKS	RANDOM		FEW		

SPAN	COMPOSITE INDICATOR	LENGTH	WEATHERING STEEL	COMMENTS
MAIN SPANS-3	NON-COMPOSITE	43 FT 9 IN	NO	(OTISL1, 10/01/2019)--PATCHES EDGE, FEW, RUSTSTAIN MINOR !IB

CONDITION	LOCATION 1	LOCATION 2	SEVERITY	MEASUREMENT	COMMENT
DELAMINATION	EDGE		MINOR		
DETERIORATION	RANDOM		MODERATE		(RACKEM, 10/04/2011)--AT ABUTMENT.
LEACHING	THROUGHOUT		MODERATE		(RACKEM, 10/04/2011)--AT CORNER.
PATCHES	THROUGHOUT		FEW		(OTISL1, 09/22/2021)--AT EDGE
SATURATION	EDGE		MINOR		

SUBSTRUCTURE COMPONENTS

SUBSTRUCTURE	SKEW	LENGTH	MATERIAL	CONSTRUCTION	LABEL	COMMENTS
ABUTMENT-1		*60 FT 9 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	THROUGHOUT		FEW		

COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
FOOTING	REINFORCED CONCRETE	SPREAD				
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***	
FLARED WINGS	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***	
EFFLORESCENCE	LEFT SIDE		MINOR		(OTISL1, 10/01/2019)--AND FEW MAP CRACKS	
RUST STAINS	LEFT SIDE		MINOR			

BENT-2 *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

BENT-3 *REINFORCED CONCRETE* *MULTIPLE COLUMN*

CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
ASSOCIATED COMPONENT	***MATERIAL***	***CONSTRUCTION***			
COLUMN	REINFORCED CONCRETE	INTEGRAL CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***

ABUTMENT-4 *66 FT 2 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***
DETERIORATION	RANDOM		MINOR		(RACKEM, 10/04/2011)--RIGHT AT SUPER INTERFACE.
VERTICAL CRACKS	THROUGHOUT		FEW		
COLUMN	REINFORCED CONCRETE	CAST-IN-PLACE			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FOOTING	REINFORCED CONCRETE	SPREAD			
CONDITION	***LOCATION 1***	***LOCATION 2***	***SEVERITY***	***MEASUREMENT***	***COMMENT***
FLARED WINGS	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***

OVER/UNDER ROUTES CLEARANCE INFORMATION

CLEARANCES OVER DECK

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

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT

COUNTY: JACKSON **DISTRICT: KC** **CLASS: STATBR** **FED-ID: 213** **BRIDGE: A0243**

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
2	CST E 11TH ST W	3	1-WAY TRAF	7 FT 0 IN		106559

VERTICAL CLEARANCE TYPE**	VALUE	DIRECTION	DATE	COMMENT
ACTUAL	14 FT 3 IN			

STRUCTURE PAINT INFORMATION

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

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

REQUESTED WORK ITEMS

GENERAL WORK COMMENTS:

RESPONSIBILITY	LOCATION	ITEM	CATEGORY	PRIORITY	DATE	WORK ITEM COMMENT
DISTRICT SPECIAL	ROADWAY SURFACE	SEAL DECK WITH IN DECK	DECK	3	04/11/2023	

UTILITY ATTACHMENTS

UTILITY	OWNER	METHOD	MEASUREMENT TYPE	VALUE	NUMBER	UTILITY ATTACHMENT COMMENT

PROGRAM NOTES INFORMATION

YEAR	PROJECT #	MONTH LET	YEAR LET	ITEMS	COMMENT

COMPUTER GENERATED RATINGS AND DEFICIENCY ITEMS

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

Rated Item	Rating	Rating Date
[Item 67] Structure Evaluation Rating:	6-EQ TO PRESENT MIN CRITR	5/18/2001
[Item 68] Deck Geometry Rating:	6-EQ TO PRESENT MIN CRITR	11/17/2015
[Item 69] Underclearance:	4-MEETS MINIMUM TOLERABLE	3/21/2003
Sufficiency Rating:	93.0%	2/26/2024
Deficiency:	NOT DEFICIENT	11/17/2015
Funding Eligibility:		----
Estimated New Structure Length:		----
Estimated Structure Cost:		----
Estimated Total Project Cost:		----
Year of Cost Estimate:		----

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

ADVANCED SIGN INFORMATION

SIGN #	SIGN TYPE	PROBLEM	PROBLEM DIRECTION
1			

OUTFALL INSPECTION INFORMATION

 # OUTFALLS: **INSPECTOR:**

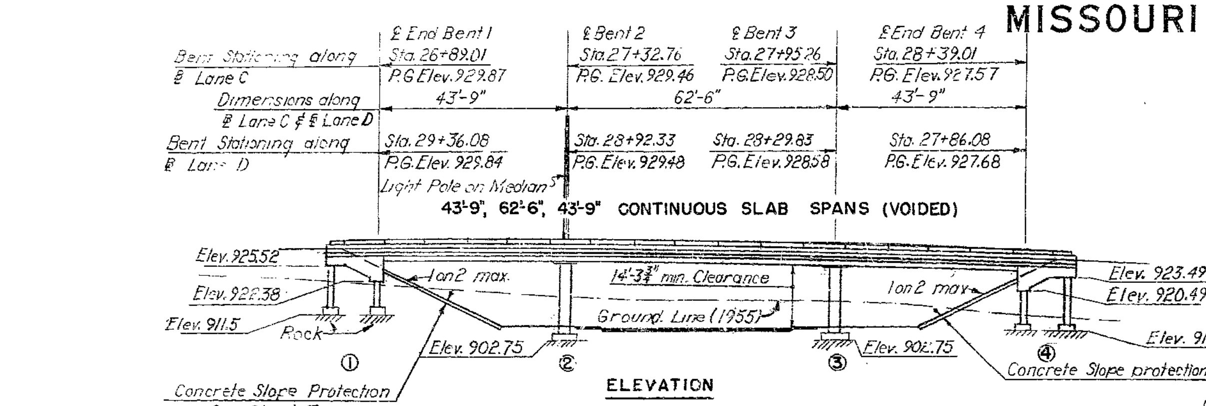
STATUS: **DATE:**

NOTES:

MISSOURI STATE HIGHWAY DEPARTMENT

FED. RD. DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.				
DIST. NO.	COUNTY			ROUTE	
4				40	

43'-9", 62'-6", 43'-9" CONTINUOUS SLAB SPANS (VOIDED)



ELEVATION

Note: All loose, shelly or disintegrated rock shall be removed and all footings placed on and at least 6" into hard, solid, undisturbed rock and cast against vertical faces of same. If soft rock or shale is encountered the footings shall be carried at least 18" into and cast against vertical faces of same. Footings of Bents 1 and 4 shall not be placed higher than elevations shown. Tops of footings of Bents 2 and 3 shall not be placed higher than 18" below the finished roadway section.

Note: Roadway excavation shall be completed on and adjacent to this site before structure is started. See Special Provisions.
See Road Plans for lower limits of roadway excavation.

ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	SUB-STRUCTURE	SUPER-STRUCTURE	TOTAL
1-G	Class I Excavation for Structures	Cu. Yd.	480		480
16-B	Class B Concrete	Cu. Yd.	67.3		67.3
16-B-1	Class B-1 Concrete	Cu Yd		1276.7	1276.7
17-B	Fabricated Structural Steel	lbs.		1100	1100
17-J	Aluminum Alloy Handrail	Lin. ft.		343	343
19-A	Reinforcing Steel	lbs.	6070	367,180	373,250 — 374,020
40-A	Lighting Conduit System	L.S.		1	1

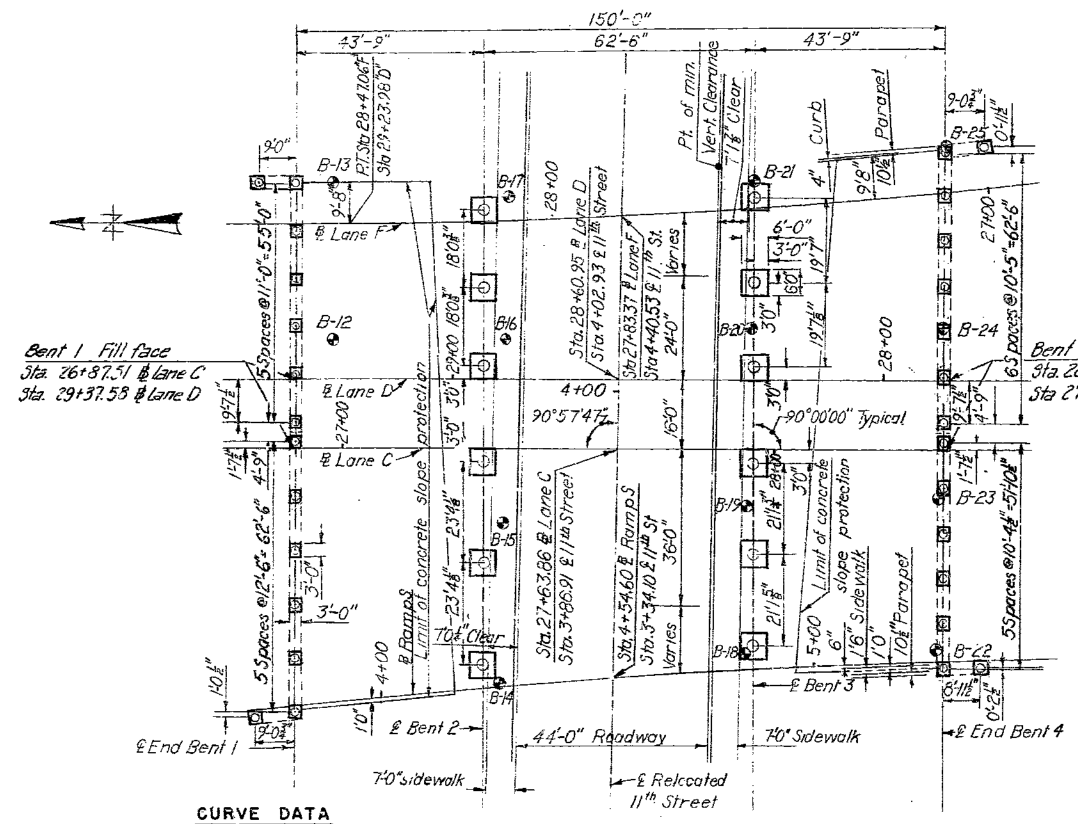
367,950

NOTES:
All excavation for bridge will be paid for as Class I Excavation for Structures.
Estimated quantities of Class I Excavation for Structures includes only the amount of excavation below the limits of roadway Excavation. See Special Provisions.
Estimated quantity of Class "B" concrete substructure includes only concrete in footings. All other concrete is included in estimated quantity of Class "B-1" concrete superstructure.

GENERAL NOTES

Design specifications: A.A.S.H.O. 1953.
Construction Specifications: Missouri Standard Specifications for State Roads, Materials, Bridges, Culverts, and incidental Structures. (1955)
Design Loading: H20-S16-44 (Modified 24,000# Tandem Axle)
15#/sq. ft. future wearing Surface.
Concrete: Concrete stress: Class "B-1" 1400 psi. Class "B" 1200 psi. Concrete for superstructure shall be class "B-1" air entrained, see Special Provisions. Concrete for substructure shall be class "B" air entrained. If the Contractor desires he may use class "B-1" in lieu of class "B" for concrete in substructure with payment made on the basis of class "B" concrete.
Reinforcing steel: Allowable stress 20,000 psi.
All splices in reinforcing steel shall be 32 bar diameters: Bar sizes are designated on the plans by numbers. The first digit after the letter in three digit marks and the first two digits after the letter in four digit marks indicated the size of the bar.
Dimensions shown on the plans from reinforcing steel to outside edge of concrete are all clear dimensions. Minimum clear shall be 2" unless noted otherwise. All bending dimensions are from "out to out" of bars.
Joint Filler: Where joint filler is specified on the plans it shall conform with the requirements for gray rubber compound joints as given in Section 59-22 B of the Standard Specifications.
Paint; Shop, none; Field, contact surfaces of bolted connections (steel to steel) one coat of red lead and surfaces of steel in contact with concrete three coats of red lead. All other exposed surfaces, first coat red lead, second coat brown, third coat Aluminum. Payment for cleaning and all painting will be made under unit price bid for Fabricated Structural Steel.

Waterproofing of Decks: Superstructure decks to be waterproofed (See special provisions).
Welding: Qualification of welding operators to be required.
Utilities: All Utilities, unless shown otherwise, shall be removed and relocated by others. The Contractor will notify the owners of the utilities of his work schedule sufficiently in advance to allow time for the disposition of utilities.
Shipping: Permits must be obtained for all truck loads over legal length

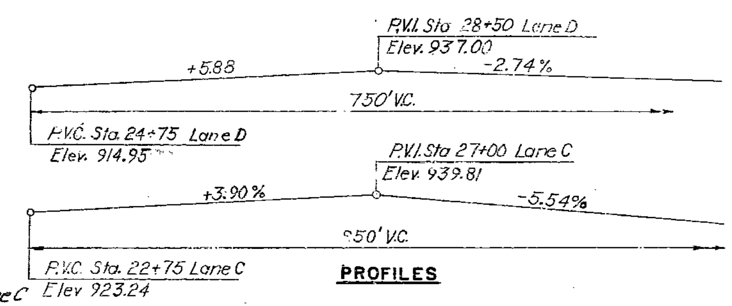


PLAN

CURVE DATA

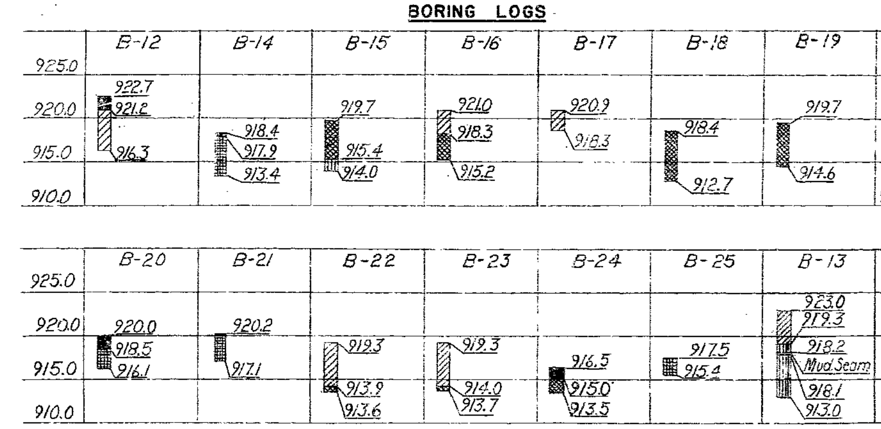
℄ Ramp S		℄ Lane F	
P.I. Sta.	2+97.37	P.I. Sta.	26+36.72
Δ	17°-42'-00"	Δ	19°-06'-34"
D	3°-00'-00"	D	4°-30'-00"
R	1909.86'	R	1273.24'
T	297.37'	T	214.32'
L	590.00'	L	424.66'
S.E.	Varies (See Sheet 4)	S.E.	Varies (See Sheet 5)

Notes:
Concrete slope protection under end of superstructure to be included under roadway contract. See Sheet 7 for details.
Footing dimensions for Bents 2 & 3 are Similar.
Footing dimensions for Bents 1 & 4 are Similar.



PROFILES

BORING LOGS

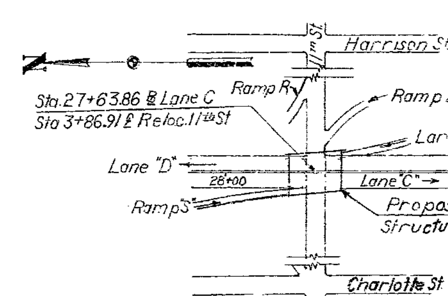


BORING LEGEND

- Clay and Boulders.
- Clay Fill.
- Brown Clay.
- Street Surface and Sidewalks.
- Limestone

Note: Bottom boring elevation is top of rock.
Top boring elevation is top of ground.

Bench Mark:
B.M. #5 "X" on hydrant 0.25' W. of Spindle.
N.W. Corner 10th and Harrison.
Elev. 956.37



LOCATION SKETCH

SUBMITTED BY
REGISTERED PROFESSIONAL ENGINEER MISSOURI NO. E-253

BRIDGE: LANES C & D OVER 11TH STREET

STATE ROAD MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(11) (FAI-RTE. 4) STA. 27+63.86 (LANE C)

JACKSON COUNTY

SUBMITTED BY J.A. Williams DATE 2-20-58 BRIDGE ENGINEER
APPROVED BY Rex M. Whitton DATE 2-20-58 CHIEF ENGINEER

STD R2
STD C-110R5
A-243

GENERAL PLAN AND ELEVATION SHEET 1 OF 9
Revised 6-23-58

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE LJR DATE 1-2-58 TRACED DATE
CHECKED WPO DATE 1-10-58 SCALE

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

SEE FINAL PLANS BROWN-LINES

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MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & Sec.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			110	
DIST. SC.	COUNTY			SHEET NO.	SEC.
4				40	

BILL OF REINFORCING STEEL

NO.	SIZE	LENGTH	MARK	TYPE	DIMENSIONS A	B	C	D
SUBSTRUCTURE								
EAST BRIDGE								
BENTS 1 AND 4								
45	6	4'-0"	F601	Str.				
BENTS 2 AND 3								
84	6	5'-8"	F801	Str.				
48	9	5'-11"	F901	126	4'-8"	9"	6"	1'-0"
WEST BRIDGE								
BENTS 1 AND 4								
42	6	4'-0"	F601	Str.				
BENTS 2 AND 3								
84	8	5'-8"	F801	Str.				
72	9	6'-7"	F1001	126	5'-4"	9"	6"	1'-0"
SUPERSTRUCTURE - COLUMNS								
EAST BRIDGE								
49'-0" / 69'-5" **BENT 1**								
2	4	(23'-8")	C410	127	1'-4"	7'-6"	6"	
1	↑	(18'-8")	C411	↑	1'-4"	5'-0"	6"	
2	↑	(18'-1")	C412	↑	1'-4"	5'-6"	6"	
2	4	(19'-6")	C413	127	1'-4"	6'-0"	6"	
53'-1" / 57'-2"								
8	6	7'-6"	C601	Str.				
8	↑	5'-5"	C602	↑				
8		5'-8"	C603					
8		5'-10"	C604					
8		6'-0"	C605					
8		6'-4"	C606					
8	↓	7'-10"	C607	↓				
21	6	4'-0"	C623	Str.				
BENT 2								
2	4	631'-8"	C401	127	2'-3"	204'-8"	2"	
1	4	617'-9"	C404	127	2'-3"	19'-11"	2"	
24	9	12'-4"	C901	126	3'-0"	2'-4"	7'-0"	1'-6"
16	9	20'-10"	C903	Str.				
8	9	20'-4"	C905	Str.				
BENT 3								
1	4	603'-11"	C402	127	2'-3"	19'-5"	2"	
1	4	597'-0"	C403	127	2'-3"	19'-3"	2"	
1	4	569'-2"	C405	127	2'-3"	18'-4"	2"	
24	9	12'-4	C901	126	3'-0"	2'-4"	7'-0"	1'-6"
8	↑	19'-11"	C902	Str.				
8		19'-6"	C904	Str.				
8	9	18'-9"	C906	Str.				
53'-1" / 49'-0" **BENT 4**								
1	4	(16'-8")	C411	127	1'-4"	5'-0"	6"	
3	↑	(18'-1")	C412	↑	1'-4"	5'-6"	6"	
3	↑	(15'-3")	C415	↑	1'-4"	4'-6"	6"	
1	4	(20'-11")	C418	127	1'-4"	6'-6"	6"	
44'-1" / 61'-3"								
8	6	5'-8"	C603	Str.				
8		6'-6"	C614					
24		4'-10"	C615					
8		5'-3"	C616					
8		5'-6"	C617					
8	↓	5'-7"	C618	↓				
24	6	4'-0"	C623	Str.				

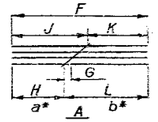
NO.	SIZE	LENGTH	MARK	TYPE	DIMENSIONS A	B	C	D
WEST BRIDGE								
77'-7" / 73'-6" **BENT 1**								
2	4	(25'-7")	C414	127	1'-4"	8'-0"	6"	
4	4	(26'-6")	C416	127	1'-4"	8'-6"	6"	
1	4	(34'-10")	C417	127	1'-4"	11'-6"	6"	
102'-2"								
16	6	8'-4	C608	Str.				
8	↑	8'-7"	C609	↑				
8		8'-11"	C610					
8		8'-8"	C611					
8		8'-6"	C612					
8	↓	11'-7"	C613	↓				
21	6	4'-0"	C623	Str.				
BENT 2								
2	4	680'-5"	C406	127	2'-3"	22'-0"	2"	
1	4	666'-4"	C408	127	2'-3"	21'-6"	2"	
12	10	22'-5"	C1001	Str.				
12	↑	22'-4"	C1003	Str.				
12	↑	21'-10"	C1005	Str.				
36	10	13'-1"	C1007	126	3'-4"	2'-4"	7'-5"	1'-6"
BENT 3								
2	4	652'-6"	C407	127	2'-3"	21'-1"	2"	
1	4	638'-8"	C409	127	2'-3"	20'-7"	2"	
12	10	21'-5"	C1002	Str.				
12	↑	21'-4"	C1004	Str.				
12	↑	20'-11"	C1006	Str.				
36	10	13'-1"	C1007	126	3'-4"	2'-4"	7'-5"	1'-6"
53'-1" / 49'-0" **BENT 4**								
2	4	(16'-8")	C411	127	1'-4"	5'-0"	6"	
4	4	(18'-1")	C412	127	1'-4"	5'-6"	6"	
1	4	(25'-7")	C414	127	1'-4"	8'-0"	6"	
73'-6"								
8	6	5'-8"	C603	Str.				
8	↑	5'-6"	C617	↑				
8	↑	5'-7"	C618	↑				
8		5'-9"	C619					
8		5'-4"	C620					
8		5'-1"	C621					
8	↓	8'-1"	C622	↓				
21	6	4'-0"	C623	Str.				
SUPERSTRUCTURE - DECK								
EAST BRIDGE								
106	5	5'-3"	B501	124	0"	2'-0"	5"	2'-10"
120	6	14'-2"	B601	109	4'-7"	2'-0"	6"	
4	↑	13'-2"	B602	109	4'-7"	1'-6"	6"	
18		19'-2"	B603	109	6'-7"	2'-6"	6"	
107		18'-2"	B604	109	6'-1"	2'-6"	6"	
107	↓	6'-0"	B605	Str.				
6	6	8'-8"	B606	Str.				
6	10	49'-3"	B1001	Str.				
20	10	13'-0"	B1002	Str.				
3	10	104'-9"	B1003	Str.				
34	11	10'-0"	B1101	Str.				
6	11	49'-11"	B1102	Str.				
3	11	105'-11"	B1103	Str.				
6	4	30'-0"	S401	Str.				
8	4	17'-8"	S402	Str.				
181	6	29'-6"	S601	Str.				
15	↑	22'-3"	S602	↑				
38		22'-7"	S603					
15		21'-0"	S604					
38	↓	21'-4"	S605	Str.				

NO.	SIZE	LENGTH	MARK	TYPE	DIMENSIONS A	B	C	D
21	6	23'-2"	S606	Str.				
20	↑	23'-9"	S607	↑				
21		22'-0"	S608					
31		22'-8"	S609					
33		48'-6"	S610					
53		54'-0"	S611					
181		30'-6"	S612					
4		39'-8"	S613					
22		38'-0"	S614					
6		29'-0"	S615					
2		21'-8"	S616					
11	↓	30'-3"	S617	Str.				
196	6	4'-3"	S618	105	1'-2"	1'-10"	1'-3"	
4	7	22'-8"	S701	Str.				
8	7	38'-4"	S702	Str.				
4	7	30'-3"	S703	Str.				
71	6	13'-10"	S801	126	7'-0"	2'-1"	4'-9"	1'-4"
73	↑	31'-3"	S802	126	24'-5"	2'-1"	4'-9"	1'-4"
35	↓	29'-10"	S803	Str.				
1	8	47'-10"	S804	Str.				
71	11	41'-0"	S1101	Str.				
68	↑	34'-0"	S1102	↑				
69		22'-0"	S1103					
1		24'-8"	S1104					
1		25'-6"	S1105					
70		30'-0"	S1106					
71		52'-0"	S1107					
32		28'-0"	S1108					
35		56'-0"	S1109					
33		44'-0"	S1110					
4		32'-0"	S1111					
4		17'-0"	S1112					
2	↓	18'-0"	S1113	↓				
2	11	35'-0"	S1114	Str.				
18	6	11'-0"	H601	Str.				
6	6	6'-6"	H602	Str.				
6	4	9'-7"	V401	124	3'-1"	2'-8"	1'-1"	2'-9"
1	↑	12'-5"	V402	↑	4'-6"	2'-8"	2'-6"	2'-9"
2		11'-7"	V403		4'-1"	2'-8"	2'-1"	2'-9"
1		10'-11"	V404		3'-9"	2'-8"	1'-9"	2'-9"
1		10'-1"	V405		3'-4"	2'-8"	1'-4"	2'-9"
1		12'-7"	V406		4'-7"	2'-8"	2'-7"	2'-9"
1		10'-7"	V407		3'-7"	2'-8"	1'-7"	2'-9"
1		9'-9"	V408	↓	3'-2"	2'-8"	1'-2"	2'-9"
6	4	9'-5"	V409	124	3'-0"	2'-8"	1'-0"	2'-9"
16	4	27'-9"	W401	Str.				
8	↓	31'-10"	W402	Str.				
154	↓	4'-2"	W403	123	10"	10"	11"	10"
26	4	5'-6"	W404	105	2'-8"	10"	2'-0"	
8	4	5'-8"	P401	Str.				
8	↑	7'-8"	P402	↑				
8		23'-10"	P403					
16	↓	24'-9"	P404	Str.				
180	4	4'-10"	P405	109	1'-6"	6½"	4½"	
WEST BRIDGE								
115	5	5'-3"	B501	124	0"	2'-0"	5"	2'-10"
188	6	14'-2"	B601	109	4'-7"	2'-0"	6"	
4	↑	13'-2"	B602	↑	4'-7"	1'-6"	6"	
4		19'-2"	B603		6'-7"	2'-6"	6"	
119		18'-2"	B604	109	6'-1"	2'-6"	6"	
121	6	6'-0"	B605	Str.				
16	10	15'-2"	B1004	Str.				

NO.	SIZE	LENGTH	MARK	TYPE	DIMENSIONS A	B	C	D
16	10	17'-4"	B1005	Str.				
8	10	55'-10"	B1006	Str.				
4	10	120'-7"	B1007	Str.				
44	11	10'-0"	B1101	Str.				
6	11	56'-2"	B1104	Str.				
3	11	121'-5"	B1105	Str.				
3	4	90'-0"	S401	Str.				
4	4	17'-8"	S402	Str.				
4	6	39'-8"	S613	Str.				
53	↑	30'-8"	S619	↑				
75		37'-3"	S620					
53		45'-11"	S621					
203		42'-6"	S622					
11		26'-0"	S623					
11		15'-6"	S624					
4		41'-0"	S625					
2		24'-2"	S626					
2		13'-4"	S627					
181	↓	41'-6"	S628	Str.				
196	6	4'-1"	S629	105	1'-2"	1'-10"	1'-1"	
8	7	42'-10"	S704	Str.				
4	7	26'-0"	S705	Str.				
4	7	15'-6"	S706	Str.				
79	8	13'-10"	S801	126	7'-0"	2'-1"	4'-9"	1'-4"
82	↑	31'-3"	S802	126	24'-5"	2'-1"	4'-9"	1'-4"
40	↓	29'-10"	S803	Str.				
1	8	25'-6"	S805	Str.				
79	11	41'-0"	S1101	Str.				
75	↑	34'-0"	S1102	↑				
78		22'-0"	S1103					
79		30'-0"	S1106					
83		52'-0"	S1107					
34		28'-0"	S1108					
41		36'-0"	S1109					
38		44'-0"	S1110					
5		32'-0"	S1111					
4		17'-0"	S1112					
1		27'-0"	S1116					
1		11'-0"	S1117					
1		19'-6"	S1118	↓				
4	11	36'-0"	S1119	Str.				
16	6	11'-0"	H601	Str.				
6	6	6'-6"	H602	Str.				
12	4	10'-0"	V410	124	3'-1"	2'-8"	1'-5"	2'-10"
1	↑	13'-0"	V411	↑	4'-7"	2'-8"	2'-11"	2'-10"
1		12'-0"	V412		4'-1"	2'-8"	2'-5"	2'-10"
1		11'-2"	V413		3'-8"	2'-8"	2'-0"	2'-10"
1		10'-2"	V414		3'-2"	2'-8"	1'-6"	2'-10"
1		13'-3"	V415		4'-3"	2'-8"	3'-0"	2'-10"
1		12'-3"	V416		4'-3"	2'-8"	2'-6"	2'-10"
1	↓	11'-5"	V417		3'-10"	2'-8"	2'-1"	2'-10"
1	4	10'-5"	V418	124	3'-4"	2'-8"	1'-7"	2'-10"
20	4	27'-9"	W401	Str.				
10	↓	31'-10"	W402	Str.				
26	↓	7'-0"	W405	105	2'-0"	2'-6"	2'-6"	
154	4	6'-11"	W406	125	1'-11½"	10"	1'-3"	2'-1½"
8	4	5'-8"	P401	Str.				
8	↑	7'-8	P402	↑				
8		23'-10"	P403					
16	↓	24'-9"	P404	Str.				
180	4	4'-10"	P405	109	1'-6"	6½"	4½"	

NO.	SIZE	LENGTH	MARK	TYPE	DIMENSIONS A	B	C	D
1	4	5'-10"	N401	130	1'-4"	3'-2"	6"	1'-0"
30	↓	4'-0"	N402	131	1'-1"	7"	5"	4½"
15	↓	10'-6"	N403	131	Varies	Varies	5"	4½"
5	4	29'-8"	N404	Str.				
108	4	25'-7"	M401	Str.				
12	4	6'-6"	M402	Str.				
259	5	10'-9"	M501	100	9'-7"	7"		
130	5	9'-7"	M502	Str.				
13	6	10'-11"	M601	100	9'-7"	8"		
13	6	9'-7"	M602	Str.				

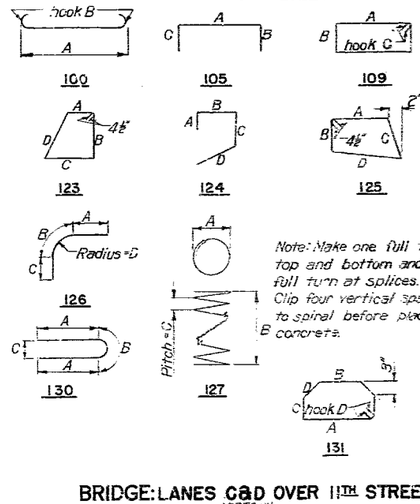
CUTTING DIAGRAMS



A	F	G	H	J	K	L
EAST BRIDGE						
33 - S610 cut 33 *	48'-6"	8"	24'-2"	25'-6"	23'-0"	24'-8"
53 - S611 cut 53 *	54'-10"	8"	26'-5"	29'-8"	25'-2"	28'-5"
3 - B1103 cut 3	105'-11"	1"	52'-9"	52'-11"	53'-1"	53'-2"
3 - B1003 cut 3	104'-9"	1"	52'-2"	52'-4"	52'-5"	52'-7"
WEST BRIDGE						
15 - N403 cut 15 bend 30	10'-6"	8"	4'-2"	5'-2⅜"	5'-3⅜"	6'-4"
3 - B1105 cut 3	121'-5"	1"	60'-6"	60'-8"	60'-9"	60'-11"
53 - S619 cut 53 *	30'-8"	8"	15'-0"	17'-2"	13'-6"	15'-5"
75 - S620 cut 75 *	37'-3"	8"	17'-0"	21'-7½"	15'-7½"	20'-3"
53 - S621 cut 53 *	45'-11"	1"	21'-6"	25'-10"	20'-1"	24'-5"
4 - B1007 cut 4	120'-7"	1"	60'-0"	60'-3"	60'-4"	60'-7"

*Series noted thus * shall be tagged with a and b.*

BENDING DIAGRAMS



BRIDGE: LANES CARRIED OVER 11TH STREET

STATE ROAD MIDTOWN EXPRESSWAY FREEWAY

IN KANSAS CITY, MO.

PROJECT NO. I-352 (11) (FAI-RTE. 4) STA. 27 + 63.96 (LANE C)

JACKSON COUNTY

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE B.A.P. DATE 1-15-58 | TRACED C.L.H. DATE 1-17-58
CHECKED J.N. DATE 1-23-58 | SCALE

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

REINFORCING SCHEDULE

SHEET 2 OF 9
Revised 6-23-58

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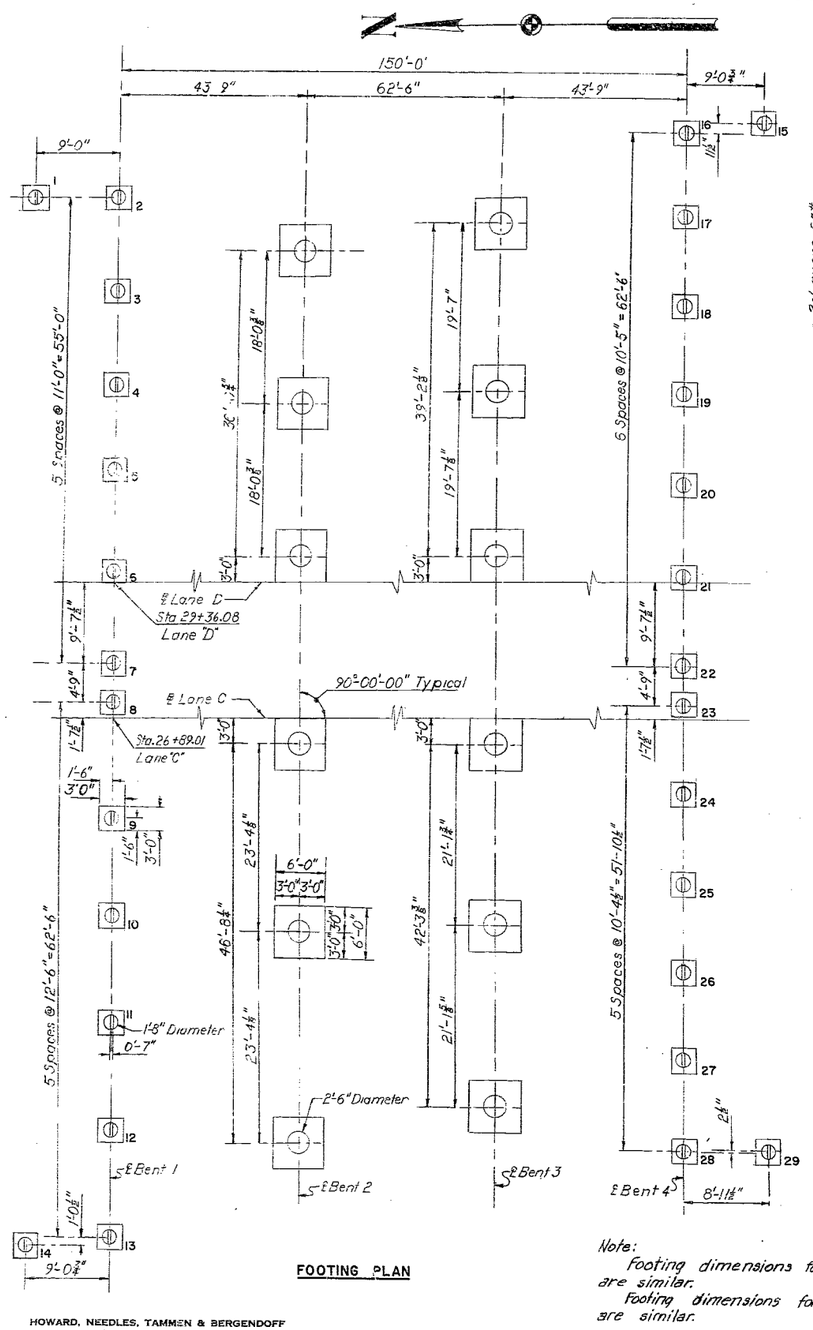
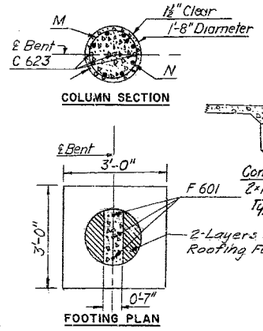
NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. BSR.	FISCAL YEAR	SHEET NO	TOTAL SHEETS
5	MO.			117	
DIST. NO.	COUNTY			ROUTE	SEC.
4				40	



FOOTING PLAN

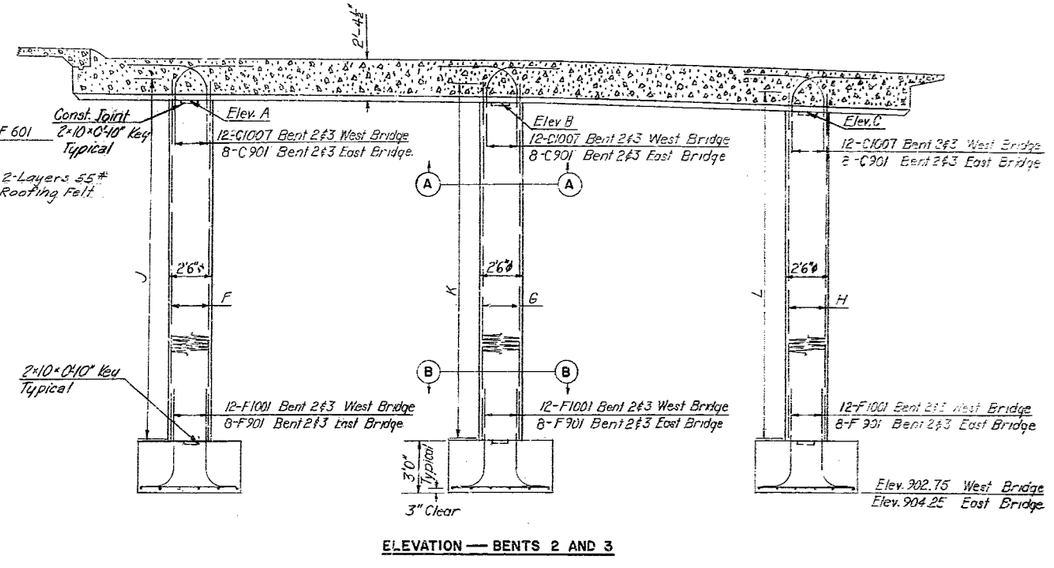


DETAILS BENTS 1 AND 4

BENTS 1 AND 4
ELEVATIONS AND REINFORCING

Footing	Elev. E	Elev. D	M	N
1	925.99	916.0	1-C410	8-C601
2	922.85	915.0	1-C411	8-C602
3	923.08	915.0	1-C412	8-C603
4	923.31	915.0	1-C412	8-C604
5	923.40	915.0	1-C413	8-C605
6	923.31	914.5	1-C413	8-C606
7	923.27	913.0	1-C410	8-C607
8	923.30	912.5	1-C414	8-C608
9	923.49	912.5	1-C416	8-C609
10	923.34	912.0	1-C416	8-C610
11	923.14	912.0	1-C416	8-C611
12	922.76	912.0	1-C414	8-C608
13	922.42	911.5	1-C416	8-C612
14	925.52	911.5	1-C417	8-C613
15	921.94	913.0	1-C418	8-C614
16	919.25	912.0	1-C415	8-C615
17	919.76	912.5	1-C415	8-C615
18	920.27	913.0	1-C415	8-C615
19	920.71	913.0	1-C411	8-C616
20	920.92	913.0	1-C412	8-C617
21	921.12	913.0	1-C412	8-C603
22	921.04	913.0	1-C412	8-C618
23	921.00	913.0	1-C412	8-C618
24	921.17	913.0	1-C412	8-C619
25	921.11	913.0	1-C415	8-C503
26	920.94	913.0	1-C412	8-C617
27	920.75	913.0	1-C411	8-C620
28	920.52	913.0	1-C411	8-C621
29	923.49	913.0	1-C414	8-C622

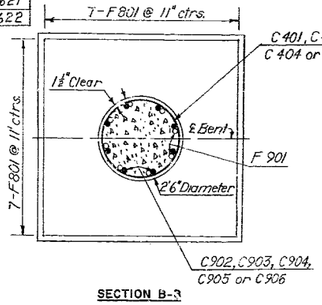
Note:
Footing dimensions for Bents 1 and 4 are similar.
Footing dimensions for Bents 2 and 3 are similar.



ELEVATION — BENTS 2 AND 3

BENTS 2 AND 3 — ELEVATIONS AND REINFORCING

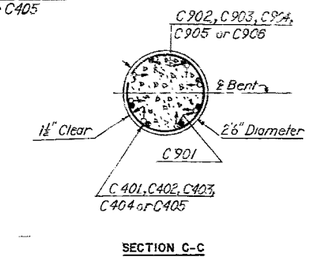
	Elev. A	Elev. B	Elev. C	F	G	H	J	K	L
East Bridge									
Bent 2	927.11	927.04	926.58	8-C903	8-C903	8-C905	1-C401	1-C401	1-C404
Bent 3	926.15	925.76	925.00	8-C902	8-C904	8-C906	1-C402	1-C403	1-C405
West Bridge									
Bent 2	927.13	927.05	926.50	12-C1001	12-C1003	12-C1005	1-C406	1-C406	1-C408
Bent 3	926.17	926.13	925.69	12-C1002	12-C1004	12-C1006	1-C407	1-C407	1-C409



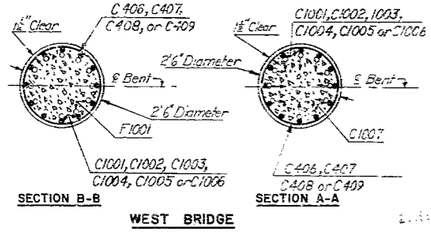
SECTION B-B

Showing footing details for all Bent 2 & 3 Footings.

EAST BRIDGE



SECTION C-C



SECTION B-B — SECTION A-A

WEST BRIDGE

BRIDGE: LANES C & D OVER 11TH. STREET
STATE ROAD MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-___(11)(FAI-RTE. 4) STA. 27+83.86 (LANE C)
JACKSON COUNTY

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE LJR	DATE 1-6-58	TRACED	DATE
CHECKED HWD	DATE 1-14-58	SCALE	

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

SUBSTRUCTURE DETAILS SHEET 3 OF 9

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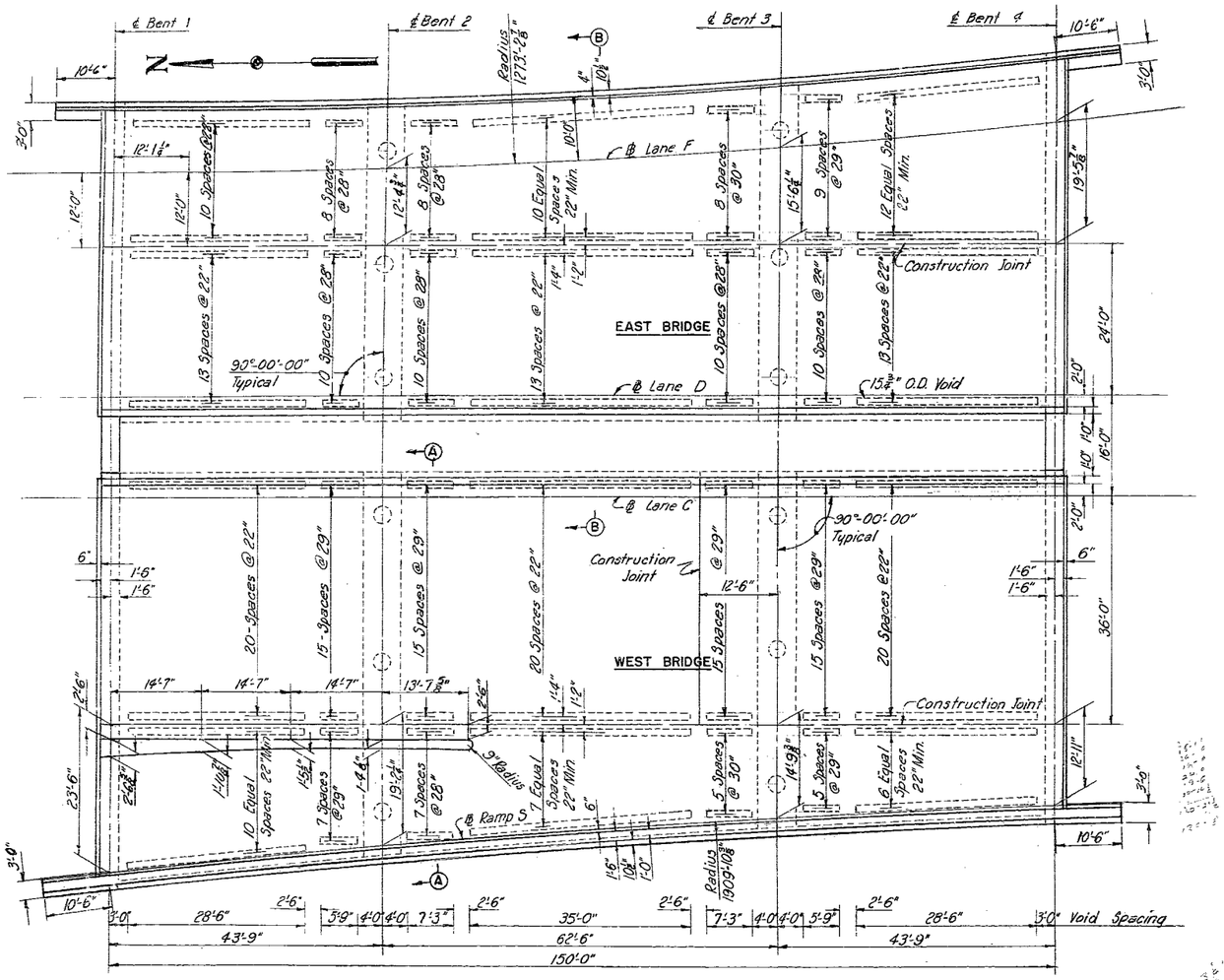
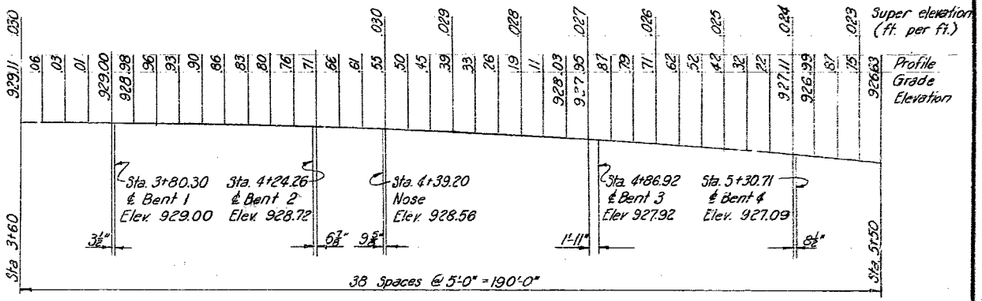
SEE FINAL PLANS BROWN-LINES

MISSOURI STATE HIGHWAY DEPARTMENT

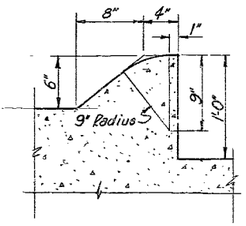
FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			118	
DIV. NO.	COUNTY			ROUTE	SEC.
4				40	



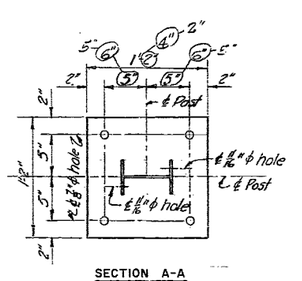
DECK PLAN



PROFILE GRADE RAMP "S"



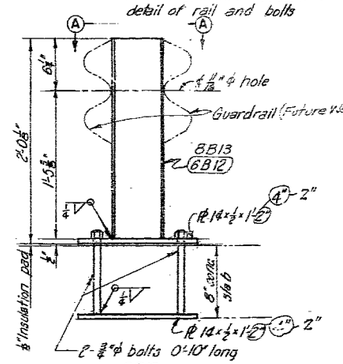
SECTION THRU CURB AT MEDIAN



SECTION A-A

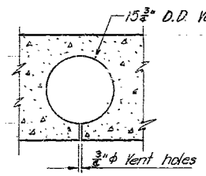
Note: All posts shall be set normal to grade. Use ⅛" min. (¼" max.) shim for vertical alignment.

Note: Guardrail to be included in Roadway quantities. See Missouri Standard 27-A-13 for detail of rail and bolts



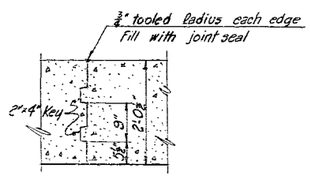
GUARDRAIL POST DETAIL

Note: (6B12) ½" PLs and ¾"ϕ bolts are included in estimated quantities of fabricated Structural Steel and will be paid for as such.



DETAIL OF VENT HOLES IN VOIDS

Note:
One ¾"ϕ Vent shall be provided near each end of each void. Vents shall be placed in straight lines parallel to ℄ of bents. Holes shall be kept positively open through the bottom forms during the pouring and curing of the concrete slabs.



SLAB CONSTRUCTION JOINT

Notes:
For Cross Sections A-A and B-B see sheet 5
For East Bridge Deck contours see sheet 5
See sheet 5 for Dead Load Deflections.
For West Bridge reinforcing see sheets 6 & 7
For East Bridge reinforcing see sheet 8
For Curb, Parapet, Median and Nose reinforcing and details see sheet 9
For East Bridge Wingwall reinforcing and details see sheet 9.
For West Bridge Wingwall reinforcing and details see sheet 7.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE KPO	DATE 1-3-57	TRACED	DATE
CHECKED JJN	DATE 1-10-58	SCALE	

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

BRIDGE: LANES C & D OVER 11TH STREET
STATE ROAD MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17)(FAI-RTE 4) STA. 27+63.86 (LANE C)
JACKSON COUNTY

DECK PLAN AND DETAILS

SHEET 4 OF 9
Revised 6-16-58 7-18-58

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NO CONSTRUCTION CHANGES

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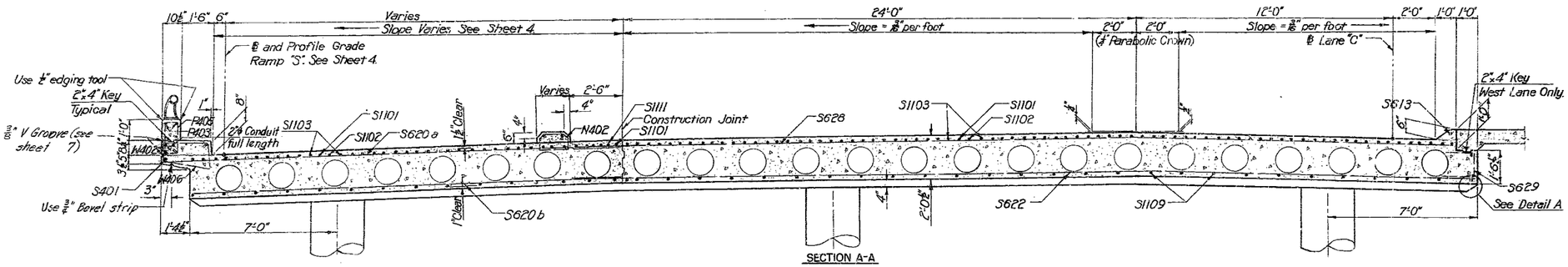
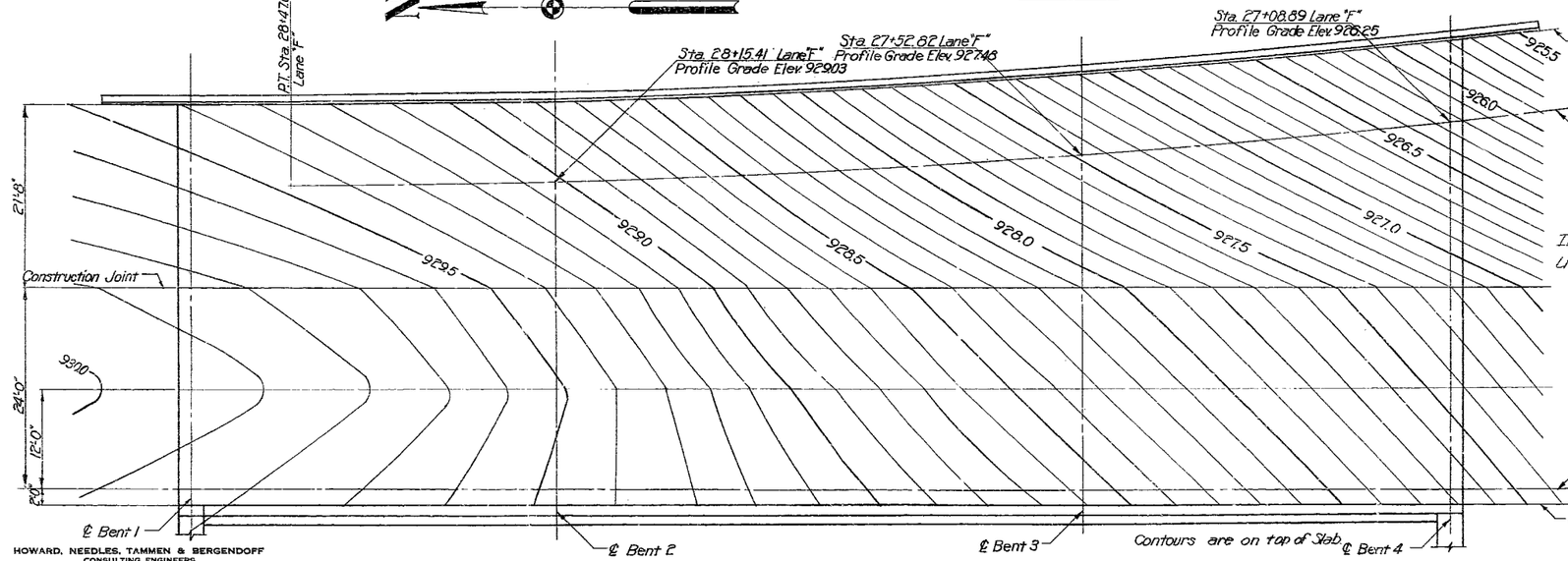
MISSOURI STATE HIGHWAY DEPARTMENT

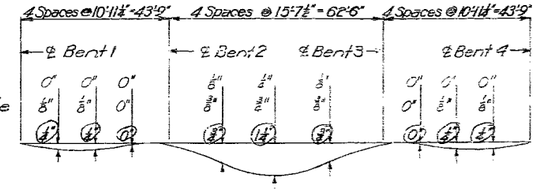
FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. B SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			119	
DIST. NO.	COUNTY			ROUTE	SEC.
4				40	





EAST BRIDGE CONTOUR PLAN

Note:
For location of cross sections A-A and B-B see sheet 4



DEAD LOAD DEFLECTION DIAGRAM

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE CLW	DATE 1-8-58	TRACED	DATE
CHECKED BAR	DATE 1-14-58	SCALE	

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

Revised July 15, 1958

BRIDGE: LANES C & D OVER 11TH STREET
STATE ROAD ~~MISSOURI~~ MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17)(FAI-RTE.4) STA. 27+63.86 (LANE C)
JACKSON COUNTY

CROSS SECTIONS SHEET 5 OF 9

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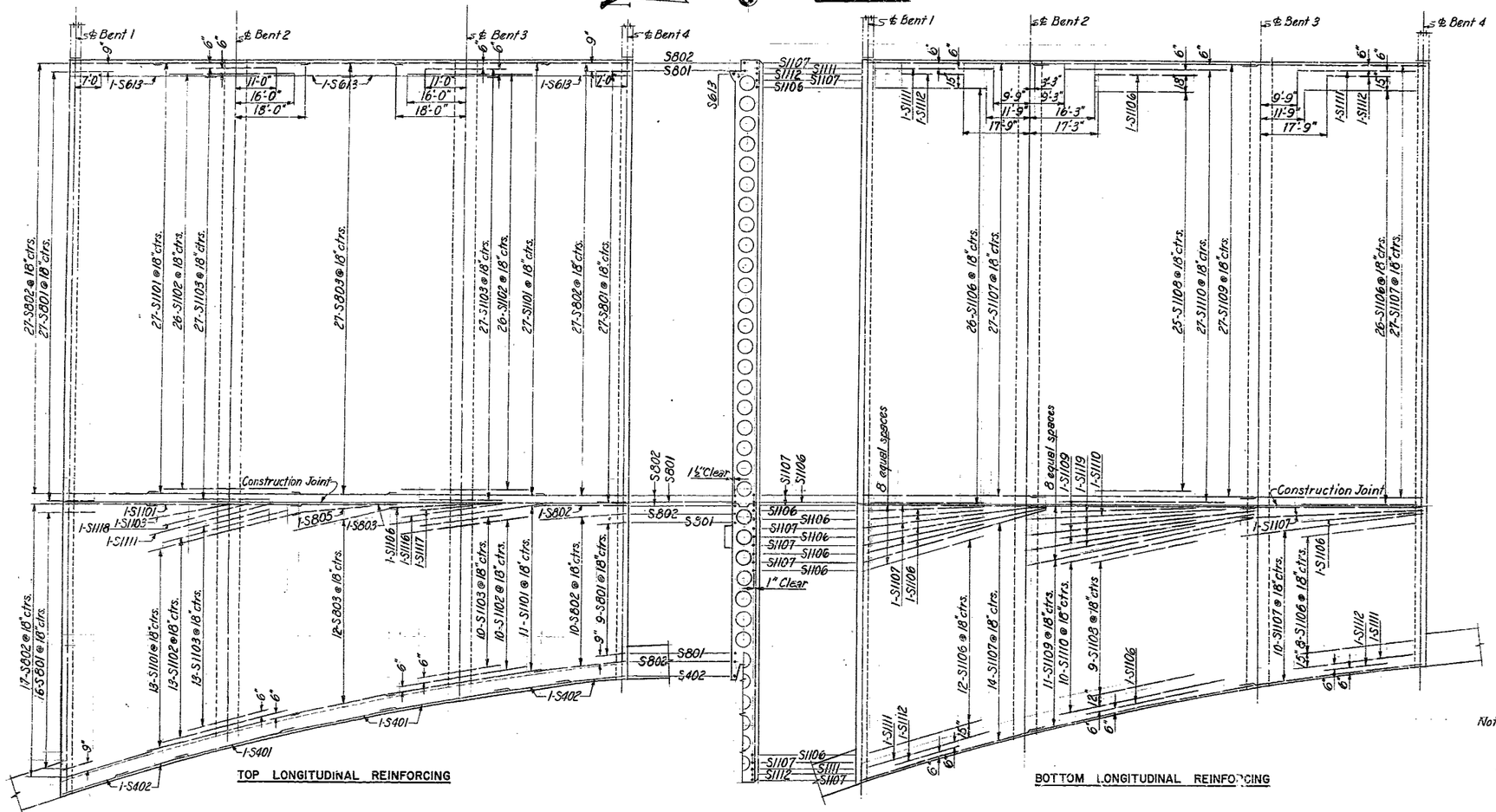
NO CONSTRUCTION CHANGES



MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT NO. & SEC.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			120	
DIST. NO.	COUNTY			ROUTE	SEC.
4				40	

TOP LONGITUDINAL REINFORCING

BOTTOM LONGITUDINAL REINFORCING

SECTION A-A

SECTION B-B

Notes:

For Reinforcing Schedule see sheet 2.
For typical section thru slab see Section A-A sheet 5.
For slab dimensions see Deck Plan sheet 4.
For curb reinforcing to be placed with top slab see sheet 9.
For Wingwall reinforcing and details see sheet 7.
For Slab Construction Joint detail see sheet 4.
For West Bridge Profile Grade Elevations see sheet 4.
For Transverse Reinforcing see sheet 7.

BENT 2 REINFORCING

BENT 1 REINFORCING

BENT 3 REINFORCING

BENT 4 REINFORCING

286

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE BAR	DATE 12-6-52	TRACED	DATE
CHECKED JJN	DATE 1-15-53	SCALE	

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

SLAB REINFORCING WEST BRIDGE

SHEET 6 OF 9

BRIDGE: LANES C & D OVER 11TH STREET

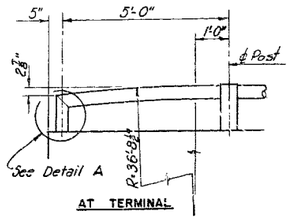
STATE ROAD MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17)(FAI-RTE.4) STA. 27+53.88 (LANE C)
JACKSON COUNTY

A-243

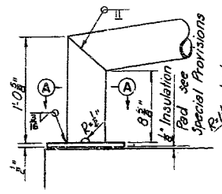
AS CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			121	
DIST. NO.	COUNTY			ROUTE	SEC.
4				40	

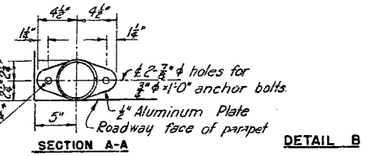


AT TERMINAL



DETAIL A

HANDRAIL ELEVATION

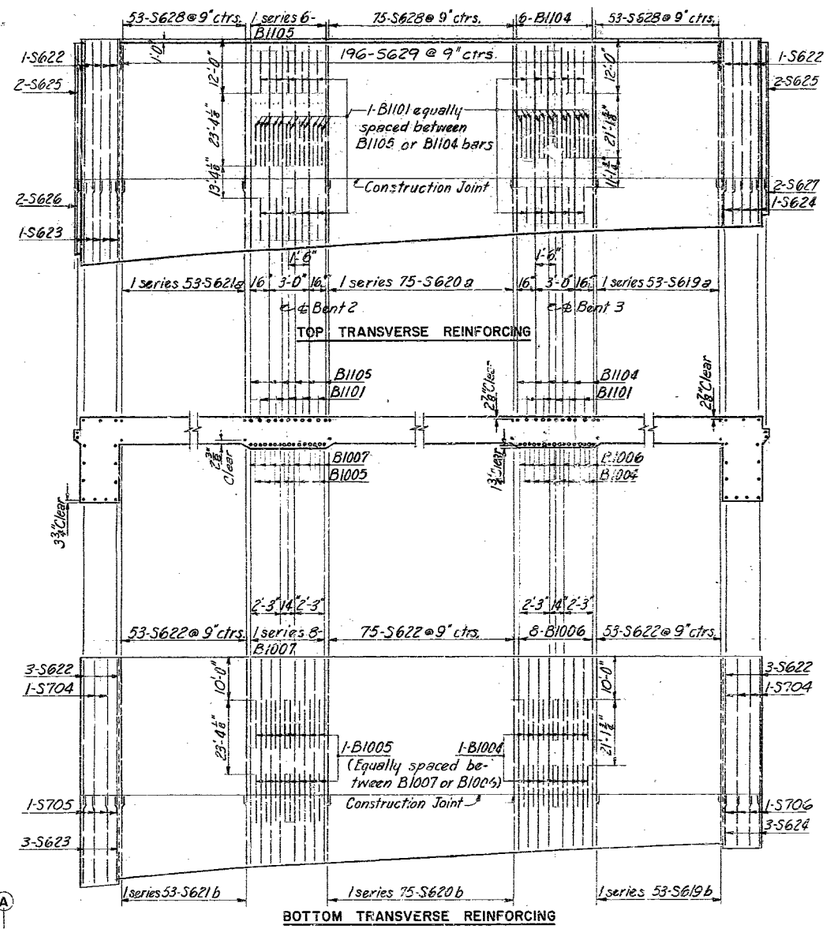


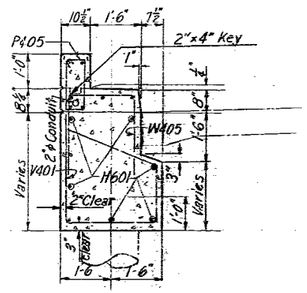
SECTION A-A

DETAIL B

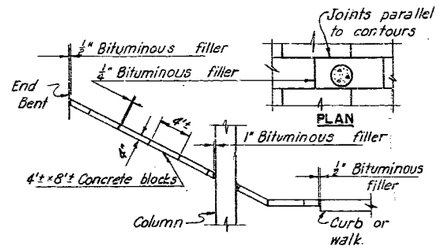
Notes:
All handrail posts shall be set normal to grade.
Rails to be fabricated in two or three panel lengths.
See Missouri Std. R-2 - Standard Handrail Details for Single Tube Aluminum Handrail.

HANDRAIL DETAILS

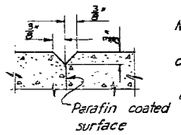




Notes:
For Reinforcing Schedule see sheet 2.
For typical section thru slab see Section A-A sheet 5.
For slab dimensions see Deck Plan sheet 4.

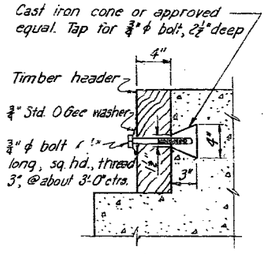


SLOPE PROTECTION
UNDER ENDS OF SUPERSTRUCTURE



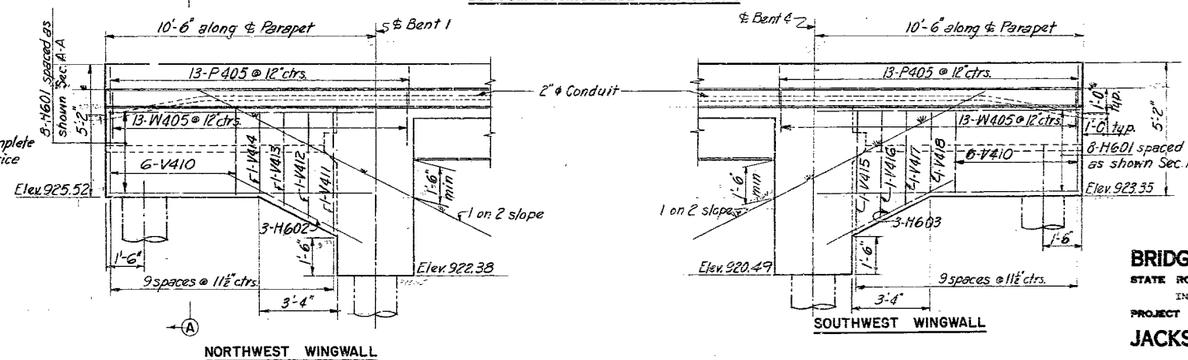
Notes:
Reinforcing shall stop 2" clear of joints.
No chamfer shall be placed on the sidewalk at deflection joints.

DEFLECTION JOINT DETAIL
¼" V-Groove (Joints not parafin coated)



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

TIMBER HEADER DETAIL



NORTHWEST WINGWALL

SOUTHWEST WINGWALL

BRIDGE: LANES C & D OVER 11TH STREET
STATE ROAD ~~SUPERIOR~~ MIDTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17)(FAI-RTE.4) STA. 27+63.86(LANE C)
JACKSON COUNTY

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE WPO	DATE 11-1-57	TRACED	DATE
CHECKED JJH	DATE 1-11-58	SCALE	

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

SLAB REINFORCING WEST BRIDGE SHEET 7 OF 9

A-243

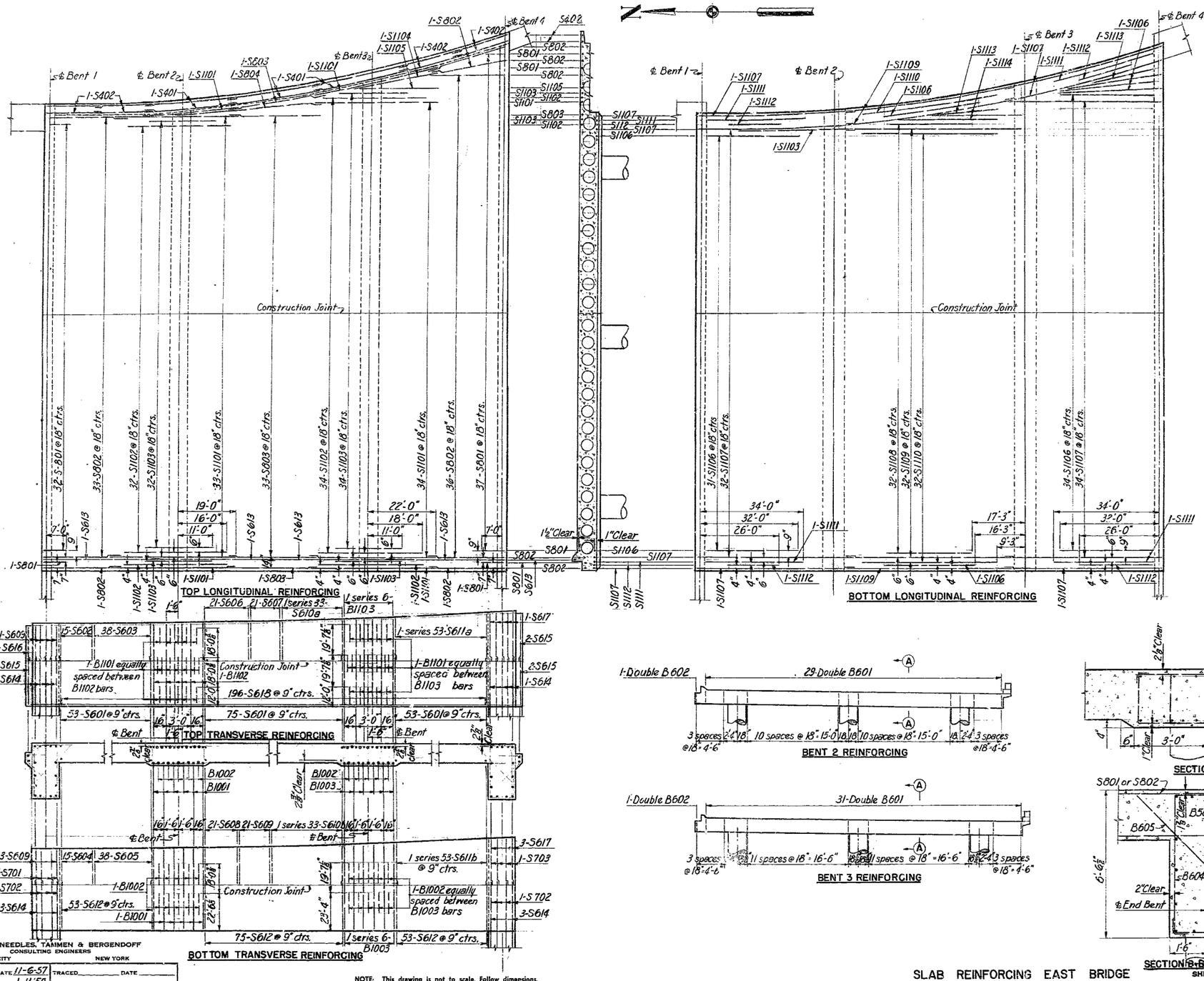
NO CONSTRUCTION CHANGES

287

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
5	MO.		122	
DIST. NO.	COUNTY		ROUTE	SEC.
4			40	

238



Notes:
- For Reinforcing Schedule see sheet 2.
- For typical section thru slab see Section B-B sheet 5.
- For slab dimensions see Deck Plan sheet 4.
- For Curb Reinforcing to be placed with top slab see sheet 9.
- For Wingwall Reinforcing and Details see sheet 9.
- For Slab Construction Joint detail see sheet 4.

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE B.A.E.	DATE 11-6-57	TRACED	DATE
CHECKED JJH	DATE 1-11-58	SCALE	

BRIDGE: LANES C & D OVER 11TH STREET

STATE ROAD MIDTOWN FREEWAY IN KANSAS CITY, MO.

PROJECT NO. F-352(07)(FAI-RTE.4) STA. 27+63.86 (LANE C)

JACKSON COUNTY

SLAB REINFORCING EAST BRIDGE

SHEET 8 OF 9

A-243

NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIV. NO.	STATE	FEDERAL PROJECT No. & Sec.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.			123	
DIST. NO.	COUNTY			ROUTE	SEC.
4				40	

EAST CURB AND PARAPET PLAN

MEDIAN PLAN

NOSE PLAN

WEST CURB AND PARAPET PLAN

SECTION B-B

SECTION A-A

SECTION C-C

SECTION D-D

DETAIL OF MEDIAN AT LIGHT STANDARD

LIGHT STANDARD DETAILS

Note: cost of furnishing and placing anchor bolt assembly shall be included in price bid for lighting conduit system.

Notes:
For Reinforcing Schedule see sheet 2.
For Handrail Details see sheet 7.
For Guardrail Post detail see sheet 4.
For West Bridge Wingwall reinforcing and details see sheet 7.

SOUTHEAST WINGWALL

NORTHEAST WINGWALL

SECTION E-E

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE B.A.P.	DATE 12-17-57	TRACED	DATE
CHECKED J.J.N.	DATE 1-10-58	SCALE	

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

CURB, MEDIAN AND NOSE REINFORCING

SHEET 9 OF 9
Revised 6-18-58 7-18-58

BRIDGE: LANES C & D OVER 11TH STREET
STATE ROAD NORTOWN FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17)(5) STA. 27+63.86 LANE C & D
JACKSON COUNTY

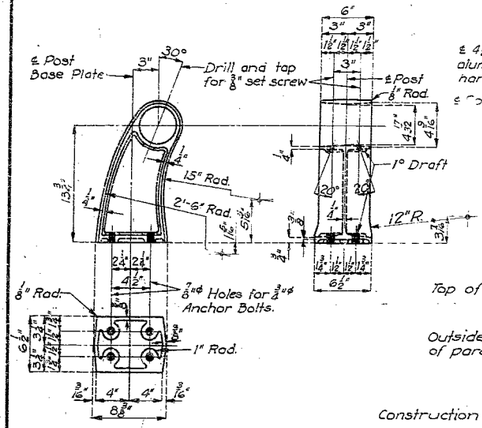
A-243

NO CONSTRUCTION CHANGES

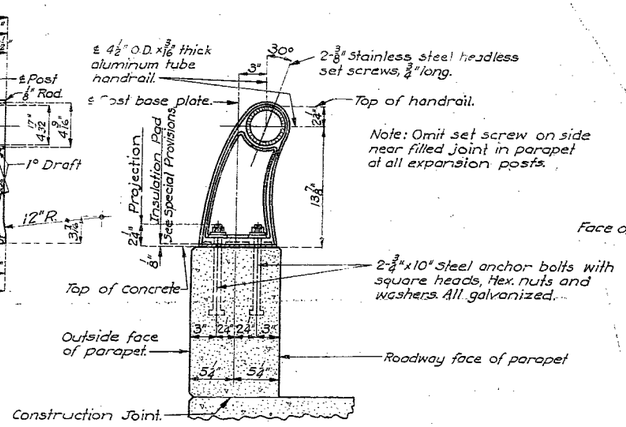
2802

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	124	

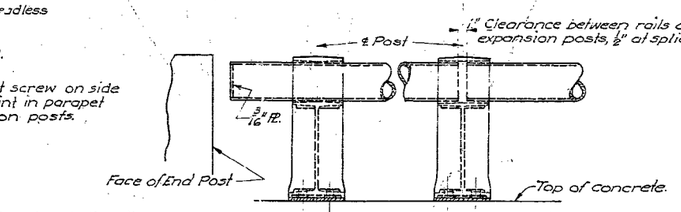


HANDRAIL POST



SECTION THRU HANDRAIL

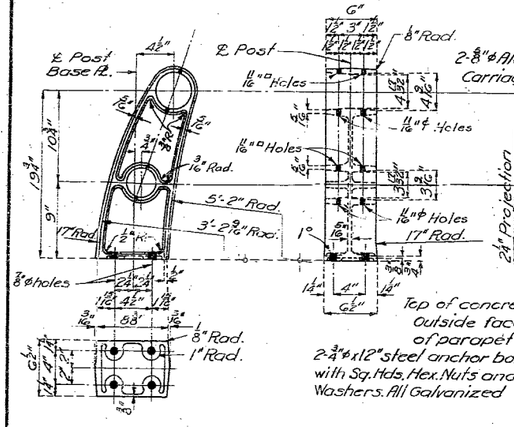
SINGLE TUBE ALUMINUM RAILING



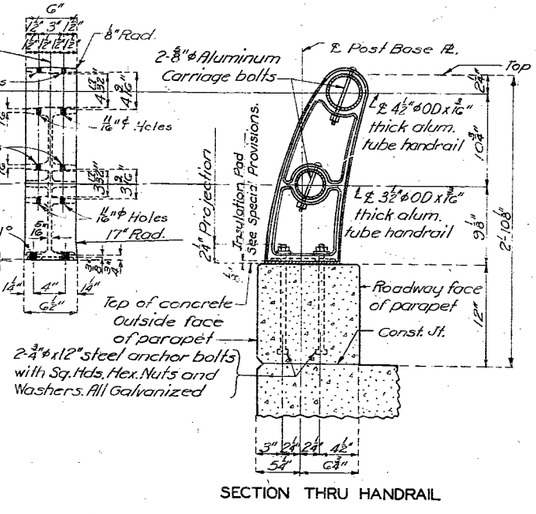
POST RAIL SPLICE OR EXP.

TYPICAL HANDRAIL DETAILS

Note: 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 Insulation Pad and post base may be used for adjusting handrail alignment. Maximun thickness of shims to be ⅛". Where more fitting 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. See Special Provisions.
The contract unit price per linear foot of "Aluminum Alloy Handrail" shall include furnishing and erecting the handrail complete with anchor bolts, shims and Insulation Pads.
All fillets ¼" except as noted.
All draft 3° except as noted.

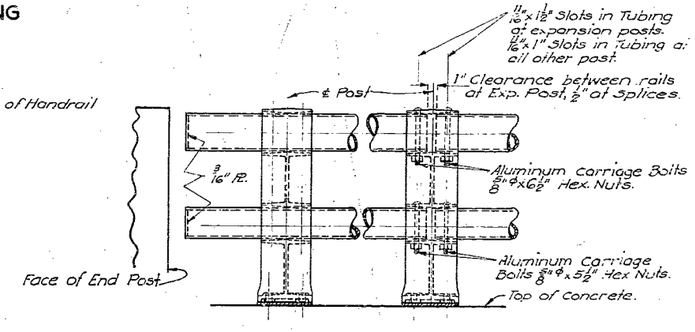


HANDRAIL POST



SECTION THRU HANDRAIL

DOUBLE TUBE ALUMINUM RAILING



POST RAIL SPLICE OR EXP.

TYPICAL HANDRAIL DETAILS

290

STANDARD HANDRAIL DETAILS

SUBMITTED BY J. A. Williams BRIDGE ENGINEER DATE 12-14-1956

SUBMITTED BY Raymond M. Tuttle CHIEF ENGINEER DATE 12-14-1956

JACKSON A-243

R-2

Sh. #10

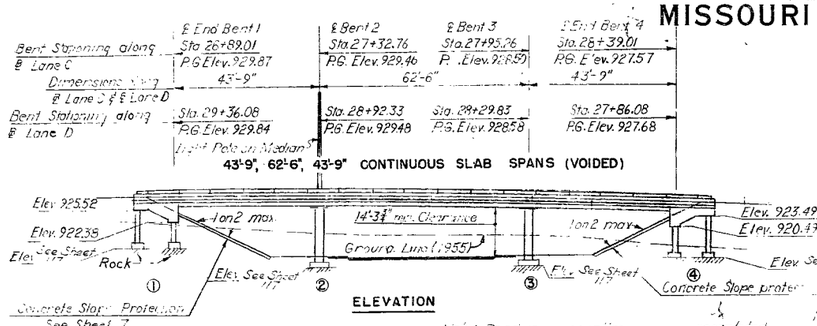
Revised 3-6-57

NO CONSTRUCTION CHANGES

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FEDERAL PROJECT No. & Sec.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.	I-352(17)		115	
DIST. CO.		COUNTY		ROUTE	SEC.
4		JACKSON		40	

FINAL PLANS



ELEVATION

Note: All loose, shelly or disintegrated rock removed and all footings placed on and at least 6" into hard, solid, undisturbed rock and cast against vertical faces of same. If soft rock or shale was encountered the footings were carried at least 18" into and cast against vertical faces of same. Footings of Bents 3 and 4 not placed higher than elevations shown. Tops of footings of Bents 2 and 5 not placed higher than 18" below the finished roadway section.

Note: Roadway excavation completed on and adjacent to this site before structure started. See Special Provisions.
See Road Plans for lower limits of roadway excavation.

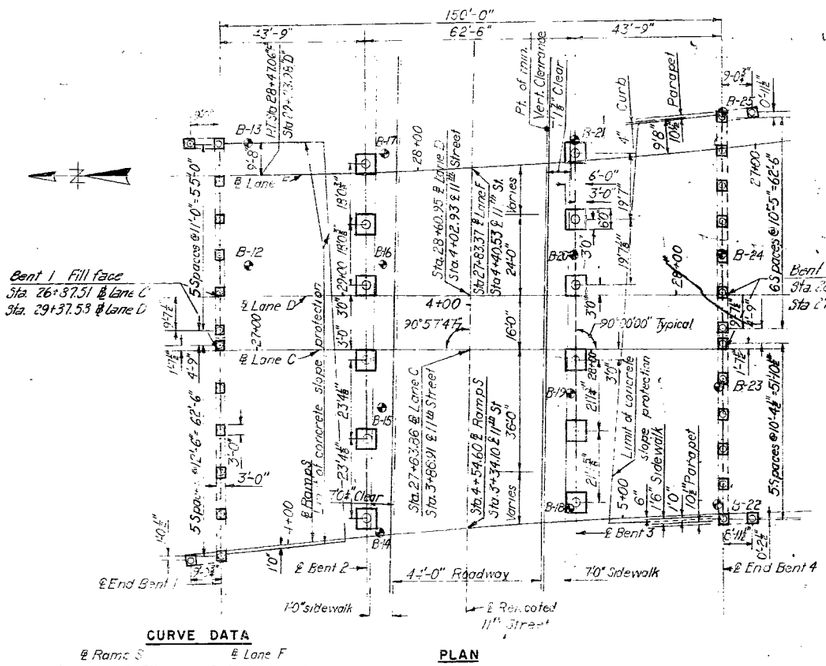
ESTIMATED QUANTITIES

ITEM NO.	ITEM	UNIT	SUB-STRUCTURE	SUPER-STRUCTURE	TOTAL
1-G	Class 1 Excavation for Structures	Cu. Yd.	381		381
16-B	Class B Concrete	Cu. Yd.	67.3		67.3
16-B-1	Class B-1 Concrete	Cu. Yd.		1280.0	1280.0
17-B	Fabricated Structural Steel	Lbs.		1130	1130
17-J	Aluminum Alloy Handrail	Lin. ft.		343	343
19-A	Reinforcing Steel	Lbs.	6070	367,950	374020
40-A	Lighting Conduit System	L.S.		1	1
	Contingent Class 1 Excavation + 25%	Cu. Yd.	37.5		37.5
	Contingent Test Holes	Lin. ft.	102		102

NOTES:
All excavation for bridge paid for as Class 1 Excavation for Structures.
Estimated quantities of Class 1 Excavation for Structures includes only the amount of excavation below the limits of roadway Excavation. See Special Provisions.
Estimated quantity of Class 'B' concrete substructure includes only concrete in footings. All other concrete is included in estimated quantity of Class "B-1 concrete superstructure.

GENERAL NOTES

Design specifications: A.A.S.H.O. 1953.
Construction Specifications: Missouri Standard Specifications for State Roads, Materials, Bridges, Culverts, and Incidental Structures. (1955)
Design Loading: H20-S16-44 (Modified 24,000# Tandem Axle)
15"/sq. ft. future wearing surface
Concrete: Concrete strength Class 'B-1' 1400 psi. Class 'B' 1200 psi. Concrete for superstructure Class 'B-1' air entrained, see Special Provisions. Concrete for substructure Class 'B' air entrained. If the Contractor desires he may use Class 'B-1' in lieu of Class 'B' for concrete in substructure with payment made on the basis of Class 'B' concrete.
Reinforcing steel: Allowable stress 20,000 psi.
All splices in reinforcing steel 32 bar diameters. Bar sizes are designated on the plans by numbers. The first digit after the letter in three digit marks and the first two digits after the letter in four digit marks indicated the size of the bar.
Dimensions shown on the plans from reinforcing steel to outside edge of concrete are all clear dimensions. Minimum clear shall be 2" unless noted otherwise. All bending dimensions are from "out to out" of bars.
Joint Filler. Where joint filler is specified on the plans it shall conform with the requirements for pre-molded bituminous joint as given in Section 59-22.5 of the Standard Specifications.
Paint; Shop, none; Field, contact surfaces of bolted connections (steel to steel) one coat of red lead and surfaces of steel in contact with concrete three coats of red lead. All other exposed surfaces first coat red lead, second coat brown, third coat Aluminum. Payment for cleaning and all painting will be made under unit price bid for fabricated structural steel.
Waterproofing of Decks: Superstructure deck waterproofed (See special provisions)
Welding: Qualification of welding operators to be required
Utilities: All Utilities, unless shown otherwise, removed and relocated by others. The Contractor will notify the owner of the utilities of his work schedule sufficiently in advance to allow time for the disposition of utilities.
Shipping: Permits must be obtained for all truck loads over legal length

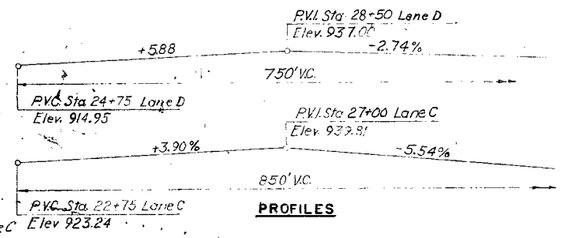


PLAN

CURVE DATA

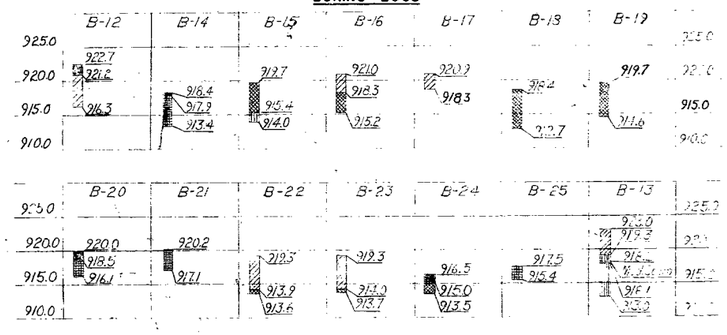
℄ Ramp S		℄ Lane F	
P.I. Sta.	2+97.37	P.I. Sta.	26+36.72
Δ	17°42'00"	Δ	19°06'34"
D	3°-00'-00"	D	4°30'-00"
R	1909.86'	R	1273.24'
T	297.37'	T	214.32'
L	590.00'	L	424.66'
SE.	Varies (See Sheet 4)	SE.	Varies (See Sheet 5)

Notes:
Concrete slope protection under end of superstructure included under roadway contract. See Sheet 7 for details.
Footing dimensions for Bents 2 & 3 are Similar.
Footing dimensions for Bents 1 & 4 are Similar.



PROFILES

BORING LOGS

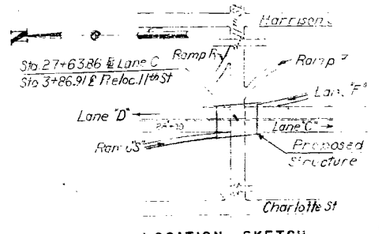


BORING LEGEND

- Clay and Boulders.
- Clay Fill.
- Brown Clay.
- Street Surface and Sidewalks.
- Limestone

Note: Bottom boring elevation is top of rock.
Top boring elevation is top of ground.

Bench Mark:
B.M. #5 "X" on hydrant 0.25' W. of Spruce, N.W. Corner 10th and Harrison.
Elev. 956.37



LOCATION SKETCH

SUBMITTED BY
REGISTERED PROFESSIONAL ENGINEER MISSOURI NO. E-253

BRIDGE: LANES C & D OVER 11TH STREET

STATE ROAD FREEWAY
IN KANSAS CITY, MO.
PROJECT NO. I-352(17) (FAI-RTE 4) STA. 27+63.86 (LANE C)

JACKSON COUNTY

STD	R2
STD	C-110R6
	A-243

SUBMITTED BY J. A. Williams BRIDGE ENGINEER DATE 2-20-58
APPROVED BY Rex M. Whitton CHIEF ENGINEER DATE 2-20-58

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE	L.J.R. DATE 1-2-58	TRACED	DATE
CHECKED	W.P.D. DATE 1-16-58	SCALE	

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

GENERAL PLAN AND ELEVATION

SHEET 1 OF 2 SHEETS

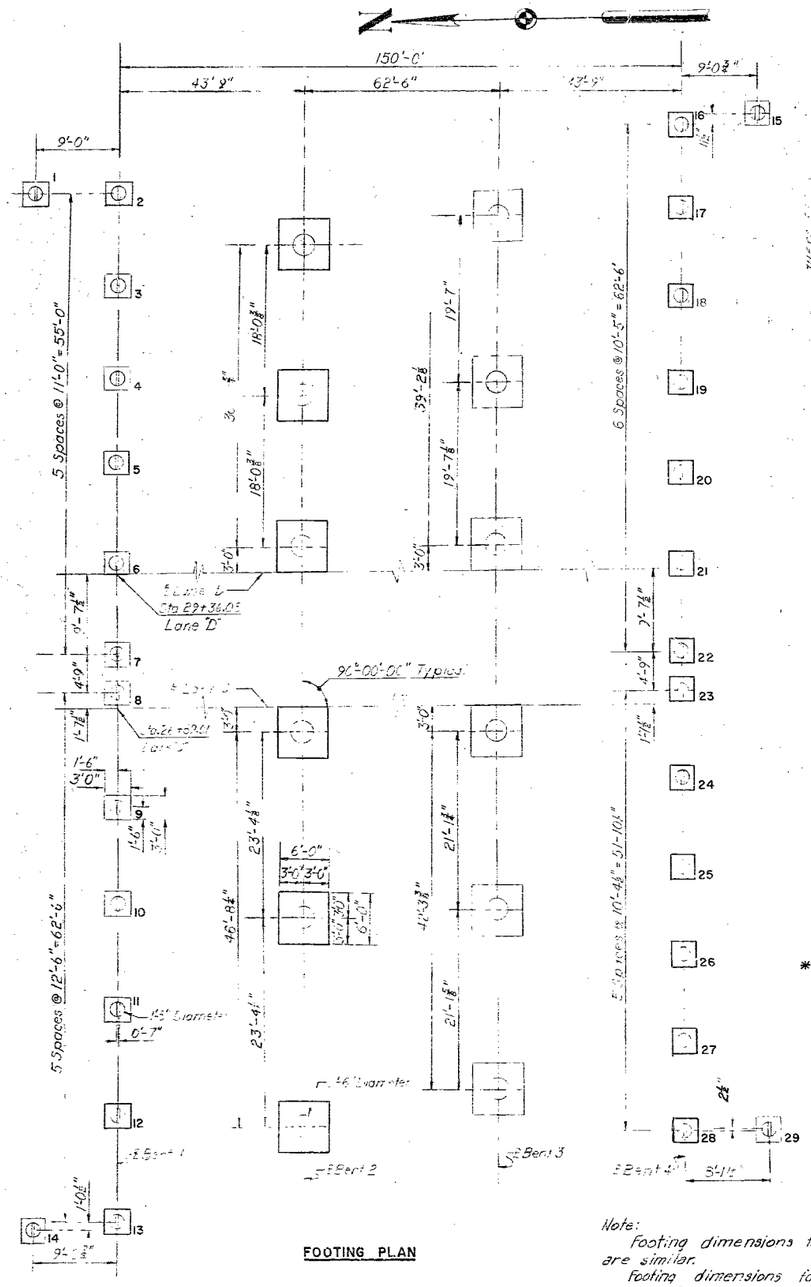
291

FINAL PLANS

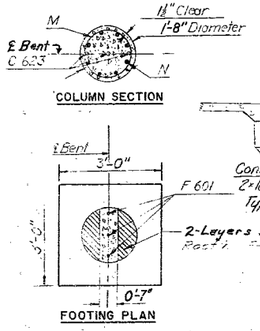
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIV. NO.	STATE FEDERAL PROJECT No.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO. I-352(17)		117	
DIST. NO.	COUNTY		ROUTE	SEC.
4	JACKSON		40	

FINAL PLANS



FOOTING PLAN

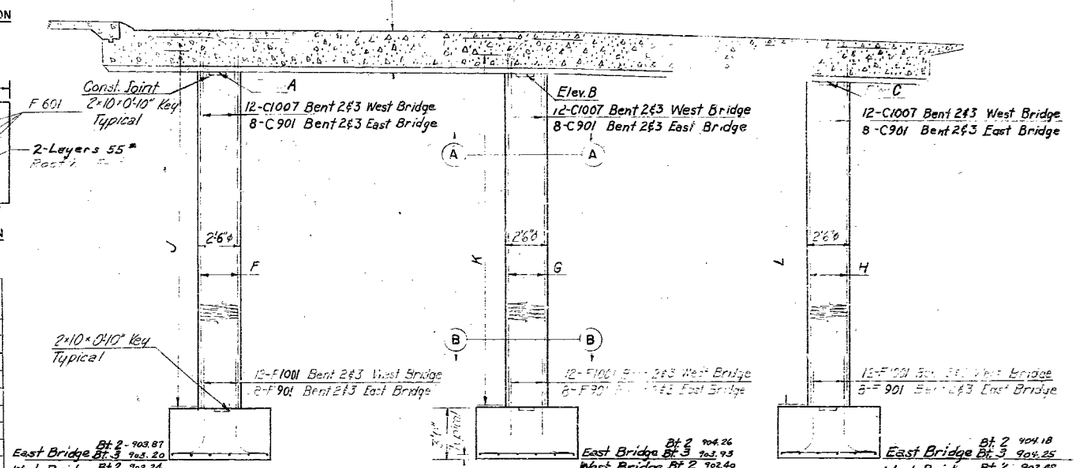


DETAILS BENTS 1 AND 4

BENTS 1 AND 4 ELEVATIONS AND REINFORCING

Footing	Elev. E	Elev. D	M	N
1	925.99	916.00	1-C410	8-C601
2	923.65	914.38	1-C411	8-C602
3	923.06	914.09	1-C412	8-C603
4	923.31	914.36	1-C412	8-C604
5	923.40	913.99	1-C413	8-C605
6	923.31	913.63	1-C413	8-C606
7	923.27	913.00	1-C410	8-C607
8	923.30	912.50	1-C414	8-C608
9	923.43	912.50	1-C416	8-C609
10	923.34	911.83	1-C416	8-C610
11	923.14	910.78	1-C418	8-C611
12	922.78	909.58	1-C414	8-C608
13	922.48	909.43	1-C416	8-C612
14	922.52	909.43	1-C417	8-C613
15	921.94	911.47	1-C418	8-C614
16	919.25	911.70	1-C415	8-C615
17	919.76	912.50	1-C415	8-C615
18	920.27	912.79	1-C415	8-C615
19	920.71	912.46	1-C411	8-C616
20	920.92	912.07	1-C412	8-C617
21	921.12	912.62	1-C412	8-C603
22	921.04	912.67	1-C412	8-C618
23	921.00	910.75	1-C412	8-C618
24	921.17	910.79	1-C412	8-C613
25	920.91	910.68	1-C412	8-C603
26	920.94	910.59	1-C412	8-C617
27	920.75	910.87	1-C411	8-C620
28	920.52	910.73	1-C411	8-C621
29	923.49	910.58	1-C414	8-C622

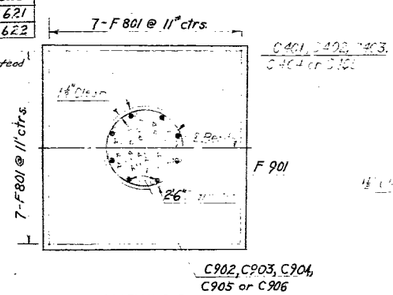
* Note: All footing depths were increased instead of lengthening columns.



ELEVATION — BENTS 2 AND 3

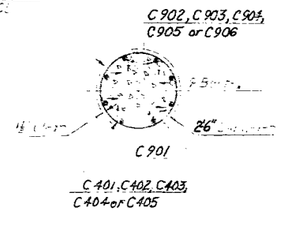
BENTS 2 AND 3 — ELEVATIONS AND REINFORCING

	Elev. A	Elev. B	Elev. C	F	G	H	J	K
East Bridge								
Bent 3	927.[illegible]	927.04	926.56	8-C901	8-C901	8-C901	1-C401	1-C401
Bent 2	926.15	925.76	925.00	8-C902	8-C902	8-C902	1-C402	1-C402
West Bridge								
Bent 3	927.13	927.05	926.50	12-C1001	12-C1002	12-C1003	1-C406	1-C408
Bent 2	926.[illegible]	926.13	925.58	12-C1001	12-C1002	12-C1003	1-C407	1-C409

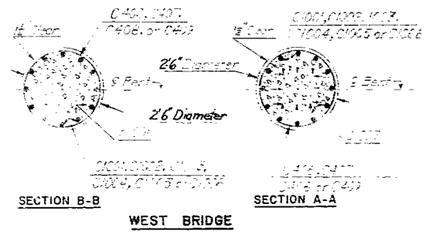


SECTION B-B

Shown for footing details for all Bent 2 & 3 Footings.



SECTION C-C



SECTION B-B SECTION A-A

WEST BRIDGE

EAST BRIDGE

Note:
Footing dimensions for Bents 1 and 4 are similar.
Footing dimensions for Bents 2 and 3 are similar.

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

BRIDGE: LANES C & D OVER 11TH STREET

STATE ROAD ~~DOWNTOWN~~ CONNECTOR FREEWAY

IN KANSAS CITY, MO.

PROJECT NO. I-352(17)(FAI-RTE.40) STA. 27+63.86 (LANE C)

JACKSON COUNTY

SUBSTRUCTURE DETAILS SHEET 3A of 2

A-243

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

MADE LJR	DATE 1-6-58	TRACED	DATE
CHECKED WPO	DATE 1-14-58	SCALE	

292

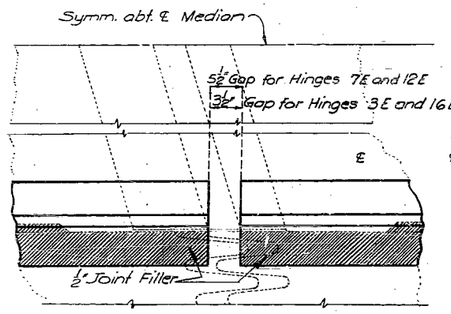
FINAL PLANS

FED. ROAD DIV. No.	STATE	FEDERAL PROJECT No. & SEC.	SHEET No.
5	MO.	ID-70-1(66)	13
DIST. No.	COUNTY	ROUTE	SEC.
4	JACKSON	I-70	A

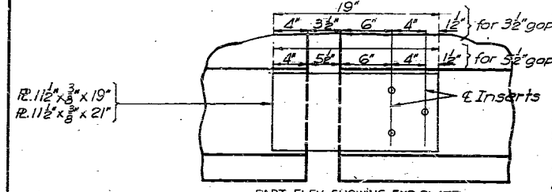
FINAL PLANS
Job No. 4-I-70-20

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

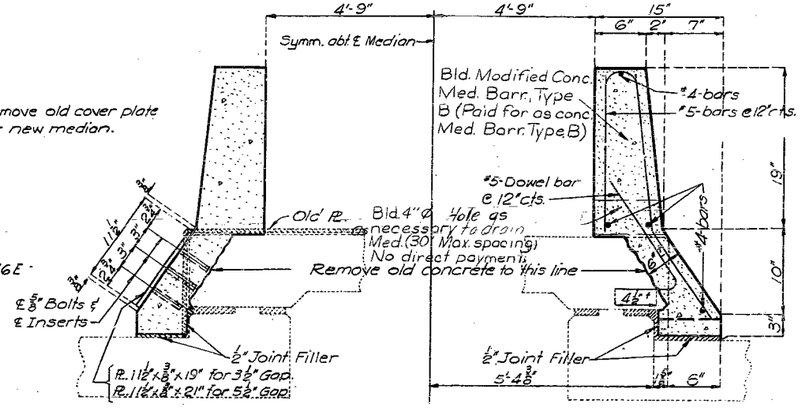
Note: Remove old cover plate to clear new median.



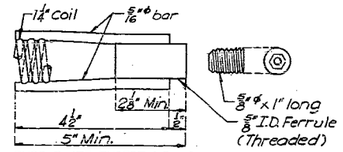
DETAILS AT EXP. DEVICES



PART ELEV. SHOWING EXP. PLATE



TYPICAL HALF SECTION AT EXP. DEVICES



CURB PLATE INSERT & PLUG

Note: Curb plate inserts with ferrule and setting plug shall be galvanized and cast in the concrete. Setting plugs shall remain in place until curb plate is attached. Payment for furnishing and installing curb plate inserts shall be included in price bid per Lin. ft. of median.

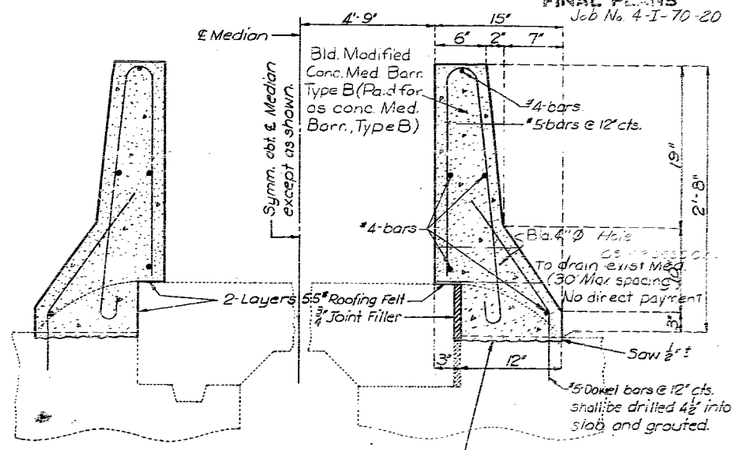
TYPICAL HALF SECTION

Note: #5-Dowel bars shall be drilled 4½" into old median and grouted.

Note: Provide outlets in new median to match present outlets.

Note: See Special Provisions for method of bonding new concrete to old concrete.

BRIDGE NO. L-967A



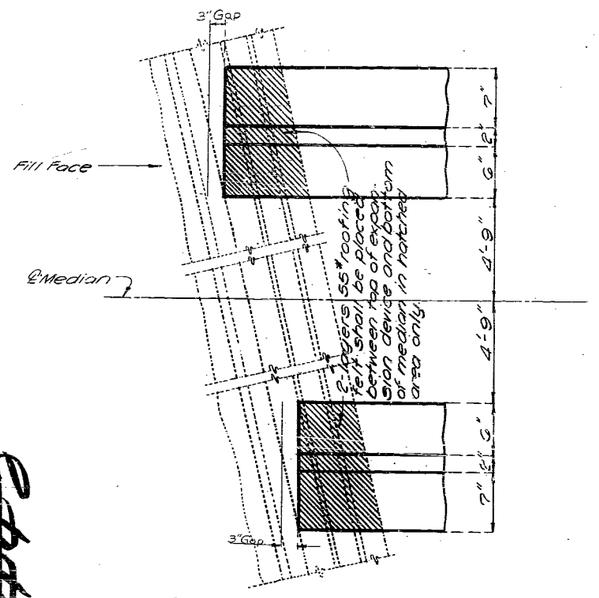
Note: Light dotted lines indicate old work.
Heavy lines indicate new work.

TYPICAL SECTION

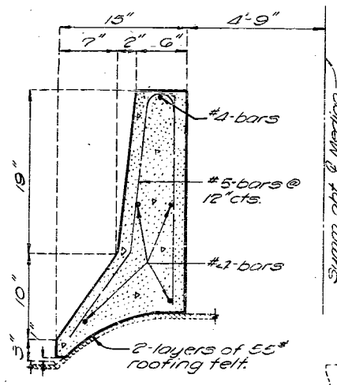
Note: See Special Provisions for method of bonding new concrete to old concrete.

Aug 19, 69 - WOODS

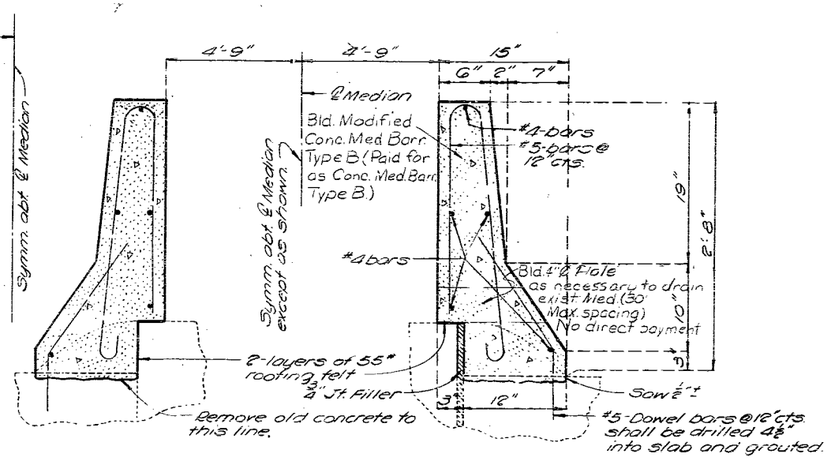
BRIDGE NOS.
A-290A, A-289A, A-243A



PLAN OF MEDIAN AT EXPANSION DEVICE



TYPICAL SECTION AT EXPANSION DEVICE



TYPICAL SECTION THRU MEDIAN

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

Note: See Special Provisions for method of bonding new concrete to old concrete.

The drawings on this sheet are not to scale; follow dimensions.

BRIDGE NO. A-320-A

TYPICAL SECTION OF CONC MED. BARRIER ON BRIDGES
DETAIL "C"

224

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		85	27	
SEC./SUR.		TWP.		RGE.	

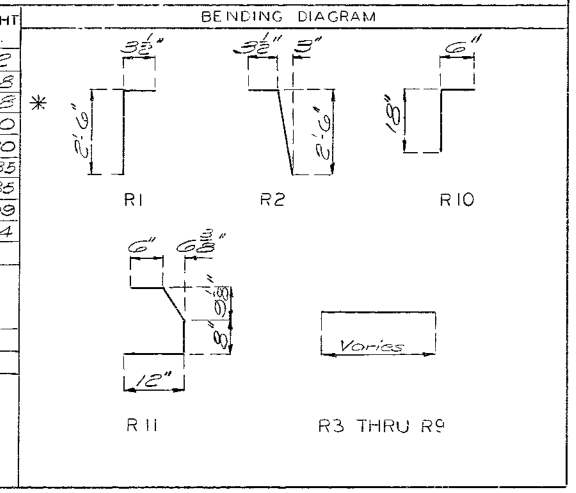
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

ESTIMATED QUANTITIES				
ITEM		S.B.L.	N.B.L.	TOTAL
Special Work	Lump Sum	✓	✓	1
Cathodic Protection System	Lump Sum	✓	✓	1
Asphalt Cement 60-70 or AC 20	Ton	4.0	3.7	7.7
Mineral Aggregate (Asph. Conc.) (Type A Mix.)	Ton	75	69	144
Tack Coat - Emulsified Asphalt	Gal.	50	40	90
Repairing Concrete Deck (Half-Soling)	Sq. Ft.	2150	2771	4921
Full Depth Repair	Sq. Ft.	430	396	826
Safety Barrier Curb	Lin. Ft.	171	—	171
Conduit System on Structure	Lump Sum	✓	—	1
Superstructure Concrete Repair (Unformed)	Sq. Ft.	375	375	750
Deck Overhang Repair	Lin. Ft.	29	—	29

Tack coat shall be emulsified asphalt applied at a rate of 0.05 gallons per square yard.

* Two additional bars are included for testing.

BILL OF REINFORCING STEEL				
NO.	SIZE & MARK	LENGTH	WEIGHT LB.	BENDING DIAGRAM
184	5 R1	2'-8"	512	
184	5 R2	2'-9"	528	
4	5 R3	11'-6"	48	*
2	5 R4	9'-9"	20	
22	5 R5	11'-9"	270	
7	5 R6	32'-2"	235	
28	5 R7	9'-9"	285	
7	5 R8	42'-4"	309	
7	5 R9	32'-0"	234	
—	5 R10	23"	—	
—	5 R11	2'-11"	—	



All reinforcing steel shall be epoxy coated.

All dimensions for R-bars are out to out.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures stirrup and tie dimensions.

Actual lengths of reinforcing bars are measured along centerline bar and to the nearest inch.

NOTES:

Design Specifications: A.A.S.H.T.O. 1977 and Interims thru 1982

Design Unit Stresses:

Class B1 Concrete $f'_c = 4000$ psi

Reinforcing Steel (Grade 60) $f_y = 60{,}000$ psi

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

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

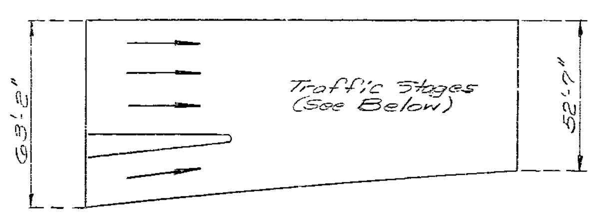
Traffic: Traffic over structure to be maintained during construction.

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

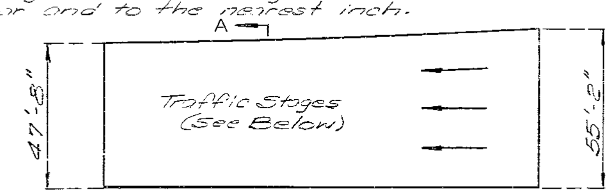
Bars bonded in old concrete not removed shall be cleanly stripped and embedded into new concrete where possible. If length is available, old bars shall extend into new concrete at least 40 diameters for smooth bars and 30 diameters for deformed bars.

Taper roadway surfacing at bridge ends to match 1½" ± bridge overlay. (Roadway Item)

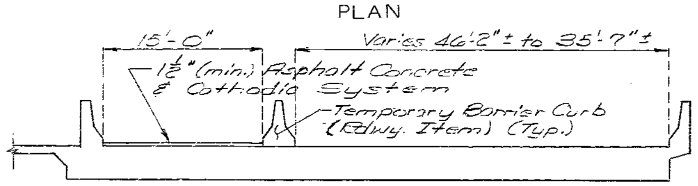
Construction Clearance: A minimum vertical clearance of 13'-6" from crown of existing lanes and a minimum lateral clearance of 32'-0" normal to ℄ 11th street centered on existing lanes shall be maintained during construction.



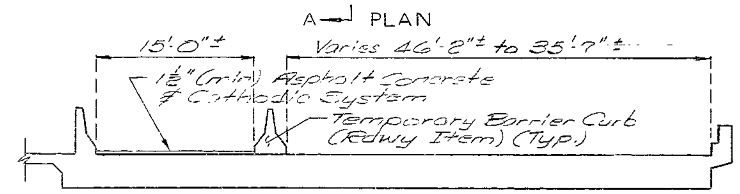
PLAN



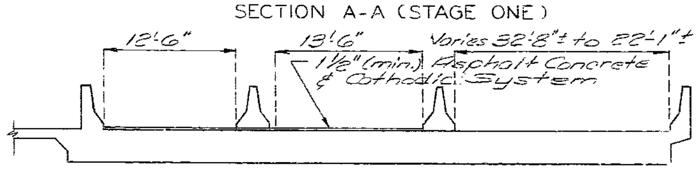
PLAN



SECTION A-A (STAGE ONE)



SECTION A-A (STAGE ONE)



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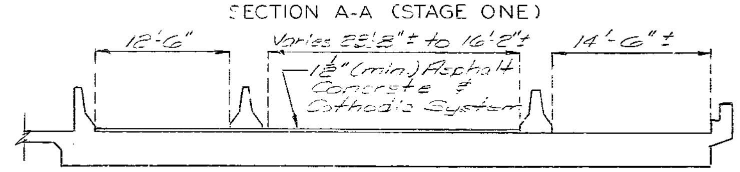
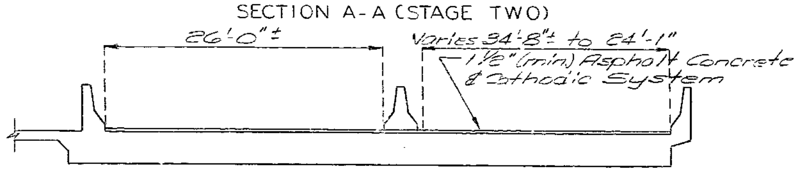
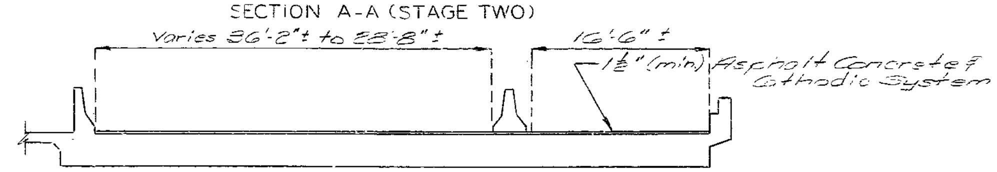


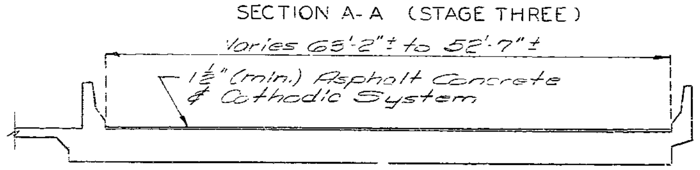
SECTION A-A (STAGE TWO)



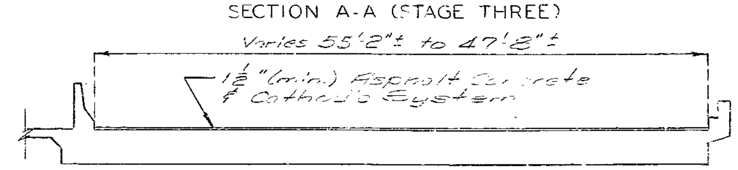
SECTION A-A (STAGE THREE)



SECTION A-A (STAGE THREE)



SECTION A-A (FINAL STAGE)



SECTION A-A (FINAL STAGE)

REPAIRS TO

BRIDGE: LANE C & LANE D OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO. I-IR-70-1(101) **STA.** 27+63.86 (LANE C)

JOB NO. 4-I070-450 **RTE.** I-70

JACKSON **COUNTY**

DATE 6/29/84

STD.

STD. 706.35

A-243R1

DESIGNED MARCH 19 84

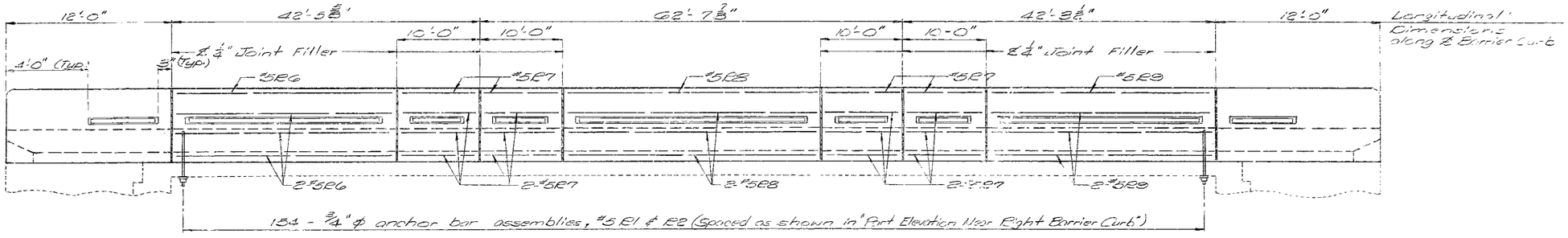
DETAILED March 19 84

CHECKED MAY 19 84

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

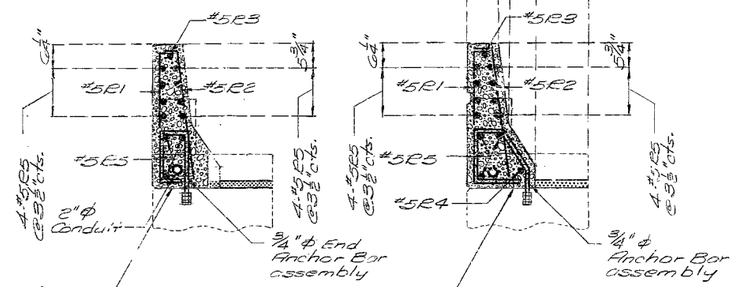
Sheet No. 1 **of** 10.

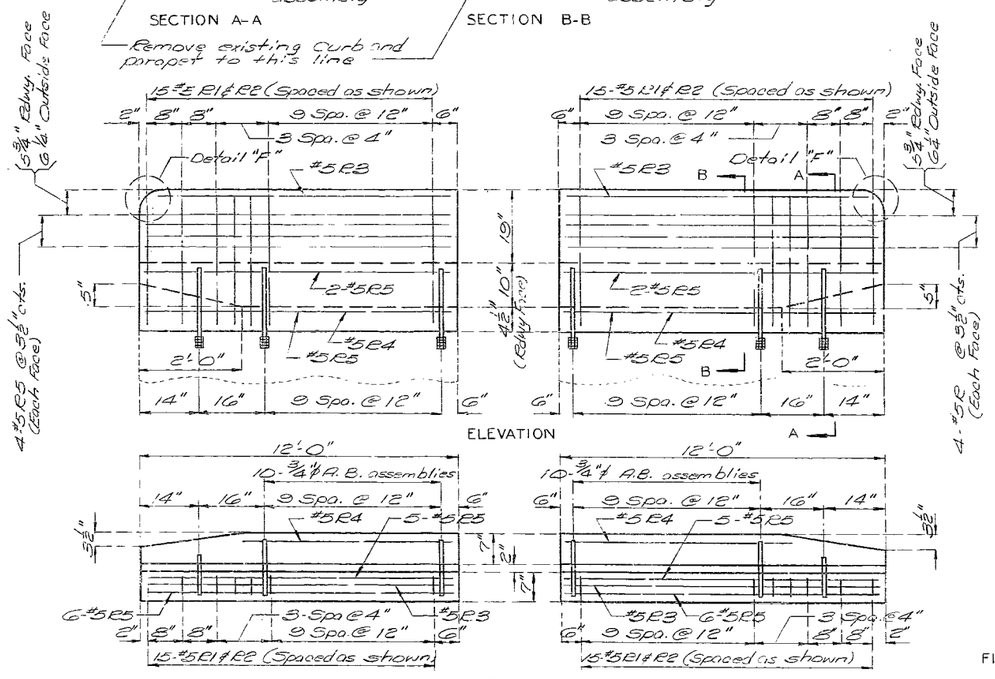
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	23	



Longitudinal Dimensions along ℄ Barrier Curb

ELEVATION NEAR RIGHT BARRIER CURB

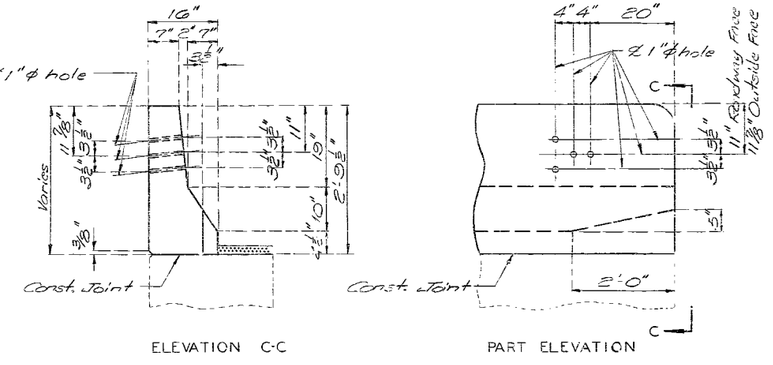


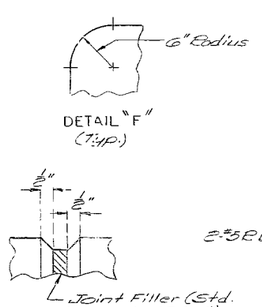


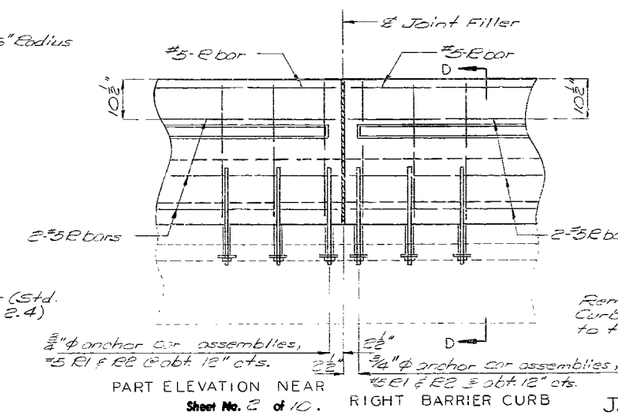
Notes: Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.
All exposed edges of barrier curb shall have ½" radius or ⅜" bevel unless otherwise noted.
When the barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement.
Concrete in the safety barrier curb shall be Class B1.
Use a minimum lap of 17" for #5 horizontal barrier bars.

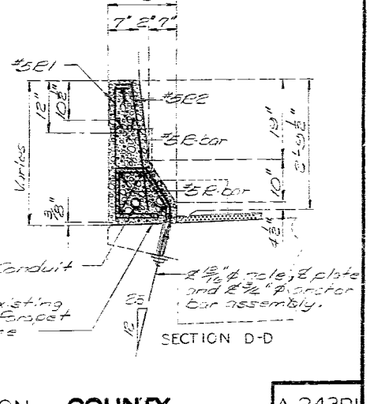
Minimum clearance to reinforcing steel and anchor bars shall be 1½" unless otherwise shown.
Holes for ¾" ϕ anchor bar may be slanted slightly to miss slab reinforcement.
Concrete anchors shall be the cone expansion type for hot-dipped galvanized bolts and have a concrete pull-out strength (ultimate load) of at least 9,600 lbs. in 3000 psi concrete.
Cost of furnishing and installing concrete anchors shall be included in price bid per lin. ft. of barrier curb.
Each anchor bar (A.S.T.M. A-36) on slab deck shall be furnished with a ¼" x 2½" ℄ (A.S.T.M. A-36) cut heavy hex nut (A.S.T.M. A-307).
The entire assembly shall be galvanized in accordance with A.S.T.M. A-123 and A-153.
After the concrete in the barrier curb has set, the plate, washer and nut shall be installed and the nut tightened snug tight and the threads burred.
Cost of furnishing and installing anchor bar assemblies shall be included in the price bid per lin. ft. of barrier curb.
For Detail of Anchor Bars and End Anchor Bars see Sht. #3.

For Detail of Plastic Waterstop see Sht. #3.
For Alternate Curb and Deck Overhang Replacement see Sht. #3.









DETAILED March 1984
CHECKED MAY 1984

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

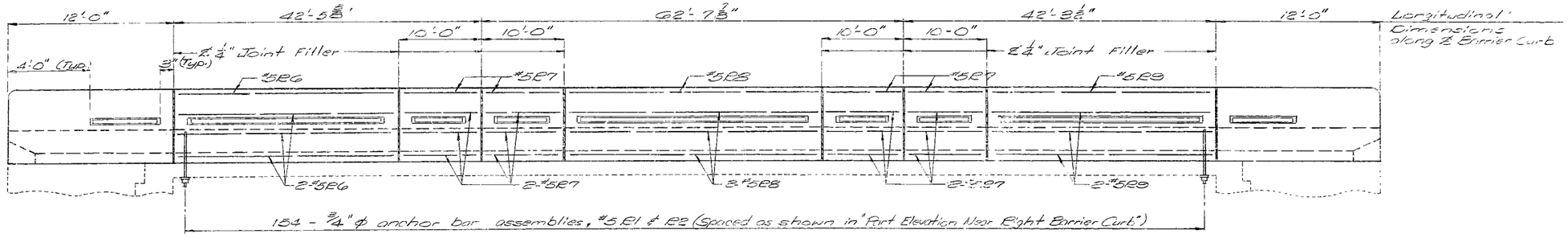
Sheet No. 2 of 10.

JACKSON COUNTY

A-243RI

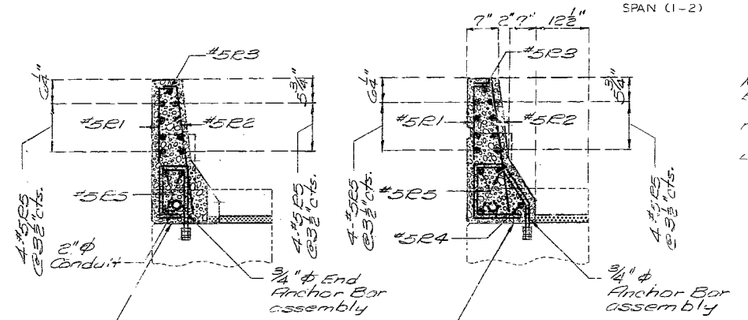
93

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	23	



Longitudinal Dimensions along ℄ Barrier Curb

ELEVATION NEAR RIGHT BARRIER CURB



Notes: Top of barrier curb to be built parallel to grade with barrier curb joints (except at end bents) normal to grade.
All exposed edges of barrier curb shall have ½" radius or ⅜" bevel unless otherwise noted.
When the barrier curb is bid by linear feet, the contract unit price shall include the cost of all concrete and reinforcement.
Concrete in the safety barrier curb shall be Class B1.
Use a minimum lap of 17" for #5 horizontal barrier bars.

Minimum clearance to reinforcing steel and anchor bars shall be 1½" unless otherwise shown.
Holes for ¾" ϕ anchor bar may be slanted slightly to miss slab reinforcement.
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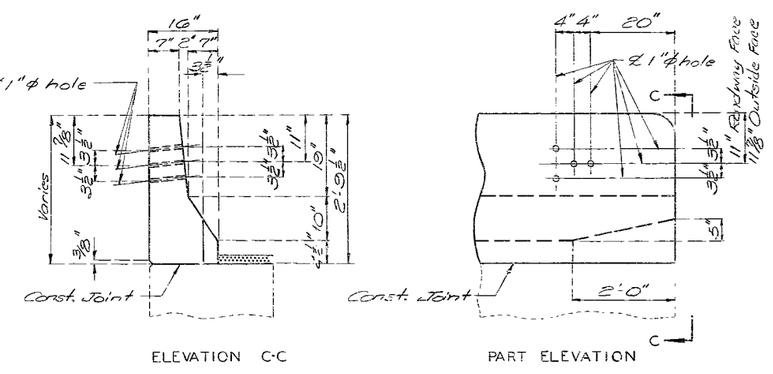
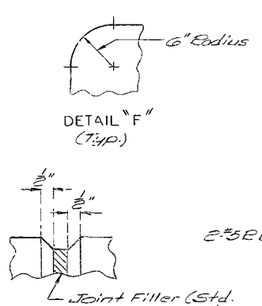
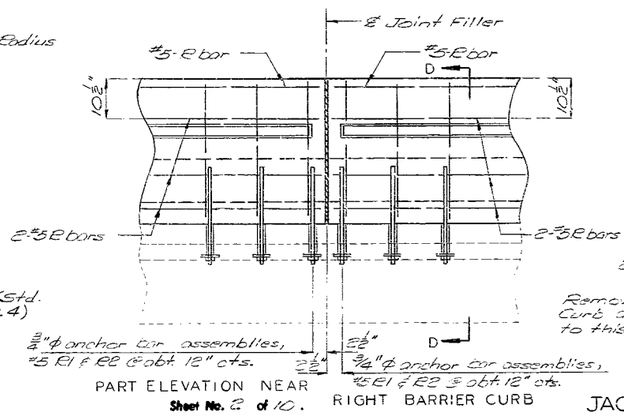
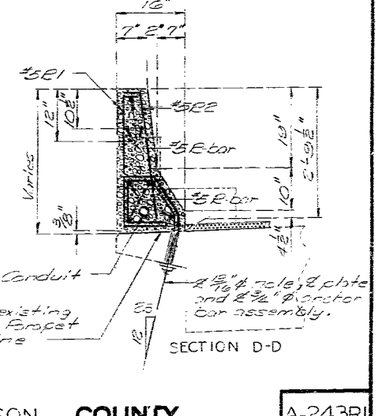
The entire assembly shall be galvanized in accordance with A.S.T.M. A-123 and A-153.
After the concrete in the barrier curb has set, the plate, washer and nut shall be installed and the nut tightened snug tight and the threads burred.
Cost of furnishing and installing anchor bar assemblies shall be included in the price bid per lin. ft. of barrier curb.
For Detail of Anchor Bars and End Anchor Bars see sht. #3.
For Detail of Plastic Waterstop see sht. #3.
For Alternate Curb and Deck Overhang Replacement see sht. #5.









DETAILED March 19 84
CHECKED MAY 19 84

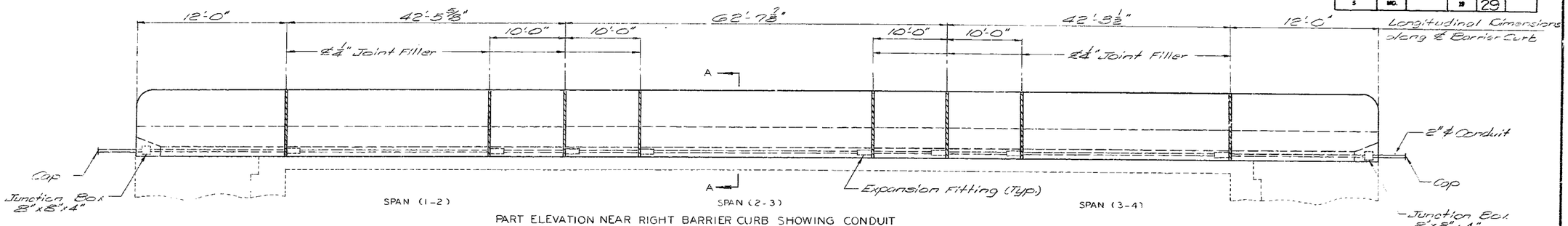
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 23 of 10.

JACKSON COUNTY

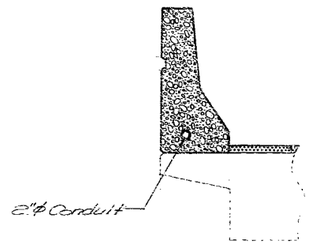
A-243RI

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	29	

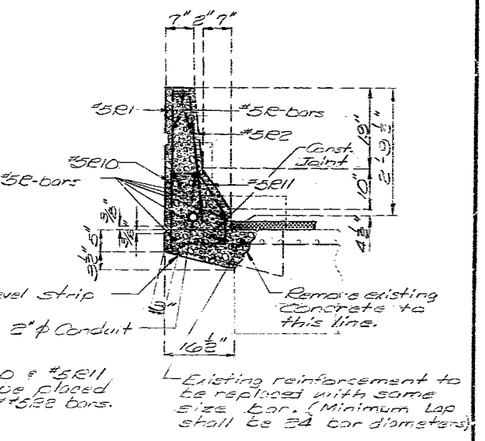


PART ELEVATION NEAR RIGHT BARRIER CURB SHOWING CONDUIT

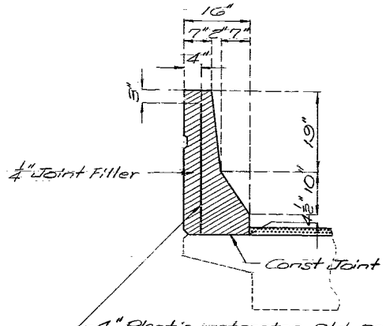
Notes: All conduit to be rigid non-metallic conduit PVC schedule 40 or HDP with 3" minimum cover in concrete. Shift reinforcing steel in field where necessary to clear conduits and junction boxes. All end bent barrier curb junction boxes shall be PVC molded flush mounted and equal to "Carlon" Electrical Construction Products or "Triangle" Conduit and Cable Co. Inc. The conduit terminations shall be permanent or separable. The terminations and cover shall be water tight. PVC expansion fittings shall provide a minimum movement in either direction of 1/2" at filled joints.



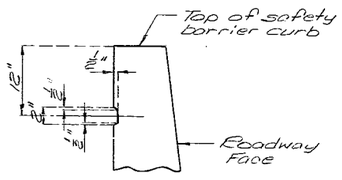
SECTION A-A



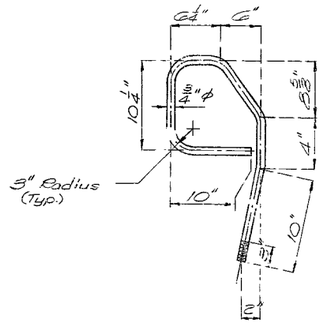
ALTERNATE CURB AND DECK OVERHANG REPLACEMENT



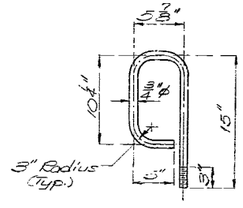
Note: Plastic waterstop shall be placed in all safety barrier curb filled joints. Cost of plastic waterstop complete in place to be included in unit price bid per lin. ft. of barrier curb.



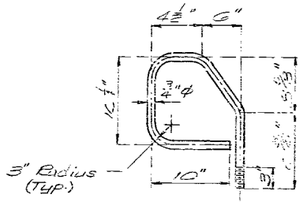
RUSTICATION DETAILS



ANCHOR BAR DETAIL (slab)



END ANCHOR BAR DETAIL (wings)



ANCHOR BAR DETAIL (wings)

64

DETAILED March 1984
CHECKED MAY 1984

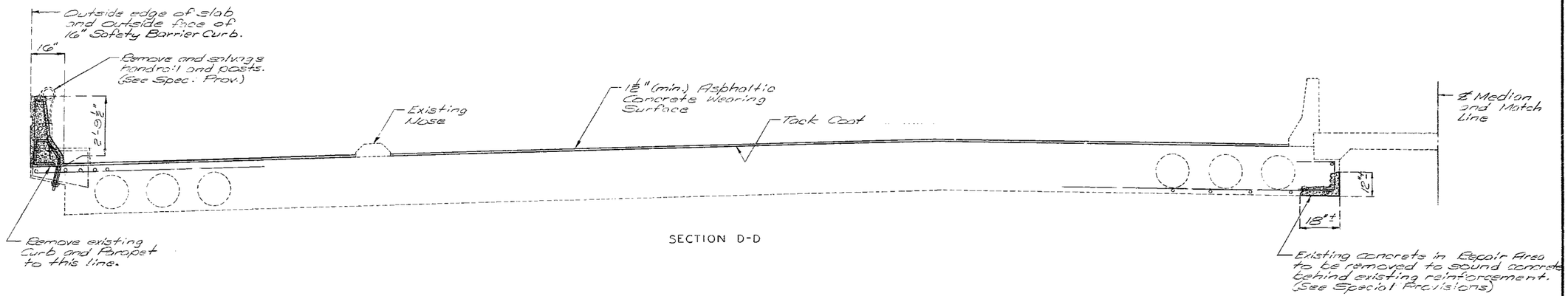
DETAILS OF PLASTIC WATERSTOP

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

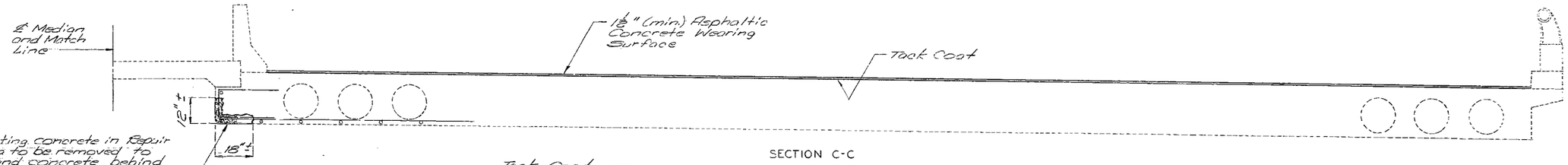
JACKSON COUNTY

A-2.3R1

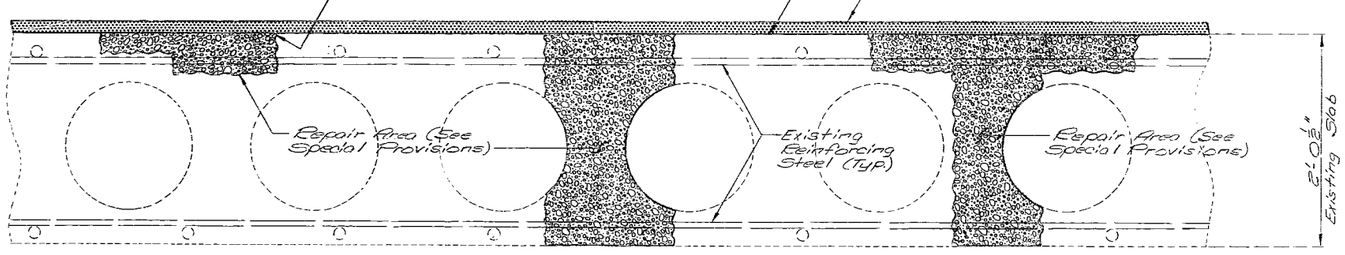
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	30	



SECTION D-D

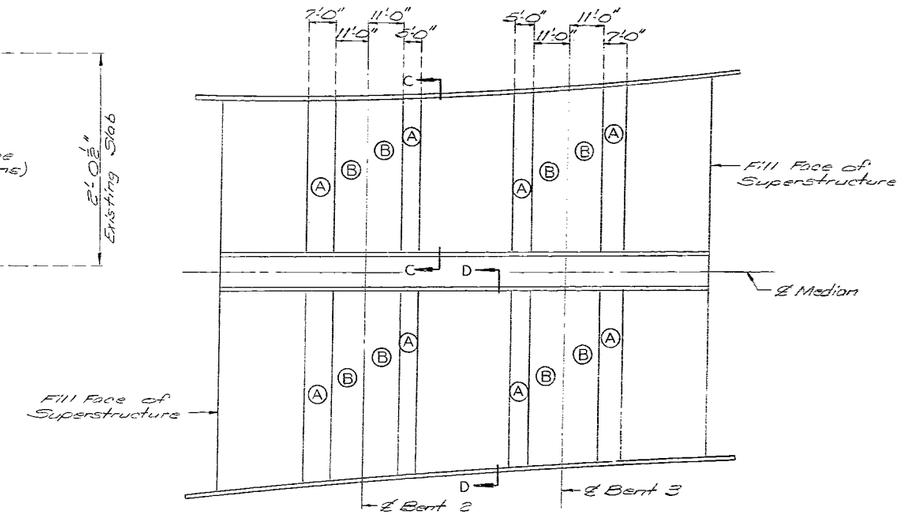


SECTION C-C



HALF SOLE REPAIR | FULL DEPTH REPAIR | FULL DEPTH REPAIR IN HALF SOLE AREA

Note: Any concrete removal for half-sole repair or full-depth repair in areas designated "A" or "B" shall be repaired in alphabetical order. (See Special Provisions)
Stage construction requirements for handling traffic are to be met at all times during removal of old work and placing of new work.
Any repair in the remainder of the bridge that is within 2'-6" of adjacent Zone A shall be completed before removing old concrete in Zones A.



PLAN OF SLAB

65

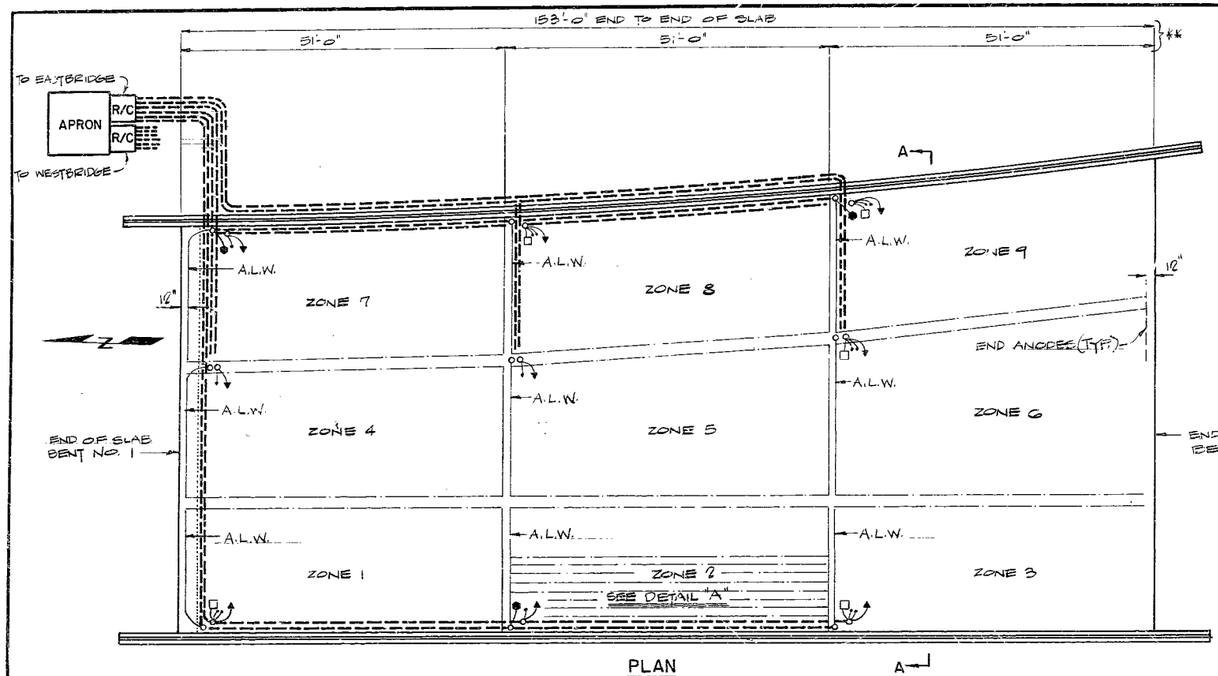
DETAILED March 1984
CHECKED MAY 1984

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

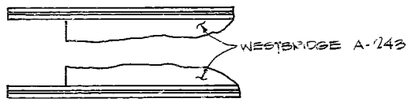
JACKSON COUNTY

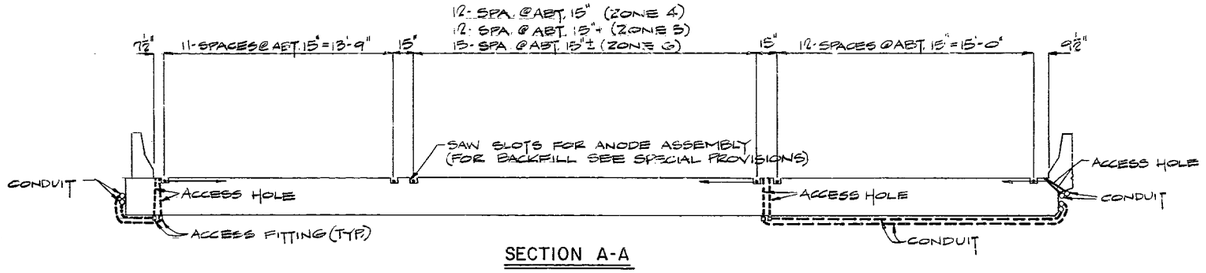
A-243R1

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



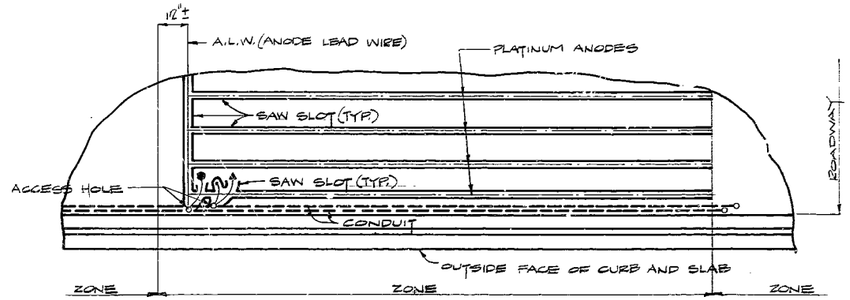
PLAN





SECTION A-A

** NOTE: DIMENSIONS ARE ALONG BASELINE LANE 'D'. ACTUAL ANODE LENGTHS FOR EACH ZONE ARE RESPONSIBILITY OF THE CONTRACTOR.



DETAIL A

(TYPICAL ZONE LAYOUT EXCEPT AS NOTED)

NOTE: The anode leads and system negative return leads shall be routed in the same conduit.

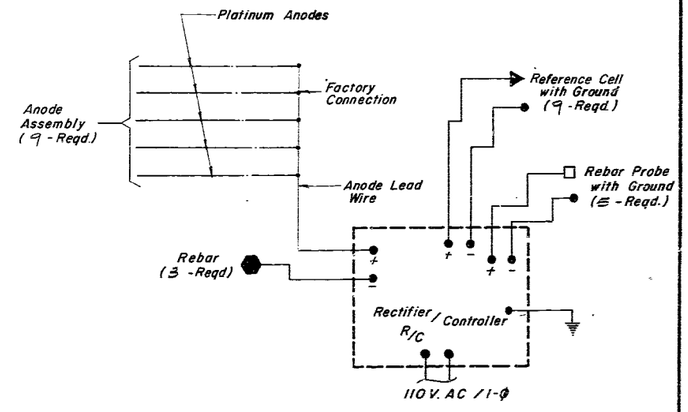
The reference cell, reference cell ground leads, rebar probe and probe ground leads shall be routed in the same conduit.

NOTE: Reference cells are to be placed between anodes.

Reference cell ground shall be welded to top rebar within one foot of reference cell.

All zones are similar with varying widths (see Section A-A).

Anode assembly number must match zone number.



PARTIAL SCHEMATIC

ESTIMATED QUANTITIES *		
ITEM	UNIT	QUANTITY
Anode Strands	Lin. Ft.	3810
Reference Cells	Each	9
Rebar Probes	Each	5
Cadwelds	Each	17
Conduit 2" ø P.V.C.	Lin. Ft.	990

* For information only.

NOTE: ANODE STRANDS AND CONDUIT LENGTHS ARE APPROXIMATE. ACTUAL LENGTHS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

DENOTATIONS

- A.L.W. Anode Lead Wire
- Platinum Anode
- System Negatives Connection
- Reference Cell
- Rebar Probe (Corrosometer)
- Grounds
- Conduit

CATHODIC PROTECTION SYSTEM

EASTBRIDGE

DETAILED JUNE 1984
CHECKED JUNE 1984

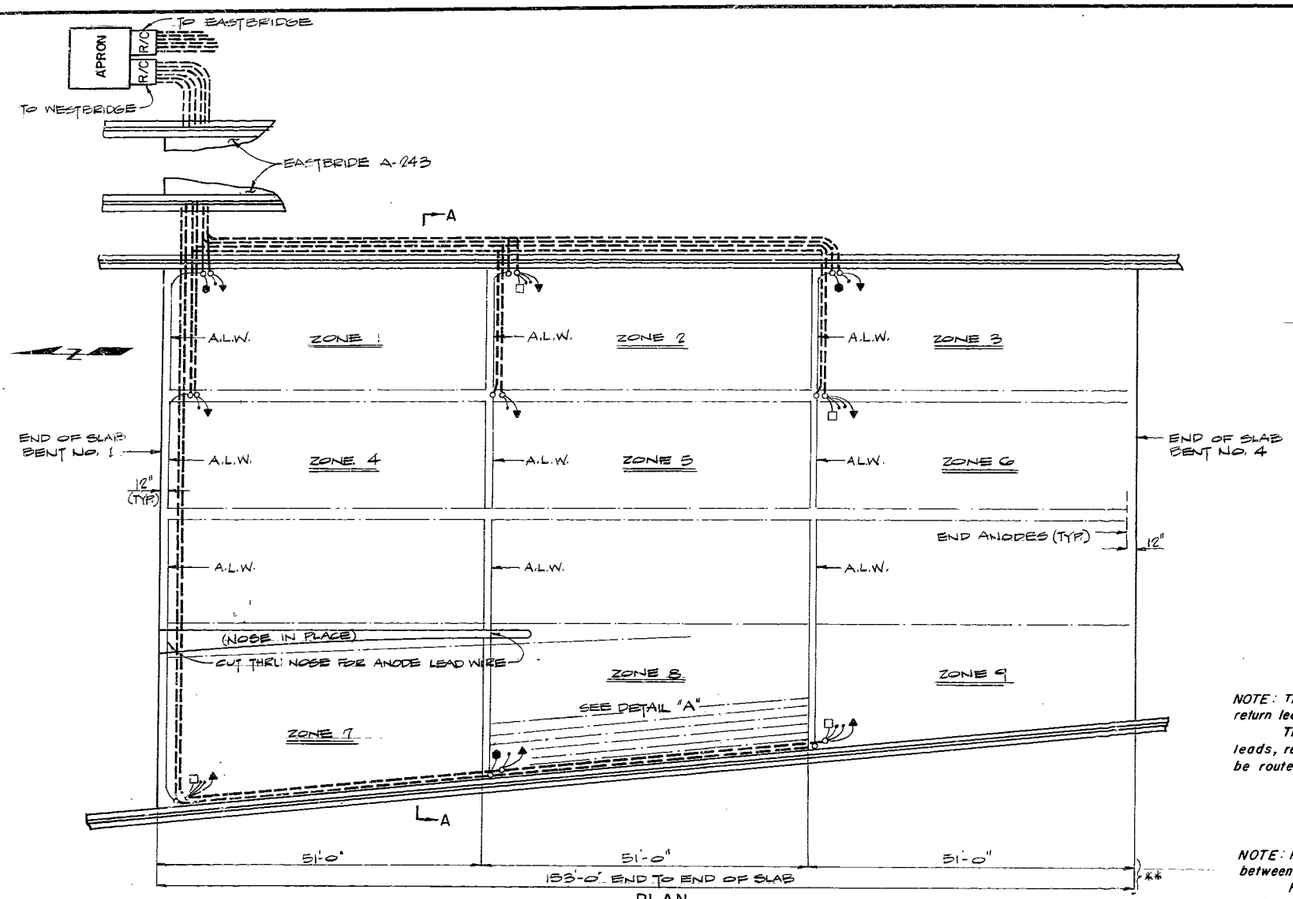
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 5 of 10.

JACKSON COUNTY

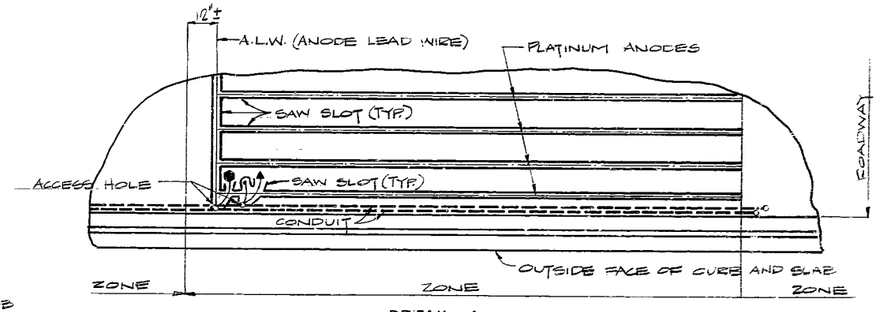
A-243RI

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



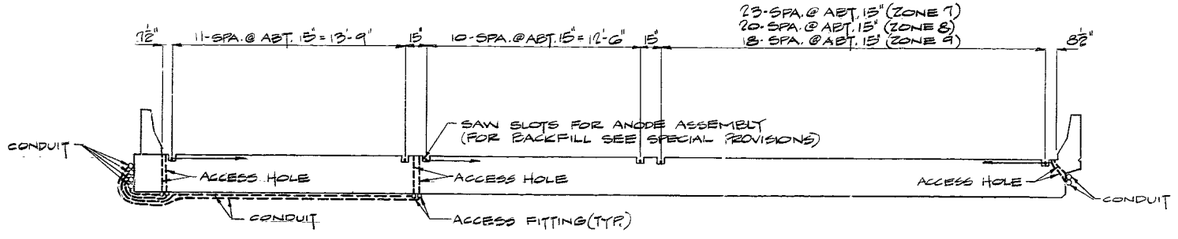
PLAN

** NOTE: DIMENSIONS ARE ALONG BASELINE LANE C, ACTUAL ANODE LENGTHS FOR EACH ZONE ARE THE RESPONSIBILITY OF THE CONTRACTOR.



DETAIL A

(TYPICAL ZONE LAYOUT EXCEPT AS NOTED)



SECTION A-A

NOTE: The anode leads and system negative return leads shall be routed in the same conduit.

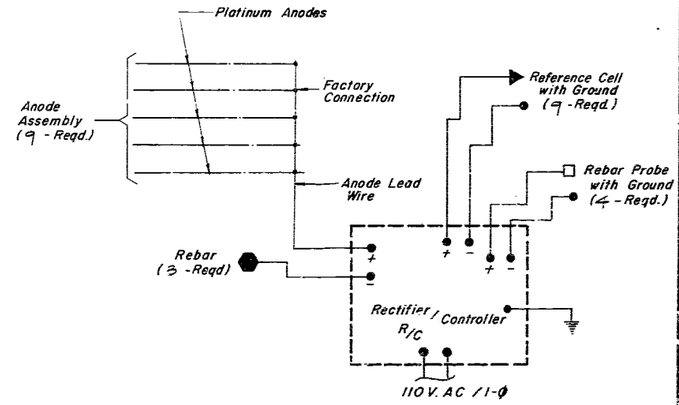
The reference cell, reference cell ground leads, rebar probe and probe ground leads shall be routed in the same conduit.

NOTE: Reference cells are to be placed between anodes.

Reference cell ground shall be welded to top rebar within one foot of reference cell.

All zones are similar with varying widths (see Section A-A).

Anode assembly number must match zone number.



PARTIAL SCHEMATIC

ESTIMATED QUANTITIES *		
ITEM	UNIT	QUANTITY
Anode Strands	Lin. Ft.	6650
Reference Cells	Each	9
Rebar Probes	Each	4
Cadwelds	Each	16
Conduit 2" & P.V.C.	Lin. Ft.	1440

* For information only.

NOTE: ANODE STRANDS AND CONDUIT LENGTHS ARE APPROXIMATE. ACTUAL LENGTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

DENOTATIONS

- A.L.W. Anode Lead Wire
- Platinum Anode
- System Negatives Connection
- Reference Cell
- Rebar Probe (Corrosometer)
- Grounds
- Conduit

CATHODIC PROTECTION SYSTEM

WESTBRIDGE

DETAILED JUNE 1984
CHECKED JUNE 1984

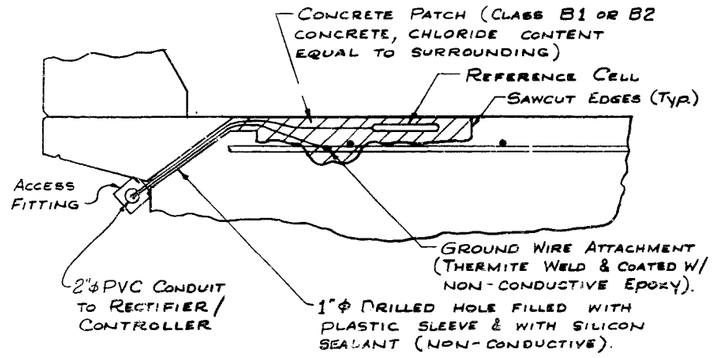
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 6 of 10.

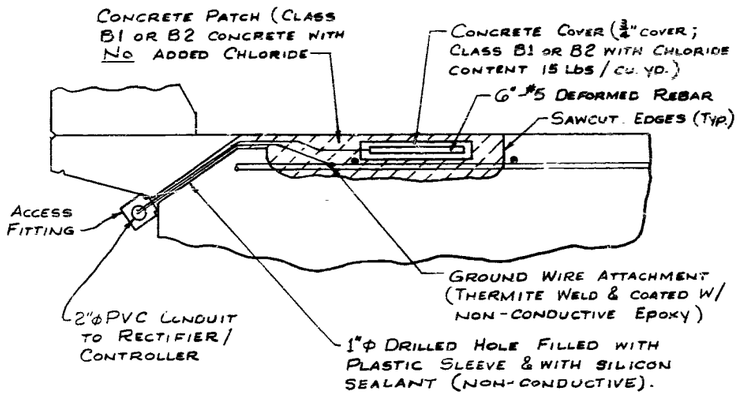
JACKSON COUNTY

A-243R1

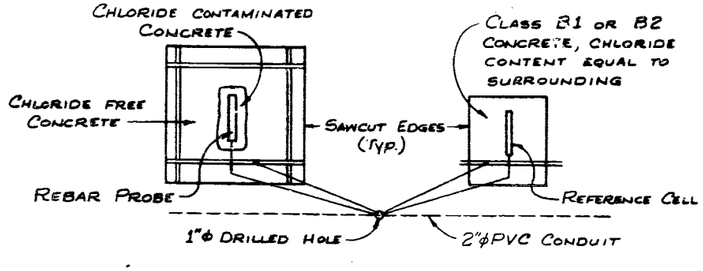
STATE	PROJ NO	SHEET NO.
MO.		33



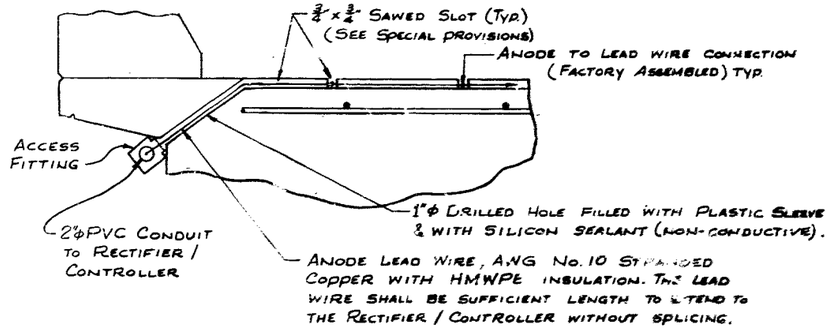
REFERENCE CELL DETAILS



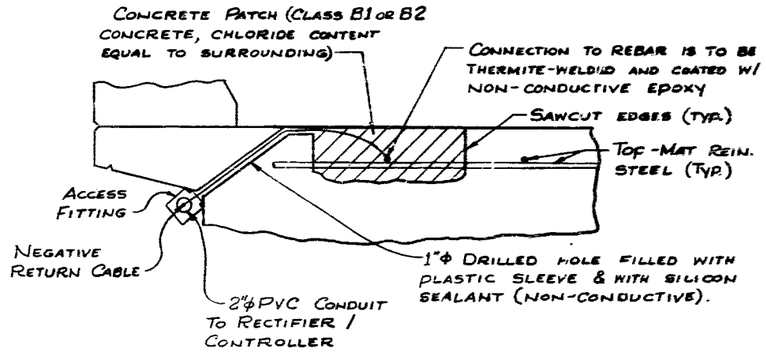
REBAR PROBE DETAILS



PLAN OF REBAR PROBE AND REFERENCE CELL



ANODE LEAD WIRE DETAIL



SYSTEM NEGATIVES CONNECTION DETAIL

NOTE: Details are for Zones 7, 8 & 9 of Eastbound and Westbound Bridges.

See Sheet No. 6 for routing of Conduit on Eastbound Bridge.

See Sheet No. 7 for routing of Conduit on Westbound Bridge.

NOTES: Conduit shall be Schedule 40 Heavy Wall PVC (Polyvinyl Chloride Plastic).
Conduit shall be secured to Concrete with clamps @ abt. 5' centers.
Weep holes shall be provided at appropriate locations to drain any moisture in the conduit lines.
The location and direction of Conduit may be shifted to meet field conditions as approved by the Engineer.
Use Expansion couplings and Access Fittings where appropriate.

89

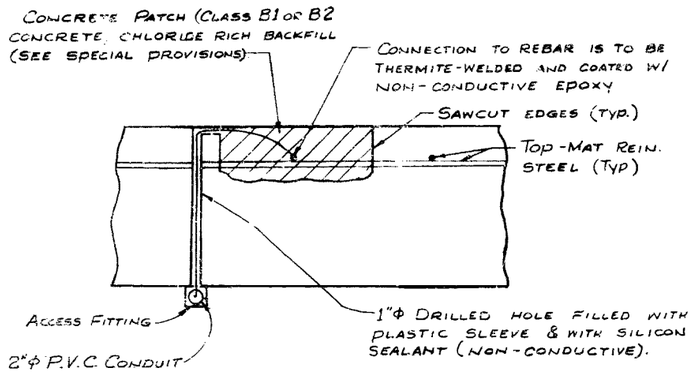
DETAILED JUNE 1984
CHECKED JUNE 1984

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

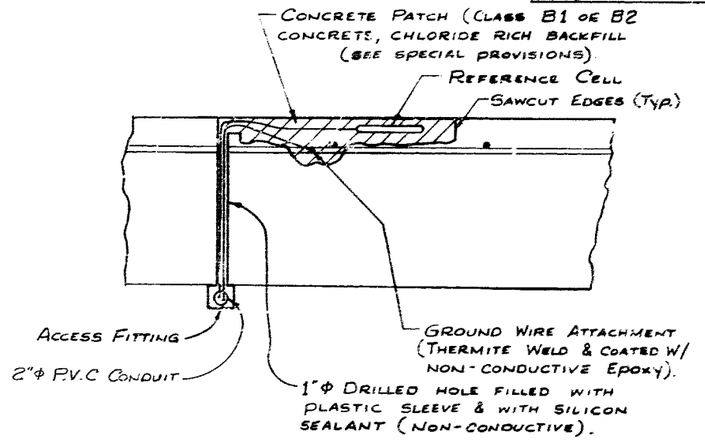
JACKSON COUNTY

A-243RI

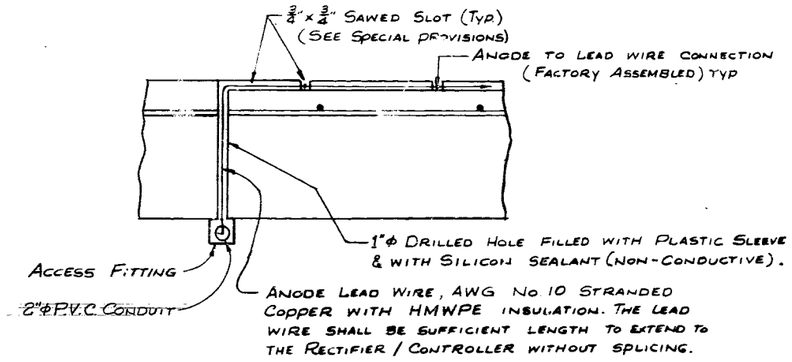
STATE	PROJ NO	SHEET NO
MO		34



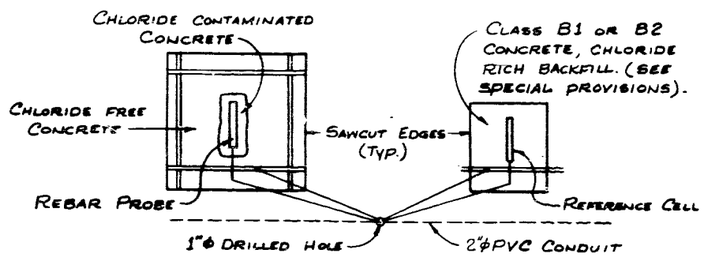
SYSTEM NEGATIVES CONNECTION DETAIL



REFERENCE CELL DETAILS



ANODE LEAD WIRE DETAIL

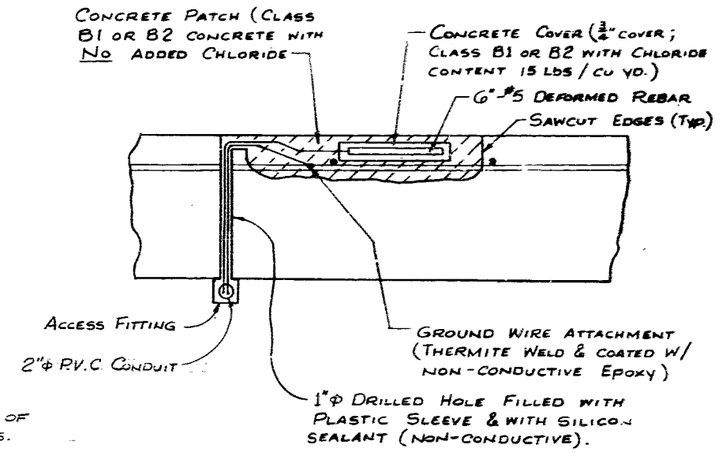


PLAN OF REBAR PROBE AND REFERENCE CELL

NOTE: DETAILS ARE FOR ZONES 1 THRU 6 OF EASTBOUND AND WESTBOUND BRIDGES.

SEE SHEET No. 6 FOR ROUTING OF CONDUIT ON EASTBOUND BRIDGE.

SEE SHEET No. 7 FOR ROUTING OF CONDUIT ON WESTBOUND BRIDGE.



REBAR PROBE DETAILS

NOTES: CONDUIT SHALL BE SCHEDULE 40 HEAVY WALL PVC (POLYVINYL CHLORIDE PLASTIC).
CONDUIT SHALL BE SECURED TO CONCRETE WITH CLAMPS @ ABT. 5' CENTERS.
WEEP HOLES SHALL BE PROVIDED AT APPROPRIATE LOCATIONS TO DRAIN ANY MOISTURE IN THE CONDUIT LINES.
THE LOCATION AND DIRECTION OF CONDUIT MAY BE SHIFTED TO MEET FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
USE EXPANSION COUPLINGS AND ACCESS FITTINGS WHERE APPROPRIATE

69

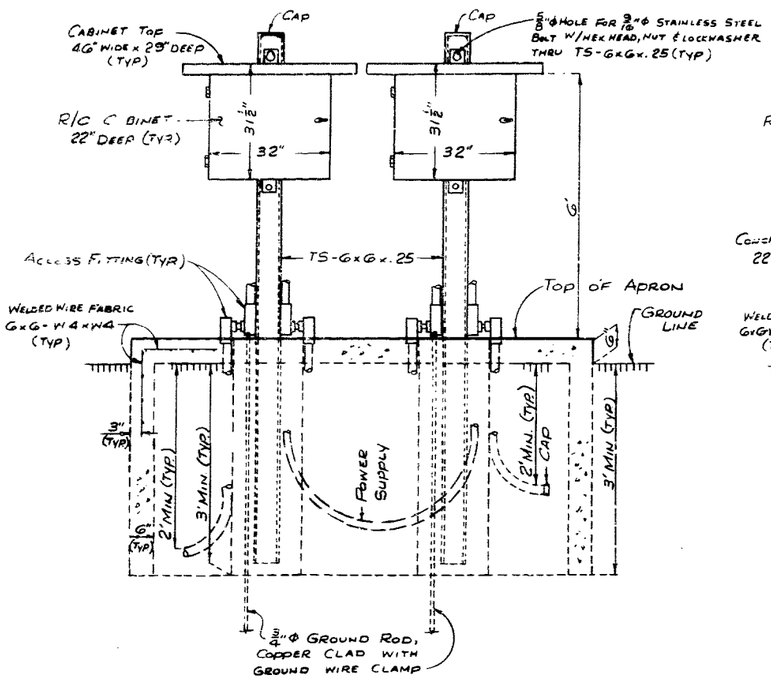
DETAILED JUNE 1984
CHECKED JUNE 1984

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

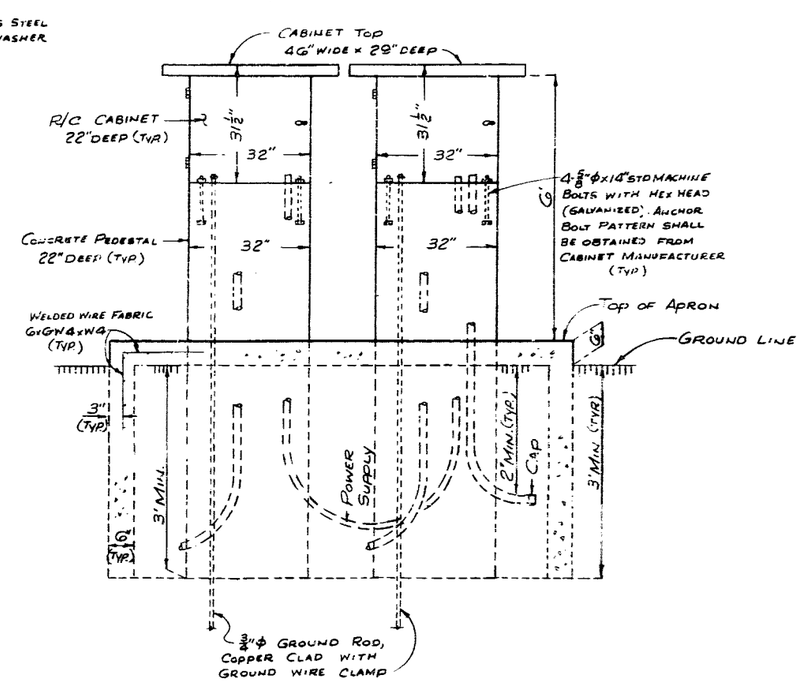
JACKSON **COUNTY**

A-243RI

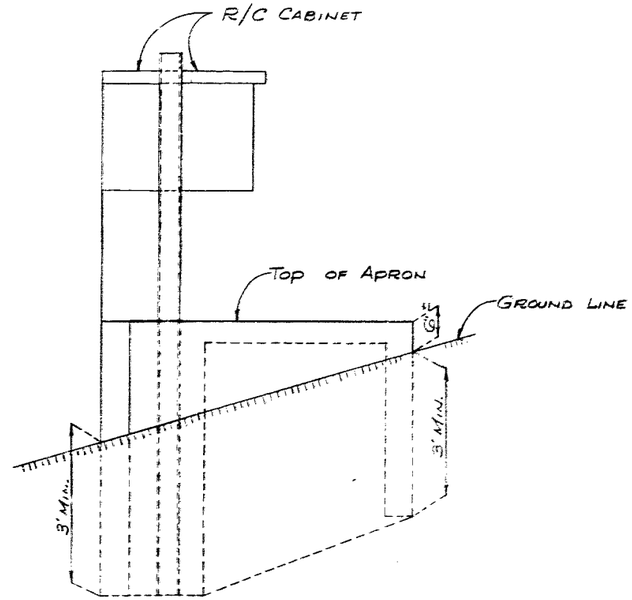
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	MO.		19	35	



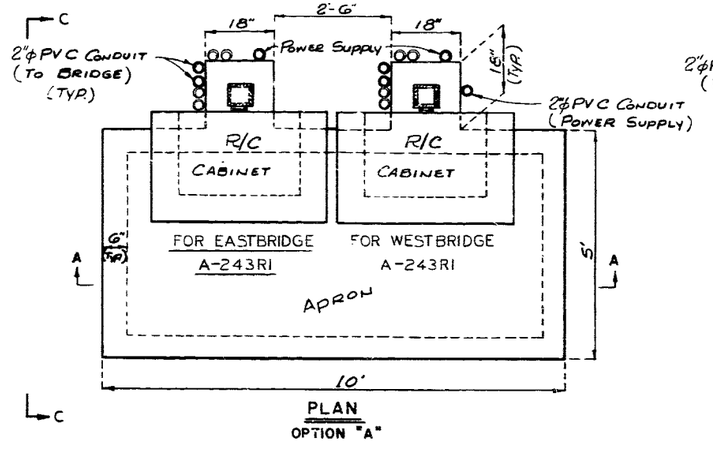
SECTION A-A



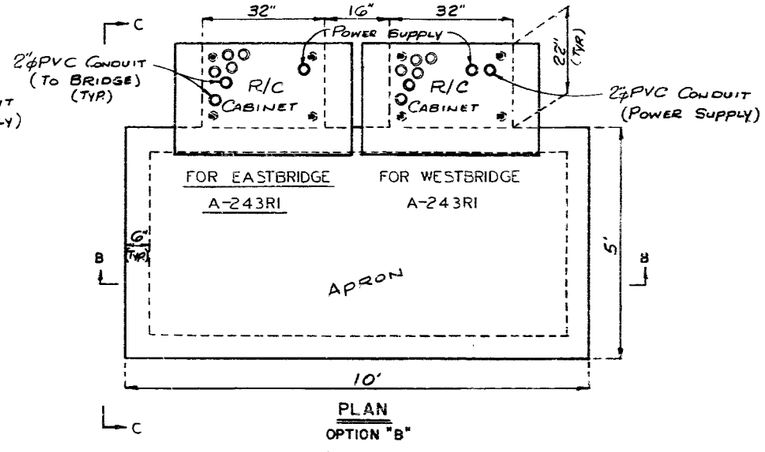
SECTION B-B



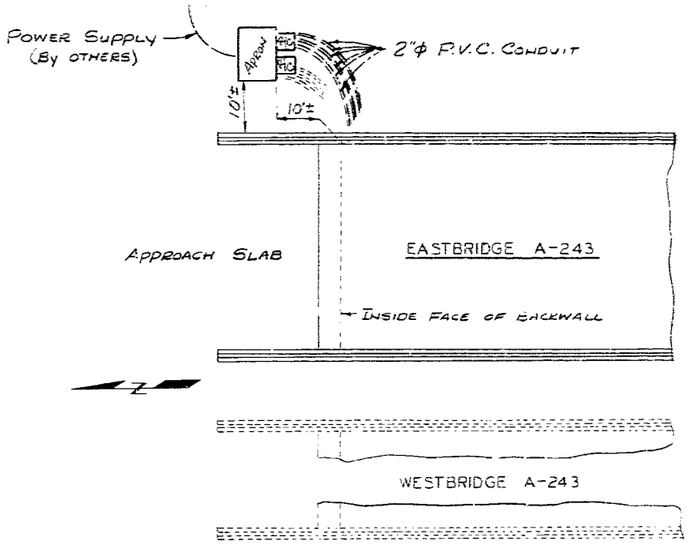
ELEVATION C-C



PLAN
OPTION "A"



PLAN
OPTION "B"



PLAN LOCATION OF RECTIFIER / CONTROLLER

NOTE: THE 3/4" ϕ GROUND RODS SHALL BE SUFFICIENT LENGTH TO EXTEND A MINIMUM OF 10' BELOW BOTTOM OF CONCRETE PEDESTAL. GROUND WIRE SHALL BE NO. 6 AWG MINIMUM.

KNOCKOUTS OR DRILLED HOLES SHALL BE PROVIDED IN CABINETS FOR ALL CONDUIT. LOCATIONS OF SUCH ARE THE RESPONSIBILITY OF THE CONTRACTOR AND CABINET MANUFACTURER.

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

DETAILED JUNE 1984
CHECKED JUNE 1984

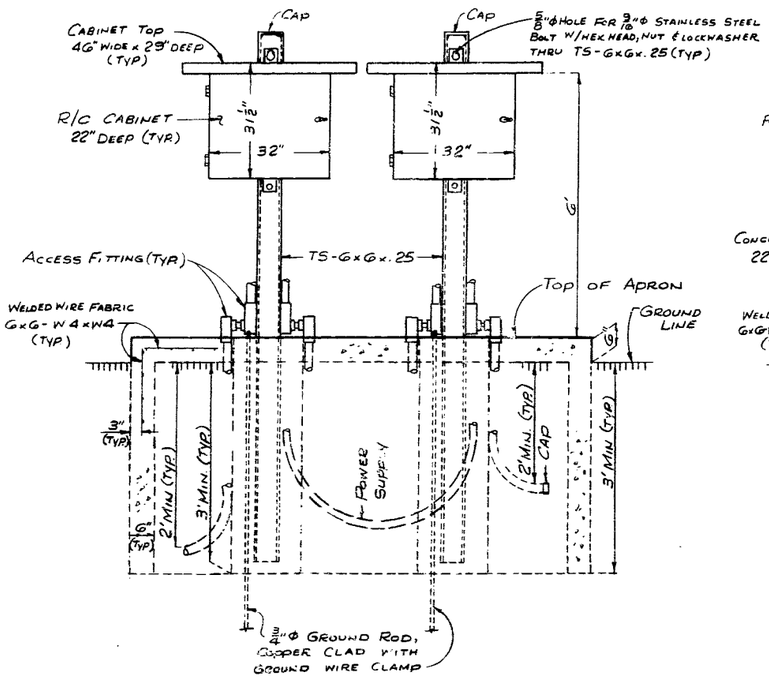
Sheet No. 9 of 10.

EASTBRIDGE

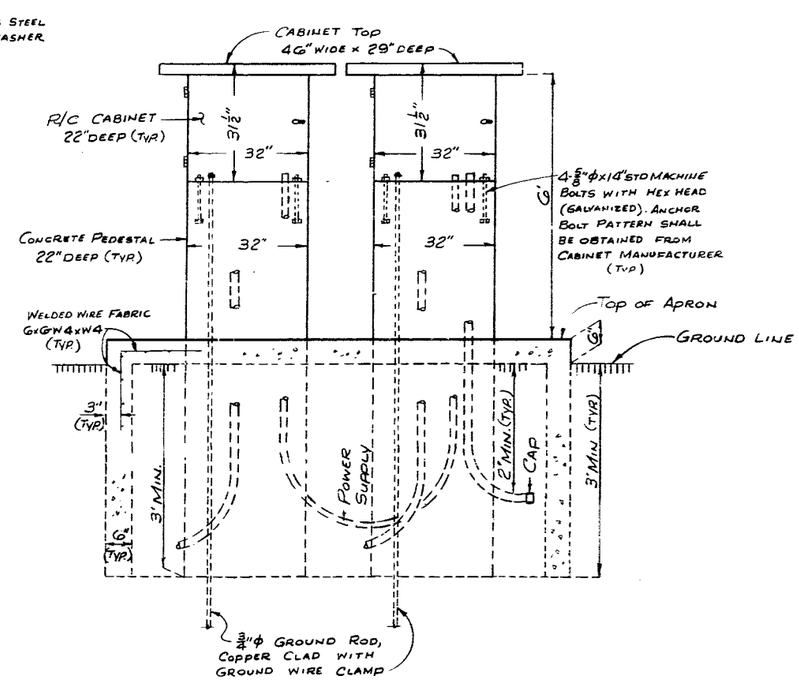
JACKSON COUNTY

A-243RI

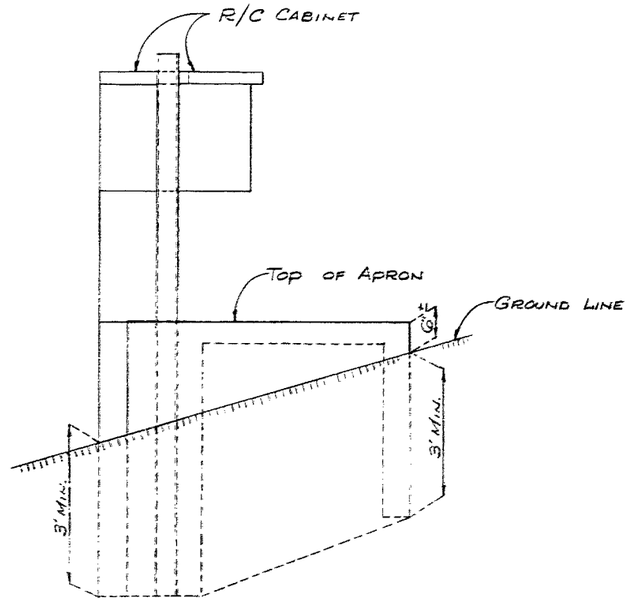
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
5	MO.		19	36	



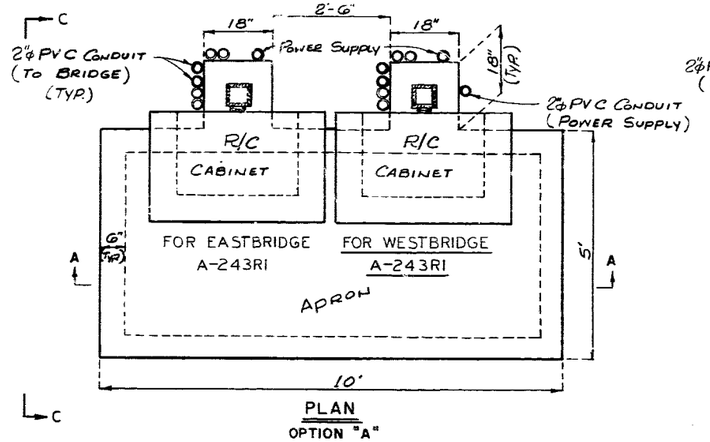
SECTION A-A



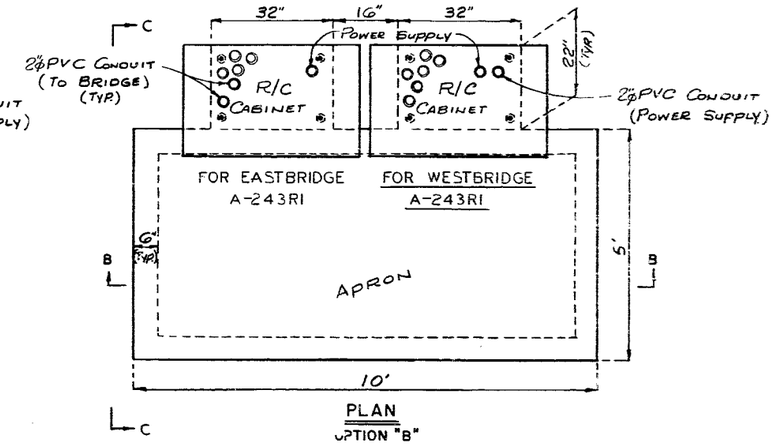
SECTION B-B



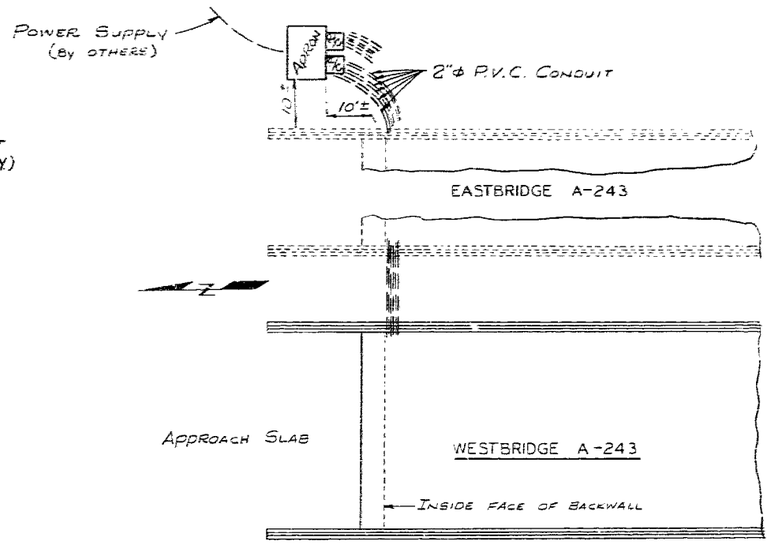
ELEVATION C-C



PLAN
OPTION "A"



PLAN
OPTION "B"



PLAN LOCATION OF RECTIFIER / CONTROLLER

NOTE: THE 3/4"ϕ GROUND RODS SHALL BE SUFFICIENT LENGTH TO EXTEND A MINIMUM OF 10' BELOW BOTTOM OF CONCRETE PEDESTAL. GROUND WIRE SHALL BE No. 6 AWG MINIMUM.

KNOCKOUTS OR DRILLED HOLES SHALL BE PROVIDED IN CABINETS FOR ALL CONDUIT. LOCATIONS OF SUCH ARE THE RESPONSIBILITY OF THE CONTRACTOR AND CABINET MANUFACTURER.

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

DETAILED JUNE 1984
CHECKED JUNE 1984

Sheet No. 10 of 10.

WESTBRIDGE

JACKSON COUNTY

A-243RI

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	MO.		19	27	
SEC./SUP.		TWP.		RGE.	

* Two additional bars are included for testing.

ESTIMATED QUANTITIES

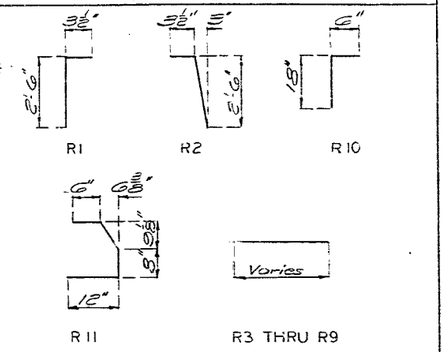
ITEM		S.B.L.	N.B.L.	TOTAL
Special Work	Lump Sum	✓	✓	1 ✓
Cathodic Protection System	Lump Sum	✓	✓	1 ✓
Asphalt Cement (60-70 or AC 20)	Ton			7.4 ✓
Mineral Aggregate (Asph. Conc.) (Type A Mix.)	Ton			144 ✓
Tack Coat - Emulsified Asphalt	Gal.			60 ✓
Repairing Concrete Deck (Mill & Soling)	Sq. Ft.	1005	3391	4396 ✓
Full Depth Repair	Sq. Ft.	0	0	0 ✓
Safety Barrier Curb	Lin. Ft.	171	—	171 ✓
Conduit System on Structure	Lump Sum	✓	—	1 ✓
Superstructure Concrete Repair (Unformed)	Sq. Ft.	#23	161	584 ✓
Deck Overhang Repair	Lin. Ft.	10	—	10 ✓
3/4 Depth Repair	Sq. Ft.	237	1358	1595 ✓
Repair Void Tubes	F.A.			2629.47

Tack coat shall be emulsified asphalt applied at a rate of 0.05 gallons per square yard.

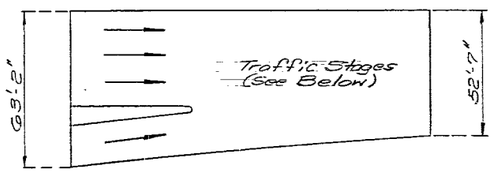
BILL OF REINFORCING STEEL

NO.	SIZE & MARK	LENGTH	WEIGHT LB.
184	5 B1	2'-8"	512
184	5 B2	2'-9"	528
4	5 B3	11'-6"	48
3	5 B4	9'-9"	20
22	5 B5	11'-9"	270
7	5 B6	32'-2"	235
28	5 B7	9'-9"	285
7	5 B8	42'-4"	309
7	5 B9	32'-0"	234
—	5 B10	23"	—
—	5 B11	2'-11"	—

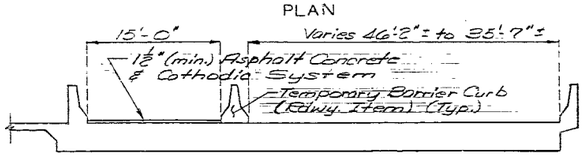
BENDING DIAGRAM



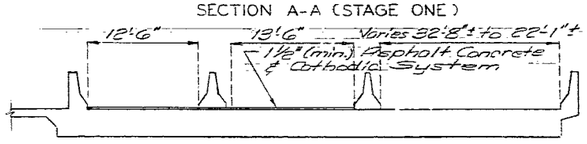
All reinforcing steel shall be epoxy coated.
All dimensions for E-bars are out to out.
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practice for Detailing Reinforced Concrete Structures stirrup and tie dimensions.
Actual lengths of reinforcing bars are measured along centerline bar and to the nearest inch.



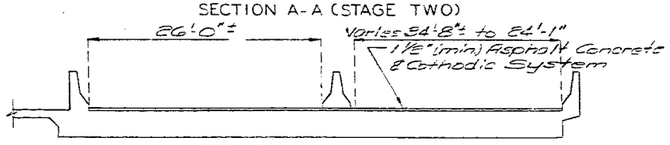
PLAN



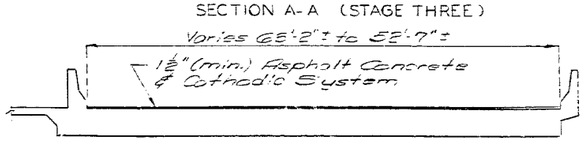
SECTION A-A (STAGE ONE)



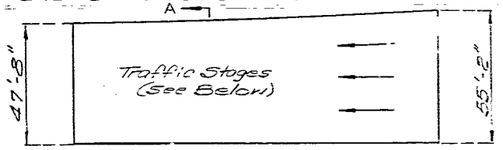
SECTION A-A (STAGE TWO)



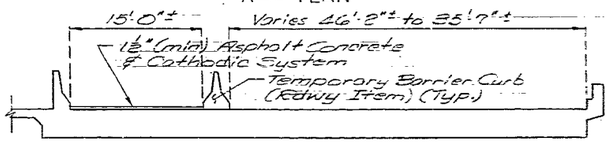
SECTION A-A (STAGE THREE)



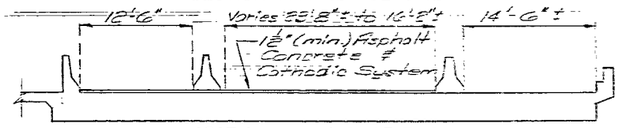
SECTION A-A (FINAL STAGE)



A—A PLAN



SECTION A-A (STAGE ONE)



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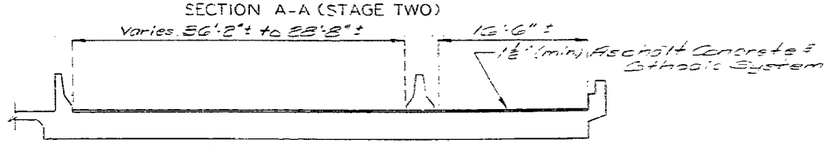
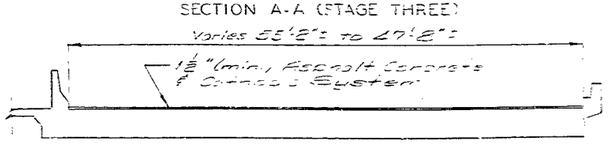


SECTION A-A (STAGE THREE)



SECTION A-A (FINAL STAGE)

NOTES:

Design Specifications: AASHTO. 1977 and Interims thru 1983

Design Unit Stresses:

Class B1 Concrete f'_c = 4000 psi

Reinforcing Steel (Grade 60) f_y = 60,000 psi

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

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

Traffic: Traffic over structure to be maintained during construction.

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.

Taper roadway surfacing at bridge ends to match 12" ± bridge overlay. (Roadway Item)

Construction Clearance: A minimum vertical clearance of 13'-6" from crown of existing lanes and a minimum lateral clearance of 32'-0" normal to 11th Street centered on existing lanes shall be maintained during construction.

REPAIRS TO
BRIDGE: LANE C & LANE D OVER 11TH STREET
STATE ROAD: MIDTOWN FREEWAY
IN KANSAS CITY
PROJECT NO. I-IR-70-1(101) **STA.** 27+63.86 (LANE C)
JOB NO. 4-1070-450 **RTE.** I-70
JACKSON **COUNTY**
DATE 6/29/84

STD.
STD. 706.35
A-243R1

DESIGNED MARCH 19 84
DETAILED March 19 84
CHECKED MAY 19 84

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

Sheet No. 1A of 1C.

12

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET NO.
MO.	[illegible]	109
SEC./SUR. E	TWP. 49N	RGE. 33W

ESTIMATED QUANTITIES

ITEM		WEST BR.	EAST BR.	TOTAL
REMOVAL OF EXISTING BITUMINOUS PAVEMENT (COLDMILLING)	SQ. YD	955	848	1803
ASPHALT CEMENT (ASPHALTIC CONCRETE) 60-70 OR AC-20 (TYPE A MIX)	TON	2.7	2.4	5.1
MINERAL AGGREGATE (ASPHALTIC CONCRETE)(TYPE A MIX)	TON	53	47	100
SUPERSTRUCTURE REPAIR (UNFORMED), SEE SPECIAL PROV.	SQ.FT.	20		20
SLAB EDGE REPAIR (BRIDGES)	LIN. FT.	20		20

GENERAL NOTES:

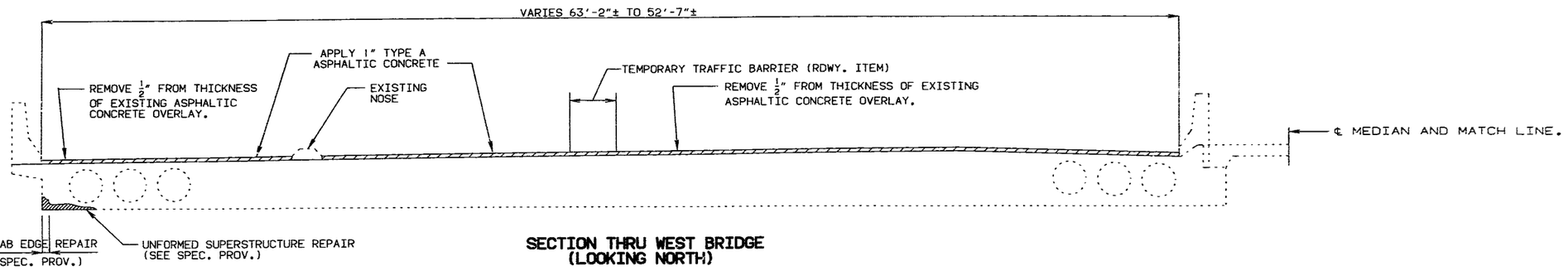
EXISTING WORK:
OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

TRAFFIC MAINTAINED:
THE CONTRACTOR SHALL MAINTAIN TWO LANES OF TRAFFIC EACH DIRECTION DURING CONSTRUCTION. (SEE ROAD PLANS)

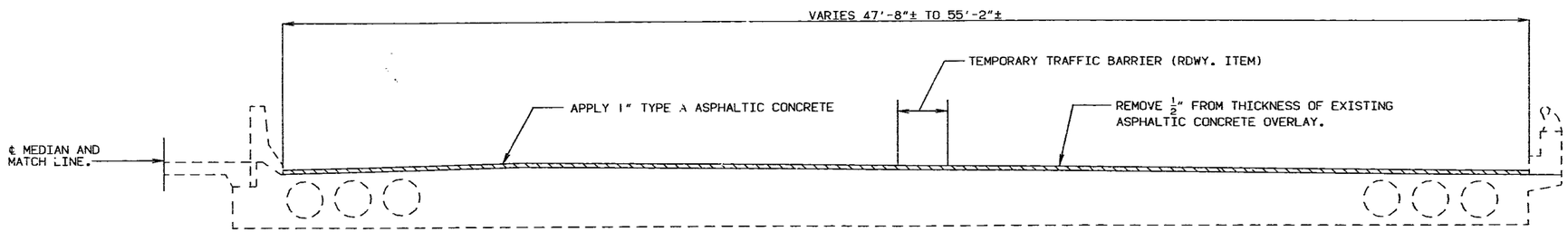
ROADWAY SURFACING ADJACENT TO BRIDGE ENDS SHALL BE ADJUSTED TO MATCH BRIDGE OVERLAY. (ROADWAY ITEM)

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE TO AVOID DAMAGE TO THE EXISTING CATHODIC PROTECTION SYSTEM IN PLACE ON THE DECK.

IN ORDER TO MAINTAIN GRADE AND A MINIMUM THICKNESS OF OVERLAY AS SHOWN ON PLANS IT MAY BE NECESSARY TO USE ADDITIONAL QUANTITIES OF OVERLAY AT VARIOUS LOCATIONS THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE ALLOWED FOR ADDITIONAL LABOR, MATERIALS OR EQUIPMENT FOR VARIATIONS IN THICKNESS OF OVERLAY.



SECTION THRU WEST BRIDGE (LOOKING NORTH)



SECTION THRU EAST BRIDGE (LOOKING NORTH)

REPAIRS TO BRIDGE: LANE C & D OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO. S.A.I-70-1(160)

STA. 29+37.58 (BL LANE D)
26+87.51 (BL LANE C)

JOB NO. J4I0991

RTE. I-70

JACKSON COUNTY

STD.
STD.
A-243R2

SEE FINAL PLANS

DETAILED DEC. 1991
CHECKED JUNE 1992

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

SHEET NO. 1 OF 1.

11/16/93

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSIO

STATE	PROJ. NO.	SHEET NO.
MO.	F.A.I-70-1(160)	109
SEC./SUP. 5	TWP. 49N.	RGE. 33W

FINAL QUANTITIES

ITEM			WEST BR.	EAST BR.	TOTAL
REMOVAL OF EXISTING BITUMINOUS PAVEMENT (COLDMILLING)		SQ. YD	955	848	1803
ASPHALT CEMENT (ASPHALTIC CONCRETE)	AC-20	TON	4.6	4.1	8.7
MINERAL AGGREGATE (ASPHALTIC CONCRETE) (LSS)		TON	82	73	155
SUPERSTRUCTURE REPAIR (UNFORMED), SEE SPECIAL PROV.		SQ.FT.			6
SLAB EDGE REPAIR (BRIDGES)		LIN. FT.			0

GENERAL NOTES:

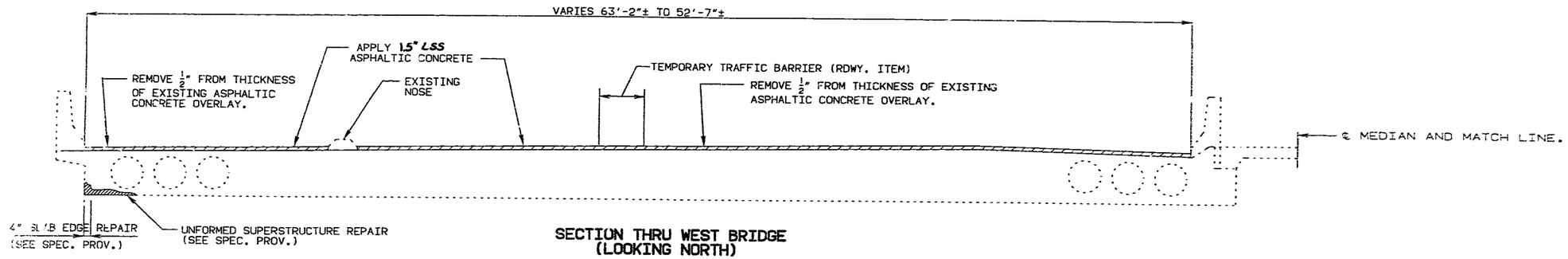
EXISTING WORK:
OUTLINE OF OLD WORK IS INDICATED BY LIGHT DASHED LINES. HEAVY LINES INDICATE NEW WORK.

TRAFFIC MAINTAINED:
THE CONTRACTOR SHALL MAINTAIN TWO LANES OF TRAFFIC EACH DIRECTION, DURING CONSTRUCTION. (SEE ROAD PLANS)

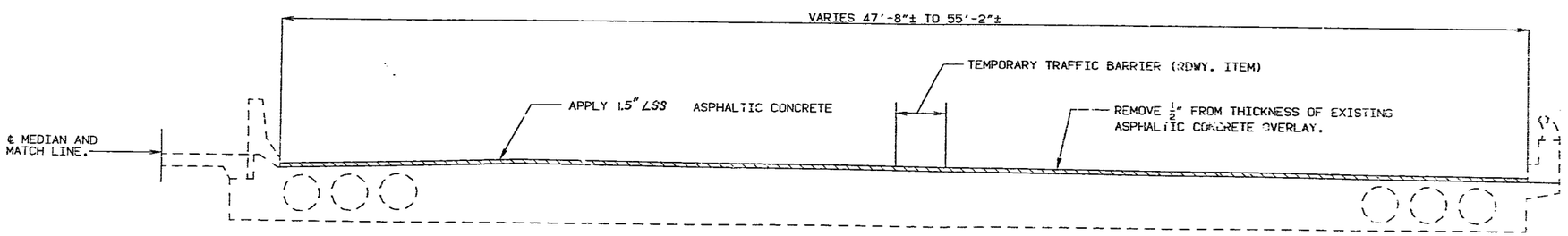
ROADWAY SURFACING ADJACENT TO BRIDGE ENDS SHALL BE ADJUSTED TO MATCH BRIDGE OVERLAY. (ROADWAY ITEM)

THE CONTRACTOR IS CAUTIONED TO USE EXTREME CARE TO AVOID DAMAGE TO THE EXISTING CATHODIC PROTECTION SYSTEM IN PLACE ON THE DECK.

IN ORDER TO MAINTAIN GRADE AND A MINIMUM THICKNESS OF OVERLAY AS SHOWN ON PLANS IT MAY BE NECESSARY TO USE ADDITIONAL QUANTITIES OF OVERLAY AT VARIOUS LOCATIONS THROUGHOUT THE STRUCTURE. NO PAYMENT WILL BE ALLOWED FOR ADDITIONAL LABOR, MATERIALS OR EQUIPMENT FOR VARIATIONS IN THICKNESS OF OVERLAY.



SECTION THRU WEST BRIDGE
(LOOKING NORTH)



SECTION THRU EAST BRIDGE
(LOOKING NORTH)

REPAIRS TO BRIDGE: LANE C & D OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO. F.A.I-70-1(160) STA. 29+37.58 (BL LANE D) 25+87.51 (BL LANE C)

JOB NO. J4I0991 RTE. I-70

JACKSON COUNTY

STD.
STD.
A-243R2

DETAILED DEC. 1991
CHECKED JUNE 1992

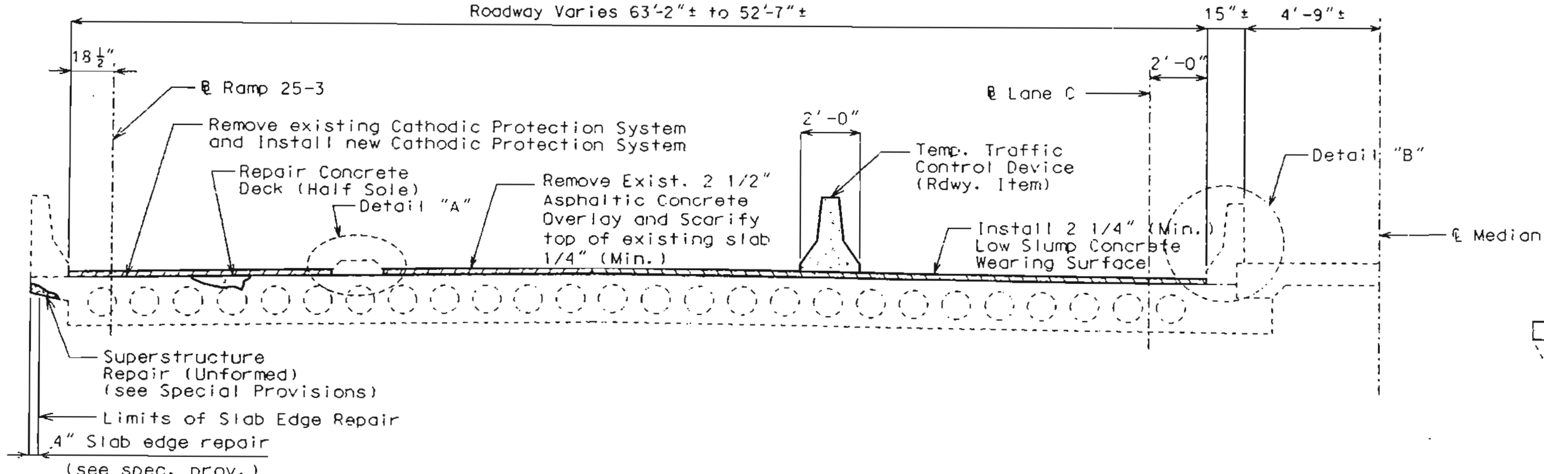
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

SHEET NO. 1A OF 1.

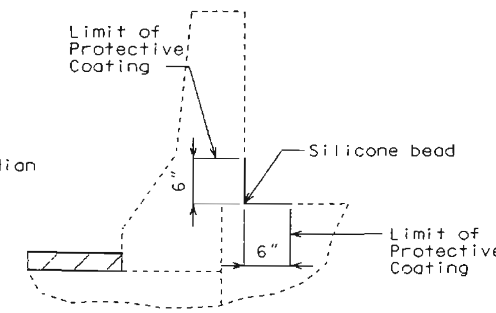
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO		B16
Sec./Sur. 5 Twp. 49N Rge. 33W		

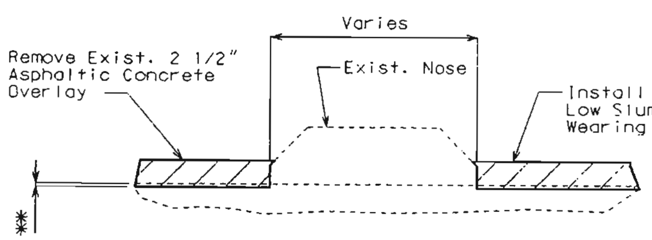
U.I.P. EXISTING (44'-63'-44') CONT. VOIDED SLAB SPANS



SECTION THRU SLAB (LOOKING NORTH)

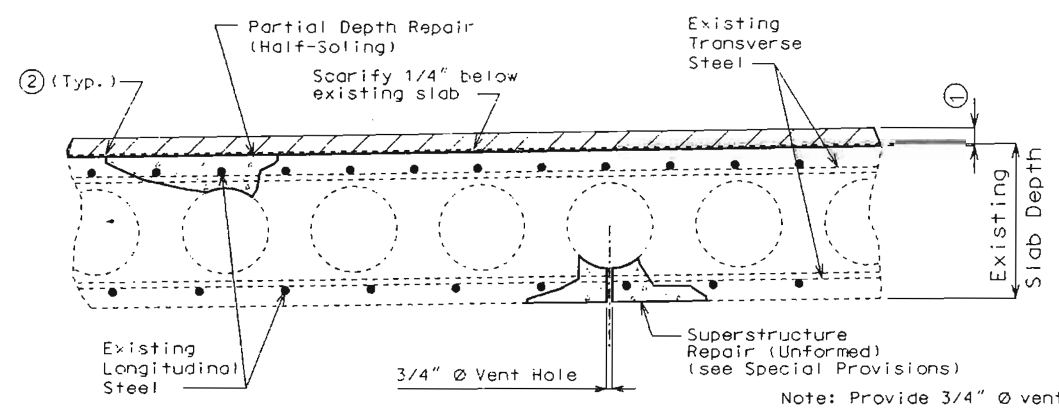


DETAIL "B"



DETAIL "A"

** Scarify 1/4" (Min.) below original Roadway



Note: Provide 3/4" Ø vent hole to void at existing vent location.

HALF SOLE REPAIR

SUPERSTRUCTURE REPAIR (UNFORMED) @ VENT HOLE

① Install 2 1/4" (Min.) Low Slump Concrete Wearing Surface.

② Saw cut or vertically chip first 1/2" of all deck repair. (Hydroblasting allowed by special provisions.)

GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO-1996 and Interims thru 2002.

TRAFFIC HANDLING:

Maintain traffic on structure during construction (see Rdwy. Plans.)

MISCELLANEOUS:

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

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface (Rdwy. Item).

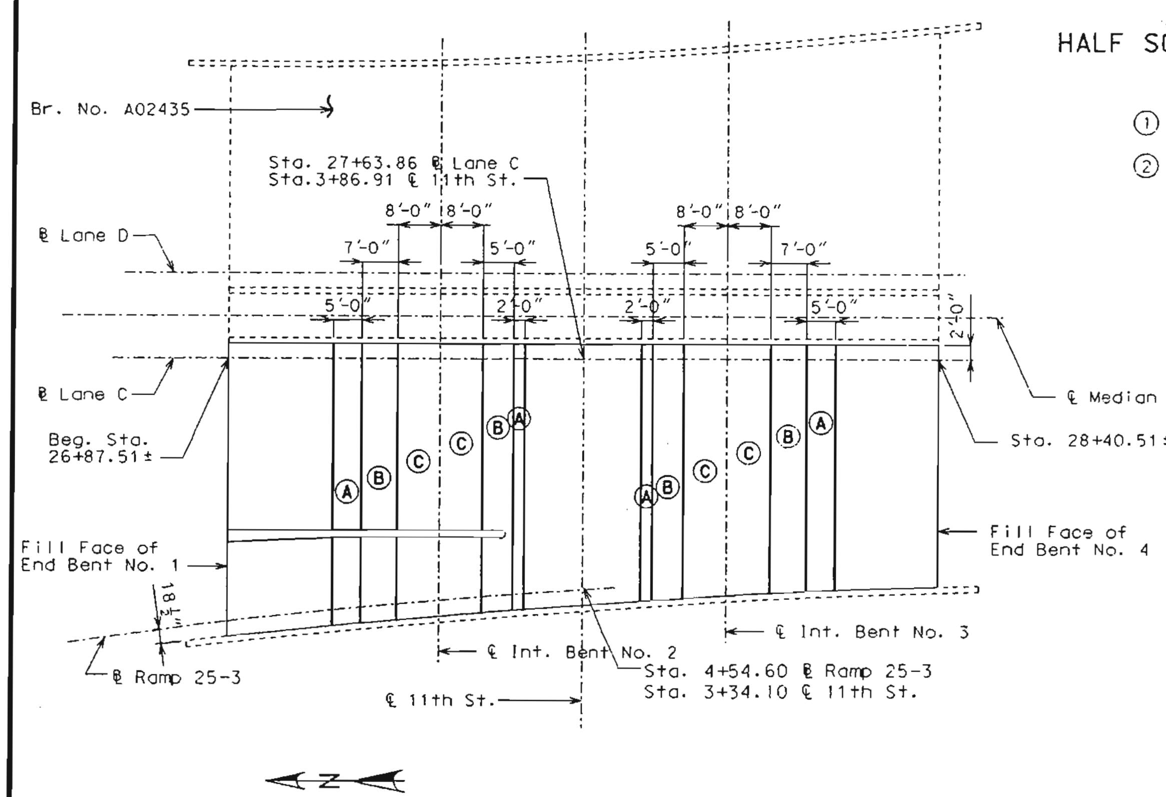
Contractor shall verify all dimensions and stations in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

SPECIAL REPAIR ZONES:

Any repair in the remainder of the bridge that is within 3'-0" of Zone A shall be completed before removing old concrete in Zone A.

Zones with the same letter designation may be repaired at the same time. Sequence of repairs follows Zone A, Zone B then Zone C.



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

CURVE DATA ℄ Ramp 25-3

PI Sta. 2+97.37

D = 3°00'00"

△ = 17°42'00" (Rt.)

R = 1909.86'

T = 297.37'

L = 590.00'

ESTIMATED QUANTITIES		
ITEM		TOTAL
Removal of Cathodic Protection System	lump sum	1
Asphalt Removal (Bridges)	sq. foot	8608
Protective Coating	lump sum	1
Repairing Concrete Deck (Half-Soling)	sq. foot	1200
Slab Edge Repair (Bridges)	linear foot	80
Superstructure Repair (Unformed)	sq. foot	280
Low Slump Concrete Wearing Surface	sq. yard	956
Cathodic Protection System	lump sum	1

REPAIRS TO BRIDGE: LANE C OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO.

JOB. NO. J4I1403

STA. 26+87.51± (℄ Lane C) (Match Exist.)

RTE. I-70 (E.B.L.)

STATE OF MISSOURI DANIEL M. SMITH NUMBER E-28985 REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

Designed Nov. 2001
Detailed Nov. 2001
Checked June 2002

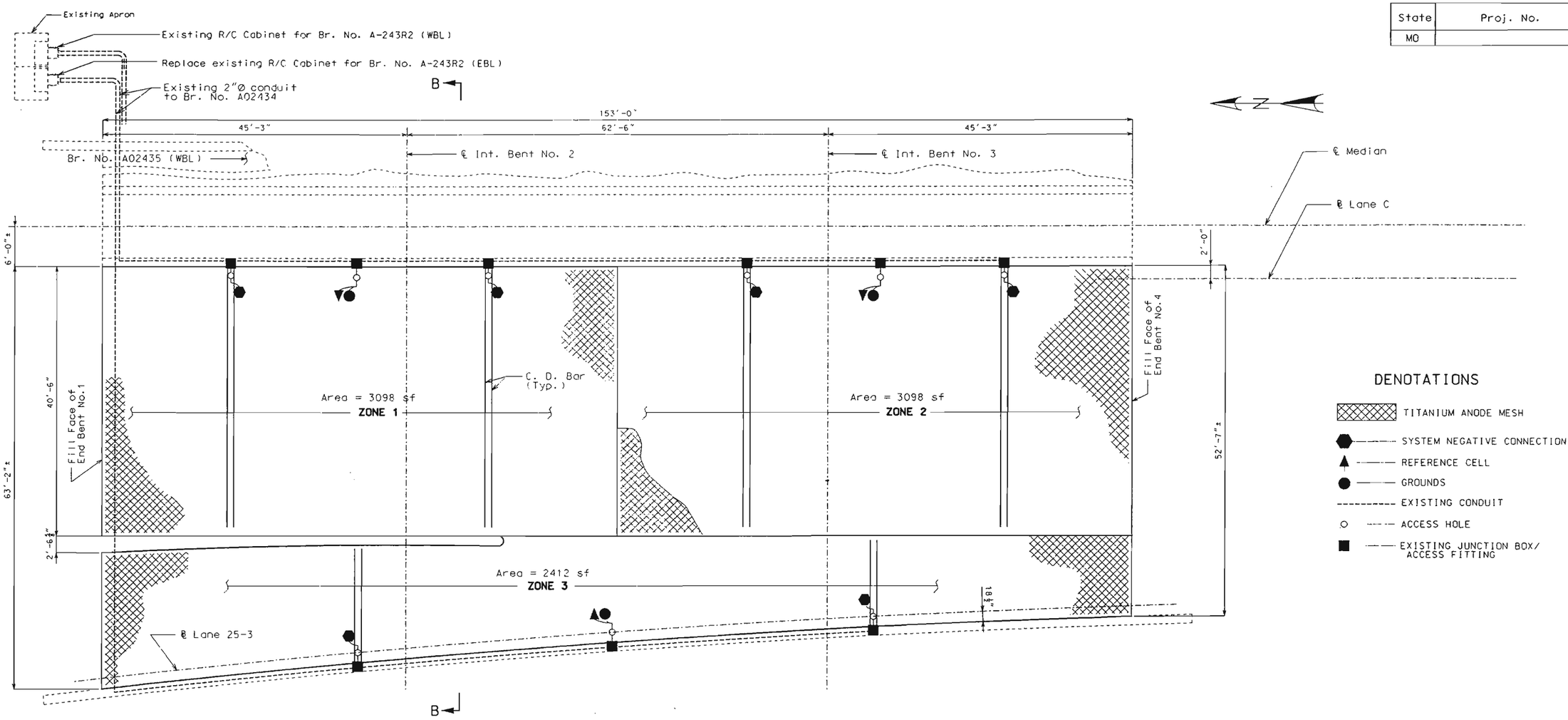
Sheet No. 1 of 5

JACKSON COUNTY

Date: 9 / 6 / 02

A02434

State	Proj. No.	Sheet No.
MO		B17



PART PLAN OF SLAB SHOWING TITANIUM MESH CATHODIC PROTECTION SYSTEM

DENOTATIONS

- TITANIUM ANODE MESH
- SYSTEM NEGATIVE CONNECTION
- REFERENCE CELL
- GROUNDS
- EXISTING CONDUIT
- ACCESS HOLE
- EXISTING JUNCTION BOX/ ACCESS FITTING

ESTIMATED QUANTITIES	For information only	
ITEM	UNIT	QUANTITY
Titanium Anode Mesh (Elgard 210)	Sq. Feet	8608
Reference Cells	Each	3
Thermite Welds	Each	9

Note: No direct payment shall be made for any additional conduit, junction boxes, access fittings, additional material, labor and modification to existing conduit.

NOTE:

For Section B-B, typical zone layout and partial electrical schematic, see sheet no. 3.

Reference cells are to be placed at approximate ℄ of zone length as determined by the engineer.

Current Distribution Bars (C.D. Bar) to be placed near 1/4 point of Zones.

Existing overlay and cathodic protection system shall be removed and the original deck scarified prior to installation of new Cathodic Protection System (see special provisions).

NOTE:

Replace existing R/C Cabinet with new enclosure, mounted on existing apron and meeting required manufacturer's specifications and all local electrical codes.

Use existing conduit and appurtenances, with the approval of the Engineer, as shown on the plans. All existing conduit and appurtenances not used with the new Cathodic Protection System shall be removed from the Structure.

All existing wiring in the deck and conduits shall be removed and replaced with new wiring.

The anode leads, system negative return leads, reference cell and reference cell ground lead shall be routed in one of the existing conduits.

The telephone cable shall be routed into the rectifier through one of the unused existing conduits.

The reference cell ground lead shall be welded to the top rebar within 12" of the reference cell.

Anode assembly number must match zone number.

Existing access holes through deck not used with the new cathodic protection system shall have its plastic sleeve and silicone sealant removed, hole cleaned and plugged with a nonmetallic expansive mortar in accordance with Std. Spec. 1066.

STATE OF MISSOURI DANIEL M. SMITH NUMBER E-28985 REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked July 2002

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

JACKSON COUNTY A02434

REV.

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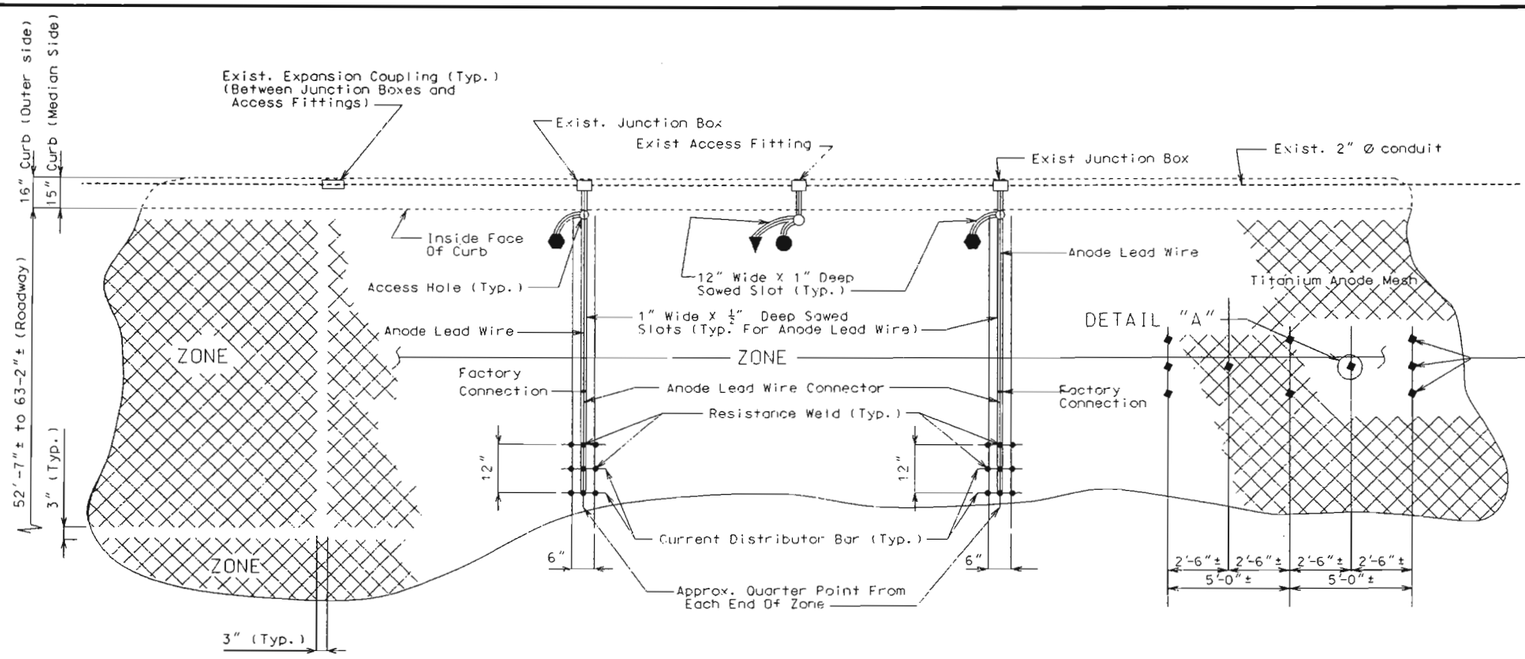
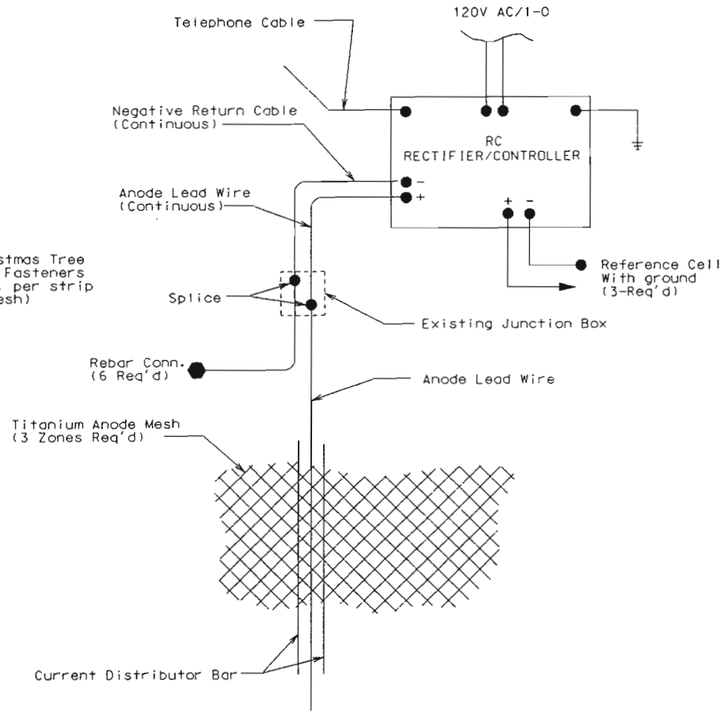
State	Proj. No.	Sheet No.
MO		B18

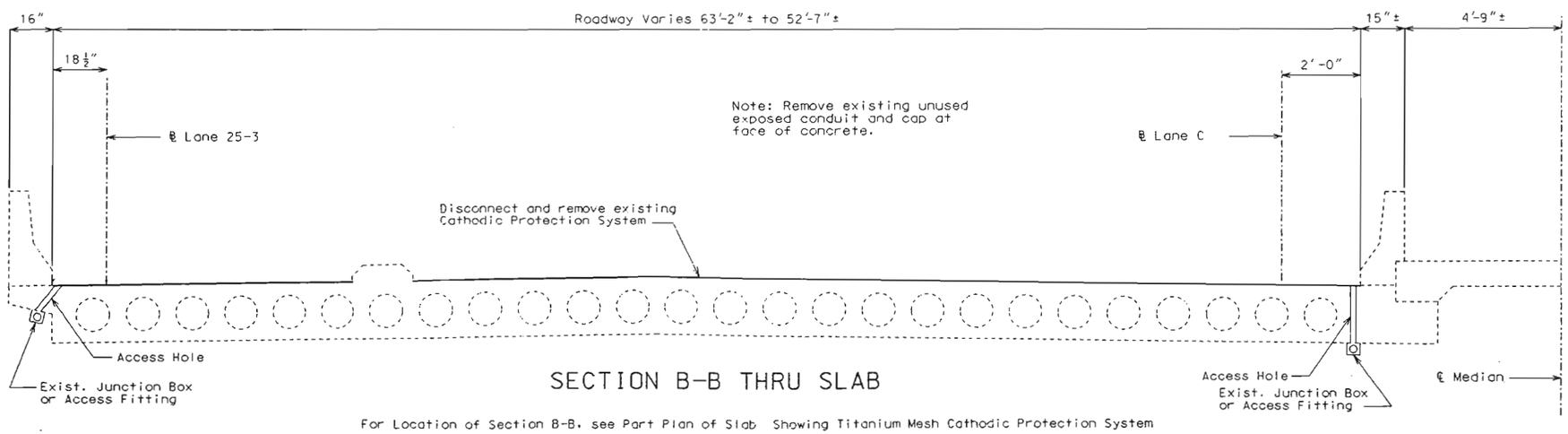


TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.

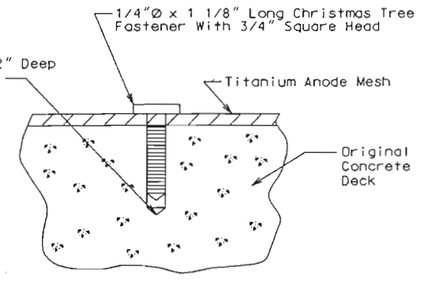


PARTIAL SCHEMATIC



SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System



DETAIL "A"
(Christmas Tree Clip)

VOID

REGISTERED STATE OF MISSOURI DANIEL M. SMITH NUMBER E-28985 PROFESSIONAL ENGINEER
DATE 9-6-02

Detailed Mar. 2002
Checked July 2002

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

Sheet No. 3 of 5

JACKSON COUNTY A02434

REV.

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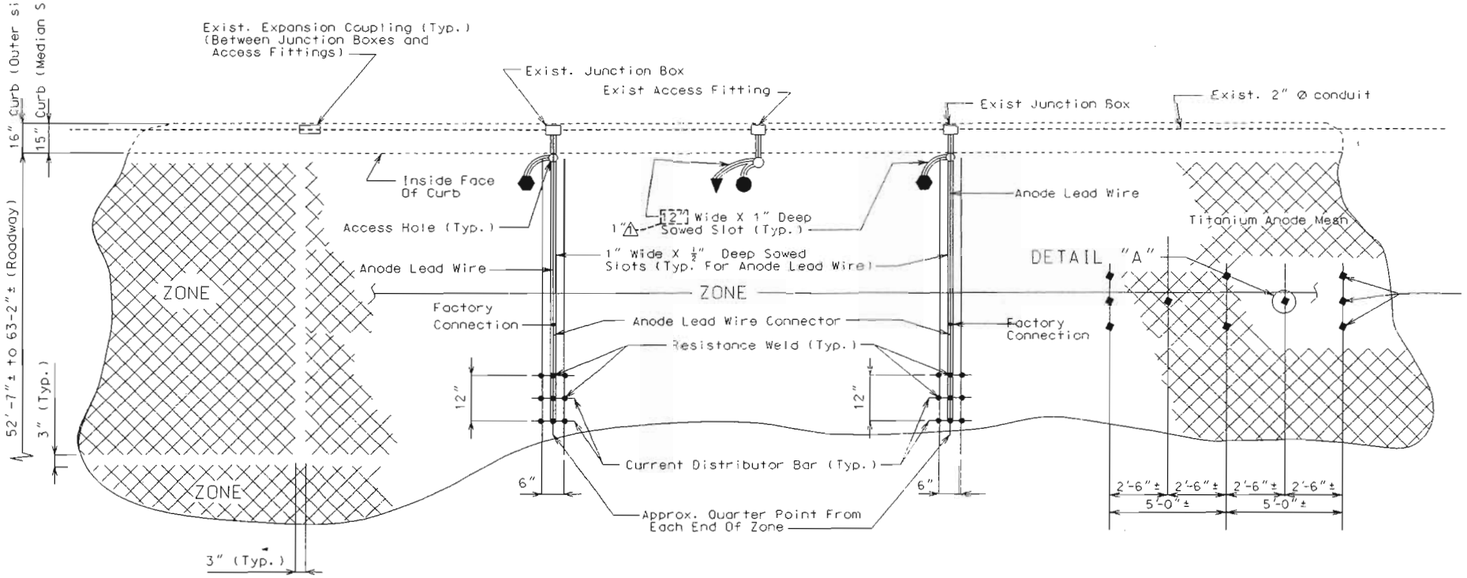
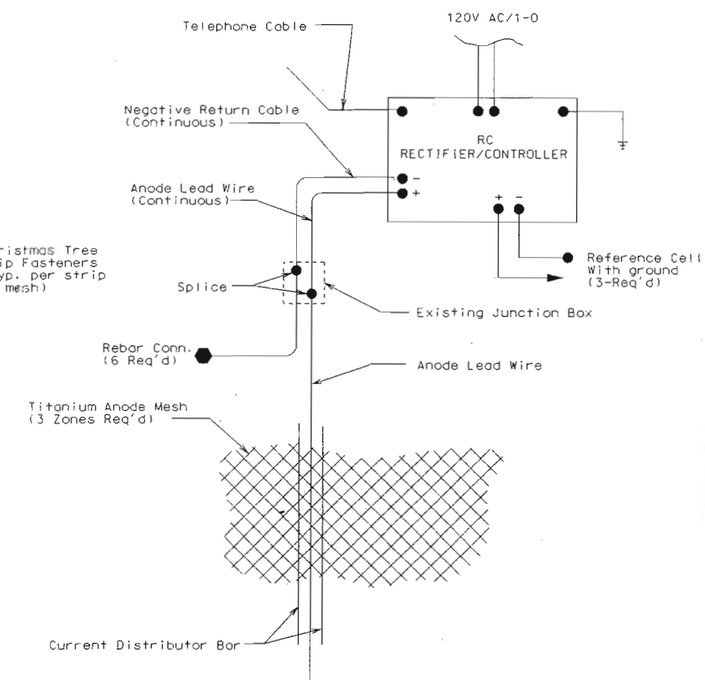
State	Proj. No.	Sheet No.
MO		

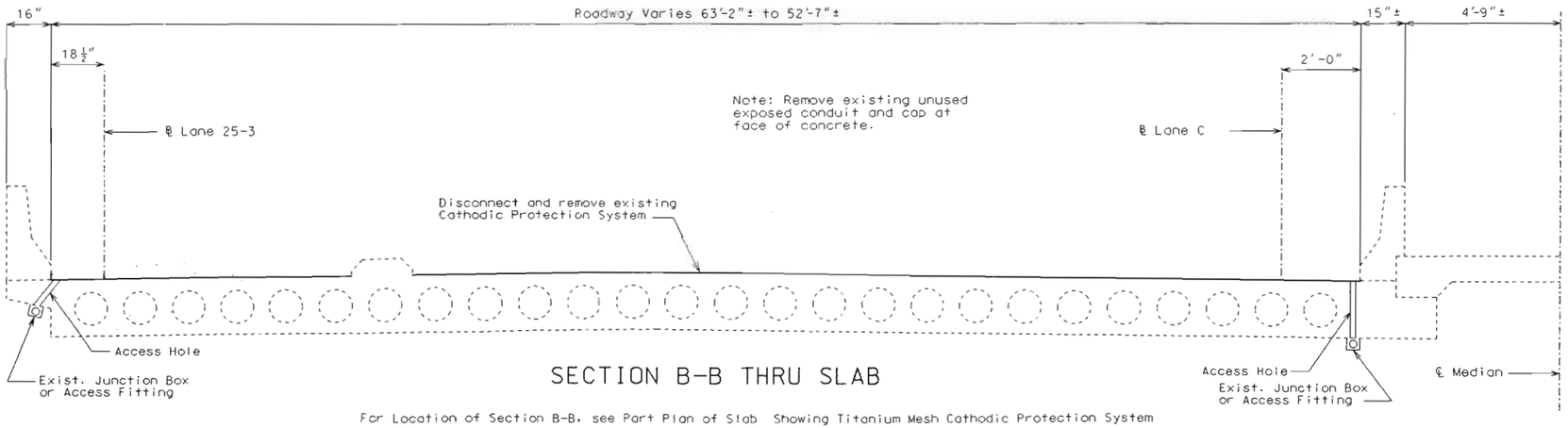


TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.

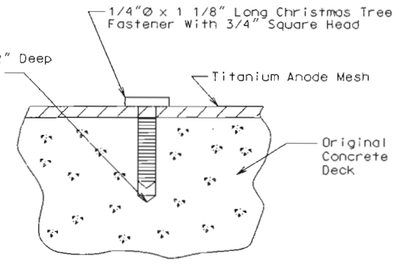


PARTIAL SCHEMATIC



SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System



DETAIL "A"
(Christmas Tree Clip)

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28065
REGISTERED PROFESSIONAL ENGINEER

DATE 3-4-03

Detailed Mar. 2002
Checked July 2002

Note: This drawing is not to scale. Follow dimensions. ⚠ Revised 3/4/2003 Sheet No. 3 of 5

JACKSON COUNTY A02434

REV.

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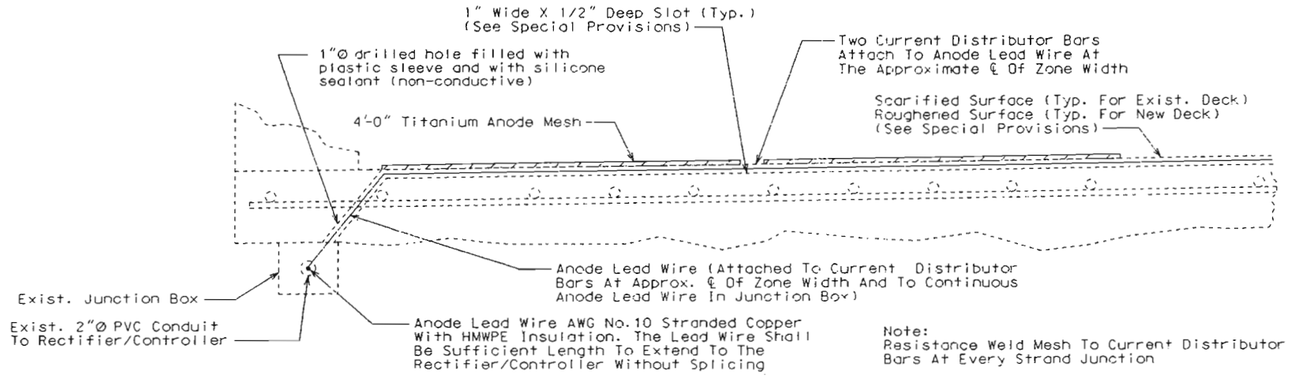
State	Proj. No.	Sheet No.
MO		19



TITANIUM ANODE MESH DETAILS

Notes for New Conduit and Appurtenances (if required by Engineer):
Conduit shall be schedule 40 heavy wall PVC (Polyvinyl Chloride Plastic). Each section of conduit shall bear the underwriters laboratories, inc. (UL) label.

Conduit shall be secured to concrete with clamps (galvanized/AASHTO M111) at abt. 5'-0" cts. Concrete anchors for clamps shall meet federal specification FF-S-325, group II, type 4, class 1 and shall be galvanized in accordance with ASTM A-153, B695-91 class 50 or stainless steel. Minimum embedment in concrete shall be 1 3/4". The supplier shall furnish a manufacturer's certification that the concrete anchors meet the required material and galvanizing specifications.

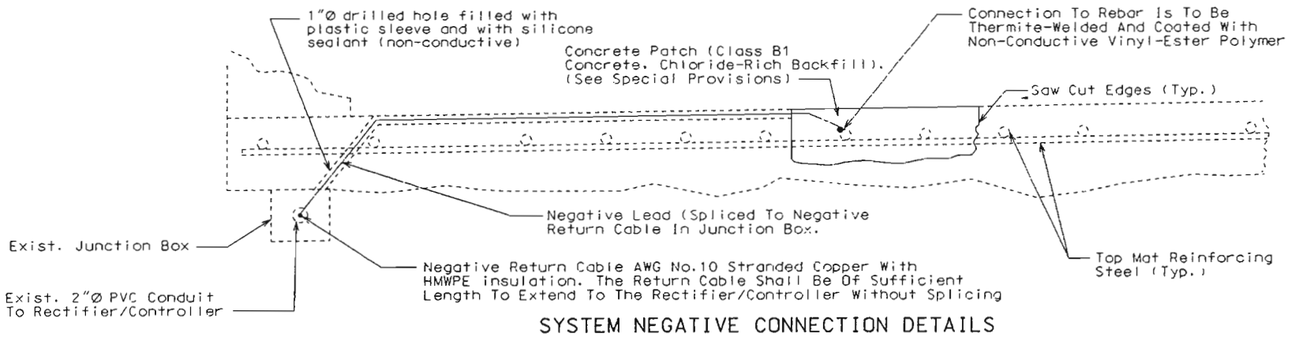
Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines.

Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as approved by the engineer.

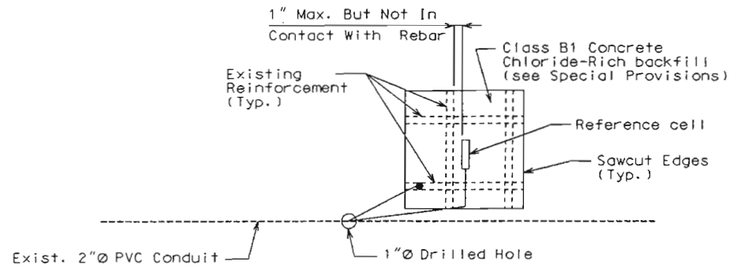
The location and direction of conduit may be shifted to meet field conditions as directed by the engineer.

All junction boxes shall be PVC molded, surface mounted, size 8" x 8" x 7" and equal to Carlon Electrical Construction products or Triangle Conduit and Cable company Inc.. The terminations shall be permanent or seperable.

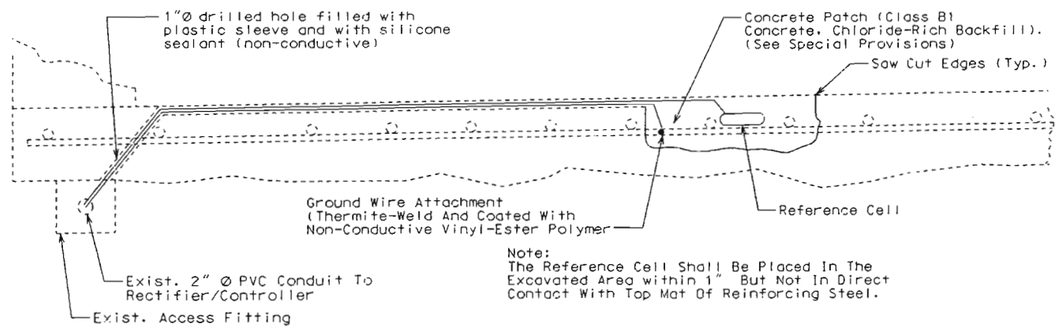
The terminations and covers shall be of watertight construction.



SYSTEM NEGATIVE CONNECTION DETAILS



PLAN OF REFERENCE CELL



REFERENCE CELL DETAILS

Note: The 3/4"Ø ground rod shall be of sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal. (Use existing if approved by the engineer).
Ground wire shall be AGW No.6 minimum (Use existing if approved by the engineer).
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of these holes are the responsibility of the contractor and cabinet manufacturer.

Note:
All concrete removal shall be intiated by saw cutting the first 1/2".

REGISTERED STATE OF MISSOURI DANIEL M. SMITH NUMBER E-28985 PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked June 2002

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

JACKSON COUNTY A02434 REV.

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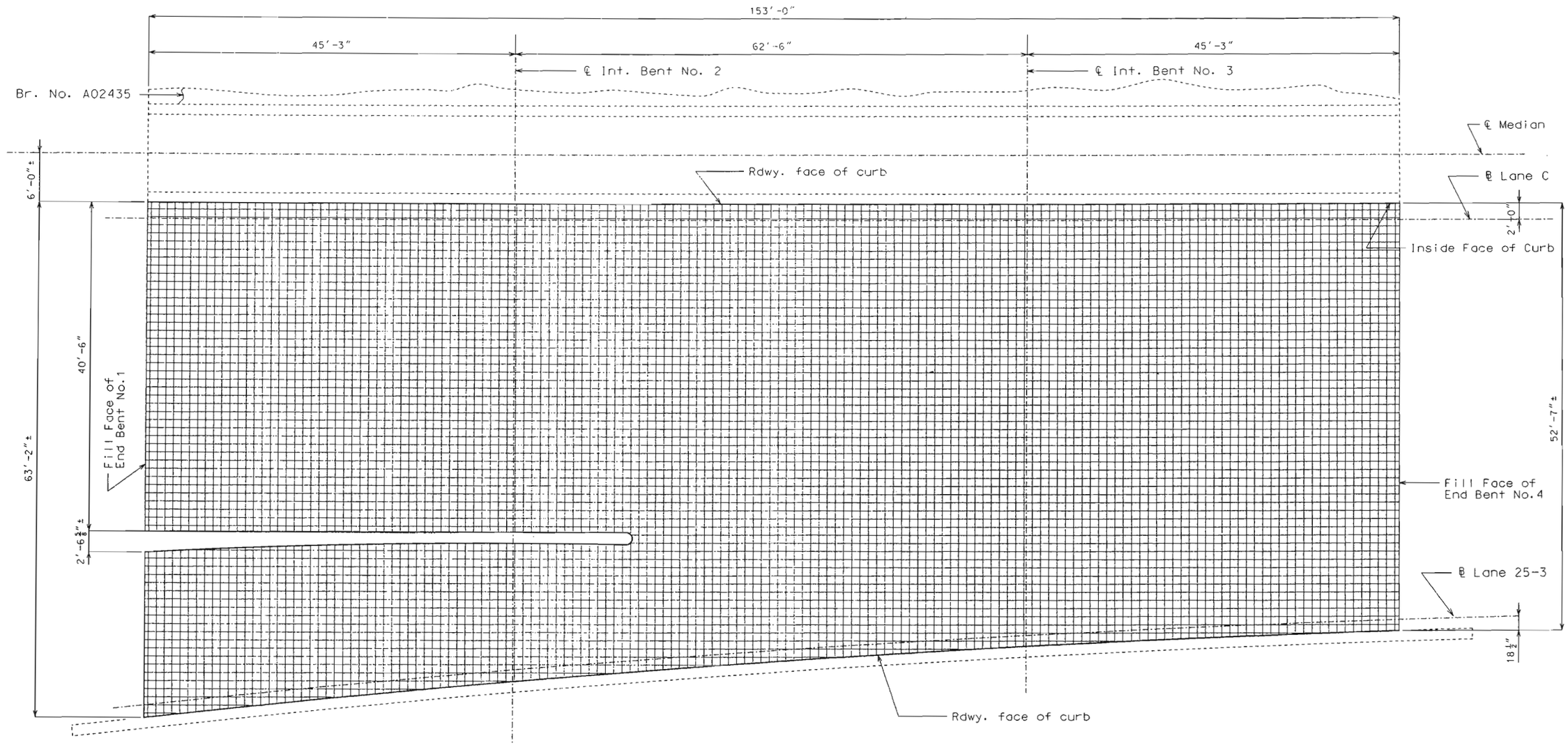
State	Proj. No.	Sheet No.
MO		B20



0 5' 10'

Scale

Note: Grid = Approx. 12" Squares

PLAN OF CONCRETE DECK SHOWING GRID

(For location of deck repair and reference cells.)

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

I-70 LANE C OVER 11th ST.

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked June 2002

JACKSON COUNTY A02434

REV.

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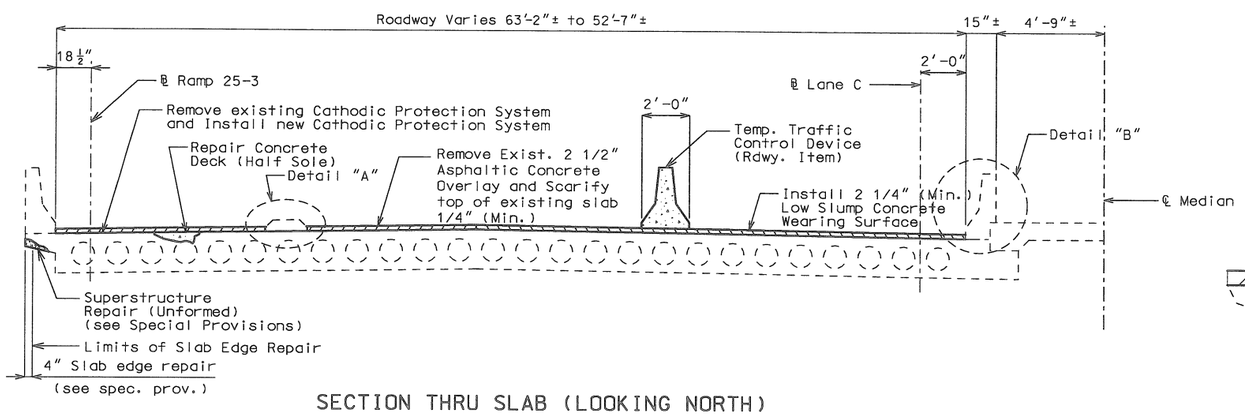
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

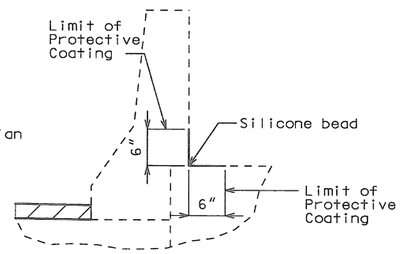
State	Proj. No.	Sheet No.
MO	I-70-1(175)	
Sec./Sur. 5 Twp. 49N Rge. 33W		

CONTRACT ID 021213-402

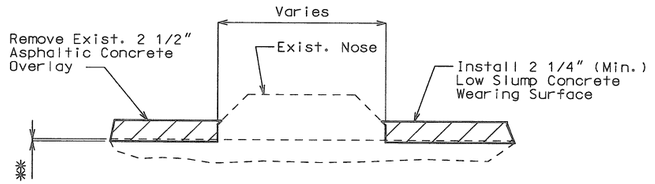
U.I.P. EXISTING (44'-63'-44') CONT. VOIDED SLAB SPANS



SECTION THRU SLAB (LOOKING NORTH)

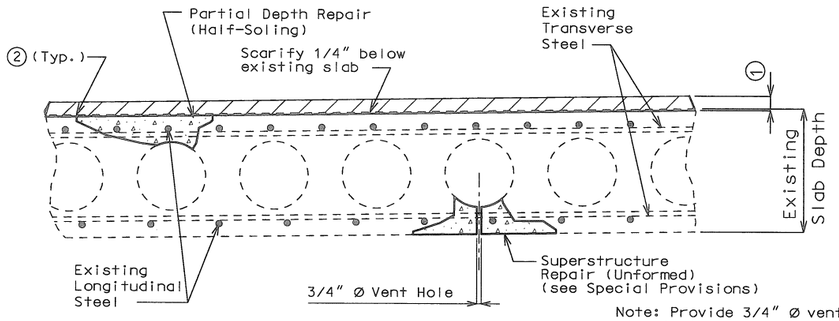


DETAIL "B"



DETAIL "A"

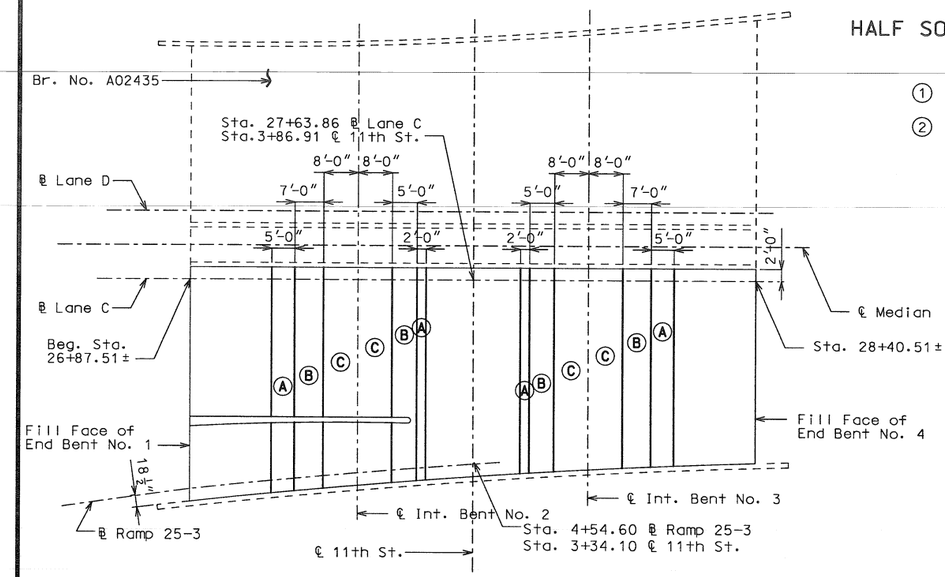
** Scarify 1/4" (Min.) below original Roadway



HALF SOLE REPAIR

SUPERSTRUCTURE REPAIR (UNFORMED) @ VENT HOLE

Note: Provide 3/4" Ø vent hole to void at existing vent location.



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

CURVE DATA ℄ Ramp 25-3

PI Sta. 2+97.37

D = 3°00'00"

△ = 17°42'00" (Rt.)

R = 1909.86'

T = 297.37'

L = 590.00'

① Install 2 1/4" (Min.) Low Slump Concrete Wearing Surface.

② Saw cut or vertically chip first 1/2" of all deck repair. (Hydroblasting allowed by special provisions.)

GENERAL NOTES:

FINAL PLANS

DESIGN SPECIFICATIONS:

AASHTO-1996 and Interims thru 2002.

TRAFFIC HANDLING:

Maintain traffic on structure during construction (see Rdwy. Plans.)

MISCELLANEOUS:

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

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface (Rdwy. Item).

Contractor shall verify all dimensions and stations in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

SPECIAL REPAIR ZONES:

Any repair in the remainder of the bridge that is within 3'-0" of Zone A shall be completed before removing old concrete in Zone A.

Zones with the same letter designation may be repaired at the same time. Sequence of repairs follows Zone A, Zone B then Zone C.

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE. AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

FINAL QUANTITIES

ITEM		TOTAL
Removal of Cathodic Protection System	lump sum	1
Asphalt Removal (Bridges)	sq. foot	8608
Protective Coating	lump sum	1
Repairing Concrete Deck (Half-Soling)	sq. foot	516
Slab Edge Repair (Bridges)	linear foot	0
Superstructure Repair (Unformed)	sq. foot	0
Low Slump Concrete Wearing Surface	sq. yard	956
Cathodic Protection System	lump sum	1

REPAIRS TO BRIDGE: LANE C OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO.

JOB. NO. J4I1403

STA. 26+87.51± (℄ Lane C) (Match Exist.)

RTE. I-70 (E.B.L.)

JACKSON COUNTY

Date: / /

A02434

REV.

Designed Nov. 2001
Detailed Nov. 2001
Checked June 2002

Sheet No. 1 of 5

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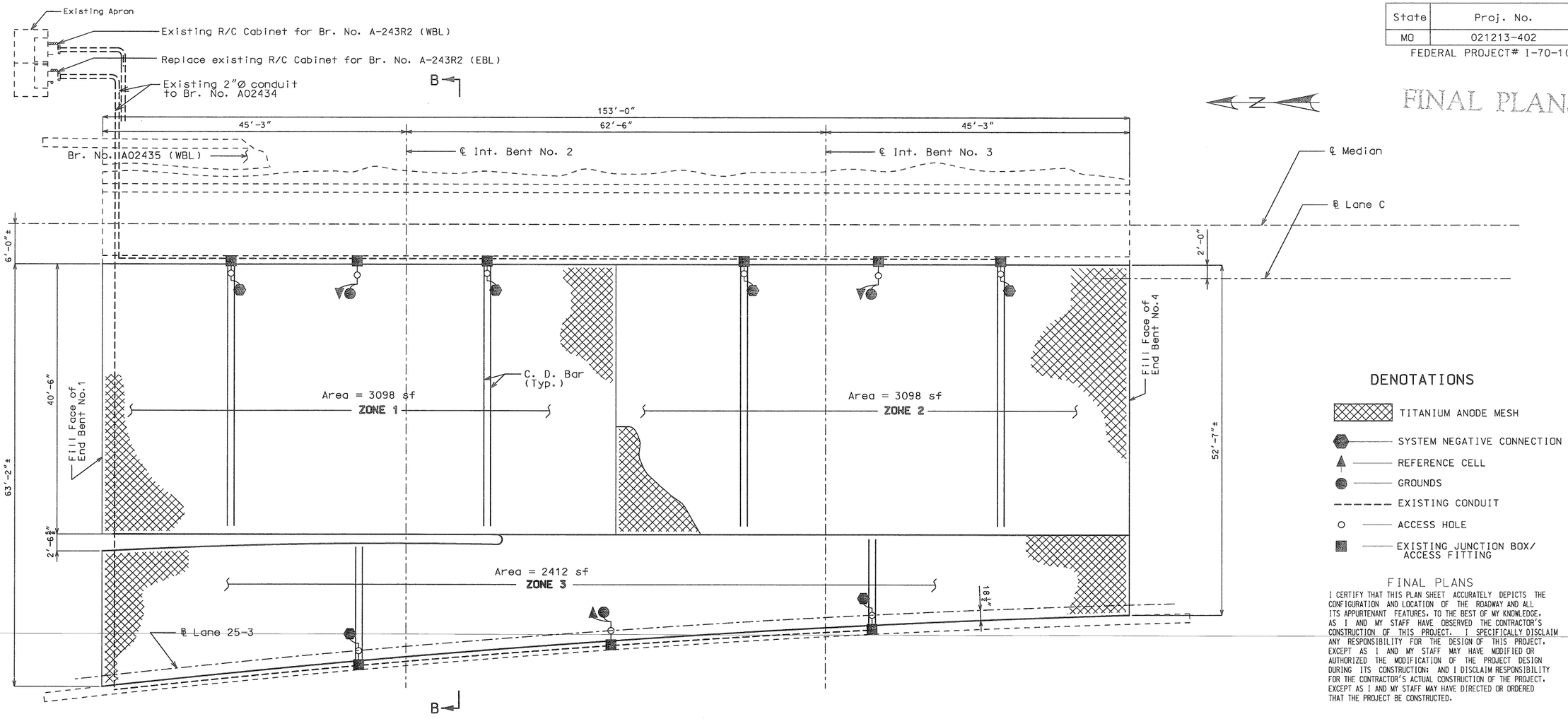
State	Proj. No.	Sheet No.
MO	021213-402	B11

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



DENOTATIONS

- TITANIUM ANODE MESH
- SYSTEM NEGATIVE CONNECTION
- REFERENCE CELL
- GROUNDS
- EXISTING CONDUIT
- ACCESS HOLE
- EXISTING JUNCTION BOX/ ACCESS FITTING

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES. TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

PART PLAN OF SLAB SHOWING TITANIUM MESH CATHODIC PROTECTION SYSTEM

FINAL QUANTITIES	For information only	
ITEM	UNIT	QUANTITY
Titanium Anode Mesh (Elgard 210)	Sq. Feet	8608
Reference Cells	Each	3
Thermite Welds	Each	9

Note: No direct payment shall be made for any additional conduit, junction boxes, access fittings, additional material, labor and modification to existing conduit.

NOTE:

For Section B-B, typical zone layout and partial electrical schematic, see sheet no. 3.

Reference cells are to be placed at approximate ℄ of zone length as determined by the engineer.

Current Distribution Bars (C.D. Bar) to be placed near 1/4 point of Zones.

Existing overlay and cathodic protection system shall be removed and the original deck scarified prior to installation of new Cathodic Protection System (see special provisions).

NOTE:

Replace existing R/C Cabinet with new enclosure, mounted on existing apron and meeting required manufacturer's specifications and all local electrical codes.

Use existing conduit and appurtenances, with the approval of the Engineer, as shown on the plans. All existing conduit and appurtenances not used with the new Cathodic Protection System shall be removed from the Structure.

All existing wiring in the deck and conduits shall be removed and replaced with new wiring.

The anode leads, system negative return leads, reference cell and reference cell ground lead shall be routed in one of the existing conduits.

The telephone cable shall be routed into the rectifier through one of the unused existing conduits.

The reference cell ground lead shall be welded to the top rebar within 12" of the reference cell.

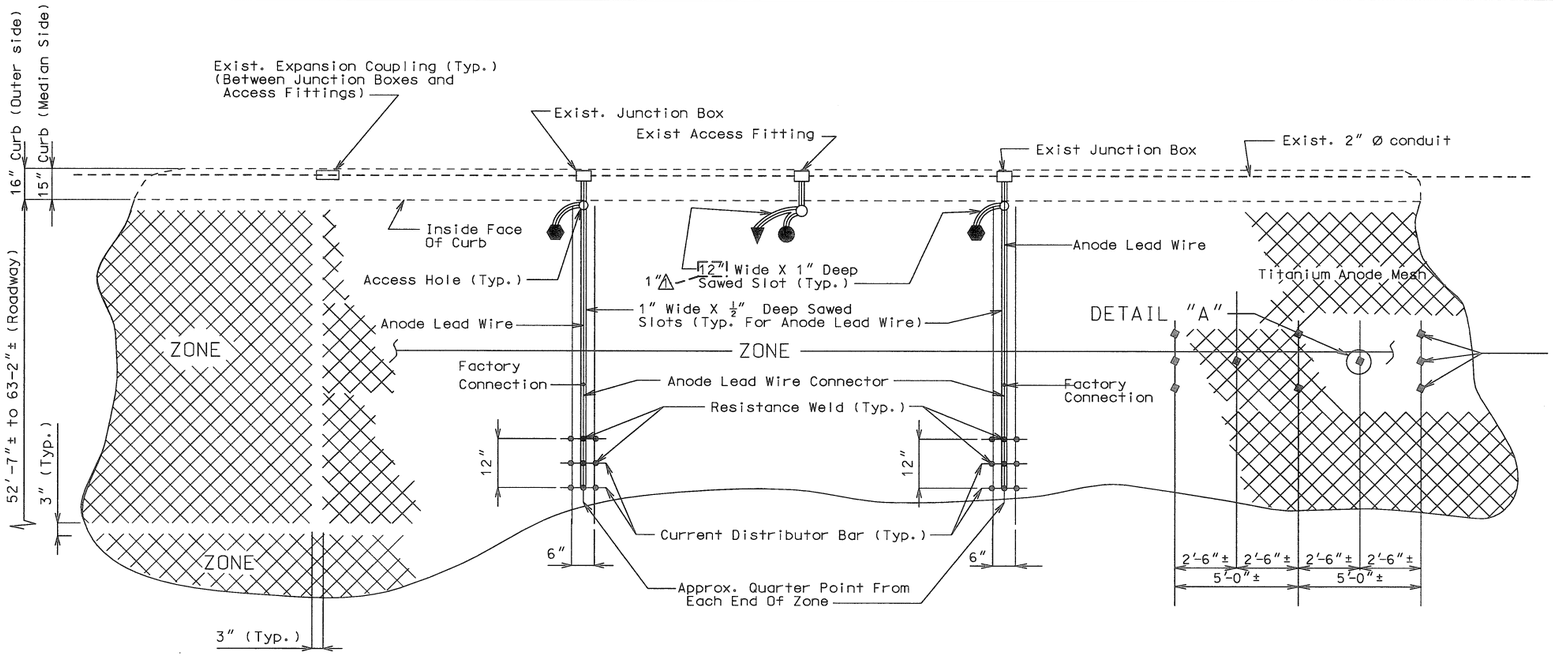
Anode assembly number must match zone number.

Existing access holes through deck not used with the new cathodic protection system shall have its plastic sleeve and silicone sealant removed, hole cleaned and plugged with a nonmetallic expansive mortar in accordance with Std. Spec. 1066.

State	Proj. No.	Sheet No.
MO	021213-402	B12

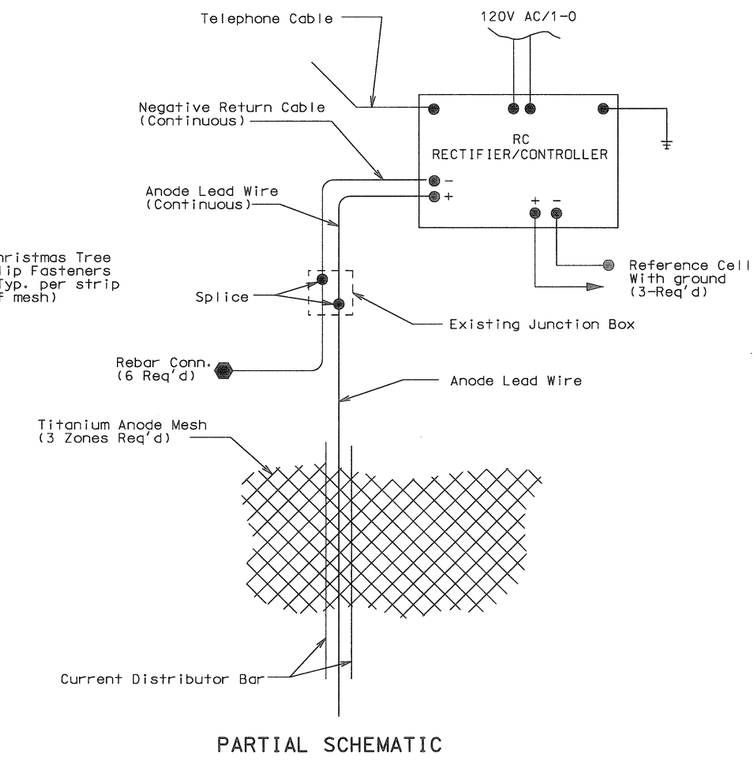
FEDERAL PROJECT# I-70-1(175)

FINAL PLANS

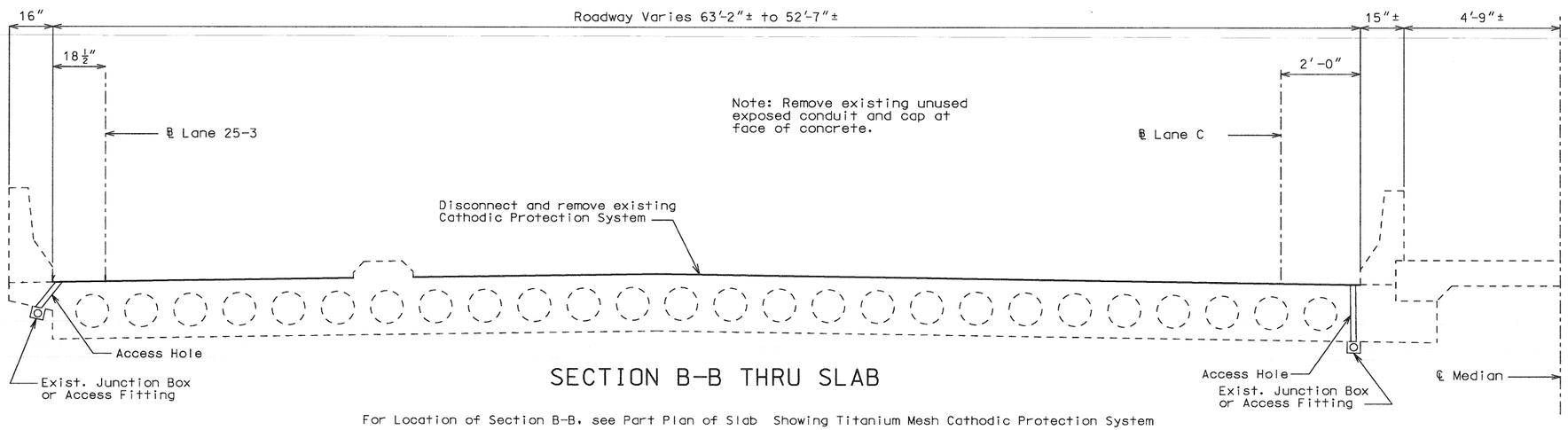


TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.

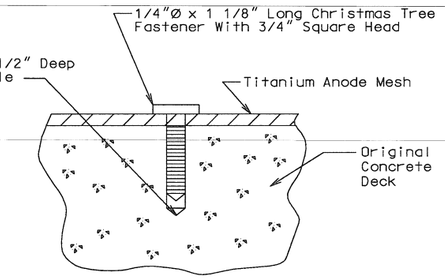


PARTIAL SCHEMATIC



SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System



DETAIL "A"
(Christmas Tree Clip)

FINAL PLANS

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SIGNATURE DATE

Detailed Mar. 2002
Checked July 2002

Note: This drawing is not to scale. Follow dimensions. ⚠ Revised 3/4/2003 Sheet No. 3 of 5

JACKSON COUNTY A02434 REV.

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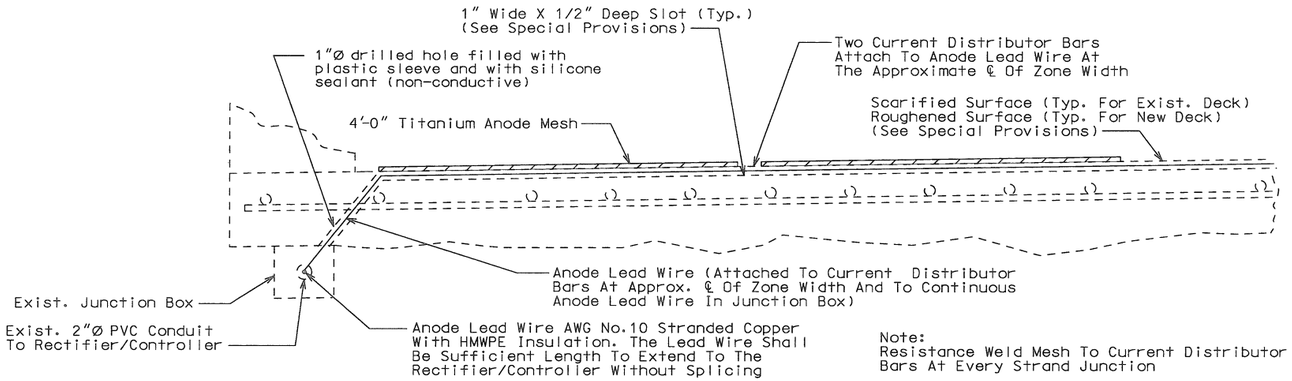
State	Proj. No.	Sheet No.
MO	021213-402	B13

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



TITANIUM ANODE MESH DETAILS

Notes for New Conduit and Appurtenances (if required by Engineer):
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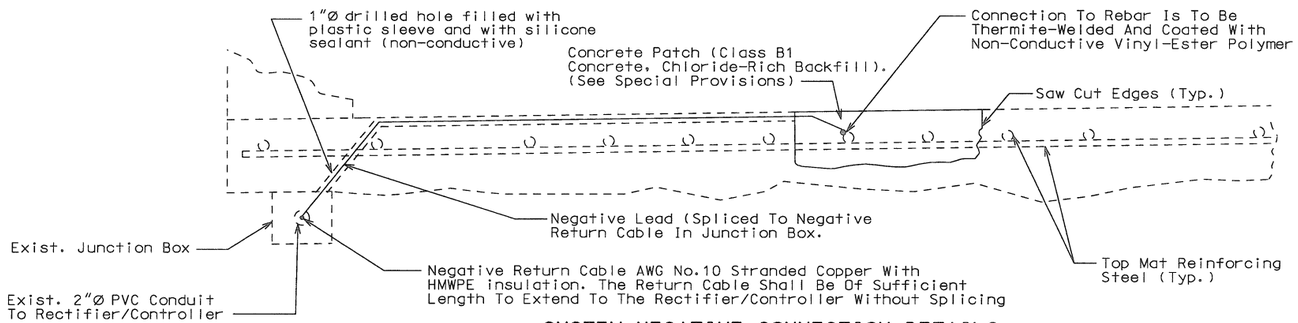
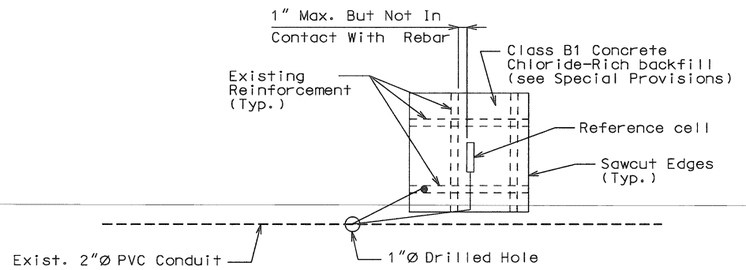
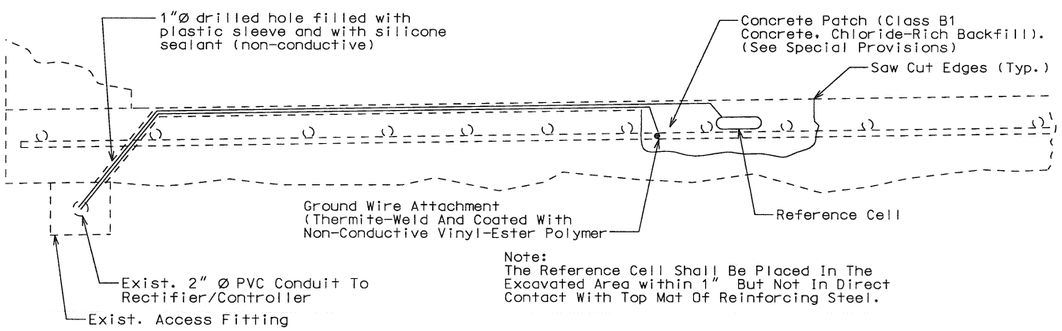


SYSTEM NEGATIVE CONNECTION DETAILS



PLAN OF REFERENCE CELL



REFERENCE CELL DETAILS

Note:
All concrete removal shall be intiated by saw cutting the first 1/2".

Note: The 3/4"Ø ground rod shall be of sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal. (Use existing if approved by the engineer).
Ground wire shall be AGW No.6 minimum (Use existing if approved by the engineer).
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of these holes are the responsibility of the contractor and cabinet manufacturer.

FINAL PLANS

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SIGNATURE _____ DATE _____

Detailed Mar. 2002
Checked June 2002

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

JACKSON COUNTY A02434 REV.

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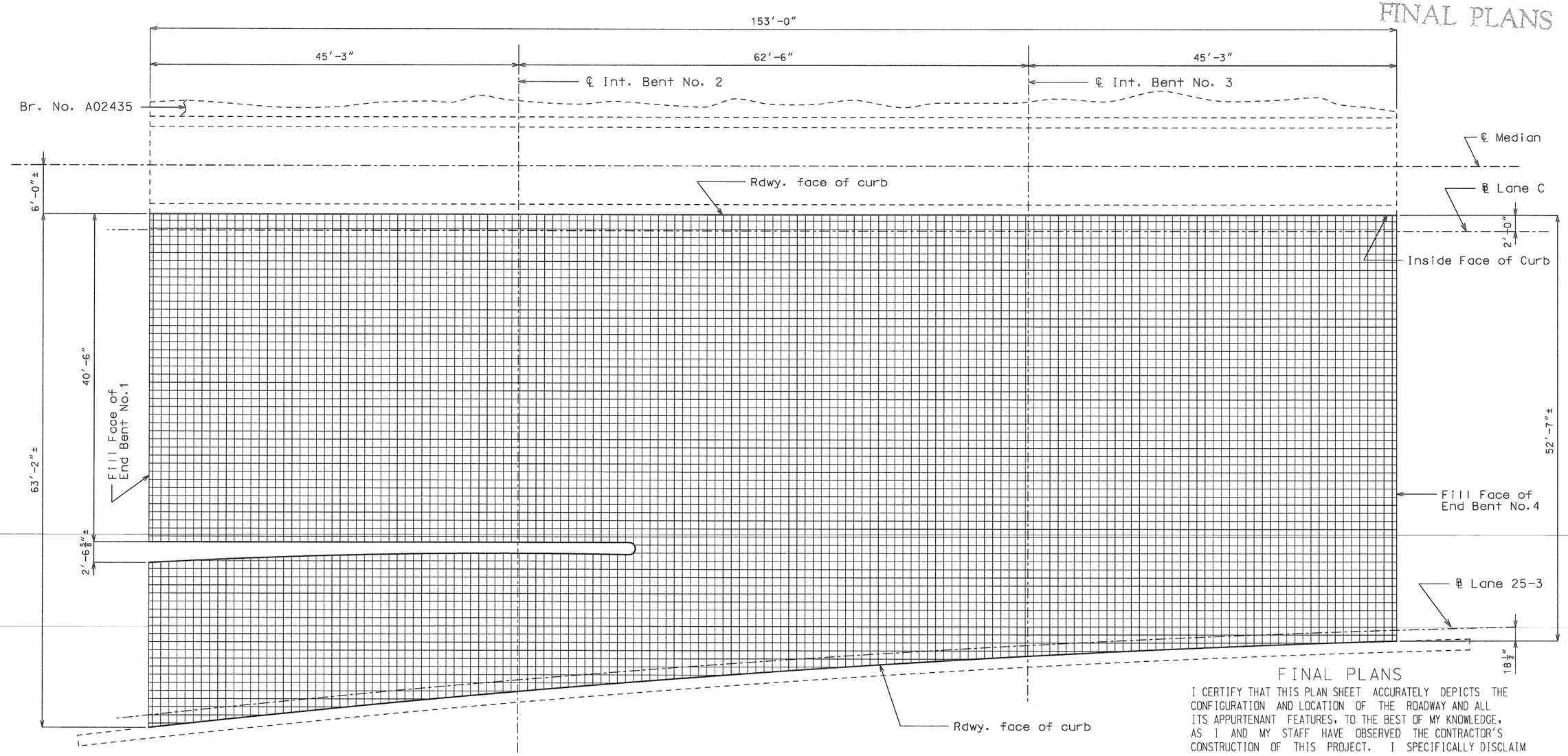
State	Proj. No.	Sheet No.
MO	021213-402	B14

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



0 5' 10'

Scale

Note: Grid = Approx. 12" Squares

PLAN OF CONCRETE DECK SHOWING GRID

(For location of deck repair and reference cells.)

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

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

I-70 LANE C OVER 11th ST.

JACKSON COUNTY A02434

REV.

Detailed Mar. 2002
Checked June 2002

Sheet No. 5 of 5

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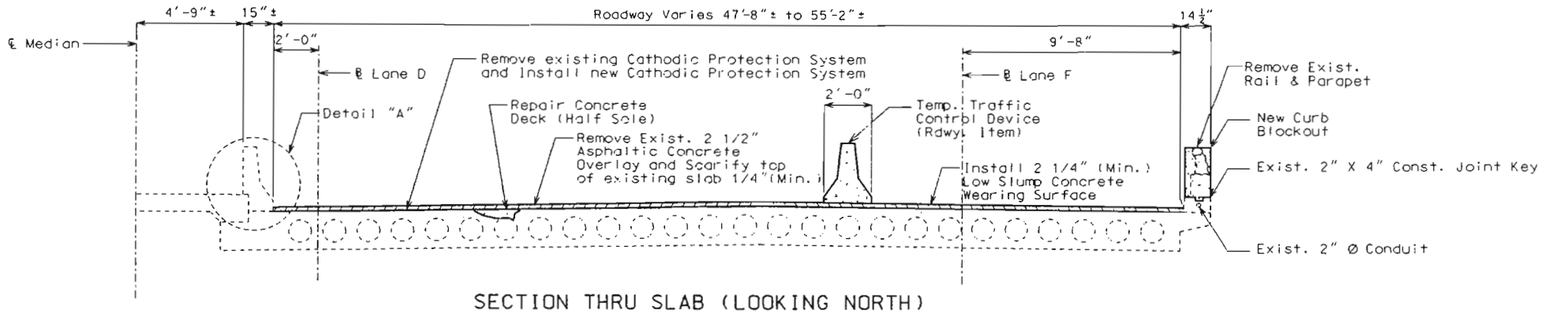
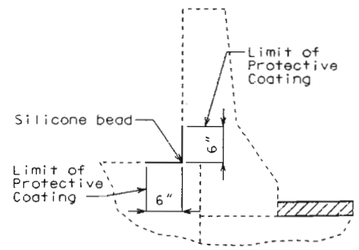
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

State	Proj. No.	Sheet No.
MO		B21
Sec./Sur. 5 Twp. 49N Rge. 33W		

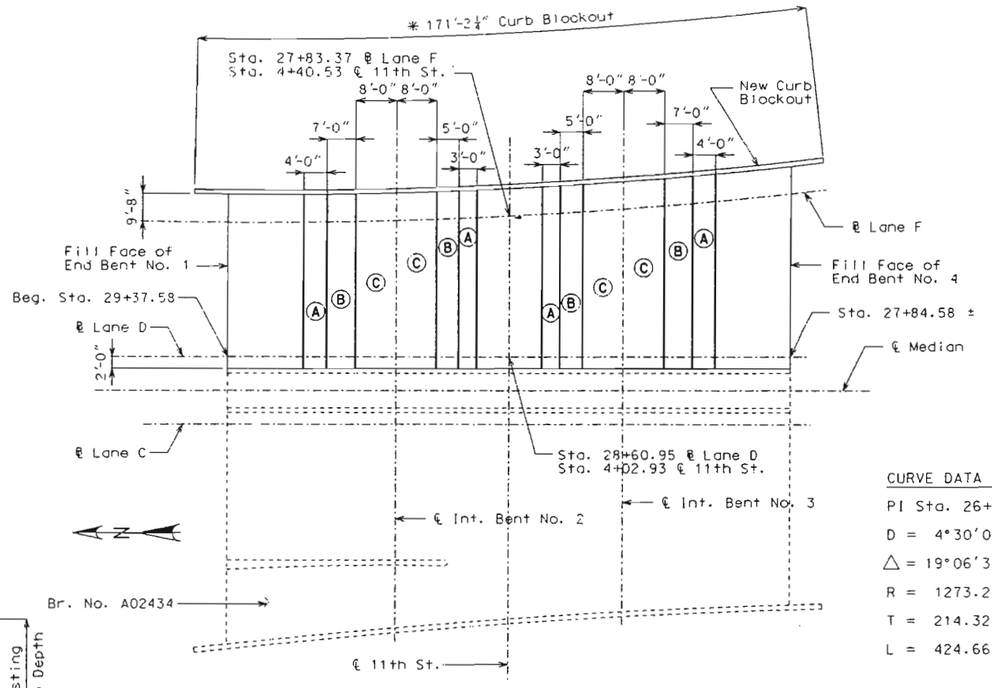
U.I.P. EXISTING (44'-63'-44') CONT. VOIDED SLAB SPANS



SECTION THRU SLAB (LOOKING NORTH)



DETAIL "A"



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

* Horizontal arc dimension along the top of outside edge of existing curb.

CURVE DATA ℄ Lane F

PI Sta. 26+36.72

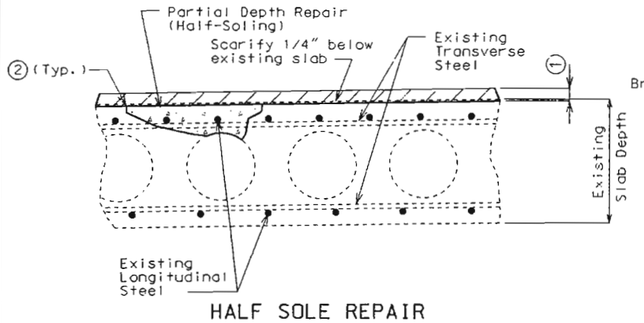
D = 4°30'00"

△ = 19°06'34" (Lt.)

R = 1273.24'

T = 214.32'

L = 424.66'



HALF SOLE REPAIR

① Install 2 1/4" (Min.) Low Slump Concrete Wearing Surface.

② Saw cut or vertically chip first 1/2" of all deck repair. (Hydroblasting allowed by special provisions.)

ESTIMATED QUANTITIES

ITEM		TOTAL
Removal of Cathodic Protection System	lump sum	1
Parapet Removal (Bridges)	linear foot	171
Asphalt Removal (Bridges)	sq. foot	7644
Protective Coating	lump sum	1
Curb Blockout	linear foot	171
Repairing Concrete Deck (Half-Soling)	sq. foot	150
Low Slump Concrete Wearing Surface	sq. yard	849
Cathodic Protection System	lump sum	1

GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO-1996 and Interims thru 2002

DESIGN UNIT STRESSES:

Reinforcing Steel (Grade 60) fy = 60,000 psi
Class B1 Concrete (Curb Blockout and End posts) f'c = 4000 psi

TRAFFIC HANDLING:

Maintain two lanes of traffic on structure during construction (see Rdwy. Plans.)

REINFORCING STEEL:

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

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

JOINT FILLER:

All joint filler shall meet the requirements of Section 1057.2.4. of the Missouri Standard Specifications, except as noted.

CURB BLOCKOUTS:

Cost of Concrete and Reinforcement in End Posts shall be considered completely covered in the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb removal and/or repair shall be considered completely covered in the contract unit price for Curb Blockout per linear foot.

Cost of removing existing parapet and aluminum bridge rail shall be considered completely covered in the contract unit price for Parapet Removal (Bridges) per linear foot.

MISCELLANEOUS:

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

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface (Rdwy. Item).

Contractor shall verify all dimensions and stations in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

SPECIAL REPAIR ZONES:

Any repair in the remainder of the bridge that is within 3'-0" of Zone A shall be completed before removing old concrete in Zone A.

Zones with the same letter designation may be repaired at the same time. Sequence of repairs follows Zone A. Zone B then Zone C.

REPAIRS TO BRIDGE: LANE D OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO.

JOB. NO. J4I1403

STA. 29+37.58± (℄ Lane D) (Match Exist.)

RTE. I-70 (W.B.L.)

STATE OF MISSOURI — DANIEL M. SMITH NUMBER E-28985 — REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

JACKSON COUNTY

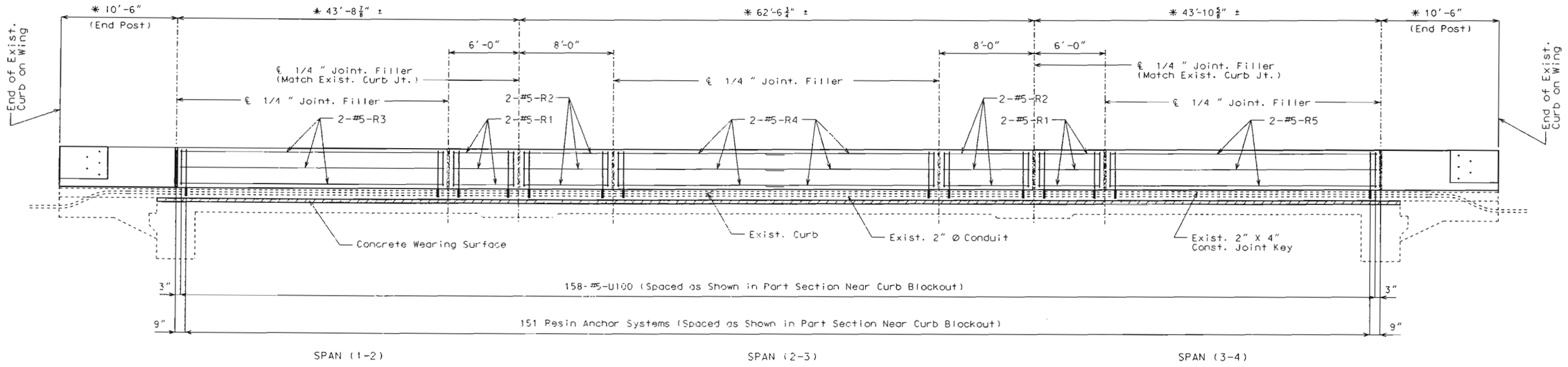
Date: 9/6/02

STD. 706.35

A02435

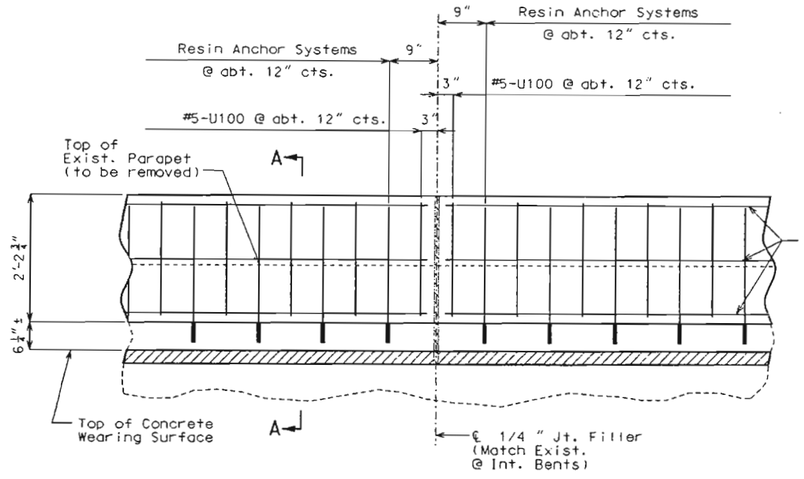
Designed Nov. 2001
Detailed Nov. 2001
Checked June 2002

State	Proj. No.	Sheet No.
MO		B22

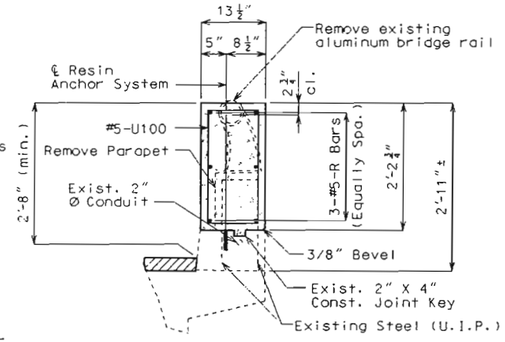


SECTION NEAR CURB BLOCKOUT

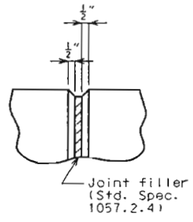
* Horizontal arc dimension along the top of outside edge of existing Curb.



PART SECTION NEAR CURB BLOCKOUT



SECTION A-A



FILLED JOINT DETAIL

DETAILS OF CURB BLOCKOUT

NOTES FOR CURB BLOCKOUT:

All reinforcement shall be epoxy coated.

Concrete in curb blockout shall be Class B1 with f'c = 4,000 psi

Measurement of curb blockout is to the nearest linear foot measured along the top of outside edge of existing curb from end of wing to end of wing.

All exposed edges of curb blockout shall have either a 1/2" radius or a 3/8" bevel, unless otherwise shown.

Payment for concrete, reinforcing steel, resin anchor systems and any other work incidental to the curb blockout and end posts, complete in place, shall be included in the contract unit price for Curb Blockout per lin. foot.

Use a minimum lap of 2'-11" for #5 horizontal Curb Blockout bars.

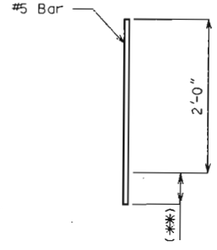
NOTES FOR RESIN ANCHOR SYSTEM:

The contractor shall use one of the resin anchor systems listed in the job special provisions. These resin anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions. Contractor shall avoid damage to any exist. conduit in curb.

The 5/8" diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 lbs. in concrete with f'c = 4,000 psi (See Special Provisions).

Cost of furnishing and installing the anchor system complete in place shall be included in the price bid for Curb Blockout.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8 "Ø threaded rod stud.



(Install in Curb)

NOTE: (**) Manufacturer's embedment length. (6" Max.)

DETAIL OF RESIN ANCHORS

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

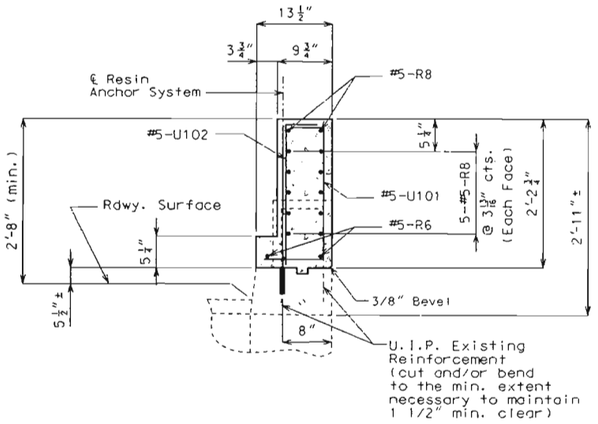
DATE 9-6-02

Detailed Nov. 2001
Checked June 2002

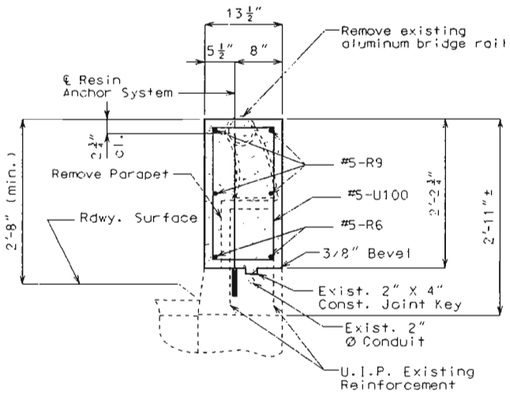
Note: This drawing is not to scale. Follow dimensions.

JACKSON COUNTY A02435

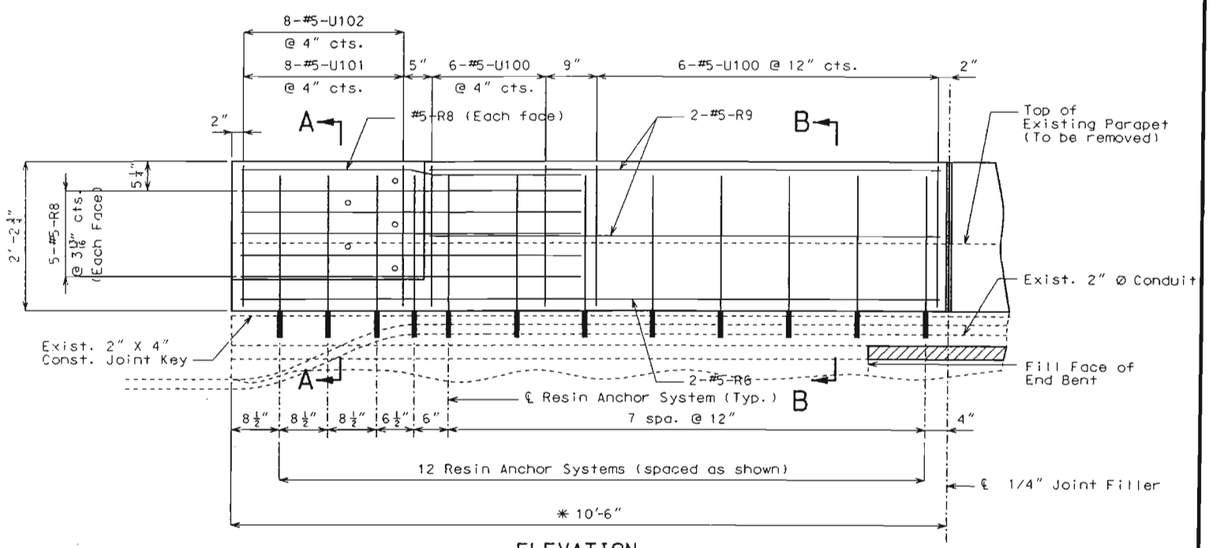
State	Proj. No.	Sheet No.
MO		B23



SECTION A-A



SECTION B-B



ELEVATION

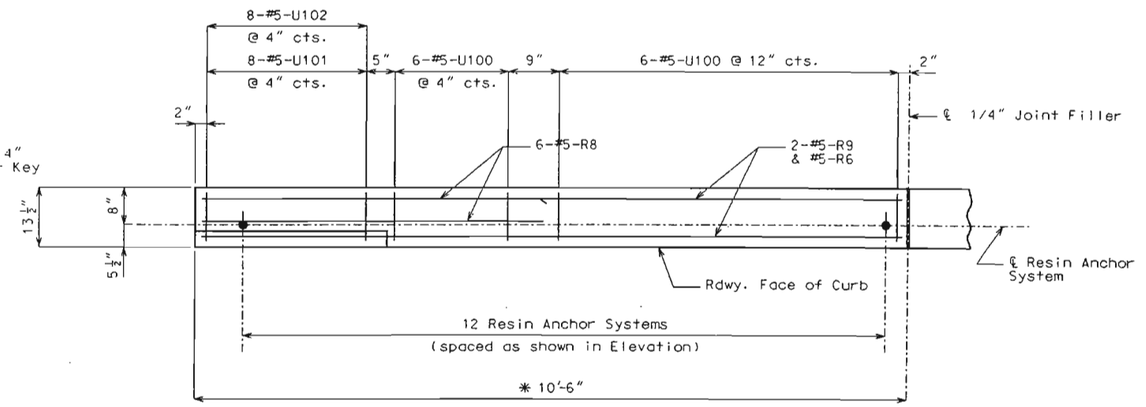
* Horizontal arc dimension along the top of outside edge of existing Curb.

PART ELEVATION

PART SECTION G-G

PART PLAN

DETAILS OF GUARD RAIL ATTACHMENT



PLAN

DETAILS OF CURB BLOCKOUT AT END BENTS

(Curb blockout at End Bent No 1 shown, blockout at End Bent No. 4 is similar)

STATE OF MISSOURI
DANIEL M. SMITH NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

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Detailed Nov. 2001
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JACKSON COUNTY A02435

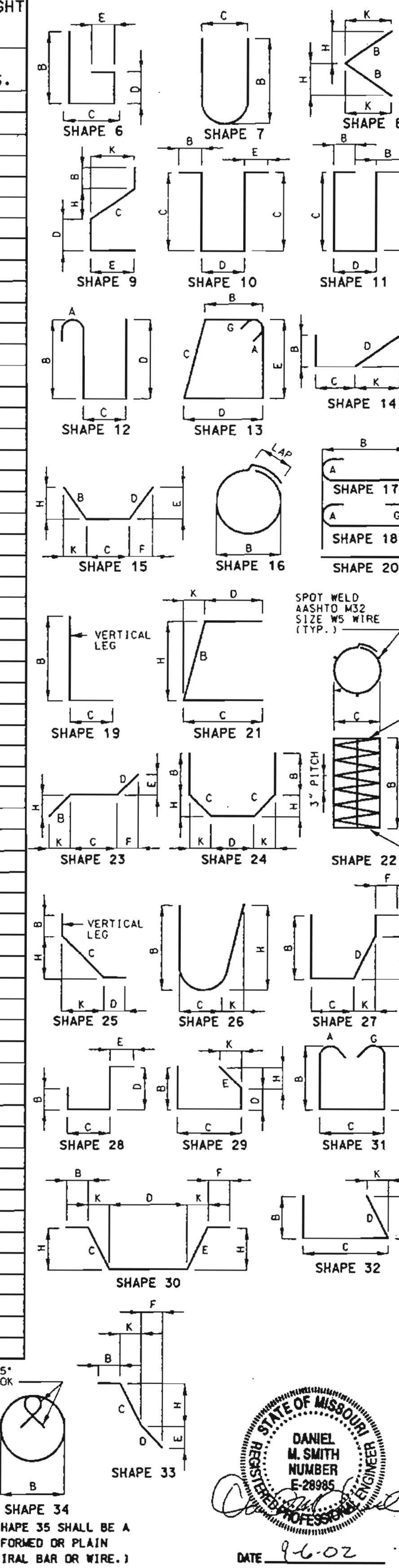
State	Proj. No.	Sheet No.
MO		B24

BILL OF REINFORCING STEEL

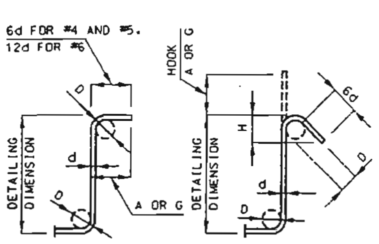
NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.
			BLOCKOUT																
182	5	U100	BLOCKOUT	E	13	S				10.500	23.750	10.500	23.750				6 8	6 4	1202
16	5	U101	BLOCKOUT	E	11	S					10.500	23.750	6.750				3 5	3 3	54
16	5	U102	BLOCKOUT	E	19	S				23.750	6.750						2 7	2 5	40
12	5	R1	BLOCKOUT	E	20					5 9.000							5 9	5 9	72
12	5	R2	BLOCKOUT	E	20					7 9.000							7 9	7 9	97
6	5	R3	BLOCKOUT	E	20					37 5.000							37 5	37 5	234
12	5	R4	BLOCKOUT	E	20					24 8.000							24 8	24 8	309
6	5	R5	BLOCKOUT	E	20					37 7.000							37 7	37 7	235
* 6	5	R6	BLOCKOUT	E	20					10 3.000							10 3	10 3	65
24	5	R8	BLOCKOUT	E	20					5 7.000							5 7	5 7	140
8	5	R9	BLOCKOUT	E	20					7 6.000							7 6	7 6	63
			TOTALS																
	5			E															2511
			TOTAL																0
			TOTAL	E															2511

BILL OF REINFORCING STEEL

NO. REQ'D.	SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	K FT. IN.	NOMINAL LENGTH FT. IN.	ACTUAL LENGTH FT. IN.	WEIGHT LBS.



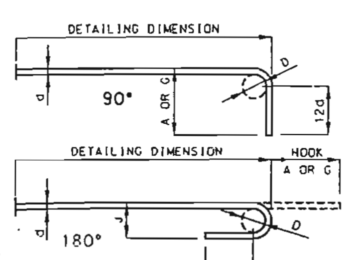
BENDING DIAGRAMS



DETAILED Nov. 2001
CHECKED June 2002

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

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



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

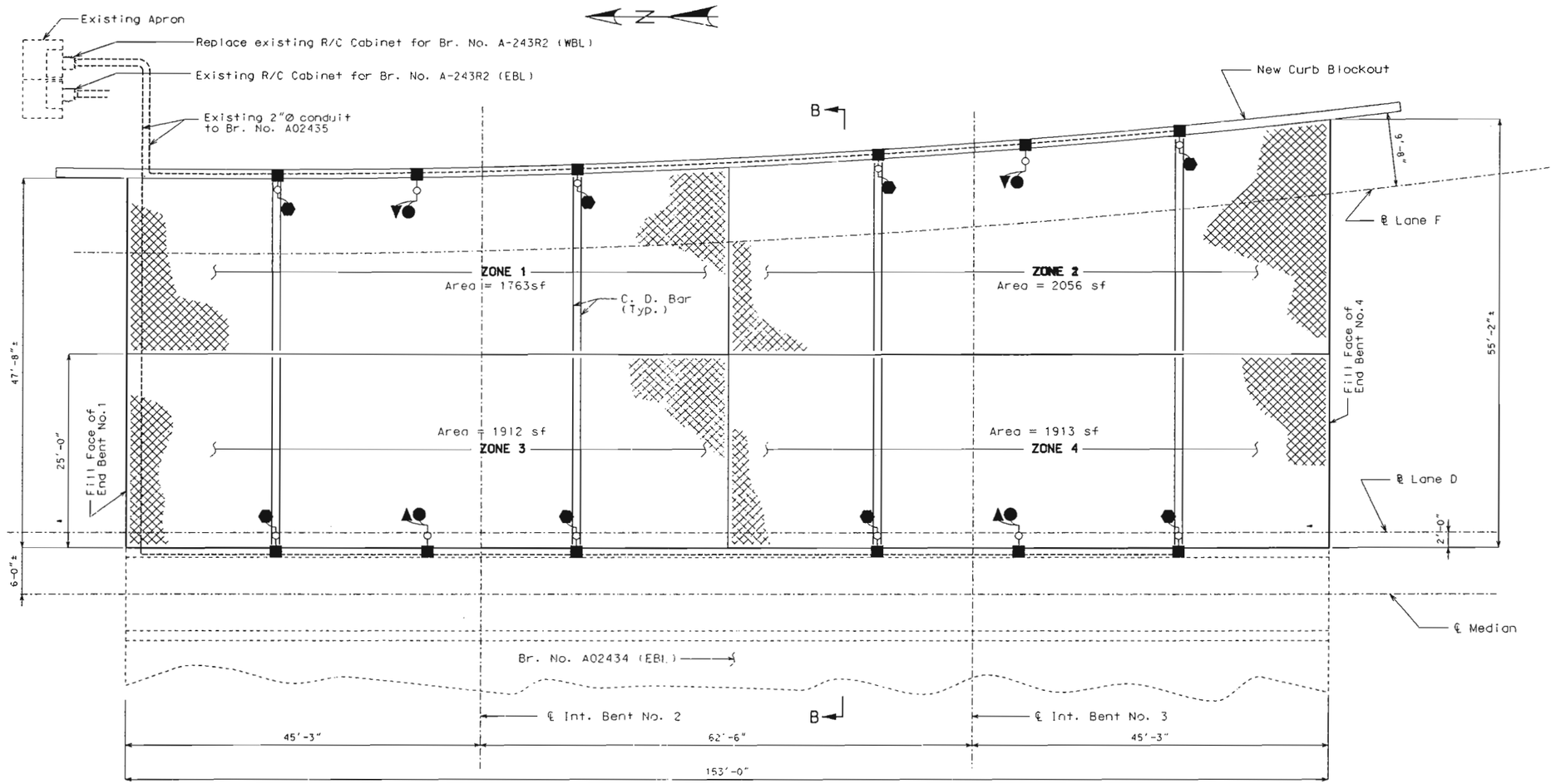
NOTE: THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS.

* TWO ADDITIONAL #5-R6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON OUT TO OUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S USE (NEAREST INCH).
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.

JACKSON COUNTY A02435

State	Proj. No.	Sheet No.
MO		B25



DENOTATIONS

- TITANIUM ANODE MESH
- SYSTEM NEGATIVE CONNECTION
- REFERENCE CELL
- GROUNDS
- EXISTING CONDUIT
- ACCESS HOLE
- EXISTING JUNCTION BOX/ ACCESS FITTING

PART PLAN OF SLAB SHOWING TITANIUM MESH CATHODIC PROTECTION SYSTEM

ESTIMATED QUANTITIES	For information only	
ITEM	UNIT	QUANTITY
Titanium Anode Mesh (Elgard 210)	Sq. Feet	7644
Reference Cells	Each	4
Thermite Welds	Each	12

Note: No direct payment shall be made for any additional conduit, junction boxes, access fittings, additional material, labor and modification to existing conduit.

NOTE:

For Section B-B, typical zone layout and partial electrical schematic, see sheet no. 6.

Reference cells are to be placed at approximate ℄ of zone length as determined by the engineer.

Current Distribution Bars (C.D. Bar) to be placed near 1/4 point of Zones.

Existing overlay and cathodic protection system shall be removed and the original deck scarified prior to installation of new Cathodic Protection System (see special provisions).

NOTE:

Replace existing R/C Cabinet with new enclosure, mounted on existing apron and meeting required manufacturer's specifications and all local electrical codes.

Use existing conduit and appurtenances, with the approval of the Engineer, as shown on the plans. All existing conduit and appurtenances not used with the new Cathodic Protection System shall be removed from the Structure.

All existing wiring in the deck and conduits shall be removed and replaced with new wiring.

The anode leads, system negative return leads, reference cell and reference cell ground lead shall be routed in one of the existing conduits.

The telephone cable shall be routed into the rectifier through one of the unused existing conduits.

The reference cell ground lead shall be welded to the top rebar within 12" of the reference cell.

Anode assembly number must match zone number.

Existing access holes through deck not used with the new cathodic protection system shall have its plastic sleeve and silicone sealant removed, hole cleaned and plugged with a nonmetallic expansive mortar in accordance with Std. Spec. 1066.

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

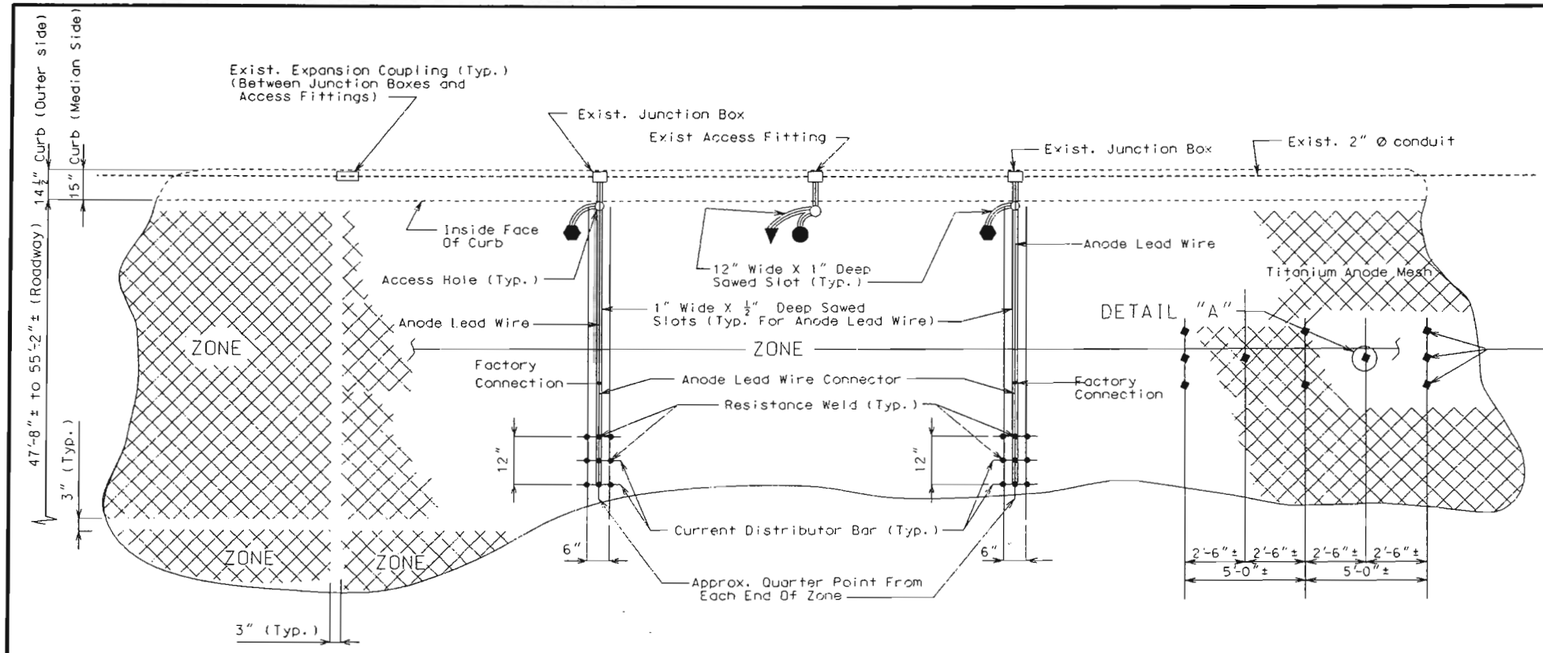
Detailed Mar. 2002
Checked July 2002

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

JACKSON COUNTY A02435

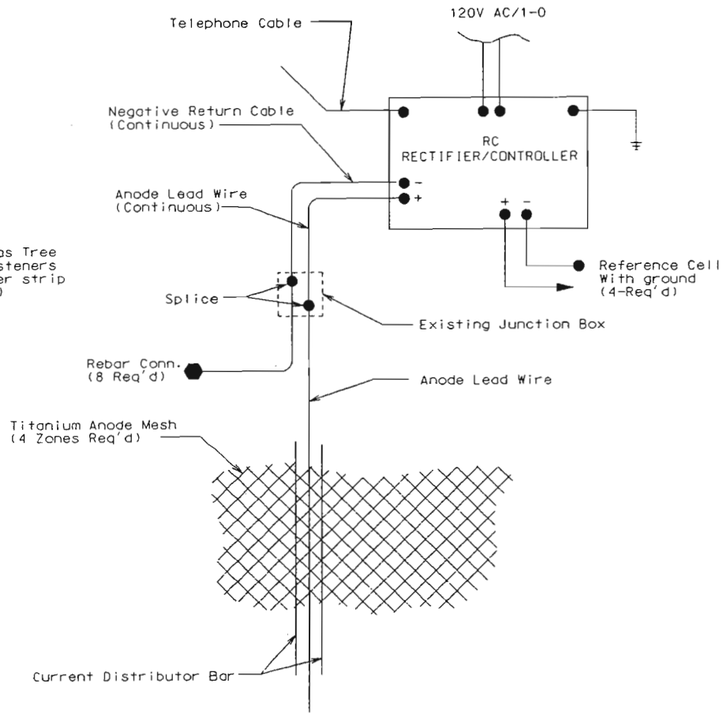
REV.

State	Proj. No.	Sheet No.
MO		6326

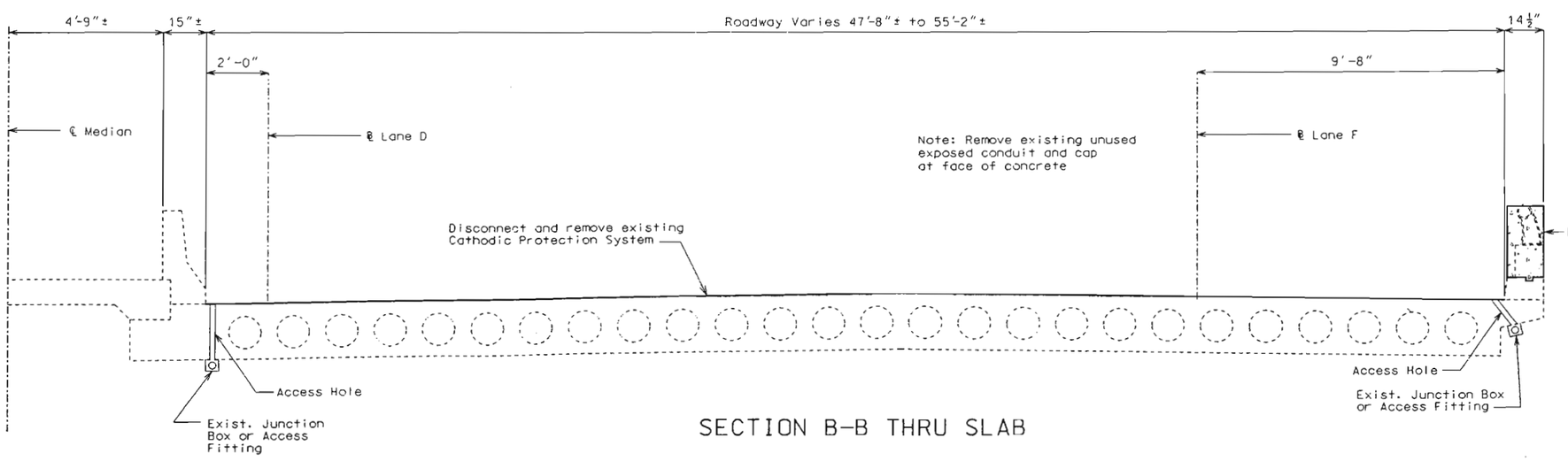


TYPICAL ZONE LAYOUT

Note: Use existing access holes. access fittings and junction boxes where acceptable as determined by the engineer.

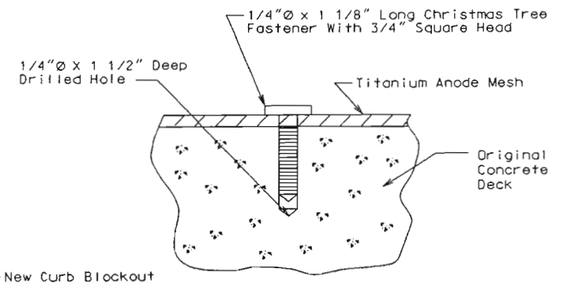


PARTIAL SCHEMATIC



SECTION B–B THRU SLAB

For Location of Section B-B. see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System.



DETAIL "A"
(Christmas Tree Clip)

VOID

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked July 2002

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

JACKSON COUNTY A02435

REV.

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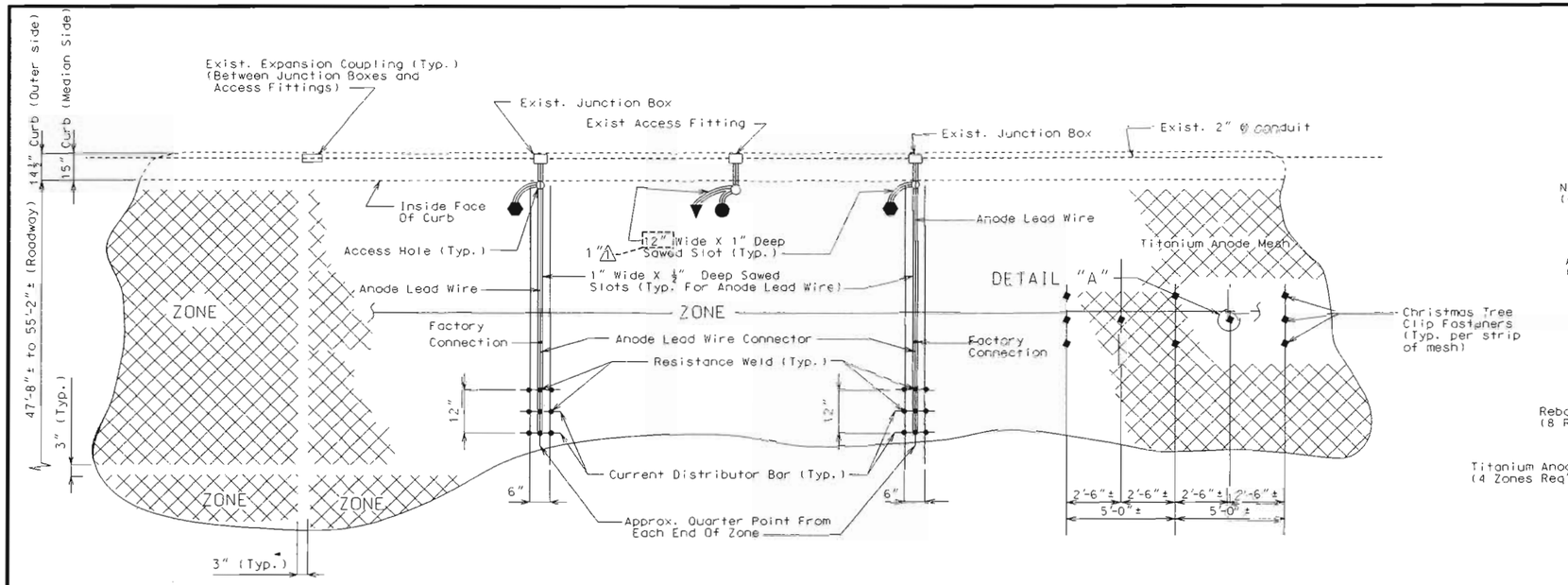
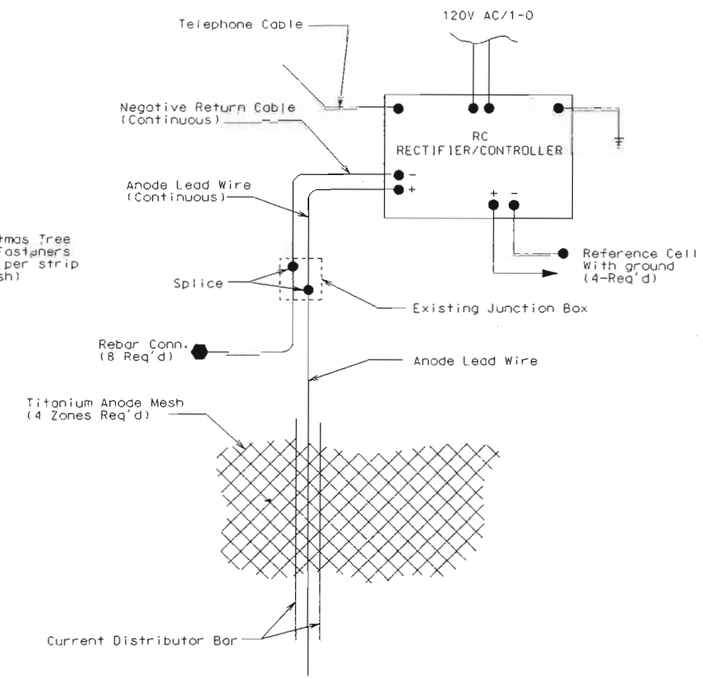
State	Proj. No.	Sheet No.
MO		



TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.



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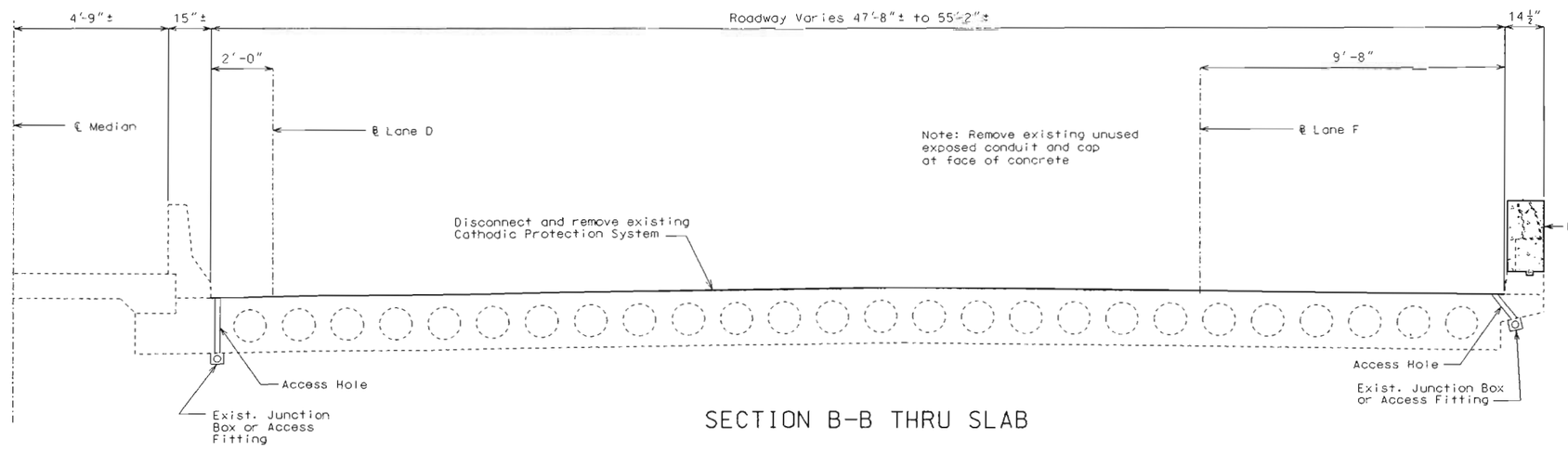
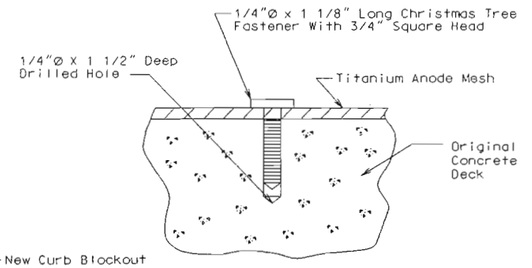


SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System.



DETAIL "A"
(Christmas Tree Clip)

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28885
REGISTERED PROFESSIONAL ENGINEER

DATE 3-4-03

Detailed Mar. 2002
Checked July 2002

Note: This drawing is not to scale. Follow dimensions. ⚠ Revised 3/4/2003 Sheet No. 6 of 8

COUNTY A02435

REV.

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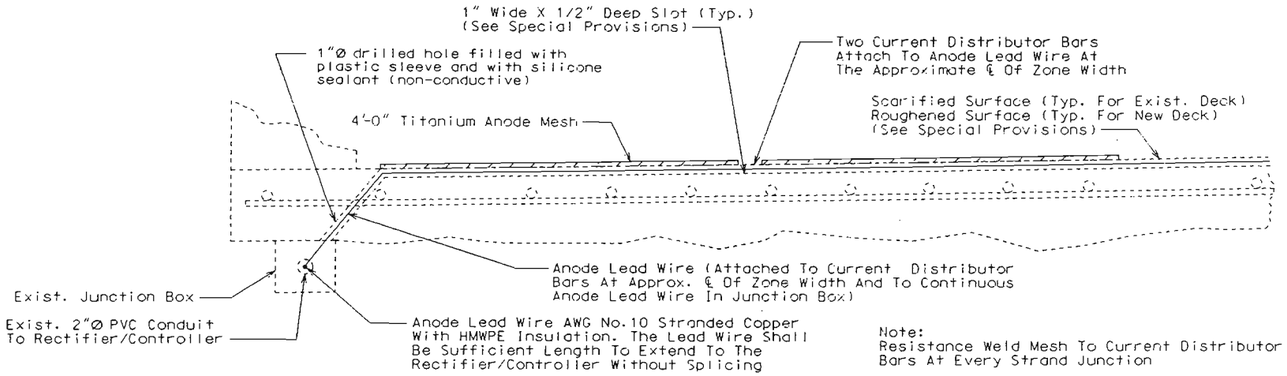
State	Proj. No.	Sheet No.
MO		B27



TITANIUM ANODE MESH DETAILS

Notes for New Conduit and Appurtenances (if required by Engineer):
Conduit shall be schedule 40 heavy wall PVC (Polyvinyl Chloride Plastic). Each section of conduit shall bear the underwriters laboratories, inc. (UL) label.

Conduit shall be secured to concrete with clamps (galvanized/AASHTO M111) at abt. 5'-0" cts. Concrete anchors for clamps shall meet federal specification FF-S-325, group II, type 4, class 1 and shall be galvanized in accordance with ASTM A-153, B695-91 class 50 or stainless steel. Minimum embedment in concrete shall be 1 3/4". The supplier shall furnish a manufacturer's certification that the concrete anchors meet the required material and galvanizing specifications.

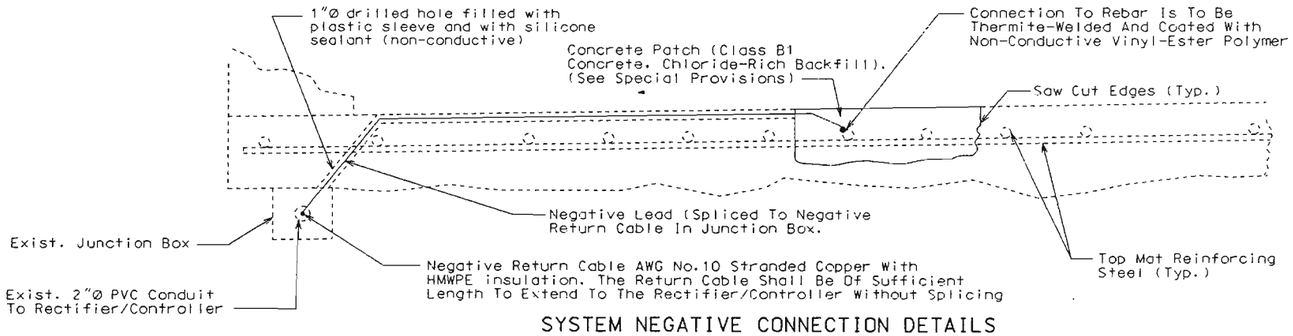
Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines.

Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as approved by the engineer.

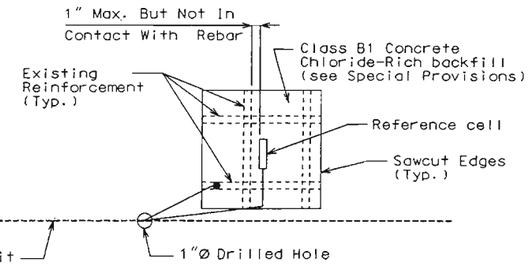
The location and direction of conduit may be shifted to meet field conditions as directed by the engineer.

All junction boxes shall be PVC molded, surface mounted, size 8" x 8" x 7" and equal to Carlon Electrical Construction products or Triangle Conduit and Cable company Inc.. The terminations shall be permanent or seperable.

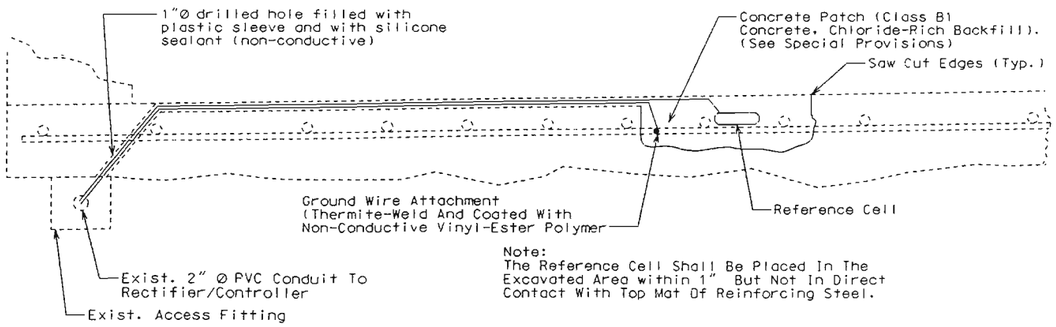
The terminations and covers shall be of watertight construction.



SYSTEM NEGATIVE CONNECTION DETAILS



PLAN OF REFERENCE CELL



REFERENCE CELL DETAILS

Note: The 3/4"Ø ground rod shall be of sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal. (Use existing if approved by the engineer).
Ground wire shall be AGW No.6 minimum (Use existing if approved by the engineer).
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of these holes are the responsibility of the contractor and cabinet manufacturer.

Note:
All concrete removal shall be intiated by saw cutting the first 1/2".

REGISTERED STATE OF MISSOURI DANIEL M. SMITH NUMBER E-28985 PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked June 2002

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

JACKSON COUNTY A02435 REV.

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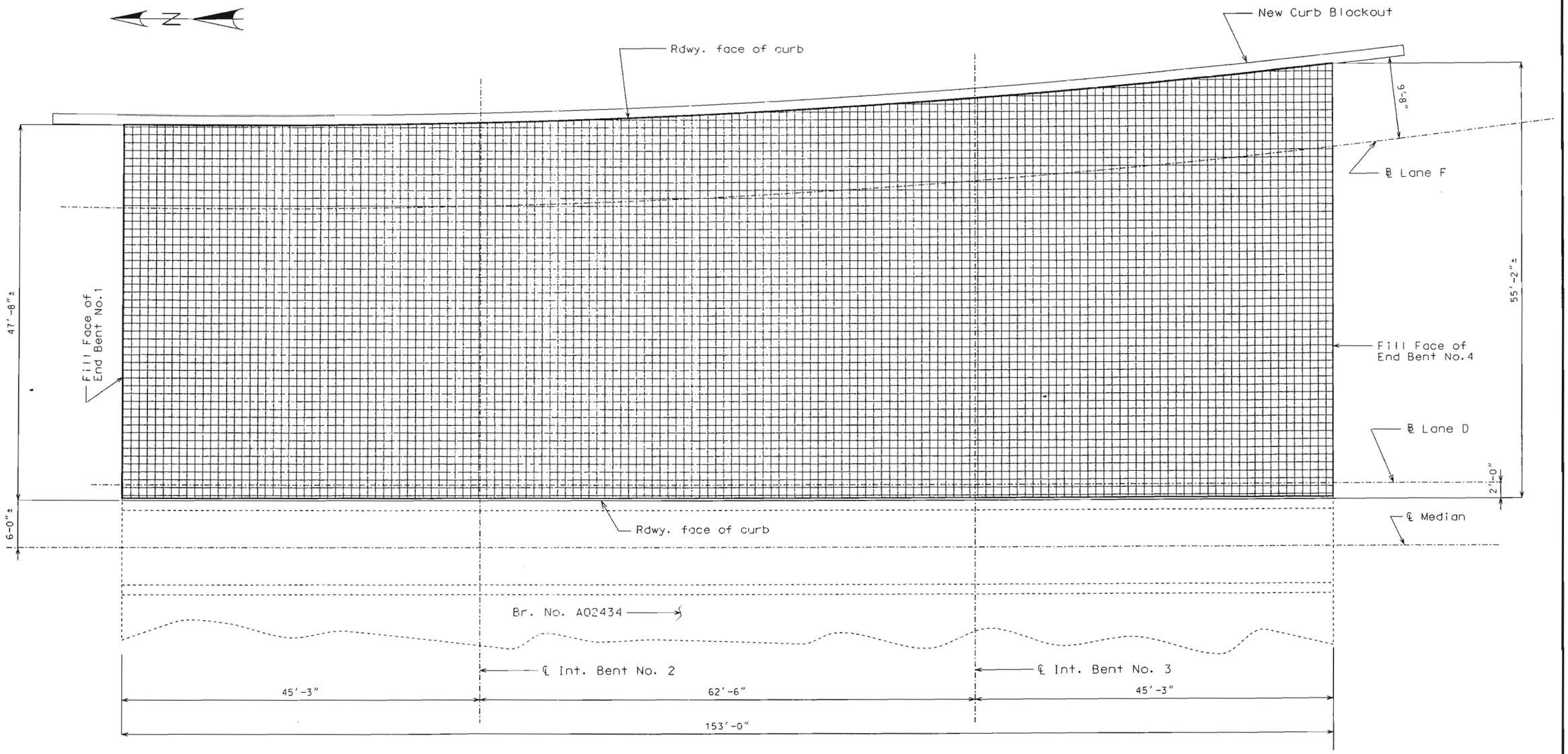
State	Proj. No.	Sheet No.
MO		628



0 5' 10'

Scale

Note: Grid = Approx. 12" Squares

PLAN OF CONCRETE DECK SHOWING GRID

(For location of deck repair and reference cells.)

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

I-70 LANE D OVER 11th ST.

STATE OF MISSOURI
DANIEL M. SMITH
NUMBER E-28985
REGISTERED PROFESSIONAL ENGINEER

DATE 9-6-02

Detailed Mar. 2002
Checked June 2002

Sheet No. 8 of 8

JACKSON COUNTY A02435

REV.

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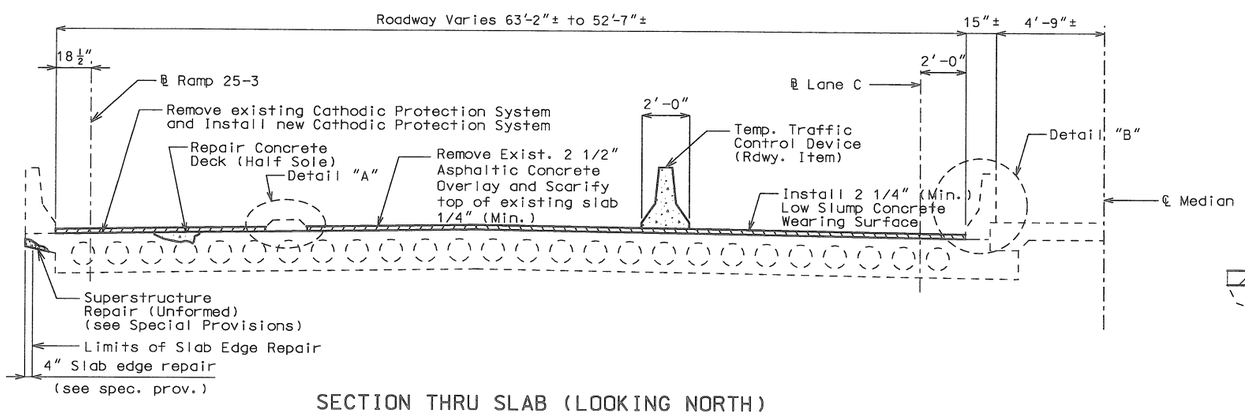
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

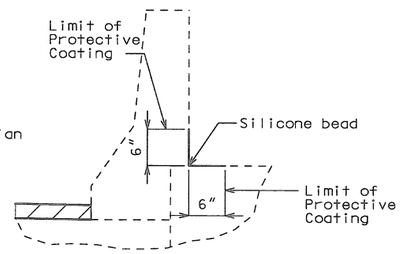
State	Proj. No.	Sheet No.
MO	I-70-1(175)	
Sec./Sur. 5 Twp. 49N Rge. 33W		

CONTRACT ID 021213-402

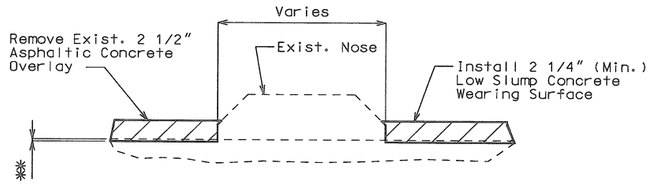
U.I.P. EXISTING (44'-63'-44') CONT. VOIDED SLAB SPANS



SECTION THRU SLAB (LOOKING NORTH)

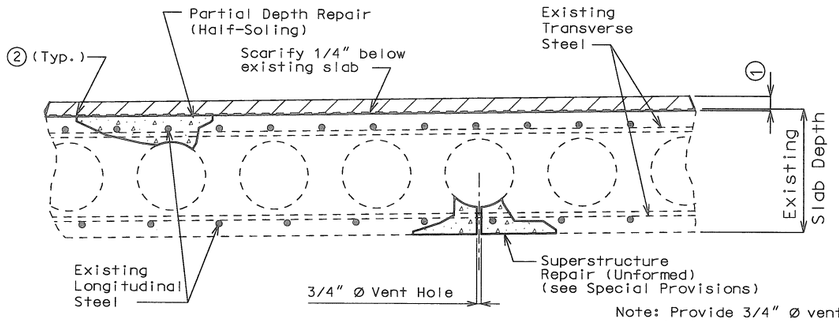


DETAIL "B"



DETAIL "A"

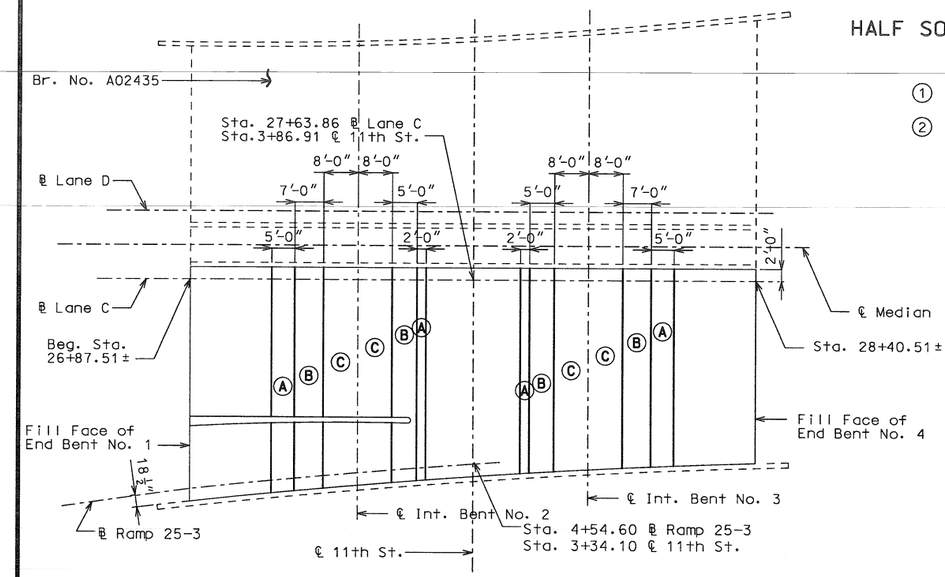
** Scarify 1/4" (Min.) below original Roadway



HALF SOLE REPAIR

SUPERSTRUCTURE REPAIR (UNFORMED) @ VENT HOLE

Note: Provide 3/4" Ø vent hole to void at existing vent location.



PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

CURVE DATA ℄ Ramp 25-3

PI Sta. 2+97.37

D = 3°00'00"

△ = 17°42'00" (Rt.)

R = 1909.86'

T = 297.37'

L = 590.00'

① Install 2 1/4" (Min.) Low Slump Concrete Wearing Surface.

② Saw cut or vertically chip first 1/2" of all deck repair. (Hydroblasting allowed by special provisions.)

GENERAL NOTES:

FINAL PLANS

DESIGN SPECIFICATIONS:

AASHTO-1996 and Interims thru 2002.

TRAFFIC HANDLING:

Maintain traffic on structure during construction (see Rdwy. Plans.)

MISCELLANEOUS:

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

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface (Rdwy. Item).

Contractor shall verify all dimensions and stations in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

SPECIAL REPAIR ZONES:

Any repair in the remainder of the bridge that is within 3'-0" of Zone A shall be completed before removing old concrete in Zone A.

Zones with the same letter designation may be repaired at the same time. Sequence of repairs follows Zone A, Zone B then Zone C.

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE. AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

FINAL QUANTITIES

ITEM		TOTAL
Removal of Cathodic Protection System	lump sum	1
Asphalt Removal (Bridges)	sq. foot	8608
Protective Coating	lump sum	1
Repairing Concrete Deck (Half-Soling)	sq. foot	516
Slab Edge Repair (Bridges)	linear foot	0
Superstructure Repair (Unformed)	sq. foot	0
Low Slump Concrete Wearing Surface	sq. yard	956
Cathodic Protection System	lump sum	1

REPAIRS TO BRIDGE: LANE C OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO.

JOB. NO. J4I1403

STA. 26+87.51± (℄ Lane C) (Match Exist.)

RTE. I-70 (E.B.L.)

JACKSON COUNTY

Date: / /

A02434

REV.

Designed Nov. 2001
Detailed Nov. 2001
Checked June 2002

Sheet No. 1 of 5

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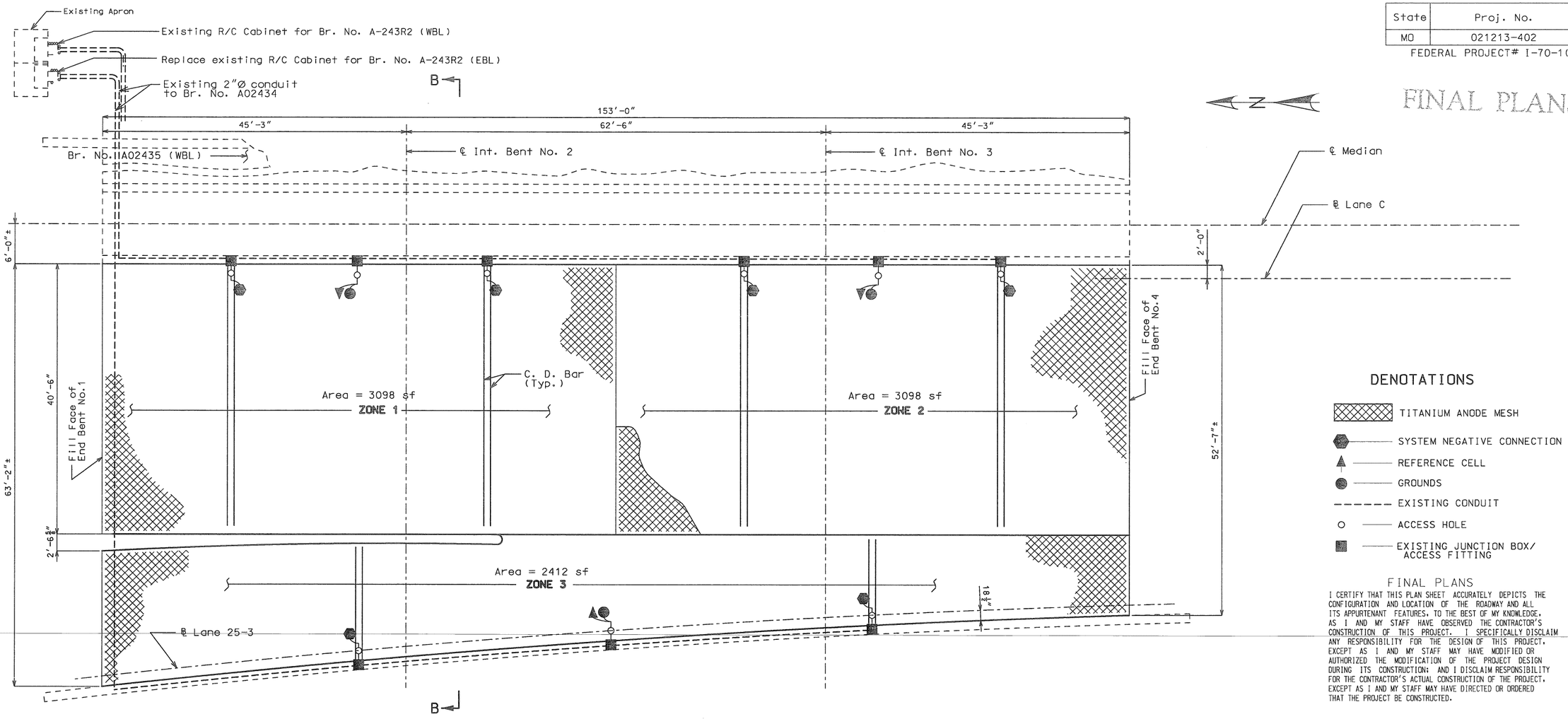
State	Proj. No.	Sheet No.
MO	021213-402	B11

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



DENOTATIONS

- TITANIUM ANODE MESH
- SYSTEM NEGATIVE CONNECTION
- REFERENCE CELL
- GROUNDS
- EXISTING CONDUIT
- ACCESS HOLE
- EXISTING JUNCTION BOX/ ACCESS FITTING

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES. TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

PART PLAN OF SLAB SHOWING TITANIUM MESH CATHODIC PROTECTION SYSTEM

FINAL QUANTITIES	For information only	
ITEM	UNIT	QUANTITY
Titanium Anode Mesh (Elgard 210)	Sq. Feet	8608
Reference Cells	Each	3
Thermite Welds	Each	9

Note: No direct payment shall be made for any additional conduit, junction boxes, access fittings, additional material, labor and modification to existing conduit.

NOTE:

For Section B-B, typical zone layout and partial electrical schematic, see sheet no. 3.

Reference cells are to be placed at approximate ℄ of zone length as determined by the engineer.

Current Distribution Bars (C.D. Bar) to be placed near 1/4 point of Zones.

Existing overlay and cathodic protection system shall be removed and the original deck scarified prior to installation of new Cathodic Protection System (see special provisions).

NOTE:

Replace existing R/C Cabinet with new enclosure, mounted on existing apron and meeting required manufacturer's specifications and all local electrical codes.

Use existing conduit and appurtenances, with the approval of the Engineer, as shown on the plans. All existing conduit and appurtenances not used with the new Cathodic Protection System shall be removed from the Structure.

All existing wiring in the deck and conduits shall be removed and replaced with new wiring.

The anode leads, system negative return leads, reference cell and reference cell ground lead shall be routed in one of the existing conduits.

The telephone cable shall be routed into the rectifier through one of the unused existing conduits.

The reference cell ground lead shall be welded to the top rebar within 12" of the reference cell.

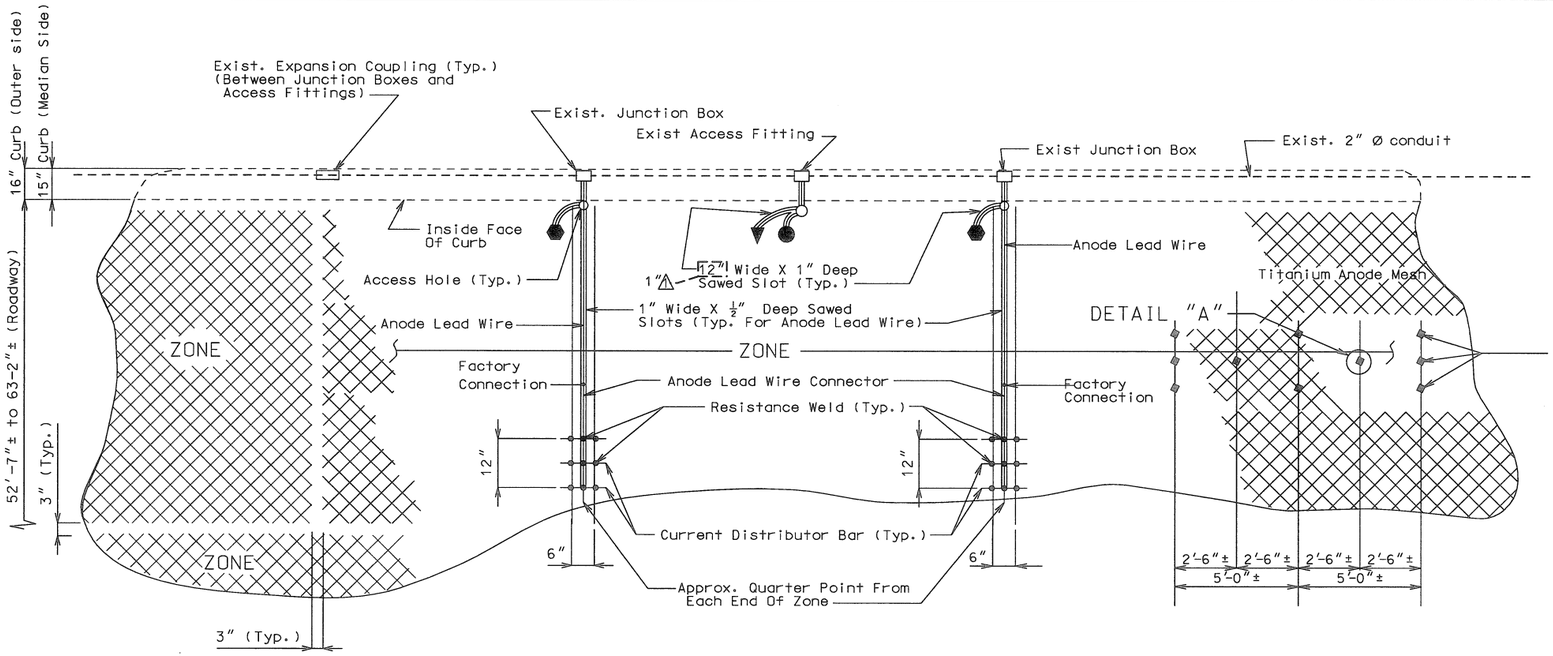
Anode assembly number must match zone number.

Existing access holes through deck not used with the new cathodic protection system shall have its plastic sleeve and silicone sealant removed, hole cleaned and plugged with a nonmetallic expansive mortar in accordance with Std. Spec. 1066.

State	Proj. No.	Sheet No.
MO	021213-402	B12

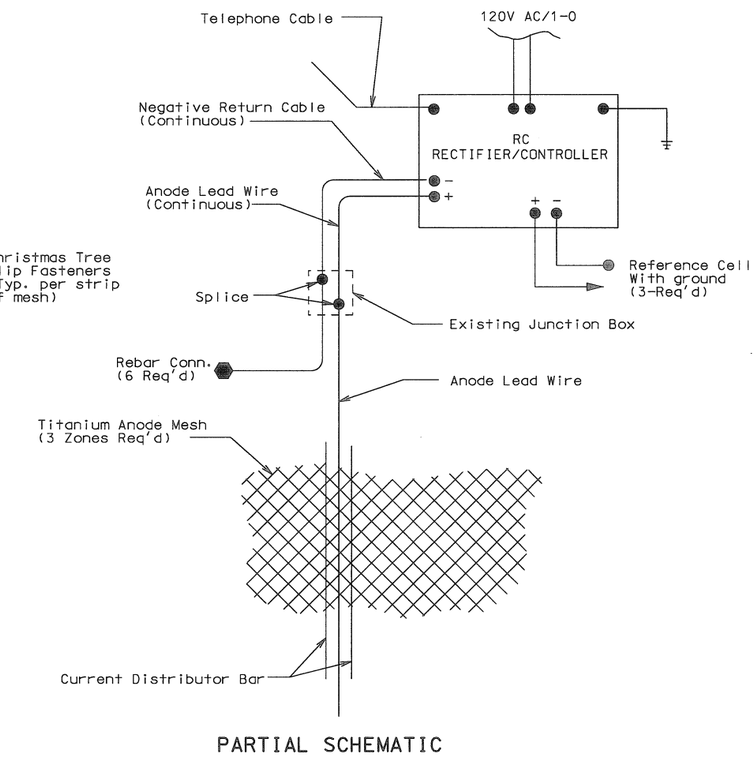
FEDERAL PROJECT# I-70-1(175)

FINAL PLANS

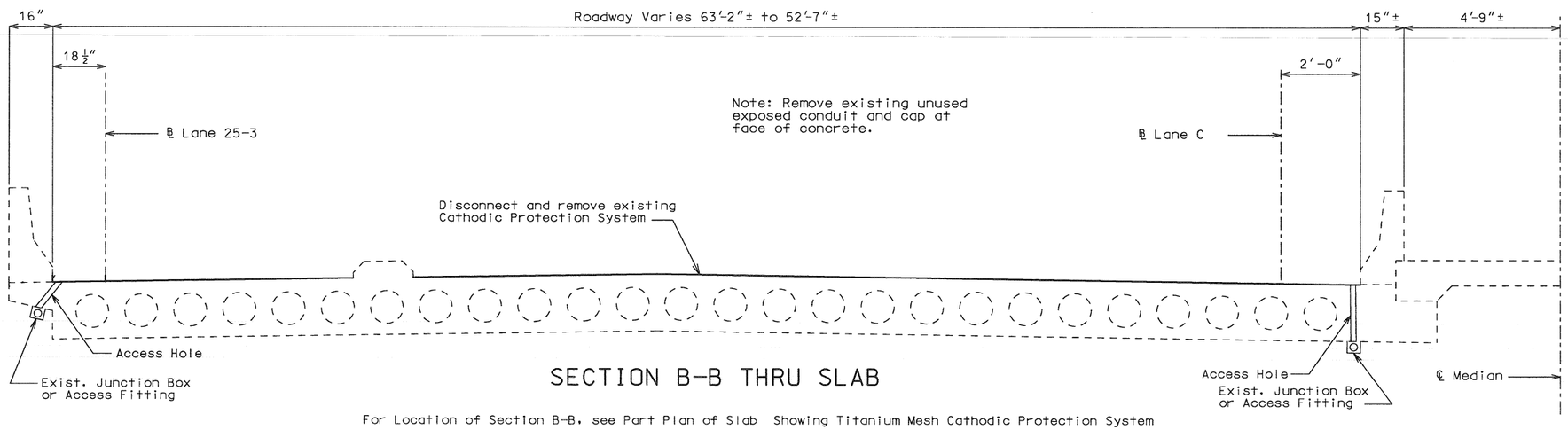


TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.

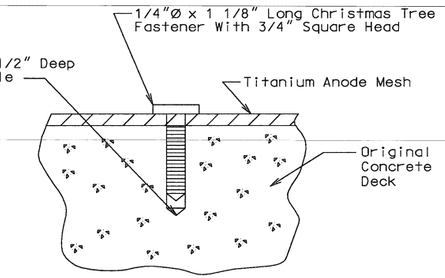


PARTIAL SCHEMATIC



SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System



DETAIL "A"
(Christmas Tree Clip)

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE DATE

Detailed Mar. 2002
Checked July 2002

Note: This drawing is not to scale. Follow dimensions. ⚠ Revised 3/4/2003 Sheet No. 3 of 5

JACKSON COUNTY A02434 REV.

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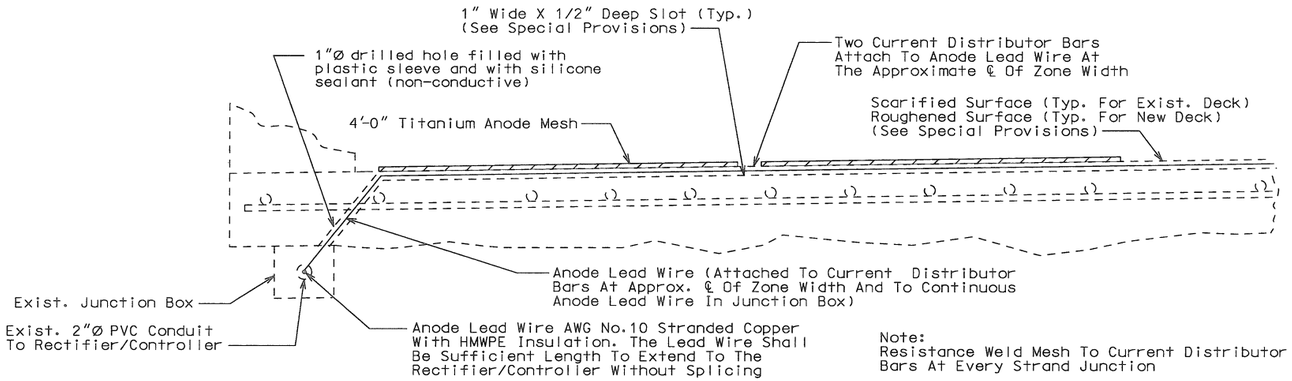
State	Proj. No.	Sheet No.
MO	021213-402	B13

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



TITANIUM ANODE MESH DETAILS

Notes for New Conduit and Appurtenances (if required by Engineer):
Conduit shall be schedule 40 heavy wall PVC (Polyvinyl Chloride Plastic). Each section of conduit shall bear the underwriters laboratories, inc. (UL) label.

Conduit shall be secured to concrete with clamps (galvanized/AASHTO M111) at abt. 5'-0" cts. Concrete anchors for clamps shall meet federal specification FF-S-325, group II, type 4, class I and shall be galvanized in accordance with ASTM A-153, B695-91 class 50 or stainless steel. Minimum embedment in concrete shall be 1 3/4". The supplier shall furnish a manufacturer's certification that the concrete anchors meet the required material and galvanizing specifications.

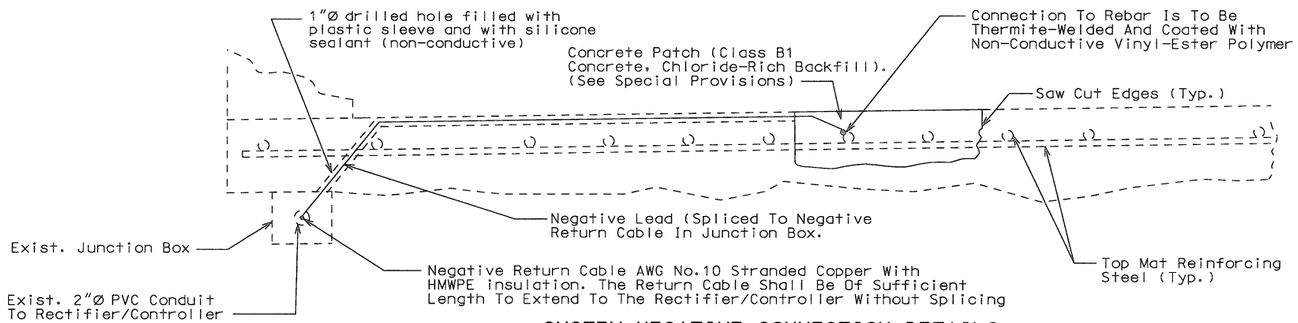
Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines.

Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as approved by the engineer.

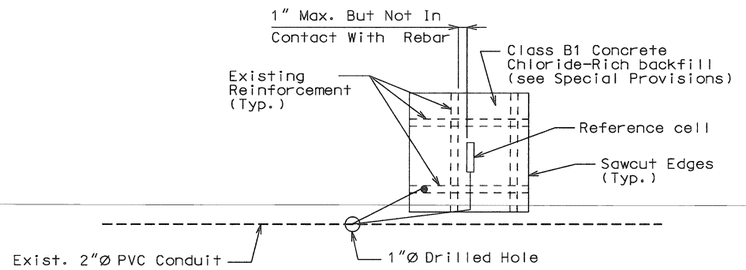
The location and direction of conduit may be shifted to meet field conditions as directed by the engineer.

All junction boxes shall be PVC molded, surface mounted, size 8" x 8" x 7" and equal to Carlon Electrical Construction products or Triangle Conduit and Cable company Inc.. The terminations shall be permanent or seperable.

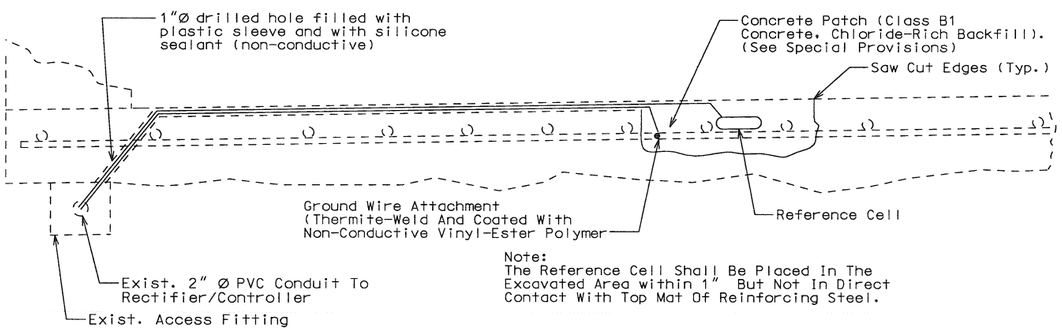
The terminations and covers shall be of watertight construction.



SYSTEM NEGATIVE CONNECTION DETAILS



PLAN OF REFERENCE CELL



REFERENCE CELL DETAILS

Note:
All concrete removal shall be intiated by saw cutting the first 1/2".

Note: The 3/4"Ø ground rod shall be of sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal. (Use existing if approved by the engineer).
Ground wire shall be AGW No.6 minimum (Use existing if approved by the engineer).
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of these holes are the responsibility of the contractor and cabinet manufacturer.

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

Detailed Mar. 2002
Checked June 2002

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

JACKSON COUNTY A02434 REV.

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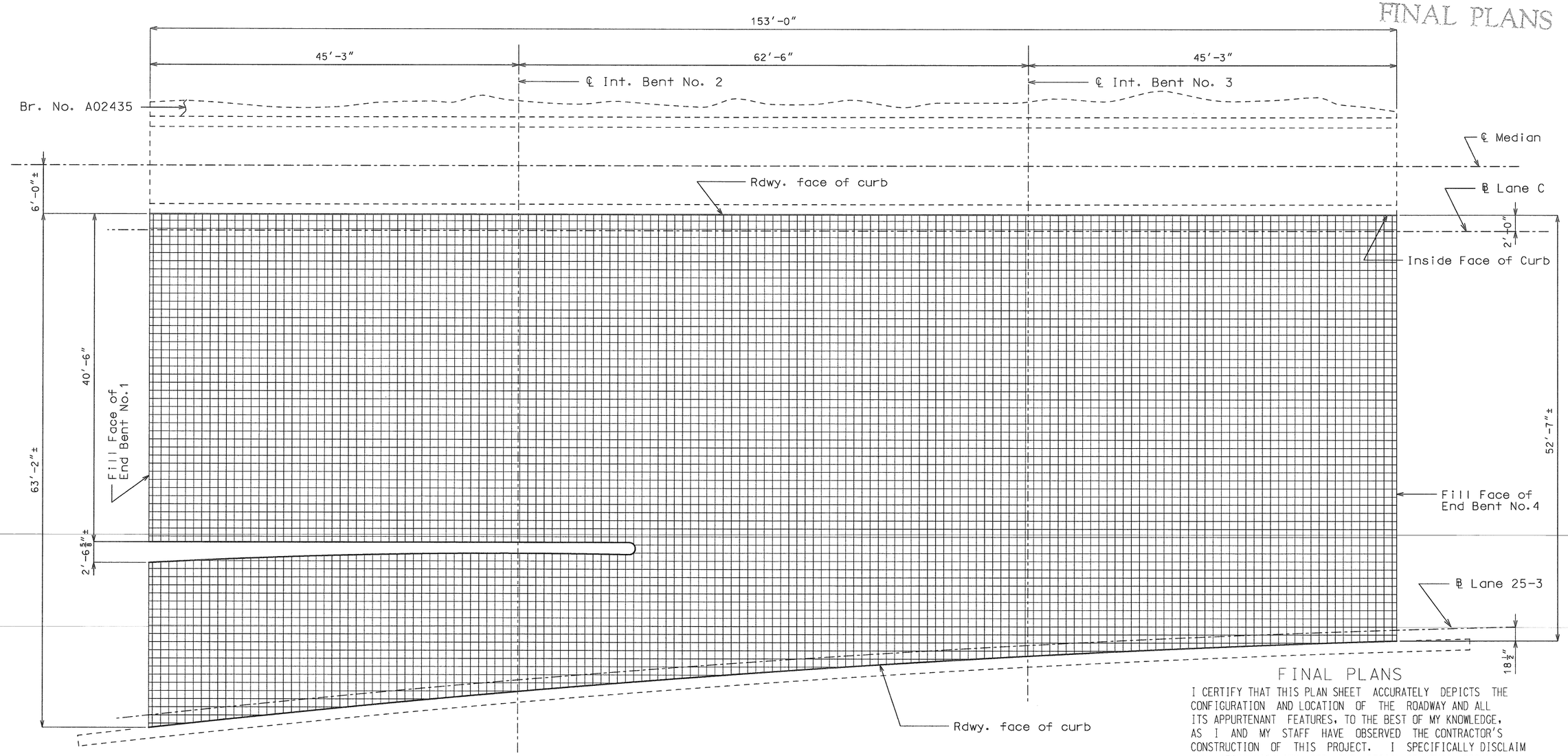
State	Proj. No.	Sheet No.
MO	021213-402	B14

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



0 5' 10'

Scale

Note: Grid = Approx. 12" Squares

PLAN OF CONCRETE DECK SHOWING GRID

(For location of deck repair and reference cells.)

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

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

I-70 LANE C OVER 11th ST.

JACKSON COUNTY A02434

REV.

Detailed Mar. 2002
Checked June 2002

Sheet No. 5 of 5

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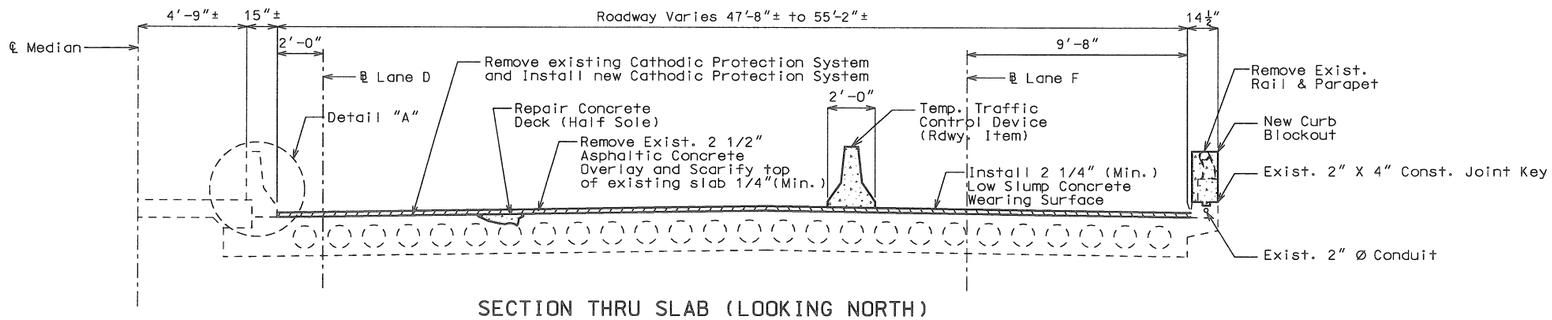
MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

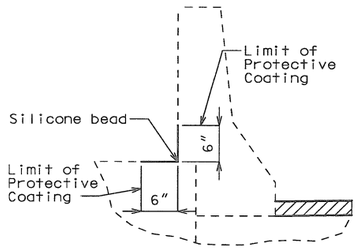
State	Proj. No.	Sheet No.
MO	021213-402	B15
Sec./Sur. 5 Twp. 49N Rge. 33W		

FEDERAL PROJECT# I-70-1(175)

U.I.P. EXISTING (44'-63'-44') CONT. VOIDED SLAB SPANS



SECTION THRU SLAB (LOOKING NORTH)



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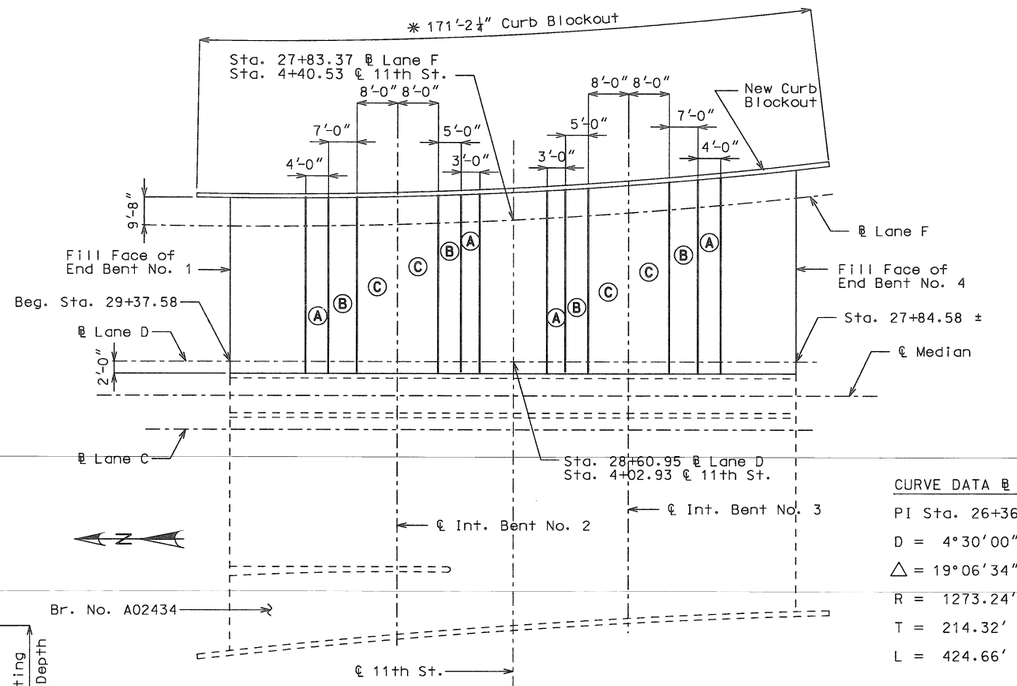


PLAN OF SLAB SHOWING SPECIAL REPAIR ZONES

* Horizontal arc dimension along the top of outside edge of existing Curb.

CURVE DATA ℄ Lane F

PI Sta. 26+36.72

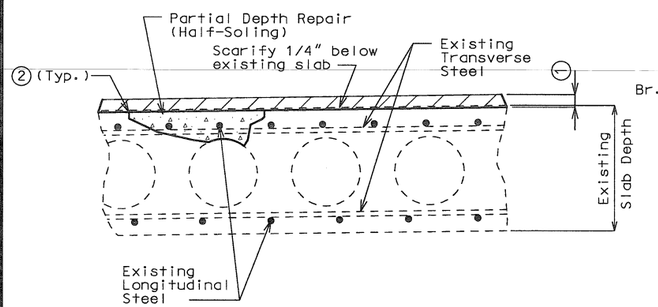
D = 4°30'00"

△ = 19°06'34" (Lt.)

R = 1273.24'

T = 214.32'

L = 424.66'



HALF SOLE REPAIR

① Install 2 1/4" (Min.) Low Slump Concrete Wearing Surface.

② Saw cut or vertically chip first 1/2" of all deck repair. (Hydroblasting allowed by special provisions.)

FINAL QUANTITIES

ITEM		TOTAL
Removal of Cathodic Protection System	lump sum	1
Parapet Removal (Bridges)	linear foot	171
Asphalt Removal (Bridges)	sq. foot	7644
Protective Coating	lump sum	1
Curb Blockout	linear foot	171
Repairing Concrete Deck (Half-Soling)	sq. foot	1211
Low Slump Concrete Wearing Surface	sq. yard	849
Cathodic Protection System	lump sum	1

GENERAL NOTES:

DESIGN SPECIFICATIONS:

AASHTO-1996 and Interims thru 2002

DESIGN UNIT STRESSES:

FINAL PLANS

Reinforcing Steel (Grade 60) fy = 60,000 psi
Class B1 Concrete (Curb Blockout and End posts) f'c = 4000 psi

TRAFFIC HANDLING:

Maintain two lanes of traffic on structure during construction (see Rdwy. Plans.)

REINFORCING STEEL:

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

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

JOINT FILLER:

All joint filler shall meet the requirements of Section 1057.2.4. of the Missouri Standard Specifications, except as noted.

CURB BLOCKOUTS:

Cost of Concrete and Reinforcement in End Posts shall be considered completely covered in the contract unit price for Curb Blockout per linear foot.

Cost of any concrete curb removal and/or repair shall be considered completely covered in the contract unit price for Curb Blockout per linear foot.

Cost of removing existing parapet and aluminum bridge rail shall be considered completely covered in the contract unit price for Parapet Removal (Bridges) per linear foot.

MISCELLANEOUS:

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

Roadway surfacing adjacent to bridge ends to match top of concrete wearing surface (Rdwy. Item).

Contractor shall verify all dimensions and stations in field before ordering new material.

In order to maintain grade and a minimum thickness of overlay as shown on plans it may be necessary to use additional quantities of overlay at various locations throughout the structure. No payment will be allowed for additional labor, materials or equipment for variations in thickness of overlay.

SPECIAL REPAIR ZONES:

Any repair in the remainder of the bridge that is within 3'-0" of Zone A shall be completed before removing old concrete in Zone A.

Zones with the same letter designation may be repaired at the same time. Sequence of repairs follows Zone A, Zone B then Zone C.

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES. TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE _____ DATE _____

REPAIRS TO BRIDGE: LANE D OVER 11TH STREET

STATE ROAD: MIDTOWN FREEWAY

IN KANSAS CITY

PROJECT NO.

JOB. NO. J4I1403

STA. 29+37.58± (℄ Lane D) (Match Exist.)

RTE. I-70 (W.B.L.)

JACKSON COUNTY

Date: / /

STD. 706.35

A02435

REV.

Designed Nov. 2001
Detailed Nov. 2001
Checked June 2002

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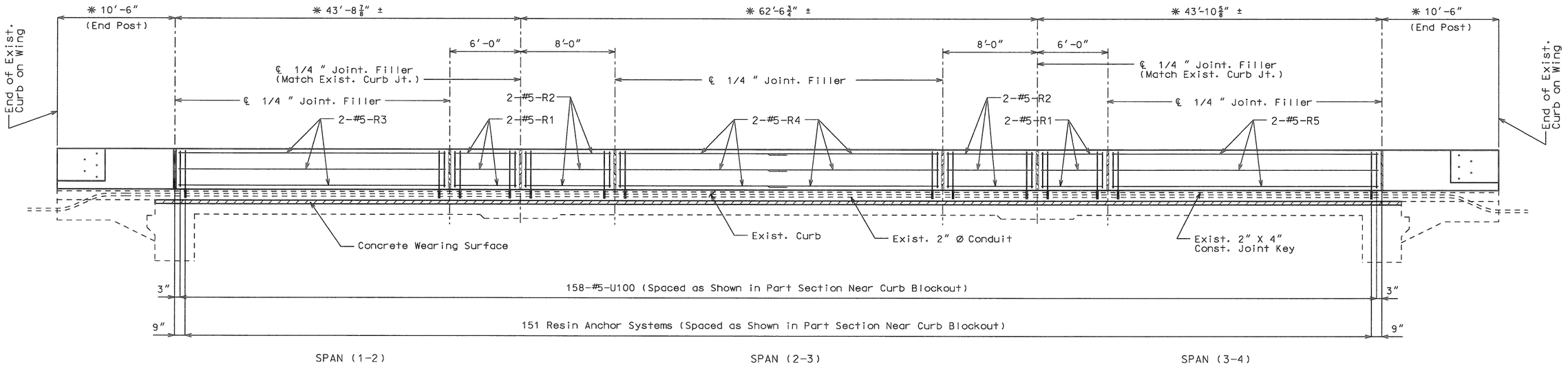
FINAL PLANS

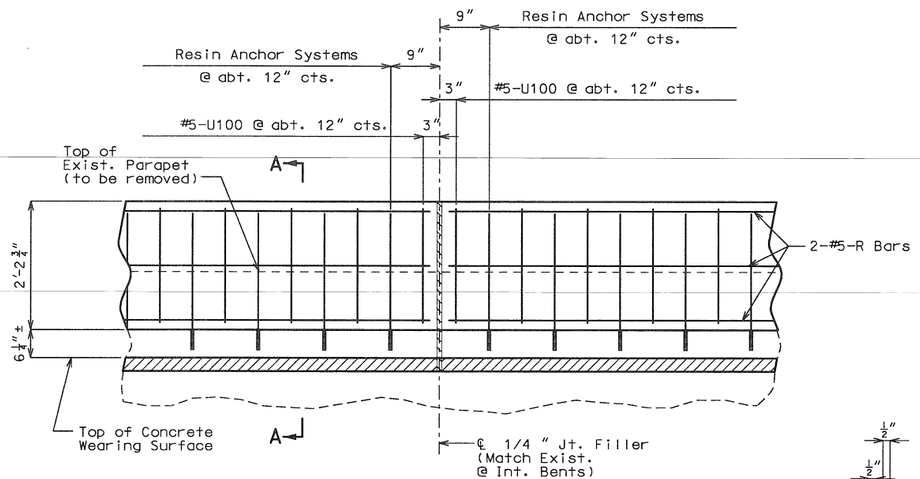
State	Proj. No.	Sheet No.
MO	021213-402	B16

FEDERAL PROJECT# I-70-1(175)

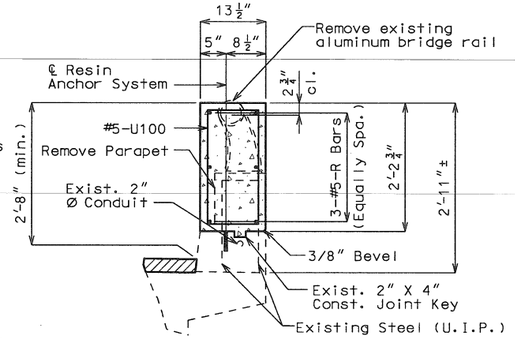


SECTION NEAR CURB BLOCKOUT

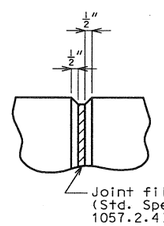
* Horizontal arc dimension along the top of outside edge of existing Curb.



PART SECTION NEAR CURB BLOCKOUT



SECTION A-A



FILLED JOINT DETAIL

NOTES FOR CURB BLOCKOUT:

All reinforcement shall be epoxy coated.

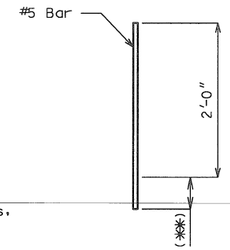
Concrete in curb blockout shall be Class B1 with f'c = 4,000 psi

Measurement of curb blockout is to the nearest linear foot measured along the top of outside edge of existing curb from end of wing to end of wing.

All exposed edges of curb blockout shall have a 1/2" radius, unless otherwise shown.

Payment for concrete, reinforcing steel, resin anchor systems and any other work incidental to the curb blockout and end posts, complete in place, shall be included in the contract unit price for Curb Blockout per lin. foot.

Use a minimum lap of 2'-11" for #5 horizontal Curb Blockout bars.



(Install in Curb)

NOTE: (**) Manufacturer's embedment length. (6" Max.)

DETAIL OF RESIN ANCHORS

NOTES FOR RESIN ANCHOR SYSTEM:

The contractor shall use one of the resin anchor systems listed in the job special provisions. These resin anchor systems shall be installed according to the manufacturer's specifications, except as modified by the job special provisions. Contractor shall avoid damage to any exist. conduit in curb.

The 5/8" diameter resin anchor systems shall have a minimum ultimate pullout strength of 15,500 lbs. in concrete with f'c = 4,000 psi (See Special Provisions).

Cost of furnishing and installing the anchor system complete in place shall be included in the price bid for Curb Blockout.

An epoxy coated #5 Grade 60 reinforcing bar shall be substituted for the 5/8 "Ø threaded rod stud.

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES. TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION; AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

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DETAILS OF CURB BLOCKOUT

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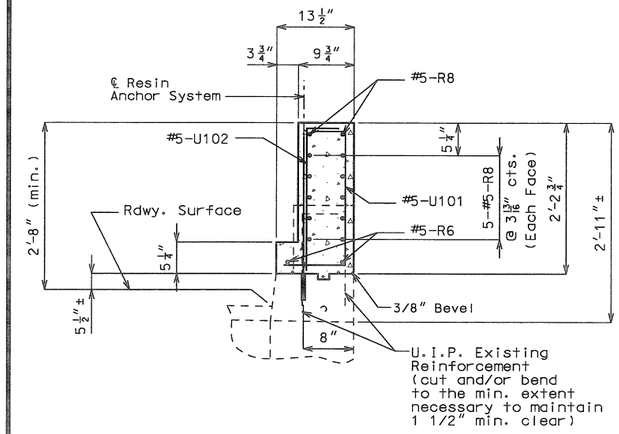
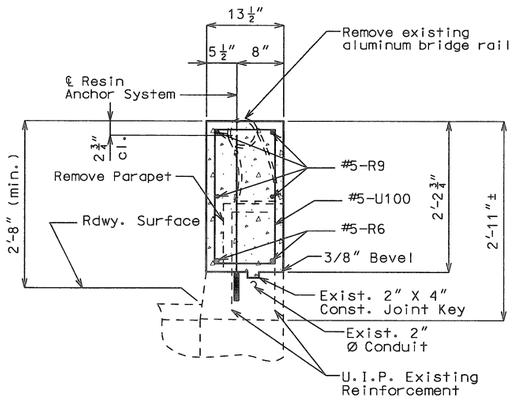
FEDERAL PROJECT# I-70-1(175)

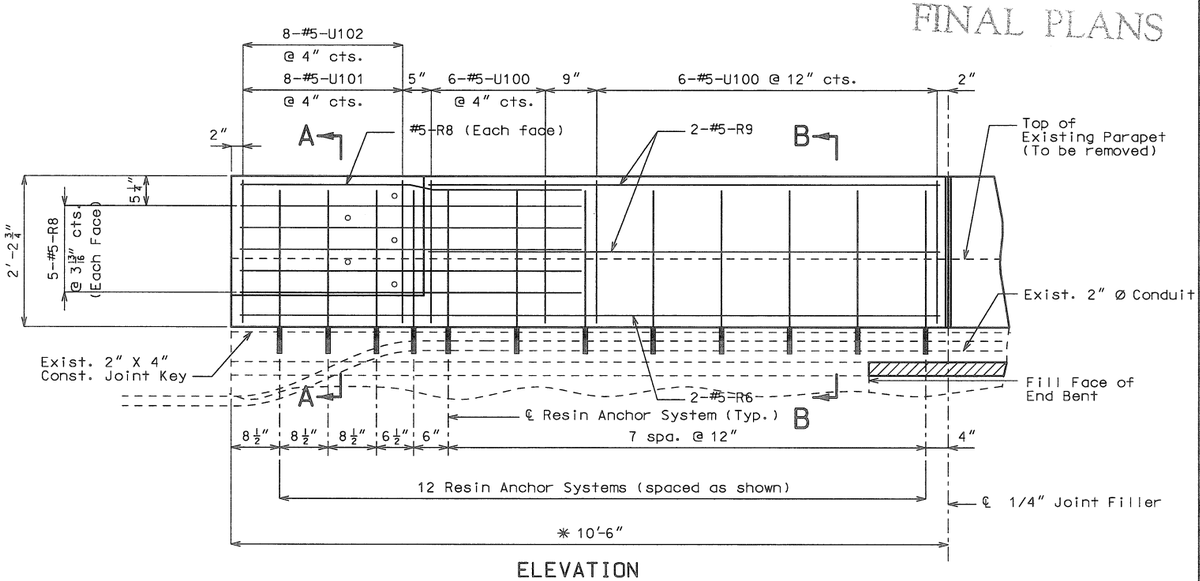
FINAL PLANS



SECTION A-A

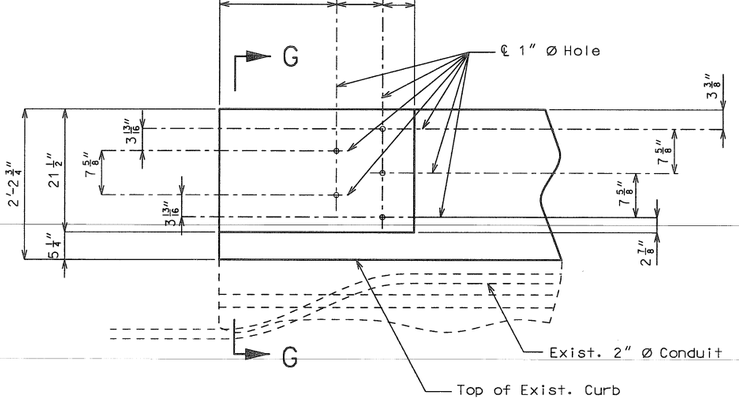


SECTION B-B

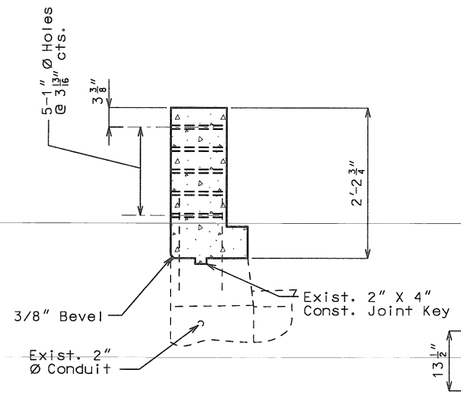


ELEVATION

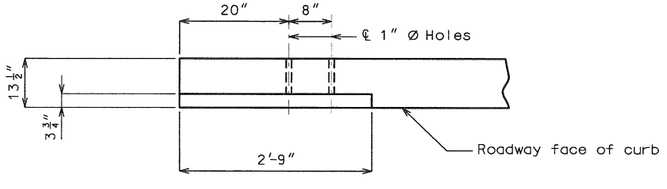
* Horizontal arc dimension along the top of outside edge of existing Curb.



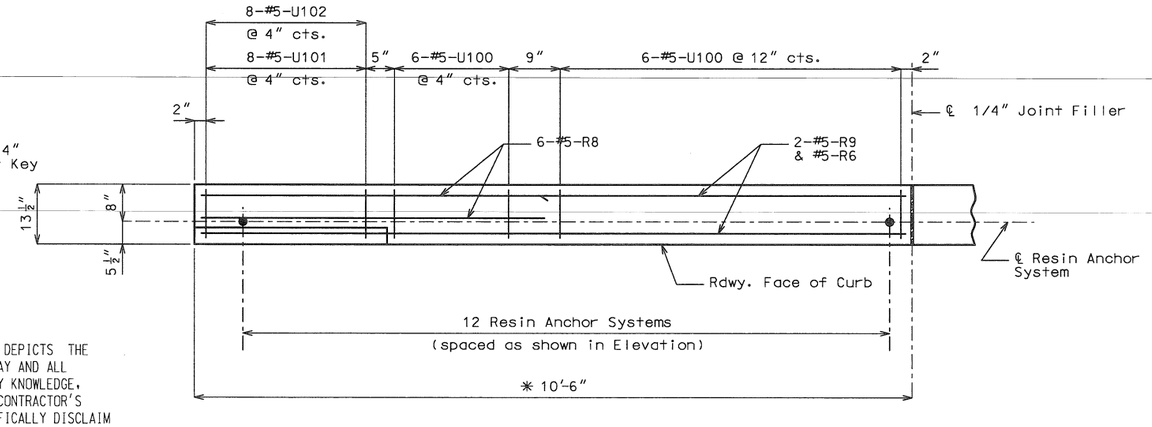
PART ELEVATION



PART SECTION G-G



PART PLAN



PLAN

FINAL PLANS

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DETAILS OF GUARD RAIL ATTACHMENT

DETAILS OF CURB BLOCKOUT AT END BENTS

(Curb blockout at End Bent No 1 shown, blockout at End Bent No. 4 is similar)

Detailed Nov. 2001
Checked June 2002

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

Sheet No. 3 of 8

JACKSON COUNTY A02435

REV.

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FINAL PLANS

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.
			BLOCKOUT																									
182	5	U100	BLOCKOUT	E	13	S				10.	500	23.	750	10.	500	23.	750									6	8	6	4	1202
16	5	U101	BLOCKOUT	E	11	S						10.	500	23.	750	6.	750									3	5	3	3	54
16	5	U102	BLOCKOUT	E	19	S				23.	750	6.	750													2	7	2	5	40
12	5	R1	BLOCKOUT	E	20					5	9.	000														5	9	5	9	72
12	5	R2	BLOCKOUT	E	20					7	9.	000														7	9	7	9	97
6	5	R3	BLOCKOUT	E	20					37	5.	000														37	5	37	5	234
12	5	R4	BLOCKOUT	E	20					24	8.	000														24	8	24	8	309
6	5	R5	BLOCKOUT	E	20					37	7.	000														37	7	37	7	235
* 6	5	R6	BLOCKOUT	E	20					10	3.	000														10	3	10	3	65
24	5	R8	BLOCKOUT	E	20					5	7.	000														5	7	5	7	140
8	5	R9	BLOCKOUT	E	20					7	6.	000														7	6	7	6	63
			TOTALS																									
	5			E																								2511
			TOTAL																									0
			TOTAL	E																								2511

BILL OF REINFORCING STEEL

NO. REQ'D.	MARK NO. SIZE	MARK	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS B FT.	B IN.	C FT.	C IN.	D FT.	D IN.	E FT.	E IN.	F FT.	F IN.	H FT.	H IN.	K FT.	K IN.	NOMINAL LENGTH FT.	NOMINAL LENGTH IN.	ACTUAL LENGTH FT.	ACTUAL LENGTH IN.	WEIGHT LBS.

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FEDERAL PROJECT# I70-1(175)

SHAPE 6 SHAPE 7 SHAPE 8

SHAPE 9 SHAPE 10 SHAPE 11

SHAPE 12 SHAPE 13 SHAPE 14

SHAPE 15 SHAPE 16 SHAPE 17 SHAPE 18 SHAPE 20

SHAPE 19 SHAPE 21

SHAPE 23 SHAPE 24 SHAPE 22

SHAPE 25 SHAPE 26 SHAPE 27

SHAPE 28 SHAPE 29 SHAPE 31

SHAPE 30 SHAPE 32

SHAPE 36 SHAPE 35 SHAPE 34 SHAPE 33

(SHAPE 35 SHALL BE A DEFORMED OR PLAIN SPIRAL BAR OR WIRE.)

BENDING DIAGRAMS

FINAL PLANS

I CERTIFY THAT THIS PLAN SHEET ACCURATELY DEPICTS THE CONFIGURATION AND LOCATION OF THE ROADWAY AND ALL ITS APPURTENANT FEATURES, TO THE BEST OF MY KNOWLEDGE, AS I AND MY STAFF HAVE OBSERVED THE CONTRACTOR'S CONSTRUCTION OF THIS PROJECT. I SPECIFICALLY DISCLAIM ANY RESPONSIBILITY FOR THE DESIGN OF THIS PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE MODIFIED OR AUTHORIZED THE MODIFICATION OF THE PROJECT DESIGN DURING ITS CONSTRUCTION, AND I DISCLAIM RESPONSIBILITY FOR THE CONTRACTOR'S ACTUAL CONSTRUCTION OF THE PROJECT, EXCEPT AS I AND MY STAFF MAY HAVE DIRECTED OR ORDERED THAT THE PROJECT BE CONSTRUCTED.

SIGNATURE DATE

6d FOR #4 AND #5, 12d FOR #6

90° STIRRUP 135° STIRRUP

DETAILED Nov. 2001
CHECKED June 2002

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

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

DETAILING DIMENSION 90° 12d 4d OR 2-1/2" MIN. 180°

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

* TWO ADDITIONAL #5-R6 ARE INCLUDED IN THE BAR BILL FOR TESTING.

NOTE:
ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH THE SAME PROCEDURE AS FOR 90 DEG. STD. HOOKS.
HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON THIS SHEET.
E = EPOXY COATED REINFORCEMENT.
S = STIRRUP.
X = BAR IS INCLUDED IN SUBSTRUCTURE QUANTITIES.
V = BAR DIMENSIONS VARY IN EQUAL INCREMENTS BETWEEN DIMENSIONS SHOWN ON THIS LINE AND THE FOLLOWING LINE.
NO. EA. = NUMBER OF BARS OF EACH LENGTH.
NOMINAL LENGTHS ARE BASED ON CUT TO CUT DIMENSIONS SHOWN IN BENDING DIAGRAMS AND ARE LISTED FOR FABRICATOR'S USE (NEAREST INCH).
ACTUAL LENGTHS ARE MEASURED ALONG CENTERLINE BAR TO THE NEAREST INCH.
PAYWEIGHTS ARE BASED ON ACTUAL LENGTHS.
FOUR ANGLE OR CHANNEL SPACERS ARE REQUIRED FOR EACH COLUMN SPIRAL. SPACERS ARE TO BE PLACED ON INSIDE OF SPIRALS. LENGTH AND WEIGHT OF COLUMN SPIRALS DO NOT INCLUDE SPLICES OR SPACERS.
REINFORCING STEEL (GRADE 60) = FY 60,000 PSI.

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

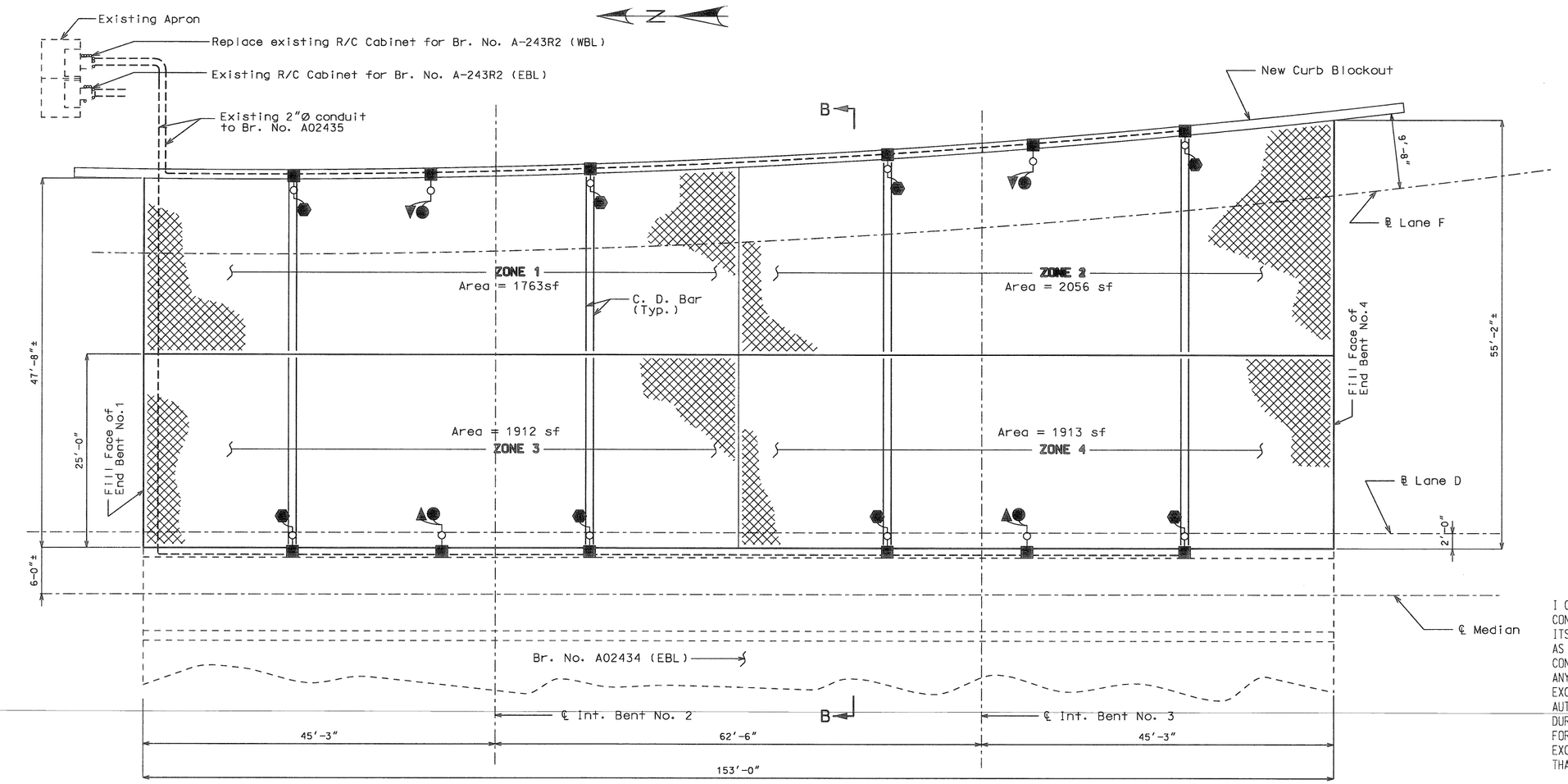
SHEET NO. 4 OF 8

JACKSON COUNTY A02435

State	Proj. No.	Sheet No.
MO	021213-402	B19

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



DENOTATIONS

- TITANIUM ANODE MESH
- SYSTEM NEGATIVE CONNECTION
- REFERENCE CELL
- GROUNDS
- EXISTING CONDUIT
- ACCESS HOLE
- EXISTING JUNCTION BOX/ ACCESS FITTING

FINAL PLANS

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SIGNATURE _____ DATE _____

PART PLAN OF SLAB SHOWING TITANIUM MESH CATHODIC PROTECTION SYSTEM

FINAL QUANTITIES	For information only	
ITEM	UNIT	QUANTITY
Titanium Anode Mesh (Elgard 210)	Sq. Feet	7644
Reference Cells	Each	4
Thermite Welds	Each	12

Note: No direct payment shall be made for any additional conduit, junction boxes, access fittings, additional material, labor and modification to existing conduit.

NOTE:

For Section B-B, typical zone layout and partial electrical schematic, see sheet no. 6.

Reference cells are to be placed at approximate ℄ of zone length as determined by the engineer.

Current Distribution Bars (C.D. Bar) to be placed near 1/4 point of Zones.

Existing overlay and cathodic protection system shall be removed and the original deck scarified prior to installation of new Cathodic Protection System (see special provisions).

NOTE:

Replace existing R/C Cabinet with new enclosure, mounted on existing apron and meeting required manufacturer's specifications and all local electrical codes.

Use existing conduit and appurtenances, with the approval of the Engineer, as shown on the plans. All existing conduit and appurtenances not used with the new Cathodic Protection System shall be removed from the Structure.

All existing wiring in the deck and conduits shall be removed and replaced with new wiring.

The anode leads, system negative return leads, reference cell and reference cell ground lead shall be routed in one of the existing conduits.

The telephone cable shall be routed into the rectifier through one of the unused existing conduits.

The reference cell ground lead shall be welded to the top rebar within 12" of the reference cell.

Anode assembly number must match zone number.

Existing access holes through deck not used with the new cathodic protection system shall have its plastic sleeve and silicone sealant removed, hole cleaned and plugged with a nonmetallic expansive mortar in accordance with Std. Spec. 1066.

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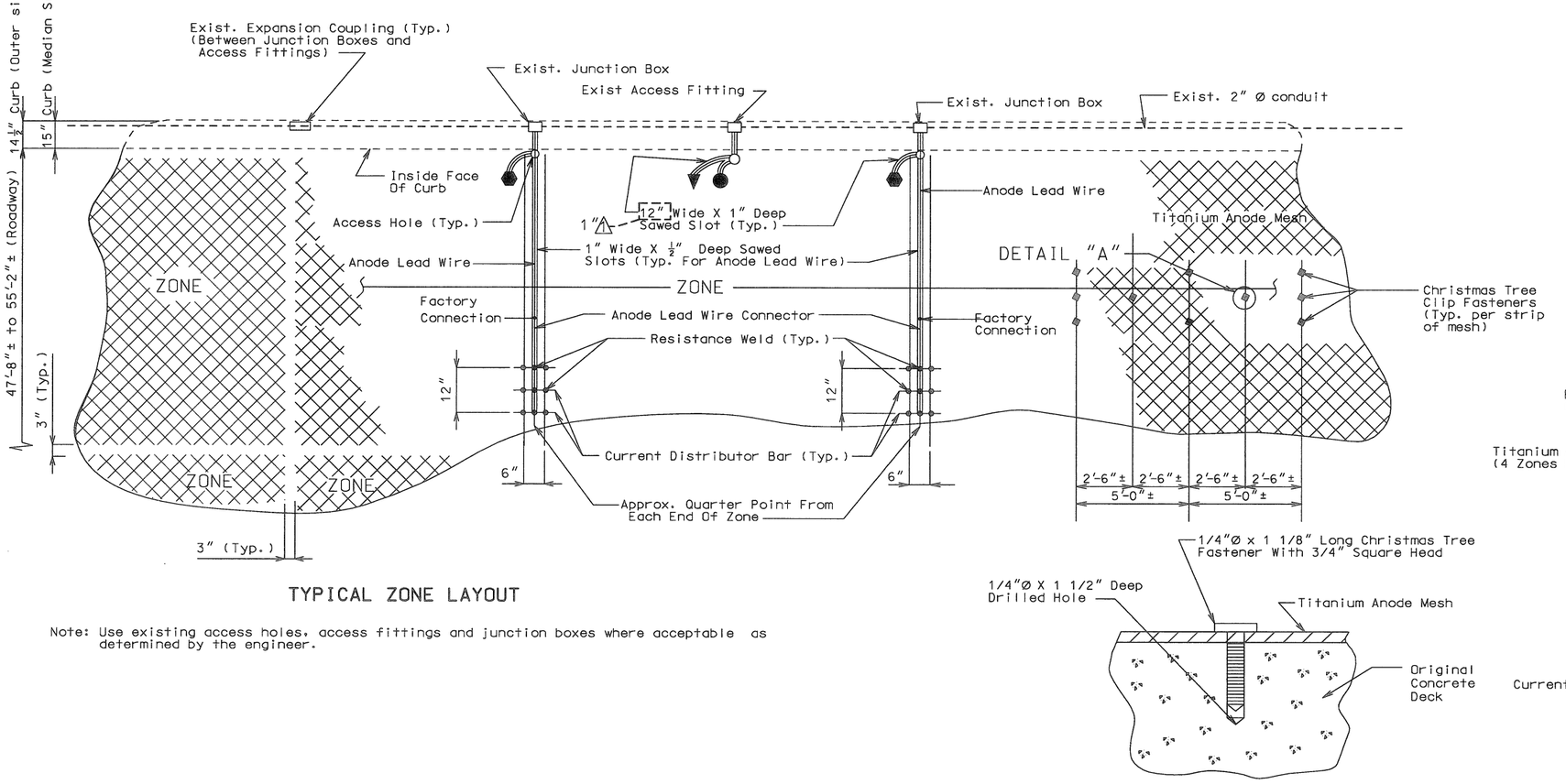
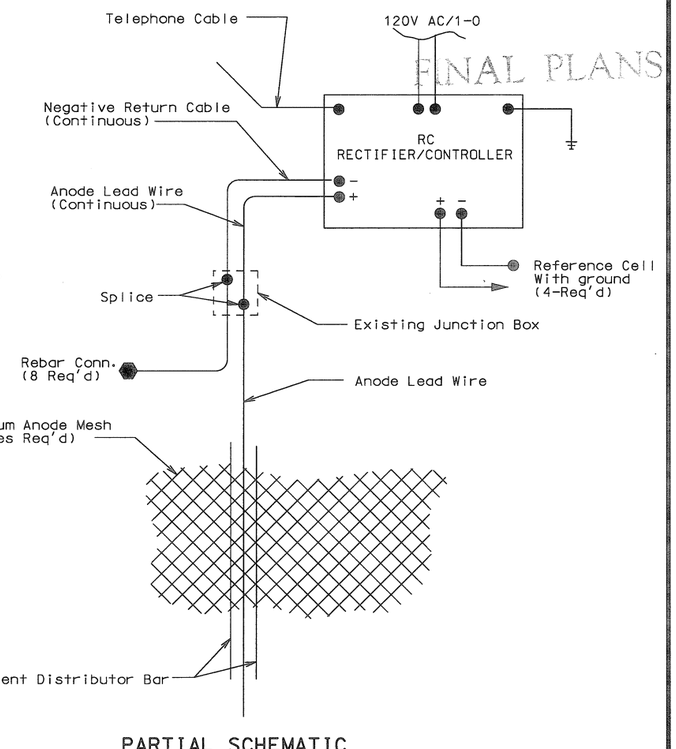
FEDERAL PROJECT# I-70-1(175)



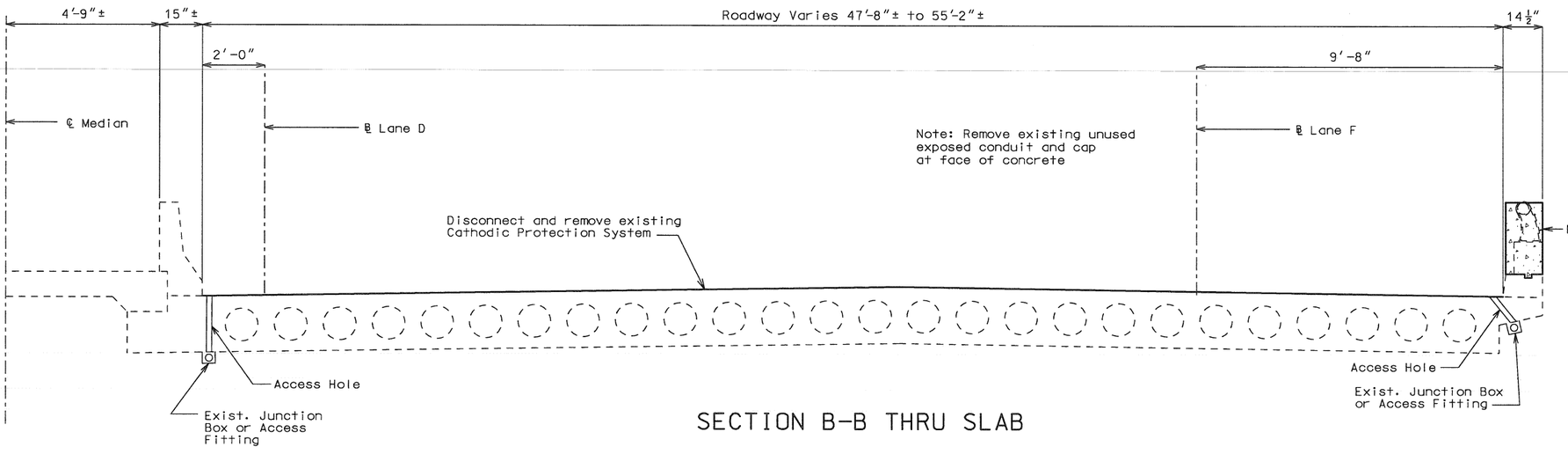
TYPICAL ZONE LAYOUT

Note: Use existing access holes, access fittings and junction boxes where acceptable as determined by the engineer.

DETAIL "A"
(Christmas Tree Clip)



PARTIAL SCHEMATIC



SECTION B-B THRU SLAB

For Location of Section B-B, see Part Plan of Slab Showing Titanium Mesh Cathodic Protection System.

FINAL PLANS

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SIGNATURE _____ DATE _____

Detailed Mar. 2002
Checked July 2002

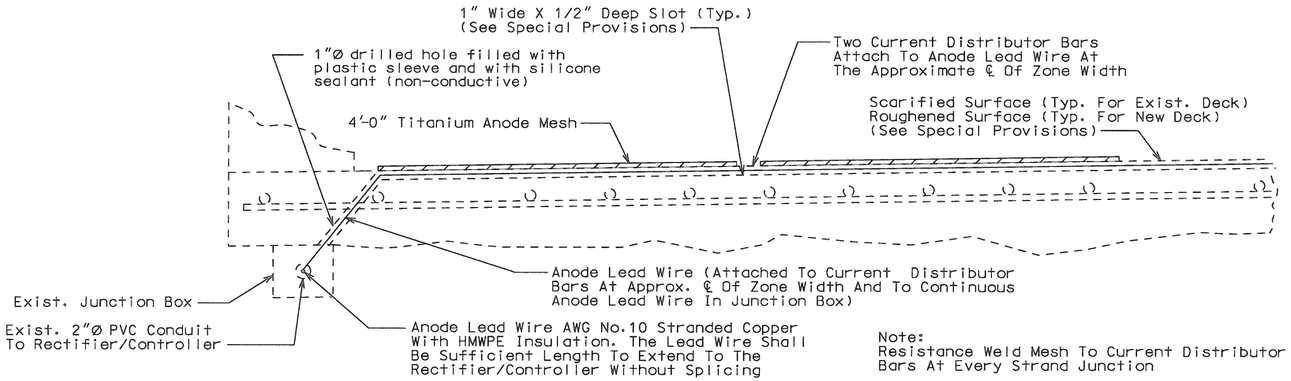
Note: This drawing is not to scale. Follow dimensions. ⚠ Revised 3/4/2003 Sheet No. 6 of 8

COUNTY A02435 REV.

State	Proj. No.	Sheet No.
MO	021213-402	B21

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



TITANIUM ANODE MESH DETAILS

Notes for New Conduit and Appurtenances (if required by Engineer):
Conduit shall be schedule 40 heavy wall PVC (Polyvinyl Chloride Plastic). Each section of conduit shall bear the underwriters laboratories, inc. (UL) label.

Conduit shall be secured to concrete with clamps (galvanized/AASHTO M111) at abt. 5'-0" cts. Concrete anchors for clamps shall meet federal specification FF-S-325, group II, type 4, class I and shall be galvanized in accordance with ASTM A-153, B695-91 class 50 or stainless steel. Minimum embedment in concrete shall be 1 3/4". The supplier shall furnish a manufacturer's certification that the concrete anchors meet the required material and galvanizing specifications.

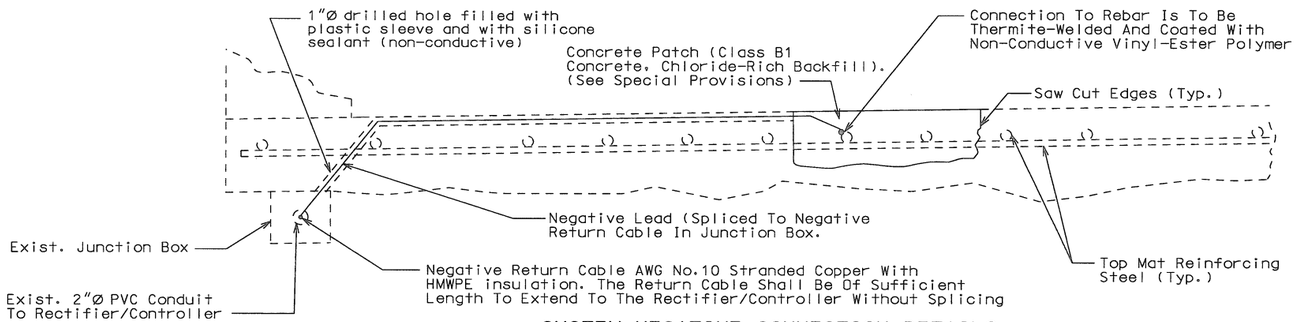
Weepholes shall be provided at appropriate locations to drain any moisture in the conduit lines.

Expansion couplings shall be installed on conduit lines between all junction boxes and access fittings as approved by the engineer.

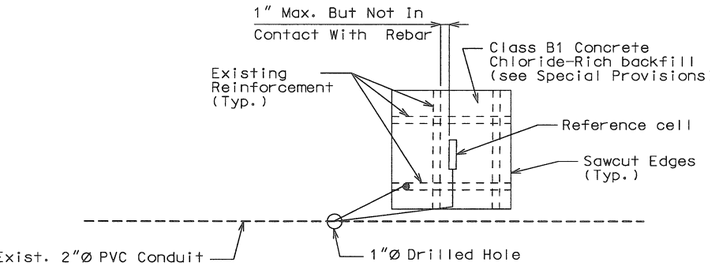
The location and direction of conduit may be shifted to meet field conditions as directed by the engineer.

All junction boxes shall be PVC molded, surface mounted, size 8" x 8" x 7" and equal to Carlon Electrical Construction products or Triangle Conduit and Cable company Inc.. The terminations shall be permanent or seperable.

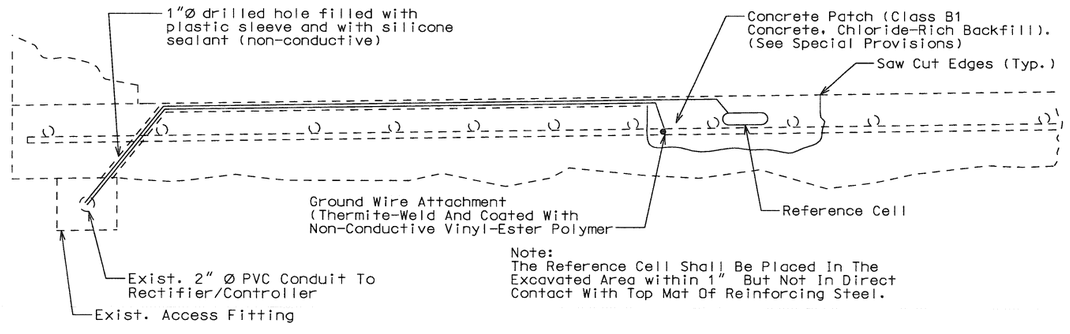
The terminations and covers shall be of watertight construction.



SYSTEM NEGATIVE CONNECTION DETAILS



PLAN OF REFERENCE CELL



REFERENCE CELL DETAILS

Note:
All concrete removal shall be intiated by saw cutting the first 1/2".

Note: The 3/4"Ø ground rod shall be of sufficient length to extend a minimum of 10'-0" below bottom of concrete pedestal. (Use existing if approved by the engineer).
Ground wire shall be AGW No.6 minimum (Use existing if approved by the engineer).
Knockouts or drilled holes shall be provided in cabinets for all conduit. Locations of these holes are the responsibility of the contractor and cabinet manufacturer.

FINAL PLANS

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SIGNATURE _____ DATE _____

Detailed Mar. 2002
Checked June 2002

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

JACKSON COUNTY A02435 REV.

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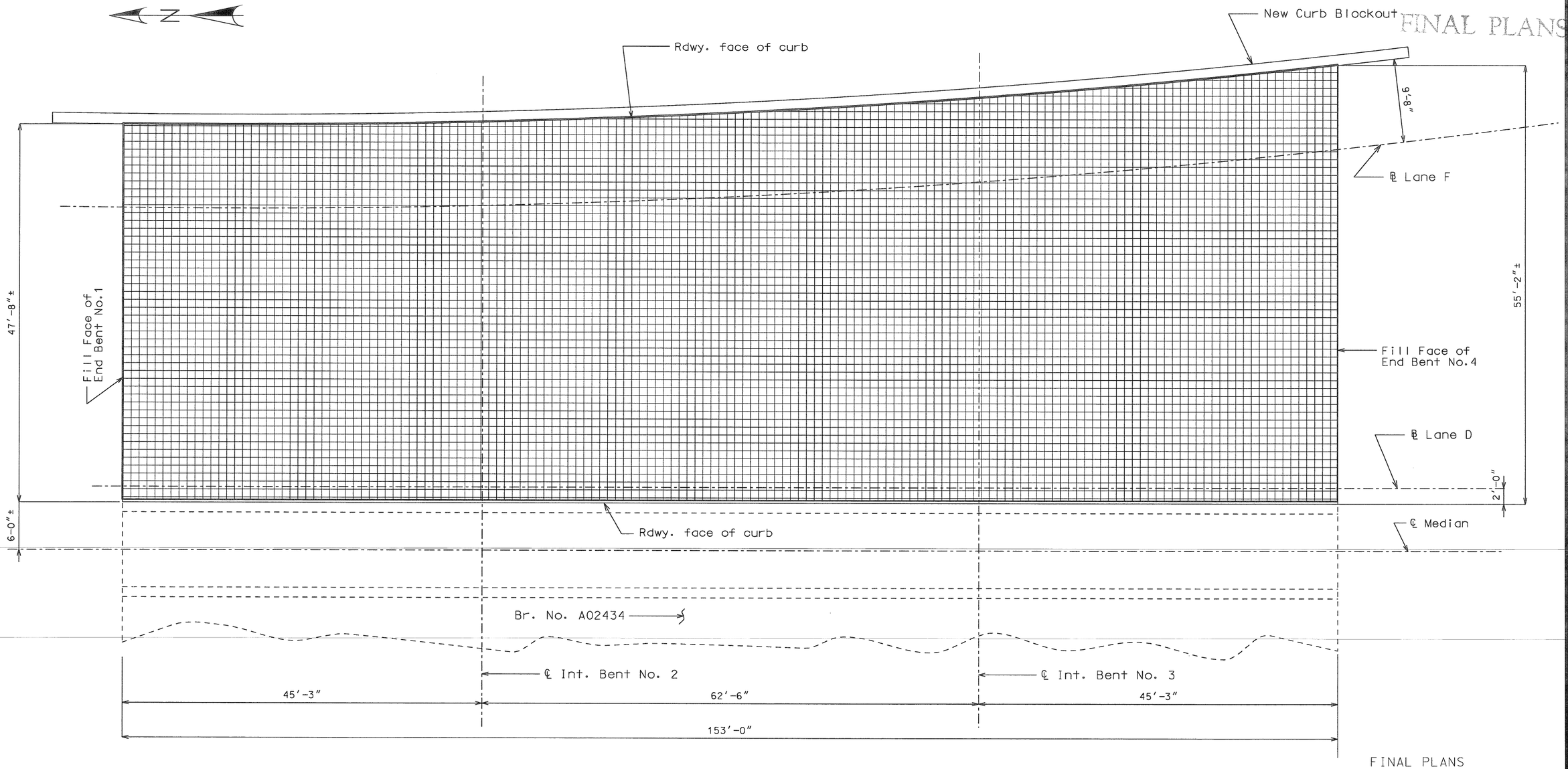
State	Proj. No.	Sheet No.
MO	021213-402	B22

FEDERAL PROJECT# I-70-1(175)

FINAL PLANS



0 5' 10'

Scale

Note: Grid = Approx. 12" Squares

PLAN OF CONCRETE DECK SHOWING GRID

(For location of deck repair and reference cells.)

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

FINAL PLANS

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SIGNATURE DATE

Detailed Mar. 2002
Checked June 2002

I-70 LANE D OVER 11th ST.

Sheet No. 8 of 8

JACKSON COUNTY A02435 REV.

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

May 2, 2024
4:14:44pm

COUNTY : JACKSON **BRIDGE :** A0243 R2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/7/2024 **SUBMITTAL YEAR :** 2023

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	JACKSON
8	Federal ID No.	213
27	Year Built	1958
106	Year Reconstructed	1984
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	RIGHT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	IS
5C	Designated Level of Service	MAINLINE
5D	Route Number	00070
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	IS 70 W
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000003506
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	11-UR PRNCPL ARTERIAL-IS
28A	Lanes on Structure	03
100	STRAHNET Designation	ON A DEFENSE HWY
104	National Highway System	ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 5 T 49 N R 33 W
11	Milepoint	247.13 miles
16	Latitude	39 D 6 M 3 S
17	Longitude	94 D 34 M 21 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	55722
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	15%
114	Future AADT	75225
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	CST E 11TH ST
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	03
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	14 Ft. 3 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	6 Ft. 11 In.
56	Left Lat Clearance	0 Ft. 0 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	0.62 miles
32	Approach Roadway Width	40 Ft. 0 In.
34	Skew	0.00 Degrees
35	Struct. Flared	YES
47	Total Horiz. Clear	52 Ft. 6 In.
48	Maximum Span Length	62 Ft. 8 In.
49	Structure Length	152 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	52 Ft. 6 In.
52	Deck Width (Out-Out)	65 Ft. 7 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = A0243

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

May 2, 2024
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RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/7/2024 **SUBMITTAL YEAR :** 2023

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 20
41	Structure Status	P - POSTED FOR LOAD
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	59 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	35 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	93.0 Percent
	Deficiency Rating	NOT DEFICIENT
	Funding Eligibility	
75A	Proposed Work	
75B	Work Done By	
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 0,000
95	Roadway Improve Cost	$ 0,000
96	Total Project Cost	$ 0,000
97	Year of Cost Estimates	0

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	6
68	Deck Geometry App. Rating	6
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	6
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-C3

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	65		

General Text for Posting Sign

WEIGHT LIMIT 65 TONS.

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	3
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	4 CATHODIC

CONDITION RATING INFORMATION

58	Deck Cond. Rating	6
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	9 / 23	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-C3

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	65		

General Text for Posting Sign

WEIGHT LIMIT 65 TONS.

Design_No = A0243

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

May 2, 2024
4:14:44pm

COUNTY : JACKSON **BRIDGE :** A0243 R2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/7/2024 **SUBMITTAL YEAR :** 2023

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	JACKSON
8	Federal ID No.	212
27	Year Built	1958
106	Year Reconstructed	1984
42A	Type of Service On	HIGHWAY
21	Structure Maintenance	STATE HIGHWAY AGENCY
22	Structure Owner	STATE HIGHWAY AGENCY
33	Br. Median Code	CLOSED MEDIAN(NO BARRIER)
37	Historical Significance	NOT ELIGIBLE FOR NR OF HP
101	Parallel Struc Desg	LEFT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	YES

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE CARRIED 'ON' STRUCT
5B	Route Signing Prefix	IS
5C	Designated Level of Service	MAINLINE
5D	Route Number	00070
5E	Directional Suffix	NOT APPLICABLE
7	Facility Carried	IS 70 E
12	Base Hwy. Network	YES
13A	LRS Inventory Route No.	0000000019
13B	Subroute No.	00
20	Toll Status	ON FREE ROAD
26	Functional Classification	11-UR PRNCPL ARTERIAL-IS
28A	Lanes on Structure	04
100	STRAHNET Designation	ON A DEFENSE HWY
104	National Highway System	ON NHS
105	Federal Lands Highway	NOT APPLICABLE
110	Designated Nat. Network	YES

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 5 T 49 N R 33 W
11	Milepoint	2.25 miles
16	Latitude	39 D 6 M 3 S
17	Longitude	94 D 34 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	55722
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	18%
114	Future AADT	75225
115	Future AADT Year	2043

UNDERRECORD INFORMATION

6	Features Intersected	CST E 11TH ST
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	03
54A	Vert. Clearance Ref.	HIGHWAY
54B	Vert. Clearance	14 Ft. 3 In.
55A	Rt. Lat Clear Ref.	HIGHWAY
55B	Rt. Lat Clearance	6 Ft. 11 In.
56	Left Lat Clearance	0 Ft. 0 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	0.62 miles
32	Approach Roadway Width	40 Ft. 0 In.
34	Skew	0.00 Degrees
35	Struct. Flared	YES
47	Total Horiz. Clear	47 Ft. 7 In.
48	Maximum Span Length	62 Ft. 8 In.
49	Structure Length	152 Ft. 11 In.
50A	Left Curb/Sidewalk Width	0 Ft. 0 In.
50B	Right Curb/Sidewalk Width	0 Ft. 0 In.
51	Curb to Curb Br. Width	47 Ft. 11 In.
52	Deck Width (Out-Out)	59 Ft. 5 In.
53	Vert.Clearance Over Deck	99 Ft. 99 In.

Design_No = A0243

Missouri Department of Transportation
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Structural Inventory & Appraisal Sheet

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RECORD TYPE : ROUTE CARRIED 'ON' STRUCT **RUN DATE :** 3/7/2024 **SUBMITTAL YEAR :** 2023

LOAD RATING AND POSTING INFORMATION

31	Design Load	HS 20
41	Structure Status	P - POSTED FOR LOAD
63	Oper. Rating Meth.	LOAD FACTOR
64	Operating Rating	59 Tons.
65	Inventory Rating Meth	LOAD FACTOR
66	Inventory Rating	35 Tons.
70	Bridge Posting Code	=>LEGAL LOADS

PROPOSED IMPROVEMENT INFORMATION

	Sufficiency Rating	60.4 Percent
	Deficiency Rating	FUNCTIONAL
	Funding Eligibility	PARTIAL
75A	Proposed Work	REHAB-GENERAL DETERIORAT
75B	Work Done By	Contract
76	New Struc Length	0 Ft. 0 In.
94	Struc Improve Cost	$ 1,233,000
95	Roadway Improve Cost	$ 123,000
96	Total Project Cost	$ 1,850,000
97	Year of Cost Estimates	2024

APPRAISAL RATING INFORMATION

36A	Br. Rail App. Rating	MEETS ACCEPTBLE STND
36B	Transition Rail App. Rating	MEETS ACCEPTBLE STND
36C	Approach Rail App. Rating	MEETS ACCEPTBLE STND
36D	Rail End Treat. App. Rating	MEETS ACCEPTBLE STND
67	Struc Eval App. Rating	5
68	Deck Geometry App. Rating	2
69	Underclearance App. Rating	4
71	Waterway Adeq. App. Rating	N
72	Approach Road App. Rating	6
113	Scour Assess App. Rating	N

APPROVED POSTING INFORMATION

Approved Posting Category S-C3

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	65		

General Text for Posting Sign

WEIGHT LIMIT 65 TONS.

MATERIAL/CONSTRUCTION INFORMATION

43A	Main Struc. Mat type	CONCRETE CONTINUOUS
43B	Main struc Constr. Type	SLAB
45	# of Main Spans	3
44A	Appr Struc. Mat type	
44B	Appr Struc. Cnstr. type	
46	# of Approach Span	0
107	Deck Mat/Constr.	1 CONCRETE CIP
108A	Wear Surf Mat/Constr.	4 LOW SLUMP
108B	Membrane Mat/Constr.	0 NONE
108C	Deck Protect Mat/Constr.	0 NONE

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

90	Gen. Insp Date	9 / 23	
91	Gen. Insp. Frequency	24	Months
92A	Frac. Critical Inspection	N	Months
93A	Frac. Critical Insp. Date		
92B	Underwater Inspection	N	Months
93B	Underwater Insp. Date		
92C	Special Inspection	N	Months
93C	Special Inspection Date		

BORDER BRIDGE INFORMATION

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

FIELD POSTING INFORMATION

Field Posting Category S-C3

	Ton1	Ton2	Ton3
Tonnage Values for Posting Sign	65		

General Text for Posting Sign

WEIGHT LIMIT 65 TONS.

Design_No = A0243

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

May 2, 2024
4:14:44pm

COUNTY : JACKSON **BRIDGE :** A0243 R2 **REVIEW STATUS :** APPROVED **NBI STATUS :** P
RECORD TYPE : ROUTE 'UNDER' STRUCT **RUN DATE :** 3/7/2024 **SUBMITTAL YEAR :** 2023

GENERAL STRUCTURE INFORMATION

1	State	MISSOURI
2	District	KC
3	County	JACKSON
8	Federal ID No.	213
27	Year Built	1958
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	RIGHT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE 'UNDER' STRUCT	Code : 2
5B	Route Signing Prefix	CST	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00000	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	IS 70 W	
12	Base Hwy. Network		
13A	LRS Inventory Route No.		
13B	Subroute No.		
20	Toll Status	ON FREE ROAD	
26	Functional Classification	17-URBAN COLLECTOR	
28A	Lanes on Structure	03	
100	STRAHNET Designation	RTE NOT A DEFENSE HWY	
104	National Highway System	NOT ON NHS	
105	Federal Lands Highway		
110	Designated Nat. Network	NO	

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 5 T 49 N R 33 W
11	Milepoint	0.48 miles
16	Latitude	39 D 6 M 3 S
17	Longitude	94 D 34 M 21 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	1679
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	CST E 11TH ST
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	03
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	14 Ft. 3 In.
19	By pass Detour Length	14.26 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	55 Ft. 5 In.
48	Maximum Span Length	62 Ft. 8 In.
49	Structure Length	152 Ft. 11 In.
50A	Left Curb/Sidewalk Width	
50B	Right Curb/Sidewalk Width	
51	Curb to Curb Br. Width	
52	Deck Width (Out-Out)	
53	Vert.Clearance Over Deck	

Design_No = A0243

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

May 2, 2024
4:14:44pm

COUNTY :	**JACKSON**	**BRIDGE :**	**A0243 R2**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**P**
RECORD TYPE :	**ROUTE 'UNDER' STRUCT**			**RUN DATE :**	**3/7/2024**	**SUBMITTAL YEAR :**	**2023**

LOAD RATING AND POSTING INFORMATION

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

PROPOSED IMPROVEMENT INFORMATION

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

APPRAISAL RATING INFORMATION

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

MATERIAL/CONSTRUCTION INFORMATION

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

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

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

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = A0243

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3	County	JACKSON
8	Federal ID No.	212
27	Year Built	1958
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	LEFT
103	Temporary Structure	NOT TEMPORARY
112	NBIS Bridge Length	

ROUTE DESIGNATION INFORMATION

5A	Record Type	ROUTE 'UNDER' STRUCT	Code : 2
5B	Route Signing Prefix	CST	
5C	Designated Level of Service	MAINLINE	
5D	Route Number	00000	
5E	Directional Suffix	NOT APPLICABLE	
7	Facility Carried	IS 70 E	
12	Base Hwy. Network		
13A	LRS Inventory Route No.		
13B	Subroute No.		
20	Toll Status	ON FREE ROAD	
26	Functional Classification	17-URBAN COLLECTOR	
28A	Lanes on Structure	04	
100	STRAHNET Designation	RTE NOT A DEFENSE HWY	
104	National Highway System	NOT ON NHS	
105	Federal Lands Highway		
110	Designated Nat. Network	NO	

STRUCTURE LOCATION INFORMATION

4	Place	KANSAS CITY CITY
	Code	38000
9	Location	S 5 T 49 N R 33 W
11	Milepoint	0.49 miles
16	Latitude	39 D 6 M 3 S
17	Longitude	94 D 34 M 22 S

STRUCTURE TRAFFIC INFORMATION

29	AADT	1679
30	AADT Year	2023
102	Direction of Traffic	1-WAY TRAFFIC
109	AADT Truck Percent	5%
114	Future AADT	
115	Future AADT Year	

UNDERRECORD INFORMATION

6	Features Intersected	CST E 11TH ST
42B	Type of Service Under	HIGHWAY
28B	Lanes Under Structure	03
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	14 Ft. 3 In.
19	By pass Detour Length	0.00 miles
32	Approach Roadway Width	
34	Skew	
35	Struct. Flared	
47	Total Horiz. Clear	55 Ft. 5 In.
48	Maximum Span Length	62 Ft. 8 In.
49	Structure Length	152 Ft. 11 In.
50A	Left Curb/Sidewalk Width	
50B	Right Curb/Sidewalk Width	
51	Curb to Curb Br. Width	
52	Deck Width (Out-Out)	
53	Vert.Clearance Over Deck	

Design_No = A0243

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

May 2, 2024
4:14:44pm

COUNTY :	**JACKSON**	**BRIDGE :**	**A0243 R2**	**REVIEW STATUS :**	**APPROVED**	**NBI STATUS :**	**P**
RECORD TYPE :	**ROUTE 'UNDER' STRUCT**			**RUN DATE :**	**3/7/2024**	**SUBMITTAL YEAR :**	**2023**

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

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

MATERIAL/CONSTRUCTION INFORMATION

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

CONDITION RATING INFORMATION

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

INSPECTION INFORMATION

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

BORDER BRIDGE INFORMATION

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

APPROVED POSTING INFORMATION

Approved Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

FIELD POSTING INFORMATION

Field Posting Category

Ton1 Ton2 Ton3

Tonnage Values for Posting Sign

General Text for Posting Sign

Design_No = A0243