



August 24, 2023

ADDENDUM NO. 1

Notice to All Persons and Firms Proposing
to Submit a Bid or Furnish Materials for
James S. McDonnell Blvd. Bridge No. 164
St. Louis County Project No. AR-1518
Federal Project STP-4900(640)

This addendum addresses several inquiries that were received that resulted in modifications to the Construction Plans and Contract Specifications as follows:

Question No. 1

Do the plans call for shell pipe pile material?

County response:

The plans do not call for shell pipe pile material.

Question No. 2

Will the County provide an excel version of the Itemized Bid Form to assist with completing the bid documents.

County response:

The Itemized Bid Form is provided in pdf form only.

Question No. 3

Will there be a pre-bid meeting for this project?

County response:

No, there will not be a pre-bid meeting for this project.

Question No. 4

How long does USACE/HGL anticipate needing for their cleanup for Phase 2 of the project?

County response:

USACE/HGL anticipates cleanup for Phase 2 to take 10 months.

Question No. 5

Will stay in place prestressed concrete panels be able to be used in forming the deck in the areas between the girders?

County response:

No, prestressed concrete panels will not be utilized in this project.

Question No. 6

Per JSP B-2 Project Phasing, in Phase 1 the wireless communication devices for temp. signal interconnect are to be installed at Sta. 27+75 and 64+75 and the installation of the new signal interconnect from 27+75 to 64+75 should be done by the COUNTY Contractor in Phase 3. Plan Sheet 7 of 63 and 9 of 63 calls for the removal of the existing 36 Fiber Cable and the installation of a 48 Fiber Cable with the existing Pull Boxes and Conduit System being removed from 35+00 to 60+50+- (Exist UIP Pull Box) by others.

County response:

The County's Bridge contractor will remove and replace the conduit and pull boxes from Sta. 27+75 to 34+35, the FUSRAP contractor will remove and replace the conduit and pull boxes from Sta. 34+35 and the County's Signal electrical contractor will pull and connect the 48 fiber cable.

Question No. 7

Pay Item 904-52.00 (2" PVC Conduit) is to be installed from 27+75 to 60+50 (3275 LF) but no mention of the Pull Boxes (32 thru 37) being installed or a pay item set up for these(Sheet 9 of 63).

County response:

The 2" conduit and pull boxes will be removed and replaced from 27+75 to 34+35 under this contract. Pull boxes 32 to 37 will be removed and replaced by the FUSRAP contractor.

Question No. 8

There is a Line Number 904-98.81 (Relocation of EXISTING Interconnect Cable) with a quantity of 3834 set up for pay but no mention of the cable ever being installed or where does the cable come from and how is it going to be paid.

County response:

This will be completed by the County's Signal electrical contractor and is not a part of this contract. The item number has been changed to 904.90.17 and is labeled "by others."

Question No. 9

Sheet 7 of 63 has a note to terminate and / or fusion splice the 48 fiber, how is this to be paid for.

County response:

This will be completed by the County's Signal electrical contractor and is not a part of this contract.

Question No. 10

There are 2 ea 6x6 loop detectors shown on Plan Sheet 8 of 63 to be installed at 30+50+- West Bound Lanes with 2 ea 18/2 Shielded Cables installed back to existing controller. How are these items to be paid for?

County response:

This will be completed by the County's Signal electrical contractor and is not a part of this contract.

Question No. 11

Can you provide the existing bridge as-built drawings?

County response:

The existing construction plans will be provided as an attachment.

The following modifications are included with the Addendum:

No. 1

Replace Construction Plan Sheets 1, 4 through 9, 37 and 40 with the attached sheets.

No. 2

Replace JSPs B-2 and B-3 with the attached JSPs.

No. 3

Delete Item D from JSP 100.10.2 Completion of Project.

No. 4

Delete the following from Item No. 9 Liquidated Damages in the Bid: “Failure to begin installing the loop detectors within the time specified: Liquidated Damages Per Day: \$500.00”

No. 5

Replace the Itemized Bid Sheets with those attached. Modifications are as follows:

Bid items 404-12.71 Superpave Asphaltic Concrete Mixture SP125 (PG- 70-22)CLP and 404-19.06 Superpave Asphaltic Concrete Mixture SP190 (PG 70-22)C is replacing Bid Item 405-30.10 Type “C” Bituminous Concrete (Pavement).

Item No. 408-10.15 Prime-Liquid Asphalt (MC30) was added to the bid

Item No. 904-90.17 Preformed Pull Box (17”W x 30”L x 26”min.H), Reinforced Polymer Concrete w/1’ Concrete Apron was added to the bid

The following quantities were modified:

Bid Item No.	Description	Unit	Original Qty.	Updated Qty.
304-05.04	Type 5 Aggregate Base (4" Thick)	S.Y.	3362.3	2954.9
504-10.20	Concrete Bridge Approach Pavement	S.Y.	43.4	134.4
611-30.20	Furnishing Type 2 Rock Blanket	TON	3760	1350
611-30.40	Placing Type 2 Rock Blanket	TON	3760	1350
624-10.01	Geotextile Fabric, Stabilization and Separation, Class 1 (Heavy Weight)	S.Y.	6636	1960
803-10.00	Sodding	S.Y.	2213	2357
904-52.00	Conduit, 2"	L.F.	3275	545

REVISED ITEMIZED BID SHEET NOS. 1-7 OF 7 ARE ATTACHED AND REFLECT THE CHANGES NOTED IN ITEM NO. 5 ABOVE. FAILURE TO SUBSTITUTE THE ITEMIZED BID SHEETS MAY RESULT IN REJECTION OF THE BID.

REVISED BID DOCUMENT, “BID”, IS ATTACHED AND SHOWS THE CHANGES NOTED IN ITEM NO. 4 ABOVE. FAILURE TO SUBSTITUTE THIS BID DOCUMENT MAY RESULT IN REJECTION OF THE BID.

ATTENTION BIDDERS: THE ADDENDUM ACKNOWLEDGEMENT IN THE BID DOCUMENTS MUST BE COMPLETED AND SUBMITTED WITH ALL BID PROPOSALS.




Daniel A. Howell, Ph.D., P.E.
Supervisor Project Managers

DAH/SRN

Attachments: Bid Item Sheets 1-7 of 7, JSPs B-2, B-3, and B-7, Construction Plan Sheets 1, 4-9, 37 and 40 of 63, Modified JSP 100.10.2, Modified 'Bid' Document, Existing Construction Plans For Bridge No. 164





**ITEMIZED BID
BID OPTION 1 OF 1**

**FEDERAL PROJECT NO. STP-4900(640)
COUNTY PROJECT NO. AR-1518**

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS					
201-20.10	Clearing and Grubbing	L.S.	1		
202-20.10	Removal of Improvements	L.S.	1		
203-10.00	Class "A" Excavation	C.Y.	130.7		
203-10.30	Land Disturbance Permits	L.S.	1		
204-60.10	Embankment in Place	C.Y.	1177		
304-05.04	Type 5 Aggregate Base (4" Thick)	S.Y.	2954.9		
404-12.71	Superpave Asphaltic Concrete Mixture SP 125 (PG 70-22)CLP	TON	339.2		
404-19.06	Superpave Asphaltic Concrete Mixture SP 190 (PG 70-22)C	TON	1850.3		
407-10.27	Tack-Emulsified Asphalt (SS-1H)	GAL.	540		



**ITEMIZED BID
 BID OPTION 1 OF 1**

**FEDERAL PROJECT NO. STP-4900(640)
 COUNTY PROJECT NO. AR-1518**

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS					
408-10.15	Prime-Liquid Asphalt (MC30) 	GAL.	940		
504-10.20	Concrete Bridge Approach Pavement	S.Y.	134.4 		
606-30.95	Type A Crashworthy Guardrail Terminal (50.0ft Length, NCHRP 350 TL-3)	EACH	4		
606-60.01	Guardrail, MGS W-Beam, 6ft 3in Spacing, 8ft Posts	L.F.	275		
606-63.04	Guardrail, MGS, Bridge Approach Transition (No Curb, 37ft 6in)	EACH	4		
611-30.20	Furnishing Type 2 Rock Blanket	TON	1350 		
611-30.40	Placing Type 2 Rock Blanket	TON	1350 		
612-10.20	Moveable Barricades with Model "B" Amber Flashers (2 Each per Barricade)	EACH	6		
612-30.10	Standard Traffic Control Devices	L.S.	1		

**ITEMIZED BID
BID OPTION 1 OF 1**

FEDERAL PROJECT NO. STP-4900(640)
COUNTY PROJECT NO. AR-1518

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS					
619-00.00	Mobilization	L.S.	1		
624-10.01	Geotextile Fabric, Stabilization and Separation, Class 1 (Heavy Weight)	S.Y.	1960 		
802-10.00	Type 1 Mulch (Vegetative)	ACRE	0.3		
803-10.00	Sodding	S.Y.	2357 		
805-10.00	Seeding	ACRE	0.3		
805-30.00	Site Restoration (Bridge Project)	L.S.	1		
806-00.00	Erosion Control Measures (Sites less than 1 acre)	L.S.	1		
SUBTOTAL - ROADWAY ITEMS					

**ITEMIZED BID
BID OPTION 1 OF 1**

**FEDERAL PROJECT NO. STP-4900(640)
COUNTY PROJECT NO. AR-1518**

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
STRUCTURAL ITEMS					
202-10.20	Removal of Bridges	L.S.	1		
206-10.00	Class 1 Excavation	C.Y.	107		
503-10.00	Bridge Approach Slab	S.Y.	252.4		
701-11.07	Drilled Shafts (4 Ft. 6 In. Dia.)	L.F.	252		
701-12.06	Rock Sockets (4 Ft. 0 In. Dia.)	L.F.	48		
701-13.00	Supplementary Television Camera Inspection	EACH	4		
701-14.00	Foundation Inspection Holes	L.F.	88		
701-16.00	Sonic Logging Testing	EACH	4		
702-12.12	Galvanized Structural Steel Piles (12")	L.F.	1620		

**ITEMIZED BID
BID OPTION 1 OF 1**

FEDERAL PROJECT NO. STP-4900(640)
COUNTY PROJECT NO. AR-1518

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
STRUCTURAL ITEMS					
702-50.01	Dynamic Pile Testing	EACH	2		
702-70.00	Pile Point Reinforcement	EACH	20		
703-03.00	Bridge Deck Surface Penetration Sealer	S.F.	8606		
703-20.03	Class "B" Concrete (Substructure)	C.Y.	151.6		
703-42.13	Type 'D' Barrier Curb	L.F.	300		
703-44.40	Bridge Plaque	EACH	1		
703-45.01	Class "B-2" Concrete (Superstructure on Concrete "NU" Girder)	S.Y.	854		
703-71.65	Laminated Neoprene Bearing Pads (P/S Structures)	EACH	32		
705-60.23	Prestressed Concrete Members, NU Girders	L.F.	1027		

**ITEMIZED BID
 BID OPTION 1 OF 1**

FEDERAL PROJECT NO. STP-4900(640)
 COUNTY PROJECT NO. AR-1518

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
STRUCTURAL ITEMS					
706-10.60	Reinforcing Steel (Bridges)	LBS.	55440		
707-10.00	Conduit System on Structure	L.S.	1		
712-36.10	Slab Drain	EACH	12		
715-10.00	Vertical Drain at End Bents	EACH	2		
SUBTOTAL - STRUCTURAL ITEMS					

COUNTY TRAFFIC SIGNAL ITEMS					
904-52.00	Conduit, 2"	L.F.	545		
904-90.17	Preformed Pull Box (17"W x 30"L x 26"min.H), Reinforced Polymer Concrete w/1' Concrete Apron	EACH	2		
SUBTOTAL - COUNTY TRAFFIC SIGNAL ITEMS					

**ITEMIZED BID
BID OPTION 1 OF 1**

FEDERAL PROJECT NO. STP-4900(640)
COUNTY PROJECT NO. AR-1518

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
PROJECT TOTAL - BID OPTION 1 OF 1					



B-2. PROJECT PHASING

In order to accommodate the USACE's remediation of radioactive contamination near the McDonnell Boulevard Bridge No. 164, Project AR-1518 will be broken into three distinct phases.

1. Phase 1 (By Others) - Installation of wireless communication devices for temporary signal interconnect. The wireless communication devices will be installed on the mast arm for eastbound motorists on James S. McDonnell Boulevard at GKN Aerospace Entrance (Station 27+75) and the mast arm for westbound motorist on James S. McDonnell Boulevard at Banshee Road (64+75).

Phase 1 (County Contractor) – Includes the demolition of the existing bridge. The County's Contractor will demolish the existing bridge structure to the existing ground line and dispose of the debris. HGL will provide utility support while the County's Contractor is working within the creek and creek bank area during bridge demolition.

2. Phase 2 (HGL) – Includes the removal of pavement, including all pavement within the construction limits of Project AR-1518, and excavation to remove radiological contaminants along James S. McDonnell Boulevard from west of the bridge to Banshee Road. The pavement demolition debris within the construction limits of Project AR-1518 will be screened for contamination. If it is not contaminated it will be staged in a location for final disposal by the County's Contractor. Pavement debris outside of the construction limits of project AR-1518 will be disposed of by HGL.

HGL will replace the remedial excavation with uncontaminated fill. Within the pavement limits, HGL will bring the fill to 12" below the existing pavement grade. Within Coldwater Creek limits, HGL will bring the fill to 24" below the final Type 2 Rock Blanket elevations.

HGL will also remove portions of the bridge structures below existing grade to the depth necessary for completing remedial actions. The demolition debris from below ground surface will be screened for contamination. If it is not contaminated it will be staged in a location for final disposal by the County's Contractor.

3. Phase 3 (County Contractor) - Construction of a new bridge, roadway and appurtenances from station 28+43.57 to 34+34.82. Construction of new 2" conduit and pull boxes for fiber optic cable from station 27+75 to station 34+34.82.

Phase 3 (By Others) Installation of fiber optic signal interconnect cable from Station 27+75 to Station 64+75.

Phase 3 (County Contractor) - Remove temporary traffic control devices (signs) after the loop detectors are in operation.



B-3. NOT USED

Payment for coordination and communication will not be made. This work shall be considered incidental to the bid items provided in the contract.

B-5. USGS STREAM GAGE REMOVAL

1. There is a USGS Coldwater Creek steam gaging station within the construction limits that needs to be removed and returned to the USGS. The station includes a metal conduit attached to the north end of the bridge that reaches down into Coldwater Creek, plastic conduit that leads northward from the bridge, and a steel box that contains gaging equipment. These items will be removed during bridge demolition and protected on site until the USGS arrives to retrieve them. Contact the USGS at (314) 567-7077 to schedule the retrieval.

Basis of Payment

The above work including coordination with the FUSRAP team, all materials, labor, tools, equipment and all incidentals necessary to complete this item shall be made and considered completely covered under the contract unit price for Item No. 202-10.20, "Removal of Bridges", per lump sum.

B-6. HEIGHT RESTRICTIONS FAA PART 77

The County applied for and received determinations from the FAA regarding potential obstruction to air navigation during construction and after.

1. Document FAA Crane Determination Letter_20210219 is included in the contract documents and the Contractor will review and be familiar with the contents. The findings state that the temporary structure does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in the letter is (are) met.
2. Document FAA_Bridge Determination Letter_20210125 is included in the contract documents and the Contractor will review and be familiar with the contents. The findings state that structure (i.e. Bridge No. 164) does not exceed obstruction standards and would not be a hazard to air navigation provided the condition(s), if any, in the letter is (are) met.

Basis of Payment

No direct pay shall be made for compliance with this project provision.

B-7. UTILITY COORDINATION

1. For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known Utility Companies in the area of the construction work for this improvement.

<u>Utility Name</u>	<u>Known Required Relocation</u>	<u>Anticipated Relocation Completion Date</u>
Mickie Redhage Missouri-American Water	No	

mickie.redhage@amwater.com
314-705-7200
Dave Pruitt
Missouri-American Water
Dave.pruitt@amwater.com
314-966-2396

Nick Eggert Yes November 2023
Spire (Laclede) Gas
nicholas.eggert@spireenergy.com
6400 Graham Road
Berkeley, MO 63134
314-330-5720

Tensley Robinson No
Ameren Missouri
trobinson@ameren.com
1901 Chouteau Ave.
St. Louis, MO 63103
314-406-9957

Ryan Tasker No
MCI (Verizon)
ryan.tasker@verizon.com
314-565-6946
or
Domenic Nicastro
636-459-1600

Wade Weakley No
AT&T Distribution
ww8571@att.com
402 N. 3rd Street
St. Charles, MO 63301
636-692-3326

Charter/Spectrum No
Chris Shelton
chris.shelton@charter.com

St. Louis Pipeline Corp No
Jeff Davis
Jeffdavis.stlouispipeline@hotmail.com
618-978-3868

St. Louis MSD No
Jeffrey Moore

jmoore@stlmsd.com

314-335-2188

The Boeing Company

No

Scott Martin / Jeffrey Rudolph

jeffrey.g.rudolph@boeing.com / scott.a.martin4@boeing.com

314-232-8600 / 314-910-2393

USACE FUSRAP

(HGL is Consultant Representative)

Michael Crutcher

mcrutcher@hgl.com

314-488-0174

St. Louis County DOT

Yes

Traffic Signal Operations

Scott Halter / Marty Koeller

314-581-8987 (Marty Koeller)

shalter@stlouiscountymo.gov / MKoeller2@stlouisco.com

A. St. Louis County does not warrant that the above listing or the depiction of utility lines of facilities on other bidding documents are complete or accurately reflect either all utilities or their precise locations within or adjacent to the project limits or the status of any relocation work. It is therefore, the responsibility of the contractor to verify the above listing information indicating existence, location, and status of any facility. Such verification includes direct contact with the listed utilities.

2. Conflicts/Resolutions

~~A. There is an MSD 42" RCP Sanitary Sewer located just west of proposed bridge H-piling. The proposed h-pile shall be pre-bored as a precaution to prevent conflict with the existing 42" piping. Since this boring will take place after the remedial actions are completed, no contaminated material is expected to be encountered during the drilling.~~

1

B. Spire Natural Gas Pipeline: A 16-inch gas line was located on the north side of the bridge and along McDonnell Boulevard, and an 8-inch branch line crossed McDonnell Boulevard approximately 150 feet west of the bridge. The line along the north side was abandoned in place by Spire after they installed a new pipe and placed it on-line. This section of pipe was installed circa 1952/1953 and is thought to have asbestos-containing material. The USACE has agreed that if this pipe is encountered during remediation excavation, HGL will excavate it, perform necessary testing for asbestos, and perform disposal accordingly. The new 16-inch gas line will be placed south of the proposed bridge.

The 8-inch branch line was included in the relocation by Spire and the line within the Remedial Action was abandoned in place.

C. FUSRAP Wastewater Discharge: This 4-inch wastewater line is attached to the bridge

along the south bottom deck. HydroGeoLogic, Inc. will temporarily take this out of service prior to the bridge demolition and will replace it with a 4" HDPE after the new bridge is constructed.

- D. (MCI) Verizon Fiber Optic: This line was on the north side of the bridge and McDonnell Boulevard and was replaced with a new, deeper, line by Verizon prior to the remedial actions. The existing line was left in place, but is no longer active.
 - E. Inactive (MCI) Verizon Fiber Optic: There is an inactive line segment on the north side of the bridge and McDonnell Boulevard. If this is encountered, it may be removed.
 - F. St. Louis County Fiber Optic Traffic Control: This line is located on the north side of the bridge and McDonnell Boulevard. It will be taken out of service temporarily by the County prior to the Remedial Action and a remotely operated system will be put in place for the duration of the bridge project and Remedial Action.
 - G. AT&T Fiber Optic: This line was in service south of the bridge and was temporarily relocated by AT&T. It will be permanently relocated underground and under the creek once the bridge construction is complete. HGL will install a 4-inch conduit prior to Remedial Action for use by AT&T.
3. The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including, but without limitation, delay, impact, incidental or consequential damages. The contractor's SOLE REMEDY for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation, and any cost to the contractor, its subcontractors, and suppliers in any claim or action arising out of or in relation to the work under the contract.
- A. The contractor's Work Schedule, required by Section 107.5.1 of the St. Louis County Standard Specifications for Road and Bridge Construction, shall reflect coordination of the contractor's work with that of utility relocation including, without limitation, all dependencies of the contractor's or its subcontractor's work upon relocation of utility lines and facilities and the effects of the utility relocations on the required order of work provided in other parts of the contract documents.
 - B. The contractors shall be solely responsible and liable for incidental and consequential damages, to any utility facilities or interruption of the service caused by it or its subcontractor's operations. The contractor shall hold and save harmless St. Louis County from all damages to any utility facilities or interruption of service by it or its subcontractors' operations.
 - C. No direct payment will be made for the contractor's compliance with above special provision.

- D. The requirements of this Special Provision are in addition to or supplement to Sections 105.7 through 105.7.6 of the Specifications and are not a replacement of them except, unless and only to the extent there is direct conflict between these provisions and those of the Specifications.
- 4. It is the responsibility of the Contractor and sub-contractors performing work to contact the Missouri One Call System, Inc. at 1-800-344-7483 (and also St. Louis County Operations Division about signal and/or lighting conduit at 314-615-0215) at least two (2) full working days, but not more than ten (10) working days, before commencing the excavation activity, as per Missouri State Law. The Contractor requesting the locations shall provide all utilities with the project number and area. He shall also specify on which streets construction will be performed and what dates it will begin. If only parts of a street are to be done, the Contractor shall provide street segments affected between the closest intersections. Specific start dates must be given for each street so all utilities can schedule the field locations.
- 5. It shall be noted by the contractor that MoDOT is a member of Missouri One Call (800 Dig Rite). Some work on this project may be in the vicinity of MoDOT utility facilities, which includes but is not limited to traffic signal cables, highway lighting conduits, ITS cables, cathodic protection cables, etc. Prior to beginning work, the contractor shall request locates from Missouri One Call. The contractor shall also complete the Notice of Intent to Perform Work form located at the Missouri Department of Transportation website:

<http://www.modot.mo.gov/asp/intentToWork.shtml>

The contractor shall submit the form over the web (preferred method) or by fax to the numbers on the printed form. The notice must be submitted a minimum of 2 and a maximum of 10 working days prior to excavation just as Missouri One Call requires.

B-8. CONDUIT SYSTEM ON STRUCTURE

1.0 Description. This work shall consist of furnishing and placing all material and equipment and performing all work necessary to create a complete conduit system as shown on the plans. The conduit system for this project is intended to be used to accommodate traffic signal interconnect.

2.0 Materials. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

<u>Item</u>	<u>Section</u>
Electrical Conduit.....	1060
Pull and Junction Boxes for Bridge Conduit	1062

3.0 Construction Requirements.

3.1 Conduit systems shall be free from corrosion, restrictions, sharp edges, and debris. The ends of conduit runs shall be protected by bushings and shall be temporarily capped if conductor cable is not installed immediately. Conduit shall be rigidly held in place to

COUNTY PROJECT NO.	AR-1518		
FEDERAL PROJECT NO.	SFP-4800(840)		
E-WAY GATEWAY TP NO.	BRDC-20		
MSD	20MSD-00355		
MSD BASE MAP	TUK, 10L		
REVISIONS			
REV	DATE	BY	DESCRIPTION
1	8/28/23	KMS	UPDATE QUANTITIES

DISCLAIMER OF LIABILITY: The undersigned certifies that he/she is a duly licensed Professional Engineer in the State of Missouri and that he/she is the author of the design and drawings herein and that he/she is not providing any services in violation of the provisions of the Missouri Professional Engineering Act, Chapter 320, RSMo. The undersigned certifies that he/she is not providing any services in violation of the provisions of the Missouri Professional Engineering Act, Chapter 320, RSMo. The undersigned certifies that he/she is not providing any services in violation of the provisions of the Missouri Professional Engineering Act, Chapter 320, RSMo.



DATE: 08/28/23
 911 WASHINGTON AVE, STE 620
 ST. LOUIS, MO 63101
 OFFICE OF ARCHITECTURE
 NO. 0200207582
 MARK C. SHERMAN
 PROFESSIONAL ENGINEER
 LICENSE NO. 023795



J.S. McDONNELL BLVD.
 BRIDGE NO. 164
 SUMMARY OF QUANTITIES

DESIGNED: NAME
 DRAWN: M.F.B.
 CHECKED: M.S.M.
 SHEET SEQUENCE: 4 OF 63

SUB-TOTALS	TOTALS	UNIT	ITEM NO.	DESCRIPTION	REMARKS	REMARKS
				ROADWAY ITEMS		
1	1	Lump Sum	201-2010	Clearing and Grubbing	Not shown on B-sheet	
1	1	Lump Sum	202-2010	Removal of Improvements	Not shown on B-sheet	
130.7	130.7	Cu. Yard	203-1000	Class "A" Excavation		
1	1	Lump Sum	203-1030	Land Disturbance Permits		
1023	1177	Cu. Yard	204-6010	Embankment in Place	Not shown on B-sheet	
21662.2	29544.9	Sq. Yard	304-05-04	Type 5 Aggregate Base (4" Thick)	Includes 15% Shrinkage Factor	
308.4	339.2	Ton	404-12-71	Superpave Asphalt Concrete Mixture SP125 (PG 70-22)C/P	Estimated at 0.0574 Ton/SY/m, 10% added	
1541.9	1850.3	Ton	404-19-06	Superpave Asphalt Concrete Mixture SP190 (PG 70-22)C	Estimated at 0.0574 Ton/SY/m, 10% added	
529	529	Gal.	407-10-27	Tack-Emulsified Asphalt (ES-1H)	Estimated at 0.20 Gallon/SY	
940	940	Gal.	408-10-15	Prime-Liquid Asphalt (MC-30)	Estimated at 0.35 Gallon/SY	
134.4	134.4	Sq. Yard	504-10-20	Concrete Bridge Approach Pavement	Includes Class "A" Underdrain & Base Rock	
4	4	Each	606-30-05	Type A Crasworthy Guardrail Terminal (SLOPE Length, Nchmp 350-T1-3)		
275	275	Linear Foot	606-60-04	Guardrail, MGS W-Beam, 6ft. 3in Spacing, 8ft Posts		
4	4	Each	606-63-04	Guardrail, MGS, Bridge Approach Transition (No Curb, 37ft Min)		
1350	1350	Ton	611-30-20	Furnishing Type 2 Rock Blanket	Estimated at 1.5 Ton/CY	
1350	1350	Ton	611-30-40	Placing Type 2 Rock Blanket	Estimated at 1.5 Ton/CY	
6	6	Each	612-10-20	Movable Barricades with Model "B" Amber Flashers (2 Each per Barricade)		
1	1	Lump Sum	612-30-10	Standard Traffic Control Devices	Not shown on B-sheet	
1	1	Lump Sum	615-00-00	Medialization	Not shown on B-sheet	
1960	1960	Sq. Yard	624-10-01	Geotextile Fabric, Stabilization and Separation, Class 1 (Heavy Weight)		
0.30	0.3	Acres	802-10-00	Type 1 Mulch (Vegetative)		
2357	2357	Sq. Yard	803-10-00	Sodding		
0.30	0.3	Acres	805-10-00	Seeding		
1	1	Lump Sum	805-20-00	Site Restoration (Bridge Project)	Not shown on B-sheet	
1	1	Lump Sum	806-00-00	Erosion Control Measures (Sites Less Than 1 Acre)	Not shown on B-sheet	
				STRUCTURAL ITEMS		
1	1	Lump Sum	202-10-20	Removal of Bridges		
107	107	Cu. Yard	206-10-00	Class 1 Excavation		
252.4	252.4	Sq. Yard	503-10-00	Bridge Approach Slab		
252	252	Linear Foot	701-11-07	Drilled Shafts (4 Ft. 6 In. Dia.)		
48	48	Linear Foot	701-12-06	Rock Sockets (4 Ft. 0 In. Dia.)		
4	4	Each	701-13-00	Supplementary Television Camera Inspection		
88	88	Linear Foot	701-14-00	Foundation Inspection Holes		
4	4	Each	701-16-00	Sonic Logging Testing		
1620	1620	Linear Foot	702-12-12	Galvanized Structural Steel Piles (12 In.)		
2	2	Each	702-50-01	Dynamic Pile Testing		
20	20	Each	702-70-00	Pile Point Reinforcement		
8606	8606	Sq. Foot	703-03-00	Bridge Deck Surface Penetration Sealer		
151.6	151.6	Cu. Yard	703-20-03	Class "B" Concrete (Substructure)		
300	300	Linear Foot	703-42-13	Type "D" Barrier Curb		
1	1	Each	703-44-40	Bridge Plate		
854	854	Sq. Yard	703-45-01	Class "B-2" Concrete (Superstructure on Concrete "NU" Girders)		
32	32	Each	703-71-65	Laminated Neoprene Bearing Pads (P/S Structures)		
1027	1027	Linear Foot	705-60-23	Prestressed Concrete Members, NU-Girders		
55440	55440	Pound	706-10-60	Reinforcing Steel (Bridges)		
1	1	Lump Sum	707-10-00	Conduit System on Structure		
12	12	Each	712-36-10	Slab Drain		
2	2	Each	715-10-00	Vertical Drain at End Bents		
				COUNTY TRAFFIC SIGNAL ITEMS		
2	2	Each	904-46-40	Wireless Communication Device	By others	
2	2	Each	904-46-41	Wireless Communication Assembly	By others	
545	545	Linear Foot	904-52-00	Conduit, 2"	Does not include conduit cast into new bridge	
173	173	Linear Foot	904-85-06	Cable, Detector Loop #14 Gauge, 1 Conductor, w/Tube Jacket (in sawed slot)	By others	
3834	3834	Linear Foot	904-85-38	Cable, Communication, Fiber Optic, (48 Single-Mode)	By others	
2	2	Each	904-90-17	Preformed Full Box (17' W x 30' L x 26" min. H), Reinforced Polymer Concrete w/1" Concrete Apron	By others	

EARTHWORK SUMMARY (C.Y.)		CUT	FILL	NET
Mainline Section	0.7	1023.43	1022.7	-130.0
Creek Section	1.30			
TOTALS	130.7	1023.4	892.7	

COUNTY PROJECT NO.	AR-1518
FEDERAL PROJECT NO.	STP-4000(840)
EPA CLEAN WATER TP NO.	808DC-20
MSD	20MSD-00355
CONTRACT NO.	
CONTRACT DATE	
CONTRACT DESCRIPTION	
CONTRACT REVISIONS	
REVISIONS	
DATE	
BY	
DESCRIPTION	
REVISIONS	

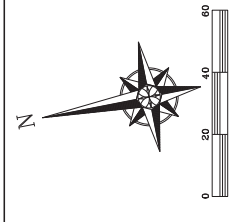
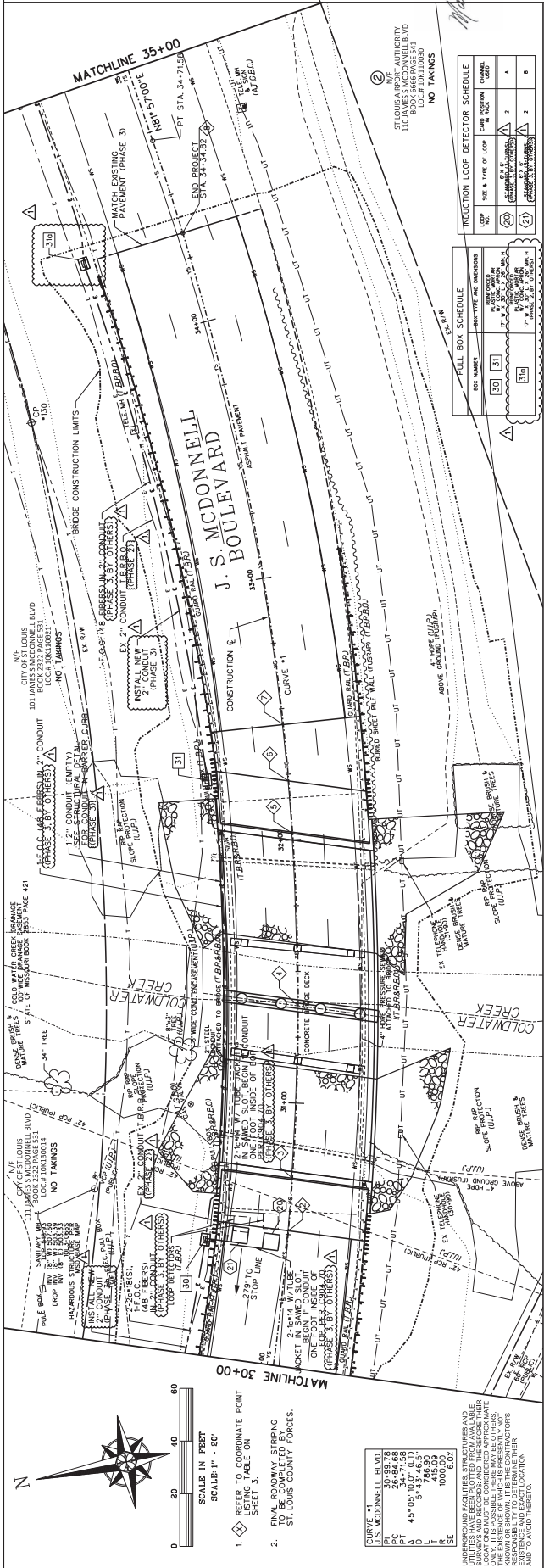


DATE: 08/14/2023
 PROJECT: J.S. McDONNELL BLVD. BRIDGE
 DRAWN: M.B.B.
 CHECKED: M.B.B.
 SHEET NO.: 8 OF 63

ST. LOUIS COUNTY
 PUBLIC WORKS
 TRANSPORTATION

J.S. McDONNELL BLVD.
 BRIDGE NO. 164
 (SHEET 2 OF 3)
 PLAN AND PROFILE SHEET

DESIGNED: M.B.B.
 DRAWN: M.B.B.
 CHECKED: M.B.B.
 SHEET NO.: 8 OF 63



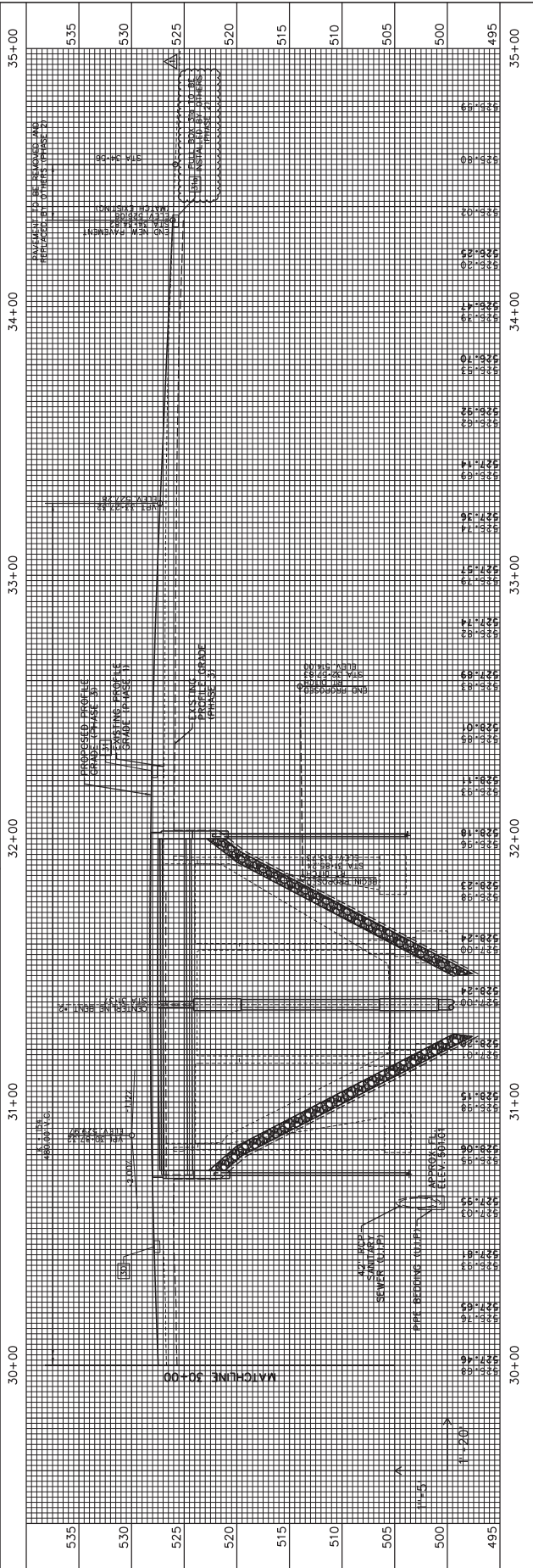
- REFER TO COORDINATE POINT TABLE ON SHEET 3.
- FINAL ROADWAY STRIPING TO BE COMPLETED BY ST. LOUIS COUNTY FORCES.

UTILITY	U.S. McDONNELL BLVD.
PI	30+89.78
PI	30+90.00
PT	34+71.58
PC	30+00.00
PO	45+05.05
LO	30+00.00
LI	30+00.00
LE	1000.00
EA	0.02

UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE RECORDS AND FIELD SURVEY. THESE ARE NOT TO BE CONSIDERED AS GUARANTEED LOCATIONS UNLESS SPECIFICALLY NOTED OTHERWISE. ONE (1) FOOT BEARING THESE MAY BE OTHERS. UNKNOWN OR SHOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXISTENCE AND EXACT LOCATION AND TO PROTECT THEREOF.

INDICATION	LOOP	TYPE	DEPTH	LOCATION	DEPTH
①	①	①	①	①	①
②	②	②	②	②	②
③	③	③	③	③	③
④	④	④	④	④	④
⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧

BOX NUMBER	DEPTH	LOCATION	DEPTH
30	3	①	①
31	3	②	②
32	3	③	③
33	3	④	④
34	3	⑤	⑤
35	3	⑥	⑥
36	3	⑦	⑦
37	3	⑧	⑧



COUNTY PROJECT NO. AR-1518
 FEDERAL PROJECT NO. STP-4800(840)
 E-WAY GATEWAY TIP NO. 885CC-20
 MSD: 20MSD-000355
 CADD BASE MAP: TDK, TOL

REV	DATE	BY	APP	DESCRIPTION
1	8/22/23	SMS	AME	UPDATED SCOPE & PHASING

DISCLAIMER OF LIABILITY: THE DESIGNER SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM BY THE CLIENT. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM BY OTHER SOURCES. THE DESIGNER SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION PROVIDED TO HIM BY OTHER SOURCES.

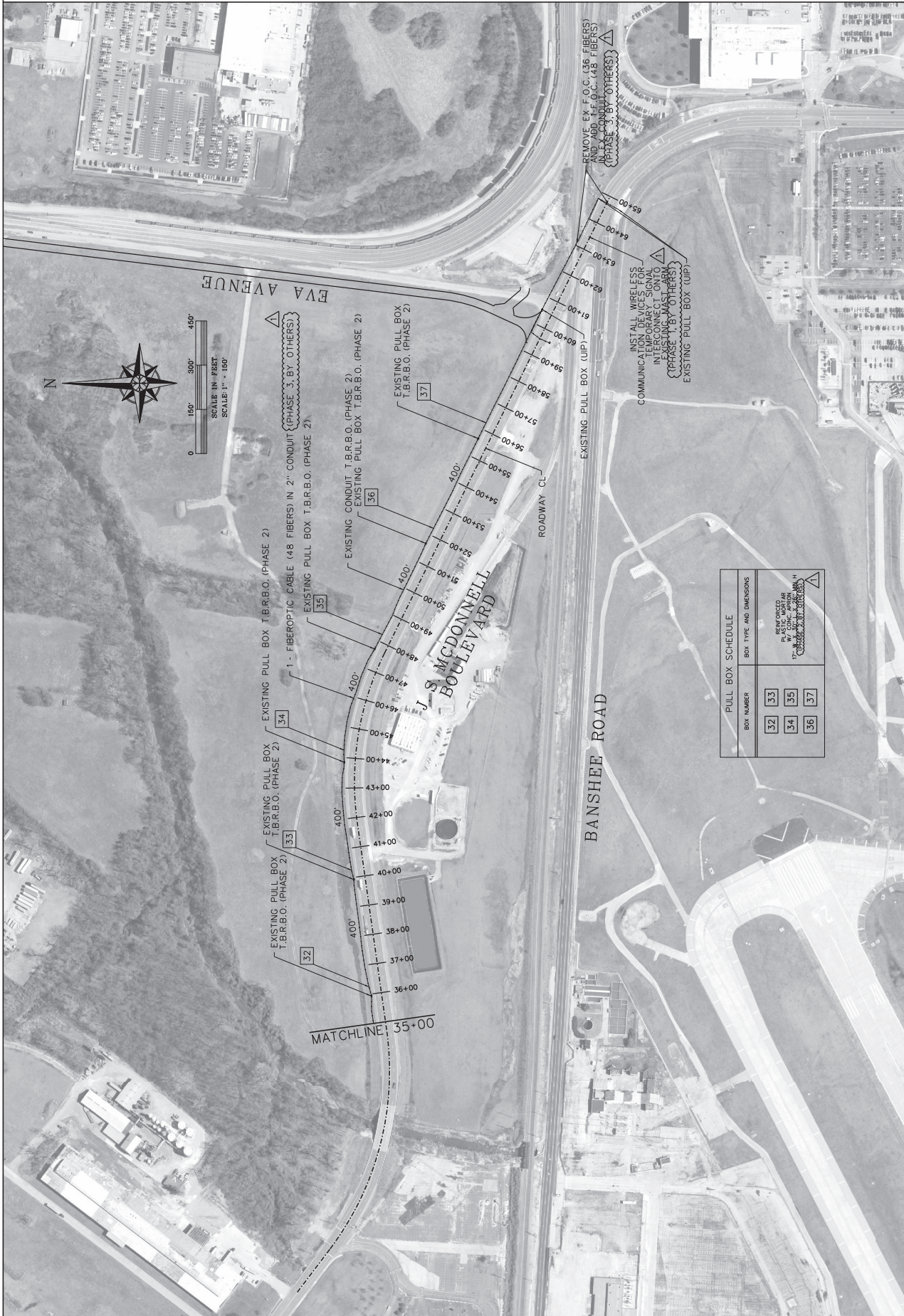


DATE: 08/22/23
 M.A. Eshelman
 PROFESSIONAL ENGINEER
 LICENSE NO. 023795
 911 WASHINGTON AVE, STE 220
 ST. LOUIS, MO 63104
 CENTERLINE OF ALTHORP

South County
TRANSPORTATION
PUBLIC WORKS

J.S. McDONNELL BLVD.
 BRIDGE NO. 164
 (SHEET 3 OF 3)

DESIGNED: M.A.E.
 DRAWN: M.A.E.
 CHECKED: M.S.M.
 SHEET SEQUENCE: 9 OF 63



PULL BOX SCHEDULE	
BOX NUMBER	BOX TYPE AND DIMENSIONS
32	PLASTIC W/STAIR
33	PLASTIC W/STAIR
34	PLASTIC W/STAIR
35	PLASTIC W/STAIR
36	PLASTIC W/STAIR
37	PLASTIC W/STAIR

COUNTY PROJECT NO.
AR-1518

FEDERAL PROJECT NO.
STP-4800(B&D)

E-W GATEWAY TIP NO.
B&D-C-28

MSD 20MSD-00355

BASE MAP
TUM, TOL

REVISIONS

REV	DATE	BY	APP	DESCRIPTION
1	5/15/22	JLS	MSN	ADDED HANGER INSERTS

DESIGNER OF RECORD
STRUCTURES, INC.
1114 GRAVVOIS RD. SUITE 201
ST. LOUIS, MO 63128
MO. P.E. NO. E-23293
PROFESSIONAL ENGINEER
STATE OF MISSOURI
CIVIL ENGINEER

DATE: 01/06/2023



TRANSPORTATION
PUBLIC WORKS
COUNTY

J.S. McDONNELL BLVD.
CAMBER, HAUNCHING &
SLAB ELEVATIONS

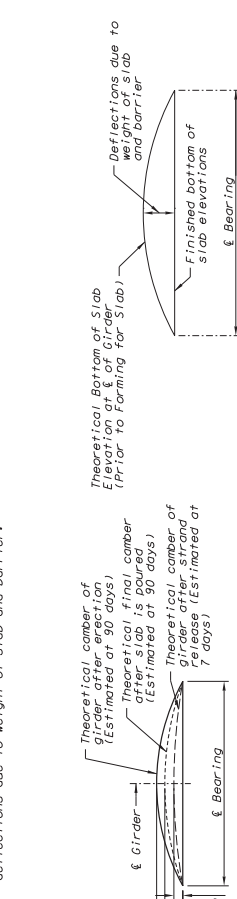
DESIGNED: J.L.G.
DRAWN: R.S.N.
CHECKED: J.L.G.
SHEET REFERENCE:
37 OF 63

BRIDGE SHEET NO.
25 OF 43
MODOT BRIDGE NO.
05B164
ST. LOUIS COUNTY BRIDGE NO.
164

Theoretical Bottom of Slab Elevations at 90 Days*
(Prior to Forming for Slab)

Girder Number	Span (1-2) (63'-6 1/2" @ brg - 50				Span (2-3) (63'-6 1/2" @ brg - 75					
	brg.	brg.	brg.	brg.	brg.	brg.	brg.	brg.		
1	525.81	525.89	525.96	526.00	526.02	526.01	526.02	526.02	525.99	525.94
2	526.25	526.34	526.41	526.45	526.47	526.46	526.47	526.48	526.45	526.40
3	526.70	526.79	526.86	526.90	526.92	526.91	526.92	526.93	526.90	526.85
4	527.15	527.24	527.30	527.34	527.36	527.36	527.36	527.38	527.35	527.30
5	527.60	527.68	527.75	527.79	527.81	527.81	527.81	527.83	527.80	527.75
6	528.05	528.13	528.20	528.24	528.26	528.26	528.26	528.28	528.25	528.20
7	528.50	528.58	528.65	528.69	528.70	528.70	528.73	528.73	528.70	528.66
8	528.95	529.03	529.09	529.13	529.15	529.17	529.18	529.18	529.16	529.11

* Elevations are based on a constant slab thickness of 8 1/2" and include allowance for theoretical dead load deflections due to weight of slab and barrier.



GIRDER CAMBER DIAGRAM

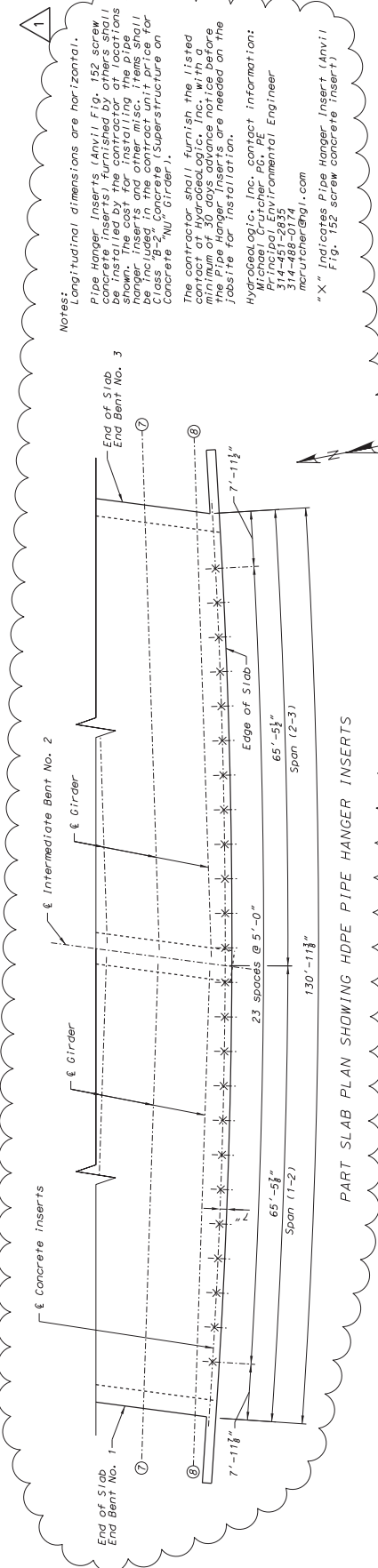
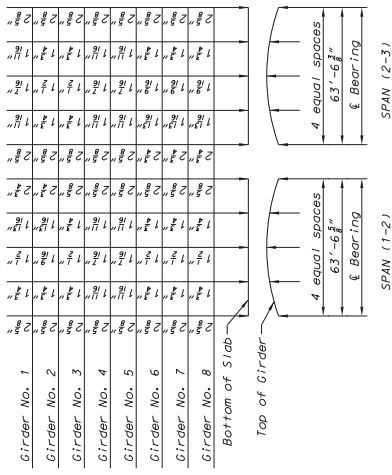
Conversion factors for girder camber (Estimated at 90 days):
0.25 pt. = 0.7125 x 0.5 pt.

Girder	Span (1-2)		Span (2-3)	
	"a"	"b"	"a"	"b"
Exterior	1 1/2"	1"	1 1/2"	1 1/2"
Interior	1 1/2"	1"	1 1/2"	1"

THEORETICAL SLAB HAUNCHING DIAGRAM

If girder camber is different from that shown in the camber diagram, in or haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary. No payment will be made for labor and materials required for variation in haunching, slab thickness or grade adjustment.

Concrete in the slab haunches is included in the Estimated Quantities for Class "B-2" Concrete (Superstructure on Concrete "NU" Girder). Haunching values estimated at 90 days are shown.



Notes:
Longitudinal dimensions are horizontal.
Pipe Hanger Inserts (Anvil Fig. 152 screw inserts) shall be installed by the contractor at locations shown. The cost for installing the pipe hanger inserts and other misc. items shall be included in the contractor's estimate for Class "B-2" Concrete (Superstructure on Concrete "NU" Girder).
The contractor shall furnish the listed Hydrocalogic, Inc. piercap information: Hydrocalogic, Inc. piercap information: 314-451-2635, 147-88-0000, mcshuchter@h1.com
"X" Indicates Pipe Hanger Insert (Anvil Fig. 152 screw concrete insert).

THIS DRAWING IS NOT TO SCALE. FOLLOW DIMENSIONS

8/17/2023 11:04:17 AM

100.10.2 COMPLETION OF PROJECT

- A. The work on this project shall commence on the date specified in the "Notice To Proceed" and completed in not more than 105 working days (excludes USACE remediation work) from said commencement date unless additional time is granted by the Director. Due to seasonal limitations, sodding and crack sealing may be completed after the dates shown on the schedule, if authorized by the Resident Engineer.
- B. After the contract is awarded St Louis County will coordinate with the contractor to set a mutually agreed upon Notice to Proceed. The count of working days shall commence on the Notice to Proceed, or on the date the contractor starts any construction operations on the project, whichever is sooner.
- C. Liquidated damages in the amount of \$2,025 per day will be charged after the expiration of the time stipulated for each and every calendar day that all work remains uncompleted.
- ~~D. The Contractor shall have the replacement loop detectors in place and operational before opening James S. McDonnell Blvd. to traffic.~~

1

100.10.3 WORKING RESTRICTIONS

- A. On each of the project sites, the Contractor shall confine his operations and restrict the storage of equipment and materials to the easement areas shown on the plans. The Contractor will not be permitted to operate equipment or store material on roadways or drives that are normally in use by the public.
- B. The Contractor shall use every precaution to prevent damage to private and public utility lines, conduits, and other improvements. The Contractor will be responsible for all damage to any utility or other such improvement due to his operations, and shall repair or replace as necessary any such damaged facility or make payment to the owner for repair or replacement. Trees and shrubs in the easement areas not specifically marked To Be Removed (TBR) shall be carefully preserved.
- C. Sequence of work:
 - 1. The contractor will demolish the bridge to ground level
 - 2. The contractor will demobilize the site
 - 3. FUSRAP will perform remedial actions at the site (estimated 10 months)
 - 4. FUSRAP will demobilize the site
 - 5. The contractor will remobilize the site
 - 6. And then the contractor will reconstruct the bridge
- D. No direct payment will be made for compliance with this provision.

100.10.4 ADDENDUMS

It is the responsibility of the bidder to ensure his or her prospective subcontractors are aware of any addendums issued to the Plans or Construction Contract and Specifications for this project.

100.10.5 CONSTRUCTION DOCUMENTS PROVIDED TO CONTRACTOR

- A. County will provide the Contractor, free of charge, Five (5) full size and Five (5) half size sets of plans and Five (5) executed Contract books.

1

Addendum 1

BID

Project Name: James S. McDonnell Blvd. Bridge No. 164
County Project No.: AR-1518
Federal Job No.: STP-4900(640)
Limits: 0.6 Miles SE of Lindbergh Blvd.

TO: St. Louis County

1. DESCRIPTION. For constructing (or improving) the project designated above, consisting of clearing and grubbing, grading, excavation, concrete pavement and approaches, new bridge, new guardrail treatments, placement of revetment, seeding, sodding and other incidental items necessary to complete the above in a workmanlike manner within St. Louis County and other incidental items necessary to complete the above in a workmanlike manner.
2. SPECIFICATIONS, CONTRACT AND BOND. The specifications, contract and bond governing the construction of the work contemplated are those known and designated as the St. Louis County Department of Transportation Standard Specifications for Road and Bridge Construction, approved by the St. Louis County Council, together with the "Special Provisions, Job and General," if any, attached to this bid.
3. PLANS. The plans herein referred to are plans approved by the Director and marked with the project and section numbers set out above, together with all standard or special designs that may be designated in such plans.
4. MISCELLANEOUS. The undersigned, as bidder, declares that the only persons or parties interested in this bid as principal are those named herein; that this bid is made without collusion or combination of any kind or character with any other person, firm, association or corporation, or any member or officer thereof; that he/she has carefully examined the location of the proposed work, the plans, Standard Specifications, and special provisions heretofore mentioned, and the form of contract and contract bond; that he/she proposes, and agrees, if this bid is accepted, to execute the contract and bond and secure execution of the bond by satisfactory surety and to provide all necessary machinery, tools, apparatus and other means of construction, and will do all the work and furnish all the materials specified in the contract in the manner and time therein prescribed, and in accordance with the requirements of the Director as therein set forth; and that he/she will accept in full payment therefore the amount or amounts certified by the Director in accordance with the bid, specifications and contract.
5. NONDISCRIMINATION. The undersigned, as bidder, understands that in any project involving participation of federal funds, the bidder awarded the contract will be required to comply, and to cause his/her subcontractors, if any, to comply, with all federal statutes, regulations and directives concerning discrimination against any person in connection with the contract, on account of race, color, religion, creed, sex, age, ancestry, or national origin, and that such nondiscrimination extends to procurement of materials and lease of equipment for use in connection with the contract.
6. QUANTITIES. It is understood by the undersigned that the quantities given in the following itemized bid are not guaranteed by the County and are used solely for the purpose of comparing bids and awarding the contract, and may or may not represent the actual quantities encountered on the job; and that the sum of the products of the quantities listed in the following itemized bid, multiplied by the unit price bid, shall constitute the gross sum bid.

7. ITEMIZED BID. The undersigned submits the following itemized bid and hereby authorizes the Director to correct any multiplication of "Unit Price" by "Quantity" as shown under "Amount" when copying the itemized bid sheet(s) into any contract.
8. TIME FOR COMPLETION. If this bid is accepted the undersigned hereby agrees that work will begin not later than the authorization date in the Notice to Proceed and will be diligently prosecuted at such rate and in such manner as, in the judgment of the Director, is necessary for the completion of the work within the time specified as follows:

Working Days: 105 (excludes remediation)

9. LIQUIDATED DAMAGES. The undersigned further agrees that, should he/she fail to complete the work on the date, or in the time specified, or such additional time as may be allowed by the Director under the contract, the amount of liquidated damages to be recovered, in accordance with the requirements of Section 108.7 of the Standard Specifications, shall survive as follows:

Liquidated Damages Per Day: \$2,025

~~Failure to begin installing the loop detectors within the time specified:~~

~~Liquidated Damages Per Day: \$ 500.00~~

Failure to begin temporary striping within the time specified:

Liquidated Damages Per Hour: \$ 200.00

10. BID GUARANTEE. The undersigned submits and attaches to this bid a bid guarantee meeting the following requirements: Each Bid shall be accompanied by a certified check or cashier's check equal to five (5) percent of the total bid, payable to "Treasurer, St. Louis County", to the use of the County, or a bidders bond, in like sum, executed by a surety company authorized to so business in the State of Missouri, as a guarantee on the part of the bidder that if its bid be accepted, it will, within ten (10) days after receipt of notice of such acceptance, enter into a contract and bond to do the work advertised; and, in case of default, forfeit such bid guaranty. The provisions of Section 103.4.1 shall also apply to this bid guaranty. Bid guarantees will be returned as per Section 103.3, Standard Specifications.

11. SUPERVISION OF WORK. The undersigned intends to have the following person(s) supervise the work:

1

12. CONTACT INFORMATION. The undersigned designates the following person(s) as the point of contact for questions regarding this bid proposal and contract execution.

Contact Name: _____

Contact E-Mail Address: _____

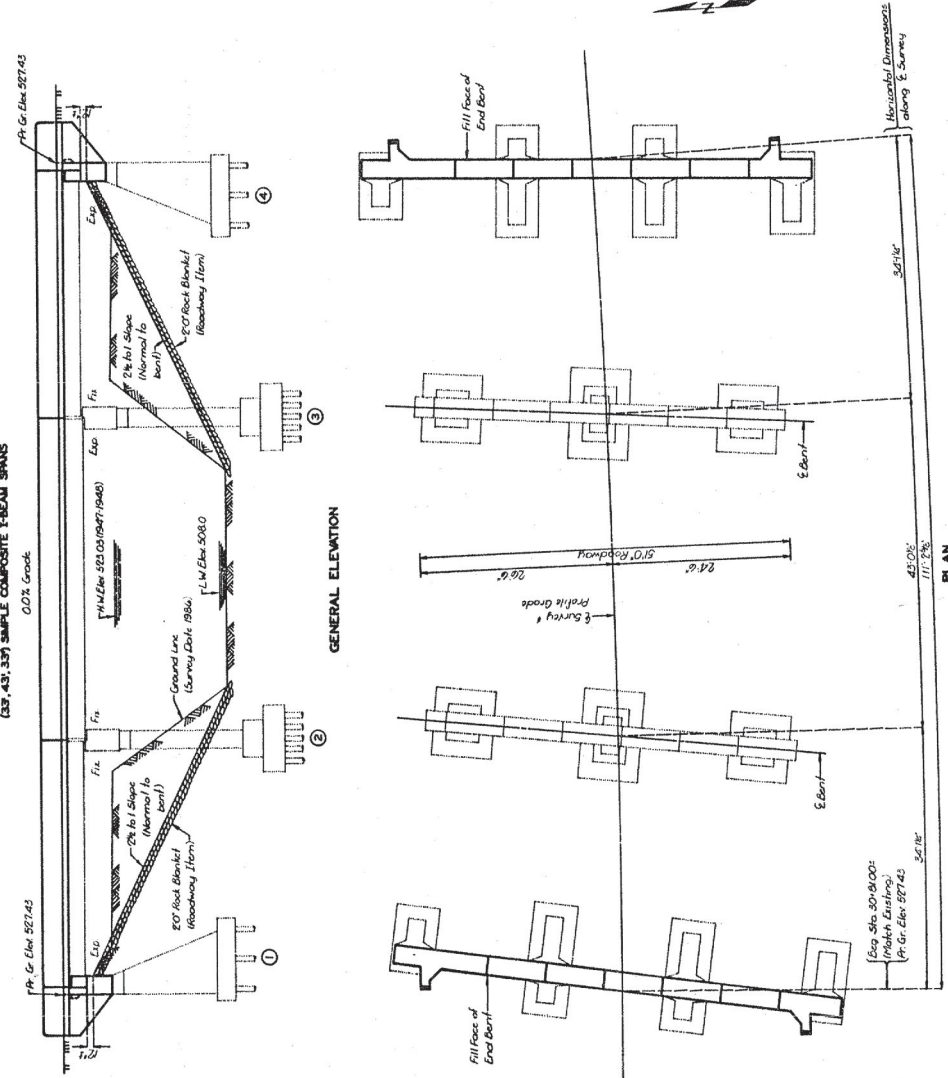
Phone Number: _____ Fax Number: _____

Contact Mailing Address: _____

MISSOURI HIGHWAY AND TRANSPORTATION COMMISSION

STATE	PROJ. NO.	SHEET
MO	G-U-TT-470	27
SEC. 5	TWP. 46N	RGE. 6E

U.E.P. REPAIR & REDECK
(287.437.357) SIMPLE COMPOSITE TIE-BEAM SPANS
0.07% Grade



GENERAL NOTES:

- Design Specifications: RR-517.0, 1983 and Interims thru 1986
Load Factor Design
- Design Loading: Modified 24,000# tandem axle
30'ha ft. full; Warning Surface
Earth: 120'ha ft.; Equivalent Fluid Pressure: 30'ha ft.
Fatigue Stress: Case II
- Design Unit Stresses:
Class B Concrete (Substructure) $f_c = 3,000 \text{ psi}$
Class B Concrete (Solely Barrier Curbs) $f_c = 4,000 \text{ psi}$
Class B Concrete (Superstructure cast-in-place Barrier Curbs) $f_c = 4,000 \text{ psi}$
Reinforcing Steel (Grade 60) $f_y = 60,000 \text{ psi}$
Structural Carbon Steel $f_y = 36,000 \text{ psi}$
- Joint Filler: All joint filler shall meet the requirements of Std. Spec. 605.02.4, except omitted Reinforcing Steel.
- Minimum clearance to reinforcing steel shall be 1"; unless otherwise shown: bars located in old concrete, not removed, shall be closely 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.
- All reinforcing bars in legs of substructure beams or caps shall be spaced to clear anchor bolts for bearings by at least 1".
- Paint: System B by Contractor in accordance with Std. Spec. 702.14. (Color of the final field coat shall be green).
- Note: Outline of old work is indicated by light dashed lines. Heavy lines indicate new work. Traffic over structure to be maintained during construction.

ITEM	SUBSTR.	SUPERSTR.	TOTAL
Partial Removal of Substructure Concrete	Lans. Surv.		1
Removal of Existing Bridge Deck	So. Fl.	3.970	3.970
Class B Concrete	Curb	57.2	57.2
Solely Barrier Curbs	Curb	16.55	16.55
Reinforcing Steel (Cast-in-place)	US	2.44	2.44
Structural Carbon Steel (Misc.)	US	11.650	11.650
Formwork (System B) Green	Each	44.070	44.070
Formwork (System B) Green	Ter.	14.50	14.50
Formwork (System B) Green	Each	4.2	4.2
Formwork (System B) Green	Ter.	5.55	5.55

B.M. 79' 0" Elev. 522.61 800 Spike in base of power pole 28' L.F. Sta. 20+52.9
Rte. TT app. Gate 87E USGS Column

BRIDGE OVER COLDWATER CREEK
STATE ROAD FROM RTE. 67 TO AIRPORT RD.
ABOUT 0.6 MILE S.E. OF RTE. 67
PROJECT NO. G-U-TT-470 STA. 30+81
JOB NO. 6-U-TT-470 RTE. TT
ST. LOUIS COUNTY

STD.	700.35
L-424R	

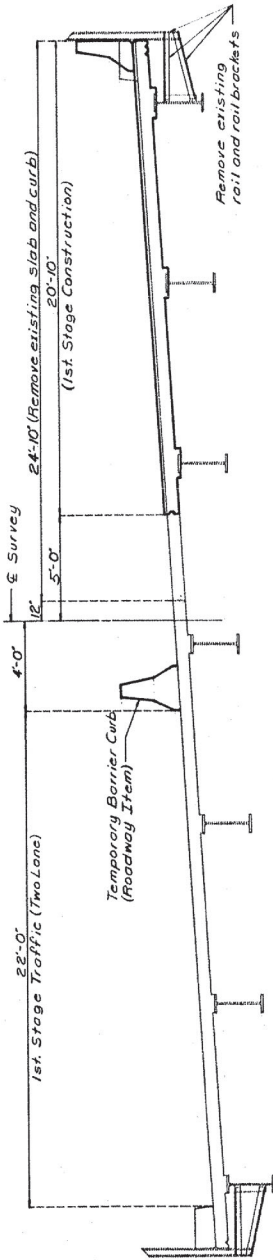
DATE 4/11/85
FOR RELATED ROAD WORK SEE SMALL PLANS
Sheet No. 1 of 10

DESIGNED Feb. 1985
DETAILED Mar. 1985
CHECKED Mar. 1985

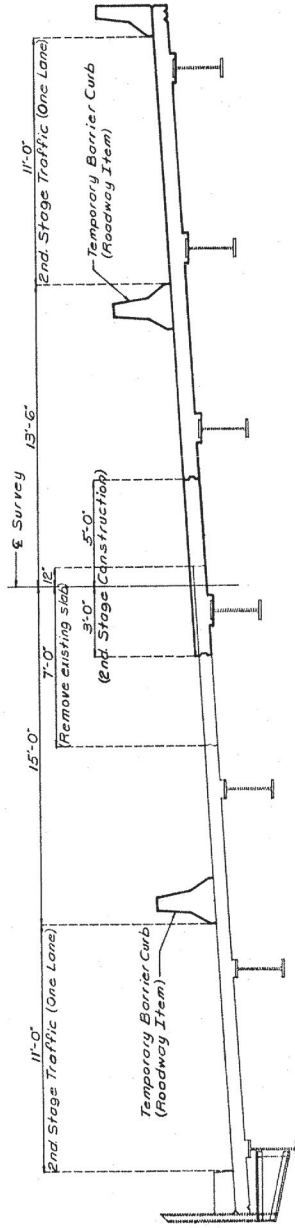
J.S. McDonnell Blvd. Bridge #164

J.S. McDonnell Blvd. Br. #164

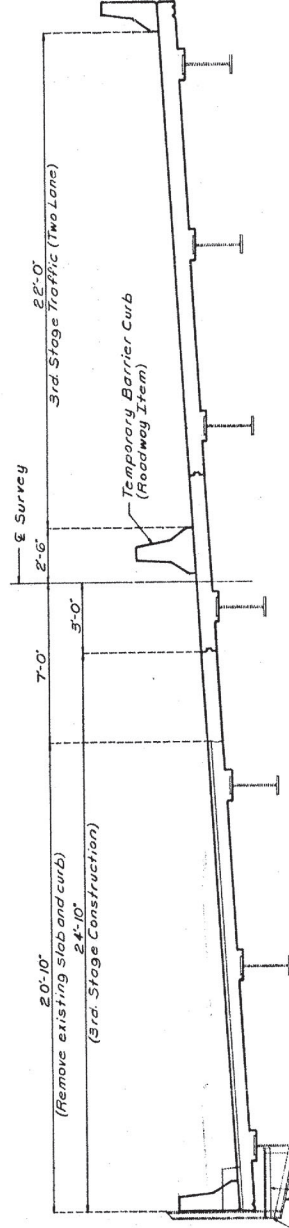
STATE	PROJ. NO.	SHEET
MO.	6-U-TT-470	NO.
		28



STAGE ONE CONSTRUCTION



STAGE TWO CONSTRUCTION

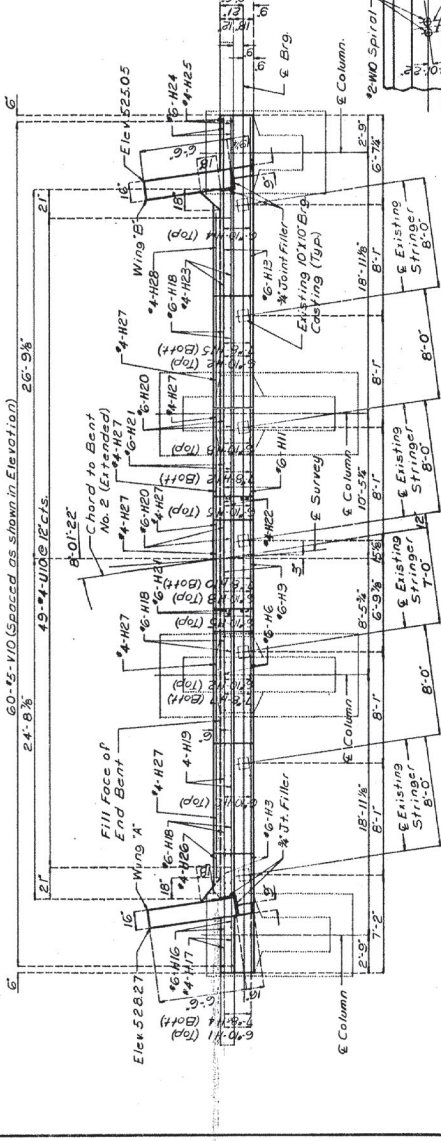
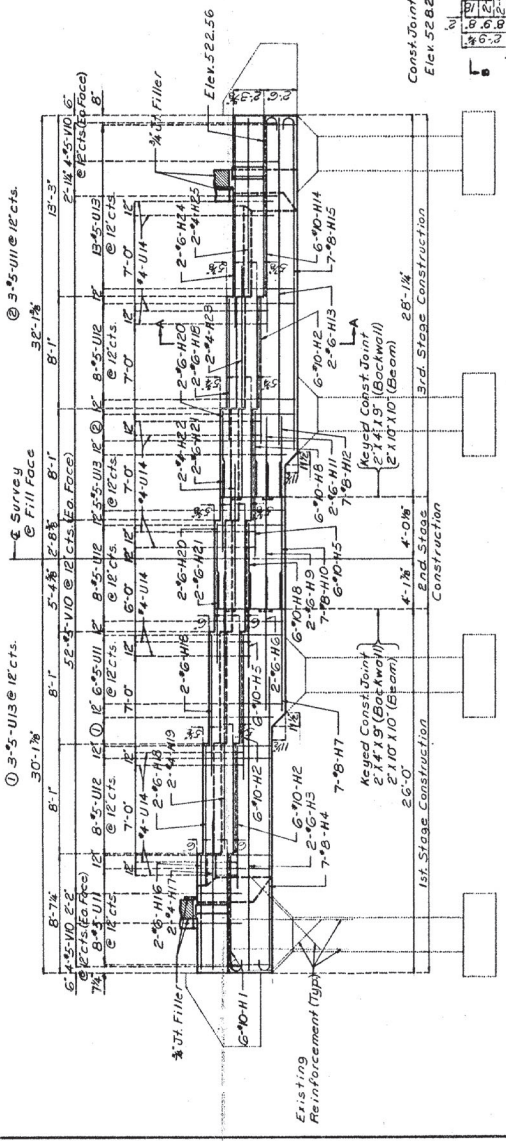
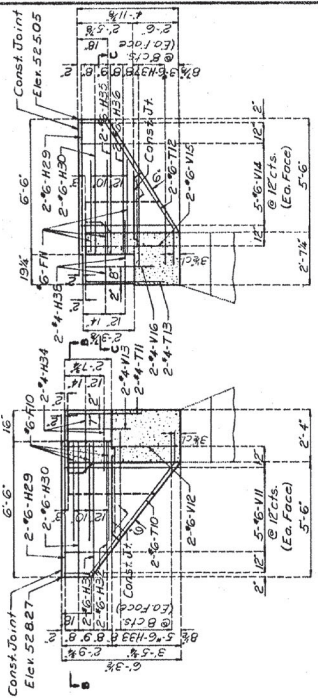
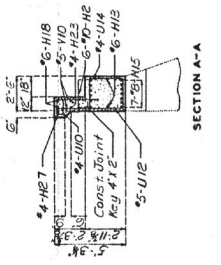
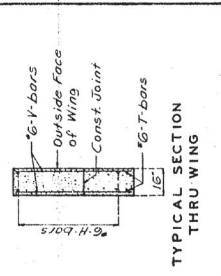


STAGE THREE CONSTRUCTION

Note: Dimensions shown are radial.

STATE NO.	6-U-TT-470	SHEET NO.	29
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Note: Place 2-layers of 30" roofing felt on contact surface between top of backwall and slab.



PLAN DETAILS OF END BENT NO. 1

ST. LOUIS COUNTY

L-424-R

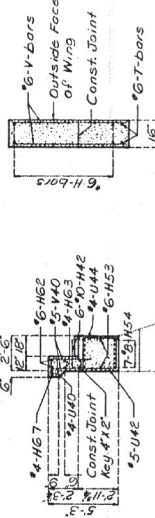
Part Plan Showing Location of Anchor Bolts (Typ)

Plan Details of End Bent No. 1

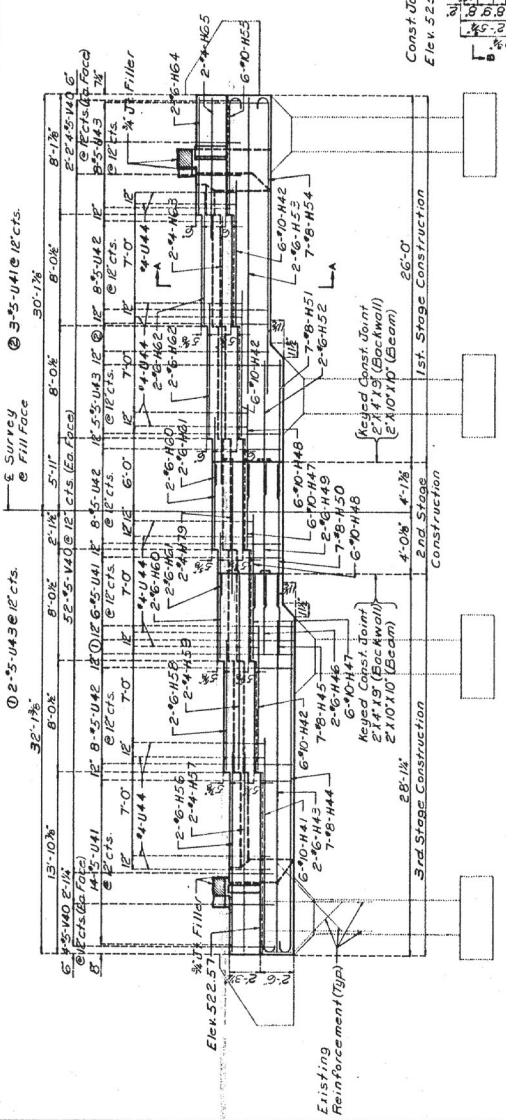
DATE: Feb. 19 68
CHECKED: M.A.P.

DATE	PROJ. NO.	SHEET NO.
NO	6-U-TT-470	30

Note: Place 2-layers of 50' roofing felt on contact surface between top of backwall and slab.



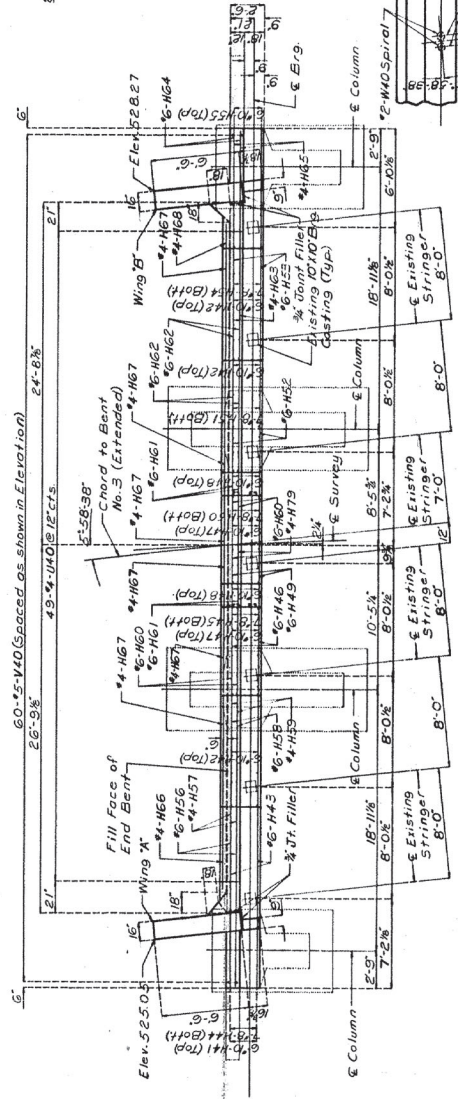
TYPICAL SECTION THRU WING



Note: For details of Anchor Bolt Wall See these details of Safety Barrier Curb see sheet no. 6

Note: Remove existing wings beam and backwall.

ELEVATION



Note: Existing stringer

Note: Existing stringer

PART PLAN SHOWING LOCATION OF ANCHOR BOLTS (TYP)

SECTION A-A

SECTION B-B

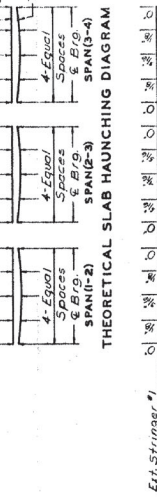
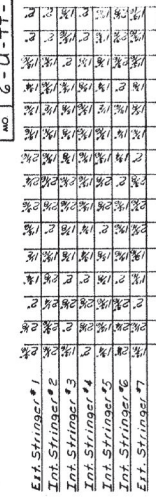
SECTION C-C

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

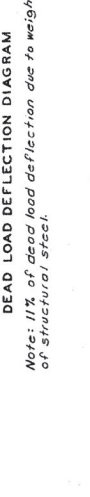
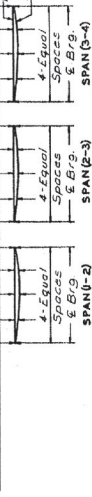
DETAILS OF PLAN END BENT NO. 4.

DATE: 10/88
CHECKED: M.C.C.
10/88

STATE	PROJ. NO.	SHEET NO.
MO.	6-U-TT-470	31

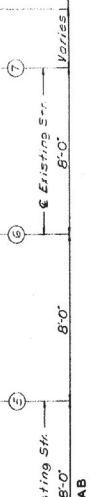
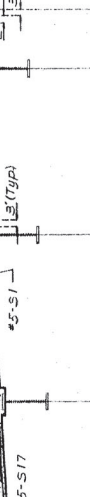


STRINGER NO.	A	B	C	D	E	F	G	H
1	50-8%	5%	5%	40-8%	6%	5%	5%	6%
2	51-9%	5%	5%	41-9%	6%	5%	5%	6%
3	52-10%	5%	5%	42-10%	6%	5%	5%	6%
4	53-11%	5%	5%	43-11%	6%	5%	5%	6%
5	54-12%	5%	5%	44-12%	6%	5%	5%	6%
6	55-13%	5%	5%	45-13%	6%	5%	5%	6%
7	56-14%	5%	5%	46-14%	6%	5%	5%	6%

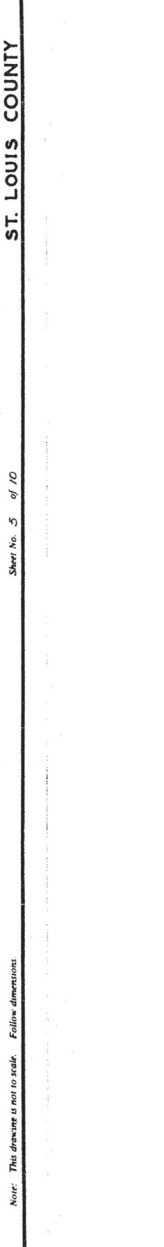


ITEM	SPAN (2-3)	SPAN (4-3)
Chord L	33'-7 1/2"	41'-9"
Chord R	34'-1 1/2"	43'-0"
Chord L	35'-0"	44 1/2"
Chord R	35'-0"	44 1/2"
W16	17 1/2"	17 1/2"
W18	18"	18"
W15	15"	14"
W20	20"	19"

ITEM	SPAN (2-3)	SPAN (4-3)
Chord L	33'-7 1/2"	41'-9"
Chord R	34'-1 1/2"	43'-0"
Chord L	35'-0"	44 1/2"
Chord R	35'-0"	44 1/2"
W16	17 1/2"	17 1/2"
W18	18"	18"
W15	15"	14"
W20	20"	19"

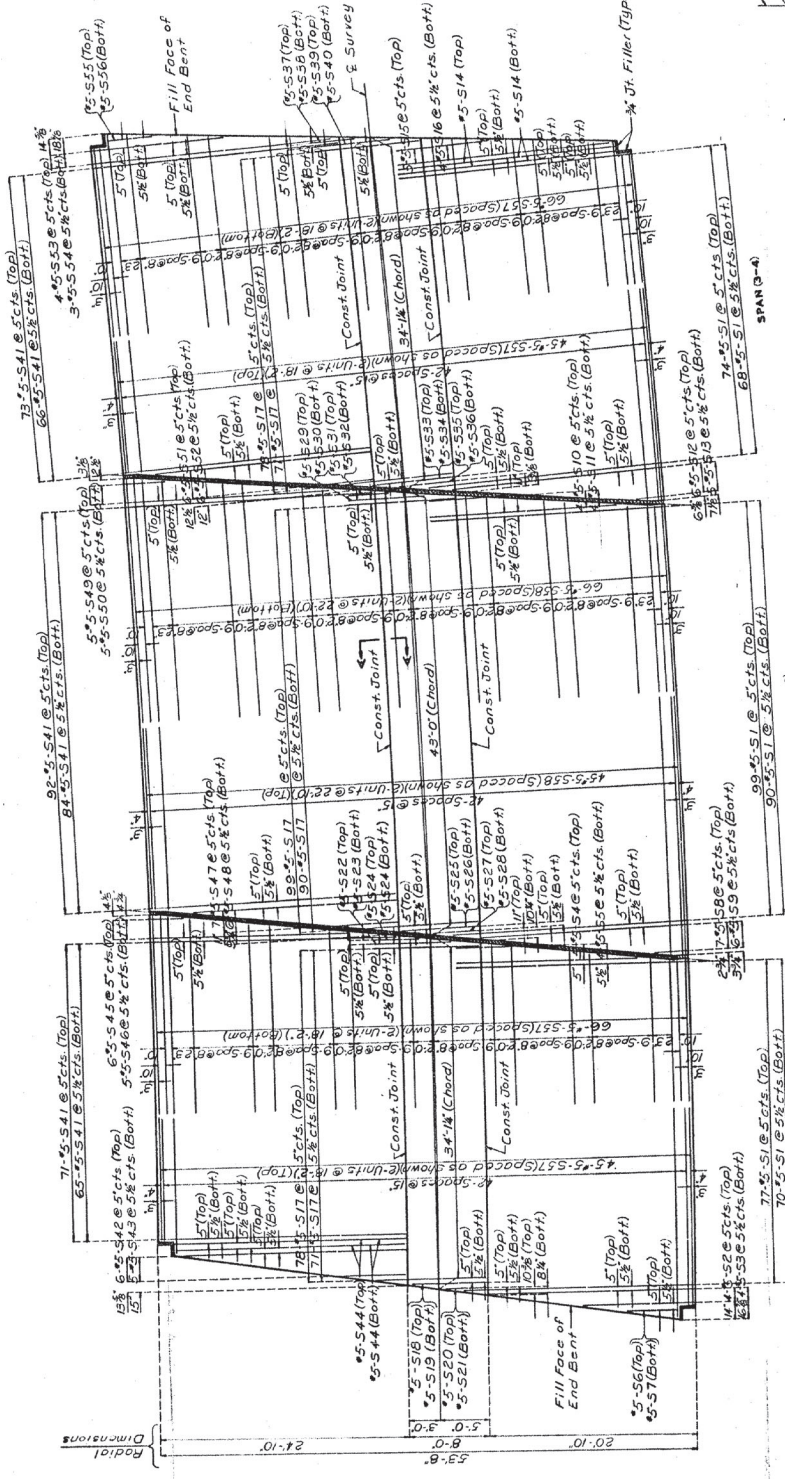


DEAD LOAD DEFLECTION DIAGRAM
 Note: 11% of dead load deflection due to weight of structural steel.

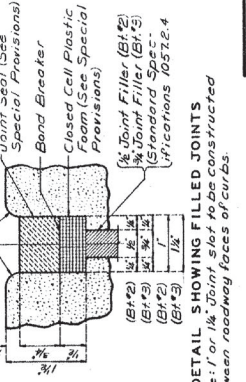


SECTION THRU SLAB
 Note: Span (1-2) and Span (3-4) shown Span (2-3) similar.
 Notes: This drawing is not to scale. Follow dimensions.

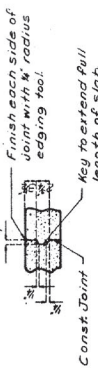
DATE	REV. NO.	SHEET NO.
6-11-70	4-70	32



PLAN OF SLAB SHOWING REINFORCEMENT



DETAIL SHOWING FILLED JOINTS
Note: For 1/2" Joint Spol, see construction between roadway faces of curbs.

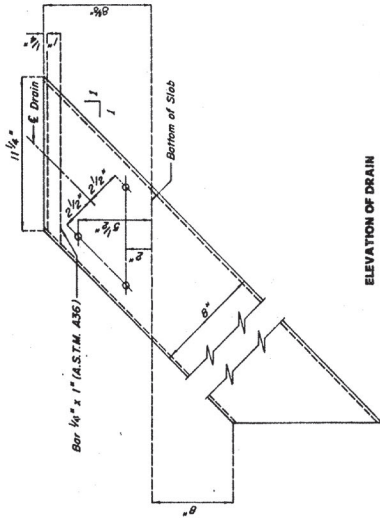


SECTION A-A

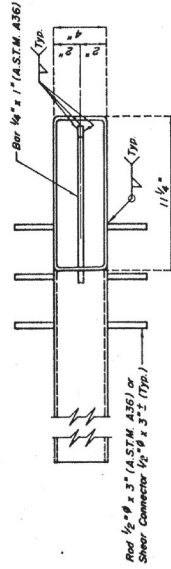
Notes: All longitudinal dimensions are measured along & chord & Survey.
Longitudinal reinforcement to be placed parallel to & Survey.
Transverse reinforcement to be placed perpendicular to the chord.
Theoretical Slab Haunching Diagram
Dead Load Deflection Diagram and Slab Curvature Ordinates
see sheet no. 5.
For details and reinforcement of Safety Barrier Curt see sheet no. 6.
For details of Slab Drains see sheet no. 7.
Haunch slabs to bear on End Diaphragms.

DATE	PROJ. NO.	SHEET NO.
6-11-70	470	33

GENERAL NOTES:
 1. THE SPACING OF REBAR 1/2" DIAMETER SHALL BE AS PER A.S.T.M. A36.
 2. ALL STEEL SHALL BE STRUCTURAL STEEL (A.S.T.M. A36 OR A501).
 3. LOCATE DRAINS IN THE SLAB BY DIMENSIONS SHOWN IN THE PART ELEVATION OF DRAIN.
 4. REBAR SHALL BE CALVANIZED IN ACCORDANCE WITH A.S.T.M. A132.
 5. SHOP DRAWINGS WILL NOT BE REQUIRED FOR THE SLAB DRAINS.

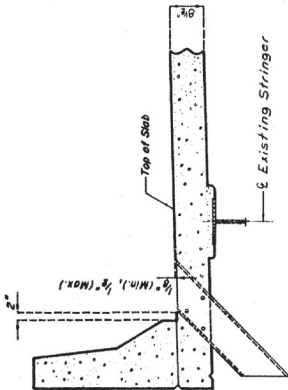


ELEVATION OF DRAIN

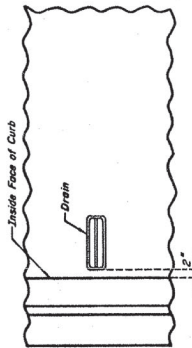


PLAN OF DRAIN

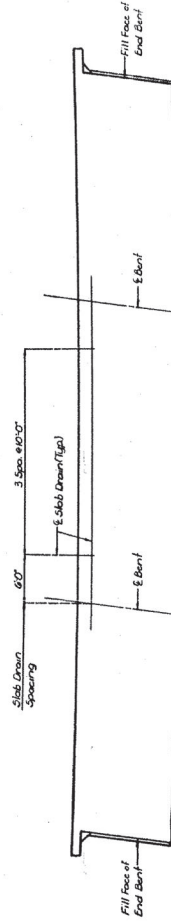
SLAB DRAIN DETAILS



PART ELEVATION OF SLAB AT DRAIN



PART PLAN OF SLAB AT DRAIN



PART PLAN OF SLAB SHOWING DRAIN LOCATION
 Multi-Longitudinal dimensions are horizontal dimensions.

DETAILED Feb 1968
 CHECKED Mar 1968

DRN DRAIN L&B / NOV 98	SPS-S/D(N/S) / REVISED	JUN 1987
------------------------	------------------------	----------

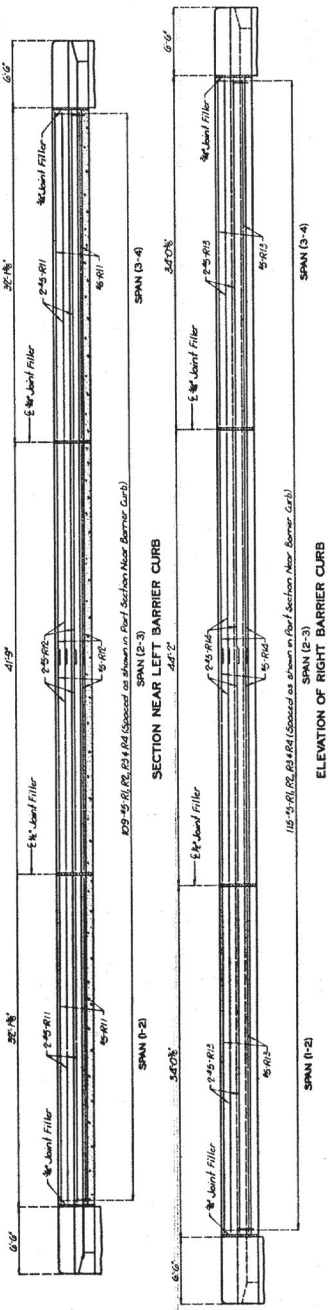
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 7 of 10

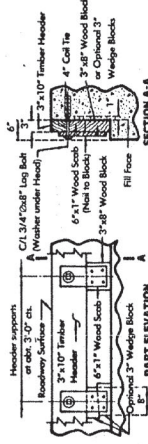
ST. LOUIS COUNTY

L-424R

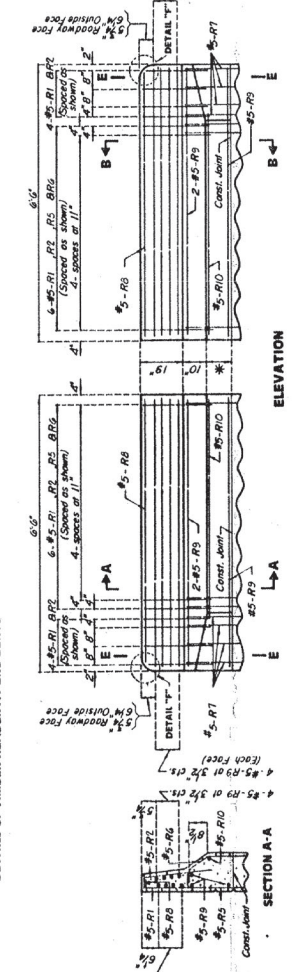
STATE	PROJ. NO.	SHEET NO.
MO	6-U-TT-470	34



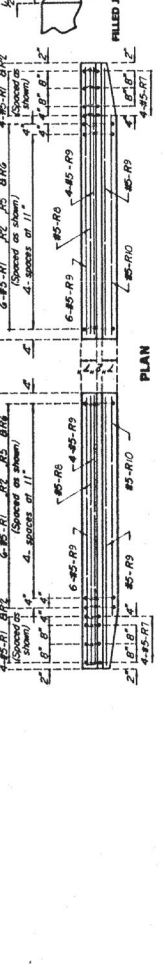
ELEVATION OF RIGHT BARRIER CURB
 Note: Longitudinal dimensions are as dimensions along top outside edge of slab parallel to grade.



DETAILS OF TIMBER HEADER AT END BENTS
 NOTE: Cost of timber headers complete in place to be included in contract unit price for concrete.

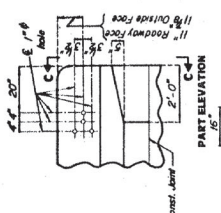


ELEVATION

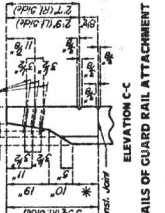


DETAILS OF SAFETY BARRIER CURB AT END BENTS

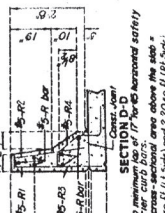
Note: This drawing is not to scale. Refer dimensions.



DETAILS OF GUARD RAIL ATTACHMENT



SECTION C-C



SECTION D-D

Note: Use a minimum No. of 17 No. 6 horizontal safety. The cross-sectional area above the slab = 2.31 sq. ft. (U Side) and 2.09 sq. ft. (R Side).

ST. LOUIS COUNTY

Part Section Near Barrier Curb

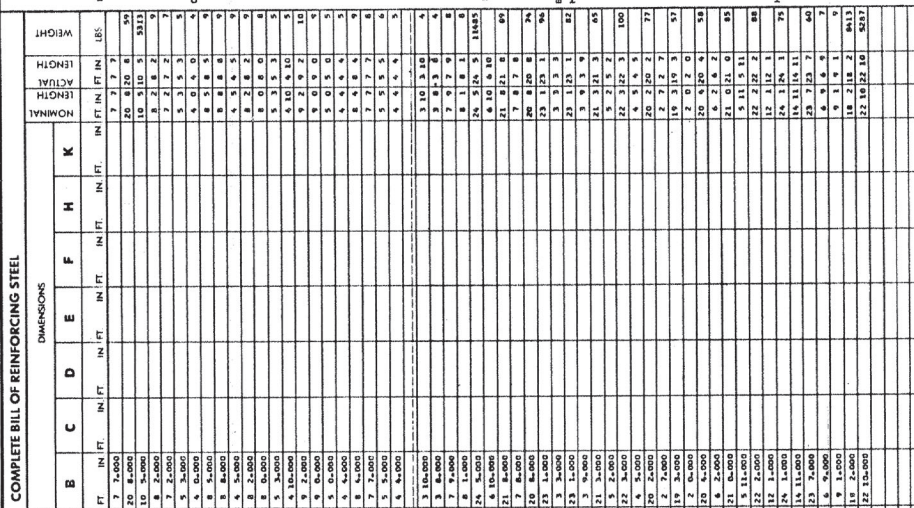
Sheet No. B of 10

DETAILS OF SAFETY BARRIER CURB AT END BENTS

REVISIONS

DATE: 1986
 CHECKED: [Signature]
 DESIGNED: [Signature]

STATE	PROJ. NO.	SHEET
MO.	6-U-TT-470	36



NOTES:
 ALL STANDARD HOOKS AND BENDS OTHER THAN 180 DEG. TO BE BENT WITH SAME PROCEDURE AS FOR 180 DEG. STD. HOOKS.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON SHEET 35.
 E. EPoxy COATED REINFORCEMENT
 F. BARS INCLUDED IN SUBSTRUCTURE QUANTITIES
 G. BAR DIMENSIONS ARE FOR TOTAL DIMENSIONS BETWEEN DIMENSIONS SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A.
 BENDING DIAGRAMS AND ARE LISTED FOR REFERENCE TO THE APPROPRIATE DRAWING. ALL DIMENSIONS ARE MEASURED ALONG CENTERLINE UNLESS NOTED OTHERWISE.
 PAINTWORK IS BASED ON ACTUAL LENGTHS.

COMPLETE BILL OF REINFORCING STEEL

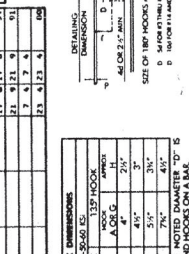
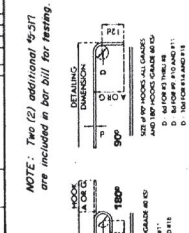
MARK NO.	SIZE	LOCATION	SHAPE NO.	NO. EACH	DIMENSIONS										ACTUAL LENGTH	NOMINAL LENGTH	WEIGHT			
					A	B	C	D	E	F	G	H	I	J				K		
4	5318	SLAB	E 20	1	1	3	4-0000											7.7	7.7	59
20	420	8																20	420	8
10	4-0000																	10	4-0000	5213

COMPLETE BILL OF REINFORCING STEEL

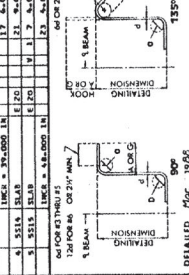
MARK NO.	SIZE	LOCATION	SHAPE NO.	NO. EACH	DIMENSIONS										ACTUAL LENGTH	NOMINAL LENGTH	WEIGHT			
					A	B	C	D	E	F	G	H	I	J				K		
4	5318	SLAB	E 20	1	1	3	4-0000											7.7	7.7	59
20	420	8																20	420	8
10	4-0000																	10	4-0000	5213

END HOOK DIMENSIONS

BAR SIZE	180° HOOKS ALL GRADES	90° HOOKS ALL GRADES
#2	3/4"	4"
#3	3/4"	4"
#4	3/4"	4"
#5	3/4"	4"
#6	3/4"	4"
#7	3/4"	4"
#8	3/4"	4"
#9	3/4"	4"
#10	3/4"	4"
#11	3/4"	4"
#12	3/4"	4"
#13	3/4"	4"
#14	3/4"	4"
#15	3/4"	4"
#16	3/4"	4"
#17	3/4"	4"
#18	3/4"	4"
#19	3/4"	4"
#20	3/4"	4"
#21	3/4"	4"
#22	3/4"	4"
#23	3/4"	4"
#24	3/4"	4"
#25	3/4"	4"
#26	3/4"	4"
#27	3/4"	4"



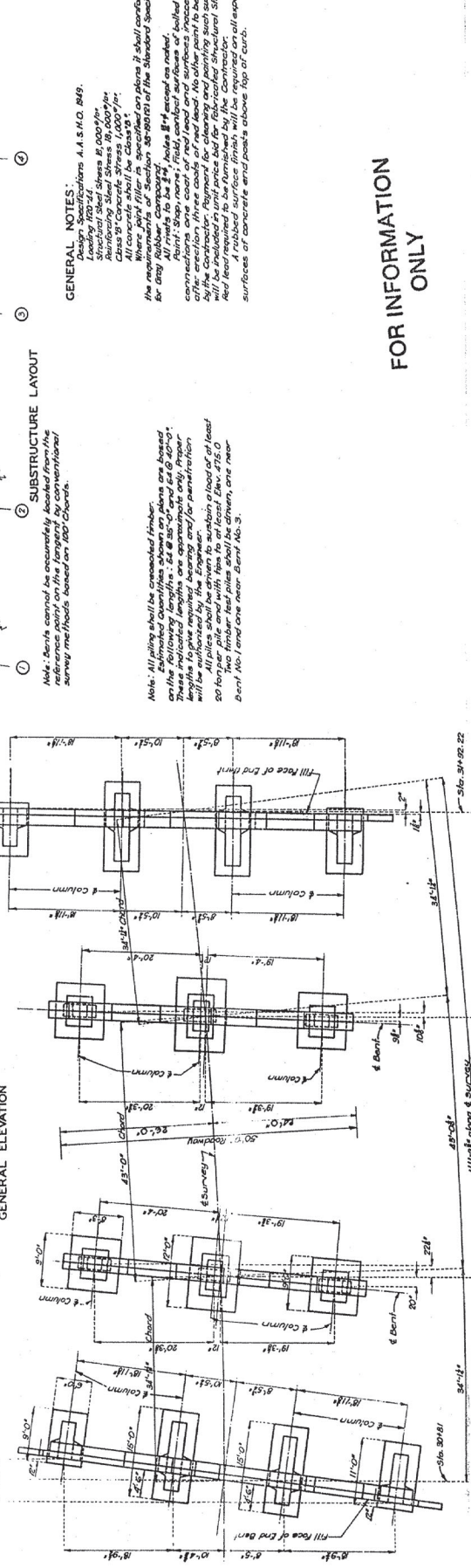
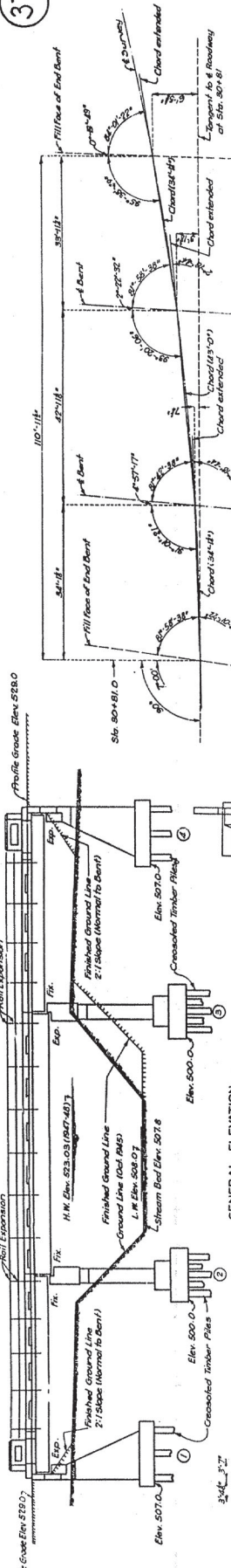
NOTE: Two (2) additional 90° are included in bar bill for rebar.
 90° HOOKS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON SHEET 35.
 HOOKS AND BENDS SHALL BE IN ACCORDANCE WITH THE PROCEDURES AS SHOWN ON SHEET 35.
 E. EPoxy COATED REINFORCEMENT
 F. BARS INCLUDED IN SUBSTRUCTURE QUANTITIES
 G. BAR DIMENSIONS ARE FOR TOTAL DIMENSIONS BETWEEN DIMENSIONS SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A. - NUMBER OF BARS OF EACH LENGTH TO BE SHOWN IN HO. I.A.
 BENDING DIAGRAMS AND ARE LISTED FOR REFERENCE TO THE APPROPRIATE DRAWING. ALL DIMENSIONS ARE MEASURED ALONG CENTERLINE UNLESS NOTED OTHERWISE.
 PAINTWORK IS BASED ON ACTUAL LENGTHS.



MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	PROJ. NO.	SHEET NO.	TOTAL SHEETS
4	MO	5-1207(1)	17	37

37



GENERAL NOTES:
 Design Specifications A.A.S.H.O. B49.
 Reinforcing Steel: A.A.S.H.O. Specification for Structural Steel Shapes & 0.007-in. Reinforcing Steel. Stress 60,000 psi.
 Allowable Soil Pressure: 2,000 lb./sq. ft.
 Where joint filler is specified on plans it shall conform with the requirements of Section 30-001(a) of the Standard Specifications for Highway Bridges.
 Where joint filler is specified on plans it shall conform with the requirements of Section 30-001(a) of the Standard Specifications for Highway Bridges.
 All concrete shall be finished with a rubbed surface finish.
 Rubbed surface finish will be required on all exposed surfaces of concrete and posts above top of curb.

FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT. 66 ON BROWN RD. TO NEW AIRPORT RD.
 ABOUT 1 MILE S. E. OF ROBERTSON
 PROJECT NO. 5-1207(1) STA. 30+81
 ST. LOUIS COUNTY

DATE: 5/23/37
 DRAWN BY: C. W. BROWN
 CHECKED BY: J. W. GIBSON

ESTIMATED QUANTITIES

Item	Substr.	Superstr.	Total
Class I Excavation for Structures	Cu Yds. 850	850	1,700
Class II Excavation for Structures	Cu Yds. 374	374	748
Reinforced Structural Steel	Lbs. 21,860	21,860	43,720
Crushed Timber Piles in Place	Lbs. 4,095	4,095	8,190
Crushed Timber Pile Cut-offs	Lbs. 354	354	708
Timber Trestle Pile	Lbs. 58	58	116

PLAN

110'-11 1/2" on Tangent
 42'-11 1/2" on Tangent
 34'-11 1/2" on Tangent

Stationing: Sta. 30+81, Sta. 30+82, Sta. 30+83, Sta. 30+84, Sta. 30+85, Sta. 30+86, Sta. 30+87, Sta. 30+88, Sta. 30+89, Sta. 30+90, Sta. 30+91, Sta. 30+92, Sta. 30+93, Sta. 30+94, Sta. 30+95, Sta. 30+96, Sta. 30+97, Sta. 30+98, Sta. 30+99, Sta. 31+00

Note: Concrete in End Posts is included in Excavation for Structures above Elevation 508.0. Excavation for bridge made below Elevation 508.0 will be included in Class I Excavation for Structures.

Proposed Structure (To be removed - see Special Provisions)

LOCATION SKETCH

Showing location of bridge on map of St. Louis County, Missouri.

Drawings from 2155-
 Miss (Rolling)

Curve Data:
 P.I. Sta. 30+14.43
 L = 44'-54.1"
 T = 47'-0.7"
 L = 192'-0.0"
 P = 0.81'
 Yc = 3.33'
 S = 0.06/11'

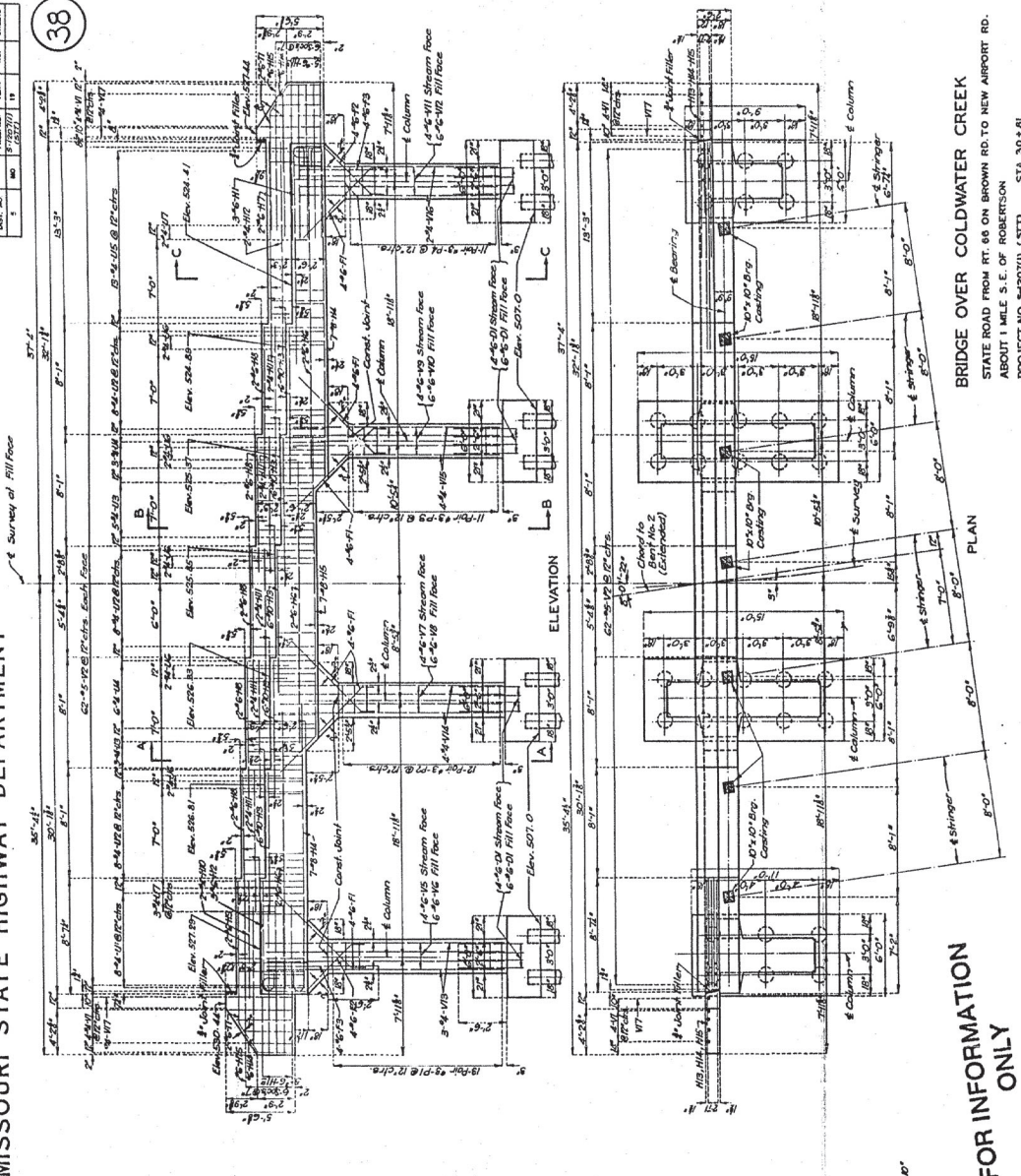
Note: This drawing is not to scale. Follow dimensions.

Drawn by: C. W. BROWN
 Checked by: J. W. GIBSON
 Date: 5/23/37

MISSOURI STATE HIGHWAY DEPARTMENT

DESIGN NO.	DATE	SCALE	SHEET NO.	TOTAL SHEETS
5	5/20/77	1/8"	19	

38



FOR INFORMATION ONLY

DETAILS OF END BENT NO. 1

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT. 86 ON BROWN RD. TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. 5-120710 (STT) STA. 30+81

ST. LOUIS COUNTY

L-424

Sheet No. 3 of 10

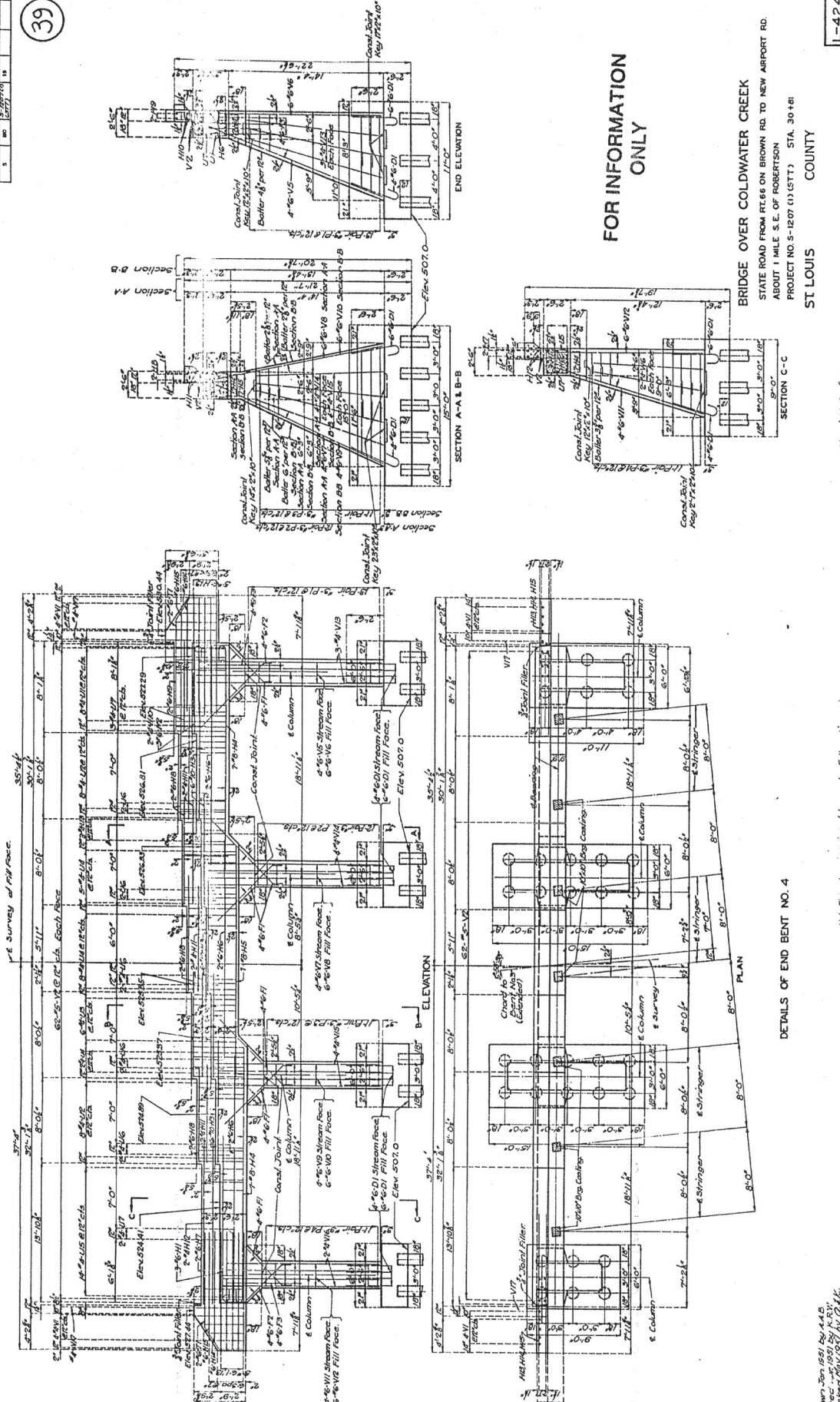
Note: This drawing is not to scale. Follow dimensions

Drawn by: J.T.F.
 Checked by: J.T.F.
 Date: 5/20/77

MISSOURI STATE HIGHWAY DEPARTMENT

NO. ROAD DISTRICT	STATE	NO. PROJECT	NO. SHEET	TOTAL SHEETS
5	MO.	1207 (1)	13	13

39



FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM R.L.66 ON BROWN RD TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. S-1207 (1) (STT) STA. 30+81

ST LOUIS COUNTY

DETAILS OF END BENT NO. 4

L-424

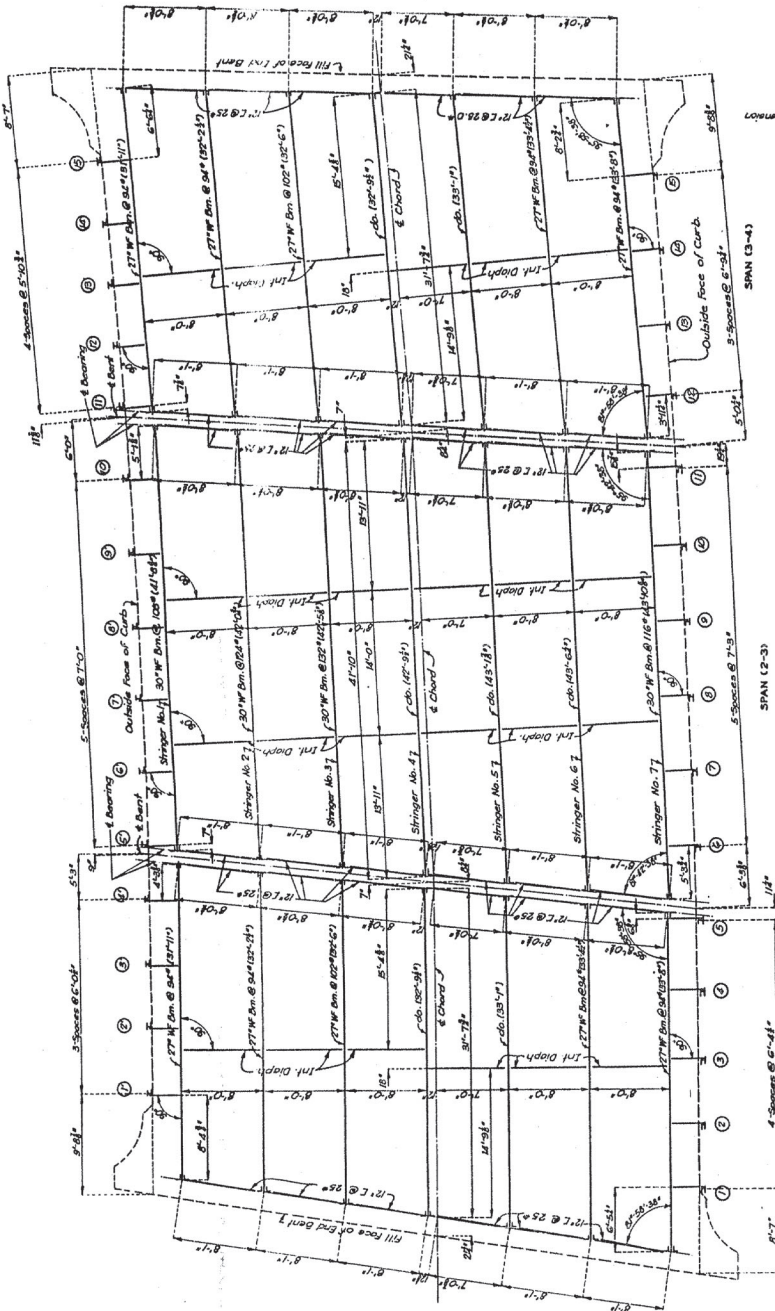
ASK THIS DRAWING TO BE CHECKED BY THE ARCHITECT.

DATE: JAN 1951 BY: A.S. & R.V.
 CHECKED: MAR 1951 BY: G.H.K.

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	CONTRACT NO.	YEAR	SHEET NO.	TOTAL SHEETS
5	MO	5-2071(1)		19		

40



FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK

STATE ROAD FROM RT. 66 ON BROWN RD. TO NEW AIRPORT RD.
ABOUT 1 MILE S.E. OF ROBERTSON
PROJECT NO. 5-2071(1) (STT) STA. 30+81

ST. LOUIS COUNTY

L-424

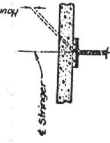
PLAN OF STRUCTURAL STEEL

RAIL BRACKET LENGTHS	
1	2'-0"
2	2'-0"
3	2'-0"
4	2'-0"
5	2'-0"
6	2'-0"
7	2'-0"
8	2'-0"
9	2'-0"
10	2'-0"
11	2'-0"
12	2'-0"
13	2'-0"
14	2'-0"
15	2'-0"
16	2'-0"
17	2'-0"
18	2'-0"
19	2'-0"
20	2'-0"
21	2'-0"
22	2'-0"
23	2'-0"
24	2'-0"
25	2'-0"
26	2'-0"
27	2'-0"
28	2'-0"
29	2'-0"
30	2'-0"
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32	2'-0"
33	2'-0"
34	2'-0"
35	2'-0"
36	2'-0"
37	2'-0"
38	2'-0"
39	2'-0"
40	2'-0"
41	2'-0"
42	2'-0"
43	2'-0"
44	2'-0"
45	2'-0"
46	2'-0"
47	2'-0"
48	2'-0"
49	2'-0"
50	2'-0"
51	2'-0"
52	2'-0"
53	2'-0"
54	2'-0"
55	2'-0"
56	2'-0"
57	2'-0"
58	2'-0"
59	2'-0"
60	2'-0"
61	2'-0"
62	2'-0"
63	2'-0"
64	2'-0"
65	2'-0"
66	2'-0"
67	2'-0"
68	2'-0"
69	2'-0"
70	2'-0"
71	2'-0"
72	2'-0"
73	2'-0"
74	2'-0"
75	2'-0"
76	2'-0"
77	2'-0"
78	2'-0"
79	2'-0"
80	2'-0"
81	2'-0"
82	2'-0"
83	2'-0"
84	2'-0"
85	2'-0"
86	2'-0"
87	2'-0"
88	2'-0"
89	2'-0"
90	2'-0"
91	2'-0"
92	2'-0"
93	2'-0"
94	2'-0"
95	2'-0"
96	2'-0"
97	2'-0"
98	2'-0"
99	2'-0"
100	2'-0"

Note: Lengths given above are from Rill Face of Curb.

SLAB HAUNCHING DIAGRAMS	
Stringer No. 1	35.000
Stringer No. 2	35.000
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Stringer No. 94	35.000
Stringer No. 95	35.000
Stringer No. 96	35.000
Stringer No. 97	35.000
Stringer No. 98	35.000
Stringer No. 99	35.000
Stringer No. 100	35.000

Note: Slab shall be built parallel to grade and to a uniform thickness of 4 1/2". Dead load deflection, difference in depth of stringers and slabs shall be compensated for by increasing the depth of stringers by amounts shown above. This additional amount is indicated on Estimated Quantities.

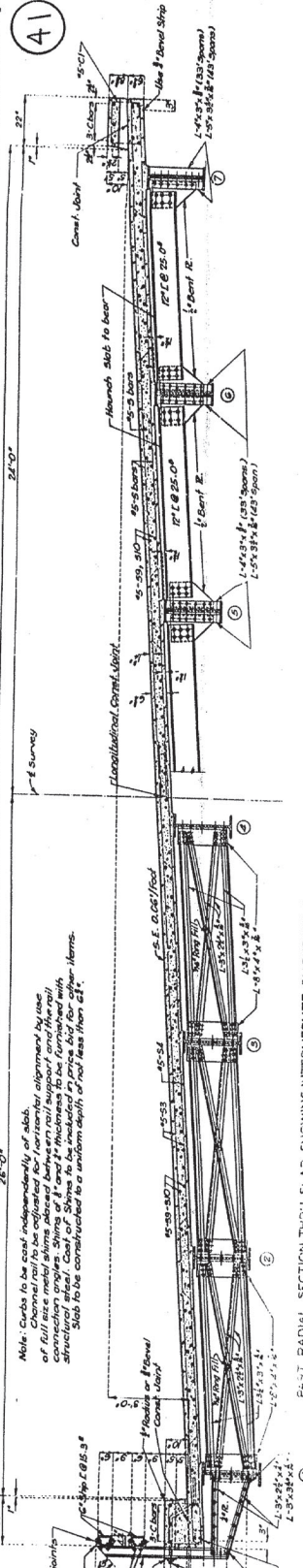


Sheet No. 7 of 10

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

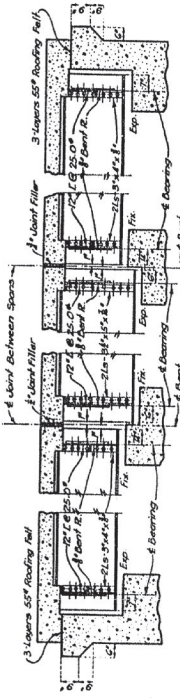
MISSOURI STATE HIGHWAY DEPARTMENT

FILE NO.	DATE	BY	SCALE	SHEET NO.	TOTAL SHEETS
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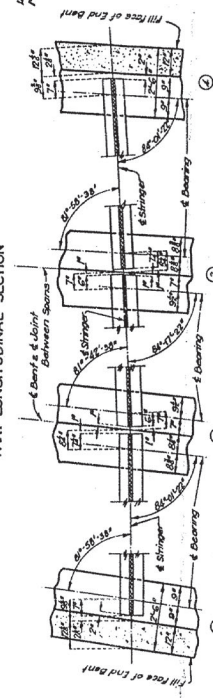


PART RADIAL SECTION THRU SLAB SHOWING END DIAPHRAGMS

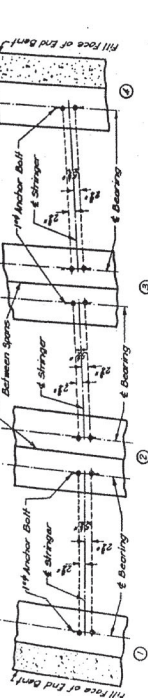
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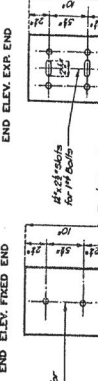
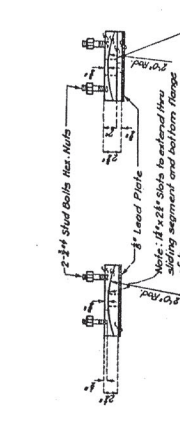
PART LONGITUDINAL SECTION



PART HORIZONTAL SECTION



PART ANCHOR BOLT PLAN



DETAILS OF BEARING CASTINGS

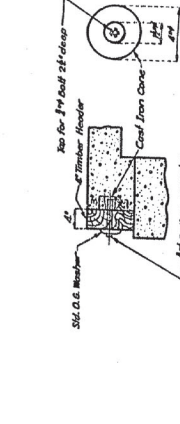
DETAILS OF BEARING CASTINGS

DETAILS OF BEARING CASTINGS

DETAILS OF BEARING CASTINGS

DETAILS OF BEARING CASTINGS

DETAILS OF BEARING CASTINGS



DETAILS OF TIMBER HEADER

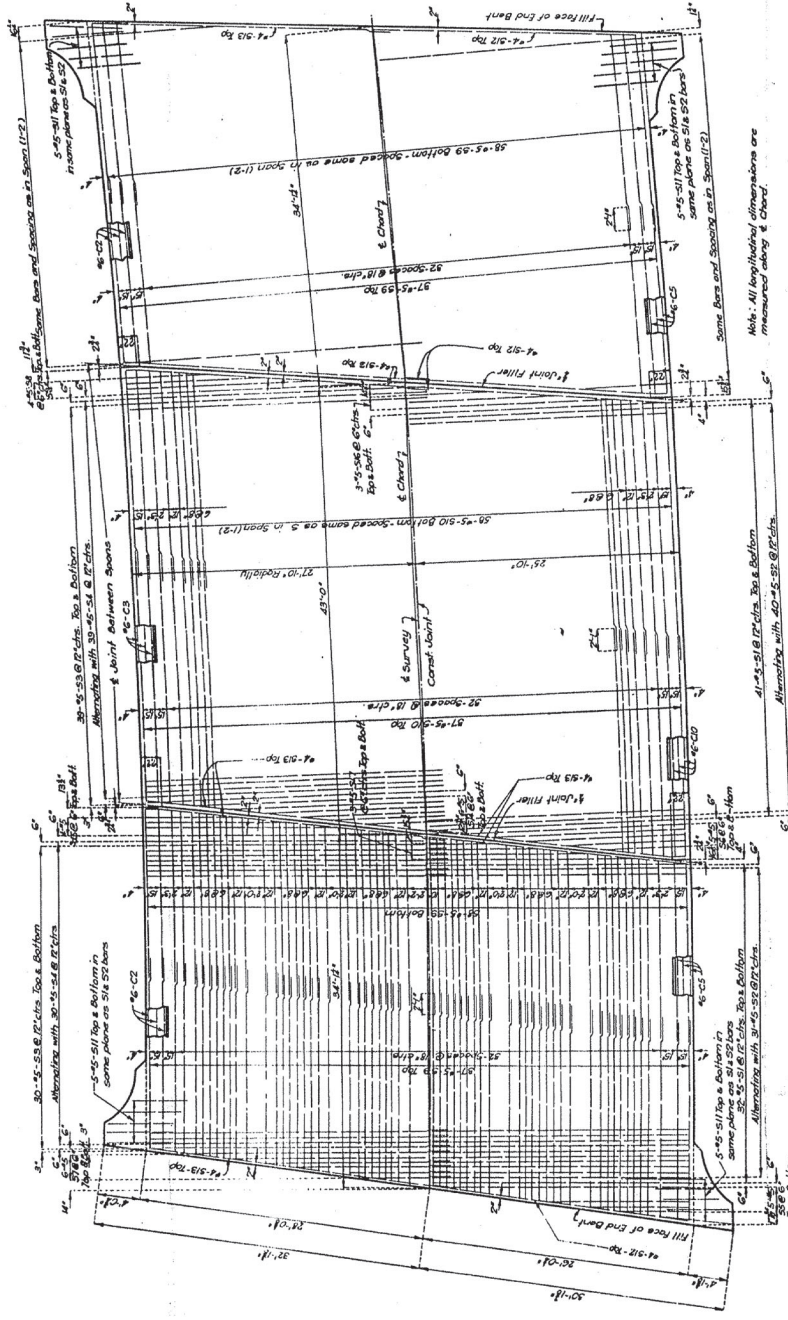
FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT. 66 ON BROWN RD TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. S-1207(1) (3TT) STA. 30 + 81
 ST. LOUIS COUNTY

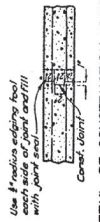
MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
1	MO	1937	19	31

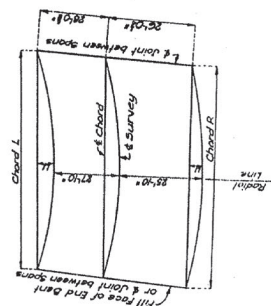
42



PLAN OF SLAB SHOWING REINFORCING



DETAIL OF CONSTRUCTION JOINT THRU SLAB



ITEM	QUANTITY	UNIT	REMARKS
Chord L	127.00	sq. ft.	(12-3)
Chord R	127.00	sq. ft.	(12-3)
Chord L	34.50	sq. ft.	(12-3)
Chord R	34.50	sq. ft.	(12-3)
Chord L	35.50	sq. ft.	(12-3)
Chord R	35.50	sq. ft.	(12-3)
Chord L	44.00	sq. ft.	(12-3)
Chord R	44.00	sq. ft.	(12-3)
Chord L	44.00	sq. ft.	(12-3)
Chord R	44.00	sq. ft.	(12-3)
Chord L	44.00	sq. ft.	(12-3)
Chord R	44.00	sq. ft.	(12-3)

TABLE OF DIMENSIONS



DETAILS OF BEVEL FOR FILLED JOINTS

FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT 66 ON BROWN RD. TO NEW AIRPORT RD.
 ABOUT 1 MILE S. E. OF ROBERTSON
 PROJECT NO. 3-1207(1) (STT) STA. 30 + 81
 ST. LOUIS COUNTY

L-424

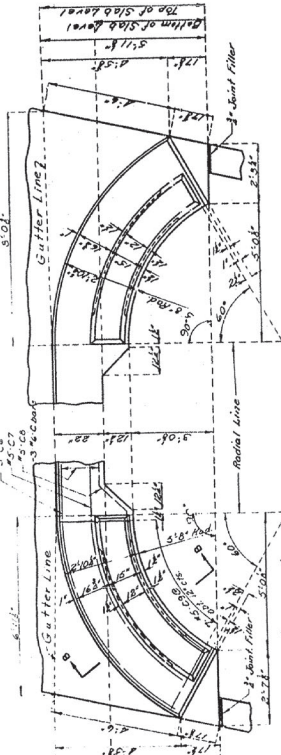
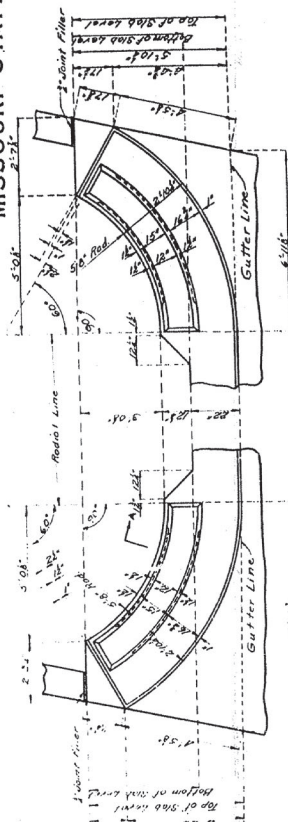
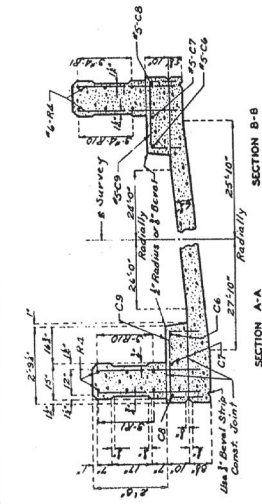
Note: This drawing is not to scale. Follow dimensions.

Sheet No. 9 of 10

MISSOURI STATE HIGHWAY DEPARTMENT

FED. ROAD DIST. NO.	STATE	PROJECT NO.	TOTAL SHEETS
3	MO.	2777	19

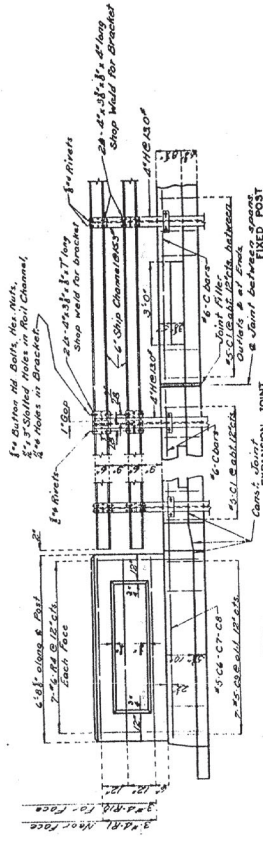
43



AT END BENT NO. 1
 PLAN OF CURVED CURBS AND END POSTS

AT END BENT NO. 4
 PLAN OF CURVED CURBS AND END POSTS

Note: Curb reinforcing when is same for all curbs.



DETAILS OF RAIL

Note: Right side Elevation. Left side Elevation similar except for vertical dimension of curb & Slab.

FOR INFORMATION ONLY

BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT 66 ON BROWN RD. TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. S-1207 (HISTT) STA. 30+81
 ST. LOUIS COUNTY

L-424

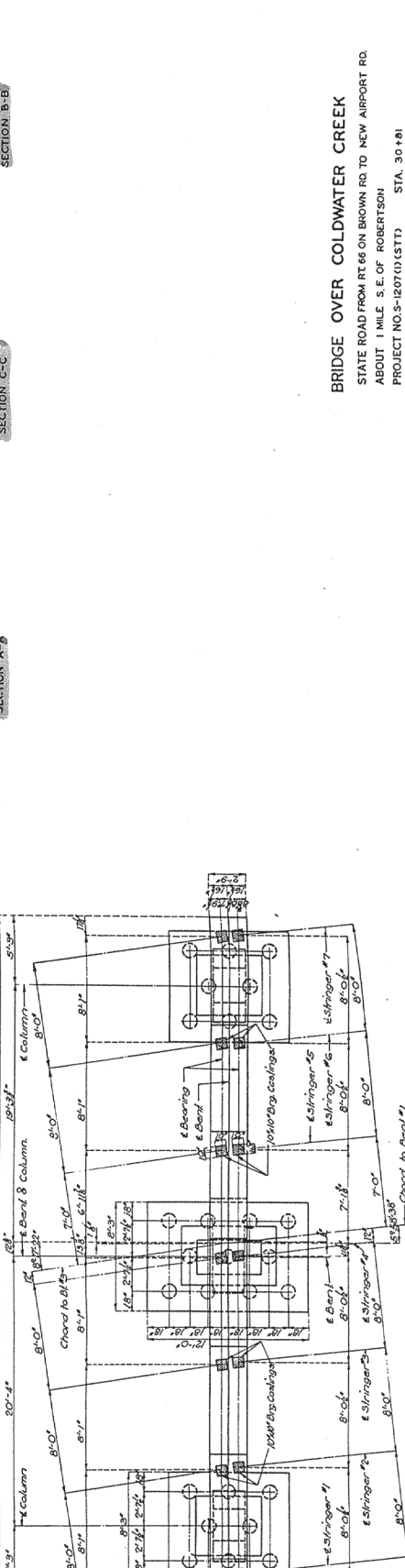
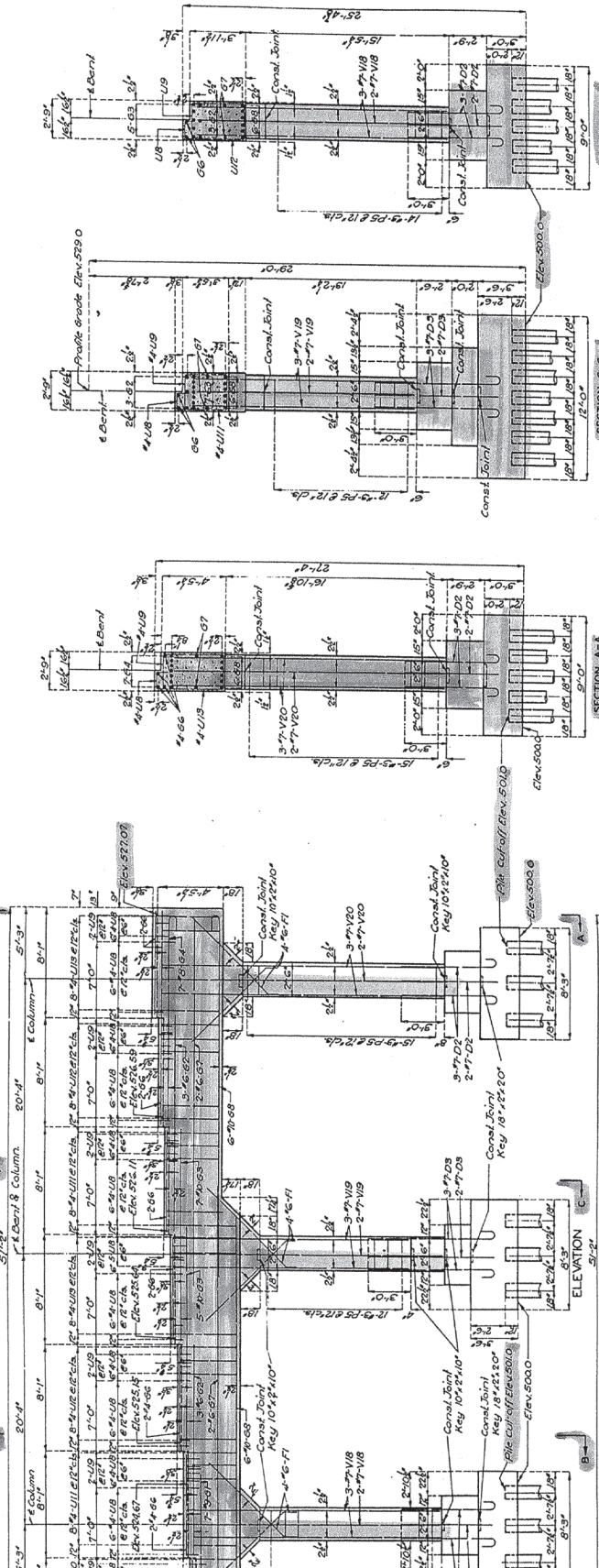
Sheet No. 1 of 19

Note: This drawing is not to scale. Follow dimensions

Revised Jan. 1931 by A.J.K.
 Printed Jan. 1931 by W.L.M.
 Original Date 1927

MISSOURI STATE HIGHWAY DEPARTMENT

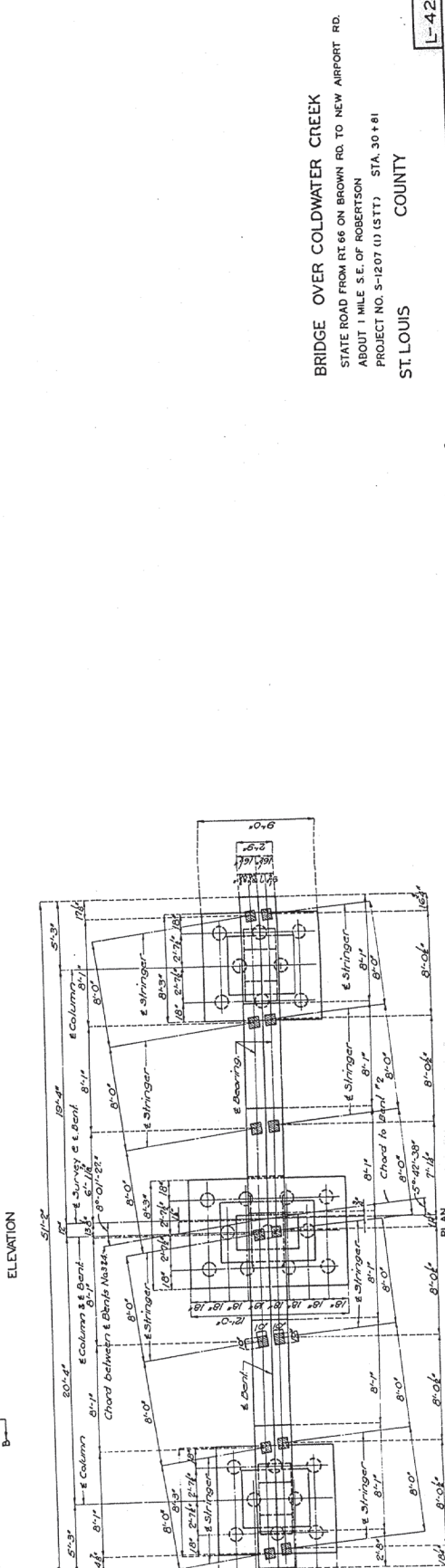
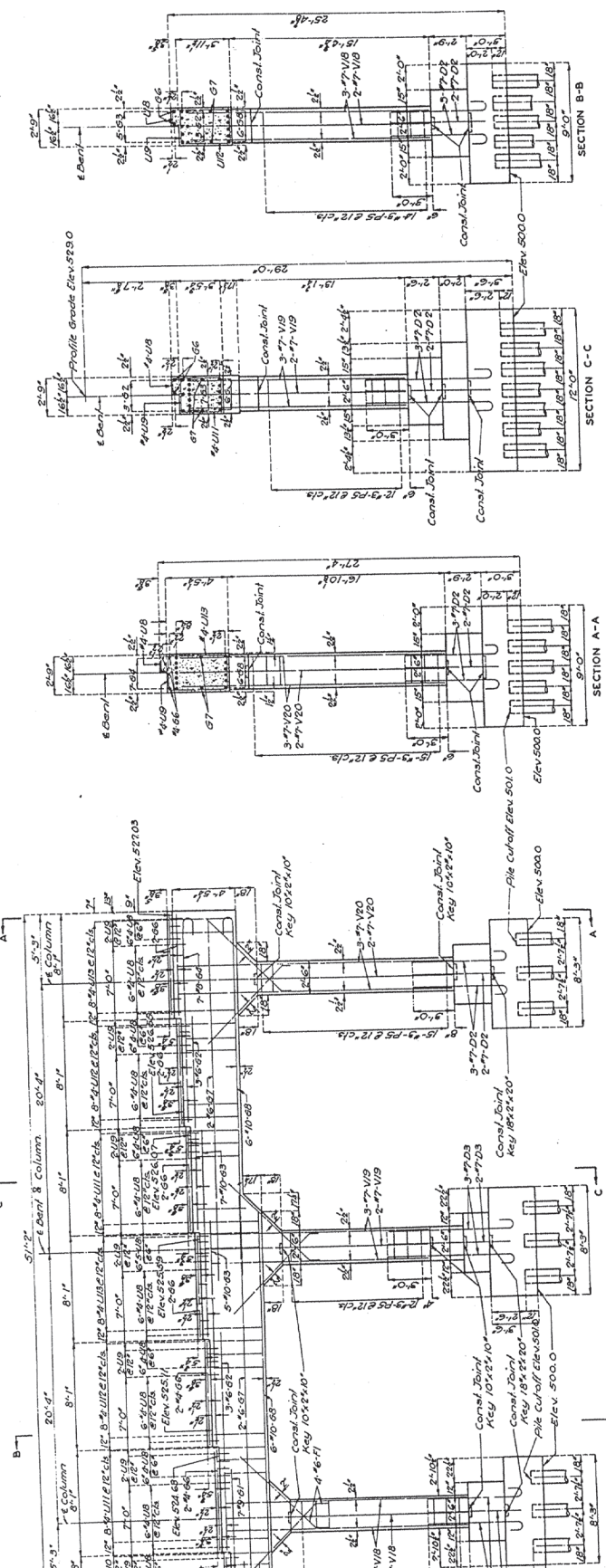
FED. ROAD DIST. NO.	STATE NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	2777	19		



BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT. 66 ON BROWN RD TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. S-1207(13)STTD STA. 30+80
 ST. LOUIS COUNTY

MISSOURI STATE HIGHWAY DEPARTMENT

REV. NO. 19
NO. 2707
DATE



BRIDGE OVER COLDWATER CREEK
 STATE ROAD FROM RT 66 ON BROWN RD. TO NEW AIRPORT RD.
 ABOUT 1 MILE S.E. OF ROBERTSON
 PROJECT NO. S-1207 (J) (STT) STA. 30+81
 ST. LOUIS COUNTY

L-424

Sheet No. 8 of 10

DETAILS OF INTERMEDIATE BENT NO. 3

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