

**DESIGN DESIGNATION**

MO-7 TO ADAMS DAIRY PKWY.  
 A.A.D.T. - 2025 = 79,800  
 A.A.D.T. - 2050 = 95,000  
 D.H.V. = 5,950  
 T = 23%  
 V = 65 MPH  
 D = 53%

FUNCTIONAL CLASSIFICATION - INTERSTATE

ADAMS DAIRY PKWY. TO BUCKNER-TARSNEY

A.A.D.T. - 2025 = 66,900  
 A.A.D.T. - 2050 = 79,700  
 D.H.V. = 5,000  
 T = 23%  
 V = 70 MPH  
 D = 51%

FUNCTIONAL CLASSIFICATION - INTERSTATE

**NEW RIGHT OF WAY  
 REQUIRED**

**CONVENTIONAL SYMBOLS  
 (USED IN PLANS)**

	EXISTING	NEW
BUILDINGS AND STRUCTURES		
GUARD RAIL		
GUARD CABLE		
CONCRETE RIGHT-OF-WAY MARKER		
STEEL RIGHT-OF-WAY MARKER		
LOCATION SURVEY MARKER		
UTILITIES		
FIBER OPTICS	-FO-	-FO-
OVERHEAD CABLE TV	-OTV-	-OTV-
UNDERGROUND CABLE TV	-UTV-	-UTV-
OVERHEAD TELEPHONE	-OT-	-OT-
UNDERGROUND TELEPHONE	-UT-	-UT-
OVERHEAD POWER	-OE-	-OE-
UNDERGROUND POWER	-UE-	-UE-
SANITARY SEWER	-S-	-S-
STORM SEWER	-SS-	-SS-
GAS	-G-	-G-
WATER	-W-	-W-
MANHOLE		
FIRE HYDRANT		
WATER VALVE		
WATER METER		
DROP INLET		
DITCH BLOCK		
GROUND MOUNTED SIGN		
LIGHT POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL		
FENCE		
CHAIN LINK		
WOVEN WIRE		
GATE POST		
BENCHMARK		

NOTE: DASHED OR OPEN SYMBOLS INDICATE EXISTING FEATURES

**MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION**

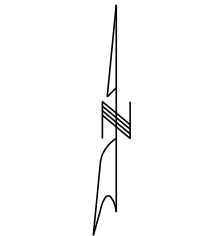
**PLANS FOR PROPOSED  
 STATE HIGHWAY**

**JACKSON/LAFAYETTE COUNTIES**

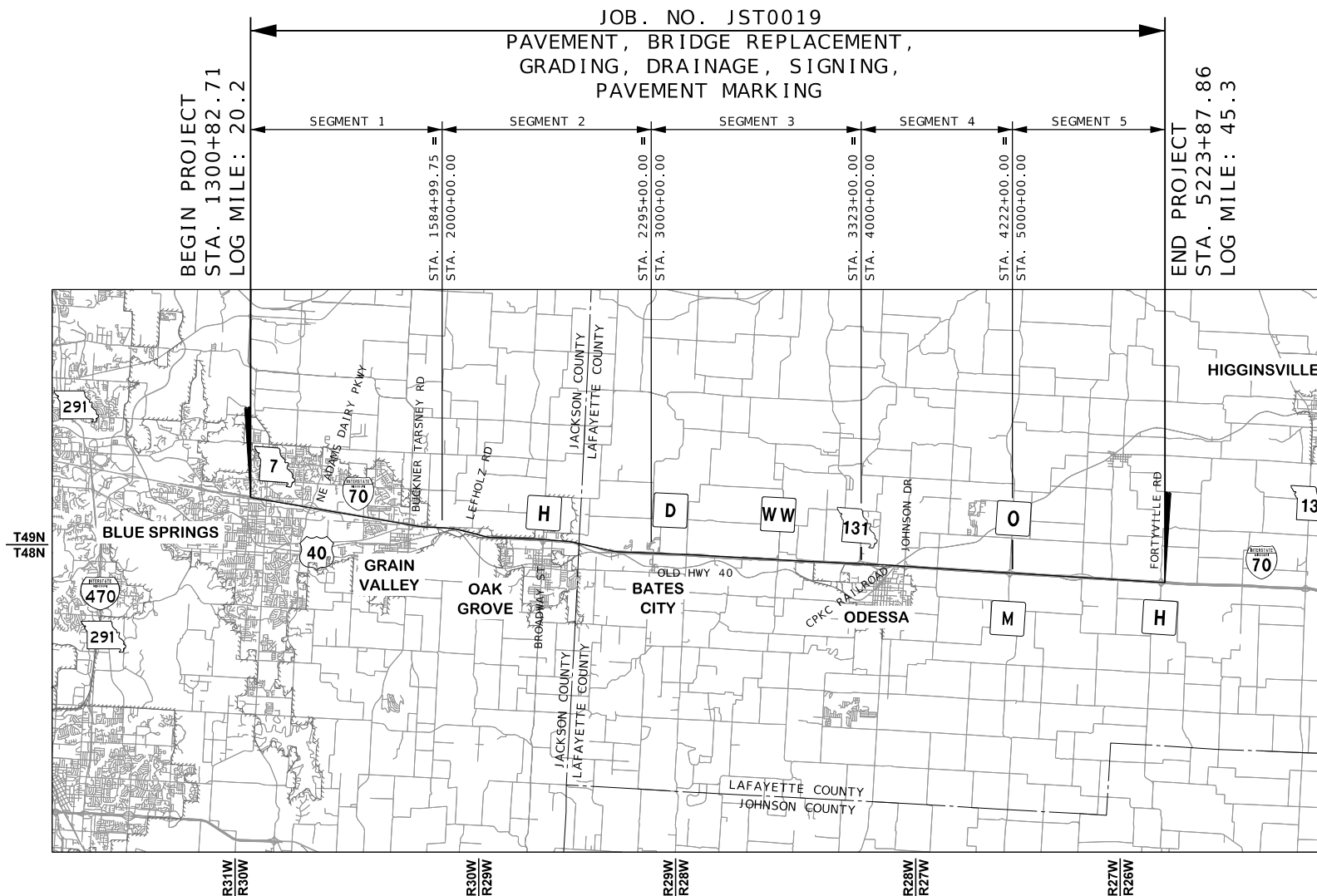
**EARLY BRIDGE PACKAGE  
 RFC PLANS**



KEY MAP  
 LOCATION OF JACKSON/LAFAYETTE COUNTIES



NOT TO SCALE



THE EXISTENCE AND APPROXIMATE LOCATION OF UTILITY FACILITIES KNOWN TO EXIST, AS SHOWN ON THE PLANS, ARE BASED ON THE BEST INFORMATION AVAILABLE TO THE COMMISSION AT THIS TIME. THIS INFORMATION IS PROVIDED BY THE COMMISSION "AS-IS" AND THE COMMISSION EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY AS TO THE COMPLETENESS, ACCURACY, OR SUITABILITY OF THE INFORMATION FOR ANY USE. RELIANCE UPON THIS INFORMATION IS DONE AT THE RISK AND PERIL OF THE USER, AND THE COMMISSION SHALL NOT BE LIABLE FOR ANY DAMAGES THAT MAY ARISE FROM ANY ERROR IN THE INFORMATION. IT IS, THEREFORE, THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, LOCATION AND STATUS OF ANY FACILITY. SUCH VERIFICATION INCLUDES DIRECT CONTACT WITH THE LISTED UTILITIES.

**INDEX OF SHEETS**

DESCRIPTION SHEET NUMBER

SEE 0-IN01 FOR  
 INDEX OF SHEETS

Preliminary  
 Plans -  
 NOT FOR  
 CONSTRUCTION

DATE PREPARED 9/13/2025	
ROUTE I-70	STATE MO
DISTRICT KC	SHEET NO. 0-TI01
COUNTY JACK/LAFA	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	
BRIDGE NO.	

NO.	APPD. BY	DATE	REVISIONS
1	KKG	08/21/25	SEGMENT 1A - REVISED FINAL PLANS
2	KKG	08/25/25	SEGMENT 4 - A9750 CPKC BRIDGE T'S&L
3	GDH	08/29/25	SEGMENT 1A - RFC PLANS
4	GDH	09/05/25	SEGMENT 5 - FINAL PLANS
5	GDH	09/08/25	EARLY BRIDGE PACKAGE FINAL PLANS
6	GDH	09/08/25	NDC001 - SNI-A-BAR SUBSTRUCTURE REV.
7	GDH	09/12/25	EARLY BRIDGE PACKAGE RFC PLANS

**LENGTH OF PROJECT**

BEGINNING OF PROJECT STA. 1300+82.71  
 END OF PROJECT STA. 5223+87.86

APPARENT LENGTH 134,805.85 FEET

**EQUATIONS AND EXCEPTIONS:**

EQUATIONS:  
 1584+99.75 BK. = 2000+00.00 AHD.  
 2295+00.00 BK. = 3000+00.00 AHD.  
 3323+00.00 BK. = 4000+00.00 AHD.  
 4222+00.00 BK. = 5000+00.00 AHD.

EXCEPTIONS:  
 1323+38.44 - 1324+91.60 = -153.16 FEET  
 1388+08.13 - 1390+69.13 = -261.00 FEET  
 1531+68.32 - 1540+98.32 = -930.00 FEET

TOTAL CORRECTIONS -1,344.16 FEET  
 NET LENGTH OF PROJECT 133,461.69 FEET  
 STATE LENGTH 25.277 MILES

MISSOURI HIGHWAYS AND  
 TRANSPORTATION COMMISSION



105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

800 E 101st Terr., Ste. 200  
 Kansas City, MO 64131  
 Phone (816) 701-3100  
 Fax (816) 942-3013



Missouri Cert. of  
 Authority #2003007599





INDEX OF SHEETS

Table with columns: INCLUDED, STATUS, REVISION NUMBER, REVISION DATE, SHEET NUMBER, SHEET TITLE. Rows include drainage and traffic sheets with various revision details.

INDEX OF SHEETS

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INDEX LEGEND
RFC REVISION NUMBER INDICATES SHEET HAS BEEN RELEASED FOR CONSTRUCTION.

REVIEW REVISION LETTER INDICATES SHEET HAS BEEN ISSUED FOR REVIEW.

XX - SHEET IS INCLUDED IN THIS SET.

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Preliminary Plans - NOT FOR CONSTRUCTION

DATE PREPARED

9/13/2025

ROUTE 1-70 STATE MO

DISTRICT KC SHEET NO. 0-IN03

COUNTY JACK/LAFA

JOB NO. JST0019

CONTRACT ID. 250507-C01

PROJECT NO.

BRIDGE NO.

REVISONS

SEGMENT 1A - REVISED FINAL PLANS

SEGMENT 4 - A9750 CPKC BRIDGE TS&L

SEGMENT 1A - RFC PLANS

SEGMENT 5 - FINAL PLANS

EARLY BRIDGE PACKAGE FINAL PLANS

INDC001 - SNI-BAR SUBSTRUCTURE REV.

EARLY BRIDGE PACKAGE RFC PLANS

NO. 1 2 3

APPD. BY KKG KKG GDH GDH GDH

DATE 08/21/25 08/25/25 08/29/25 09/05/25 09/08/25 09/08/25 09/12/25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

305 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

800 E 101st Terr., Ste. 200 Kansas City, MO 64131 Phone (816) 701-3100 Fax (816) 942-3013 Missouri Cert. of Authority #2003007599

WILSON & COMPANY







INDEX OF SHEETS

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INDEX OF SHEETS SHEET 7 OF 9

Preliminary Plans - NOT FOR CONSTRUCTION

DATE PREPARED 9/13/2025

ROUTE 1-70 STATE MO

DISTRICT KC SHEET NO. 0-IN07

COUNTY JACK/LAFA

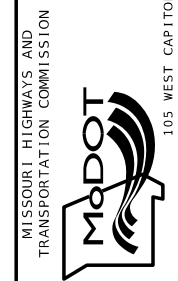
JOB NO. JST0019

CONTRACT ID. 250507-C01

PROJECT NO.

BRIDGE NO.

Table with columns: REVISIONS, DATE, APPD. BY, NO. Contains revision history for various segments and final plans.



800 E 101st Terr., Ste. 200 Kansas City, MO 64131 Phone (816) 701-3100 Fax (816) 942-3013 Missouri Cert. of Authority #2003007599





INDEX OF SHEETS					
INCLUDED	STATUS	REVISION NUMBER	REVISION DATE	SHEET NUMBER	SHEET TITLE
		A	6/19/2025	1-X148	SEG1A - ADAMS DAIRY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X149	SEG1A - ADAMS DAIRY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X150	SEG1A - ADAMS DAIRY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X151	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X152	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X153	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X154	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X155	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X156	SEG1A - ADAMS DAIRY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X157	SEG1A - BUCKNER TARSNEY WB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X158	SEG1A - BUCKNER TARSNEY WB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X159	SEG1A - BUCKNER TARSNEY WB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X160	SEG1A - BUCKNER TARSNEY EB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X161	SEG1A - BUCKNER TARSNEY EB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X162	SEG1A - BUCKNER TARSNEY EB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X163	SEG1A - BUCKNER TARSNEY EB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X164	SEG1A - BUCKNER TARSNEY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X165	SEG1A - BUCKNER TARSNEY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X166	SEG1A - BUCKNER TARSNEY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X167	SEG1A - BUCKNER TARSNEY EB ON RAMP CROSS SECTIONS
		A	6/19/2025	1-X168	SEG1A - BUCKNER TARSNEY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X169	SEG1A - BUCKNER TARSNEY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X170	SEG1A - BUCKNER TARSNEY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X171	SEG1A - BUCKNER TARSNEY WB OFF RAMP CROSS SECTIONS
		A	6/19/2025	1-X172	SEG1A - BUCKNER TARSNEY WB OFF RAMP CROSS SECTIONS
		B	9/5/2025	5-X1	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X2	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X3	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X4	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X5	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X6	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X7	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X8	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X9	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X10	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X11	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X12	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X13	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X14	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X15	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X16	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X17	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X18	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X19	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X20	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X21	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X22	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X23	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X24	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X25	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X26	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X27	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X28	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X29	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X30	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X31	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X32	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X33	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X34	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X35	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X36	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X37	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X38	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X39	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X40	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X41	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X42	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X43	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X44	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X45	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X46	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X47	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X48	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X49	SEG5 - 1-70 CROSS SECTIONS

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		B	9/5/2025	5-X51	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X52	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X53	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X54	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X55	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X56	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X57	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X58	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X59	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X60	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X61	SEG5 - 1-70 CROSS SECTIONS
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		B	9/5/2025	5-X70	SEG5 - 1-70 CROSS SECTIONS
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		B	9/5/2025	5-X80	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X81	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X82	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X83	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X84	SEG5 - 1-70 CROSS SECTIONS
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		B	9/5/2025	5-X102	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X103	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X104	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X105	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X106	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X107	SEG5 - 1-70 CROSS SECTIONS
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		B	9/5/2025	5-X109	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X110	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X111	SEG5 - 1-70 CROSS SECTIONS
		B	9/5/2025	5-X112	SEG5 - RTE M/O EB ON RAMP CROSS SECTIONS
		B	9/5/2025	5-X113	SEG5 - RTE M/O EB ON RAMP CROSS SECTIONS
		B	9/5/2025	5-X114	SEG5 - RTE M/O EB ON RAMP CROSS SECTIONS
		B	9/5/2025	5-X115	SEG5 - RTE M/O WB OFF RAMP CROSS SECTIONS
		B	9/5/2025	5-X116	SEG5 - RTE M/O WB OFF RAMP CROSS SECTIONS

INDEX LEGEND  
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REVIEW REVISION LETTER INDICATES  
SHEET HAS BEEN ISSUED FOR REVIEW.

XX - SHEET IS INCLUDED IN THIS SET.

INDEX OF SHEETS  
SHEET 8 OF 9

Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

DATE PREPARED  
9/13/2025

ROUTE STATE  
1-70 MO

DISTRICT SHEET NO.  
KC 0-IN08

COUNTY  
JACK/LAFA

JOB NO.  
JST0019

CONTRACT ID.  
250507-C01

PROJECT NO.

BRIDGE NO.

NO.	APPD. BY	DATE	REVISIONS
1	KKG	08/21/25	SEGMENT 1A - REVISED FINAL PLANS
2	KKG	08/25/25	SEGMENT 4 - A9750 CPKC BRIDGE T'S&L
3	GDH	08/29/25	SEGMENT 1A - RFC PLANS
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5	GDH	09/08/25	EARLY BRIDGE PACKAGE FINAL PLANS
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800 E 101st Terr., Ste. 200  
Kansas City, MO 64131  
Phone (816) 701-3100  
Fax (816) 942-3013  
Missouri Cert. of  
Authority #2003007599

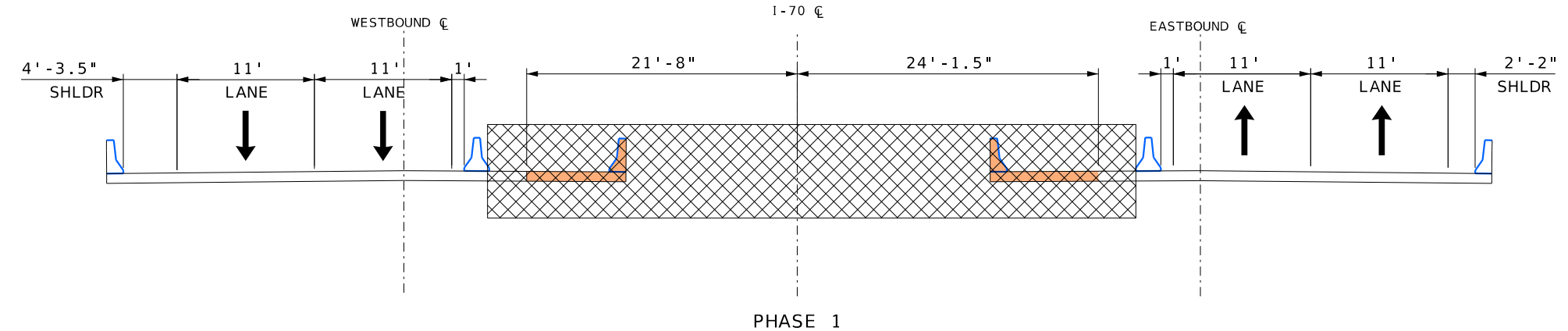




Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

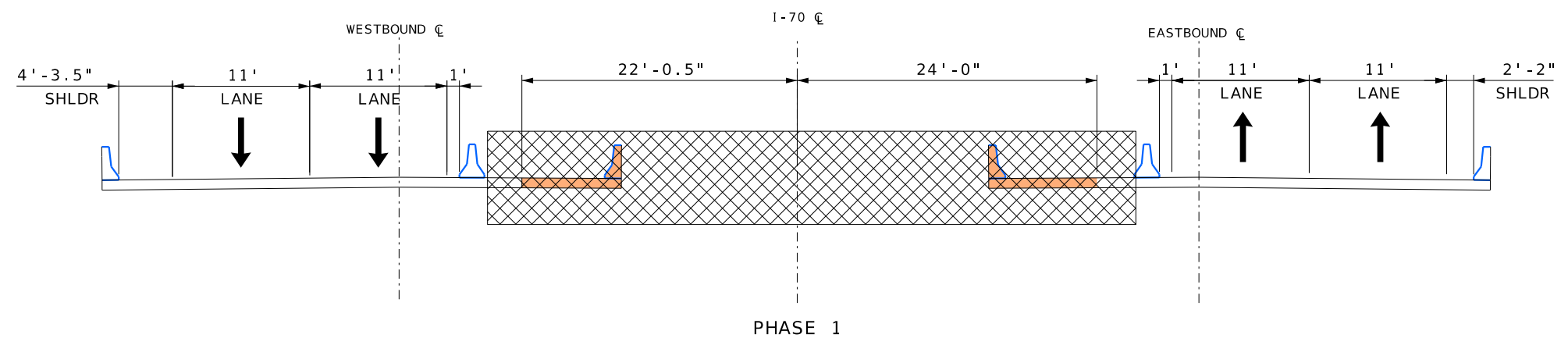
HORSESHOE CREEK BRIDGE  
I-70  
60 MPH

STA. 2211+02.40 TO STA. 2212+47.37



LITTLE HORSESHOE CREEK BRIDGE  
I-70  
60 MPH

STA. 2221+19.40 TO STA. 2222+36.20




LEGEND

- WORK ZONE
- PERMANENT IMPROVEMENTS
- TEMPORARY IMPROVEMENTS
- PERMANENT PAVEMENT COMPLETED IN PREVIOUS PHASE
- TEMPORARY PAVEMENT COMPLETED IN PREVIOUS PHASE
- TEMPORARY CONCRETE SAFETY BARRIER
- CHANNEL IZER

DATE PREPARED 9/15/2025	
ROUTE I-70	STATE MO
DISTRICT KC	SHEET NO. 2-MT01
COUNTY JACKSON	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	
BRIDGE NO.	

NO.	APPD. BY	DATE	REVISIONS
A	JAL	09/08/25	EARLY BRIDGE PACKAGE - FINAL PLANS
1	JAL	09/12/25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND  
TRANSPORTATION COMMISSION



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800 E 101st Terr., Ste. 200  
Kansas City, MO 64131  
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Fax (816) 942-3013  
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Authority #2003007599



MAINTENANCE OF TRAFFIC  
HORSESHOE CREEKS - PHASE 1  
TYPICAL SECTIONS

Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

DATE PREPARED  
9/15/2025

ROUTE STATE  
I-70 MO

DISTRICT SHEET NO.  
KC 2-MT02

COUNTY  
JACKSON

JOB NO.  
JST0019

CONTRACT ID.  
250507-C01

PROJECT NO.

BRIDGE NO.

REVISIONS

EARLY BRIDGE PACKAGE - FINAL PLANS

EARLY BRIDGE PACKAGE - RFC PLANS

NO. APPD. BY DATE

A JAL 09/08/25

1 JAL 09/12/25

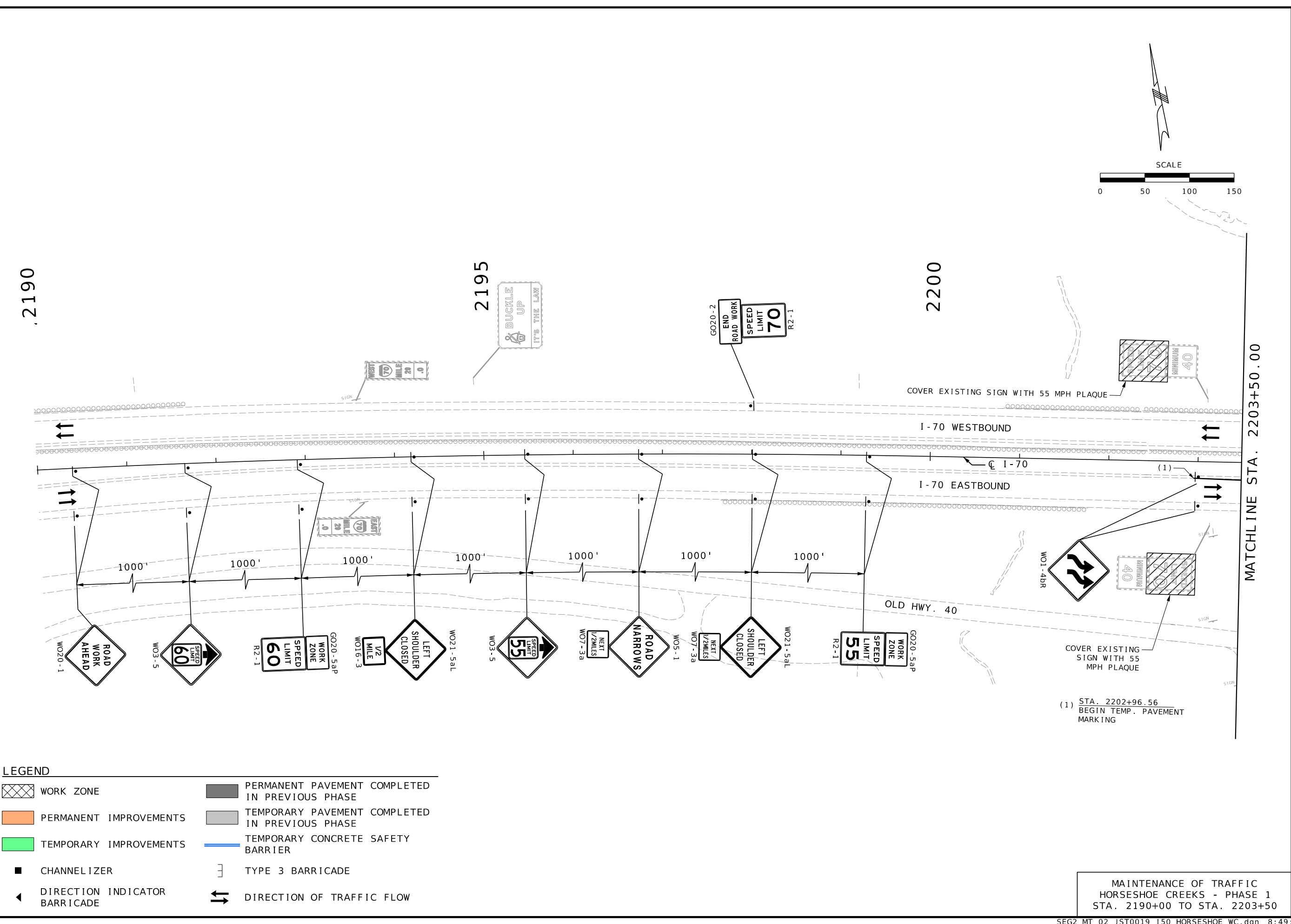
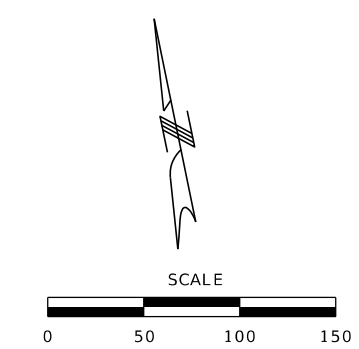
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**WILSON & COMPANY**

MAINTENANCE OF TRAFFIC  
HORSESHOE CREEKS - PHASE 1  
STA. 2190+00 TO STA. 2203+50



**LEGEND**

WORK ZONE	PERMANENT PAVEMENT COMPLETED IN PREVIOUS PHASE
PERMANENT IMPROVEMENTS	TEMPORARY PAVEMENT COMPLETED IN PREVIOUS PHASE
TEMPORARY IMPROVEMENTS	TEMPORARY CONCRETE SAFETY BARRIER
CHANNELIZER	TYPE 3 BARRICADE
DIRECTION INDICATOR BARRICADE	DIRECTION OF TRAFFIC FLOW

(1) STA. 2202+96.56  
BEGIN TEMP. PAVEMENT MARKING

Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

DATE PREPARED  
9/15/2025

ROUTE STATE  
I-70 MO

DISTRICT SHEET NO.  
KC 2-MT03

COUNTY  
JACKSON

JOB NO.  
JST0019

CONTRACT ID.  
250507-C01

PROJECT NO.

BRIDGE NO.

REVISIONS

EARLY BRIDGE PACKAGE - FINAL PLANS

EARLY BRIDGE PACKAGE - RFC PLANS

DATE

09/08/25

09/12/25

NO. APPD. BY

A JAL

1 JAL

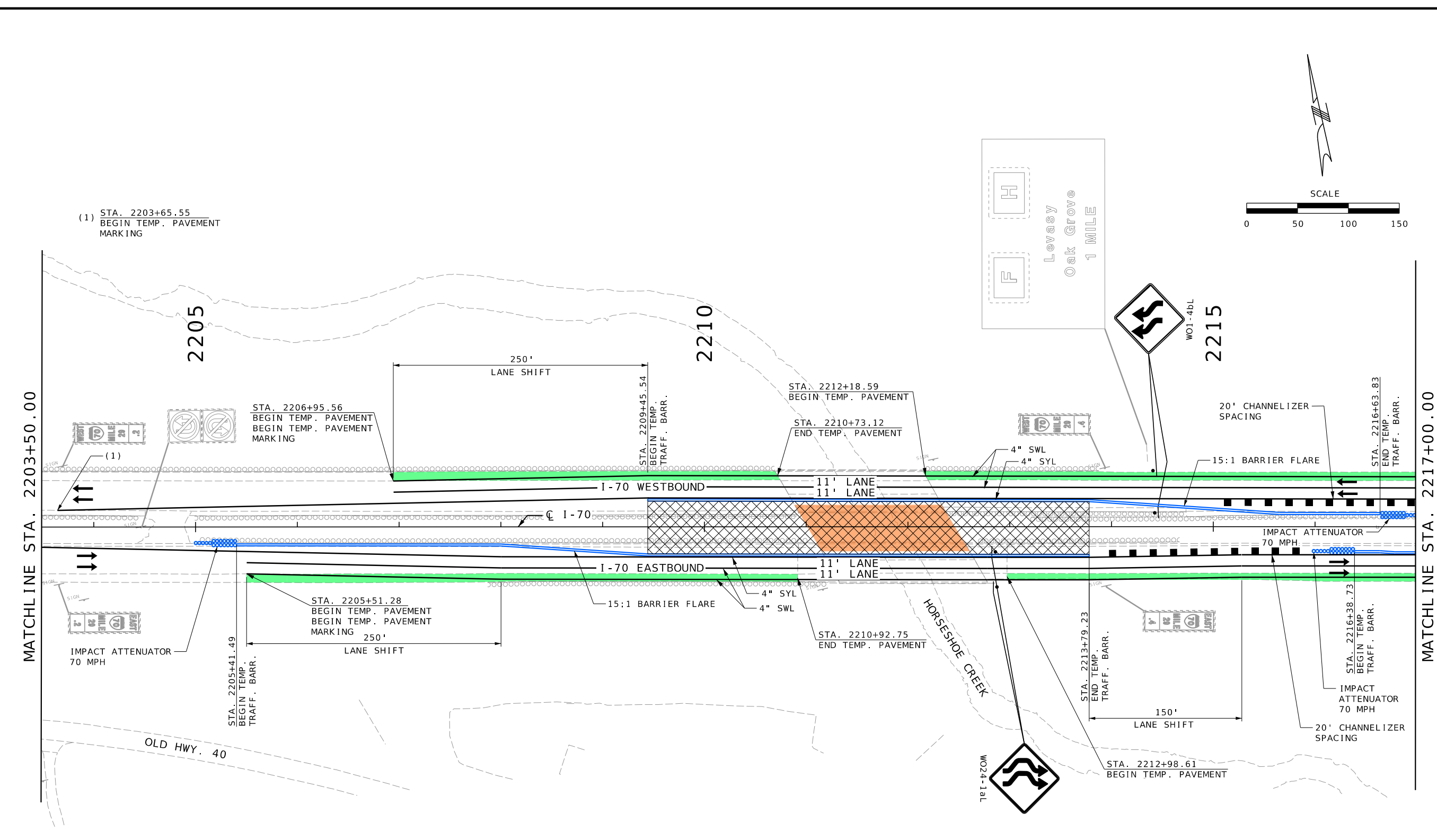
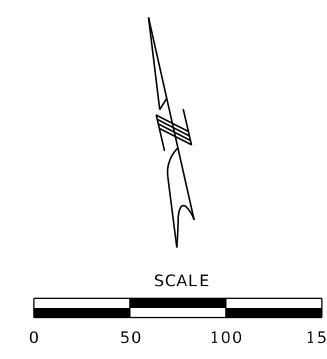
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TRANSPORTATION COMMISSION

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WILSON  
& COMPANY

MAINTENANCE OF TRAFFIC  
HORSESHOE CREEKS - PHASE 1  
STA. 2203+50 TO STA. 2217+00



**LEGEND**

WORK ZONE	PERMANENT PAVEMENT COMPLETED IN PREVIOUS PHASE
PERMANENT IMPROVEMENTS	TEMPORARY PAVEMENT COMPLETED IN PREVIOUS PHASE
TEMPORARY IMPROVEMENTS	TEMPORARY CONCRETE SAFETY BARRIER
CHANNELIZER	TYPE 3 BARRICADE
DIRECTION INDICATOR BARRICADE	DIRECTION OF TRAFFIC FLOW

Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

DATE PREPARED  
9/15/2025

ROUTE STATE  
I-70 MO

DISTRICT SHEET NO.  
KC 2-MT04

COUNTY  
JACKSON

JOB NO.  
JST0019

CONTRACT ID.  
250507-C01

PROJECT NO.

BRIDGE NO.

NO.	APPD. BY	DATE	REVISIONS
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1	JAL	09/12/25	EARLY BRIDGE PACKAGE - RFC PLANS

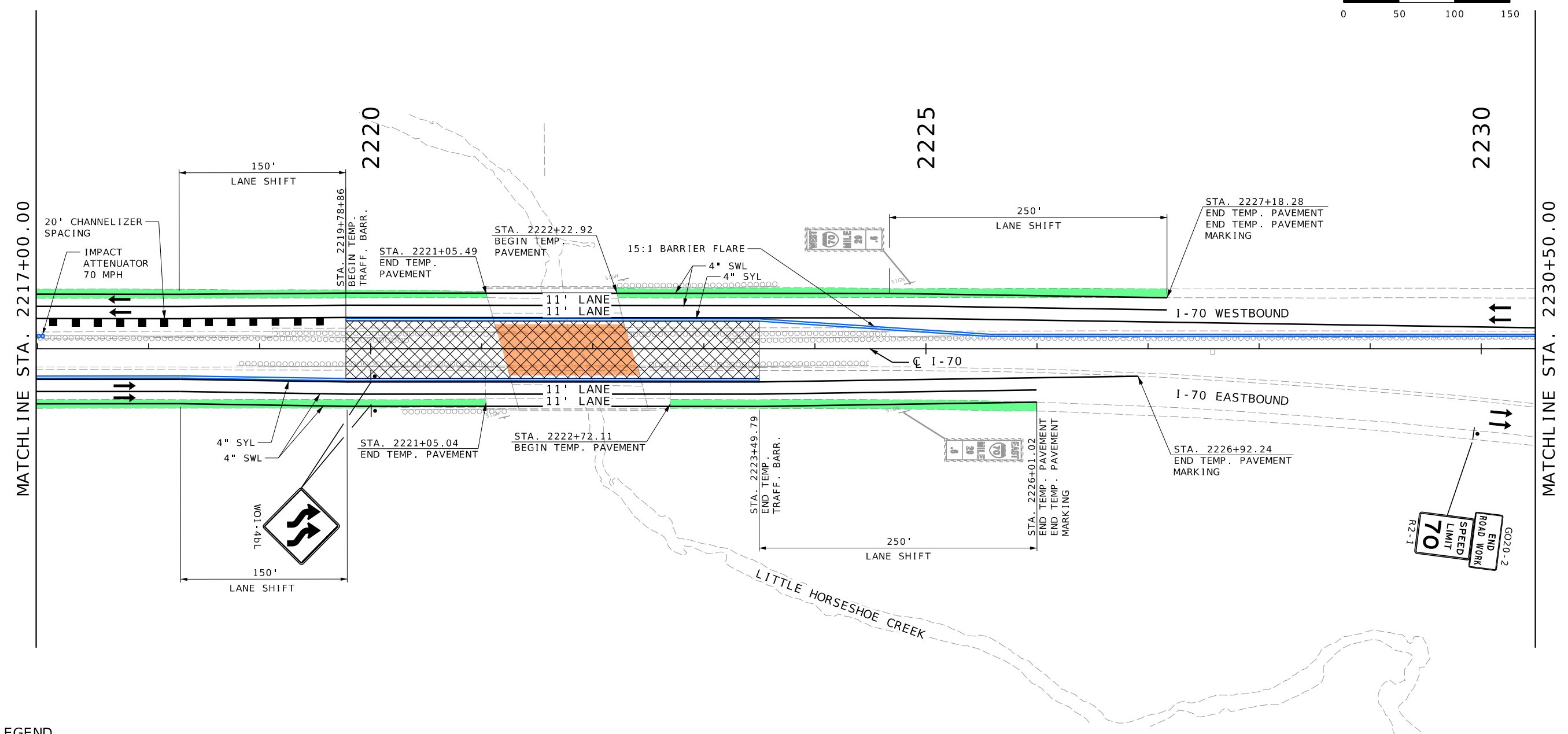
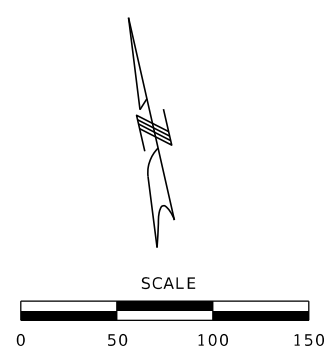
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Authority #2003007599

**WILSON  
& COMPANY**



**LEGEND**

WORK ZONE	PERMANENT PAVEMENT COMPLETED IN PREVIOUS PHASE
PERMANENT IMPROVEMENTS	TEMPORARY PAVEMENT COMPLETED IN PREVIOUS PHASE
TEMPORARY IMPROVEMENTS	TEMPORARY CONCRETE SAFETY BARRIER
CHANNELIZER	TYPE 3 BARRICADE
DIRECTION INDICATOR BARRICADE	DIRECTION OF TRAFFIC FLOW

MAINTENANCE OF TRAFFIC  
HORSESHOE CREEKS - PHASE 1  
STA. 2217+00 TO STA. 2230+50

Preliminary  
Plans -  
NOT FOR  
CONSTRUCTION

DATE PREPARED  
9/15/2025

ROUTE STATE  
I-70 MO

DISTRICT SHEET NO.  
KC 2-MT05

COUNTY  
JACKSON

JOB NO.  
JST0019

CONTRACT ID.  
250507-C01

PROJECT NO.

BRIDGE NO.

NO.	APPD. BY	DATE	REVISIONS
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1	JAL	09/12/25	EARLY BRIDGE PACKAGE - FINAL PLANS

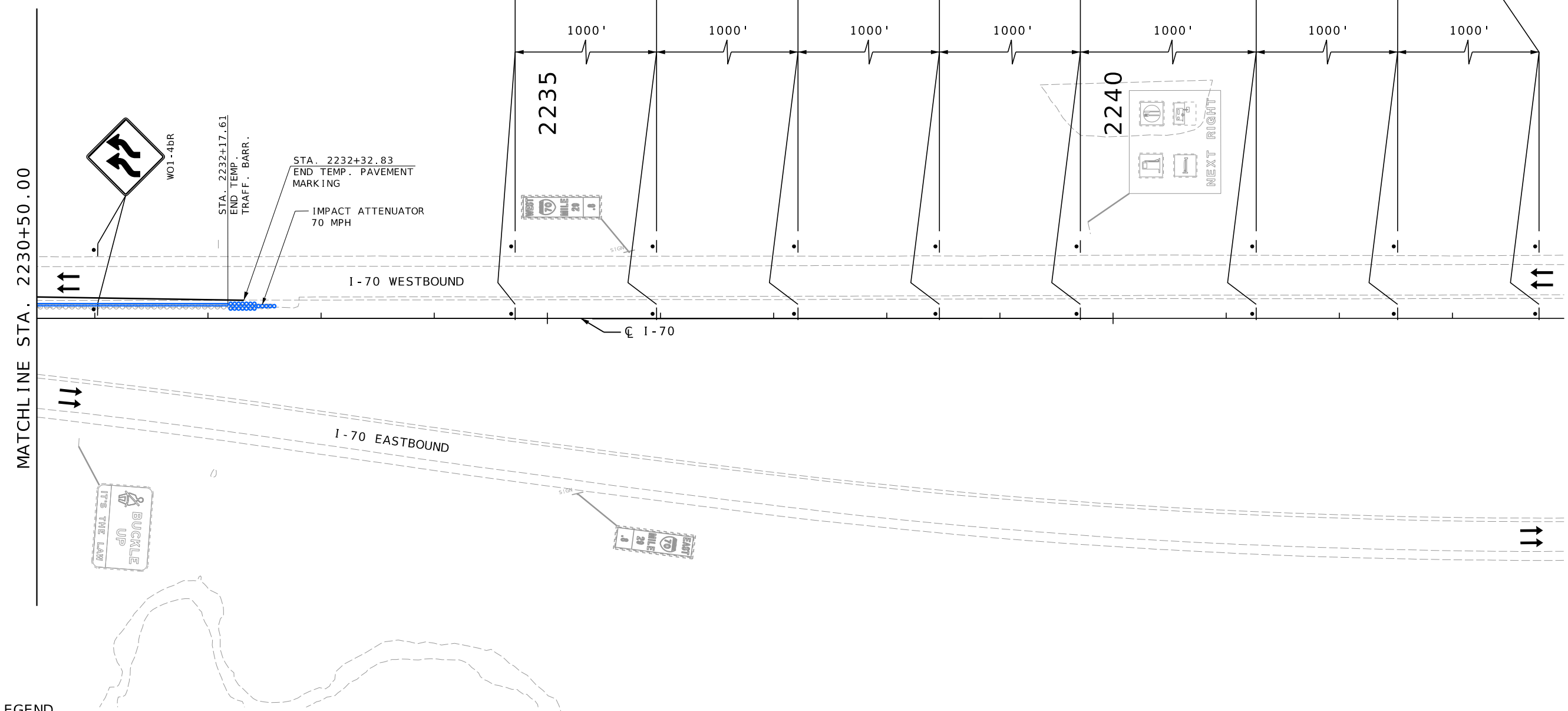
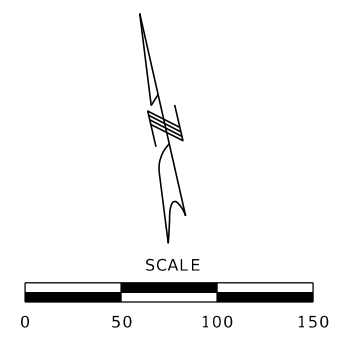
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TRANSPORTATION COMMISSION



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**WILSON & COMPANY**

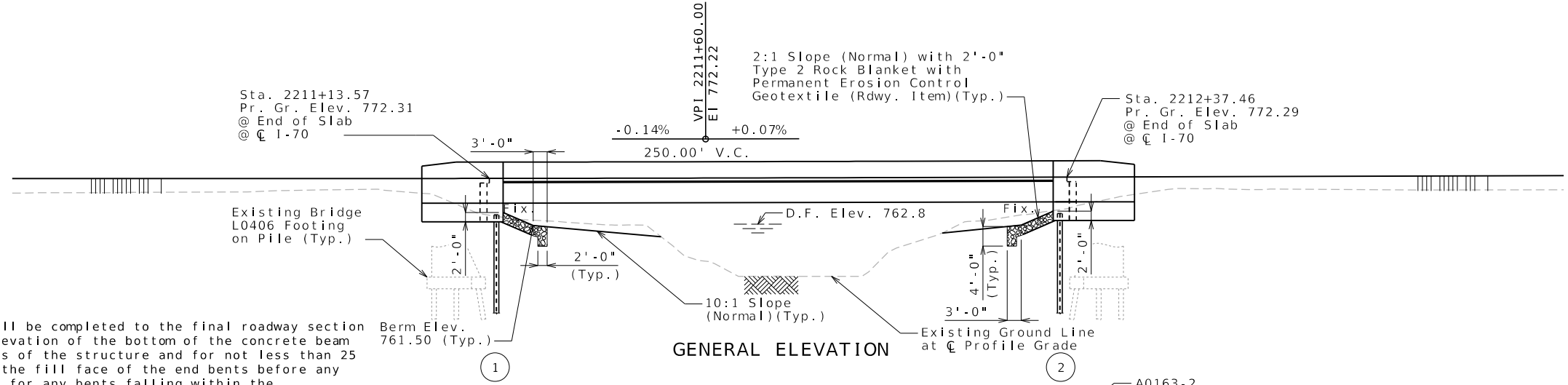


**LEGEND**

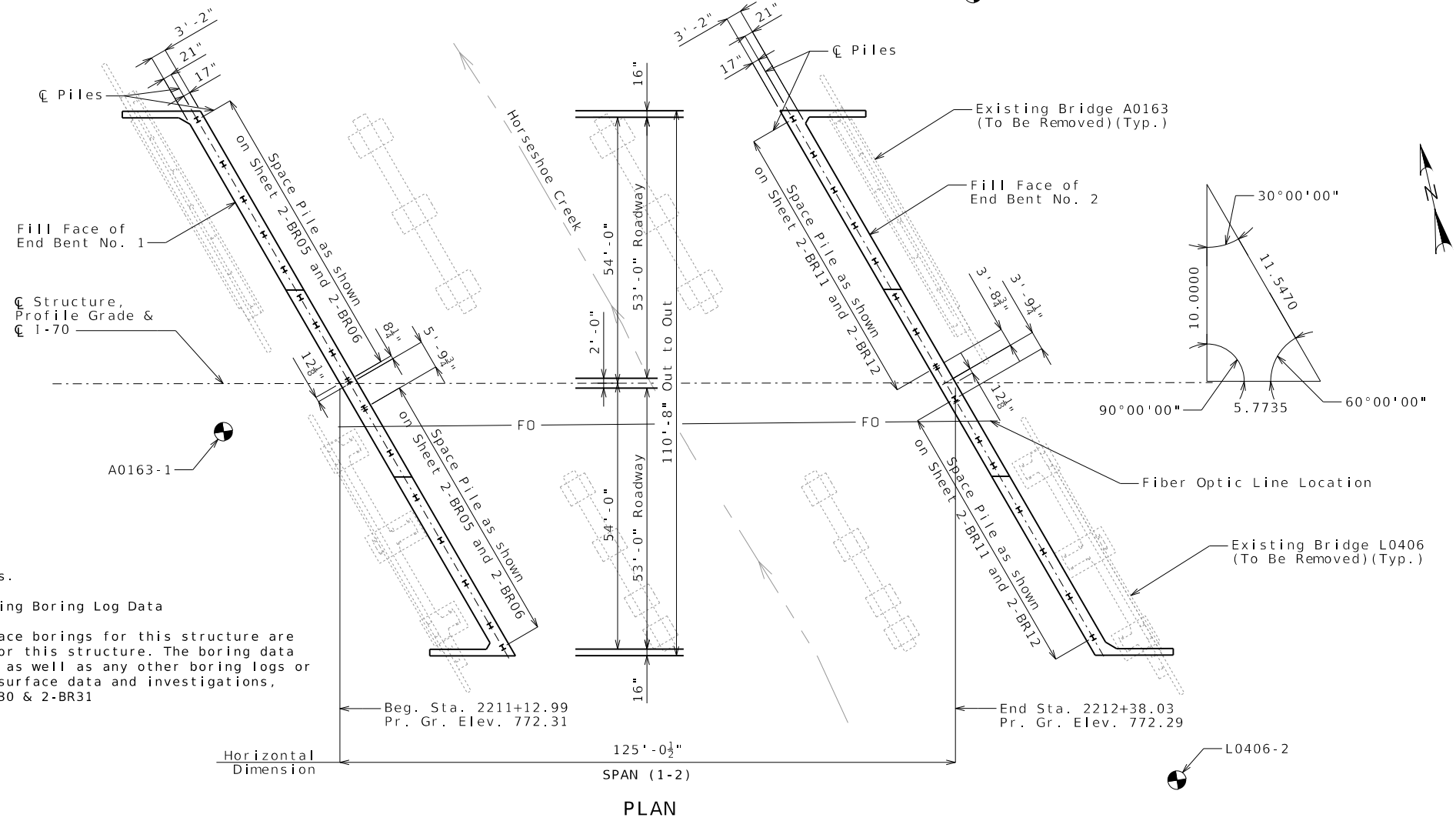
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PERMANENT IMPROVEMENTS	TEMPORARY PAVEMENT COMPLETED IN PREVIOUS PHASE
TEMPORARY IMPROVEMENTS	TEMPORARY CONCRETE SAFETY BARRIER
CHANNELIZER	TYPE 3 BARRICADE
DIRECTION INDICATOR BARRICADE	DIRECTION OF TRAFFIC FLOW

MAINTENANCE OF TRAFFIC  
HORSESHOE CREEKS - PHASE 1  
STA. 2230+50 TO STA. 2244+00

(121') PRESTRESSED CONCRETE NU-GIRDER SPAN



Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.



Indicates location of borings.

Notice and Disclaimer Regarding Boring Log Data

The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations, are shown on Sheets No. 2-BR30 & 2-BR31

B.M. 93272 = ALUM. CAP SET  
X: 242042.726  
Y: 1703571.072  
ELEV. 769.16

BRIDGE: ROUTE 1-70 OVER HORSESHOE CREEK  
ROUTE 1-70 FROM COUNTY LINE TO ROUTE D  
ABOUT 0.16 MILES E OF COUNTY LINE  
BEGIN STATION 2211+12.99

DATE PREPARED	
9/12/2025	
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	2-BR01
COUNTY	
LAFAYETTE	
JOB NO.	
JST0019	
CONTRACT ID.	
250507-C01	
PROJECT NO.	

BRIDGE NO.
A9741

NO.	APPD. BY	DATE	REVISIONS
A	JMD	06/17/25	EARLY BRIDGE PACKAGE 60% PLANS
B	JMD	08/13/25	EARLY BRIDGE PACKAGE FINAL PLANS
C	JMD	09/08/25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09/12/25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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Consult Inc engineers planners

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PRO. ENGINEER 2010005873

Designed JULY 2025  
Detailed JULY 2025  
Checked AUG. 2025

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

Sheet No. 1 of 31



Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	558
Reinforcing Steel (Epoxy Coated)	pound	136,340

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

Hydrologic Data	
Drainage Area = 7.6 mi <sup>2</sup>	
Design Flood Frequency = 100 years	
Design Flood Discharge = 3600 cfs	
Design Flood (D.F.) Elevation = 762.8	
Estimated Backwater = 0.4 ft	
Average Velocity thru Opening = 7.5 ft/s	
Freeboard (50-year)	
Freeboard = 3.9 ft	
Roadway Overtopping	
Overtopping Flood Discharge = N/A	
Overtopping Flood Frequency = >500 years	
500-Year Flood Elevation = 764.5	

Foundation Data			
Type	Design Data	Bent Number	
		1	2
Load Bearing Pile	Pile Type and Size	HP12x53	HP12x53
	Number	16	15
	Approximate Length per Each	39	34
	Pile Point Reinforcement	All	All
	Min. Galvanized Penetration (Elev.)	Full Length	Full Length
	Pile Driving Verification Method	DT	DT
	Resistance Factor	0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip	416

DT = Dynamic Testing

Load Bearing Pile:  
Minimum Nominal Axial Compressive Resistance =  $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

Minimum Nominal Axial Compressive Resistance value based on the critical individual pile.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

All piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

**GENERAL NOTES:**

Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications, (9th Ed.)  
Seismic Design Category = A (Nonseismic)  
Design earthquake response spectral acceleration coefficient at 1.0 second period, SD1 = 0.064g  
Acceleration Coefficient (effective peak ground acceleration coefficient), As = 0.040g  
Operational Importance Factor = 1.05.

Design Loadings:

Vehicular = HL-93  
Future Wearing Surface = 35 lb/sf  
Earth = 120 lb/cf, Equivalent Fluid Pressure = 45 lb/cf (minimum)  
Superstructure: Non-Composite for dead load.  
Composite for live load.

Design Unit Stresses:

Class B Concrete (Substructure) f'c = 3,000 psi  
Class B-1 Concrete (Barrier) f'c = 4,000 psi  
Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier) f'c = 4,000 psi  
Reinforcing Steel (ASTM A615 Grade 60) fy = 60,000 psi  
Structural Steel HP Pile (ASTM A709 Grade 50) fy = 50,000 psi

For Prestressed Girder Stresses, See Sheet No. 2-BR16.

Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

Standard Plans:

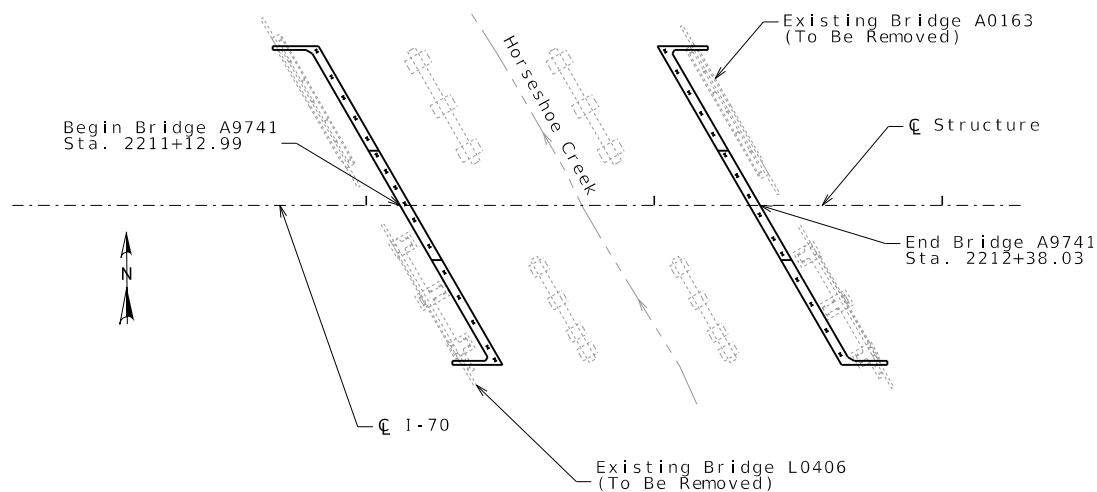
617.10 for Type C Barrier

Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown. MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710.

Traffic Control:

Traffic to be maintained on structures during construction. See roadway plans for traffic control and Sheets No. 2-BR03 and 2-BR04 for staged construction details.



LOCATION SKETCH

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR02
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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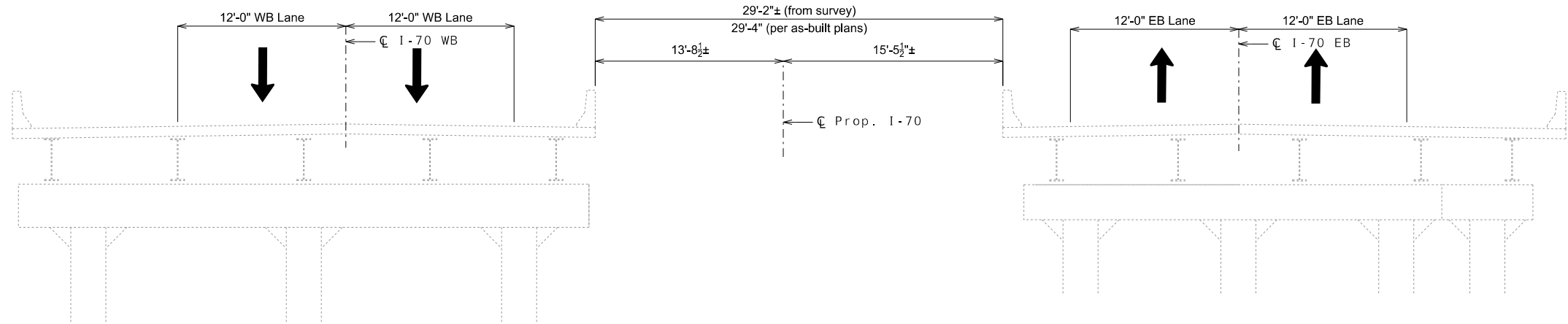
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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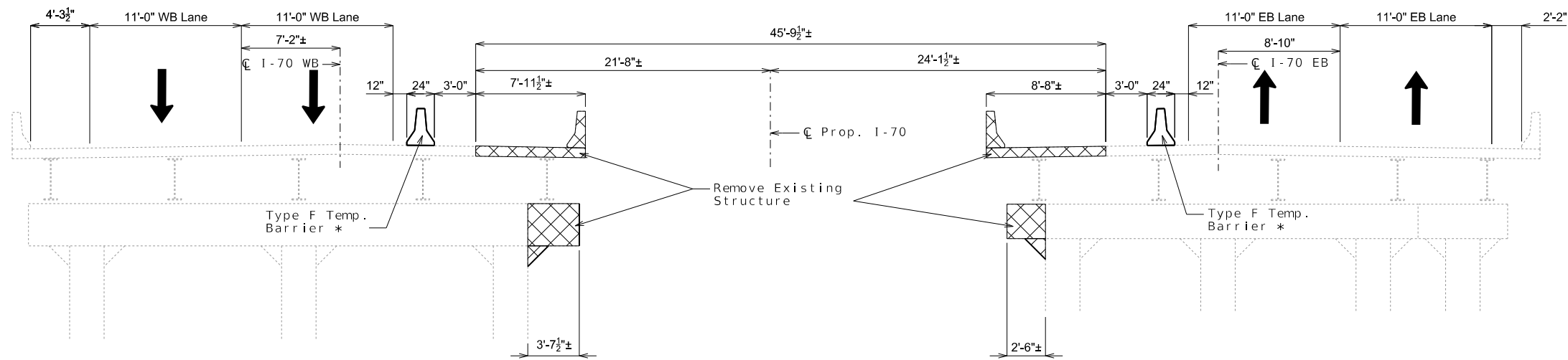
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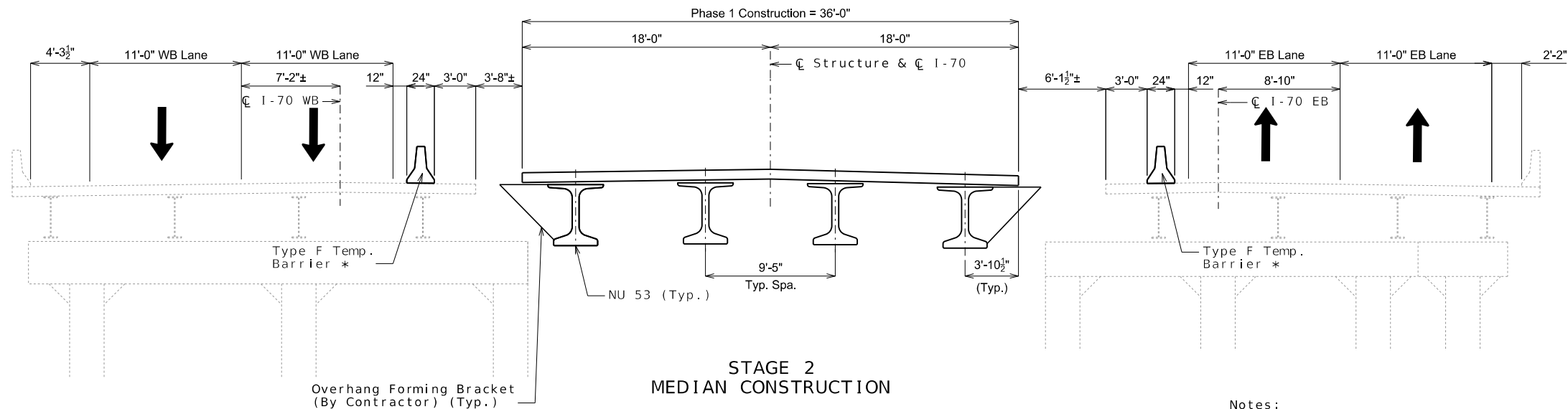
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PRO. ENGINEER 201005873



EXISTING



STAGE 1  
MODIFY EXISTING



STAGE 2  
MEDIAN CONSTRUCTION

STAGED CONSTRUCTION DETAILS

Notes:

- \* Temporary barrier shall not be attached to the bridge.
- See Missouri Standard Plans 617.20 for details of temporary Type F Barrier not shown.

Detailed JULY 2025  
Checked AUG. 2025

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

Sheet No. 3 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR03
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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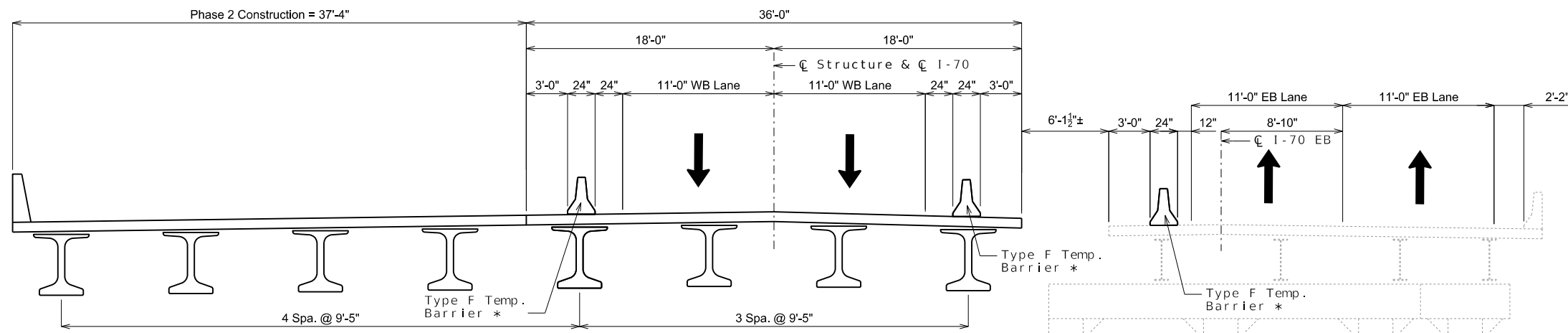
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

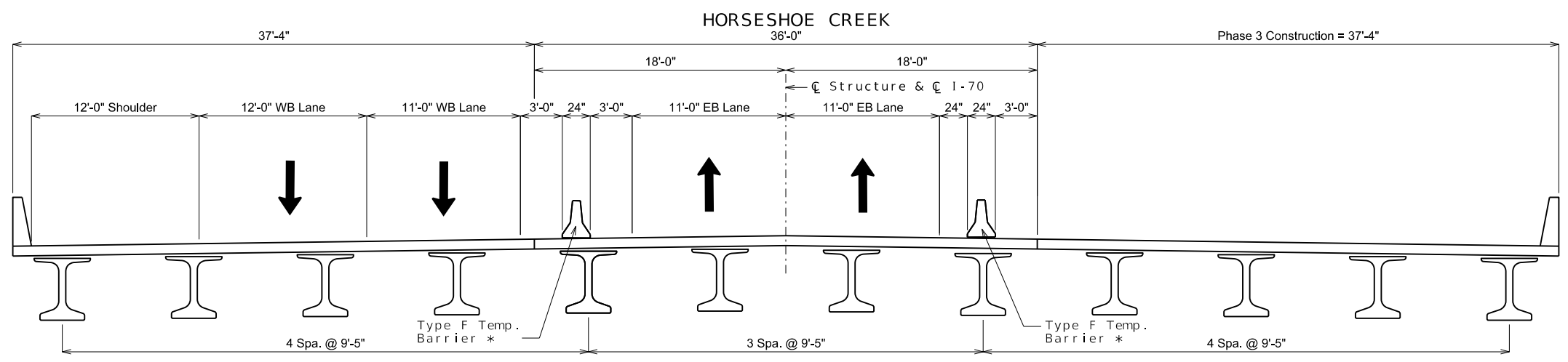
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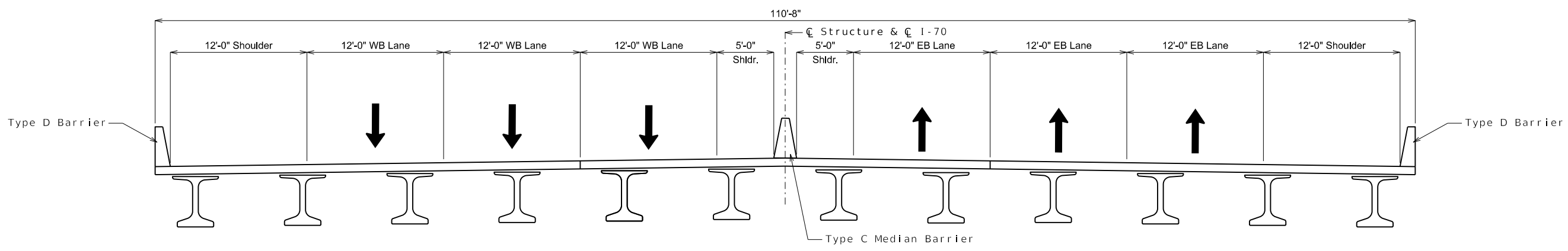
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PRO. ENGINEER 201005873



STAGE 3  
REPLACE WB



STAGE 4  
REPLACE EB



FINAL

STAGED CONSTRUCTION DETAILS

Notes:  
 \* Temporary barrier shall not be attached to the bridge.  
 See Missouri Standard Plans 617.20 for details of temporary Type F Barrier not shown.

Detailed JULY 2025  
 Checked AUG. 2025

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

Sheet No. 4 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR04
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
---------------------

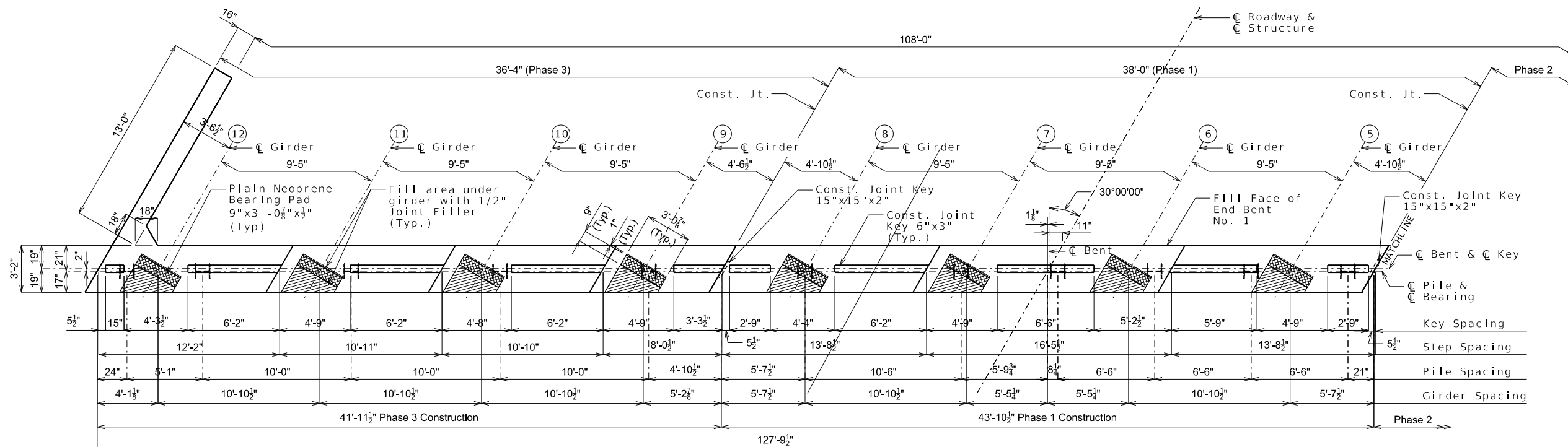
NO.	APPD. BY	DATE	REVISIONS
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

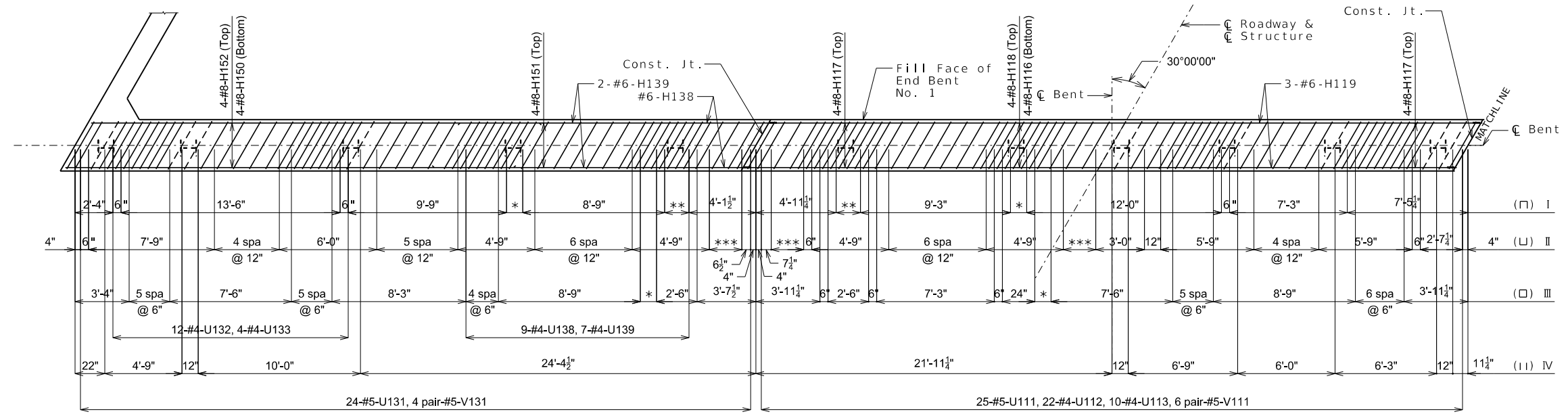
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 PRO. ENGINEER 201005873



PLAN OF BEAM - PHASE 1 & 3



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 1 & 3

(Keys & Steps not shown for clarity)

- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"

- I - #4-U113, U133, U139 space as shown
- II - #5-U111, U131 space as shown
- III - #4-U112, U132, U138 space as shown
- IV - Pairs of #5-V111, V131 space as shown

Notes:  
 Work this sheet with Sheets No. 2-BR06, 2-BR07, 2-BR08 & 2-BR09.  
 For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.  
 Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".  
 The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

DETAILS OF END BENT NO. 1

Note: This drawing is not to scale. Follow dimensions. Sheet No. 5 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR05
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

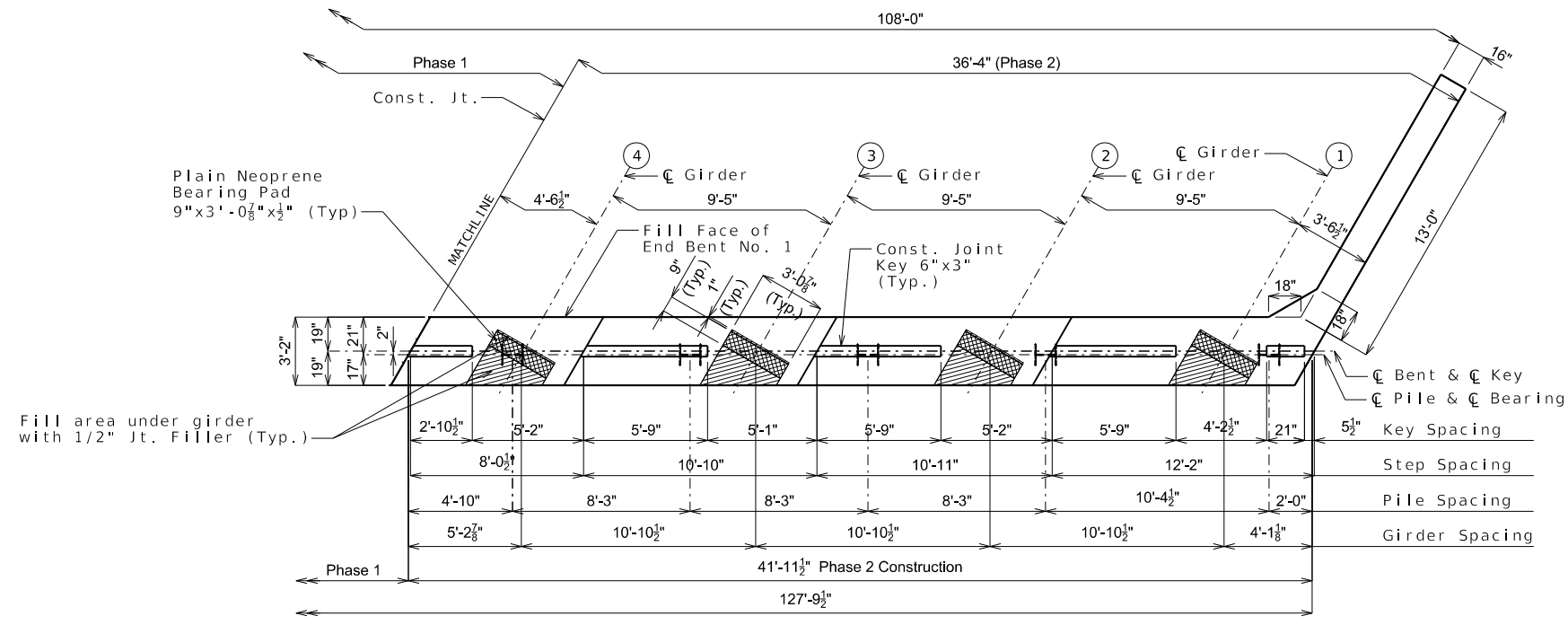
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B	JMD	09-08-25
1	JMD	09-12-25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

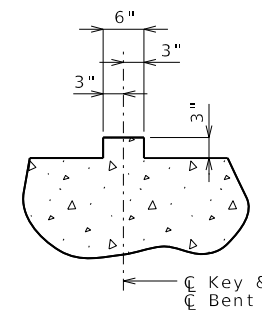
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 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

**Consult Inc**  
 engineers planners

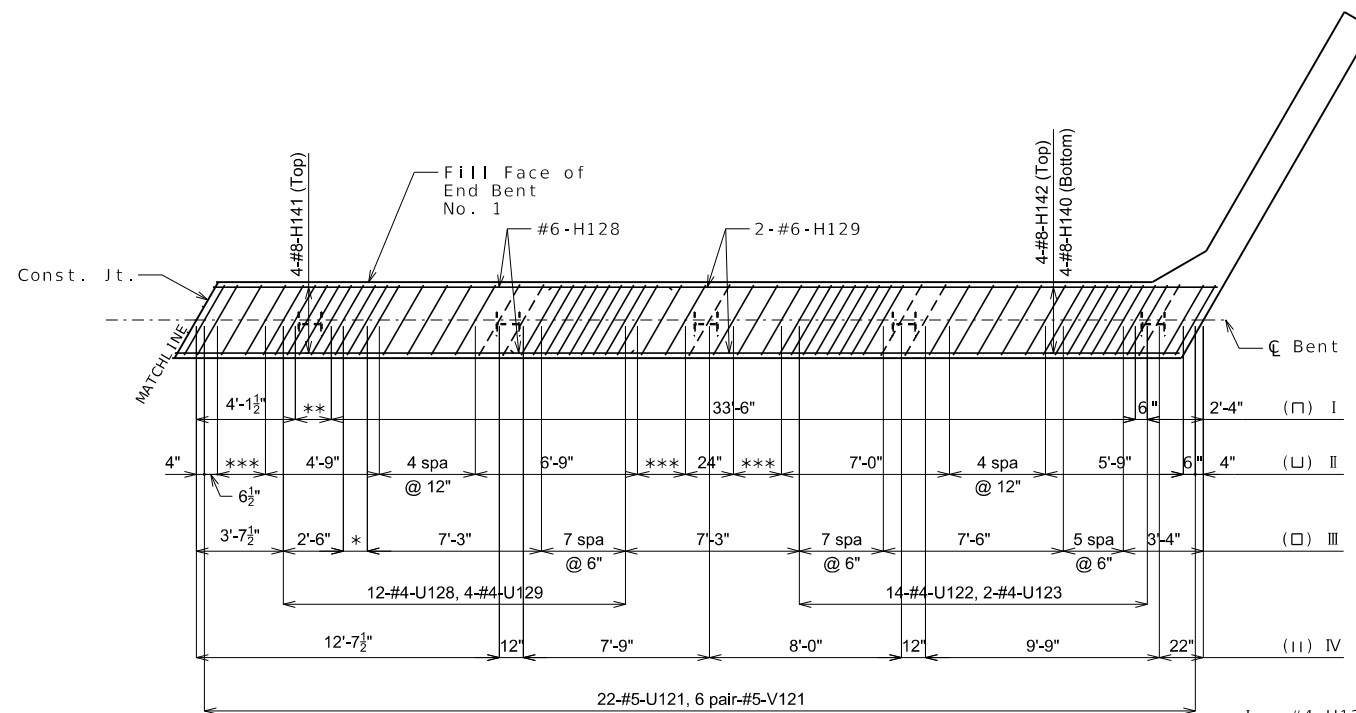
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 Hq CONSULT, INC.  
 PRO. ENGINEER 201005873



PLAN OF BEAM - PHASE 2



SECTION THRU KEY



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 2

(Keys & Steps not shown for clarity)

- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"

- I - #4-U123, U129 space as shown
- II - #5-U121 space as shown
- III - #4-U122, U128 space as shown
- IV - Pairs of #5-V121 space as shown

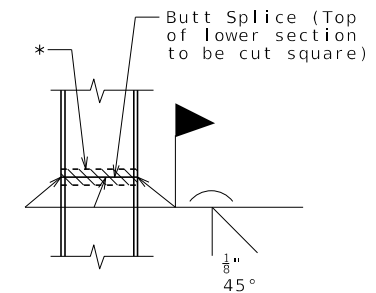
Notes:

Work this sheet with Sheets No. 2-BR05 thru 2-BR09.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.



STEEL PILE SPLICE  
(If required)

\* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR06
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
---------------------

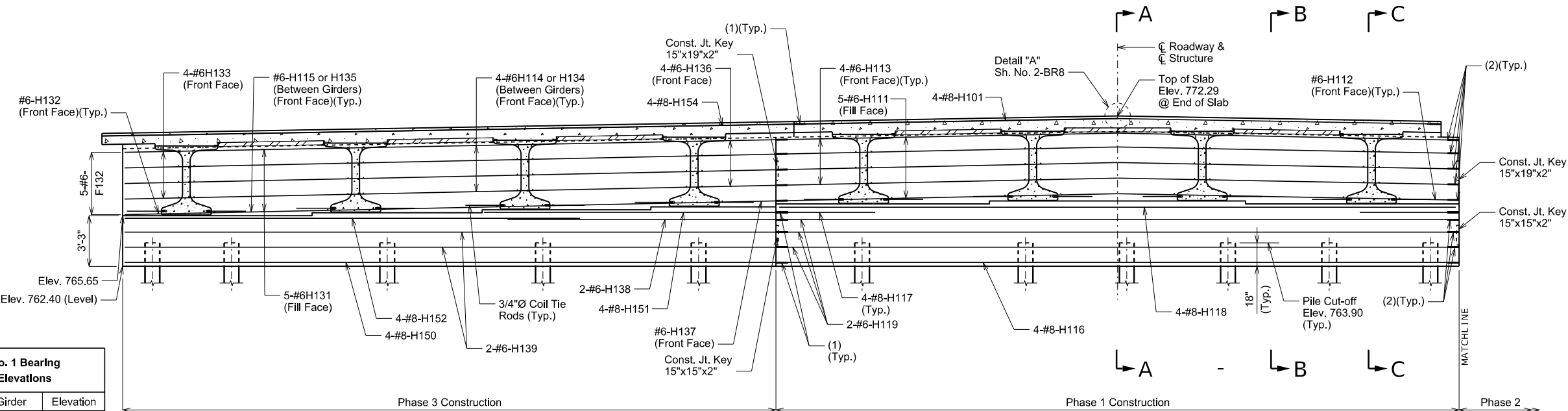
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**Consult Inc**  
engineers  
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Hq CONSULT, INC.  
PRO. ENGINEER 201005873  
7733 N. Wallace Ave., Kansas City, MO 64158; (816)912-4720

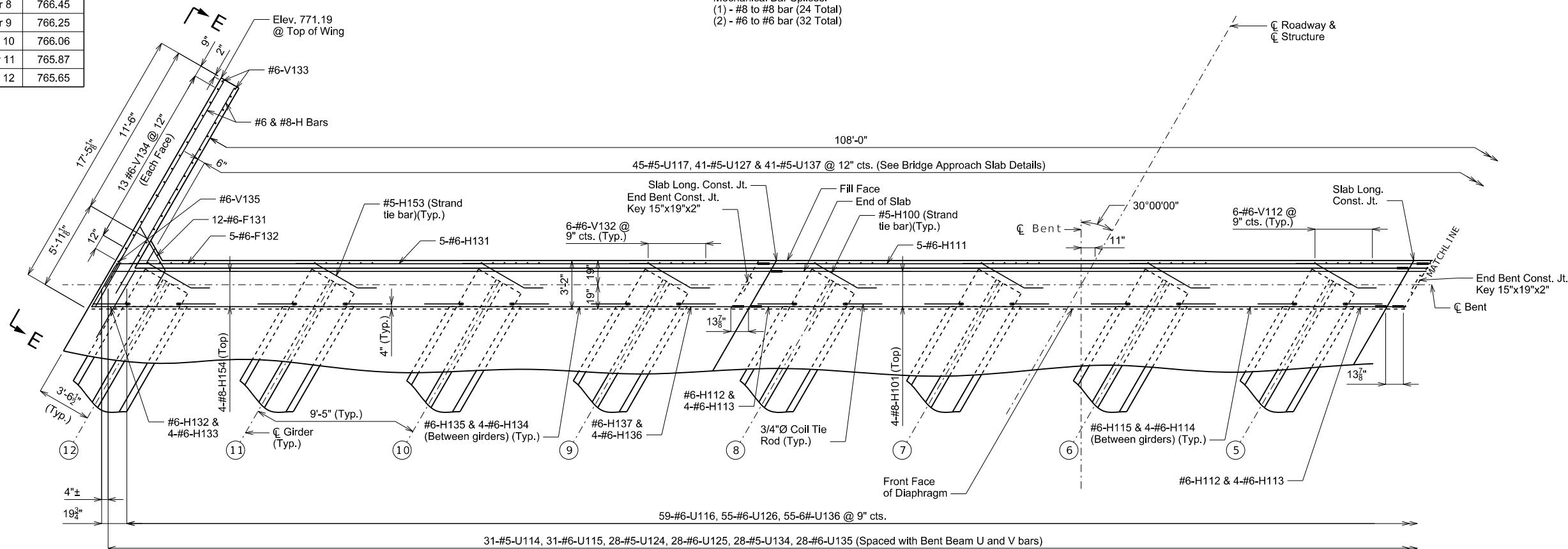


**Bent No. 1 Bearing Seat Elevations**

Phase	Girder	Elevation
Phase 1	Girder 5	766.46
	Girder 6	766.64
	Girder 7	766.64
	Girder 8	766.45
Phase 3	Girder 9	766.25
	Girder 10	766.06
	Girder 11	765.87
	Girder 12	765.65

**SECTION NEAR END BENT - PHASE 1 & 3**

Mechanical Bar Splices:  
 (1) - #8 to #8 bar (24 Total)  
 (2) - #6 to #6 bar (32 Total)



**PART PLAN - PHASE 1 & 3**

**Notes:**

- Work this sheet with Sheets No. 2-BR05, 2-BR06, 2-BR08 & 2-BR09
- For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.
- For Sections A-A, B-B & C-C and Elevation E-E, see Sheet No. 2-BR09.
- All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

**Notes (cont.):**

- The #6-F131 bars shall be bent in the field to clear girders.
- Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.
- For location of coil tie rods and #5-H100 & H153 (strand tie bars), see Sheet No. 2-BR16.
- For details of bridge approach slab, see Sheet No. 2-BR25.
- The U bars shall be placed parallel to centerline of roadway.

**DETAILS OF END BENT NO. 1**

Detailed JULY 2025  
 Checked AUG. 2025

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

Sheet No. 7 of 31

DATE PREPARED		9/12/2025	
ROUTE	STATE		
I-70	MO		
DISTRICT	SHEET NO.		
BR	2-BR07		
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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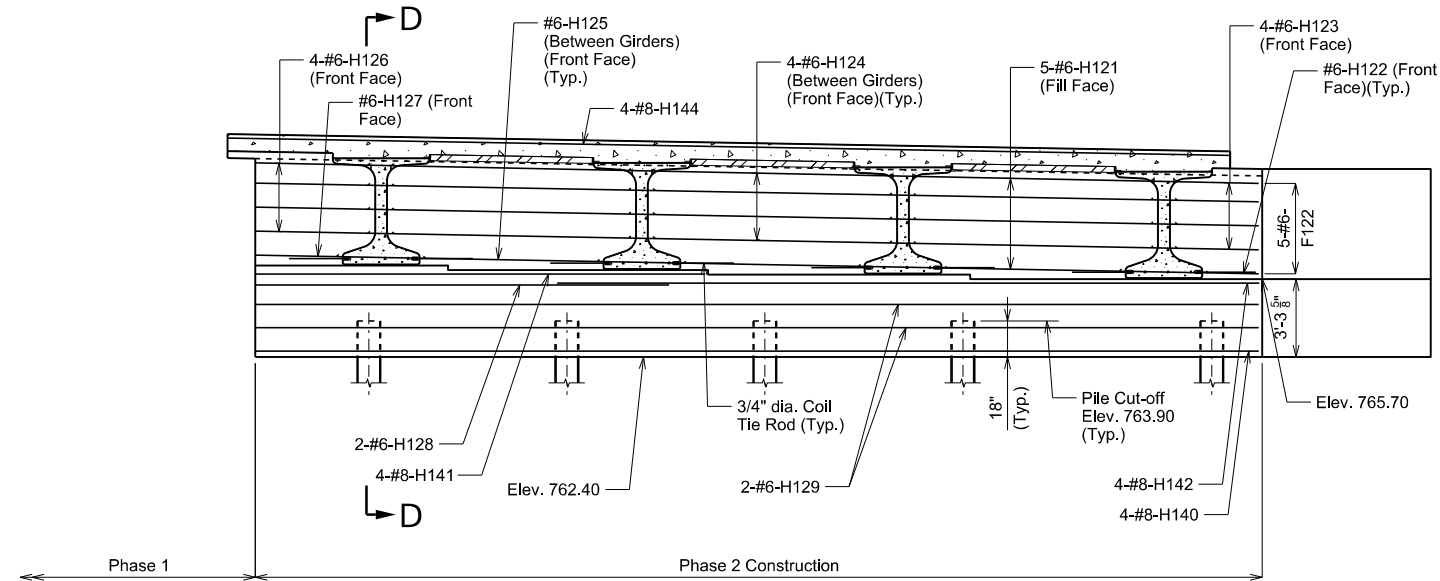
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A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

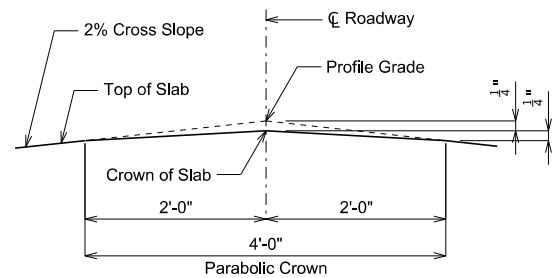
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

**Consult Inc engineers planners**

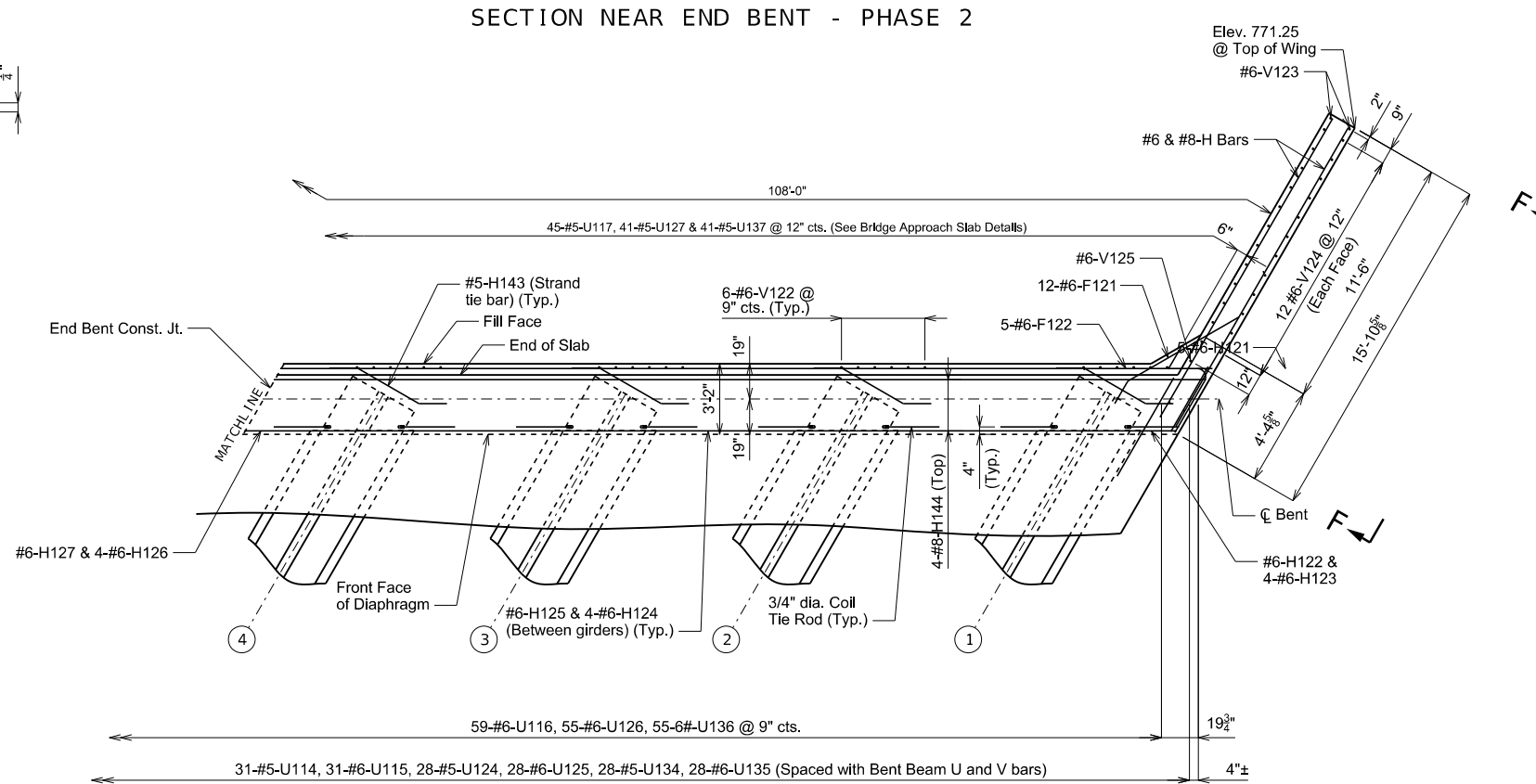
7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720  
 HQ CONSULT, INC.  
 PRO. ENGINEER 201005873



Bent No. 1 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 2	Girder 1	765.70
	Girder 2	765.91
	Girder 3	766.09
	Girder 4	766.27



DETAIL A



PART PLAN - PHASE 2

Notes:

- Work this sheet with Sheets No. 2-BR05, 2-BR06, 2-BR07 & 2-BR09.
- For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.
- For Section D-D & Elevation F-F, see Sheet No. 2-BR09.
- All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

Notes (cont.):

- The #6-F121 bars shall be bent in the field to clear girders.
- Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.
- For location of coil tie rods and #5-H143 (strand tie bars), see Sheet No. 2-BR16.
- For details of bridge approach slab, see Sheet No. 2-BR25.
- The U bars shall be placed parallel to centerline of roadway.


DETAILS OF END BENT NO. 1

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR08
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

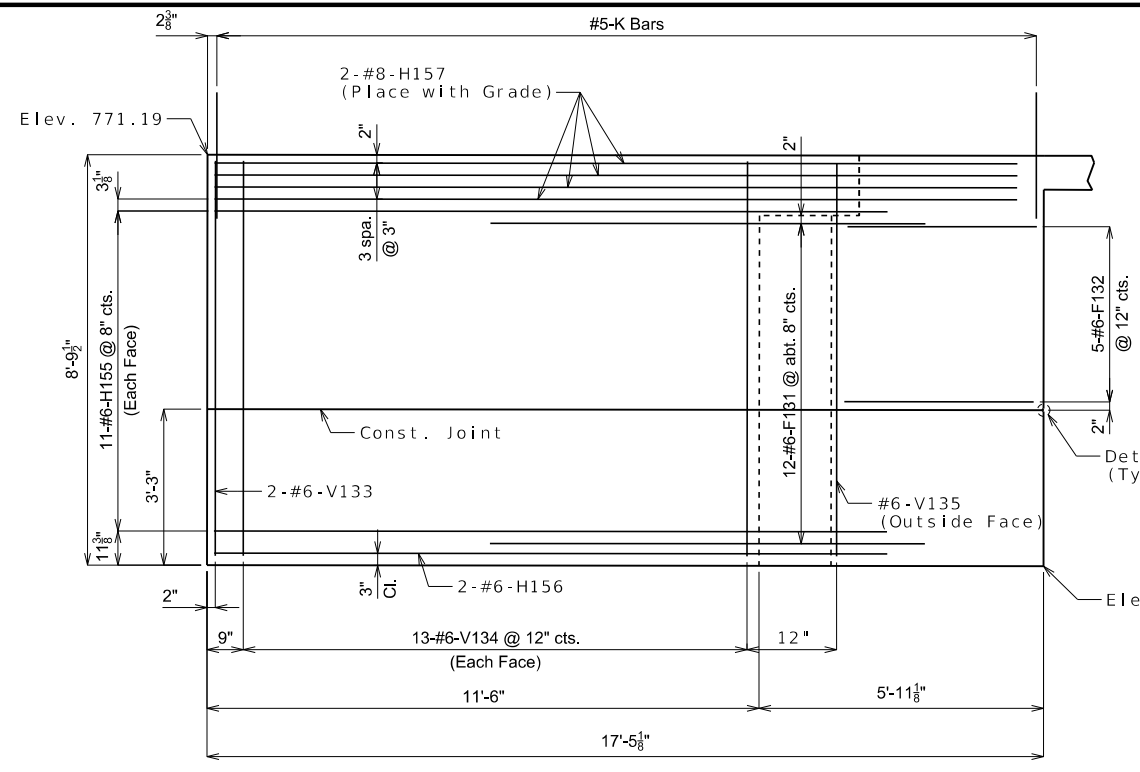


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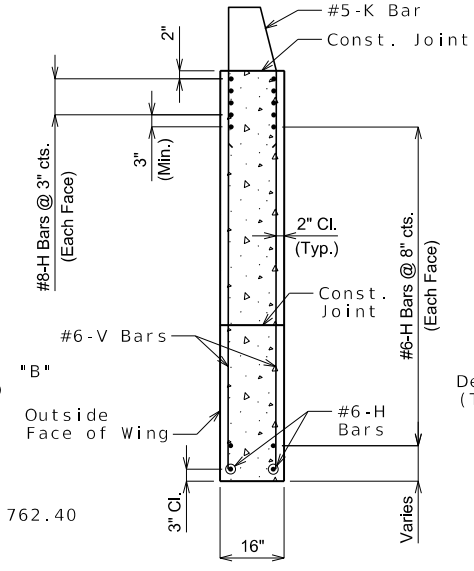
Consult Inc engineers planners



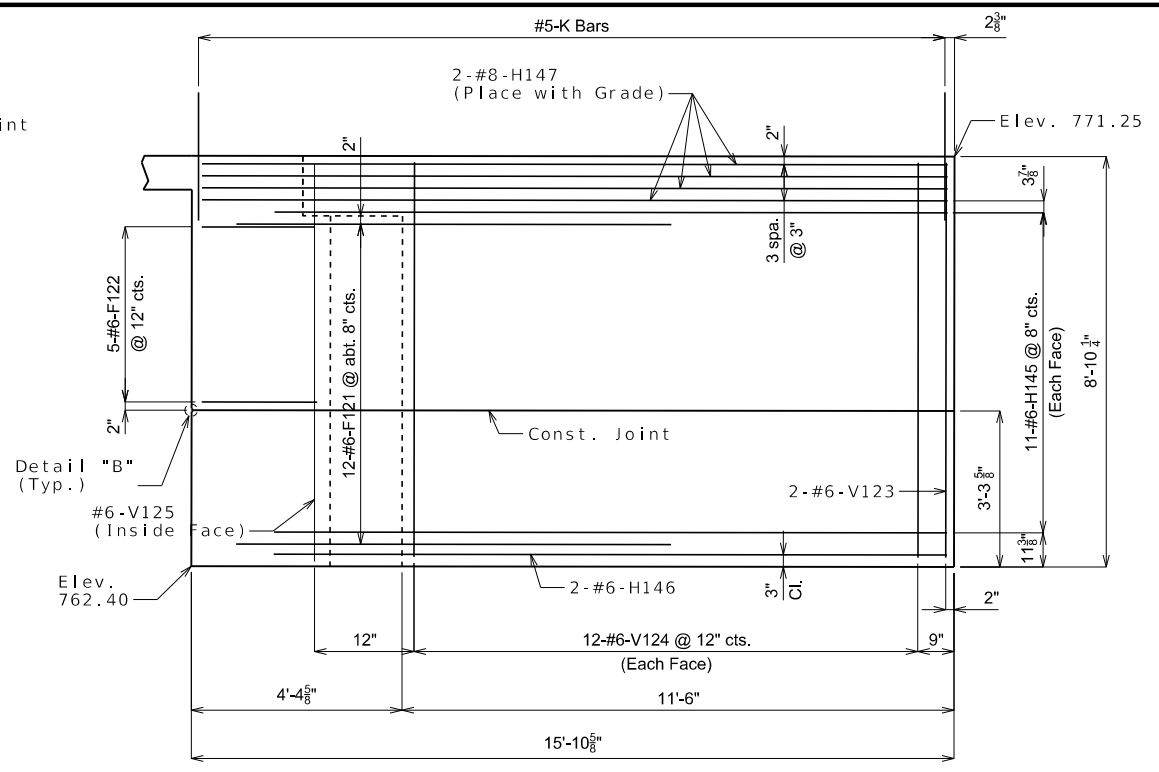
7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720  
HQ CONSULT, INC.  
PRO. ENGINEER 2010005873



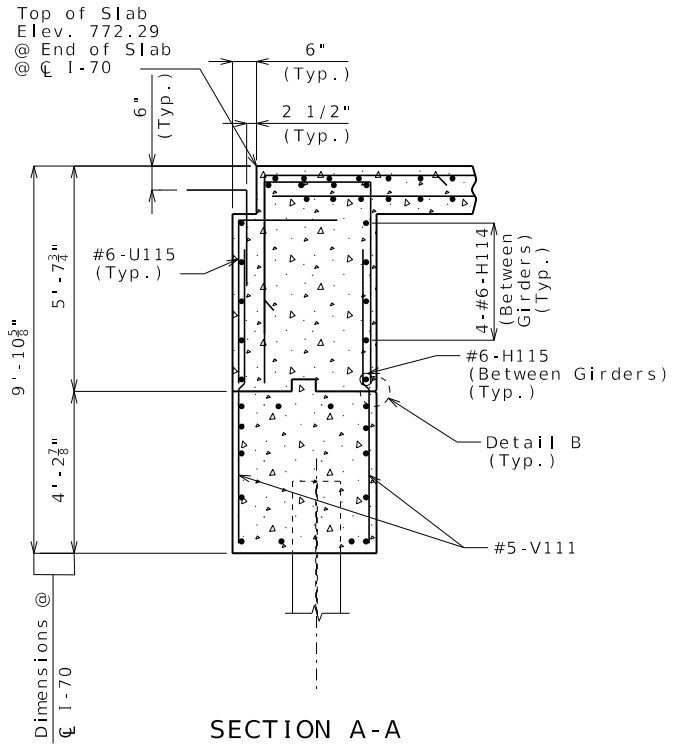
ELEVATION E-E



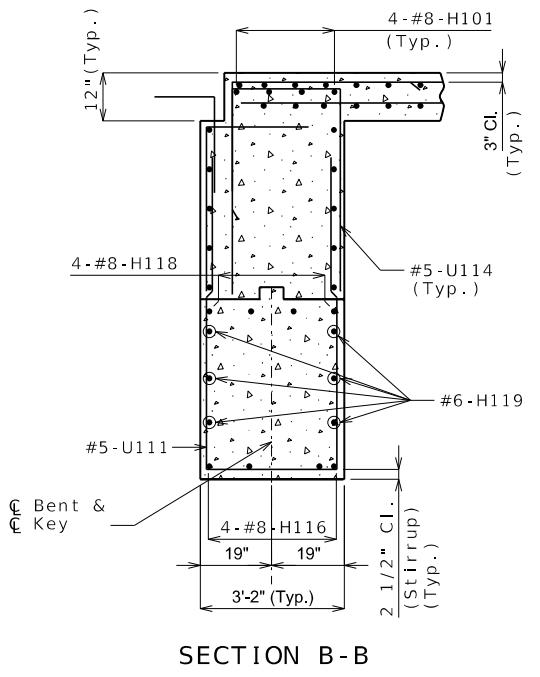
TYPICAL SECTION THRU WING



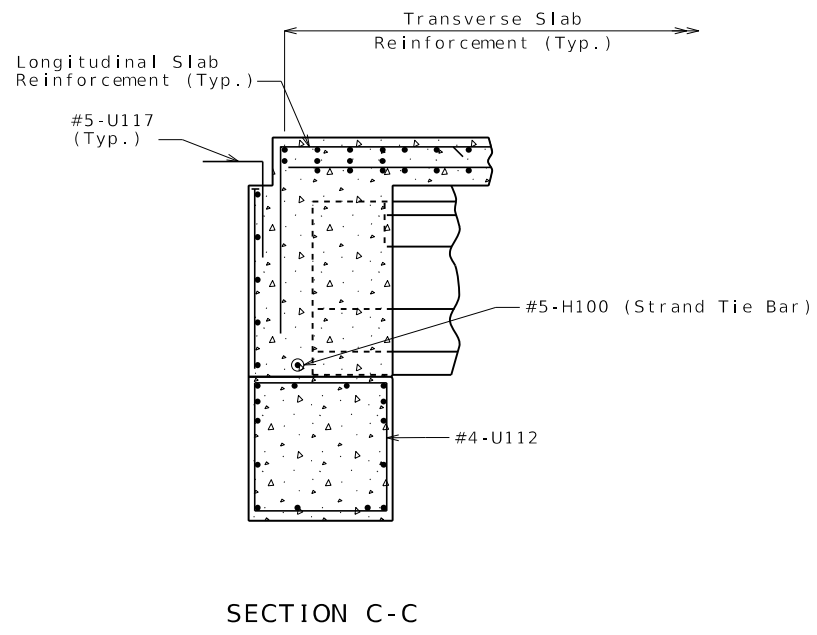
ELEVATION F-F



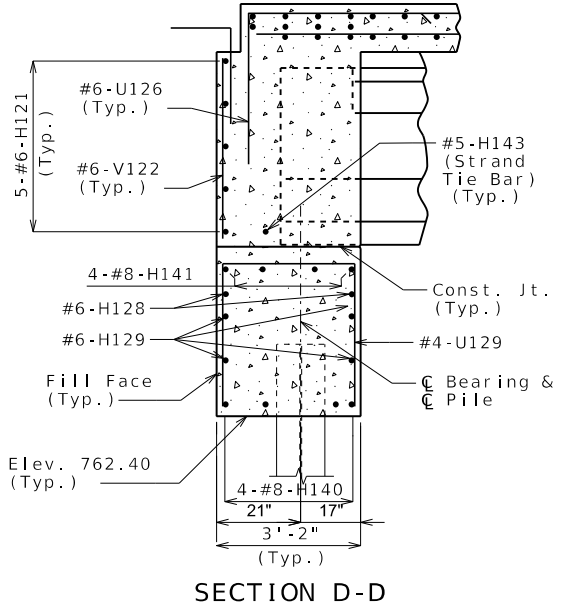
SECTION A-A



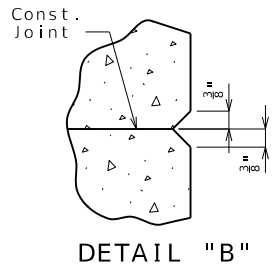
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "B"

DETAILS OF END BENT NO. 1

Notes:  
 Work this sheet with Sheets No. 2-BR05 thru 2-BR08.  
 For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E and F-F, see Sheets No. 2-BR07 and 2-BR08.  
 All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.  
 For details and reinforcement of Barrier not shown, see Sheet No. 2-BR24.  
 The #6-F121 & #6-F131 bars shall be bent in the field to clear girders.

Detailed JULY 2025  
 Checked AUG. 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 9 of 31

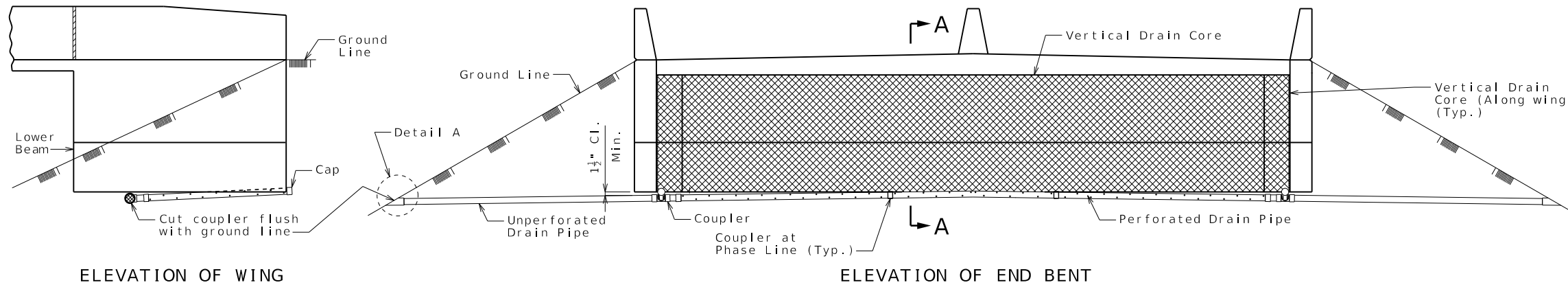
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ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	2-BR09
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			
BRIDGE NO.			
A9741			

NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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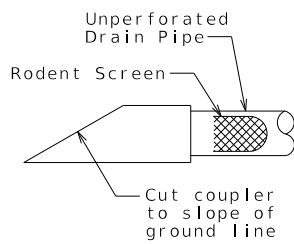
**Consult Inc**  
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 Hq CONSULT, INC.  
 PRO. ENGINEER 2010005873



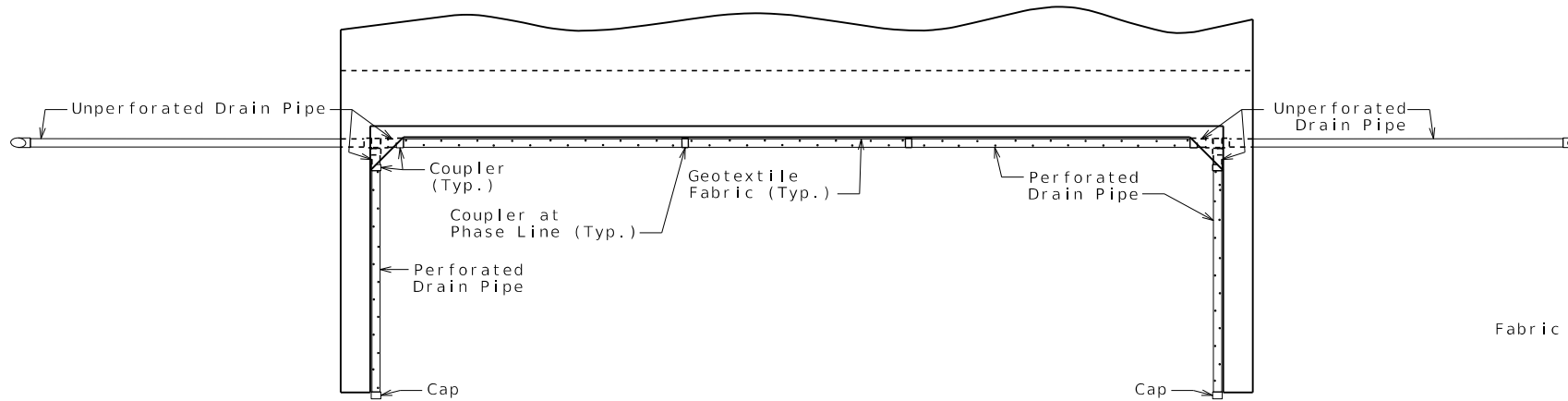


ELEVATION OF WING

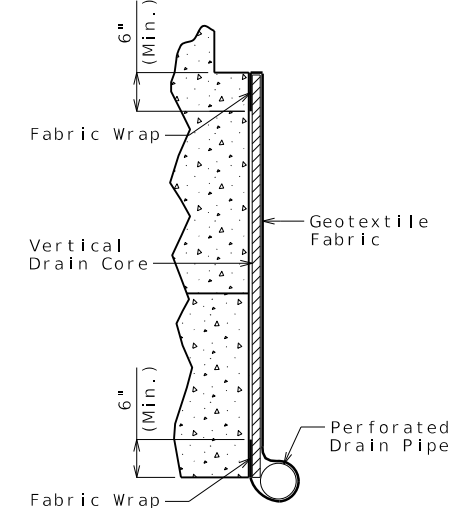
ELEVATION OF END BENT



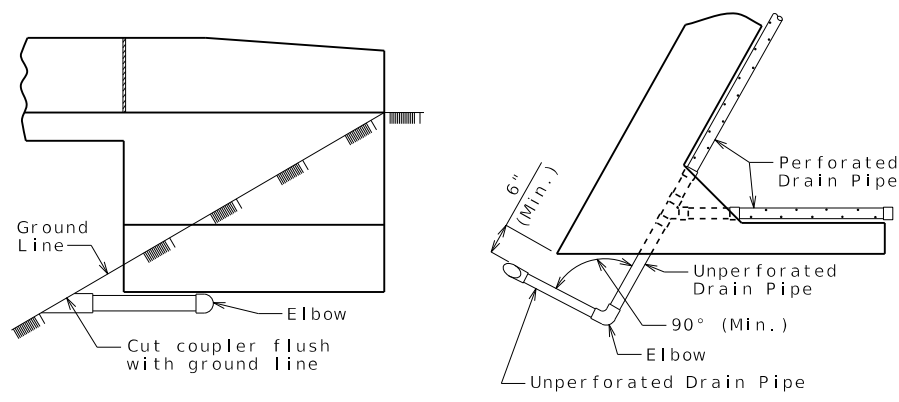
DETAIL A



PLAN OF END BENT



PART SECTION A-A  
(Section thru wing similar)



ELEVATION OF WING

PART PLAN

**OPTIONAL TURNED DRAIN**

(Use only when straight drain is not practical.)

**General Notes:**

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

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

DATE PREPARED		9/12/2025	
ROUTE	STATE	BRIDGE NO.	SHEET NO.
I-70	MO	2-BR10	
DISTRICT		COUNTY	
BR		LAFAYETTE	
JOB NO.		CONTRACT ID.	
JST0019		250507-C01	
PROJECT NO.			

BRIDGE NO.	A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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**VERTICAL DRAIN AT END BENTS**  
(Squared end bent shown, skewed end bent similar)

DATE PREPARED	
9/12/2025	
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	2-BR11
COUNTY	
LAFAYETTE	
JOB NO.	
JST0019	
CONTRACT ID.	
250507-C01	
PROJECT NO.	

BRIDGE NO.	
A9741	

REVISIONS	
NO.	DATE
A	08-13-25
B	09-08-25
1	09-12-25

NO.	APPD. BY	DATE
A	JMD	08-13-25
B	JMD	09-08-25
1	JMD	09-12-25

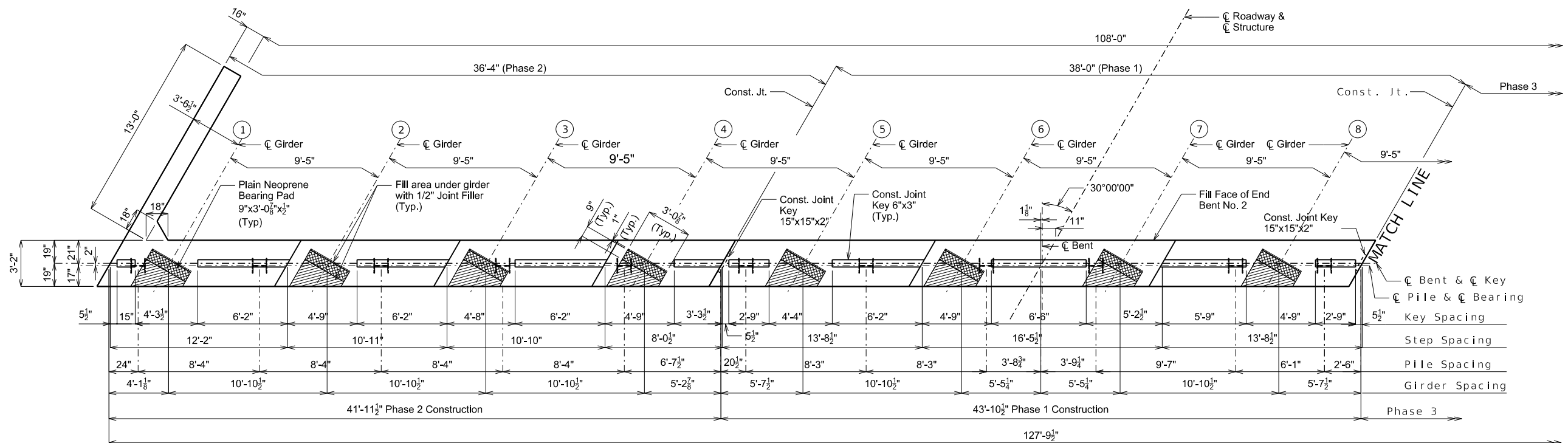
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

**MoDOT**

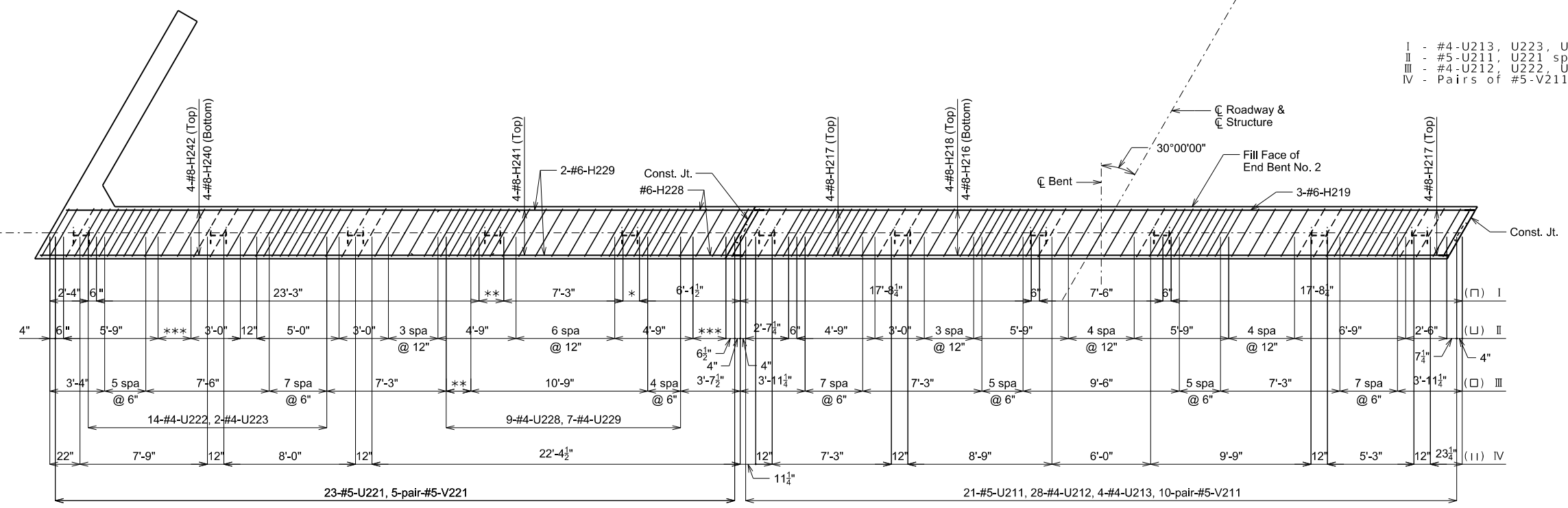
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
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PLAN OF BEAM - PHASE 1 & 2



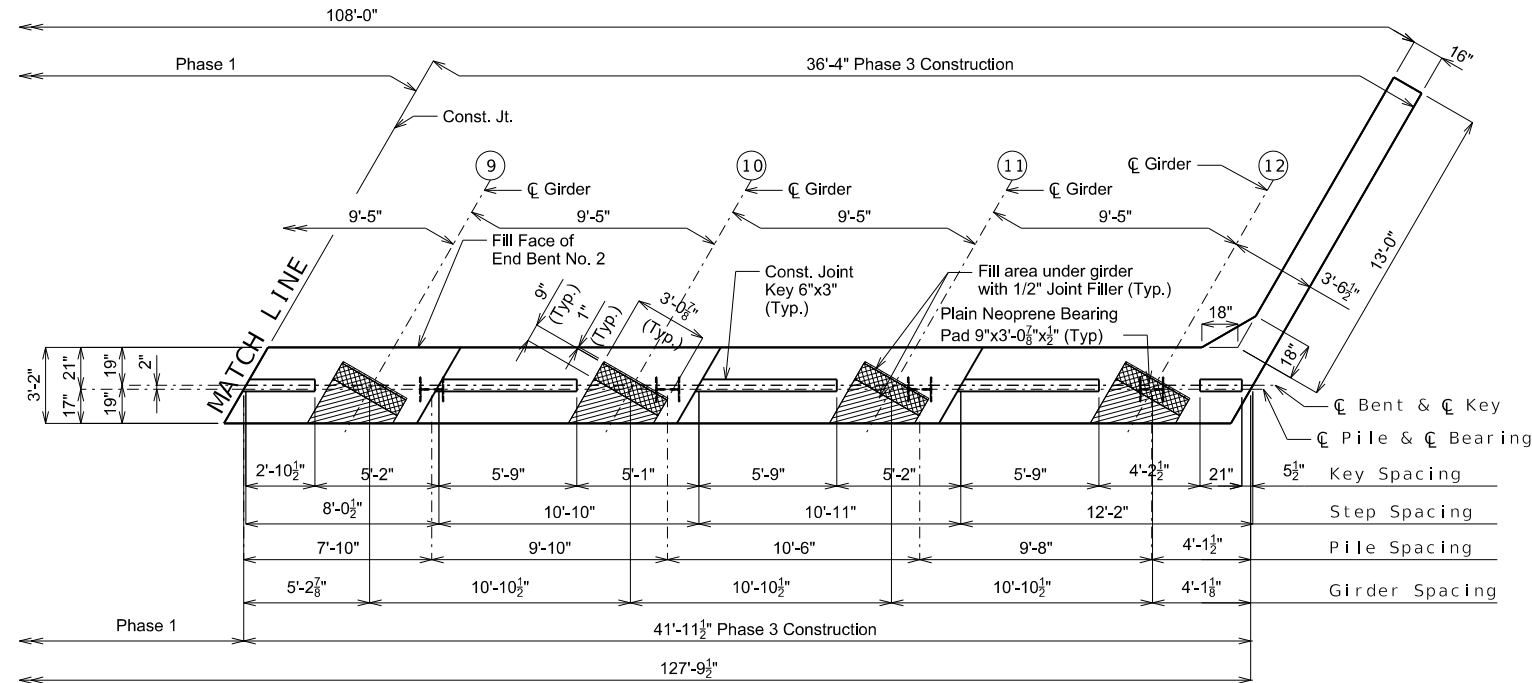
PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 1 & 2  
(Keys & Steps not shown for clarity)

\* 2 spa. @ 6"  
\*\* 3 spa. @ 6"  
\*\*\* 2 spa. @ 12"

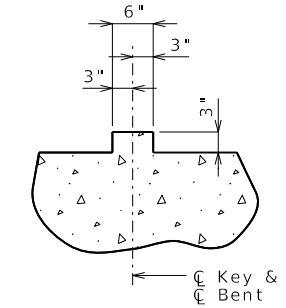
DETAILS OF END BENT NO. 2

Notes:  
Work this sheet with Sheets No. 2-BR12 thru 2-BR15.  
For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.  
Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".  
The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

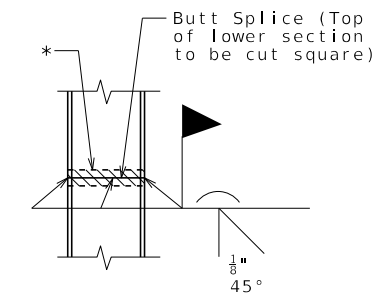
Detailed JULY 2025  
Checked AUG. 2025



PLAN OF BEAM - PHASE 3

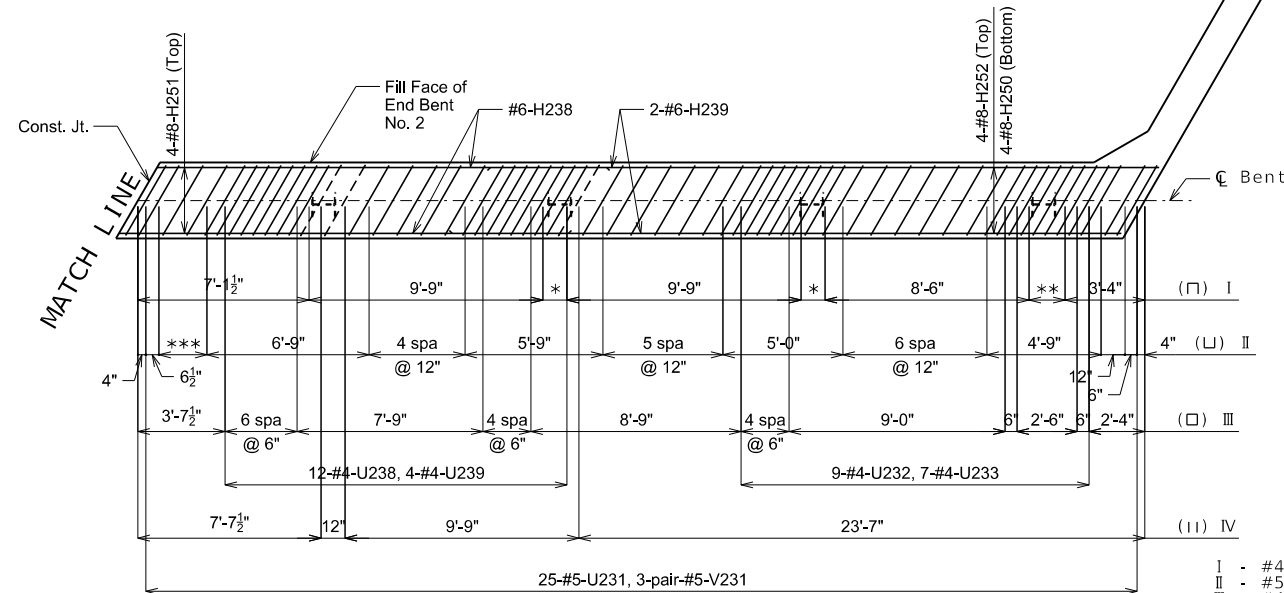


SECTION THRU KEY



STEEL PILE SPLICE  
(If required)

\* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 3

(Keys & Steps not shown for clarity)

- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"

DETAILS OF END BENT NO. 2

Notes:

Work this sheet with Sheets No. 2-BR11 thru 2-BR15.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR12
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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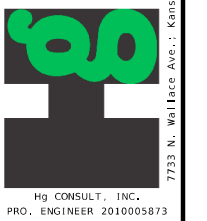
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND  
TRANSPORTATION COMMISSION

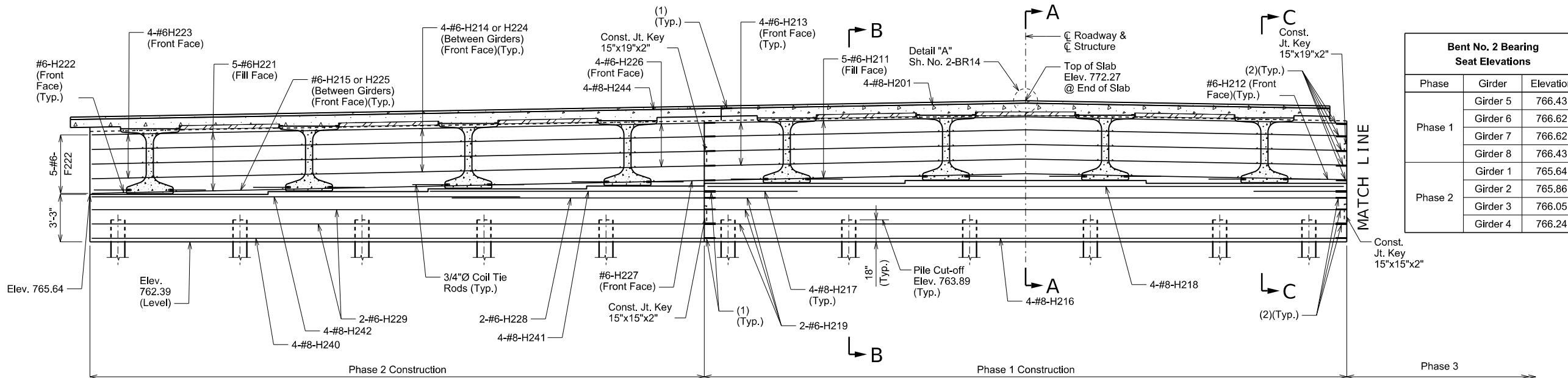


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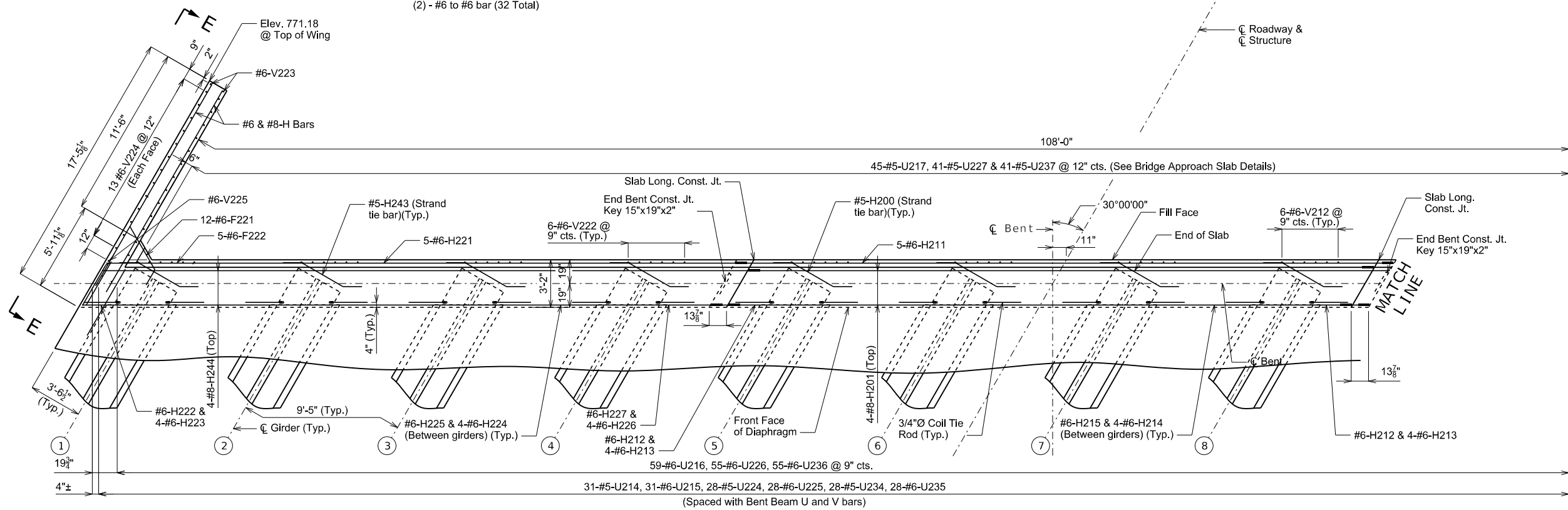
7733 N. Wallace Ave., Kansas City, MO 64158; (816)912-4720  
HQ CONSULT, INC.  
PRO. ENGINEER 2010005873



Bent No. 2 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 1	Girder 5	766.43
	Girder 6	766.62
	Girder 7	766.62
	Girder 8	766.43
Phase 2	Girder 1	765.64
	Girder 2	765.86
	Girder 3	766.05
	Girder 4	766.24

Mechanical Bar Splices:  
 (1) - #8 to #8 bar (24 Total)  
 (2) - #6 to #6 bar (32 Total)

SECTION NEAR END BENT - PHASE 1 & 2



Notes:  
 Work this sheet with Sheets No. 2-BR11 thru 2-BR15.  
 For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.  
 For Sections A-A, B-B & C-C and Elevation E-E, see Sheet No. 2-BR15.  
 All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

PART PLAN - PHASE 1 & 2

Notes (cont):  
 The #6-F221 bars shall be bent in the field to clear girders.  
 Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.  
 For location of coil tie rods and #5-H200 & H243 (strand tie bars), see Sheet No. 2-BR16.  
 For details of bridge approach slab, see Sheet No. 2-BR25.  
 The U bars shall be placed parallel to centerline of roadway.

DETAILS OF END BENT NO. 2

Detailed JULY 2025  
 Checked AUG. 2025

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR13
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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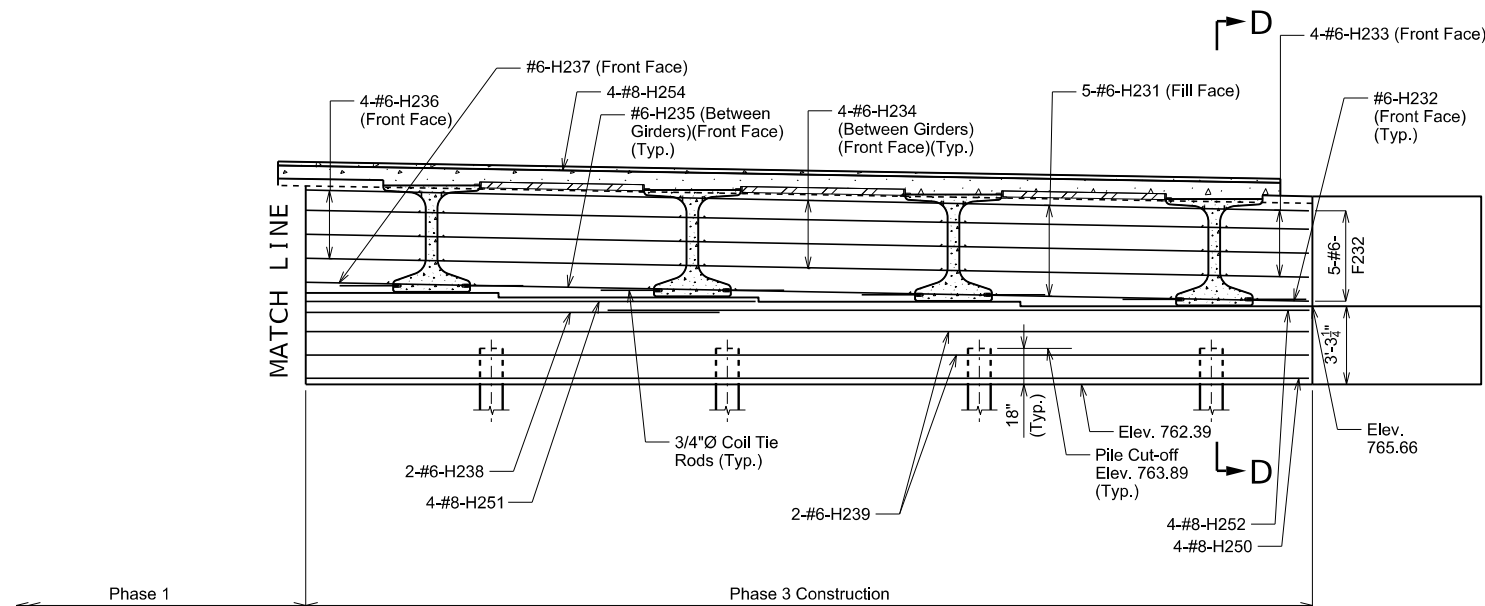
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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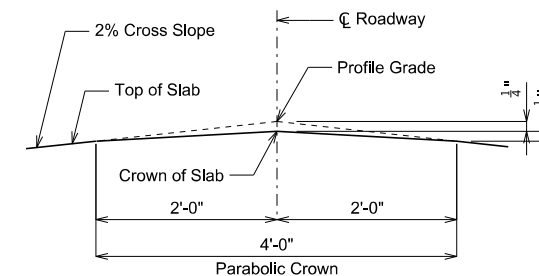
**Consult Inc**  
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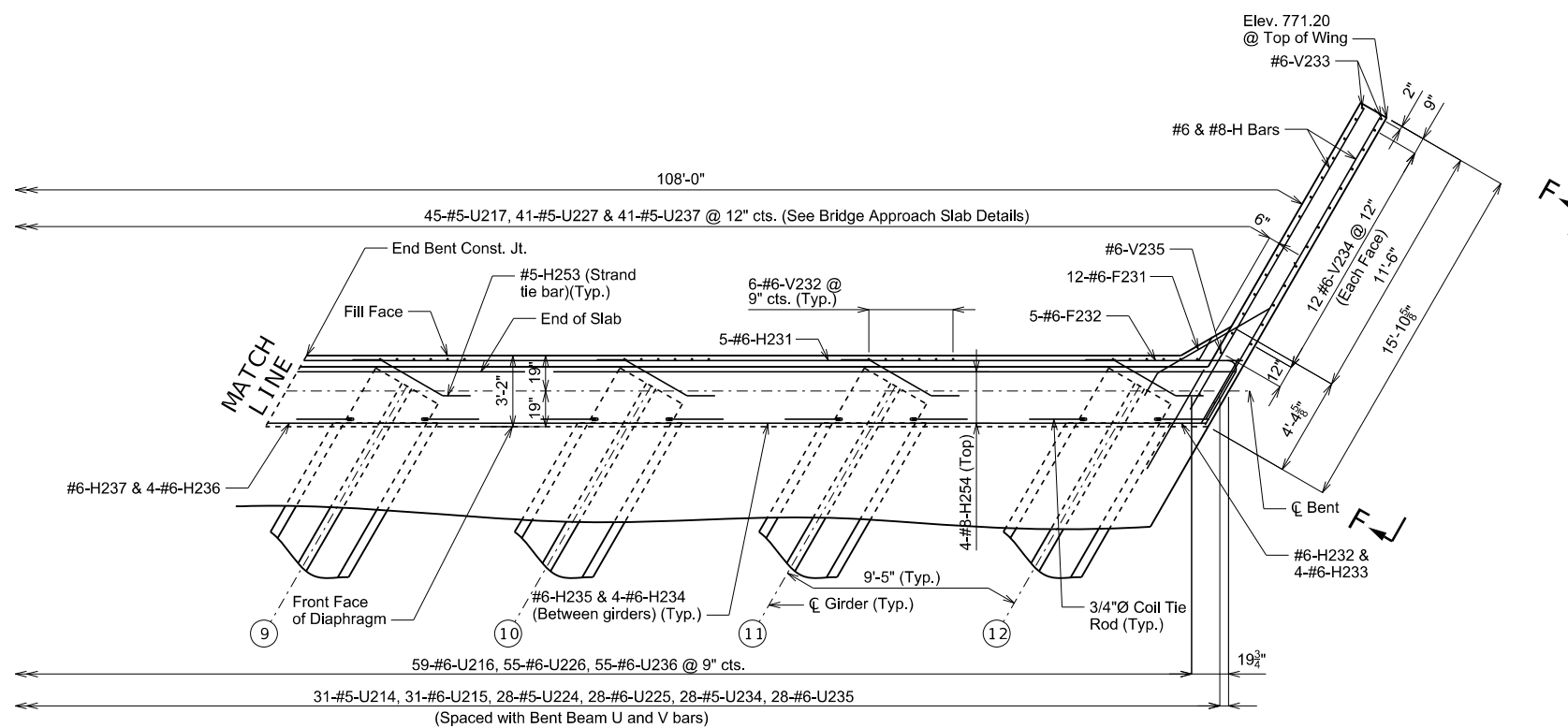


SECTION NEAR END BENT - PHASE 3

Bent No. 2 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 3	Girder 9	766.24
	Girder 10	766.06
	Girder 11	765.87
	Girder 12	765.66



DETAIL A



PART PLAN - PHASE 3

Notes:

Work this sheet with Sheets No. 2-BR11 thru 2-BR15.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

For Section D-D and Elevation F-F, see Sheet No. 2-BR15.

All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

The #6-F231 bars shall be bent in the field to clear girders.

Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.

For location of coil tie rods and #5-H253 (strand tie bars), see Sheet No. 2-BR16.

For details of bridge approach slab, see Sheet No. 2-BR25.

The U bars shall be placed parallel to centerline of roadway.

DETAILS OF END BENT NO. 2

Detailed JULY 2025  
Checked AUG. 2025

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

Sheet No. 14 of 31

DATE PREPARED		9/12/2025
ROUTE	STATE	MO
DISTRICT	SHEET NO.	2-BR14
COUNTY		
LAFAYETTE		
JOB NO.		
JST0019		
CONTRACT ID.		
250507-C01		
PROJECT NO.		

BRIDGE NO.  
A9741

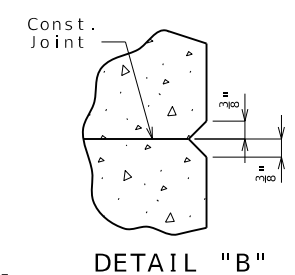
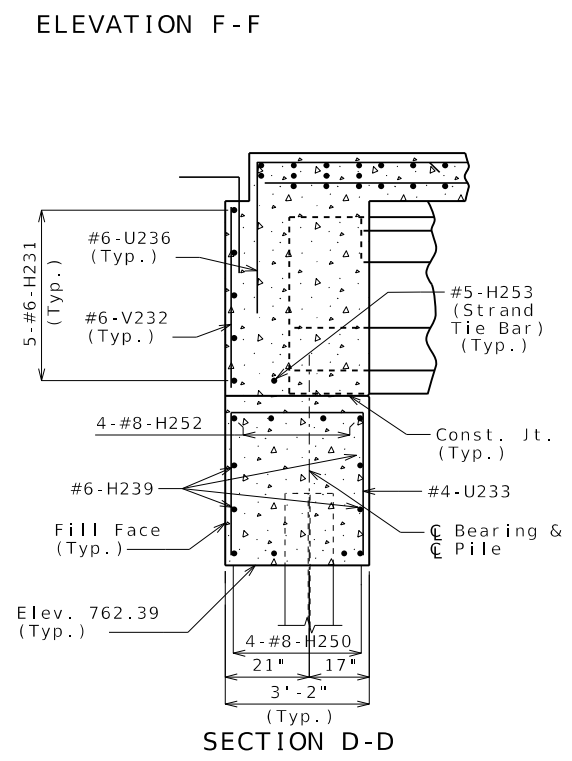
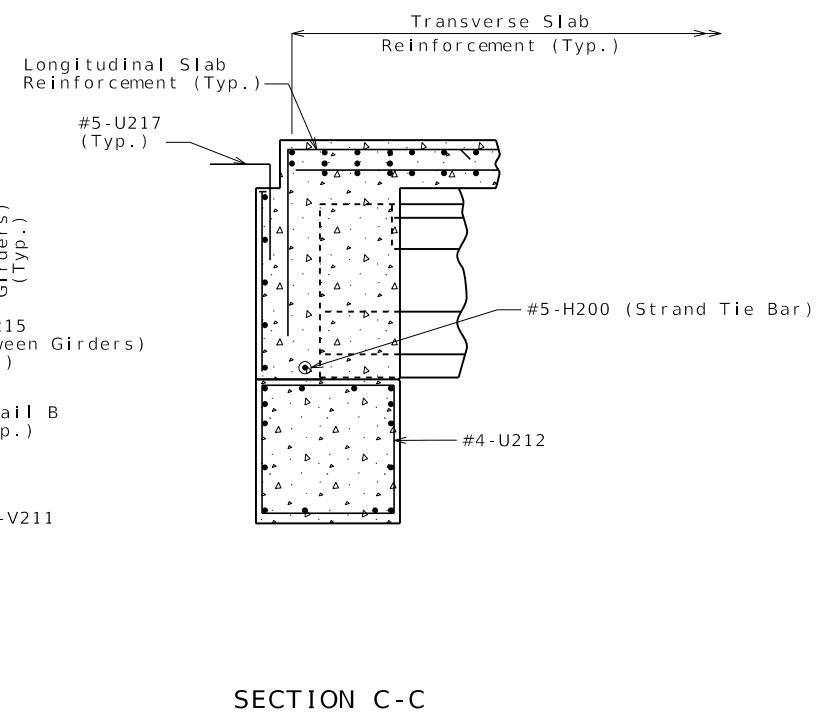
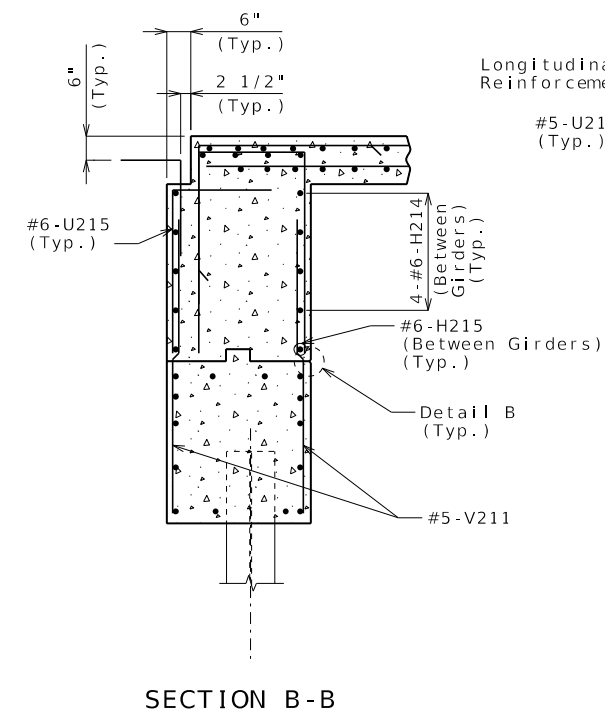
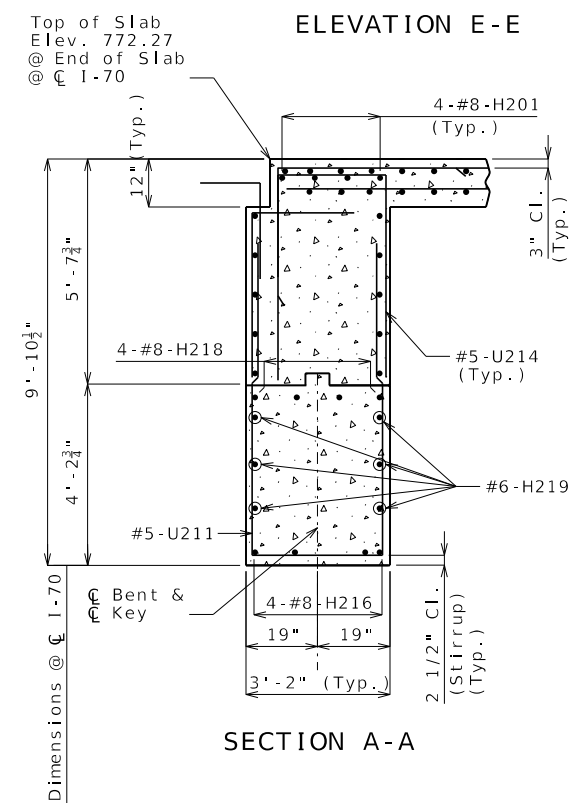
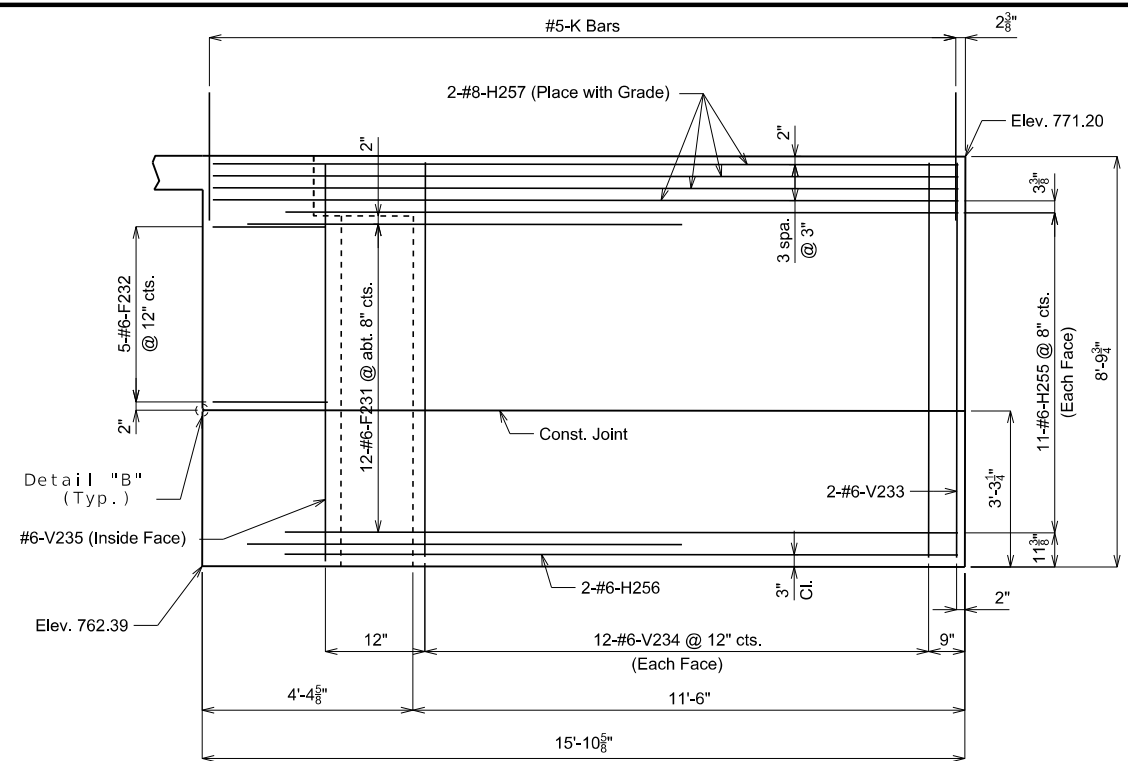
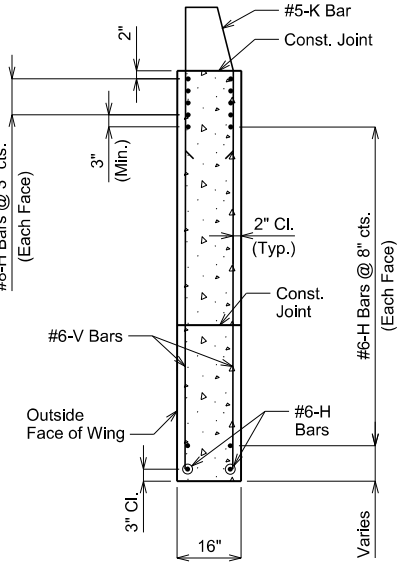
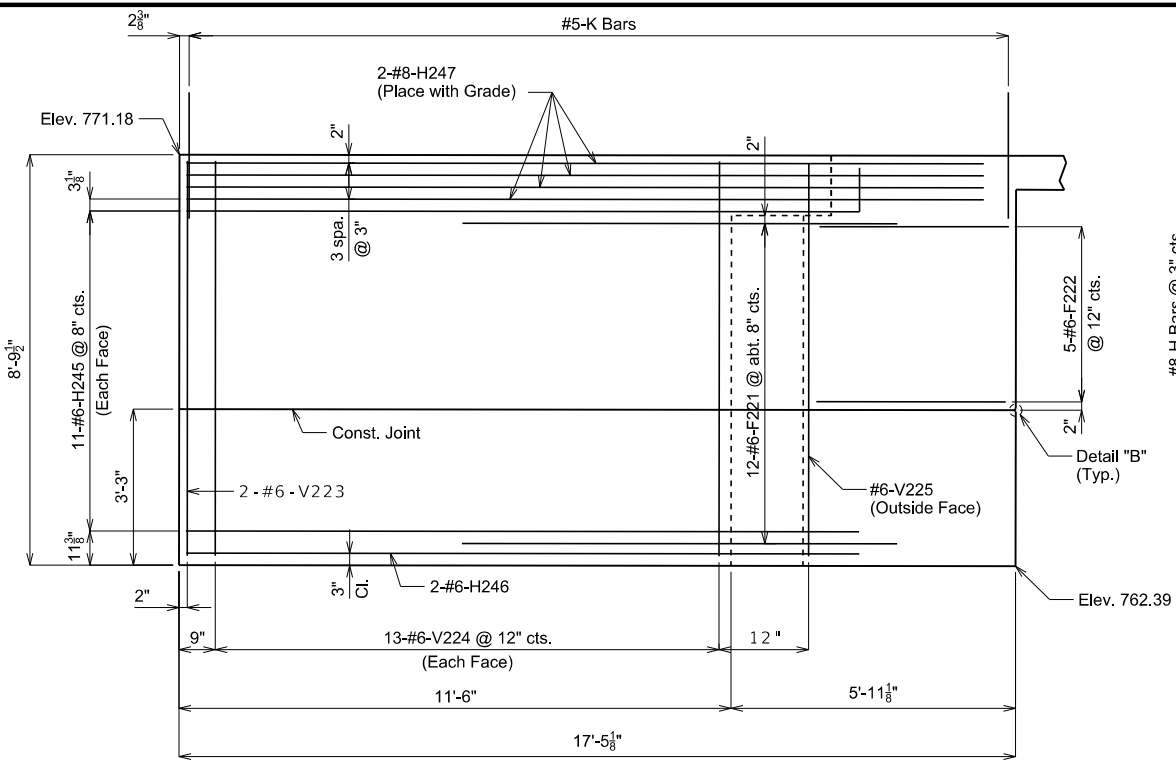
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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**DETAILS OF END BENT NO. 2**

**Notes:**  
 Work this sheet with Sheets No. 2-BR11 thru 2-BR14.  
 For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheets No. 2-BR13 & 2-BR14.  
 All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.  
 For details and reinforcement of Barrier not shown, see Sheet No. 2-BR24.  
 The #6-F221 & #6-F231 bars shall be bent in the field to clear girders.

Detailed JULY 2025  
 Checked AUG. 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 15 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR15
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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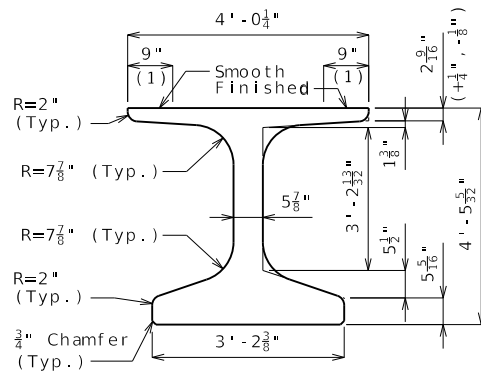
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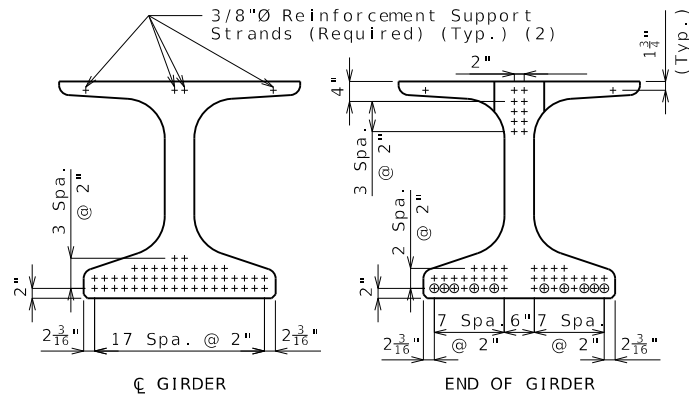
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(1) Fabricator shall apply a bond breaker to this region.

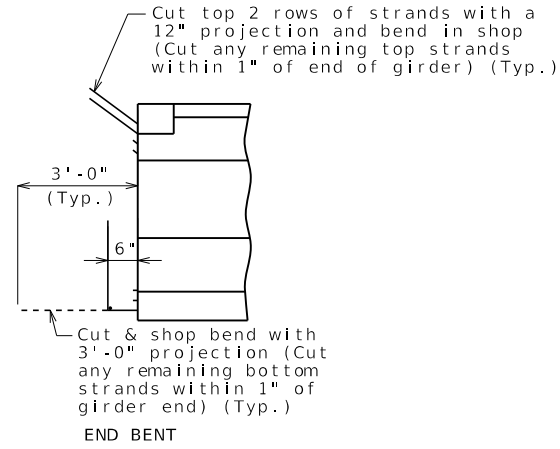
(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about  $\bar{C}$  Girder. May be moved laterally in pairs.



DIMENSIONS



STRAND ARRANGEMENT

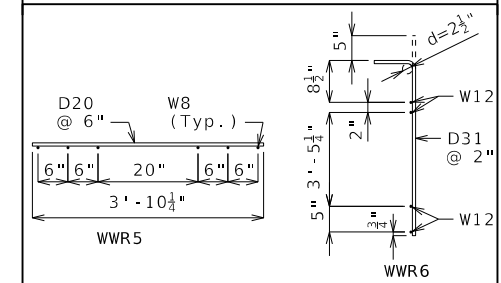


STRANDS AT GIRDER ENDS

+ Indicates prestressing strand.   
 o Indicates cut & shop bend with 3'-0" projection.

Bill of Reinforcing Steel - Each Girder				
No.	Size/Mark	Length	Shape	Bending Diagrams
234	5 B1	5'-10"	11S	
254	4 D1	4'-0"	9S	
2	4 G3	4'-5"	20	
8	4 G6	Varies	20	

Welded Wire Reinforcement - Each Girder



All dimensions 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 bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

**General Notes:**

Concrete for prestressed girders shall be Class A-1 with  $f'c = 9000$  psi and  $f'ci = 7000$  psi.

Use 48 strands, 0.6"Ø Grade 270, with an initial prestress force of 2109 kips.

Prestensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

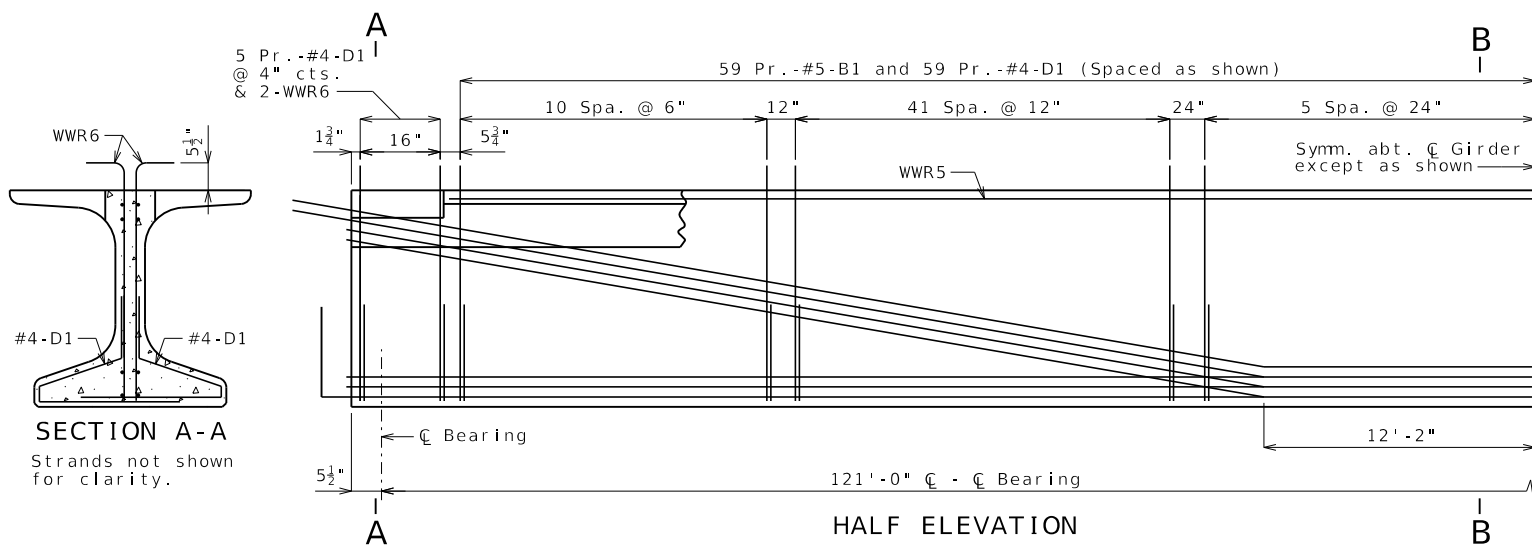
Exterior and interior girders are the same except: coil ties, coil inserts for slab drains, holes for steel intermediate diaphragms.

For Girder Camber Diagram, see Sheet No. 2-BR19.

The 1 1/2"Ø holes shall be cast in the web for steel intermediate diaphragms. Drilling is not allowed. For location of holes and details of steel intermediate diaphragms, see Sheet No. 2-BR17.

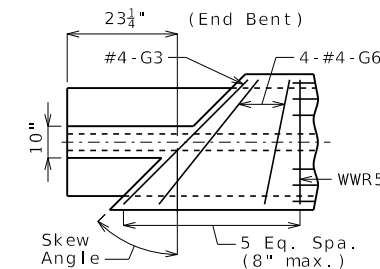
For location of coil inserts at slab drains, see Sheet No. 2-BR18.

For location of coil ties at integral bents, see Sheets No. 2-BR07, 2-BR08, 2-BR13 and 2-BR14.

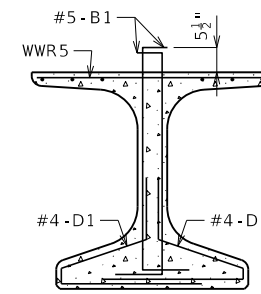


HALF ELEVATION

Reinforcement support strands not shown for clarity.

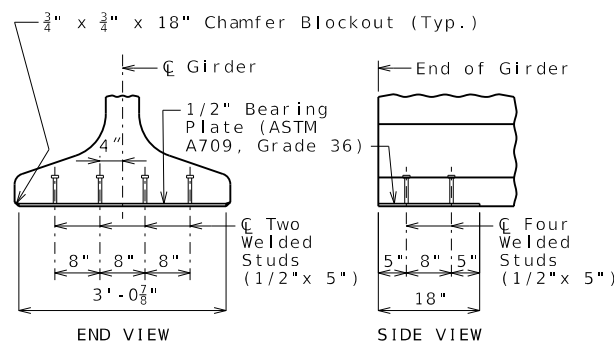


INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT  
TOP FLANGE BLOCKOUT  
Mirror for right advanced.

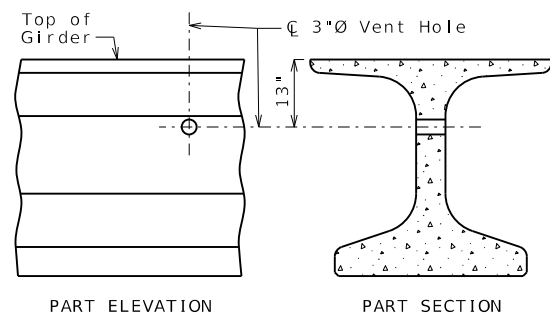


SECTION B-B

Strands not shown for clarity.

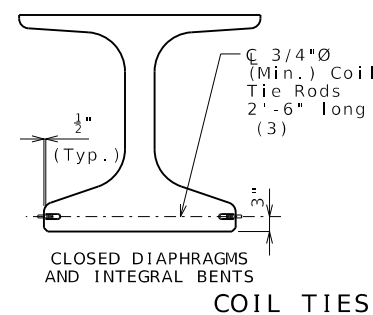


BEARING PLATE



VENT HOLE

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum and steel intermediate diaphragm bolt connections by 6" minimum.



COIL TIES

(3) 2'-3" at exterior face of exterior girders at end bents

**NU-GIRDERS - SPAN (1-2)**

Detailed JULY 2025  
Checked AUG. 2025

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

Sheet No. 16 of 31

DATE PREPARED		9/12/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	2-BR16
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			
BRIDGE NO.			
A9741			

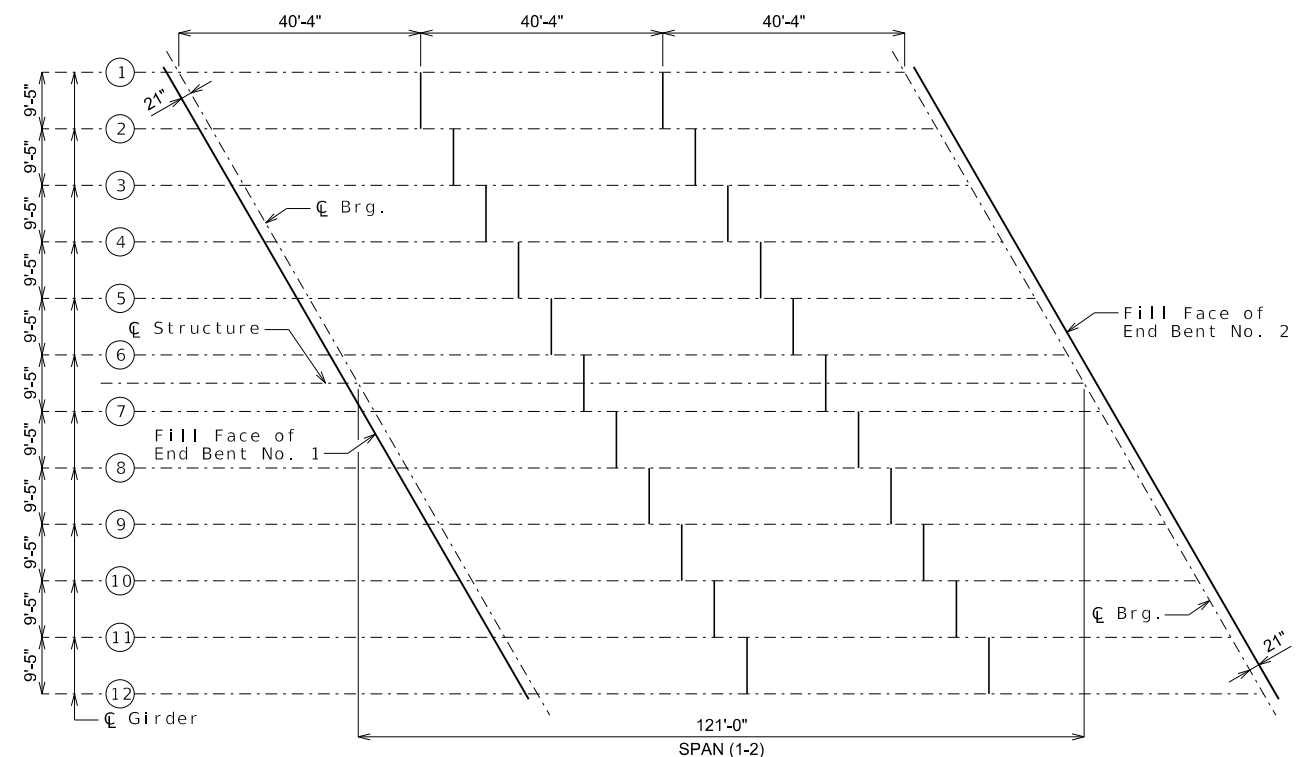
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
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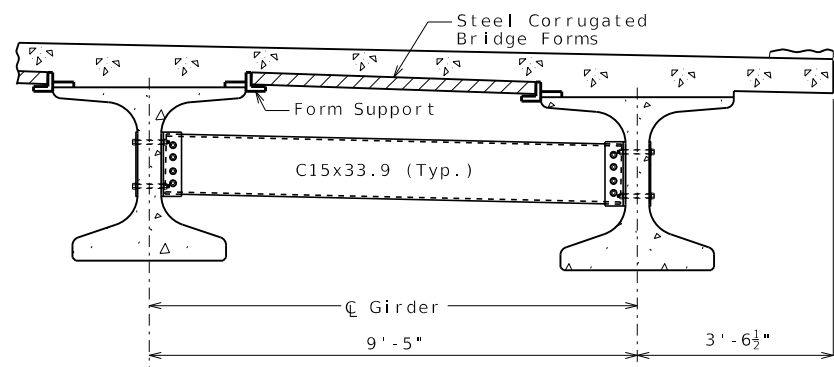
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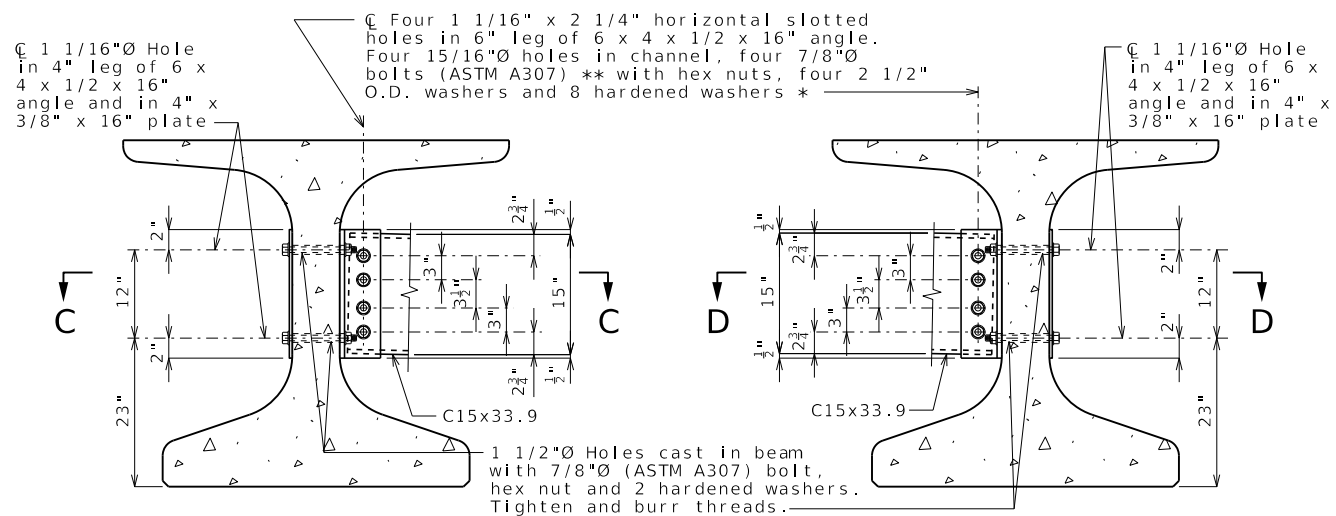
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PLAN SHOWING LOCATION OF STEEL INTERMEDIATE DIAPHRAGMS  
Longitudinal dimensions are horizontal.



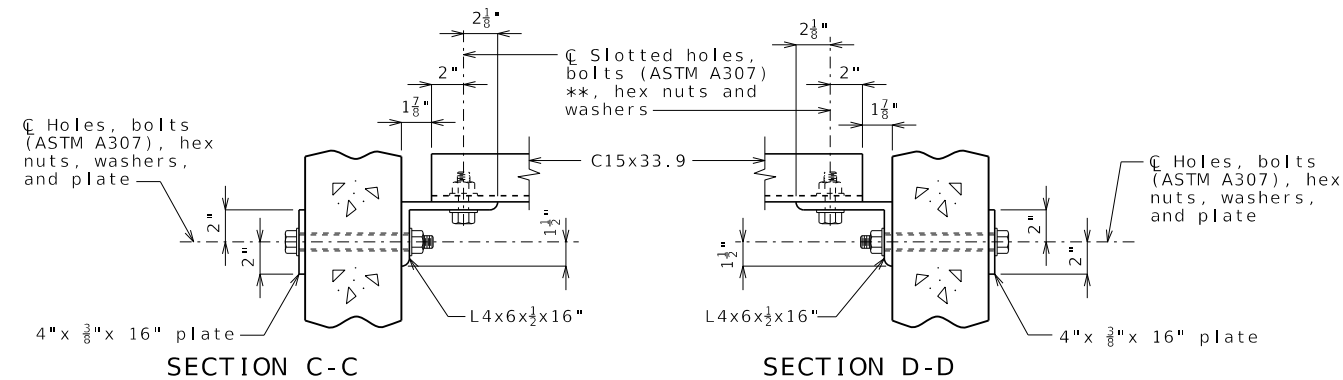
PART SECTION SHOWING INTERMEDIATE DIAPHRAGMS



SECTION THRU INT. GIRDER AT DIAPHRAGM

SECTION THRU EXT. GIRDER AT DIAPHRAGM

STEEL INTERMEDIATE DIAPHRAGMS



SECTION C-C

SECTION D-D

STEEL DIAPHRAGM NOTES:

- \* In lieu of 2 1/2" outside diameter washers, contractor may substitute a 3/16" (Min. thickness) plate with four 15/16" Ø holes and one hardened washer per bolt.
- \*\* Bolts shall be tightened to provide a tension of one-half that specified in Sec 712 for high strength bolt installation. ASTM F3125 Grade A325 Type 1 bolts may be substituted for and installed in accordance with the requirements for the specified ASTM A307 bolts.
- All diaphragm materials including bolts, nuts, and washers shall be galvanized.
- Fabricated structural steel shall be ASTM A709 Grade 36 except as noted.
- Shop drawings will not be required for steel intermediate diaphragms and angle connections.

DATE PREPARED 9/12/2025	
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COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

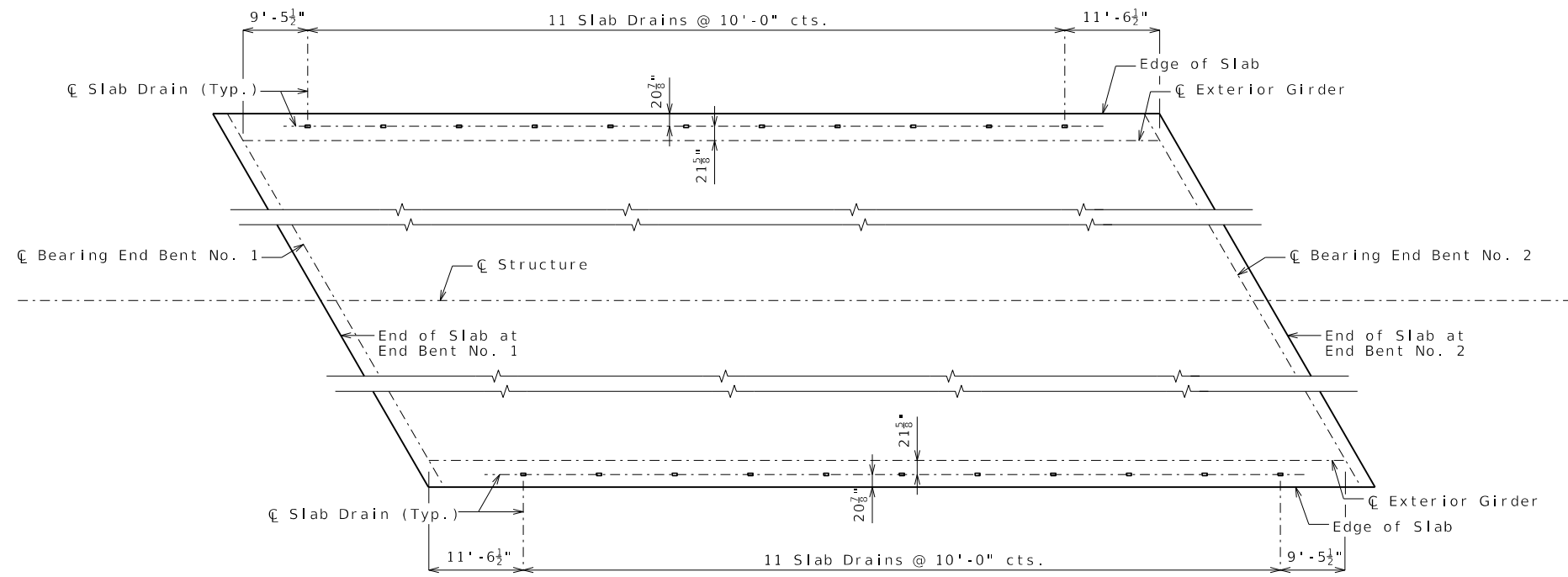
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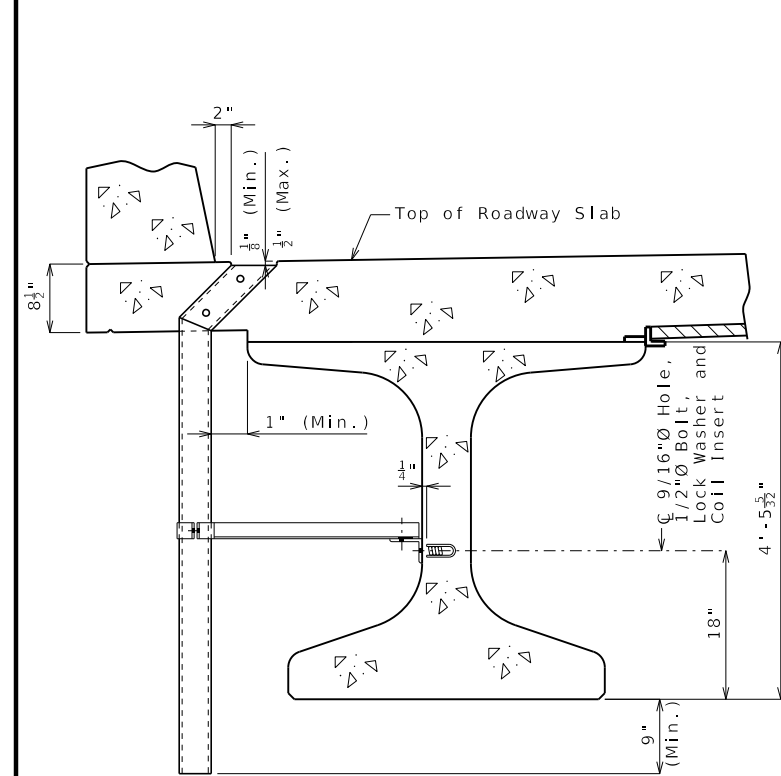
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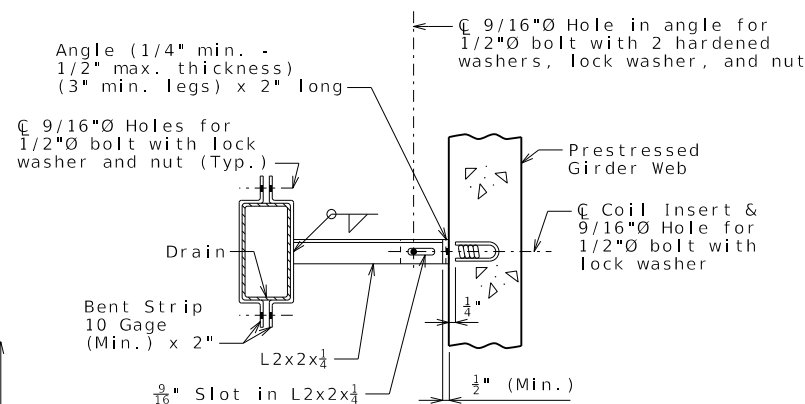




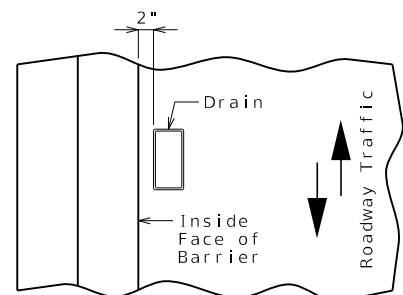
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

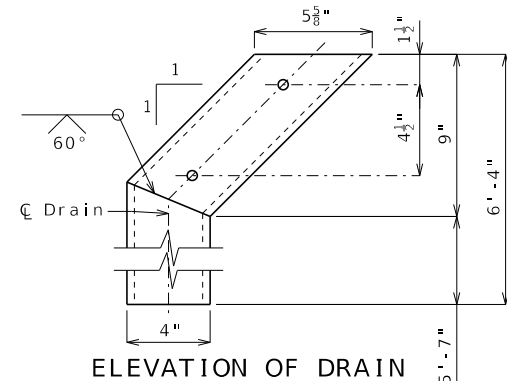


PART SECTION SHOWING BRACKET ASSEMBLY

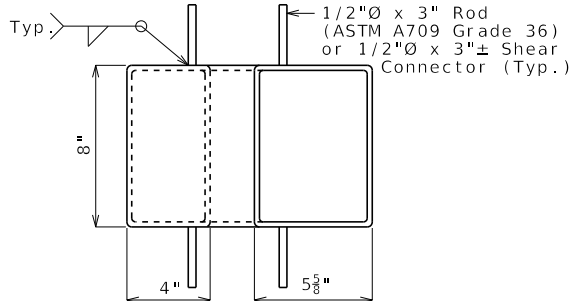


PART PLAN OF SLAB AT DRAIN

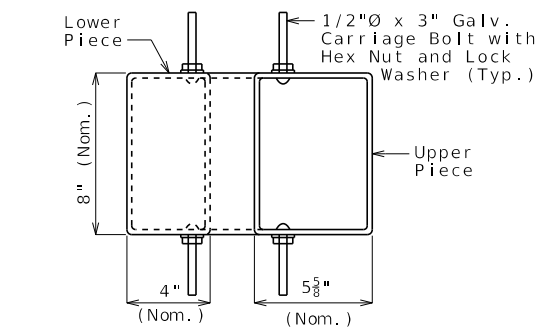
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".

Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

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DISTRICT	SHEET NO.		
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JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	
A9741	

NO.	APPD. BY	DATE	REVISIONS
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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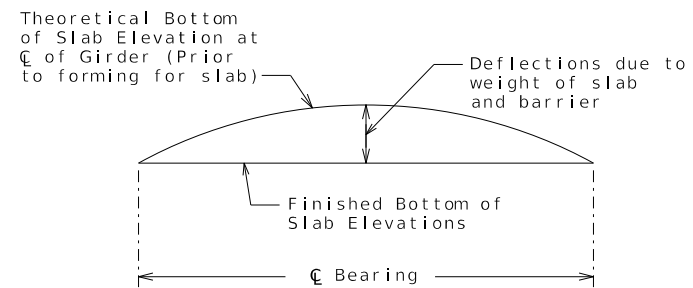
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Theoretical Bottom of Slab Elevations at Centerline of Beam  
(Prior to forming for slab) (Estimated at 90 days)

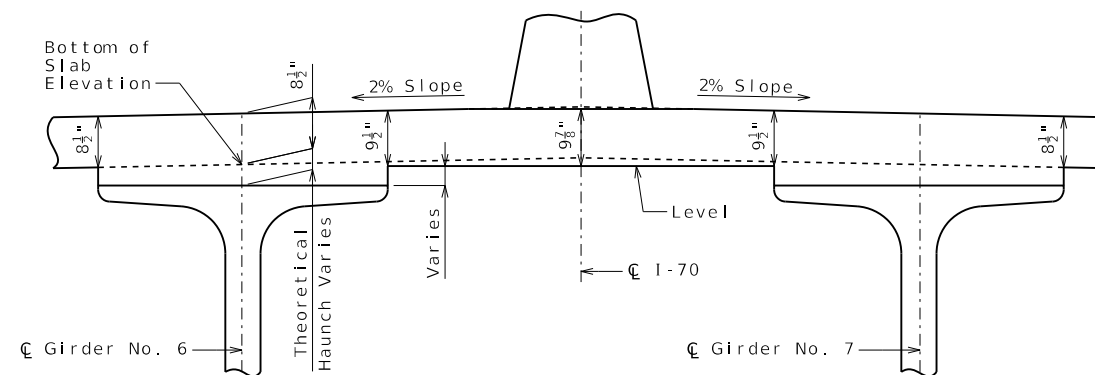
Girder Number	Span (1-2) (121'-0" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	770.59	770.66	770.72	770.76	770.79	770.80	770.78	770.74	770.68	770.61	770.54
2	770.77	770.85	770.92	770.97	771.00	771.01	770.99	770.95	770.89	770.81	770.72
3	770.96	771.03	771.10	771.16	771.19	771.20	771.18	771.14	771.08	771.00	770.91
4	771.14	771.22	771.29	771.34	771.37	771.38	771.37	771.33	771.27	771.19	771.10
5	771.32	771.40	771.47	771.53	771.56	771.57	771.55	771.51	771.45	771.38	771.29
6	771.51	771.59	771.66	771.71	771.75	771.76	771.74	771.70	771.64	771.57	771.48
7	771.51	771.58	771.66	771.71	771.75	771.76	771.74	771.70	771.64	771.57	771.48
8	771.31	771.39	771.46	771.52	771.56	771.57	771.55	771.51	771.46	771.38	771.30
9	771.12	771.20	771.27	771.33	771.37	771.38	771.36	771.33	771.27	771.19	771.11
10	770.93	771.01	771.08	771.14	771.18	771.19	771.18	771.14	771.08	771.01	770.93
11	770.74	770.82	770.89	770.95	770.99	771.00	770.99	770.95	770.89	770.82	770.74
12	770.55	770.62	770.69	770.74	770.77	770.79	770.77	770.74	770.69	770.63	770.56

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

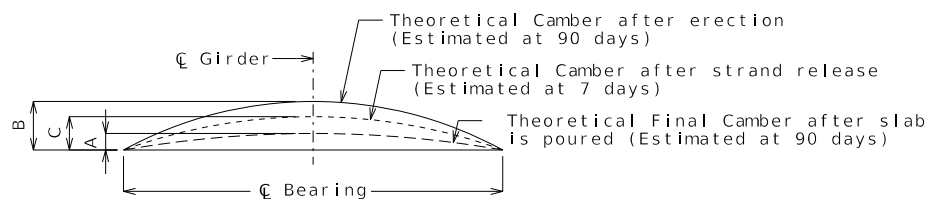
Note: Reduce haunch thickness by 1" for the center bay between Girders No. 6 & 7 to provide a minimum 9 1/2" deck thickness for median barrier installation.



TYPICAL SLAB ELEVATIONS DIAGRAM



THICKENED SLAB DETAIL

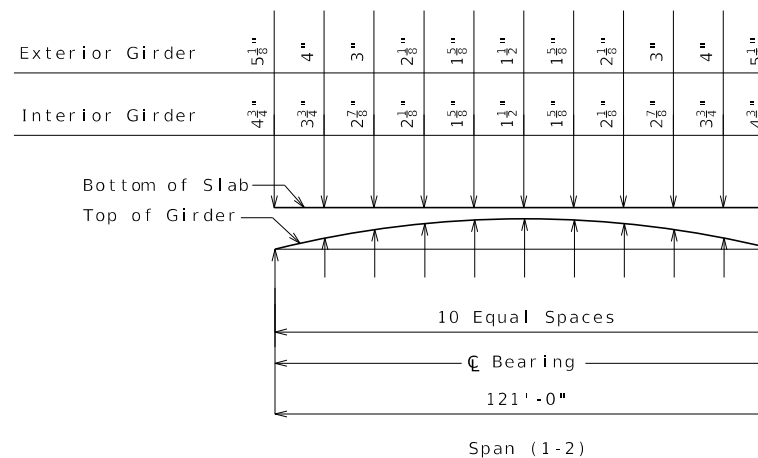


Girder	Span (1-2)		
	A	B	C
Exterior Girder	3 3/8"	6 3/8"	3 3/8"
Interior Girder	3 3/8"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

- 0.1 pt. = 0.314 x 0.5 pt.
- 0.2 pt. = 0.593 x 0.5 pt.
- 0.3 pt. = 0.813 x 0.5 pt.
- 0.4 pt. = 0.952 x 0.5 pt.



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary.

CAMBER DIAGRAM, HAUNCHING DIAGRAM AND SLAB ELEVATIONS

DATE PREPARED	9/12/2025	
ROUTE	I-70	STATE
DISTRICT	BR	SHEET NO.
COUNTY	LAFAYETTE	
JOB NO.	JST0019	
CONTRACT ID.	250507-C01	
PROJECT NO.		

BRIDGE NO.	A9741
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NO.	APPD. BY	DATE	REVISIONS
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

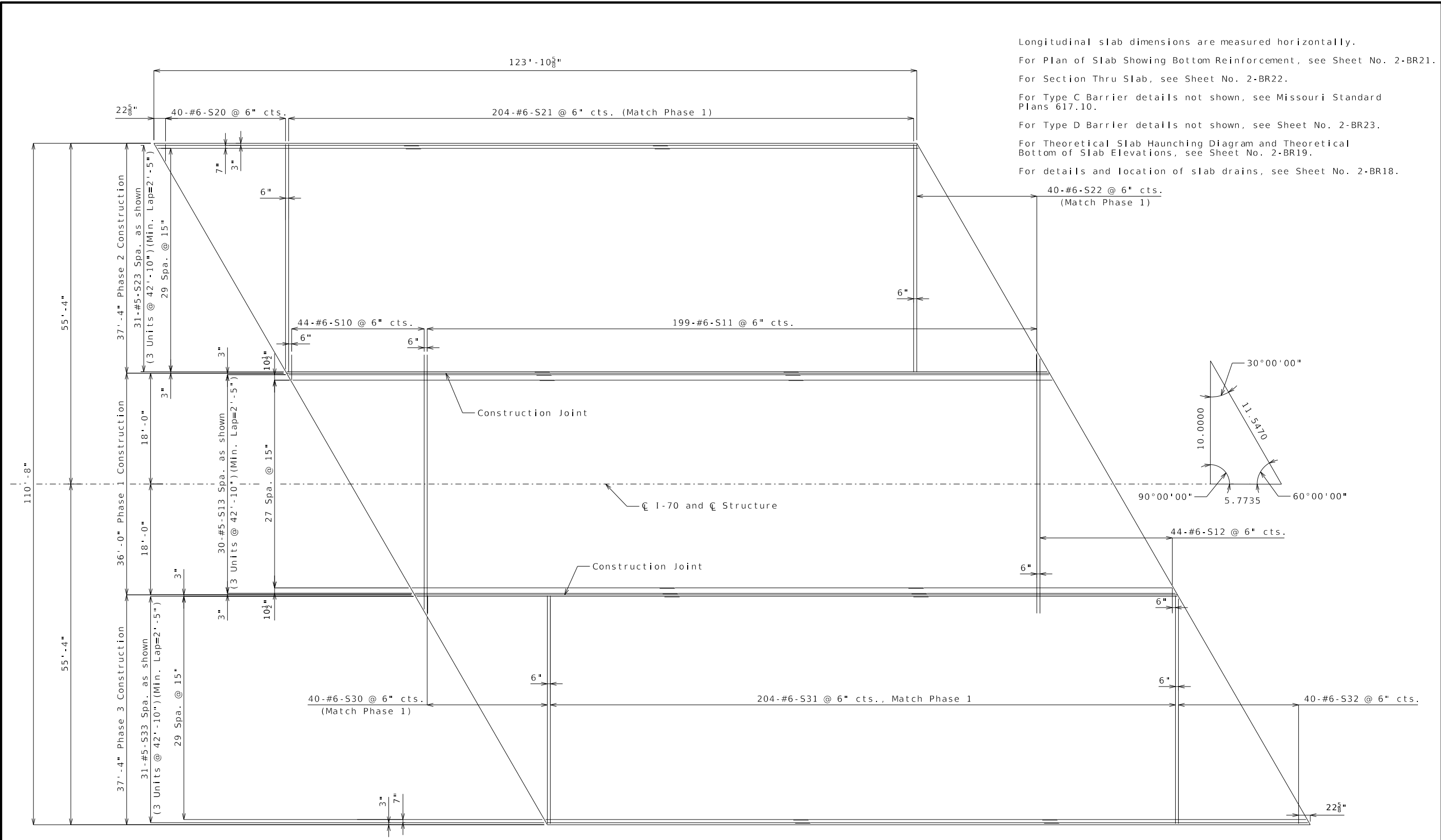
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Longitudinal slab dimensions are measured horizontally.  
 For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 2-BR21.  
 For Section Thru Slab, see Sheet No. 2-BR22.  
 For Type C Barrier details not shown, see Missouri Standard Plans 617.10.  
 For Type D Barrier details not shown, see Sheet No. 2-BR23.  
 For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 2-BR19.  
 For details and location of slab drains, see Sheet No. 2-BR18.



**PLAN OF SLAB SHOWING TOP REINFORCEMENT**

Detailed JULY 2025  
 Checked AUG. 2025

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

Sheet No. 20 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR20
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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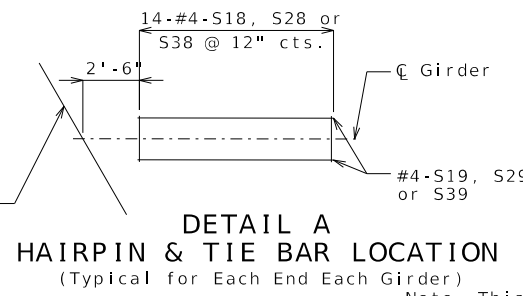
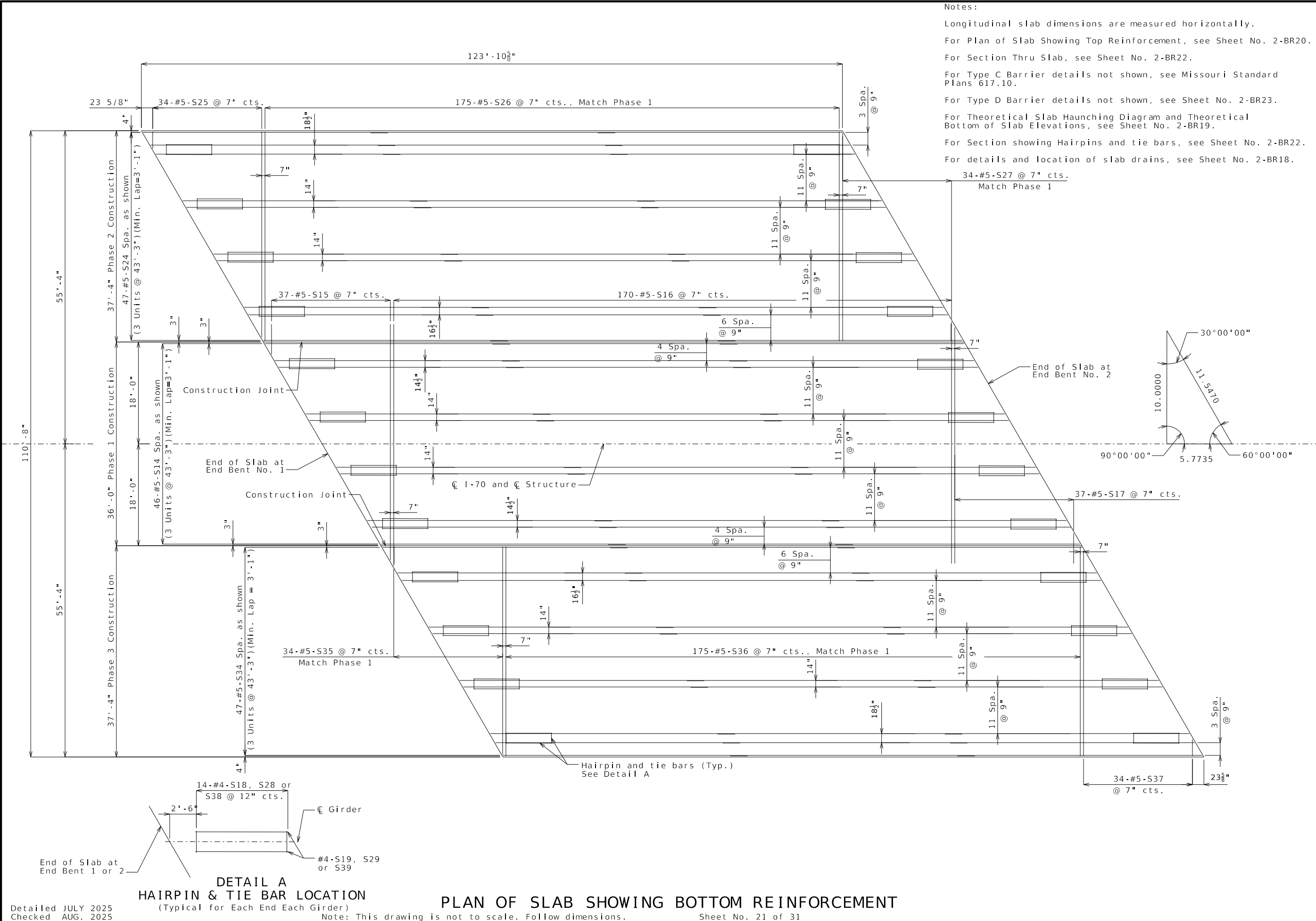
NO.	APPD. BY	DATE	REVISIONS
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Notes:  
 Longitudinal slab dimensions are measured horizontally.  
 For Plan of Slab Showing Top Reinforcement, see Sheet No. 2-BR20.  
 For Section Thru Slab, see Sheet No. 2-BR22.  
 For Type C Barrier details not shown, see Missouri Standard Plans 617.10.  
 For Type D Barrier details not shown, see Sheet No. 2-BR23.  
 For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 2-BR19.  
 For Section showing Hairpins and tie bars, see Sheet No. 2-BR22.  
 For details and location of slab drains, see Sheet No. 2-BR18.



PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT

Detailed JULY 2025  
 Checked AUG. 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 21 of 31

DATE PREPARED		9/12/2025	
ROUTE	STATE	ROUTE	STATE
I-70	MO	I-70	MO
DISTRICT	SHEET NO.	DISTRICT	SHEET NO.
BR	2-BR21	BR	2-BR21
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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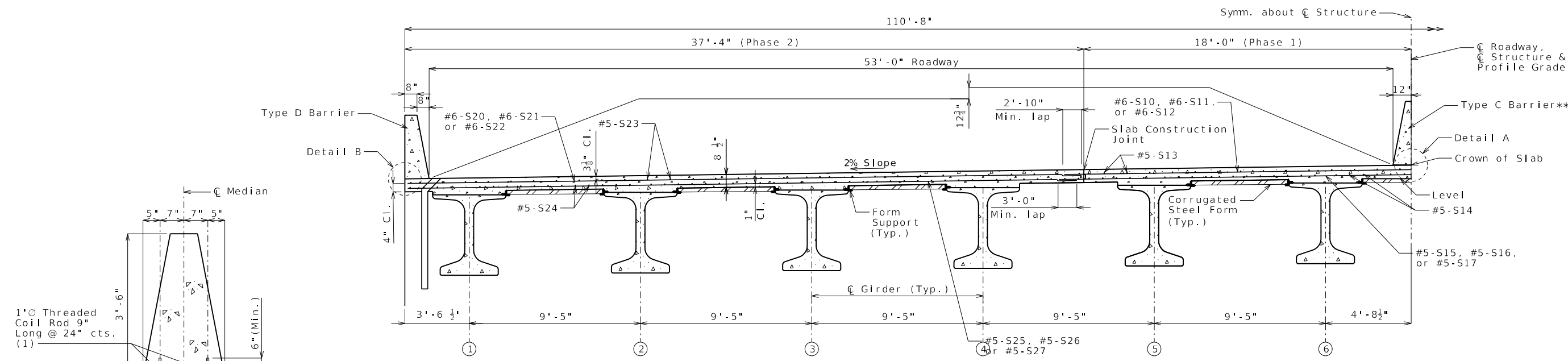
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
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Consult Inc engineers planners

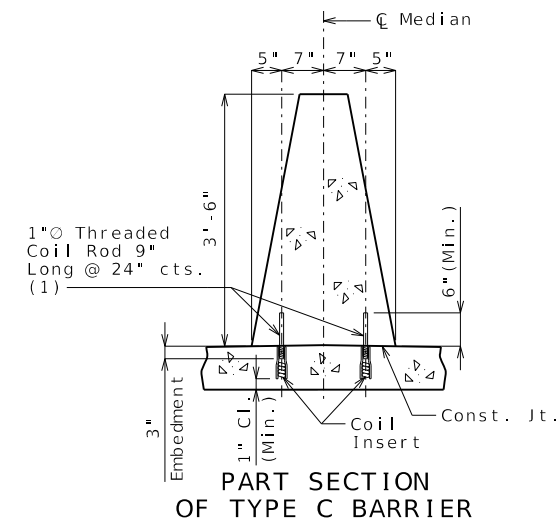
Hq CONSULT, INC.  
 PRO. ENGINEER 201005873  
 7733 N. Wallace Ave., Kansas City, MO 64158; (816)912-4720



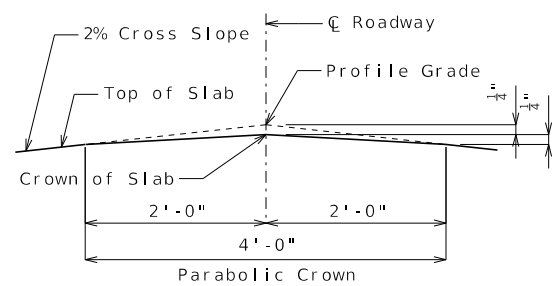
**HALF SECTION THRU SLAB**  
 Half Section with Phase 2 shown, Phase 3 similar.  
 For Phase 3 reinforcement, replace the first digit of bar mark with '3'.

\*\* Type C Barrier constructed after completion of Phase 3 Eastbound Construction.

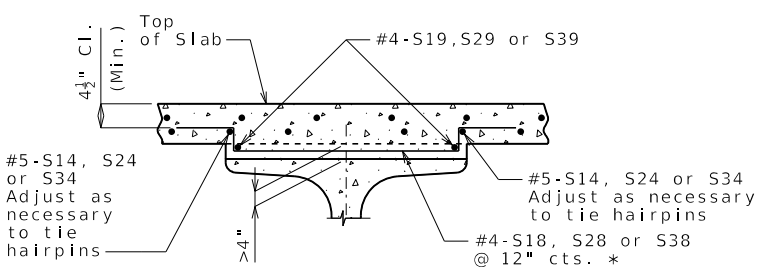
\* Varies between Girders No. 6 & 7.



**PART SECTION OF TYPE C BARRIER**  
 (1) Alternate 1'-0" about longitudinal centerline of barrier.



**DETAIL A**



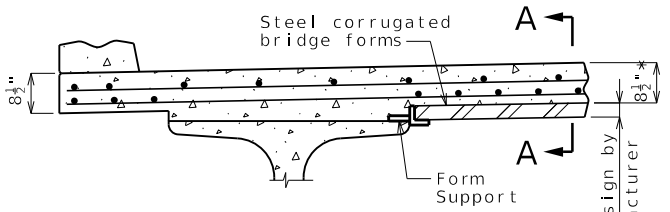
**PART SECTION SHOWING HAIRPINS**

**Stay-In-Place Forms:**  
 Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

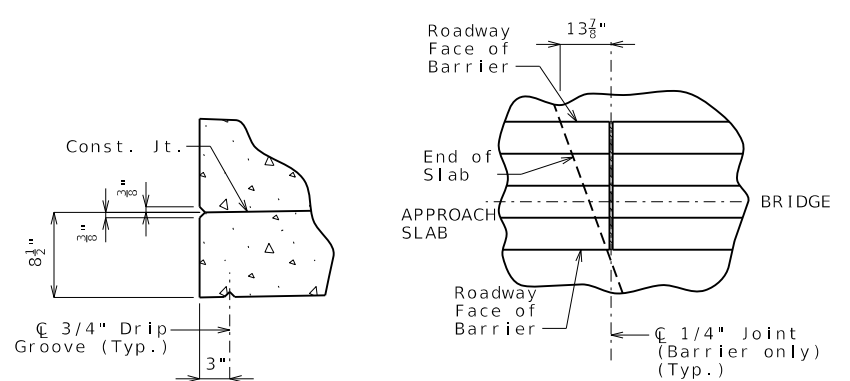
Form sheets shall not rest directly on the top of girder flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Drilling holes in the girder flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



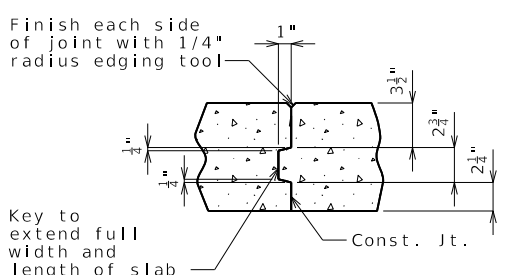
**SECTION A-A**

**OPTIONAL STAY-IN-PLACE FORM DETAILS**

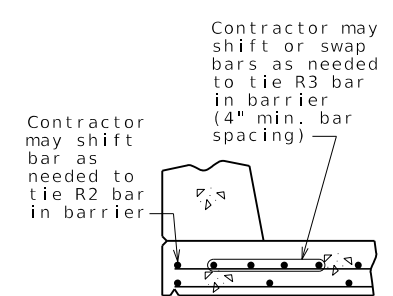


**DETAIL B**

**PART PLAN SHOWING TYPE C BARRIER JOINT LOCATION**



**SLAB CONSTRUCTION JOINT**



**OPTIONAL SHIFTING TOP BARS AT BARRIER**

**SLAB DETAILS**

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

DATE PREPARED		9/12/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	2-BR22
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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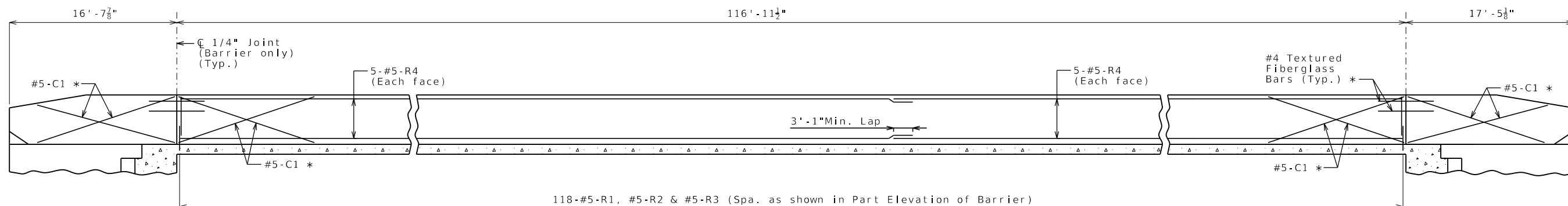
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
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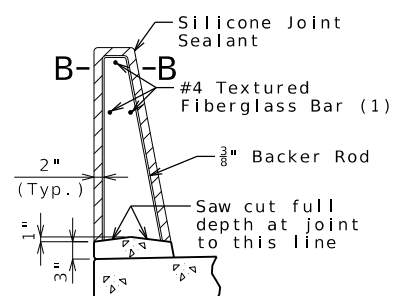
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
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**Consult Inc**  
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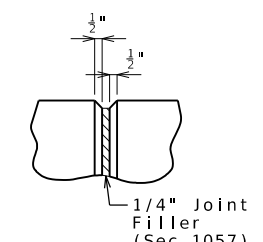
7733 N. Wallace Ave., Kansas City, MO 64158; (816)912-4720  
 HQ CONSULT, INC.  
 PRO. ENGINEER 2010005873



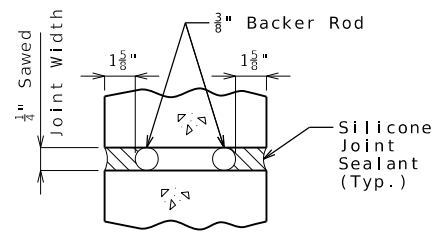
**ELEVATION OF BARRIER**  
(Left barrier shown, right barrier similar)  
Longitudinal dimensions are horizontal.



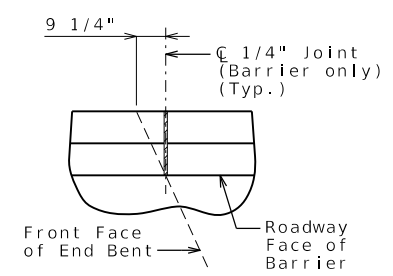
**SECTION THRU SAW CUT JOINT**



**PART ELEVATION AT FORMED JOINT**



**SECTION B-B**



**PART PLAN SHOWING JOINT LOCATION**

**General Notes:**

\* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

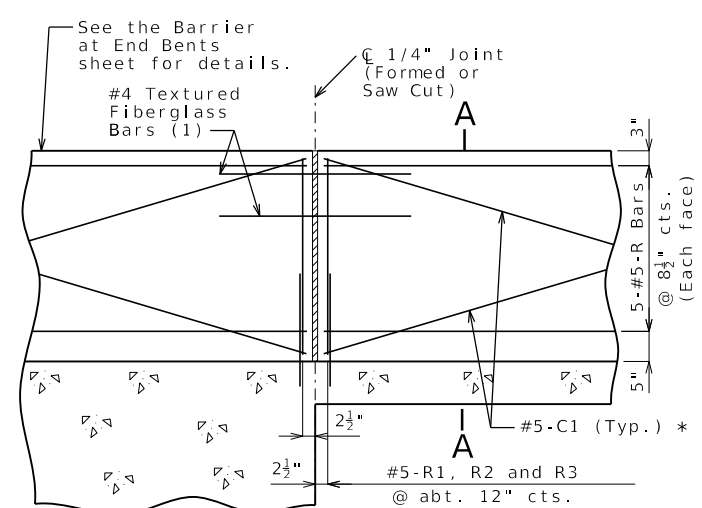
Concrete in barrier shall be Class B-1.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617.

Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides.

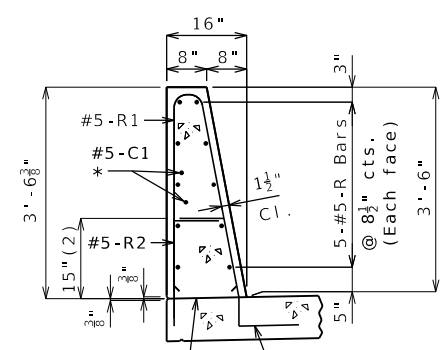
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



**PART ELEVATION OF BARRIER**

(1) Four feet long, centered on joint, slip-formed option only

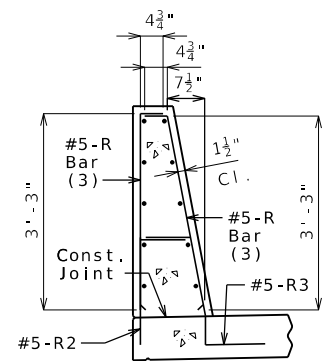


**SECTION A-A**

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



**R-BAR PERMISSIBLE ALTERNATE SHAPE**

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

**TYPE D BARRIER**

DATE PREPARED		9/12/2025	
ROUTE	STATE	DISTRICT	SHEET NO.
I-70	MO	BR	2-BR23
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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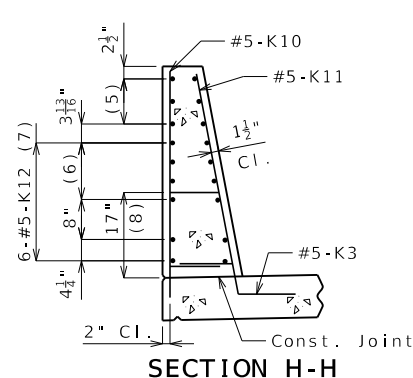
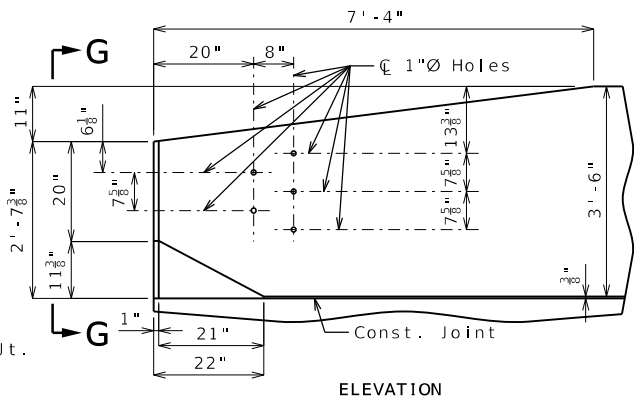
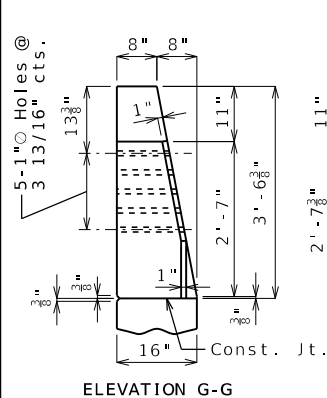
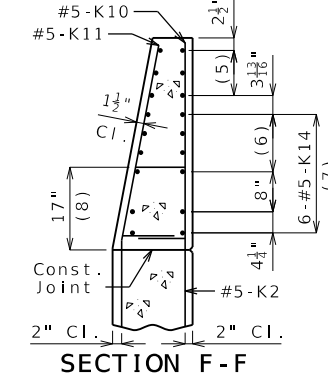
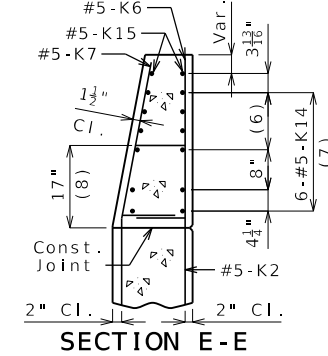
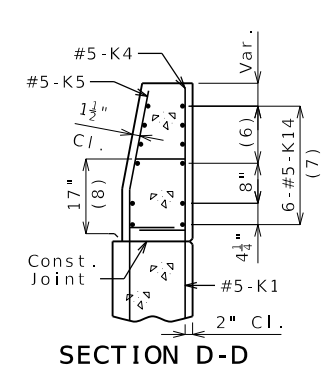
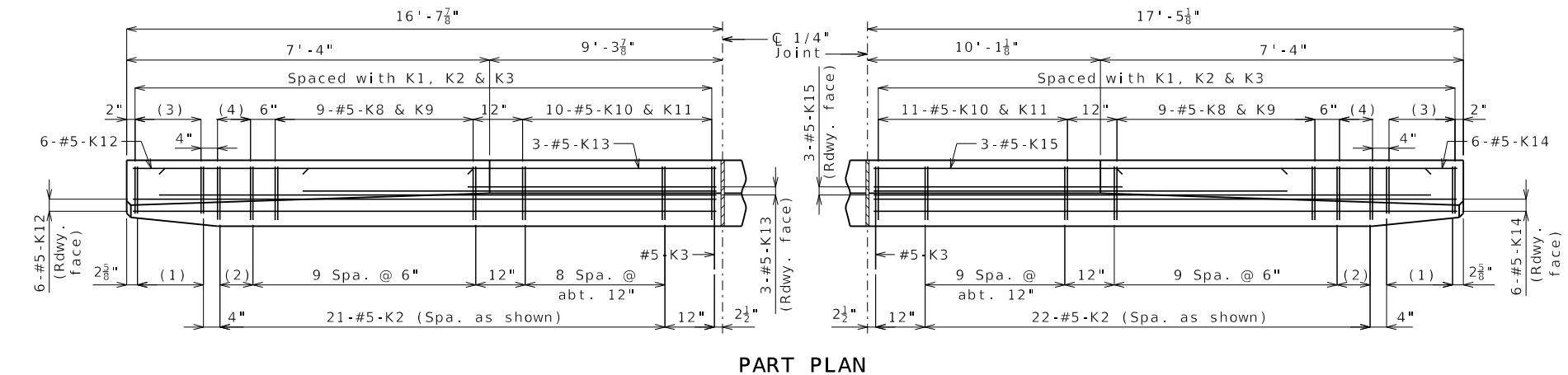
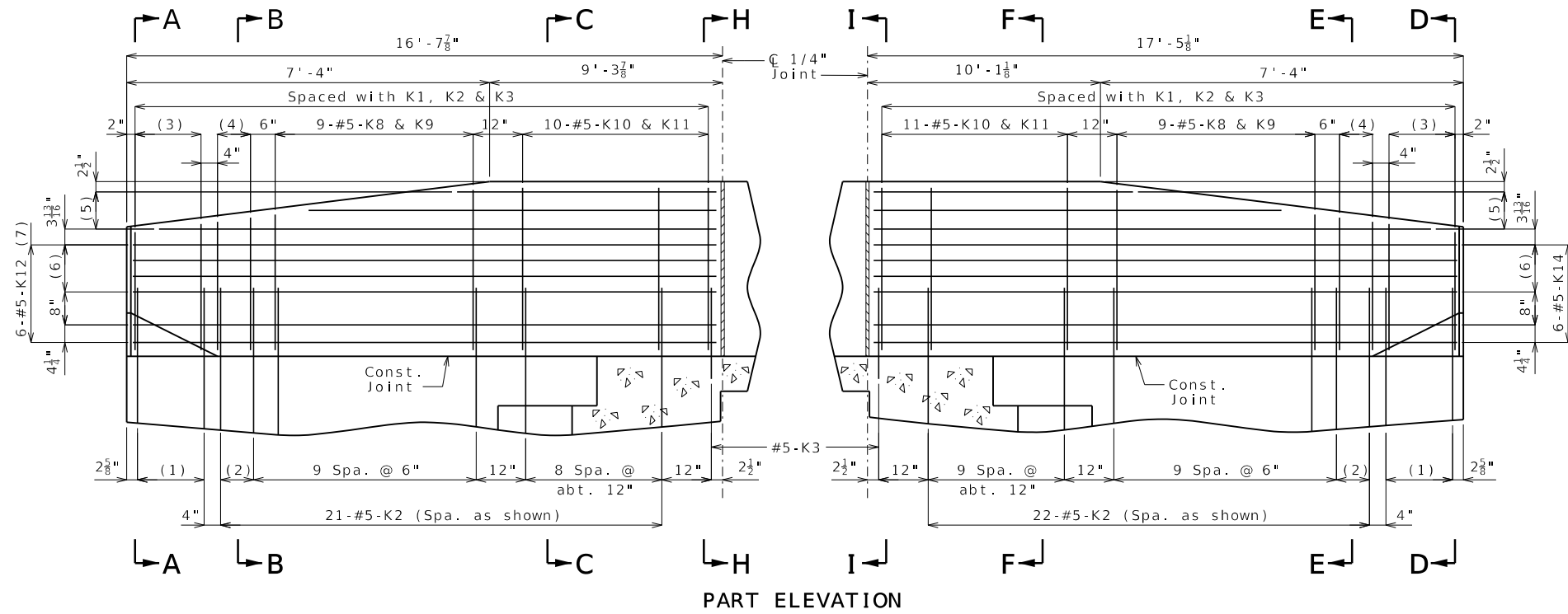
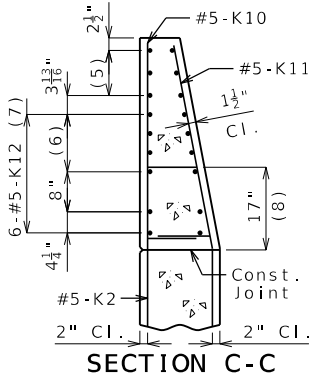
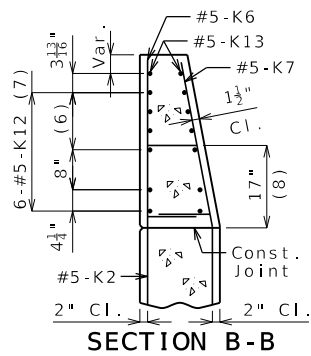
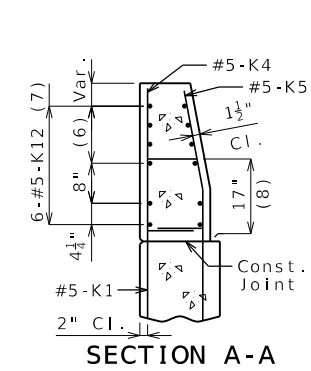
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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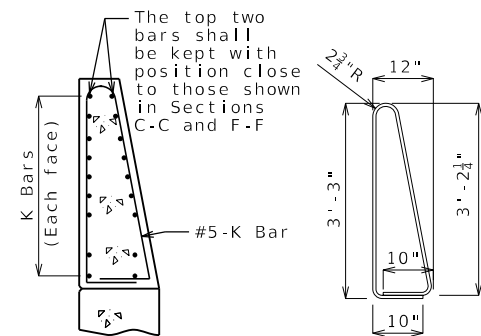
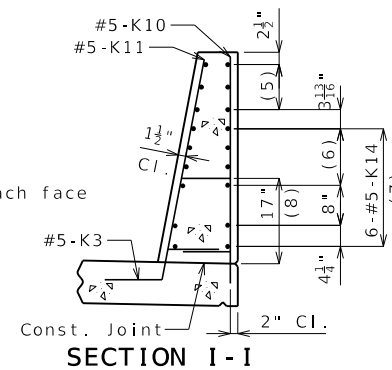
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JEFFERSON CITY, MO 65102  
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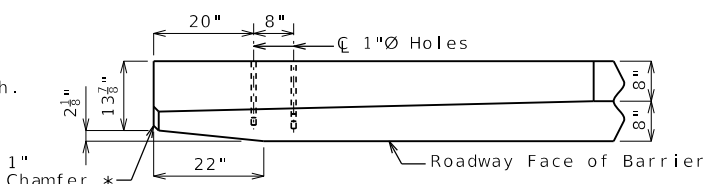
7733 N. Wallace Ave., Kansas City, MO 64158: (816)912-4720  
HQ CONSULT, INC.  
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- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 3/8"
- (7) Spaced as shown, each face
- (8) To top of bar



\* Transition to zero at Type A curb for gutter lines to match.



DETAILS OF GUARD RAIL ATTACHMENT

**General Notes:**

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides.

**Reinforcing Steel:**

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

**TYPE D BARRIER AT END BENTS**

(Left barrier shown, right barrier similar)

**K10-K11 BAR PERMISSIBLE ALTERNATE SHAPE**

(Other K bars not shown for clarity)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

DATE PREPARED		9/12/2025	
ROUTE	STATE	MO	
DISTRICT	SHEET NO.	BR 2-BR24	
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.		A9741	
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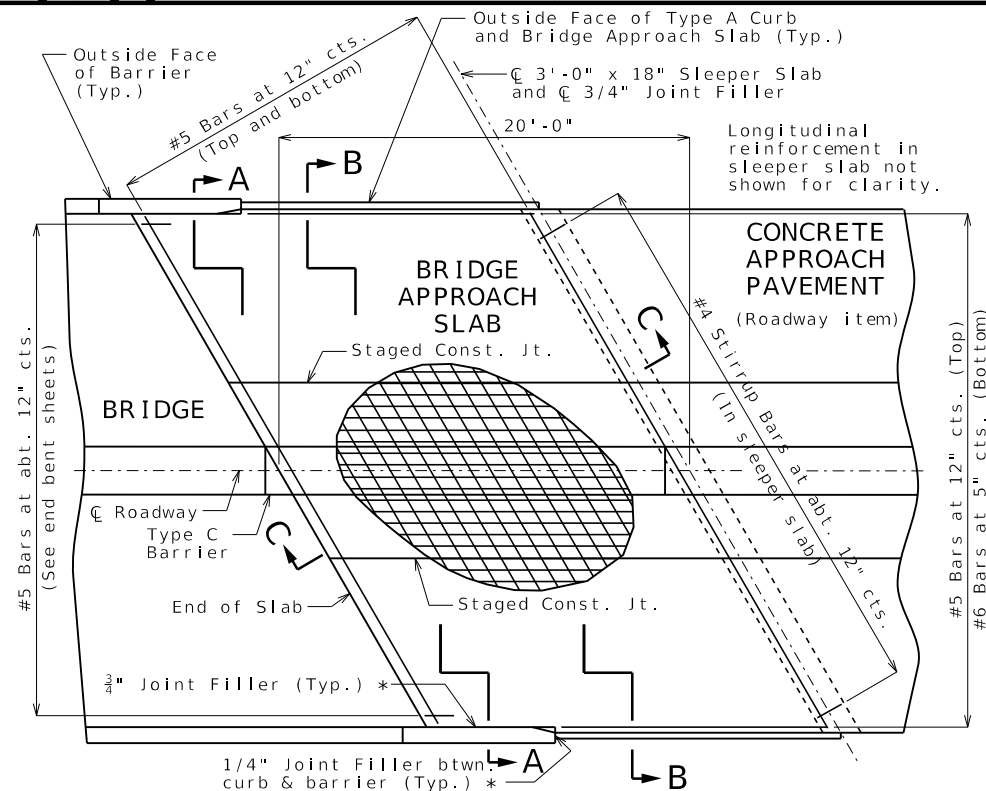
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

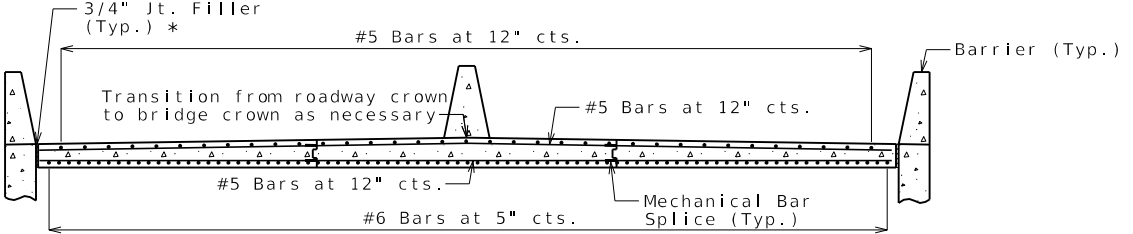
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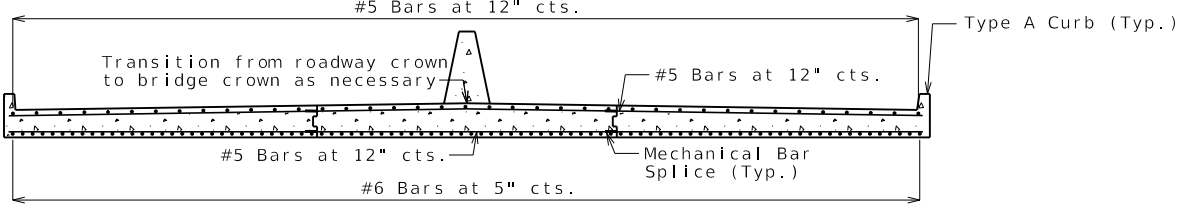
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PART PLAN SHOWING REINFORCEMENT

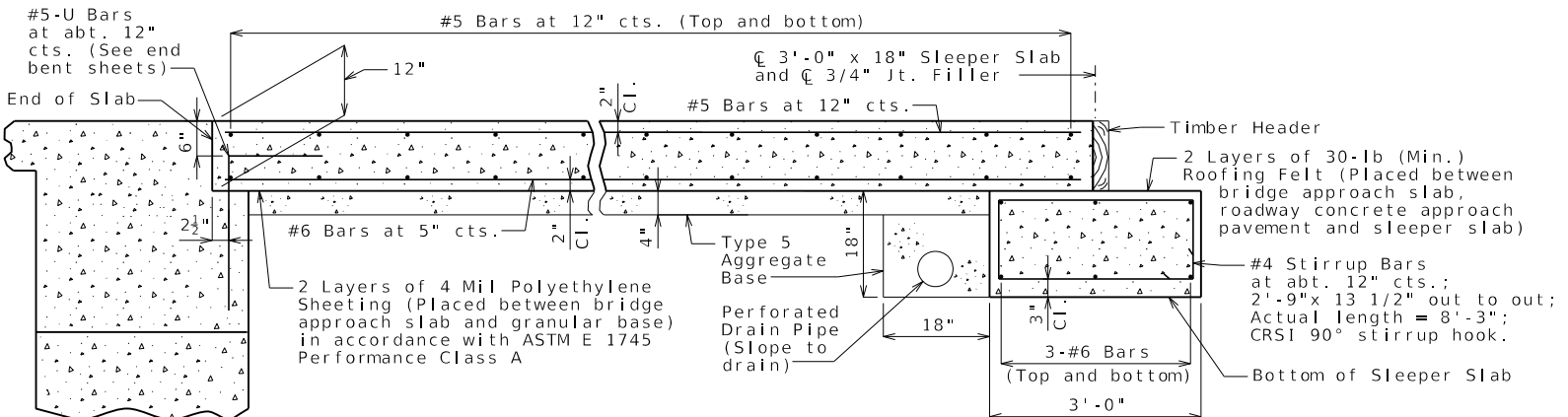


SECTION A-A



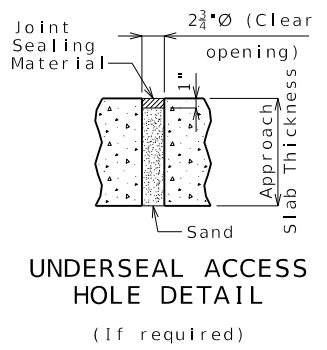
SECTION B-B

The bottom of the approach slab shall be crowned to match the crown of the roadway surface.

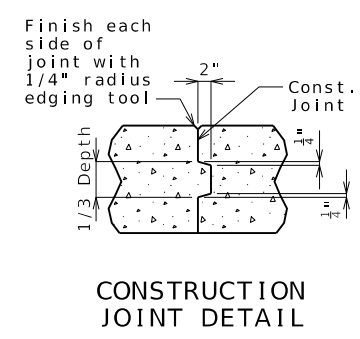


SECTION C-C

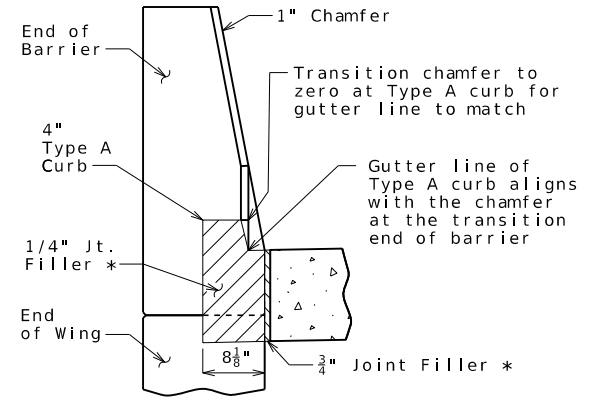
BRIDGE APPROACH SLAB (MAJOR)



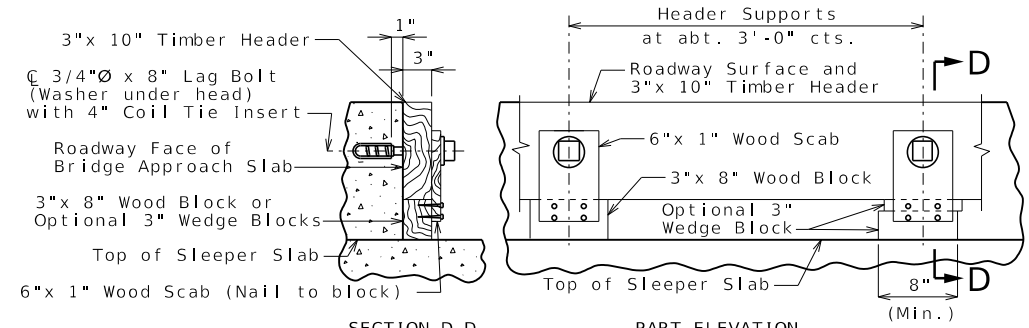
UNDERSEAL ACCESS HOLE DETAIL (If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER



SECTION D-D PART ELEVATION DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 ( $f'c = 4,000$  psi).

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

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710 (Estimated 96 splices per slab).

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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

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

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

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ROUTE	STATE	BRIDGE NO.	SHEET NO.
I-70	MO	BR	2-BR25
COUNTY			
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JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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NO.	APPD. BY	DATE	REVISIONS
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

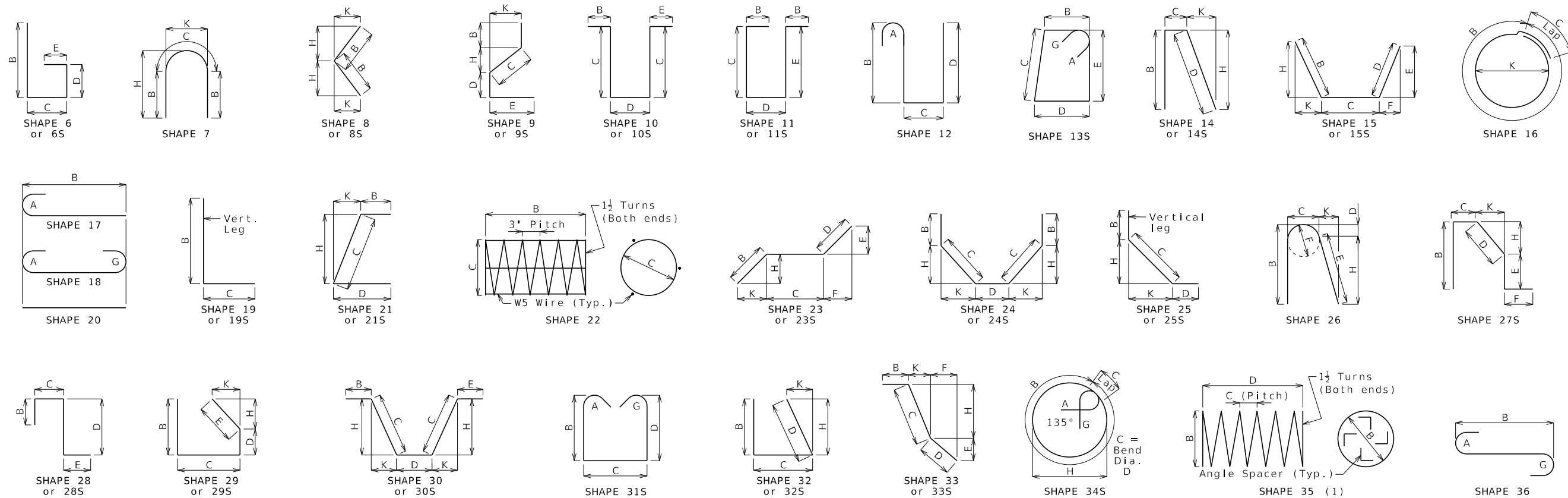
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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I-70	MO	2-BR26	
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9741
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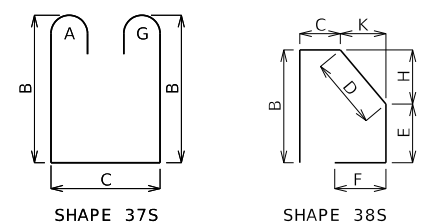
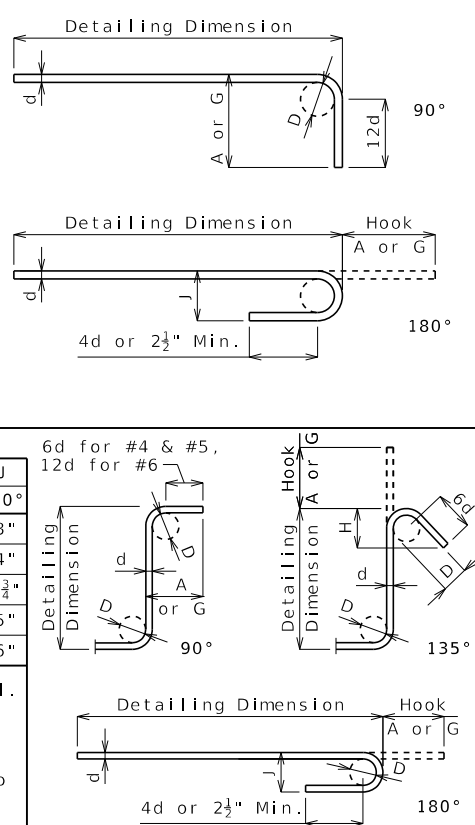
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**Finished Bend Diameters D and Hook Dimensions**

Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	180°
#4	1	3"	8"	6"	4"	
#5	1	3 3/4"	10"	7"	5"	
#6	1	4 1/2"	12"	8 1/4"	6"	
#7	2	5 1/4"	14"	9 3/4"	7"	
	3	7"	15"	11 1/2"	8 3/4"	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 3/4"	10"	
#9	1	9 1/2"	19 1/2"	15 1/2"	11 3/4"	
#10	1	10 3/4"	22"	17 1/2"	13 1/4"	
#11	1	12"	24 1/2"	19 1/2"	14 7/8"	
#14	1	18 1/4"	31 1/4"	27 1/2"	21 5/8"	
#18	1	24"	41 1/2"	36 1/4"	28 1/2"	

Stirrup Pin Bend Shapes (S)							
Size	Case	D	A or G		H		
			90°	135°	180°	135°	180°
#4	2	2"	4 1/2"	4 1/2"	5"	2 5/8"	3"
	3	3"	5"	5 1/4"	6"	3"	4"
#5	2	2 1/2"	5 3/4"	5 3/4"	5 1/2"	3 3/8"	3 3/4"
	3	3 3/4"	6 1/4"	6 1/4"	7"	3 3/8"	5"
#6	1	4 1/2"	12"	7 3/4"	8 1/4"	4 3/8"	6"

Applicable for all grades of steel.  
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



**BENDING DIAGRAMS**

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.  
Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.  
Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.  
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 Totals (Pounds)								
Size	Substructure		Superstructure				Entire Bridge	
	Plain	Epoxy	Slab		Barrier	Slip Form	Plain	Epoxy
			Plain	Epoxy				
W5	0	0	0	0	0	0	0	0
4	0	0	0	3,277	0	0	0	3,277
5	0	0	0	63,200	8,371	200	0	71,771
6	0	0	0	59,840	0	0	0	59,840
7	0	0	0	0	0	0	0	0
8	0	0	0	10,020	0	0	0	10,020
9	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0
By Type	0	0	0	136,337	8,371	200	0	144,908

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

Note: For bars connected with mechanical bar splices, dimensions and bar lengths provided are measured to the construction joint with no addition or reduction in length for the mechanical splice.

**BENDING DIAGRAMS AND REINFORCING STEEL TOTALS**

Table with columns: No. Req., Size/Mark, Location, Codes, Dimensions (B, C, D, E, F, H, K), Nom. Length, Actual Length, Weight. Includes phases 1, 2, and 3.

Table with columns: No. Req., Size/Mark, Location, Codes, Dimensions (B, C, D, E, F, H, K), Nom. Length, Actual Length, Weight. Includes phases 1 and 2.

Nominal lengths are based on out to out dimensions shown in bending diagrams and are listed to the nearest inch for fabricator's use. Actual lengths are measured along centerline bar to the nearest inch. Weights are based on actual lengths.

Codes: C = Required coatings, where E = Epoxy Coated and G = Galvanized. SH = Required shape, see bending diagrams. V = Sets of varied bars and number of bars of each length. Bar dimensions vary in equal increments between dimensions shown on this line and the following line and the actual length dimension shown on this line and the following line vary by the specified increment.

For bending diagrams and steel reinforcing totals, see Sheet No. 2-BR26. Detailed JULY 2025 Checked AUG. 2025

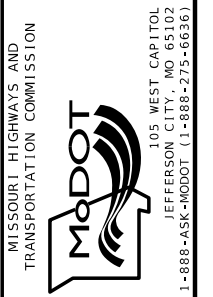
BILL OF REINFORCING STEEL

Note: This drawing is not to scale. Follow dimensions. Sheet No. 27 of 31

DATE PREPARED: 9/12/2025. ROUTE: I-70. STATE: MO. DISTRICT: BR. SHEET NO.: 2-BR27. COUNTY: LAFAYETTE. JOB NO.: JST0019. CONTRACT ID.: 250507-C01. PROJECT NO.:

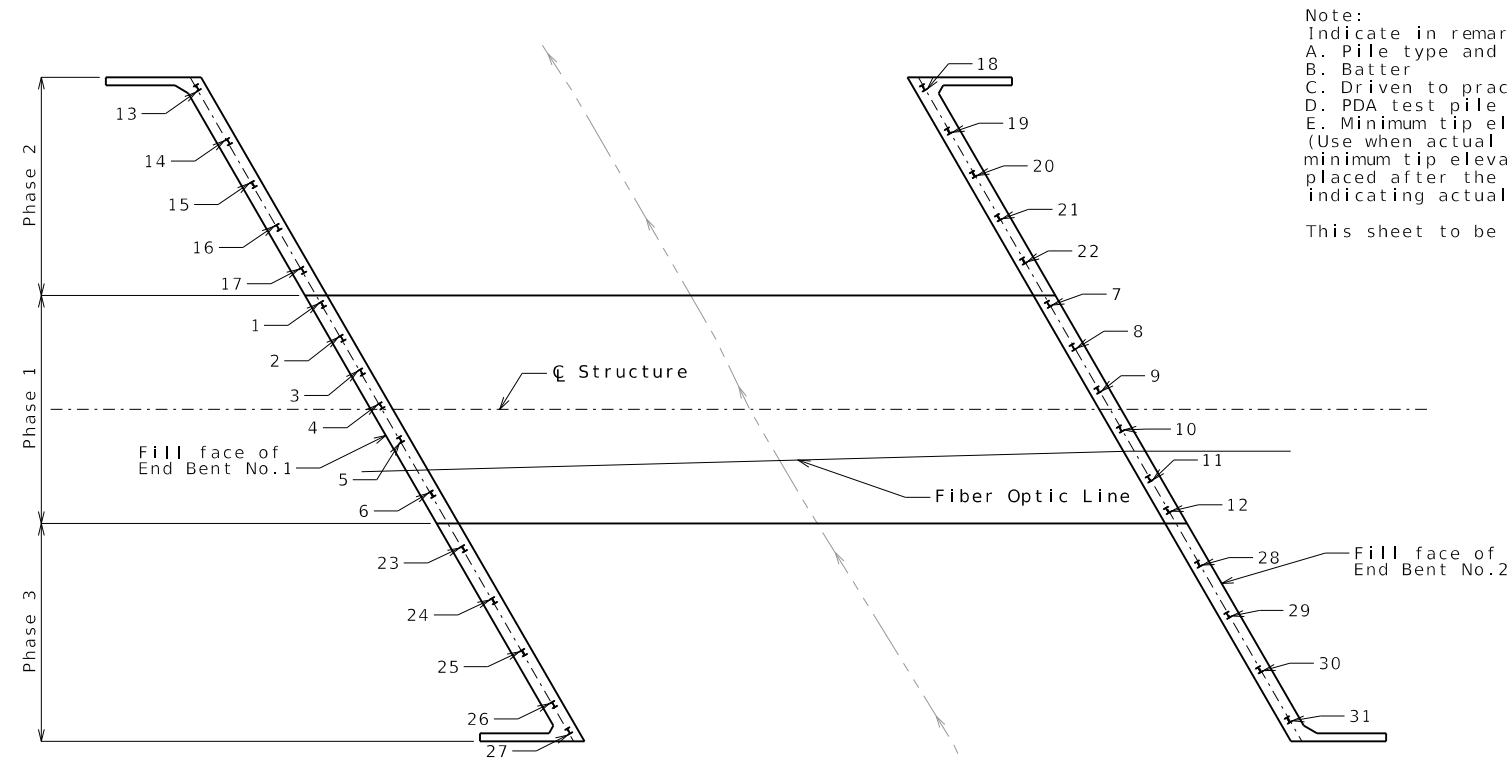
BRIDGE NO.: A9741

Table with columns: NO., APPD. BY, DATE, REVISIONS. Lists various revision entries for early bridge package final plans.



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Note:  
 Indicate in remarks column:  
 A. Pile type and grade  
 B. Batter  
 C. Driven to practical refusal  
 D. PDA test pile  
 E. Minimum tip elevation controlled  
 (Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

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

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 1 End Bent No. 1		
1					
2					
3					
4					
5					
6			Phase 1 End Bent No. 2		
7					
8					
9					
10					
11					
12					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 2 End Bent No. 1		
13					
14					
15					
16					
17					
			Phase 2 End Bent No. 2		
18					
19					
20					
21					
22					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 3 End Bent No. 1		
23					
24					
25					
26					
27					
			Phase 3 End Bent No. 2		
28					
29					
30					
31					

DATE PREPARED	9/12/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	2-BR29
COUNTY	LAFAYETTE
JOB NO.	JST0019
CONTRACT ID.	250507-C01
PROJECT NO.	

BRIDGE NO.	A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

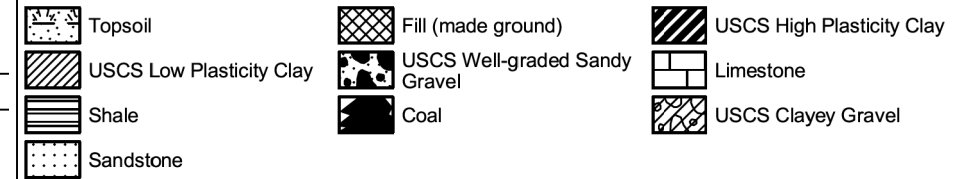
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 PRO. ENGINEER 201005873

AS-BUILT PILE DATA

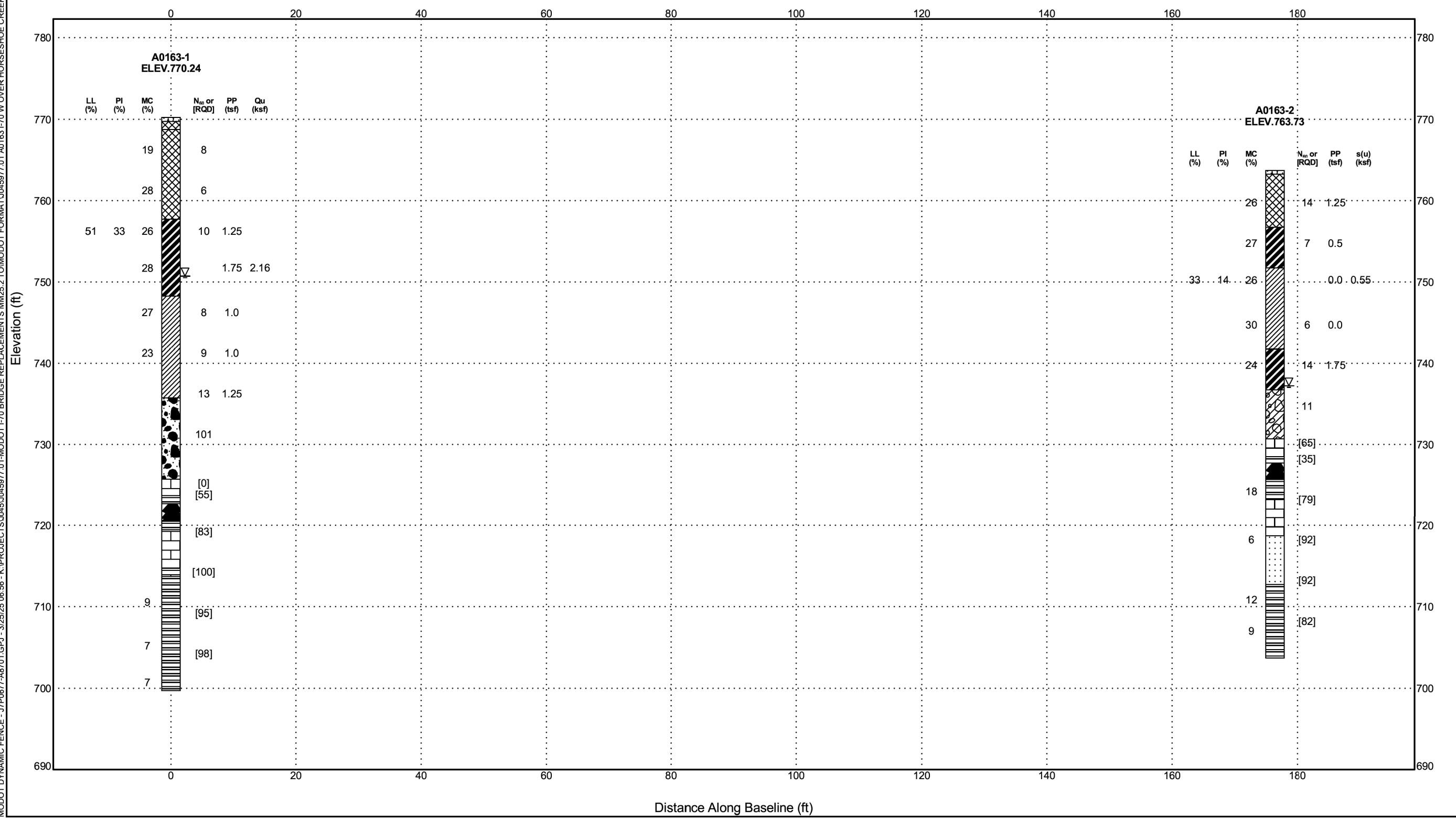


### SUBSURFACE DIAGRAM

PROJECT NAME Bridge A0163  
 PROJECT LOCATION Interstate 70 MM 29.4  
 CLIENT Hq Consult, Inc./MoDOT  
 PROJECT NUMBER J412293



MODOT DYNAMIC FENCE - J7P0677-A8701.GPJ - 9/25/25 06:56 - K:\PROJECTS\J045\J045977.01-MODOT I-70 BRIDGE REPLACEMENTS MM25.2 TO MODOT FORMAT\J045977.01-A0163 I-70 W OVER HORSESHOE CREEK.GPJ



DATE PREPARED	9/12/2025	
ROUTE	I-70	STATE
DISTRICT	BR	SHEET NO.
COUNTY	LAFAYETTE	
JOB NO.	JST0019	
CONTRACT ID.	250507-C01	
PROJECT NO.		
BRIDGE NO.	A9741	

NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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 Hq CONSULT, INC.  
 PRO. ENGINEER 2010005873  
 7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720

### BORING DATA

Note: For locations of borings, see Sheet No. 2-BR01.

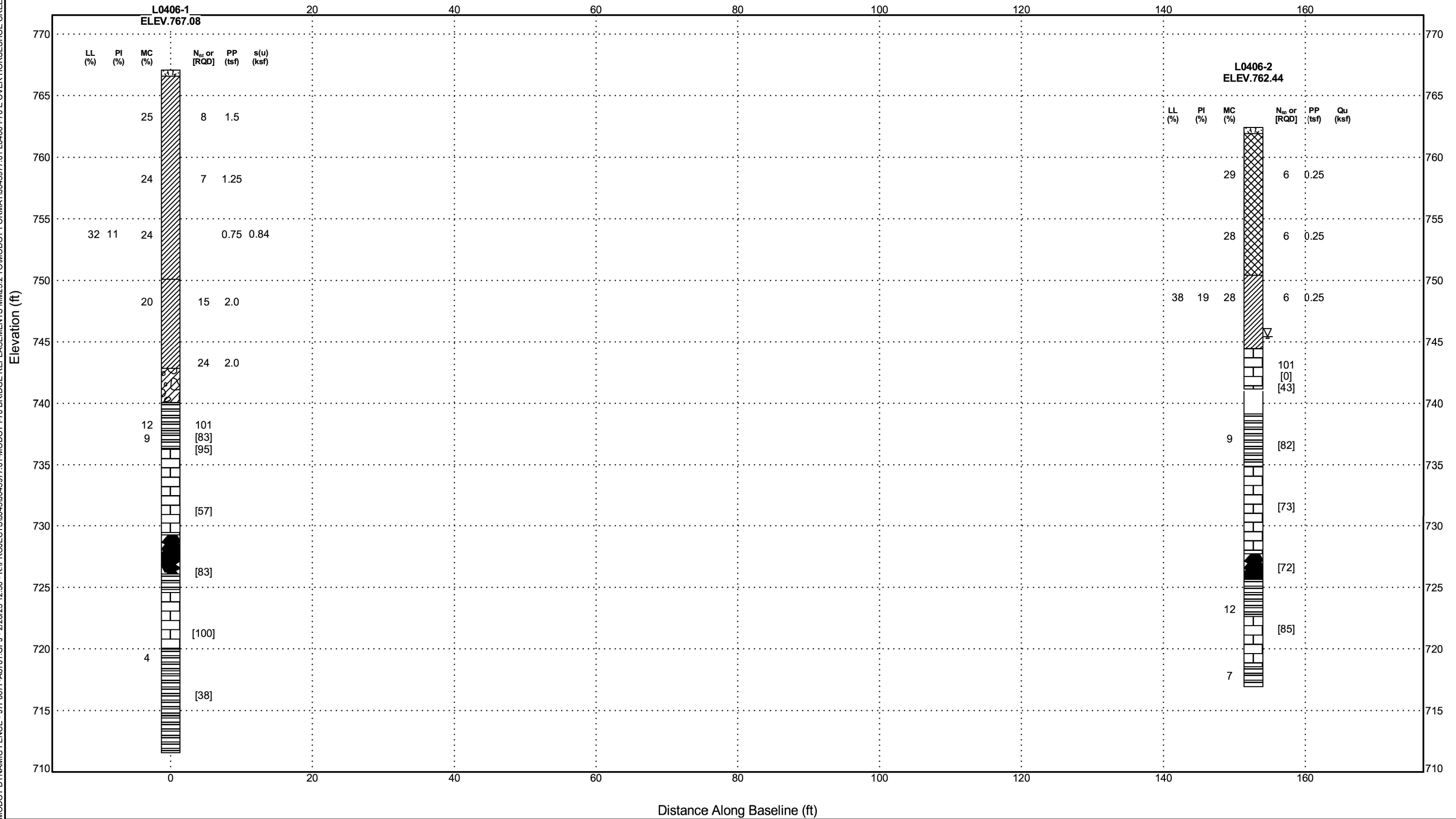
Detailed JULY 2025  
 Checked AUG. 2025



### SUBSURFACE DIAGRAM

PROJECT NAME Bridge L0406  
 PROJECT LOCATION I-70 E over Horseshoe Creek  
 CLIENT Hg Consult, Inc./MoDOT  
 PROJECT NUMBER J412293

Topsoil	USCS Low Plasticity Clay	USCS Clayey Gravel
Shale	Limestone	Coal
Fill (made ground)		



Detailed JULY 2025  
 Checked AUG. 2025

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

Note: For locations of borings, see Sheet No. 2-BR01.

Sheet No. 31 of 31

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR31
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9741
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

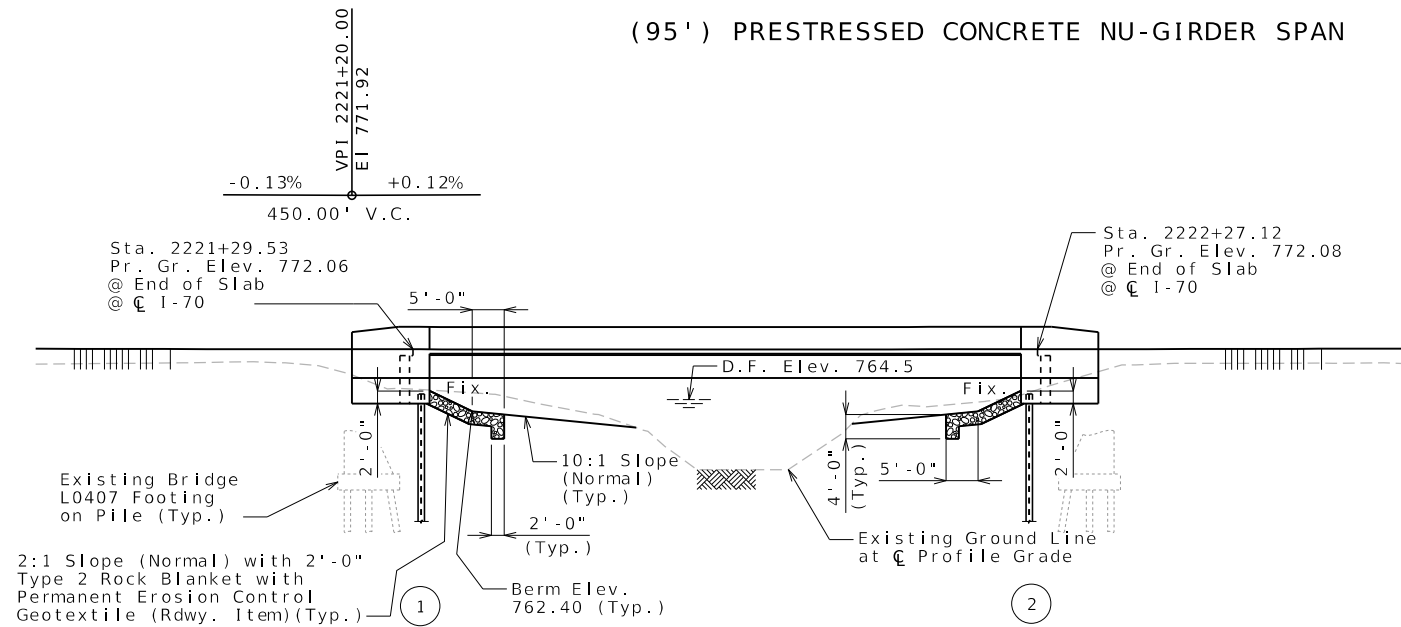
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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 JEFFERSON CITY, MO 65102  
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**Consult Inc engineers planners**

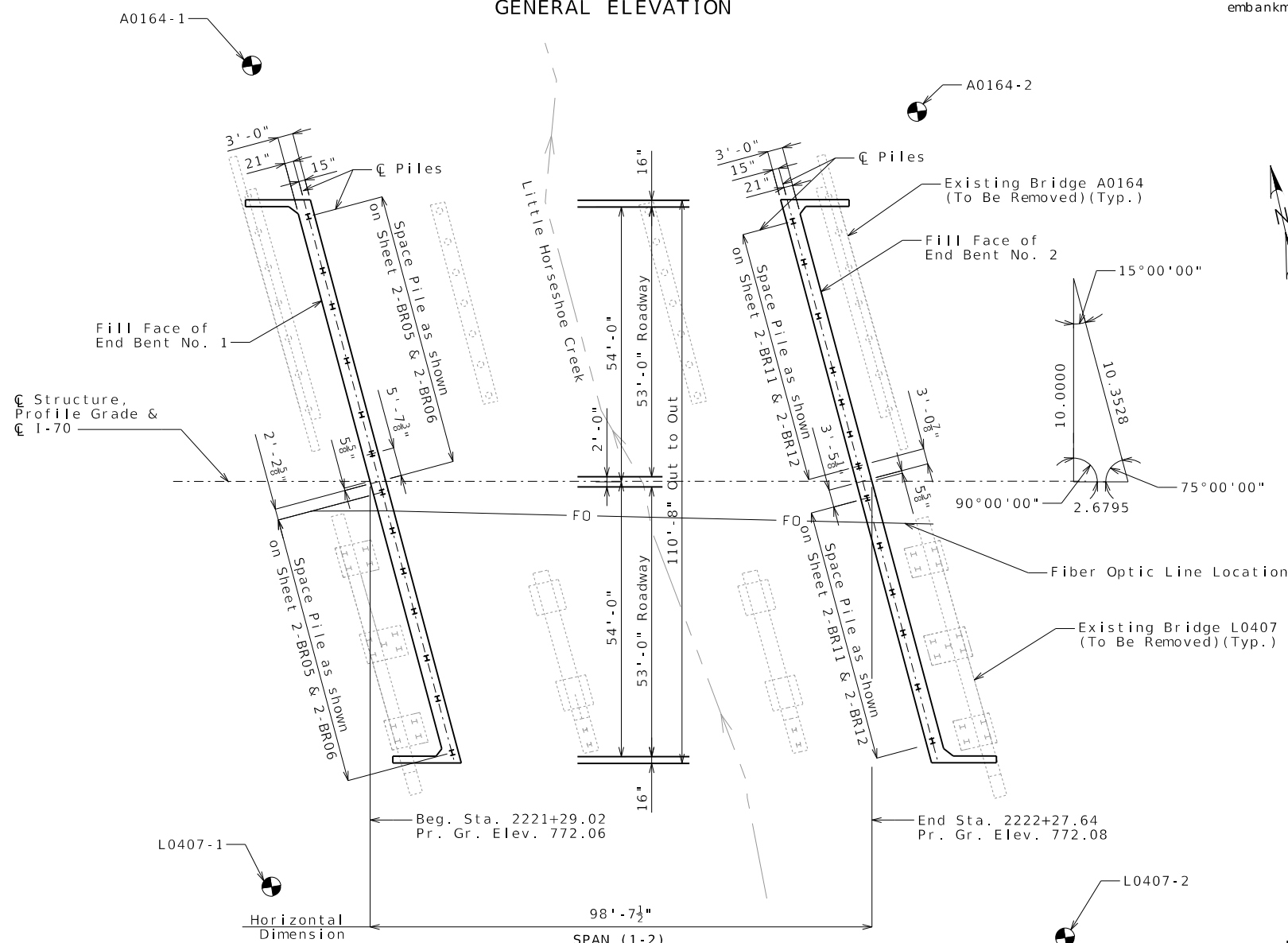
7733 N. Wallace Ave., Kansas City, MO 64158 | (816) 912-4720  
 Hg CONSULT, INC.  
 PRO. ENGINEER 2010005873

(95') PRESTRESSED CONCRETE NU-GIRDER SPAN



GENERAL ELEVATION

Roadway fill shall be completed to the final roadway section and up to the elevation of the bottom of the concrete beam within the limits of the structure and for not less than 25 feet in back of the fill face of the end bents before any piles are driven for any bents falling within the embankment section.



PLAN

Indicates location of borings.  
 Notice and Disclaimer Regarding Boring Log Data  
 The locations of all subsurface borings for this structure are shown on the plan sheet(s) for this structure. The boring data for all locations indicated, as well as any other boring logs or other factual records of subsurface data and investigations, are shown on Sheets No. 2-BR25 to 2-BR30.

B.M. 93273 = RIVOT AND WASHER IN WEST END OF SOUTH BRIDGE WALL  
 X: 243066.496  
 Y: 1703342.788  
 ELEV. 772.82

BRIDGE: ROUTE I-70 OVER LITTLE HORSESHOE CREEK  
 ROUTE I-70 FROM COUNTY LINE TO ROUTE D  
 ABOUT 0.35 MILES E OF COUNTY LINE  
 BEGIN STATION 2221+29.02

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR01
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
---------------------

NO.	APPD. BY	DATE	REVISIONS
A	JMD	07-28-25	EARLY BRIDGE PACKAGE 60% PLANS
B	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
C	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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Estimated Quantities for Slab on Concrete NU-Girder		
Item		Total
Class B-2 Concrete	cu. yard	453
Reinforcing Steel (Epoxy Coated)	pound	108,050

Method of forming the slab shall be as shown on the plans and in accordance with Sec 703. All hardware for forming the slab to be left in place as a permanent part of the structure shall be coated in accordance with ASTM A123 or ASTM B633 with a thickness class SC 4 and a finish type I, II or III.

Slab shall be cast-in-place with stay-in-place corrugated steel forms. Precast prestressed panels will not be permitted.

All concrete above the construction joint in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

All reinforcement in the end bents is included in the Estimated Quantities for Slab on Concrete NU-Girder.

#### GENERAL NOTES:

##### Design Specifications:

2020 AASHTO LRFD Bridge Design Specifications, (9th Ed.)  
 Seismic Design Category = A (Nonseismic)  
 Design earthquake response spectral acceleration coefficient at 1.0 second period,  $SD_1 = 0.091g$   
 Acceleration Coefficient (effective peak ground acceleration coefficient),  $A_s = 0.053g$   
 Operational Importance Factor = 1.05.

##### Design Loadings:

Vehicular = HL-93  
 Future Wearing Surface = 35 lb/sf  
 Earth = 120 lb/cf, Equivalent Fluid Pressure = 45 lb/cf (minimum)  
 Superstructure: Non-Composite for dead load.  
 Composite for live load.

##### Design Unit Stresses:

Class B Concrete (Substructure)  $f'c = 3,000$  psi  
 Class B-1 Concrete (Barrier)  $f'c = 4,000$  psi  
 Class B-2 Concrete (Superstructure, except Prestressed Girders and Barrier)  $f'c = 4,000$  psi  
 Reinforcing Steel (ASTM A615 Grade 60)  $f_y = 60,000$  psi  
 Structural Steel HP Pile (ASTM A709 Grade 50)  $f_y = 50,000$  psi

For Prestressed Girder Stresses, See Sheet No. 2-BR16.

##### Neoprene Pads:

Neoprene Bearing Pads shall be 60 durometer and shall be in accordance with Sec 716.

##### Joint Filler:

All joint filler shall be in accordance with Sec 1057 for preformed sponge rubber expansion and partition joint filler, except as noted.

##### Standard Plans:

617.10 for Type C Barrier

##### Reinforcing Steel:

Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.  
 MBS refers to mechanical bar splices. Mechanical bar splices shall be in accordance with Sec 706 or 710.

##### Traffic Control:

Traffic to be maintained on structures during construction. See roadway plans for traffic control and Sheets No. 2-BR03 and 2-BR04 for staged construction details.

Hydrologic Data	
Drainage Area = 3.4 mi <sup>2</sup>	
Design Flood Frequency = 100 years	
Design Flood Discharge = 2100 cfs	
Design Flood (D.F.) Elevation = 764.5	
Estimated Backwater = 0.3 ft	
Average Velocity thru Opening = 4.8 ft/s	
Freeboard (50-year)	
Freeboard = 2.4 ft	
Roadway Overtopping	
Overtopping Flood Discharge = N/A	
Overtopping Flood Frequency = >500 years	
500-Year Flood Elevation = 765.8	

Foundation Data				
Type	Design Data	Bent Number		
		1	2	
Load Bearing Pile	Pile Type and Size	HP12x53	HP12x53	
	Number	13	13	
	Approximate Length per Each	ft	63	64
	Pile Point Reinforcement	ea	All	All
	Min. Galvanized Penetration (Elev.)		Full Length	Full Length
	Pile Driving Verification Method		DT	DT
	Resistance Factor		0.65	0.65
	Minimum Nominal Axial Compressive Resistance	kip	416	416

DT = Dynamic Testing

Load Bearing Pile:  
 Minimum Nominal Axial Compressive Resistance =  $\frac{\text{Maximum Factored Loads}}{\text{Resistance Factor}}$

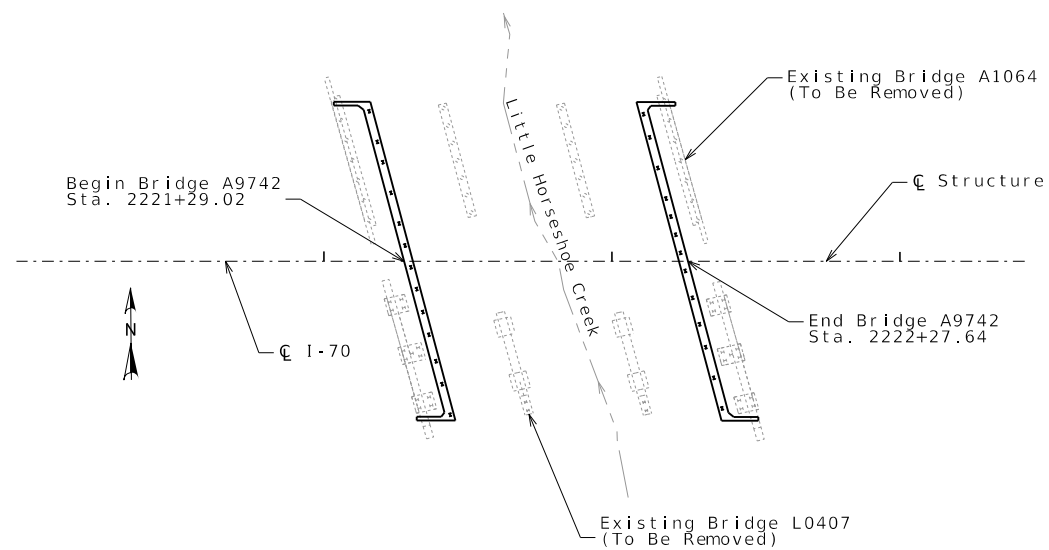
Minimum Nominal Axial Compressive Resistance value based on the critical individual pile.

All piles shall be galvanized down to the minimum galvanized penetration (elevation).

Pile point reinforcement need not be galvanized. Shop drawings will not be required for pile point reinforcement.

All piles are anticipated to be driven to refusal on rock. Review all borings for depth of rock and restrict driving as appropriate to comply with hard rock driving criteria in accordance with Sec 702. When pile refusal on rock occurs, as approved by the engineer, the minimum nominal axial compressive resistance is verified and no additional pile driving verification method is required.

The contractor shall make every effort to achieve the minimum galvanized penetration (elevation) shown on the plans for all piles. Deviations in penetration less than 5 feet of the minimum will be considered acceptable provided the contractor makes the necessary corrections to ensure the minimum penetration is achieved on subsequent piles.

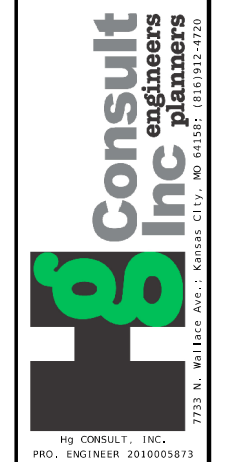
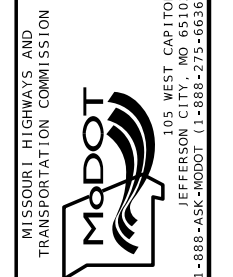


LOCATION SKETCH

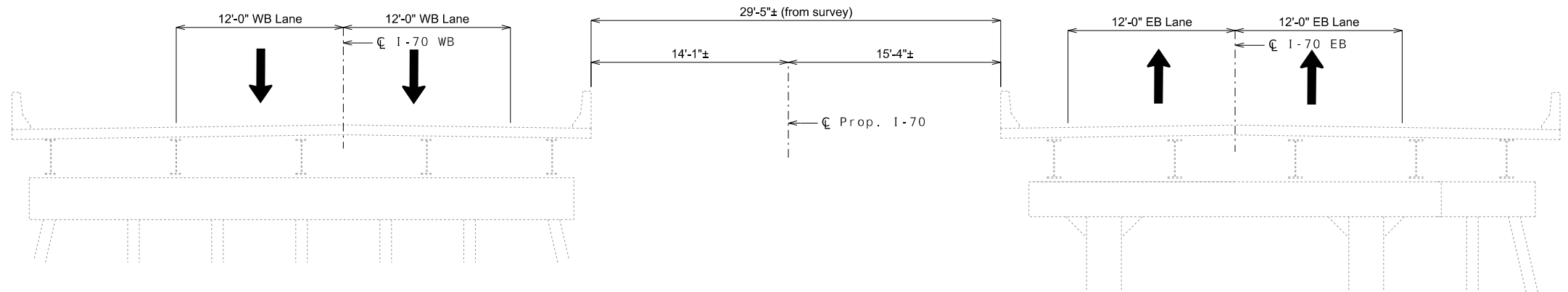
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9/12/2025	
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	2-BR02
COUNTY	
LAFAYETTE	
JOB NO.	
JST0019	
CONTRACT ID.	
250507-C01	
PROJECT NO.	

BRIDGE NO.
A9742

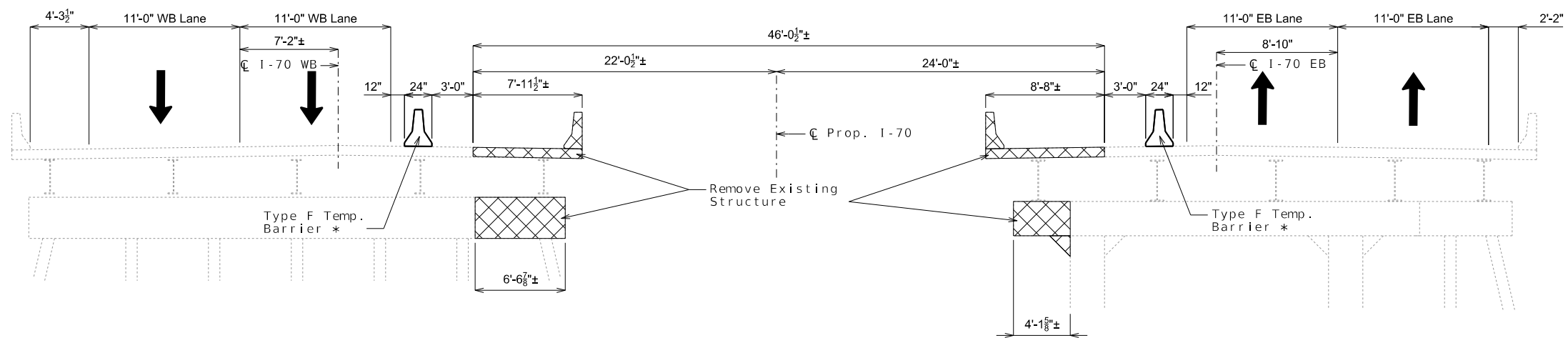
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS



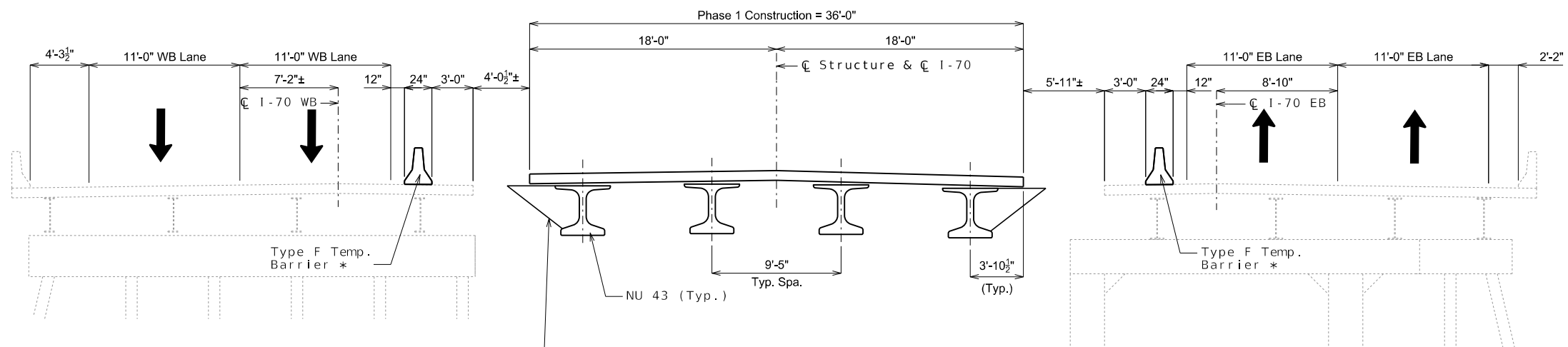




EXISTING



STAGE 1  
MODIFY EXISTING



STAGE 2  
MEDIAN CONSTRUCTION

STAGED CONSTRUCTION DETAILS

Notes:  
 \* Temporary barrier shall not be attached to the bridge.  
 See Missouri Standard Plans 617.20 for details of temporary Type F Barrier not shown.

Detailed JULY 2025  
 Checked AUG. 2025

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

Sheet No. 3 of 30

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR03
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	
BRIDGE NO. A9742	

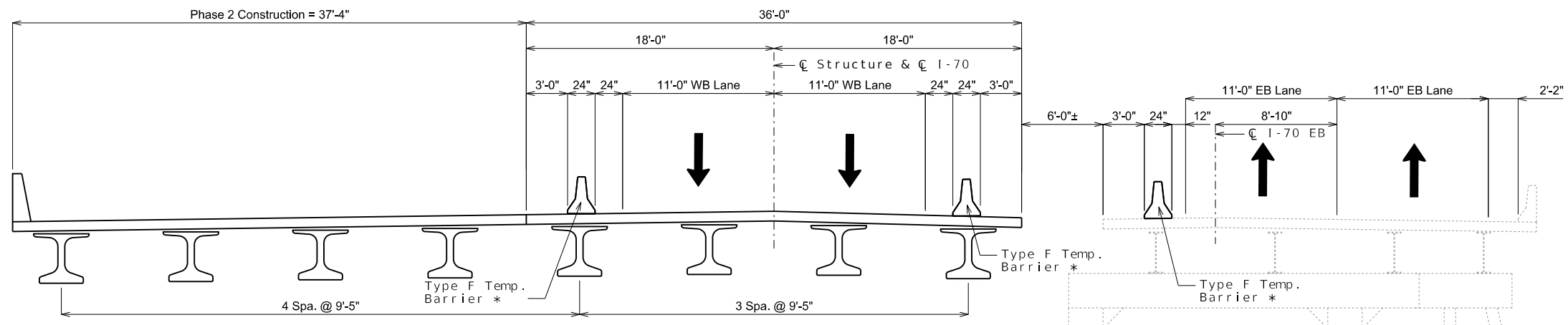
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

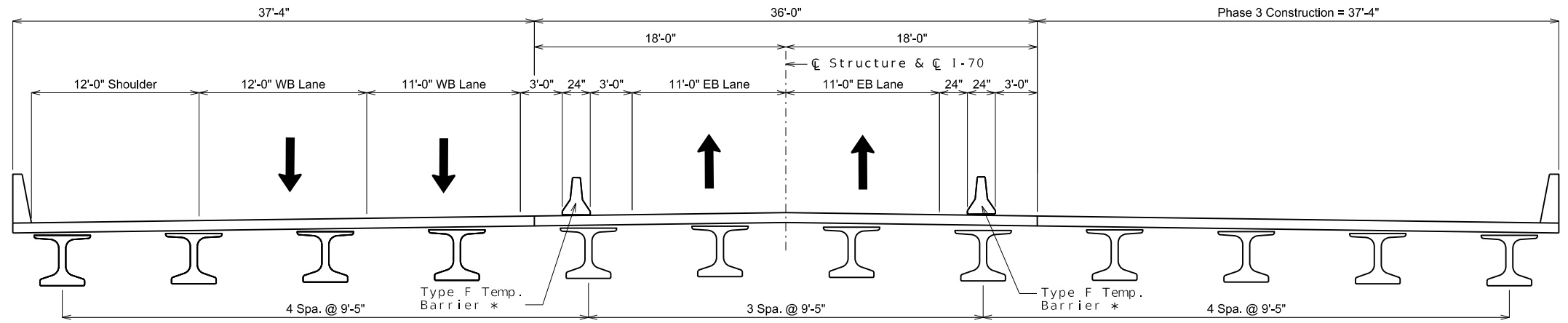
305 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

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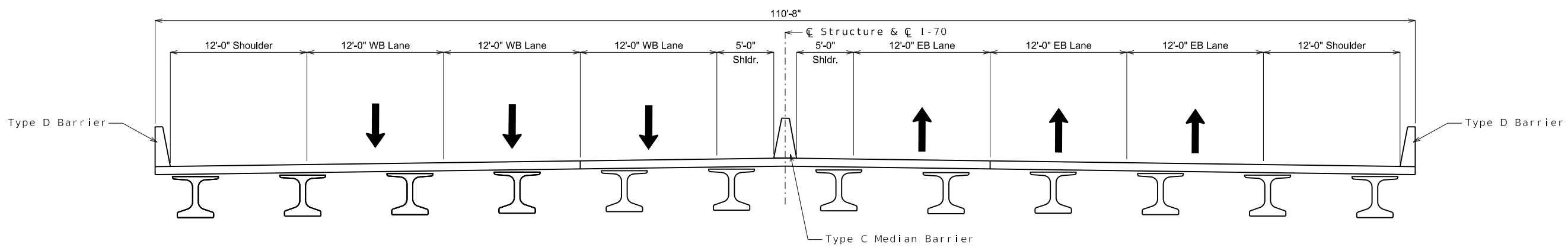
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 Hq CONSULT, INC.  
 PRO. ENGINEER 201005873



STAGE 3  
REPLACE WB



STAGE 4  
REPLACE EB



FINAL

STAGED CONSTRUCTION DETAILS

Notes:  
 \* Temporary barrier shall not be attached to the bridge.  
 See Missouri Standard Plans 617.20 for details of temporary Type F Barrier not shown.

Detailed JULY 2025  
 Checked AUG. 2025

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


Sheet No. 4 of 30

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR04
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO.  
A9742


NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

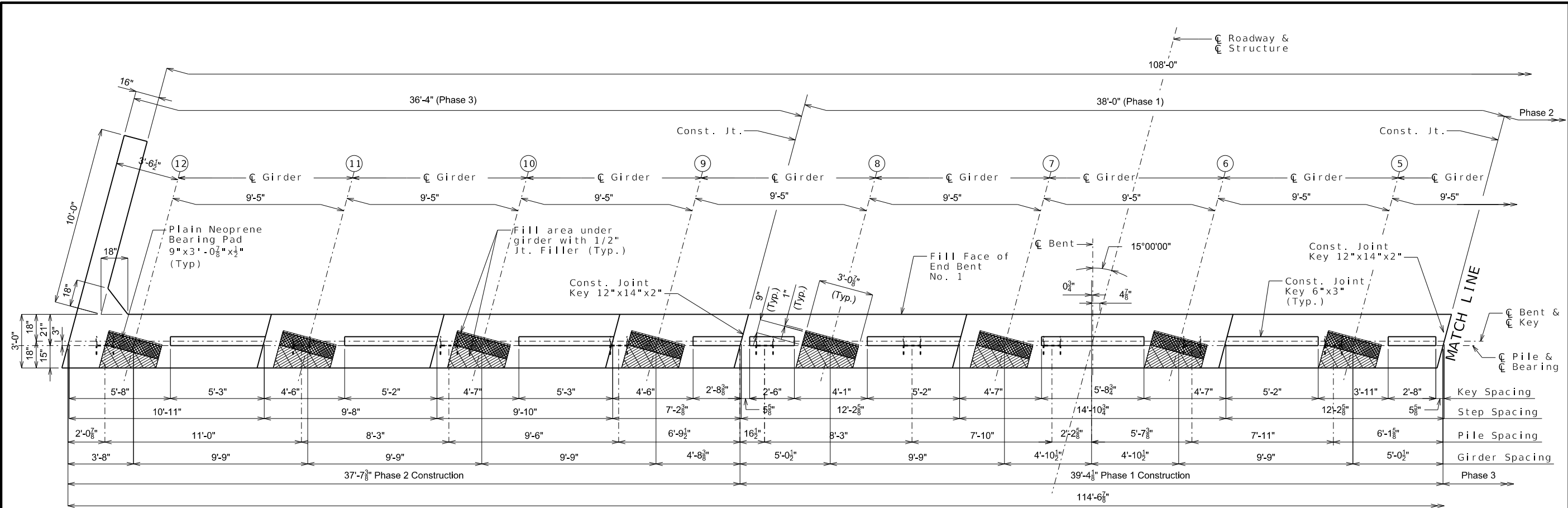


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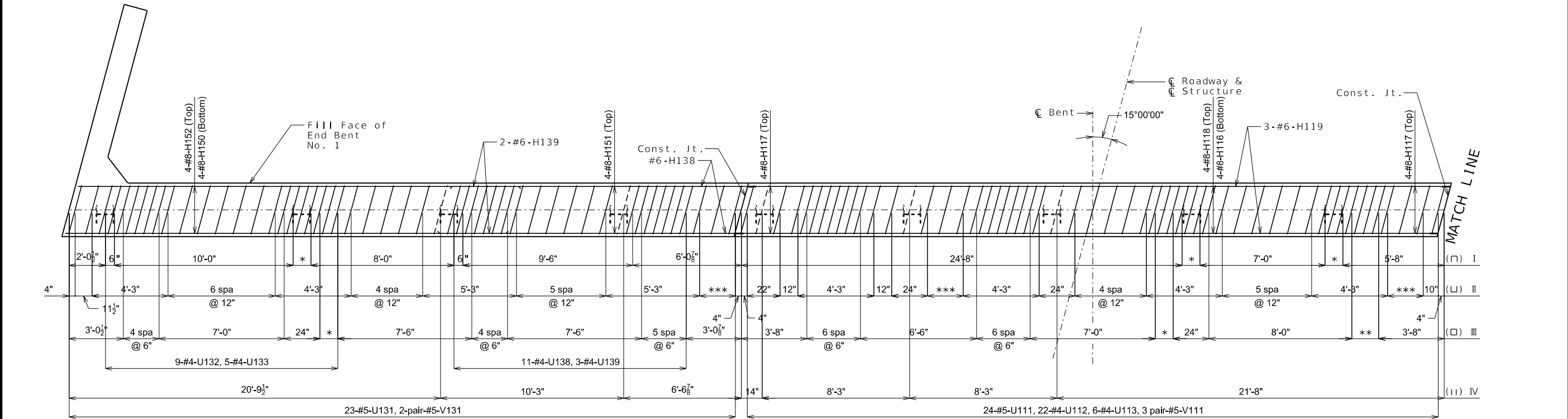
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 Hq CONSULT, INC.  
 PRO. ENGINEER 201005873



PLAN OF BEAM - PHASE 1 & 3



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 1 & 3

DETAILS OF END BENT NO. 1

Notes:

- Work this sheet with Sheets No. 2-BR06 thru 2-BR09.
- For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.
- Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".
- The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"
- I - #4-U113, U133, U139 space as shown
- II - #5-U111, U131 space as shown
- III - #4-U112, U132, U138 space as shown
- IV - Pairs of #5-V111, V131 space as shown

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR05
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
---------------------

NO.	DATE	APPD. BY	REVISIONS
A	08-13-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
B	09-08-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
1	09-12-25	JMD	EARLY BRIDGE PACKAGE - RFC PLANS

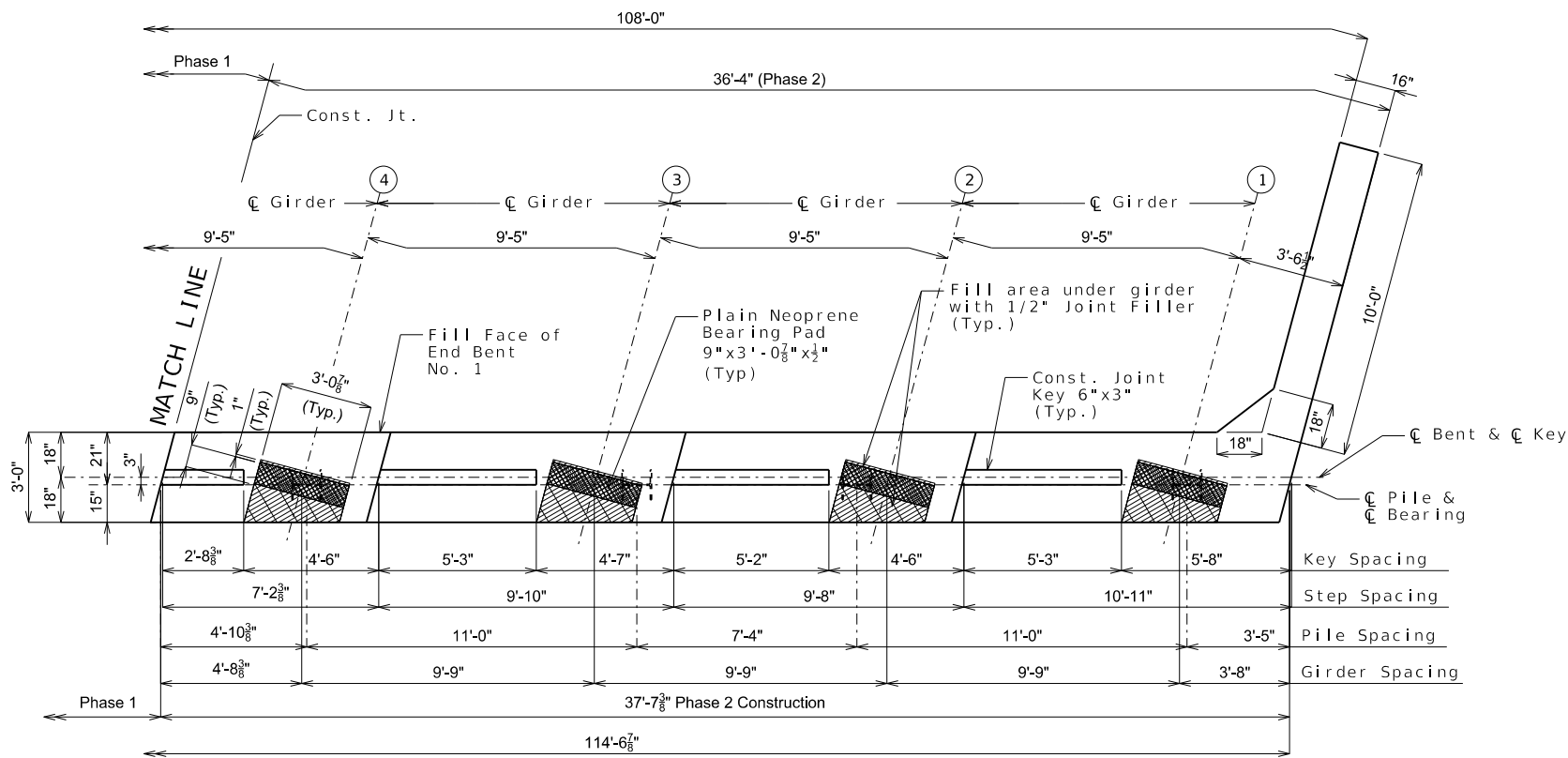
NO.	DATE	APPD. BY
A	08-13-25	JMD
B	09-08-25	JMD
1	09-12-25	JMD

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

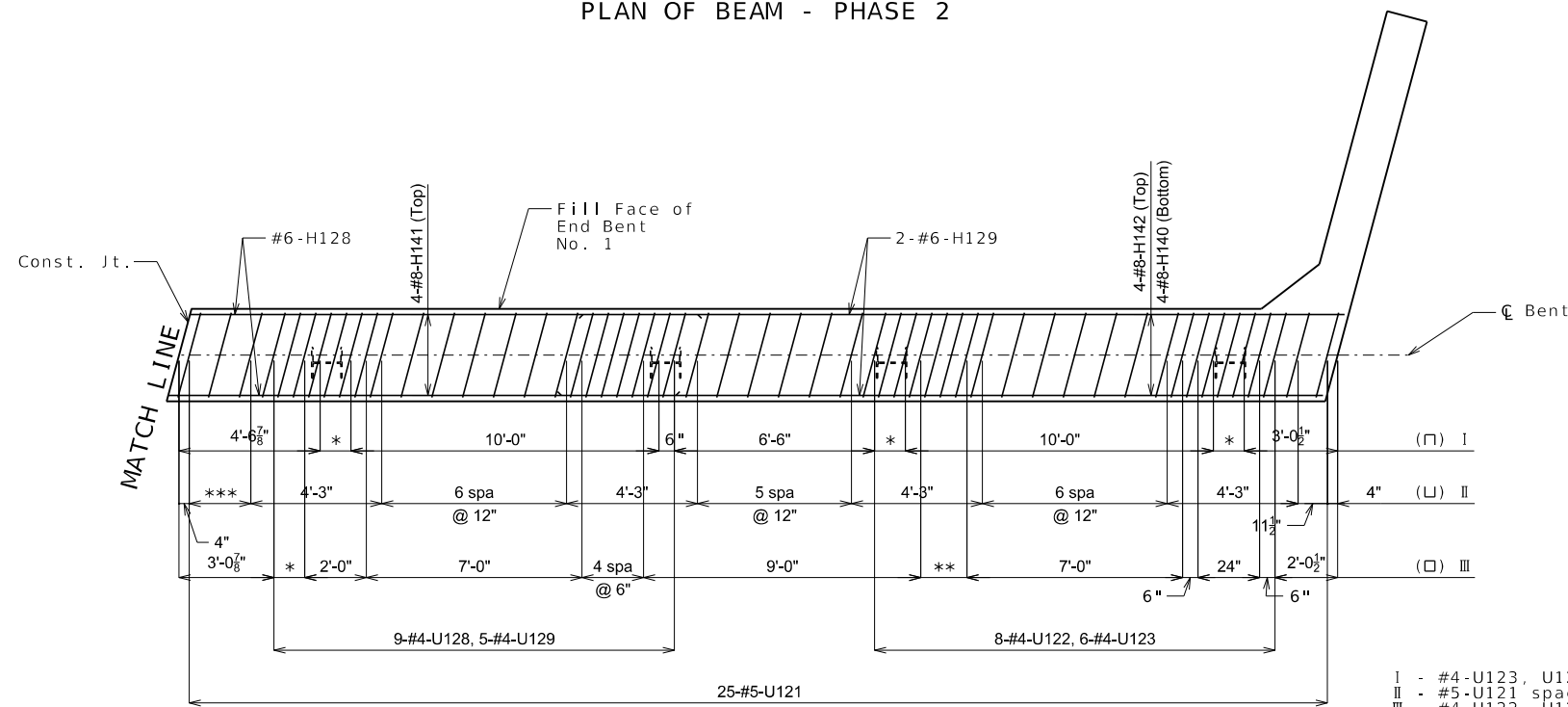
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

Consult Inc engineers planners

Hq CONSULT, INC.  
PRO. ENGINEER 201005873  
7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720



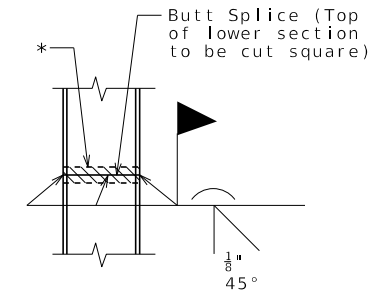
PLAN OF BEAM - PHASE 2



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 2  
(Keys & Steps not shown for clarity)

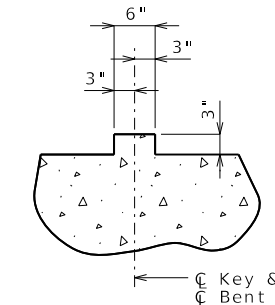
- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"

- I - #4-U123, U129 space as shown
- II - #5-U121 space as shown
- III - #4-U122, U128 space as shown



STEEL PILE SPLICE  
(If required)

\* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.



SECTION THRU KEY

Notes:

Work this sheet with Sheets No. 2-BR05 thru 2-BR09.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2".

The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR06
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
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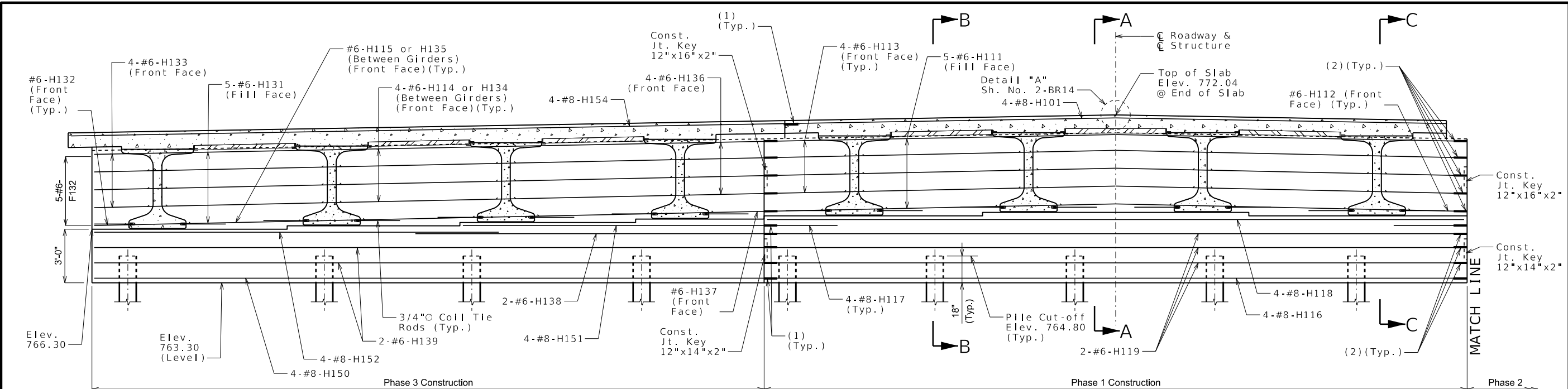
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

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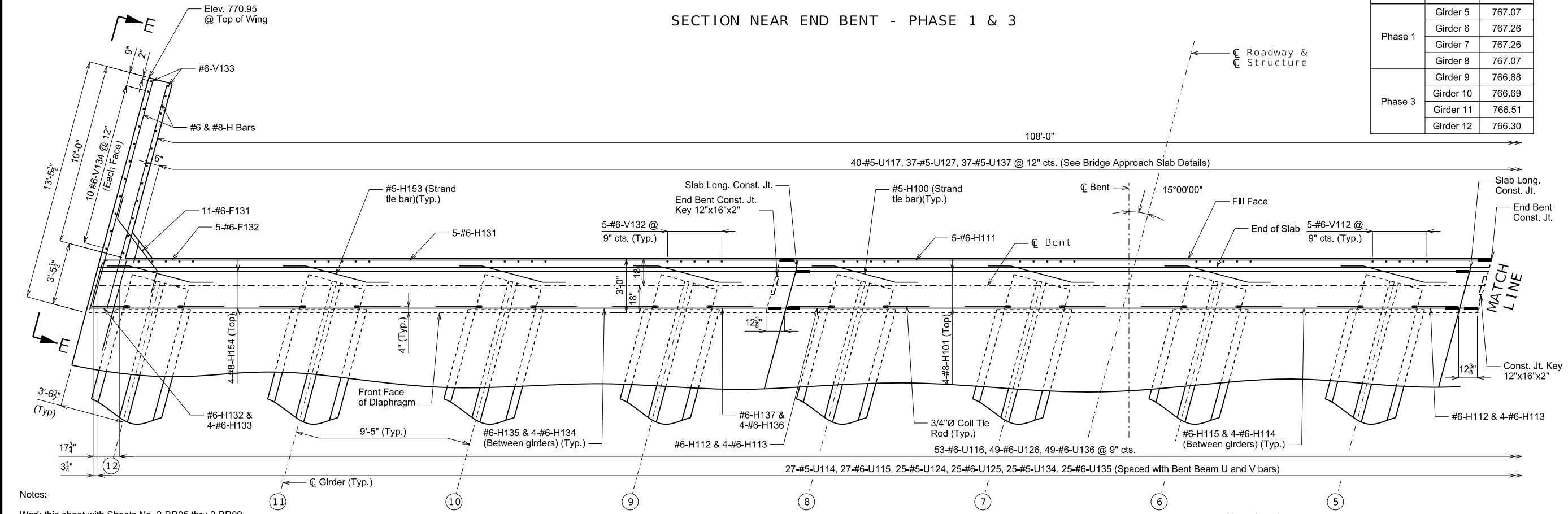
7733 N. Wallace Ave., Kansas City, MO 64158  
PRO. ENGINEER 201005873



Mechanical Bar Splices:  
 (1) - #8 to #8 bar (24 Total)  
 (2) - #6 to #6 bar (32 Total)

SECTION NEAR END BENT - PHASE 1 & 3

Bent No. 1 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 1	Girder 5	767.07
	Girder 6	767.26
	Girder 7	767.26
	Girder 8	767.07
Phase 3	Girder 9	766.88
	Girder 10	766.69
	Girder 11	766.51
	Girder 12	766.30



PART PLAN - PHASE 1 & 3

DETAILS OF END BENT NO. 1

Notes:  
 Work this sheet with Sheets No. 2-BR05 thru 2-BR09.  
 For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.  
 For Sections A-A, B-B & C-C and Elevation E-E, see Sheet No. 2-BR09.  
 All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

Notes (cont.):  
 The #6-F131 bars shall be bent in the field to clear girders.  
 Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.  
 For location of coil tie rods and #5-H100 & H153 (strand tie bars), see Sheet No. 2-BR16.  
 For details of bridge approach slab, see Sheet No. 2-BR24.  
 The U bars shall be placed parallel to centerline of roadway.

Note: This drawing is not to scale. Follow dimensions. Sheet No. 7 of 30

Detailed JULY 2025  
 Checked AUG. 2025

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR07
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	
BRIDGE NO. A9742	

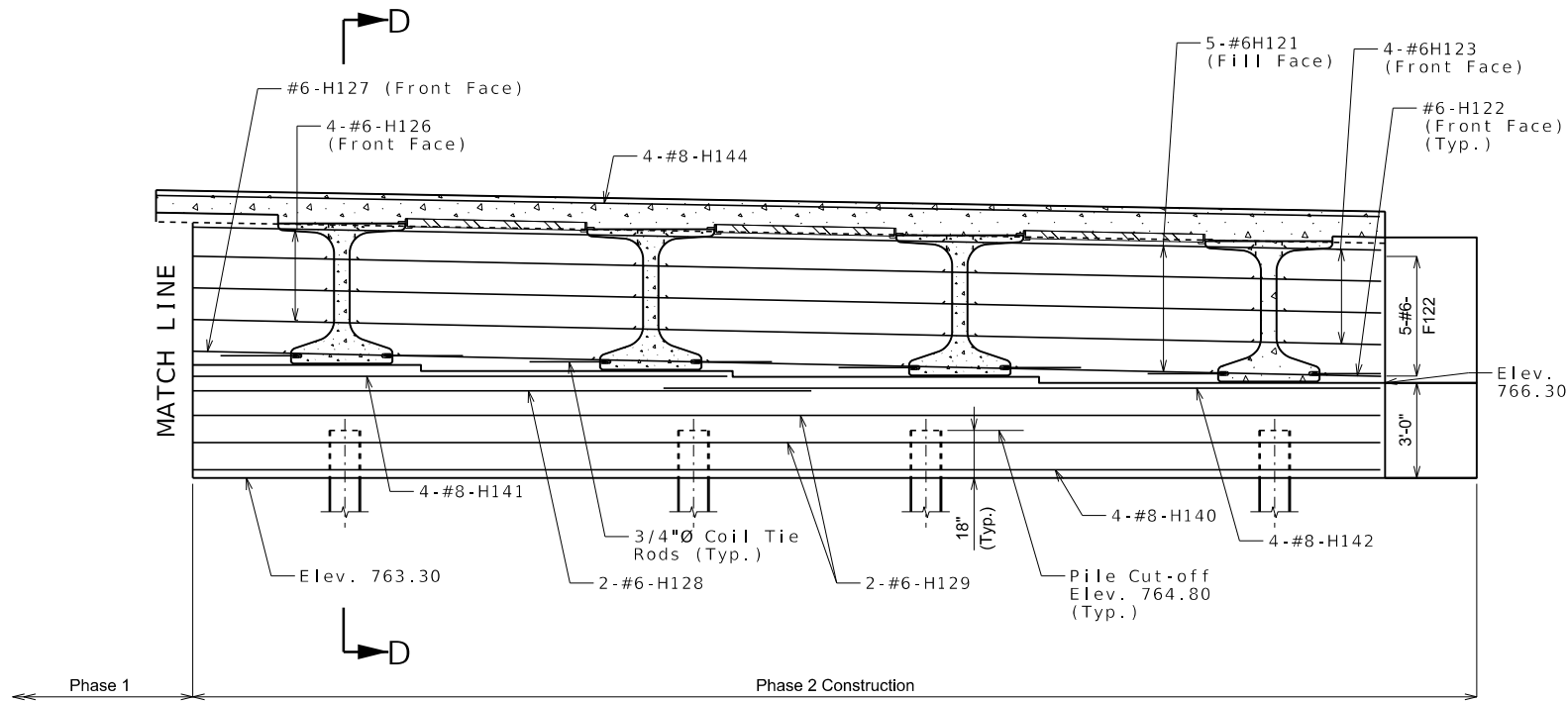
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
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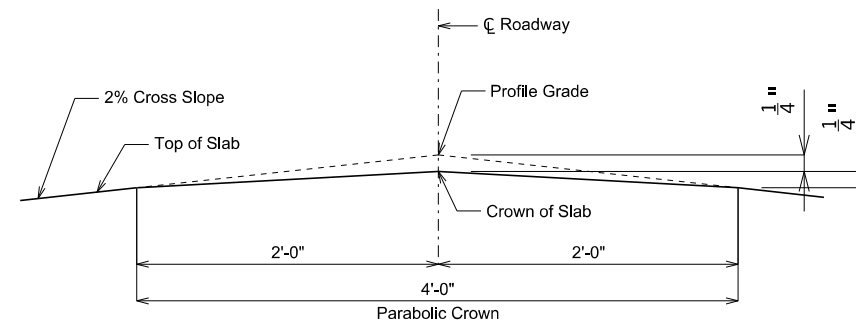
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 PRO. ENGINEER 2010005873

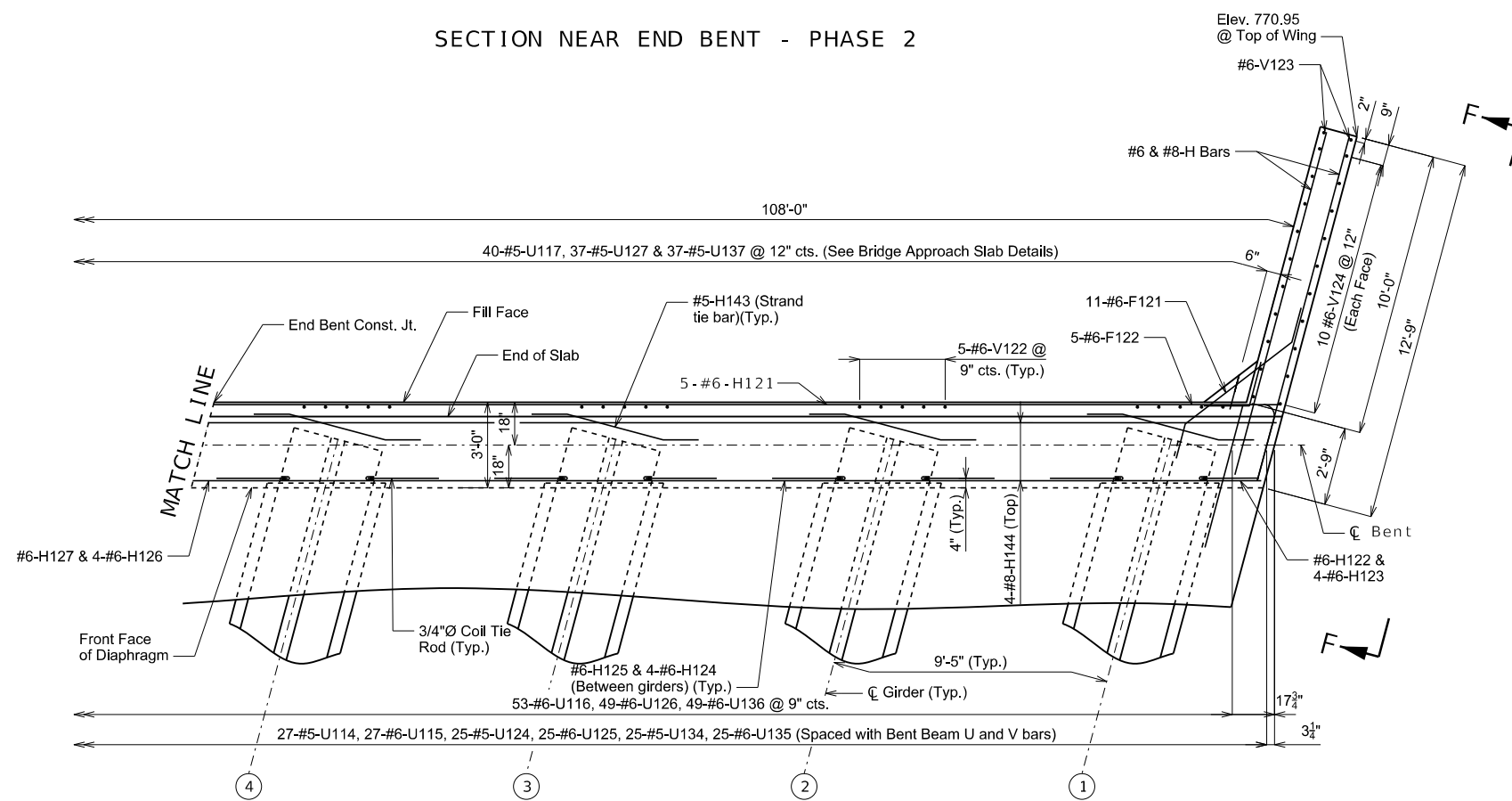


SECTION NEAR END BENT - PHASE 2

Bent No. 1 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 2	Girder 1	766.30
	Girder 2	766.51
	Girder 3	766.69
	Girder 4	766.88



DETAIL A



PART PLAN - PHASE 2

DETAILS OF END BENT NO. 1

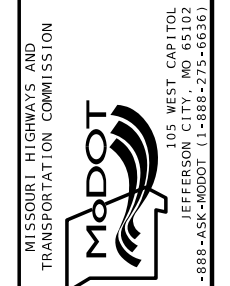
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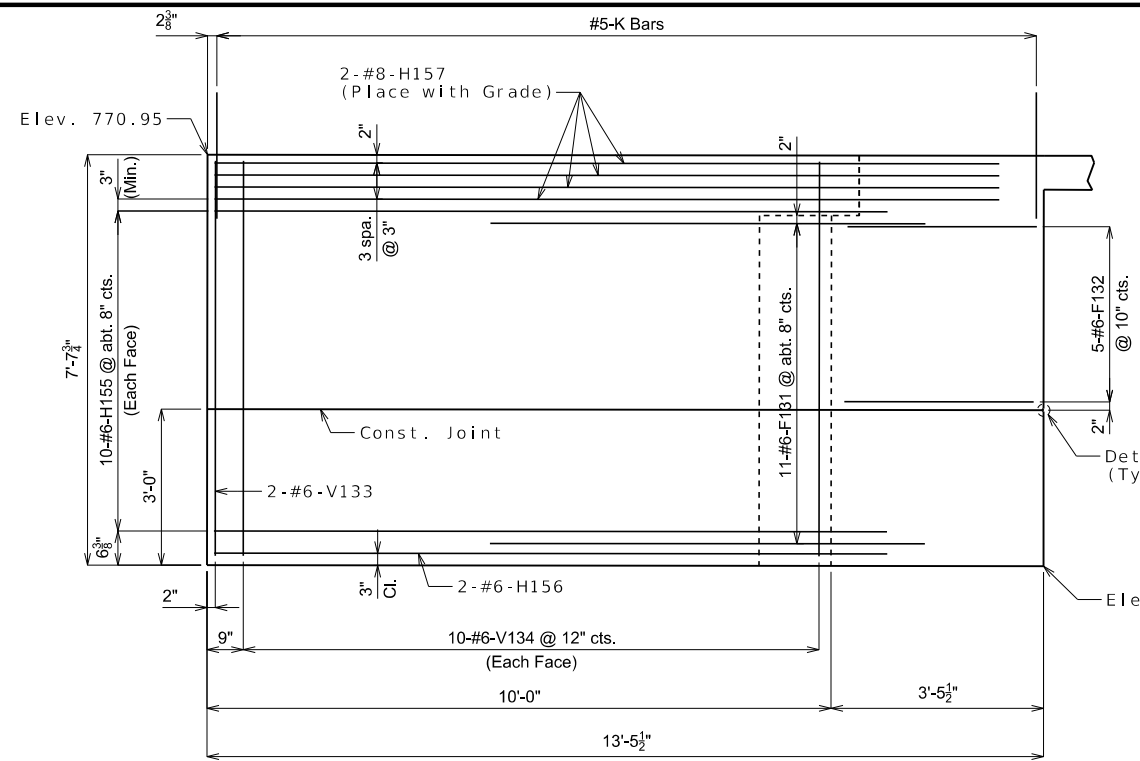
- Work this sheet with Sheets No. 2-BR05 thru 2-BR09.
- For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.
- For Section D-D and Elevation F-F, see Sheet No. 2-BR09.
- All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.
- The #6-F121 bars shall be bent in the field to clear girders.
- Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.
- For location of coil tie rods and #5-H143 (strand tie bars), see Sheet No. 2-BR16.
- For details of bridge approach slab, see Sheet No. 2-BR24.
- The U bars shall be placed parallel to centerline of roadway.

DATE PREPARED		9/12/2025
ROUTE	STATE	MO
DISTRICT	SHEET NO.	2-BR08
COUNTY		
LAFAYETTE		
JOB NO.		
JST0019		
CONTRACT ID.		
250507-C01		
PROJECT NO.		

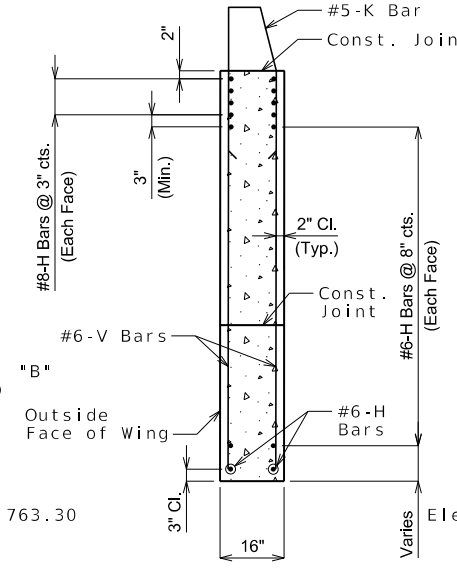
BRIDGE NO.	A9742
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

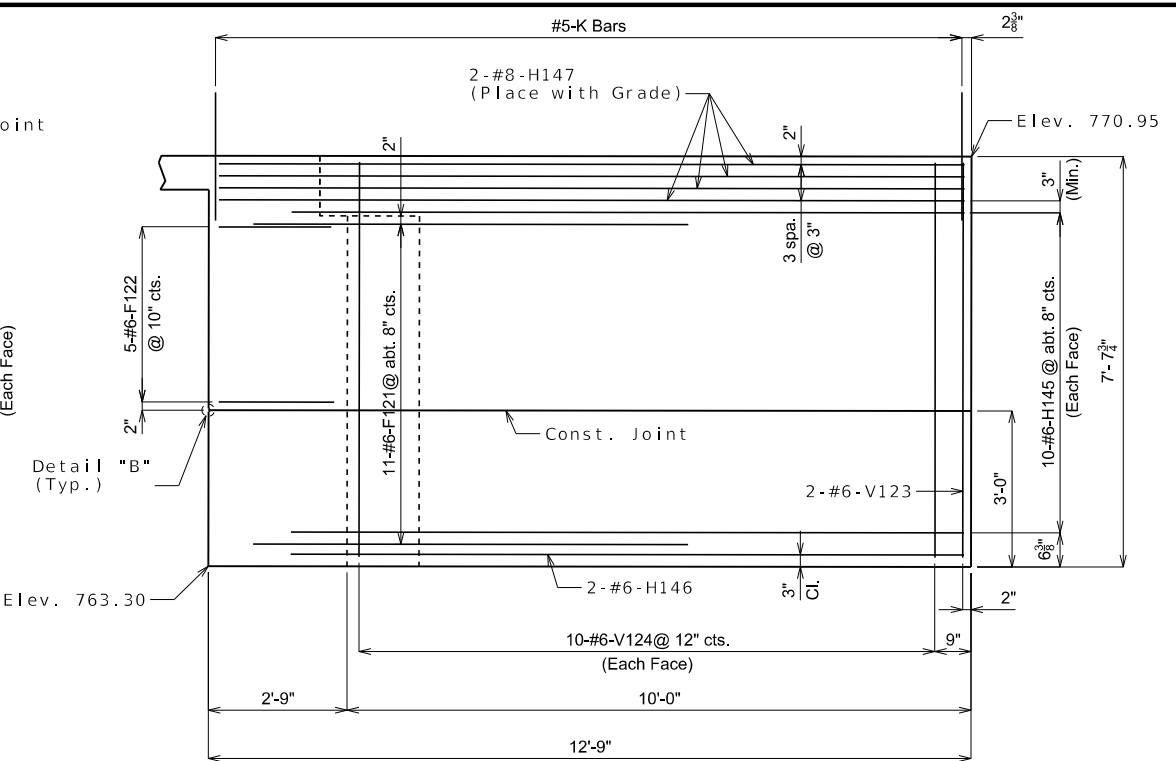




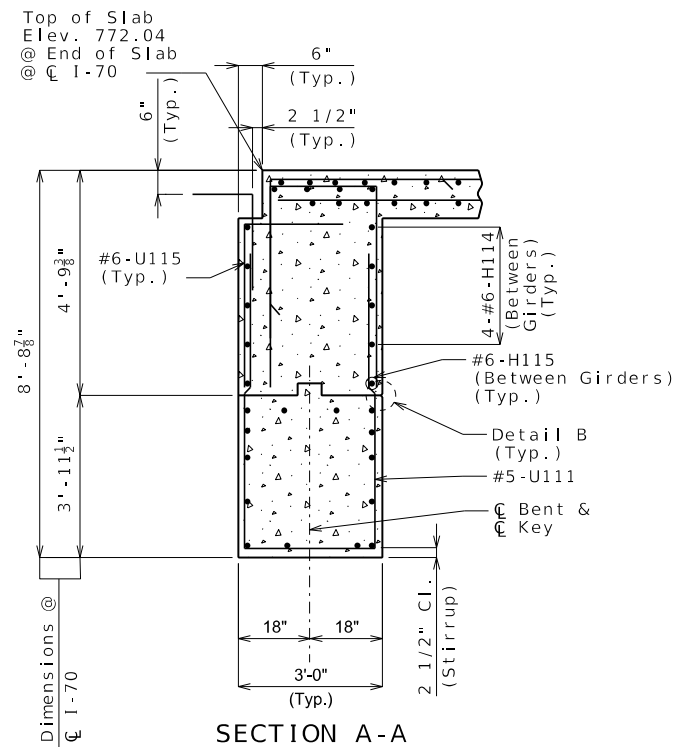
ELEVATION E-E



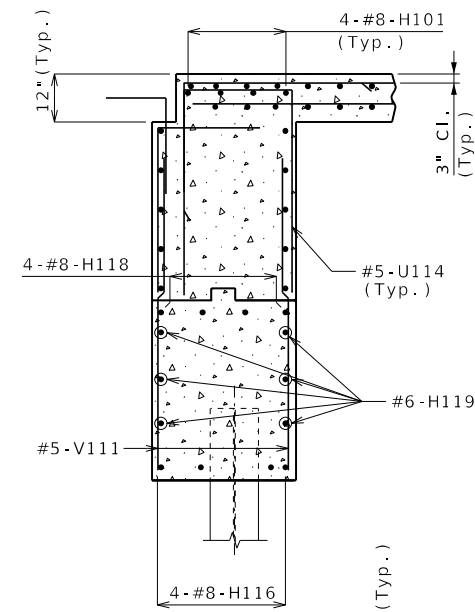
TYPICAL SECTION THRU WING



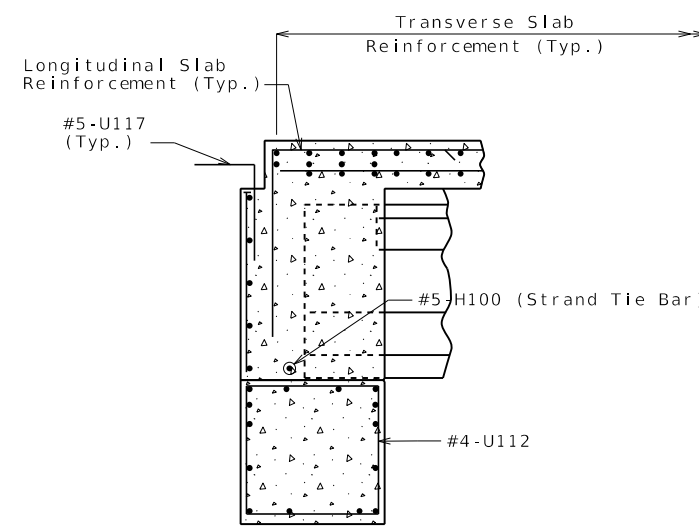
ELEVATION F-F



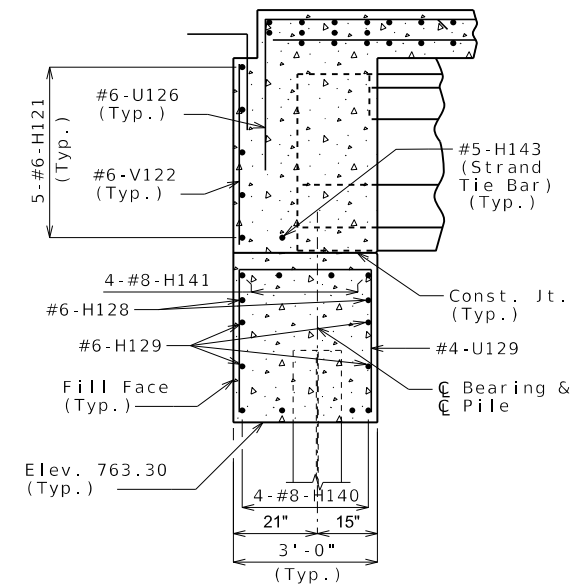
SECTION A-A



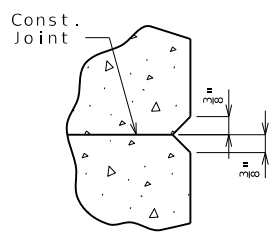
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "B"

DETAILS OF END BENT NO. 1

Notes:

Work this sheet with Sheets No. 2-BR05 thru 2-BR08.

For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheets No. 2-BR07 & 2-BR08.

All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

For details and reinforcement of Barrier not shown, see Sheet No. 2-BR23.

The #6-F121 & #6-F131 bars shall be bent in the field to clear girders.

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR09
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
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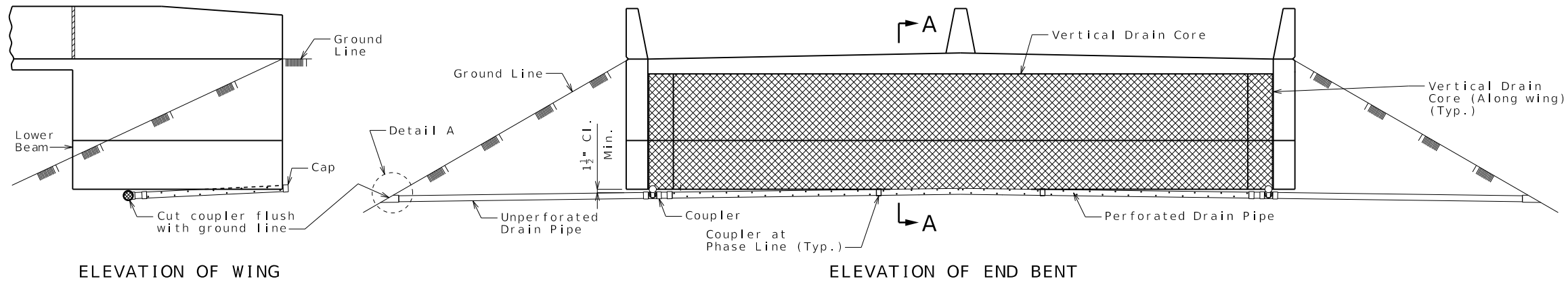
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

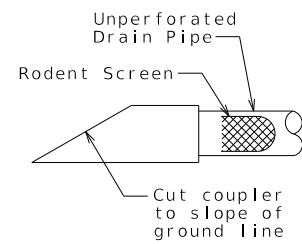
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Hq CONSULT, INC.  
PRO. ENGINEER 2010005873  
7733 N. Wallace Ave., Kansas City, MO 64158: (816)912-4720

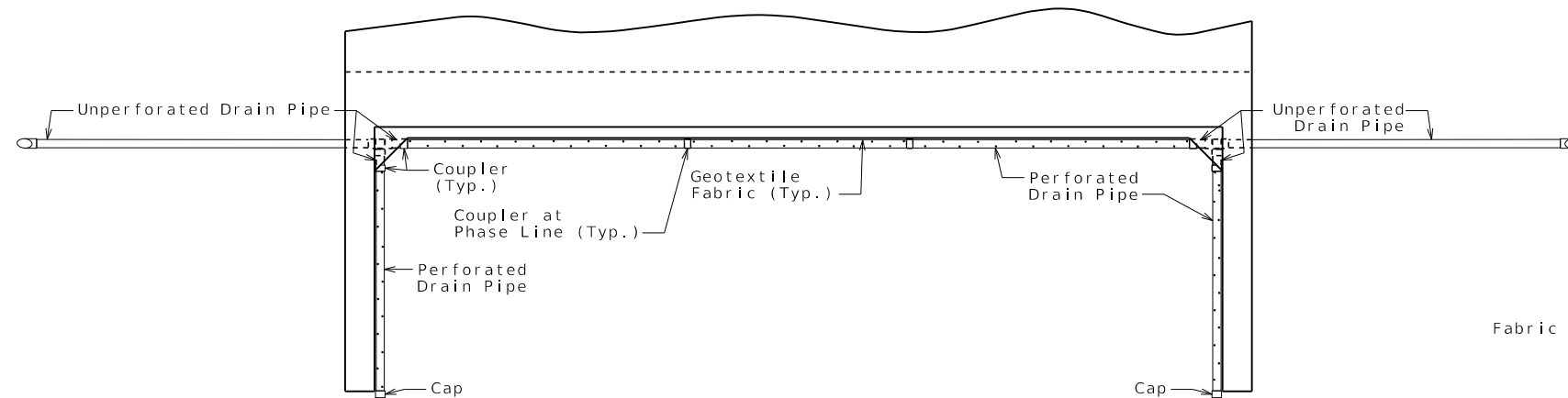


ELEVATION OF WING

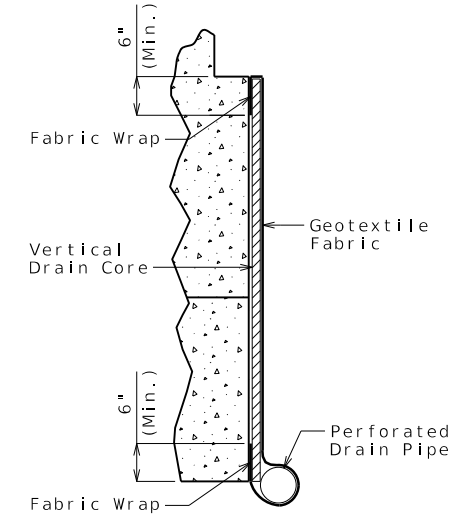
ELEVATION OF END BENT



DETAIL A



PLAN OF END BENT



PART SECTION A-A  
(Section thru wing similar)

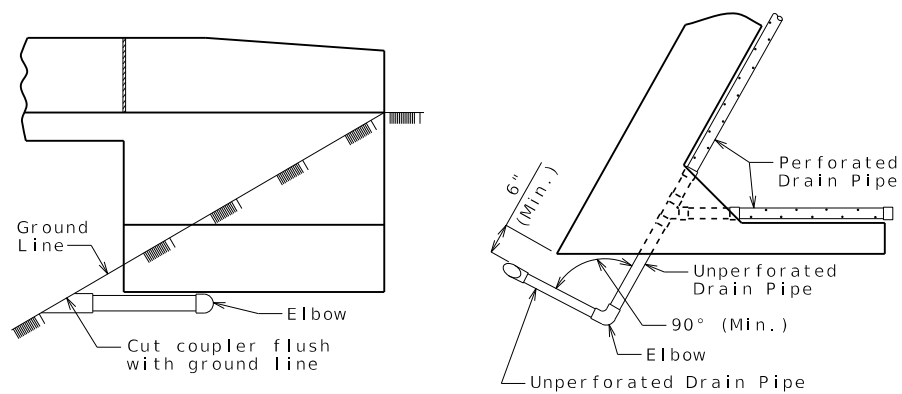
**General Notes:**

All drain pipe shall be sloped 1 to 2 percent.

Drain pipe may be either 6-inch diameter corrugated metallic-coated steel pipe underdrain, 4-inch diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4-inch diameter corrugated polyethylene (PE) drain pipe.

Drain pipe shall be placed at fill face of end bent and inside face of wings. The pipe shall slope to lowest grade of ground line, also missing the lower beam of end bent by a minimum of 1 1/2 inches.

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



ELEVATION OF WING

PART PLAN

**OPTIONAL TURNED DRAIN**

(Use only when straight drain is not practical.)

**VERTICAL DRAIN AT END BENTS**

(Squared end bent shown, skewed end bent similar)

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR10
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
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NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION



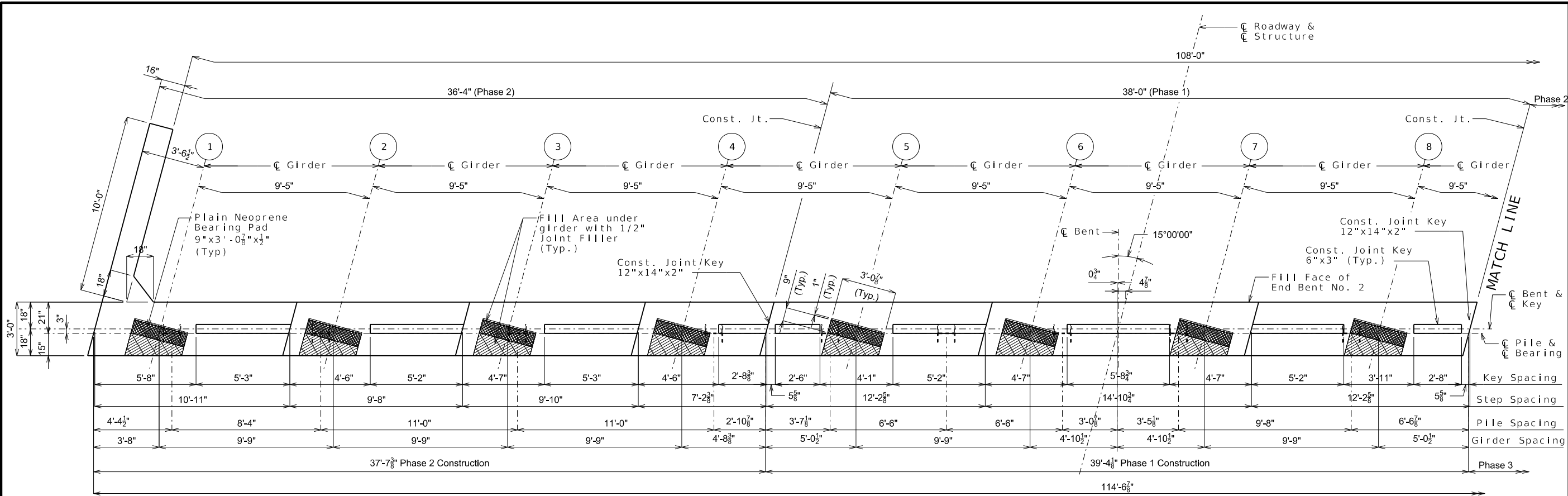
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

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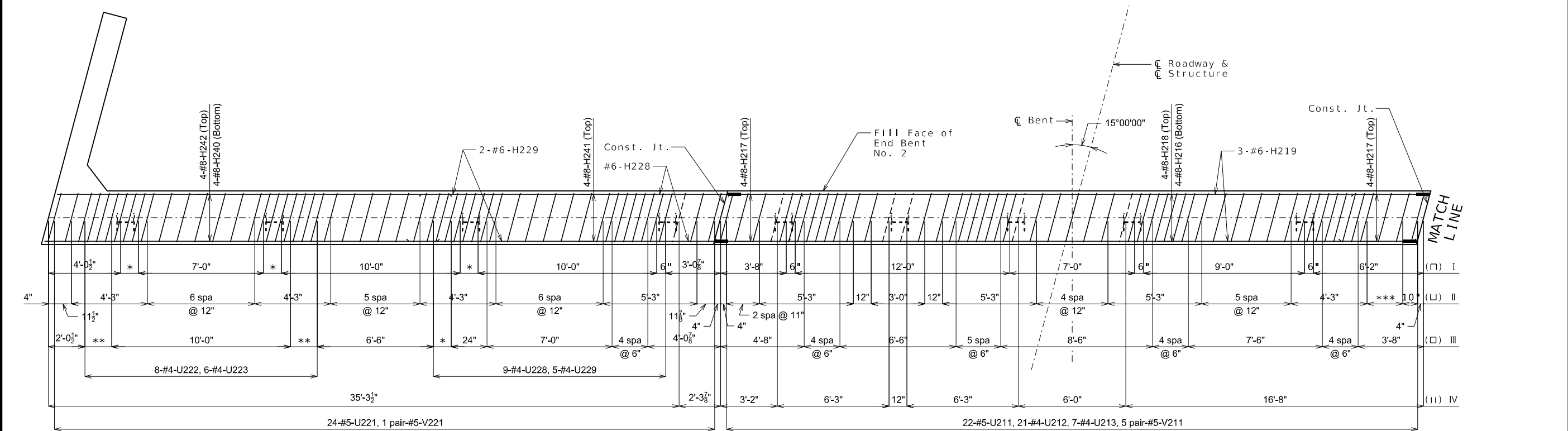


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PLAN OF BEAM - PHASE 1 & 2



PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 1 & 2

(Keys & Steps not shown for clarity)

DETAILS OF END BENT NO. 2

Notes:

Work this sheet with Sheets No. 2-BR11 thru 2-BR15.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2\".

The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

- \* 2 spa. @ 6"
- \*\* 3 spa. @ 6"
- \*\*\* 2 spa. @ 12"

- I - #4-U213, U223, U229 space as shown
- II - #5-U211, U221 space as shown
- III - #4-U212, U222, U228 space as shown
- IV - Pairs of #5-V211, V221 space as shown

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR11
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO. A9742
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NO.	DATE	BY	REVISIONS
A	08-13-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
B	09-08-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
1	09-12-25	JMD	EARLY BRIDGE PACKAGE - RFC PLANS

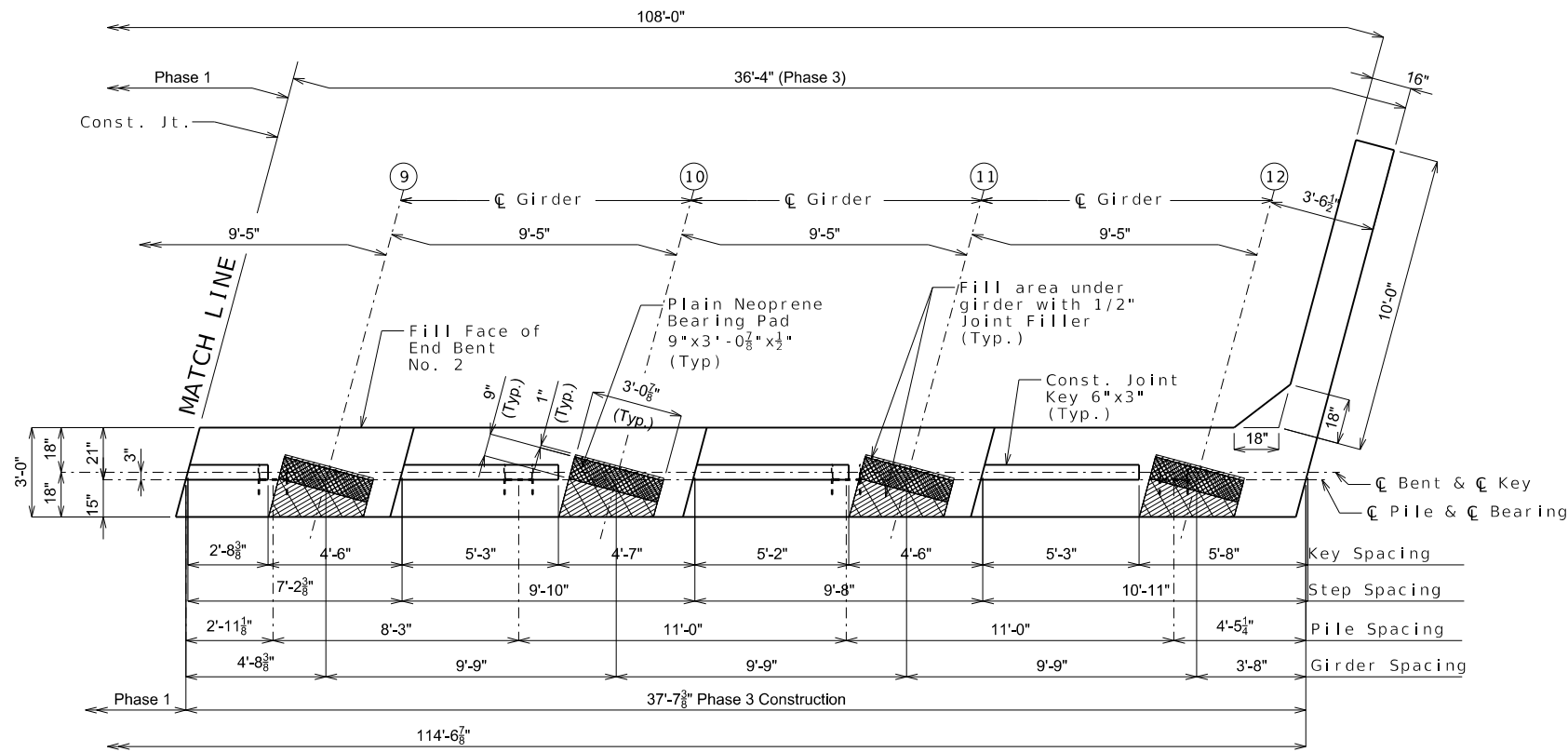
NO.	DATE	BY	REVISIONS
A	08-13-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
B	09-08-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
1	09-12-25	JMD	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

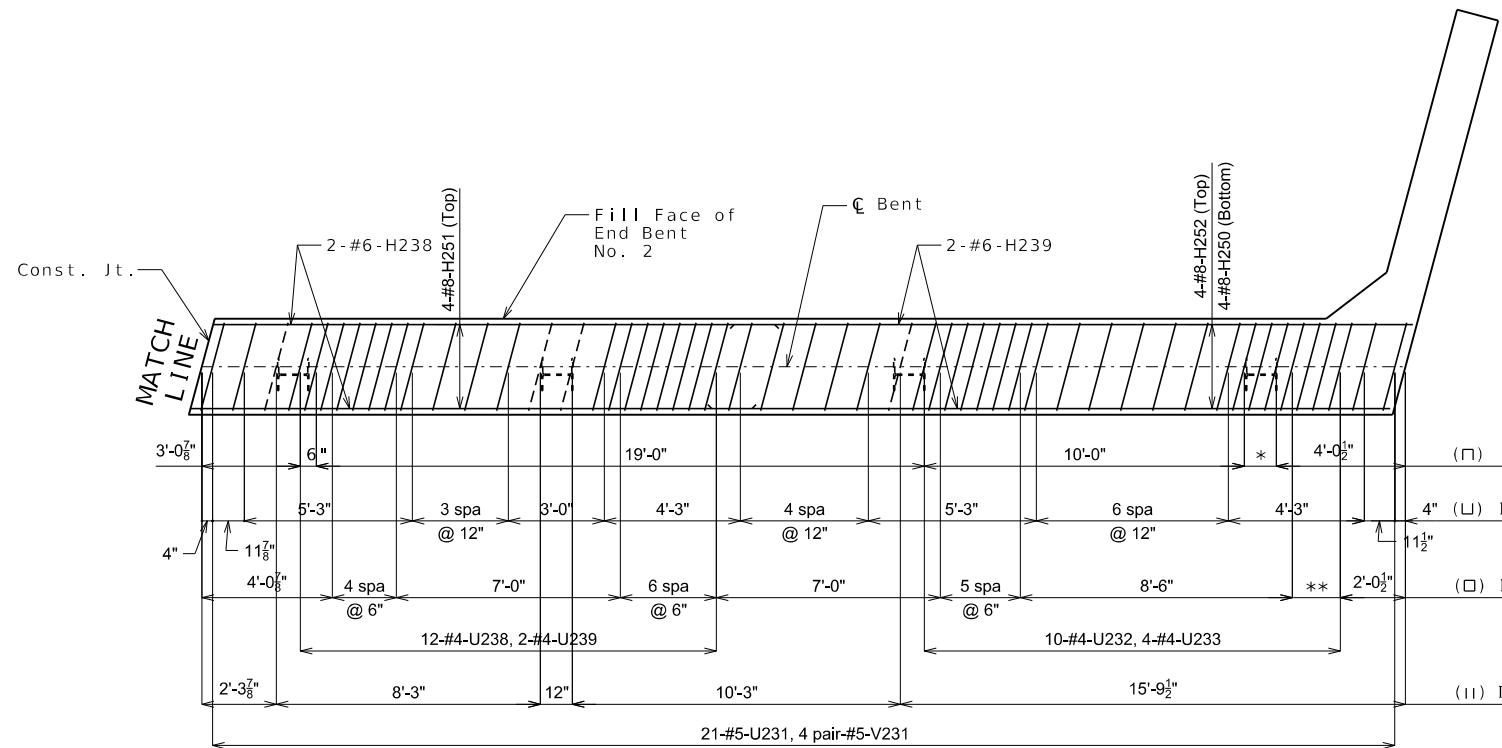
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
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engineers planners

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PRO. ENGINEER 2010005873



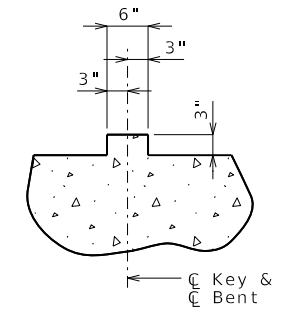
PLAN OF BEAM - PHASE 3



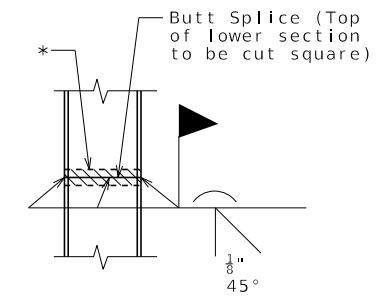
PLAN OF BEAM SHOWING REINFORCEMENT - PHASE 3  
(Keys & Steps not shown for clarity)

DETAILS OF END BENT NO. 2

\* 2 spa. @ 6"  
\*\* 3 spa. @ 6"



SECTION THRU KEY



STEEL PILE SPLICE  
(If required)

\* Galvanizing material shall be omitted or removed one inch clear of weld locations in accordance with Sec 702.

- I - #4-U233, U239 space as shown
- II - #5-U231 space as shown
- III - #4-U232, U238 space as shown
- IV - Pairs of #5-V231 space as shown

Notes:

Work this sheet with Sheets No. 2-BR11 thru 2-BR15.

For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.

Reinforcing steel shall be shifted to clear piles. U-bars shall clear piles by at least 1 1/2\"/>

The U-bars and Pairs of V-bars shall be placed parallel to the centerline of roadway.

DATE PREPARED		9/12/2025	
ROUTE	STATE	MO	
1-70			
DISTRICT	SHEET NO.		2-BR12
BR			
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9742
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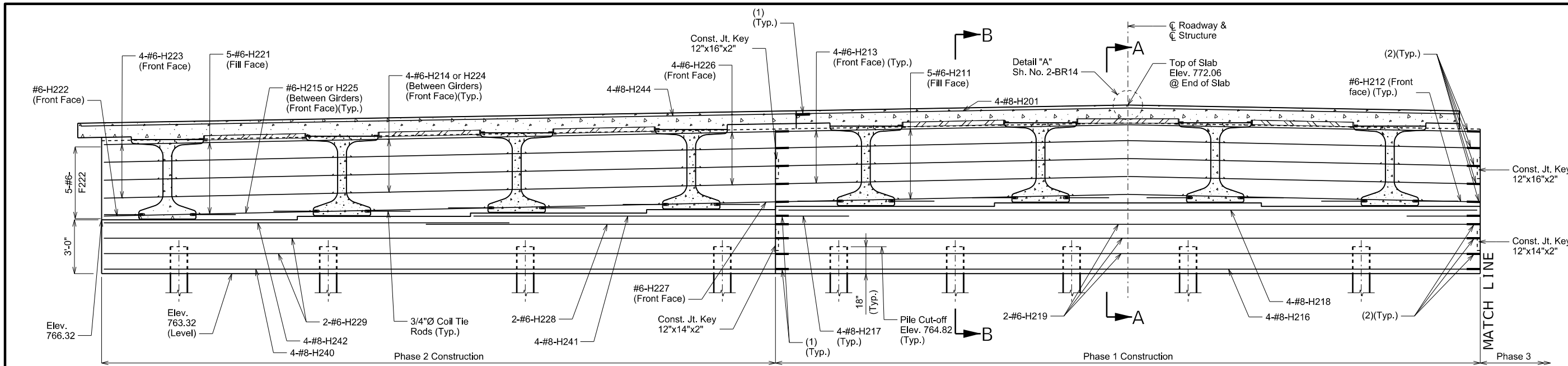
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
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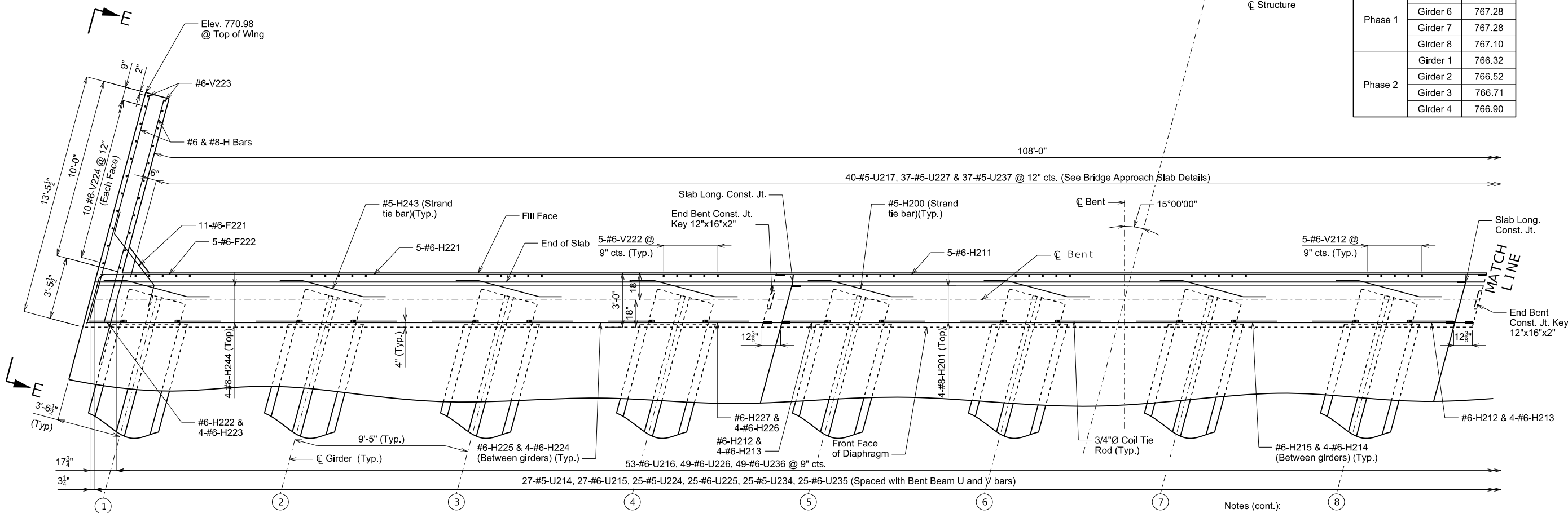
7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720  
HQ CONSULT, INC.  
PRO. ENGINEER 201005873



Mechanical Bar Splices:  
 (1) - #8 to #8 bar (24 Total)  
 (2) - #6 to #6 bar (32 Total)

SECTION NEAR END BENT - PHASE 1 & 2

Bent No. 2 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 1	Girder 5	767.09
	Girder 6	767.28
	Girder 7	767.28
	Girder 8	767.10
Phase 2	Girder 1	766.32
	Girder 2	766.52
	Girder 4	766.90



PART PLAN - PHASE 1 & 2

DETAILS OF END BENT NO. 2

Notes:  
 Work this sheet with Sheets No. 2-BR11 thru 2-BR15.  
 For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.  
 For Sections A-A & B-B and Elevation E-E, see Sheet No. 2-BR15.  
 All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.

Notes (cont.):  
 The #6-F221 bars shall be bent in the field to clear girders.  
 Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.  
 For location of coil tie rods and #5-H200 & H243 (strand tie bars), see Sheet No. 2-BR16.  
 For details of bridge approach slab, see Sheet No. 2-BR24.  
 The U bars shall be placed parallel to centerline of roadway.

DATE PREPARED	9/12/2025
ROUTE	I-70
STATE	MO
DISTRICT	BR
SHEET NO.	2-BR13
COUNTY	LAFAYETTE
JOB NO.	JST0019
CONTRACT ID.	250507-C01
PROJECT NO.	

BRIDGE NO.	A9742
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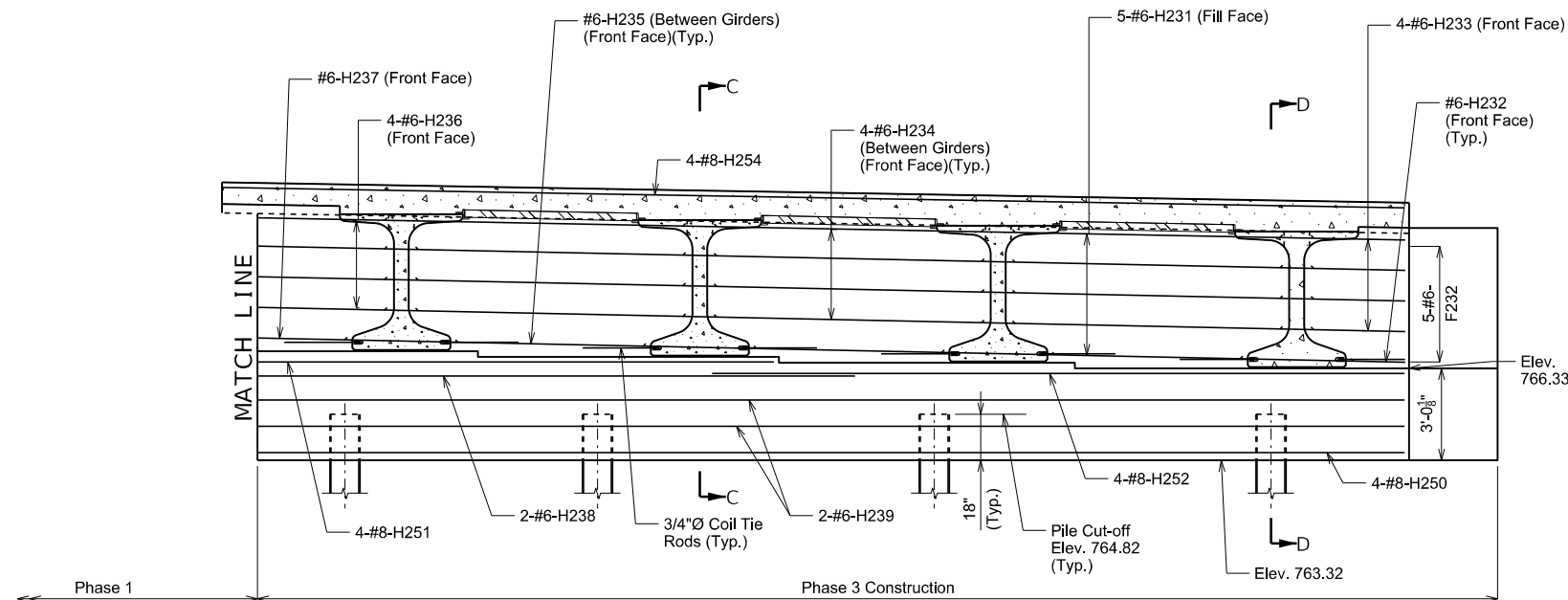
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOOT (1-888-275-6636)

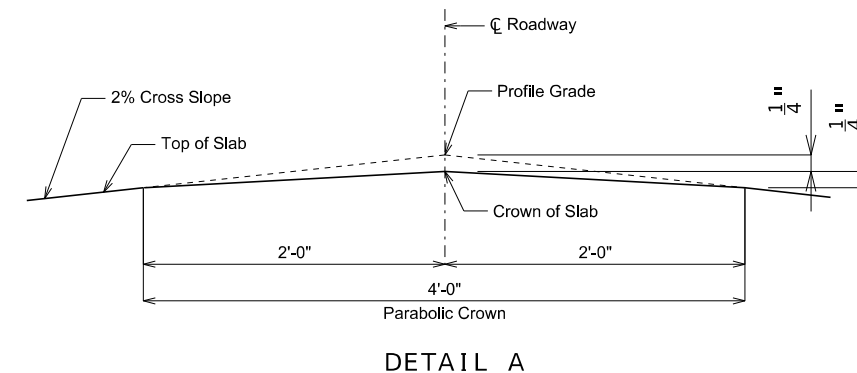
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Hq CONSULT, INC.  
 PRO. ENGINEER 2010005873  
 7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720

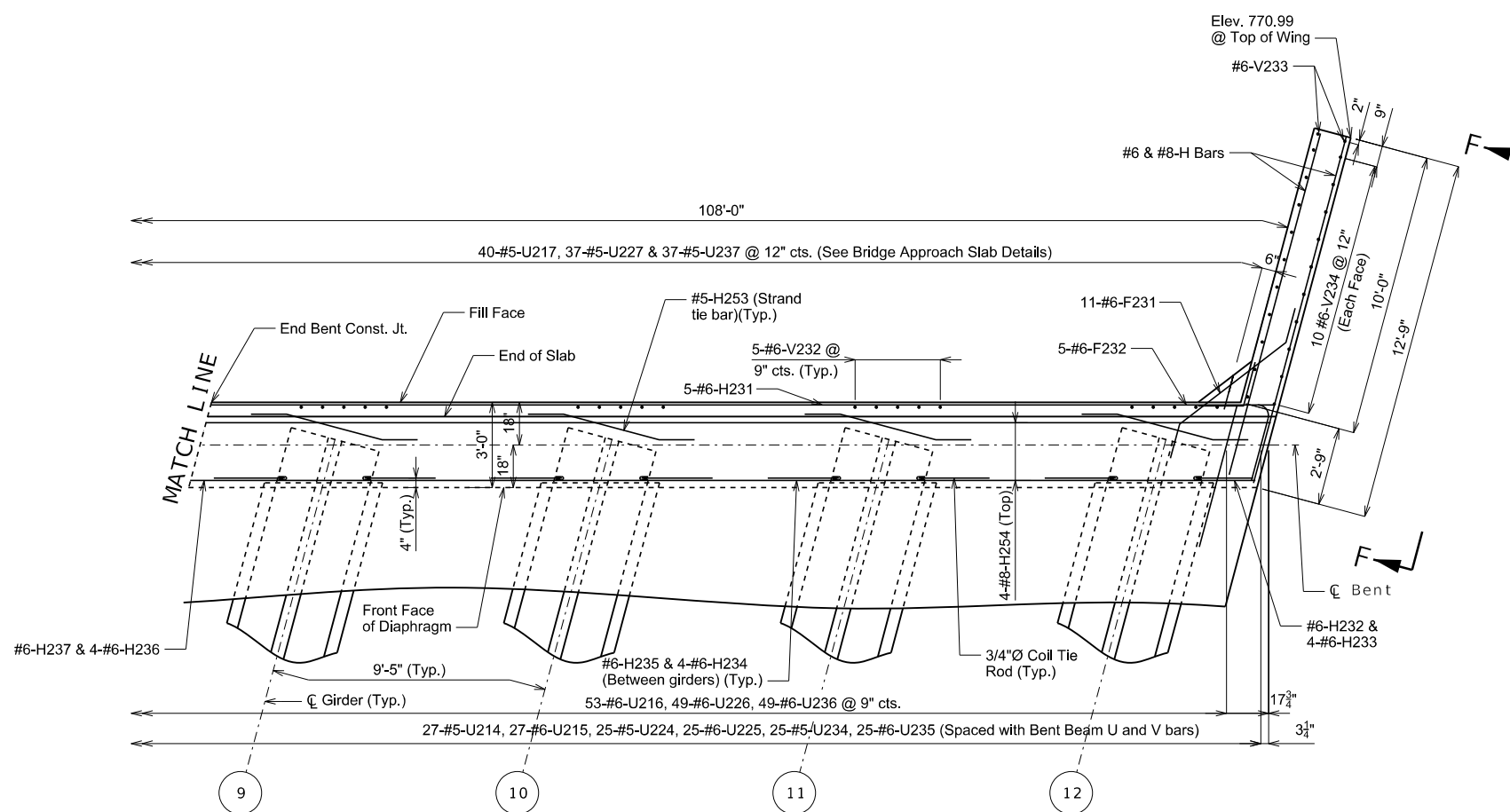


SECTION NEAR END BENT - PHASE 3

Bent No. 2 Bearing Seat Elevations		
Phase	Girder	Elevation
Phase 3	Girder 9	766.91
	Girder 10	766.72
	Girder 11	766.54
	Girder 12	766.33



DETAIL A



PART PLAN - PHASE 3

DETAILS OF END BENT NO. 2

Notes:

- Work this sheet with Sheets No. 2-BR11 thru 2-BR15.
- For details of Vertical Drain at End Bent, see Sheet No. 2-BR10.
- For Sections C-C & D-D and Elevation F-F, see Sheet No. 2-BR15.
- All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.
- The #6-F231 bars shall be bent in the field to clear girders.
- Strands at end of girders shall be field bent or, if necessary, cut in field to maintain 1/2 inch minimum clearance to fill face of end bent.
- For location of coil tie rods and #5-H253 (strand tie bars), see Sheet No. 2-BR16.
- For details of bridge approach slab, see Sheet No. 2-BR24.
- The U bars shall be placed parallel to centerline of roadway.

DATE PREPARED 9/12/2025		
ROUTE I-70	STATE MO	
DISTRICT BR	SHEET NO. 2-BR14	
COUNTY LAFAYETTE		
JOB NO. JST0019		
CONTRACT ID. 250507-C01		
PROJECT NO.		

BRIDGE NO. A9742
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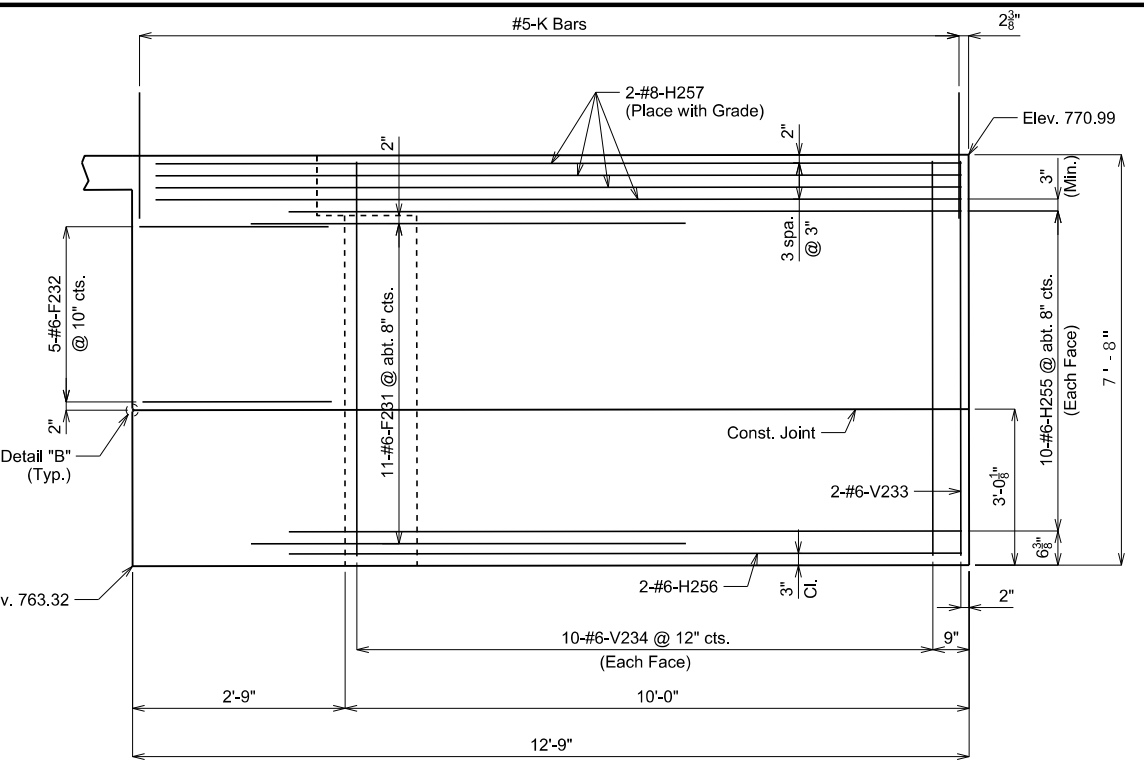
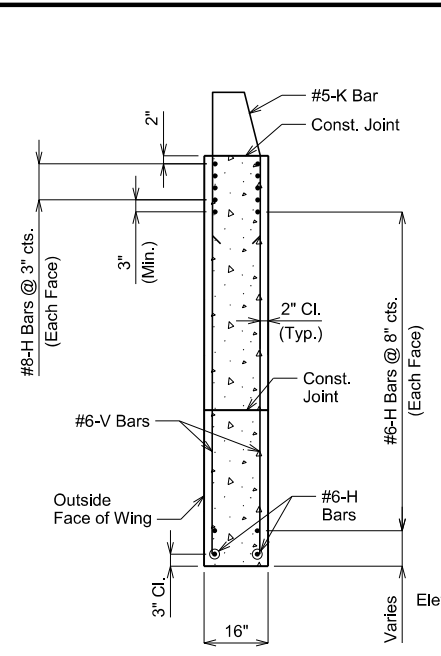
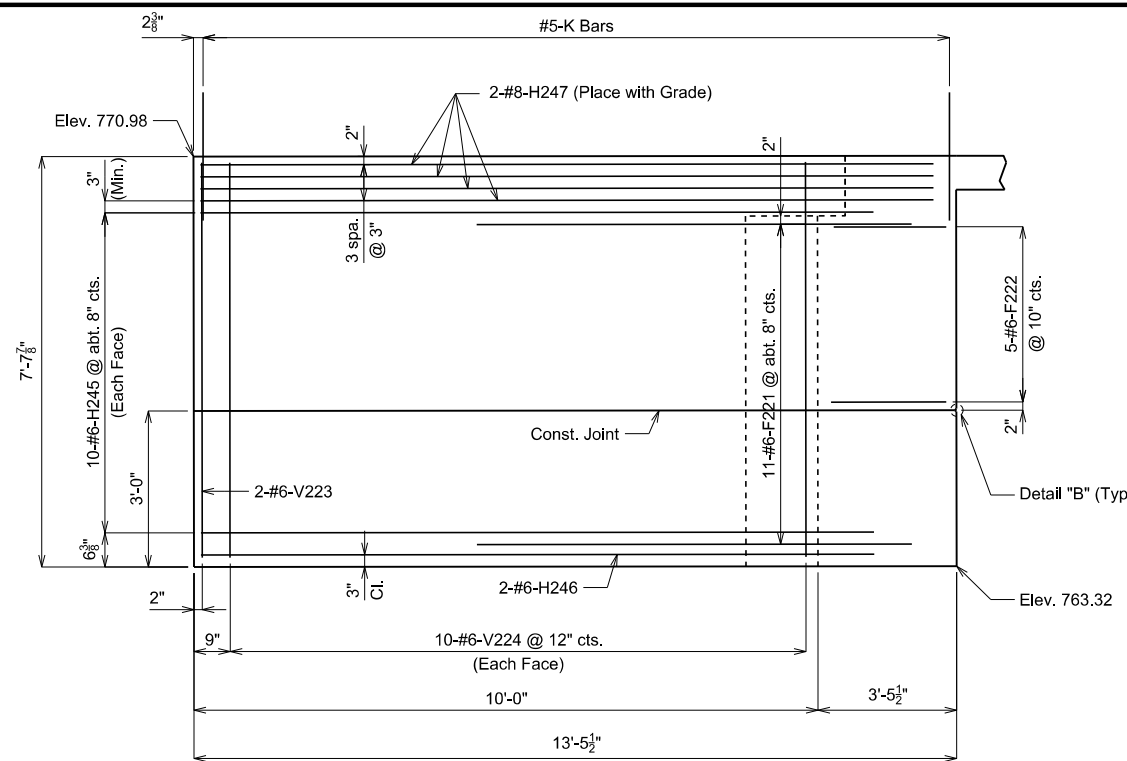
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

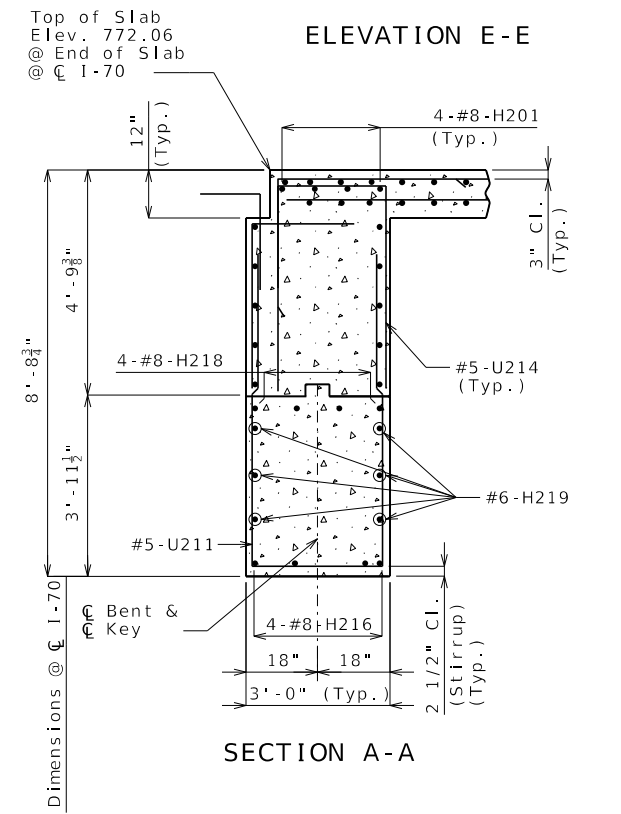
105 WEST CAPITOL  
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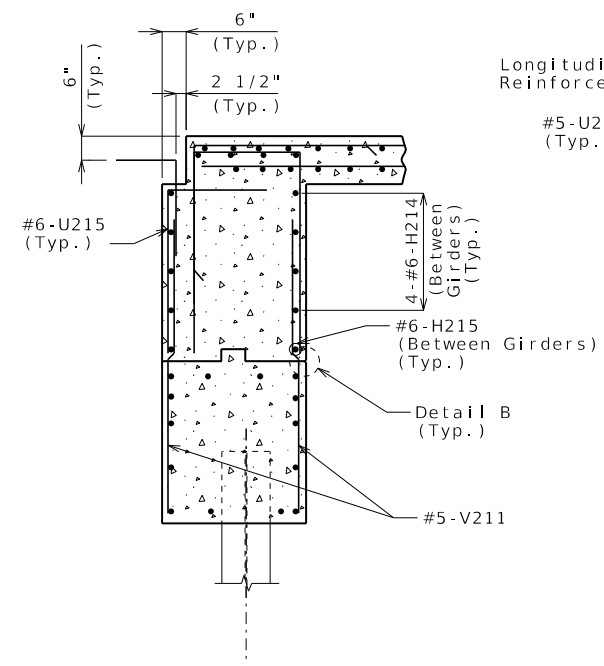
7733 N. Wallace Ave., Kansas City, MO 64158  
PRO. ENGINEER 201005873



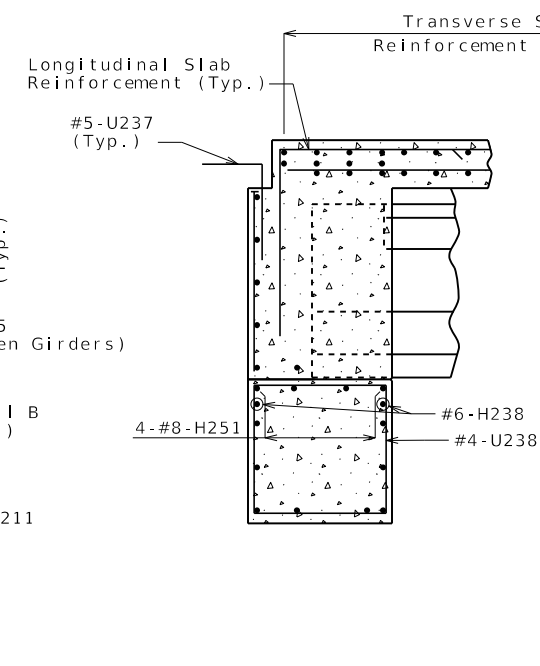
TYPICAL SECTION THRU WING



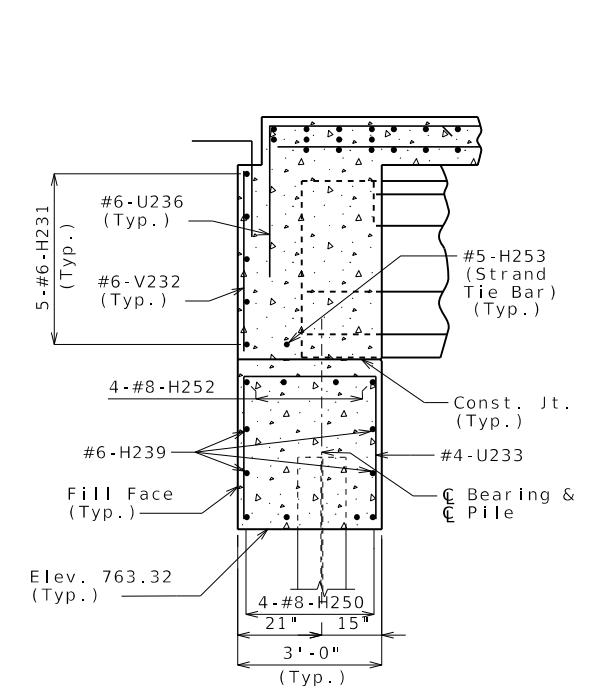
SECTION A-A



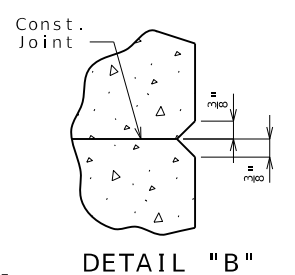
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "B"

DETAILS OF END BENT NO. 2

Notes:

- Work this sheet with Sheets No. 2-BR11 thru 2-BR14.
- For locations of Sections A-A, B-B, C-C & D-D and Elevations E-E & F-F, see Sheets No. 2-BR13 & 2-BR14.
- All concrete in the End Bent above top of beam and below top of slab shall be Class B-2.
- For details and reinforcement of Barrier not shown, see Sheet No. 2-BR23.
- The #6-F221 & #6-F231 bars shall be bent in the field to clear girders.

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1-70	MO	BR	2-BR15
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BRIDGE NO.			
A9742			

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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

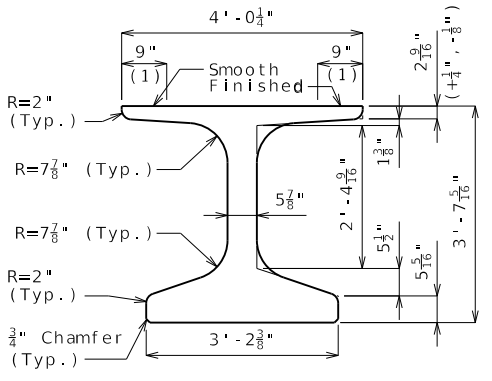
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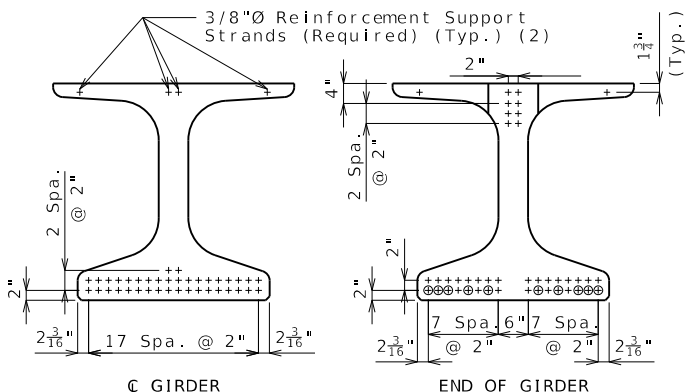
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(1) Fabricator shall apply a bond breaker to this region.



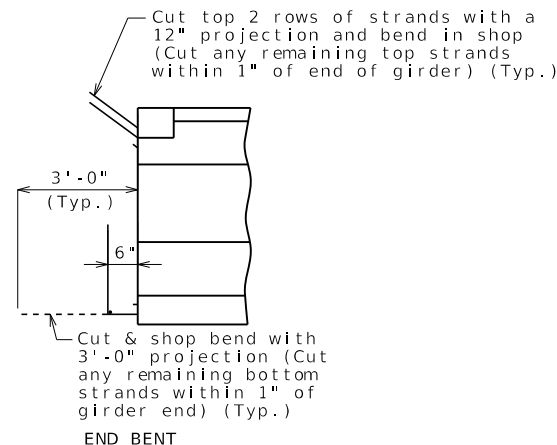
**DIMENSIONS**

(2) Outer strands tensioned to 2.02 kips/strand and inner strands to 8 kips/strand. Placed symmetrical about  $\bar{C}$  Girder. May be moved laterally in pairs.



**STRAND ARRANGEMENT**

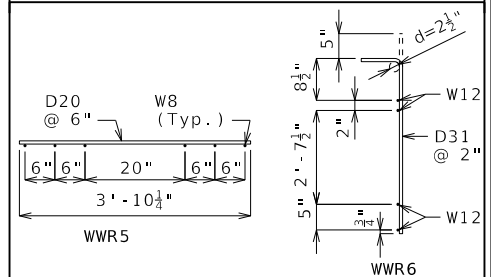
+ Indicates prestressing strand. ○ Indicates cut & shop bend with 3'-0" projection.



**STRANDS AT GIRDER ENDS**

Bill of Reinforcing Steel - Each Girder				
No.	Size/Mark	Length	Shape	Bending Diagrams
190	5 B1	5'-0"	11S	
210	4 D1	4'-0"	9S	
2	4 G3	4'-0"	20	
4	4 G6	Varies	20	

Welded Wire Reinforcement - Each Girder



All dimensions 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 bar lengths are measured along centerline of bar to the nearest inch.

Minimum clearance to reinforcing shall be one inch.

All bar reinforcement shall be Grade 60.

The two D1 bars may be furnished as one bar at the fabricator's option.

All B1 bars shall be epoxy coated.

**General Notes:**

Concrete for prestressed girders shall be Class A-1 with  $f'c = 9000$  psi and  $f'ci = 7000$  psi.

Use 38 strands, 0.6"Ø Grade 270, with an initial prestress force of 1670 kips.

Pretensioned members shall be in accordance with Sec 1029.

Fabricator shall be responsible for location and design of lifting devices.

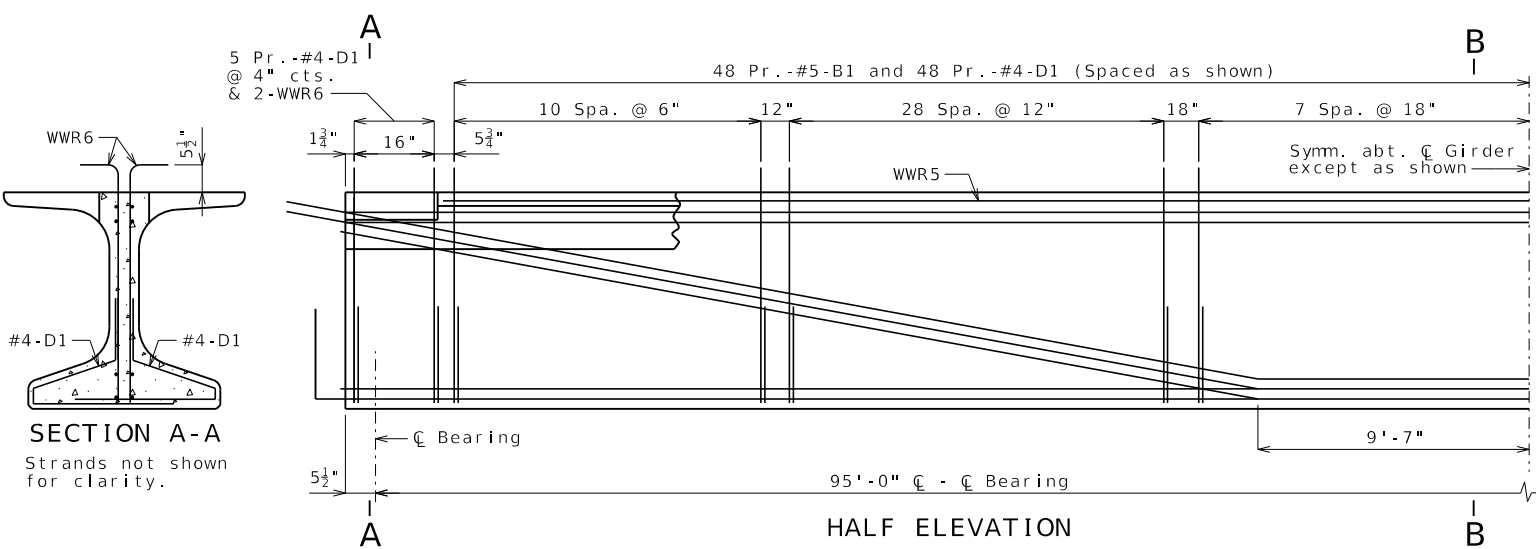
Exterior and interior girders are the same except: coil ties, coil inserts for slab drains.

The contractor shall provide bracing necessary for lateral and torsional stability of the girders during construction of the concrete slab and remove the bracing after the slab has attained 75% design strength. Contractor shall not drill holes in the girders.

For Girder Camber Diagram, see Sheet No. 2-BR18.

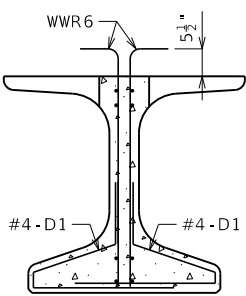
For location of coil inserts at slab drains, see Sheet No. 2-BR17.

For location of coil ties at integral bents, see Sheets No. 2-BR07, 2-BR08, 2-BR13 and 2-BR14.

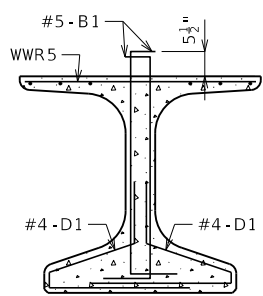


**HALF ELEVATION**

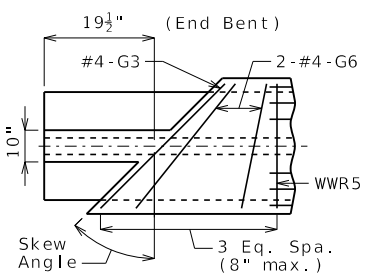
Reinforcement support strands not shown for clarity.



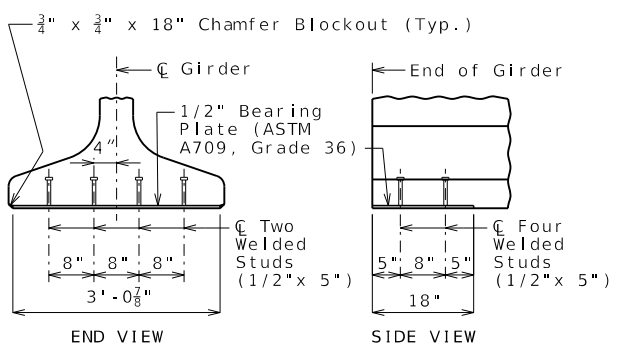
**SECTION A-A**  
Strands not shown for clarity.



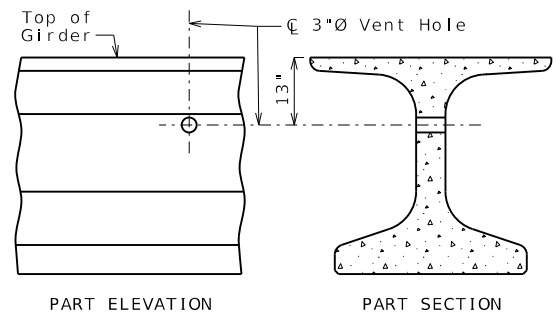
**SECTION B-B**  
Strands not shown for clarity.



**INTERIOR GIRDER AT ALL BENTS & EXTERIOR GIRDER AT END BENT**  
TOP FLANGE BLOCKOUT  
Mirror for right advanced.

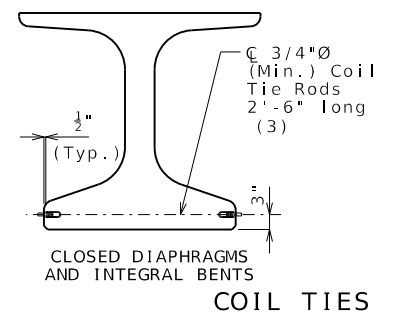


**BEARING PLATE**



**VENT HOLE**

Place vent holes at or near upgrade 1/3 point of girders and clear reinforcing steel or strands by 1 1/2" minimum.



**COIL TIES**

(3) 2'-0" at exterior face of exterior girders at end bents

**NU-GIRDERS - SPAN (1-2)**

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

Sheet No. 16 of 30

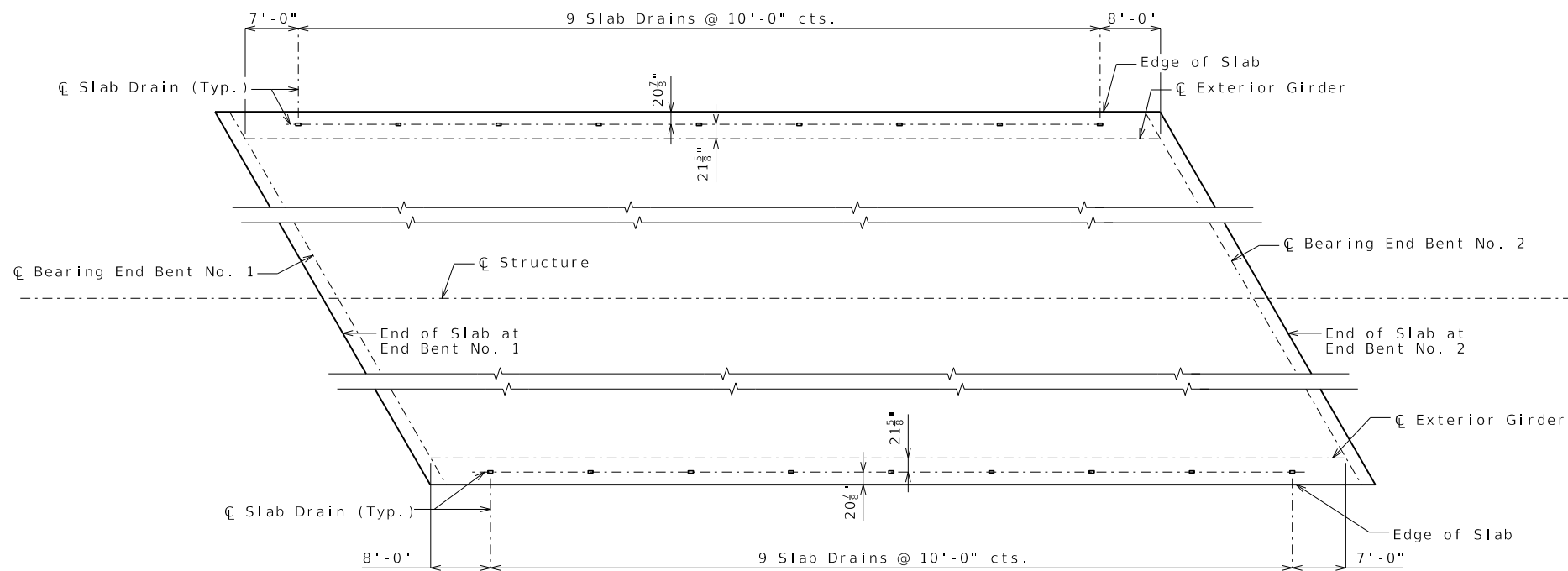
DATE PREPARED		ROUTE		STATE	
9/12/2025		I-70		MO	
DISTRICT		SHEET NO.		COUNTY	
BR		2-BR16		LAFAYETTE	
JOB NO.		CONTRACT ID.		PROJECT NO.	
JST0019		250507-C01			
BRIDGE NO.					
A9742					
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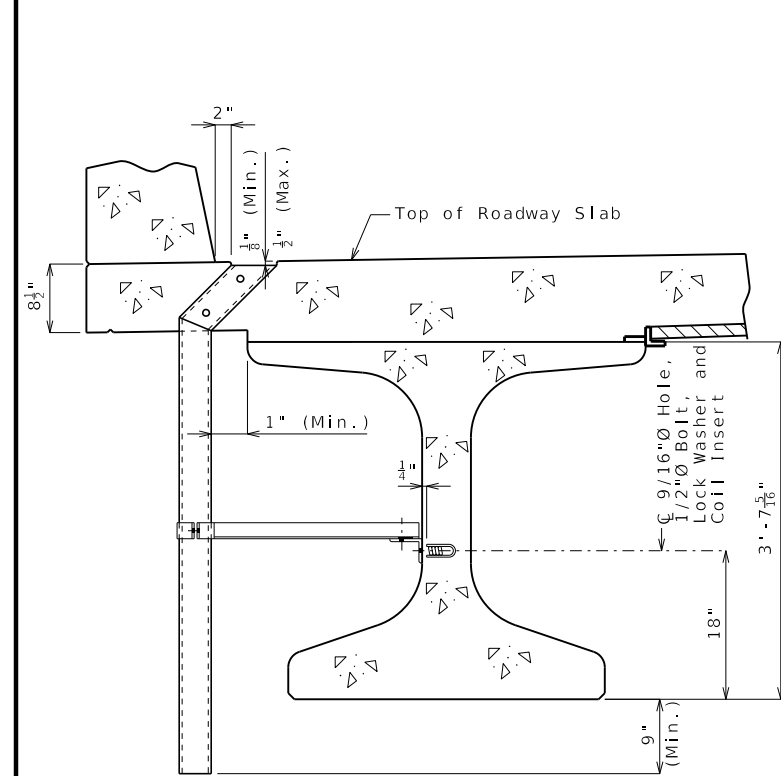
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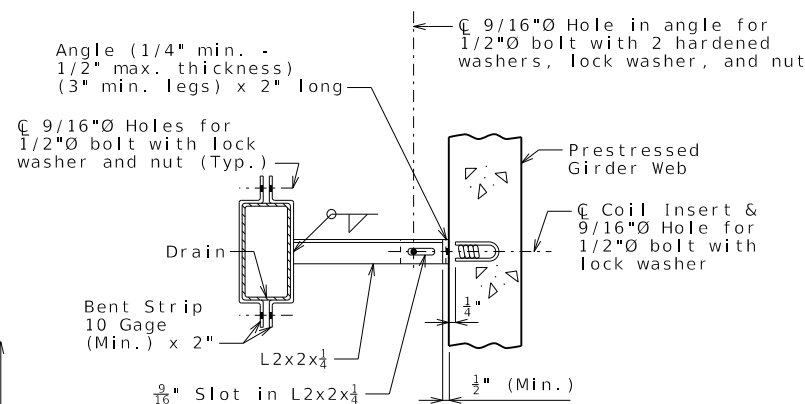
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PRO. ENGINEER 2010005873



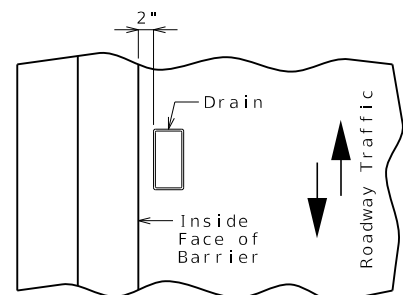
PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS



PART SECTION NEAR DRAIN

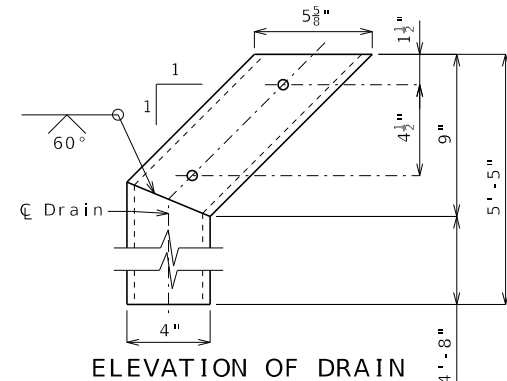


PART SECTION SHOWING BRACKET ASSEMBLY

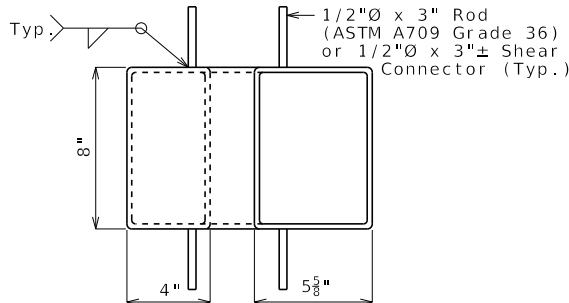


PART PLAN OF SLAB AT DRAIN

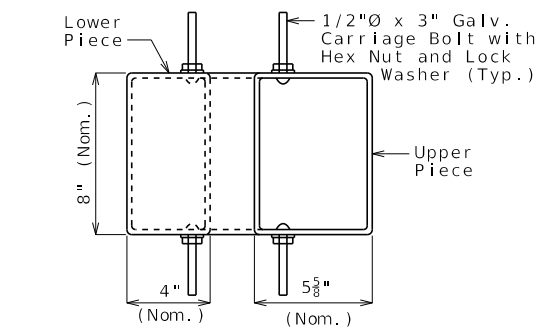
SLAB DRAINS



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type.

Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.

Locate drains in slab by dimensions shown in Part Section Near Drain.

Reinforcing steel shall be shifted to clear drains.

The coil inserts and bracket assembly shall be galvanized in accordance with ASTM A123.

All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with AASHTO M 232 (ASTM A153), Class C.

All 1/2"Ø bolts shall be ASTM A307.

Shop drawings will not be required for the slab drains and the bracket assembly.

The coil insert required for the bracket assembly attachment shall be located on the prestressed girder shop drawings.

Coil inserts shall have a concrete pull-out strength (ultimate load) of at least 2,500 pounds in 5,000 psi concrete.

The bolt required to attach the slab drain bracket assembly to the prestressed girder web shall be supplied by the prestressed girder fabricator.

Notes for Steel Drain:

Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.

Outside dimensions of drains are 8" x 4".

The drains shall be galvanized in accordance with ASTM A123.

Notes for FRP Drain:

Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:

Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".  
Minimum reinforced wall thickness shall be 1/4 inch.

The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.

The color of the slab drain shall be gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.

The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.

At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be as recommended by the manufacturer to ensure a smooth, chip free cut.

Both upper and lower drain pieces shall be rigidly connected to each other. Drain flow shall not be obstructed. Approval of the engineer is required.

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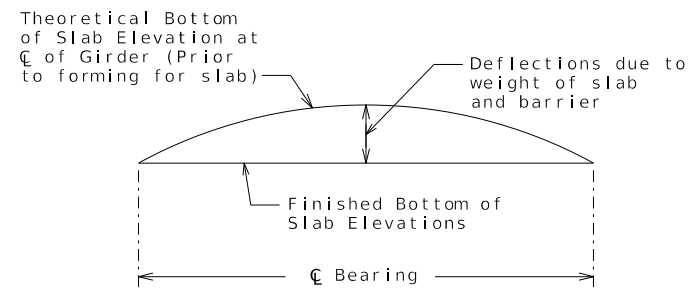
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Theoretical Bottom of Slab Elevations at Centerline of Beam  
(Prior to forming for slab) (Estimated at 90 days)

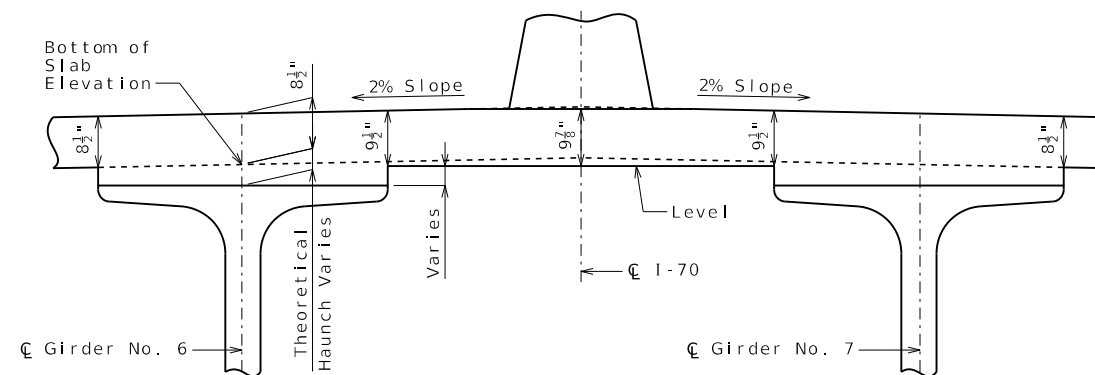
Girder Number	Span (1-2) (95'-0" C Brg. - C Brg.)										
	C Brg.	.10	.20	.30	.40	.50	.60	.70	.80	.90	C Brg.
1	770.32	770.36	770.41	770.44	770.47	770.48	770.47	770.45	770.42	770.38	770.33
2	770.50	770.56	770.61	770.65	770.67	770.68	770.68	770.65	770.62	770.57	770.52
3	770.69	770.75	770.80	770.83	770.86	770.87	770.86	770.84	770.81	770.76	770.71
4	770.88	770.93	770.98	771.02	771.05	771.06	771.05	771.03	771.00	770.95	770.90
5	771.07	771.12	771.17	771.21	771.24	771.25	771.24	771.22	771.19	771.14	771.09
6	771.26	771.31	771.36	771.40	771.43	771.44	771.43	771.41	771.38	771.33	771.28
7	771.26	771.31	771.36	771.40	771.43	771.44	771.43	771.41	771.38	771.33	771.28
8	771.07	771.12	771.17	771.21	771.24	771.25	771.24	771.22	771.19	771.14	771.09
9	770.88	770.94	770.99	771.03	771.05	771.06	771.06	771.04	771.00	770.96	770.91
10	770.69	770.75	770.80	770.84	770.86	770.88	770.87	770.85	770.81	770.77	770.72
11	770.50	770.56	770.61	770.65	770.68	770.69	770.68	770.66	770.63	770.58	770.53
12	770.32	770.37	770.41	770.45	770.47	770.48	770.48	770.46	770.43	770.39	770.35

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

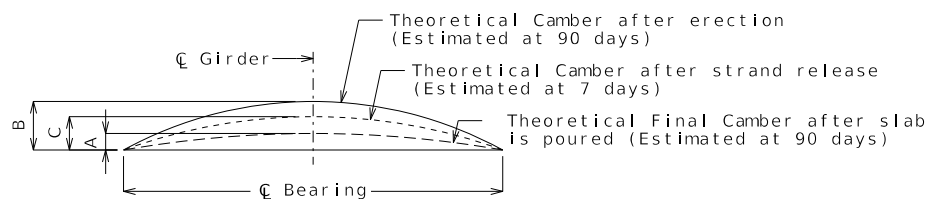
Note: Reduce haunch thickness by 1" for the center bay between Girders No. 6 & 7 to provide a minimum 9 1/2" deck thickness for median barrier installation.



TYPICAL SLAB ELEVATIONS DIAGRAM



THICKENED SLAB DETAIL  
(Corrugated Steel Forms not shown for clarity)

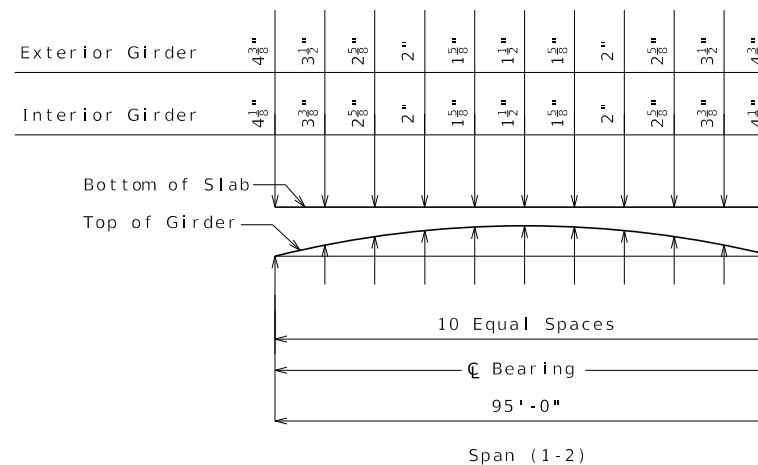


Girder	Span (1-2)		
	A	B	C
Exterior Girder	2 3/4"	4 3/4"	2 5/8"
Interior Girder	2 5/8"		

GIRDER CAMBER DIAGRAM

Conversion Factors for Girder Camber (Estimated at 90 days):

- 0.1 pt. = 0.314 x 0.5 pt.
- 0.2 pt. = 0.593 x 0.5 pt.
- 0.3 pt. = 0.813 x 0.5 pt.
- 0.4 pt. = 0.952 x 0.5 pt.



THEORETICAL SLAB HAUNCHING DIAGRAM (ESTIMATED AT 90 DAYS)

If girder camber is different from that shown in the camber diagram, in order to maintain minimum slab thickness, an adjustment of the slab haunches, an increase in slab thickness or a raise in grade uniformly throughout the structure shall be necessary.

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PROJECT NO.		

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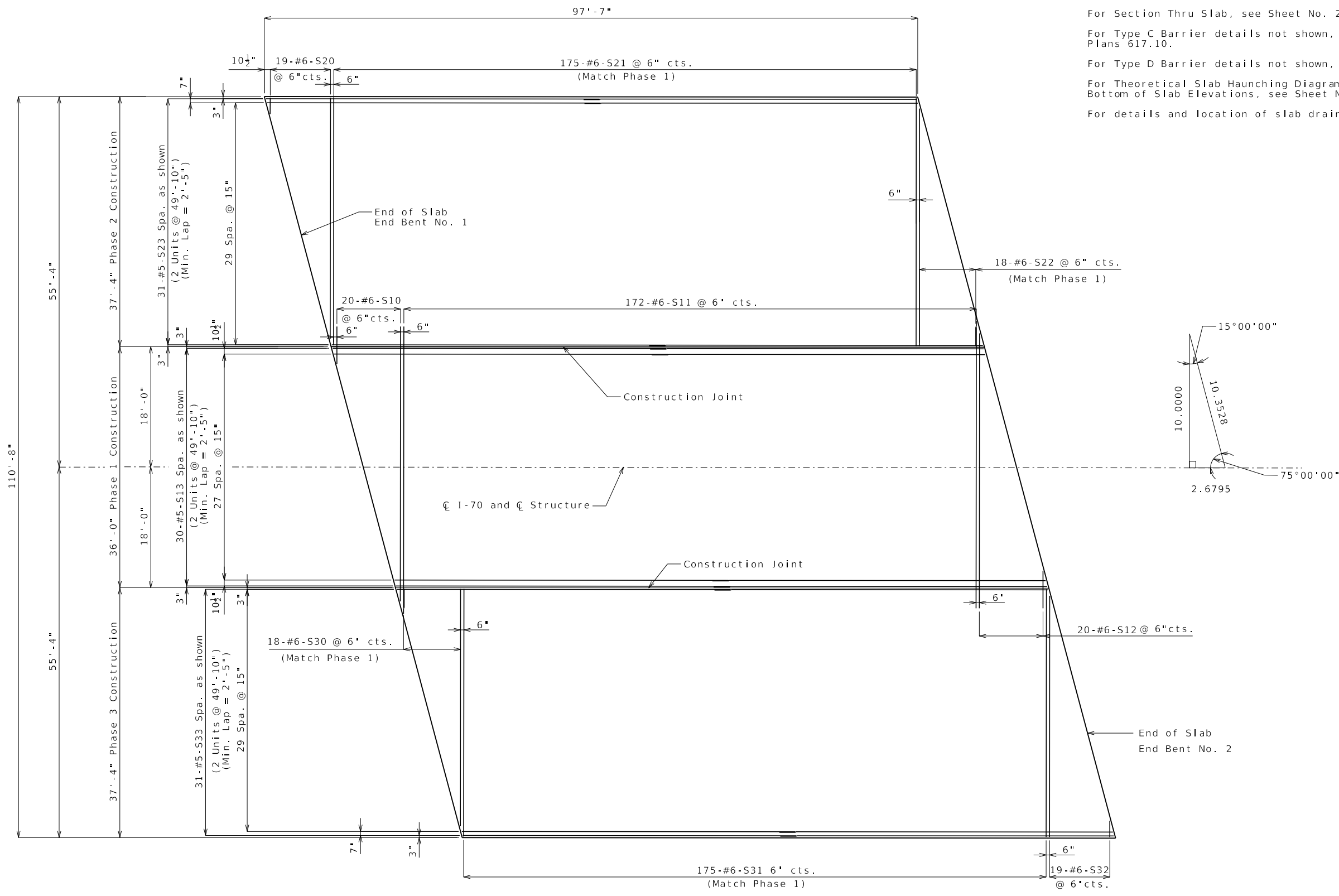
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Longitudinal slab dimensions are measured horizontally.  
 For Plan of Slab Showing Bottom Reinforcement, see Sheet No. 2-BR20.  
 For Section Thru Slab, see Sheet No. 2-BR21.  
 For Type C Barrier details not shown, see Missouri Standard Plans 617.10.  
 For Type D Barrier details not shown, see Sheet No. 2-BR22.  
 For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 2-BR18.  
 For details and location of slab drains, see Sheet No. 2-BR17.

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COUNTY LAFAYETTE	
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CONTRACT ID. 250507-C01	
PROJECT NO.	
BRIDGE NO. A9742	

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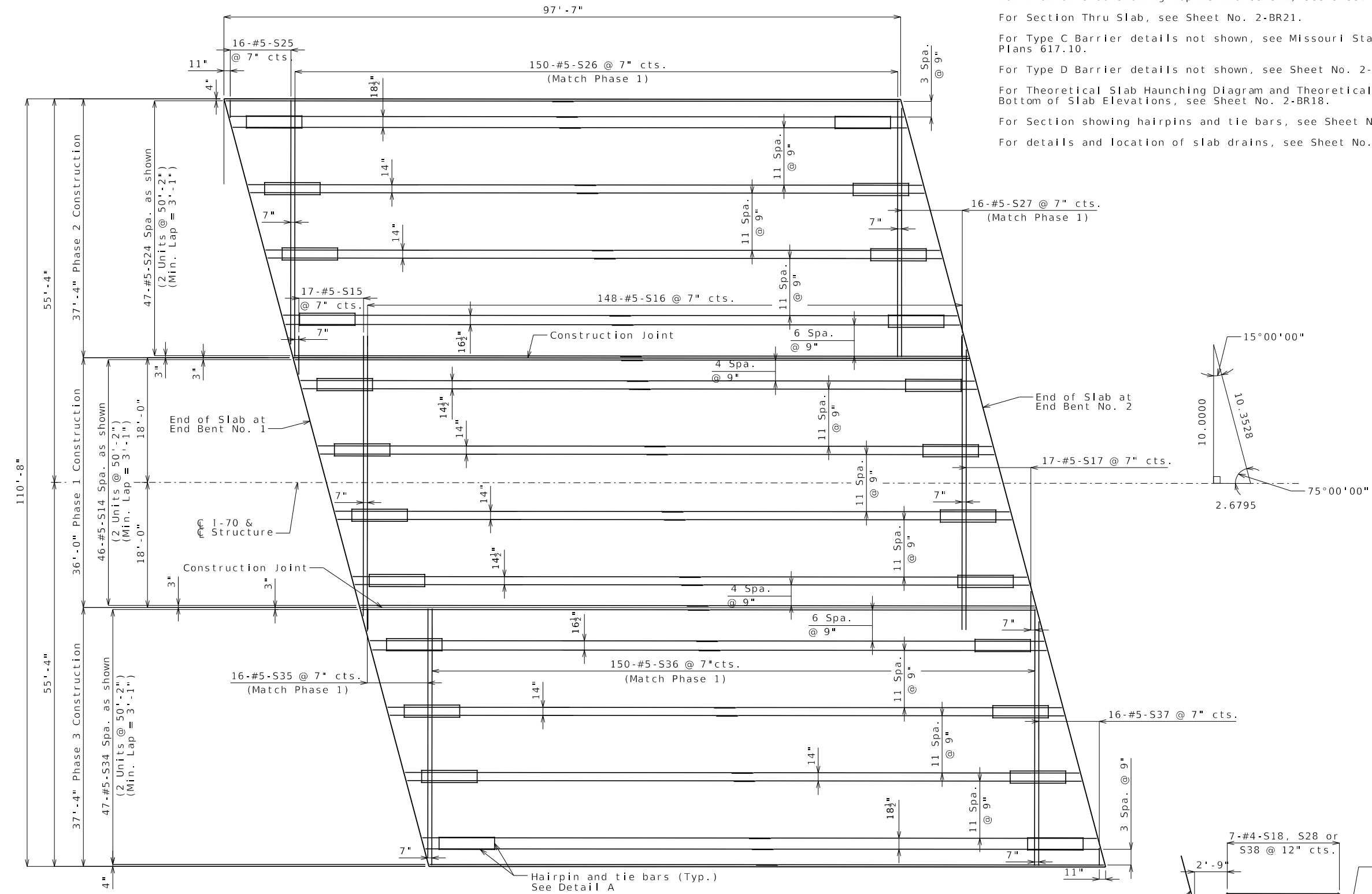
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**PLAN OF SLAB SHOWING TOP REINFORCEMENT**

Note: This drawing is not to scale. Follow dimensions. Sheet No. 19 of 30

Notes:  
 Longitudinal slab dimensions are measured horizontally.  
 For Plan of Slab Showing Top Reinforcement, see Sheet No. 2-BR19.  
 For Section Thru Slab, see Sheet No. 2-BR21.  
 For Type C Barrier details not shown, see Missouri Standard Plans 617.10.  
 For Type D Barrier details not shown, see Sheet No. 2-BR22.  
 For Theoretical Slab Haunching Diagram and Theoretical Bottom of Slab Elevations, see Sheet No. 2-BR18.  
 For Section showing hairpins and tie bars, see Sheet No. 2-BR21.  
 For details and location of slab drains, see Sheet No. 2-BR17.



**DETAIL A**  
**HAIRPIN & TIE BAR LOCATION**  
 (Typical for Each End Each Girder)

**PLAN OF SLAB SHOWING BOTTOM REINFORCEMENT**

Detailed JULY 2025  
 Checked AUG. 2025

Note: This drawing is not to scale. Follow dimensions. Sheet No. 20 of 30

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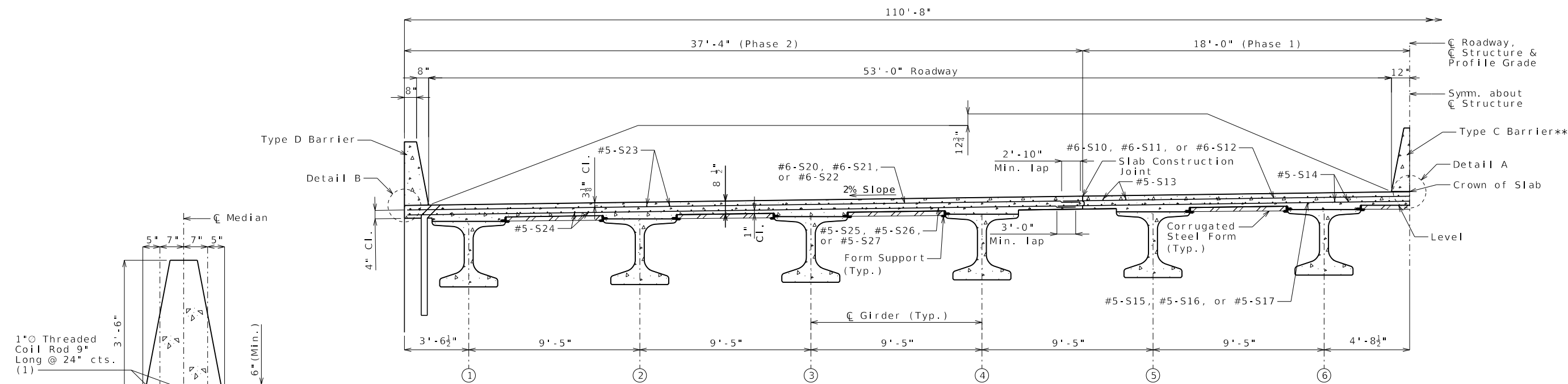
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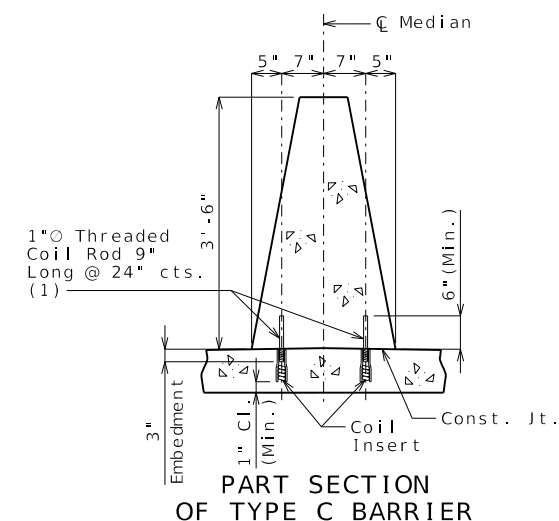


**HALF SECTION THRU SLAB**

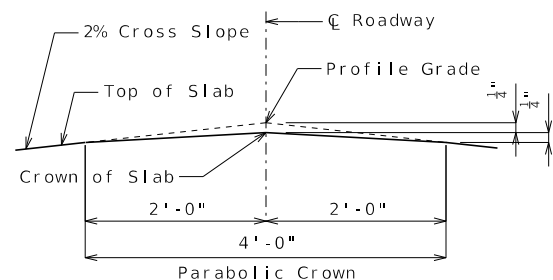
Half Section with Phase 2 shown, Phase 3 similar. For Phase 3 reinforcement, replace the first digit of bar mark with '3'.

\*\* Type C Barrier constructed after completion of Phase 3 Eastbound Construction.

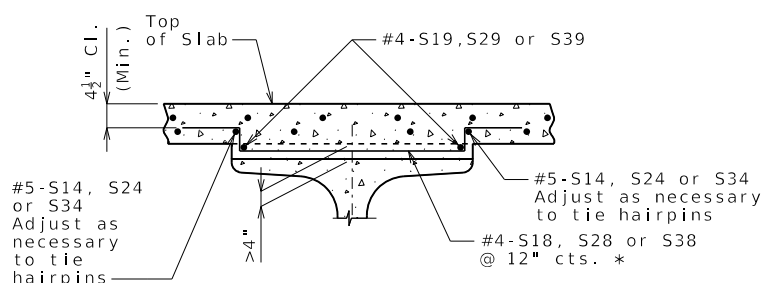
\* Varies between Girders No. 6 & 7.



(1) Alternate 1'-0" about longitudinal centerline of barrier.



**DETAIL A**



**PART SECTION SHOWING HAIRPINS**

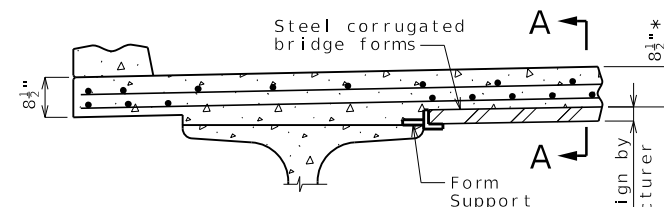
**Stay-In-Place Forms:**

Corrugated steel forms, supports, closure elements and accessories shall be in accordance with grade requirement and coating designation G165 of ASTM A653. Complete shop drawings of the permanent steel deck forms shall be required in accordance with Sec 1080.

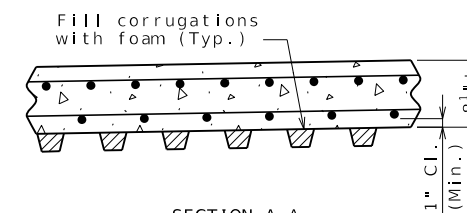
Corrugations of stay-in-place forms shall be filled with an expanded polystyrene material. The polystyrene material shall be placed in the forms with an adhesive in accordance with the manufacturer's recommendations.

Form sheets shall not rest directly on the top of girder flanges. Sheets shall be securely fastened to form supports with a minimum bearing length of one inch on each end. Form supports shall be placed in direct contact with the flange. Drilling holes in the girder flanges will not be permitted. All steel fabrication and construction shall be in accordance with Sec 1080 and 712. Certified field welders will not be required for welding of the form supports.

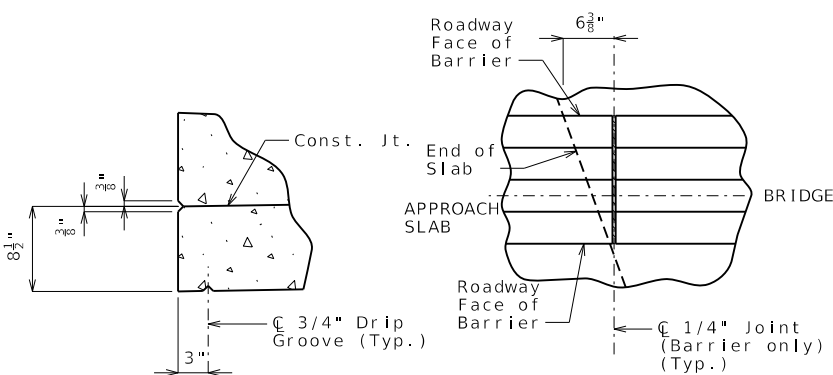
The design of stay-in-place corrugated steel forms is per manufacturer which shall be in accordance with Sec 703 for false work and forms. Maximum actual weight of corrugated steel forms allowed shall be 4 psf assumed for girder loading.



**SECTION A-A**

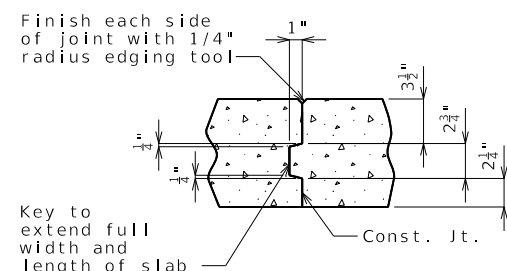


**OPTIONAL STAY-IN-PLACE FORM DETAILS**

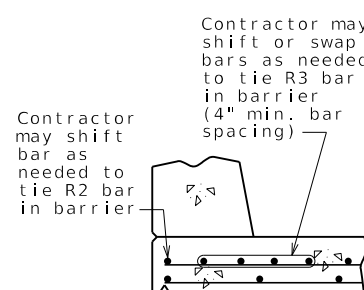


**DETAIL B**

**PART PLAN SHOWING TYPE C BARRIER JOINT LOCATION**



**SLAB CONSTRUCTION JOINT**



**OPTIONAL SHIFTING TOP BARS AT BARRIER**

**SLAB DETAILS**

Sheet No. 21 of 30

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

Detailed JULY 2025  
Checked AUG. 2025

**Notes:**

For Theoretical Bottom of Slab Elevations, Girder Camber Diagram and Theoretical Slab Haunching Diagram, see Sheet No. 2-BR18.

For Plan of Slab Showing Reinforcement, see Sheets No. 2-BR19 & 2-BR20.

The contractor shall pour and satisfactorily finish the roadway slab at a rate of not less than 25 cubic yards per hour.

The concrete diaphragm at the integral end bents shall be poured a minimum of 30 minutes and a maximum of 2 hours before the slab is poured.

For Type C Barrier Details, see Missouri Standard Plans 617.10.

For Type D Barrier Details and Reinforcement, see Sheet No. 2-BR22.

For details and location of slab drains, see Sheet No. 2-BR17

DATE PREPARED		9/12/2025	
ROUTE	STATE	MO	
DISTRICT	SHEET NO.	BR	2-BR21
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9742
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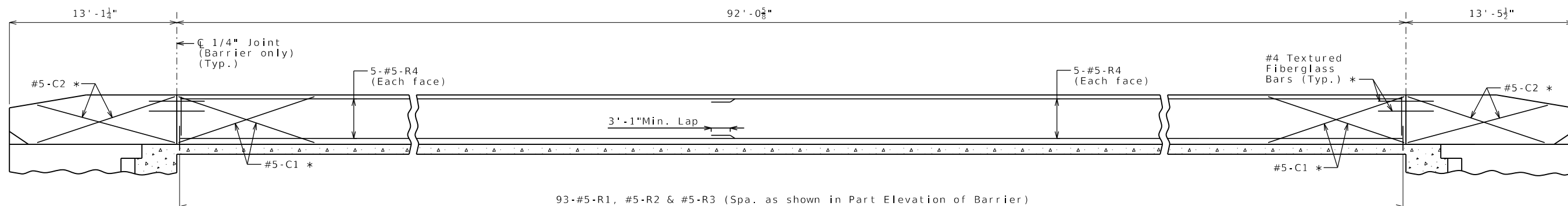
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

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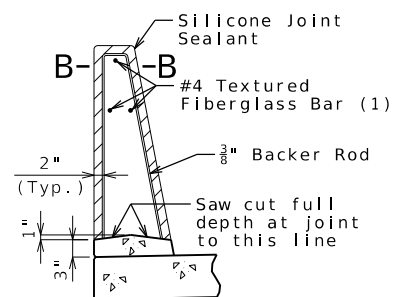
7733 N. Wallace Ave., Kansas City, MO 64158; (816)912-4720  
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PRO. ENGINEER 2010005873



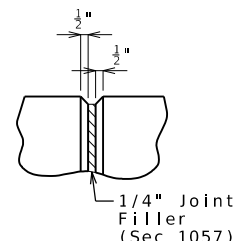
93-#5-R1, #5-R2 & #5-R3 (Spa. as shown in Part Elevation of Barrier)

**ELEVATION OF BARRIER**

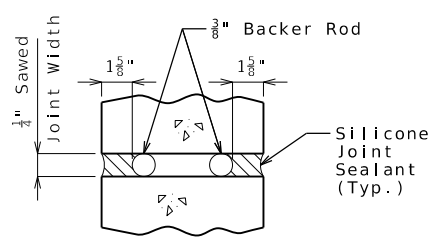
(Left barrier shown, right barrier similar)  
Longitudinal dimensions are horizontal.



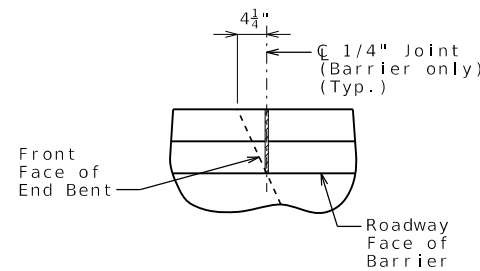
**SECTION THRU SAW CUT JOINT**



**PART ELEVATION AT FORMED JOINT**



**SECTION B-B**



**PART PLAN SHOWING JOINT LOCATION**

**General Notes:**

\* Slip-formed option only.

Conventional forming or slip forming may be used. Saw cut joints may be used with conventional forming.

Top of barrier shall be built parallel to grade and barrier joints (except at end bents) normal to grade.

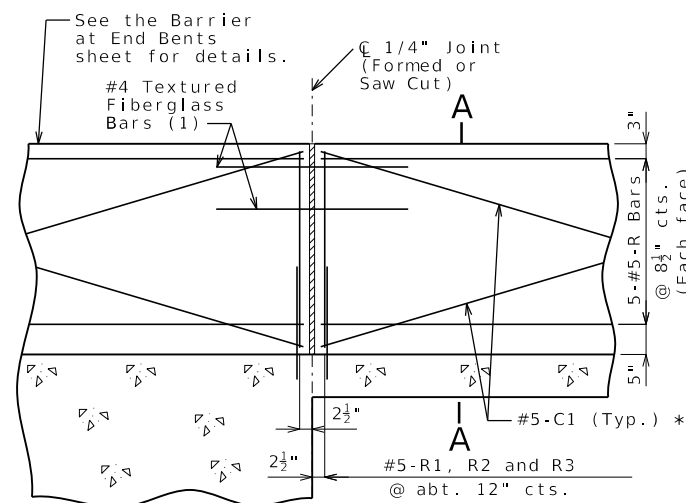
All exposed edges of barrier shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Concrete in barrier shall be Class B-1.

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides.

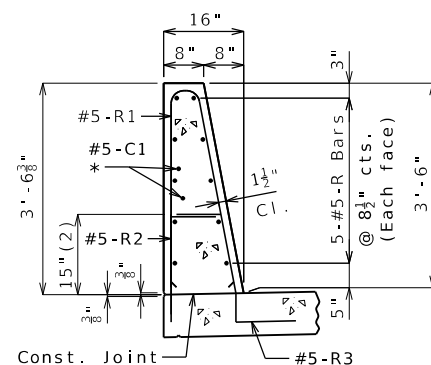
Joint sealant and backer rods shall be in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

For slip-formed option, both sides of barrier shall have a vertically broomed finish and the top shall have a transversely broomed finish.



**PART ELEVATION OF BARRIER**

(1) Four feet long, centered on joint, slip-formed option only

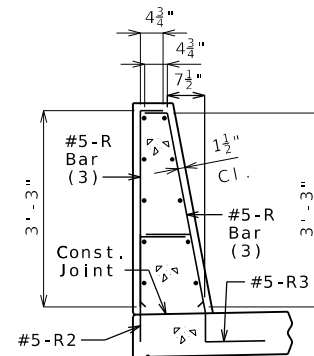


**SECTION A-A**

Use a minimum lap of 3'-1" for #5 horizontal barrier bars.

The cross-sectional area above the slab is 3.52 square feet.

(2) To top of bar



**R-BAR PERMISSIBLE ALTERNATE SHAPE**

(3) The R1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)

**TYPE D BARRIER**

Sheet No. 22 of 30

Detailed JULY 2025  
Checked AUG. 2025

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

DATE PREPARED	
9/12/2025	
ROUTE	STATE
I-70	MO
DISTRICT	SHEET NO.
BR	2-BR22
COUNTY	
LAFAYETTE	
JOB NO.	
JST0019	
CONTRACT ID.	
250507-C01	
PROJECT NO.	

BRIDGE NO.
A9742

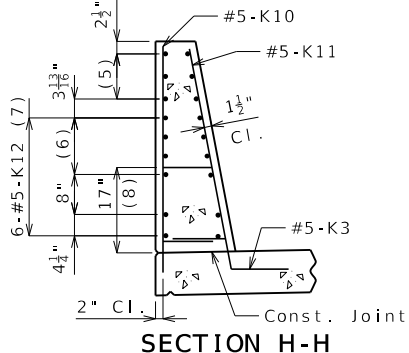
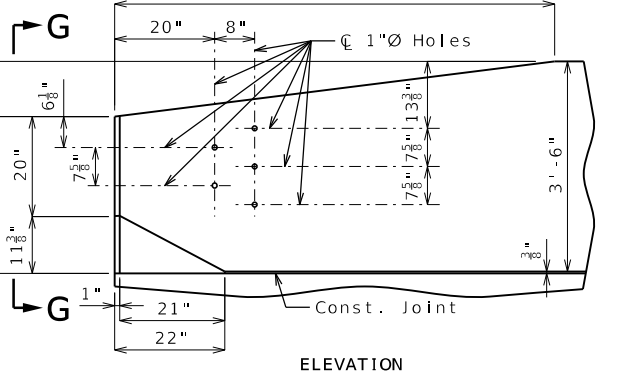
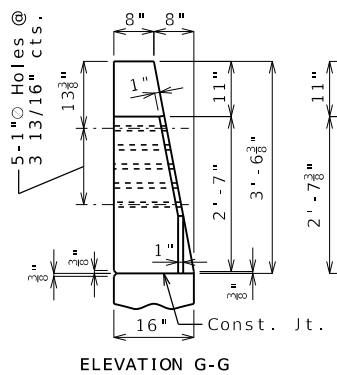
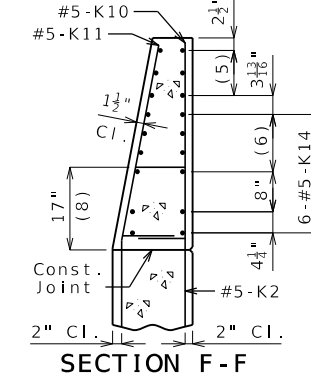
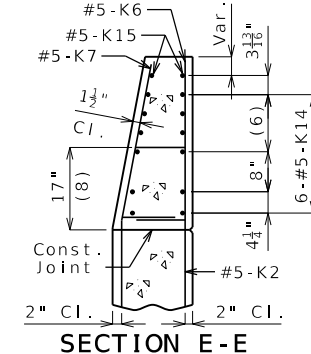
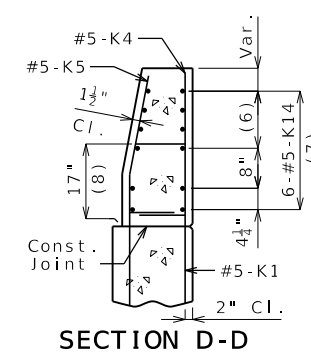
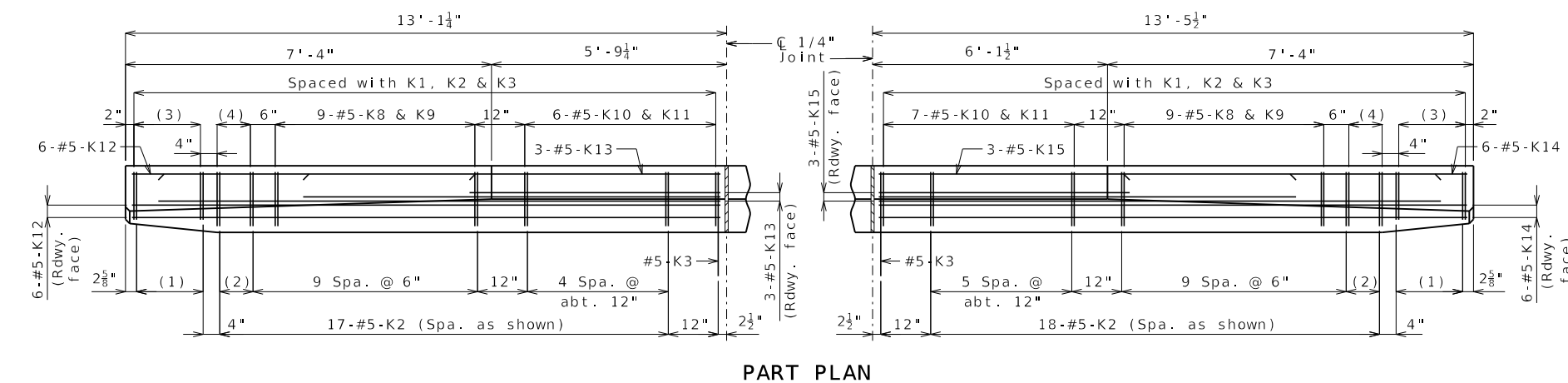
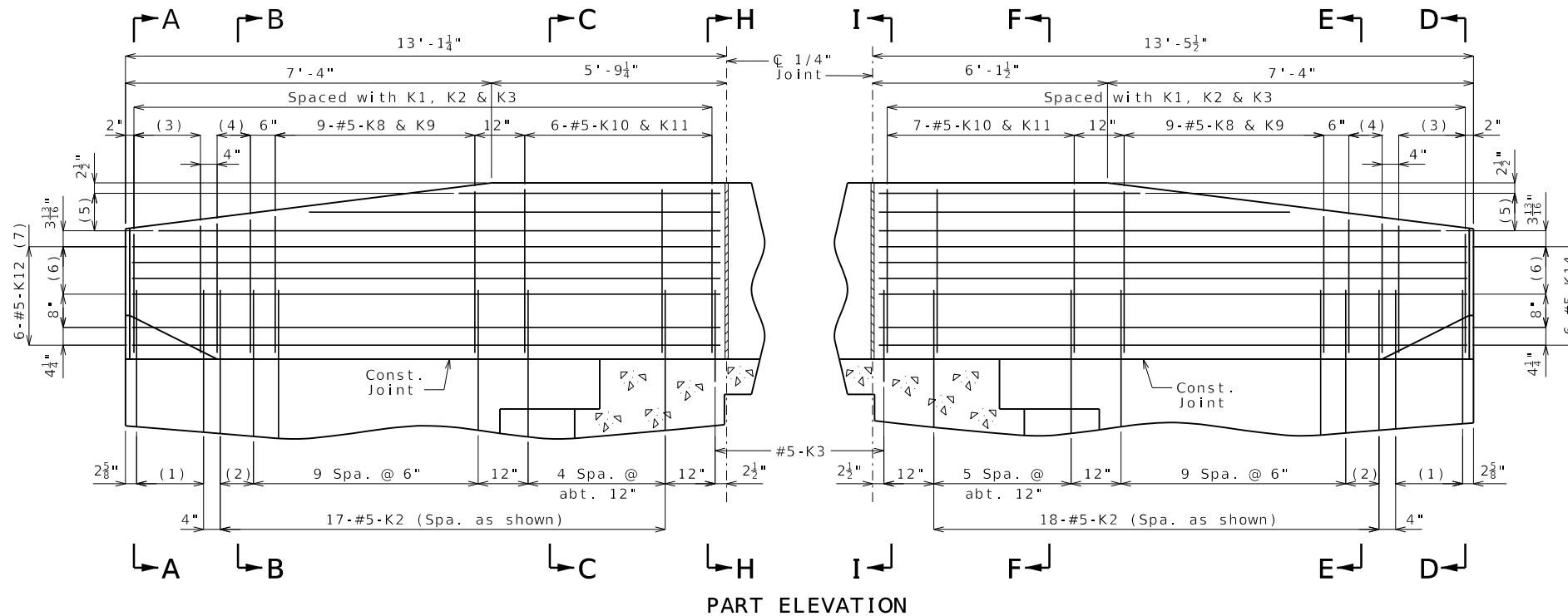
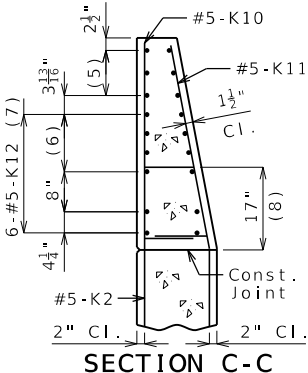
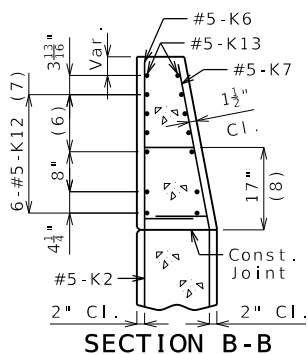
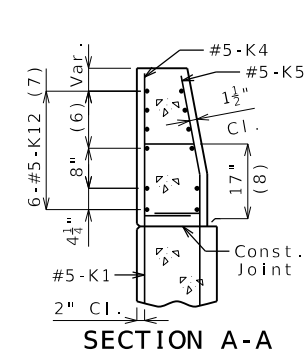
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

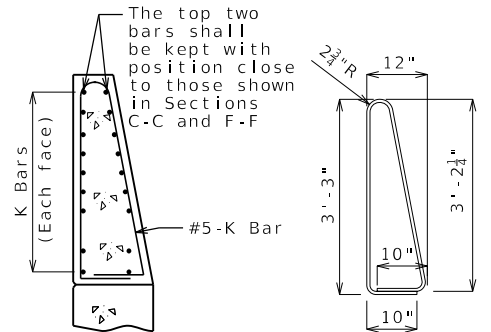
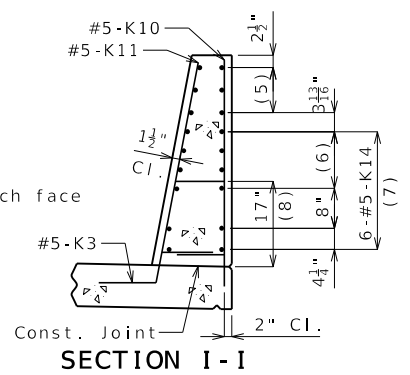
105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
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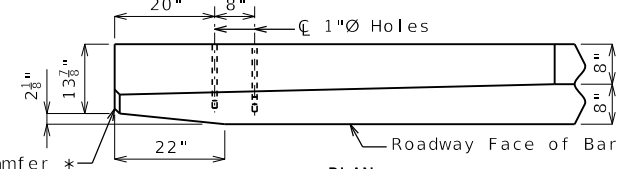
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- (1) 5-#5-K1 @ 4" cts.
- (2) 2 spaces @ 4"
- (3) 5-#5-K4 & K5
- (4) 3-#5-K6 & K7
- (5) 3-#5-K13 or K15 @ 4 1/2" cts., each face
- (6) 3 spaces @ 3 3/8"
- (7) Spaced as shown, each face
- (8) To top of bar



\* Transition to zero at Type A curb for gutter lines to match.



**General Notes:**

Concrete traffic barrier delineators shall be placed on top of the barrier as shown on Missouri Standard Plan 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides.

**Reinforcing Steel:**

Minimum clearance to reinforcing steel shall be 1 1/2" except as shown for bars embedded into end bent.

**TYPE D BARRIER AT END BENTS**

(Left barrier shown, right barrier similar)

The K10-K11 bar combination may be furnished as one bar as shown, at the contractor's option.

All dimensions are out to out.

DATE PREPARED		9/12/2025	
ROUTE	STATE	BRIDGE NO.	SHEET NO.
I-70	MO	2-BR23	
DISTRICT			
BR 2-BR23			
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9742
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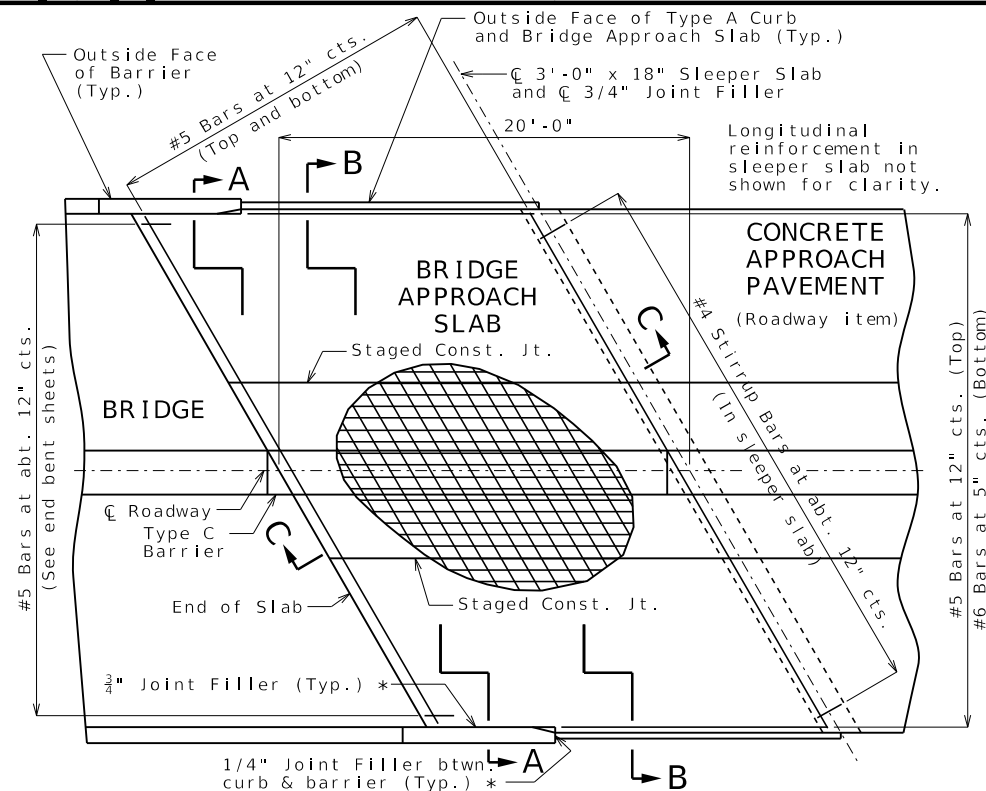
NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

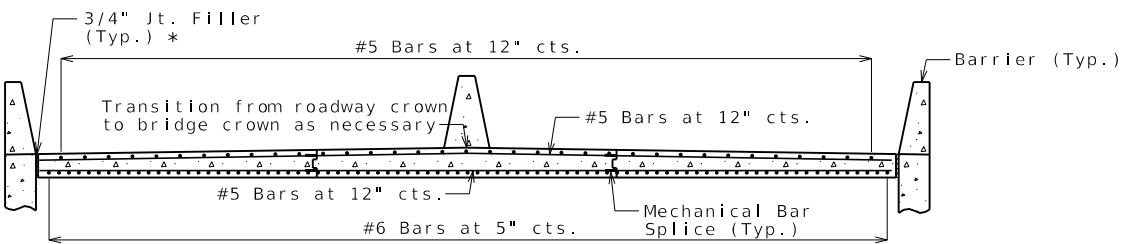
105 WEST CAPITOL JEFFERSON CITY, MO 65102  
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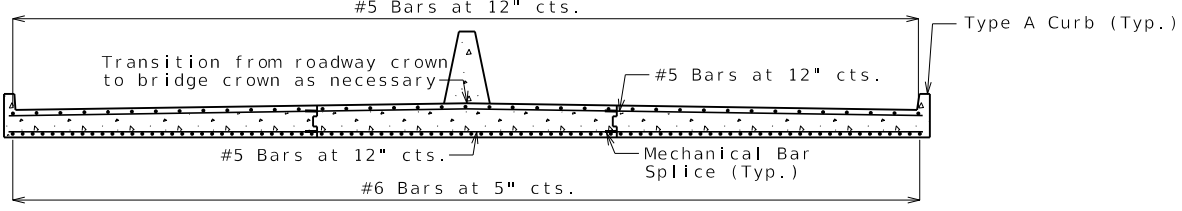
Hq CONSULT, INC.  
PRO. ENGINEER 201005873  
7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720



PART PLAN SHOWING REINFORCEMENT

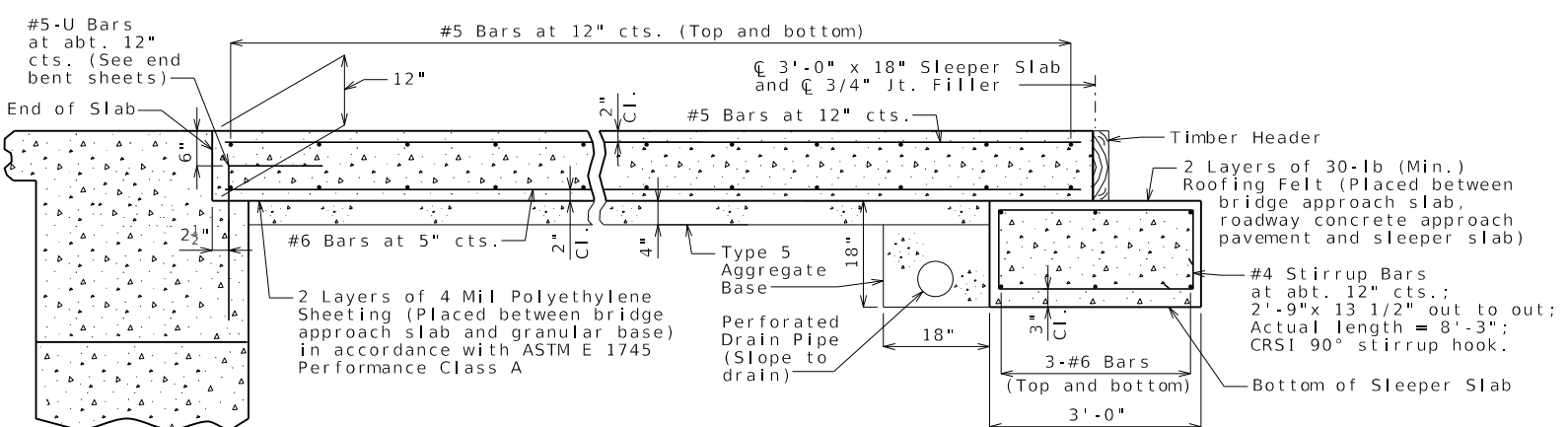


SECTION A-A



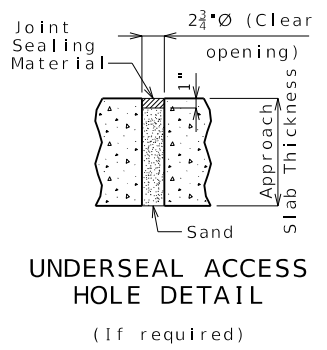
SECTION B-B

The bottom of the approach slab shall be crowned to match the crown of the roadway surface.

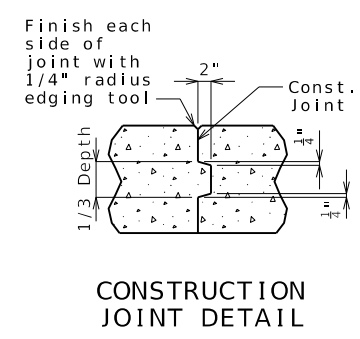


SECTION C-C

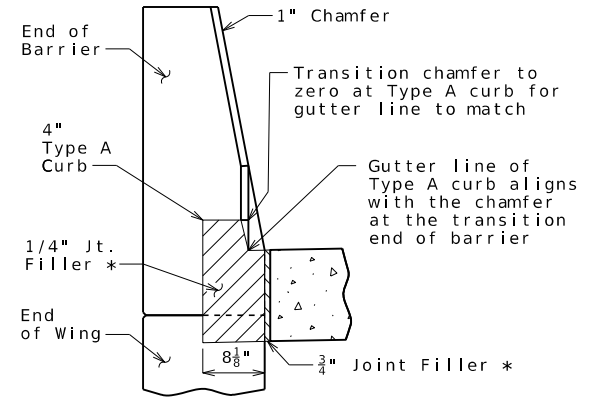
BRIDGE APPROACH SLAB (MAJOR)



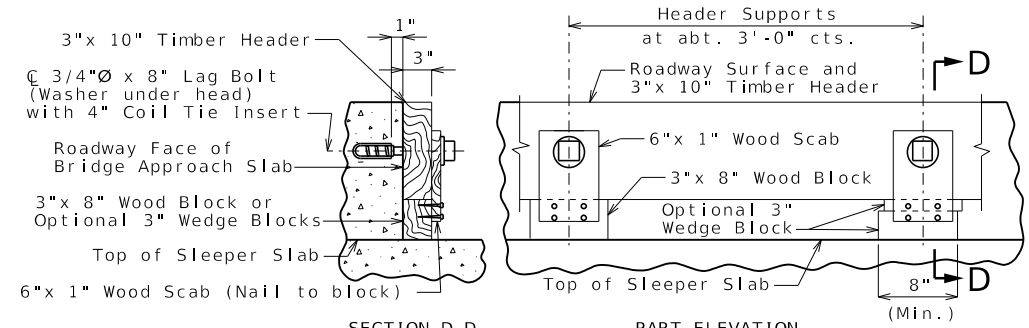
UNDERSEAL ACCESS HOLE DETAIL  
(If required)



CONSTRUCTION JOINT DETAIL



SECTION BETWEEN CURB AND BARRIER



SECTION D-D  
PART ELEVATION  
DETAILS OF TIMBER HEADER

Remove timber header when concrete pavement is placed.

General Notes:

All concrete for the bridge approach slab and sleeper slab shall be in accordance with Sec 503 ( $f'c = 4,000$  psi).  
The reinforcing steel in the bridge approach slab and the sleeper slab shall be epoxy coated Grade 60 with  $f_y = 60,000$  psi.

Drain pipe may be either 6" diameter corrugated metallic-coated pipe underdrain, 4" diameter corrugated polyvinyl chloride (PVC) drain pipe, or 4" diameter corrugated polyethylene (PE) drain pipe.

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

The reinforcing steel in the bridge approach slab and the sleeper slab shall be continuous. The transverse reinforcing steel may be made continuous by providing a minimum lap splice of 29 inches for #5 bars and 44 inches for #6 bars, or by mechanical bar splice.

Mechanical bar splices shall be in accordance with Sec 710 (Estimated 96 splices per slab).

All joint filler shall be in accordance with Sec 1057 for preformed fiber expansion joint filler except as noted.

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

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

For concrete approach pavement details, see roadway plans.

See Missouri Standard Plan 609.00 for details of Type A curb.

\* Seal joint between vertical face of approach slab and wing with sealant in accordance with Sec 717 for silicone joint sealant for saw cut and formed joints.

DATE PREPARED		9/12/2025	
ROUTE	STATE	BRIDGE NO.	SHEET NO.
I-70	MO	2-BR24	
DISTRICT		COUNTY	
BR		LAFAYETTE	
JOB NO.		JST0019	
PROJECT NO.		250507-C01	

BRIDGE NO.	A9742
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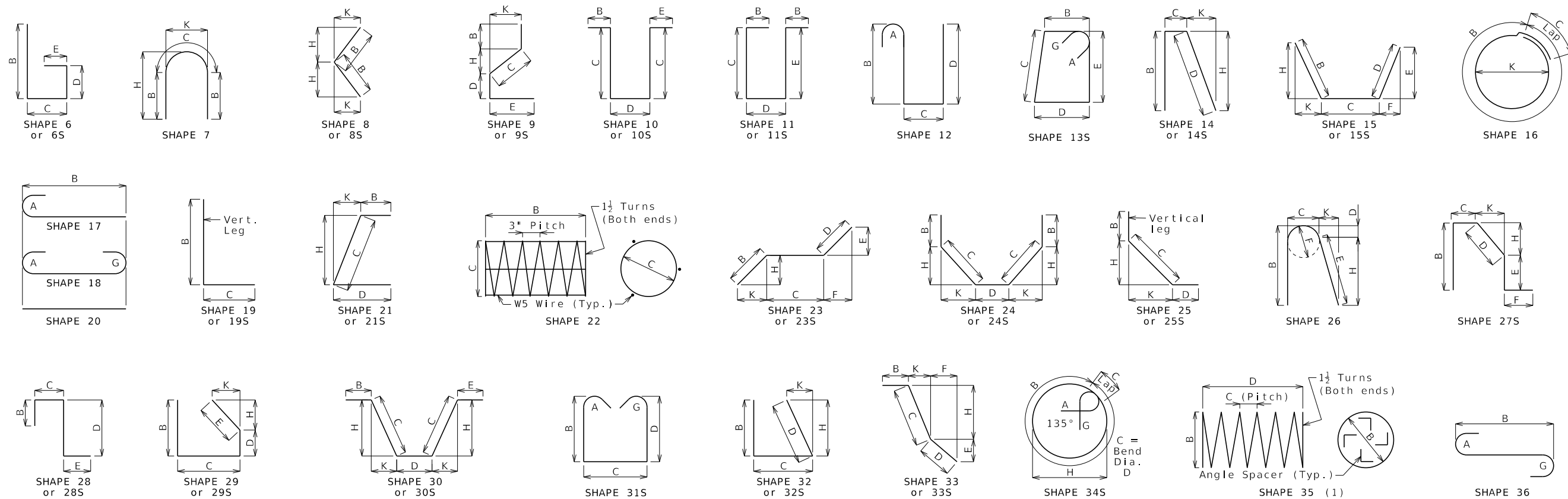
NO.	APPD. BY	DATE	REVISIONS
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B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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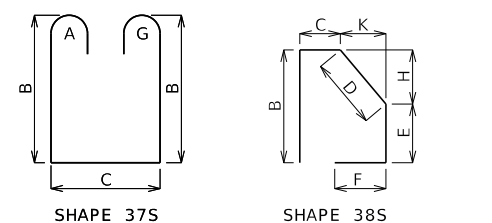
### Finished Bend Diameters D and Hook Dimensions

Standard Pin Bend Shapes						
Size	Case	D	A or G		J	
			90°	180°	180°	180°
#4	1	3"	8"	6"	4"	
#5	1	3 3/4"	10"	7"	5"	
#6	1	4 1/2"	12"	8 1/2"	6"	
#7	2	5 1/4"	14"	9 3/4"	7"	
	3	7"	15"	11 1/2"	8 3/4"	
#8	2	6"	16"	11"	8"	
	3	8"	17"	13 3/4"	10"	
#9	1	9 1/2"	19 1/2"	15 1/2"	11 3/4"	
#10	1	10 3/4"	22"	17 1/2"	13 1/4"	
#11	1	12"	24 1/2"	19 1/2"	14 7/8"	
#14	1	18 1/4"	31 1/4"	27 1/2"	21 5/8"	
#18	1	24"	41 1/2"	36 1/4"	28 1/2"	

Stirrup Pin Bend Shapes (S)							
Size	Case	D	A or G		H	J	
			90°	135°			180°
#4	2	2"	4 1/2"	4 1/2"	5"	2 5/8"	3"
	3	3"	5"	5 1/4"	6"	3"	4"
#5	2	2 1/2"	5 3/4"	5 3/4"	5 1/2"	3 3/8"	3 3/4"
	3	3 3/4"	6 1/4"	6 1/4"	7"	3 3/8"	5"
#6	1	4 1/2"	12"	7 3/4"	8 1/4"	4 3/8"	6"

Applicable for all grades of steel.  
Case 1 applies to all reinforcement. Case 2 applies to all reinforcement except for galvanized bars. Case 3 applies to galvanized bars only.



BENDING DIAGRAMS

All dimensions are out to out. (1) Shall be a deformed or plain spiral bar or wire.

Shapes ending with an S shall be bent in accordance with stirrup pin bend shapes.

Unless otherwise noted, finished bending diameter D is the same for all bends of a shape.

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 Totals (Pounds)

By Size	Size	Substructure		Superstructure			Entire Bridge	
		Plain	Epoxy	Slab		Slip Form	Plain	Epoxy
				Plain	Epoxy			
	W5	0	0	0	0	0	0	0
	4	0	0	0	2,062	0	0	2,062
	5	0	0	0	49,510	6,668	188	56,366
	6	0	0	0	47,553	0	0	47,553
	7	0	0	0	0	0	0	0
	8	0	0	0	8,928	0	0	8,928
	9	0	0	0	0	0	0	0
	10	0	0	0	0	0	0	0
	11	0	0	0	0	0	0	0
	14	0	0	0	0	0	0	0
	18	0	0	0	0	0	0	0
By Type		0	0	0	108,053	6,668	188	114,909

All superstructure reinforcing steel shall be epoxy coated unless otherwise specified.

BENDING DIAGRAMS AND REINFORCING STEEL TOTALS

DATE PREPARED		9/12/2025	
ROUTE	I-70	STATE	MO
DISTRICT	BR	SHEET NO.	2-BR25
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			
BRIDGE NO.			
A9742			

NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

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JEFFERSON CITY, MO 65102  
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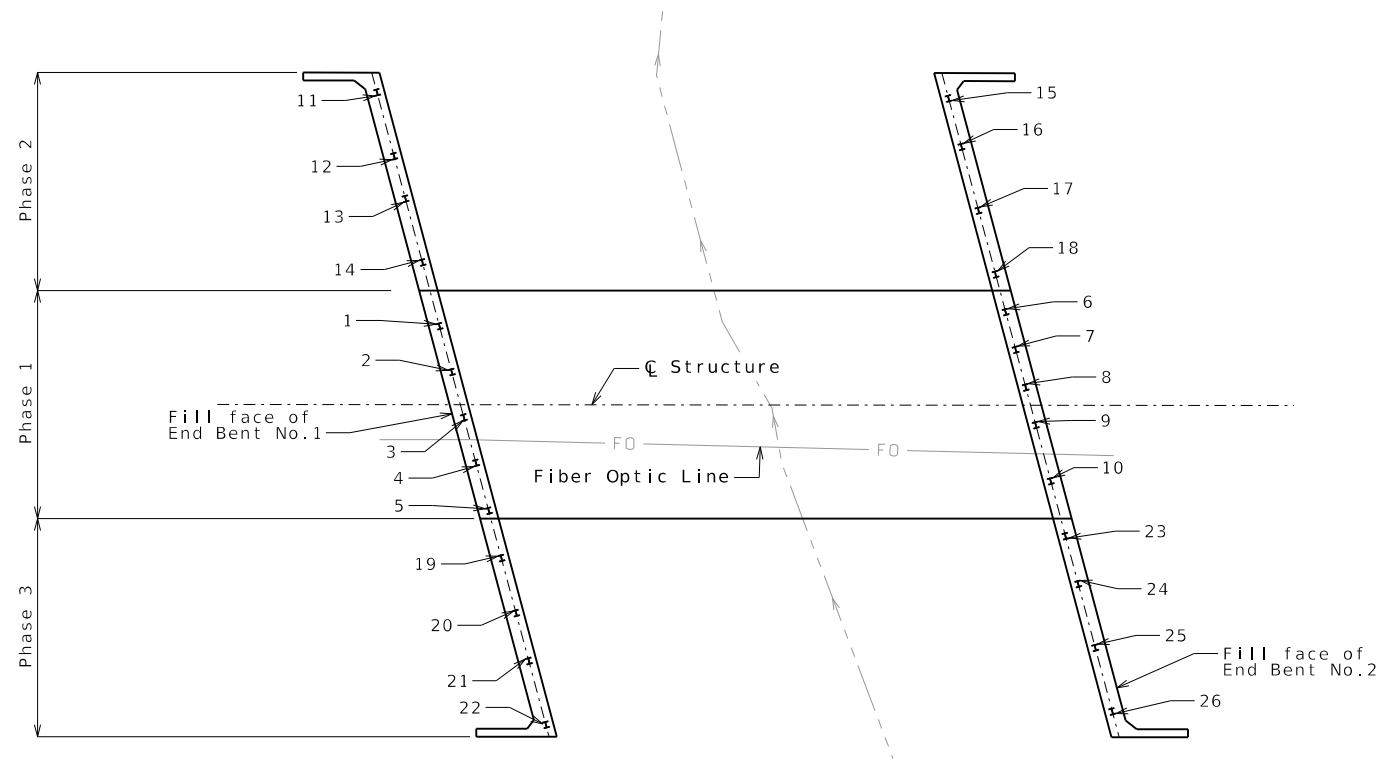
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PRO. ENGINEER 2010005873









Note:  
 Indicate in remarks column:  
 A. Pile type and grade  
 B. Batter  
 C. Driven to practical refusal  
 D. PDA test pile  
 E. Minimum tip elevation controlled  
 (Use when actual blow count is less than PDA blow count due to minimum tip elevation requirement. A plus sign (+) shall be placed after the PDA nominal axial compressive resistance value indicating actual value is higher than PDA value.)

This sheet to be completed by MoDOT construction personnel.

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

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 1 End Bent No. 1		
1					
2					
3					
4					
5					
			Phase 1 End Bent No. 2		
6					
7					
8					
9					
10					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 2 End Bent No. 1		
11					
12					
13					
14					
			Phase 2 End Bent No. 2		
15					
16					
17					
18					

As-Built Pile Data					
Pile No.	Length in Place (ft)	PDA Nom. Axial Compressive Resistance (kips)	PDA End of Drive Blow Count (blows/in.)	Actual End of Drive Blow Count (blows/in.)	Remarks
			Phase 3 End Bent No. 1		
19					
20					
21					
22					
			Phase 3 End Bent No. 2		
23					
24					
25					
26					

AS-BUILT PILE DATA

Detailed JULY 2025  
 Checked AUG. 2025

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

Sheet No. 28 of 30

DATE PREPARED	9/12/2025		
ROUTE	STATE	MO	
I-70			
DISTRICT	SHEET NO.		
BR	2-BR28		
COUNTY			
LAFAYETTE			
JOB NO.			
JST0019			
CONTRACT ID.			
250507-C01			
PROJECT NO.			

BRIDGE NO.	A9742
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NO.	DATE	APPR. BY	REVISIONS
A	08-13-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
B	09-08-25	JMD	EARLY BRIDGE PACKAGE FINAL PLANS
1	09-12-25	JMD	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

7733 N. Wallace Ave., Kansas City, MO 64158  
 PRO. ENGINEER 201005873

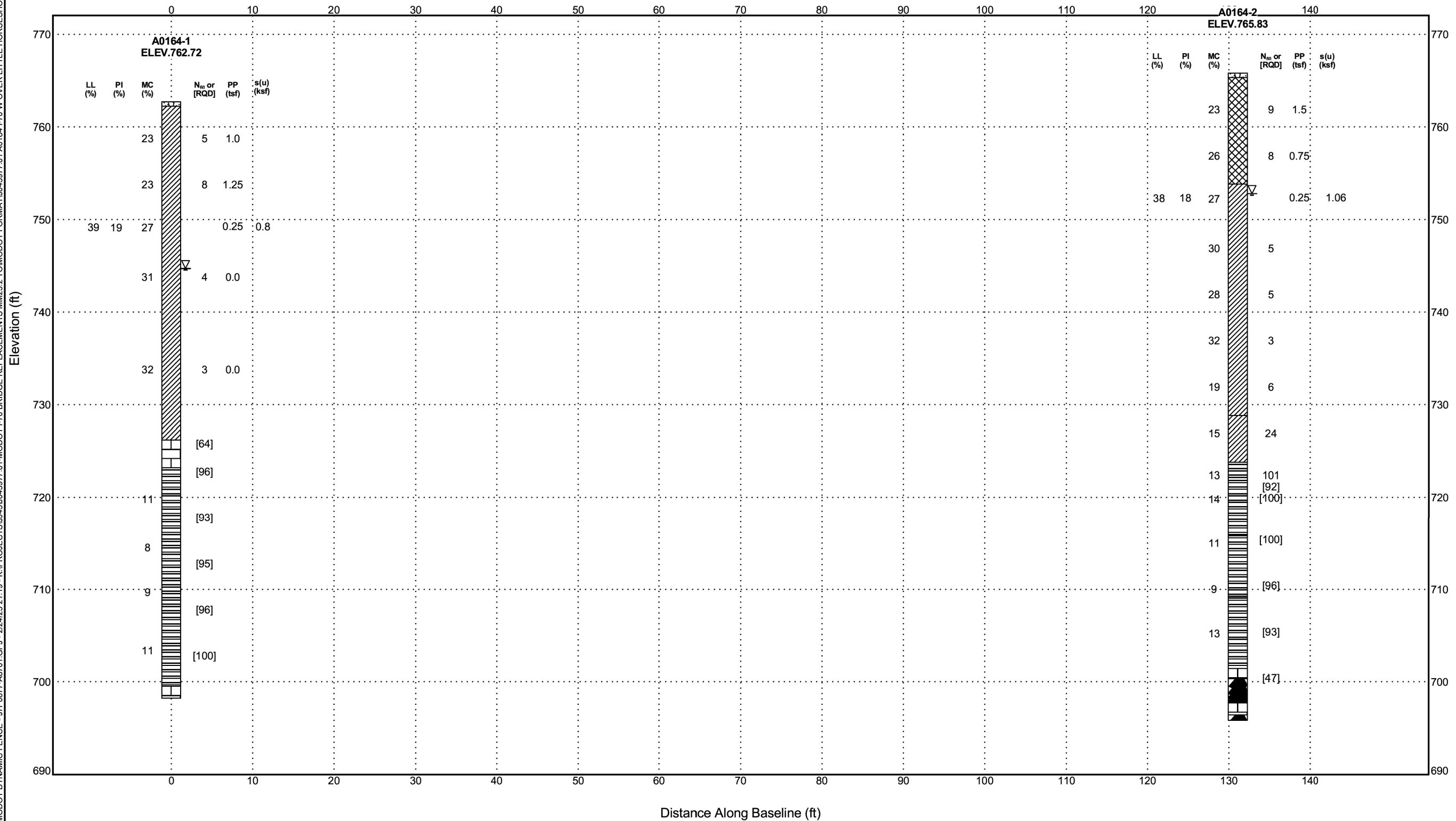


### SUBSURFACE DIAGRAM

PROJECT NAME Bridge A0164  
 PROJECT LOCATION I-70 W over Little Horseshoe Creek  
 CLIENT Hg Consult, Inc./MoDOT  
 PROJECT NUMBER J412293

Topsoil	USCS Low Plasticity Clay	Limestone
Shale	Fill (made ground)	Coal

MODOT DYNAMIC FENCE - JTP0677-A8701.GPJ - 2/24/25 21:19 - K:\PROJECTS\J412293\BRIDGE REPLACEMENTS\MM25.2 TOMODOT FORMAT\J045977.01 A0164 I-70 W OVER LITTLE HORSESHOE CREEK.GPJ



### BORING DATA

Note: For locations of borings, see Sheet No. 2-BR01.

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

Sheet No. 29 of 30

Detailed JULY 2025  
 Checked AUG. 2025

DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR29
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO.  
A9742

NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

NO.	APPD. BY	DATE
	JMD	08-13-25
	JMD	09-08-25
	JMD	09-12-25

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
 JEFFERSON CITY, MO 65102  
 1-888-ASK-MODOT (1-888-275-6636)

7733 N. Wallace Ave., Kansas City, MO 64158  
 (816) 912-4720  
 Hg CONSULT, INC.  
 PRO. ENGINEER 2010005873

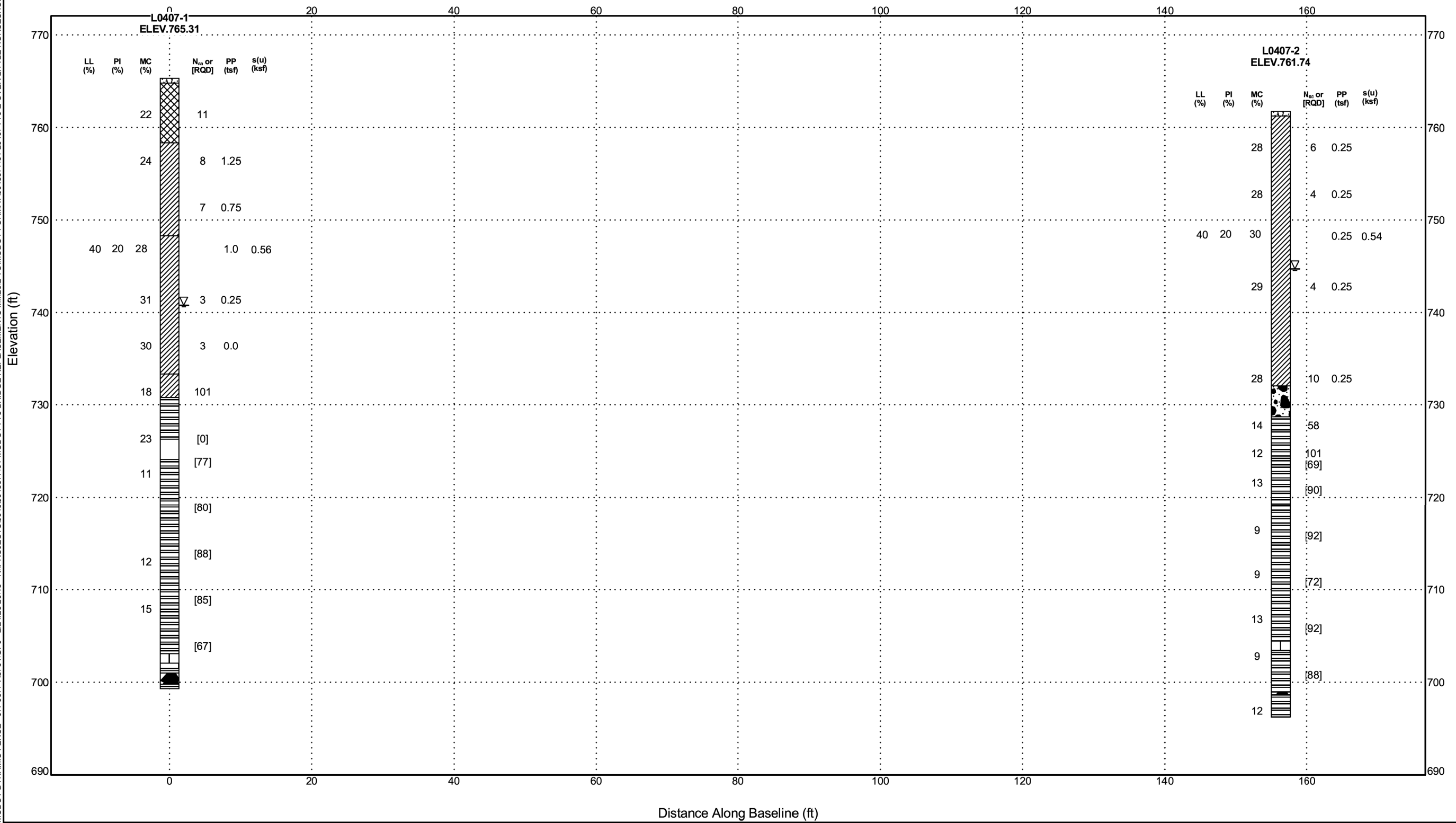


### SUBSURFACE DIAGRAM

PROJECT NAME Bridge L0407  
 PROJECT LOCATION I-70 E over Little Horseshoe Creek  
 CLIENT Hg Consult, Inc./MoDOT  
 PROJECT NUMBER J412293

Topsoil	Fill (made ground)	USCS Low Plasticity Clay
Shale	USCS Well-graded Sandy Gravel	Limestone
Coal		

MODOT DYNAMIC FENCE - J7P0677-A8701.GPJ - 2/24/25 20:13 - K:\PROJECTS\J045\J045977.01-MODOT I-70 BRIDGE REPLACEMENTS MM25.2 TO MODOT FORMAT\J045977.01 L0407 I-70 E OVER LITTLE HORSESHOE CREEK.GPJ



DATE PREPARED 9/12/2025	
ROUTE I-70	STATE MO
DISTRICT BR	SHEET NO. 2-BR30
COUNTY LAFAYETTE	
JOB NO. JST0019	
CONTRACT ID. 250507-C01	
PROJECT NO.	

BRIDGE NO.  
A9742

NO.	APPD. BY	DATE	REVISIONS
A	JMD	08-13-25	EARLY BRIDGE PACKAGE FINAL PLANS
B	JMD	09-08-25	EARLY BRIDGE PACKAGE FINAL PLANS
1	JMD	09-12-25	EARLY BRIDGE PACKAGE - RFC PLANS

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL  
JEFFERSON CITY, MO 65102  
1-888-ASK-MODOT (1-888-275-6636)

**Consult Inc engineers planners**

7733 N. Wallace Ave., Kansas City, MO 64158 (816)912-4720  
 Hg CONSULT, INC.  
 PRO. ENGINEER 2010005873

### BORING DATA

Note: For locations of borings, see Sheet No. 2-BR01.

Note: This drawing is not to scale. Follow dimensions. Sheet No. 30 of 30

Detailed JULY 2025  
Checked AUG. 2025