

Addendum NO 1

ISSUED BY: *Great River Engineering
2826 S. Ingram Mill Rd.
Springfield, Missouri 65804
(417) 886-7171
(417) 886-7591 --- FAX*

DATE: May 5, 2021

FOR: **Dallas County BRO-B030(10)**

The attached revisions hereby supersede any and all data with which they may conflict as indicated on the Drawings, Specifications and related documents issued in the original set. Each trade is responsible for changes in its work caused by changes in the work of other trades. This addendum is a part of and shall be attached to the original set of plans and specifications for the work.

Notification: There have been no changes or addendums prior to this addendum.

Changes to:

Construction Drawings

Sheet C2- The Roadway Quantities table has been updated to accurately reflect the bid form.

Sheet S1- On Intermediate Bent No. 2, the Bottom of Encasement Elevation has been changed from 1047.41 to 1049.00.

Sheet S2- Foundation Data Table has been updated to reflect HP 10 x 42 pile sizes. The Class B-1 Concrete and Reinforcing Steel quantities have been updated as a result of the bottom of encasement elevation change.

Sheet S3- End bent dimensions have been updated.

Sheet S4- End bent dimensions have been updated.

Sheet S6- The Bottom of Encasement Elevation has been changed from 1047.41 to 1049.00. The dimension for the height of the Encasement has been updated. The quantity of the H203 and H204 bars has been updated.

Sheet S7- The dimension for the height of the Encasement has been updated. The quantity of the H203 and H204 bars has been updated. The Class B-1 Concrete and Reinforcing Steel quantities have been updated under the Substructure Quantity Table for Bent No. 2.

Sheet S8- End bent dimensions have been updated.

Sheet S9- End bent dimensions have been updated.

Sheet S12- References to epoxy grout have been removed and replaced with non-shrink grout.

Sheet S16- The Bill of Reinforcing has been updated to reflect changes in the Encasement elevation.

Contract Documents

Page 17- The Bid Form Sheet has been updated to reflect the changes made to the quantity tables on Sheets C2 and S2.

Clarifications:

Questions: With current material lead times, are you anticipating being able to move the completion date if materials cannot be delivered in time?

Answer: No. November 1st 2021 is not anticipated to change except in the case of unforeseen circumstances. We encourage all bidders to communicate with subcontractors, material suppliers and vendors to ensure that this deadline can be met. No changes will be made due to material lead times.

There are no other clarifications or changes included with this Addendum.





1. FENCING SHOWN IN THIS DETAIL IS THE MINIMUM REQUIRED BY THE ENGINEER.
2. TIES TO EXISTING FENCE REQUIRE THE SAME LAYOUT AS FENCE CORNERS (I.E. CORNER POSTS WITH BRACING.)
3. CORNER AND BRACING POST SHALL BE BURIED A MINIMUM OF 5 FEET.
4. ALL 10' x 5" Ø STEEL PIPE MUST HAVE WELD ON DOME CAP. PLASTIC CAP WILL NOT BE ACCEPTED.

A	FURNISHING & PLACEMENT OF TYPE 2 ROCK BLANKET
	TYPE III MOVEABLE BARRICADE WITH LIGHT
	CONSTRUCTION SIGNS
	MOBILIZATION
A	12" DIAMETER CORRUGATED METAL PIPE

HORIZONTAL COORDINATES ARE GIVEN IN U.S. SURVEY FEET AND
ARE BASED ON THE MISSOURI COORDINATE SYSTEM OF 1983,
CENTRAL ZONE (SCALED TO GROUND).

ELEVATION 1063.75 (VERTICAL DATUM: NAVD 1988)

(56'-56') PRESTRESSED ADJACENT BOX BEAM SPANS

Sta. 1+98.26
Pr. Gr. of Elev. 1066.04
@ \odot Roadway

-1.94% Grade

Fix.

Design Flood Elev. 1063.09

Fix.

Sta. 3+10.26
Pr. Gr. of Elev. 1063.87
@ \odot Roadway

-1.50% Grade

2'-0"

2:1 Slope (Normal)
with 2'-0" Type 2
Rock Blanket (Roadway Item)
(Typ.)

4'-0"

Ex. Ground Line
(Survey Date 2019)

Bott. of Encasement
Elev. 1049.00

Pr. Ground Line
Elev. 1054.00

4'-0"

2'-0"

Notes:

For general notes, estimated quantities, foundation data, hydrologic data, and location sketch, see Sheet No. S2.

Old roadway fill under the ends of the bridge shall be removed as shown. Removal of old roadway fill will be considered completely covered by the contract unit price for roadway excavation.

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.

Existing structure not shown, to be removed.

" \odot " Indicates location of borings

Notice and Disclaimer Regarding Boring Log Data

The location of all subsurface borings for this structure are shown on the plan sheet for this structure. The boring data for all locations indicated, as well as any other boring log or other factual records of the subsurface data and investigation performed for the design of the project, are shown on the boring data sheet or will be available from the project contact upon written request. No greater significance or weight should be given to the boring data depicted on the plan sheets than is given to the subsurface data available from the owner or elsewhere.

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

3'-0"

15"

21"

20 5/8"

Boring #1

\odot Pile

Beg. Sta. 1+98.26
Pr. Gr. Elev. 1066.04

Fill Face of End Bent No. 1

4 Piles @ 7'-10" Ctrs.

20 5/8"

12'-0"

24'-0" Roadway

12'-0"

\odot Int. Bent No. 2

18"

18"

Boring #2

\odot Pile

4 Piles @ 7'-2" Ctrs.

18"

18"

\odot Structure,
 \odot Roadway,
Profile Grade

56'-0"

112'-0"

56'-0"

Span (1-2)

Span (2-3)

PLAN

3'-0"

15"

21"

20 5/8"

Boring #3

\odot Pile

Sta. 3+10.26
Pr. Gr. Elev. 1063.87

Fill Face of End Bent No. 3

4 Piles @ 7'-10" Ctrs.

20 5/8"

90.0' 0.0'

Note: Drawing not to scale. Follow dimensions.

GRE
GREAT RIVER
ENGINEERING

Date: 5.4.2021

Revision/Issue: ADDENDUM #1

No. 1

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

STATE OF MISSOURI
JEFFREY A. BANDERET, JR.
REGISTERED PROFESSIONAL ENGINEER
NUMBER E-2017030568
MOB PE-2017030568

ROCKSDALE RD BRIDGE #23800001
DALLAS COUNTY, MISSOURI
BRIDGE PLAN & ELEVATION

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JOB NUMBER: 4041

FILE NAME: 4041_STRUCTURAL

SCALE: NOTED

ISSUE DATE: FEBRUARY, 2021

SHEET NUMBER: S1

 GRE GREAT RIVER ENGINEERING		Great River Engineering - Missouri State Certificate of Authority Numbers: Professional Engineering: 2000186685, Land Surveying: 2001011176, Professional Engineering: 2000186685, Land Surveying: 2001011176	
No.	Revision/Issue	Date	
1	ADDENDUM #1	5.4.2021	
2			
3			
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10			
IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.			
			
JEFFREY A. BANDERET, JR. - ENGINEER MO# PE-2017030568			
ROCKSDALE RD BRIDGE #23800001 DALLAS COUNTY, MISSOURI BRIDGE PLAN & ELEVATION			
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CHECKED BY: JAB DRAWN BY: ALW JOB NUMBER: 4041 FILE NAME: 4041_STRUCTURAL SCALE: NOTED ISSUE DATE: FEBRUARY, 2021 SHEET NUMBER:			
S1			

GENERAL NOTES:

Design Specifications:

2014 A.A.S.H.T.O. LRFD Bridge Design Specifications (7th Ed.)
Seismic Design Category 'A'

Design Loading:

Vehicular = HL-93
Future Wearing Surface = 35 psf
Earth = 120 pcf,
Equivalent Fluid Pressure = 45 pcf
Superstructure: Simply-Supported, Non-Composite for live and dead load

Design Unit Stresses:

Class B-1 Concrete (Substructure) f'c = 4,000 psi
Reinforcing Steel (Grade 60) fy = 60,000 psi
Steel Pile (ASTM A709 Grade 50) fy = 50,000 psi
For Prestressed Adjacent Box Beam Stresses, see Sheet No. S11

Neoprene Pads:

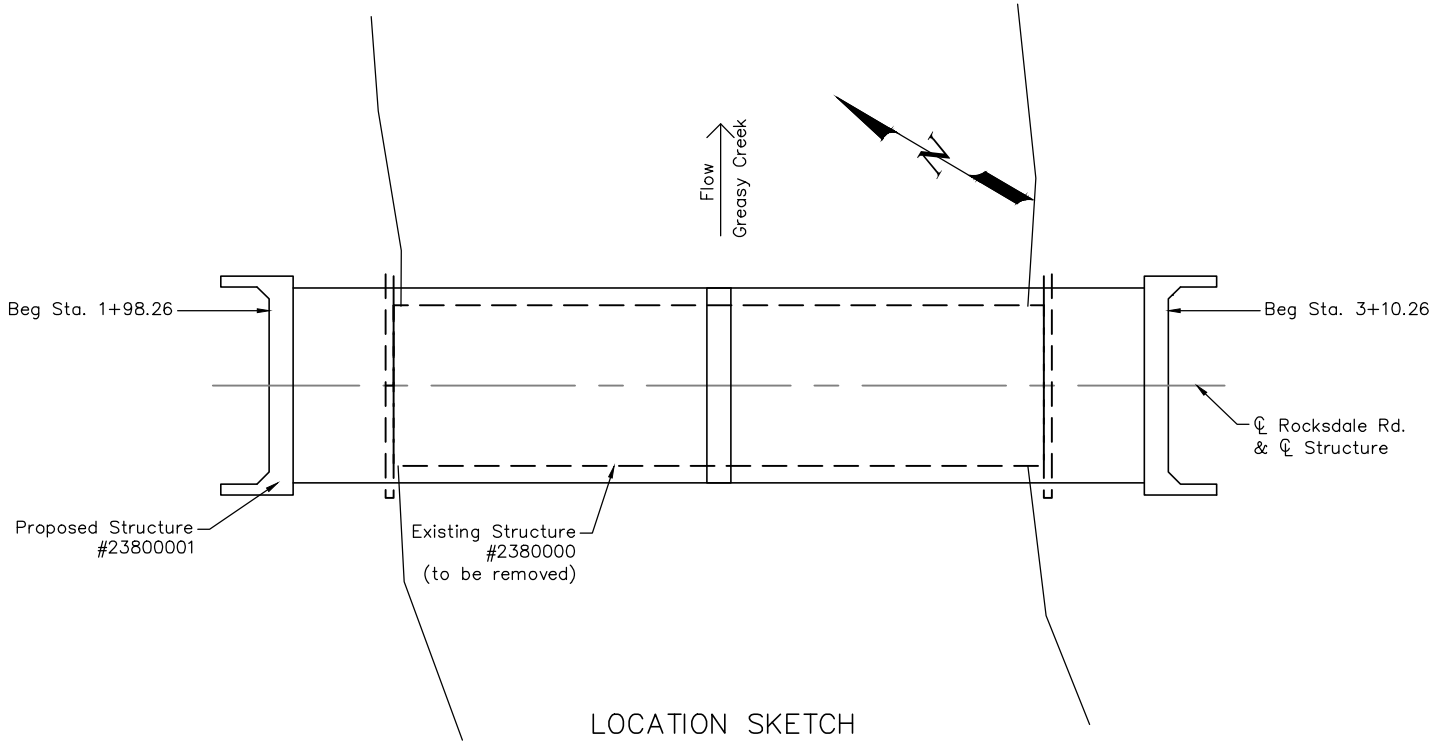
Plain neoprene bearing pads shall be 60 durometer and shall be in accordance with Sec 716.

Joint Filler:

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

Reinforcing Steel:

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



Note: Drawing not to scale. Follow dimensions.

Foundation Data				
Type	Design Data	Bent No. 1	Bent No. 2	Bent No. 3
Load Bearing Pile	Pile type & size	HP10X42	HP10X42	HP10X42
	Number	ea. 4	4	4
	Approximate length per each	ft. 12	18	13
	Pile point reinforcement	ea. All	All	All
	Min. galvanized penetration (elev.)	FULL LENGTH		
	Pile driving verification method	DF	DF	DF
	Resistance Factor	0.4	0.4	0.4
	Minimum nominal axial compressive resistance	kip 315	575	315

DF = FHWA-Modified Gates dynamic formula

Minimum nominal axial compressive resistance = $\frac{\text{MAXIMUM FACTORED LOADS}}{\text{RESISTANCE FACTOR}}$

HP 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.

Prebore for piles at Bents No. 2 & 3 to elevations 1044.0 and 1048.0, respectively.

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.

Estimated Quantities			
Item	Substr.	Superstr.	Total
Class 1 Excavation	cu. yard 60		60
Removal of Bridges	lump sum		1
Galvanized Structural Steel Piles (10 in.)	linear foot 172		172
Pre-Bore for Piling	linear foot 80		80
Pile Point Reinforcement	each 12		12
Class B-1 Concrete (Substructure)	cu. yard 57		57
Bridge Guardrail (Thrie Beam)	linear foot	225	225
21 in., Prestressed Concrete Adjacent Box Beam	linear foot	659	659
Reinforcing Steel (Bridges)	pounds	6300	6300
Plain Neoprene Bearing Pad	each	28	28

HYDROLOGIC DATA	
DRAINAGE AREA	= 39 SQ. MI.
DESIGN FLOOD FREQUENCY	= 10 YEARS
DESIGN FLOOD DISCHARGE	= 7,500 CFS
DESIGN FLOOD (D.F.) ELEVATION	= 1063.1 FEET
BASE FLOOD (100-YEAR)	
BASE FLOOD ELEVATION	= 1066.8 FEET
BASE FLOOD DISCHARGE	= 14,900 CFS
ESTIMATED BACKWATER	= 0.0 FEET
AVERAGE VELOCITY THRU OPENING	= 5.8 FT/S
FREEBOARD (50 YEAR)	
FREEBOARD	= 0.0 FEET
ROADWAY OVERTOPPING	
OVERTOPPING FLOOD DISCHARGE	= 5 YEARS
OVERTOPPING FLOOD FREQUENCY	= 5,400 CFS
5-YEAR FLOOD ELEVATION	= 1061.9 FEET



Date	5.4.2021				
Revision/Issue	ADDENDUM #1				
No.	A				

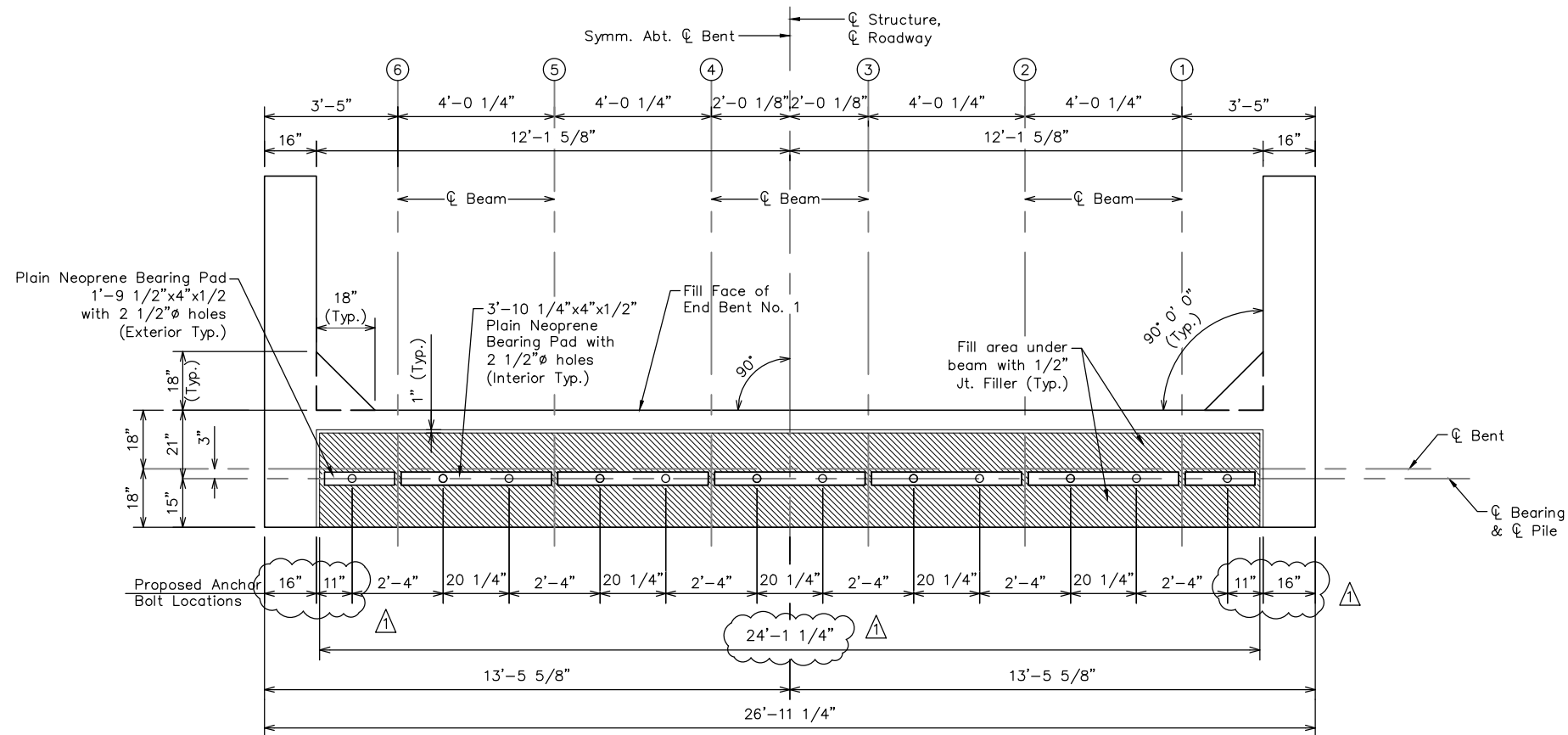
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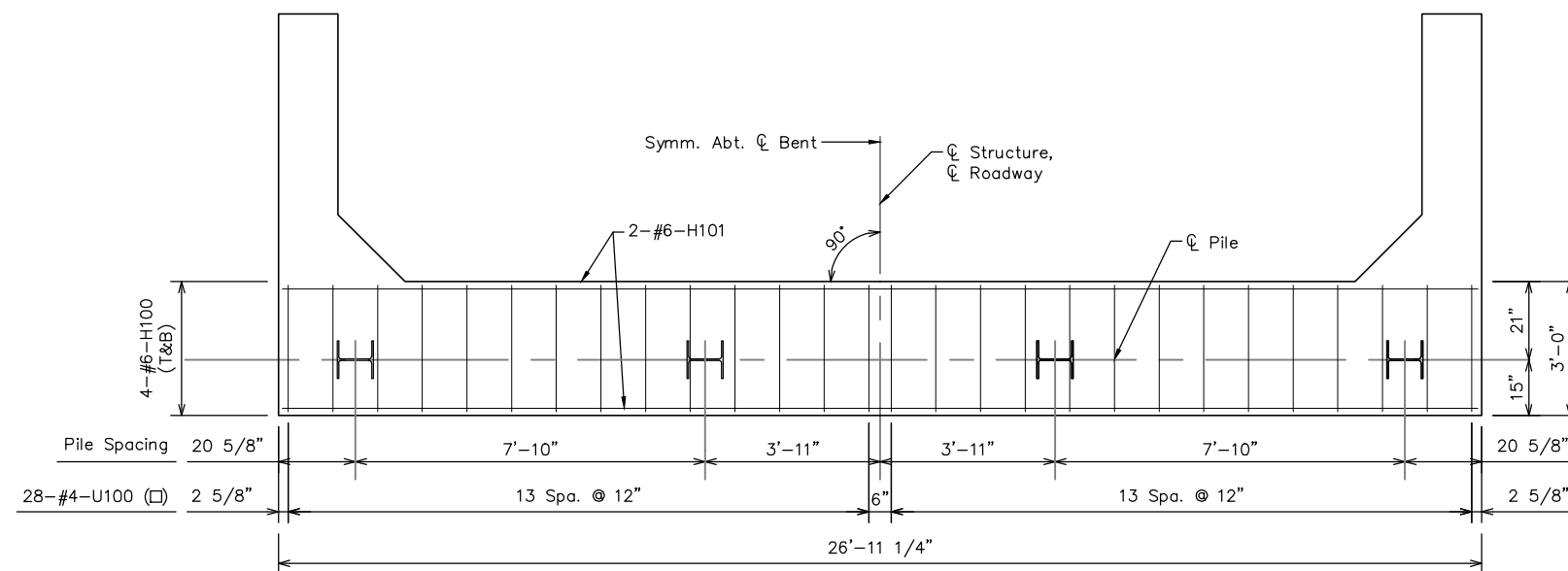
JEFFREY A. BANDERET, JR. -ENGINEER
MO# PE-2017030568

ROCKSDALE RD BRIDGE #23800001	ESTIMATED QUANTITIES & GENERAL NOTES
DALLAS COUNTY, MISSOURI	

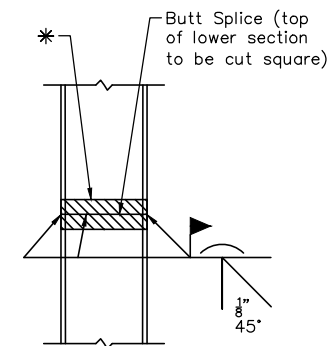
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FILE NAME: 4041_STRUCTURAL
SCALE: NO SCALE
ISSUE DATE: FEBRUARY, 2021
SHEET NUMBER:



PLAN OF BEAM SHOWING DIMENSIONS



PLAN OF BEAM SHOWING REINFORCEMENT



STEEL PILE SPLICE
(if required)

* Galvanizing material shall be omitted or removed 1 inch clear of weld location. See special provisions.

Notes:

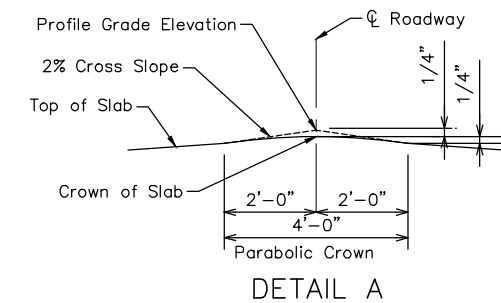
For details of End Bent No. 1 not shown, see Sheets No. S4 & S5.

For Substructure Quantity Table for Bent No. 1, see Sheet No. S4.

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

Reinforcement in wing in Plan of Beam not shown for clarity.

Note: This drawing not to scale. Follow dimensions.



Substructure Quantity Table for Bent No. 1		
Item		Quantity
Class I Excavation	cu. yard	30
Galvanized Structural Steel Piles (10 in.)	linear foot	48
Pile Point Reinforcement	each	4
Class B-1 Concrete (Substructure)	cu. yard	14.5
Reinforcing Steel (Bridges)	pound	2351

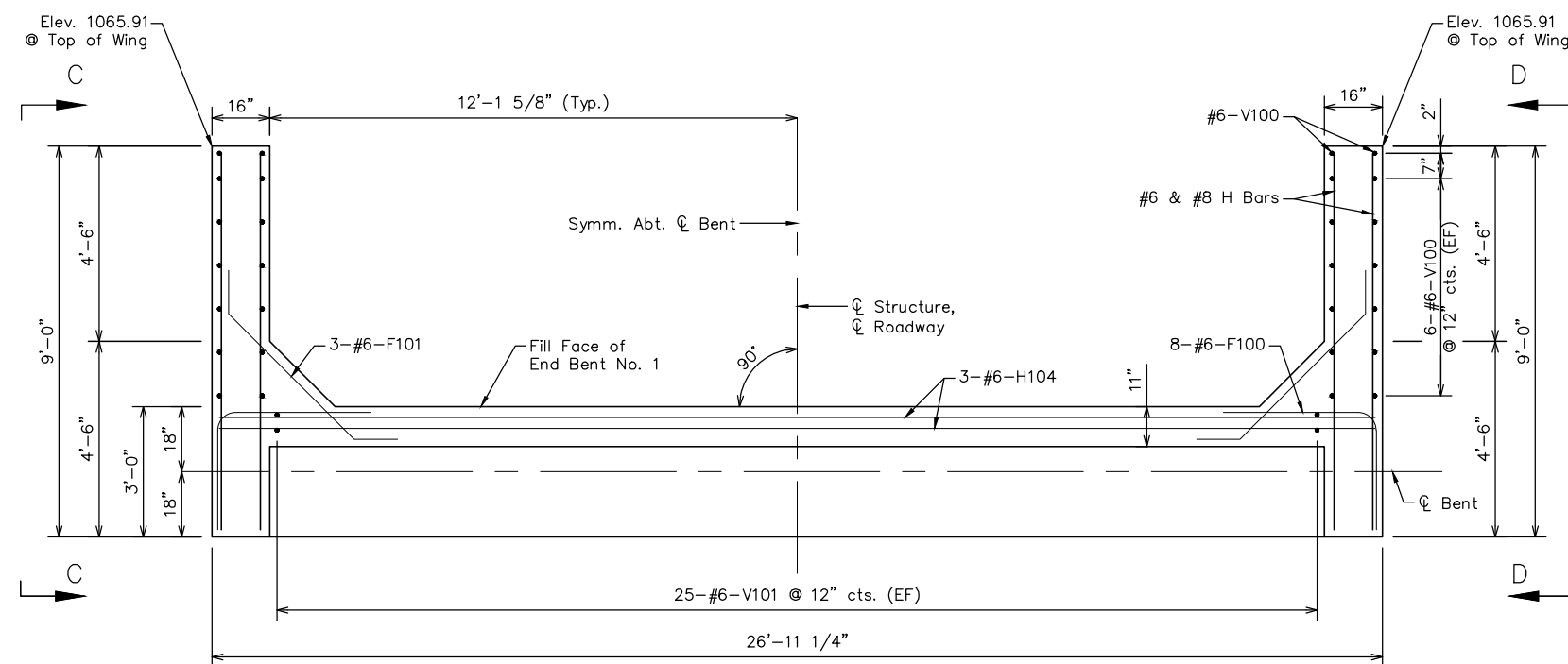
Note:
These quantities are included in the estimated quantities table on Sheet No. S2.

Notes:

For Sections A-A, B-B, Elevations C-C, & D-D and Section Thru Wing, see Sheet No. S5.

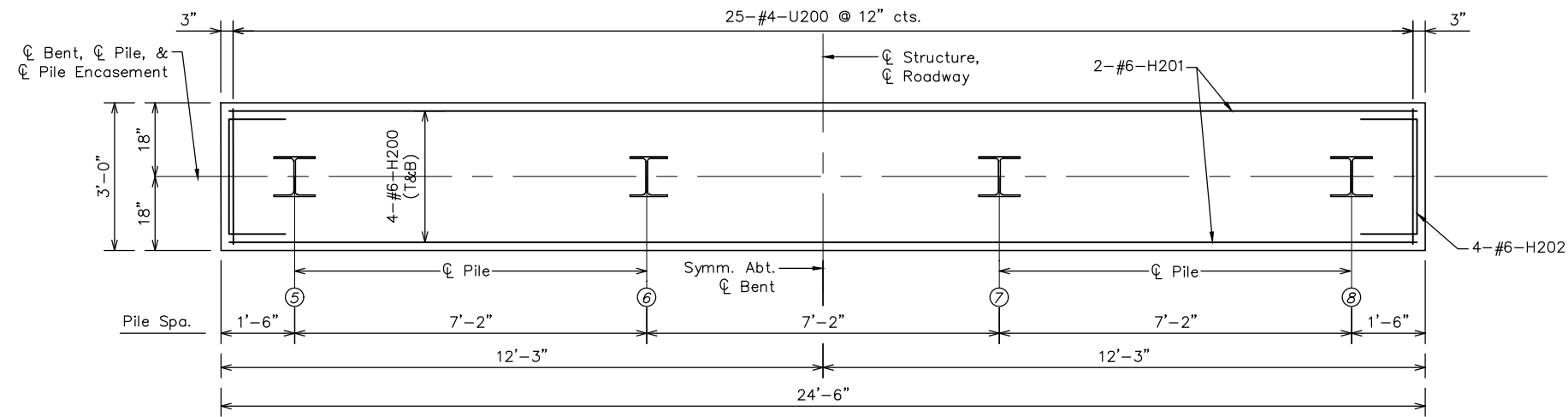
For details of End Bent No. 1 not shown, see Sheets No. S3 & S5.

For details of Thrie Beam Guardrail see Sheets No. S13 & S14.

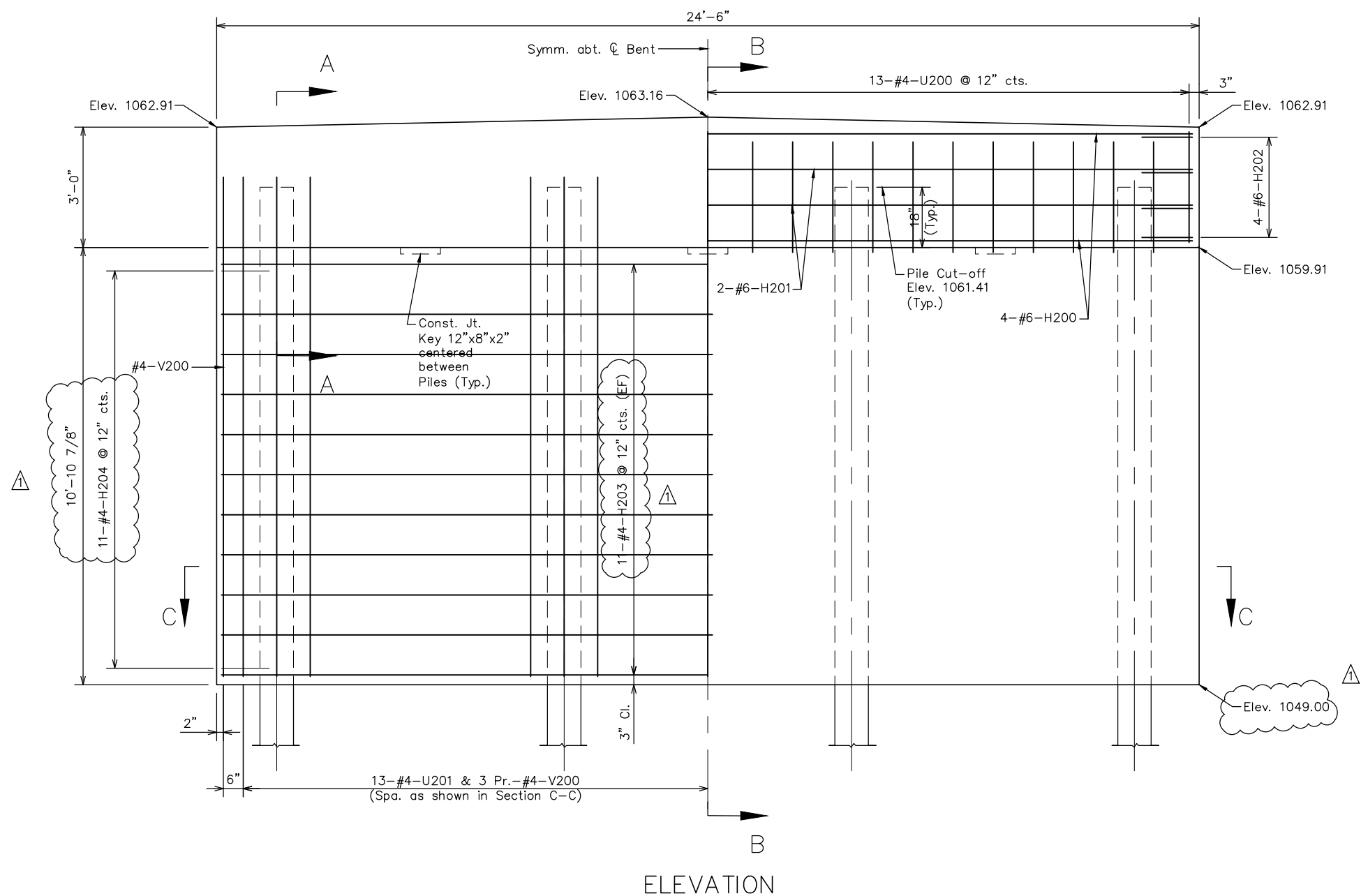


PART PLAN

Note: This drawing not to scale. Follow dimensions.



PLAN OF BEAM SHOWING REINFORCEMENT



ELEVATION

Notes:

For Sections A-A, B-B, & C-C, see Sheet No. S7.

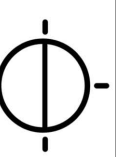
For details of Intermediate Bent No. 2 not shown, see Sheet No. S7.

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

HP pile shall be galvanized to the minimum galvanized penetration (Elevation) (Use Foundation Data).

Note: This drawing not to scale. Follow dimensions.

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Great River Engineering - Missouri State Certificate of Authority Numbers:
Engineering: 2001156865, Land Surveying: 2001011476,
Landscape Architecture: 2001015973

No.	Revision/Issue	Date
1	ADDENDUM #1	5.4.2021

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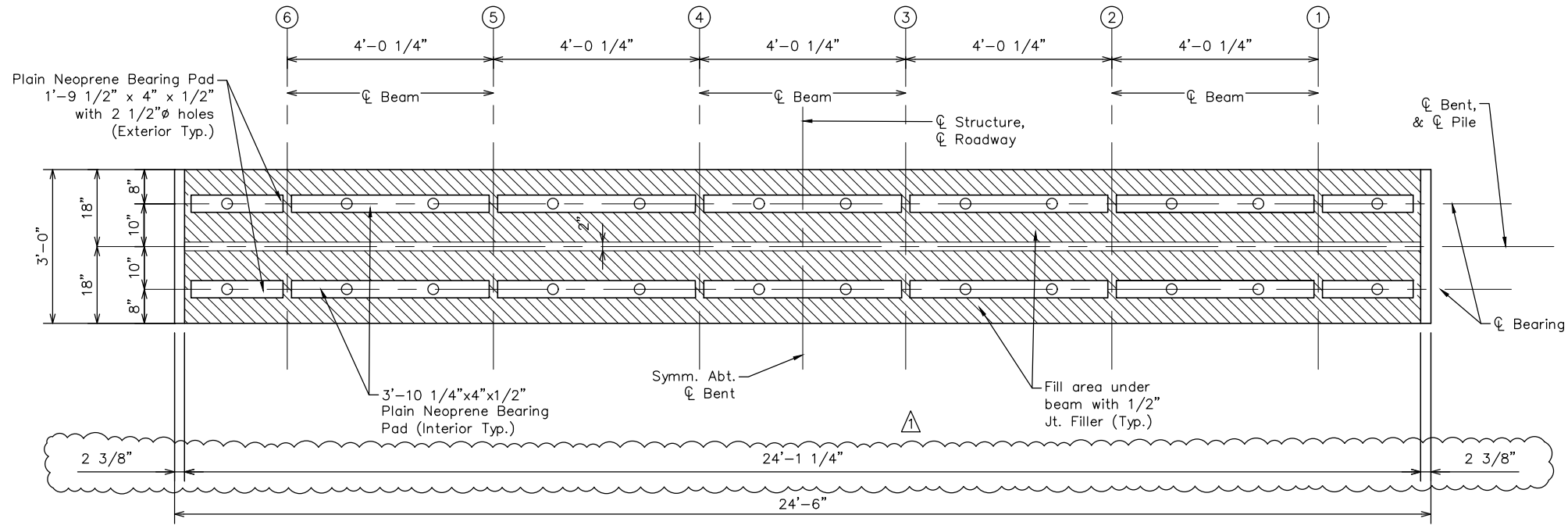


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MO# PE-2017030568

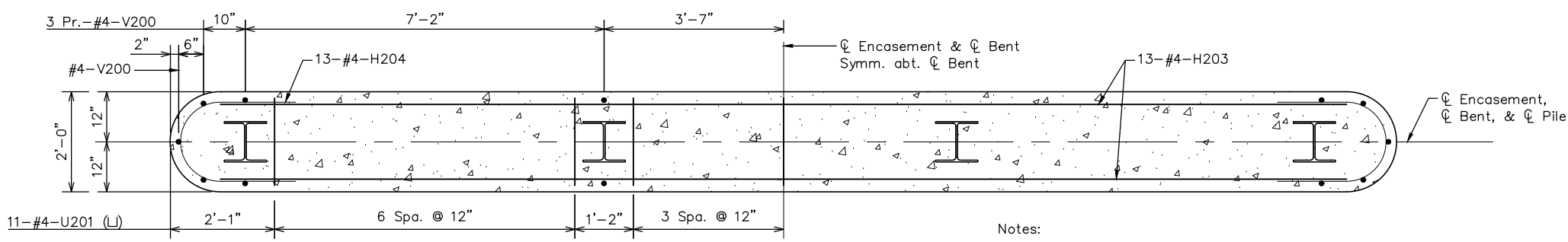
ROCKSDALE RD BRIDGE #23800001
DALLAS COUNTY, MISSOURI
DETAILS OF INTERMEDIATE BENT NO. 2

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JOB NUMBER: 4041
FILE NAME: 4041_STRUCTURAL
SCALE: NO SCALE
ISSUE DATE: FEBRUARY, 2021
SHEET NUMBER:

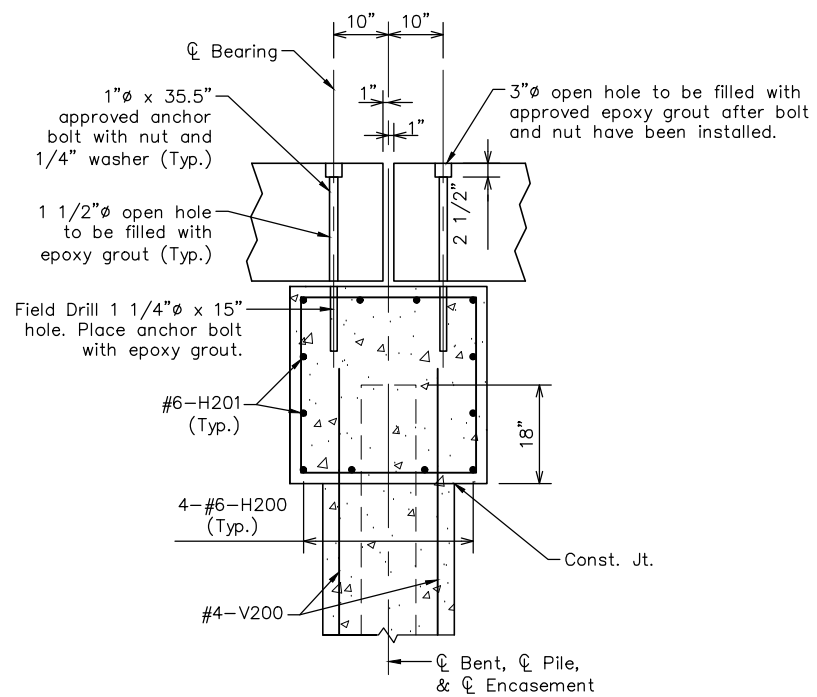
S6



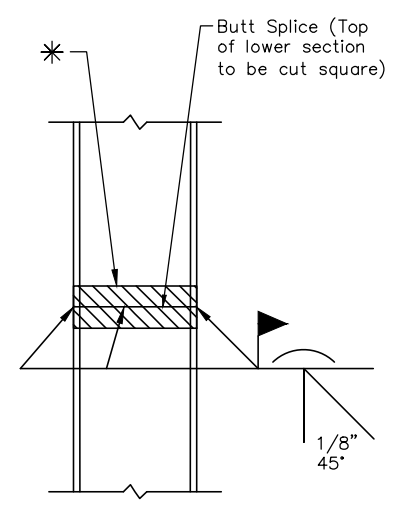
PLAN OF BEAM



SECTION C-C



SECTION A-A



STEEL PILE SPLICE
(if required)

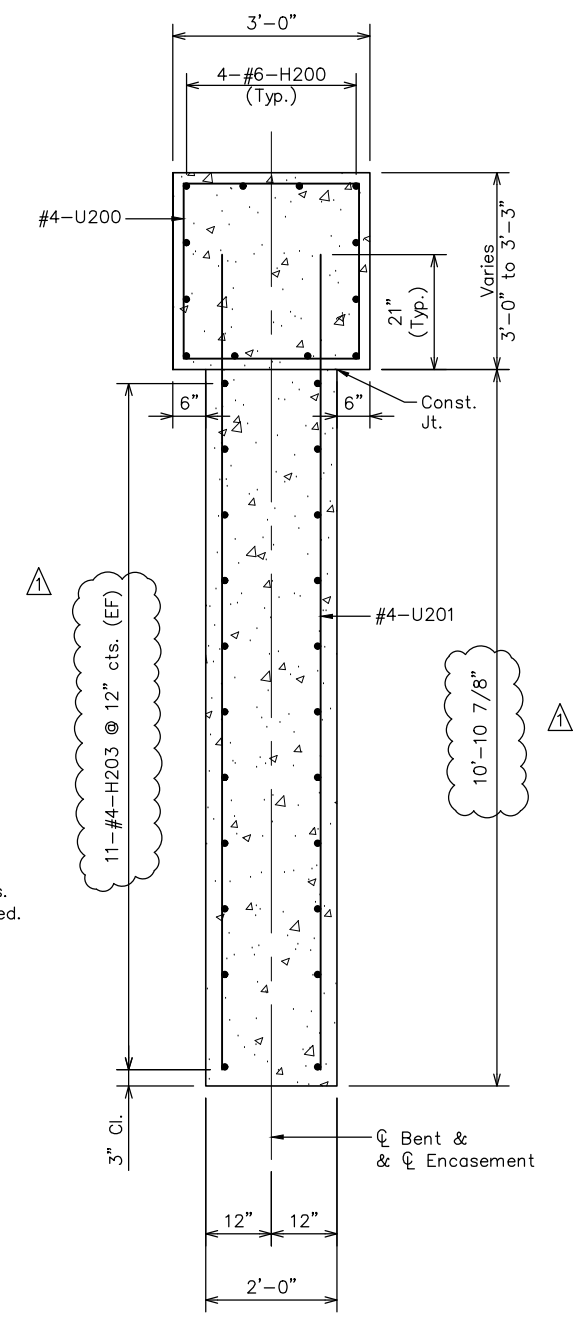
* Galvanizing material shall be omitted or removed 1 inch clear of weld location. See special provisions.

Notes:

- Anchor bolts shall be 1"Ø ASTM F1554 Grade 55 swaged bolts and shall extend 15" into the concrete with ASTM Grade A hex or heavy hex nuts and ASTM F436 hardened washers. Actual manufacturer's certified mill test reports (Chemical and Mechanical) shall be provided. Swedging shall be 1" less than extension into the concrete.
- Anchor bolts, hardened washers, and heavy hexagon nuts shall be coated with a minimum of two coats of inorganic zinc primer (5 mils minimum).
- For details of Int. Bent No. 2 not shown, see Sheet No. S6.
- For location of Section A-A, B-B, & C-C, see Sheet No. S6.
- Reinforcing steel shall be shifted to clear piles. U bars shall clear pile by at least 1 1/2 inch.
- HP pile shall be galvanized to the minimum galvanized penetration (Elevation) (Use Foundation Data).

Substructure Quantity Table for Bent No. 2		
Item		Quantity
Galvanized Structural Steel Piles (10 In.)	linear foot	72
Pre-Bore for Piling	linear foot	40
Pile Point Reinforcement	Each	4
Class B-1 Concrete (Substructure)	cu. yard	28.0
Reinforcing Steel (Bridges)	pound	1598

Note:
These quantities are included in the estimated quantities table on Sheet No. S2.



SECTION B-B

Note: This drawing not to scale. Follow dimensions.

Great River Engineering - Missouri State Certificate of Authority Numbers:
Engineering: 200015686, Land Surveying: 2001011476,
Landscape Architecture: 2001016973

Date: 5-4-2021

Revision/Issue: ADDENDUM #1

No. 1

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STATE OF MISSOURI
JEFFREY A. BANDERET, JR.
REGISTERED PROFESSIONAL ENGINEER
E-2017030568
JEFFREY A. BANDERET, JR. - ENGINEER
MO# PE-2017030568

ROCKSDALE RD BRIDGE #23800001

DALLAS COUNTY, MISSOURI

DETAILS OF INTERMEDIATE BENT NO. 2

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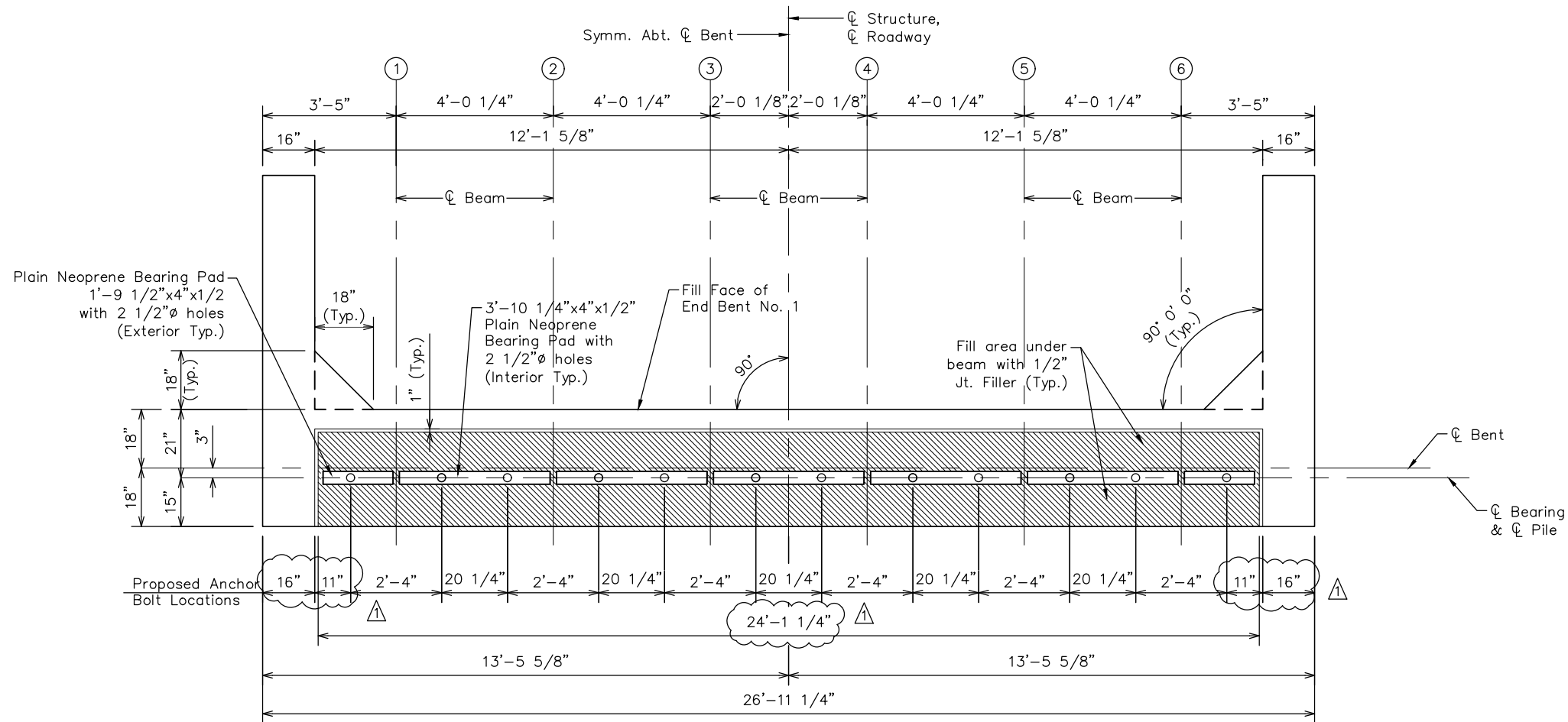
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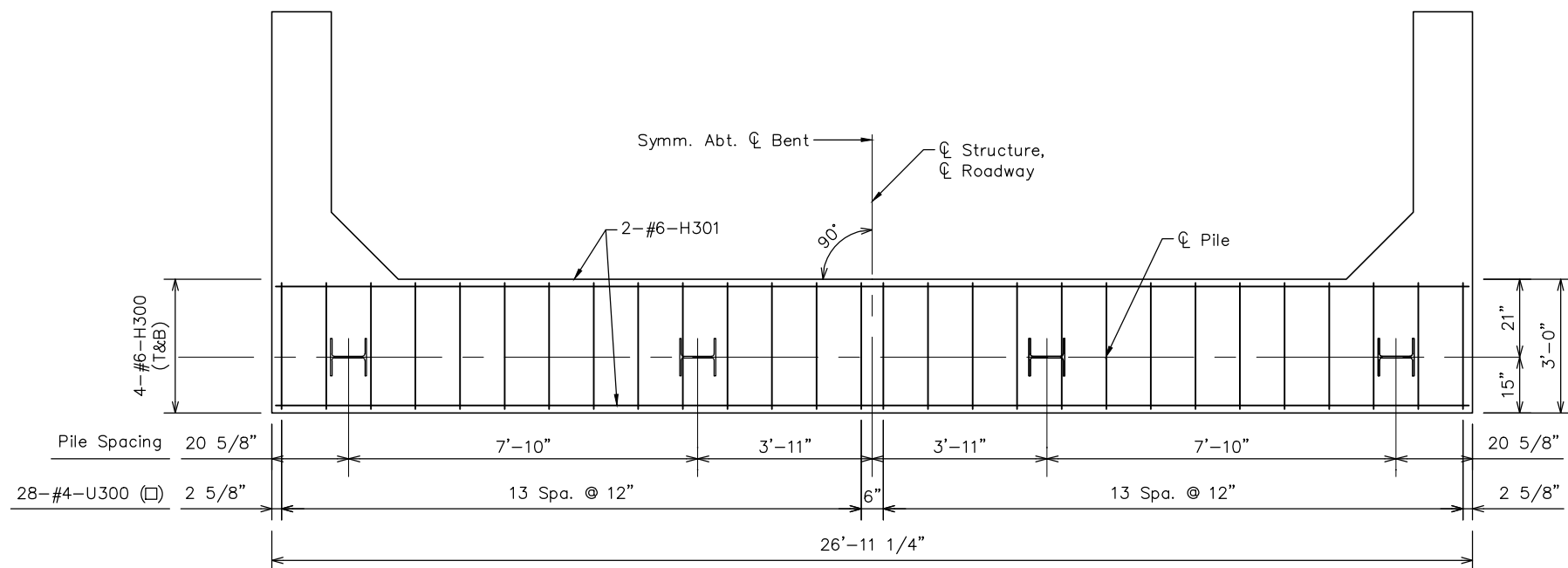
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ISSUE DATE: FEBRUARY, 2021

SHEET NUMBER: S7

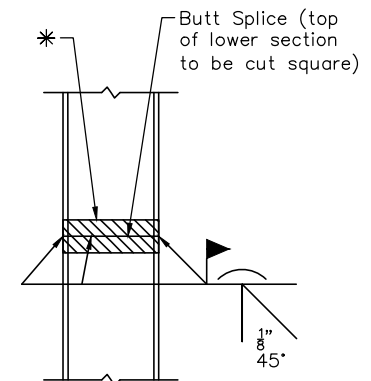


PLAN OF BEAM SHOWING DIMENSIONS



PLAN OF BEAM SHOWING REINFORCEMENT

Note: This drawing not to scale. Follow dimensions.



STEEL PILE SPLICE
(if required)

* Galvanizing material shall be omitted or removed 1 inch clear of weld location. See special provisions.

Notes:

For details of End Bent No. 3 not shown, see Sheets No. S9 & S10.

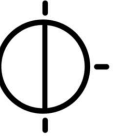
For Substructure Quantity Table for Bent No. 3, see Sheet No. S10.

The U bars and pairs-V bars shall be placed parallel to ϕ of roadway.

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

Reinforcement in wing in Plan of Beam not shown for clarity.

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Date
5.4.2021

Revision/Issue
#1

No. A

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



JEFFREY A. BANDERET, JR. - ENGINEER
MO# PE-2017030568

ROCKSDALE RD BRIDGE #23800001

DALLAS COUNTY, MISSOURI

DETAILS OF END BENT NO. 3

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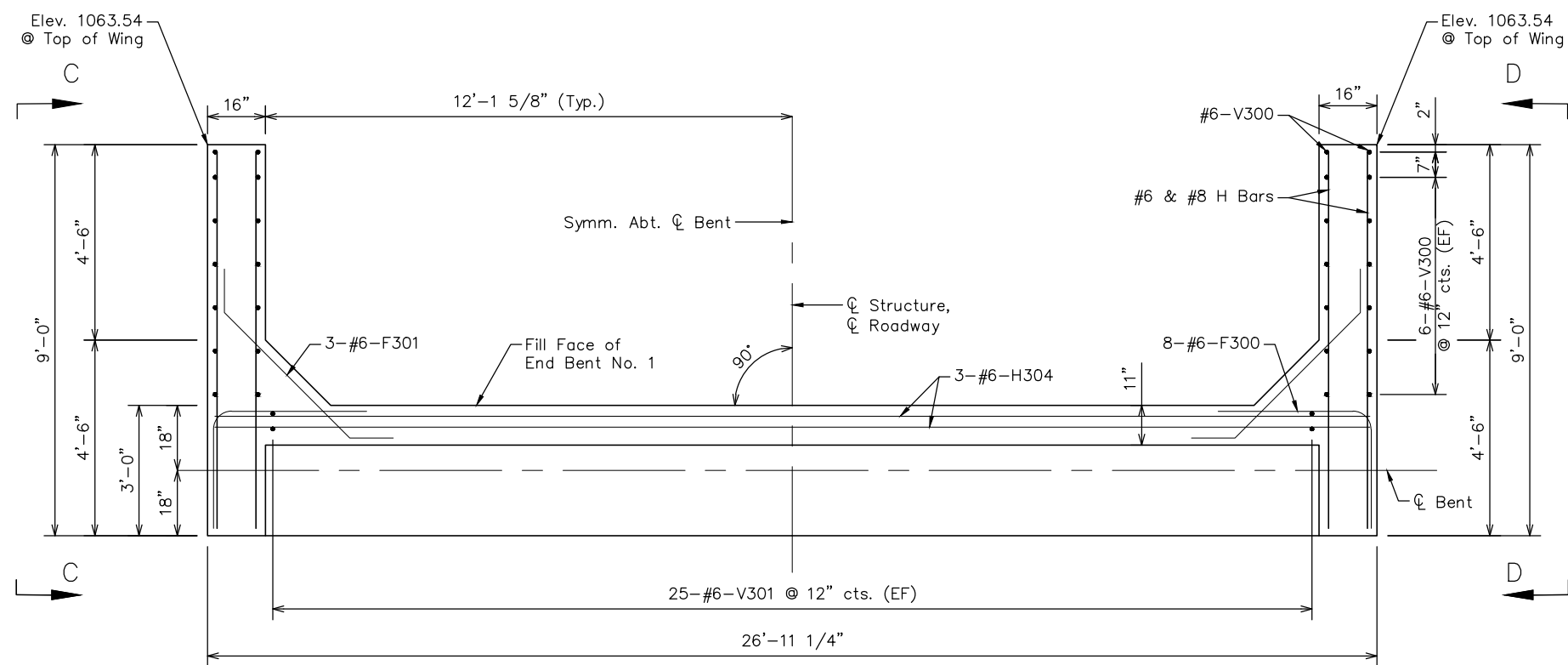
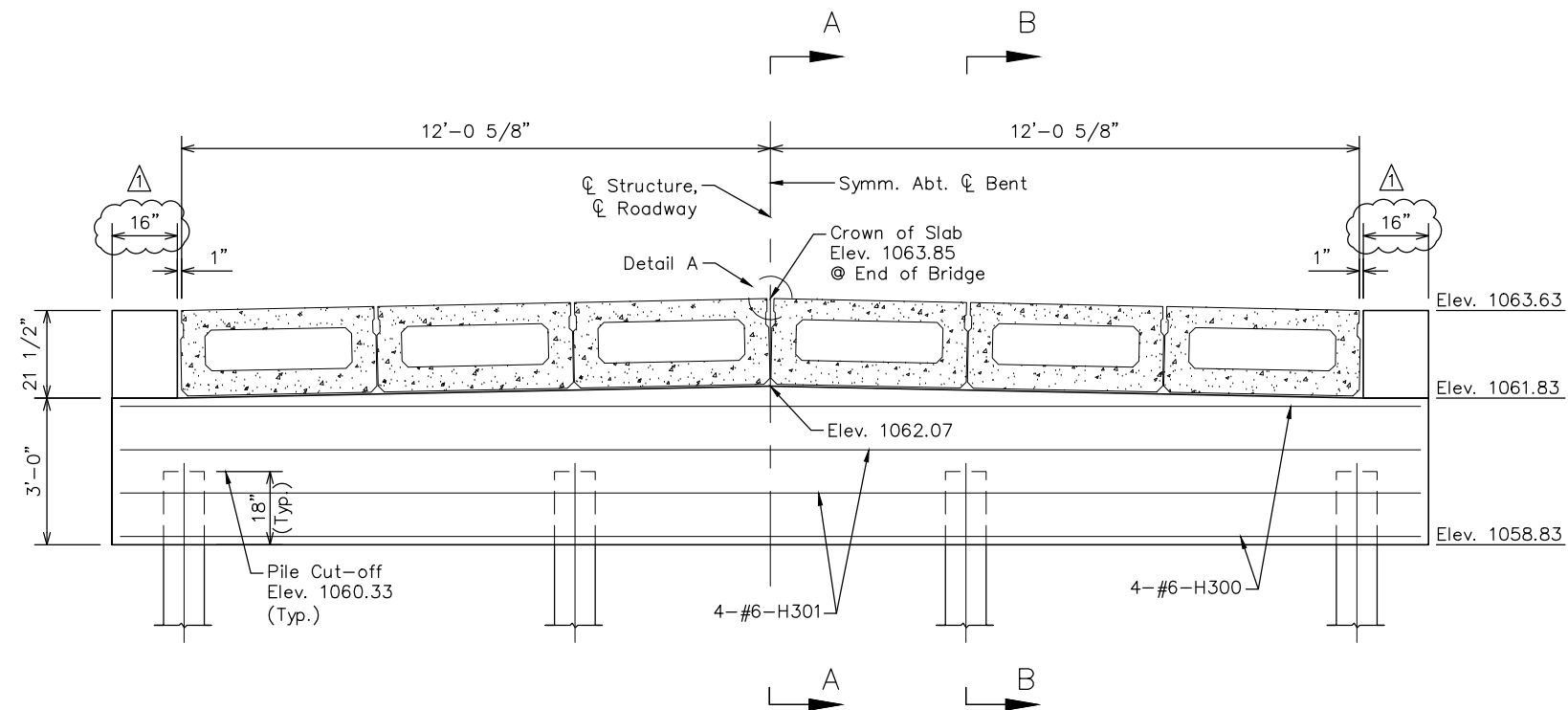
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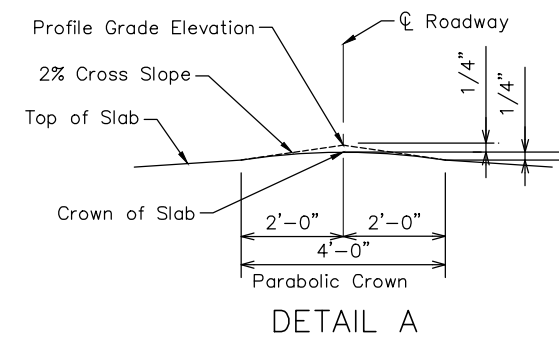
ISSUE DATE: FEBRUARY, 2021

SHEET NUMBER:

S8



Note: This drawing not to scale. Follow dimensions.



Item	Quantity
Class I Excavation	cu. yard
Galvanized Structural Steel Piles (10 in.)	linear foot
Pre-Bore for Piling	vertical foot
Pile Point Reinforcement	each
Class B-1 Concrete (Substructure)	cu. yard
Reinforcing Steel (Bridges)	pound

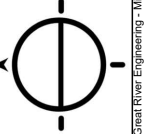
Note:
These quantities are included in the estimated quantities table on Sheet No. S2.

Notes:

For Sections A-A, B-B, Elevations C-C, & D-D and Section Thru Wing, see Sheet No. S10.

For details of End Bent No. 3 not shown, see Sheets No. S8 & S10.

For details of Thrie Beam Guardrail see Sheets No. S13 & S14.



Engineering: 2000156885, Land Surveying: 2001011476,
Landscape Architecture: 2007013673

ADDENDUM #1	DATE
Δ	5/4/2021
Δ	
Δ	
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MO# PE-2017030568

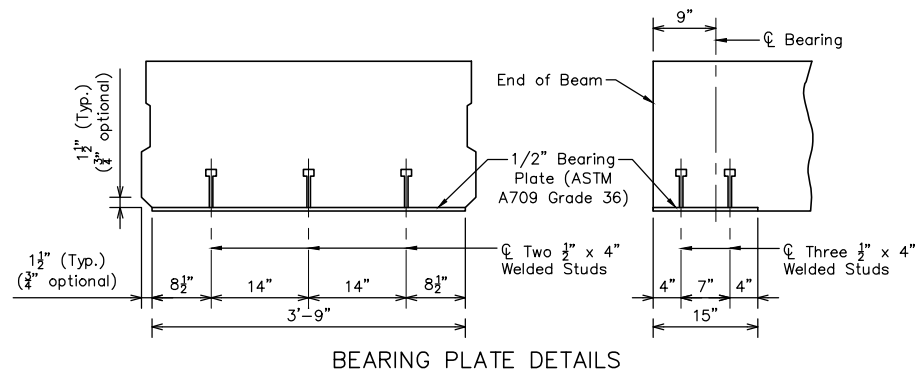
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DALLAS COUNTY, MISSOURI

DETAILS OF END BENT NO. 3

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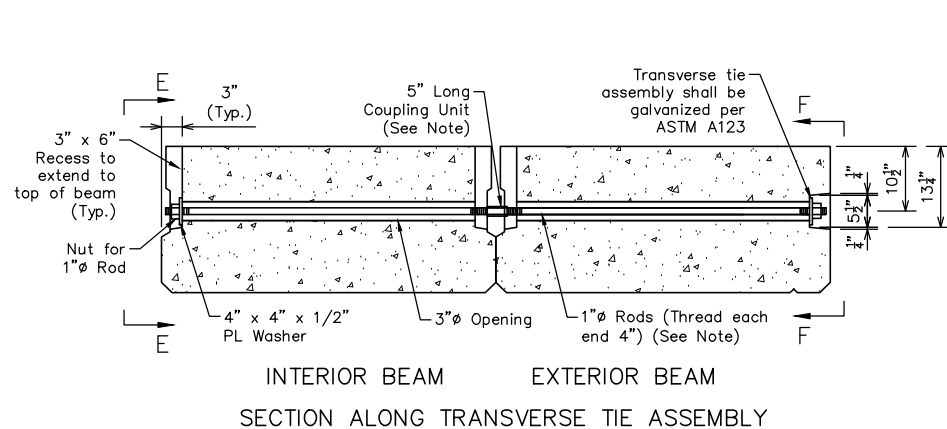
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SCALE: NO SCALE
PLOT DATE: FEBRUARY, 2021
SHEET NUMBER:

S9



Galvanize the 1/2" bearing plate (ASTM A709 Grade 36) in accordance with ASTM A123.

Cost of furnishing, galvanizing, and installing the 1/2" bearing plate (ASTM A709 Grade 36) and welded studs in the prestressed box beam will be considered completely covered by the contract unit price for 21 in. Prestressed Concrete Adjacent Box Beam.



Notes:

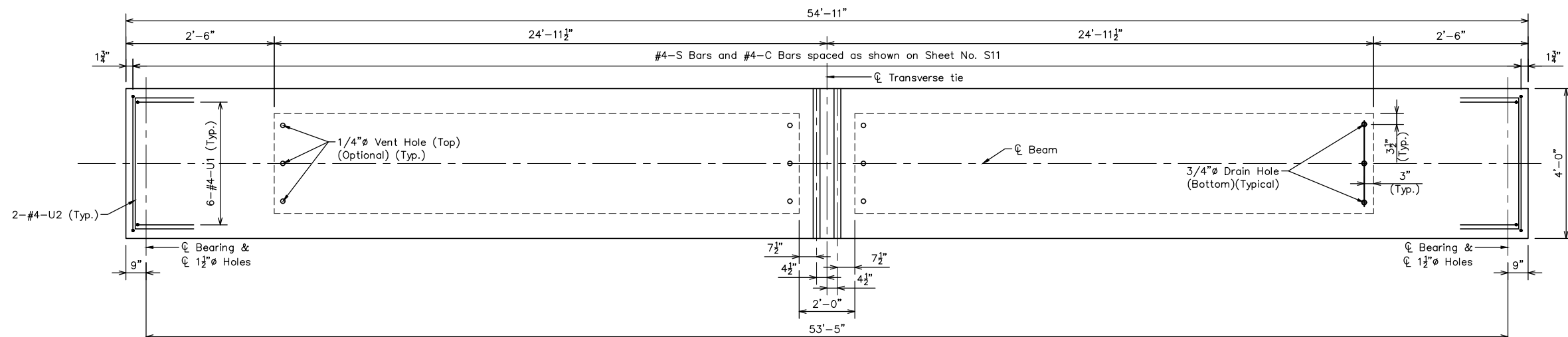
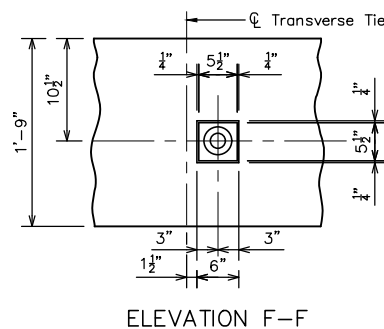
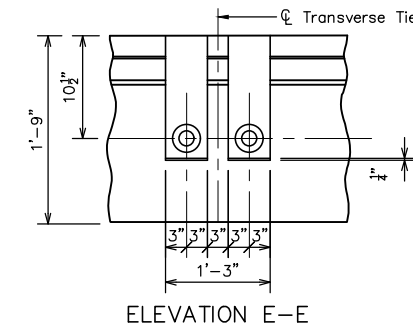
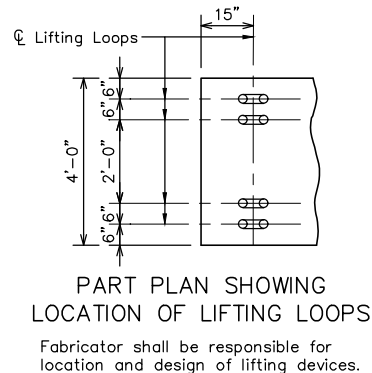
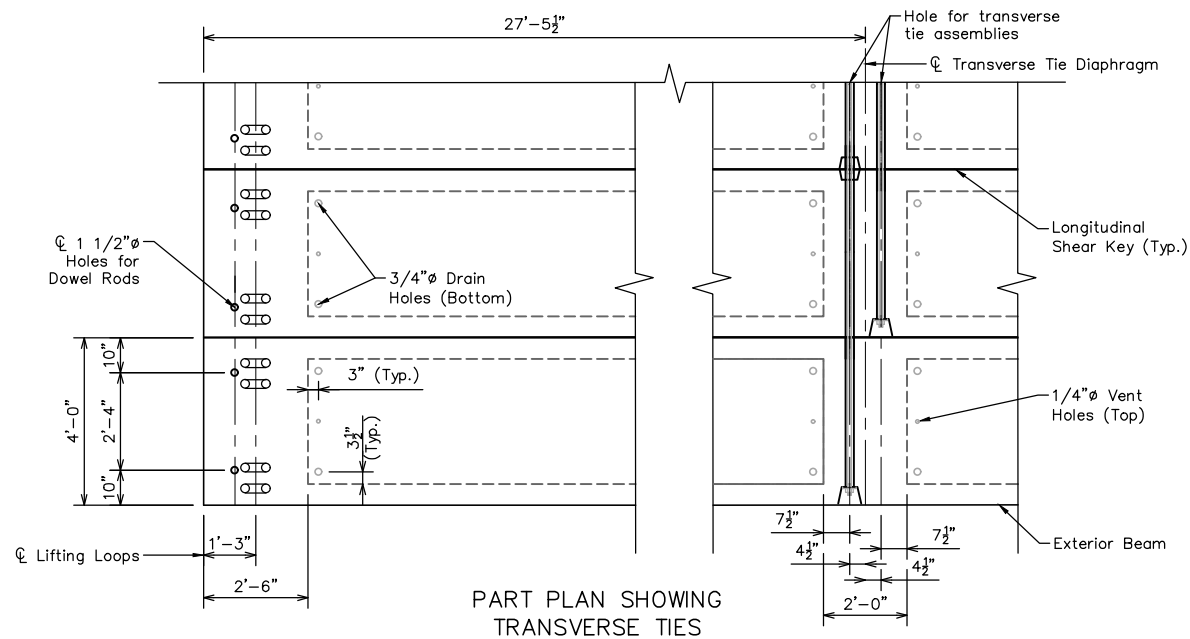
The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and then pre-tensioned by turn-of-nut pre-tensioning method. 1/3 turn must be applied after a snug fit has been applied. Pockets that receive transverse tie bar outside shall be filled with non-shrink grout after transverse tie assembly is in place. Tie rods shall be ASTM A36.

A minimum 2 1/2" lift pin shall be used to engage the lifting recessed anchors during handling.

Seal drains before concrete placement in the form and open before shipment. Vents to be open during curing periods and sealed flush with top of beam before shipment.

All necessary anchor bolts, non-shrink grout and any and all other miscellaneous devices and/or supplies will be considered completely covered by the contract unit price for Prestressed Concrete Box Beam.

Longitudinal shear keys shall be non-shrink grouted.



DETAILS OF ADJACENT BOX BEAMS

(S bars, C bars and strands not shown for clarity)

Note: This drawing not to scale. Follow dimensions.

Great River Engineering - Missouri State Certificate of Authority Numbers:
 Engineering: 200105685, Land Surveying: 200101176,
 Landscape Architecture: 200101673

Date	5.4.2021								
Revision/Issue	#1								
No.	ADDENDUM								

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

JEFFREY A. BANDERET, JR. - ENGINEER
 MO# PE-2017030568

ROCKSDALE RD BRIDGE #23800001

DALLAS COUNTY, MISSOURI

BOX BEAM DETAILS

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 CHECKED BY: JAB
 DRAWN BY: ALW
 JOB NUMBER: 4041
 FILE NAME: 4041_STRUCTURAL
 SCALE: NO SCALE
 ISSUE DATE: FEBRUARY, 2021
 SHEET NUMBER:

S12

BILL OF REINFORCING STEEL																									
NO.	REQ'D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS								NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT					
										B		C		D		E					F		H		K
										FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
			END BENT 1																						
16	6	F100	BACK WALL		19	S	X			4	11.000	2	8.000					7	7	5	178				
6	6	F101	WING BRACE		25	S	X			14.000	4	6.000		14.000			3	2.000	3	2.000	6	10	6	9	61
8	6	H100	BEAM		20		X			26	7.000							26	7	26	7			319	
4	6	H101	BEAM		20		X			26	7.000							26	7	26	7			160	
16	8	H102	WING		20		X			8	8.000							8	8	8	8			370	
24	6	H103	WING		20		X			8	8.000							8	8	8	8			312	
6	6	H104	BACK WALL		20		X			26	7.000							26	7	26	7			240	
28	4	U100	BEAM		13	S	X			2	8.000	2	7.000	2	8.000	2	7.000		11	3	10	11			204
28	6	V100	WING		20		X			4	4.000							4	4	4	4			182	
50	6	V101	BACK WALL		20		X			4	4.000							4	4	4	4			325	
			INT. BENT 2																						
8	6	H200	BEAM		20		X			24	2.000							24	2	24	2			290	
4	6	H201	BEAM		20		X			24	2.000							24	2	24	2			145	
8	6	H202	BEAM		10		X					22.000	2	7.000				6	3	5	11			71	
22	4	H203	ENCASEMENT		20		X			22	6.000							22	6	22	6			331	
22	4	H204	ENCASEMENT		7		X			2	9.500	19.000						6	5	6	5			94	
25	4	U200	BEAM		13	S	X			2	8.000	2	7.000	2	8.000	2	7.000		11	3	10	11			182
21	4	U201	ENCASEMENT		10	S	X					12	5.000	20.000				26	6	26	4			369	
14	4	V200	ENCASEMENT		20		X			12	5.000							12	5	12	5			116	
			END BENT 3																						
16	6	F300	BACK WALL		19	S	X			4	11.000	2	8.000						7	5				178	
6	6	F301	WING BRACE		25	S	X			14.000	4	6.000		14.000			3	2.000	3	2.000		6	9	61	
8	6	H300	BEAM		20		X			26	7.000								26	7				319	
4	6	H301	BEAM		20		X			26	7.000								26	7				160	
16	8	H302	WING		20		X			8	8.000								8	8				370	
24	6	H303	WING		20		X			8	8.000								8	8				312	
6	6	H304	BACK WALL		20		X			26	7.000								26	7				240	
28	4	U300	BEAM		13	S	X			2	8.000	2	7.000	2	8.000	2	7.000			10	11			204	
28	6	V300	WING		20		X			4	4.000								4	4				182	
50	6	V301	BACK WALL		20		X			4	4.000								4	4				325	

BILL OF REINFORCING STEEL																									
NO.	REQ'D.	D.	MARK NO.	LOCATION	EPOXY (E)	SHAPE NO.	STIRRUP (S)	SUBSTR. (X)	VARIES (V)	NO. EACH	DIMENSIONS												NOMINAL LENGTH	ACTUAL LENGTH	WEIGHT
											B		C		D		E		F		H				
											FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.
				TOTALS																					
				Reinforcing																					
				Steel																					
				(Bridges)																					
			4																		1500				
			6																		4060				
			8																		740				
				TOTAL																	6300				

SHAPE 6

SHAPE 7

SHAPE 8

SHAPE 9

SHAPE 10

SHAPE 11

SHAPE 12

SHAPE 13

SHAPE 14

SHAPE 15

SHAPE 16

SHAPE 17

SHAPE 18

SHAPE 19

SHAPE 20

SHAPE 21

SHAPE 22

SHAPE 23

SHAPE 24

SHAPE 25

SHAPE 26

SHAPE 27

SHAPE 28

SHAPE 29

SHAPE 30

SHAPE 31

SHAPE 32

SHAPE 33

SHAPE 34

SHAPE 35

SHAPE 36

SPOT WELD ASHTO M32 SIZE W5 WIRE (TYP.)

VERTICAL LEG

3" PITCH

1-1/2 TURNS

90° STIRRUP

135° STIRRUP

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

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

90°

4d OR 2 1/2" MIN.

180°

4d OR 2 1/2" MIN.

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

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

GRE GREAT RIVER ENGINEERING

Rocksdale Rd Bridge #23800001

Dallas County, Missouri

Bill of Reinforcing

Date: 5-4-2021

Revision/Issue: #1

ADDENDUM #1

No. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

STATE OF MISSOURI
JEFFREY A. BANDERET, JR.
REGISTERED PROFESSIONAL ENGINEER
E-2017030568

JEFFREY A. BANDERET, JR. - ENGINEER
MO# PE-2017030568

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CHECKED BY: JAB

DRAWN BY: ALW

JOB NUMBER: 4041

FILE NAME: 4041_STRUCTURAL

SCALE: NO SCALE

ISSUE DATE: FEBRUARY, 2021

SHEET NUMBER: S16



Dallas County
Rocksdale Road
BRO-B030(10)

CONTRACTOR NAME: _____
ADDRESS LINE 1: _____
ADDRESS LINE 2: _____
PHONE NUMBER: _____
EMAIL: _____

DATE: _____

ITEMIZED BID FORM

LINE	ITEM	DESCRIPTION	UNITS	QUANTITY	UNIT PRICE	AMOUNT
ROADWAY ITEMS						
1	201	CLEARING AND GRUBBING	ACRE	0.5	_____	_____
2	203	UNCLASSIFIED EXCAVATION (ROADWAY)	C.Y.	50	_____	_____
3	203	EMBANKMENT IN PLACE W/COMPACTION	C.Y.	574	_____	_____
4	304	TYPE 1 AGGREGATE FOR BASE (5 IN. THICK)	S.Y.	1018	_____	_____
5	606	TYPE A CRASHWORTHY END TERMINAL	EACH	4	_____	_____
6	606	ASYMETRICAL TRANSITION SECTION, 6.5 FT. POSTS	EACH	4	_____	_____
7	607	WOVEN WIRE FENCE	L.F.	247	_____	_____
8	611	FURNISHING AND PLACEMENT OF TYPE 2 ROCK BLANKET	C.Y.	353	_____	_____
9	616	TYPE III MOVEABLE BARRICADE WITH LIGHT	EACH	6	_____	_____
10	616	CONSTRUCTION SIGNS	S.F.	63	_____	_____
11	618	MOBILIZATION	L.S.	1	_____	_____
12	725	12 IN. DIAMETER CORRUGATED METAL PIPE	L.F.	30	_____	_____
13	805	SEEDING	ACRE	0.51	_____	_____
14	806	ROCK DITCH CHECK	EACH	10	_____	_____
					ROADWAY ITEMS SUBTOTAL	_____
BRIDGE ITEMS						
15	206	CLASS 1 EXCAVATION	C.Y.	60	_____	_____
16	216	REMOVAL OF BRIDGES	L.S.	1	_____	_____
17	702	GALVANIZED STRUCTURAL STEEL PILES (10 IN)	L.F.	172	_____	_____
18	702	PRE-BORE FOR PILING	L.F.	80	_____	_____
19	702	PILE POINT REINFORCEMENT	EACH	12	_____	_____
20	703	CLASS B-1 CONCRETE (SUBSTRUCTURE)	C.Y.	57	_____	_____
21	703	BRIDGE GUARDRAIL (THRIE BEAM)	L.F.	225	_____	_____
22	705	21 IN., PRESTRESSED CONCRETE ADJACENT BOX BEAM	L.F.	659	_____	_____
23	706	REINFORCING STEEL (BRIDGES)	LBS	6300	_____	_____
24	716	PLAIN NEOPRENE BEARING PAD	EACH	28	_____	_____
					BRIDGE ITEMS SUBTOTAL	_____
					TOTAL CONTRACT	_____

Addenda

Signature

- 1 _____
- 2 _____
- 3 _____