SECTION 905 -- PROPOSAL (CONTINUED)

I (We) hereby certify by digital signature and electronic submission via Bid Express of the Section 905 proposal below, that all certifications, disclosures and affidavits incorporated herein are deemed to be duly executed in the aggregate, fully enforceable and binding upon delivery of the bid proposal. I (We) further acknowledge that this certification shall not extend to the bid bond or alternate security which must be separately executed for the benefit of the Commission. This signature does not cure deficiencies in any required certifications, disclosures and/or affidavits. I (We) also acknowledge the right of the Commission to require full and final execution on any certification, disclosure or affidavit contained in the proposal at the Commission's election upon award. Failure to so execute at the Commission's request within the time allowed in the Standard Specifications for execution of all contract documents will result in forfeiture of the bid bond or alternate security.

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda):

ADDENDUM NO.	1	DATED	4/21/2022	ADDENDUM NO.		DATED	
ADDENDUM NO		DATED		ADDENDUM NO.		DATED	
ADDENDUM NO		DATED		ADDENDUM NO.		DATED	

Number	Description
1	Revised Notice to Bidder Nos. 4106 & 4140; Revised Bid Items; Amendment EBSx Download Required.

TOTAL ADDENDA: 1
(Must agree with total addenda issued prior to opening of bids)

Respectfully Submitted,

DATE _____

_____
Contractor

BY _____
Signature

TITLE _____

ADDRESS _____

CITY, STATE, ZIP _____

PHONE _____

FAX _____

E-MAIL _____

(To be filled in if a corporation)

Our corporation is chartered under the Laws of the State of _____ and the names, titles and business addresses of the executives are as follows:

_____
President Address

_____
Secretary Address

_____
Treasurer Address

The following is my (our) itemized proposal.

NHPP-0037-04(068)/ 108844301000

Madison County(ies)

Revised 01/26/2016

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 -NOTICE TO BIDDERS NO. 4106 **CODE: (SP)**

DATE: 04/21/2022

SUBJECT: Scope of Work

PROJECT: NHPP-0037-04(068) / 108844301 – Madison County

The contract documents do not include an official set of construction plans but may, by reference, include some Standard Drawings when so specified in a Notice to Bidders entitled, "Standard Drawings".

Minor changes in detail of design or construction procedure may be authorized by the Director of Structures, State Bridge Engineer provided such changes will not be cause for contract price adjustment. Work for which no pay item is provided will not be paid for directly and shall therefore be considered an absorbed item of work.

It shall be the responsibility of the Contractor to protect the existing structure from damage which might occur during construction. The Contractor shall replace or repair, as directed by the Engineer, any structures damaged by the Contractor during the life of the contract. No payment will be made for replacement or repair of damaged items.

All details are based on the dimensions shown on the original plans for the existing structure. The Contractor shall be responsible for adjusting the elements of the new construction to ensure a proper fit with the existing structure. The Contractor shall verify all dimensions of the existing structure prior to beginning work.

During construction, care shall be exercised to ensure that no debris falls into the Pearl River crossing below the structure. All debris, including any material that has accumulated on the bridge deck or caps, shall become the property of the Contractor and shall be removed from the construction site and disposed of properly.

Work on the project shall consist of and be performed in the sequence of the following bridge repairs on Bridge 183.7 (14295) on SR 43 over Pearl River in Madison County.

Scope of Work - Bridge 183.7 (14295)

- Repair all specified spall locations with epoxy mortar.
- Reinforce bent caps with FRP Wrap.
- Install prestress pile encasement repair system.
- Remove and replace portions of the bridge deck.
- Install Hybrid Polymer Concrete Overlay over entire bridge deck.
- Remove and replace all preformed joint seals at the open joints.
- Fill void underneath End Bent No. 1.
- Clean all caps.

Erosion Control Measures - Bridge 183.7 (14295)

- No dirt can be pushed into the river.
- If a platform for working is needed then riprap may be used (cost absorbed).
- Minimize disturbances to existing banks.
- Clearing should be kept to a minimum and grubbing only where required.
- Turbidity curtain may be required.

For additional information and details, see work related items below and on the standard drawings. At the Contractor's request, Bridge Division will provide a complete set of As-Built plans for the existing bridge.

PERMITS ACQUIRED BY MDOT		
WETLANDS AND WATERS PERMITS		
	WATERS	WETLANDS
NATIONWIDE #14	N	N
NATIONWIDE (OTHER)*	Y	N
GENERAL*	N	N
INDIVIDUAL (404)*	N	N
STORMWATER PERMIT	N	
Y	REQUIRED, CNOI SUBMITTED BY MDOT (DISTURBED AREA = 5 ACRES)	
S	REQUIRED, SCNOI TO BE SUBMITTED BY CONTRACTOR (1 TO 4.99 ACRES)	
N	NO STORMWATER PERMIT REQUIRED (<1 ACRE)	
APPROVED BY: _____		

General Epoxy Repair

All epoxy repairs shall be performed in accordance with the details shown on the Standard Drawings and in accordance with the notes herein. Concrete spalled areas on the bridge shall be repaired as directed by the Project Engineer and the locations listed on the Drawings using epoxy mortar. The Contractor shall determine the depth of reinforcement prior to any saw cutting. Spalled areas where pack rust has developed around or on reinforcement shall be blasted clean prior to repairing the spalled location. All areas of the bridge repaired with epoxy mortar shall be restored to the original dimensions as shown in the information plans, unless noted otherwise.

Materials:

1. Epoxy Resin: Resin shall be selected from the MDOT Approved Products List and meet the requirements of ASTM C881, Type I, Grade 2, Class C.
2. Silica Sand: The materials shall be bagged general purpose cleaning sand.
3. Epoxy Mortar Mix: The epoxy mortar mix shall consist of part liquid epoxy and part clean dry sand mixed in the ratio recommended by the Manufacturer.

Applications:

a. A Representative of the Epoxy Manufacturer must be present for sufficient time to ensure that the Contractor is properly schooled in the use of the epoxy material.
b. Prior to placement of the mortar mix, the prepared surface shall be lightly primed with neat epoxy.
c. Acetone alcohol may be used to clean and lubricate trowels.
d. Curing time shall be in accordance with the Manufacturer's recommendations.

All items of work related to epoxy repair shall be paid for under pay item 907-824-PP: Bridge Repair, Epoxy Repair. Epoxy repair under this pay item is for general concrete spall repairs, and shall be bid such that the item may be increased, decreased or eliminated as directed by the project engineer.

FRP Wrap

After all spalled locations on the bent caps are repaired, the repair locations on all bent caps shall be wrapped with FRP wrap in accordance with the notes below and the drawings.

FRP wrap shall be one of the following products, or an approved equal, and shall be applied according to the Manufacturer's recommendations:

1. "FRP Wrap" as manufactured by Fyfe Co. LLC, www.aegion.com/about/our-brands/fyfe
2. "FRP Wrap" as manufactured by BASF Building Systems LLC, www.master-builders-solutions.basf.us
3. "FRP Wrap" as manufactured by QuakeWrap Inc. www.quakewrap.com

The Contractor shall furnish all submittals indicating the materials, tools, equipment, transportation, necessary storage, labor, installation plan and supervision required for the application of the composite or polymer system to the Director of Structures, State Bridge Engineer through the Project Engineer prior to construction. Products shall be stored according the manufacturer's requirements and shall avoid contact with moisture, dust and chemical exposure. All FRP composite systems shall be proprietary systems consisting of all associated fiber reinforcement and polymer adhesives/resins. FRP composites consisting of fiber reinforcement and polymers provided by more than one manufacturer are not allowed. The FRP composite system shall utilize carbon fiber reinforcement as the primary fiber material (primary structural component). The FRP system shall be top coated with a coating approved by the FRP system supplier. The coating color shall be selected by the Project Engineer.

FRP wraps shall not be installed when the ambient temperature is below 40°F or above 130°F. In cold conditions, auxiliary heat may be applied to raise the ambient temperature to a suitable level.

Clean heat sources shall be utilized for this purpose (e.g., electric or propane) that do not contaminate the substrate with carbonation.

FRP wraps shall not be installed when surface moisture is present on the substrate or when rainfall or condensation is anticipated in the work areas. If water leakage exists through cracks or concrete joints, water flow shall be stopped prior to FRP installation. Resins, including primers and fillers, shall be mixed according to the FRP system manufacturer's installation instructions. All resin components shall be at a proper temperature and mixed in the manufacturer's prescribed mix ratio until there is a uniform and complete mixing of components.

Resin components are often contrasting colors, so full mixing is achieved when color streaks are eliminated. Resins should be mixed for the Manufacturer's prescribed mixing time and visually inspected for uniformity of color. A representative of the FRP wrap manufacturer must be present for sufficient time to assure that the Contractor is properly schooled in the installation of FRP wrap. Prior to installation of FRP wraps, the Contractor shall repair concrete spall areas in accordance with general epoxy repair notes herein and the details on the Drawings. The fibrous reinforcement system shall have a minimum tensile force of 2.1 kips/in. in the direction of the shear reinforcement. The direction of the fiber wrap shall be in the direction of the shear reinforcement (vertical for bent caps).

In addition to the Manufacturer's requirements, the Contractor shall ensure the structural and durability of the reinforced fiber wrap system by meeting the following acceptance guidelines:

1. Small delaminations, less than 2" each, are permissible as long as the delaminated area is less than 5% of the total laminate area and there are no more than 10 such delamination per 10 ft.
2. Large delaminations, greater than 25", can affect the performance of the installed system and shall be repaired by selectively cutting away the affected sheet and applying an overlapping sheet patch of equivalent piles; and
3. Delaminations, less than 25", may be repaired by ply replacement.

The Contractor shall submit an FRP repair procedure to the Director of Structures, State Bridge Engineer for review and approval. This must be given prior to repairing and delaminated areas.

All labor, materials, and surface preparation associated with the installation of FRP wraps, including epoxy mortar repairs, shall be included in pay item 907-824-PP: Bridge Repair, FRP Wrap.

Pile Repair

All pile locations shown in the Drawings shall be repaired with a pile repair system applied according to the manufacturer's recommendations. One of the following systems, or an approved equal, shall be used to repair the pile:

1. "FX-70 Structural Piling Repair and Protection System" as manufactured by Simpson Strong-Tie www.strongtie.com
2. "PileForm F FRP Pile Rehabilitation Jacket" as manufactured by Five Star Marine Inc.

www.fivestarproducts.com
3. "PileMedic" as manufactured by QuakeWrap Inc. www.pilemedic.com

All pile repair systems shall be proprietary systems consisting of all associated fiberglass jackets and marine epoxy grout/resins.

For all other notes regarding the pile repair system, see the attached repair details.

Payment for this work shall be made under pay item 907-824-PP: Bridge Repair, Pile Repair.

Bridge Deck Removal & Replacement

Full depth and other removal of the bridge deck shall be performed in the locations detailed in the Standard Drawings. All new concrete shall be bridge deck overlay concrete that meets the details and specifications in the Standard Drawings and shall be class "AA".

Prior to removing the section of bridge deck, all slab reinforcement within the limits of the removal section shall be located by the Contractor. A 1-inch saw cut shall be made around the perimeter of the removal area prior to the concrete removal. Care shall be exercised to protect the existing reinforcement from damage. Any reinforcement damaged during the concrete removal shall be repaired by the Contractor by a method approved by the Director of Structures, State Bridge Engineer at no additional cost to the State. All reinforcement to remain in place shall be blasted clean prior to pouring new concrete. Removal of concrete shall be done with a handheld chipping hammer no larger than 30 lbs. All existing concrete surfaces that will be in contact with new concrete shall be painted with epoxy binder specifically designed to bond new concrete to old. The epoxy binder shall be applied per the manufacturer's specifications. New concrete shall be placed in one lift.

The surface finish of the repair location shall match the existing finish and shall be in accordance with Subsection 501.03.18.4 or 501.03.18.2 of the Standard Specifications.

The cost of saw cutting around the removal area, removing concrete, cleaning existing reinforcement that is to remain, labor and any other items of work necessary to complete the full or partial depth slab removal that is detailed in the standard drawings shall be paid for under pay item 907-824-PP: Bridge Repair, Removal of Bridge Deck.

The cost of the epoxy binder, new concrete required, new reinforcement required, labor and any other items of work necessary to complete the new construction of the full or partial depth bridge deck area to be replaced shall be paid under pay item 907-804-O: Bridge Deck Overlay Concrete.

Hybrid Polymer Concrete Overlay

Hybrid Polymer concrete shall be the following:

1. Hybrid Polymer CE700 as manufactured by FasTrac Construction Products. https://www.fastracproducts.com/

The overlay shall be placed at a minimum thickness of ½"

A Manufacturer representative shall be present for sufficient time to ensure that the Contractor is properly schooled in surface preparation and placement requirements for the overlay.

Surface preparation shall be performed as per the Manufacturer's recommendations.

The hybrid polymer concrete overlay shall have a calcined bauxite topping that will produce a friction number of at least 65 in accordance with AASHTO Designation: T 242 using a tire meeting the requirements of AASHTO Designation M 261. The Department will conduct a friction test within 30 days after installation to verify that the material meets a friction number of 65.

All materials and labor associated with this item of work shall be paid for per cubic yards of overlay installed under pay item 907-824-PP007: Bridge Repair, Hybrid Polymer Concrete Overlay.

Joint Sealing

All joints on the bridge shall be repaired and resealed. The joint repair shall include removal of all existing joint material, repair of joint, saw cutting, installation of the performed joint seal and other necessary work per the included standard drawings or as instructed by the Engineer. If the bridge has an asphalt approach, the joint between the asphalt and concrete shall not be disturbed. Removal of material from all other joint types will not be paid directly and shall be considered an absorbed item of work. After the existing joint material has been removed, the joints shall then be saw cut as per the Joint Repair Drawings. Saw cuts will be paid for under pay item 907-823-B: Saw Cut, Type I. The joints are then to be repaired, if necessary, with epoxy mortar or an approved equivalent. This work will be paid for under pay item 907-808-A: Joint Repair with Epoxy.

The joint shall then be sealed by one of the three approved Manufacturers listed in Special Provisions 907-823 and installed according to the Manufacturer's specifications.

Underseal

Voids under end bent cap shall be filled with injectable urethane compound material meeting the required properties in table below. Prior to injection, the site shall be prepared according to the Manufacturer's recommendations.

Urethane compound shall be installed in strict accordance with Manufacturer's instructions. All labor, preparations and materials associated with filling the voids underneath the bent caps shall be included in pay item 907-420-A: Undersealing.

Required Urethane Compound Properties		
Property	Minimum Requirement	ASTM Test Method
Density	4.0 pcf	D 1622
Tensile Strength	100 psi	D 1622
Compressive Strength	90 psi	D 1621

Cap Cleaning

The caps at every bent shall be cleaned to the satisfaction of the Project Engineer after all other work has been done. All large debris shall be removed by hand while other debris, including but not limited to dirt and rust, shall be removed by pressure washing the bent caps. The pressure washer shall be able to maintain 3,500 psi of pressure. Prior to construction, the Contractor shall submit a proposed containment plan to the Project engineer for approval by the Director of Structures, State Bridge Engineer.

This work will be paid under pay item 907-824-PP: Bridge Repair, Cap Cleaning.

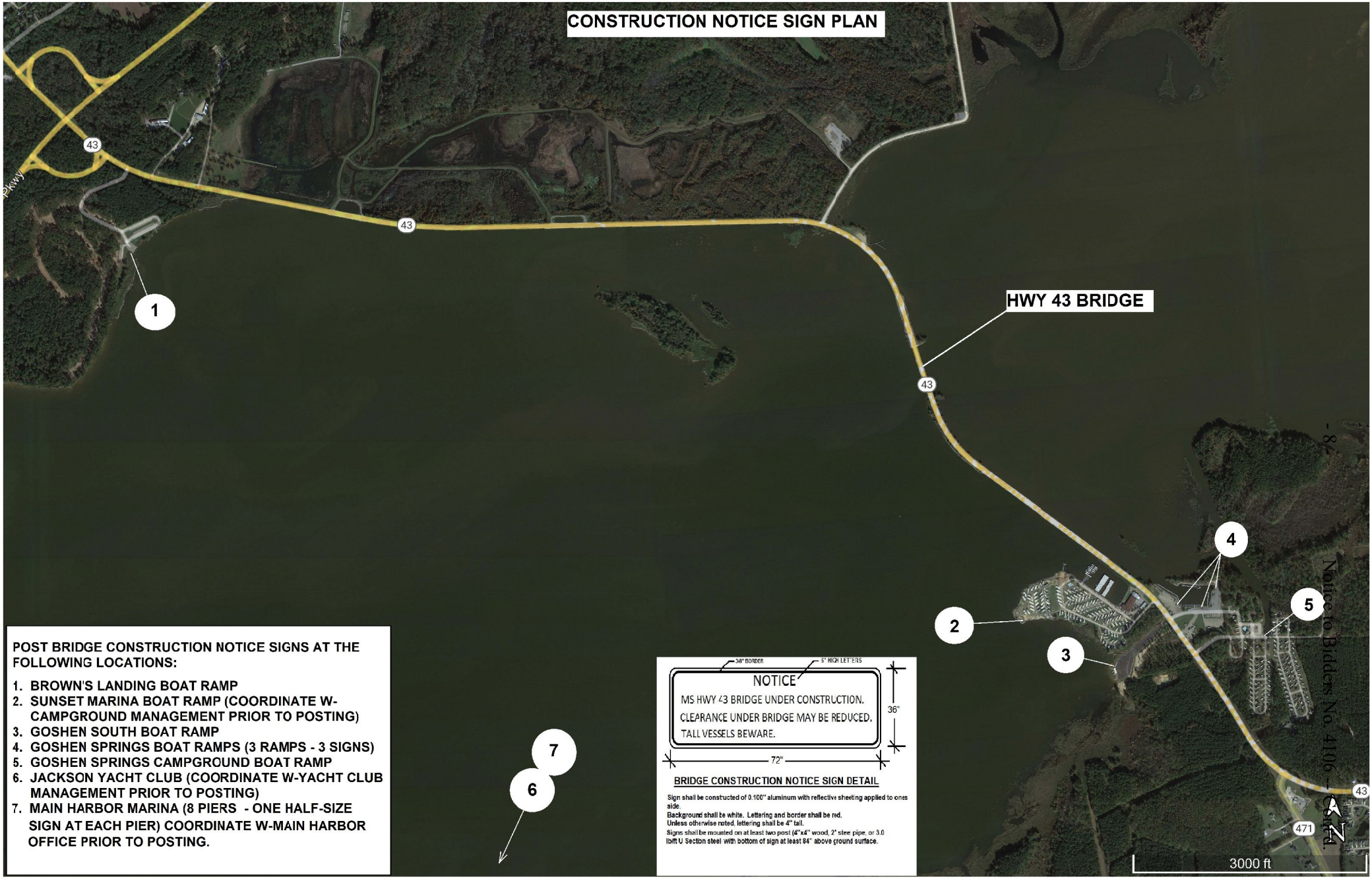
Traffic Control Plan

The Contractor shall erect and maintain construction signing and provide all signs and traffic handling devices necessary to safely maintain traffic around or through the work areas in accordance with the Traffic Control Plan. Payment shall be included in the price bid for pay item 618-A: Maintenance of Traffic.

Standard roadside construction signs, barricades, etc. shall be placed in accordance with the attached tables, drawings, and as directed by the Engineer. W20-1 signs shall be placed on all public road approaches as shown or as directed. Payment for standard roadside construction signs, barricades, etc. will be made using the appropriate pay items.

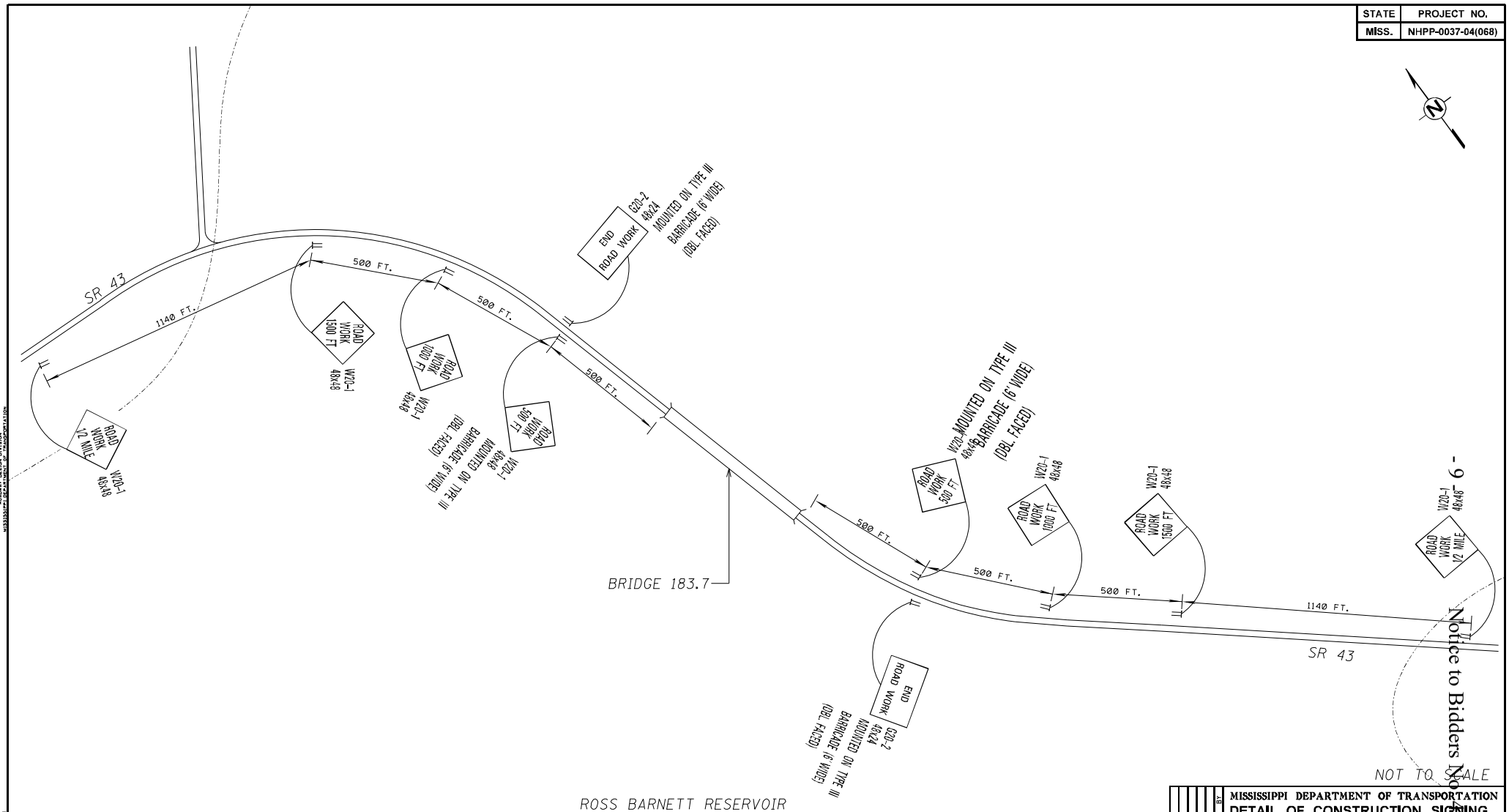
The Contractor shall on a daily basis, remove all debris from within the roadway and a 30-foot clear zone which, in the opinion of the Engineer, is a hazard to the traveling public. This activity shall begin with the beginning of work or the beginning of the contract time, whichever comes first. No direct payment will be made for the debris removal; the cost is to be included in the prices of items bid. Failure of the Contractor to remove the debris as prescribed herein shall be just cause for withholding the monthly progress estimate payment or suspending active operations until the debris is satisfactorily removed by the Contractor.

It shall be the responsibility of the Contractor to protect existing structures such as pipes, inlets, aprons, bridges, etc. from damage which might occur during construction. The Contractor shall replace or repair, as directed by the engineer, any structures damaged during the life of the contract. No payment will be made for replacement or repair of damaged items.


CONSTRUCTION NOTICE SIGN PLAN
HWY 43 BRIDGE
1
2
3
4
5
6
7
43
471
POST BRIDGE CONSTRUCTION NOTICE SIGNS AT THE FOLLOWING LOCATIONS:
1. BROWN'S LANDING BOAT RAMP
2. SUNSET MARINA BOAT RAMP (COORDINATE W-CAMPGROUND MANAGEMENT PRIOR TO POSTING)
3. GOSHEN SOUTH BOAT RAMP
4. GOSHEN SPRINGS BOAT RAMPS (3 RAMPS - 3 SIGNS)
5. GOSHEN SPRINGS CAMPGROUND BOAT RAMP
6. JACKSON YACHT CLUB (COORDINATE W-YACHT CLUB MANAGEMENT PRIOR TO POSTING)
7. MAIN HARBOR MARINA (8 PIERS - ONE HALF-SIZE SIGN AT EACH PIER) COORDINATE W-MAIN HARBOR OFFICE PRIOR TO POSTING.
3" BORDER
5" HIGH LETTERS
NOTICE
MS HWY 43 BRIDGE UNDER CONSTRUCTION.
CLEARANCE UNDER BRIDGE MAY BE REDUCED.
TALL VESSELS BEWARE.
36"
72"
BRIDGE CONSTRUCTION NOTICE SIGN DETAIL
Sign shall be constructed of 0.100" aluminum with reflective sheeting applied to ones side.
Background shall be white. Lettering and border shall be red.
Unless otherwise noted, lettering shall be 4" tall.
Signs shall be mounted on at least two post (4"x4" wood, 2" stee pipe, or 3.0 lbift U Section steel with bottom of sign at least 84" above ground surface.
3000 ft
N

FMS CON:108844/301000

STATE	PROJECT NO.
MISS.	NHPP-0037-04(068)



- 9 -

Notice to Bidders Modification No. 1

REVISION	BY	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

DETAIL OF CONSTRUCTION SIGNING

SR 43 OVER THE PEARL RIVER

PROJ. NO.: NHPP-0037-04(068)

COUNTY: MADISON

FILE NAME: DCS-1.dgn

DESIGN TEAM BROWN CHECKED DATE 9/17/21

WORKING NUMBER DCS-1

SHEET NUMBER 2

12/8/2021 2:39 PM DCS-1.DGN

PLAN PRODUCTION DIVISION MISSISSIPPI DEPARTMENT OF TRANSPORTATION

FMS CON:108844/301000

STATE	PROJECT NO.
MISS.	NHPP-0037-04(068)

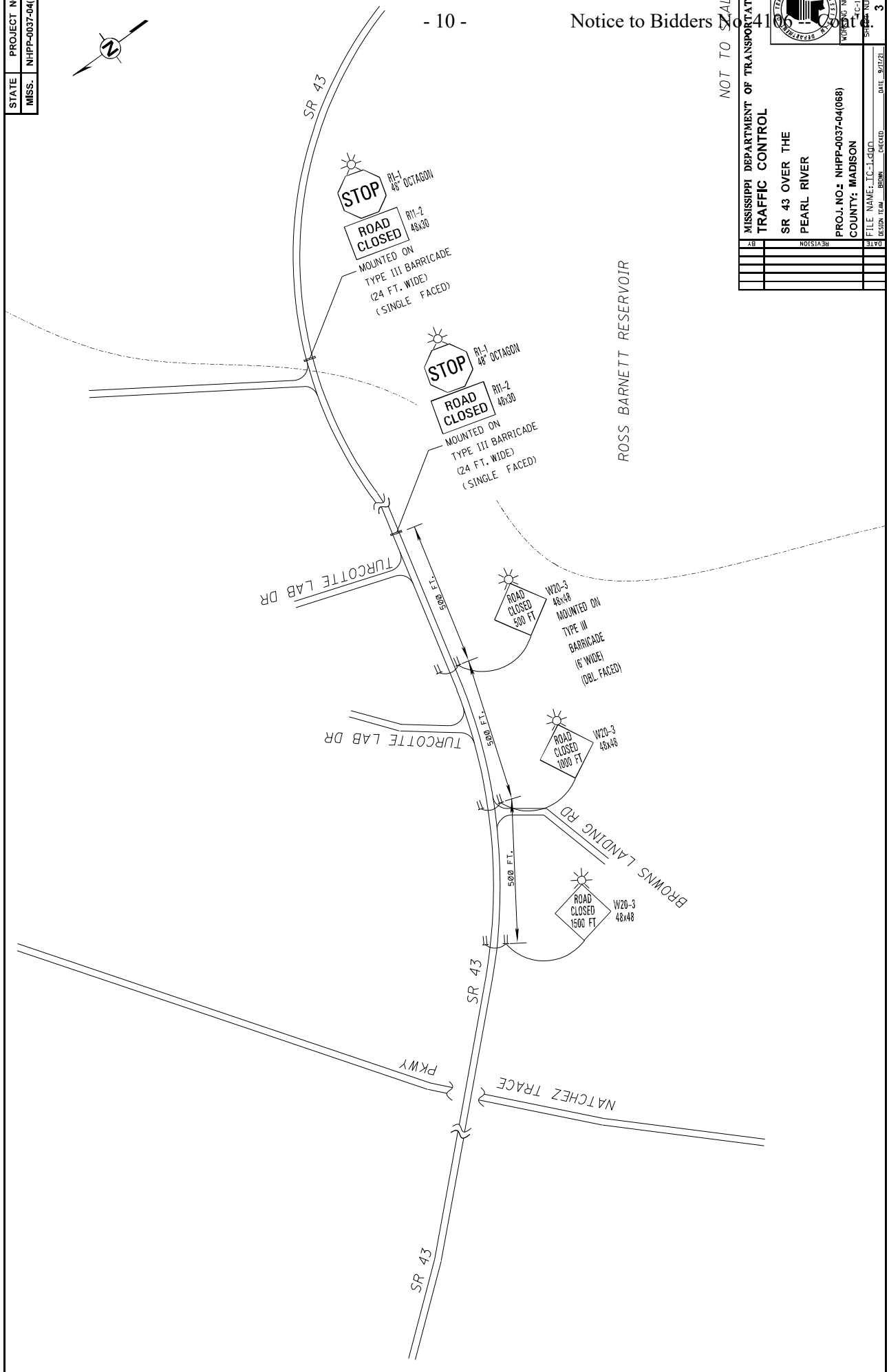
NOT TO SCALE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
SR 43 OVER THE
PEARL RIVER
PROJ. NO.: NHPP-0037-04(068)
COUNTY: MADISON

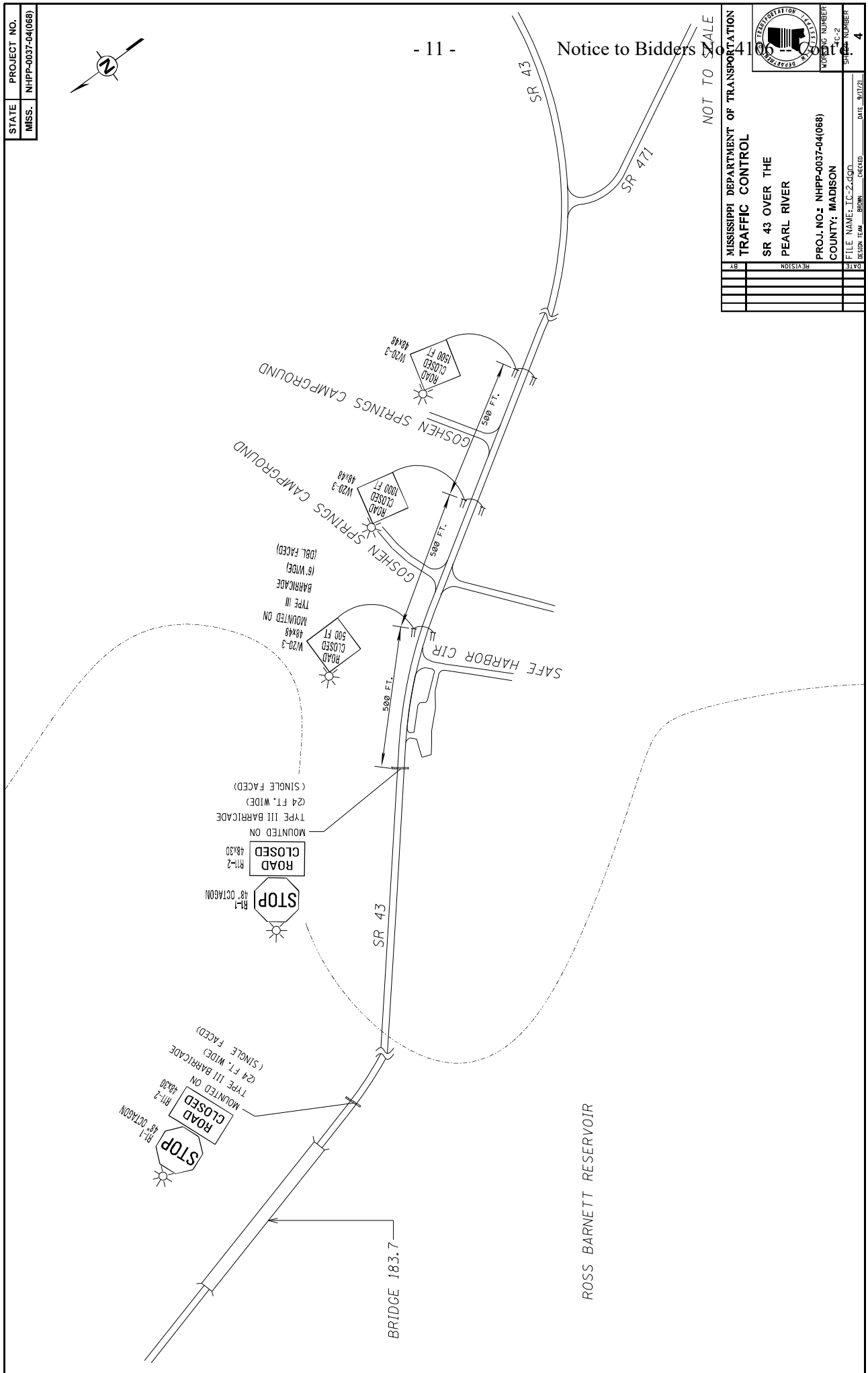
WORKING NUMBER TC-1
SHEET NUMBER 3

BY	REVISION	DATE

DESIGN TEAM BROWN CHECKED DATE 9/17/21
FILE NAME: TC-1.dgn

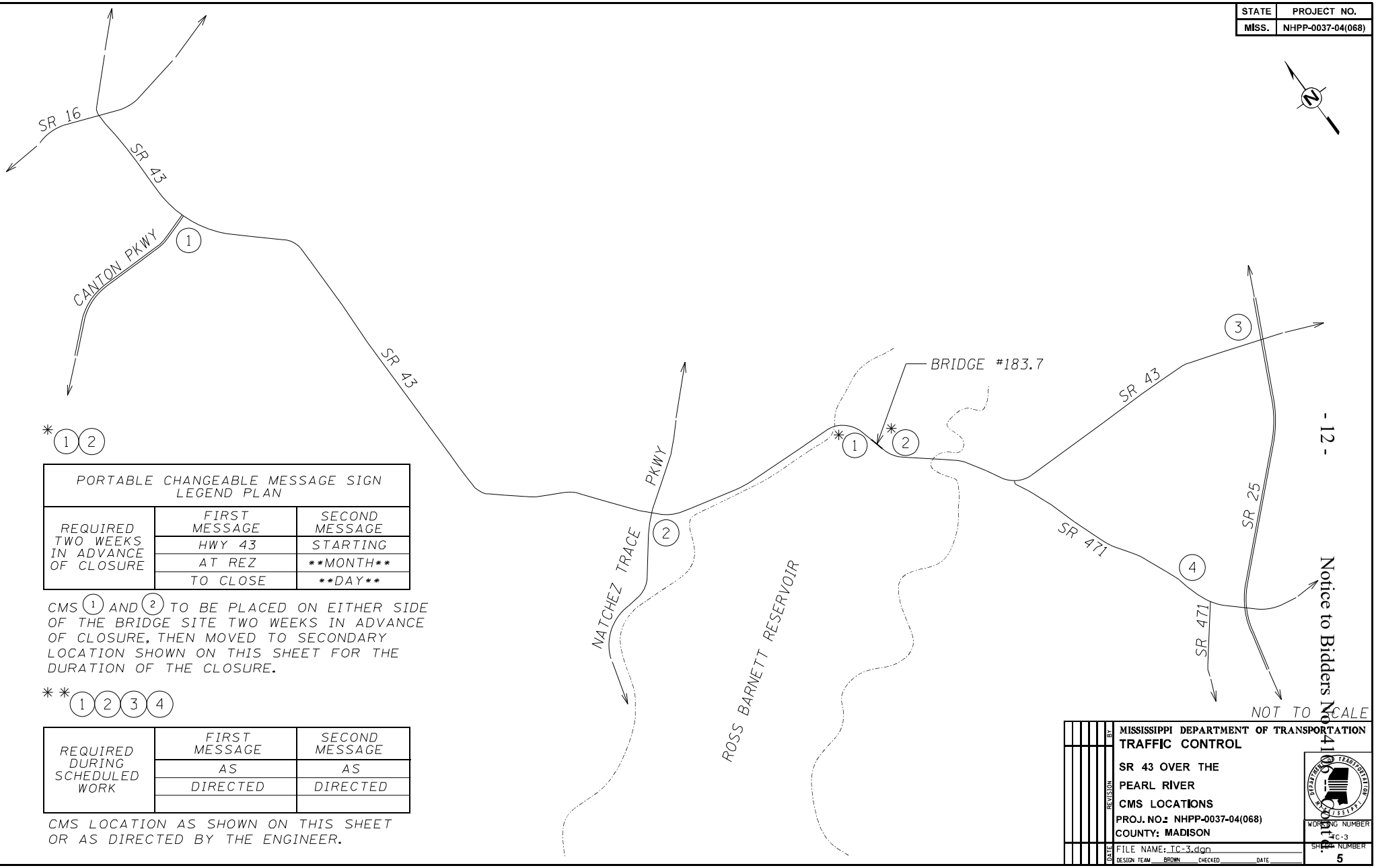


12/8/2021 2:39 PM TC-1.DGN


FMS CON:108844/301000
STATE PROJECT NO.
MISS. NHPP-0037-04(068)
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
SR 43 OVER THE
PEARL RIVER
PROJ. NO.: NHPP-0037-04(068)
COUNTY: MADISON
FILE NAME: TC-2.dgn
DESIGN TEAM BROWN CHECKED DATE 9/17/21
WORKING NUMBER TC-2
SHEET NUMBER 4
BY REVISION DATE
NOT TO SCALE
SR 43
SR 471
GOSHEN SPRINGS CAMPGROUND
SAFE HARBOR CIR
500 FT.
ROAD CLOSED 500 FT
W20-3 48X48
MOUNTED ON TYPE III BARRICADE (6' WIDE) (DBL. FACED)
ROAD CLOSED 1000 FT
W20-3 48X48
ROAD CLOSED 1500 FT
W20-3 48X48
MOUNTED ON TYPE III BARRICADE (24 FT. WIDE) (SINGLE FACED)
ROAD CLOSED
R11-2 48X30
STOP
R1-1 48" OCTAGON
SR 43
BRIDGE 183.7
ROSS BARNETT RESERVOIR
MOUNTED ON TYPE III BARRICADE (24 FT. WIDE) (SINGLE FACED)
ROAD CLOSED
R11-2 48X30
STOP
R1-1 48" OCTAGON
TC-2.DGN 12/8/2021 2:39 PM
PLAN ROADWAY DESIGN DIVISION MISSISSIPPI DEPARTMENT OF TRANSPORTATION

FMS CON:108844/301000

STATE	PROJECT NO.
MISS.	NHPP-0037-04(068)



* 1 2

PORTABLE CHANGEABLE MESSAGE SIGN LEGEND PLAN		
REQUIRED TWO WEEKS IN ADVANCE OF CLOSURE	FIRST MESSAGE	SECOND MESSAGE
	HWY 43	STARTING
	AT REZ	**MONTH**
	TO CLOSE	**DAY**

CMS 1 AND 2 TO BE PLACED ON EITHER SIDE OF THE BRIDGE SITE TWO WEEKS IN ADVANCE OF CLOSURE, THEN MOVED TO SECONDARY LOCATION SHOWN ON THIS SHEET FOR THE DURATION OF THE CLOSURE.

** 1 2 3 4

REQUIRED DURING SCHEDULED WORK	FIRST MESSAGE	SECOND MESSAGE
	AS	AS
	DIRECTED	DIRECTED

CMS LOCATION AS SHOWN ON THIS SHEET OR AS DIRECTED BY THE ENGINEER.

Notice to Bidders No. 4100 Date:

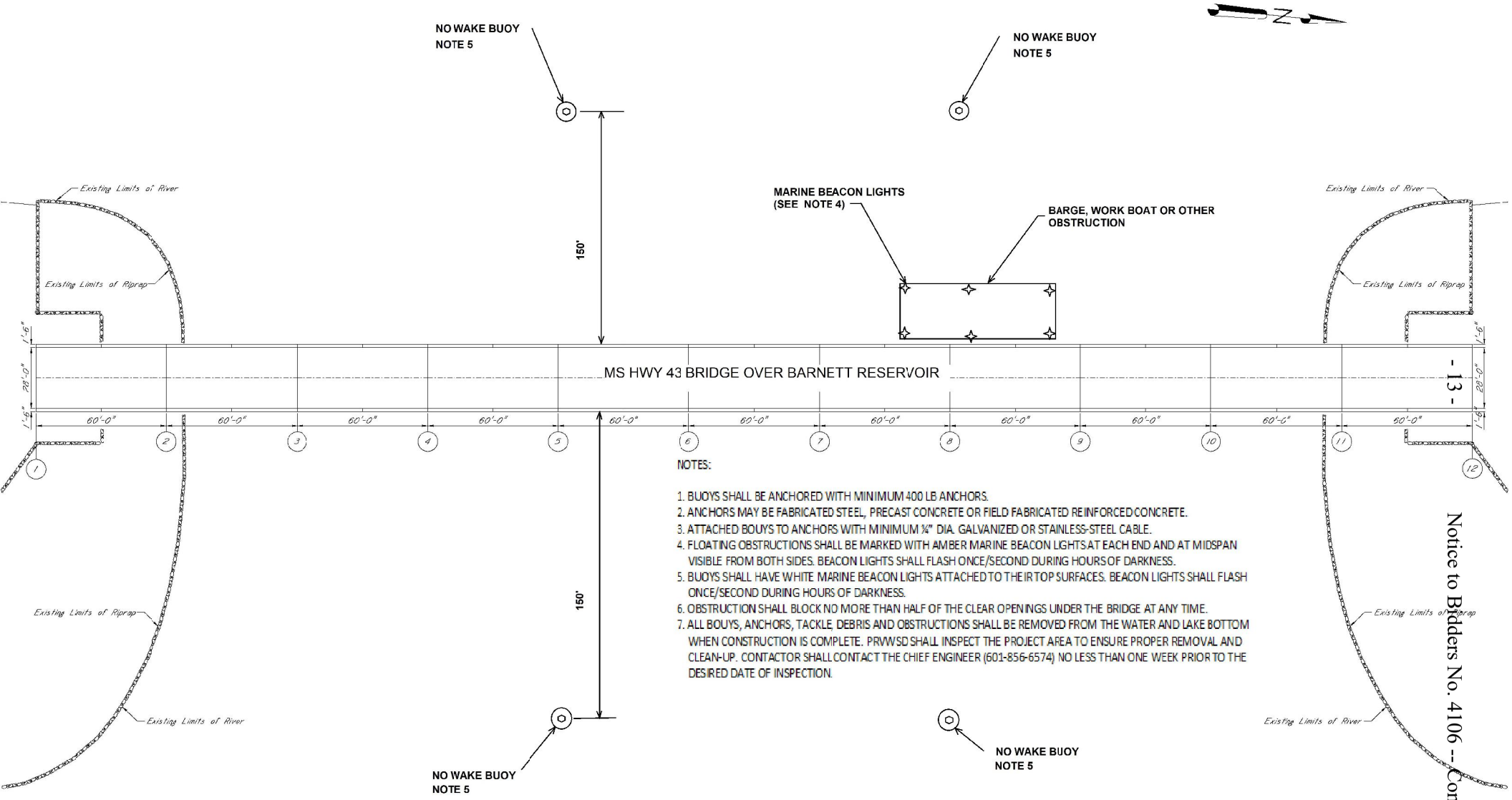
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
TRAFFIC CONTROL
SR 43 OVER THE PEARL RIVER
CMS LOCATIONS
PROJ. NO.: NHPP-0037-04(068)
COUNTY: MADISON

DATE | REVISION | BY

FILE NAME: TC-3.dgn
DESIGN TEAM BROWN CHECKED DATE

WORKING NUMBER TC-3
SHEET NUMBER 5

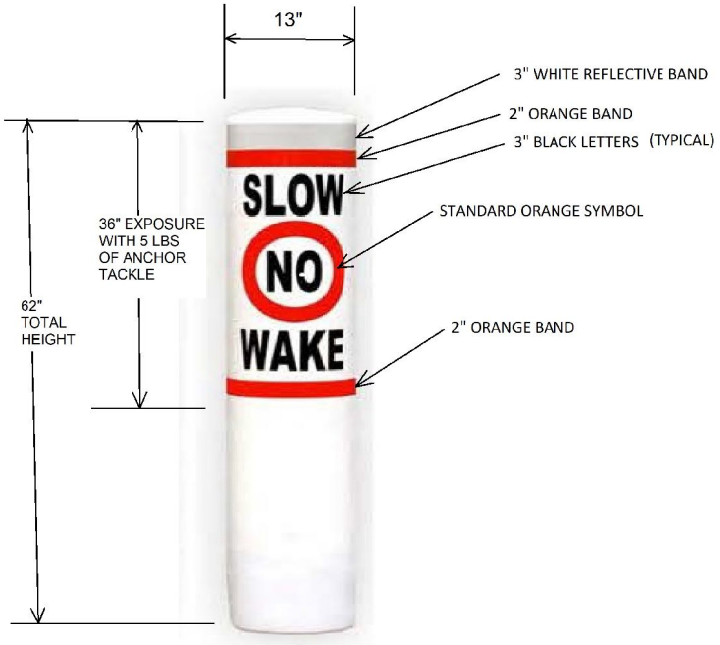
12/8/2021 2:40 PM TC-3.DGN



NOTES:

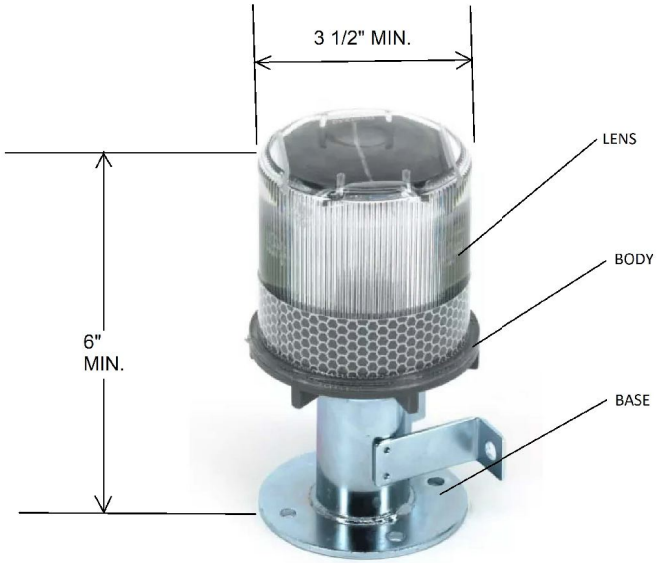
1. BUOYS SHALL BE ANCHORED WITH MINIMUM 400 LB ANCHORS.
2. ANCHORS MAY BE FABRICATED STEEL, PRECAST CONCRETE OR FIELD FABRICATED REINFORCED CONCRETE.
3. ATTACHED BOUYS TO ANCHORS WITH MINIMUM ¼" DIA. GALVANIZED OR STAINLESS-STEEL CABLE.
4. FLOATING OBSTRUCTIONS SHALL BE MARKED WITH AMBER MARINE BEACON LIGHTS AT EACH END AND AT MIDSPAN VISIBLE FROM BOTH SIDES. BEACON LIGHTS SHALL FLASH ONCE/SECOND DURING HOURS OF DARKNESS.
5. BUOYS SHALL HAVE WHITE MARINE BEACON LIGHTS ATTACHED TO THEIR TOP SURFACES. BEACON LIGHTS SHALL FLASH ONCE/SECOND DURING HOURS OF DARKNESS.
6. OBSTRUCTION SHALL BLOCK NO MORE THAN HALF OF THE CLEAR OPENINGS UNDER THE BRIDGE AT ANY TIME.
7. ALL BOUYS, ANCHORS, TACKLE, DEBRIS AND OBSTRUCTIONS SHALL BE REMOVED FROM THE WATER AND LAKE BOTTOM WHEN CONSTRUCTION IS COMPLETE. PRVWSD SHALL INSPECT THE PROJECT AREA TO ENSURE PROPER REMOVAL AND CLEAN-UP. CONTACTOR SHALL CONTACT THE CHIEF ENGINEER (601-856-6574) NO LESS THAN ONE WEEK PRIOR TO THE DESIRED DATE OF INSPECTION.

MARITIME TRAFFIC CONTROL PLAN



NO WAKE BUOY DETAIL

NOT TO SCALE



MARINE BEACON LIGHT DETAIL

NOT TO SCALE

NO WAKE BUOY SPECIFICATIONS:

BUOY OUTER JACKET: WHITE UV STABILIZED, CHEMICAL RESISTENT, ULTRA-STRONG, HIGH-DENSITY POLYETHYLENE RESIN
OUTER JACKET CONSTRUCTION: SEAMLESS, CAPLESS, ROTATIONALLY MOLDED
INNER FILLING: 100% FILLED WITH URETHANE FOAM MEETING U.S. COAST GUARD REQUIREMENTS
MARKINGS: SOLID VINYL (5 YEAR WARRANTY AGAINST FADING)
ANCHOR TACKLE ATTACHMENT: 1" DIA. STAINLESS STEEL MOORING EYE RECESSED IN BASE
LIGHT/BEACON: AS NOTED ON PLANS
BUOYS SHALL BE SELF RIGHTING WITHOUT TACKLE

MARINE BEACON LIGHT SPECIFICATIONS:

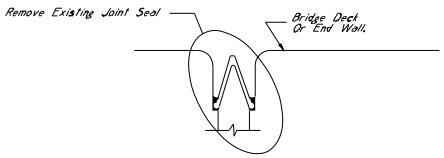
MARINE BEACON LIGHTS MAY BE SOLAR POWERED, BATTERY POWERED OR HARD WIRED
LIGHT SOURCE: MINIMUM 6 ULTRA HIGH INTENSITY LEDs
LED COLOR: AS NOTED ON PLANS
LIGHT OPERATIONAL MODES: FLASHING (1 FLASH/SEC) AND CONSTANT
VISIBLE RANGE IN FLASHING MODE: MINIMUM 1 NAUTICAL MILE
HORIZONTAL LIGHT OUTPUT (DEGREES): 360°
VERTICAL LIGHT DIVERGENCE (DEGREES): 15° (MINIMUM)
LED LIFE EXPECTANCY (HOURS): 100,000 (MINIMUM)
OPERATING HOUR CAPACITY: MIN. 30 HRS (CONSTANT MODE); 40 HRS (FLASHING MODE)
OPERATING TEMPERATURE RANGE: -20° F – 170° F
SOLAR BATTERIES SHALL HAVE:
MIN. STORAGE CAPACITY OF 2000 mAh
MIN. SERVICE LIFE OF 3 YEARS
BEACON BODY: UV STABILIZED POLYCARBONATE
LENS MATERIAL: UV STABILIZED POLYCARBONATE
EXTERNAL LENS DESIGN: CLEAR-SMOOTH
INTERNAL LENS DESIGN: 360° LENTICULAR
BASE MATERIAL: GALVANIZED OR STAINLESS STEEL
WATERPRROF RATING: IP 65

MARITIME TRAFFIC CONTROL DETAILS

Estimated Bridge Quantities

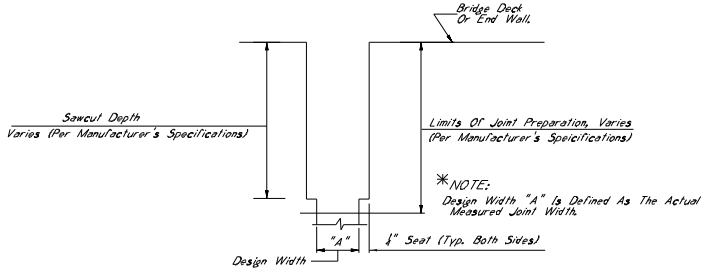
Bridge	Beginning Station	Pay Item:	907-808-A002	907-823-B001	907-823-A001	907-824-PP003	907-824-PP003	907-804-O001	907-824-PP006	907-824-PP003	907-824-PP008	907-420-A001	907-824-PP007
		Description	Joint Repair with Epoxy	Saw Cut,Type I	Preformed Joint Seal, Type I	Bridge Repair, Epoxy Repair	Bridge Repair, Removal of Bridge Deck	Bridge Deck Overlay Concrete	Bridge Repair, Cap Cleaning	Bridge Repair, FRP Wrap	Bridge Repair, Pile Repair	Undersealing	Hybrid Polymer Overlay Concrete
		Units	LF	LF	LF	SF	SF	CY	Each	SF	LF	POUNDS	CY
183.7 (14295)	36+83.875						Superstructure						
		Span 1				8	102	1.591986667					2.64
		Span 2											2.64
		Span 3					189	4.287255					2.64
		Span 4				5	9	0.204155					2.64
		Span 5					70	1.587872222					2.64
		Span 6				4	21	0.476361667					2.64
		Span 7					85	1.928130556					2.64
		Span 8											2.64
		Span 9											2.64
		Span 10											2.64
		Span 11				3	18	0.328113333					2.64
							Substructure						
11 @ 60'-0" Prestress Conc.		End Bent 1	114	114	57				1			10000	
		Int. Bent 2	57	57	28.5				1	168			
		Int. Bent 3	57	57	28.5	5			1	68			
		Int. Bent 4	57	57	28.5	5			1	80			
		Int. Bent 5	57	57	28.5	5			1	144			
		Int. Bent 6	57	57	28.5	8			1	96	10		
		Int. Bent 7	57	57	28.5				1	68			
		Int. Bent 8	57	57	28.5				1				
		Int. Bent 9	57	57	28.5	4			1		10		
		Int. Bent 10	57	57	28.5				1	82			
		Int. Bent 11	57	57	28.5				1				
		End Bent 12	114	114	57				1				
		Bridge Total	**798**	**798**	**399**	**47**	**494**	**10.40387444**	**12**	**706**	**20**	**10000**	**29**

Project Grand Totals	798	798	399	47	494	11	12	706	20	10000	29
	LF	LF	LF	SF	SF	CY	Each	SF	LF	POUNDS	CY



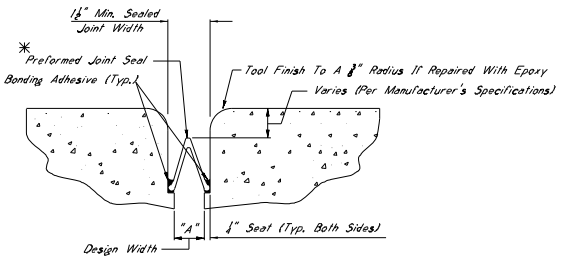
TYPICAL SECTION AT EXISTING JOINT

Showing Existing Joint Seal To Be Removed And Replaced With Preformed Joint Seal



TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL AND SAWCUT

Showing Limits Of Joint Preparation For Application Of New Joint Seal Materials And Sawcut



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Epoxy Mortar

*NOTES:

1. The Preformed Joint Seal Shall Be One Of The Following, Installed According To The Manufacturer's Specifications:

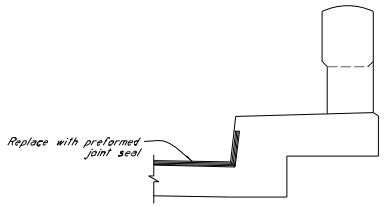
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   B. Wabo SPS Joint System
   Manufactured By Watson Bowman Acme Corporation In Amherst, NY
   www.wbacorp.com

   C. Silspec 555 Silicone Strip Seal
   Manufactured By SSI Commercial & Highway Construction Materials
   www.ssicm.com

2. For Estimating Purposes, The RJ Watson Silicoflex Joint Sealing System Was Selected. However, Should Another Supplier Be Chosen, It Is The Contractor's Responsibility To Ensure That The Manufacturer's Recommendations Are Followed For Joint Preparation, Installation Depths And Widths, Adhesive Setting Times, And Any Other Variances Between The Specifications Provided By The Manufacturers. A Manufacturer Representative Shall Be Present At The Time Joint Sealing Begins To Ensure That The Contractor Is Properly Schooled In Installation Of The Joint Material.

3. Joints Shall Be Sealed At Their Design Widths, Dimension "A", Which Is Defined As The Actual Width Of The Joint Opening. This Width Does Not Account For The ½" Seat Required On Both Sides Of The Joint. Preformed Joint Seal, Type I, Shall Be Used For Design Widths Less Than 2". Preformed Joint Seal Type II, Shall Be Used For Design Widths Greater Than or Equal To 2", With The Maximum Design Width Being 2½". In Cases Where Design Widths Are Greater Than 2½", Another Type Of Expansion Material Shall Be Required As Directed By The Director Of Structures, State Bridge Engineer. It Is The Contractor's Responsibility To Ensure That The Size Selected Is Appropriate For The Width Of The Joint.



ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

907-808-A002 JOINT REPAIR WITH EPOXY

Description: Shall Include The Work Necessary To Repair Joints In Preparation For The Placement Of New Expansion Material, As Designated In The Detail Drawings Provided. Epoxy Mortar Shall Also Be Included Under This Item Of Work. Removal Of Existing Silicone Sealed, Compression, And AC Sealed Joint Materials Will Not Be Paid For Directly And Shall Be Considered As Absorbed Under This Item Of Work. All Other Requirements Shall Be In Accordance With The Applicable Provisions Of Section 808 Of The Specifications And Any Other Sections Specified Therein.

Basis Of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Length Of The Bridge Deck On Each Side Of The Centerline Joint.

907-823-B001 SAW CUT, TYPE I

Description: The Saw Cut Depth Shall Be Equivalent To The Installation Depth Required By The Manufacturer's Specifications. The Saw Cut Type Shall Be The Same As The Preformed Joint Seal Selected.

Basis of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Length Of The Bridge Deck On Each Side Of The Centerline Joint. It Is The Contractor's Responsibility To Ensure That The Proper Depth Is Selected Based On The Manufacturer's Recomendations.

907-823-A001 PREFORMED JOINT SEAL, TYPE I

Description: Shall Include The Manufacturer's Required Joint Preparation Including Sandblasting Both Sides Of The Joint And Blowing The Joint Free Of Debris With Compressed Air And Placement Of The New Preformed Joint Seal

Basis Of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Length Of The Centerline Joint.

EPOXY MORTAR AND POLYMER CONCRETE NOTES:

Either Epoxy Mortar Or Polymer Concrete May Be Used. Guidelines For Selection Of Materials Can Be Found In Section 808 of the Specifications.

GENERAL NOTES:

1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2017.
2. No Change Of Plans Will Be Permitted Except By Written Approval Of The Director Of Structures, State Bridge Engineer. Minor Changes To Detail Of Design Or Construction Procedure May Be Authorized By The Bridge Engineer Provided Such Changes Will Not Be Cause For Contract Price Adjustment.
3. Work For Which No Pay Item Is Provided In The Proposal Will Not Be Paid For Directly And Shall Therefore Be Considered An Absorbed Item of Work.

*NOTES:

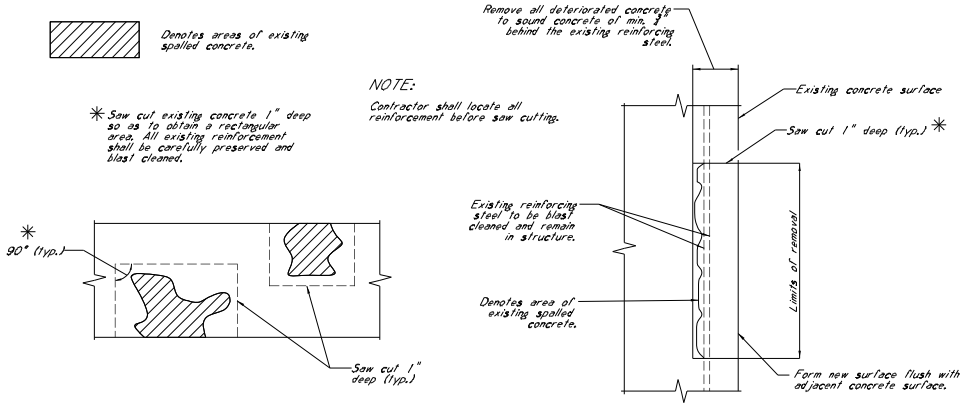
For Jersey Shape Barriers, The Minimum Required Vertical Joint Seal Dimension Within The Barrier Is 3".
For Post And Beam Barriers, The Minimum Required Vertical Joint Seal Dimension Within The Barrier is 6".

EPOXY MORTAR REPAIR NOTES

1. Repair concrete spalled areas on the bridge as directed by the Project Engineer using epoxy mortar.
2. Repair all concrete spalled areas listed on this sheet of standard drawings and as directed by the Project Engineer.
3. Repair any additional concrete spalled areas not listed on this page as directed by the Project Engineer.
4. The Contractor shall determine the depth of reinforcement prior to any saw cutting.
5. Spalled areas where pack rust has developed around or on reinforcement shall be blasted clean. Hammers used for removal shall be limited to 30 pounds.
6. All areas of the bridge repaired with epoxy mortar shall be restored to the original dimensions and details as shown in the information plans, unless noted otherwise.
7. Materials:
   a. Epoxy Resin: Resin shall be selected from the MDOT approved materials list and meet the requirements of ASTM C881, Type I, Grade 2, Class C.
   b. Silica Sand: Silica sand material shall be bagged general purpose blast cleaning sand.
   c. Epoxy Mortar Mix: Epoxy mortar mix shall consist of part liquid epoxy and part clean, dry sand mixed in the ratio recommended by the manufacturer.
8. Application:
   a. A representative of the epoxy manufacturer must be present for sufficient time to ensure the Contractor is properly schooled in the use of the epoxy materials.
   b. Prior to placement of the mortar mix the prepared surface shall be lightly primed with neat epoxy.
   c. Curing time shall be in accordance with manufacturer's recommendations.
9. The cost of saw cutting, removing spalled or cracked concrete, cleaning exposed reinforcing steel, patching material, labor and any miscellaneous materials necessary to complete the repairs as shown shall be paid for on a square feet basis as Bridge Repair, Epoxy Repair. This item shall be bid such that this item may be increased, decreased, or eliminated as directed by the Project Engineer.

LOCATIONS TO BE REPAIRED WITH EPOXY MORTAR

Soffit at East Side of Span No. 1 (multiple locations)
Soffit at East Side of Span No. 7
Soffit at West Side of Bent No. 11
Diaphragm at Span No. 4 in Bay No. 3
Bottom of Cap at Bent No. 3 (multiple locations)
Edge of Cap at West Side of Bent No. 4
Face of Cap at North Side of Bent No. 5 over Pile No. 8
Bottom of Cap at Bent No. 6 (multiple locations)
Face of Cap at South Side of Bent No. 9 between Piles No. 6 & 7
Pile No. 4 at North Side of Bent No. 5

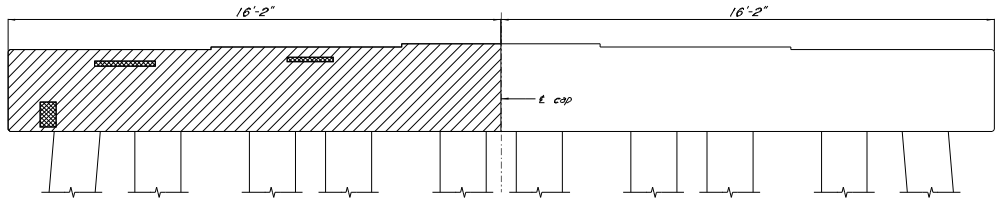


SPALL REPAIR DETAILS

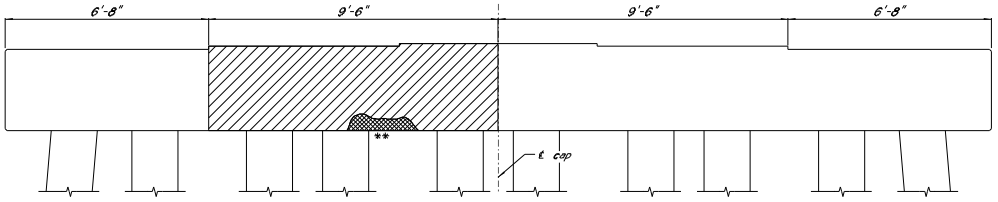
Details above are for spalled areas.

Denotes Areas to be wrapped with FRP Wrap

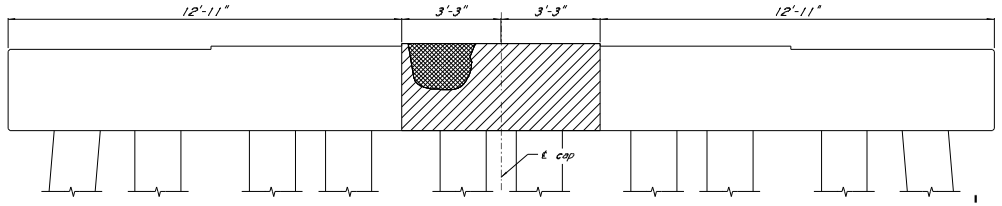
Denotes Spalled Areas to be Repaired with Epoxy Mortar before being wrapped with FRP Wrap



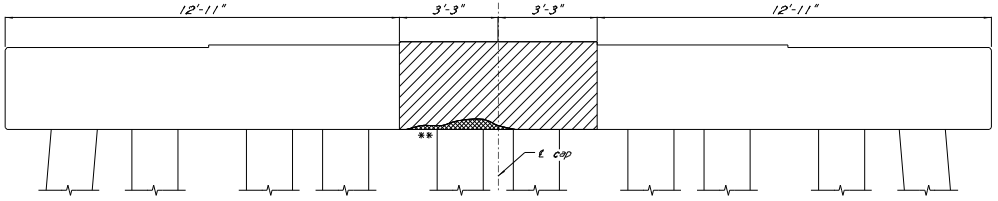
ELEVATION OF BENT
Showing Epoxy Mortar Locations at Bent No. 2, Span No. 1



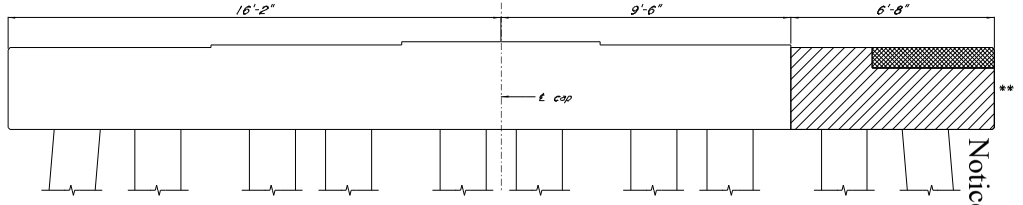
ELEVATION OF BENT
Showing Epoxy Repair and FRP Wrap at Bent No. 6, Span No. 5



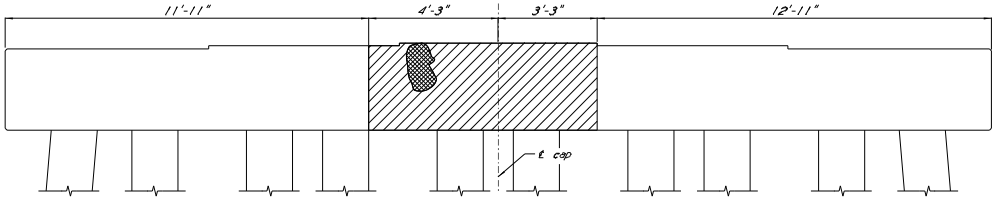
ELEVATION OF BENT
Showing Epoxy Repair and FRP Wrap at Bent No. 3, Span No. 2



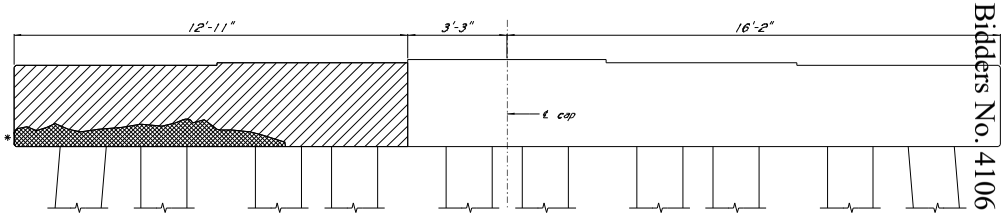
ELEVATION OF BENT
Showing Epoxy Repair and FRP Wrap at Bent No. 7, Span No. 6



ELEVATION OF BENT
Showing Epoxy Mortar Locations at Bent No. 4, Span No. 3



ELEVATION OF BENT
Showing Epoxy Repair and FRP Wrap at Bent No. 10, Span No. 9

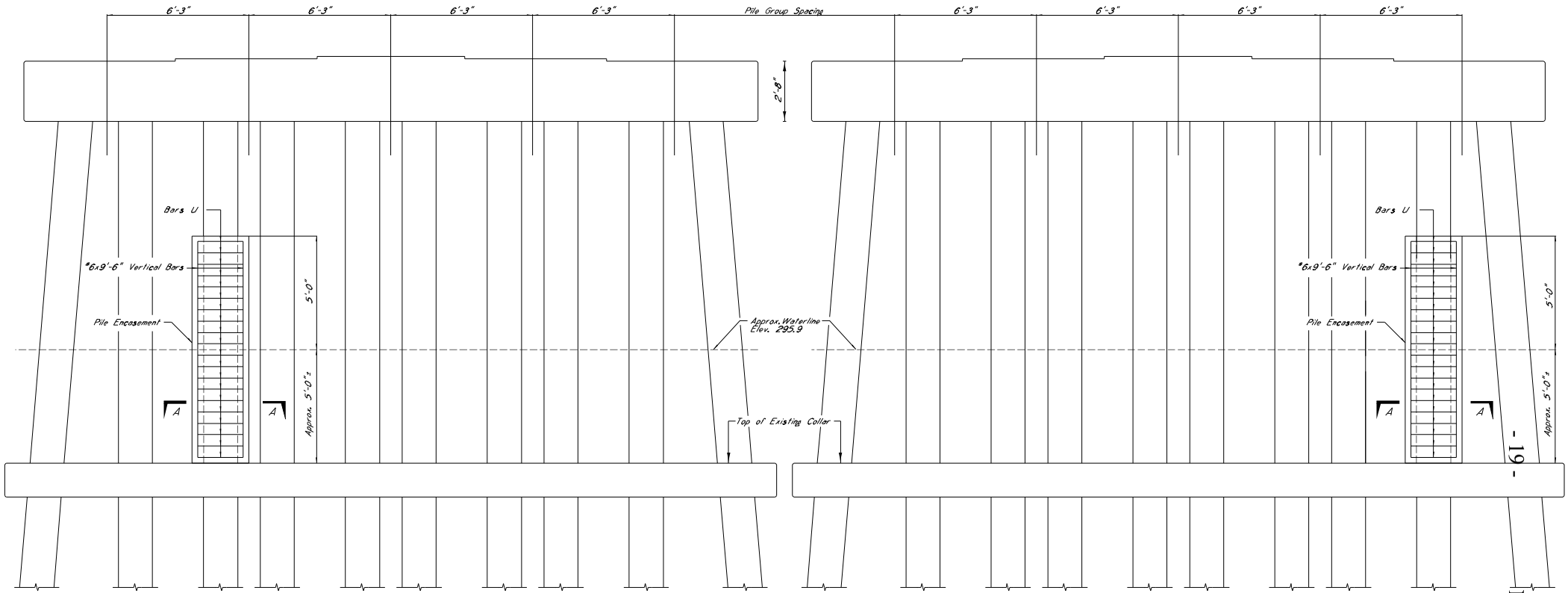


NOTE:
Continue FRP Wrap along West Side of the Cap on Bent No. 5

ELEVATION OF BENT
Showing Epoxy Repair and FRP Wrap at Bent No. 5, Span No. 4

NOTES:
All locations shown are approximate and repair areas should be directed by the Project Engineer.
FRP wrap shall cover all sides of bent & cap. Not just the South side face as shown (other than girder bearing and pile locations)

*NOTE:
Present on both sides of cap and are shown once for clarity.
**NOTE:
Present on back side of cap and are shown for clarity.



ELEVATION OF BENT

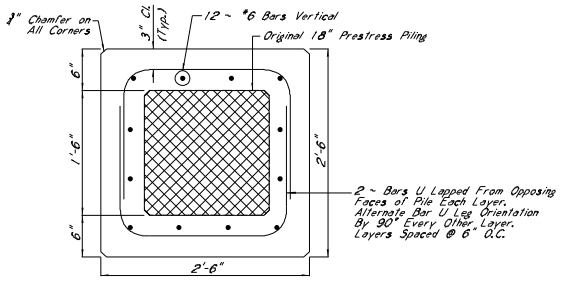
Showing Location of Pile Repair at Bent No. 6, Pile No. 3

ELEVATION OF BENT

Showing Location of Pile Repair at Bent No. 9, Pile No. 9

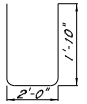
PILE REPAIR NOTES:

1. Pile repair system shall be one of the following products, or and equivalent, and shall be applied according to the manufacturer's recommendations:
   a. "FX-70 Structural Piling Repair and Protection System" as manufactured by SIMPSON Strong-Tie. www.strongtie.com
   b. "PileForm F FRP Pile Rehabilitation Jacket" as manufactured by Five Star Marine, Inc., www.fivestarproducts.com
   c. "PileMedic" as manufactured by QuakeWrap, Inc. www.pilemedic.com
2. The Contractor shall furnish all submittals indicating the materials, tools, equipment, transportation, necessary storage, labor, and supervision required for the application of the pile repair system to the Director of Structures, State Bridge Engineer prior to construction.
3. Products shall be stored according to the manufacturer's requirements.
4. All pile repair systems shall be proprietary systems consisting of all associated fiberglass jackets and marine epoxy grout/resins. Pile repair systems consisting of fiberglass jackets and marine epoxy grout/resin provided by more than one manufacturer are not allowed.
5. The fiberglass jackets shall be suitable for marine environments.
6. Epoxy grout/resin shall be mixed according to the pile repair system manufacturer's installation instructions.
7. A representative of the pile repair system manufacturer must be present for sufficient time to assure that the Contractor is properly schooled in the installation of pile repair system.
8. All labor and materials associated with the installation of pile repair systems shall be included in Pay Item 907-824-PP008, Bridge Repair, Pile Repair.



SECTION A-A

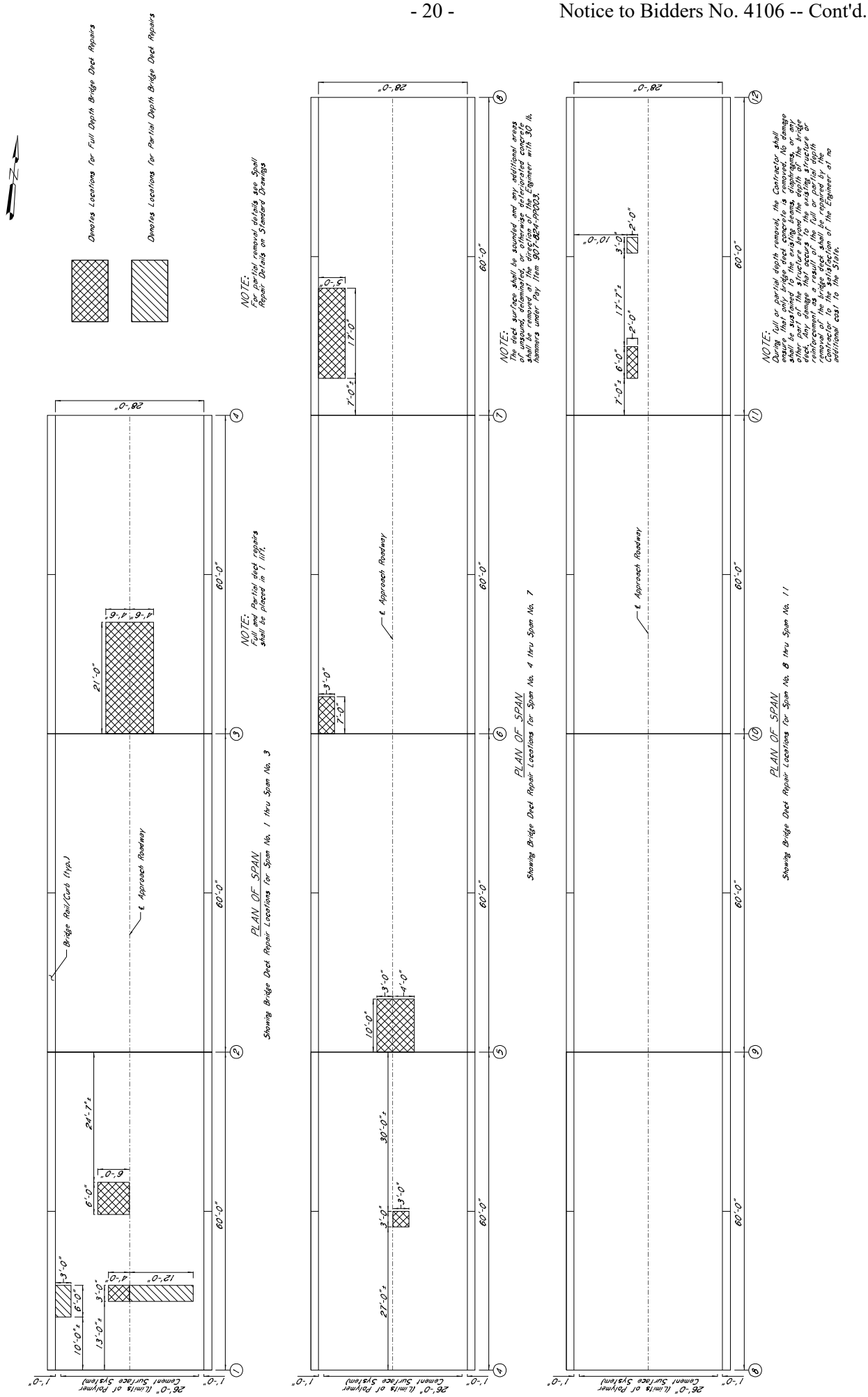
Dimensions are out to out



Bars U - *4

BAR BENDING DETAILS

All dimensions are out to out


N
Denotes Locations for Full Depth Bridge Deck Repairs
Denotes Locations for Partial Depth Bridge Deck Repairs
NOTE:
For partial removal details see Spall Repair Details on Standard Drawings
NOTE:
Full and partial deck repairs shall be placed in 1 lift.
PLAN OF SPAN
Showing Bridge Deck Repair Locations for Span No. 1 thru Span No. 3
Bridge Rail/Curb (typ.)
℄ Approach Roadway
NOTE:
The deck surface shall be sounded and any additional areas of unsound, delaminated, or otherwise deteriorated concrete shall be removed at the direction of the Engineer with 30 lb. hammers under Pay Item SPECIAL PROVISION.
PLAN OF SPAN
Showing Bridge Deck Repair Locations for Span No. 4 thru Span No. 7
NOTE:
During full or partial depth removal, the Contractor shall ensure that only bridge deck concrete is removed. No damage shall be sustained to the existing beams, diaphragms, or any other portion of the existing bridge. Any damage that occurs to the existing structure or reinforcement as a result of the full or partial depth removal of the bridge deck shall be repaired by the Contractor to the satisfaction of the Engineer at no additional cost to the State.
PLAN OF SPAN
Showing Bridge Deck Repair Locations for Span No. 8 thru Span No. 11
26'-0" (Limits of Polymer Cement Surface System)
1'-0"
60'-0"
28'-0"

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4140 **CODE: (SP)**

DATE: 4/19/2022

SUBJECT: Bridge Closure Restrictions

PROJECT: NHPP-0037-04(068) / 108844301 – Madison County

Bidders are hereby advised of the following restrictions on the above captioned project.

The Contractor will be allowed to close the bridge on SR 43 for **14 consecutive calendar days** within the project time limits to perform the work outlined below:

- 907-824-PP003, Removal of Bridge Deck
- 907-804-O001, Bridge Deck Overlay Concrete
- 907-824-PP007, Bridge Repair, Hybrid Polymer Concrete Overlay

All work, with the exception of the items mentioned above, may be done under lane closures.

The Contractor shall notify the Project Engineer at least ten (10) calendar days prior to the bridge closure to allow all pertinent parties to be notified. Further confirmation of the bridge closure shall be provided to the Project Engineer five (5) calendar days prior to the bridge closure.

The Contractor will be charged a fee of **$10,000.00** for each full or partial 24-hour period until the bridge is back in compliance with the restriction requirements stated above.

For the purposes of this contract, official time shall be the announced time available at the Jackson area telephone number (601) 355-9311.

Bridge Preservation on SR 43 over the Pearl River (Bridge No. 183.7), known as Federal Aid Project No. NHPP-0037-04(068) / 108844301 in Madison County.

Line No.	Item Code	Adj Code	Quantity	Units	Description [Fixed Unit Price]
			Roadway Items		
0010	618-A001		1	Lump Sum	Maintenance of Traffic
0020	619-D1001		16	Square Feet	Standard Roadside Construction Signs, Less than 10 Square Feet
0030	619-D2001		413	Square Feet	Standard Roadside Construction Signs, 10 Square Feet or More
0040	619-G4001		48	Linear Feet	Barricades, Type III, Double Faced
0050	619-G4005		96	Linear Feet	Barricades, Type III, Single Faced
0060	619-G7001		16	Each	Warning Lights, Type "B"
0070	620-A001		1	Lump Sum	Mobilization
0080	626-C001		1,320	Linear Feet	6" Thermoplastic Double Drop Edge Stripe, Continuous White
0090	626-E002		1,320	Linear Feet	6" Thermoplastic Double Drop Traffic Stripe, Continuous Yellow
0100	627-L001		9	Each	Two-Way Yellow Reflective High Performance Raised Markers
0110	907-234-F001		500	Linear Feet	Turbidity Barrier
0120	907-619-E3001		4	Each	Changeable Message Sign
			Bridge Items		
0140	907-420-A001		10,000	Pounds	Undersealing
0150	907-804-O001	(S)	11	Cubic Yard	Bridge Deck Overlay Concrete
0160	907-808-A002	(S)	798	Linear Feet	Joint Repair
0170	907-823-A001		399	Linear Feet	Preformed Joint Seal, Type I
0180	907-823-B001		798	Linear Feet	Saw Cut, Type I
0190	907-824-PP003		47	Square Feet	Bridge Repair, Epoxy Repair
0200	907-824-PP003		706	Square Feet	Bridge Repair, FRP Wrap
0210	907-824-PP003		494	Square Feet	Bridge Repair, removal of Bridge Deck
0220	907-824-PP006		12	Each	Bridge Repair, Cap Cleaning
0222	907-824-PP007		29	Cubic Yard	Bridge Repair, Hybrid Polymer Concrete Overlay
0230	907-824-PP008		20	Linear Feet	Bridge Repair, Pile Repair