MDOT Use Only
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11 -

SM No. CBR2904000182

PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF

11
Bridge Replacements on US 80 (Bridge Nos. 56.8A & 56.8B) at KCS Railroad, known as Federal Aid Project No. BR-2904-00(018) / 107643302 in Rankin County.

Project Completion: 06/15/2027

(STATE DELEGATED)

NOTICE

BIDDERS MUST COMPLETE AN ONLINE REQUEST FOR PERMISSION TO BID THIS PROJECT.

Electronic addendum updates will be posted on www.gomdot.com

SECTION 900

OF THE CURRENT 2017 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

JACKSON, MISSISSIPPI

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
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PROJECT: BR-2904-00(018)/107643302 - Rankin

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PROJECT: BR-2904-00(018)/107643302 - Rankin

SAM.GOV Registration and Unique Entity ID
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Section 903 - Contract Bond Forms

Pile and Driving Equipment Data Form

(REVISIONS TO THE ABOVE WILL BE INDICATED ON THE SECOND SHEET OF SECTION 905 AS ADDENDA)

12/29/2025 10:30 AM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 901 - ADVERTISEMENT

Electronic bids will be received by the Mississippi Transportation Commission at 10:00 o'clock A.M., Tuesday, January 27, 2026, from the Bid Express Service and shortly thereafter publicly read on the Sixth Floor for:

Bridge Replacements on US 80 (Bridge Nos. 56.8A & 56.8B) at KCS Railroad, known as Federal Aid Project No. BR-2904-00(018) / 107643302 in Rankin County.

The attention of bidders is directed to the Contract Provisions governing selection and employment of labor. Minimum wage rates have been predetermined by the Secretary of Labor and are subject to Public Law 87-581, Work Hours Act of 1962, as set forth in the Contract Provisions.

Contractors may request permission to bid online at http://shop.mdot.ms.gov at no cost. Upon approval, Contractors shall be eligible to submit a bid using Bid Express at http://bidx.com. Specimen proposals may be viewed and downloaded online at no cost at http://mdot.ms.gov or purchased online at http://shop.mdot.ms.gov at a cost of Ten Dollars ($10.00) per proposal plus a small convenience fee. Cash or checks will not be accepted as payment.

Plans must be purchased online at <https://shop.mdot.ms.gov>. Costs of plans will be on a per sheet basis plus a small convenience fee. If you have any questions, you can contact the MDOT Plans Print Shop at (601) 359-7460, or e-mail at plans@mdot.state.ms.us. Plans will be shipped upon receipt of payment. Cash or checks will not be accepted as payment.

Bid bond, signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent, with Power of Attorney attached, a Cashier's check or Certified Check for five (5%) percent of bid, payable to STATE OF MISSISSIPPI, must accompany each proposal.

The attention of bidders is directed to the provisions of Subsection 102.07 pertaining to irregular proposals and rejection of bids.

BRAD WHITE
EXECUTIVE DIRECTOR

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO NOTICE TO BIDDERS NO. 1

DATE: **06/08/2021**

SUBJECT: **Governing Specifications**

Change the web address at the end of the first paragraph to the following.

https://shop.mdot.ms.gov/default.aspx?StoreIndex=1

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1 **CODE: (IS)**

DATE: 03/01/2017

SUBJECT: Governing Specifications

The current (2017) Edition of the Standard Specifications for Road and Bridge Construction adopted by the Mississippi Transportation Commission is made a part hereof fully and completely as if it were attached hereto, except where superseded by special provisions, or amended by revisions of the Specifications contained within this proposal. Copies of the specification book may be purchased from the MDOT Construction Division, or online at shopmdot/default.aspx?StoreIndex=1.

A reference in any contract document to controlling requirements in another portion of the contract documents shall be understood to apply equally to any revision or amendment thereof included in the contract.

In the event the plans or proposal contain references to the 2004 Edition of the Standard Specifications for Road and Bridge Construction, it is to be understood that such references shall mean the comparable provisions of the 2017 Edition of the Standard Specifications.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2 **CODE: (IS)**

DATE: 03/01/2017

SUBJECT: Status of Right-of-Way

Although it is desirable to have acquired all rights-of-way and completed all railroad agreements, utility adjustments and work to be performed by others prior to receiving bids, sometimes it is not considered to be in the public interest to wait until each and every such clearance has been obtained. The bidder is hereby advised of possible unacquired rights-of-way, relocates, railroad agreements and utilities adjustments which have not been completed.

The status of right-of-way acquisition, utility adjustments, encroachments, potentially contaminated sites, railroad facilities, improvements, and asbestos contamination are set forth in the following attachments.

In the event right of entry is not available to ALL parcels of right-of-way and/or all work that is to be accomplished by others on the date set forth in the contract for the Notice to Proceed is not complete, the Department will issue a restricted Notice to Proceed.

STATUS OF RIGHT-OF-WAY
BR-2904-00(018)
107643/302000
Rankin County

All rights of way and legal rights of entry have been acquired, **except**:

All known utilities have been relocated except for a sanitary sewer line owned by the City of Brandon located along the Railroad from approximately Station 4297+80 to Station 4301+00. This sewer line will be relocated by the contractor as part of the construction contract. Coordination shall take place between the contractor and the City of Brandon as per the contract documents.

Also, Coordination with the Railroad will be required. See Notice to Binders.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Inter-Departmental Memorandum

TO: Don Drake
ROW Division

DATE: October 16, 2025

FROM: Adam L. McDaniel
District Five

SUBJECT OR PROJECT NO: BR-2904-00(018)/107643-302000
ROW Documentation

INFORMATION COPY TO:

COUNTY: Rankin

Project File
Construction Division

District Status Report

1. STATUS OF RIGHT OF WAY: No new ROW required.

2. RIGHT OF WAY CLEARANCE: There are no visible encroachments that conflict with construction.

3. STATUS OF AFFECTED RAILROAD OPERATING FACILITIES: The bridge structure spans an active KCS railroad. The applicable railway provisions will be included in the contract.

4. STATUS OF REQUIRED UTILITY RELOCATIONS: All known utilities have been relocated except for a sanitary sewer line owned by the City of Brandon located along the Railroad from approximately Station 4297+80 to Station 4301+00. This sewer line will be relocated as part of the project. Permits showing the approximate location of utilities within or along the ROW are on file with the Department. The Department cannot and does not warrant that this information is complete and accurate. The Contractor is advised to contact MS 811 and MDOT to have utility lines marked prior to subsurface work. The Contractor must coordinate directly with the involved utility owners to have underground utility lines field located in advance of construction.

5. STATUS OF CONSTRUCTION AGREEMENT: None required

ALM:alm

ASBESTOS ABATEMENT STATUS REPORT

BR-2904-00(018) 107643-302000

Rankin County

October 16, 2025

Reference is made to notices to bidders entitled "Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP)" and "Removal of Obstructions".

The following pertinent information is furnished concerning asbestos containing materials (ACMs), if any, found in buildings to be removed by the Contractor.

There are no buildings in the contract to be removed.

POTENTIALLY CONTAMINATED SITES STATUS REPORT

BR-2904-00(018) 107643-302000

Rankin County

October 16, 2025

This project has been inspected and there was no visible indication of potentially contaminated sites within the proposed right of way.

IMPROVEMENTS STATUS REPORT

Improvements to be included in the Notice to Bidders to be removed by the Construction Contractor

FMS Construction Project No: 107643-302000

FMS ROW Project No: 107643-202000

External ROW No: BR-2904-00(018)

Parcel No:
Station No:
Property Owner:
Description/Pictures:

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Final Clean-Up

Immediately prior to final inspection for release of maintenance, the Contractor shall pick up, load, transport and properly dispose of all litter from the entire highway right-of-way that is within the termini of the project.

Litter shall include, but not be limited to, solid wastes such a glass, paper products, tires, wood products, metal, synthetic materials and other miscellaneous debris.

Litter removal is considered incidental to other items of work and will not be measured for separate payment.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO NOTICE TO BIDDERS NO. 14

DATE: 9/8/2025

PROJECT: BR-2904-00(018) / 107643302 – Rankin County

After the second paragraph on page 1, add the following:

Name Insured: Canadian Pacific Kansas City Railway Company

Description and Designation: US Highway 80 in Brandon, MS

Mile Post: 81.50
DOT#: 305 134U

After the fourth paragraph on page 1, add the following:

Canadian Pacific Kansas City
Railway Company
Denise Case
Transaction Manager
Jones Lang Lasalle (JLL)
Rail Practice Group
4200 Buckingham, Suite 110
Fort Worth, Texas 76155
tel 1+8172302600 direct 1
+8172302614 denise.case@am.jll.com
www.joneslanglasalle.com

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 14 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Railway-Highway Provisions

Prior to bidding, the Contractor shall contact the Railroad concerning insurance coverage required for this project. In case the railroad requires coverage over and above that required by the Standard Specifications, the railroad requirements shall be met.

The name insured, description of the work and designation of the job site to be shown on the Policy are as follows:

Notice of starting to work, completion of any required forms, and correspondence pertaining to railroad liability insurance shall be directed to the person below.

The Contractor shall not commence, or carry on, any work for installation, maintenance, repair, changing or renewal of any FACILITY, under, over or on RAILROAD property at any location without giving at least ten (10) working days prior notice to the RAILROAD authorized representative at the RAILROAD's office(s) below.

If in the opinion of the RAILROAD, the presence of an authorized representative of the RAILROAD is required to supervise the same, the RAILROAD shall render bills to the Contractor for all expenses incurred by it for such supervision. This includes all labor costs for flagmen or cable locate supplied by the RAILROAD to protect RAILROAD operation, and for the full cost of furnishing, installation and later removal of any temporary supports for said tracks, as the RAILROAD's Chief Engineer's Office may deem necessary.

It will be the Contractor's responsibility to pay all bills associated with railroad flagging and cable locating. Generally, the flagging rate is $700.00 per day (1 to 8 hours) plus overtime at $125.00 per hour, however, the Contractor shall contact the RAILROAD to verify all rates.

A flagman is required anytime a Contractor does any work on or near RAILROAD property within twenty-five (25) feet horizontally of the centerline or any work over any railroad track. The RAILROAD, however, also reserves the right to require a flagman for work on RAILROAD property, which is more than twenty-five (25) feet from the centerline of a railroad track when there are other conditions or considerations that would dictate the need for a flagman to safeguard the RAILROAD's operations, property and safety of working personnel.

A cable locate of RAILROAD owned facilities may be required to identify and protect Signal & Communication cables that have been installed to provide power, signal control, wayside communications. These cables are vital to a safe and reliable railway operation. The cable locate will be performed by a qualified RAILROAD employee.

Outside Contractors are prohibited from driving on, along, or across any track that does not have a RAILROAD installed crossing. They may utilize an existing public crossing. The practice of allowing rubber tired equipment to operate over track with no crossing has been banned.

Exceptions to this rule will require the express approval from the RAILROAD Engineers.

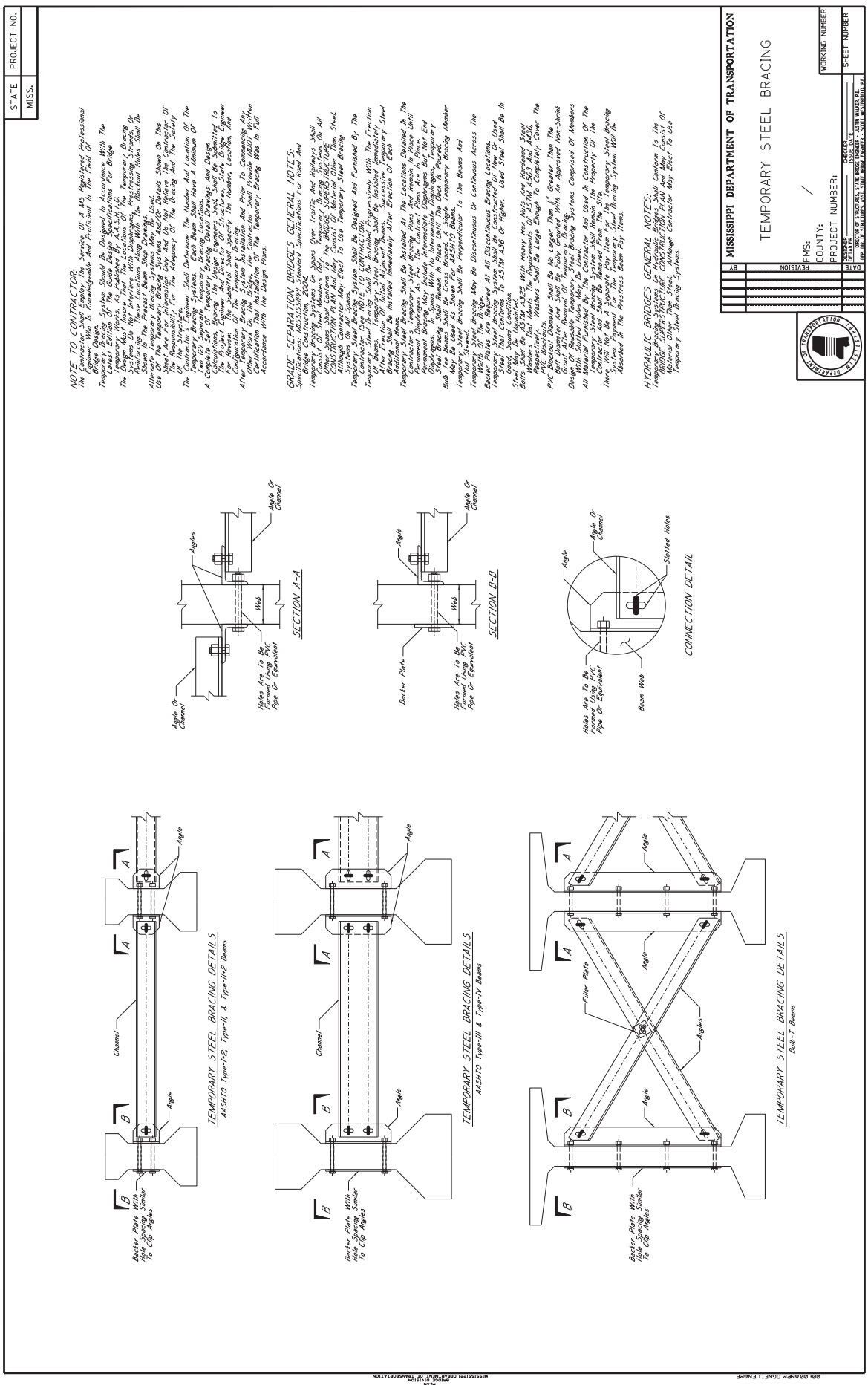
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 20 **CODE: (SP)**

DATE: 03/01/2017

SUBJECT: Temporary Steel Bracing

Bidders are advised that temporary steel bracing will be required when beams are to be placed over railroads and roadways. The attached detail sheet shall be used for temporary beam bracing on this project.


STATE
MISS.
PROJECT NO.
NOTE TO CONTRACTOR:
GRADE SEPARATION BRIDGES GENERAL NOTES:
HYDRAULIC BRIDGES GENERAL NOTES:
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
TEMPORARY STEEL BRACING
FMS:
COUNTY:
PROJECT NUMBER:
WORKING NUMBER
SHEET NUMBER
REVISION
BY
DESIGNED
DETAILED
CHECKED
ISSUE DATE
SECTION A-A
SECTION B-B
CONNECTION DETAIL
TEMPORARY STEEL BRACING DETAILS
AASHTO Type-I-II, Type-III, & Type-IV-V Beams
TEMPORARY STEEL BRACING DETAILS
AASHTO Type-III & Type-IV Beams
TEMPORARY STEEL BRACING DETAILS
Bulb-T Beams
Angle
Channel
Backer Plate With Hole Spacing Similar To Clip Angles
Web
Holes Are To Be Formed Using PVC Pipe Or Equivalent
Slotted Holes
Beam Web
Filler Plate
Angles

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 296 **CODE: (SP)**

DATE: 07/25/2017

SUBJECT: Reduced Speed Limit Signs

Bidders are advised that when the plans or contract documents require the speed limit on a project to be reduced, the Contractor shall begin work within 48 hours of installing the reduced speed limit signs. Should the Contractor not start work or have no plans to start work within 48 hours of installing the signs, the reduced speed limit signs shall be covered and existing speed limit signs uncovered.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 445 **CODE: (SP)**

DATE: 10/10/2017

SUBJECT: Mississippi Agent or Qualified Nonresident Agent

Bidders are hereby advised of the requirements of Subsections 102.08, 103.05.2, and 107.14.2.1 of the *2017 Standard Specifications for Road and Bridge Construction* as it refers to bonding agents. Proposal guaranties, bonds, and liability insurance policies must be signed by a **Mississippi Agent or Qualified Nonresident Agent.**

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 516 **CODE: (IS)**

DATE: 11/28/2017

SUBJECT: Errata and Modifications to the 2017 Standard Specifications

Page	Subsection	Change
16	102.06	In the seventh full paragraph, change "Engineer" to "Director."
33	105.05.1	In the sixth sentence, change "Contract Administration Engineer" to "Contract Administration Director."
34	105.05.2.1	In subparagraph 2, change "SWPPP, ECP" to "SWPPP and the ECP"
35	105.05.2.2	In subparagraphs 2, add " and" to the end of the sentence. In subparagraph 3, remove ", and" and add ".".
90	109.04.2	In the last paragraph of subparagraph (a), place a period "." at the end of the sentence.
93	109.04.2	In the last paragraph of subparagraph (g), place a period "." at the end of the sentence. Also, in the first paragraph of subparagraph (h), place a period "." at the end of the sentence.
97	109.07	Under ADJUSTMENT CODE, subparagraph (A1), change "HMA mixture" to "Asphalt mixtures."
98	109.11	In the third sentence, change "Engineer" to "Director."
219	308.04	In the last sentence of the last paragraph, change "Contractor's decision" to "Engineer's decision."
300	405.02.5.9	In the first sentence of the second paragraph, change "Hot Mix Asphalt" to "Asphalt Mixtures."
502	630.01.1	In the first paragraph, change "AASHTO" to "AASHTO's LRFD".
636	646.05	Change "each" to "per each" for the pay item units of payment.
640	656.02.6.2	In item 7), change "down stream" to "downstream".
688	630.03.2	Change the subsection number from "630.03.2" to "680.03.2."

725	702.08.3	In the second sentence of the first paragraph, change "hot-mix" to "asphalt."
954	804.02.13.1.6	In the definition for "M" in the % Reduction formulas, change "paragraph 7.3" to "paragraph 5.3."

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 757 **CODE: (IS)**

DATE: 03/20/2018

SUBJECT: Additional Erosion Control Requirements

Bidders are hereby advised of the following requirements that relate to erosion control activities on the project.

THE MAXIMUM TOTAL ACREAGE THAT CAN BE DISTURBED, AT ONE TIME, ON THE PROJECT IS NINETEEN (19) ACRES. THE CONTRACTOR SHALL BE REQUIRED TO STABILIZE DISTURBED AREAS PRIOR TO OPENING UP ADDITIONAL SECTIONS OF THE PROJECT. STABILIZED SHALL BE WHEN THE DISTURBED AREA MEETS ONE OF THE FOLLOWING CRITERIA:

- **THE AREA HAS BEEN SEEDED, EITHER TEMPORARY OR PERMANENT, AND MULCHED ACCORDING TO THE SPECIFICATIONS,OR**
- **A CRUSHED STONE COURSE OR A LIFT OF ASPHALT PAVEMENT HAS BEEN PLACED, OR**
- **THE AREA HAS BEEN CHEMICALLY TREATED USING PORTLAND CEMENT OR LIME-FLY ASH, AND SEALED.**

DISTURBED AREAS INCLUDE THE ROADBED, SLOPES AND REMAINING AREA OUT TO THE ROW LINE.

Clearing and Grubbing: Prior to beginning any clearing and grubbing operations on the project, controls shall be in place to address areas such as drainage structures, wetlands, streams, steep slopes and any other sensitive areas in accordance with the approved Erosion Control Plan or as directed by the Engineer. Clearing and grubbing should be limited to the minimum area necessary to construct the project. Grubbing operations should be minimized in areas outside the construction limits and stumps should be cut off flush with the existing ground elevations. A buffer area of at least fifteen (15) feet or as shown in the Plans shall be in place adjacent to the right-of-way line. The buffer area can either be the existing vegetation that is left undisturbed or re-established by planting new vegetation if clearing and grubbing was required. As applicable, see the Riparian Buffer Erosion Control sheet(s) in the Plans for clearing and grubbing limits adjacent to stream banks.

Unclassified Excavation: Cut sections shall be graded in accordance with the typical sections and plan grades. Permanent erosion control BMP's should be placed as soon as possible after the cut material has been moved. Fill sections that are completed shall have permanent erosion control BMP's placed. Fill sections that are not completed shall be either permanently or temporarily seeded until additional material is made available to complete these sections. All unclassified excavation on the project is be required to be moved prior to incorporating any borrow excavation. The Contractor may have to stockpile unclassified excavation in order to comply with the nineteen (19) acre requirement. No additional compensation will be made for stockpiling operations.

Disturbed areas that remain inactive for a period of more than fourteen (14) days shall be temporary grassed and mulched. Temporary grassing and mulching shall only be paid one time for a given area.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1225 **CODE: (SP)**

DATE: 11/13/2018

SUBJECT: Early Notice to Proceed

Bidders are advised that if an early notice to proceed is allowed by the Department and the Contractor experiences problems or delays between the early notice to proceed date and the original notice to proceed date, this shall not be justification for any monetary compensation or an extension of contract time.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1226 **CODE: (IS)**

DATE: 11/16/2018

SUBJECT: Material Storage Under Bridges

Bidders are advised that Subsection 106.08 of the Standard Specifications allows the Contractor to store materials and equipment on portions of the right-of-way. However, the Contractor will not be allowed to store or stockpile materials under bridges without written permission from the Project Engineer. The Contractor shall submit a detailed request of all proposed materials to be stored under bridges to the Engineer a minimum of 14 calendar days prior to anticipated storage. This detail shall include, but not limited to, bridge location, material type, material quantity, and duration of storage. The Project Engineer and any other needed Division will review this information and determine whether to grant approval. The Contractor shall not store any material under any bridge without written approval from the Project Engineer.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1241 **CODE: (IS)**

DATE: 11/27/2018

SUBJECT: Fuel and Material Adjustments

Bidder's attention is brought to the last paragraph of Subsection 109.07 of the Standard Specifications which states that no fuel or material adjustment will be made after the completion of contract time. Any fuels consumed or materials incorporated into the work during the monthly estimate period falling wholly after the expiration of contract time will not be subject a fuel or material adjustment.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1434 **CODE: (IS)**

DATE: 03/06/2019

SUBJECT: Erosion Control Plan

Bidders are advised that the Best Management Practices (BMPs) shown at sensitive areas on the Erosion Control Sheets in the Plans shall be shown on the Contractor's Erosion Control Plan and shall be used in the field as indicated on the original plans sheets. Should the installation of these BMPs produce an unsatisfactory result, the Contractor shall submit to the Engineer alternate BMPs for approval. Once approved, the Contractor shall revise the Contractor's Erosion Control Plan to include these changes.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1878 **CODE: (SP)**

DATE: 08/27/2019

SUBJECT: Storm Water Discharge Associated with Construction Activity (≥ 1 and < 5 Acres)

Construction Storm Water General NPDES Permit MSR 15 to discharge storm water associated with construction activity is required. This project is granted permission to discharge treated storm water into State waters. Copies of said permit and Storm Water Pollution Prevention Plan (SWPPP) are on file with the Department.

Prior to the execution of the contract, the successful bidder shall execute and deliver to the Executive Director an original signed copy of the completed Prime Contractor Certification (Form No. 1).

Failure of the bidder to execute and file the completed Prime Contractor Certification (Form No. 1) shall be just cause for the cancellation of the award.

The executed Prime Contractor Certification (Form No. 1) shall be prima facie evidence that the bidder has examined the permit, is satisfied as to the terms and conditions contained therein, and that the bidder has the primary responsibility for meeting all permit terms and conditions including, but not limited to, the inspection and reporting requirements of the permit. For this project, the Contractor shall furnish, set up and read, as needed, an on-site rain gauge.

The Contractor must furnish the Project Engineer a completed copy of the Small Construction Notice of Intent (SCNOI) along with the Contractor's Erosion Control Plan.

The Contractor shall make inspections in accordance with condition No. S-4, Page 20, and shall furnish the Project Engineer with the results of each weekly inspection as soon as possible following the date of inspection. The weekly inspections must be documented monthly on the Inspection and Certification Form, a copy of which is provided. The Contractor's representative and the Project Engineer shall jointly review and discuss the results of the inspections so that corrective action can be taken. The Project Engineer shall retain copies of the inspection reports.

The Engineer will have the authority to suspend all work and/or withhold payments for failure of the Contractor to carry out provisions of MDEQ's Storm Water Construction General Permit, the erosion control plan, updates to the erosion control plan, and /or proper maintenance of the BMPs.

Securing a permit (s) for storm water discharge associated with the Contractor's activity on any other regulated area the Contractor occupies, shall be the responsibility of the Contractor.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1963 **CODE: (SP)**

DATE: 9/23/2019

SUBJECT: Guardrail Pads

Bidders are hereby advised that prior to construction of the guardrail pads, the Contractor shall coordinate with the guardrail Subcontractor to determine the guardrail pad dimensions necessary to meet MASH compliance.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2172 **CODE: (SP)**

DATE: **01/06/2020**

SUBJECT: **App for Storm Water Reports**

Bidders are advised that the Department has created a smart phone App for completing and submitting storm water reports required on this project. The Contractor who monitors storm water activities and completes storm water reports will be required to download and use this App when completing and submitting storm water reports. The reports will then be readily available to all persons who need access to the forms. The App is free and is available for downloading at the following location.

https://extacctmgmt.mdot.state.ms.us/

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2206 **CODE: (IS)**

DATE: 01/14/2020

SUBJECT: MASH Compliant Devices

Bidders are hereby advised that compliance associated with the requirements of meeting either the National Cooperative Highway Research Program (NCHRP) Report 350 or the Manual for Assessing Safety Hardware (MASH) for installations of certain traffic control devices and permanent safety hardware devices (guardrails, guardrail terminals, permanent portable barriers, cast-in-place barriers, all other permanent longitudinal barriers, crash cushions, cable barriers, cable barrier terminals, bridge rails, bridge rail transitions, all other terminals, sign supports, and all other breakaway hardware) as listed throughout the Standard Specifications and/or the Standard Drawings, or both, is now replaced with the requirements of meeting the 2016 version of MASH after December 31, 2019. This change applies to new permanent installations and to full replacements of existing installations.

At the preconstruction conference or prior to starting any work on the project, the Contractor shall submit a letter stating that the traffic control devices and permanent safety hardware devices as outlined within the paragraph above that are to be used on the project are certified to meet MASH 2016.

When a MASH 2016-compliant device does not exist for the new permanent installations and/or full replacement installations of permanent safety hardware devices, as listed above, a MASH 2009-compliant or a NCHRP 350-compliant device may be proposed by the Contractor for the project. A written request for such instances must be submitted by the Contractor either at the preconstruction conference or prior to starting any work on the project. The Contractor shall submit the following items to the Project Engineer: (1) a detailed list of the proposed devices and locations thereof; and (2) certification letters indicating that the proposed devices are compliant with either MASH 2009 or NCHRP 350.

When a MASH 2016-compliant device does not exist for the temporary work zone traffic control devices (Category 1, Category 2, and Category 3 devices) , a MASH 2009-compliant or a NCHRP 350-compliant device may be proposed by the Contractor for the project. Temporary work zone traffic control devices (Category 1, Category 2, and Category 3 devices) that are MASH 2009-compliant or NCHRP 350–compliant that have been in use prior to December 31, 2019, and that have a remaining service life may be proposed for use throughout their normal service life on the project by the Contractor. For either of these scenarios for temporary work zone traffic control devices, a written request must be submitted by the Contractor either at the preconstruction conference or prior to starting any work on the project. The Contractor shall submit the following items to the Project Engineer: (1) a detailed list of the proposed devices and locations thereof; and (2) certification letters indicating that the proposed devices are compliant with either MASH 2009 or NCHRP 350.

Work will only be allowed to proceed after the Department has granted written concurrence(s) with the proposed request(s) as listed above.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2273 **CODE: (SP)**

DATE: 02/12/2020

SUBJECT: Mississippi Special Fuel Tax Law

Bidder's attention is brought to the second paragraph of Subsection 107.02 of the Standard Specifications which states that all Contractors and Subcontractors must comply with all requirements contained in the Mississippi Special Fuel Tax Law, Section 27-55-501, *et seq*. Attached are two Fact Sheets provided by the Mississippi Department of Revenue (MDOR) with additional information.

DEPARTMENT OF REVENUE
STATE OF MISSISSIPPI

Gasoline and Dyed Diesel Used for Non-Highway Purposes

Mississippi provides a reduced rate for gasoline and dyed diesel used for non-highway purposes. The reduced rates are 6.44 cents per gallon and 5.75 cents per gallon of gasoline or dyed diesel. These fuels are generally taxed at 18 cents per gallon if for on road use.

Gasoline Used for Non-Highway Purposes

You may be entitled to a refund of 11.56 cents per gallon (making this an equivalent to a tax rate of 6.44 cents per gallon) if you desire to purchase gasoline to be used off road. The gasoline must be used for agricultural, maritime, industrial, manufacturing, domestic or non-highway purposes only.

Examples of non-highway include gasoline used in boats, golf carts, machinery used for manufacturing or farm equipment used exclusively in plowing, planting or harvesting farm products.

Refund Gasoline User

The refund is based on the amount of gallons used. Before a refund is issued, you are required to…

1. Obtain a refund gasoline user's permit and a certificate for refund booklet from the Department of Revenue;
2. Have a storage tank marked "REFUND GASOLINE"; and,
3. Purchase the gasoline from someone who holds a refund gasoline dealer's permit.

No refund will be allowed for gasoline used in motor vehicles owned or operated by a government entity or used in Mississippi government contracts.

Refund Gasoline Dealer

You must obtain a refund gasoline dealer's permit from the Department of Revenue before selling refund gasoline. At no time should the gasoline be delivered to a tank that is not properly marked. The gasoline must be dyed a distinctive mahogany color at the time of delivery.

The Department of Revenue may waive the dye requirement if the dye may cause damage to the equipment. The refund gasoline user is required to obtain the waiver from the Department of Revenue.

Dyed Diesel Used for Non-Highway Purposes

Unlike gasoline, you are not required to apply for a refund if you desire to purchase dyed diesel to be used off road. Mississippi provides a reduced rate of 5.75 cents per gallon on dyed diesel used off road. Diesel used on road is subjected to 18 cents per gallon. Dyed diesel used in motor vehicles owned or operated by a government entity or used in Mississippi government contracts will be subjected to 18 cents per gallon.

Dyed Diesel Used on the Highway

Any person who purchases, receives, acquires or uses dyed diesel for highway use will be liable to pay 18 cents per gallon and subject to a penalty in the amount of $1000.

Identifying Dyed Diesel

Storage facilities for dyed diesel must be plainly marked "NONHIGHWAY DIESEL FUEL" or "NONHIGHWAY KEROSENE". Retailers are also required to mark all pumps or dispensing equipment.

Petroleum Tax Bureau
P. O. Box 1033
Jackson, MS 39215-1033
Phone: (601) 923-7150

DEPARTMENT OF REVENUE
STATE OF MISSISSIPPI

Special Fuel Used on Government Contracts

State and Local Government Contracts

Special fuel purchased, acquired or used in performing contracts with the State of Mississippi, counties, municipalities or any political subdivision is taxed at a rate of 18 cents per gallon. Special fuel includes but is not limited to the following:

- Dyed diesel fuel;
- Kerosene;
- Undyed diesel fuel; and,
- Fuel oil.

State and local government contracts include construction, reconstruction and maintenance or repairs of projects such as roads, bridges, water systems, sewer systems, buildings, drainage canals and recreational facilities. The Department of Revenue may require contractors to remit the excise tax directly to the state in lieu of paying the tax to a distributor.

Special Fuel Direct Pay Permit

Contractors that remit the excise tax to the state will be issued a Special Fuel Direct Pay Permit. This permit relieves the distributor from collecting the tax and requires the contractor to file a monthly special fuel return. The distributor should include the contractor's permit number on all invoices that are related to tax-free sales.

The contractor is required to furnish a surety or cash bond guaranteeing the payment of the excise tax prior to receiving the Special Fuel Direct Pay Permit. The Department of Revenue may accept a contractors tax bond if the bond covers the excise tax levied on special fuel.

Special Fuel Distributors

If the contractor does not have a Special Fuel Direct Pay Permit, distributors are required to collect the 18 cents excise tax and remit the tax to the Department of Revenue. The additional 12.25 cents levied on special fuel (excluding undyed diesel) should be reported on schedules 5F and 5G of the special fuel return.

Environmental Protection Fee

Special fuel distributors are required to collect the environmental protection fee even if the contractor has a Special Fuel Direct Pay Permit. The fee is levied at 4/10^{ths} of a cent per gallon. The fee is suspended or reinstated when the trust fund has exceeded or fallen below the obligatory balance.

Penalties

Any person who knowingly and willfully purchases untaxed fuel for use in equipment utilized on a road or highway construction site in this state is guilty of a misdemeanor and, upon conviction, shall be fined not less than $1,000 or more than $100,000, or imprisoned in the county jail for not more than one year, or both.

Petroleum Tax Bureau
P. O. Box 1033
Jackson, MS 39215-1033
Phone: (601) 923-7150

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2812 **CODE; (SP)**

DATE: 09/01/2020

SUBJECT: Traffic Signal and ITS Components

Bidders are hereby advised that all products selected for use on this project shall be in compliance with 2 CFR 200.216. No telecommunication and video surveillance equipment or services shall be manufactured by the following companies: Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, and any subsidiary or affiliate of these entities.

The Contractor shall provide a Certification Statement that the referenced product(s) is not manufactured by any of the following: Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, and any subsidiary or affiliate of these entities. (as per 2 CFR 200.216)

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MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2895 **CODE: (SP)**

DATE: 10/14/2020

SUBJECT: Exploratory Joint Cleanout

Bidders are hereby advised that work on this project shall consist of exploratory investigation of bridge joints to determine the appropriate level of repair and will include removal of any trash and debris (including, but not limited to, compacted dirt, vegetation and trash) located at any depth within the joint. Costs of this work will be absorbed in the cost of other items of work if further joint repair work is not required.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 2954 **CODE: (IS)**

DATE: **12/01/2020**

SUBJECT: **Reflective Sheeting for Signs**

Bidders are hereby advised that the retroreflective sign sheeting used for signs on this project shall be as listed below and shall meet the requirements of Subsection 721.06.

Temporary Construction Signs

Temporary traffic control (orange) sign sheeting shall be a minimum Type IX Fluorescent Orange sheeting as shown in Special Provision 907-721.

Permanent Signs

Permanent signs, except signs on traffic signal poles/mast arms, shall be as follows:

- Brown background sheeting on guide signs shall be a minimum Type VIII sheeting,
- Green and blue background sheeting on guide signs shall be a minimum Type IX sheeting, and
- All white, yellow, red, fluorescent yellow, and fluorescent yellow/green sheeting shall be Type XI sheeting.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3676 **CODE: (SP)**

DATE: 09/21/2021

SUBJECT: Asphalt Gyratory Compactor Internal Angle Calibration

Bidders are advised that by March 1, 2022, all asphalt gyratory compactors shall be calibrated to an internal angle of 1.16° ±0.02°. This requirement will be reflected in updates made to MT-78, MT-80, and MT-83. This calibration requirement also extends to all QC/QA testing.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3875 **CODE: (IS)**

DATE: 12/15/2021

SUBJECT: ITS General Requirements

For this Notice to Bidders, the "Engineer" shall mean the Project Engineer and/or their designee(s) throughout the rest of this NTB, unless stated otherwise.

Submittals
All submittals covered under this section shall be made electronically to the Project Engineer and to the ITS Engineer, shall clearly state the project name and project number, and should be in as few separate submittals as possible.

All products selected for use on this project shall be in compliance with 2 CFR 200.216, in addition to all other contract requirements as outlined throughout the specifications, special provisions and plans. No telecommunication and video surveillance equipment or services shall be manufactured by the following companies: Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, and any subsidiary or affiliate of these entities.

Product Data. Manufacturers' product data including specifications/cut-sheets, design guides, installation manuals, operating manuals, and maintenance/service manuals shall be submitted by the Contractor for each component of the ITS system, including but not limited to cabinets, controllers, sensors, conduit, pull boxes, hardware, and all other parts of the system selected for installation.

The complete information for the original product data submittal shall be contained in as few submittals as possible and be in an organized fashion.

The product data submittal shall be accompanied by a specification checklist. At a minimum, this checklist shall clearly state the following:

1) The project name and project number
2) The date of the submittal
3) The pay item number and description
4) The part and/or model number, matching the cut-sheet
5) The manufacturer
6) A Certification Statement that the referenced product is not manufactured by any of the following: Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, and any subsidiary or affiliate of these entities. (as per 2 CFR 200.216)
7) Every material requirement as stated in in this Notice to Bidders and as outlined elsewhere within this contract.

8) A statement of whether the product complies with the requirements set forth in the specifications, special provisions, plans and NTB. If product is not compliant, an explanation of non-compliance shall be provided.

All subsections of a particular section may be omitted if the section heading is included, is indicated to be not applicable, and that it is evident that all subsections being omitted are also not applicable.

It shall be the responsibility of the Contractor to guarantee the accuracy of the checklist.

Other Submittals. The following submittals shall be required:

1) Shop Drawings
2) Cabinet wiring diagrams with system labeling schedule.
3) Site wiring/connection drawings.
4) Rack diagrams showing rack mounted equipment.
5) All documentation as described in the Project Testing Plan Requirements section below.
6) Project Record Drawings:
    a. The purpose of Project Record Drawings is to provide factual information regarding all aspects of the Work, to enable future service, modifications, and additions to the Work.
    b. Project Record Drawings are an important element of this Work. Contractor shall accurately maintain Project Record Drawings throughout the course of this project.
    c. Project Record Drawings shall include documentation of all Work, including the conduit locations, pull box locations, equipment locations, foundation details, setup parameters and wiring and block diagrams.
    d. Project Record Drawings shall accurately show the physical placement of the following:
        i. Cabinets, sensors, pull boxes, and other materials installed at each site.
        ii. Conduit runs and splicing information.
    e. Project Record Drawings shall show the physical placement of each system component installed during the project at each site. Where the plan details do not depict actual field conditions, the Contractor shall amend the construction plan as required.
7) Upon completion of Work, and prior to Final Acceptance, the Contractor shall prepare and submit the final record set of Project Record Drawings. This set shall reflect the installed Work.
8) Closeout Submittals - A set of Project Record Drawings shall be provided to the Project Engineer and ITS Engineer for any items that changed or were not previously submitted, including:
    a. Project Record Drawings
    b. Product Data
    c. Installation Manuals
    d. Operating Manuals
    e. Maintenance/Service Manuals

As-Built Plans. The Contractor shall provide GPS locations of all pull boxes, splices,

termination equipment cabinets, ITS field locations and all pole locations. The Contractor shall record and submit the sequential footage markers from the fiber optic trunk and drop cables for each GPS location. The Contractor shall provide scanned PDF files of all plan sheets with pen and ink markups. The Contractor shall provide a site location inventory of ITS devices to include manufacturer model, serial numbers, MAC addresses, and IP addresses (as applicable) for all installed devices. All documentation will be due to the Department a minimum of thirty (30) calendar days after the installation.

Additional Quality Assurance Measures

The project shall be constructed in such a manner as to comply with environmental regulations and erosion control as specified in the plans and elsewhere in MDOT standard specifications.

At the completion of the Work, the site shall be cleaned, restored, grassed and otherwise stabilized to a condition consistent with conditions before work began. This work shall be paid for under other items of work.

All disturbed signs, guardrail, markers, fencing, and other roadway appurtenances shall be restored. Disturbed roadway appurtenances that require complete removal and replacement will be identified within the contract and will have separate pay items and quantities set forth for such work.

The Contractor shall clean-up debris caused by Contractor's activities on a daily basis as the work progresses. This work shall be paid for under other items of work.

All work-related accidents shall be reported immediately to the Project Engineer or his/her representative.

Maintenance and Technical Support. The supplier must provide and have a parts support system capable of providing parts for the length of the warranty period.

Project Testing Plan Requirements

The Contractor shall conduct a Project Testing Plan as required below in addition to all other project testing and acceptance procedures required elsewhere in the specifications and Plans. Some specifications contain details regarding the testing for individual device types or attributes, but this section outlines the overall testing plans for the entire project as a whole. The Project Testing Plan shall include a series of tests on all project materials occurring at various stages in the project. All costs associated with the Project Testing Plan shall be absorbed in contract pay items; no separate payment will be made for any testing.

General Requirements. The Contractor is responsible for planning, coordinating, conducting and documenting all aspects of the Project Testing Plan as detailed below and providing all required equipment for the tests. The Engineer reserves the right to attend and observe all tests.

Each test shall be an individual and separate event for each type of test and for each type of equipment as defined elsewhere within this NTB. The Contractor shall follow the testing sequence as described in this NTB and shall perform the required tests on all applicable

devices and infrastructure.

Test procedures shall be submitted and approved for each test as part of the project submittals programs. Test procedures shall include every action necessary to fully demonstrate that the material under test is clearly and definitively in full compliance with all project requirements. Test procedure actions shall cross-reference to the specifications or Plans requirement that is the subject of the test action. Test procedure actions shall cross-reference the applicable sections of the final approved Project Submittal Compliance Form and the submittal materials for the subject of the test action. Test procedures shall contain test setup and block/wiring diagrams showing all materials being tested and all test and measurement equipment, with calibration documentation, and shall contain documentation regarding the equipment configurations and programming. Test procedures shall include checkoff blanks for each project requirement included in that test and shall include forms for the documentation of all measured test results.

No testing shall be scheduled until approval of all project submittals for all materials covered under a given test and approval of the test procedures for the given test has been granted.

Unless otherwise required herein, the Contractor shall request in writing the Engineer's approval for each test occurrence a minimum of 14 days prior to the requested test date. Test requests shall include the test to be performed and the material to be tested. The Engineer reserves the right to reschedule tests if needed.

For any series of tests on different installations of a given material (e.g., different sections of cable), the Contractor shall request in writing the Engineer's approval for the first test occurrence of the series a minimum of 14 days prior to the requested test date, regardless of the notification requirements for subsequent test occurrences.

The Contractor shall provide all ancillary equipment, materials, diagnostic and test software, and computers as required in the approved test procedures.

All test results shall be documented in writing by the Contractor in accordance with the test procedure and submitted to the Engineer within seven (7) days of the completion of the test. Any given test session is considered incomplete until the Engineer has approved the documentation for that test session.

The Contractor shall provide test results documentation in electronic format and printed format (3 copies). Electronic formats shall be provided in both PDF and Microsoft Excel or other approved application. Printed copies shall be bound and organized by test, equipment type, and individual unit.

- Two sets are for the Traffic Engineering ITS Department
- One set is for the Engineer

All test results shall be provided in English units of measure.

All test results deemed by the Engineer to be unsatisfactorily completed shall be repeated by the Contractor, following all test requirements as defined elsewhere in this NTB and contract specifications. This shall include a request in writing for the Engineer's approval for the repeated test a minimum of 14 days prior to the requested test date, unless this requirement is waived by the Engineer. In the written request for each test occurrence that is a repeat of a previous test, the Contractor shall summarize the diagnosis and correction of each aspect of the previous test that was deemed unsatisfactory. Any revisions to the test procedures for a repeated test occurrence shall meet all requirements for the original test procedures, including review and approval by the Engineer.

The satisfactory completion of any test shall not relieve the Contractor of his responsibility to provide a completely acceptable and operating system that meets all requirements of this project.

It is possible for the Contractor to schedule multiple test dates and revise the actual test being performed on a particular day if; 1) the Engineer approves of the change, 2) all test scheduling requirements above have still been met for the actual test to be performed on the date, and 3) there is not an unreasonable change of location, time, duration, or requirement of the Engineer.

Factory Acceptance Test (FAT). FATs shall be conducted at the Manufacturer or Contractor's facility or at a facility acceptable to all parties prior to shipping from the factory. The goal of the FAT is to verify that the equipment meets the requirements of the specifications. All equipment to be utilized for this project shall be subject to tests that demonstrate the suitability of the design and manufacturing procedures and compliance with the contract requirements, unless an exception for a specific equipment item is granted by the Engineer. The tests shall be performed on production units identified to be delivered under this Contract. As a minimum, a FAT is required for each of the following project materials:

- Dynamic Message Signs

The FAT testing procedures and results for specifically identified materials shall demonstrate that all testing requirements as outlined within the contract (standard specifications, plans, special provisions, and notice to bidders) are met, including, but not limited to: functional/system performance requirements, electrical requirements, data transmission/communication requirements, safety/password requirements, environmental requirements, and interface requirements with other components of the project system.

The Engineer reserves the right to waive FATs which are deemed to be unnecessary and reserves the right to witness all FATs that are determined to be critical to the project. At the Engineer's discretion, the Engineer may be in attendance at the FAT for any units tested. The FAT for the first three (3) units shall be conducted during the same time period and shall be completed before additional units are produced.

The Engineer shall be notified a minimum of 45 calendar days in advance of such tests. Salary and travel expenses of the Engineer and his/her representatives will be the responsibility of the Department. In case of equipment or other failures that make a retest necessary, travel expenses associated with retests for the Engineer and his/her representatives shall be the responsibility of

the Contractor. The travel expenses shall include all costs associated with having a two-person Engineer review team on site, including but not limited to airfare, automobile rental, lodging, and per diem. These costs, excluding airfare, shall not exceed $500.00 per representative, per day. These costs shall be deducted from the payments due or charged to the withholding account of the Contractor when the project is terminated.

The vendor must complete the FAT on all remaining units on their own and submit documentation to the Engineer that the FATs were completed. The Engineer reserves the right to randomly attend those FAT tests.

No equipment for which a FAT is required shall be shipped to the project site without successful completion of factory acceptance testing as approved by the Engineer and the Engineer's approval to ship.

Bench Test Components (BTC). The Contractor shall perform a complete BTC on the lesser of the full contract quantity of units of equipment and materials or the number of units required as specified in this subsection below. The quantity listed in the subsection below is a "minimum" quantity and the Engineer reserves the right to require testing of additional quantities if the initial testing is not deemed adequate. The Contractor shall provide the testing location and facility, which shall be in Mississippi and within a 25-mile radius of the project limits. The test location must be approved by the Engineer as part of the BTC test procedure submittal.

The BTC shall demonstrate that all equipment and materials are in full compliance with all project requirements and works "out of the box" by visual inspection, setup and operation "on the bench", functional testing of the component including manufacturer's recommended startup diagnostics, and testing prior to any field installation of that equipment or material. Test results documentation shall be provided for each equipment item and material in the full contract quantity; test results documentation shall include the manufacturer's serial number and the project location ID for each item.

As a minimum, a BTC is required for each of the following project materials for quantities as shown.

- Closed Circuit Television Equipment, 4 PTZ units & 6 fixed units
- Dynamic Message Sign, 2 complete units of each type
- Travel Time Signs, 2 compete units
- Network Switches Type A, 4 units
- Network Switches Type B & F, 2 units each
- Network Switches, Type C, D, & E, 1 unit each
- ITS Radar Vehicle Detection Sensors, 6 units
- Highway Advisory Radios, 2 units
- Radio Interconnect System, 4 units of each type
- Bluetooth Detection System, 6 units
- DSRC devices, 6 units
- Roadway Weather Information System, 2 complete units
- Traveler Information Video Kiosk, 2 complete units

- Smart Work Zone System
  - Portable CCTV station, 2 complete units
  - Non-Intrusive Vehicle Detection Devices / Portable Traffic Sensors, 4 complete units
  - Highway Advisory Radio, 2 complete units
  - Portable Changeable Message Signs, 2 complete units
  - Portable Traffic Signal, 2 complete units
- Off-the-shelf and Vendor Software, all necessary
- Equipment Cabinet (Type A), 2 cabinets
- Equipment Cabinet (Type B), 4 cabinets
- Equipment Cabinet (Type C), 2 cabinets

Pre-Installation Tests (PIT). The Contractor shall perform Pre-Installation Tests (PIT) on all device quantities that are not included in the BTC. The Contractor shall provide the testing location and facility, which shall be within a 25-mile radius of the project limits or as approved by the Engineer. The test location must be approved by the Engineer as part of the PIT test procedure submittal. The PIT shall be a shortened version of the BTC to ensure the equipment will power up, operate, and was not damaged during shipment. The Engineer reserves the right to attend any PIT as desired; however, the contractor shall submit documentation of the PITs whether the Engineer is present or not. In addition to these requirements, see the DMS, TTS, and Fiber Optic Cable Special Provisions for more details.

Stand Alone Site Tests (SAT). The Contractor shall perform a complete SAT on all equipment and materials associated with the field device site, including but not limited to electrical service, conduit, pull boxes, communication links infrastructure (fiber, leased copper, wireless), cable, poles, camera lowering devices, device communication cables, cabinet apparatus, etc. The goal of the SAT is to verify that the equipment has been properly installed and commissioned according to the manufacturer requirements. A SAT shall be conducted at every field device site including communications hubs. A SAT shall be conducted for a fully installed and completed control center in the TMC as described in the TMC modification NTB. A SAT shall be conducted for all fiber optic infrastructure.

The SAT shall demonstrate that all equipment and materials are in full compliance with all project requirements, are fully functional as installed, and are in their final configuration. As part of this demonstration, SATs shall include but are not limited to the following:

- A visual inspection of the cabinet and all construction elements at the site to ensure they are compliant with the Specifications and have no physical damage or deformities.
- The inspection of the cabinet at each site shall include the functional test of all cabinet equipment, including circuit breaker, receptacles, fan and thermostat, lights, and door switches.
- Verify that manufacturer documentation for each device is present.
- A measurement of the DC power supply shall be made at the cabinet when it is operating under full load.
- Verify that all equipment has proper power, surge protector, and grounding connections.
- Inspect the integrity of all cable connections and terminations and verify that the cables are

connected and terminated as specified in the Plans.

The SATs for each site type shall include but are not limited to the following:

- *CCTV Stand Alone Site Test*: Shall be conducted at the CCTV Cabinet and shall demonstrate the complete operation of the CCTV, Network Switch, and the link(s) to any devices that are connected to the Power Supply in the CCTV Cabinet. The SAT shall include a 5-minute recording of each PTZ and Fixed camera showing the field of view and video quality. Two copies of the recording shall be provided to the Engineer on USB flash drives. The recording will start at the preset default position(s) and will demonstrate the full zoom capabilities of the cameras, as well as the full range of the pan and tilt functions of PTZ cameras. This recording shall be in a format playable with Windows Media Player or pre-approved by the Engineer.
- *ITS Communications HUT Stand Alone Site Test:* Shall be conducted at the HUT and shall demonstrate the complete operation of all equipment inside the HUT including Network Switches. This also includes visual inspection of the Site elements associated with the HUT.
- *ITS Termination Cabinet Stand Alone Site Test:* Shall be conducted at the termination cabinet and shall demonstrate the complete operation of all equipment inside the cabinet including Network Switches. This also includes visual inspection of the Site elements associated with the termination cabinet.
- *Radio Interconnect System Stand Alone Site Test:* Shall be conducted from the cabinets at both ends of the communications link (even if one end consists of existing equipment) and shall demonstrate that the radios, the antennas, the entire link, the Network Switch, and the transmission of video and/or data are fully operational. See Radio Interconnect Special Provision for more details.
- *Highway Advisory Radio Site Test:* Shall be conducted at the HAR cabinet, antenna, and advisory signs and shall demonstrate complete operation of recordings, transmissions, and remote flashing beacon unit(s). See HAR Special Provision for more details.
- *Fiber Optic Cable Stand Alone Site Test*: Shall be conducted at each Cabinet and at each HUB and shall include both power meter tests and OTDR tests. See Fiber Optic Special Provision for more details.
- *Conduit Detection Wire Stand Alone Site Test*: Shall be conducted at each pull box and shall demonstrate that a continuous run of conduit detection wire was installed between pull boxes, vaults, cabinets, and structures as required.
- *ITS Radar Vehicle Detection Stand Alone Site Test*: Shall be conducted at the IRVD Cabinet and shall demonstrate the complete operation, proper configuration, and verification of detection for each lane of traffic or zone of the IRVD unit(s).
- *BDS Stand Alone Site Test*: Shall be conducted at the Device Cabinet and shall demonstrate the complete operation and proper configuration of the unit(s), verify network connection to the BDS through ping and telnet sessions from a remote PC, and confirm that the system is fully functional by detecting Bluetooth devices at a sample rate approved by the Engineer.
- *RWIS Stand Alone Site Test*: Shall be conducted at the RWIS Cabinet and shall demonstrate the complete operation and proper configuration of the RWIS and shall verify that the remote flashing beacon unit(s) on the warning signs are activated properly as

specified and will de-activate automatically without renewal at preset intervals.

- *SWZ Stand Alone Site Test*: Shall be conducted at each device at its initial location and shall demonstrate the complete operation and proper configuration of the device as described in the Smart Work Zone Special Provision and NTB. At any subsequent locations, at a minimum, a document verifying that the device is configured for the new location shall be submitted to the Engineer.
- *Kiosk Stand Alone Site Test*: Shall be conducted at the device, verify all required video layouts and displays, demonstrate all required software features, and demonstrate the complete operation of the device and Network Switch. Refer to the Traveler Information Video Kiosk specification for more details.
  DMS & TTS Stand Alone Site Test: Shall be conducted at the Device Cabinet, verify that all pixels are operational, verify that the sign can be controlled locally through both the serial and Ethernet ports, and demonstrate the complete operation of the device and Network Switch. The signs shall be delivered with and tested using default fonts and sizes that are provided by the MDOT ATMS drivers.

The Contractor shall request in writing the Engineer's approval for each test occurrence a minimum of 14 days prior to the requested test date. The Contractor shall arrange, at no additional expense to the State, the attendance of a qualified technical representative of the equipment manufacturer to attend each test until a minimum of two (2) sites of that type are approved.

Sub-System Test (SST). The Contractor shall perform an SST on each DMS and TTS to verify and document that all remote TTS and DMS functions and alarms are operational from the TMC.

An SST is required for at least ten percent (10%) of each of the following devices being placed for the project, taken by a random sampling: BDS, Network Switch, IRVD, HAR, Radio, CCTV, Video Vehicle Detection, and RWIS including beacons. The SST will require the Contractor to demonstrate and document that all functions and alarms are operational from the TMC.

An SST is required for each Traveler Information Kiosk in the project and will require the Contractor to demonstrate and document the features demonstrated in the Kiosk SAT using remote access from the TMC.

An SST is required for each Smart Work Zone device in the project and will require the Contractor to demonstrate and document the connection between the device and the central data/video collection site. Once a Smart Work Zone device has been verified to be properly configured, working, and communicating at its current location, the device can be utilized without further testing. The Conditional System Acceptance Test, Burn-in period, Final Inspection, or Final System Acceptance is not required for a device being solely utilized as part of the temporary Smart Work Zone System. Devices moved to a new location do require verification that they are still working as intended in the new location.

The Contractor shall coordinate the SST to be performed with the Project Engineer or designee present. The Contractor shall provide an SST plan to the Project Engineer for review and approval a minimum of two weeks in advance of tests being performed.

Conditional System Acceptance Test. The Contractor shall perform a complete conditional system acceptance test on all equipment and materials in the project. The Contractor shall not request the conditional system acceptance test until the SATs have been satisfactorily completed, all as-built documentation has been submitted and approved, and all other project work has been completed to the satisfaction of the Engineer. Prior to a Conditional System Acceptance Test, the Contractor shall provide advance notice of and written test results documenting that the Contractor has performed a dry-run of the conditional system acceptance test. The Engineer reserves the right to attend a dry-run test session.

The Contractor shall coordinate the CSAT with the Engineer. The Contractor shall provide a CSAT plan to the Engineer and be approved a minimum of fourteen (14) calendar days in advance of tests being performed. The CSAT plan shall be inclusive of steps and procedures to be performed and scheduled times to perform test procedures.

The Contractor shall test all project systems simultaneously from the State TMC in a manner equivalent to the normal day-to-day operation of the system. The Conditional System Acceptance Test shall demonstrate that all equipment and materials in the network are in full compliance with all project requirements and fully functional as installed and in final configuration, communicating with and being controlled through the control center at the State TMC. If pre-processing systems (e.g., edge computing) or post-processing systems (e.g., video image processing and analytics, detection in one device triggering an alarm or event in another device, etc.) are present, these shall be tested, verified, and documented as working as intended during the CSAT. Edge computing is where data-handling activities, such as analysis and event-triggering, takes place near the physical location that the data is collected.

The Engineer reserves the right to require, at no additional expense to the State, the attendance of a qualified technical representative of the equipment and/or software manufacturers to attend any given Conditional System Acceptance Test.

Upon completion and full approval of the Conditional System Acceptance Test for all equipment in all phases, Conditional System Acceptance will be given and the Burn-in Period will begin.

Burn-In Period. Following the Engineer's written notice of successful completion of the Conditional System Acceptance Test, the entire newly installed system must operate successfully for a thirty (30) day burn-in period. The Contractor shall be responsible for the full maintenance of the newly installed equipment during the burn-in period. This maintenance includes all troubleshooting and repairs as well as providing preventive maintenance that meets the equipment manufacturer's recommendations. However, no separate payment will be made during the burn-in period. Successful completion of the burn-in period will occur at the end of thirty (30) complete days of operation without a system failure attributable to hardware, software or communications components. Each system failure during the burn-in period will require an additional thirty (30) days of successful operation prior to being eligible for Final Acceptance (i.e., if the initial burn-in period is thirty (30) days and there are two (2) system failures during this time, the burn-in period would be increased to ninety (90) days).

Burn-In General Requirements:

- Determination of a system failure shall be at the sole discretion of the Engineer.
- System failure is defined as a condition under which the system is unable to function as a whole or in significant part to provide the services as designed. While a single component failure will not constitute a system failure, chronic failure of that component or component type may be sufficient to be considered a system failure. Chronic failure of a component or component type is defined as three (3) or more failures for the same component during the burn-in period.
- Components are defined as contract items or major material elements in a contract item. For electrical and electronic contract items, components are defined as the complete assembly of materials that makes up the contract item.
- Specifically exempted as system failures are failures caused by accident, acts of God, or other external forces that are beyond the control of the Contractor. However, failure of the contractor to respond to the repair request for that failure within 24 hours may be considered a system failure.
- The Department will advise the Contractor in writing when it considers that a system failure has occurred or chronic failure exists.
- If multiple system and/or chronic failures continue to occur throughout the burn-in period due to a single component type, the Contractor may be required to replace all units of that component type with a different model or manufacturer.
- The Contractor shall document all failures and subsequent diagnosis and repair. The repair documentation shall include as a minimum:
    - Description of the problem
    - Troubleshooting and diagnosis steps
    - Repairs made
    - List of all equipment and materials changed including serial numbers.
    - Update of the equipment inventory where needed.
    - The Contractor shall provide the repair documentation to the Engineer within two (2) days of completing the repair; failure to provide acceptable documentation as required shall be reason to not approve the repair as complete. The Engineer will provide acceptance or rejection of the repair and documentation within seven (7) days of receiving the repair documentation.
    - The Engineer reserves the right to require, at no additional expense to the State, the presence of a qualified technical representative of the equipment and/or software manufacturers as related to the diagnosis and/or repair of any system failure.
- During the burn-in period, the Contractor shall perform incidental work such as touching up, cleaning of exposed surfaces, leveling and repair of sites, sodding/grassing and other maintenance work as may be deemed necessary by the Engineer to ensure the effectiveness and neat appearance of the work sites.
- During the burn-in period, the Engineer shall maintain a "burn-in period punch list" that contains required Contractor actions but that the Engineer does not define as a system failure. Each burn-in period punch list action item shall be completed by the Contractor to the Engineer's satisfaction within seven (7) days of Contractor notification of the action item.
- During the burn-in period, the Contractor is required to meet the following response times

once notified there is a problem. A response is defined as being on-site to begin diagnosing the problem.
    - Monday thru Friday: The Contractor shall respond no later than 9:00 a.m. the following morning after being notified.
    - Weekends: If the Contractor is notified on Friday afternoon or during the weekend, the Contractor shall respond by 9:00 a.m. on Monday morning.
- During the burn-in period, the Contractor shall provide all labor, materials, equipment and replacement parts to completely maintain, troubleshoot and repair all items installed under this contract. No separate payment will be made for any labor, materials, equipment, or replacement parts needed during the burn-in period.
- The overall burn-in period will be considered complete upon the successful completion of the burn-in time periods, the Engineer's acceptance of all repairs and repair documentation, completion of all burn-in period punch list actions, and a final inspection as described below.

Contract time will not cease during the burn-in period(s). Contract time for the burn-in period was considered when determining the original contract time.

Final Inspection. Upon successful completion of the burn-in period, the entire project shall be eligible for Final Inspection. The Final Inspection will be conducted provided the burn-in period has demonstrated the entire system is operating successfully. The Final Inspection shall include but is not limited to:

1. monitoring of all system functions at the State TMC to demonstrate the overall system is operational
2. a field visit to each site to ensure all field components are in their correct final configuration
3. verification that all burn-in punch list items have been completed
4. verification that all final cleanup requirements have been completed
5. approval of final as-built documentation

Prior to conducting the Final Inspection, the burn-in period shall demonstrate that all requirements defined in the specifications have been met, including, but not limited to: functional/system performance requirements, electrical requirements, data transmission/communication requirements, safety/password requirements, environmental requirements, and interface requirements with other components of the system.

The Contractor shall request in writing the Engineer's approval to start the Final Inspection a minimum of 14 days prior to the requested start date. The Engineer reserves the right to reschedule the start date if needed. The start date for the Final Inspection cannot be prior to the successful completion of the overall burn-in period.

An unsuccessful or incomplete Final Inspection shall require a new Final Inspection after the Contractor has made the necessary corrections. Up to 14 days shall be allowed for the Engineer to conduct a Final Inspection. The presence of the MDOT ITS Engineer or his/her designee is required during the final inspection.

The Engineer reserves the right to require, at no additional expense to the State, the attendance of a qualified technical representative of the equipment and/or software manufacturers to attend a portion of a Final Inspection.

The Contractor shall be responsible for the full maintenance of all project equipment and materials during the entire time period from the successful completion of the burn-in period until Final System Acceptance is granted.

Final System Acceptance. Upon successful completion of the Final Inspection and all other items of work on the project, the Engineer will grant Final System Acceptance in accordance with Subsection 105.20 of the Standard Specifications.

Beneficial Use of Dynamic Message Signs During Construction. Each DMS shall be roadside controllable (by sign vendor software) within 30 days of attachment to structures (visible to motorists). The Contractor's construction schedule shall clearly identify when installation of the signs over the roadway shall occur, and when roadside control shall be established for each sign. The Contractor shall not install a DMS over the roadway until all ancillary and infrastructure elements, including cabinets, controllers, conduits, cabling, etc. necessary to operate the sign are in place and functional. Once roadside controllable, the Contractor shall display emergency, special event, construction, safety or traveler information messages approved by MDOT, only when requested by MDOT, at no additional cost to MDOT. Normal diagnostic messaging for the purpose of installation and testing shall be determined by the Contractor but shall not be allowed to the extent that excessive power consumption or distraction to motorists occurs as determined by the Engineer. Any beneficial use of the signs to MDOT and the public prior to Final Acceptance does not constitute MDOT acceptance or waive any Contractor testing requirements. The cost that may be incurred by the Contractor to display messages as described above during this construction contract shall be considered incidental and included in the cost of other items.

Warranties

The following components of the Project shall be warranted against manufacturing defects and workmanship for a period of at least one (1) year:

- Radio interconnect system components as listed under SP 907-662-2
- Layer 2, Type A; Layer 3, Type C, Type C4, Type E1, and Type E2 Network Switches; and Network Terminal Server & Network Cellular Modem as listed under SP 907-663-5
- Communication Node Hut & Hut Modifications under SP 907-664-4
- Video Communication Equipment components under SP 907-665-1
- Bluetooth Detection System components under SP 907-666-3
- Roadway Weather Information System & Warning Signs with Flashing Beacon under SP 907-670-3
- Kiosk Monitoring Camera under SP 907-671-1
- Travel Time Sign under SP 907-674-1
- ITS Radar Vehicle Detector under SP 907-641-2
- On Street Video Equipment under SP 907-650-4;
- Highway Advisory System components under SP 907-655-2;
- Dynamic Message Signs under SP 907-656-1.

The following components of the Project shall be warranted against manufacturing defects and workmanship for a period as listed below for each respective item from the date of Final Maintenance Release.

- *Fiber Optic Cable*: Ten (10) year warranty on materials and workmanship
- *Traveler Information Video Kiosk*: Two (2) year extended warranty on materials/hardware
- *TMC Modification*: Two (2) year warranty on hardware and one (1) year warranty on software
- *Type C1, C2, & C3 Network Switches*: Five (5) year warranty on hardware
- *Type D, E, & F Network Switches*: Five (5) year warranty on hardware

The Contractor shall supply the warranties in writing with the Final Maintenance Release date documented on them. These warranties shall cover complete replacement at no charge for the equipment. The Contractor will be responsible for all labor, shipping, insurance and other charges until Final System Acceptance. Equipment covered by the manufacturers' warranties shall have the registration of that component placed in the Department's name prior to Final Inspection. The Contractor is responsible for ensuring that the vendors or manufacturers supplying the components and providing the equipment warranties recognize MDOT as the original purchaser and owner/end user of the components from new.

During the warranty period, the supplier shall repair or replace with new material of equal or greater kind and quality and meeting all of the applicable specifications herein, at no additional cost to the State, any product containing a warranty defect, provided the product is returned postage-paid by the Department to the supplier's factory or authorized warranty site. Products repaired or replaced under warranty by the supplier shall be returned prepaid by the supplier. During the warranty period, technical support shall be available from the Contractor via telephone within four (4) hours of the time a call is made by the Department. If it is deemed necessary by the Engineer, technical support shall be available from factory certified personnel of the supplier via telephone within eight (8) hours of the time of the initial call made by the Department. During the warranty period, updates, patches, performance improvements, and corrections to all software and firmware used during the project shall be made available to the Department by the supplier at no additional cost.

Training

After the Stand Alone Site Tests have been conducted but prior to Conditional System Acceptance, the Contractor shall provide separate training sessions for each subsystem training pay item included in the project. The training sessions may require multiple classes as noted below) and shall accommodate from six (6) to twelve (12) personnel per class. Additional sessions for additional personnel may be required if the make and model of the subject component is not currently in the MDOT system.

The training must include formal classroom and "hands-on" operations training with a complete demonstration of the configuration, operation, and capabilities of each component in the system. The training should also consist of a hands-on demonstration of all software configuration and functionality where applicable. Each training day shall include a mixture of classroom style

training in equipment operations, hands-on operator training using the same models of equipment furnished for the project, and question and answer sessions.

During the burn-in period, the Contractor shall also provide two (2) identical non-consecutive training sessions on the maintenance of the overall system. The training shall be provided for at least ten (10) personnel with individual copies of all training materials provided to each participant. The training must include both classroom style training and hands-on training in the field of the maintenance and troubleshooting procedures required for each component. Additional sessions for additional personnel may be required if the make and model of certain components are not currently in the MDOT system.

Prior to scheduling the training, the Contractor shall submit resume and references of the training instructor(s) to the Engineer for approval. The qualifications of the trainers must meet, at a minimum, the recommended qualifications of the equipment manufacturer with a minimum of four years of experience in training personnel. If qualified personnel are not on the Contractor's staff, a representative of the manufacturer shall provide the training.

The training shall be provided at an agreed upon location. If training requires travel on the part of training instructors, then the cost of travel shall be included.

The Contractor shall provide individual copies of documentation, training, and maintenance materials for each participant. These materials shall include detailed specifications and information pertaining to each device in the system. The documentation shall include details of the technical and operational aspects of the completed system. This shall include operational and maintenance manuals, system diagrams, cabling diagrams and mounting/positioning details. The Contractor shall supply emergency contact information and necessary procedures for obtaining vital replacement parts within a designated, agreed upon time frame.

The Contractor shall submit a detailed Training Plan including course agendas, detailed description of functions to be demonstrated, and a general schedule to the Engineer for approval within 90 days of Contract Notice-to-Proceed. The exact date of the training shall be submitted to the Engineer for approval at least four (4) weeks ahead of the date.

Grounding

The Contractor shall provide a grounding and lightning protection system to protect from electrical power surges caused by lightning or disruptions in the power supply system. Ground rods, ground conductor, lightning collectors and appurtenances shall be as detailed on the plans and as required by these specifications.

General. All non-current carrying metal parts of the site shall be grounded according to NEC specifications. In addition, all non-current carrying metal parts shall have a voltage potential of zero relative to reference ground. This reference ground shall be achieved via the equipment-grounding conductor.

Support cable, metallic cable sheaths, conduit, metal poles, pedestals, and communication building shall be made mechanically and electrically secure and grounded. Bonding and grounding jumpers

shall be properly sized according to the NEC and in no case shall they be smaller than a #6 AWG copper wire. Ground pole-mounted accessories to the pole. Equipment on wood poles shall be grounded.

Permanently ground the poles by bonding the No. 6 AWG solid copper wire to a separate ground rod.

Metal raceways, metal enclosures of electrical devices, lighting fixtures, panelboards, and other non-current carrying metallic parts of equipment shall be securely grounded.

Ground rods shall be installed according to plan details. A length of copper conductor shall be attached to the ground rod, utilizing the specified grounding methods, and connected to the grounding system. Do not ground to a permanent water system instead of the driven ground rod. Ensure that grounding devices conform to the requirements of the NEC and NEMA.

Cabinet Grounding. A single-point grounding system shall be constructed.

All grounds for the cabinet shall be installed on the side of the building that utilities, communication cables, and fiber enter. All earth grounds shall be connected to this point, including the grounding system for Surge Protection Devices (SPD). All connections to SPDs shall be made according to the manufacturer's recommendations.

A single ground bus bar shall be mounted on the side of the cabinet wall adjacent to the power panel for the connection of AC neutral wires and chassis ground wires.

The Contractor shall ensure that communication cables, AC power, emergency generator, and equipment frames are connected by the shortest practical route to the grounding system. The lead lengths from each device to the SPD shall be protected. Electrical continuity of all connections shall be verified. All non-conducting surface coatings shall be removed before each connection is made. Ground conductors shall be downward coursing, vertical, and as short and straight as possible. Sharp bends and multiple bends shall be avoided in grounding conductors.

Surge Suppressor

Surge protection device (SPD) shall be provided to protect electronics from lightning, transient voltage surges, and induced current. All SPDs shall be installed at the top and bottom of each pole to provide reliable lightning protection. SPDs shall be installed on all power, data, video and any other conductive circuit.

SPD for 120 Volt or 120/240 Volt Power. A SPD shall be installed at the utility disconnect to the cabinet. The SPD at the utility disconnect shall include L-N, L-G, and N-G protection. The SPD shall meet the requirements of UL 1449, Third Edition and be listed by a NRTL.

A SPD shall be provided where the supply circuit enters the cabinet. The SPD shall be located on the load side of the main disconnect and ahead of any and all electronic devices and connected in parallel with the AC supply. The SPD in the cabinet shall include L-N, L-G, and N-G protection. The SPD shall meet the requirements of UL 1449, Third Edition and be listed by a NRTL.

The SPD shall have a visual indication system that monitors the weakest link in each mode and shows normal operation or failure status and also provides one set of normally open (NO)/normally closed (NC) Form C contacts for remote alarm monitoring. The enclosure for a SPD shall have a NEMA 4 rating

SPDs for Low-Voltage Power, Control, Data and Signal Systems. A specialized SPD shall be installed on all conductive circuits including, but not limited to, data communication cables, coaxial video cables, and low-voltage power cables. These devices shall comply with recommendations from the device manufacturer.

SPD at Point of Use. A SPD shall be installed at the point the ITS devices receive 120 volt power and connected in series with the circuits. SPDs shall be selected and installed according to recommendation from the device manufacturer. The units shall be rated at 15 or 20 amps load and configured with receptacles. These units shall have internal fuse protection and provide common mode (L+N-G) protection.

SPDs shall meet the requirements of UL 497B or UL 497C, as applicable, and are listed by a NRTL.

Solar Power Systems

The Contractor shall provide a solar power system meeting the following requirements:

1. The supplier shall provide documentation specifying approximate daily power generation, power consumption, storage capacity, and charge rates representing an optimal power source to the satisfaction and approval of the Project Engineer.
2. Shall include a solar controller with automatic battery temperature compensation and automatic charging circuitry to prevent overcharging.
3. The battery back-up system chargers shall meet all specified requirements while operating between -40 °C to +74 °C (-40 °F to +165 °F), and 95% relative humidity.
4. Shall include metering for voltage and charging current.
5. Solar panels shall be Jet Propulsion Laboratory Block-5 tested and approved.
6. Solar panels shall be compliant with IEC 61215 and IEEE 1262.
7. Solar panels shall be break-resistant and sealed.
8. Battery shall be maintenance-free, sealed, gel-cell.
9. The Contractor shall test the battery for faulty irregularities and provide documentation to the Project Engineer stating the battery's voltage, and resistance. The battery voltage and resistance shall meet the manufacturer's specifications.

The Solar Power Systems for each site type shall include but are not limited to the following:

- *HAR Flashing Beacons*:
  1. A performance design study shall be conducted and submitted for approval for the proposed solar power system. The solar power system shall be designed on the performance design study.
  2. The solar system shall, at a minimum, operate the flashing beacons continuously at

full power for at least three (3) days with no sunlight. This must be accomplished without an auxiliary generator or AC power connection.
3. Solar panels shall have a power rating of 80-watts.
4. The Solar power system shall include a separate aluminum NEMA 3R enclosure to house the battery. This enclosure shall be designed to provide protection from rain, sleet, snow and corrosion.
    a. The enclosure shall be constructed from 0.125" thick aluminum alloy type 5052- H32.
    b. The enclosure shall be lockable.
    c. The enclosure door shall include a EDPM rubber or equivalent closed-cell gasket

- *Type A BDS*:
    1. All solar panels shall be in accordance with UL1703, or equivalent.
    2. The solar cell shall have a minimum power capacity of 30 watts.
    3. The battery shall provide sufficient power for all BDS component operation for a minimum of 168 hours (7 days).
    4. Should solar power be specified with the Type A BDS, the NEMA 4 enclosure shall be sized appropriately for the solar power components.

Performance Design Study. A performance design study shall be conducted where required before the installation of a Solar Power System. The performance design study shall include, but is not limited to:

1. The daily Solar Insulation data averaged on a monthly basis.
2. The correct Tilt Angle for the solar array.
3. The daily Array Output, in Amp-Hours, averaged on a monthly basis.
4. The total Daily Load requirement, in Amp Hours, averaged on a monthly basis.
5. A monthly Loss of Load Probability (LOLP) of the designed power supply.
6. The number of Battery Reserve Days, averaged on a monthly basis.
7. The monthly Average Battery State of Charge.
8. The statistical Interval to Loss of Load, in years.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4113 **CODE: (SP)**

DATE: **03/23/2022**

SUBJECT: **Unique Entity ID (SAM) Requirement for Federal Funded Projects**

Bidders are advised that the Prime Contractor must register and maintain a current registration in the System for Award Management (http://sam.gov) at all times during this project. Upon registration, the Contractor will be assigned a SAM Unique Entity ID.

Bidders are also advised that prior to the award of this contract, they MUST be registered, active, and have no active exclusions in the System for Award Management.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 4702 **CODE: (SP)**

DATE: 11/22/2022

SUBJECT: App for Traffic Control Reports

Bidders are advised that the Department has created a smart phone App for completing and submitting traffic control reports (Form CSD-762) required on this project. The Contractor who monitors traffic control activities and completes traffic control reports will be required to download and use this App when completing and submitting traffic control reports. The reports will then be readily available to all persons who need access to the forms. The App is free and is available for downloading at the following location.

https://extacctmgmt.mdot.state.ms.us/

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 5086 **CODE: (SP)**

DATE: 05/02/2023

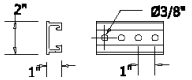
SUBJECT: Detail of Square Tube Sign Posts

Bidders are advised that the following drawings shall be used in the manufacture and installation of square tube sign posts, unless otherwise directed by the Engineer.

FMS CON:

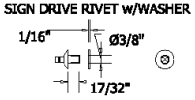
STATE	PROJECT NO.
MISS.	

FLAT PANEL SIGN BRACE



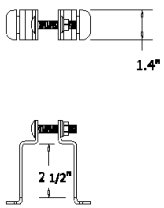
6061-T6 ALUMINUM ALLOY; 2" MOUNTING SURFACE x 7/8" DEPTH x 1/8" NOMINAL WALL THICKNESS. 3/8" HOLES ON 1" CENTERS, CENTERED ALONG ENTIRE LENGTH OF THE BRACE. A MINIMUM OF TWO HORIZONTAL BRACES MUST BE USED.

SIGN DRIVE RIVET w/WASHER



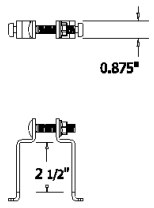
3/8" ALUMINUM SHELL / STEEL CORE RIVET WITH NYLON WASHER. MAXIMUM DISTANCE BETWEEN RIVETS SHOULD BE 12". WASHER MUST BE PRE-INSTALLED AND FIT INTO SIGN BRACE TO SECURE ALUMINUM SIGN PANEL. ALL EXTRUDED PANEL SIGNS SHALL USE 3/16"x3/8" GRIP RANGE ALUMINUM POP RIVITS (#66).

FLAT PANEL SIGN CLAMP



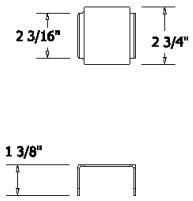
MATERIALS: 1.4" WIDE x 11ga. TYPE 304, #2B FINISHED STAINLESS STEEL BRACKET. INCLUDES STAINLESS STEEL 3/8"-16 x 2" CARRIAGE BOLT AND SERRATED FLANGED NUT. ONE CLAMP REQUIRED FOR EACH BRACE TO POST JUNCTION.

EXTRUDED PANEL SIGN CLAMP



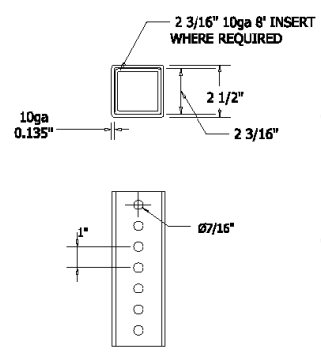
MATERIALS: 1.4" WIDE x 11ga. TYPE 304, #2B FINISHED STAINLESS STEEL BRACKET. INCLUDES STAINLESS STEEL 3/8"-16 x 2" CARRIAGE BOLT AND SERRATED FLANGED NUT. ONE CLAMP REQUIRED FOR EACH BRACE TO POST JUNCTION.

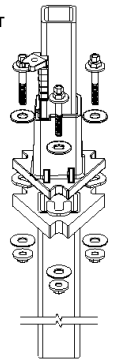
POST CAP



MADE OF 16GA PREGALVANIZED STEEL WITH AN ID CAPABLE OF FITTING INTO THE INSIDE OF A 2-1/2" SQUARE STEEL POST WITHOUT ANY FASTENERS. A CAST ALUMINUM FRICTION FIT CAP MAY ALSO BE USED.

SIGN POSTS



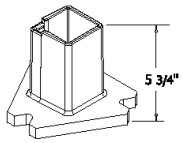


example slip base assembly (detailed below)

NOTES:

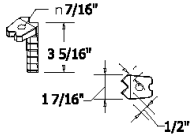
A. CONCRETE FOOTING MUST BE 12" DIAMETER x 36" DEEP.
B. BRASS SHIMS MAY BE USED BETWEEN SLIP PLATES TO LEVEL THE UPPER SLIP PLANE.
C. SLIP BASE IS FHWA ACCEPTED, MEETING CURRENT AASHTO & NCHRP 350 REQUIREMENTS.
D. SIGN BRACE CLAMPS ALLOW SIGN BRACE TO BE ADJUSTED UP, DOWN, LEFT OR RIGHT IN ORDER TO ACHIEVE PERFECT POSITION OF SIGN PANEL.
E. USE INSTALLATION INSTRUCTION RT280U-SQ1.
F. PRODUCT MUST MEET FHWA's MADE IN AMERICA CLAUSE.
G. PAID BY LENGTH OF POST, 36" STUB TO BE ABSORBED.

2-1/2" SQUARE POST RECEIVER



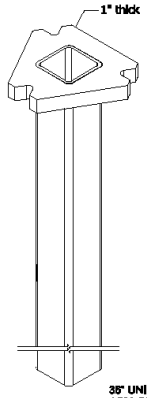
RECEIVER TO BE CAST FROM DUCTILE IRON ASTM A536 CLASS 65-45-12, GALVANIZED PER ASTM A153.

POST LOCKING WEDGE



LOCKING WEDGE FORGED FROM SAE 1035 STEEL AND GALVANIZED PER ASTM A153.

UNIBASE ANCHOR STUB



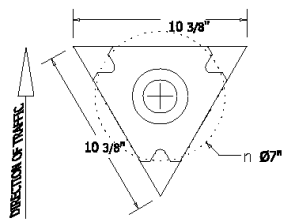
35" UNIBASE ANCHOR A500 GRADE B TUBE WELDED TO A572 SLIP PLATE. GALVANIZED PER ASTM A153.

SIGN CENTROID	2-1/2" x 10ga PSST	2-1/2" x 10ga & 2-3/16" x 10ga Inserted PSST	Sign Bracing**
16'	24.82	43.46	18" maximum distance between braces
15'	26.48	46.36	18" maximum distance between braces
14'	28.38	49.66	18" maximum distance between braces
13'	30.56	53.48	18" maximum distance between braces
12'	33.10	57.94	18" maximum distance between braces
11'	36.12	63.20	18" maximum distance between braces

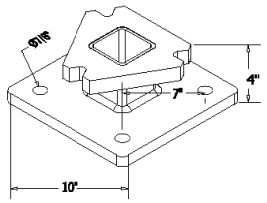
* based on two legs per sign
** Minimum of two braces per flat panel sign

NOTE: Sign area is in square feet.

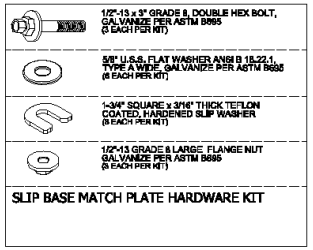
SLIP PLATE DIMENSION



SURFACE MOUNT BASE

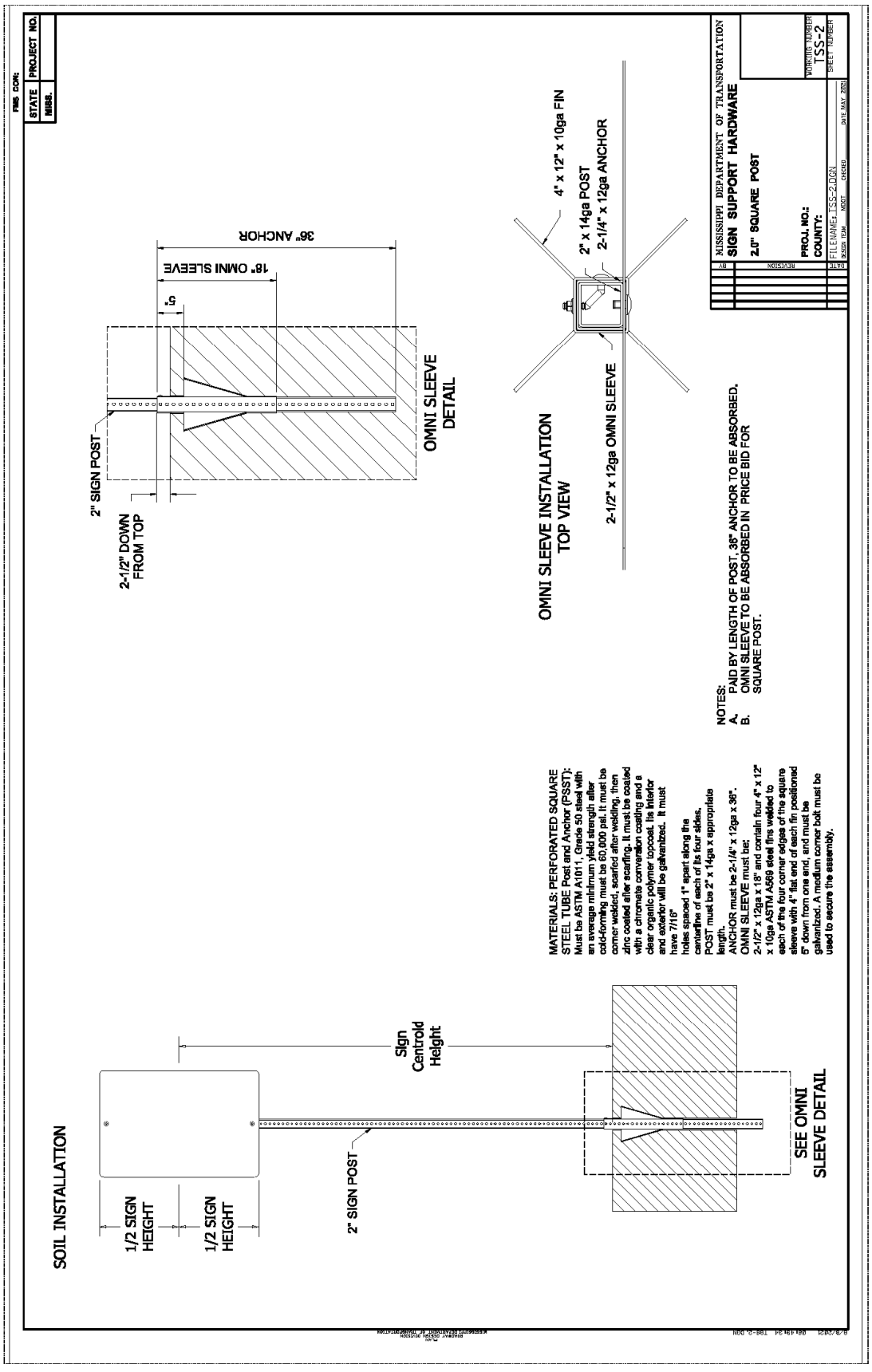


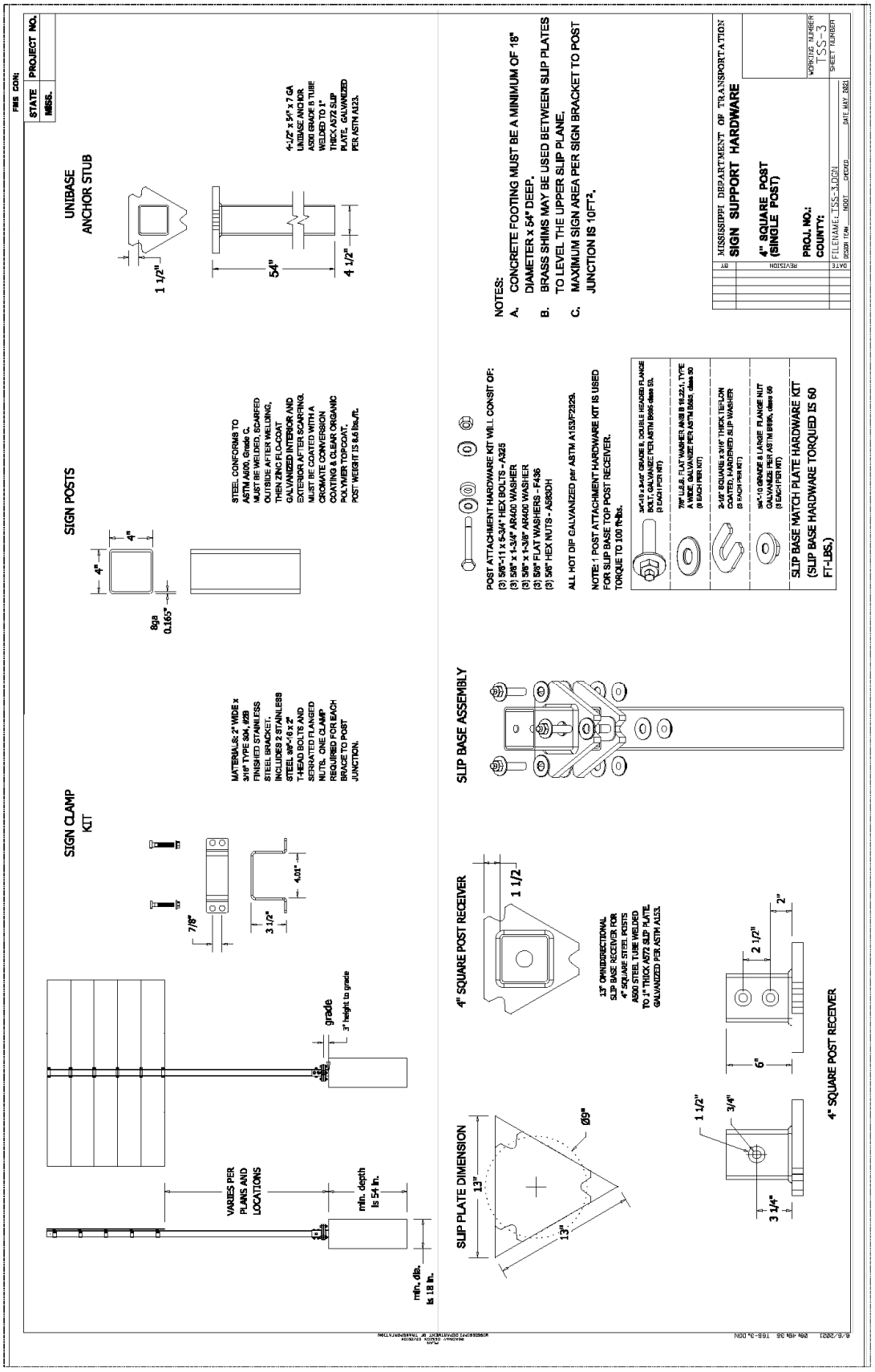
A572 SLIP PLATE WELDED TO A500 GRADE B TUBE WELDED TO A572 MOUNTING PLATE. GALVANIZED PER ASTM A153.

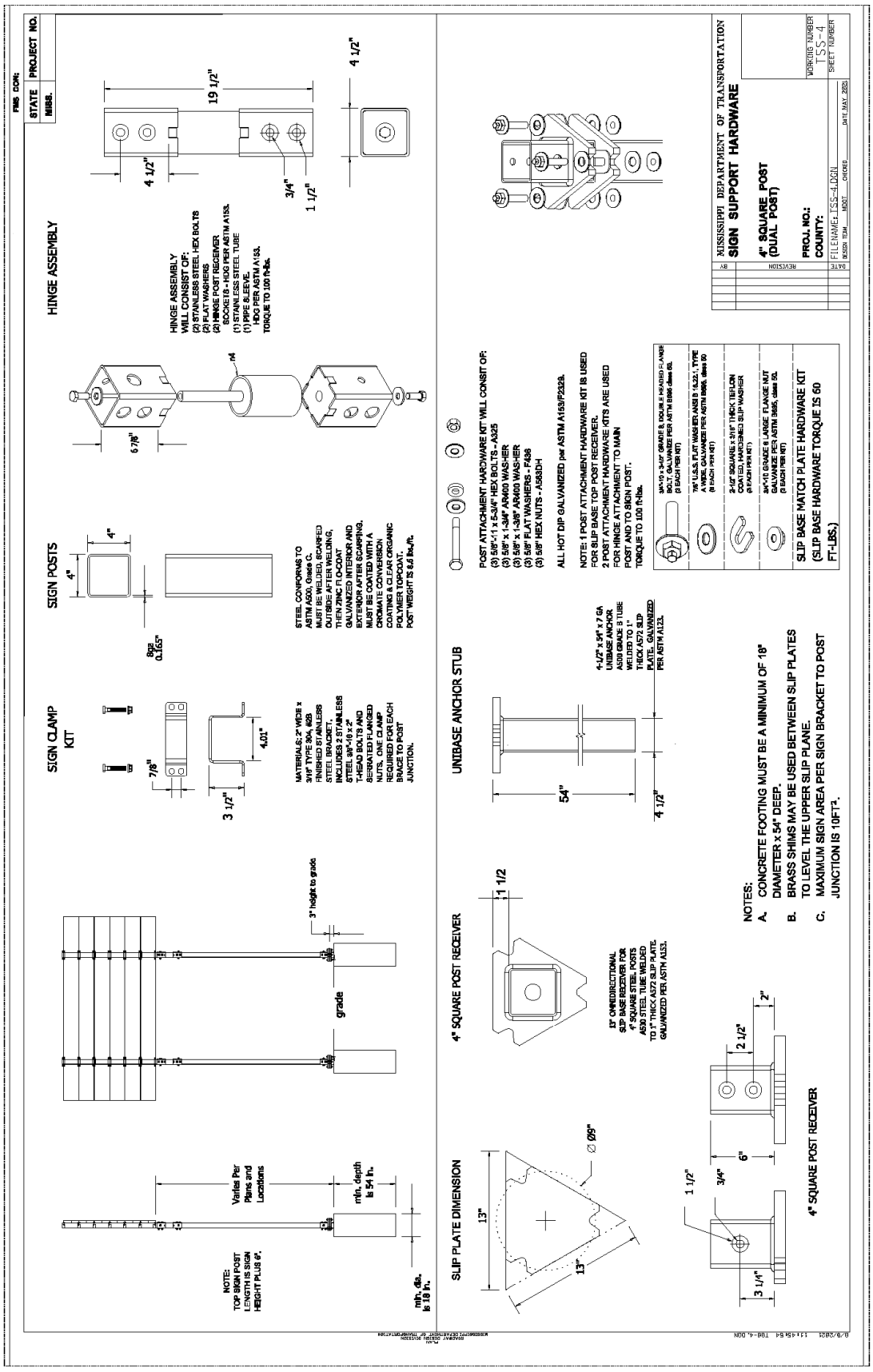


MISSISSIPPI DEPARTMENT OF TRANSPORTATION
SIGN SUPPORT HARDWARE
2.5" SQUARE POST

PROJ. NO.:
COUNTY:
WORKING NUMBER: TSS-1
SHEET NUMBER
DATE
FILENAME: TSS-1.DGN
DESIGN TEAM: MDOT CHECKED: DATE: MAY 2021


FHWA CON:
STATE
MISS.
PROJECT NO.
SOIL INSTALLATION
1/2 SIGN HEIGHT
1/2 SIGN HEIGHT
Sign Centroid Height
2" SIGN POST
SEE OMNI SLEEVE DETAIL
MATERIALS: PERFORATED SQUARE STEEL TUBE Post and Anchor (PSST): Must be ASTM A1011, Grade 50 steel with an average minimum yield strength after cold-forming must be 60,000 psi. It must be corner welded, scarfed after welding, then zinc coated after scarfing. It must be coated with a chromate conversion coating and a clear organic polymer topcoat. Its interior and exterior will be galvanized. It must have 7/16" holes spaced 1" apart along the centerline of each of its four sides.
POST must be 2" x 14ga x appropriate length.
ANCHOR must be 2-1/4" x 12ga x 36".
OMNI SLEEVE must be: 2-1/2" x 12ga x 18" and contain four 4" x 12" x 10ga ASTM A569 steel fins welded to each of the four corner edges of the square sleeve with 4" flat end of each fin positioned 5" down from one end, and must be galvanized. A medium corner bolt must be used to secure the assembly.
NOTES:
A. PAID BY LENGTH OF POST. 36" ANCHOR TO BE ABSORBED.
B. OMNI SLEEVE TO BE ABSORBED IN PRICE BID FOR SQUARE POST.
OMNI SLEEVE INSTALLATION TOP VIEW
4" x 12" x 10ga FIN
2" x 14ga POST
2-1/4" x 12ga ANCHOR
2-1/2" x 12ga OMNI SLEEVE
OMNI SLEEVE DETAIL
36" ANCHOR
18" OMNI SLEEVE
5"
2" SIGN POST
2-1/2" DOWN FROM TOP
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
SIGN SUPPORT HARDWARE
2.0" SQUARE POST
REVISION
BY
DATE
PROJ. NO.:
COUNTY:
FILENAME: TSS-2.DGN
DESIGN ITEM
MDOT
CHECKED
DATE: MAY 2005
WORKING NUMBER
TSS-2
SHEET NUMBER


FHWA CON:
STATE
PROJECT NO.
MISS.
UNIBASE
ANCHOR STUB
1 1/2"
54"
4 1/2"
4-1/2" x 5" x 7 GA UNIBASE ANCHOR ASTM GRADE B TUBE WELDED TO 1" THICK A572 SLIP PLATE, GALVANIZED PER ASTM A123.
SIGN POSTS
4"
4"
8ga 0.165"
STEEL CONFORMS TO ASTM A500, Grade C. MUST BE WELDED, SCARFED OUTSIDE AFTER WELDING, THEN ZINC FLO-COAT GALVANIZED INTERIOR AND EXTERIOR AFTER SCARFING. MUST BE COATED WITH A CROMATE CONVERSION COATING & CLEAR ORGANIC POLYMER TOPCOAT. POST WEIGHT IS 8.6 lbs./ft.
SIGN CLAMP
KIT
MATERIAL-2" WIDE x 3/16" TYPE 304 #2B FINISHED STAINLESS STEEL BRACKET. INCLUDES 2 STAINLESS STEEL 3/8"-16 x 2" T-HEAD BOLTS AND SERRATED FLANGED NUTS. ONE CLAMP REQUIRED FOR EACH BRACE TO POST JUNCTION.
7/8"
3 1/2"
4.01"
SLIP BASE ASSEMBLY
POST ATTACHMENT HARDWARE KIT WILL CONSIT OF:
(3) 5/8"-11 x 5-3/4" HEX BOLTS - A325
(3) 5/8" x 1-3/4" AR400 WASHER
(3) 5/8" x 1-3/8" AR400 WASHER
(3) 5/8" FLAT WASHERS - F436
(3) 5/8" HEX NUTS - A563DH
ALL HOT DIP GALVANIZED per ASTM A153/F2329.
NOTE: 1 POST ATTACHMENT HARDWARE KIT IS USED FOR SLIP BASE TOP POST RECEIVER. TORQUE TO 100 ft/lbs.
3/4"-10 x 3-1/2" GRADE B, DOUBLE HEXAGED FLANGE BOLT, GALVANIZE PER ASTM B695 class 55. (8 EACH PER KIT)
7/8" U.S.S. FLAT WASHER ANSI B 18.22.1, TYPE A WIDE, GALVANIZE PER ASTM B695 class 55 (8 EACH PER KIT)
3-1/8" SQUARE x 3/16" THICK TEFLON COATED, HARDENED SLIP WASHER (8 EACH PER KIT)
3/4"-10 GRADE A LARGE FLANGE NUT GALVANIZE PER ASTM B695, class 55 (8 EACH PER KIT)
SLIP BASE MATCH PLATE HARDWARE KIT
(SLIP BASE HARDWARE TORQUED IS 60 FT-LBS.)
NOTES:
A. CONCRETE FOOTING MUST BE A MINIMUM OF 18" DIAMETER x 54" DEEP.
B. BRASS SHIMS MAY BE USED BETWEEN SLIP PLATES TO LEVEL THE UPPER SLIP PLANE.
C. MAXIMUM SIGN AREA PER SIGN BRACKET TO POST JUNCTION IS 10FT².
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
SIGN SUPPORT HARDWARE
4" SQUARE POST (SINGLE POST)
PROJ. NO.:
COUNTY:
FILENAME: TSS-3.DGN
DESIGN TEAM
MOOT
CHECKED
DATE: MAY 2021
MONOTUBE NUMBER
TSS-3
SHEET NUMBER
DATE
REVISION
BY
VARIES PER PLANS AND LOCATIONS
grade
3" height to grade
mtn. depth is 54 in.
mtn. dia. is 18 in.
SLIP PLATE DIMENSION
13"
13"
13"
69°
4" SQUARE POST RECEIVER
1 1/2
13" OMNIDIRECTIONAL SLIP BASE RECEIVER FOR 4" SQUARE STEEL POSTS A500 STEEL TUBE WELDED TO 1" THICK A572 SLIP PLATE, GALVANIZED PER ASTM A123.
4" SQUARE POST RECEIVER
1 1/2"
3/4"
6"
2 1/2"
2"
3 1/4"


HINGE ASSEMBLY
SIGN POSTS
SIGN CLAMP KIT
UNIBASE ANCHOR STUB
4" SQUARE POST RECEIVER
SLIP PLATE DIMENSION
4" SQUARE POST RECEIVER
NOTES:
A. CONCRETE FOOTING MUST BE A MINIMUM OF 18" DIAMETER x 54" DEEP.
B. BRASS SHIMS MAY BE USED BETWEEN SLIP PLATES TO LEVEL THE UPPER SLIP PLANE.
C. MAXIMUM SIGN AREA PER SIGN BRACKET TO POST JUNCTION IS 10FT².
SLIP BASE MATCH PLATE HARDWARE KIT (SLIP BASE HARDWARE TORQUE IS 60 FT-LBS.)
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
SIGN SUPPORT HARDWARE
4" SQUARE POST (DUAL POST)
PROJ. NO.:
COUNTY:
WORKING NUMBER TSS-4
SHEET NUMBER
FILENAME: TSS-4.DGN
DATE MAY, 2021

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 5551 **CODE: (IS)**

DATE: **12/06/2023**

SUBJECT: **Federal Bridge Formula**

Bidders are hereby advised that the latest revision of Federal Highway Administration Publication No. FHWA-HOP-06-105, **BRIDGE FORMULA WEIGHTS**, dated August 2006, is made a part of this contract when applicable.

Prior to the preconstruction conference, the Contractor shall advise the Engineer, in writing, what materials, if any, will be delivered to the jobsite via Interstate route(s).

Copies of the **BRIDGE FORMULA WEIGHTS** publication may be obtained by contacting:

Federal Highway Administration
400 7th Street, SW
Washington, DC 20590
(202) 366-2212

or

https://ops.fhwa.dot.gov/freight/publications/brdg_frm_wghts/

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 – NOTICE TO BIDDERS NO. 5570 **CODE: (SP)**

DATE: 07/28/2025

SUBJECT: Special Provisions Related to Concrete

Bidders are hereby advised that this contract contains one or more of the following **new** Special Provisions related to concrete:

Special Provision No. 907-501-1, Subject: Concrete Pavement
Special Provision No. 907-502-1, Subject: Concrete Bridge End Pavement
Special Provision No. 907-503-1, Subject: Replacement of Concrete Pavement
Special Provision No. 907-504-4, Subject: Fiber-reinforced Concrete Pavement
Special Provision No. 907-601-1, Subject: Structural Concrete
Special Provision No. 907-605-1, Subject: Underdrains
Special Provision No. 907-701-4, Subject: Hydraulic Cement
Special Provision No. 907-799-1, Subject: Hydraulic Cement Concrete Mixtures
Special Provision No. 907-803-6, Subject: Deep Foundations
Special Provision No. 907-804-13, Subject: Concrete Bridges and Structures
Special Provision No. 907-804-14, Subject: Bridge Deck Overlay

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 5750 **CODE: (SP)**

DATE: 03/19/2024

SUBJECT: Manual on Uniform Traffic Control Devices (MUTCD)

Bidders are advised that any reference to the current edition of the MUTCD or the latest edition of the MUTCD within plans, proposal, or standard specifications means the 2009 Edition and the 3 Revisions thereto.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7026 **CODE: (SP)**

DATE: 12/17/2025

SUBJECT: Contract Time

PROJECT: BR-2904-00(018) / 107643302 – Rankin County

The calendar date for completion of work to be performed by the Contractor for this project shall be **June 15, 2027** which date or extended date as provided in Subsection 108.06 shall be the end of contract time. It is anticipated that the Notice of Award will be issued no later than **February 10, 2025** and the effective date of the Notice to Proceed / Beginning of Contract Time will be **May 11, 2026**.

Should the Contractor request a Notice to Proceed earlier than **May 11, 2026** and it is agreeable with the Department for an early Notice to Proceed, the requested date will become the new Notice to Proceed date.

All requests for an early Notice to Proceed shall be sent to the Project Engineer who will forward it to the Contract Administration Division.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7027

DATE: 12/15/2025

SUBJECT: Specialty Items

PROJECT: BR-2904-00(018)/107643302 - RANKIN

Pursuant to the provisions of Section 108, the following work items are hereby designated as "Specialty Items" for this contract. Bidders are reminded that these items must be subcontracted in order to be considered as specialty items.

CATEGORY: CURBING, SIDEWALKS, GUTTERS

Line No	Pay Item	Description
0420	609-B002	Concrete Curb, Header
0430	609-D003	Combination Concrete Curb and Gutter Type 2
0440	609-D012	Combination Concrete Curb and Gutter Type 3A Modified

CATEGORY: EROSION CONTROL

Line No	Pay Item	Description
0160	213-A001	Agricultural Limestone
0170	213-C001	Superphosphate
0180	215-A001	Vegetative Materials for Mulch
0190	216-A001	Solid Sodding
0200	219-A001	Watering
0210	220-A001	Insect Pest Control
0220	221-A001	Concrete Paved Ditch
0230	223-A001	Mowing
0240	225-A001	Grassing
0250	226-A001	Temporary Grassing
0260	237-A002	Wattles, 20"
0270	245-A001	Silt Dike
0280	246-A001	Sandbags
0290	249-A001	Riprap for Erosion Control
0650	907-234-A001	Temporary Silt Fence
0660	907-234-D001	Inlet Siltation Guard
0990	235-A001	Temporary Erosion Checks
1000	249-A001	Riprap for Erosion Control

CATEGORY: GUARDRAIL, GUIDERAIL

Line No	Pay Item	Description
0390	606-B001	Guard Rail, Class A, Type 1
0400	606-D022	Guard Rail, Bridge End Section, Type I
0410	606-E005	Guard Rail, Terminal End Section, Flared

CATEGORY: PAVEMENT STRIPING AND MARKING

Line No	Pay Item	Description
0800	907-626-A008	6" Thermoplastic Double Drop Traffic Stripe, Skip White
0810	907-626-C011	6" Thermoplastic Double Drop Edge Stripe, Continuous White
0820	907-626-F004	6" Thermoplastic Double Drop Edge Stripe, Continuous Yellow

0830	907-626-G006	Thermoplastic Double Drop Detail Stripe, White
0840	907-626-G007	Thermoplastic Double Drop Detail Stripe, Yellow
0850	907-626-H006	Thermoplastic Double Drop Legend, White
0860	907-626-H007	Thermoplastic Double Drop Legend, White
0870	907-627-K001	Red-Clear Reflective High Performance Raised Markers
0880	907-627-L001	Two-Way Yellow Reflective High Performance Raised Markers

CATEGORY: SURVEY AND STAKING

Line No	Pay Item	Description
0640	699-A001	Roadway Construction Stakes

CATEGORY: TRAFFIC CONTROL - PERMANENT

Line No	Pay Item	Description
0580	630-A001	Standard Roadside Signs, Sheet Aluminum, 0.080" Thickness
0590	630-A003	Standard Roadside Signs, Sheet Aluminum, 0.125" Thickness
0600	630-C001	Square Tube Posts, 4.0 lb/ft
0610	630-C005	Square Tube Posts, 2.0 lb/ft
0620	630-F006	Delineators, Guard Rail, White
0630	630-G007	Type 3 Object Markers, OM-3R, Post Mounted
0890	907-630-O007	Remove and Reset Signs, Ground Mounted on Round Post(s)
0900	907-637-A004	Pullbox Enclosure, Type 4
0910	907-637-A005	Pullbox Enclosure, Type 5
0920	907-637-H001	Traffic Signal Conduit Bank, Underground, Rolled Pipe, 2 @ 2"
0930	907-637-K001	Traffic Signal Conduit Bank, Aerial Supported, Type 1, 2 @ 2"
0940	907-661-A004	Fiber Optic Cable, 72 SM

CATEGORY: TRAFFIC CONTROL - TEMPORARY

Line No	Pay Item	Description
0450	619-A1002	Temporary Traffic Stripe, Continuous White
0460	619-A2002	Temporary Traffic Stripe, Continuous Yellow
0470	619-A3002	Temporary Traffic Stripe, Skip White
0480	619-A5001	Temporary Traffic Stripe, Detail
0490	619-A6001	Temporary Traffic Stripe, Legend
0500	619-A6002	Temporary Traffic Stripe, Legend
0510	619-D1001	Standard Roadside Construction Signs, Less than 10 Square Feet
0520	619-D2001	Standard Roadside Construction Signs, 10 Square Feet or More
0530	619-E1001	Flashing Arrow Panel, Type C
0540	619-G4005	Barricades, Type III, Single Faced
0550	619-G5001	Free Standing Plastic Drums
0560	619-G7001	Warning Lights, Type "B"
0790	907-619-E3001	Changeable Message Sign

CATEGORY: UTILITY ITEMS

Line No	Pay Item	Description
0670	907-260-A003	Utility Work - Sewer, Sewer Line Connection
0680	907-260-A004	Utility Work - Sewer, 6" Sewer Pipe

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7028 **CODE: (SP)**

DATE: 12/11/2025

SUBJECT: Lane Closure Restrictions

PROJECT: BR-2904-00(018) / 107643302 –Rankin County

In addition to the requirements listed in the Milestone Notice to Bidders, bidders are hereby advised of the following restrictions that will apply to work on the pay items that are not included in the Milestone Notice to Bidders:

- Lane closures **shall not** be permitted from **6:00 AM – 8:00 PM** Monday through Saturday.
- No work on Sunday. Sunday is defined as **8:00 PM Saturday to 8:00 PM Sunday**.

The Contractor will be charged a fee of **$500.00** for each full or partial 5-minute period until the roadway is back in compliance with the requirements stated above.

Official time can be obtained by calling the following Jackson area phone number: 601-355-9311.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7029 **CODE: (SP)**

DATE: **12/11/2025**

SUBJECT: **Underground Utilities**

PROJECT: **BR-2904-00(018) / 107643302 – Rankin County**

Bidders are hereby advised that utility lines owned and maintained by MDOT may be present within the project limits. These utilities are not located by Mississippi 811. It shall be the Contractor's responsibility to coordinate with MDOT to have the utility lines located and marked prior to beginning work. The Contractor shall give a minimum of three (3) working days of advance notice for locate requests. Also, the Contractor shall be responsible for contacting local public agencies that are not members of Mississippi 811.

Additionally, it shall be the Contractor's responsibility to maintain the utility markings and have the ability to survey the marked utilities and re-establish said utility markings as needed. The Department shall only be responsible for locating and marking the utilities once per Contract.

The contacts for MDOT utility lines are as follows:

Underground Power Lines:
Michael Lee – 601-683-3341 – mlee@mdot.ms.gov
Billy Coward – 601-683-3341 – bcoward@mdot.ms.gov

Underground Communication Lines:
Kerby McFarland – 601-359-7450 – kmcfarland@mdot.ms.gov
Steven Newell – 601-359-7450 – snewell@mdot.ms.gov
Henry Lewis – 601-359-1454 – hlewis@mdot.ms.gov

Underground Signal Lines:
Amrik Singh – 601-359-1454 – asingh@mdot.ms.gov
Kenneth Welch – 601-359-1454 – kwelch@mdot.ms.gov

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7030 **CODE: (SP)**

DATE: 12/11/2025

SUBJECT: Temporary Construction Signs

PROJECT: BR-2904-00(018) / 107643302 – Rankin County

Bidders are hereby advised of the following regarding the Temporary Construction Signs required:

Should the Bidders elect to install Temporary Construction Signs by first driving short u-channel sections and then bolting the longer, correct height u-channel sections to them, the Bidders are advised that these short sections shall be a minimum of five (5) feet from the ground level when driven and the splice must consist of a minimum of eighteen (18) inches of overlap with a total of four (4) bolts. Bidders are also advised that it is mandatory that these short sections be removed at the completion of the project.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7031 **CODE: (SP)**

DATE: 12/11/2025

SUBJECT: Pay Item Corrections

PROJECT: BR-2904-00(018) / 107643302 – Rankin County

Bidders are hereby advised that the following Pay Item numbers listed in the Summary of Quantities Sheets in the Plans are incorrect. The bid sheets are correct.

502-A001 Reinforced Cement Concrete Bridge End Pavement should be changed to **907-502-A001**.

601-B001 Class “B” Structural Concrete, Minor Structures should be changed to **907-601-B001**.

803-K004 Drilled Shaft, 36” Diameter should be changed to **907-803-K004**.

803-K006 Drilled Shaft, 48” Diameter should be changed to **907-803-K006**.

803-L002 Test Shaft, 48” Diameter should be changed to **907-803-L002**.

803-M005 Trial Shaft, 48” Diameter should be changed to **907-803-M005**.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7032 **CODE: (SP)**

DATE: 12/17/2025

SUBJECT: Milestone Completion Date

PROJECT: BR-2904-00(018) / 107643302 -- Rankin County

Milestone – Interim Completion date. Bidders are advised that this project carries a Project Milestone for **Bridge # 56.8** that is an interim completion date for completion of all work necessary to reopen the roadway. This work includes signing of the detour, removal of the existing bridge, construction of the new bridge including colored and imprinted concrete median and island pavement, bridge rail and fence, all drainage items, earthwork, crushed stone, curb and gutter, all 19-mm asphalt pavement, all 12.5-mm asphalt pavement, all 9.5-mm asphalt pavement, shoulder material brought up flush with all 9.5-mm asphalt pavement, guardrail installation, and application of temporary stripe items.

The Contractor will be assessed the amount of **$15,350.00** for each calendar day past the milestone completion date until the Milestone Work is complete.

The Milestone Completion Date shall be **343 calendar days after the date that the road is shut down as determined by the Engineer**. The Contractor will be allowed to work 24/7 to complete Milestone Work only.

Final Completion Date. Final completion date to complete all remaining work required in the contract shall be as referenced in Notice to Bidders No. 7026, Contract Time.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7304 **CODE: (SP)**

DATE: 08/25/2025

SUBJECT: Erosion Control Contract Compliance

Bidders are hereby advised that Erosion Control measures will be monitored for contract compliance at the specified intervals as per the Contract Documents. The Contractor will be subject to the following conditions:

If a Contractor is found to be in violation of Notice to Bidders 2172 in excess of the time allotted per the MDEQ General Permit without a Contractor's Inspection, or a second consecutive Stormwater Inspection showing a recurring major/critical deficiency without any Corrective Action report showing that the area had been addressed, said Contractor will be issued a Non-Compliance Assessment per violation until the project is found to be back in compliance with the Contract Documents (Stormwater permit included).

Non-Compliance Assessments will accrue per each reporting period that the Contractor remains in violation of the above referenced items. A deduction, calculated from the Non-Compliance Assessment charges listed in Table I, will be made from money due the Contractor. The charges set out in Table I of non-compliance assessments are based on Penalty amounts developed by MDEQ to encourage Contractor Compliance. The Contractor and the Contractor's Sureties shall be liable for all non-compliance assessments in excess of any money due the Contractor.

Erosion Control Inspection reports are required to be submitted until there is a Full Maintenance Release, documented in writing by the State Construction Engineer. The non-compliance assessments may be returned to the Contractor at the completion of the project if the Contractor is found to have three (3) or fewer documented violations during the life of the project. The Contractor will forfeit any non-compliance assessments if found to have been assessed penalties for more than three (3) documented violations.

Should the Contractor come upon an issue that causes a delay or an inability to submit the required reports, said Contractor has twenty-four (24) hours to report to the MDOT's Project Engineer or MDOT's LPA Division (for LPA Projects) of the issue and get assistance. Lack of willingness to use or learn to use the application will not be accepted as a valid reason for nonuse.

Table I

Non-Compliance Assessments of Construction and Mining Storm Water Permits (Per Documented Violation)

Violation	Original Contract Amount		Type of Stormwater Permit*	
			SCNOI	LCNOI
Failure to complete weekly inspection, failure to address a documented major/critical Deficiency (noted as a recurring deficiency)	$<10,000,000	$ 10,000,000	$ 1,000	$ 2,500
	$ 10,000,000	$ 40,000,000	$ 1,000	$ 4,000
	$ 40,000,000	>$40,000,000	$ 1,000	$ 7,000

- **Permit defined by project documents.**

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7409 **CODE: (SP)**

DATE: 09/23/2025

SUBJECT: Canadian Pacific Kansas City (CPKC) Construction Requirements

Bidders are hereby advised that provisions which are required as per the Notice to Bidders entitled "Railway-Highway Provisions" shall also include the following.

The Contractor shall submit to the Project Engineer and the Railroad detailed plans and design data for temporary construction clearances, stages of construction, erection plans, demolition plans, false-work plans, excavation plans, and temporary shoring plans and calculations, as required, and shall be sealed by a Mississippi Registered Professional Engineer. All submittals must be approved by the Railroad before excavation or construction can begin within Railroad Right-of-Way. All construction submittals for work performed within the Canadian Pacific Kansas City (CPKC) right-of-way shall be made per the CPKC approved "Guidelines for the Design and Construction of Railroad Overpasses and Underpasses" as updated in May 2008.

Prior to beginning any work on the CPKC right-of-way, the Contractor shall obtain a Right of Entry Permit. To request a permit application, the Contractor should contact Denise Case. Mrs. Case's contact information is as follows.

Denise Case
Transaction Manager
Jones Lang LaSalle (JLL)
4200 Buckingham, Suite 110
Ft. Worth, TX 76155
817-230-2614
denise.case@jll.com

The Contractor shall be responsible for payment of all application fees.

This project will require construction activities on the right-of-way of active railroad tracks which are currently owned and/or operated by CPKC. When work requires that equipment or personnel be within the CPKC right-of-way or the "foul zone" adjacent to the right-of-way, a qualified "Employee-in-Charge" (EIC) must be present for the purpose of providing on-track safety and flagging protection for the work crews. The EIC shall also be responsible for the coordination of the Contractor's activities within the CPKC right-of-way with the operation of the Railroad. The EIC must be certified under the CPKC General Code of Operation Rules (GCOR) and must be approved by the local CPKC Roadmaster prior to beginning work on the CPKC right-of-way. The Contractor will be required to provide radios for the EIC, all equipment operators, supervisors, and foremen in charge of employees working within the CPKC right-of-way. All personnel who must enter upon the CPKC right-of-way must check in and out with the EIC and be logged in and out of the site.

All personnel who must work within the CPKC right-of-way at any time shall be trained and certified as a CPKC "Roadway Worker" and must at all times have their certification card with them and available for random inspection. The Contractor will be responsible for providing this training for Contractor employees or any subcontractor(s) employees. The Contractor shall contact Ms. Susan Dunshee of RailPros @ 904-416-3059 (susan.dunshee@railpros.com) for approximate fees and scheduling the necessary training sessions. The Contractor shall also contact the MDOT Project Engineer to see if any MDOT employees need this training. If so, the Contractor shall include the MDOT employees in the list of participates for training. The Contractor shall bear the cost of training the MDOT employees. Costs for training the MDOT employees will be reimbursed to the Contractor by supplemental agreement.

Prior to commencing work, the Contractor shall provide to the Railroad Engineer or the Railroad Engineer's designated representative, with copies to the Project Engineer, a detailed construction schedule for its work on Railroad's right-of-way, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed on Railroad right-of-way. This schedule shall also include the anticipated dates when the milestone events listed below will occur. The Contractor shall update the schedule for these milestone events as necessary, but at least monthly, and shall provide a copy of all updates to the Railroad so that site visits may be scheduled.

- Preconstruction meetings.
- Excavations, shoring placement/removal, pile driving, drilling of caissons or drilled shafts adjacent to tracks.
- Reinforcement and concrete placement for near track piers.
- Erection of precast concrete or steel overpass bridge superstructure.
- Reinforcement and concrete placement of overpass bridge decks.
- Completion of the bridge structure.

The Contractor shall so arrange and conduct construction operations in such a manner that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad or to poles, cables or wires (whether overhead or underground) and other facilities or tenants on the rights-of-way of the Railroad. Before undertaking any work within Railroad right-of-way and before placing any obstruction over any track, the Contractor shall:

- Notify the Railroad's representative at least 72 hours in advance of the work.
- Provide assurance to the Railroad's representative that arrangements have been made for any required flagging service.
- Receive permission from the Railroad Engineer to proceed with the work.
- Ascertain that the Project Engineer has received copies of notice to the Railroad and the Railroad's response.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7410 **CODE: (SP)**

DATE: 12/11/2025

SUBJECT: Sewer System Requirements

PROJECT: BR-2904-00(018) / 107643302 – Rankin County

Bidders are hereby advised that the attached Document and Details are to be used with the following pay items:

907-260-PP001 Utility Work – Sewer, Sewer Line Collection

907-260-PP002 Utility Work – Sewer, 6” Sewer Pipe

SECTION 02900
WASTEWATER COLLECTION (SANITARY SEWER) SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

A. The Work to be performed under these specifications consists of furnishing all materials and performing all work necessary for or incidental to completing and making ready for the operation of the wastewater collection system as indicated on the Contract Drawings.

B. The Work shall include the excavation, trenching and backfilling; furnishing and installing all trench sheeting and bracing; furnishing and installing all pipe, specials, services, manholes, and related appurtenances; storage and protection of materials; testing, cleanup, and all other operations necessary to complete the work in accordance with the detailed plans and project specifications contained herein.

C. Structures shall conform in shape, size, dimensions, materials and other respects to the Contract Drawings or as ordered by the Engineer.

1.02 COORDINATION WITH INTERESTED PARTIES

The Contractor shall duly notify and coordinate any work with interested parties such as the Mississippi Department of Transportation, the Mississippi Department of Environmental Quality and the appropriate City or County Officials. No work which affects these interested parties will commence until satisfactory coordination has been achieved.

1.03 SUBMITTALS

A. Contractor shall furnish a certified affidavit of compliance from the manufacturer/supplier for all materials, fittings and structures furnished confirming that the materials supplied fully conform to the requirements specified herein.

B. Shop Drawings:

1. Pipes and Fittings

   a. Submit size, class and other details of the pipe to be used.

   b. Submit information on typical joint and harnessing details.

2. Manholes

   a. Submit design and construction details of all precast concrete manholes.

   b. Submit manufacturer's data on interior lining material, preformed mastic joint material and rubber manhole boots, manhole water stops, and/or lateral connectors.

   c. Submit an affidavit from the coating applicator that each manhole section and special has been coated in accordance with these specifications.

C. Tests: Submit a description of the proposed testing methods, procedures, and apparatus. Submit copies of all test reports.

D. Record Drawings: During progress of the Work, keep an up to date set of drawings

showing field modifications. Submit drawings at a scale satisfactory to the Engineer that show the actual in-place installation of all piping and manholes installed under this section. The drawings shall show all piping and manholes on the plans with all reference dimensions and elevations required for complete record drawings of the piping systems. The drawings shall be furnished no later than 30 days after Substantial Completions of the Work. See Section 01720 for more detailed information on Record Drawings and requirements.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Delivery, storage and handling of pipes, fittings and accessories shall be in complete compliance with the manufacturer's recommendations and instructions.

B. Handle all pipes, fittings and accessories carefully with approved handling devices. Do not drop or roll pipes off of trucks. Do not otherwise drop, roll or skid pipes. Materials cracked, gouged, chipped, dented or otherwise damaged will not be approved.

C. Pipes, fittings and accessories shall be unloaded opposite to or as close to the place where they are to be laid as is practicable to avoid unnecessary handling. Interiors shall be kept free from dirt and foreign matter.

1.05 QUALITY ASSURANCE

A. Quality assurance procedures shall be performed by the product manufacturer fully in accordance with the requirements of this Specification and industry standards for all materials required of this contract. The certification shall include certified laboratory data confirming that said tests have been performed on a sample of the material to be provided under this contract, or material from that production run, and that satisfactory results were obtained prior to any installation of said pipe.

B. Pipe joining and other procedures necessary for correct assembly of PVC or HDPE pipe shall be done only by personnel trained in those skills to the satisfaction of the Engineer and the pipe supplier.

C. Only those tools designed for the required procedures and approved by the product manufacturer/supplier and the Engineer shall be used for assembly of the required improvements.

1.06 CLEARANCE BETWEEN WATER AND SEWER LINES

A. Sewer lines and manholes shall be laid at least 10 feet horizontally from any water line.

B. Where this 10-foot horizontal separation cannot be maintained, the sewer line shall be ductile iron with the joints located at least 10 feet from the water line or the sewer line shall be totally encased in concrete.

C. Sewer lines crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the sewer line and the outside of the water main (water over sewer). The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where this separation cannot be met the sewer line shall be constructed to the same specifications as the water line and be water tight until such a point where the separation can be met.

1.07 CONFLICTS WITH OTHERS UTILITIES

A. Where construction conflicts with underground utilities which are to remain in place or are indicated to be removed and/or relocated by the Contractor, the Contractor shall at his

own expense, protect these facilities, restore the portions of those lines which are damaged or severed as a result of his operations, and remove and/or relocate existing facilities as indicated on the Contract Drawings.

B. Where existing lines in conflict are indicated to be removed by others, the Contractor shall cooperate with the Owner of these utilities to the end that these conflicts are removed prior to excavation for the sewer lines.

1.08 RAILROAD AND HIGHWAY CROSSING

All work incidental to the construction of sewer lines under railroads and highways shall be done in strict compliance with the regulations prescribed by the owners of these properties and shall be done with extreme care to safeguard life and property. After the necessary permits and agreements for these crossings have been approved and executed. The Contractor shall confer with the representatives of the Railroad Company, the Mississippi Department of Transportation or the City or County owning these properties and arrange schedules, and the manner for constructing the work in accordance therewith.

1.09 MAINTENANCE

A. The Contractor shall be responsible for, without extra compensation, the maintenance of all sewer lines and structures, for the stability of all backfills and the finished grades above the sewer lines and around the structures and for the repair, replacement, and restoration of all items which were damaged or removed during construction.

B. The Contractor shall be responsible for, without extra compensation, the restoration of all permanent surfaces and landscaped areas such as pavements, sidewalks, driveways, curbs, gutters, shrubbery, decorative plantings, fences, poles and other property and surface structures removed, disturbed and/or damaged during or as a result of construction operations to a condition which is equal in appearance and quality to the condition that existed before the work began.

C. The Contractor shall take such measures necessary to prevent, control and correct any dust nuisance or muddy conditions developing on roadways as a result of his operation. Direct payment for maintenance of the site shall not be provided as such but shall be considered a subsidiary obligation of the Contractor.

1.10 TRAFFIC CONTROL

Traffic control shall be the responsibility of the Contractor and should be implemented in accordance with the Manual on Uniform Traffic Control Devices.

1.11 TEMPORARY SURFACES OVER TRENCHES

Whenever the sewer lines are constructed under traveled roadways, driveways, sidewalks or other traveled surfaces, a temporary surface shall be placed over the top of the trench as soon as possible after placement and compaction of the backfill has been satisfactorily completed. The temporary surface shall consist of a minimum of twelve inches (12") of clay gravel or crushed limestone. The top of the temporary surface shall be smooth and meet the grade of the adjacent undisturbed surface. The temporary surface shall be maintained at the Contractor's expense until final restoration of the street surface is completed as specified.

1.12 WARRANTY

A. The contractor shall warranty all materials of construction and repair and all workmanship for a period of one year from the date of acceptance of final work.

B. Should defects of failures occur during the period of warranty, the contractor shall

promptly take whatever steps are necessary to return the work to first class condition.

1.13 APPLICABLE DOCUMENTS

A. The following publications form a part of this Specification and where referred to by basic designation only, are applicable to the extent indicated. Reference is to the latest edition of each unless specified otherwise.

1. American Society of Testing and Materials (ASTM)
   a. C-76 Reinforced Concrete Culvert, Storm Drain and Sewer Pipe.
   b. C-443 Joints for Circular Concrete Sewer and Culvert Pipe.
   c. C-478 Precast Reinforced Concrete Manhole Sections.
   d. D1784 Rigid PVC Compounds and CPVC Compounds
   e. D-3034 Type PSM - PVC Sewer Pipe and Fittings.
   f. D-3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
   g. D-2321 Underground Installation of Flexible Thermoplastic Sewer Pipe.
   h. F-477 Elastomeric Seals for Joining Plastic Pipe.
   i. F-679 PVC Large Diameter Plastic Gravity Sewer Pipe and Fittings

2. American Water Works Association (AWWA)

   a. C-151 Standard for Ductile Iron Pipe, Centrifugally Cast in Metal Molds.
   b. C-111 Joints for Ductile Iron Pipe, Rubber Gasket.
   c. C-110 Gray Iron and Ductile Iron Fittings.
   d. C-301 Prestressed Concrete Pressure Pipe, Steel-Cylinder Type, for Water and Other Liquids.
   e. C-304 Design of Prestressed Concrete Cylinder Pipe.

B. Local Building Codes: City, County, State or Federal Codes applying to the work.

C. Mississippi Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition: Sections as referenced herein.

PART 2 - MATERIALS & EQUIPMENT

2.01 GENERAL

A. The Contractor shall furnish all materials necessary for or incidental to constructing the wastewater collection system. All materials shall be new and of first quality with certified tests for all pipe and pipe fittings made at the manufacturer's plant to assure conformance with these technical specifications. Two (2) certified copies of each test result shall be furnished to the Engineer.

B. The kinds and classes of materials incorporated into the work shall be as indicated on the Contract Drawings or the Bid Form. The Contractor shall not construe or interpret the several kinds of materials described herein as being equal in their application.

2.02 WATER FOR CONSTRUCTION AND TESTING

A. The Contractor shall be responsible for all water needed in constructing the work, flushing the completed system, testing and other incidental needs. All water used shall be from an approved source free of pollution and shall be of a satisfactory bacteriological quality.

B. Water used in mixing concrete and mortar shall be fresh, clean and free from injurious amounts of sewage, oil, acid, alkalis, salts or organic matter.

2.03 DUCTILE CAST IRON PIPE AND FITTINGS

A. Ductile iron pipe shall be as designed by AWWA C150 (ANSI A21.50) and manufactured in accordance with AWWA C 151 (ANSI A21.51). Pipe shall be supplied in minimum Pressure Class (PC) 350 for 4" through 12", PC 250 for 14" through 20", PC 200 for 24" and PC 150 for 30" and larger.

B. Ductile iron pipe thickness shall conform in all respects to the AWWA C150 standard based on a minimum of 200psi working pressure.

C. Joints for ductile cast iron pipe shall be rubber gasket, push-on type unless mechanical joint or flanged joint type is specified on the drawings or proposal. Push-on joint shall conform to the latest edition of AWWA C 111 (ANSI A21.11). Lubricants shall be non-toxic, odorless, tasteless and shall not support bacteria and shall be specifically manufactured for the pipe utilized.

D. Mechanical joint pipes shall conform to the latest edition of AWWA C 111 (ANSI A21.11).

E. Flanged pipe shall conform to AWWA C115 and be based on a minimum of 200 psi working pressure.

F. All fittings shall be full-bodied, ductile iron and shall be manufactured in accordance with the latest requirements of ANSI Standard Specification A-21.11 and shall have a working pressure of 250psi for 12" and smaller. Fitting joints shall be push-on, mechanical or flanged type and shall be determined by the pipe joint type.

G. All mechanical joint fittings shall be connected with MEGALUGS.

H. All ductile iron pipe and fittings shall be factory-coated on the outside with bituminous coating confirming to the latest edition of AWWA C151 (ANSI A21.51) and lined inside with a 40 mil. epoxy coating, 2 coats of 20 mil. each in accordance with the latest edition of AWWA C116. Epoxy coating shall be one of the following:

1. Induron Ceramapure PL90
2. Permite Permox CTF
3. Tnemec Series 431, Perma-Shield PL

I. All pipe and fittings shall be encased with an 8-mil thick loose polyethylene encasement in accordance with the latest edition of AWWA C-105 (ANSI A21.5).

J. If flexible joint or river crossing pipe is required and/or indicated in the project plans or specifications the joint shall be designed for a maximum deflection of 15 degrees, and a maximum working pressure rating of 250 psi. The type shall be the USIFLEX joint as manufactured by U.S. Pipe or an approved equal.

2.04 POLYVINYL CHLORIDE (PVC) PIPE

GRAVITY PVC PIPING

A. All gravity PVC sewer pipe and fittings smaller than 18" shall be unplasticized polyvinyl chloride meeting the minimum of SDR 26 of the requirements of ASTM Specification D 3034 and with a minimum "pipe stiffness" (F/Y = 115 psi at 5% deflection - maximum allowable for installed pipe for SDR 26) when tested in accordance with ASTM D 2412. All pipe and fittings shall be joined by means of an integral wall bell and spigot joint and sealed with a rubber ring conforming to ASTM D 3212. The pipe and fittings shall be shipped to the job with a solid cross section rubber sealing ring securely locked in place in the bell.

All gravity PVC sewer pipe and fittings 18” and larger shall be unplasticized polyvinyl chloride meeting the minimum of SDR 26 of the requirements of ASTM Specification F679 and with a minimum "pipe stiffness" (F/Y = 115 psi at 5% deflection - maximum allowable for installed pipe for SDR 26) when tested in accordance with ASTM D 2412. All pipe and fittings shall be joined by means of an integral wall bell and spigot joint and sealed with a rubber ring conforming to ASTM D 3212. The pipe and fittings shall be shipped to the job with a solid cross section rubber sealing ring securely locked in place in the bell.

B. The pipe shall be made from white PVC compound having physical properties and chemical resistance of cell classification 12454-B and fittings shall be made from white PVC compound having physical properties and chemical resistance of cell classifications 12454-B, 12454-C or 13343-C as defined in ASTM D 1784.

C. All jointing shall be made in accordance with the manufacturer's recommendations.

D. All pipes shall bear the National Sanitation Foundation (NSF) seal of approval.

FORCE MAIN PVC PIPING

A. All force main PVC sewer pipe and fittings four inches and larger in diameter shall conform to the latest edition of AWWA C-900 and shall be made from Class 12454-A or B materials per the latest edition of ASTM D-1784. Pipe shall be a minimum of SDR 18 unless otherwise specified for a working pressure of 150psi. All pipe shall conform with the outside diameter dimensions of ductile iron pipe to facilitate use of ductile iron fittings, standard cast iron valves and specials. All joints shall be elastomeric seals conforming to the latest edition of ASTM F-477.

B. All force main PVC sewer pipe and fittings three inches and smaller in diameter shall conform to the latest edition of ASTM D-1784 Pipe shall be a minimum of SDR 21, PC 200. The thermoplastic material shall be virgin, rigid PVC plastic conforming to ASTM D-1784 for a minimum cell class of 12454. Pipe joints shall be integral bell and spigot and shall conform to the latest edition of ASTM D 3139. Flexible seals shall be elastometric conforming to the latest edition of ASTM F-477. Gaskets shall be factory applied and fittings shall conform to ASTM D2241 and D 1784 and be pressure class 200

C. All jointing shall be made in accordance with the manufacturer's recommendations.

D. All pipes shall bear the National Sanitation Foundation (NSF) seal of approval.

2.05 POLYETHYLENE PIPE AND FITTINGS (HDPE)

A. Pipe shall be high molecular weight, high-density polyethylene pipe. The material shall be listed by the Plastic Pipe Institute (PPI) with a designation of PE 3408/3608 and have a minimum cell classification of 345434C, D, or E as described in ASTM D3350. The pipe material shall meet the requirements for Type III, Class B or C, Category 5, Grade P34 material as described in ASTM D1248. The pipe shall contain no recycled compound except that generated in the manufacturer’s own plant from resin of the same specification from the same raw material pipe. Pipe (excluding black colored pipe) stored outside shall not be recycled. Pipe and fittings shall be made in conformance with ASTM F714 and ASTM D3261 as modified for the specified material. The pipe shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions or other injurious defects. It shall be uniform in density and other physical properties. All HDPE piping shall be designed with an adequate wall thickness to withstand loading, and under no conditions shall the SDR measurements of the pipe be greater than 11. Fittings shall also be SDR 11 maximum unless otherwise specified. Pipe ends shall be connected using butt fusion per ASTM D2657, or using stainless steel couplings of a design approved by the Engineer. The pipe shall be provided with a lightly pigmented interior coating to aid in

pipeline inspection. Any pipe not meeting these criteria shall be rejected.

B. Pipe Color:

Pipe shall conform to the following:

1. Pipe shall be black or gray only.

2.. Color shall homogeneous throughout.

C. Heat fusion fittings shall be made from PE 3408/3608 or PE 4710 High Density Polyethylene. Socket fittings shall comply with ASTM D2683. Butt fusion fittings shall comply with ASTM D3261. Electrofusion fittings shall comply with ASTM F1055.

D. The material shall be manufactured and tested in accordance with AWWA 901 for ½" – 3" pipe and AWWA C906 for 4" – 63" pipe.

2.06 ON-PIPE & UNDERGROUND PIPE MARKING

A. Pipe materials are specified under 2.03 & 2.04 of this section.

B. On-Pipe markings shall be legibly marked by the pipe manufacturer. The following shall be printed on each pipe:

1. Name and trademark of manufacturer.
2. Nominal pipe size.

3. Dimension ratio.

4. The letters PE followed by the polyethylene grade per ASTM D1248, followed by the Hydrostatic Design Basis in hundreds of psi.

5. Manufacturing Standard Reference.

6. A production code from which the date and place of manufacture can be determined.

7. Each piece of pipe or fitting shall be clearly marked with a designation which shall conform to designations shown on the shop drawings.

8. Class designation shall be cast or painted on each piece of pipe or fitting four inches in diameter or larger.

9. Piping smaller than 4 inches in diameter shall be clearly marked by the manufacturer as to material, type and rating.

C. Underground Marking. Tracer Wire Required on Force Mains Only

a. See Section 02825 for specifications on tracer wire

b. Contractor shall place magnetic warning tape approximately 12 to 18 inches below grade in all pressure pipe force main trenches. It shall be 3 inches wide, green background with black lettering and read "Caution-Buried Sewer Line"

D. See Contract Drawings for required pipe material.

2.07 PRECAST CONCRETE MANHOLES

A. Precast manholes shall conform to the details shown. Manhole bases may be precast.

B. Except where otherwise specified, manhole sections shall conform to ASTM C 478.

C. Precast manhole bases shall be of approved design and of sufficient strength to withstand the loads to be imposed upon them. An approved joint shall be provided to receive the riser sections forming the barrel.

D. Mark date of manufacture and name or trademark of manufacturer on inside of barrel.

E. Unless a larger size is required by the Drawings, the barrel of precast manholes shall be constructed of 48-inch diameter standard reinforced concrete manhole sections. The barrel shall be constructed of various lengths in combination to provide the correct height with the fewest joints. Wall sections shall not be less than five inches thick. For 72-inch and larger manholes, a transition slab, as shown on the Contract Drawings, is required for manholes greater than 12 feet deep.

F. Joints shall be tongue and groove with preformed mastic joint compound. Preformed joint compound shall be Preformed Asphalt and Butyl Gasket Material, a product of the Blue Ridge Rubber Company, or “Ram-Nek” as manufactured by K.T. Snyder Company, Inc. of Houston, Texas, or “Kent-Seal” as manufactured by Hamilton-Kent Manufacturing Company or equal.

G. A precast slab or precast eccentric cone, as shown or approved, shall be provided at the top of the manhole barrel to receive the cast iron frame and cover. The slab or cone shall be of acceptable design and of sufficient strength to safely support an H-20 loading. Concrete slabs shall be not less than 8 inches thick.

H. Manhole sections shall contain manhole steps, uniformly spaced, 12 inches minimum, 16 inches maximum on centers, accurately positioned and embedded in the concrete. Manhole steps shall be M.A. Industries, Model PS1-PF or equal.

I. Rubber gaskets shall be the "0" ring type conforming to the requirements of the latest edition of ASTM Standard Specification A-443. The gaskets shall be as manufactured by the Blue Ridge Company of Flecher, North Carolina, or the Tylox "0" Ring Gasket produced by Hamilton-Kent Manufacturing Company of Kent, Ohio, or approved equal. Lubricants used with the selected gaskets shall be as furnished or recommended by the gasket manufacturer.

J. All manholes shall be produced with crystalline concrete waterproofing admixture in the concrete.

2.08 INTERIOR MANHOLE COATINGS

A. Coal Tar Epoxy

1. The interior of all precast manhole sections, slabs and adjusting rings shall be coated with a coal tar epoxy coating unless otherwise specified.

2. Surface Preparation:

a. Surface to be coated must be clean, dry, properly cured and free from all surface contaminants.

b. “Brush off Blast” (SSPC-SP7) is to provide an etched surface and to

remove contaminants and laitance.

c. Remove dust before coating.

3. Coating shall be applied in strict accordance with the manufacturer's requirements.

4. Coating shall be applied at the concrete casting facility.

5. Field touch-up and repair shall be performed in strict accordance with the manufacturer's requirements.

6. Thickness as recommended by the manufacturer

7. Number of coats as recommended by the manufacturer.

8. Product and Manufacturer:

a. CB-42 by International Oil Company

b. 40-AX-7 Coal Tar Solution by BLP Mobile Paints

c. Or equal

B. 100% Solids Epoxy

1. The interior of all manholes noted to be coated shall be visually inspected prior to beginning work and areas of hazardous structural damage reported to the engineer.

2. Pressure clean the manhole (minimum 3,500 psi) to remove all dirt, grease, sand and surface contaminants on the wall and floor leaving a clean, wet or dry surface. If a detergent or de-greaser solution is used, the surface shall be thoroughly rinsed and neutralized prior to the installation of the liner system.

3. Coating shall be applied in strict accordance with the manufacturer's requirements.

4. Field touch up and repair shall be performed in strict accordance with the manufacturer's requirements.

5. Thickness shall be a minimum of 250mils.

6. Number of coats as recommended by the manufacturer.

7. Product and Manufacturer

a. Warren Environmental System 100% Solids Epoxy

c. Approved equal.

C. Crystalline Concrete Waterproofing

1. The concrete waterproofing admixture shall be of the cementitious crystalline type that chemically controls and permanently fixes a non-soluble crystalline structure throughout the capillary voids of the concrete.

2. The design shall include the use of the crystalline waterproofing repair materials

that generate a non-soluble crystalline formation in the concrete.

3. The manufacturers shall be the following:

a. Xypex Chemical Corporation, Richmond, B.C., Canada.

b. Equivalent materials as approved by the engineer 10 days prior to acceptance of bids.

4. The material shall be the following:

a. Xypex Admix C-1000-T containing red dye to ensure detection in the concrete.
b. Xypex Concrete

2.09 MANHOLE FRAMES AND COVERS

Provide standard manhole frames with covers where noted as manufactured by one of the following:

A. "Paved Areas" Manholes:

1. East Jordan Iron Works, V-1115

2. Or equal.

B. "Non-Paved Areas" Manholes:

1. East Jordan Iron Works, V-1115

2. Or equal.

Provide watertight manhole frames with covers where noted as manufactured by one of the following:

A. East Jordan Iron Works V-2358

B. Or Equal

2.10 DROP INLET CONNECTIONS

Drop inlet connections for manholes shall be constructed where shown and shall conform to the design and details shown. Pipes and fittings shall be the same as the inlet pipe except where noted on the details or described herein. Concrete shall be bonded to manhole in a manner shown or otherwise approved by Engineer.

2.11 RUBBER MANHOLE BOOTS

A. Rubber manhole boots complying with ASTM C923 shall be employed in the connection of each sewer pipe with outside diameter less than 59 inches to precast manholes.

B. Connector will consist of rubber EPDM and elastomers designed to resist ozone, acids, alkalis, oils and petroleum products.

C. Banding mechanism shall be totally non-magnetic 304 stainless steel and torqued for 60-70 inch/lbs.

D. Manufacturer:

1. Kor-N-Seal.

2. Or equal.

2.12 LATERAL CONNECTIONS

A. Lateral connectors can be employed in the connection of sewer pipe 15" in diameter or less in lieu of rubber manhole boots.

B. Lateral connectors shall consist of a PVC hub, rubber sleeve, and stainless-steel band.

C. PVC hub shall meet ASTM D3034 and be SDR 26 and gasket in hub shall meet ASTM F477. Rubber sleeve shall meet ASTM C443. Band and housing shall be type 301 stainless steel and screw shall be type 305 stainless steel.

D. Model and Manufacturer:

1. Inserta Tee by Inserta Fittings Company.

2. Or equal.

2.14 SWING CHECK VALVES

A. Check valves shall be iron body, bronze mounted, swing type conforming to the requirements of AWWA Standard Specification C508. Unless otherwise specified, all check valves shall have Class 125 flange joint ends in accordance with AWWA C110. Each joint shall be fitted with a full-face rubber gasket.

B. Check valves in sizes four inches (4") through twelve inches (12") shall be designed for a working pressure of 175 psi and hydrostatically tested to 350 psi. Check valves fourteen inches (14") and larger shall be designed for a working pressure of 150 psi and hydrostatically tested to 300 psi. All connecting hardware shall be T304 stainless steel, hinge pine and key shall be stainless steel, and the seat shall be bronze or T304 stainless steel. The chamber and plunger shall be bronze.

C. Generally, check valves shall be the outside lever with adjustable weight type unless gravity type is specified on the Drawings or in the proposal for direct bury.

D. Check valves shall be Model A-2600-6-01 as manufactured by Mueller or approved equal and certified by the manufacturer and supplier that above specifications are met.

2.15 SEWERAGE AIR AND VACUUM VALVES (COMBINATION)

A. Shall allow unrestricted venting or re-entry of air thru it, during filling or draining of the force main to prevent vacuum.

B. All valves shall be installed per the manufacturer’s recommendations.

C. Valves shall be installed on a section of pipe no closer than 18” to a bell, coupling, joint or fitting.

D. Valves shall be suitable for use with strained raw sewage.

E. Valves shall be capable of providing air release and vacuum break.

F. Valves shall be designed to ensure that no leaking, deformation or damage of any kind will occur when subjected to 1.5 times the working pressure rating.

G. Connection shall be NPT male or ANSI B16.5 Class 150 flanged, depending on the valves size. Flanged ends shall be supplied with the requisite number of stainless-steel screwed studs inserted for alignment with ANSI B16.5 Class 150 bolt pattern.

H. Valve shall be 3” inlet and outlet nominal in size. Shall be one of the following:
1. ARI Model D-026
2. Vent O Mat Model RGX
3. Pre-approved equal.

I. The valve shall be supplied with the following:

1. Cutoff/Isolation valve of the same nominal size installed between the connection with the force main and the valve to permit future maintenance.

2. All piping, nipples, plugs, additional valves, etc shall be stainless steel rated for same pressure as valve and for sanitary sewer use.

3. Use short body valves where height restricts the use of long body valves.

4. Tapping saddle shall be double strap stainless steel and rated for same pressure as valve and for sanitary use.

J. The valve shall be equipped with a “Flushing Attachment” consisting of: stainless steel shut off valves, quick-disconnect couplings and rubber hose, for back washing with clear water.

K. Valve body and cover shall be made of nylon

L. Valve shall be rated for minimum working pressure of 200 PSI

M. Valve manhole:

1. Use 60” diameter precast manhole wall sections coated 100% solids epoxy meeting specifications.

2. Manhole frame and cover shall be of the vented type, and shall be Model CAP-24-BD as made by Composite Access Products or pre-approved equal.

2.16 GATE VALVES AND VALVE BOXES

A. Gate valves shall be non-rising stem, iron body, bronze mounted type, 200 psi working pressure, tested to 400psi and shall conform to AWWA standard C-500. Valves shall open by turning counter clockwise, be equipped with "O" Ring Seals at the top of the stem, shall be suitable for underground service and provided with 2” square operating nuts.

B. Generally, gate valves shall be mechanical joint type unless otherwise specified.

C. Gate valves shall be Mueller 2360 Series or approved equal.

D. Valve boxes shall be installed on valves 2" and larger. Valve boxes shall be cast iron, two-piece screw type with a 5-1/4" screw type shaft, flared base and drop in lid which reads “SEWER”. Base shall be sized to fit the specified size valve. Valve boxes shall be as manufactured by East Jordan Iron Works or approved equal. Valve boxes shall be adjusted to grade as shown on the drawings. No additional compensation shall be made to Contractor for adjustment of the length of valve boxes.

2.17 PLUG VALVES AND VALVE BOXES

A. Plug valves shall be non-lubricated type, drip tight shut off with pressure in each direction and eccentric in design. Plug valves larger than 14" shall be rated for 150 psi working pressure and less than 12" shall be rated for 175 psi working pressure. The port area shall be 100% of the connecting pipe area.

B. Cast body, flanged (ANSI B16.1, Class 125 or 150) or threaded ends (NPT requirements of ANSI B1.20.2) for rigid joints and mechanical joints for buried valves. Design similar to MSS SP-108. Body shall be cast iron, ASTM A126, Class B, or Carbon steel, ASTM A216 Grade 65-45-12 with bolted bonnet of same material.

C. Plug with upper and lower shaft in a one-piece casting, with round or rectangular port. Plug shall be made of same material as body with resilient facing of NBR.

D. Body and Bonnet Bearing: Type 316L or Type 316 stainless steel

E. Packing: NBR or PTFE V-Type

F. Bonnet screws and Nuts shall be stainless steel.

G. Manufacturer:

1. DeZurik
2. Pratt/Milliken
3. Val-Matic

2.18 COATINGS

A. All valve bodies and non stainless ferrous metals associated with valves including but not limited to stem, actuator, and related components shall be coated in accordance with AWWA C550 "Protective Epoxy Interior Coatings for Valves and Hydrants", unless otherwise specified.
B. Epoxy coating shall be NSF approved for use in potable water.
C. Minimum 12-mil dry film thickness except where limited by valve operating tolerances. Epoxy coating shall be spark tested at the valve manufacture's factory in accordance with AWWA C550 to verify uniform thickness. A certified test report on valve manufacturer's letterhead shall be supplied for each valve furnished.
D. Epoxy coating shall meet the following:
    1. Surface Preparation: SSPC-SP 10.
    2. Amine-cured epoxy.
    3. Manufacturers:
        i. PPG Protective and Marine Coatings.
        ii. Sherwin Williams Co.
        iii. Tnemec
    4. Type: High build.
    5. Minimum Solids Content: 80 percent by volume.
    6. Number of Coats: Two.
    7. Dry Film Thickness per Coat: 5 mils.
E. Any materials which shall receive coatings shall inspected prior to installation. Coatings shall meet the following field quality control requirements:
    1. Surface shall be prepared in accordance with SSPC-SP10
    2. All Submerged surfaces and surfaces within vapor area shall be holiday tested.
    3. Dry film thickness shall be measured and documented prior to installation according to SSPC-PA2
    4. All areas containing holidays or not meeting minimum thickness requirements shall be repaired or recoated according to manufacturer instructions; areas shall then be retested prior to acceptance/installation

2.19 SPECIALS

Specials shall be of the same material as the pipe material being used or as approved by the Engineer. The term specials shall include plugs, caps, and other items as needed. Specials shall conform to the applicable AWWA/ASTM/ANSI Standards.

2.20 OTHER MATERIAL

A. Concrete: Concrete shall be in accordance with Section 03000, Concrete, and shall develop a compressive strength of 3,000 pounds per square inch at twenty-eight (28) days.

B. Steel Casing: The steel casing pipe shall conform to requirements of Section 2300.

C. Pipe Embedment: Pipe Embedment (Select Bedding pay item if not absorbed) shall consist of the following per ASTM D 2321:

1. Foundation Material: Foundation material is required where unsuitable material is encountered at the bottom of the trench or over-excavation has occurred.

2. Bedding Material

3. Haunching Material

4. Initial Backfill

D. Select material for Pipe Embedment which includes foundation, bedding, haunching and initial backfill zones shall be referred to as “Select Bedding Material” and shall:

1. Meet the requirements to be classified as a Class I, or II per ASTM Standard Specification D 2321 (Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications) Table 1 according to particle size, shape and gradation; or

2. Be a mixture of coarse concrete aggregate and coarse river run sand. The mixture shall consist of two (2) parts coarse aggregate conforming with ASTM C-33 to one (1) part coarse sand. The embedment material shall be thoroughly blended by the Contractor to produce a well-graded uniform mixture prior to placement in the trench. Prior to blending, the coarse concrete aggregate shall conform to the gradation sizing number 467 specified in Table 2 of ASTM C-33 as follows:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
2 inch	100
1-1/2 inch	95 - 100
3/4 inch	35 - 70
3/8 inch	10 - 30
No. 4	0 - 5

The grading limits for fine aggregate shall be as follows:

SIEVE SIZE	PERCENT PASSING BY WEIGHT
3/8 inch	100
No. 4	95 - 100

No. 8	80 - 100
No. 16	50 - 90
No. 30	30 - 70
No. 50	3 - 30
No. 100	0 - 5

E. Initial Backfill Material: See above.

F. Final Backfill Material (Select Backfill pay item if not absorbed):

1. Native material will be considered as an acceptable final backfill material in unpaved areas. Contractor shall provide the Engineer with geotechnical evaluation of material for consideration.

2. In paved areas, select material for backfilling trenches and other designated excavations shall meet the requirements of select material per the geotechnical report (if report is available) or be composed of a natural or artificial mixture of sand silt and clay or soil binder or shall be a select well-graded sand-gravel material as specified and approved by the Engineer. The following limits (percentage, by weight, passing square mesh sieves) shall apply to the sand-clay material:

a. 30-100% passing the No. 10 sieve

The material passing the No. 10 sieve shall meet the following:

a. 100% passing the No. 10

b. 20-85% passing the No.40

c. 15-70% passing the No. 60

d. 8-40% passing the No. 200

The material passing the number 40 sieve shall meet the following:

Liquid Limit (LL)----------Not more than 25
Plasticity Index (PI)----------Not more than 6

The fraction passing the number 200 sieve shall not be greater than two-thirds (2/3) the fraction passing the number 40 sieve.

G. All testing shall be done by licensed professionals in related field. Costs required by the Engineer associated with verifying that off-site material or material from trench excavations or on-site excavations meet the requirements of select material are the responsibility of the Contractor.

PART 3 – EXECUTION

3.01 GENERAL

A. The Contractor shall duly notify and coordinate any work with interested parties such as the Mississippi Department of Transportation, the Mississippi Department of Environmental Quality and the appropriate City or County Officials. No work which affects these interested parties will commence until satisfactory coordination has been achieved.

B. The work required shall consist of excavation and trenching for open cut construction, installation of pipe, manholes and appurtenances, backfilling, testing, repair and

restoration of property, and final cleanup.

3.02 EXCAVATION FOR PIPING

A. No more than 200 feet of trench may be opened in advance of pipe laying.

B. Trench width shall be minimized to greatest extent practical but shall conform to the following:

1. Sufficient to provide room for installing, jointing and inspecting piping, but in no case wider at top of pipe than pipe barrel O.D. plus 3 feet.

2. Enlargements at pipe joints may be made if required and approved by Engineer.

3. Sufficient for sheeting, bracing, sloping, and dewatering.

4. Sufficient to allow thorough compacting of backfill adjacent to bottom half of pipe.

5. Do not use excavating equipment which requires the trench to be excavated to excessive width.

C. Depth of trench shall be as shown. If required and approved by Engineer depths may be revised.

D. The Contractor shall perform all excavation of every description and of whatever substances encountered to the depth specified in the Contract Drawings or as directed by the Engineer. All trenches shall be excavated along the lines and to the grades established in the Contract Drawings.

E. The bottom of all trenches shall be carefully shaped, graded and aligned. Care shall be taken not to excavate below the depth specified; however, in the event this should occur, the bottom of the trench shall be filled back to grade with approved material and thoroughly compacted in a manner satisfactory to the Engineer.

F. The bed for each piece of pipe is to be shaped either by trimming the bottom of the trench or by placing excavated earth therein and tamping so that each piece of pipe will have uniform bearing and be in continuous contact with the supporting ground for its entire length. The trench shall be further excavated around each bell or hub, if necessary, so that it will entirely be clear of the ground and leave ample room for making up joints.

G. When rock is encountered, the Contractor shall excavate to a depth at least 4 inches below the required grade and a minimum clearance of 12 inches on each side of pipe and backfilled to grade with 4 inches of sand cushion.

H. Water will not be permitted in the trenches while the pipe is being laid. The Contractor shall not open up more trench than the available pumping facilities are able to dewater to the satisfaction of the Engineer.

I. Should conflicts in grade occur with other utilities, the sewer line grade shall be changed to avoid the conflict as directed by the Engineer.

J. All material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. Contractor to pile material so that free access is provided at all times to all fire hydrants and water valves in the vicinity of the Work and to cause as little inconvenience as possible to public travel and the abutting property. All excavated materials not required or not suitable for backfill shall be removed and wasted as indicated or as directed by the Engineer. Such grading shall be done as may be necessary to prevent surface water from flowing into trenches or other excavations and any water accumulating therein shall be

removed by pumping or by other approved methods.

K. The disposal of all surplus and unsuitable excavation shall be the responsibility of the contractor at his own expense. The surplus and unsuitable material not to be used in the construction of the project shall not be left on the right-of-way or easement of the project or adjacent thereto.

L. Contractor shall excavate only the length of trench as needed for same day pipe installation. No open trenches shall be left at the end of each work day.

3.03 EXCAVATION FOR MANHOLES, PUMPING STATION AND OTHER STRUCTURES

A. Excavation for structures shall be sufficient to permit the carrying out of the construction as required by these specifications and Contract Drawings.

B. Care shall be taken not to excavate for the structures below the depths specified on the plans in correspondence with the detail sheet. If extra depth of excavation is necessitated by the nature of the soil and is ordered by the engineer, the contractor will be paid for the selected fill material as provided elsewhere in these Contract Documents for “Extra Work”, unless the contract contains unit prices for the materials used.

3.04 SHEETING, SHORING AND BRACING

A. The Contractor shall furnish and place such sheeting and bracing as may be required to support the sides of the trench and to protect the workmen and pipe or adjacent structures from injury by the sloughing off or caving in of the trenches.

B. When using movable trench support, care shall be exercised not to disturb the pipe location, jointing or embedment.

C. Any voids left in the embedment material by support removal shall be carefully filled with granular material and adequately compacted.

D. The sheeting and bracing may be removed as the trench is backfilled, or may be left in place where necessary to prevent damage. In the event the sheeting or bracing is left in place, it shall not extend nearer than three feet (3') to the surface of the ground.

E. In no case will extra compensation be allowed for furnishing, placing, removing or leaving in place any sheeting and bracing, but the cost of this work shall be included in the unit price bid for installing the pipe.

F. The sides of the trench shall be maintained in strict compliance with OSHA regulations.

3.05 DEWATERING, DRAINAGE AND FLOTATION

A. The Contractor shall furnish all materials and equipment and perform all work required to install and maintain the drainage systems he proposes for handling groundwater and surface water encountered during construction of structures, pipelines, and compacted fills.

B. The Contractor shall construct and place all pipelines, concrete work, structural fill, bedding, and base course, in-the-dry. In addition, the Contractor shall make the final 24-inches of excavation for this work in the-dry, and not until the water level is a minimum of twelve (12) inches below proposed bottom of excavation.

C. The Contractor shall, at all times during construction, provide and maintain proper equipment and facilities to promptly remove and dispose of all water entering excavations and keep such excavations dry so as to obtain a satisfactory undisturbed sub-grade

foundation condition, until the fill, structure, or pipes to be built thereon have been completed to such extent that they will not be floated or otherwise damaged by allowing water levels to return to natural elevations.

D. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the sub-grade soils at proposed bottom of excavation.

E. Well-points may be required for pre-drainage of the soils prior to final excavation for some of the deeper below ground structures of piping, and for maintaining the lowered groundwater level, until construction has been completed to such an extent that the structure, pipeline, or fill will not be floated or otherwise damaged. Well-points shall be surrounded by suitable filter sand and no fines shall be removed by pumping. Pumping from well-points shall be continuous and standby pumps shall be provided.

F. If requested by the Engineer, the Contractor=s proposed method of dewatering shall include a minimum of two (2) 4-inch, Schedule 40, operating groundwater observation wells at each structure to be used to determine the water level during construction of the structure. Locations of the observations wells shall be at structures and along pipelines as approved by the Engineer prior to their installation.

G. Prior to excavation, the Contractor shall submit his proposed method of dewatering and maintaining dry conditions to the Engineer. The Contractor shall be responsible for the satisfactory performance of the system. The Contractor shall be responsible for correcting any disturbance or natural bearing of soils or damage to structures caused by an inadequate dewatering system or by interruption of the continuous operation of the system as specified.

H. As part of the submittal of his dewatering system, the Contractor may be required to demonstrate the adequacy of the proposed system and well-point filter sand by means of a test installation. Discharge water shall be clear, with no visible soil particles in a one-quart sample.

I. During backfilling and construction, water levels shall be measured in observation wells located as directed by the Engineer.

J. Continuous pumping will be required as long as water levels are required to be below natural levels.

K. While dewatering for new construction in the vicinity of existing structures, depletion of the groundwater level underneath these existing structures may cause settlement. To avoid this settlement, the groundwater level under these structures shall be maintained by appropriate methods of construction.

3.06 PROTECTION OF PERSONS AND PROPERTY:

A. Barricade open excavations occurring as part of this work and post with warning light in accordance with local requirements. Operate warning lights as recommended by authorities having jurisdiction.

B. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

3.07 PIPE EMBEDMENT

A. Select embedment material used around and under pipes is as specified in 2.18 of this section.

B. Select Embedment Installation:

1. Foundation: If required, as recommended for material class in Table 2 of ASTM D 2321 compacted to 96% Standard Proctor Dry Density ASTM D 698

2. Bedding: As recommended for material class in Table 2 of ASTM D 2321 compacted to 96% Standard Proctor Dry Density ASTM D 698

3. Haunching: As recommended for material class in Table 2 of ASTM D 2321 compacted to 96% Standard Proctor Dry Density ASTM D 698

4. Initial Backfill: As recommended for material class in Table 2 of ASTM D 2321 compacted to 96% Standard Proctor Dry Density ASTM D 698

C. No pipe shall be brought into position until the preceding length has been embedded and secured in its final position.

D. Place embedment materials so that the pipe after installation will be true to line and to grade.

3.08 PIPE LAYING

A. Pipes, specials and fittings shall be carefully laid to the line and grade established on the Contract Drawings or as directed by the Engineer. All pipes shall be laid in compliance with the manufacturer's instructions, technical specifications and details on contract drawings and at such depths that a minimum cover is maintained as specified previously. Extra depth will not be measured unless noted on the Bid Form.

B. Install all pipes accurately to the line and grade shown unless otherwise approved by the Engineer. Remove and relay pipes that are not laid correctly.

C. Pipe laying will not be permitted when trench contains water.

D. Slope piping uniformly between elevations given.

E. Start laying pipes at lowest point and proceed towards higher elevations, unless otherwise approved by Engineer.

F. Place bell and spigot so that bells face the direction of laying, unless otherwise approved by the Engineer.

G. Excavate around the joints in bedding and lay pipes so that only the barrel receives bearing pressure from the trench bottom.

H. Blocking is not allowed to bring pipe to grade.

I. Permissible deflections at joints shall not exceed the amount allowed by the manufacturer.

J. Take every precaution to ensure that no foreign material enters the piping prior to and during installation.

K. All pipes and fittings shall be carefully examined for cracks, damage or other defects while suspended above the trench before installation. Defective materials shall be immediately removed from site.

L. Interior of all pipes and fittings shall be inspected and all dirt, gravel, sand, debris or other foreign materials shall be completely removed from pipe interior before it is moved into the trench.

M. Bell and spigot mating surfaces shall be thoroughly wire brushed and wiped clean and dry immediately before pipe is laid.

O. Every time that pipe laying is not actively in progress the open ends of pipe shall be closed by a watertight plug.

P. Field cutting pipe, where required, shall be made with a machine specially designed for cutting piping. Cuts shall be carefully done, without damage to pipe or lining, so as to leave a smooth end at right angles to the axis of pipe. Cut ends shall be tapered and sharp edges filed off smooth. Flame cutting will not be allowed.

Q. Touch up protective coatings in a satisfactory manner prior to backfilling.

R. All piping shall be inspected by the Engineer prior to any backfilling operations. Contractor shall notify Engineer in advance of any backfilling operations.

3.09 HORIZONTAL AND VERTICLE ALIGNMENT OF PIPES

A. The Contractor shall utilize a commercial grade laser beam specifically manufactured to aid in maintaining grade and alignment of pipelines during installation. The primary unit shall be mounted on a heavy-duty base and firmly anchored in the downstream manhole of the reach under construction. The maximum distance shall not exceed 400 feet per setup.

B. Each joint of pipe will be installed using an approved target to align the pipe with the projected laser beam. The methods and procedures shall be in strict accordance with the manufacturer's recommendations and instructions.

C. Proper ventilation shall be maintained at all times and care shall be exercised to avoid bumping or misalignment of the projected beam.

D. Sewer pipe shall be laid so that the installation variation of invert elevations when compared with the construction plans does not exceed 0.10 feet. If the variation exceeds 0.10 feet the line shall be rejected.

3.10 MAKING JOINTS

A. PVC PIPE

1. Joints shall be constructed in accordance with the recommendations of the manufacturer.

2. Clean completely all jointing surfaces and adjacent areas immediately before matting joint.
3. Lubricate and adjust gaskets as recommended by manufacturer.

4. After gaskets are compressed and before pipe is brought fully home, each gasket shall be checked for proper position around full circumference of the joint.

B. HDPE PIPE

1. All jointing shall be done by butt fusion welding and shall be performed in accordance with manufacturer's recommendations by a certified operator for the method allowed.

2. Fusion equipment shall be operated only by technicians who have been certified by the pipe manufacturer or supplier and who have a minimum of 2 years' experience of fusion welding 8 inches or larger diameter pipelines. The

technician's experience and verifiable references shall be documented in the HDPE pipe submittal.

4. See Section 02815 for additional information on jointing and complete installation.

C. DUCTILE IRON PIPE JOINT CONSTRUCTION

1. The installation and joint of ductile iron pipe shall generally conform to the applicable provisions of AWWA Standard Specification C-600 for pipe laying.

2. Where mechanical joint pipe is used, the surfaces which come in contact with the gasket shall be thoroughly brushed with a wire brush just prior to assembly. The gasket should be brushed with soapy water prior to installation to remove loosed dirt and to lubricate gasket as it is forced into its retaining space.

3. When tightening bolts, it is essential that the gland be brought up toward the pipe flange evenly. The bolts should be partially tightened; the bottom bolt first, then the top; next the bolts on either side; and last, the remaining bolts. Overstressing of bolts to compensate for poor installation will not be permitted. Bolt torque shall be in accordance with manufacturer's recommendations.

4. When push-on joint pipe is used, the pipe must be cleaned with a wire brush and the spigot end of the pipe lubricated with a thin film of lubricant. The gasket shall be inserted into bell socket recess and the spigot end pushed home. The joint shall be installed in accordance with the manufacturer's specifications.

5. All joints of whatever type shall be completely watertight after being subjected to the required tests.

3.11 TRANSITION FROM ONE TYPE OF PIPE TO ANOTHER

Provide all necessary adapters, specials and connection pieces required when connecting different types and sizes of pipe or when connecting pipe made by different manufacturers.

3.12 SERVICE ASSEMBLES AND SERVICE LINE INSTALLATION

A. Assemblies shall consist of appurtenances needed to complete the assembly in accordance with the Contract Drawings. They shall be installed in a good and workmanlike manner in the places designated on the Plans or as directed by the Engineer.

B. Service line shall be as specified herein and will be measured and paid for separately as detailed herein.

C. Service lines to be marked as shown in the Contract Drawings.

3.13 CONNECTION TO EXISTING MANHOLES

A. Where indicated on the Contract Drawings, the Contractor will be required to make a water tight connection to an existing wastewater collection system. The Contractor shall furnish all labor and materials and service required for the excavating, removal and relocation of sections of old pipe, de-watering the trench, connecting of the sewer line with the existing lift station or manhole and the setting of necessary fittings, specials and required replacement of manhole coatings as shown on the Contract Drawings.

B. The size of the opening cut (must be core drilled) in the existing manhole wall shall be

restricted to a normal diameter sufficient only to insert the sewer pipe. After insertion of the pipe, the void between the outside of the pipe and the manhole shall be dry packed with a Portland cement-sand mix. The moisture content of the cement-sand mixture shall be minimized in order to avoid undue shrinkage after drying.

3.14 MANHOLE BASES

Precast bases shall be set on a concrete foundation or compacted granular material as shown in the Contract Drawings. Precast bases shall be set at the proper grade and carefully leveled and aligned.

3.15 PRECAST MANHOLE SECTIONS

A. Set sections vertical with sections true to alignment.

B. Install sections in accordance with manufacturer's recommendations.

C. Lifting holes shall be sealed water tight with non-shrink grout inside and out.

3.16 MANHOLE CHANNELS

A. For straight through flow, inverts shall be formed of concrete and shall be given a hard trowel finish. The invert shall be a minimum of ½ the diameter of the pipe in height.

B. Where side channels occur, the channels within the manholes shall be formed of concrete and shall be given a hard trowel finish.

3.17 GRADING RINGS

A. Grading rings shall be used on all concrete manholes where required. Stacks shall be a maximum of 12 inches in height. The height of the stack shall be such as is necessary to bring the manhole frame to the proper grade.

B. The outside of the grading rings shall be neatly plastered with 1/2 inch of cement mortar as the work progresses.

C. Each grading ring shall be laid in a full bed of mortar and shall be thoroughly bonded.

3.18 MANHOLES WATER TIGHNESS

A. All manholes shall be free of visible leaks.

B. All leaks shall be repaired in a manner subject to the Engineer's approval.

C. All lift holes to be sealed water tight inside and out with non-shrink grout.

3.19 FLEXIBLE PIPE CONNECTOR AND WATERSTOP AT MANHOLE BASES

An approved flexible connector shall be provided between each pipe entering and exiting manhole. The joint into the manhole base shall be completely watertight.

3.20 DROP MANHOLES

A. In manholes where the free fall inside the manhole exceeds 2 feet measured from the invert of the pipe to the top of the manhole floor, drop manholes shall be constructed in the same manner as specified for standard manholes except that the bottom shall be extended to support the drop line.

B. One joint of ductile iron pipe shall be extended upstream from the drop manhole and secured on the undisturbed bedding of the adjacent pipe trench.

3.21 BACKFILLING TRENCHES

A Backfilling shall be carefully performed and the original surface restored, to the full satisfaction of the Engineer. The trenches shall be backfilled with fine, loose earth, free form large clods, stones or rocks, frozen material or debris.

B. The trenches shall be backfilled carefully and rammed until enough has been placed to provide a cover of not less than one foot (1') above the pipe prior to placing Final Backfill.

C. Proper compaction procedures should be exercised to provide the required soil densities.

D. The Final Backfill procedures shall be as follows and dependent on location of trench:

1. Open areas or cross-country: Backfill material suitable for this method shall be machine-placed in successive layers and compacted until a density of at least the adjacent undisturbed ground is obtained (90% min.). This operation will continue until all settlement has occurred and to the full satisfaction of the Engineer.

2. Under or within 5’ of paved (concrete or asphalt) surfaces or concrete structures the backfill material shall be placed in successive layers, not to exceed six inches (6"). Each lift shall be thoroughly compacted with mechanical tampers so that at least 98% of the density determined by the Proctor Method, ASTM D-698, shall be obtained before the next lift is placed.

3. Backfill in unpaved areas shall be made as above specified, except the backfill lifts above the pipes may be deposited in layers not to exceed 6 inches and thoroughly tamped until a density of at least that of the adjacent soil is obtained (90% Min.).

C. Each lift of the backfill material shall have the proper moisture content to permit compaction to the required density.

D. Whenever the trenches have not been properly filled, or if settlement occurs, they shall be refilled, smoothed off, and finally made to conform to the surface of the ground at no additional cost to the Owner. Surplus material shall be disposed of as directed by the Engineer at no cost to the Owner.

3.22 DISPOSAL OF UNSUITABLE AND SURPLUS MATERIAL

A. Unsuitable and surplus excavated materials, unless specified otherwise below, and pavement shall become the property of the Contractor to be removed and disposed of by the Contractor off the project site.

B. Usable, excavated material may be used for fill or backfill if it meets the specifications and is approved by the Engineer. Excavated materials so approved may be neatly stockpiled at the site where designated by the Engineer provided there is an area available that will not interfere with the Owner=s access nor inconvenience traffic or adjoining property owners.

C. Surplus suitable excavated material shall be used to fill depressions as the Engineer may direct.

D. In instances where the Owner can use surplus excavated materials and so desires to retain possession of the material, the Contractor will be directed in the Special Provisions

to transport the material to a specific soil storage area and either stockpile or spread the material. Broken pavement shall not be hauled to the Owner's storage area.

3.23 WORK AFFECTING EXISTING PIPING

A. Location of Existing Piping:

1. Locations of existing piping shown should be considered approximate.

2. Contractor is responsible for determining exact location of existing piping to which connections are to be made, or which may become disturbed during earth moving operations, or which may be affected by the work in anyway.

B. Work on Existing Pipelines:

1. Cut pipes as shown or required with machines specifically designed for this work.
2. Install temporary plugs to keep out all mud, dirt, water and debris.

3. Provide all necessary adapters, fittings, pipes and appurtenances required.

3.24 TESTING OF GRAVITY SEWER LINES

A. General:

1. Contractor shall conduct a low-pressure air test and a deflection test for all gravity sewer piping. For gravity sewer pipe 30" and larger, an infiltration/exfiltration test shall be performed.

2. Notify Engineer 48 hours in advance of testing.

3. Provide all testing apparatus.

4. Pipelines which fail to hold specified test pressure or which exceed the allowable leakage rate shall be repaired and retested.

5. Test pressures required are at the lowest elevation of the pipeline section being tested unless otherwise specified.

6. Unless otherwise approved, conduct all tests in the presence of the Engineer.

B. Installed Low Pressure Air Test: UNI-Bell's UNI-B-6.

1. Procedure:

The sewer line to be tested shall be tested between manholes. The line shall be sealed at both ends. The seal at one end shall have an orifice through which to pass air into the pipe. An air supply shall be connected to the orifice at one end of the line. the air supply line will contain an on-off gas valve and a pressure gauge having a range of 0 to 15 psi. The gauge shall have minimum divisions of .10 psi and shall have an accuracy of +/- .04 psi. Pressuring equipment should include a regulator or relief valve to avoid overpressuring and damaging an otherwise acceptable line.

The pipe line under test shall be pressurized to 4 PSIG for a period of no less than 5 minutes. If necessary, air should be added to the line to maintain the pressure above 3.5 PSIG. After stabilization period, the gas valve shall be closed. When the line pressure drops to 3.5 PSIG, commence timing with a stop watch. The stop watch should be allowed to run until such time as line pressure drops to 2.5 PSIG. Then the watch should be stopped and the time lapse compared with the allowable time

lapse in Table I in this Section and for pipe size and leakage allowance specified by the Engineer. If the time lapse is greater than that specified, the section undergoing testing shall have passed, and the test may be discontinued at that time. If the time is less than that specified, the line has not passed the test and the Contractor will be required to find the leak(s), repair them and retest until the section passes at his own expense.

2. Table I: Line Pressure Air Test Using Low-Pressure Air Specification Time Required for a 1.0PSIG Pressure Drop for Size and Length of Pipe Indicate

Pipe Diameter (in)	Minimum Time (min)	Length for Min. Time (ft)	Time for Longer Length (sec)	Specification Time for Length (L) Shown, Min.'s							
				100'	150'	200'	250'	300'	350'	400'	450'
4	3:46	597	.380L	3:46	3:46	3:46	3:46	3:46	3:46	3:46	3:46
6	5:40	398	.854L	5:40	5:40	5:40	5:40	5:40	5:40	5:42	6:24
8	7:34	298	1.520L	7:34	7:34	7:34	7:34	7:36	8:52	10:08	11:24
10	9:26	239	2.374L	9:26	9:26	9:26	9:53	11:52	13:51	15:49	17:48
12	11:20	199	3.418L	11:20	11:20	11:24	14:15	17:05	19:56	22:47	25:38
15	14:10	159	5.342L	14:10	14:10	17:48	22:15	26:42	31:09	35:36	40:04
18	17:00	133	7.692L	17:00	19:13	25:38	32:03	38:27	44:52	51:16	57:41
21	19.50	114	10.471L	19:50	22:10	34:54	43:37	52:21	61:00	69:48	78:31
24	22:40	99	13.674L	22:47	34:11	45:34	56:58	68:22	79:46	91:10	102:33

C. Deflection Test:

1. Deflection tests shall be performed on all PVC and ductile iron gravity sewer pipe. The test shall be conducted after the final backfill has been in place at least 30 days.

2. No pipe shall exceed a deflection of 5%.

3. If the deflection test is to be run using a rigid ball or mandrel, it shall have a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without mechanical pulling devices.

4. The mandrel shall be drawn through the pipe by hand. Irregularities or obstructions encountered in the line shall be corrected by the Contractor.

5. If a section of pipe with excessive deflection is found, the Contractor shall uncover the pipe for inspection. Damaged pipe will be replaced. If the pipe is undamaged, the Contractor may reinstall the bedding and backfill and retest the pipe. Retesting shall include mandrel and low-pressure air testing.

D. Infiltration/Exfiltration Test:

1. Infiltration/Exfiltration Test shall be performed in those sections of sewer pipe that lie under the groundwater table.

2. Contractor shall supply needed equipment and personnel to perform the infiltration/exfiltration test.

3. Allowable infiltration/exfiltration shall not exceed 50 gallons per inch of nominal diameter per mile of sewer per day.

4. An exfiltration test shall be performed where the crown of the entire reach of sewer being tested lies less than five feet under the existing water table. Minimum upstream testing head shall be five feet above existing water table.

5. An infiltration test shall be performed where the crown of the entire reach of sewer being tested lies five feet or more under the existing water table.

6. Sections of installed piping shall be tested from manhole to manhole.

7. The Contractor shall install a calibrated weir at lower end of section being tested and shall measure leakage for a minimum of four hours if infiltration test is performed. Provide bulkhead at upper end of pipe section being tested.

8. The Contractor shall measure required water to maintain minimum upstream testing head if exfiltration test is performed.

3.25 TESTING OF FORCE MAIN SEWER LINES

Hydrostatic Test for Force Main Sewer Lines:

1. After the pipe has been laid and partially backfilled, all newly laid pipe, or any valved section thereof, shall be subjected to a hydrostatic pressure of 150 psi. The duration of each pressure test shall be at least two (2) hours. Pressure shall not vary by more than ± 5 psi for the duration of the test.

2. Each valved section of pipe shall be slowly filled with water and the specified test pressure, based on the elevation of the lowest point on the line or section under test and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. The Contractor shall furnish all necessary assistance for conducting the test.

3. Before applying the specified test pressure, all air shall be expelled from the pipe. If permanent air vents are not located at all high points, the Contractor shall install corporation cocks at such points so that the air can be expelled as the line is filled with water. After all air has been expelled, the corporation cocks shall be closed and the test pressure applied.

Leakage Test for Force Main Sewer Lines:

1. A leakage test shall be conducted by the Contractor at his expense and in the presence of the Engineer or his representative for installed force main line. The duration of each leakage test shall be 12 hours. During the test, the main shall be subjected to a pressure of not less than 150 psi measured at the average elevation of the pipe to be tested. The leakage test shall be conducted by the Contractor after the pressure test has been satisfactorily completed

2. Leakage shall be defined as the quantity of water that must be supplied in the newly laid pipe, or any valved section thereof, to maintain the specified leakage test pressure, within 5 psi, after the air in the pipe has been expelled and pipe has been filled with water.

3. No pipe installation will be accepted if the leakage is greater than that determined by the formula $L=(SD\sqrt{P})/133,200$ where L is the allowable leakage in gallons per hour, S is the length of pipe tested in feet, D is the nominal diameter of the pipe in inches, and P is the average test pressure during the leakage test in psi gauge.

4. If any test of pipe laid discloses leakage greater than that specified, the Contractor shall at his own expense locate and repair the defective joints until the leakage is within the specified allowance. All visible leaks shall be repaired regardless of the amount of leakage.

3.26 FLUSHING

A. All piping shall be thoroughly cleaned and flushed in a manner approved by the Engineer prior to placing in service. Piping 48 inches in diameter and larger shall be inspected from the inside and all debris, dirt and foreign matter removed.

B. Water for flushing and testing shall be furnished and paid for by the Contractor. Contractor shall provide all temporary piping, hose, valves, appurtenances and services required.

C. The completed gravity flow system shall be clean of all muck, siltation and other foreign matter deposited or collected during construction. Flushing shall continue downstream manhole to manhole.

D. Flushing shall be accomplished prior to testing should the collected matter be sufficient in quantity to obstruct or effect the testing. Flushing will not be required in those sections of the installed pipes and manholes where the exfiltration test has adequately cleaned the mains.

3.27 CLEAN-UP

A. In areas where the wastewater collection system has been backfilled, the Contractor shall clear the right-of-way and surrounding ground, and shall dispose of all waste materials and debris resulting from his operations. He shall fill and smooth holes and ruts and shall repair all miscellaneous and unclassified ground damage done by him and shall restore the ground to such a stable and suitable condition as may be reasonably required, consistent with the condition of the ground prior to construction.

B. Clean-up, including grading, disposal, dress work and other incidentals shall be completed by the Contractor at no additional cost to the Owner to the extent directed by the Engineer.

PART 4 - COMPENSATION

4.01 GENERAL

No separate payment shall be made for any item necessary for the completion of the work indicated on the Contract Drawings and in the Specifications but not shown as a pay item on the proposal form; therefore, full compensation for these items shall be considered absorbed in the Contract Lump Sum or related pay items.

4.02 MEASUREMENT AND PAYMENT

A. Gravity Mains

1. General: Gravity mains will be measured and paid for in linear feet along the centerline of the pipe from the center to center of manholes and from center of manhole to center of junction with existing main or plugged end. The total length of pipe thus measured will be separated into the various kinds and sizes for each increment of depth to establish the quantities of each Pay Item. Depth zones will be measured from existing ground line or the finished ground to the invert of pipe, whichever is less.

2. No deduction in length of main will be made for diameter of manholes 60" and smaller, or for space occupied by other specials installed.

3. Gravity mains installed in cased or tunneled openings will be measured along the centerline of the pipe from end to end of the casing.

4. Gravity mains designated to be jacked or bored through open cut barriers or restrictions shall be

measured for payment along the centerline of the pipe from trench end to trench end. Trench end shall be defined as the vertical face of the trench that is perpendicular to the centerline of the jacked or bored pipe and is adjacent to the open cut barrier or restrictive area.

B. Force Mains

1. General: Force mains will be measured and paid for in linear feet along the centerline of the pipe from the center of the valve pit to center of junction with existing main or plugged end.

2. Force mains installed in cased or tunneled openings will be measured along the centerline of the pipe from end to end of the casing.

3. Gravity mains designated to be jacked or bored through open cut barriers or restrictions shall be measured for payment along the centerline of the pipe from trench end to trench end. Trench end shall be defined as the vertical face of the trench that is perpendicular to the centerline of the jacked or bored pipe and is adjacent to the open cut barrier or restrictive area.

C. Manholes: Manholes will be measured and paid for as the type, size and number of completed and accepted units in place and of incremental depths indicated in the Proposal. Incremental depths shall be determined from the finished elevation of the top of the completed unit to the invert of the outlet pipe. Manholes constructed over existing sewer mains will include a separate, measurement item per each for installation of the manhole and connection to the existing sewer main. Manholes flotation straps installed at the locations shown on the plans shall be cost absorbed in the manhole. Manhole coatings shall be cost absorbed in the price of manholes.

D. Pipe Connections: Pipe connections to existing manholes or structures will be measured and paid for in units of each, with no allowance of incremental depths of bury.

E. Removal and Restoration of Permanent Surfaces

1. General: No separate measurement for payment purposes will be made for removal of permanent surfaces. This shall be considered an absorbed cost item unless otherwise specified on the Proposal.

2. No separate measurement for payment for restoration of concrete pavements, sidewalks, driveways, curb and gutter or for clay gravel will be made. These shall be considered as absorbed cost items unless otherwise specified on the Proposal.

3. No separate measurement for payment for restoration of asphalt pavements will be made. This shall be considered an absorbed cost item unless otherwise specified on the Proposal.

F. Removal and Restoration of Landscaping: Items designated to be removed and restored shall not be measured for payment, unless otherwise indicated on the Proposal.

G. Timber Sheeting or Sheet Piling Left in Place: Timber sheeting or sheet piling left in place will not be measured for payment but shall be considered an absorbed cost item.

H. Supplementary Items: If provided for in the Proposal, work performed in support of the gravity main construction shall be measured for payment in the manner prescribed in the respective Sections of the SPECIFICATIONS covering new construction of these items. Otherwise, these items will be absorbed costs.

I. Select Bedding Material hauled in from off-site areas shall not be measured for separate payment but shall be considered an absorbed cost item unless itemized as a pay item on the Proposal. If shown as a pay item it shall be referred to as “Select Bedding Material” and paid for per cubic yard, compacted and in-

place. Should on-site excavated trench material meet the requirements to be classified as select bedding material, the Contractor shall use this material for such purpose and, in turn, the use of and placement of this material shall be considered an absorbed cost per foot of pipe.

J. Final Backfill shall not be measured for separate payment but shall be considered an absorbed cost item unless itemized as a pay item on the Proposal. If shown as a pay item it shall be referred to as “Select Backfill Material” and paid for per cubic yard, compacted and in-place.

K. Pipe on Piers: Sewer pipe installed on piers across creeks, sloughs and low areas shall be measured along the centerline of the pipe from the point at which the top of the pipe leaves the natural ground to the point where the top of the pipe re-enters the natural ground. Measurement will not be made of excavation, grading or other items incidental to completion of the work. Measurement of piers and related appurtenances shall be per each installed.

L. Sanitary sewer service lines shall be measured along the centerline of the pipe per linear foot of each type installed with no allowance for cut depth differentials. No separate measurement for payment shall be made of specials, fittings, plugs, marker posts or other incidentals. Service assemblies including wye, bend, cap, post and other incidentals shown on the drawings and shall be measured per each installed.

M. Sewer Main Bores and Service Line Bores shall be measured in the units specified in the Proposal.

--END OF SECTION 02900--

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 7411 **CODE: (SP)**

DATE: 12/16/2025

SUBJECT: Haul Roads

PROJECT: BR-2904-00(018) / 107643302 Rankin County

Bidders are hereby advised of the following requirements regarding haul roads. Haul roads may be constructed only within the existing right-of-way and in areas approved by the Engineer. If the Contractor deems it necessary to clear areas within this area, the request shall be submitted to the Engineer and approved prior to commencing with clearing activities. The Contractor shall be responsible for construction of any temporary drainage structures required to provide adequate drainage. The Contractor shall ensure positive drainage along all haul routes; therefore, impoundment of surface water resulting from construction access is prohibited. Any modifications made to the roadway and/or its features shall be an absorbed item, the roadway and/or its features returned to their original condition, and shall be approved by the Engineer.

The Contractor shall be required to maintain erosion control within any disturbed areas on the project, as directed by the Engineer, and shall be an absorbed item of work.

Haul roads, temporary drainage structures, etc. shall be removed and areas restored to pre-project conditions once the intended use is complete and prior to completion of the project. All areas shall be graded, shaped to drain, and grassed prior to completion of the project, and shall be absorbed items.

If the Contractor elects to utilize storage areas outside of and adjacent to the existing right-of-way, then the Contractor shall be responsible for obtaining any easements, permits, right-of-entry, etc. from the property owner/responsible party for the storage area and any haul roads necessary to access the project site.

All costs associated with the construction and removal of haul roads shall be absorbed by the Contractor.

"General Decision Number: MS20250140 12/12/2025

Superseded General Decision Number: MS20240140

State: Mississippi

Construction Type: Highway

County: Rankin County in Mississippi.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/03/2025
1	05/02/2025
2	12/12/2025

ELEC0480-010 01/01/2025

	Rates	Fringes
TRAFFIC SIGNALIZATION		
Electrician	$ 30.35	11.39

SUMS2010-063 08/04/2014

	Rates	Fringes
CARPENTER (Form Work Only)	$ 15.47	0.00
CEMENT MASON/CONCRETE FINISHER	$ 14.02	0.00
ELECTRICIAN	$ 24.04	5.87
HIGHWAY/PARKING LOT STRIPING: Truck Driver (Line Striping Truck)	$ 12.04	0.00
INSTALLER - GUARDRAIL	$ 12.07	0.00
INSTALLER - SIGN	$ 11.92	0.00
IRONWORKER, REINFORCING	$ 15.47	0.00
LABORER: Common or General, Including Asphalt Raking, Shoveling, Spreading; and Grade Checking	$ 10.65	0.00
LABORER: Flagger	$ 10.22	0.00
LABORER: Luteman	$ 12.88	0.00
LABORER: Mason Tender - Cement/Concrete	$ 11.27	0.00
LABORER: Pipelayer	$ 13.44	0.00
LABORER: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper	$ 11.29	0.00
OPERATOR: Asphalt Spreader	$ 14.71	0.00

OPERATOR:
Backhoe/Excavator/Trackhoe.....$ 15.36 0.00

OPERATOR: Bobcat/Skid
Steer/Skid Loader.....$ 11.64 0.00

OPERATOR: Broom/Sweeper.....$ 11.57 0.00

OPERATOR: Bulldozer.....$ 15.41 0.00

OPERATOR: Concrete Saw.....$ 14.38 0.00

OPERATOR: Crane.....$ 19.22 0.00

OPERATOR: Distributor.....$ 10.95 0.00

OPERATOR: Grader/Blade.....$ 14.41 0.00

OPERATOR: Grinding/Grooving
Machine.....$ 15.90 0.00

OPERATOR: Loader.....$ 12.57 0.00

OPERATOR: Mechanic.....$ 19.27 0.00

OPERATOR: Milling Machine.....$ 14.68 0.00

OPERATOR: Mixer.....$ 14.25 0.00

OPERATOR: Oiler.....$ 12.35 0.00

OPERATOR: Paver (Asphalt,
Aggregate, and Concrete).....$ 12.15 0.00

OPERATOR: Roller (All Types)....$ 12.64 0.00

OPERATOR: Scraper.....$ 12.25 0.00

OPERATOR: Tractor.....$ 11.22 0.00

TRUCK DRIVER: Flatbed Truck.....$ 14.06 0.00

TRUCK DRIVER: Lowboy Truck.....$ 11.00 0.00

TRUCK DRIVER: Mechanic.....$ 13.00 0.00

TRUCK DRIVER: Water Truck.....$ 10.98 0.00

TRUCK DRIVER: Dump Truck (All
Types).....$ 12.56 0.00

TRUCK DRIVER: Semi/Trailer
Truck.....$ 14.60 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide

employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the

classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on

a wage determination matter
d) an initial conformance (additional classification
and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

SUPPLEMENT TO FORM FHWA-1273

DATE: 07/26/2022

SUBJECT: Federal Contract Provisions for Subcontracts

Federal Contract Provisions for Subcontracts

All subcontracts shall be in writing and contain all pertinent provisions and requirements of the prime contract.

Each "Request for Permission to Subcontract" (Mississippi Department of Transportation Form CAD-720) shall include a copy of the subcontract. The federal contract provisions (FHWA-1273, SUPPLEMENT TO FORM FHWA-1273, NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246), DAVIS-BACON AND RELATED ACT PROVISIONS (WAGE RATES)) must be physically incorporated as part of the subcontract. A completed Mississippi Department of Transportation Form CAD-521 and Form CAD-725 must be attached to the CAD-720.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B)
This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goal for female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work, is 6.9%.

Until further notice	Goals for minority participation for each trade (percent)
SHSA Cities:	
Pascagoula - Moss Point	16.9
Biloxi - Gulfport	19.2
Jackson	30.3
SMSA Counties:	
Desoto	32.3
Hancock, Harrison, Stone	19.2
Hinds, Rankin	30.3
Jackson	16.9
Non-SMSA Counties:	
George, Greene	26.4
Alcorn, Benton, Bolivar, Calhoun, Carroll, Chickasaw, Clay, Coahoma, Grenada, Itawamba, Lafayette, Lee, Leflore, Marshall, Monroe, Montgomery, Panola, Pontotoc, Prentiss, Quitman, Sunflower, Tallahatchie, Tate, Tippah, Tishomingo, Tunica, Union, Washington, Webster, Yalobusha	26.5
Attala, Choctaw, Claiborne, Clarke, Copiah, Covington, Franklin, Holmes, Humphreys, Issaquena, Jasper, Jefferson, Jefferson Davis, Jones Kemper, Lauderdale, Lawrence, Leake, Lincoln, Lowndes, Madison, Neshoba, Newton, Noxubee, Oktibbeha, Scott, Sharkey, Simpson, Smith, Warren, Wayne, Winston, Yazoo	32.0
Forrest, Lamar, Marion, Pearl River, Perry, Pike, Walthall	27.7
Adams, Amite, Wilkinson	30.4

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4.2(d). Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor, estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is to the county and city (if any), stated in the advertisement.

5. The notification required in Paragraph 3 shall be addressed to the following:

Contract Compliance Officer
Mississippi Department of Transportation
P.O. Box 1850
Jackson, Mississippi 39215-1850

(12/04/2018)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-101-1 **CODE: (IS)**

DATE: 07/20/2023

SUBJECT: Definitions and Terms

Section 101, Definitions and Terms, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-101.01--Abbreviations. After the abbreviation API on page 1, add the following.

APL Approved Products List

Replace the abbreviation for AWPA on page 1 with the following.

AWPA American Wood Protection Association

907-101.02--Definitions. Delete the sentence after the list of holidays in Subsection 101.02 on page 6 under **holidays, legal**, and substitute the following.

When a legal holiday falls on a Saturday or Sunday, the succeeding Monday, or as proclaimed by the Governor, will be observed as a legal holiday.

Delete the definition for Notice to Proceed in Subsection 101.02 on page 8, and substitute the following.

Notice to Proceed - Written notice to the Contractor to proceed with the contract work.

Delete the definition for "Plans" in Subsection 101.02 on page 8, and substitute the following.

plans - The approved plans, profiles, typical cross-sections, working drawings and supplemental drawings, or exact reproduction thereof, that show the location, character, dimensions, and details of the work to be done. The plans may also include electronic files, referred to on the plans as Electronic Files Identified as Plans, which may include engineering models, spreadsheets, CADD files or other electronic files used to convey design intent. When the contract does not have an official set of plans, reference to the plans shall mean the contract documents.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-102-2 **CODE: (IS)**

DATE: 11/22/2017

SUBJECT: Bidding Requirements and Conditions

Section 102, Bidding Requirements and Conditions, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-102.01--Prequalification of Bidders. Delete the last sentence of the third paragraph of Subsection 102.01 on page 13, and substitute the following.

The Bidder's Certificate of Responsibility number must be on file with the Department's Contract Administration Division prior to request for permission to bid.

907-102.02--Contents of Proposal Forms. Delete the fourth paragraph in Subsection 102.02 on page 13, and substitute the following.

Prospective bidders must complete an online request for permission to be eligible to bid a project. Upon approval, the bidder will be authorized to submit a bid electronically using Bid Express at http://bidx.com.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-104-2 **CODE: (SP)**

DATE: 06/17/2025

SUBJECT: Minor Alteration to the Contract

Section 104, Scope of Work, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-104.02--Alterations of Plans or Character of Work.

907-104.02.3--Minor Alteration to the Contract. In the first paragraph of Subsection 104.02.3 on page 25, change $10,000.00 to $25,000.00.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-105-2 **CODE: (IS)**

DATE: 07/20/2023

SUBJECT: Control of Work

Section 105, Control of Work, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-105.01--Authority of the Engineer. Delete the first sentence of the second paragraph of Subsection 105.01 on page 31, and substitute the following.

The Engineer has the right to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to correct conditions unsafe for workmen or the general public, for failure to carry out provisions of the Contract, or for failure to carry out orders.

907-105.02--Plans and Working Drawings. Delete the first paragraph of Subsection 105.02 on page 31, and substitute the following.

After the contract is executed by the Executive Director, the Contractor will receive, free of charge, two bound copies of the proposal and contract documents (one executed and one blank) two full scale copies of the plans, five half-scale copies of the Plans, and Electronic Files Identified as Plans. The Contractor shall have one copy of the proposal and contract documents and one half-scale copy of the plans available at all times during work activity on the project.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-106-3 **CODE: (IS)**

DATE: **03/19/2025**

SUBJECT: **Control of Materials**

Section 106, Control of Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

After Subsection 106.13 on page 47, add the following.

907-106.14--Buy America Materials Sourcing Requirements for Federal-Aid Projects. The "Infrastructure Investment and Jobs Act" (the "Act"), or Bipartisan Infrastructure Law (BIL), was enacted on November 15, 2021 (See Public Law No. 117-58, Sections 70901-70953). The Buy America provisions of the Act expand the previous Buy America requirements beyond what is currently required for steel and iron products.

Any iron or steel products per Subsection 700.01 or construction materials per Subsection 907-700.01.1, that are used for a Federal-Aid highway construction project, shall be domestically manufactured (as further described in Subsection 700.01) and compliant with current requirements of the Act, as implemented in 2 CFR 184, 2 CFR 200.322, and OMB 24-02 Memo and related requirements therein, and with the current requirements within 23 CFR 410.

As determined by the Department within the contract prior to award, all products and/or materials will only be classified under one of the following categories: Iron or Steel Products, Manufactured Products, and Construction Materials. It is the Prime Contractor's responsibility to ensure all submittals required for Buy America are submitted to the Project Engineer prior to the products and/or materials being incorporated into the work.

The following items require Buy America Certification on Federal-Aid projects:

(a) Iron or Steel Products
(b) Construction Materials

A list of items that require Buy America Certification may be viewed at www.goMDOT.com under Business Center → Engineering Standards/Guides/Manuals → Construction Materials.

Items classified as a Manufactured Product that do not include iron or steel products do not require a Buy America Certification on a Federal-Aid project. Manufactured Products are currently exempted under the 1983 waiver from FHWA. Manufactured Products are determined by the Department's Materials Division.

To be considered a Manufactured Product, an item shall meet one of the following requirements:

(a) The item consists of two or more of the listed construction materials that have been combined through a manufacturing process.
(b) The item consists of at least one of the listed construction materials that has been combined through a manufacturing process with a material that is not listed as a construction material.

Buy America provisions do not apply to temporarily used items that (1) are specified to be removed at the end of the project per the contract provisions or (2) are specified to remain in place per the contract provisions and are also documented by the Department in the contract provisions to be removed in a subsequent imminent, near-term phased project.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-107-2 **CODE: (SP)**

DATE: **01/31/2018**

SUBJECT: **Contractor's Erosion Control Plan**

Section 107, Legal Relations and Responsibility to Public, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-107.22--Environmental Protection.

907-107.22.1--Contractor's Erosion Control Plan (ECP). After the first sentence of the first paragraph of Subsection 107.22.1 on page 63, add the following.

The ECP shall be submitted electronically to the Project Engineer who will forward it to the appropriate MDOT Divisions.

Delete the example Narrative in Subsection 107.22.1 on page 65, and substitute the following.

EXAMPLE
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
Storm Water Pollution Prevention Plan (SWPPP)
Narrative

General Permit Coverage No: MSR_____
Project Number: _____
County: _____
Route: _____

SITE INFORMATION

This project consists of grading and installing drainage structures necessary to construct approximately 6 miles of parallel lanes on SR 31 between the Hinds County Line and the Rankin County Line.

SEDIMENT AND EROSION CONTROLS

a) Vegetative Controls: Clearing and grubbing areas will be minimized to comply with the buffer zones (minimum of 15 feet along the ROW lines and 5 feet along creeks) as per the contract documents. A combination of temporary and permanent grassing will be used to protect slopes as construction progresses. **Should a disturbed area be left undisturbed for 14 days or more, placement of temporary BMPs (seeding & mulching, silt fences, basins, ditch checks, slope drains, etc.) or permanent erosion control measures (seeding & mulching, riprap, paved ditch, flumes, etc.) will be initiated by the next working day after the land disturbing activities have stopped.**

b) Structural Controls: Gravel construction entrance/exit will be installed near Stations 145+50, 159+50, 164+50 & 172+50. Riprap ditch checks will be constructed at Stations 144+50, 151+75, 162+00 & 166+25. The Concrete washout area will be at Stations 140+25, 152+00 & 168+50.

c) Housekeeping Practices: Structural BMPs will be cleaned out when sediment reaches 1/3 to 1/2 of the height of the BMP. Maintenance and repair of equipment will be performed off-site, material wash out will occur either off-site or within designated wash out areas.

d) Post-Construction Control Measures: As construction is completed, permanent vegetative growth will be established on disturbed soils to improve soil stability and provide a buffer zone for loose material. Paved ditches and flumes will be placed as specified in the ECP to reduce erosion in concentrated flow areas and rip rap will be placed as specified to dissipate flow energy and reduce flow velocity.

IMPLEMENTATION SEQUENCE

Perimeter controls will be installed first. Clearing and grubbing will be performed in 19-acre sections beginning at the BOP and temporary grassing will be installed as needed. Temporary erosion control BMPs will be installed at the drainage structures prior/during construction of the drainage structures. Grading activities will commence at the BOP and proceed towards the EOP, fill slopes will be permanently grassed in stages for fill heights that exceed 5 feet. Base materials will be installed on completed grading sections with the paving to follow.

MAINTENANCE PLAN

All erosion and sediment control practices will be checked for stability and operation following every rainfall but in no case less than once every week. Any needed repairs will be made immediately to maintain all practices as designed. Sediment basins will be cleaned out when the level of sediment reaches 2.0 feet below the top of the riser. Sediment will be removed from the front/upstream end of the BMPs when it becomes about 1/3 to 1/2 height of BMP.

_____ _____
Prime Contractor's Signature Date

_____ _____
Printed Name Title

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-108-4 **CODE: (SP)**

DATE: 10/07/2020

SUBJECT: Subletting of Contract

Section 108, Prosecution and Progress, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-108.01--Subletting of Contract.

907-108.01.1--General. Delete the third sentence of the tenth paragraph of Subsection 108.01.1 on the bottom of page 72.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-108-6 **CODE: (SP)**

DATE: 03/11/2025

SUBJECT: Default and Termination of Contract

Section 108, Prosecution and Progress, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-108.08--Default and Termination of Contract. At the end of the Subsection 108.08 on page 85, add the following.

907-108.08.1--Debarment of Contractor. If the Contractor is declared to be in default under this Subsection and the Contract terminated for the reason(s) indicated in Subsections 108.08 (d), (f), or (g) above, the Commission may, in its discretion and in addition to default and termination, declare the Contractor to be debarred from bidding on any other projects for a period of one (1) year from the date of the termination letter. If the debarred Contractor has multiple on-going Contracts with the Commission and receives a one (1) year debarment, the on-going Contract(s) may continue; however, the Contractor will not be allowed to bid another project until one (1) year has passed from date of the termination letter.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-109-5 **CODE: (IS)**

DATE: 11/14/2023

SUBJECT: Measurement and Payment

Section 109, Measurement and Payment, of the 2017 Edition of the Mississippi StandardSpecifications for Road and Bridge Construction is hereby amended as follows.

907-109.01--Measurement of Quantities. Delete the sixth full paragraph of Subsection 109.01on page 88, and substitute the following.

If appropriate based on the specific circumstances of the project, the Contractor may request that material specified to be measured by the cubic yard or ton be converted to the other measure. The Contractor must submit this request to the Engineer. The Engineer will provide an approval or denial in writing. The decision is in the sole discretion of the Engineer. If approved, factors for this conversion will be determined by the District Materials Engineer and agreed to by the Contractor. The conversion of the materials along with the conversion factor will be incorporated into the Contract by supplemental agreement. The supplemental agreement must be executed before such method of measurement is used.

907-109.04--Extra Work.

907-109.04.1--Supplemental Agreement. Delete the second paragraph of Subsection 109.04.1 on page 90.

907-109.04.2--Force Account Agreement. Delete the last sentence of subparagraph (c) in Subsection 109.04.2 on page 91, and substitute the following.

An amount will be added equal to fifteen percent (15%) of the sum thereof, excluding sales tax.

Delete subparagraph (d) in Subsection 109.04.2 on pages 91 & 92, and substitute the following.

(d) **Equipment.** Equipment used for force account work shall be of sufficient size and type necessary to perform the required work in an economic and expeditious manner. The Contractor must provide the manufacturer, make, model, year, type of fuel and other necessary information to determine proper hourly payment rates. Subject to advance approval of the Engineer, actual transportation cost for a distance of not more than 200 miles will be reimbursed for equipment not already on the project.

For equipment authorized by the Engineer for use on the force account work, the Engineer will use the equipment rental rates from the "*Rental Rate Blue Book*" as published on the Equipment Watch website www.equipmentwatch.com for the time period the force account work is authorized to determine payment to the Contractor. The maximum allowable rates

are determined as follows:

1. The hourly equipment rate will equal the FHWA total hourly rate. This rate takes into account adjustment factors for age and region.
2. The hourly estimated operating costs have been included in the FHWA total hourly rate.
3. The idle and standby rates shall be as listed in the "*Rental Rate Blue Book*" as reported by *Equipment Watch*.
4. These rates include the basic machine plus any necessary attachments.

Standby rates shall apply when equipment is not in operation and is approved by the Engineer to standby for later use to complete the work. Idle rates shall apply to equipment located on the project and the engine is burning fuel but no ground engaging or other components are actively engaged in meaningful work. In general, idle or standby rates shall apply when equipment is not in use, but will be needed again to complete the work and the cost of moving the equipment will exceed the accumulated standby cost. If the idle standby cost should exceed the equipment moving cost to or from the work site, the Contractor will be entitled to the moving cost only. Idle or standby rates will be used under the following conditions:

1. The equipment is totally dedicated to the force account work and not used intermittently on other work.
2. Idle or standby cost will be considered only after equipment has been operated on force account work.
3. The sum of idle or standby time and operating time shall not exceed eight (8) hours per day or 40 hours in a week.
4. Idle or standby payment will not apply to days not normally considered to be work days such as holidays, weekends, or days of inclement weather when no other work is taking place.

The Department will not pay for idle or standby time when equipment is inoperable, for time spent repairing equipment, or for the time elapsed after the Engineer has advised the Contractor that the equipment is no longer needed. The Department will determine if it will be more cost effective to pay standby time on approved equipment on site or for multiple mobilizations.

If equipment is needed, which is not included in the *Rental Rate Blue Book* as reported by *Equipment Watch*, the Department and Contractor will agree upon reasonable rental rates in writing before the equipment is used.

All equipment shall be subject to approval from day to day in accordance with the requirements of Subsection 108.05.

907-109.06--Partial Payment.

907-109.06.2--Advancement on Materials.
Delete the next to last paragraph of Subsection 109.06.2 on page 95, and substitute the following.

Materials for which an advanced payment has been allowed must be paid for by the Contractor within 30 days of the estimate on which the advanced payment was first allowed and proof of said payment must be verified by the supplier. If proof of payment is not furnished within the allowable 30 days, the advanced payment will be deducted on subsequent current estimates until such time that proof of payment is furnished.

907-109.07--Changes in Material Costs. After the fifth paragraph of Subsection 109.07 on page 96, change the web address to the following.

https://mdot.ms.gov/portal/current_letting

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-228-1 **CODE: (IS)**

DATE: 10/10/2018

SUBJECT: Erosion Control Blankets

Section 228, Erosion Control Blankets, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-228.02--Materials.

907-228.02.1--Blanket Types. Delete Note *** at the end of Subsection 228.02.1 on page 165, and substitute the following.

*** Per ASTM D 6818

907-228.05--Basis of Payment. Delete the pay item at the end of Subsection 228.05 on page 166, and substitute the following.

907-228-A: Erosion Control Blanket, Type __ - per square yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-234-1 **CODE: (SP)**

DATE: 10/13/2021

SUBJECT: Silt Fence

Section 234, Silt Fence, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-234.02--Materials. Delete the first paragraph of Subsection 234.02 on page 181, and substitute the following.

Materials used in silt fence and super silt fence may be accepted by certification per Subsection 700.05.1. Geotextile fabric, posts, staples and woven wire backing, when required, shall meet the requirements of Subsection 714.13.

907-234.05--Basis of Payment. Add the "907" prefix to the pay items listed on page 183.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-401-2 **CODE: (SP)**

DATE: **01/06/2025**

SUBJECT: **Asphalt Pavement - General**

Section 401, Asphalt Pavement - General, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows..

907-401.02--Materials.

907-401.02.6--Standards of Acceptance.

907-401.02.6.8--Acceptance Procedure for Pavement Smoothness Using Mean Roughness Index (MRI). Delete the third sentence of the second paragraph of Subsection 401.02.6.8 on page 253, and substitute the following.

The surface shall be tested and corrected to a smoothness index as described herein except those locations or specific projects that are excluded from smoothness testing with an IPS.

Delete the third, fourth and fifth paragraphs of Subsection 401.02.6.8 on pages 253 & 254, and substitute the following.

The smoothness of the surface lift will be determined for traffic lanes, auxiliary lanes, climbing lane and two-way turn lanes. Areas excluded from a smoothness test with the IPS are acceleration and deceleration lanes, tapered sections, transition sections for width, shoulders, crossovers, ramps, side street returns, etc. The roadway pavement on bridge replacement projects having 1,000 feet or less of pavement on each side of the structure will be excluded from a smoothness test. Smoothness testing shall exclude 264 feet from each transverse joint that separates the pavement from a bridge deck, bridge approach slab or existing pavement not constructed under the contract. This can apply to any other exceptions including, but not limited to, railroad crossings and manholes. Segments containing a considerable number of encroachments such as intersections, manholes, curb and gutter sections, etc. may be excluded at the Engineer's discretion.

Once paving has concluded, one final smoothness measurement shall be performed for both pay adjustments and corrective action. Multiple smoothness measurements for pay adjustments and correction can still be performed at the Engineer's discretion. These measurements must be performed at the posted speed limit or 50 miles per hour (±5 miles per hour), whichever is lower. Measurements will be made in both wheel paths of exterior and interior lanes. The wheel paths shall be designated as being located three feet (3') and nine feet (9') from centerline or longitudinal joint, respectively. Testing will also be required on sections that have been surface corrected. No smoothness testing shall be performed when there is any residual moisture on the

pavement surface. Any additional testing shall meet the requirements of Subsection 907-403.03.2.

The surface lift will be accepted on a continuous interval basis for pavement smoothness. Continuous reporting is based upon all MRI values for a specified running interval. These values are averaged and presented at the midpoint of the specified running interval.

Delete the last sentence of the last paragraph of Subsection 401.02.6.8 on page 254, and substitute the following.

All tests and corrections shall be in accordance with AASHTO R 54, Accepting Pavement Ride Quality When Measured Using Inertial Profiling Systems.

Delete Subsection 401.02.6.9 on pages 254 & 255, and substitute the following.

907-401.02.6.9--Inertial Profiling System.

907-401.02.6.9.1--General. The Inertial Profiling System (IPS), furnished and operated by the Contractor under the supervision of the Engineer or the Engineer's representative, shall be a dual-line laser on a high speed vehicle meeting the requirements of AASHTO M 328, Standard Specification for Inertial Profiler. Additionally, each IPS should be equipped with a GPS to ensure distance measurement accuracy. The profiler system and operator shall be certified at an MDOT approved regional calibration facility in accordance with AASHTO R 56, Standard Practice for Certification of Inertial Profiler Systems and AASHTO R 57, Operating Inertial Profiler Systems.

907-401.02.6.9.2--Computer Requirements. The computer measurement program must be menu driven, Windows compatible, and able to produce unfiltered profiler runs in the Pavement Profile (*.ppf) file format. The computer shall have the ability to display and print data on site for verification and shall have the ability to save and transfer data via Universal Serial Bus (USB) flash drive, which shall be provided by the Contractor.

All runs must be stored in a directory named in the following format for acceptance by the Project Engineer:

Project_County_Route

All profiler runs must be named in the following format for acceptance by the Project Engineer:

Direction_Lane_BeginStation_EndStation

In addition to manufacturers' software; the latest version of FHWA's ProVAL software shall be installed on the IPS computer.

907-401.03--Construction Requirements.

907-401.03.1--Specific Requirements.

907-401.03.1.2--Tack Coat. After the first sentence in Subsection 401.03.1.2 on page 256, add the following.

In addition to the products listed on the Department's APL, the Contractor may use one of the following as a tack coat.

- CSS-1
- CSS-1h
- SS-1
- SS-1h

907-401.03.1.4--Density. In the first sentence of the first paragraph of Subsection 401.03.1.4 on page 256, change "preleveling" to "pre-leveling".

907-401.03.9--Material Transfer Equipment. In the third sentence of Subsection 401.03.9 on page 261, change "include:" to "include".

907-401.03.14--Shoulder Wedge. In the second sentence of the first paragraph of Subsection 401.03.14 on page 263, change "cross roads" to "crossroads".

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-403-4 **CODE: (SP)**

DATE: **03/19/2025**

SUBJECT: **Asphalt Pavements**

Section 403, Asphalt Pavements, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

907-403.03--Construction Requirements.

907-403.03.2--Smoothness Tolerances. In the tenth paragraph of Subsection 403.03.2 on page 283, change "Sections(s)" to "Segment(s)".

907-403.03.2.1--Smoothness Tolerances for Mean Roughness Index (MRI). After the second paragraph of Subsection 403.03.2.1 on page 283, add the following.

For all projects, smoothness data shall be reported by two MRI methods:

1. A continuous long interval MRI report
2. A continuous 25-foot short interval MRI report

At the bottom of page 283 and top of 284 in Subsection 403.03.2.1, delete the paragraphs for Category, A, Category B, and Category C, and substitute the following.

Category A projects shall have a long interval surface MRI of not more than 60 inches per mile.

Category B projects shall have a long interval surface MRI of not more than 70 inches per mile.

Category C projects shall have the existing surface profiled at no additional cost to the State. These projects shall be measured by a long fixed interval (528-foot) surface MRI and meet the following requirements:

A 50% improvement in MRI from the existing surface
or
80 inches per mile (whichever value is higher)

Delete the first, second, and third full paragraphs on page 284, and substitute the following.

For all projects, areas of the surface lift with localized roughness greater than 160 inches per mile as determined by the continuous short interval (25') report will be identified for correction by the Contractor.

When a project has multiple lifts, the intermediate lift shall meet the short interval requirement of 200 inches per mile. Corrective action must be taken on those segments that do not meet this requirement. No unit price adjustment will be applied on the underlying lift.

Delete the table at the bottom of page 284, and substitute the following.

Mean Roughness Index (inches / mile)	Contract Price Adjustment Percent of Asphalt Unit Bid Price
Above 20.0 Over	REMOVE AND REPLACE *
15.1 to 20.0 Over	80
10.1 to 15.0 Over	85
5.1 to 10.0 Over	90
0.1 to 5.0 Over	95
Required Surface MRI	100

* In lieu of removal and replacement, segments may be brought into compliance through corrective action at the discretion of the Project Engineer.

Delete the table and footnote at the top of page 285, and substitute the following.

Mean Roughness Index (inches/mile) Percent Improvement	Contract Price Adjustment Percent of Asphalt Unit Bid Price
Below 30.1 Percent	80 **
30.1 to 35.0 Percent	80
35.1 to 40.0 Percent	85
40.1 to 45.0 Percent	90
45.1 to 50.0 Percent	95
Above 50%	100

** Segments that show less than 30 percent improvement as well as a final surface MRI greater than 100 inches/mile will be subject to removal.

Before the last paragraph on Subsection 403.03.2.1 on page 285, add the following.

Corrective action for all categories must be taken on those segments that exceed the localized roughness or the 'Remove and Replace' threshold. All locations must be located and marked by the Contractor and approved by the Project Engineer before corrective action shall take place. The minimum remove and replace length will be 528 feet (0.1 mile). Additional smoothness testing shall be required on segments following corrective action and/or replacement and will be required to meet *at least* the maximum surface MRI short of 'Remove and Replace' tolerance.

907-403.05--Basis of Payment.

907-403.05.2--Pay Items. Add the "907" prefix to the list of pay items on page 291.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-413-2 **CODE: (SP)**

DATE: 05/09/2023

SUBJECT: Cleaning and Sealing Joints and Cracks

Section 413, Cleaning and Sealing Joints and Cracks, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-413.03--Construction Requirements.

907-413.03.3--Sawing and Sealing Transverse Joints in Asphalt Pavement.

907-413.03.3.4--Sealing. Delete the last sentence of the last paragraph of Subsection 413.03.3.4 on page 333, and substitute the following.

Poured joint sealing material shall only be placed when the air temperature is within the limits specified by the manufacturer.

907-413.05--Basis of Payment. Delete the last pay item listed on page 336, and substitute the following.

907-413-E: Sawing and Sealing Transverse Joints in Asphalt Pavement - per linear foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-502-1 **CODE: (IS)**

DATE: 11/21/2023

SUBJECT: Concrete Bridge End Pavement

Section 502, Concrete Bridge End Pavement, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-502.02--Materials. Delete the first sentence of Subsection 502.02 on page 361, and substitute the following.

On bituminous paving contracts, concrete for this work may be Class "B" Structural Concrete meeting the applicable requirements of Section 907-799

907-502.05--Basis of Payment. Delete pay item 502-A on page 362, and substitute the following.

907-502-A: Reinforced Cement Concrete Bridge End Pavement - per square yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-601-1 **CODE: (IS)**

DATE: 11/21/2023

SUBJECT: Structural Concrete

Section 601, Structural Concrete, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-601.02--Materials.

907-601.02.1--General. Delete the first sentence of Subsection 601.02.1 on page 377, and substitute the following.

Materials for structural concrete and their use, care, and handling shall be in accordance with Subsection 907-804.02.

907-601.02.2--Classification of Concrete. Delete the second sentence of Subsection 601.02.2 on page 377, and substitute the following.

Classes of concrete are identified in Subsection 907-799.01.

907-601.03--Construction Requirements.

Delete Subsection 601.03.1 on page 378 and substitute the following.

907-601.03.1--Blank.

907-601.05--Basis of Payment. Delete the pay items listed at the end of Subsection 601.05, and substitute the following.

907-601-A: Class ___ Structural Concrete - per cubic yard

907-601-B: Class ___ Structural Concrete, Minor Structures - per cubic yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-605-1 **CODE: (IS)**

DATE: 11/21/2023

SUBJECT: Underdrains

Section 605, Underdrains, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-605.02--Materials.

907-605.02.4--Edge Drain Pipe and Fittings.

907-605.02.4.4--Miscellaneous. Delete the first paragraph of Subsection 605.02.4.4 on page 398, and substitute the following.

Concrete for aprons shall be Class "C" concrete meeting the requirements of Section 907-799.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-616-1 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Colored and Imprinted Concrete Median and Island Pavement

Section 616, Median and Island Pavement, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable to Colored and Imprinted Concrete Median and Island Pavement Only.

907-616.01--Description. This work consists of furnishing all labor, materials, tools, tests, royalties, services and other incidentals as may be required for the good and proper completion of the colored and imprinted (stamped) concrete median and island pavement.

The locations for the concrete median and island pavement are shown on the plans, but generally are limited to all proposed concrete islands and concrete median end noses.

The Contractor is advised of additional notes on the plans which call attention to particular requirements or conditions regarding colored and imprinted concrete median and island pavement.

Quality Assurance. Installation shall be performed by an installer with at least one year experience in the placement of stamped and stained concrete paving systems.

907-616.02--Materials. Colored concrete materials and imprinting tools shall meet the following requirements.

A. Colors for stamped and stained concrete shall be selected by the Engineer from Standard or Designer color charts, or an approved manufacturer's color charts.

B. Curing and Finishing Material: Contractor shall utilize curing and finishing material recommended by the manufacturer. Curing materials or methods for unstained concrete shall not be used with stamped and stained concrete. The use of liquid curing materials for areas receiving staining will not be allowed.

C. Stamping: Tools for stamping shall be of high quality and shall provide uniform control of joint depth.

D. Stamping Pattern: The pattern to be used for all concrete stamping shall have a surface texture that is of the appearance of naturally worn European Fieldstone. The edges shall be irregular and corners rounded. The Contractor shall reference the plans for pattern layout and orientation of the imprint patterns.

Once the color and the stamping tools have received approval from the Engineer, the Contractor shall provide a 4-foot square test panel, separate from proposed island and median end nose areas, to be reviewed and approved by the Engineer. Engineer will evaluate color as compared to color chart and texture of broom finish.

Subsequent test panels may be required, if the finish, stamping quality, or color is unacceptable to the Engineer. The Contractor shall remove unaccepted test panels immediately from site. Accepted panel shall remain until all stamped and stained concrete islands and median end noses have been completed by the Contractor, at which time the Contractor shall then remove the acceptable test panel from the site.

907-616.03.4--Protection and Curing. Protection and curing materials and methods of application for stamped and stained concrete shall be in strict accordance with the approved manufacturer's written instructions. Copies of the manufacturer's written instructions shall be furnished to the Engineer prior to manufacture and placement of stamped and stained concrete.

907-616.04--Method of Measurement. Colored and Imprinted Concrete Median and Island Pavement of the type specified will be measured by the square foot or square yard. Test panels will not be measured for separate payment.

907-616.05--Basis of Payment. Colored and Imprinted Concrete Median and Island Pavement, measured as prescribed above, will be paid for at the contract unit price per square foot or square yard, which price shall be full compensation for all labor, tools, materials, equipment, test panels, placement of concrete, imprinting the concrete, and all incidental necessary to complete the work.

Payment will be made under:

907-616-C: Colored and Imprinted Concrete Median and Island Pavement, Thickness	- per square foot or square yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-618-12 **CODE: (SP)**

DATE: 05/03/2024

SUBJECT: Traffic Control Management

Section 618, Maintenance of Traffic and Traffic Control Plan, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-618.01--Description.

907-618.01.2--Traffic Control Management. Delete subparagraph (g) of Subsection 618.01.2 on page 441, and substitute the following.

g) Perform a minimum of once-a-week inspections from the Notice to Proceed until a Partial or Final Maintenance Release is obtained. Once work begins, daily daytime inspections and weekly nighttime inspections are required on projects with predominantly daytime work, and daily nighttime inspections and weekly daytime inspections are required on projects with predominantly nighttime work. Weekly inspections will be allowed for periods outside of active construction. When lane closures are present or any non-fixed signs or traffic handling devices such as cones or barrels are in place, inspections shall be performed daily whether work is being performed or not.

907-618.05--Basis of Payment. Delete pay item 618-A on page 449 and substitute the following.

907-618-A: Maintenance of Traffic - lump sum

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-619-5 **CODE: (IS)**

DATE: 01/17/2018

SUBJECT: Traffic Control for Construction Zones

Section 619, Traffic Control for Construction Zones, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-619.02--Materials.

907-619.02.8--Traffic Signals and Flashers. Delete Subsection 619.02.8.1 on pages 452 thru 455, and substitute the following.

907-619.02.8.1-Portable Traffic Signals. Portable traffic signals shall be trailer or pedestal mounted units that provide for easy, legal transportation and quick setup and deployment. Each unit shall be self-contained. The types of portable traffic signals are as follows.

- Type 1 portable traffic signal shall include two signal heads per trailer with one signal head mounted on an overhead mast arm that can be extended over the travel lane, and the other signal head shall be mounted on the vertical upright of the trailer.

- Type 2 portable traffic signal shall include one signal head that is mounted on the vertical upright of the pedestal/cart or trailer. Pedestal/Cart mounted shall be designated as Type 2A and Trailer mounted shall be designated as Type 2B. Type 2 portable traffic signals shall be tested to MASH Standards or NCHRP Test Level 3 crash testing requirements by an accredited independent test facility, with supporting documentation available upon request.

- Type 3 portable traffic signal shall be the same as Type 1 mentioned above but with enhanced capabilities as mentioned in each applicable section below.

The portable traffic signals shall be MUTCD Compliant and utilize standard ITE signal heads, and adhere to the ITE Specifications and Standards for Vehicle Traffic Control Signal Heads, Light Emitting Diode (LED) Circular Signal Supplement. The units shall be battery powered with a solar charging system, and be equipped with an onboard battery charger capable of being used with a 120V AC power source. Portable traffic signals shall be able to communicate with other portable signals via 900 MHz or other accepted wireless communications. If wireless connectivity is not feasible, hardwired connectivity shall be an acceptable alternative, as approved by the Engineer. Portable Traffic Signals shall include all the major components listed below or be able to perform the functions of these components. The major components of the unit shall include, but are not limited to, the trailer or pedestal/cart, telescoping mast arm (on Type 1 and 3), signal head(s) and back plates, traffic signal controller with operating software, solar charging system with batteries, input and output devices, vehicle detection, flasher units, conflict monitor, relays,

communications system and other equipment required for the safe operation and installation of the unit.

907-619.02.8.1.1--Signal Heads. The signal heads and all applicable components of the portable traffic signal shall meet the physical display and operational requirements of conventional traffic signals as specific in the Manual on Uniform Traffic Control Devices (MUTCD). The signal heads shall be cast aluminum or polycarbonate and shall meet the requirements laid out in the Mississippi Standard Specification for traffic signal heads and associated MDOT material specifications for traffic signal heads. The signal heads shall accommodate standard 12-inch LED indications meeting the ITE Specification "Vehicle Traffic Control Signal Heads" and ITE Specifications and Standards for Vehicle Traffic Control Signal Heads, Light Emitting Diode (LED) Circular Signal Supplement.

For Type 1, Type 2 and Type 3 portable traffic signals, the signal heads shall have the ability to be rotated 180 degrees to face in the opposite direction and shall have the ability to rotate and lock in approximately 10 degree increments to position the signal head for the optimum visibility to motorists.

For Type 1 portable traffic signals, each unit shall contain two signal heads with one signal head mounted on an overhead mast arm that can be extended over the travel lane with a minimum clearance of 17 feet measured from the bottom of the signal head unit to the road surface. The lower signal head shall be mounted to the vertical upright of the trailer at a minimum height of eight feet (8') from the bottom of the signal head unit to the road surface.

For Type 2 portable traffic signals, the signal head shall be mounted to the vertical upright of the trailer at a minimum height of eight feet (8') from the bottom of the signal head unit to the road surface.

For Type 3 portable traffic signals, each unit shall be the same as Type 1 mentioned above but with enhanced capabilities as mentioned below.

907-619.02.8.1.2--Controller and Operating Requirements. The portable traffic signal (Types 1, 2, and 3) shall include a solid state Controller Unit (CU) that is in compliance with NEMA TS 5 Performance Standard. The CU shall have an easy to read front panel backlit display for viewing and programming the configuration settings and CU status. The CU shall be capable of operating the portable traffic signal system in a fixed time, traffic actuated or manual control mode. Multiple portable traffic signals shall have the capability to be interconnected to form a portable traffic signal system. Each portable traffic signal within a connected system shall have the capability to serve as either the master or remote signal. Each portable traffic signal shall include a Conflict Monitor Unit (CMU), or Malfunction Management Unit (MMU) to ensure phase conflicts do not exist during operation.

For Type 1 and Type 2 portable traffic signals, a minimum of five (5) automatic time-of-day timing plans within a 24-hour period should be available in fixed time mode. The CU should have the ability to control a minimum of four (4) traffic phases with programmable cycle time adjustments and user adjustable red, amber, minimum green and maximum green times. The CU shall have

the capability of programming green and red times from 1 to 999 seconds and yellow times up to 15 seconds in one-second increments. The CU shall also have the capability of facilitating standby modes of red, red flash and yellow flash.

For Type 3 portable traffic signals, a minimum of ten (10) automatic time-of-day timing plans within a 24-hour period should be available in fixed time mode. The CU should have the ability to control a minimum of 16 traffic phases with programmable cycle time adjustments and user adjustable red, amber, minimum green and maximum green times. The CU shall have the capability of programming green and red times from 1 to 999 seconds and yellow times up to 15 seconds in one-second increments. The CU shall also have the capability of facilitating standby modes of red, red flash and yellow flash.

The system shall also have the ability to operate in vehicle actuation mode when vehicle detection components are used. The operating system shall have the capability to allow the Portable Traffic Signal to be connected to and controlled by a standard NEMA controller.

The system shall have the capability to be controlled remotely using a hardwired or wireless remote. The wireless radio remote shall be capable of communicating at a clear line of site distance up to ¼ mile from the master.

The CU shall have the capability of interfacing with a Remote Monitoring System (RMS) capable of reporting signal location, battery voltage, and system faults. The RMS shall include a password-protected web site, viewable via an internet connection. In the event of a system fault, the RMS shall provide specific information concerning the cause of the system fault (example: "red lamp on signal number 1 out"). The RMS shall immediately contact previously designated individuals via SMS text messaging or email, upon a fault event.

The active timing program operating the PTS system shall be available and viewable through the RMS website at all times. The RMS shall maintain a history of the operating system in each signal including total operating hours, alerts, and the location of the PTS trailer.

907-619.02.8.1.3--Wireless Communications. The portable traffic signals shall communicate with other portable traffic signals within the signal system via license-free wireless 900 MHZ radio link communications as specified in Subsection 662.02.2 of the radio Interconnect System specification. The radio units shall maintain communications at a minimum distance of one (1) mile. The radio system shall conform to the applicable Federal Communications Commission requirements and all applicable state and local requirements.

The portable traffic signals shall be in direct communication at all times either by wireless or hardwire connection to provide for the required conflict monitoring / malfunction management system.

907-619.02.8.1.4--Power Requirements. Each Portable Traffic Signal shall be equipped with a power source consisting of a solar collection array, solar controller and/or charging unit and batteries sufficient to operate the signal system. The number and size of batteries shall be sufficient to operate the Type 1 and Type 3 signals for a minimum of 30 days and Type 2A signals for

minimum of five (5) days, and Type 2B signals for minimum of 15 days without additional charging or assist from the solar array. An on-board battery charger shall be compatible with both the solar array and with a 120V AC power source.

For Type 1 signals, the solar panel array shall provide for a minimum of 440 watts of solar collection capability.

For Type 2A signals, the solar panel array shall provide for a minimum of 90 watts of solar collection capability.

For Type 2B signals, the solar panel array shall provide for a minimum of 110 watts of solar collection capability.

For Type 3 signals, the solar panel array shall provide for a minimum of 480 watts of solar collection capability and shall include a tilt and rotate system to optimally position the panels.

All instrumentation for the electrical system and battery compartment shall be contained in a lockable weatherproof enclosure. Solar panels shall be secured to the mounting brackets for theft prevention.

907-619.02.8.1.5--Trailer and Lift System. The trailer or pedestal/cart and all mounted components shall conform to the wind loading requirements as follows: 100 mph minimum for Type 1 portable traffic signals, 55 mph minimum for Type 2A portable traffic signals, 75 mph minimum for Type 2B portable traffic signals, and 90 mph minimum for Type 3 portable traffic signals as described in the AASHTO *Standard Specifications for Highway Signs, Luminaries and Traffic Signals*, as specified in the plans including all interims and updates. At the request of the Engineer, proof of conformance to these wind load ratings shall be verified by a third-party. No additional loose ballast shall be used to meet these wind load requirements. The trailer shall be made of structural steel and shall include four (4) leveling/stabilizer jacks capable of lifting the trailer a minimum of six inches (6").

The trailer or pedestal shall be equipped with a mechanical, hydraulic or electric lift system sufficient for one person to be able to raise and lower the vertical upright and/or horizontal mast arm to and from the operating position.

For Type 1, 2B, and Type 3 signals, the trailer shall be equipped to provide legal and safe transport on the public highway system at speeds up to 55 mph.

All exterior metal surfaces, except signal heads and back plates, shall be powder-coat painted highway safety orange.

907-619.02.9--Impact Attenuators. Delete the sentence in the first paragraph of Subsection 619.02.9 on page 455, and substitute the following.

Impact attenuators must be listed on the Department's APL.

907-619.02.11--Snap-Back Delineators. Delete the sentence in the paragraph of Subsection 619.02.11 on page 456, and substitute the following.

Snap-back delineators shall be selected from the list of surface mounted flexible delineator posts as shown on the Department's APL.

907-619.02.14--Changeable Message Sign.

907-619.02.14.5--PCMS Controller and Storage Cabinets. Delete the fifth sentence in the first paragraph of Subsection 619.02.14.5 on pages 462 and 463, and substitute the following.

The controller cabinet shall be illuminated.

907-619.05--Basis of Payment. Add the following to the list of pay items ending on page 480.

907-619-E3: Changeable Message Sign ***** - per each

907-619-H2: Traffic Signal, Portable, Type ___ - per each

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-626-12 **CODE: (IS)**

DATE: 06/17/2025

SUBJECT: Thermoplastic Traffic Markings

Section 626, Thermoplastic Traffic Markings, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete Section 626 on pages 492 thru 496, and substitute the following.

SECTION 626 - THERMOPLASTIC TRAFFIC MARKINGS

907-626.01--Description. This work consists of furnishing materials and placing thermoplastic pavement markings of the type specified in conformity with these specifications and the details shown on the plans or established. All hot-applied thermoplastic pavement markings shall be coated with a double-drop combination of optics.

This work may also consist of placing an audible bump or puck style marking system on the edge line that provides an audible and vibratory warning when driven over. The marking system shall be a road marking system of the dimensions indicated at regular and predetermined intervals.

This work may also consist of placing a profile or raised shape marking system on centerline or edge line that provides audible and vibratory warning when driven over. The marking system shall be a road marking system of the dimensions indicated and at regular and predetermined intervals. When placed on centerline, the markings system shall consist of an extruded black transverse thermoplastic bar of the dimensions indicated at regular and predetermined intervals.

This work may also consist of placing high contrast thermoplastic markings. High contrast thermoplastic markings shall consist of placing thermoplastic pavement markings over a black thermoplastic pavement marking to enhance the marking's visibility.

All pavement marking material, excluding lines over rumble strips, shall be applied using the extrusion/ribbon method. Lines placed over rumble strips shall be applied using the atomization/spray method, unless the extrusion/ribbon method can be demonstrated to perform adequately and is approved by the Engineer.

Permanent pavement marking tape (permanent cold plastic tape) may be used in lieu of hot applied thermoplastic markings. Substitution will only be allowed for pay items 907-626-A through H. Substituted pavement marking tape shall be of the same color and width as that required for the hot applied thermoplastic. Unless otherwise specified, the markings, whether hot applied or pavement marking tape, shall be of the same type of material for the entire project. Stop bars and crosswalks shall not be substituted with pavement marking tape and shall be alkyd hot-applied thermoplastic markings or heat-fused preformed pavement markings. Material and construction

requirements for substituted pavement marking tape shall meet the requirements of Special Provision 907-628. The layout and spacing for substituted pavement markings will remain as shown in the plans, or in the contract documents, for hot applied thermoplastic markings. Measurement of adhesive substituted pavement markings shall be made in accordance with Special Provision 907-628. Payment for adhesive substituted pavement markings shall be made at the unit price for the appropriate hot applied thermoplastic marking.

When thermoplastic pavement markings are used on bridge decks or concrete surfaces, the surface shall be sealed with an epoxy sealer prior to the application of thermoplastic.

907-626.02--Materials. All pavement marking materials shall meet the requirements of Special Provision 907-720.

907-626.02.1--Audible Bumps. Audible bumps shall have a profile such that the leading and trailing edges are sloped at a sufficient angle to create an audible and vibratory warning.

Audible bumps shall be at least 0.45 inches above the pavement surface at the highest point of the bump. The height shall be measured after the application of drop-on material. The bumps shall have a minimum dimension of two and one-half inches (2½") in both transverse and longitudinal directions. The bumps may have a drainage channel. The width of each drainage channel shall not exceed one-quarter of an inch (¼") at the bottom of the channel.

907-626.02.2--Audible Transverse Bars. The length of transverse bars is the measurement lateral to the direction of travel, also known as transverse width. The width of transverse bars is the measurement parallel to the travel way.

Transverse bars on centerline shall have a length of 10 inches, a width of three inches (3"), and a height of 350 mils. Transverse bars on centerline shall be placed on 2-foot centers through no-passing zones and 5-foot centers through passing zones. Transverse bars on centerline shall be placed in advance of permanent thermoplastic markings.

Transverse bars on edge lines shall have a length of six inches (6"), a width of three inches (3"), and a height of 350 mils. Transverse bars on edge lines shall be placed on 2-foot centers. Tolerance for the longitudinal and transverse measurements shall be one quarter of an inch (¼") and the tolerance for height shall be 50 mils. The above dimensions are based on 6-inch strip application.

Thermoplastic material for edge line transverse bars shall be as specified on the Plans and meet the requirements of Special Provision 907-720 or as specified on the plans. Thermoplastic material for centerline transverse bars shall be black and shall meet the requirements of Special Provision 907-720.

907-626.02.3--High Contrast Markings. High contrast markings shall be black with the pertinent marking color overlaid on top and shall meet the requirements of Special Provision 907-720.

907-626.03--Construction Requirements.

907-626.03.1--Equipment. Equipment for hot application shall be of sufficient size and stability to ensure smooth, uniform, properly aligned markings of the dimensions specified. The equipment shall be suitably equipped for heating and controlling the flow of the material. The equipment shall be constructed to provide continuous mixing and agitation of the material. The conveying parts of the equipment, between the main material reservoir and applicator, shall be so constructed as to prevent accumulation and clogging. The equipment shall be constructed so that all mixing and conveying parts, up to and including the applicator, maintain the material at the plastic temperature. The thermoplastic material shall be dispensed at a temperature recommended by the manufacturer. The applicator shall include a cutoff device remotely controlled to provide clean, square stripe ends and to provide a method for applying skip lines. The thermoplastic reservoir shall be insulated and equipped with an automatic thermostatic control to maintain the proper temperature of the material.

The application equipment shall be capable of automatic placement of intermittent and continuous line patterns in single or double line applications simultaneously. The intermittent timer mechanism shall provide a variable ratio of materials applied and variable cycle length such that accurate placement of new patterns, or replacement of existing patterns can be achieved.

The equipment shall also be capable of applying the top dressing of optics (beads) in a manner that firmly embeds them into the surface of the thermoplastic material for at least one half of the diameter of the larger gradation sizes of the optics. The dispensing equipment shall be equipped with an automatic cut-off control for the application of the optics that is synchronized with the cut-off of the thermoplastic material.

Optics applied to the surface of the completed stripe shall be applied by an automatic dispenser attached to the pavement marking equipment in such a manner that the optics are immediately dispensed upon the completed line. The dispenser shall be equipped with an automatic cutoff control, synchronized with the cutoff of the pavement marking equipment. The double-drop optics as defined in 907-720 shall be automatically applied at a uniform rate to achieve the minimum retroreflectivity requirements of 907-626.

907-626.03.2--Construction Details. The thermoplastic compound shall be screed or ribbon extruded to the pavement surface. Heat-fused, pre-formed pavement markings shall be fusible to asphalt surfaces by means of the normal heat of a propane weed-burner type of torch or other heating device as recommended by the manufacturer. Heat-fused, pre-formed pavement markings shall be instantly highly reflective without the application of additional optics.

Thermoplastic markings shall not be applied to the pavement surface when the pavement surface temperature is less than 55°F. The pavement surface shall be dry, to the satisfaction of the Engineer, before application will be permitted. Unless otherwise specified by the manufacturer, thermoplastic pavement marking material shall be applied to the surface between 400°F and 450°F with a recommended application temperature being 420°F.

Immediately before application, all areas to be marked shall be thoroughly cleaned. Cleaning may be done by rotary brooms, air blast, scrapers, or whatever combination of equipment is necessary to clean the pavement thoroughly without damage to the pavement surface. On areas of pavement

cured with compound, the membrane shall be removed completely by shot blasting, sand blasting or other approved method. Before edge striping, particular care shall be taken to remove all vegetation, loose soil, and the like from the area to be marked. Should other methods fail, the surface shall be wetted with a water jet and scrubbed as necessary to dislodge all foreign material. After washing, the surface shall be allowed to dry thoroughly, and all films of dried mud apparent after surface drying shall be removed before application of markings. Marking shall follow as closely as practicable after the surface has been cleaned and dried, but no markings shall be applied until the surface has been inspected and permission given to proceed. The cost for preparing the surface shall be included in the contract unit prices for the marking items.

Unless otherwise directed by the Engineer, traffic stripes that are conflicting with the thermoplastic stripe shall be removed prior to placement of the thermoplastic material. Removal of pavement markings shall be done by a means that will not gouge the surface of the pavement in a manner that requires patching to ensure the integrity of the pavement. Temporary paint stripe may be left in place when satisfactorily placed in the proper location. Any temporary stripe not covered shall be removed. Payment for removal of stripe, except temporary stripe, will be made under Section 202.

On newly constructed asphalt pavements, any sand, grit, or other surface contaminants shall be removed using compressed air and/or sweeping. Water blasting may be necessary to remove surface contaminants which cannot be removed by the use of compressed air and/or sweeping. This work is considered surface preparation.

The finished lines shall have well defined edges and the thickness of thermoplastic markings above the roadway surface shall be no less than 90 mils for edge lines, center lines, lane lines, barrier lines, and detail stripe including gore markings, and no less than 120 mils for crosswalks, stop lines, and railroad, word and symbol markings. The minimum thickness, as required above, will be measured in the center of the line when gauged. The minimum thickness one-half inch (½") from the edges shall not be less than 75% of the thickness required in the center.

Any thermoplastic traffic marking less than the required thickness shall be corrected by recapping at no additional costs to the Department. Although a thickness tolerance of 25 percent from center to edge is allowed, a consistent underrun of any amount in thickness as determined by the Engineer will not be acceptable.

The length and width of lines shall be within a tolerance of ±3 inches and ±1/8 inch, respectively. For skip markings, the tolerance for intervals shall not exceed the line length tolerance. On curves, unsightly variations from the normal curvature will not be permitted unless specifically shown on the plans or ordered by the Engineer.

Heat-fused, pre-formed pavement markings shall be supplied with a minimum average thickness of 90 mils before application on the roadway surface.

All newly applied thermoplastic material shall be protected from traffic until the material is sufficiently dry so as not to sustain damage from vehicle tires. Any material so damaged by traffic shall be repaired, and the thermoplastic material tracked onto the pavement shall be removed and

replaced.

907-626.03.3--Reflectivity Requirements. The longitudinal pavement markings shall meet the following retroreflectivity values when measured within 10 to 30 calendar days of placement, after removing loose beads.

Table 1. Minimum Dry Retroreflectivity

Color	All Stripe without Rumble mcd/m²/lx	Rumble Stripe mcd/m²/lx
White	375	250
Yellow	225	150

For projects with less than two miles between the BOP and EOP, retroreflectivity measurements will not be required.

907-626.03.3.1--Measuring Devices. Retroreflectivity measurements are required to be taken using a vehicle mounted mobile retroreflectometer using 30-meter geometry with video and mapping capabilities as per AASHTO T-398. The retroreflectometer and operator shall be certified by the manufacturer, authorized representative of the manufacturer, or an MDOT approved program such as the Texas A&M Transportation Institute (TTI) Mobile Retroreflectometer Certification Program. The Contractor shall provide copies of current certifications for the operator(s) and the device(s) to the Engineer.

907-626.03.3.2--Acceptance Procedure. Averages of the mobile measurements shall be provided for every 0.1 miles unless otherwise specified or approved. Take measurements on each section of roadway for each series of markings (i.e., edge line, center skip line, each line of a double line, etc.) and for each direction of traffic flow. Measure each line in both directions for centerlines on two-way roadways (i.e., measure both double solid line in both directions and measure all center skip lines in both directions). Furnish measurements in compliance with the below requirements. Use all equipment in accordance with the manufacturer's recommendations and directions. Inform the Engineer at least 24 hours before taking any measurements.

A marking meets the retroreflectivity requirements if:

- The combined average retroreflectivity value for a one-mile segment meets the minimum retroreflectivity values specified, and
- Within the one-mile segment, no more than three consecutive 0.1 mile intervals shall have an average retroreflectivity value below the minimum required value.

The one-mile segment will start from the beginning of the data collection and end after a mile worth of measurements have been taken; each subsequent mile of measurements will be a new segment. If the remainder is 0.5 miles or less, it shall be included in the previous mile segment, otherwise the remaining segment of greater than 0.5 mile shall be its own segment. Centerlines with 2 stripes (either solid or broken) will result in 2 miles of data for each mile segment. Each centerline stripe must be tested for compliance as a stand-alone stripe.

The Contractor may elect to restripe with a minimum of 0.060 in. (60 mils) at no cost to the Department each one-mile segment that failed to meet the minimum retroreflectivity requirements.

Measurements shall be retaken within 10 to 30 calendar days after the second application for the mile segment for that series of markings. If the markings do not meet minimum retroreflectivity after the second application, the Engineer may require removal of all existing markings, a new application as initially specified, and a repeat of the application process until minimum retroreflectivity requirements are met.

907-626.03.3.3--Mobile Retroreflectivity Data Collection. Mobile Retroreflectivity Data Collection (MRDC) shall be conducted on dry pavement only and when the ambient air temperature is greater than 40°F. Data shall be submitted to the Engineer no later than 3 working days after the day the data is collected. Submit all raw data collected in addition to all other data submitted. Provide data files in Microsoft Excel format or a format approved by the Engineer. The data file and video must contain the following information.

907-626.03.3.3.1--Data File. Data files shall be provided with the following:

- Date;
- District;
- County;
- Name of mobile retroreflectometer operator;
- Route number with reference markers or other reference information provided by the Engineer to indicate the location of beginning and end data collection points on that roadway;
- Cardinal direction;
- Line type (single solid, single broken, double solid, etc.);
- Line color;
- File name corresponding to video;
- Data for each centerline listed separately;
- Average reading taken for each 0.1-mi. interval (or interval designated by the Engineer);
- Accurate GPS coordinates (within 20 ft.) for each interval;
- Color-coding for each interval indicating passing or failing, unless otherwise directed by the Engineer (passing and failing thresholds provided by the Engineer);
- Graphical representation of the MRDC (y-axis showing retroreflectivity and x-axis showing intervals) corresponding with each data file;
- Distance in miles driven while measuring the pavement markings;
- Event codes (pre-approved by the Engineer) indicating problems with measurement;
- Upper validation threshold (may be included separately with the raw data but must be clearly identified with the data collected using that threshold).

907-626.03.3.3.2--Map. A map shall be provided in an electronic format approved by the Engineer with each MRDC submission that includes the following information:

- Date;
- District number;
- County;

- Color-coded 1-mi. intervals (or interval length designated by the Engineer) for passing and failing retroreflectivity values or retroreflectivity threshold values provided by the Engineer; and
- Percentage of passing and failing intervals, if required by the Engineer.

907-626.03.3.3.3--Video. A high-quality video file shall be provided with the following information:

- Date and corresponding data file name on label;
- District number;
- County;
- Route number with reference markers or other designated reference information to indicate the location of beginning and end collection points on that roadway; and
- Retroreflectivity values presented on the same screen with the following information:
    - Date;
    - Location;
    - Starting and ending mileage;
    - Total miles;
    - Retroreflectivity readings; and
    - Upper validation thresholds (may be included separately with the raw data but must be clearly identified with the data collected using that threshold).

907-626.03.4--Reflectivity Verification Testing. The Engineer or a third party may perform retroreflectivity verification testing on any project. At a minimum, each Contractor performing work for the Department will be verified on an annual basis. The Contractor-submitted retroreflectivity data will be compared to the verification test data to determine acceptability of the Contractor's mobile retroreflectometer data. Comparison of the data will result in one of the two scenarios below:

- Contractor's Data is Validated – If the difference between Contractor's and Engineer/third party data is 20% or less, then the Contractor's data is validated. The Contractor's data will be used for acceptance.
- Contractor's Data is not Validated – If the difference between the Contractor's and Engineer/third party data is more than 20%, then the Contractor's data is not validated. The Engineer/third party data will be used for acceptance and the Contractor will be required to take corrective action prior to additional Contractor data collection and may require re-certification of the mobile retroreflectometer.

907-626.04--Method of Measurement. Thermoplastic stripe completed in accordance with the plans and specifications will be measured by the mile or by the linear foot, as indicated, from end-to-end of individual stripes. In the case of skip lines the measurement will include skip intervals. The length used to measure centerline, lane lines, and edge stripes will be the horizontal length computed along the roadway.

Detail traffic stripe will be measured by the linear foot from end-to-end of individual stripes. Measurements will be made along the surface of each stripe and will exclude skip intervals where

skips are specified. Stripes more than six inches (6") in width will be converted to equivalent lengths of 6-inch stripe.

Hot-applied legend, which is to include railroad markings, pedestrian crosswalks, and stop lines, will be measured by the square foot or linear foot. Pay areas of individual letters and symbols will usually be shown on the plans and measured by the square foot. Transverse railroad bands, pedestrian crosswalks and stop lines will generally be measured by the linear foot, in which case, stripes more than six inches (6") in width will be converted to equivalent lengths of 6-inch widths.

Pre-formed legend which is to include railroad markings and pedestrian crosswalks will be measured and paid for by each.

The length measured for thermoplastic audible bump edge stripe will not include the permanent thermoplastic edge stripe. Permanent thermoplastic edge stripe will be measured for payment under a separate pay item.

Thermoplastic audible bar centerline skip stripe will be measured by the linear foot or mile. Measurements will be made along the surface from end-to-end of the stripe and will include skip intervals. The length used to measure audible bar centerline stripe will be the horizontal length computed along the roadway. The length measured for thermoplastic audible bar centerline skip stripe will not include the permanent centerline continuous or skip stripe. Permanent centerline continuous and skip stripe will be measured for payment under separate pay items.

Thermoplastic audible bar edge stripe will be measured by the linear foot or mile. Measurements will be made along the surface from end-to-end of the stripe. The length used to measure thermoplastic audible bar edge stripe will be the horizontal length computed along the roadway. The length measured for thermoplastic audible bar edge stripe will not include the permanent thermoplastic edge stripe. Permanent thermoplastic edge stripe will be measured for payment under a separate pay item.

907-626.05--Basis of Payment. Thermoplastic traffic markings will be paid for at the contract unit price per mile, linear foot, square foot or each as applicable. Any deductions for non-satisfactory material test results will be made after final testing has been performed.

Payment will be made under:

907-626-A:	6" Thermoplastic Traffic Stripe, Skip White	- per linear foot or mile
907-626-B:	6" Thermoplastic Traffic Stripe, Continuous White	- per linear foot or mile
907-626-C:	6" Thermoplastic Edge Stripe, Continuous White	- per linear foot or mile
907-626-D:	6" Thermoplastic Traffic Stripe, Skip Yellow	- per linear foot or mile
907-626-E:	6" Thermoplastic Traffic Stripe, Continuous Yellow	- per linear foot or mile

907-626-F:	6" Thermoplastic Edge Stripe, Continuous Yellow	- per linear foot or mile
907-626-G:	Thermoplastic Detail Stripe, Color *	- per linear foot
907-626-H:	Thermoplastic Legend, Color *	- per linear foot, square foot, or per each
907-626-Q:	Thermoplastic Audible Bump Edge Stripe	-per linear foot or mile
907-626-R:	Thermoplastic Detail Audible *** Stripe, Color **,	-per mile
907-626-AA:	6" High Contrast Thermoplastic Traffic Stripe, Skip White	- per linear foot or mile
907-626-BB:	6" High Contrast Thermoplastic Traffic Stripe, Continuous White	- per linear foot or mile
907-626-CC:	6" High Contrast Thermoplastic Edge Stripe, Continuous White	- per linear foot or mile
907-626-DD:	6" High Contrast Thermoplastic Traffic Stripe, Skip Yellow	- per linear foot or mile
907-626-EE:	6" High Contrast Thermoplastic Traffic Stripe, Continuous Yellow	- per linear foot or mile
907-626-FF:	6" High Contrast Thermoplastic Edge Stripe, Continuous Yellow	- per linear foot or mile
907-626-GG:	High Contrast Thermoplastic Detail Stripe, Color *	- per linear foot
907-626-HH:	High Contrast Thermoplastic Legend, Color *	- per linear foot, square foot, or each

* Indicate Blue - ADA if applicable
** Indicate White or Black
*** Indicate Centerline - Passing Zone, Centerline - No-Passing Zone, or Edge Line

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-627-1 **CODE: (IS)**

DATE: 06/24/2024

SUBJECT: Raised Pavement Markers

Section 627, Raised Pavement Markers, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete Subsection 627.02 on page 496, and substitute the following.

907-627.02--Materials. Pavement and jiggle markers of the types specified shall conform to the applicable requirements of Subsection 907-720.06 and shall be listed on the Department's APL.

Type B through G High Performance reflective markers shall be listed on the Department's APL for high performance raised pavement markers.

The bituminous adhesive for pavement markers shall meet the requirements of Subsection 907-720.07.3.

907-627.05--Basis of Payment. Add the "907" prefix to the pay items listed on page 498.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-630-1 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Remove and Reset Signs

Section 630, Traffic Signs and Delineators of the Mississippi Standard Specifications for Road and Bridge Construction, 2017 Edition, is hereby amended as follows.

907-630.01--Description. After the last paragraph of Subsection 630.01 on page 503, add the following.

Selected existing, temporarily installed, and/or permanently installed signs other than construction traffic control signs shall be removed and reset as shown on the plans, in the contract documents, or as directed by the Engineer. Removing and resetting of signs may include provisions of continuous sign visibility by the traveling public before, during, and after the operation. The Contractor shall provide all materials necessary to remove and reset the sign, including any footings, supports, brackets, hardware, breakaway features and other incidentals. All installations within 30 feet of the pavement edge of temporary or permanent thru lanes shall include breakaway support features certified to meet NCHRP Report 350 prior to the removal and resetting of the sign.

Selected existing overhead sign shall be removed and reset as shown on the plans, in the contract documents, or as directed by the Engineer. The Contractor shall provide all materials necessary to remove and reset the sign, including any supports, brackets, hardware, and other incidentals. The Contractor shall take all precautions necessary when removing, transporting, storing, and re-installing to protect the sign from any damage to the sign panel or reflective sign surface.

907-630.04--Method of Measurement. After the last paragraph of Subsection 630.04 on page 510, add the following.

Remove and reset signs will be measured per each or square foot.

If a sign assembly is removed and temporarily placed in storage, then later reset as directed by the Engineer, measurement for payment will be made one time only, after the stored sign is reset.

No separate measurement will be made for removal only of a sign assembly, as said removal shall be included in the appropriate pay item for removal of signs.

907-630.05--Basis of Payment. After the first paragraph of Subsection 630.05 on page 510, add the following.

Remove and reset sign, measured as prescribed above, will be paid for at the contract unit price per each or square foot, which price shall be full compensation for furnishing and placing all

materials necessary to effect the removal and resetting, including footings, supports, brackets, hardware, breakaway features, transporting, storage, and for all labor, equipment, tools and incidentals necessary to complete the work.

Add the following to the list of pay items on pages 510 & 511.

907-630-O: Remove and Reset Sign, Description - per each or square foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-637-3 **CODE: (IS)**

DATE: **05/25/2021**

SUBJECT: Traffic Signal Conduit and Pull Boxes

Section 637, Traffic Signal Conduit and Pull Boxes, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-637.02--Materials.

907-637.02.1--Pull Box / Enclosures. Delete the first sentence of the second paragraph of Subsection 637.02.1 on page 558, and substitute the following.

For grade level pull boxes and enclosures only, Tier 22 (22,500-pound design load, 33,750-pound test load) enclosures with minimum size dimensions as shown in the detail drawings on the plans shall be installed for use in traffic signal construction. Enclosure boxes shall be open bottom.

Delete the fourth sentence of the second paragraph of Subsection 637.02.1 on page 558.

907-637.03--Construction Requirements.

907-637.03.1--Pull box/Enclosures. Delete the sixth sentence of the first paragraph of Subsection 637.03.1 on page 559, and substitute the following.

Enclosures located in soil or sodded areas shall be installed with a supporting poured concrete collar or approved composite collar assembly, as shown by details on the plans.

907-637.03.2.1--Conduit Duct Bank. Delete the first sentence of subparagraph a) under Bored or drilled conduit in Subsection 637.03.2.1 on page 560, and substitute the following.

All conduits under railroad tracks shall be horizontal directional bored or drilled at a minimum of ten (10) feet below the railroad bed, or as required by the Railroad Company.

Delete Subsections 637.03.2.4 and 637.03.2.5 on pages 561 & 562, and substitute the following.

907-637.03.2.4--Blank.

907-637.03.2.5--Blank.

After Subsection 637.03.2.7 on page 563, add the following.

907-637.03.3--Submittals. The submittal requirements defined in the Notice to Bidders entitled "ITS General Requirements" shall be met if the NTB is included as part of the Project Proposal

and Contract Documents. In all cases, submittals shall be thorough and timely. All costs associated with submittals shall be included in the overall contract price; no separate payment will be made for any documenting and submitting.

907-637.03.4--Quality Assurance. The quality assurance requirements defined in the Notice to Bidders entitled "ITS General Requirements" shall be met if the NTB is included as part of the Project Proposal and Contract Documents. In all cases, the Contractor shall conduct, maintain, and leave the worksite in a professional and organized manner. All costs associated with the quality assurance requirements shall be included in the overall contract price.

907-637.04--Method of Measurement. Delete subparagraphs a) and b) in Subsection 637.04 on page 563, and substitute the following.

a) From center to center of pull box and/or foundation.
b) Any above ground vertical conduit runs, as indicated in the plans. Measurement in underground conduit is only in the horizontal plane and no additional quantity shall be added for conduit depth or change in elevation of the conduit.

907-637.05--Basis of Payment. Delete the first, second, third, fourth and fifth paragraphs of Subsection 637.05 on page 564, and substitute the following.

Pull Box Enclosures, measured as prescribed above, will be paid for at the contract unit price per each, which price shall be full compensation for furnishing all materials including the cover, installing, crushed gravel underlayment, poured concrete collars, replacement of sod or existing grassing, final clean-up and for all equipment, all documentation and submittals, tools, labor and incidentals necessary to complete the work and quality assurance.

Conduit / Duct Bank, measured as prescribed above, will be paid for per linear feet, which price shall be full compensation for all materials, equipment, labor, trenching, installing, backfilling trench, plowing, directional boring, restoration, marking tape, pull tape, duct plugs, fittings, testing, bore logs, all documentation and submittals, and all other incidentals necessary for the installation and quality assurance of the conduit system.

Rigid Galvanized Steel, measured as prescribed above, will be paid for per linear feet, which price shall be full compensation for all materials, equipment, labor, all documentation and submittals, all related materials including but not limited to couplings, mounting straps, bonding to ground, etc., that is installed on sign structures, poles or between the pull boxes, and all other incidentals necessary for the installation and quality assurance of the conduit system.

Duct Plugs and Sealant will be included in the cost of the conduit and will not be measured separately.

Delete the pay items listed on page 564 and substitute the following.

907-637-A: Pull Box Enclosure, Type - per each

907-637-B:	Pull Box Enclosure, Structure Mounted, Type	- per each
907-637-C:	Traffic Signal Conduit, Underground, Type, Size	- per linear foot
907-637-D:	Traffic Signal Conduit, Underground Drilled or Jacked, Type, Size	- per linear foot
907-637-E:	Traffic Signal Conduit, Structural Conduit, Type, Size	- per linear foot
907-637-F:	Traffic Signal Conduit, Aerial Supported, Type, No, Size	- per linear foot
907-637-G:	Traffic Signal Conduit, Underground Encased in Concrete, Type, Size	- per linear foot
907-637-H:	Traffic Signal Conduit Bank, Underground, Type, No., Size	- per linear foot
907-637-I:	Traffic Signal Conduit Bank, Underground Drilled or Jacked, Type, No., Size	- per linear foot
907-637-J:	Traffic Signal Conduit Bank, Structural Conduit, Type, No., Size	- per linear foot
907-637-K:	Traffic Signal Conduit Bank, Aerial Supported, Type, Size and Number	- per linear foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-661-6

DATE: 08/06/2024

SUBJECT: Fiber Optic Cable (OSP)

After Subsection 907-661.03.17 on page 18, add the following.

907-661.03.18--As-Builts. The Contractor shall collect survey data of the location of the fiber optic cables, (including fiber trunk lines and fiber drop lines) (including buried fiber and aerial fiber), ITS pull boxes, and ITS and traffic signal cabinets. The survey data shall be accurate within three feet (3') and shall include the type of fiber patch panel inside the cabinets and the number of strands terminated on each patch panel. The Contractor shall furnish to the Department survey data of the locations and other attributes in both KMZ and Shapefile (SHP) formats. Since the survey data submittal is considered a part of the pay item, and the pay item is not complete until the survey data submittal is received, contract time will not be suspended until such time the Contractor submits the survey data to the Department.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-661-6 **CODE: (IS)**

DATE: **05/25/2021**

SUBJECT: **Fiber Optic Cable (OSP)**

Section 907-661, Fiber Optic Cable, is hereby added to and becomes part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-661 -- FIBER OPTIC CABLE (OSP)

907-661.01--Description. The work shall consist of the construction of the infrastructure required to install, replace, or upgrade fiber optic cable. The infrastructure shall include all necessary conduits, pull boxes, pole line hardware, building entries, risers and fiber cable to make a complete system.

907-661.02--Materials.

907-661.02.1--Single Mode Fiber Optic Cable (FO Cable). The Contractor shall provide 72-count fiber optic cable, unless otherwise stated in the plans, that meets the following requirements:

- All-dielectric, outdoor hardened (outside plant – OSP), loose tube cable with central strength/anti-buckling member
- Dry water blocking materials and construction
- Reverse oscillating "SZ" stranded buffer tube construction
- High tensile strength yarn
- Medium density polyethylene outer jacket
- 72-fiber cable with six (6) active buffer tubes and 12 individual stranded fibers per buffer tube, unless otherwise stated in the plans
- Cable construction design that allows for no more than the number of active buffer tube positions
- Maximum diameter 0.48 inches
- Maximum weight 0.07 pounds per foot
- Attentuation shall not exceed 0.4 dB/km at 1310 nm and 0.3 dB/km at 1550 nm.

The Contractor shall provide a Corning ALTOS All-Dielectric, Pirelli FlexLink, OFS MiDia, or approved equivalent cable. This cable shall be designated as a trunk cable.

The Contractor shall ensure that the cable can withstand a maximum pulling tension of 600 pounds (lbf) during installation and 180 pounds (lbf) installed long term (at rest).

The cable shall have a shipping, storage and operating temperature range of -30°C to +70°C and installation temperature range of -30°C to +60°C.

The Contractor shall provide cable with outer jacket marking using the following template.

Manufacturer's Name -"Optical Cable" - Month/Year of Manufacture -Telephone Handset Symbol - "MDOT" - "72F SM" (if applicable, replace 72 with the actual number of fibers)

The Contractor shall include in the outer jacket marking the cable sequential length in accordance with the following:

- In English units every two (2) feet
- Within -0/+1% of the actual length of the cable
- In contrasting color to the cable jacket
- Marking font height no less than 0.10 inch
- On any single length of cable on a reel, the sequential length markings do not run through "00000"

907-661.02.2--Single Mode Fiber Optic Cable Indoor/Outdoor Riser Rated. The Contractor shall provide fiber optic plenum rated cable that meets the following requirements when called for on the Plans:

- All-dielectric, inside plant, loose tube central core cable
- High tensile strength yarn surrounding the central tube core
- Dry water blocking materials and construction
- 72-fiber cable with six (6) active buffer tubes and 12 individual stranded fibers per buffer tube, unless otherwise stated on the plans
- Corning Freedm LST All-Dielectric, Pirelli CentraLink, OFS Allwave, or approved equivalent cables shall be provided. This cable shall be designated as the building entry cable.
- Attentuation shall not exceed 0.4 dB/km at 1310 nm and 0.3 dB/km at 1550 nm.

The Contractor shall ensure that the cable can withstand a maximum pulling tension of 300 pounds (lbf) during installation.

The cable shall have a shipping, storage and operating temperature range of -30°C to +70°C and an installation temperature range of -10°C to +60°C.

The Contractor shall provide cable with outer jacket marking using the following template.

Manufacturer's Name - "Optical Cable" - Month/Year of Manufacture - Telephone Handset Symbol - "MDOT" - "72F SM" (if applicable, replace 72 with the actual number of fibers)

The Contractor shall include in the outer jacket marking the cable sequential length in accordance with the following:

- English units every two (2) feet.
- Within -0/+1% of the actual length of the cable
- Contrasting color to the cable jacket
- Marking font height no less than 0.10 inch
- The sequential length markings do not run through "00000" on any single length of cable

on a reel

907-661.02.3--Single Mode Fiber Optic Drop Cable (FO Drop Cable). The Contractor shall provide 12-count Single Mode Fiber, Pre-Terminated Drop Cable Assemblies. These assemblies shall be employed when connecting a camera, traffic controller, DMS or other device to the main cable.

Assemblies shall be factory assembled and terminated on one end with ceramic ferrule, LC compatible, heat cured epoxy connectors with an operational temperature of -40°C to +70°C. Each connector shall have a minimum of a 1-inch strain relief boot.

Insertion loss for each connector shall not exceed 0.30 dB.

Return loss for single mode connectors shall be greater than 45 dB.

Each assembly shall be fully tested and those test results placed on a test tag for each assembly.

Each assembly shall be individually packaged within a box or reel, with the submitted manufacturer's part number marked on the outside of the package.

Individual 250-µm coated fibers shall be up-jacketed to 1/8-inch using fan-out tubing. This tubing shall contain a 900-µm Teflon inner tube, aramid yarn strength members and an outer jacket.

The fan-out tubing shall be secured to the cable in a hard epoxy plug transition. Length of the individual legs shall be a minimum of three feet with the length difference between the shortest and longest legs of the assembly being no more than two inches.

The 12-Fiber, Pre-terminated Drop Cable Assemblies provided shall meet the following minimum requirements:

- All-dielectric, outdoor hardened, loose tube central core cable shall be used
- High tensile strength yarn surrounding the central tube core
- Dry water blocking materials and construction
- Twelve (12) individual stranded fibers contained within the central tube core
- Corning Freedm LST All-Dielectric, Pirelli CentraLink, OFS Allwave, or approved equivalent cables shall be used. This cable shall be designated as the drop cable

The Contractor shall ensure that the cable can withstand a maximum pulling tension of 300 pounds (lbf) during installation.

The cable shall have a shipping, storage and operating temperature range of -30°C to +70°C and an installation temperature range of -10°C to +60°C.

The Contractor shall provide cable with outer jacket marking using the following template.

Manufacturer's Name - "Optical Cable" - Month/Year of Manufacture - Telephone Handset Symbol - "MDOT" - "12F SM"

The Contractor shall include in the outer jacket marking the cable sequential length in accordance with the following:

- English units every two (2) feet
- Within -0/+1% of the actual length of the cable
- Contrasting color to the cable jacket
- Marking font height no less than 0.10 inch
- The sequential length markings do not run through "00000" on any single length of cable on a reel

907-661.02.4--Multimode Fiber Optic Drop Cable (MM FO Drop Cable). The Contractor shall provide 12-count Multimode Fiber, Pre-Terminated Drop Cable Assemblies. These assemblies shall be employed when connecting a camera, traffic controller, DMS or other device to the main cable.

Cable Assembly shall be rated for outdoor environment and have operational temperature of -40°C to +70°C. Each connector shall have a minimum of a 1-inch strain relief boot. The Cable Assembly shall also be pre-terminated on one end.

Insertion loss for each connector shall not exceed 0.30 dB.

Attenuation shall not exceed 3 dB/km for 850 nm and 1dB/km for 1300 nm.

Each assembly shall be fully tested and those test results placed on a test tag for each assembly.

Each assembly shall be individually packaged within a box or reel, with the submitted manufacturer's part number marked on the outside of the package.

The fan-out tubing shall be secured to the cable in a hard epoxy plug transition. Length of the individual legs shall be a minimum of three feet with the length difference between the shortest and longest legs of the assembly being no more than two inches.

The 12-Fiber, Pre-terminated Drop Cable Assemblies provided shall meet the following minimum requirements:

- All-dielectric, outdoor hardened, loose tube central core cable shall be used
- High tensile strength yarn surrounding the central tube core
- Dry water blocking materials and construction
- Twelve (12) individual stranded fibers contained within the central tube core
- Corning Freedm LST All-Dielectric, Pirelli CentraLink, or approved equivalent cables shall be used. This cable shall be designated as the drop cable

The Contractor shall ensure that the cable can withstand a maximum pulling tension of 300 pounds (lbf) during installation.

The cable shall have a shipping, storage and operating temperature range of -30°C to +70°C and

an installation temperature range of -10°C to +60°C.

The Contractor shall provide cable with outer jacket marking using the following template.

Manufacturer's Name - "Optical Cable" - Month/Year of Manufacture - Telephone Handset Symbol - "MDOT" - "12F MM"

The Contractor shall include in the outer jacket marking the cable sequential length in accordance with the following:

- English units every two (2) feet
- Within -0/+1% of the actual length of the cable
- Contrasting color to the cable jacket
- Marking font height no less than 0.10 inch
- The sequential length markings do not run through "00000" on any single length of cable on a reel

907-661.02.5--Plenum Rated Nonmetallic Corrugated Raceway. The Contractor shall provide plenum rated nonmetallic corrugated raceway inside buildings when cable is not in rigid conduit or when it is called for on the plans.

The installation shall conform to NEC articles 770 and 800.

Raceway shall meet UL Standards 910 and 2024.

The Contractor shall provide 2-inch diameter raceway unless larger is called for in the plans.

907-661.02.6--Fiber Optic Splices. All splices shall be created according to the latest version of the manufacturer's cable installation procedures unless otherwise noted in the plans or by the Project Engineer.

The Contractor shall utilize a Fiber Optic Fusion Splicer for the splicing of all fibers with a fully automatic, portable fusion splicer that provides consistent low loss (max 0.10 dB) splices. The splicer shall provide three-axis fiber core alignment using light injection and loss measurement techniques. The fusing process shall be automatically controlled. The splicer shall provide splice loss measurements on an integral display, as well as a magnified image of the fiber alignment.

907-661.02.7--Fiber Optic Connectors. The Contractor shall provide fiber optic connectors for all fiber optic infrastructures including but not limited to fiber optic termination cabinets, fiber optic drop panels, and fiber optic patch cords.

The Contractor shall provide only factory-installed keyed LC compatible connectors for all fiber optic infrastructures.

Field-installed connectors shall not be used.

Adapter couplers shall not be used to change connector types.

Ceramic ferule connectors, factory-installed, with a thermal-set heat-cured epoxy and machine polished mating face shall be used.

Connectors shall be installed as per manufacturer application and recommendations, including proper termination to the outer-tubing (900-micron tubing, 3-mm fan out tubing, etc.) required for the application.

Connectors rated for an operating temperature of -40°C to +75 °C shall be used.

Simplex connectors for all male LC connectors shall be used and a latching cover for two male connectors being used in a duplex configuration shall be provided. Female couplers may be duplex but must allow simplex mating connectors.

Dust caps shall be provided for all exposed male connectors and female couplers at all times until permanent connector installation.

907-661.02.8--Fiber Optic Termination Cabinet (FO Termination Cabinet). Fiber optic termination cabinets shall be provided in communications hubs, field junctions, and the MDOT Traffic Management Center (TMC) as shown in the Plans for termination of all fibers of the fiber optic cable(s).

The Contractor shall provide wall/shelf mount 12-fiber distribution cabinets equipped with fiber optic connector modules in a 12-fiber configuration. These will be used in field equipment and communication cabinet locations. Pre-terminated fiber distribution cabinets shall not be used without prior approval from Project Engineer.

Termination cabinets with cable management features included shall be provided.

The Contractor shall use termination cabinets that are fully compatible with all components of the fiber optic infrastructure as specified, including, but not limited to, fiber optic cable, fiber optic fusion splices and fiber optic connectors.

The Contractor shall provide rack-mount termination cabinets designed to fit standard 19-inch EIA equipment racks.

The Contractor shall provide all mounting hardware and supports to mount the termination cabinets in the locations shown in the Plans.

The Contractor shall provide fiber optic termination cabinets providing a minimum of 72-fiber connectors and capable of storing a minimum of 72 fusion splices in splice trays.

The Contractor shall provide termination cabinets that integrate the splice trays and connector modules into one compartment within one cabinet, or houses the splice trays and connector modules in separate compartments integrated into one cabinet.

The maximum dimensions of a complete termination cabinet shall be 7-rack units, 12¼ inches high by 16 inches deep.

Fiber optic termination cabinets shall be fully enclosed metallic construction with a protective hinged front cover for the connector ports.

The cabinet shall have cable access on all sides of the enclosed area behind the connector port panel.

The Contractor shall provide sufficient splice trays for storing a minimum of 72 fusion splices in 12 or 24-splice increments.

The Contractor shall provide termination cabinets with fiber optic connector modules in a 12 fiber configuration of six (6) rows of one (1) duplex connector couplers. Connector modules shall mount vertically in the termination cabinet front panel.

Connector modules shall include clearly legible and permanent labeling of each of the 12 fiber connector couplers, and shall be labeled and identified as shown in the Plans.

The Contractor shall provide factory-assembled 12-fiber termination interconnect cables (pigtail cables) to be fusion spliced to the outdoor hardened or indoor cable and connected to the rear of the connector modules.

Termination interconnect cables shall be all-dielectric, single jacketed cable with high tensile strength yarn surrounding 12 individual 900-micron fibers following EIA/TIA-598B color identification with factory-installed connectors.

The Contractor shall provide all incidental and ancillary materials including but not limited to grommets, cable strain relief and routing hardware, blank connector panels and labeling materials.

The cable shall be new (unused) and of current design and manufacture.

907-661.02.9--OSP Closures for Aerial, Pole Mount, Pedestal and Hand Hold Environments.
OSP closures for aerial, pole mount, pedestal and hand hole shall be capable of accepting up to eight cables. The closures shall be capable of storing up to eight 90-inch lengths of expressed buffer tubes and up to 96 splices.

Assembly shall be accomplished without power supplies, torches, drill kits or any special tools. Re-entry shall require no additional materials.

Sealing shall be accomplished by enclosing the splices in a polypropylene case that is clamped together with a stainless steel latch and sealed with an O-ring.

Closure shall be capable of strand mounting with the addition of a strand mounting bracket.

Splice case shall be non-filled, non-encapsulate to prevent water intrusion, and shall allow re-entry without any special tools.

The closure shall be capable of preventing a 10-foot water head from intruding into the splice compartment for a period of seven (7) days.

It is the responsibility of the Contractor to ensure that the water immersion test has been performed by the manufacturer or an independent testing laboratory, and the appropriate documentation has been submitted to the Engineer.

907-661.02.10--OSP Closures for Drop Cable Splice Points. OSP closures for aerial, pole mount, pedestal and hand hold shall be capable of accepting the trunk cable and two drop cables. The closures shall be capable of storing up to eight 90-inch lengths of expressed buffer tubes and up to 48 splices.

Assembly shall be accomplished without power supplies, torches, drill kits or any special tools. Re-entry shall require no additional materials.

Sealing shall be accomplished by enclosing the splices in a polypropylene case that is clamped together with a stainless steel latch and sealed with an O-ring.

Closure shall be capable of strand mounting with the addition of a strand mounting bracket.

Splice case shall be non-filled, non-encapsulate to prevent water intrusion, and shall allow re-entry without any special tools.

The closure shall be capable of preventing a 10-foot water head from intruding into the splice compartment for a period of seven days.

It is the responsibility of the Contractor to ensure that the water immersion test has been performed by the manufacturer or an independent testing laboratory, and the appropriate documentation has been submitted to the Engineer.

907-661.02.11--Patch Cords and Jumper Cables. Any patch cords or jumper cables required to connect the new fiber and equipment at existing locations shall be considered incidental and shall be included in the cost of pay items 907-661-A and 907-661-B.

Any patch cords used for system configuration shall be compatible with fiber types and connectors specified herein.

Single-mode patch cords shall be yellow in color.

Jacketing material shall conform to the appropriate NEC requirement for the environment in which installed.

All cordage shall incorporate a 900-µm buffered fiber, aramid yarn strength members and an outer jacket.

Patch cords may be simplex or duplex, depending on the application.

Attenuation shall be less than 1.0 dB/km @ 1310 nm, 0.75 dB/km @ 1550 and have a total attenuation of less than .5 dB.

The Contractor shall be responsible to determine and provide attenuators with the proper attenuation to not exceed the optical budgets of the equipment connected by patch cables.

907-661.02.12--Cable Labels. The Contractor shall provide cable labels that meet the following requirements:

- Self-coiling wrap-around type
- PVC or equivalent plastic material with UV and fungus inhibitors
- Base materials and graphics/printing inks/materials designed for underground outdoor hardened use including solvent resistance, abrasion resistance and water absorption
- Minimum size of 2.5 inches wide by 2.5 inches long
- Minimum thickness of 0.010 inches
- Orange label body with pre-printed text in bold black block-style font with minimum text height of 0.375 inches
- The Contractor shall pre-print the following text legibly on labels used for all fiber optic trunk cables:

  Caution Fiber Optic Cable Mississippi Department of Transportation (601) 359-1454

- The Contractor shall pre-print the following text legibly on labels used or all fiber optic drop cables (FO Drop Cable):

  Caution Fiber Optic Drop Cable Mississippi Department of Transportation (601) 359-1454

- On all cable labels, the Contractor shall print the text specified above twice on the label with the text of the second image inverted. The end result shall be text which "reads correctly" when the label is coiled onto a cable.

907-661.02.13--Cable Markers. The Contractor shall provide low profile soil cable markers which meet the following requirements:

- 3.5 inches in diameter
- UV stabilized for Maximum fade resistance
- Durable and abrasion resistant
- Lawn mower resistant
- Orange in color
- Printed Legend:

Fiber Optic Cable
Mississippi Department of Transportation
Traffic Engineering Division (601)359-1454

The Contractor shall install cable markers with a 13-inch nylon stake every 500 feet along the fiber run.

907-661.02.14--Tracer Cable. Tracer cable requirements as defined in Section 636, along with

the requirements in this specification, shall be met. Conduit detection wire shall be #10 AWG stranded copper, orange-insulated, THHN -THWN conductor.

907-661.02.15--Project Submittal Program Requirements. The Contractor shall provide project submittals for all fiber optic infrastructures. The project submittals for fiber optic infrastructure shall include all items in this provision and any additional requirements included in any Notice to Bidders.

The Contractor shall provide project submittals including manufacturer recommended operations, maintenance and calibration procedures for the following equipment:

- Fiber optic installation and testing tools
- Fusion splicers
- Cable pulling strain dynamometers and breakaway links
- Cable air jetting/blowing systems
- OTDRs
- Optical attenuation testers (light sources and power meters)

The Contractor shall submit documentation and proof of manufacturer recommended operator training and certification for the following equipment:

- Fusion splicers
- Cable air jetting/blowing systems
- OTDRs
- Optical attenuation testers (light sources and power meters)

907-661.03--Construction Requirements. All equipment shall be installed according to the manufacturer's recommendations, the Plans and as follows.

907-661.03.1--General Requirements. Fiber optic cable shall meet the following general requirements.

a) The Contractor shall install all fiber optic infrastructures according to the manufacturer's recommended procedures and specifications.
b) The Contractor shall provide all necessary interconnections, services and adjustments required for a complete and operable data transmission system.
c) The Contractor shall ensure conduit is clean and undamaged prior to installing fiber optic cable.
d) The Contractor shall install all fiber trunk, drop, and patch cables such that attenuation shall be less than 1.0 dB/km @ 1310 nm, 0.75 dB/km @ 1550.
e) All pole attachments, service loops and conduit risers shall be placed to minimize the possibility of damage as well as to facilitate future expansion or modernization.
f) The cable shall be installed in continuous runs as indicated on the plans. Splices shall be allowed only at drop points or reel end points specified in the plans.
g) At drop locations only, those fibers necessary to complete the communication path shall be spliced. Other fibers in the cable(s) shall be left undisturbed, with a minimum of five feet of buffer tube coiled inside the closure.

h) Sufficient slack shall be left at each drop point to enable access of the cable components and splicing to occur on the ground. This is typically two times the pole height plus 15 feet.
i) For aerial (not including aerial fiber in conduit attached to bridges) installations, the following minimum slack requirements shall apply:
   - For aerial slack storage at splice points, a radius controlling device shall be used for securing resulting cable slack at aerial splice points and shall be mounted directly to the strand.
   - For aerial cable runs exceeding 6-pole spans between splice points as indicated on the plans, two opposing radius controlling devices shall be placed on the span 50 feet apart to provide for a 100-foot service loop for future drops and for slack for repair and pole relocations.
j) Drop cable shall be routed to the controller cabinets via conduit risers as illustrated in the plans. The cable entrance shall be sealed with a duct plug designed for fiber optic cable to prevent water ingress.
k) The minimum requirement for fiber protection outside a fiber optic enclosure in ALL cases shall be 1/8-inch fan-out tubing, containing a hollow 900-µm tube, aramid strength members and an outer jacket, and shall be secured to the cable sheath.
l) The minimum requirement for fiber protection inside wall mount or rack mount fiber enclosure shall be 900-µm buffering, intrinsic to the cable in the case of tight buffered fibers, or in the case of 250-µm coated fibers, a fan-out body and 900-µm tubing secured to the buffer tube(s).
m) When high airspeed blowing (HASB) method or piston method is used, ensure that the volume of air passing through the conduit does not exceed the conduit manufacturer's recommendation.
n) The manufacturer's recommended maximum pulling tension shall not be exceeded. Pulling attachments shall be designed to not degrade the optical and mechanical characteristics of the fiber optic cable during installation.
o) During installation, even if the tension specifications for the cable are not exceeded the first ten feet shall be discarded.
p) Warning tape shall be placed 12 inches above the cable not to deviate ±18 inches from the centerline of the optical cable. Warning tape shall be at least two inches wide and colored orange.

907-661.03.2--Cable Shipping and Delivery. The cable shall be packaged on reels for shipment. Each package shall contain only one continuous length of cable. The packaging shall be constructed as to prevent damage to the cable during shipping and handling.

Both ends of the cable shall be sealed to prevent the ingress of moisture.

A weatherproof reel tag shall be attached to each reel identifying the reel and cable so that it can be used by the manufacturer to trace the manufacturing history of the cable and the fiber. A cable data sheet shall be included with each reel containing the following information:

- Manufacturer name
- Cable part number
- Factory order number
- Cable length.

- Factory measured attenuation of each fiber

The Contractor shall cover the cable with a protective and thermal wrap.

The outer end of the cable shall be securely fastened to the reel head so as to prevent the cable from becoming loose in transit. The inner end of the cable shall be projected a minimum of 6.5 feet into a slot in the side of the reel, or into housing on the inner slot of the drum, in such a manner as to make it available for testing.

Each reel shall be plainly marked to indicate the direction in which it is to be rolled to prevent loosening of the cable on the reel.

907-661.03.3--Cable Handling and Installation. The Contractor shall not exceed the maximum recommended pulling tension during installation as specified by the cable manufacturer.

The Contractor shall continuously monitor pulling tensions with calibrated measuring devices, such as a strain dynamometer.

The Contractor shall ensure that the minimum depth of the cable is a minimum of 36 inches unless shown otherwise in plans.

All pulled installations shall be protected with calibrated breakaway links.

The Contractor shall ensure that the minimum recommended bend radius is not exceeded during installation as specified by the cable manufacturer. Unless the manufacturer's recommendations are more stringent, the following guidelines shall be used for minimum bend radius:

- 20 X Cable Diameter Short Term - During Installation
- 10 X Cable Diameter Long Term - Installed

Before cable installation, the cable reels and reel stands shall be carefully inspected for imperfections or faults such as nails that might cause damage to the cable as it is unreeled.

All necessary precautions shall be taken to protect reeled cable from vandals or other sources of possible damage while unattended. Any damage to reeled cable or the reel itself shall necessitate replacement of the entire cable section at no additional cost to the State.

Whenever unreeled cable is placed on the pavement or surface above a pull box, the Contractor shall provide means of preventing vehicular or pedestrian traffic through the area in accordance with the safe maintenance of traffic provisions.

The cable shall be kept continuous throughout the pull. Cable breaks and reel end splices are permitted only in Type 5 pull boxes and occur at a minimum of 10,000 feet.

Where a cable ends in an underground fiber optic closure, all unused fibers and buffer tubes shall be secured and stored in splice trays in preparation for future reel end splicing and continuation.

907-661.03.4--Cable Storage. The Contractor shall properly store all cable to minimize susceptibility to damage. The proper bend radius shall be maintained, both short and long term, during cable storage.

Storage coils shall be neat in even length coils, with no cross over or tangling.

Storage coils of different cables shall be kept completely separate except when the cables terminate in the same splice closure.

Storage coils shall be secured to cable racking hardware with tie wraps, Velcro straps, or non-metallic cable straps with locking/buckling mechanism. No adhesive or self-adhering tapes, metal wires and straps, or rope/cord shall be used to secure coils.

Unless otherwise noted on the plans, the following are the requirements for cable storage for underground applications:

- Trunk cable in Type 4 pull box ..... 25 feet
- Trunk cable in Type 5 pull box ..... 200 feet
- Trunk cable in Surface Mounted pull box ..... 5 feet
- Drop cable in Type 4 pull box ..... 10 feet
- Drop cable in Type 5 pull box, not terminated in a splice closure ..... 10 feet
- Drop cable in Surface Mounted pull box, not terminated in a splice closure .....5 feet
- Drop cable in Type 5 pull box, terminated in a splice closure with the trunk cable ..... 100 feet
- Drop cable in Surface Mounted pull box, terminated in a splice closure with the trunk cable ..... 5 feet
- Trunk cable end in Type 5 pull box ..... 200 feet
- Drop cable terminated in same splice closure as trunk cable end ..... 200 feet
- Trunk cable end in Surface Mounted pull box ..... 10 feet

The Contractor shall label each pull box with a numbered disk obtained from the Traffic Engineering Division. The disk shall be installed in accordance with the manufacturer's specification on the lid of each pull box. Numbers shall be noted on the As-Built plans for each pull box.

No slack cable shall be stored inside the communications hub building or Control Center.

907-661.03.5--Cable Labels. Cable labels shall be installed on all trunk and drop fiber optic cables. The installed cable shall be cleaned of all dirt and grease before applying any label.

The Contractor shall label all cables in or at every location where the cable is exposed outside of a conduit, innerduct or pole using the cable IDs for trunk cables or the device number for drop cables.

As a minimum, cable labels shall be installed in the following locations:

- Within 12 inches of every cable entry to a pull box, equipment cabinet, communications

hub, or the TMC
- Within 12 inches of the exterior entry point of every fiber optic splice closure, termination cabinet and drop panel
- Every 30 feet for the entire length of cable in any storage coil in pull boxes
- Within one (1) foot of every pole attachment
- On every riser
- On every splice enclosure

907-661.03.6--Tracer Cable. Tracer cable requirements as defined in Section 636 Electrical Cable, along with the requirements in this specification, shall be met. The Contractor shall install one tracer cable where one or more conduits are installed. Tracer cable is required for all installation methods, including trenching, directional boring, or plowing. Conduit or Fiber Optic Cable with preinstalled tracer cable shall not be used without prior approval from Project Engineer.

Only one tracer wire is required per installed conduit bank regardless of the number of conduits installed in that segment. Tracer cable shall be installed inside the conduit.

Tracer cable is not required for structure mounted conduit, except where underground segments of structure mounted conduit are greater than 20 feet in length.

The tracer cable shall be continuous and unspliced between pull boxes and shall enter the pull boxes at the same location as the conduit with which it is installed, entering under the lower edge of the pull box.

Four (4) feet of tracer cable shall be coiled and secured in each pull box or vault.

When two or more tracer cables are in any pull box, the Contractor shall mechanically splice all tracer cable together.

Tracer cable is required in drop cable conduits.

A tracer cable surge protection system shall be furnished and installed. Tracer cables shall be attached to surge protection systems designed to dissipate high transient voltages or other electrical surges. The tracer cable surge protection system shall be grounded to a driven rod within 10 feet of the system using AWG #6 single conductor wire as detailed in the plans. Grounding shall be done through a stand alone system not connected to power or ITS device grounding. The surge protection system shall normally allow signals generated by locate system to pass through the protection system without going to ground.

907-661.03.7--Splicing into Existing Fiber Optic Cable. At some locations, the Contractor may be required to splice new drop cable into existing fiber optic cable at existing pull boxes. The Contractor is responsible to protect all existing fiber during this work. No separate payment shall be made for splicing into the existing fiber. The cost for all fiber optic work and equipment shall be included in the bid price for pay items 907-661-A and 907-661-B.

The Contractor must notify the Project Engineer in writing no less than ten (10) days in advance of doing any work to existing fiber optic cable. Before any work can begin the Contractor must

have obtained approval from the Project Engineer.

907-661.03.8--Replace Fiber Optic Cable. In locations specified in the Plans, the Contractor shall be required to remove and replace existing fiber optic cable with new fiber optic cable. The new fiber optic cable shall be an equivalent cable having the same cable type, assembly, connectors, size, construction, buffer tube construction, temperature characteristics, tensile strength, and optical characteristics. The cable type and mode shall be the same unless specified as otherwise in the Plans or Notice to Bidders. The new cable shall be a compatible replacement having equivalent or improved link characteristics. The Contractor shall install the cable as per manufacturer application and recommendations and adhere to the Installation Requirements and Testing specifications as stated herein. No separate payment will be made for this work. The cost for pulling new fiber optic cable for cable replacement, and splicing/terminating all fibers shall be included in the cost of pay item 907-661-D.

907-661.03.9--Replace Fiber Optic Drop Cable. In locations specified in the Plans, the Contractor shall be required to remove and replace existing fiber optic drop cable with new fiber optic drop cable. The new fiber optic drop cable shall be an equivalent cable having the same cable type, assembly, connectors, size, construction, buffer tube construction, temperature characteristics, tensile strength, and optical characteristics. The cable type and mode shall be the same unless specified as otherwise in the Plans or Notice to Bidders. The new cable shall be a compatible replacement having equivalent or improved link characteristics. The Contractor is required to install the cable as per manufacturer application and recommendations and adhere to the Installation Requirements and Testing specifications as stated herein. No separate payment will be made for this work. The cost for pulling new fiber optic drop cable for cable replacement, and splicing/terminating all fibers shall be included in the cost of pay item 907-661-E.

907-661.03.10--Upgrade Fiber Optic Cable. In locations specified in the Plans, the Contractor shall be required to upgrade existing fiber optic cable to new cable that adheres to the respective cable specification and requirements. The cable type and mode shall be the same unless specified as otherwise in the Plans or Notice to Bidders. The cable upgrade shall be treated as a new cable installation and adhere to all corresponding specifications and requirements stated herein. No separate payment will be made for this work. The cost for pulling new fiber optic to upgrade existing cable, and splicing/terminating all fibers shall be included in the cost of pay item 907-661-G.

907-661.03.11--Fiber Optic Connections at Existing Communication Nodes. In some locations, the Contractor shall be required to pull new fiber optic cable into an existing communications hut. No separate payment will be made for this work. The cost for pulling the fiber into the hut, providing and installing the termination equipment, and terminating all the fibers shall be included in the cost of pay items 907-661-A and 907-661-B.

907-661.03.12--Drop and Insert Applications. The signal from the TMC to local controllers, cameras, and/or dynamic message signs will be conveyed via the backbone and branch cables.

The appropriate closure (Subsection 907-661.02.8) shall be used.

A 12-port fiber distribution cabinet and appropriate jumper shall be installed within the cabinet at locations approved by the Engineer.

At each device, the applicable fibers will be routed in and out of the equipment cabinet using a pre-terminated drop cable.

Only fibers required for the drop and insert shall be cut, no other fibers in the cable shall be cut without the approval of the Engineer.

The fibers shall be connected to the transmission equipment via LC/LC fiber optic patch cables.

The drop cable shall be routed in a position that will allow access to all installed components without movement of the cable.

In traffic signal control boxes, the drop cable shall be routed up the left rear corner to a shelf mounted fiber optic termination cabinet.

In ITS equipment or communication cabinets the cable shall be routed neatly allowing for service of all installed components.

907-661.03.13--Testing. The fiber optic infrastructure shall undergo testing to verify conformance to requirements of the plans and these special provisions. The Contractor shall conduct a Project Testing Program as required in the Notice to Bidders entitled "ITS General Requirements." All costs associated with the Project Testing Program shall be included in the overall contract price; no separate payment will be made for any testing.

907-661.03.13.1--Pre-Installation Test (PIT). In addition to the requirements set forth in the Notice to Bidders entitled "ITS General Requirements", the Contractor shall, at a minimum, perform a PIT on all FO Cable prior to any cable removal from the shipping reels.

The Contractor shall perform a PIT on each cable reel delivered to the job site.

The PIT for FO Cable shall include but is not limited to:

- A visual inspection of each cable and reel
- An OTDR Test and documentation as required in the Standalone Acceptance Test (SAT) for three randomly selected fibers from each buffer tube

An Optical Attenuation Test is not required. However, if the Contractor decides to perform one of these tests for his or her own protection, it should be documented and provided to the Engineer.

907-661.03.13.2--Standalone Acceptance Test (SAT). In addition to the requirements set forth in the Notice to Bidders entitled "ITS General Requirements", the Contractor shall, at a minimum, perform an SAT on all fiber optic infrastructures on this project after field installation is complete, including but not limited to all splicing and terminations. All fiber in pull boxes shall be in its final position, mounted to the racks, prior to the start of testing.

An SAT for each fiber in each cable shall include OTDR Tests and Optical Attenuation Tests.

For the Attenuation Tests, all fibers in all FO Cables and FO Drop Cables shall be tested from termination point to termination point, including:

- Fibers from FO Termination Cabinet to FO Termination Cabinet
- Fibers from FO Termination Cabinet to FO Drop Panel
- Fibers from FO Drop Panel to FO Drop Panel
- Fibers from FO Termination Cabinet to the end of the cable run in the last FO closure

All test results shall confirm compliance with this TSP including but not limited to optical fibers and fusion splices. No event in any given fiber may exceed 0.10 dB. Any event measured above 0.10 dB shall be replaced or repaired at the event point.

Test documentation shall include but is not limited to:

- Cable & fiber identification
- Cable & fiber ID and location - Physical location (device ID and station number of FO Termination Cabinet, FO Drop Panel, or cable end FO closure), fiber number, and truck or drop cable ID for both the beginning and end point
- Operator name
- Engineer's representative
- Date & time
- Setup and test conditions parameters
- Wavelength
- Pulse width Optical Time Domain Reflectometer (OTDR)
- Refractory index (OTDR)
- Range (OTDR)
- Scale (OTDR)
- Ambient temperature
- Test results for OTDR test (each direction and averaged)
- Total fiber trace (miles)
- Splice loss/gain (dB)
- Events > 0.05 dB
- Measured length (cable marking)
- Total length (OTDR measurement)
- Test results for attenuation test (each direction and averaged)
- Measured cable length (cable marking)
- Total length (OTDR measurement from OTDR test)
- Number of splices (determined from as-builts)
- Total link attenuation

The OTDR Test shall be conducted using the standard operating procedure and recommended materials as defined by the manufacturer of the test equipment.

The Contractor shall use a factory patch cord ("launch cable") of a length equal to the "dead zone" of the OTDR to connect the OTDR and the fiber under test.

Bi-directional OTDR tests shall be conducted and bi-directional averages calculated for each fiber.

All tests shall be conducted at 1310 and 1550 nm for single mode cable.

The Contractor shall conduct the Optical Attenuation Test using the standard operating procedure and recommended materials as defined by the manufacturer of the test equipment.

Bi-directional Optical Attenuation tests shall be conducted and bi-directional averages calculated for each fiber.

Tracer Cable shall undergo testing to verify conformance to requirements of the plans and these special provisions. A continuity or tone test shall be performed after installation to confirm that a continuous run of tracer cable was installed for the full length of the conduit runs.

The Traffic Engineering ITS Department may perform additional testing of any and all infrastructure using their own equipment. The Contractor may observe this testing.

The burn-in period cannot start until the Traffic Engineering ITS Department is satisfied with the installation.

907-661.03.14--Submittals. The submittal requirements defined in the Notice to Bidders entitled "ITS General Requirements", along with the requirements below and throughout this specification, shall be met. All costs associated with submittals shall be included in the overall contract price; no separate payment will be made for any documenting and submitting.

907-661.03.15--Quality Assurance. The quality assurance requirements defined in the Notice to Bidders entitled "ITS General Requirements" shall be met. All costs associated with the quality assurance requirements shall be included in the overall contract price.

907-661.03.16--Warranty. At a minimum, the warranty requirements defined in the Notice to Bidders entitled "ITS General Requirements" shall be met.

907-661.03.17--Training. The minimum training requirements shall be as defined in the Notice to Bidders entitled "ITS General Requirements."

907-661.04--Method of Measurement. Fiber optic cable of the type specified will be measured by the linear foot, and shall be obtained by accurate measurement of the runs including horizontally, vertically, aerially along the messenger cable, from the trunk line to the controller cabinet, and with liberal allowances made for slack in boxes, as indicated in the plans.

The cost for all fiber optic work, equipment and testing shall be included in the bid price for fiber optic cable.

All required cabinet facilities shall not be measured for separate payment. All standard or special fiber optic modems, fan out boxes, connectors, termination cabinets, patch cords, raceways, splicing devices, splicing, warning tape, above ground markers, backplane facilities, twisted pair communications cable interface devices, etc., and any other cabinet modifications required for the fiber optic system shall be included in the price bid for other items of work.

Fiber Optic Cable Training shall be measured as a lump sum which shall include all coordination, materials, labor, training location costs, and all incidentals required to complete the training as described in the Notice to Bidders entitled "ITS General Requirements."

907-661.05--Basis of Payment. Fiber optic cable, measured as prescribed above, will be paid for at the contract unit price bid per linear foot, which price shall be full compensation for documentation and submittals, warranties, furnishing all materials, for all installing, connecting, cutting, pulling and testing, all equipment, tools, labor, quality assurance, and all incidentals necessary to complete the work.

Fiber Optic Cable Training, measured as prescribed above, will be paid for at the contract unit lump sum price, which price shall be full compensation for all training costs including coordination, materials, labor, training location costs, and all incidentals required to complete the training as described in the Notice to Bidders entitled "ITS General Requirements."

Payment will be made under:

907-661-A:	Fiber Optic Cable, *	- per linear foot
907-661-B:	Fiber Optic Drop Cable, *	- per linear foot
907-661-D:	Replace Fiber Optic Cable, *	- per linear foot
907-661-E:	Replace Fiber Optic Drop Cable, *	- per linear foot
907-661-G:	Upgrade Fiber Optic Cable, *	- per linear foot
907-661-H	Fiber Optic Cable Training	- lump sum

* Indicate the type of cable. Cable may be aerially supported as indicated in the plans.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-700-1 **CODE: (IS)**

DATE: 10/25/2022

SUBJECT: Materials and Tests

Section 700, Materials and Tests, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

After Subsection 700.01 on page 713, add the following.

907-700.01.1--Buy America Materials Sourcing Requirements for Construction Materials. As related to the requirements in Subsection 907-106.14, Construction Materials shall include an article or material that is or consists primarily of non-ferrous metals; plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); glass (including optic glass); lumber; or drywall. Construction Materials which are exempt from the requirements in Subsection 907-106.14 include the following: cement or cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives.

For Construction Materials, both the final manufacturing process and the manufacturing stage immediately preceding the final manufacturing process shall occur domestically.

907-700.01.2--Compliance Requirements. Prior to incorporation into the work, the Contractor shall furnish the Project Engineer with certificates of compliance documenting conformance to the requirements of Subsection 907-106.14.

The certificates shall be on the Supplier's/Manufacturer's letterhead, containing the following:

- Project number
- Name of manufacturer and address of manufacture location
- Material description
- Batch number / Heat number / Lot number
- Bill of lading number
- Date received
- "I certify each material listed on this certificate to be permanently incorporated in this project has been manufactured domestically."
- Signature of an authorized representative of the Supplier/Manufacturer

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-701-4

DATE: 11/05/2024

SUBJECT: Hydraulic Cement

907-701.04--Blended Hydraulic Cement.

907-701.04.1--Types of Blended Hydraulic Cement. After the last paragraph of Subsection 907-701.04.1 on page 1, add the following.

Blended cement Types IL meeting the "HE" high early strength requirement listed in AASHTO M 240, Table 3 shall have the "(HE)" suffix added to the type designation.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-701-4 **CODE: (IS)**

DATE: 11/21/2023

SUBJECT: Hydraulic Cement

Section 701, Hydraulic Cement, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-701.01--General. In the first sentence of the second paragraph of Subsection 701.01 on page 718, change "mills" to "plants."

In the second sentence of the sixth paragraph of Subsection 701.01 on pages 718 and 719, change "shall" to "will."

907-701.02--Portland Cement.

907-701.02.1-General. Delete Subsections 701.02.1.1, 701.02.1.2, 701.02.2, 701.02.2.1, and 701.02.2.2 on pages 719 and 720, and substitute the following.

907-701.02.1.1--Types of Portland Cement. Portland cement shall be either Type I, Type II, or Type III conforming to AASHTO M85 or Type III (MS). Type III (MS) is defined as a Type III cement conforming to AASHTO M85 having a maximum tricalcium aluminate (C_3A) content of 8%.

907-701.02.2--Blank.

907-701.02.2.1--Blank.

907-701.02.2.2--Blank.

Delete Subsection 701.04 on pages 720 and 721, and substitute the following.

907-701.04--Blended Hydraulic Cement.

907-701.04.1--Types of Blended Hydraulic Cement. Blended hydraulic cements (blended cements) shall be of the following types and conform to AASHTO M 240:

Type IL – Portland-limestone cement
Type IP – Portland-pozzolan cement
Type IS – Portland blast-furnace slag cement

Blended cement Types IL, IP, and IS meeting the "MS" sulfate resistance requirement listed in AASHTO M 240, Table 3 shall have the "(MS)" suffix added to the type designation.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-702-4 **CODE: (IS)**

DATE: 09/11/2018

SUBJECT: Bituminous Materials

Section 702, Bituminous Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-702.04--Sampling. Delete the sentence in Subsection 702.04 on page 722, and substitute the following.

Sampling of bituminous materials shall be as set out in AASHTO R 66.

907-702.07--Emulsified Asphalt. Delete the last sentence in Subsection 702.07 on page 724, and substitute the following.

Asphalt for fog seal shall conform to the requirements of Subsection 907-702.12, Table V.

907-702.12--Tables. Delete Table V in Subsection 702.12 on page 729, and substitute the following.

TABLE V
SPECIFICATION FOR FOG SEAL

	LD-7		CHPF-1		
Test Requirements	**Min.**	**Max.**	**Min.**	**Max.**	**Test Method**
Viscosity, Saybolt Furol, @ 25°C, Sec.	10	100	-	100	AASHTO T 72
Storage Stability Test, 24 hr, %	-	1	-	1	AASHTO T 59
Settlement, 5 day, %	-	5	-	-	AASHTO T 59
Oil Distillate, %	-	1	-	-	AASHTO T 59
Sieve Test, % *	-	0.3	-	0.1	AASHTO T 59
Residue by Distillation, %	40	-	40	-	AASHTO T 59
Test on Residue from Distillation					
Penetration @ 25°C, 100g, 5 sec	-	20	40	90	AASHTO T 49
Softening Point, °C	65	-	-	-	ASTM D 36
Solubility in trichloroethylene, %	97.5	-	-	-	AASHTO T 44
Elastic Recovery @ 25°C, %	-	-	40	-	AASHTO T 301
Original DSR @ 82° (G*/Sinδ, 10 rad/sec)	1	-	-	-	AASHTO T 111

* The Sieve Test result is tested for reporting purposes only and may be waived if no application problems are present in the field.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-703-2 **CODE: (SP)**

DATE: 11/29/2022

SUBJECT: Gradation

Section 703, Aggregates, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-703.03--Coarse Aggregates for Hydraulic Cement Concrete.

907-703.03.2--Detail Requirements.

907-703.03.2.4--Gradation. In the table in Subsection 703.03.2.4 on page 734, add 100 for the percent passing by weight on the 1½-inch sieve for Size No. 67 aggregates.

Delete Note 2 under the table in Subsection 703.03.2.4 on page 734, and substitute the following.

Note [2] – 100 percent shall pass the 1-inch sieve for Size 67 used in Class F and Class FX concrete.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-705-1 **CODE: (IS)**

DATE: 06/13/2018

SUBJECT: Stone Riprap

Section 705, Stone Blanket Protection and Filter Blanket Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-705.04--Stone Riprap. Delete the last sentence of the first paragraph of Subsection 705.04 on page 750, and substitute the following.

Quality requirements for rock to be furnished under these specifications will come from a pre-approved source and be visually approved prior to use.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-707-3 **CODE: (IS)**

DATE: **10/27/2021**

SUBJECT: **Joint Materials**

Section 707, Joint Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-707.02--Joint Filler.

907-707.02.2--Preformed Sponge, Rubber, Cork and Closed-Cell Polypropylene Foam Joint Fillers for concrete Paving and Structural Constructions. Delete the two paragraphs of Subsection 707.02.2 on page 755, and substitute the following.

Preformed joint filler shall conform to AASHTO M 153 for sponge, rubber, and cork and tested according to ASTM D545. The type required will be indicated on the plans.

Closed-cell polypropylene foam shall conform to the requirements in ASTM D8139 and tested in accordance with ASTM D545.

907-707.02.3--Wood. Delete paragraph (b) of Subsection 707.02.3 on page 755, and substitute the following:

(b) Dimensions shall be as shown on the plans Dimensions shown on the plans are "dressed" sizes in accordance with Table 3 of the American Softwood Lumber Standard, SP-20. At the discretion of the Engineer, a 3/4-inch dressed board may be used in lieu of a 1-inch dressed board. A tolerance of plus or minus 1/16 inch thickness and plus or minus 1/8 inch width will be permitted. For slip-form paving a tolerance of minus 1/4 inch on each end in length will be permitted.

907-707.06--Flexible Plastic Gasket for Joining Conduit. Delete the third paragraph of Subsection 707.06 on page 756, and substitute the following.

The Department may require the performance test described in ASTM C 990.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-2 **CODE: (IS)**

DATE: 09/11/2018

SUBJECT: Plain Steel Wire

Section 711, Reinforcement and Wire Rope, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-711.02--Deformed and Plain Carbon-Steel Bars for Concrete Reinforcing.

907-711.02.3--Steel Welded and Non-Welded Wire Reinforcement, Plain and Deformed, for Concrete.

907-711.02.3.1--Plain Steel Wire. Delete the sentence in Subsection 711.02.3.1 on pages 780 and 781, and substitute the following.

Plain steel wire and plain steel welded wire shall conform to the requirements of AASHTO M 336.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-712-1 **CODE: (SP)**

DATE: 12/07/2021

SUBJECT: Fence and Guardrail

Section 712, Fence and Guardrail, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-712.01--General. After the sentence in Subsection 712.01 on page 785, add the following.

All materials' inspection, testing, and certification will be performed in accordance with the requirements of the current version of the Department's *Materials Division Inspection, Testing, and Certification Manual*.

Delete Subsections 712.02 and 712.03 on page 785, and substitute the following.

907-712.02--Barbed Wire. Barbed wire shall conform to the requirements of AASHTO M 280. In the coastal counties of Hancock, Harrison, and Jackson, either Coating Type Z Class 3 or Coating Type A shall be furnished. In all other areas of the State, either Coating Type Z Class 1, Coating Type Z Class 3, Coating Type ZA Class 60, or Coating Type A shall be furnished.

907-712.03--Metallic-Coated, Steel Woven Wire Fence Fabric. Woven wire fencing (i.e., "hog wire") shall conform to the requirements of AASHTO M 279. In the coastal counties of Hancock, Harrison, and Jackson, either Coating Type Z Class 3 or Coating Type A shall be furnished. In all other areas of the State, either Coating Type Z Class 1, Coating Type Z Class 3, Coating Type ZA Class 60, or Coating Type A shall be furnished.

907-712.04--Chain Link Fence. Delete Subsections 712.04.1 thru 712.04.7 on pages 785 & 786, and substitute the following.

907-712.04.1--Fabric. In the coastal counties of Hancock, Harrison, and Jackson, either Type I Class D, Type II, Type III, or Type IV fabrics shall be furnished. In all other areas of the State, either Type I Class C, Type I Class D, Type II, Type III, or Type IV fabrics shall be furnished.

907-712.04.2--Tie Wire. Tie wire shall be of the same material as the fencing wire being used, shall be of good commercial quality, and shall meet the requirements of AASHTO M 181. Either Type I, Type II, Type III, or Type IV tie wire shall be furnished.

907-712.04.3--Tension Wire. Tension wire shall be of the same material as the fencing wire being used, shall be of good commercial quality, and shall meet the requirements of AASHTO M 181. In the coastal counties of Hancock, Harrison, and Jackson, either Type I Class 3, Type II, Type III, or Type IV tension shall be furnished. In all other areas of the State, either Type II, Type III, Type IV, or Type I Classes 1, 2, or 3 tension wires shall be furnished.

907-712.04.4--Posts Rails, Gate Frames, and Expansion Sleeves. Posts, rails, gate frames, and expansion sleeves shall conform to the requirements for posts in Subsection 712.05.2, unless otherwise designated in the contract.

907-712.04.5--Miscellaneous Fittings and Hardware. Miscellaneous fittings and hardware shall conform to the requirements of Subsection 712.16.

907-712.05--Fence Posts and Braces.

907-712.05.1--Treated Timber Posts and Braces.

907-712.05.1.1--General. Delete the third, fourth, fifth, and sixth paragraphs of Subsection 712.05.1.1 on page 787, and substitute the following.

All wood posts and braces shall be treated in accordance with Subsections 718.03 and 718.04.

907-712.05.1.2--Round Posts. Delete the last sentence of the last paragraph of Subsection 712.05.1.2 on page 788.

907-712.05.1.3--Sawed Posts. Delete the last sentence of the paragraph of Subsection 712.05.1.3 on page 788.

907-712.05.1.4--Sawed Braces. Delete the last sentence of the paragraph of Subsection 712.05.1.4 on page 788.

Delete Subsection 712.05.2 on page 788, and substitute the following.

907-712.05.2--Metal Posts.

907-712.05.2.1--Round Steel Pipe. Round steel pipe shall meet the requirements of AASHTO M 181, either Grade 1 (i.e., meeting the requirements in ASTM F 1083) or Grade 2 (i.e., meeting the requirements of ASTM F 1043).

Round steel pipe shall be sized in accordance with NPS (nominal pipe size) designations as shown on Plans, and not according to the outer or inner pipe diameter.

907-712.05.2.2--Steel Fence Post and Assemblies, Hot-Wrought. Steel posts with the following section shapes, Tee, channel or U, and Y-Bar shall meet the requirements of AASHTO M 281, galvanized in accordance with the requirements of AASHTO M 111, unless otherwise specified in the contract. Acceptance of these steel posts shall be by certification from the manufacturer, producer, supplier, or fabricator, as applicable.

907-712.05.2.3--Blank.

907-712.05.2.4--Steel H-Beam Posts. Steel H-Beam posts shall be produced from structural quality weldable steel having a minimum yield strength of 45,000 psi and shall be galvanized in accordance with ASTM A 123. Steel H-Beam line posts shall be 2.250 inches by 1.625 inches and shall weigh 3.43 pounds per foot. A tolerance of plus or minus 5.0 percent is allowed for

weight per foot. A tolerance of plus or minus 1.0 percent is allowed for dimensions.

907-712.05.2.5--Aluminum-Alloy Posts and Assemblies. Round aluminum-alloy posts shall meet the requirements of ASTM B 241, Alloy 6061, T6. Aluminum-Alloy H-Beam posts shall meet the requirements of ASTM B 221, Alloy 6061, T6.

907-712.05.2.6--Formed Steel Section Posts. Formed steel section posts, "C" sections, shall be formed from sheet steel conforming to ASTM A 1011, Grade 45, and shall be galvanized in accordance with ASTM A 123.

907-712.06--Guard and Guardrail Posts.

907-712.06.2--Treated Wood Posts.

907-712.06.2.1--Square Posts. Delete the paragraph in Subsection 712.06.2.1 on page 789, and substitute the following.

All square posts shall be inspected for conformance with Section 712.05, except that the posts may be rough and shall be within ±3/8" of the dimensions shown on the plans.

907-712.06.2.2--Round Posts. Delete the paragraph in Subsection 712.06.2.2 on page 789, and substitute the following.

All round posts shall be inspected for conformance with Section 712.05, except that the posts shall be of the shape and dimensions shown on the plans.

907-712.06.5--Treated Wood Blocks for Use with Metal Guardrail Posts. Delete the paragraphs of Subsection 712.06.5 on pages 789 & 790, and substitute the following.

Treated wood blocks for use with metal guardrail posts shall be within ±3/8" of the size and dimensions shown on the plans, except that a minus tolerance shall not be allowed for the slotted width in which the metal post must fit.

Delete Subsection 712.16 on page 791, and substitute the following.

907-712.16--Hardware. All ferrous metal hardware for fencing such as bolts, nuts, washers, and metal straps shall be as specified on the plans and galvanizing shall not be less than 1.0 ounce per square foot of uncoated area. Aluminum coated hardware shall be coated with aluminum meeting the requirements of AASHTO M 181 for aluminum coating and at the rate of not less than 0.4 ounces per square foot of uncoated area.

Aluminum alloy hardware shall conform to the requirements of ASTM B 221 for extruded aluminum alloy 6063, T6. The finished members shall be of uniform quality.

Aluminum-zinc coated hardware shall be coated with an aluminum-zinc alloy meeting the chemical requirements and weight of coating specified for aluminum-zinc alloy coated metal gates.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-713-1 **CODE: (SP)**

DATE: 07/28/2020

SUBJECT: Waterproofing Admixture

Section 713, Concrete Curing Materials and Admixtures, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-713.02--Admixtures for Concrete. Delete Subsection 713.02.4 on page 793 and substitute the following.

907-713.02.4--Blank.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-714-4 **CODE: (SP)**

DATE: **07/28/2025**

SUBJECT: **Miscellaneous Materials**

Section 714, Miscellaneous Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-714.01--Water.

907-714.01.1--General. Delete the last sentence of the second paragraph in Subsection 714.01.1 on page 794.

907-714.01.2--Water for Use in Concrete. Delete Subsection 714.01.2 on page 794, and substitute the following:

Water from municipal sources is permitted be used as mixing water in concrete, mortar, and grout without Department testing. Water from non-municipal water sources used in mixing of concrete, mortar, and grout which does not meet the requirements in Subsection 714.01.1 shall be tested for conformance as required in AASHTO M157, Table 1 and Table 2.

907-714.01.3--Water for Use in Chemically Stabilized Based. Delete the first sentence of first paragraph in Subsection 714.01.3 on page 794, and substitute the following:

Water used in the construction of bases that contain cement, lime, or other chemical additive shall be as set out in Subsection 714.01.1. Water from municipal sources is permitted to be used without testing for conformance to the requirements below. If water is not from a municipal source, it shall not contain impurities in excess of the following limits:

Delete Subsection 714.01.6 on page 795, and substitute the following.

907-714.01.6--Blank.

907-714.05--Fly Ash.

907-714.05.1--General. Delete the first sentence of the fifth paragraph in Subsection 714.05.1 on page 797.

Delete Subsection 714.06 on page 798, and substitute the following.

907-714.06--Slag Cement.

907-714.06.1--General. The slag cement source must be approved for listing in the Department's

APL prior to use. The acceptance of slag cement shall be based on certified test reports, certification of shipment from the supplier, and tests performed on samples obtained after delivery in accordance with the Department's *Materials Division Inspection, Testing, and Certification Manual* and Department SOP.

The Contractor shall provide suitable means for storing and protecting the slag cement against dampness and contamination. Separate storage silos, bins, or containers shall be provided for slag cement. Slag cement that is partially set, caked or contains lumps shall not be used.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing or other additions made to the slag cement during production.

Slag cement from different mills shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer; except that this requirement will not be applicable to cement treatment of design soils or bases.

No additional cementitious materials, such as blended hydraulic cement, fly ash, metakaolin, or others, shall be added to or as a replacement for hydraulic cement when used with slag cement in the production of concrete. The replacement of hydraulic cement with slag cement shall be in accordance with the applicable replacement content specified in Subsection 701.02.2.

907-714.06.2--Specific Requirements. Slag cement shall meet the requirements of AASHTO M 302, Grade 100 or 120. Slag cement shall contain no chlorides.

907-714.13--Geotextiles.

907-714.13.11--Tables. Delete Table 1 in Subsection 714.13.11 on page 813, and substitute the following.

Table 1 - Geotextiles

Type Designation	I[1]	II[1]	III	IV	V	VI		VII		VIII	IX	
	Sediment Control		Drainage	Paving	Separation & Drainage	Separation, Stabilization & Reinforcement				High Strength		
Physical Property[2]						Woven	Non-Woven	Woven	Non-Woven			**Test Method**
Grab Strength (lb)	50	90	110	90	200	280	180	450	280	----	----	ASTM D 4632
Elongation (%)	----	50% max @ 45 lb	20% min	50% min @ break	50% min	50% max	50% Min	50% max	50% Min	----	----	ASTM D 4632
Seam Strength (lb)	----	----	70	----	180	240	160	400	240	----	----	ASTM D 4632
Puncture Strength (lb)	----	----	40	----	80	110	75	180	115	----	----	ASTM D 6241
Trapezoidal Tear (lb)	----	----	40	----	80	100	70	150	100	----	----	ASTM D 4533
Asphalt Retention (gal/yd^2)	----	----	----	0.2	----	----	----	----	----	----	----	ASTM D 6140
Permittivity (sec^{-1}) min	0.05	0.05	0.5	----	0.2	0.2	0.2	0.2	0.2	----	----	ASTM D 4491
AOS Woven (mm) max	0.60	0.60	0.6	----	0.6	0.43	----	0.43	----	----	----	ASTM D 4751
AOS Non-Woven (mm) max	0.84	0.84	0.43	----	0.43	----	0.43	----	0.43	----	----	
Tensile Strength after UV (% Retained)	70% @ 500 hr	70% @ 500 hr	50% @ 500 hr	----	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	50% @ 500 hr	----	----	ASTM D 4355
Melting Point °(F)	----	----	----	325	----	----	----	----	----	----	----	ASTM D 276
Minimum Ultimate Tensile Strength[3] (lb/in)	----	----	----	----	----	----	----	----	----	660	2000	ASTM D 4595

Notes: 1 - All property values, with the exception of apparent opening size (AOS), represent minimum average roll values in the weakest principal direction. Values for AOS represent the maximum average roll values, 2 - Values not identified in this table should meet manufacturer certification for the use and application, 3- Machine direction

Delete Subsec

907-714.15--Geogrids.

907-714.15.1–General. A geogrid is defined as a geosynthetic formed by a regular network of connected elements with apertures greater than 0.25 inch to allow interlocking with surrounding soil, rock, and other surrounding materials to function primarily as reinforcement.

Geogrid shall be manufactured from an expanded strain hardened monolithic polymer sheet composed of one or more synthetic polymers and shall be mildew resistant and inert to biological degradation and naturally encountered chemicals, alkalis and acids. The geogrid shall contain stabilizers and/or inhibitors, or a resistance finish or covering to make it resistant to deterioration from direct sunlight, ultraviolet rays, and heat.

Geogrid manufacturers shall participate in and be in compliance with the American Association of State Highway Transportation Officials (AASHTO) National Transportation Product Evaluation Program's (NTPEP) Geosynthetics audit program. Geogrid shall meet the requirements of Table II for the application and type shown on the plans and shall be selected from the Department's Approved Lists.

907-714.15.1.1--Geogrid for Retaining Walls and Reinforced Soil Slopes. Geogrid for retaining walls and reinforced soil slopes shall be creep tested in accordance with AASHTO R69 and meet Long Term Design Load, Minimum Ultimate Tensile Strength, and open area criteria listed in Table II. Manufacturers shall perform at least one long-term creep test for no less than 10,000 hours in accordance to ASTM D 5262 for each polymer or composition of polymers from which the geogrid is produced. The long-term design load that shall be reported for design use, shall be that load at which no more than 10% strain occurs over a 100-year design life of the geogrid, as calculated in accordance with AASHTO R69. Long-term design loads shall be reported unfactored, and the AASHTO strength reduction factors (Durability and Installation, and safety factors) will be considered by the Department's Geotechnical Branch on a site specific design basis.

907-714.15.1.2--Geogrid for Subgrade Stabilization. Geogrid for subgrade stabilization shall meet Minimum Ultimate Tensile Strength and open area criteria listed in Table II.

907-714.15.2--Marking, Shipment, and Storage. Each roll or container of geogrid shall be visibly labeled with the name of the manufacturer, trade name of the product, lot number, and quantity of material. In addition, each roll or container shall be clearly tagged to show the type designation that corresponds to that required by the plans. During shipment and storage the geogrid shall be protected from direct sunlight, and temperatures above 120°F or below 0°F. The geogrid shall either be wrapped and maintained in a heavy duty protective covering or stored in a safe enclosed area to protect from damage during prolonged storage.

907-714.15.3--Manufacturer Certification. The Contractor shall furnish the Engineer three copies of the manufacturer's certified test reports indicating that the geogrid furnished conforms to the requirements of the specifications and is of the same composition as the originally approved by the Department.

907-714.15.4--Acceptance Sampling and Testing. Final acceptance of each shipment will be

based upon results of tests performed by the Department on verification samples submitted from the project, as compared to the manufacturer's certified test reports. The Engineer will select one roll or container at random from each shipment for sampling. As sample extending full width of the randomly selected roll or container and being at least five (5) square yards in area will be obtained and submitted by the Engineer. All material samples shall be provided at no cost to the State.

TABLE II
GEOGRIDS

Physical Properties	Type Designation						Test Method
	I	II	III	IV	V	VI	
Long Term Design Load[1], pounds per foot, Machine Direction	250	500	750	1500	2500	3500	AASHTO R69, ASTM D5262
Minimum Ultimate Tensile Strength[2], pounds per foot, Machine Direction	500	1000	1500	3000	5000	7000	ASTM D6637
Open Area, percent	70	70	50	50	50	50	Direct Measurement

[1] Minimum design criteria requirement.
[2] Minimum Average Roll Value (MARV).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-718-1 **CODE: (SP)**

DATE: 12/07/2021

SUBJECT: Timber and Dimension Lumber

Section 718, Timber and Dimension Lumber, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete the Subsections in Section 718 on pages 836 thru 838, and substitute the following.

907-718.01--General. All timber and dimension lumber shall be Southern pine and shall conform in all respects to applicable requirements of AASHTO M 168. The Department reserves the right to sample and to test all materials at any time; all inspection, testing, and certification of materials will be performed in accordance with the requirements of the current version of the Department's *Materials Division Inspection, Testing, and Certification Manual*.

Timber and dimension lumber shall be furnished in the sizes shown on the plans or as specified. Unless otherwise specified, timber and dimension lumber shall be No. 1, or better, graded according to the latest American Lumber Standards.

Only one type of preservative shall be used for the treatment of materials for any one class of construction on a project, unless otherwise specified.

Where treated timber and dimensional lumber is to be used in non-highway construction or use, such as decking, handrails in walking trails, or in any manner where general public exposure by touch is possible, the treatment requirements will be as per project plans and/or approved by the State Materials Engineer.

907-718.02--Untreated Timber and Dimension Lumber. Untreated timber and dimension lumber shall conform to the requirements of AASHTO M 168.

907-718.03--Treated Timber and Dimension Lumber. Timber and dimension lumber to be treated shall meet the requirements herein specified and shall be treated as specified. Treated timber or dimensional lumber will not be accepted for use unless it has been inspected by an authorized representative of the Department and found to be satisfactory after treatment.

907-718.03.1--Blank.

907-718.03.2--Treatment.

907-718.03.2.1--General. All materials shall be treated in accordance with AASHTO M 133 unless otherwise directed by the Environmental Protection Agency (EPA).

907-718.03.2.2--Blank.

907-718.03.2.3--Inspection. Treated timber and dimension lumber shall be inspected by an authorized representative of the Department before being incorporated into the work. Treatment reports shall be provided to the Department for each lot of material supplied.

907-718.03.3--Blank.

907-718.03.4--Storage of Treated Material. All material treated for stock shall be stacked as compactly as possible on a well-drained surface. Material shall be supported on sills spaced as necessary, not to exceed 10 foot intervals and shall have at least one foot of air space beneath the stacks.

All materials treated with preservatives for use in buildings and applications where painting is required shall be dried after treatment. The treated wood shall be dried in accordance with American Lumber Standards.

907-718.04--Preservative. Preservatives shall be as specified in AASHTO M 133 unless otherwise directed by the Environmental Protection Agency (EPA).

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-720-4 **CODE: (IS)**

DATE: **06/17/2025**

SUBJECT: **Pavement Marking Materials**

Section 720, Pavement Marking Materials, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

Delete Section 720 on pages 840 thru 854, and substitute the following.

SECTION 720 - PAVEMENT MARKING MATERIALS

907-720.01--General. The Department reserves the right to perform sampling and testing of any materials at any time. Upon request of the Engineer, samples of the material shall be furnished.

907-720.02--Color Requirements. All pavement markings except raised pavement markers are required to meet the color requirements of ASTM D6628.

907-720.03--Optics. Optics used in thermoplastic pavement markings shall consist of a double-drop system of glass beads or advanced optics.

907-720.03.1--Glass Beads. The manufacturer shall furnish the Engineer with a certified test report indicating that the glass beads meet AASHTO M 247. AASHTO Type 4 beads shall be applied to the newly placed stripe first, followed by the application of AASHTO Type 1 or Type 2 beads. Type 1, 2, and 4 glass beads shall be transparent, clean, colorless glass, smooth and spherically shaped, free from milkiness, pits, or excessive air bubbles. Type 1, 2, and 4 glass beads shall be coated with a bead coating that is compatible with the traffic marking material to which the glass beads will be applied and will provide adequate moisture proofing, increased adhesion, and optimum embedment of the glass beads.

907-720.03.1.1—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual).

907-720.03.2--Advanced Optics. Advanced optics are materials that do not meet the specific requirements of AASHTO M 247 but produce a final drop-on optics system that meets or exceeds the reflectivity requirements in Special Provision 907-626. Advanced optics shall be a double-

drop system that is pre-approved and listed on the Department's Approved Products List.

907-720.03.2.1—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing may be conducted at the request of the Engineer.

907-720.04--Thermoplastic Marking Material. Thermoplastic marking material shall meet the color requirements of Subsection 907-720.02.

There shall be no obvious change in the color of the material if held at its plastic temperature for a period of four (4) hours nor by reason of four (4) re-heatings to its plastic temperature.

The pavement markings shall maintain its original dimension and placement. The material shall not be slippery when wet and it shall not lift from the pavement in freezing weather.

907-720.04.1--Extruded Thermoplastic Material. Extruded thermoplastic pavement marking material shall meet the requirements of AASHTO M 249, and shall meet the requirements of 907-720.04 with the following exceptions:

- Blue - ADA thermoplastic marking material shall meet the requirements of Subsection 907-720.04.2 with the exception that the color shall be Blue – ADA, and the Contractor may use hot applied thermoplastic materials meeting the satisfaction of the Engineer.

907-720.04.2--Spray-Applied Thermoplastic Material. Spray-applied thermoplastic pavement marking material shall meet the requirements of AASHTO M 249 and shall meet the requirements of 907-720.04.

907-720.04.3--Pre-formed Thermoplastic Material. Heat-fused, pre-formed thermoplastic pavement marking material shall meet the color requirements of 907-720.02.

907-720.04.4—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.05--Pavement Marking Tape. Pavement marking tape shall be listed on the Department's Approved Lists.

907-720.05.1—Cold Plastic Pavement Markings (Permanent Pavement Marking Tape). Pavement marking tape for use in roadway applications shall be designated on the Department's Approved Lists as permanent.

The prefabricated markings described shall consist of white or yellow pigmented plastic films with reflective optics uniformly distributed throughout their entire cross-sectional area, and be capable of being affixed by either a pressure sensitive pre-coated adhesive or a liquid contact cement. The markings shall be provided complete in a form that will facilitate rapid application and protect the markings in shipment and storage. The manufacturer shall identify proper solvents and/or adhesives to be applied at the time of application, all equipment necessary for proper application, and recommendations for application that will assure an effective performance life.

Prefabricated legends and symbols shall conform to the applicable shapes and sizes as outlined in the current "Manual on Uniform Traffic Control Devices."

907-720.05.1.1--Specific Requirements. Unless otherwise indicated on the plans, the patterned material without adhesive shall have a minimum caliper of 0.065 inch at the thickest portion of the patterned cross-section and a minimum caliper of 0.020 inch at the thinnest portion of the cross-section. The material shall be a pliant polymer film with 50±15% of the surface are raised and presenting a near vertical face angle of 0° to 60° to traffic from any direction. The channels between the raised areas shall be substantially free of exposed optics or particles.

The size and quality of the optics will be such that performance requirements of Subsection 907-720.02 for the retroreflective pliant polymer film shall be met. The pigments shall be selected and blended to provide a marking film that is white or yellow conforming to the performance requirements of Subsection 907-720.02 through the expected life of the film.

907-720.05.1.2--Conformability and Resealing. The marking shall be capable of conforming to pavement contours, breaks, faults, etc. through the action of traffic at normal pavement temperatures.

The marking shall have resealing characteristics that allows it to be capable of fusing with itself and previously applied marking of the same composition under normal conditions of use. The marking shall be capable of use for patching worn areas of the same type in accordance with manufacturer's instructions.

907-720.05.1.3--Tensile Strength and Elongation. The material shall have a minimum tensile strength of 40 pounds per square inch of cross section when tested according to ASTM D 638. A 6-inch x 1-inch x 0.06-inch sample shall be tested at a temperature between 70°F and 80°F using a jaw speed of 12 inches per minute.

The material shall have a minimum elongation of 75% at break when tested according to ASTM D 638 using a jaw speed of 12 inches per minute.

907-720.05.1.4--Skid Resistance. The surface of the material shall provide a minimum skid resistance value of 45 BPN when tested according to ASTM E 303 except values will be taken at

downweb and at a 45-degree angle from downweb. These two values will then be averaged to find the skid resistance of the patterned surface.

907-720.05.1.5--Effective Performance Life and Warranty. When applied according to the recommendations of the manufacturer the pavement marking tape shall provide a neat and durable marking that will not flow or distort due to temperature if the pavement surface remains stable. The film shall be weather resistant and through normal traffic wear shall show no appreciable fading, lifting, or shrinkage throughout the useful life of the marking, nor shall it show significant tearing, roll back, or other signs of poor adhesion.

All manufacturer's standard warranties and guarantees on pavement marking tape, which are provided as customary trade practice, shall be delivered to the Engineer at the final inspection. All warranties and guarantees shall be made out to the Department.

907-720.05.1.6—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual). Samples of the material shall be furnished and shall be provided at no cost to the State.

907-720.05.2--Preformed Pavement Markings for Construction Zones. Preformed pavement markings for construction zones shall be designated Department's Approved Lists as temporary. Retroreflective preformed pavement markings for construction zones shall be as specified on the plans or in the contract documents.

The markings shall be provided in specified widths and shapes. Preformed words and symbols shall conform to the applicable shapes and sizes as outlined in the current "Manual on Uniform Traffic Control Devices for Streets and Highways," or as modified.

The materials shall be packaged in accordance with accepted commercial standards and when stored indoors in a cool dry place, shall be suitable for use one year after date of purchase.

907-720.05.2.1--Specific Requirements. Preformed markings shall consist of retroreflective materials on a conformable backing and shall meet the performance requirements of Subsection 907-720.02. The markings shall consist of a mixture of high-quality polymeric materials, pigments, and optics with a reflective layer of optics bonded to the top surface. The markings shall be pre-coated with a pressure sensitive adhesive capable of adhering to pavement in accordance with the manufacturer's instructions without the use of heat, solvents, or other additional adhesives. The markings and/or adhesive shall not require any curing time after application. A coated non-metallic medium shall be incorporated with the pressure sensitive adhesive to facilitate removal.

907-720.05.2.2—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.06--Raised Pavement Markers. Pavement markers shall be listed on the Department's Approved Lists and shall conform to ASTM D 4280.

907-720.06.1--Packaging. Shipments shall be made in containers acceptable to common carriers and packaged in such a manner as to ensure delivery in perfect condition. All damaged shipments shall be replaced by the Contractor. Each package shall be clearly marked as to the name of the manufacturer, type, quantity enclosed, lot number, and date of manufacture.

907-720.06.2--Non-Reflective Pavement Markers. Non-reflective pavement markers are occasionally referred to as "jiggle markers". Non-reflective markers consisting of a heat-fired, vitreous, ceramic base, and a heat-fired, opaque, glazed surface are permitted for use; the bottom of the marker shall not be glazed. Ceramic markers shall be produced from any suitable combination of intimately mixed clays, shales, talcs, flints, feldspars, or other inorganic material. Ceramic markers shall be thoroughly and evenly matured, and all non-reflective pavement markers shall be free from defects which affect appearance or serviceability.

Ceramic non-reflective markers shall conform to the following finish and testing requirements in Table 2 below.

Table 2

Ceramic Non-Reflective Marker Requirements	
Glaze Thickness	0.005 inch, minimum
Mohs Hardness	6, minimum
Autoclave	Glaze shall not spall, craze, or peel.
Compressive Strength	750 psi, minimum
Water Absorption	2.0%, maximum

907-720.06.3—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

907-720.07--Adhesive for Pavement Markers. The adhesive shall be listed on the Department's Approved Lists and shall be an asphaltic material suitable for bonding pavement markers to surfaces when the road surface and marker temperatures are in the range of 50°F to 160°F. The composition of the adhesive must be such that its properties will not deteriorate when heated to and applied at temperatures up to 425°F. Samples may be submitted in the form of an adhesive

testing package from each batch or material obtained from a package shipped to the project.

907-720.07.1--Packaging and Labeling. The adhesive shall be packaged in self-releasing cardboard containers that will stack properly. The label shall show the manufacturer, quantity, and lot or batch number. "Adhesive for Pavement Markers" or "Adhesive for Traffic Markers" shall be printed in bold lettering on the label.

907-720.07.2--Bituminous Adhesive. The asphaltic adhesive material shall be flexible type.

907-720.07.2.1--Flexible Bituminous Adhesive. Flexible bituminous adhesive shall be designated on the Department's Approved Lists as flexible and shall comply with requirements of Table 3 below.

Table 3

Flexible Bituminous Adhesive Properties			
	Min	Max	Test Method
Penetration @ 77°F	-	25	ASTM D 5
Softening Point, °F	200	-	ASTM D 36
Brookfield Viscosity @ 400°F, cp.	-	10,000	ASTM D 3236
Ductility @ 77°F, 5 cm/min	15	-	ASTM D 113
Ductility @ 39.2°F, 1 cm/min	5	-	ASTM D 113
Asphalt Compatibility	Pass		ASTM D 5329
Flexibility @ 20°F	Pass		Per Subsection

907-720.07.3—Acceptance Procedure. The Contractor shall furnish the Engineer with a copy of the manufacturer's certified test reports for the lot(s) of materials from which the shipment originated. The test report shall show all the test results for the material properties and characteristics as specified herein. The test report shall state that the material represented by the test results meets all the requirements of the contract. It shall be the Contractor's responsibility to furnish the manufacturer's test report to the Engineer for each shipment of material to the project.

Acceptance sampling and testing will be in accordance with the Materials Division Inspection, Testing, and Certification Manual (Materials Manual). Samples of the material shall be furnished and shall be provided at no cost to the State.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-721-4 **CODE: (IS)**

DATE: **04/19/2022**

SUBJECT: **Materials for Signing**

Section 721, Materials for Signing, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-721.06--Reflective Sheeting.

907-721.06.2--Performance Requirements. Delete Table 4 and Table 5 in Subsection 721.06.2 on pages 860 & 861, and substitute the following.

MINIMUM COEFFICIENTS OF RETROREFLECTION
Candela per foot candle per square foot (cd/fc/ft^2)
Per ASTM Designation D4956

TABLE 4
Type IX Sheeting

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Fluorescent Yellow/Green	Fluorescent Yellow	Fluorescent Orange
0.2°	-4.0°	380	285	38	76	17	300	230	115
0.2°	+30.0°	215	162	22	43	10	170	130	65
0.5°	-4.0°	240	180	24	48	11	190	145	72
0.5°	+30.0°	135	100	14	27	6.0	110	81	41
1.0°	-4.0°	80	60	8.0	16	3.6	64	48	24
1.0°	+30.0°	45	34	4.5	9.0	2.0	36	27	14

TABLE 5
Type XI Sheeting

Observation Angle	Entrance Angle	White	Yellow	Green	Red	Blue	Brown	Fluorescent Yellow/Green	Fluorescent Yellow	Fluorescent Orange
0.2°	-4.0°	580	435	58	87	26	17	460	350	175
0.2°	+30.0°	220	165	22	33	10	7.0	180	130	66
0.5°	-4.0°	420	315	42	63	19	13	340	250	125
0.5°	+30.0°	150	110	15	23	7.0	5.0	120	90	45
1.0°	-4.0°	120	90	12	18	5.0	4.0	96	72	36
1.0°	+30.0°	45	34	5.0	7.0	2.0	1.0	36	27	14

After Subsection 721.10 on page 864, add the following.

907-721.11--Digital Applied Printing. The following addresses the requirements for digitally printed finished retroreflective traffic control signs on flat sheet aluminum and digitally printed traffic sign faces intended to be applied to a sign substrate.

907-721.11.1--Digitally Printed Ink Systems. Traffic signs must be produced using components, and processes that comply with the retroreflective sheeting manufacturer's recommendations.

Digital printed ink systems used to print traffic signs must meet and comply with daytime and nighttime chromaticity (color standards) as recognized in ASTM D4956 "Standard Specification for Retroreflective Sheeting for Traffic Control."

Digital printed ink systems must meet 70% of the initial retroreflectivity specifications of each respective reflective film color as found in ASTM D4956 "Standard Specification for Retroreflective Sheeting for Traffic Control."

Prior to fabrication and preferably at the preconstruction meeting, the Contractor shall advise the Project Engineer in writing as to which signs on the project will be digitally printed and which ones will be screen printed. The Contractor shall submit to the Project Engineer certifications for all digitally printed signs, which will be forwarded to the State Traffic Engineer for review.

907-721.11.2--Protective Overlay Film. Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlaminate shall comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1
Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

Temporary signs used in work zones printed with black ink only will not require a protective overlay film as long as the finished sign is warranted for a minimum outdoor durability of three years by the sheeting manufacturer.

907-721.11.3--Inspection. During fabrication, the Contractor shall provide sufficient testing and quality control throughout fabrication to insure good workmanship. Once the material has been received, it may be subject to random testing to ensure compliance with all requirements. If any test samples do not conform to the requirements, the entire order may be returned at the vendor's expense.

907-721.11.4--Traffic Sign Performance Warranty Provisions. Based on the ASTM Type of sheeting specified, traffic control signs shall be warranted for the duration shown in Table 1. The Contractor shall supply a copy of the warranty document with complete details of terms and conditions upon request of the Department.

907-721.11.5--Certified Digital Sign Fabricator. Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

Certified sign fabricators must undergo an audit process by the sheeting manufacturer to ensure they have the proper equipment, manufacturing capabilities, manufacturing application processes and the materials required to fulfill the sheeting manufacturer's warranty obligations. Sign fabricators must recertify annually with reflective sheeting manufacturers or utilize a 3rd party certifier approved by the reflective sheeting manufacturer.

The Contractor shall submit proof of Sign Fabricator Certification as issued by the retroreflective sign sheeting manufacturer to the Project Engineer upon delivery of the signs, or with the Shop Drawings.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-722-1 **CODE: (IS)**

DATE: 11/15/2017

SUBJECT: Materials for Traffic Signal Installation

Section 722, Materials for Traffic Signal Installation, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follow.

907-722.02.3--Design Strength Requirements. Delete Subsection 722.02.3 on pages 864 thru 866, and substitute the following.

Unless specified otherwise in the plans, poles shall meet the requirements of the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,* as specified in the plans with all interim supplements. All components of the assemblies shall be designed to the following:

- Importance Factor: 1.0; 50 year mean recurrence interval
- Basic Wind Speed (3 second gust): As shown on the project plans
- Minimum Gust Effect Factor: 1.14
- Fatigue Category: II
- Ice Loading: As shown on the project plans
- Natural Wind Gust Pressure Loads: Included
- Truck Induced Gust Pressure Loads: Not included
- Galloping: Not included

907-722.02.5--Mast Arms for Traffic Signal and Equipment Poles. Delete the first four sentences of the third paragraph of Subsection 722.02.5 on page 867, and substitute the following.

Anchor base plates must meet the minimum requirements of ASTM A36 or ASTM A709 Grade 36 or ASTM A572 Grade 50 and must be welded to the shaft by either telescoped with two continuous arc welds or by back up ring using full penetration welds.. Flange plate shall telescope the large end of the arm and be welded by either two (2) continuous arc welds, one (1) being on the outside of the plate, adjacent to the shaft, and the other one (1) on the inside at the end of the tubular cross section or by back up ring using full penetration welds. The thru-bolt flange plate or tapped flange plate supporting the mast arm shall be welded to the pole near the top and supported side plate tangent to the pole and gusset plates both top and bottom. The thru-bolt or tapped flange plate must be sufficient to develop the full capacity of the connecting bolts.

907-722.03--Electric Cable. Delete the paragraphs for Loop Detector Wire and Loop Detector Lead-in Cable in Subsection 722.03 on page 869.

Delete the first sentence of "Communication Cable" in Subsection 722.03 on page 870, and substitute the following.

Communication cables shall be as per the manufacturer's recommendation.

907-722.05.4--Type III or Type IV Rigid Non-Metallic Conduit. After the last sentence of Subsection 722.05.4 on page 871, add the following.

Schedule 40 conduit shall be used unless otherwise noted in the plans.

Delete the title of Subsection 722.13.3 on page 876, and substitute the following.

907-722.13.3--Power Service Pedestal.

Delete the first paragraph of Subsection 722.13.3 on page 876, and substitute the following.

The pedestal shall be of NEMA Type 3R rainproof construction and shall be UL Listed as "Enclosed Industrial Control Equipment" (UL 508A). External construction shall comply with UL50 requirements and shall be unpainted aluminum.

Nominal size of the pedestal shall be 48"H x 16"W x 16"D.

Pedestal shall have a voltage rating or 120v/240v single phase with an Amperage rating of 800A.

After the first sentence of the seventh paragraph of Subsection 722.13.3 on page 876, add the following.

An outdoor rated heavy duty combination lock shall be provided to lock the customer compartment door.

907-722.14.1.3--Optical System. Delete the sixteenth paragraph of Subsection 722.14.1.3 on page 879, and substitute the following.

The signal module on-board circuitry shall include voltage surge protection to withstand high-repetition noise transients and low-repetition high-energy transients as stated in Section 2.1.6, NEMA Standard TS 2, 1992.

Delete the last sentence of the seventeenth paragraph of Subsection 722.14.1.3 on page 879, and substitute the following.

Load switches shall be compatible with NEMA TS 1 or later, or Model 170-1989 or later.

Delete Subsection 722.14.5 on page 882, and substitute the following.

907-722.14.5--Blank.

Delete Subsections 722.14.7 and 722.14.8 on page 882.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-799-1 **CODE: (IS)**

DATE: 11/21/2023

SUBJECT: Hydraulic Cement Concrete Mixtures

Section 907-799, Hydraulic Cement Concrete Mixtures, is hereby added to and made part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-799 - HYDRAULIC CEMENT CONCRETE MIXTURES

907-799.01--General.

907-799.01.1--Materials. The materials for hydraulic cement concrete mixtures shall meet the requirements of the following Subsections:

Portland Cement	701.01 and 701.02
Blended Cement	701.01 and 701.04
Fine Aggregate	703.02
Coarse Aggregate	703.03
Lightweight Aggregate	703.19.02
Synthetic Structural Fiber	711.04
Admixtures	713.02
Water	714.01.1 and 714.01.2
Fly Ash	714.05
Ground Granulated Blast Furnace Slag (GGBFS)	714.06
Metakaolin	907-714.09.01

907-799.02--Classification and Uses of Concrete. The classes and general uses of hydraulic cement concrete (concrete) mixtures are as follows:

1) Class AA - Concrete for bridge construction and concrete exposed to seawater.
2) Class B - General use, heavily reinforced sections, cast-in-place concrete piles, and conventional concrete piles.
3) Class BD - Concrete for bridge decks.
4) Class BDX - Extra strength concrete for bridge decks.
5) Class BDO - Concrete for bridge deck overlay.
6) Class C - Massive sections or lightly reinforced sections.
7) Class D - Massive unreinforced sections and riprap.
8) Class F - Concrete for prestressed members.
9) Class DS - Concrete for drilled shafts.
10) Class FX - Extra strength concrete for prestressed members, as shown on plans.
11) Class PA - Concrete paving.

12) Class PO - Concrete for repair of concrete paving.
13) Class PP - Concrete for special design requirements.
14) Class S - For all seal concrete deposited under water.
15) Class WT - Fiber-reinforced concrete pavement.

907-799.02--Hydraulic Cement Concrete Mixture Design. At least 10 working days prior to production of concrete, the Contractor shall submit to the Engineer proposed concrete mixture designs complying with the Department's *Concrete Manual*. Materials shall be from approved sources meeting the requirements of the Standard Specifications. Proportions for the mixture designs shall be for the class concrete required by the plans and shall meet the requirements of the "Master Proportion Table for Hydraulic Cement Concrete Designs" listed in Table 1. The concrete producer shall assign a permanent unique mixture number to each mixture design. Each mixture design shall be field verified as required in Subsection 907-799.03.3. Acceptable field verification data shall be required for final approval of a mixture design.

All concrete mixture designs will be reviewed by the Materials Division prior to use. Concrete mixture designs disapproved will be returned to the Contractor with a statement explaining the disapproval.

If the maturity method is used to estimate the compressive strength for applications such as early opening to traffic or form removal, the Contractor shall also submit compressive strength/maturity documentation developed in accordance with Subsection 804.03.15 for the mixture prior to production of concrete.

If the Contractor chooses to cure the concrete in accordance with the requirements listed under **Length of Time Defined by Development of Compressive Strength** in Subsection 804.03.17, the compressive strength/maturity relationship shall be developed for the mixture design for a minimum of 28 days following the requirements of Subsection 804.03.15. The compressive strength/maturity relationship information shall be submitted with the mixture design information.

Table 1
MASTER PROPORTION TABLE FOR HYDRAULIC CEMENT CONCRETE DESIGNS

Class	Required Coarse Aggregate Size No.[7]	Maximum w/cm Ratio	Specified Compressive Strength (f'_c) psi	Maximum Permitted Slump inches[5]	Total Air Content (%)
AA	57 or 67	0.45	4000	8	3.0-6.0
B	57 or 67	0.50	3500	8	3.0-6.0
BD[2, 3]	57 or 67	0.45[1]	4000	5	3.0-6.0 5.0 8.0
BDX[2, 3]	57 or 67	0.45[1]	4500	5	3.0-6.0 5.0 8.0
BDO[3, 6, 8, 11]	7, 8, or 78	As per mixture design	2500	6	3.0-6.0
C	57 or 67	0.55	3000	8	3.0-6.0
D	57 or 67	0.70	2000	8	3.0-6.0
DS	67	0.45	4000	8±1	See Note[4]
F[8]	67	0.40	5000	8	See Note[4]
FX[8]	67	As per mixture design	As shown on plans	8	See Note[4]
PA	467 or 57[9]	0.48	3500	3	3.0-6.0
PO[8, 11]	57 or 67	As per mixture design	3500	8	3.0-6.0
PP	57 or 67	0.45	Per Plans	8	3.0-6.0
S	57 or 67	0.45	3000	8	3.0-6.0
WT[3, 8, 10, 11]	57 or 67	0.40	3500	4	3.0-6.0

[1] For Class BD concrete for bridge decks, the minimum water/cementitious material ratio shall be 0.43 and the maximum cementitious material content shall be 550 pounds per cubic yard.
For Class BDX concrete for bridge decks, the minimum water/cementitious material ratio shall be 0.42 and the maximum cementitious material content shall be 564 pounds per cubic yard.

[2] For bridge decks constructed following the requirements of Subsection 804.03.19.7.3, Subsection 804.03.14.2, and Subsection 804.03.17.2, then the Class BD or Class BDX mixture design shall contain lightweight aggregate (LWA) and have an internal curing water content of 8.0 lbs per 100 lbs of total cementitious materials in the mixture design; mixture designs not containing LWA and the required minimum internal curing water content shall not be used.

[3] An approved synthetic structural fiber shall be incorporated into the mixture at 1.25 times the approved dosage rate. For each additional pound of fibers per cubic yard added in excess

of the requirement stated above, an additional inch of slump will be allowed up to a maximum permitted slump of eight (8) inches.

[4] Entrained air is not required for Class F, FX, and DS concrete unless exposed to seawater. For concrete not exposed to seawater, the total air content shall not exceed 6.0%. For concrete exposed to seawater, the total air content shall be 3.0-6.0%.

[5] Except as noted for Class DS concrete, the design slump selected by the Contractor for the mixture design may be less than the maximum permitted slump. The design slump is the maximum acceptance slump for field acceptance in accordance with Subsection 907-804.02.13.1.2. Except as noted for Class DS concrete, minus slump requirements shall meet those set forth in Table 3 of AASHTO M157.

[6] For Class BDO the mixture design shall include a minimum 564 pounds per cubic yard of cementitious material with a minimum 15 percent fly ash replacement. The specified strength shall be achieved prior to Opening To Traffic.

[7] Other small coarse aggregate sizes meeting the requirements of Subsection 703.03.2.4 may be used in conjunction with the coarse aggregate sizes listed. Lightweight aggregate (LWA) meeting the requirements of Subsection 703.19.2 may also be used as a partial replacement for fine aggregate.

[8] Type III or Type III (MS) portland cement may be used in these Classes of concrete.

[9] The oven-dry coarse aggregate volume per cubic yard of concrete shall be a minimum of 72%.

[10] The coarse aggregate size requirements shall meet the requirements of Subsection 907-799.02.4.2.

[11] Non-chloride based accelerating admixtures may be used in these Classes of concrete.

907-799.02.1--Allowable Hydraulic Cement Types.

907-799.02.1.1--Portland Cement. Portland cement (cement) shall be either Type I or Type II. Type III or Type III (MS) may be used for the production of precast or precast-prestressed concrete members or Classes of concrete with Note 8 in Table 1.

907-799.02.1.2--Blended Cement. Blended hydraulic cements (blended cements) shall be of the following types and conform to Subsection 701.04:

Type IL – Portland-limestone cement
Type IP – Portland-pozzolan cement
Type IS – Portland blast-furnace slag cement

Blended cement Types IL, IP, and IS meeting the "MS" sulfate resistance requirements listed in AASHTO M 240, Table 3 may also be used.

907-799.02.2--Replacement of Portland Cement or Blended Cement. Replacement of portland cement or blended cement shall be on a weight basis. At least 50% by weight of total cementitious material per cubic yard shall be portland cement.

Except as noted for concrete exposed to soluble sulfates or sea water in Subsection 907-799.02.4, the maximum replacement limits of portland cement or blended cement by weight by fly ash and

slag cement shall be in accordance with Table X provided the 50% by weight of total cementitious material per cubic yard of portland cement is maintained.

Table X
Replacement Ranges of Portland cements and Blended cements by Fly Ash or Slag Cement

Portland cement or Blended cement type	Fly ash replacement range (%)	Slag cement replacement range (%)
Types I, II, III, and III (MS)	20 - 25	45 - 50
Types IL and IL (MS)	20 - 35	35 - 40
Types IS and IS (MS)	20 - 25	20 - 25
Types IP and IP (MS)	No replacement combination allowed	

Replacement contents below the range minimum in Table X may be used in concrete, but the concrete does not qualify for any special considerations, such as the maximum acceptance temperature for concrete in Subsection 804.02.13.1.5. Special considerations shall only apply for replacement of both portland cement and blended cement by either fly ash or slag cement.

907-799.02.3--Alkali Content. The total alkali content for all classes of concrete shall not exceed 4.0 lb per cubic yard based on the alkali contribution from the portland cement. The maximum cement alkali content reported on the cement mill certificate shall be used in this determination. An example calculation can be found in the Department's *Concrete Manual*.

907-799.02.4--Exposure to Soluble Sulfates or Seawater. When portland cement or blended cement concrete is exposed to moderate or severe soluble sulfate conditions or to seawater listed, cement types and replacement of cement by Class F fly ash, slag cement, or metakaolin shall be as follows in Table R.

Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed below. Type IP blended cement shall not be used in any of the sulfate exposure conditions listed below.

Table R
Cementitious Materials Combinations for Soluble Sulfate Conditions or Seawater

	Exposure to Moderate Sulfates or Exposure to Seawater	**Exposure to Severe Sulfates**
Water-soluble sulfate (SO_4) in soil, % by mass	0.10 - 0.20	0.20 - 2.00
Sulfate (SO_4) in water, ppm	150 - 1,500	1,500 - 10,000
Portland cement or Blended cement types	**Replacement Ranges by SCMs (%)**	
Type I or Type III	24.5 - 25.0% Class F fly ash, or 49.5 - 50.0% Slag cement, or 19.5 - 20.0% Metakaolin	49.5 - 50.0% Slag cement
Type II or Type III (MS)	See Note 1	24.5 - 25.0% Class F fly ash, or 49.5 - 50.0% Slag cement, or 19.5 - 20.0% Metakaolin
Type IL	24.5 - 35.0% Class F fly ash, or 49.5 - 50.0% Slag cement, or 19.5 – 20.0% Metakaolin	49.5 - 50.0% Slag cement
Type IL (MS)	See Note 1	24.5 - 35.0% Class F fly ash, or 49.5 - 50.0% Slag cement, or 19.5 - 20.0% Metakaolin
Type IS	24.5 - 25.0% Class F fly ash, or 24.5 - 25.0% Slag cement, or 19.5 - 20.0% Metakaolin	24.5 - 25.0% Class F fly ash, or 24.5 - 25.0% Slag cement, or 19.5 - 20.0% Metakaolin
Type IS (MS)	See Note 1	24.5 - 25.0% Class F fly ash, or 24.5 - 25.0% Slag cement, or 19.5 - 20.0% Metakaolin
Type IP (MS)	No replacement combination allowed	Type not allowed

[1] Class F fly ash or slag cement may be added as a replacement for cement as allowed in Subsection 907-799.02.2.

907-799.02.5--Chemical Admixtures. At least one water-reducing admixture or water-reducing/set-retarding admixture shall be used in all classes of concrete in accordance with the manufacturer's recommended dosage range. Admixtures providing a specific performance characteristic other than those of water reduction or set retardation may be used in accordance with the manufacturer's recommended dosage range. Accelerating admixtures shall not be used unless approved by the State Materials Engineer and as applied to Classes by Note 11 in Table 1. Any combinations of admixtures shall be approved by the Engineer before their use.

907-799.02.6--Aggregates.

907-799.02.6.1--Lightweight Aggregate Requirements for Bridge Decks. For bridge decks constructed following the requirements of Subsection 804.03.19.7.3, Subsection 804.03.14.2 and Subsection 804.03.17.2, then the Class BD or Class BDX mixture design shall contain LWA meeting the requirements of Subsection 703.19.2 and have an internal curing water content of 8.0 lbs. per 100 lbs. of total cementitious materials in the mixture design; mixture designs not containing LWA and the required minimum internal curing water content shall not be used.

907-799.02.6.2--Class WT Concrete. Class WT concrete used in fiber-reinforced concrete pavements with a design thickness greater than or equal to 4 inches, size 57 coarse aggregate shall be used. Class WT concrete used in fiber-reinforced concrete pavements with a design thickness less than 4 inches, size 67 coarse aggregate shall be used.

907-799.03--Proportioning of Hydraulic Cement Concrete Mixture Design. Proportioning of hydraulic cement concrete shall be based on an existing mixture of which the producer has field experience and documentation or based on a recently batched laboratory mixture tested according to the required specifications.

907-799.03.1--Proportioning on the Basis of Previous Field Experience of Trial Mixtures. Where a concrete production facility has a record, based on at least 10 consecutive strength tests from at least 10 different batches within the past 12 months from a mixture not previously used on Department projects, the standard deviation shall be calculated. The record of tests from which the standard deviation is calculated shall:

(a) Represent similar materials and conditions to those expected. Changes in materials and proportions within the test record shall not have been more closely restricted than those for the proposed work.
(b) Represent concrete produced to meet a specified strength.
(c) Consist of 10 consecutive tests, average of three cylinders per test, tested at 28 days. For all mixture designs, for each of these tests on the plastic concrete the test data shall meet the acceptance criteria of Subsection 804.02.13.1.

The standard deviation, *s,* shall be calculated as:

$$s = \left[\sum (X_i - \bar{X})^2 \div (N - 1)\right]^{1/2}$$

where:

X_i = the strength result of an individual test
$\bar{X}$ = the average of individual tests in the series
N = number of tests in the series

When the concrete production facility does not have a record of tests for calculation of standard deviation, as required in the above formula, the requirements of Subsection 907-799.03.2 shall govern.

The required average compressive strength (f'_{cr}) used as the basis for selection of concrete proportions shall conform to the inequality listed below, while using a standard deviation, s, calculated as shown above.

$$\overline{X} \geq f'_{cr}$$

where:

$$f'_{cr} = f'_c + 1.43s$$

where:

f'_c = specified compressive strength of concrete, psi
f'_{cr} = required average compressive strength of concrete, psi
s = standard deviation, psi

1.43 represents the Lower Quality Index necessary to assure that 93% of compressive strength tests are above f'_c.

907-799.03.2--Proportioning on the Basis of Laboratory Trial Mixtures. When an acceptable record of field test results is not available, concrete proportions shall be established based on laboratory trial mixtures meeting the following restrictions:

(a) The combination of materials shall be those intended for use in the proposed work.
(b) Trial mixtures having proportions and consistencies suitable for the proposed work shall be made using the ACI 211.1 as a guide to proportion the mixture design.
(c) Trial mixtures shall be designed to produce a slump within ±¾ inch of the design slump allowed, and for air-entrained concrete, ±0.5 percent of the maximum permitted air content in Table 1 in Subsection 907-799.02. The temperature of freshly mixed concrete in trial mixtures shall be reported.
(d) For each proposed mixture, at least three compressive test cylinders shall be made and cured in accordance with AASHTO R 39. Each change of water-cement ratio shall be considered a new mixture. The cylinders shall be tested for strength in accordance with AASHTO T 22 and shall be tested at 28 days.
(e) The required average strength of laboratory trial mixes shall exceed f'_c by 1200 psi for concrete mixture designs less than 5000 psi and by 1400 psi for concrete mixture designs of 5000 psi or more.
(f) The laboratory trial batch mixtures shall have been made within the previous 12 months before being submitted for approval and shall not have been previously used on Department projects.

907-799.04--Documentation of Average Strength. Documentation that the proposed concrete proportions will produce an average strength equal to or greater than the required average shall consist of the strength test records from field tests or results from laboratory trial mixtures.

907-799.05--Field Verification of Concrete Mixture Design. Unless otherwise noted within this Subsection, and except for Class PO, concrete mixture designs will only be tentatively approved pending field verification submission. All concrete placed using a mixture design which has not been acceptably field verified will not be paid for by the Department until field verification is submitted and approved as having been found to meet the requirements in this Subsection and those in the Department's *Concrete Manual*. The requirements for yield, slump, or total air content shall be successfully met within the first three (3) production days. Mixture designs may be transferred to other projects without additional field verification testing if the most recent field verification testing was conducted within the past twelve (12) months. All concrete mixtures will have a complete field verification performed and submitted to the Department's Materials Division every 12 months.

The Contractor's Certified Quality Control Technicians shall test each concrete mixture design upon the first placement of the mixture. Aggregates and concrete tests during the first placement shall be as follows.

Aggregates	Concrete
Bulk Specific Gravity	Water Content
Moisture	Slump
Gradation	Air Content
	Unit Weight
	Yield

For all Classes of concrete, the mixture shall be verified to yield within 2.0% of the correct volume when all the mix water is added to the batch, either by the batch plant or as ice used to control mixture acceptance temperature.

For all Classes of concrete other than DS, F, and FX, the mixture shall produce a slump within a minus 1½-inch tolerance of the design for mixtures with a design slump of three inches (3") or less or within a minus 2½-inch tolerance of the design for mixtures with a design slump of greater than three inches (3"), and producing a total air content within the allowable air content range in Table 3.

For Class DS, the slump range shall be 8 inches ±1 inch. For Class DS exposed to seawater, the total air content shall be within the allowable air content range in Table 3. For Class DS not exposed to seawater the total air content shall be within the requirements in Table 3.

For Classes F and FX, the slump shall be within a minus 1½-inch tolerance of the design for mixtures with a design slump of three inches (3") or less or within a minus 2½-inch tolerance of the design for mixtures with a design slump of greater than three inches (3"). For Classes F and FX exposed to seawater, the total air content shall be within the allowable air content range in Table 3. For Classes F and FX not exposed to seawater the total air content shall be within the requirements in Table 3.

The mixture shall be adjusted and retested, if necessary, on subsequent placements until the above-mentioned properties are met.

If the requirements for yield, slump, or total air content are not met within the first three (3) production days, subsequent field verification testing shall not be permitted on Department projects, and the mixture design shall not be used until the requirements listed above are met. Any mixture design adjustments, changes in the mixture proportions, are to be made by a Class III Certified Technician representing the Contractor. After the mixture design has been verified and adjustments made, verification test results will be reviewed by the Engineer.

907-799.05.1--Field Verification and Slump Loss of Class DS Concrete Mixture Designs. Prior to placement of Class DS concrete mixture, the Contractor shall provide test results of a slump loss test using approved methods to demonstrate that the mixture meets the four-hour requirement in Subsection 803.03.2.7.1. The Contractor shall notify the Department 48 hours prior to performing the slump loss test. These tests shall be conducted successfully by an approved testing laboratory during the installation of the trial shaft, with personnel from the Department present. As an alternative, the slump loss test can be performed prior to the installation of the trial shaft.

The slump loss test shall be conducted at temperatures and conditions similar to those expected at the job site at the time of the installation of the trial shaft. The sample for the slump loss test shall be from a minimum batch size of four (4) cubic yards of concrete. If the temperature between a successful slump loss test and the installation of the production shaft exceeds 10ºF above the concrete temperature, another successful slump loss test shall be performed on the first truckload of concrete as part of the installation of the trial shaft. The requirement to limit the time between the previous slump loss test and an installation of the trial shaft also applies to Class DS concrete mixture designs being transferred from another project. During any shaft installation a slump loss test shall be conducted by the Contractor at the direction of the Engineer from the concrete at the site for verification of slump loss requirements using a sample from a minimum batch size of four cubic yards of concrete.

907-799.05.2--Field Verification of Class BDO and Class WT Concrete Mixture Designs. Prior to mixture design submittal, the Contractor shall perform a field verification on Class BDO and Class WT concrete mixture designs and submit the field verification data and batch ticket information as part of the mixture submittal.

In addition to the requirements in Subsection 907-799.03.3, this documentation must indicate that the mixture achieves the requirements in Table 1 for:

- the compressive strengths required for acceptance within 28 days;
- the compressive strengths required for early opening to traffic within the time specified by the Engineer; and
- if the maturity method is to be used to estimate the compressive strength for early opening to traffic, the strength/maturity relationship shall be verified within 10% of the predicted compressive strength value determined by the maturity curve following the requirements of AASHTO T325 during the field verification.

907-799.06--Adjustments of Mixtures. The mixture design may be adjusted by the Class III Certified Technician representing the Contractor in accordance with the allowable revisions listed in paragraph 5.7 of the Department's *Concrete Manual*. Written notification shall be submitted to the Engineer a minimum of seven (7) days prior to any source or brand of material change, aggregate size change, allowable material type change, or decrease in any cementitious material content. Any adjustments of the concrete mixture design shall necessitate repeat of field verification procedure as described in Subsection 907-799.05 and approval by the Engineer.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-803-6 **CODE: (IS)**

DATE: **11/21/2023**

SUBJECT: **Deep Foundations**

Section 803, Deep Foundations, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-803.02--Materials. Delete the first paragraph of Subsection 803.02 on page 900, and substitute the following.

All materials shall conform to the applicable requirements set forth in Sections 710, 711, 719, 799, 804, and 814.

Delete the first sentence of the third paragraph on Subsection 803.02 on page 900, and substitute the following.

Concrete for drilled shafts shall be Class "DS" concrete meeting the requirements of Section 907-799.

907-803.03--Construction Requirement.

907-803.03.1-Driven Piles.

907-803.03.1.9--Determination of Bearing Value of Piling.

907-803.03.1.9.3--Determination of Bearing Value by PDA Monitoring (Dynamic Load Testing).

907-803.03.1.9.3.3--PDA Monitored Driving and/or Restrike of Piling.

907-803.03.1.9.3.3.3--Driving Requirements. Delete the first three sentences of the first paragraph of Subsection 803.03.1.9.3.3.3 on page 907, and substitute the following.

Piles to be used in the determination of pile bearing by PDA monitoring shall be driven with PDA instrumentation attached to the pile and shall have a PDA monitored 1-day restrike performed after the initial pile driving. The Engineer may modify the waiting periods that are required before the restrikes are performed. The Engineer may require additional restrikes after the 1-day restrike if deemed necessary when it is determined pile bearing requirements have not be met. Additional restrikes required by the Engineer will be paid for as a Pile Restrike.

907-803.03.2--Drilled Shafts.

907-803.03.2.7--Concrete Placement.

907-803.03.2.7.1--General. Delete the first paragraph of Subsection 803.03.2.7.1 on page 925 and substitute the following.

Drilled shaft concrete shall meet the requirements in Sections 804 and 907-799.

Delete the fourth sentence of the fourth paragraph of Subsection 803.03.2.7.1 on page 925, and substitute the following.

Prior to concrete placement, the Contractor shall provide test results meeting the requirements of Subsection 907-799.02 and a slump loss test per the requirements in Subsection 907-799.05.1.

907-803.04--Method of Measurement.

907-803.04.12--PDA Test Pile. Delete the second paragraph of Subsection 803.04.12 on page 932 and substitute the following.

Completion of this pay item shall include the 1-day restrike after initial driving and individual components will not be considered separately. Any additional restrike required by the Engineer on this type test pile will be paid for as a Pile Restrike.

907-803.05--Basis of Payment.

907-803.05.2--Conventional Pile Load Tests. Delete the paragraph in Subsection 803.05.2 on page 933 and substitute the following.

Conventional static pile load tests, measured as prescribed above, will be paid for at the contract fixed unit price per each.

Delete pay items 803-B, 803-I, 803-J, 803-K, 803-L, and 803-M on page 935 and substitute the following.

907-803-B:	Conventional Static Pile Load Test	- per each
907-803-I:	PDA Test Pile	- per each
907-803-J:	Pile Restrike	- per each
907-803-K:	Drilled Shaft, ___" Diameter	- per linear foot
907-803-L:	Test Shaft, ___" Diameter	- per each
907-803-M:	Trial Shaft, ___" Diameter	- per linear foot

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SUPPLEMENT TO SPECIAL PROVISION NO. 907-804-13

DATE: 07/28/2025

SUBJECT: Concrete Bridges and Structures

907-804.02--Materials

907-804.02.6--Classification and Uses of Concrete. Delete numbers 9 through 15 on page 2 and substitute the following.

9) Class F (SCC) – Self Consolidating Concrete for prestressed members.
10) Class DS – Concrete for drilled shafts.
11) Class FX – Extra Strength concrete for prestressed members, as shown on plans.
12) Class FX (SCC) – Extra Strength Self Consolidating concrete for prestressed members, as shown on plans.
13) Class PA – Concrete paving.
14) Class PO – Concrete for repair of concrete paving.
15) Class PP – Concrete for special design requirements.
16) Class S – For all seal concrete deposited under water.
17) Class WT – Fiber-reinforced concrete pavement.

907-804.02.12--Contractor's Quality Control.

907-804.02.12.2--Personnel Requirements. Delete the first sentence of the second paragraph of Subsection 907-804.02.12.2 on pages 3 & 4, and substitute the following.

The Contractor's Designated Certified Technician shall either be an employee of the Contractor, an employee of the concrete producer, or an employee of the certified independent testing laboratory.

907-804.02.12.5--Non-Conforming Materials. Delete Table 4 on page 5, and substitute the following.

TABLE 4

CONTRACTOR'S MINIMUM REQUIREMENTS FOR QUALITY CONTROL

Hydraulic Cement Concrete		
Control Requirement	**Frequency**	**AASHTO/ASTM**
A. PLANT AND TRUCKS		
1. Mixer Blades		
2. Scales	Monthly	
a. Tared	Daily	
b. Calibrate	Every 6 months	
c. Check Calibration	Weekly	
3. Gauges & Meters - Plant & Truck		
a. Calibrate	Every 6 months	
b. Check Calibration	Weekly	
4. Admixture Dispenser		
a. Calibrate	Every 6 months	
b. Check Operation & Calibration	Daily	
B. AGGREGATES		
1. Sampling		T 2
2. Fine Aggregate		
a. Gradation / FM	250 yd^3 concrete	T 27
b. Moisture	Check meter against test results weekly	T 255
c. Specific Gravity / Absorption	2500 yd^3 concrete	T 84
3. Coarse Aggregates		
a. Gradation	250 yd^3 concrete	T 27
b. Moisture	Minimum of once daily or more as needed to control production. Check meter against test results weekly.	T 255
c. Specific Gravity / Absorption	250 yd^3 Concrete if the coarse aggregate oven dry specific gravity is less than 2.450, or 2500 yd^3 Concrete if the coarse aggregate oven dry specific gravity is greater than or equal to 2.450	T 85
C. PLASTIC CONCRETE		
1. Sampling		R 60
2. Air Content	First load then one per 50 yd^3	T 152* or T 196*
3. Slump or Flow*	First load then one per 50 yd^3	T 119* or C 1611*
4. Static Segregation*	2500 yd^3 Concrete	C 1610*
5. Density (Unit Weight)	100 yd^3 or when cylinders are made	T 121
6. Compressive Strength	A minimum of one set (three cylinders) for each 100 yd^3 inclusive and one set for each additional 100 yd^3 or fraction thereof for each class concrete delivered and placed on a calendar day from a single supplier. A test shall be the average of three cylinders.	T 22*, T 23*, T 231
7. Yield	Each 400 yd^3 Concrete	T 121*
8. Temperature	With each sample	T 309

Note: * For concrete categorized as a SCC mixture, the following requirements shall apply:

(a) Substitute the appropriate AASHTO for references to other ASTM Designations listed in ASTM C1610 and C1611.
(b) Test specimens shall be made in accordance with the above listed specifications with the exception that the concrete shall not be rodded or vibrated during casting the test specimens.
(c) The slump flow test shall only be performed on SCC mixtures in accordance with ASTM C1611. For these mixtures AASHTO T119 is not required. For the slump flow test, the filling procedure used shall be Procedure B. Additionally, for each slump flow test, determine the T50 and VSI values in accordance with the information in Appendix X1 of ASTM C1611. There are no acceptance criteria for the T50 or VSI determinations.
(d) The static segregation test shall only be performed on SCC mixtures.

907-804.02.13--Quality Assurance Sampling and Testing. Delete Table 5 on page 6, and substitute the following.

TABLE 5
DEPARTMENT'S MINIMUM REQUIREMENTS
FOR QUALITY ASSURANCE

Quality Assurance Tests	Frequency	AASHTO/ASTM
A. AGGREGATES		
1. Sampling		T 2
2. Fine Aggregate Gradation and FM	250 yd^3 concrete	T 27
3. Coarse Aggregates Gradation	250 yd^3 concrete	T 27
4. Coarse Aggregate a. Specific gravity / Absorption	250 yd^3 Concrete if the coarse aggregate oven dry specific gravity is less than 2.450, or 2500 yd^3 Concrete if the coarse aggregate oven dry specific gravity is greater than or equal to 2.450	T 85
B. PLASTIC CONCRETE		
1. Sampling		R 60
2. Air Content	Every 100 yd^3	T 152* or T 196*
3. Slump or Slump Flow*	Every 100 yd^3	T 119 or C 1611*
4. Density (Unit Weight)	100 yd^3 or when cylinders are made	T 121
5. Compressive Strength	One set (three cylinders) for every 100 yd^3 inclusive. A test shall be the average of three cylinders.	T 22*, T 23*, T 231
6. Temperature	With each sample	T 309

Note: * For concrete categorized as a SCC mixture, the following requirements shall apply:

(a) Substitute the appropriate AASHTO for references to other ASTM listed in ASTM C1611.
(b) Test specimens shall be made in accordance with the above listed specifications with the exception that the concrete shall not be rodded or vibrated during casting the test specimens.

(c) The slump flow test shall only be performed on SCC mixtures in accordance with ASTM C1611. For these mixtures AASHTO T119 is not required. For the slump flow test, the filling procedure used shall be Procedure B.

Delete Subsection 907-804.2.13.1.7 on page 6, and substitute the following.

907-804.02.13.1.7--Static Segregation. For concrete categorized as a SCC mixture, the static segregation of the plastic concrete shall meet the requirements of Subsection 907-799.03.2. If the static segregation of the concrete mix design exceeds this requirement, the mix shall be adjusted by a Class III Certified Technician representing the Contractor to ensure a static segregation less than the maximum allowable. If batching of the proportions of the mixture design varies outside the batching tolerance range of the originally approved proportions by more than the tolerances allowed in Subsection 907-804.02.12.1, the new proportions shall be field verified per Subsection 907-799.05.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-804-13 **CODE: (IS)**

DATE: **11/21/2023**

SUBJECT: **Concrete Bridges and Structures**

Section 804, Concrete Bridges and Structures, of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows.

907-804.02--Materials.

907-804.02.3--Non-Quality Control / Quality Assurance Concrete.

Delete the third sentence of the first paragraph on page 936 and substitute the following.

The Contractor is required to submit mixture designs to accomplish this work in accordance with Section 907-799 and perform normal Quality Control functions in accordance with Table 4, Contractor's Minimum Requirements for Quality Control, Items A and B in Subsection 907-804.02.12.5.

Add the following to the list of concrete items on page 937 that are not accepted based on the Quality Control / Quality Assurance (QC/QA) requirements.

Section	Description
502	Concrete Bridge-End Pavement
504	Fiber-Reinforced Concrete Pavement
610	High Tension Cable Barrier

907-804.02.6--Classification and Uses of Concrete. Delete the contents of Subsection 804.02.6 on pages 937 and 938 and substitute the following.

When a specific class of concrete is not specified on the plans or in the contract documents, the structure or parts thereof shall be constructed with the class of concrete as directed by the Engineer.

The classes of hydraulic cement concrete (concrete) mixtures are as follows:

1) Class AA - Concrete for bridge construction and concrete exposed to seawater.
2) Class B - General use, heavily reinforced sections, cast-in-place concrete piles, and conventional concrete piles.
3) Class BD - Concrete for bridge decks.
4) Class BDX - Extra strength concrete for bridge decks.
5) Class BDO - Concrete for bridge deck overlay.
6) Class C - Massive sections or lightly reinforced sections.
7) Class D - Massive unreinforced sections and riprap.

8) Class F - Concrete for prestressed members.
9) Class DS - Concrete for drilled shafts.
10) Class FX - Extra strength concrete for prestressed members, as shown on plans.
11) Class PA - Concrete paving.
12) Class PO - Concrete for repair of concrete paving.
13) Class PP - Concrete for special design requirements.
14) Class S - For all seal concrete deposited under water.
15) Class WT - Fiber-reinforced concrete pavement.

The classes of concrete and their general uses are listed in Subsection 907-799.01.

907-804.02.8--Laboratory Accreditation. Delete the first paragraph of Subsection 804.02.8 on page 938, and substitute the following.

The Contractor shall be responsible for furnishing the laboratory used to perform concrete quality control tests. The laboratory shall be either the Contractor's facility, the concrete producer's facility, or a certified independent testing laboratory subcontracted by the concrete producer.

Table 1

AASHTO: R 39	Making and Curing Concrete Test Specimens in the Laboratory
AASHTO: R 60	Sampling Freshly Mixed Concrete
AASHTO: R 76	Sampling Aggregates
AASHTO: R 100	Making and Curing Concrete Test Specimens in the Field
AASHTO: T 19	Bulk Density ("Unit Weight") and Voids in Aggregates
AASHTO: T 22	Compressive Strength of Cylindrical Concrete Specimens
AASHTO: T 27	Sieve Analysis of Fine and Coarse Aggregates
AASHTO: T 84	Specific Gravity and Absorption of Fine Aggregate
AASHTO: T 85	Specific Gravity and Absorption of Coarse Aggregate
AASHTO: T 119	Slump of Hydraulic Cement Concrete
AASHTO: T 121	Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
AASHTO: T 152	Air Content of Freshly Mixed Concrete by Pressure Method *
AASHTO: T 196	Air Content of Freshly Mixed Concrete by the Volumetric Method *
AASHTO: T 231	Capping Cylindrical Concrete Specimens
AASHTO: T 248	Reducing Field Samples of Aggregate to Testing Size
AASHTO: T 255	Total Evaporable Moisture Content of Aggregate by Drying
AASHTO: T 325	Standard Method of Test for Estimating the Strength of Concrete in Transportation Construction by Maturity Tests **
AASHTO: T 309	Temperature of Freshly Mixed Portland Cement Concrete
ASTM: C 1074	Standard Practice for Estimating Concrete Strength by the Maturity Method **

* Equipment necessary for either pressure or volumetric air content.
** Equipment necessary for estimating concrete strength following the maturity method.

Table 2

Concrete Technician's Tasks	Test Method Required	Certification Required**
Sampling or Testing of Plastic Concrete	AASHTO R 60, R 100, T 119, T 121, T 152, T 196, and T 309	MDOT Class I certification
Compressive Strength Testing of Concrete Cylinders	AASHTO T 22 and T 231	MDOT Concrete Strength Testing Technician certification
Sampling of Aggregates	AASHTO R 76	Work under the supervision of a MDOT Class II certified technician
Testing of Aggregates	AASHTO T 19, T 27, T 84, T 85, T 248, and T 255	MDOT Class II certification
Proportioning of Concrete Mixtures*	AASHTO M 157 and R 39	MDOT Class III certification
Interpretation and Application of Maturity Meter Readings	AASHTO T 325 and ASTM C 1074	Two hours maturity method training

* Technicians making concrete test specimens for meeting the requirements of Subsection 804.02.10.1.2 shall be MDOT Class I certified and under the direct supervision of an MDOT Class III certified technician.

** MDOT Class I certification encompasses the same test procedures and specifications as ACI Concrete Field Testing Technician-Grade I. MDOT Class II certification encompasses the same test procedures and specifications as ACI Aggregate Testing Technician-Level 1. MDOT Concrete Strength Testing Technician encompasses the same test procedures and specifications as ACI Concrete Strength Testing certification.

Delete Subsection 804.02.10 on pages 940 thru 946, and substitute the following.

907-804.02.10--Hydraulic Cement Concrete Mixture Design. The hydraulic cement concrete mixture design shall meet the requirements in Section 907-799 for the applicable Class of concrete.

907-804.02.12--Contractor's Quality Control.

907-804.02.12.1--Quality Control Plan.

907-804.02.12.1.1--Elements of Plan. Delete Item (d) (3) in Subsection 804.02.12.1.1 on page 947, and substitute the following.

(3) If the Contractor elects to utilize Job Site Batch Adjustments by Addition of Chemical Admixture within Item 2, the procedures outlined in the Contractor's Quality Control Plan for Job Site Batch Adjustments shall be followed.

907-804.02.12.2--Personnel Requirements. Delete the two paragraphs in Subsection 804.02.12.2 on page 948, and substitute the following.

The Contractor's Designated Certified Technician shall either be an employee of the Contractor, an employee of the concrete producer, or an employee of the certified independent testing

laboratory subcontracted by the concrete producer. The Contractor's Designated Certified Technician shall perform and use quality control tests and other quality control practices to assure that delivered materials and proportioning meet the requirements of the mixture design including temperature, slump, total air content, unit weight, and strength and shall periodically inspect all equipment used in transporting, proportioning, and mixing.

The Contractor shall periodically inspect all equipment used placing, consolidating, finishing, and curing to assure it is operating properly and that placement, consolidation, finishing, and curing conform to the mixture design and other contract requirements.

907-804.02.12.5--Non-Conforming Materials. Delete Table 4 on page 950, and substitute the following.

Table 4
CONTRACTOR'S MINIMUM REQUIREMENTS FOR QUALITY CONTROL

Hydraulic Cement Concrete		
Control Requirement	**Frequency**	**AASHTO/ASTM**
A. PLANT AND TRUCKS		
1. Mixer Blades	Monthly	
2. Scales		
a. Tared	Daily	
b. Calibrate	Every 6 months	
c. Check Calibration	Weekly	
3. Gauges & Meters - Plant & Truck		
a. Calibrate	Every 6 months	
b. Check Calibration	Weekly	
4. Admixture Dispenser		
a. Calibrate	Every 6 months	
b. Check Operation & Calibration	Daily	
B. AGGREGATES		
1. Sampling		R 76
2. Fine Aggregate		
a. Gradation / FM	250 yd^3 concrete	T 27
b. Moisture	Check meter against test results weekly	T 255
c. Specific Gravity / Absorption	2500 yd^3 concrete	T 84
3. Coarse Aggregates		
a. Gradation	250 yd^3 concrete	T 27
b. Moisture	Minimum of once daily or more as needed to control production. Check meter against test results weekly.	T 255
c. Specific Gravity / Absorption	250 yd^3 concrete if the coarse aggregate oven dry specific gravity is less than 2.450, or 2500 yd^3 concrete if the coarse aggregate oven dry specific gravity is greater than or equal to 2.450	T 85
C. PLASTIC CONCRETE		
1. Sampling		R 60
2. Air Content	First load then one per 50 yd^3	T 152 or T 196
3. Slump	First load then one per 50 yd^3	T 119
4. Unit weight	100 yd^3 or when cylinders are made	T 121
5. Compressive Strength	A minimum of one set (three cylinders) for each 100 yd^3 inclusive and one set for each additional 100 yd^3 or fraction thereof for each class concrete delivered and placed on a calendar day from a single supplier. A test shall be the average of three cylinders.	R 100, T 22, T 231
6. Yield	Each 400 yd^3 concrete	T 121
7. Temperature	With each sample	T 309

907-804.02.13--Quality Assurance Sampling and Testing. Delete Table 5 in Subsection 804.02.13 on pages 951 and 952, and substitute the following.

TABLE 5
DEPARTMENT'S MINIMUM REQUIREMENTS
FOR QUALITY ASSURANCE

Quality Assurance Tests	Frequency	AASHTO/ASTM
A. AGGREGATES		
1. Sampling		R 76
2. Fine Aggregate Gradation and FM	250 yd^3 concrete	T 27
3. Coarse Aggregates Gradation	250 yd^3 concrete	T 27
4. Coarse Aggregate a. Specific gravity / Absorption	250 yd^3 Concrete if the coarse aggregate oven dry specific gravity is less than 2.450, or 2500 yd^3 Concrete if the coarse aggregate oven dry specific gravity is greater than or equal to 2.450	
B. PLASTIC CONCRETE		
1. Sampling		R 60
2. Air Content	Every 100 yd^3	T 152 or T 196
3. Slump	Every 100 yd^3	T 119
4. Density (Unit Weight)	100 yd^3 or when cylinders are made	T 121
5. Compressive Strength	One set (three cylinders) for every 100 yd^3 inclusive. A test shall be the average of three cylinders.	R 100, T 23, T 231
6. Temperature	With each sample	T 309

907-804.02.13.1--Job Control Testing.

907-804.02.13.1.4--Yield. Delete the first sentence of Subsection 804.02.13.1.4 on page 953 and substitute the following.

If the yield of the concrete mixture is more than plus or minus three percent (±3%) of the design volume, the mixture design shall be adjusted by a Class III Certified Technician representing the Contractor to yield the correct volume, plus or minus three percent (±3%).

907-804.02.13.1.5--Temperature. Delete the third and fourth paragraphs of Subsection 804.02.13.1.5 on page 953, and substitute the following.

The maximum acceptance temperature of Class C concrete mixtures is 100°F for mixtures meeting the cement replacement requirements of Subsection 907-799.02.2. For Class C concrete mixtures that do not meet the cement replacement requirements of Subsection 907-799.02.2, the maximum acceptance temperature is 95°F.

The maximum acceptance temperature for all other concrete mixtures meeting the cement replacement requirements of Subsection 907-799.02.2 is 95°F. The maximum acceptance temperature for all other concrete mixtures that do not meet the cement replacement requirements of Subsection 907-799.02.2 is 90°F.

Delete Subsection 804.02.13.1.7 on page 954 and substitute the following.

907-804.02.13.1.7--Blank.

907-804.03--Construction Requirements.

907-804.03.11--Concrete Exposed to Seawater. Delete the first sentence of the paragraph in Subsection 804.03.11 on page 962, and substitute the following.

Unless otherwise specifically provided, concrete for structures exposed to seawater shall be Class AA concrete as referenced in Subsection 907-799.02.

Delete Subsection 804.03.16.1 on pages 970 & 971, and substitute the following.

907-804.03.16.1--Cold Weather Concreting.

907-804.03.16.1.1--Mixture Acceptance Temperature. For the purpose of job site acceptance temperature in accordance with Subsection 804.02.13.1.5, in cold weather, the acceptance temperature of the concrete when delivered to the job site shall conform to the temperature limitations of "Temperature Limitations on Concrete when Delivered to Job Site" listed in Table 8 below. For the purpose of mixture acceptance temperature, cold weather is defined as three consecutive days when there is a probability that the daily average of the highest and lowest ambient temperatures is expected to be less than 40°F. This three-day forecast shall be based on the latest information available from the National Weather Service.

TABLE 8
COLD WEATHER TEMPERATURE LIMITATIONS ON CONCRETE WHEN DELIVERED TO JOB SITE

Section thickness in the least dimension inches	Jobsite Acceptance Temperature Range °F
Less than 12	55 to 75
12 to 36	50 to 70
36 to 72	45 to 65
Greater than 72	40 to 60

907-804.03.16.1.2--Structure Concrete Protection. The Contractor shall assume all risk and added cost connected with the placing and protecting of concrete during cold weather. For the purpose of structure protection, cold weather is defined as periods where there are indications of temperatures less than 40°F during the first four days after placement. Permission given by the Engineer to place concrete during such time will in no way relieve the Contractor of responsibility for satisfactory results. Protection of the concrete shall be accomplished in accordance with the requirements in Subsection 907-804.03.16.1.2.1. If approved by the Engineer, the protection of the concrete may be accomplished in accordance with the requirements in Subsection 907-804.03.16.1.2.2. In either case, should it be determined at any time that the concrete placed under such conditions is unsatisfactory, it shall be removed and replaced with satisfactory concrete by the Contractor without extra compensation.

Before placing concrete, all ice or frost shall be removed from the forms and reinforcement.

In the case of concrete placed directly on or in the ground, such as for footings or bottom slabs, protection and curing during cold weather may be provided as set for concrete pavement under Subsection 501.03.20.3.

907-804.03.16.1.2.1--Enclosure Method. The Contractor shall have available on the project the approved facilities necessary to enclose uncured concrete and to keep the temperature of the air inside the enclosure between 50°F and 100°F for the duration of the cold weather period. The Contractor shall use such heating equipment such as stoves, salamanders, or steam equipment as deemed necessary to protect the concrete. When dry heat is used, means of maintaining atmospheric moisture shall be provided.

The Contractor shall install the temperature sensors and other appurtenances to measure and record the temperature history of the air inside the enclosure. The Contractor shall be able to determine the temperature history of air inside the enclosure while remaining outside the enclosure

In the event that the Contractor's enclosure method does not successfully maintain the air temperature within the required range, the Contractor shall suspend additional concrete placements until either 1) such time that changes in the enclosure method are demonstrated to successfully maintain the required temperatures during other periods of cold weather, or 2) such time that concrete placements are not conducted during periods of cold weather.

If the air temperature inside the enclosure at the end of the protection period is more than 20°F greater than the ambient temperature, the Contractor shall 1) stop using heating equipment, 2) leave the enclosure undisturbed, and 3) allow the air temperature inside the enclosure to decrease to within 20°F of the ambient temperature before disturbing or removing the enclosure.

907-804.03.16.1.2.2--Insulating Blanketing Method. At the option of the Contractor with the approval of the Engineer, an approved insulating blanketing material capable of maintaining the temperature of the concrete at or above 40°F may be used to protect the work. The insulating blanketing material shall remain in place until both 1) the required concrete strength in Table 6 is achieved as determined using the Maturity Method in accordance with Subsection 804.03.15, and 2) the temperature differential between the ambient temperature and the internal concrete temperature determined by the maturity meter does not exceed 20°F.

In the event the Engineer does not approve of using the Insulating Blanketing Method, the Contractor shall use the Enclosure Method per Subsection 907-804.03.16.1.2.1.

907-804.03.16.1.2.3--Batching Considerations. One or more of the aggregates and/or mixing water may be heated. The aggregates may be heated by steam, dry heat, or by placing in the mixing water that has been heated. Frozen aggregates shall not be used. When either aggregates or water are heated above 100°F, the aggregates and water shall be combined first in the mixer before the cement is added to avoid flash set. Cement shall not be mixed with water or with a mixture of water and aggregate having a temperature greater than 100°F.

The use of salt or other chemical admixtures in lieu of heating will not be permitted.

907-804.03.17--Curing Concrete.

907-804.03.17.1--Water with Waterproof Cover. In the second sentence of the fourth paragraph of Subsection 804.03.17.1 on page 973, delete the word "due".

Delete the first sentence of the fifth paragraph of Subsection 804.03.17.1 on page 973, and substitute the following.

The Contractor shall maintain the burlap in a fully wet condition using powered fogging equipment, such as a commercially available pressure washer, which is capable of producing a fog spray of atomized droplets of water (i.e., producing a very fine and gentle mist that looks like a foggy morning) until the concrete has gained sufficient strength to allow foot traffic without the foot traffic marring the surface of the concrete.

Delete the seventh paragraph of Subsection 804.03.17.1 on page 973, and substitute the following.

If there is an unanticipated delay in the placement of the first layer of saturated burlap outside the time limit which is due to unforeseen events which are not a part of the Contractor's curing operations for meeting the requirements of this Subsection and which are outside the direct control of the Contractor, the struck-off and finished concrete shall be kept wet by use of the powered fogging equipment used to keep the burlap wet as described previously in the Subsection.

In the second sentence of the eighth paragraph of Subsection 804.03.17.1 on page 973, replace the word "like" with "such as".

907-804.03.17.1.2--Liquid Membrane. In the first sentence of the first paragraph of Subsection 804.03.17.1 on page 973, replace "polyethylene sheets" with "white polyethylene sheets."

907-804.03.19.7--Finishing Bridge Decks.

907-804.03.19.7.1--General. Delete the second paragraph of Subsection 804.03.19.7.1 on page 985, and substitute the following.

In the event a method is not designated on the plans, the Contractor may use either the Longitudinal Method in accordance with Subsection 907-804.03.19.7.2 or the Transverse Method in accordance with Subsection 907-804.03.19.7.3.

907-804.03.19.7.2--Longitudinal Method. Delete the first sentence of the first paragraph of Subsection 804.03.19.7.2 on page 985, and substitute the following.

The longitudinal method may only be used for repairs to bridge decks or bridge widening projects.

907-804.03.19.7.3--Transverse Method. Before the first sentence of the first paragraph of Subsection 804.03.19.7.3 on page 986, add the following.

The transverse method shall be used for construction of new bridge decks and may be used for bridge deck repair or bridge widening.

907-804.03.22--Precast-Prestressed Concrete Bridge Members.

907-804.03.22.8--Testing of Materials. Delete the first sentence of the paragraph in Subsection 804.03.22.8 on page 997, and substitute the following.

Concrete and aggregate testing shall meet the requirements of Division VI of PCI Quality Control Manual, Latest Edition, except that the concrete mixture design shall meet the requirements of Subsection 907-799.

907-804.05--Basis of Payment. Delete the first and second pay items listed on page 999, and substitute the following.

907-804-A: Bridge Concrete, Class _____ - per cubic yard

907-804-B: Box Bridge Concrete, Class _____ - per cubic yard

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISIONS NO. 907-823-8 **CODE: (SP)**

DATE: 08/06/2024

SUBJECT: Preformed Joint Seal

Section 907-823, Preformed Joint Seal, is hereby added to and becomes a part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-823--PREFORMED JOINT SEAL

907-823.01--Description. This work consists of furnishing and installing preformed joint seals in accordance with these specifications and the details shown in the Plans or drawings provided.

907-823.02--Materials. The Contractor shall furnish a manufacturer's certification stating that the material used meets the requirements of this specification.

The preformed joint seal shall be one of the following, or an approved equal. The size of the seal, Type I, Type II, or Type III shall be determined based on the size of the joint opening, as detailed in the Plans or drawings provided. It is the Contractor's responsibility to ensure that the size selected is appropriate for the width of the joint. Type I shall be used for joint openings less than two inches (2"). Type II shall be used for joint openings greater than two inches (2"), with the maximum joint opening being two and one-half inches (2½"). Type III shall be used for joint openings greater than two and one-half inch (2½"), with the maximum joint opening being three and one-half inch (3½"). In cases where the joint opening (design width "A" plus seat widths on both sides of the joint opening) is greater than four inches (4"), another type of expansion material shall be required as directed by the Director of Structures, State Bridge Engineer.

1. Silicoflex Joint Sealing System
   Manufactured by R.J. Watson, Inc. in Alden, NY
   www.rjwatson.com

2. Wabo®SPS Joint System
   Manufactured by Watson Bowman Acme Corporation in Amherst, NY
   www.wbacorp.com

3. Silspec SSS Silicone Strip Seal
   Manufactured by SSI Commercial & Highway Construction Materials in Tulsa, OK
   www.ssicm.com

907-823.03--Construction Methods. Preformed joint seals shall be installed in accordance with the manufacturer's recommendations. The material shall seal the deck surface, gutters, and curbs to prevent moisture or other contaminants from leaking through the joints. The joint seal shall be installed in such a manner that the top surface of the material is within the minimum and maximum depths below the roadway or bridge surface recommended by the manufacturer.

Saw cutting for the joint repair shall be accomplished by sawing at the locations and depth shown on the joint repair detail sheets in the plans or in the contract documents. Saw cuts shall be as near vertical as possible at the saw line of the repair area. The saw cut depth shall be equivalent to the installation depth required by the manufacturer's specifications, and the type specified shall be the same as the type specified for preformed joint seal.

907-823.04--Method of Measurement. Preformed joint seal of the type specified will be measured in linear feet along the length of the centerline joint.

Saw cuts of the type specified will be measured by the linear foot along the length of the bridge deck on each side of the centerline joint.

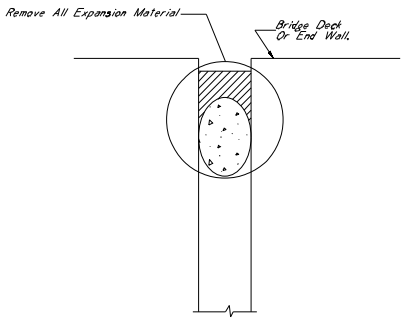
907-823.05--Basis of Payment. Preformed joint seal, measured as prescribed above, will be paid for at the contract unit price per linear foot, which shall be full compensation for furnishing all labor, equipment, tools, materials, and incidentals necessary to complete the work.

Saw cuts, measured as prescribed above, will be paid for at the contract unit price per linear foot, which shall be full compensation for furnishing all labor, equipment, tools, materials, and incidentals necessary to complete the work.

Payment will be made under:

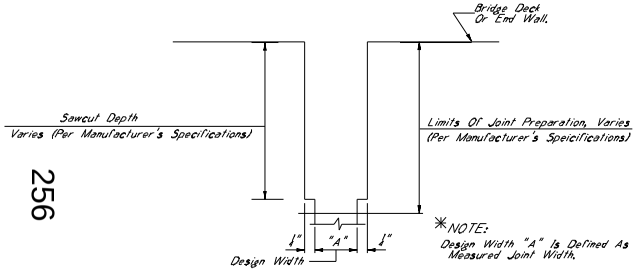
907-823-A: Preformed Joint Seal, Type ___ - per linear foot

907-823-B: Saw Cut, Type _____ - per linear foot



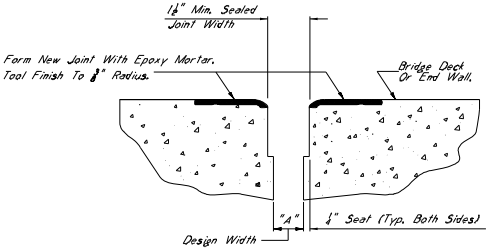
TYPICAL SECTION AT EXISTING JOINT

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



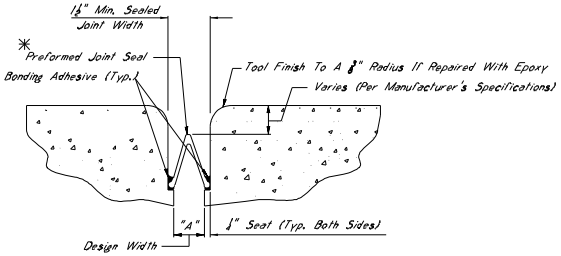
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL AND SAWCUT

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut, With Epoxy Mortar Or Approved Equivalent



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut

*NOTES:

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

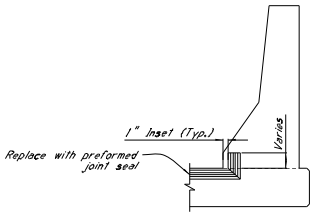
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

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

   C. Silspec S55 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". Type III Shall Be Used For Design Width Greater Than 2½", With The Maximum Design Width Being 3½". In Cases Where Design Widths Are Greater Than 3½", 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.



*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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

907-808-A002 JOINT REPAIR

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. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited to Compacted Dirt, Vegetation and Trash) Located At Any Depth Within The Joint Shall Be Included 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.

907-808-A003 JOINT REPAIR WITHOUT 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. Removal Of Existing Silicone Sealed, Compression, And AC Sealed Joint Materials Shall Be Included Under This Item Of Work. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited to Compacted Dirt, Vegetation and Trash) Located At Any Depth Within The Joint Shall Be Included 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
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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

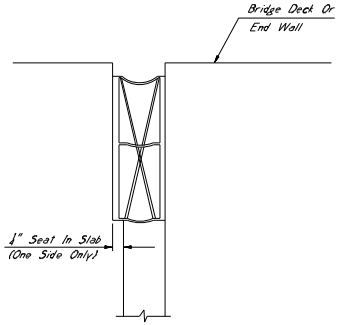
Basis Of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Length Of The Centerline Joint.

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.

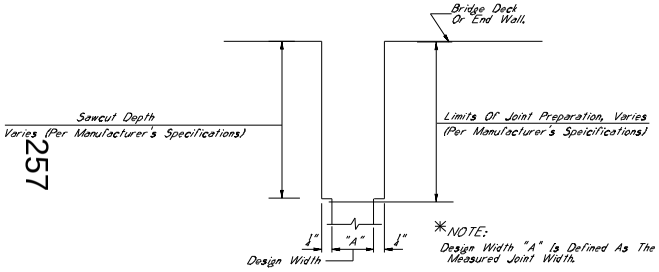
GENERAL NOTES:

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.



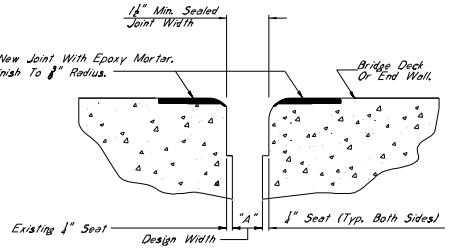
TYPICAL SECTION AT EXISTING JOINT

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



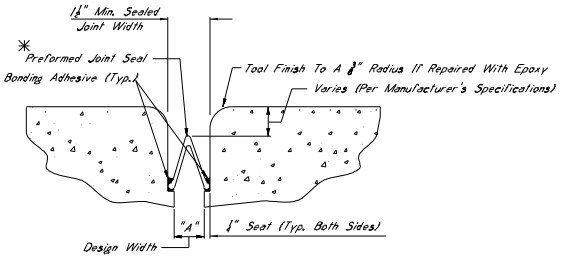
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL AND SAWCUT

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut, With Epoxy Mortar Or Approved Equivalent



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:

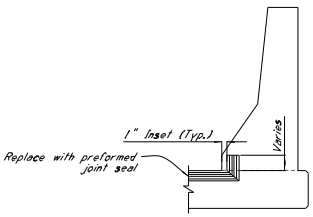
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

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

   C. Silspec SSS 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". Type III Shall Be Used For Design Width Greater Than 2½", With The Maximum Design Width Being 3½". In Cases Where Design Widths Are Greater Than 3½", 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.



✳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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

907-808-A002 JOINT REPAIR

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. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation and Trash) Located At Any Depth Within The Joint Shall Be Included Under This Item Of Work. 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.

907-808-A003 JOINT REPAIR WITHOUT 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. Removal Of Existing Silicone Sealed, Compression, And AC Sealed Joint Materials Shall Be Included Under This Item Of Work. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation and Trash) Located At Any Depth Within The Joint Shall Be Included 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-A001 SAW CUT, TYPE I
907-823-A002 SAW CUT, TYPE II
907-823-A003 SAW CUT, TYPE III

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
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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

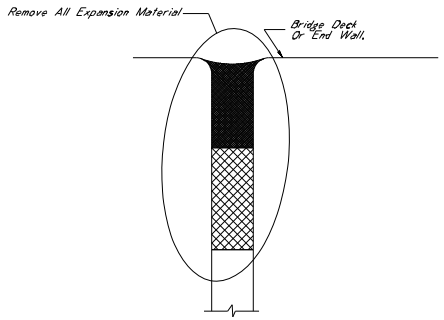
Basis Of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Length Of The Centerline Joint.

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.

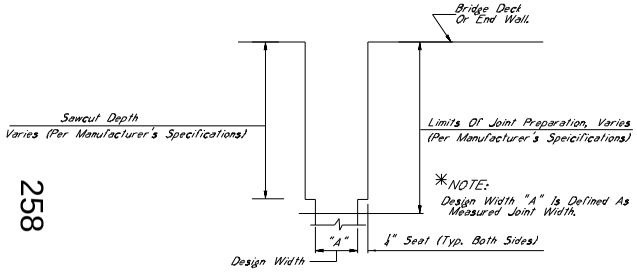
GENERAL NOTES:

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.



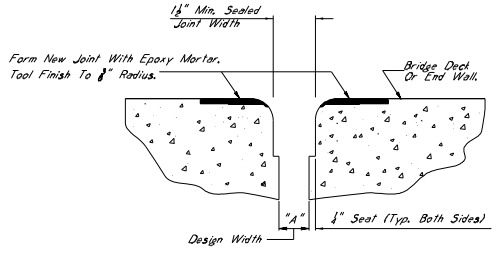
TYPICAL SECTION AT EXISTING JOINT

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



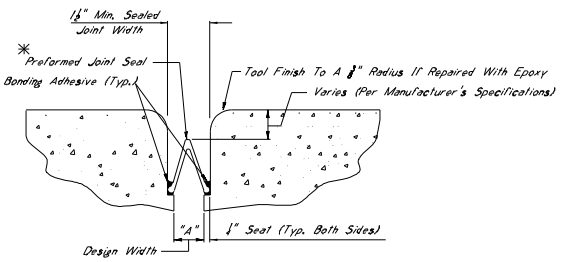
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL AND SAWCUT

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut, With Epoxy Mortar Or Approved Equivalent



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:

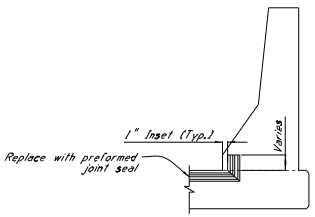
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   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 ¼" 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". Type III Shall Be Used For Design Width Greater Than 2½" With The Maximum Design Width Being 3". In Cases Where Design Widths Are Greater Than 3", 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.



*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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

907-808-A002 JOINT REPAIR

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. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation and Trash) Located At Any Depth Within The Joint Shall Be Included 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.

907-808-A003 JOINT REPAIR WITHOUT 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. 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. Removal Of Joint Materials And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation And Trash) Located At Any Depth Within The Joint Shall Be Included 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
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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:

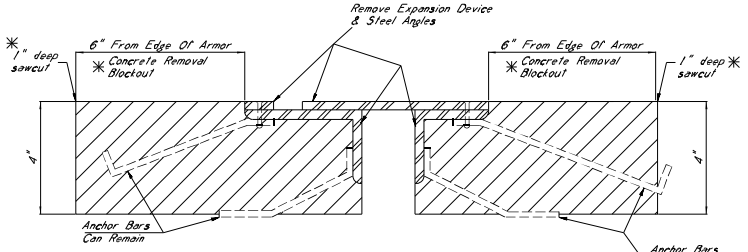
1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2017.
2. No Change Of Plans Will Be Permitted Except By Written Approval Of The Director Of Structures, State Bridge Engineer. Minor Changes To Detail Of Design Or Construction Procedure May Be Authorized By The 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.

✳1" SAWCUT NOTES:

All 1" Sawcuts Shall Be Considered An Absorbed Item of Work. The Contractor Shall Verify Depth Of Reinforcing Steel Before Making Any Sawcuts. The Depth Of The Sawcut Shall Be No More Than The Depth Of The Reinforcing Steel. Any Damage To Reinforcing Steel Shall Be Repaired To The Satisfaction Of The Engineer At No Cost To The State.

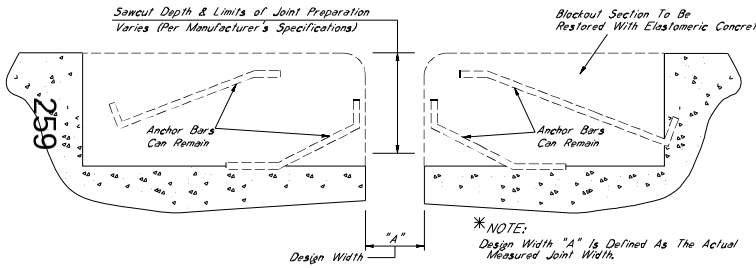
✳CONCRETE REMOVAL BLOCKOUT NOTES

Removal Of The Concrete Blockout Area Shall Be Considered An Absorbed Item Of Work Under Pay Item 202-B169. The Contractor Shall Use A Hammer No Larger Than 30 LBs To Complete This Work.



TYPICAL SECTION AT EXISTING JOINT

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

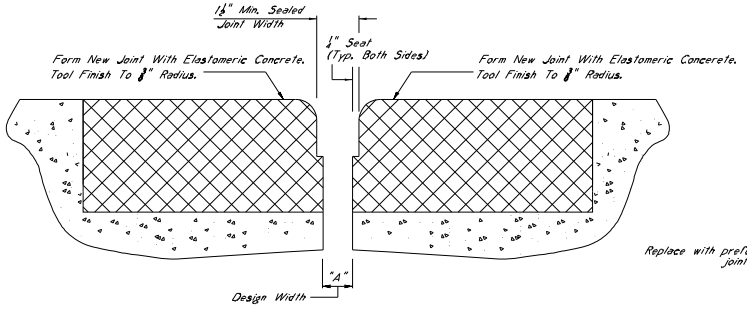


✳NOTE:

Design Width "A" Is Defined As The Actual Measured Joint Width.

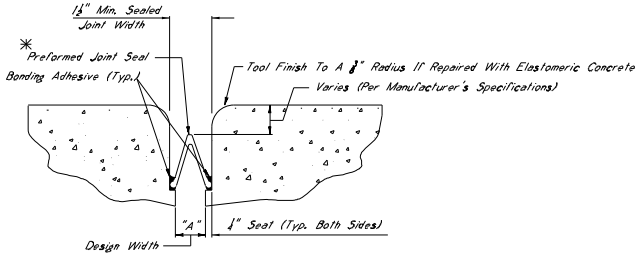
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut With Elastomeric Concrete



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Elastomeric Concrete

✳NOTES:

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

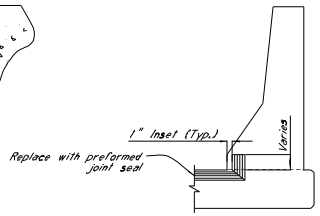
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   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". Type III Shall Be Used For Design Width Greater Than 2½" With The Maximum Design Width Being 3½". In Cases Where Design Widths Are Greater Than 3½", 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.



✳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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

202-B169 REMOVAL OF EXISTING JOINT MATERIAL

Description: Shall Include The Removal Of Material Associated With Armor, Sliding Plate, And Neoprene Expansion Joints, As Designated In The Detail Drawings Provided. Removal of The Concrete Blockout Area Shall Be Absorbed Under This Item Of Work. Other Joint Types Shall Not Be Included Under This Item Of Work Unless Otherwise Directed By The Engineer. Removal of Joint Material And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation And Trash) Located At Any Depth Within The Joint Shall Be Included Under This Item Of Work.

Basis Of Payment: Removal of Armor And Sliding Plate Joint Material 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, While Removal Of Neoprene Joint Material Will Only Be Paid For As The Length Along The Centerline Of The Joint.

907-823-B001 SAW CUT, TYPE I
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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.

907-823-A001 PREFORMED JOINT SEAL, TYPE I
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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.

ELASTOMERIC CONCRETE NOTES

907-824-PP007 BRIDGE REPAIR, ELASTOMERIC CONCRETE

Description: Elastomeric Concrete Shall Be One Of The Following Products, Installed According To The Manufacturer's Specifications:

A. Poly-Tron Elastomeric Concrete
Manufactured By R.J. Watson, Inc. In Alden, NY
www.rjwatson.com

B. WaboCrete II
Manufactured By Watson Bowman Acme Corporation In Amherst, NY
www.wbacorp.com

C. Delcrete Elastomeric Concrete
Manufactured By The D.S. Brown Company In North Baltimore, OH
www.dsbrown.com

Basis of Payment: The Accepted Quantities Will Be Paid For In Cubic Yards At The Contract Unit Price.

GENERAL NOTES:

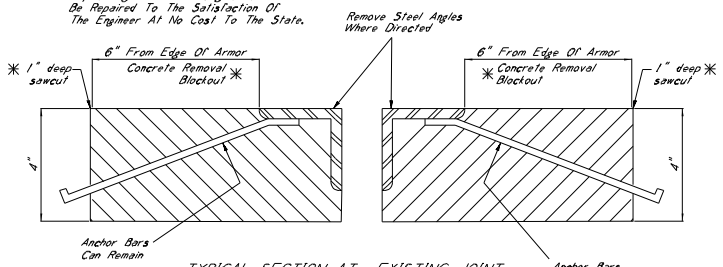
1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2017.
2. No Change Of Plans Will Be Permitted Except By Written Approval Of The Director Of Structures, State Bridge Engineer. Minor Changes To Detail Of Design Or Construction Procedure May Be Authorized By The 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.

✳1" SAWCUT NOTES:

All 1" Sawcuts Shall Be Considered An Absorbed Item of Work. The Contractor Shall Verify Depth Of Reinforcing Steel Before Making Any Sawcuts. The Depth Of The Sawcut Shall Be No More Than The Depth Of The Reinforcing Steel. Any Damage To Reinforcing Steel Shall Be Repaired To The Satisfaction Of The Engineer At No Cost To The State.

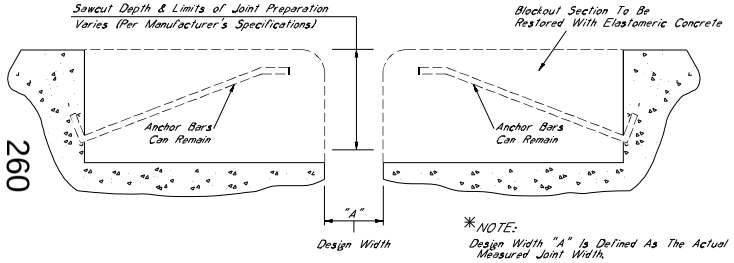
✳CONCRETE REMOVAL BLOCKOUT NOTES

Removal Of The Concrete Blockout Area Shall Be Considered An Absorbed Item Of Work Under Pay Item 202-B169. The Contractor Shall Use A Hammer No Larger Than 30 LBs To Complete This Work.



TYPICAL SECTION AT EXISTING JOINT

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

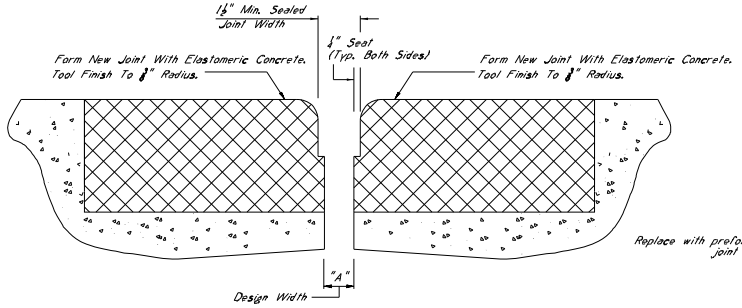


✳NOTE:

Design Width "A" Is Defined As The Actual Measured Joint Width.

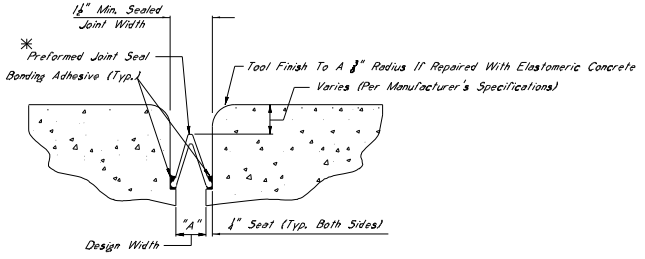
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut With Elastomeric Concrete



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Elastomeric Concrete

✳NOTES:

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

   A. Silicoflex Joint Sealing System
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   www.rjwatson.com

   B. Wabo SPS Joint System
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   C. Silspec SSS Silicone Strip Seal
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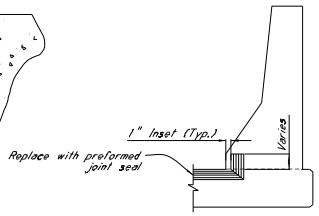
2. For Estimating Purposes, The R.J. Watson Silicoflex Joint Sealing System Was Selected. However, Should Another Supplier Be Chosen, It Is The Contractor's Responsibility To Ensure That The Manufacturer's Recommendations Are Followed For Joint Preparation, Installation Depths And Widths, Adhesive Setting 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". Type III Shall Be Used For Design Width Greater Than 2½", With The Maximum Design Width Being 3¼". In Cases Where Design Widths Are Greater Than 3¼", 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.



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ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

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Basis Of Payment: Removal of Armor And Sliding Plate Joint Material 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, While Removal Of Neoprene Joint Material Will Only Be Paid For As The Length Along The Centerline Of The Joint.

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907-823-B002 SAW CUT, TYPE II
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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.

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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.

ELASTOMERIC CONCRETE NOTES

907-824-PP007 BRIDGE REPAIR, ELASTOMERIC CONCRETE

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Manufactured By Watson Bowman Acme Corporation In Amherst, NY
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C. Delcrete Elastomeric Concrete
Manufactured By The D.S. Brown Company In North Baltimore, OH
www.dsbrown.com

Basis of Payment: The Accepted Quantities Will Be Paid For In Cubic Yards At The Contract Unit Price.

GENERAL NOTES:

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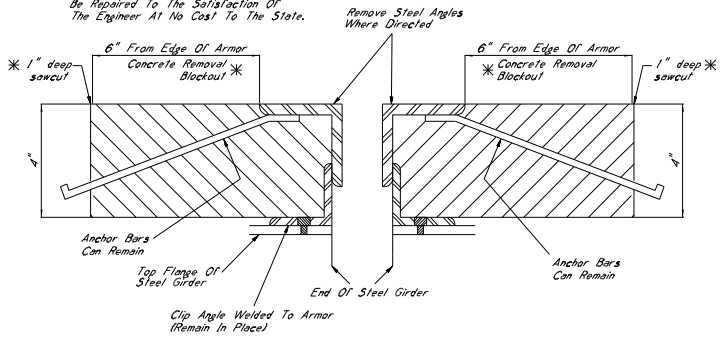
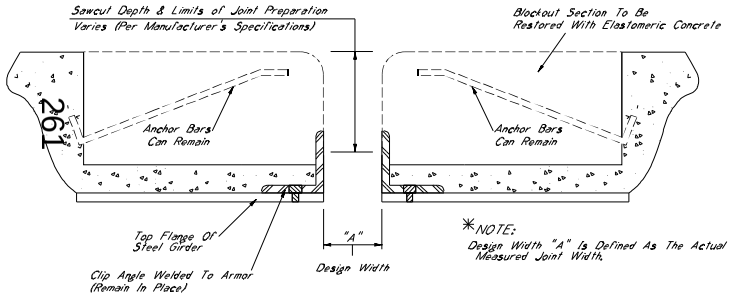


TYPICAL SECTION AT EXISTING JOINT

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

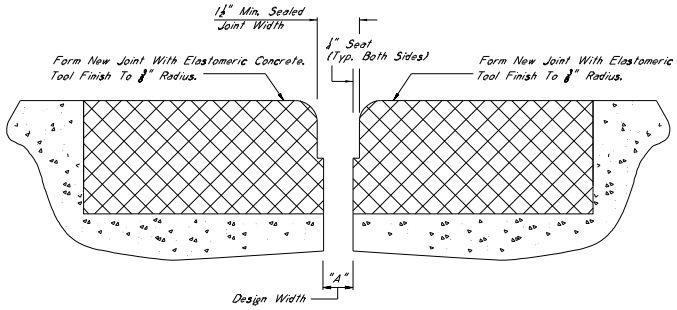


✳NOTE:

Design Width "A" Is Defined As The Actual Measured Joint Width.

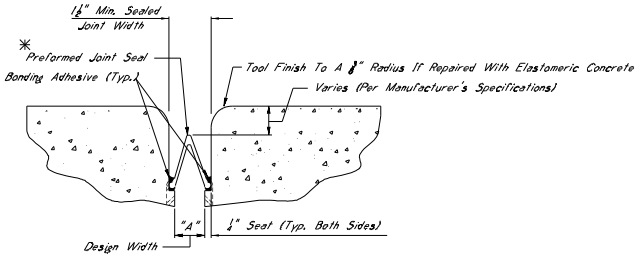
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut With Elastomeric Concrete



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Elastomeric Concrete

✳NOTES:

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

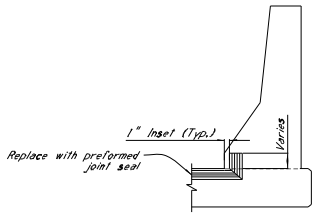
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   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 1" 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". Type III Shall Be Used For Design Width Greater Than 2½". With The Maximum Design Width Being 3½". In Cases Where Design Widths Are Greater Than 3½", 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.



✳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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

202-B169 REMOVAL OF EXISTING JOINT MATERIAL

Description: Shall Include The Removal Of Material Associated With Armor, Sliding Plate, And Neoprene Expansion Joints, As Designated In The Detail Drawings Provided. Removal of The Concrete Blockout Area Shall Be Absorbed Under This Item Of Work. Other Joint Types Shall Not Be Included Under This Item Of Work Unless Otherwise Directed By The Engineer. Removal of Joint Material And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation And Trash) Located At Any Depth Within The Joint Shall Be Included Under This Item Of Work.

Basis Of Payment: Removal of Armor And Sliding Plate Joint Material 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, While Removal Of Neoprene Joint Material Will Only Be Paid For As The Length Along The Centerline Of The Joint.

907-823-B001 SAW CUT, TYPE I
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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.

907-823-A001 PREFORMED JOINT SEAL, TYPE I
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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.

ELASTOMERIC CONCRETE NOTES

907-824-PP007 BRIDGE REPAIR, ELASTOMERIC CONCRETE

Description: Elastomeric Concrete Shall Be One Of The Following Products, Installed According To The Manufacturer's Specifications:

A. Poly-Tron Elastomeric Concrete
Manufactured By R.J. Watson, Inc. In Alden, NY
www.rjwatson.com

B. WaboCrete II
Manufactured By Watson Bowman Acme Corporation In Amherst, NY
www.wbacorp.com

C. Delcrete Elastomeric Concrete
Manufactured By The D.S. Brown Company In North Baltimore, OH
www.dsbrown.com

Basis of Payment: The Accepted Quantities Will Be Paid For In Cubic Yards At The Contract Unit Price.

GENERAL NOTES:

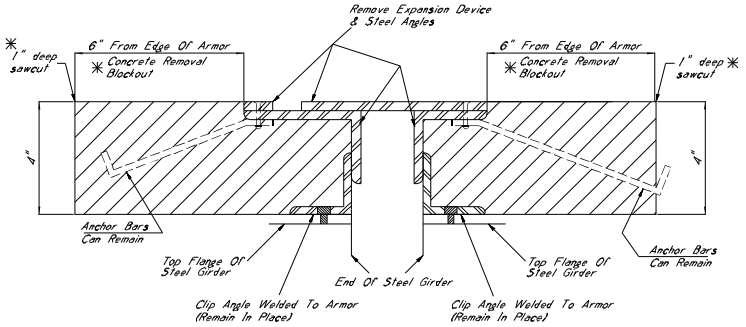
1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2017.
2. No Change Of Plans Will Be Permitted Except By Written Approval Of The Director Of Structures, State Bridge Engineer. Minor Changes To Detail Of Design Or Construction Procedure May Be Authorized By The 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.

✳1" SAWCUT NOTES:

All 1" Sawcuts Shall Be Considered An Absorbed Item of Work. The Contractor Shall Verify Depth Of Reinforcing Steel Before Making Any Sawcuts. The Depth Of The Sawcut Shall Be No More Than The Depth Of The Reinforcing Steel. Any Damage To Reinforcing Steel Shall Be Repaired To The Satisfaction Of The Engineer At No Cost To The State.

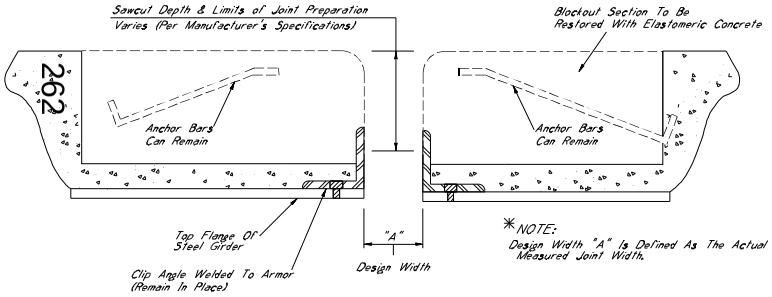
✳CONCRETE REMOVAL BLOCKOUT NOTES

Removal Of The Concrete Blockout Area Shall Be Considered An Absorbed Item Of Work Under Pay Item 202-B169. The Contractor Shall Use A Hammer No Larger Than 30 LBs To Complete This Work.



TYPICAL SECTION AT EXISTING JOINT

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

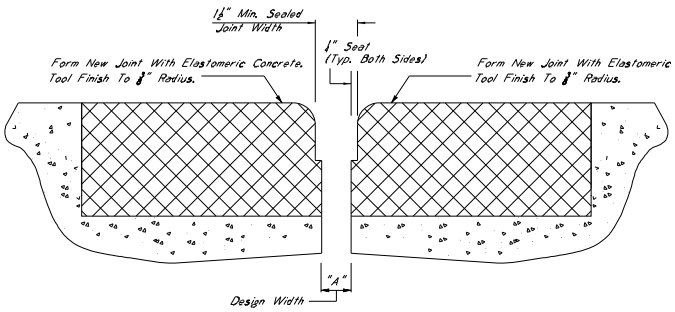


✳NOTE:

Design Width "A" Is Defined As The Actual Measured Joint Width.

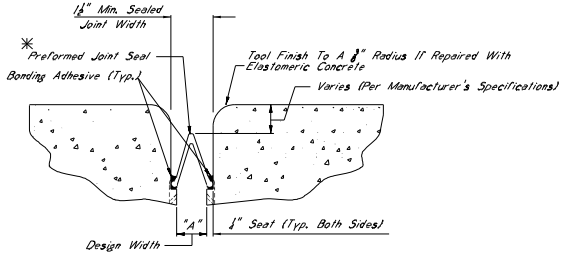
TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL

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



TYPICAL SECTION AT SAWCUT & JOINT REPAIR

Showing Area Where Repairs Are Made After Sawcut With Elastomeric Concrete



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Elastomeric Concrete

✳NOTES:

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

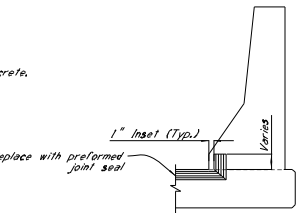
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   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 1" Seal 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 2". Type III Shall Be Used For Design Width Greater Than 2", With The Maximum Design Width Being 3". In Cases Where Design Widths Are Greater Than 3", 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.



✳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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

202-B169 REMOVAL OF EXISTING JOINT MATERIAL

Description: Shall Include The Removal Of Material Associated With Armor, Sliding Plate, And Neoprene Expansion Joints, As Designated In The Detail Drawings Provided. Removal of The Concrete Blockout Area Shall Be Absorbed Under This Item Of Work. Other Joint Types Shall Not Be Included Under This Item Of Work Unless Otherwise Directed By The Engineer. Removal of Joint Material And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation And Trash) Located At Any Depth Within The Joint Shall Be Included Under This Item Of Work.

Basis Of Payment: Removal of Armor And Sliding Plate Joint Material 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, While Removal Of Neoprene Joint Material Will Only Be Paid For As The Length Along The Centerline Of The Joint.

907-823-B001 SAW CUT, TYPE I
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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.

907-823-A001 PREFORMED JOINT SEAL, TYPE I
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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.

ELASTOMERIC CONCRETE NOTES

907-824-PP007 BRIDGE REPAIR, ELASTOMERIC CONCRETE

Description: Elastomeric Concrete Shall Be One Of The Following Products, Installed According To The Manufacturer's Specifications:

A. Poly-Tron Elastomeric Concrete
Manufactured By R.J. Watson, Inc. In Alden, NY
www.rjwatson.com

B. WaboCrete II
Manufactured By Watson Bowman Acme Corporation In Amherst, NY
www.wbacorp.com

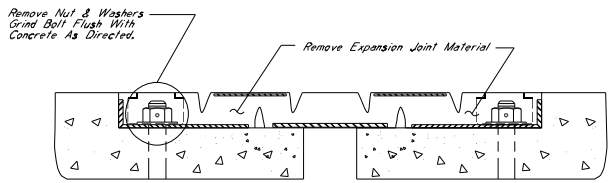
C. Delcrete Elastomeric Concrete
Manufactured By The D.S. Brown Company In North Baltimore, OH
www.dsbrown.com

Basis of Payment: The Accepted Quantities Will Be Paid For In Cubic Yards At The Contract Unit Price.

GENERAL NOTES:

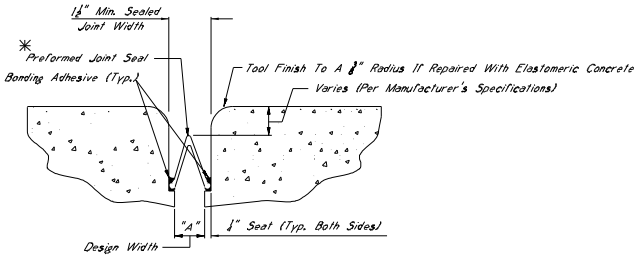
1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2017.
2. No Change Of Plans Will Be Permitted Except By Written Approval Of The Director Of Structures, State Bridge Engineer. Minor Changes To Detail Of Design Or Construction Procedure May Be Authorized By The 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.

S.P. No. 907-823-8 -- Cont'd.



TYPICAL SECTION AT EXISTING JOINT

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



TYPICAL SECTION AT SAWCUT & SEALED JOINT

Showing Sealed Joint After Sawcut And Repair With Elastomeric Concrete

✳NOTES:

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

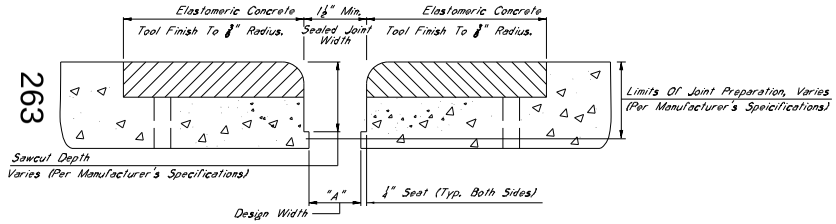
   A. Silicoflex Joint Sealing System
   Manufactured By R.J. Watson, Inc. In Alden, NY
   www.rjwatson.com

   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 2". Type III Shall Be Used For Design Width Greater Than 2", With The Maximum Design Width Being 3". In Cases Where Design Widths Are Greater Than 3", 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.

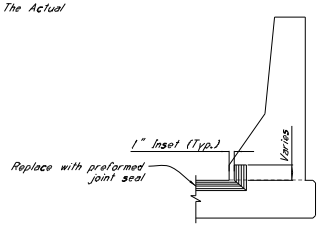


TYPICAL SECTION AT JOINT AFTER REMOVAL OF EXISTING SEAL

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

✳NOTE:

Design Width "A" Is Defined As The Actual Measured Joint Width.



✳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".

ELEVATION AT END OF SPAN

NOTES ON ASSOCIATED ITEMS OF WORK:

202-B169 REMOVAL OF EXISTING JOINT MATERIAL

Description: Shall Include The Removal Of Material Associated With Armor, Sliding Plate, And Neoprene Expansion Joints, As Designated In The Detail Drawings Provided. Other Joint Types Shall Not Be Included Under This Item Of Work Unless Otherwise Directed By The Engineer. Removal of Joint Material And Any Trash And Debris (Including But Not Limited To Compacted Dirt, Vegetation And Trash) Located At Any Depth Within The Joint Shall Be Included Under This Item Of Work.

Basis Of Payment: Removal of Armor And Sliding Plate Joint Material 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, While Removal Of Neoprene Joint Material Will Only Be Paid For As The Length Along The Centerline Of The Joint.

907-823-B001 SAW CUT, TYPE I
907-823-B002 SAW CUT, TYPE II
907-823-B003 SAW CUT, TYPE III

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.

907-823-A001 PREFORMED JOINT SEAL, TYPE I
907-823-A002 PREFORMED JOINT SEAL, TYPE II
907-823-A003 PREFORMED JOINT SEAL, TYPE III

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.

ELASTOMERIC CONCRETE NOTES

907-824-PP007 BRIDGE REPAIR, ELASTOMERIC CONCRETE

Description: Elastomeric Concrete Shall Be One Of The Following Products, Installed According To The Manufacturer's Specifications:

A. Poly-Tron Elastomeric Concrete
Manufactured By R.J. Watson, Inc. In Alden, NY
www.rjwatson.com

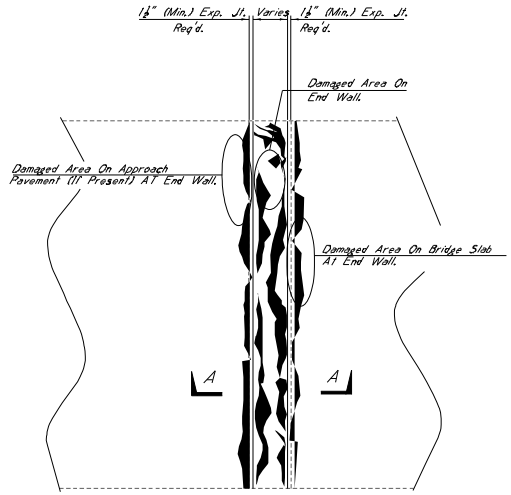
B. WaboCrete II
Manufactured By Watson Bowman Acme Corporation In Amherst, NY
www.wbacorp.com

C. Delcrete Elastomeric Concrete
Manufactured By The D.S. Brown Company In North Baltimore, OH
www.dsbrown.com

Basis of Payment: The Accepted Quantities Will Be Paid For In Cubic Yards At The Contract Unit Price.

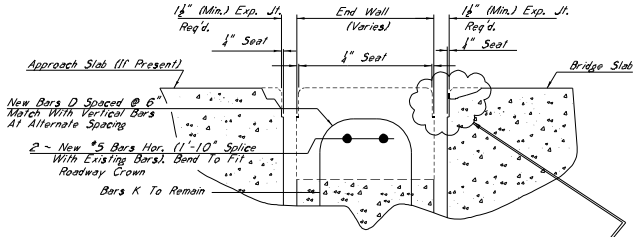
GENERAL NOTES:

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.



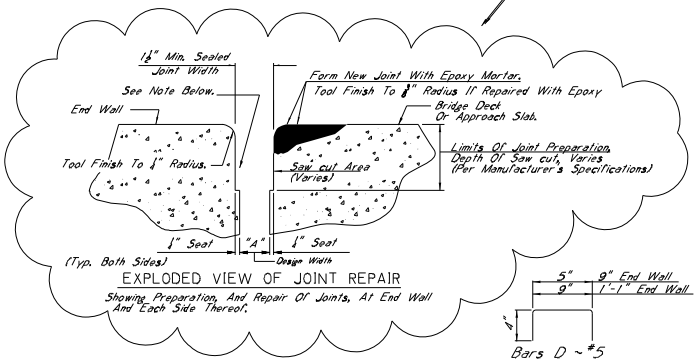
PLAN VIEW

Showing Existing Damaged Areas On And Around End Wall.



DETAIL "D"

Showing Repair Details Of End Wall, Reinforcing Steel, And Expansion Joint Formation.

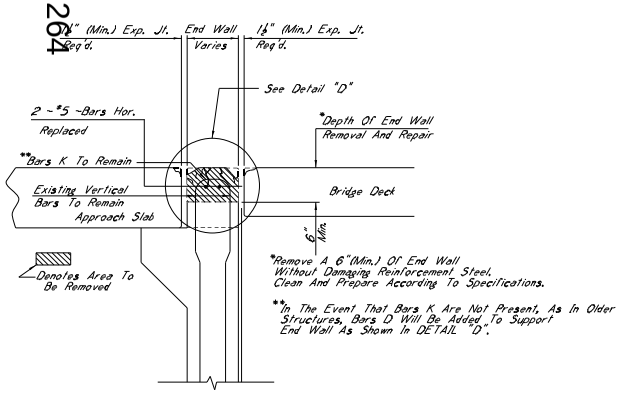


EXPLODED VIEW OF JOINT REPAIR

Showing Preparation, And Repair Of Joints, At End Wall And Each Side Thereof.

*NOTE:
Form Vertical Faces Of End Wall To Include 1" Seat Such That The Preformed Joint Seal May Be Applied Per Manufacturer's Specification. See Detail "DP" On This Sheet.

*NOTE:
Design Width "A" Is Defined As The Actual Measured Joint Width.

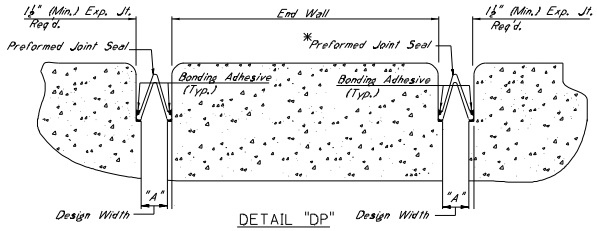


*Remove A 6"(Min.) Of End Wall Without Damaging Reinforcement Steel. Clean And Prepare According To Specifications.

**In The Event That Bars K Are Not Present, As In Older Structures, Bars D Will Be Added To Support End Wall As Shown In DETAIL "D".

ELEVATION (SECTION A-A)

Showing Details Of Removal Of Damaged End Wall.



DETAIL "DP"

Showing Sealed Joint After Saw cut 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.
   www.rjwatson.com

   B. Wabo SPS Joint System
   Manufactured By Watson Bowman Acme Corporation
   www.wbacorp.com

   C. Silspec SSS 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 Seat Required On Both Sides Of The Joint. Preformed Joint Strip 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 4". Type III Shall Be Used For Design Width Greater Than 4", With The Maximum Design Width Being 8". In Cases Where Design Widths Are Greater Than 8", 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.

NOTES ON ASSOCIATED ITEMS OF WORK:

907-824-PP008 BRIDGE REPAIR, ENDWALL REPAIR

Description: Shall Include The Work Necessary To Remove And Replace The Damaged Endwall, As Designated In The Detail Drawings Provided. Instead Of Limiting The Repair To The Damaged Section, The Specified Depth Of Endwall Shall Be Removed Along The Entire Width Of The Bridge Deck.

Basis of Payment: The Accepted Quantities Will Be Paid For In Linear Feet At The Contract Unit Price Along The Width Of The Bridge Deck.

Damage Caused To Other Elements Of The Structure Or Roadway While Completeing This Item Of Work Shall Be Repaired By The Contractor At No Cost To The Department.

Prior to Placing New Concrete, All Concrete Surfaces That Will Be In Contact With The New Concrete Shall Be Painted With An Approved Epoxy Binder Designed To Bond New Concrete To Old.

New Concrete Shall Be High Early Strength Bridge Concrete, As Follows:

The concrete mixture design shall be furnished by the Contractor for approval by the Materials Division. Mixture design parameters are as follows:

Required Strength:	2500 psi prior to releasing to traffic
Total Air Content:	3-6 %
Maximum Slump:	6 inches

Non-chloride based accelerator may be used if the ambient temperature is 50°F or less, but shall not be used if the ambient temperature is greater than 50°F.

Synthetic structural fibers shall be used. The Contractor shall select a manufacturer from MDOT's Approved Products List, and the manufacturer's recommendations shall be followed for the dosage rate.

Curing is to be continuous until 2500 psi is attained. Traffic is to be diverted from the repair area until this value is reached. The Contractor may use the Maturity Method per Section 907-804 to estimate the concrete compressive strength for the purposes of releasing the repair area to traffic. However, final acceptance of the in-place concrete shall be determined using eight concrete test cylinders, which shall be cured in a container next to the concrete placement. Two cylinders are to be tested at 3, 16, and 24 hour intervals. The two remaining cylinders shall be used to determine the 28-day compressive strength of the concrete.

The Removal Of Existing Expansion Material May Require Any Number Of The Pay Items Listed Below. Once The Expansion Device Is Identified, Refer To The Corresponding Joint Repair Detail Sheet For Additional Details On The Associated Items Of Work.

202-B169	REMOVAL OF EXISTING JOINT MATERIAL
907-808-A002	JOINT REPAIR
907-808-A003	JOINT REPAIR WITHOUT EPOXY
907-823-B001	SAW CUT, TYPE I
907-823-B002	SAW CUT, TYPE II
907-823-B003	SAW CUT, TYPE III
907-823-A001	PREFORMED JOINT SEAL, TYPE I
907-823-A002	PREFORMED JOINT SEAL, TYPE II
907-823-A003	PREFORMED JOINT SEAL, TYPE III

GENERAL NOTES:

1. Specifications: Mississippi Standard Specifications For Road And Bridge Construction, 2012.
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.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-899-1 **CODE: (SP)**

DATE: 01/17/2017

SUBJECT: Railway-Highway Provisions

Section 907-899, Railway-Highway Provisions, is hereby added to and made part of the 2017 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows:

SECTION 907-899--RAILWAY-HIGHWAY PROVISIONS

907-899.01--Description. This special provision addresses the Contractor's involvement with railroad flagging, Contractor Safety Orientation, Contractor Background Investigation, Contractor Roadway Worker on Track Safety Program and Safety Action Plan, and any other requirements set forth by the Railroad and any attached Exhibits.

Prior to bidding, the Contractor shall read and comply with the requirements of the Railroad and any attached Exhibits. The Contractor shall contact the Railroad concerning insurance coverage requirements, Railroad flagging costs, Contractor Safety Orientation, Contractor Background Investigation, Contractor Roadway Worker on Track Safety Program and Safety Action Plan, and any other requirements set forth by the Railroad and any attached Exhibits. In case the railroad requires coverage over and above that required by the Standard Specifications, the railroad requirements shall be met.

If in the opinion of the RAILROAD, the presence of an authorized representative of the RAILROAD is required to supervise the same, the RAILROAD shall render bills to the Contractor for all expenses incurred by it for such supervision. This includes all labor costs for flagmen or cable locate supplied by the RAILROAD to protect RAILROAD operation, and for the full cost of furnishing, installation and later removal of any temporary supports for said tracks, as the RAILROAD's Chief Engineer's Office may deem necessary.

It will be the Contractor's responsibility to pay all bills associated with the Railroad requirements and any attached Exhibits.

A cable locate of RAILROAD owned facilities may be required to identify and protect Signal & Communication cables that have been installed to provide power, signal control, wayside communications. These cables are vital to a safe and reliable railway operation. The cable locate will be performed by a qualified RAILROAD employee.

Outside Contractors are prohibited from driving on, along, or across any track that does not have a RAILROAD installed crossing. They may utilize an existing public crossing. The practice of allowing rubber tired equipment to operate over track with no crossing has been banned.

The Contractor shall complete and process any required forms addressed by the Railroad or any attached Exhibits. The Contractor shall not commence or carry on any form of work on, under, above or within the designated distance from the Railroad track prior to getting approval from the Railroad.

907-899.02--Blank.

907-899.03--Construction Requirements. The Contractor shall read and comply with the requirements of the Railroad and any attached Exhibits.

907-899.04--Method of Measurement. Railway-highway provisions will be measured as a unit lump sum quantity. Measurement for payment will be in accordance with the following schedule:

a) On the first estimate, twenty five percent (25%) of the amount bid for Railway Highway Provision will be paid.
b) When twenty five percent (25%) of the original contract amount is earned from all direct pay items, fifty percent (50%) of the amount bid for Railway Highway Provision will be paid.
c) When fifty percent (50%) of the original contract amount is earned from all direct pay items, one hundred percent (100%) of the amount bid for Railway Highway Provision will be paid.

907-899.05--Basis of Payment. Railway-highway provisions, measured a prescribed above, will be paid for at the contract lump sum price, which price shall be payment in full for all insurance coverage requirements, railroad flagging costs, Contractor safety orientation, Contractor background investigation, Contractor safety programs and plans, and any other requirements set forth by the Railroad and any attached Exhibits, and other incidentals necessary to complete the requirements of this work.

Payment will be made under:

907-899-A: Railway-Highway Provisions - lump sum

S E C T I O N 9 0 5 - P R O P O S A L

Date _____

Mississippi Transportation Commission
Jackson, Mississippi

Sirs: The following proposal is made on behalf of _____
_____ of _____
_____
for constructing the following designated project(s) within the time(s) hereinafter specified.

The plans are composed of drawings and blue prints on file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

The Specifications are the current Standard Specifications of the Mississippi Department of Transportation approved by the Federal Highway Administration, except where superseded or amended by the plans, Special Provisions and Notice(s) to Bidders attached hereto and made a part thereof.

I (We) certify that I (we) possess a copy of said Standard and any Supplemental Specifications.

Evidence of my (our) authority to submit the Proposal is hereby furnished. The proposal is made without collusion on the part of any person, firm or corporation. I (We) certify that I (we) have carefully examined the Plans, the Specifications, including the Special Provisions and Notice(s) to Bidders, herein, and have personally examined the site of the work. On the basis of the Specifications, Special Provisions, Notice(s) to Bidders, and Plans, I (we) propose to furnish all necessary machinery, tools, apparatus and other means of construction and do all the work and furnish all the materials in the manner specified. I (We) understand that the quantities mentioned herein are approximate only and are subject to either increase or decrease, and hereby propose to perform any increased or decreased quantities of work at the unit prices bid, in accordance with the above.

I (We) acknowledge that this proposal will be found irregular and/or non-responsive unless a certified check, cashier's check, or Proposal Guaranty Bond in the amount as required in the Advertisement (or, by law) is submitted electronically with the proposal or is delivered to the Contract Administration Engineer prior to the bid opening time specified in the advertisement.

INSTRUCTION TO BIDDERS: Alternate and Optional Items on Bid Schedule.

1. Two or more items entered opposite a single unit quantity WITHOUT DEFINITE DESIGNATION AS "ALTERNATE ITEMS" are considered as "OPTIONAL ITEMS". Bidders may or may not indicate on bids the Optional Item proposed to be furnished or performed WITHOUT PREJUDICE IN REGARD TO IRREGULARITY OF BIDS.
2. Items classified on the bid schedule as "ALTERNATE ITEMS" and/or "ALTERNATE TYPES OF CONSTRUCTION" must be preselected and indicated on bids. However, "Alternate Types of Construction" may include Optional Items to be treated as set out in Paragraph 1, above.
3. Optional items not preselected and indicated on the bid schedule MUST be designated in accordance with Subsection 102.06 prior to or at the time of execution of the contract.
4. Optional and Alternate items designated must be used throughout the project.

I (We) further propose to perform all "force account or extra work" that may be required of me (us) on the basis provided in the Specifications and to give such work my (our) personal attention in order to see that it is economically performed.

I (We) further propose to execute the attached contract agreement (Section 902) as soon as the work is awarded to me (us), and to begin and complete the work within the time limit(s) provided for in the Specifications and Advertisement. I (We) also propose to execute the attached contract bond (Section 903) in an amount not less than one hundred (100) percent of the total of my (our) part, but also to guarantee the excellence of both workmanship and materials until the work is finally accepted.

I (We) shall submit electronically with our proposal or deliver prior to the bid opening time a certified check, cashier's check or bid bond for **five percent (5%) of total bid** and hereby agree that in case of my (our) failure to execute the contract and furnish bond within Ten (10) days after notice of award, the amount of this check (bid bond) will be forfeited to the State of Mississippi as liquidated damages arising out of my (our) failure to execute the contract as proposed. It is understood that in case I am (we are) not awarded the work, the check will be returned as provided in the Specifications.

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.

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.

Bridge Replacements on US 80 (Bridge Nos. 56.8A & 56.8B) at KCS Railroad, known as Federal Aid Project No. BR-2904-00(018) / 107643302 in Rankin County.

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
			Roadway Items		
0010	201-B001		1	Acre	Clearing and Grubbing
0020	202-B007		1,946	Square Yard	Removal of Asphalt Pavement, All Depths
0030	202-B023		2	Each	Removal of Bridge
0040	202-B069		670	Square Yard	Removal of Concrete Pavement w/ Variable Depth Overlay
0050	202-B088		1,210	Linear Feet	Removal of Curb & Gutter, All Types
0060	202-B132		312	Linear Feet	Removal of Gravity Sewer Line, All Sizes, All Types
0070	202-B133		1	Each	Removal of Gravity Sewer Manhole, All Sizes, All Types
0080	202-B147		93	Linear Feet	Removal of Guard Rail Double Faced Rail Including Rail & Posts
0090	202-B158		326	Linear Feet	Removal of Guard Rail, Including Rails, Posts and Terminal Ends
0100	202-B259		2	Each	Removal of and Replacement of Low Mast Lighting Assembly
0110	203-B001	(E)	100	Cubic Yard	Rock Excavation, FM, AH
0120	203-EX021	(E)	2,702	Cubic Yard	Borrow Excavation, AH, FME, Class B9-6
0130	203-EX040	(E)	3,110	Cubic Yard	Borrow Excavation, AH, LVM, Class B9
0140	203-G001	(E)	70	Cubic Yard	Excess Excavation, FM, AH
0150	209-A005		6,010	Square Yard	Geotextile Stabilization, Type V, Non-Woven
0160	213-A001		2	Ton	Agricultural Limestone
0170	213-C001		1	Ton	Superphosphate
0180	215-A001		2	Ton	Vegetative Materials for Mulch
0190	216-A001		136	Square Yard	Solid Sodding
0200	219-A001		3	Thousand Gallon	Watering ($20.00)
0210	220-A001		1	Acre	Insect Pest Control ($30.00)
0220	221-A001	(S)	16	Cubic Yard	Concrete Paved Ditch
0230	223-A001		1	Acre	Mowing ($70.00)
0240	225-A001		1	Acre	Grassing
0250	226-A001		1	Acre	Temporary Grassing
0260	237-A002		206	Linear Feet	Wattles, 20"
0270	245-A001		200	Linear Feet	Silt Dike
0280	246-A001		270	Linear Feet	Sandbags
0290	249-A001		30	Ton	Riprap for Erosion Control
0300	304-A004	(GY)	500	Cubic Yard	Granular Material, LVM, Class 5, Group C
0310	406-D001		1,686	Square Yard	Fine Milling of Bituminous Pavement, All Depths
0320	407-A001	(A2)	390	Gallon	Asphalt for Tack Coat
0330	501-K001		590	Square Yard	Transverse Grooving
0340	503-C010		96	Linear Feet	Saw Cut, Full Depth
0350	605-AA003	(S)	883	Square Yard	Geotextile for Subsurface Drainage, Type V, Non-Woven

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
0360	605-O002	(S)	178	Linear Feet	4" Perforated Sewer Pipe for Underdrains, SDR 23.5
0370	605-P002	(S)	46	Linear Feet	4" Non-perforated Sewer Pipe for Underdrains, SDR 23.5
0380	605-W001	(GY)	8	Cubic Yard	Filter Material for Combination Storm Drain and/or Underdrains,Type A, FM
0390	606-B001		50	Linear Feet	Guard Rail, Class A, Type 1
0400	606-D022		2	Each	Guard Rail, Bridge End Section, Type I
0410	606-E005		2	Each	Guard Rail, Terminal End Section, Flared
0420	609-B002	(S)	140	Linear Feet	Concrete Curb, Header
0430	609-D003	(S)	513	Linear Feet	Combination Concrete Curb and Gutter Type 2
0440	609-D012	(S)	857	Linear Feet	Combination Concrete Curb and Gutter Type 3A Modified
0450	619-A1002		1,050	Linear Feet	Temporary Traffic Stripe, Continuous White
0460	619-A2002		1,100	Linear Feet	Temporary Traffic Stripe, Continuous Yellow
0470	619-A3002		1,400	Linear Feet	Temporary Traffic Stripe, Skip White
0480	619-A5001		2,211	Linear Feet	Temporary Traffic Stripe, Detail
0490	619-A6001		423	Square Feet	Temporary Traffic Stripe, Legend
0500	619-A6002		568	Linear Feet	Temporary Traffic Stripe, Legend
0510	619-D1001		356	Square Feet	Standard Roadside Construction Signs, Less than 10 Square Feet
0520	619-D2001		309	Square Feet	Standard Roadside Construction Signs, 10 Square Feet or More
0530	619-E1001		1	Each	Flashing Arrow Panel, Type C
0540	619-G4005		264	Linear Feet	Barricades, Type III, Single Faced
0550	619-G5001		64	Each	Free Standing Plastic Drums
0560	619-G7001		6	Each	Warning Lights, Type "B"
0570	620-A001		1	Lump Sum	Mobilization
0580	630-A001		82	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.080" Thickness
0590	630-A003		18	Square Feet	Standard Roadside Signs, Sheet Aluminum, 0.125" Thickness
0600	630-C001		32	Linear Feet	Square Tube Posts, 4.0 lb/ft
0610	630-C005		131	Linear Feet	Square Tube Posts, 2.0 lb/ft
0620	630-F006		7	Each	Delineators, Guard Rail, White
0630	630-G007		2	Each	Type 3 Object Markers, OM-3R, Post Mounted
0640	699-A001		1	Lump Sum	Roadway Construction Stakes
0650	907-234-A001		1,600	Linear Feet	Temporary Silt Fence
0660	907-234-D001		2	Each	Inlet Siltation Guard
0670	907-260-PP001		2	Each	Utility Work - Sewer, Sewer Line Connection
0680	907-260-PP002		312	Linear Feet	Utility Work - Sewer, 6" Sewer Pipe
0690	907-403-A002	(BA1)	1,143	Ton	12.5-mm, MT, Asphalt Pavement
0700	907-403-A006	(BA1)	1,000	Ton	19-mm, ST, Asphalt Pavement
0710	907-403-A014	(BA1)	429	Ton	9.5-mm, MT, Asphalt Pavement
0720	907-403-B006	(BA1)	931	Ton	19-mm, ST, Asphalt Pavement, Leveling

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
0730	907-413-E001		120	Linear Feet	Sawing and Sealing Transverse Joints in Asphalt Pavement
0740	907-502-A001	(C)	737	Square Yard	Reinforced Cement Concrete Bridge End Pavement
0750	907-601-B001	(S)	1	Cubic Yard	Class "B" Structural Concrete, Minor Structures
0760	907-616-C001	(S)	217	Square Feet	Colored and Imprinted Concrete Median and Island Pavement, 10-inch Thickness
0770	907-616-C003	(S)	1,898	Square Feet	Colored and Imprinted Concrete Median and Island Pavement, 4-inch Thickness
0780	907-618-A001		1	Lump Sum	Maintenance of Traffic
0790	907-619-E3001		7	Each	Changeable Message Sign
0800	907-626-A008		1,400	Linear Feet	6" Thermoplastic Double Drop Traffic Stripe, Skip White
0810	907-626-C011		1,050	Linear Feet	6" Thermoplastic Double Drop Edge Stripe, Continuous White
0820	907-626-F004		1,100	Linear Feet	6" Thermoplastic Double Drop Edge Stripe, Continuous Yellow
0830	907-626-G006		1,415	Linear Feet	Thermoplastic Double Drop Detail Stripe, White
0840	907-626-G007		196	Linear Feet	Thermoplastic Double Drop Detail Stripe, Yellow
0850	907-626-H006		423	Square Feet	Thermoplastic Double Drop Legend, White
0860	907-626-H007		312	Linear Feet	Thermoplastic Double Drop Legend, White
0870	907-627-K001		79	Each	Red-Clear Reflective High Performance Raised Markers
0880	907-627-L001		3	Each	Two-Way Yellow Reflective High Performance Raised Markers
0890	907-630-O007		3	Each	Remove and Reset Signs, Ground Mounted on Round Post(s)
0900	907-637-A004		1	Each	Pullbox Enclosure, Type 4
0910	907-637-A005		1	Each	Pullbox Enclosure, Type 5
0920	907-637-H001		355	Linear Feet	Traffic Signal Conduit Bank, Underground, Rolled Pipe, 2 @ 2"
0930	907-637-K001		175	Linear Feet	Traffic Signal Conduit Bank, Aerial Supported, Type 1, 2 @ 2"
0940	907-661-A004		530	Linear Feet	Fiber Optic Cable, 72 SM
0950	907-899-A001		1	Lump Sum	Railway-Highway Provisions
				ALTERNATE GROUP AA NUMBER 1	
0960	304-H001	(GY)	1,450	Cubic Yard	3/4" and Down Crushed Stone Base, LVM
				ALTERNATE GROUP AA NUMBER 2	
0970	304-H002	(GY)	1,450	Cubic Yard	Size 610 Crushed Stone Base, LVM
				ALTERNATE GROUP AA NUMBER 3	
0980	304-H003	(GY)	1,450	Cubic Yard	Size 825B Crushed Stone Base, LVM
				Bridge Items	
0990	235-A001		340	Each	Temporary Erosion Checks
1000	249-A001		798	Ton	Riprap for Erosion Control
1010	501-K001		1,051	Square Yard	Transverse Grooving
1020	803-N001	(S)	270	Linear Feet	Exploration
1030	804-C264	(S)	403	Linear Feet	26' Prestressed Concrete Beam, Type 5B34
1040	804-C265	(S)	1,878	Linear Feet	118' Prestressed Concrete Beam, Type 5B34
1050	805-A001	(S)	104,231	Pounds	Reinforcement
1060	813-B001	(S)	445	Linear Feet	Concrete-Steel Railing

Line no.	Item Code	Adj Code	Quantity	Units	Description[Fixed Unit Price]
1070	815-D001	(S)	139	Cubic Yard	Concrete Slope Paving
1080	907-228-A003		1,990	Square Yard	Erosion Control Blanket, Type III
1090	907-234-C001		952	Linear Feet	Super Silt Fence
1100	907-616-C004	(S)	1,323	Square Feet	Colored and Imprinted Concrete Median and Island Pavement, 6-inch Thickness
1110	907-803-K004	(S)	200	Linear Feet	Drilled Shaft, 36" Diameter
1120	907-803-K006	(S)	1,165	Linear Feet	Drilled Shaft, 48" Diameter
1130	907-803-L002	(S)	1	Each	Test Shaft, 48" Diameter
1140	907-803-M005	(S)	90	Linear Feet	Trial Shaft, 48" Diameter
1150	907-804-A002	(S)	473	Cubic Yard	Bridge Concrete, Class AA
1160	907-804-A004	(S)	303	Cubic Yard	Bridge Concrete, Class BD
1170	907-804-PP004	(S)	1	Lump Sum	Post Tensioning System
1180	907-823-A001		310	Linear Feet	Preformed Joint Seal, Type I

CONDITIONS FOR COMBINATION BID

If a bidder elects to submit a combined bid for two or more of the contracts listed for this month's letting, the bidder must complete and execute these sheets of the proposal in each of the individual proposals to constitute a combination bid. In addition to this requirement, each individual contract shall be completed, executed and submitted in the usual specified manner.

Failure to execute this Combination Bid Proposal in each of the contracts combined will be just cause for each proposal to be received and evaluated as a separate bid.

It is understood that the Mississippi Transportation Commission not only reserves the right to reject any and all proposals, but also the right to award contracts upon the basis of lowest separate bids or combination bids most advantageous to the State.

It is further understood and agreed that the Combination Bid Proposal is for comparison of bids only and that each contract shall operate in every respect as a separate contract in accordance with its proposal and contract documents.

I (We) agree to complete each contract on or before its specified completion date.

* *

COMBINATION BID PROPOSAL

This proposal is tendered as one part of a Combination Bid Proposal utilizing option ___* of Subsection 102.11 on the following contracts:

* Option to be shown as either (a), (b), or (c).

	Project No.	County		Project No.	County
1.	____________	____________	6.	____________	____________
2.	____________	____________	7.	____________	____________
3.	____________	____________	8.	____________	____________
4.	____________	____________	9.	____________	____________
5.	____________	____________	10.	____________	____________

(a) If Combination A has been selected, your Combination Bid is complete.

(b) If Combination B has been selected, then complete the following page.

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
1. _____	_____	_____	_____	_____	
2. _____	_____	_____	_____	_____	
3. _____	_____	_____	_____	_____	
4. _____	_____	_____	_____	_____	
5. _____	_____	_____	_____	_____	
6. _____	_____	_____	_____	_____	
7. _____	_____	_____	_____	_____	
8. _____	_____	_____	_____	_____	

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
9. _____	_____ _____	_____ _____	_____ _____	_____ _____	
10. _____	_____ _____	_____ _____	_____ _____	_____ _____	

(c) If Combination C has been selected, then initial and complete ONE of the following.

_____ I (We) desire to be awarded work not to exceed a total monetary value of $ _____.

_____ I (We) desire to be awarded work not to exceed _____ number of contracts.

Certification with regard to the Performance of Previous Contracts or Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports

The Bidder hereby certifies that he has ____, has not ____, participated in a previous contract or subcontract subject to the Equal Opportunity Clause, as required by Executive Orders 10925, 11114, or 11246, and that he has ____, has not ____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

_____
(COMPANY)

DATE: _____

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the Equal Opportunity Clause. Contracts and Subcontracts which are exempt from the Equal Opportunity Clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime Contractors and Subcontractors who have participated in a previous contract or subcontract subject to the Executive orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such Contractors submit a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U. S. Department of Labor.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CERTIFICATION

I,_____,
(Name of person signing bid)

individually, and in my capacity as_____ of
(Title of person signing bid)

_____do hereby certify under
(Name of Firm, partnership, or Corporation)

penalty of perjury under the laws of the United States and the State of Mississippi that_____

_____, Bidder
(Name of Firm, Partnership, or Corporation)

on Project No. **BR-2904-00(018)/ 107643302000**

in **Rankin** County(ies), Mississippi, has not either

directly or indirectly entered into any agreement, participated in any collusion; or otherwise taken any action in restraint of free competitive bidding in connection with this contract; nor have any of its corporate officers or principal owners.

Except as noted hereafter, it is further certified that said legal entity and its corporate officers, principal owners, managers, auditors and others in a position of administering federal funds:

a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in (b) above; and

d) Have not within a three-year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Do exceptions exist and are made a part thereof? Yes / No

Any exceptions shall address to whom it applies, initiating agency and dates of such action.

Note: Exceptions will not necessarily result in denial of award but will be considered in determining bidder responsibility. Providing false information may result in criminal prosecution or administrative sanctions.

The bidder further certifies that the certification requirements contained in Section XI of Form FHWA 1273, will be or have been included in all subcontracts, material supply agreements, purchase orders, etc. except those procurement contracts for goods or services that are expected to be less than the Federal procurement small purchase threshold fixed at 10 U.S.C. 2304(g) and 41 U.S.C. 253(g) (currently $25,000) which are excluded from the certification requirements.

The bidder further certifies, to the best of his or her knowledge and belief, that:

1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this contract, Standard Form-LLL, Disclosure Form to Report Lobbying, in accordance with its instructions will be completed and submitted.

The certification contained in (1) and (2) above is a material representation of fact upon which reliance is placed and a prerequisite imposed by Section 1352, Title 31, U.S. Code prior to entering into this contract. Failure to comply shall be subject to a civil penalty of not less than $10,000 and not more than $100,000. The bidder shall include the language of the certification in all subcontracts exceeding $100,000 and all subcontractors shall certify and disclose accordingly.

All of the foregoing is true and correct.

Executed on _____ _____

Signature

(01/2016 F)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SAM.GOV Registration and Unique Entity ID

Bidders are advised that the Prime Contractor must register and maintain a current registration in the **System for Award Management** (http://sam.gov) at all times during the project. Upon registration, the Contractor will be assigned a SAM Unique Entity ID.

Bidders are advised that prior to the award of this contract, they MUST be registered in the System for Award Management.

I (We) acknowledge that this contract cannot be awarded if I (We) are not registered in the System for Award Management prior to the award of this contract. _____ (Yes / No)

I (We) have a SAM Unique Entity ID. _____ (Yes / No)

SAM Unique Entity ID: _____

Company Name: _____

Company e-mail address: _____

SECTION 902

CONTRACT FOR _____
LOCATED IN THE COUNTY(IES) OF _____

STATE OF MISSISSIPPI
COUNTY OF HINDS

This Contract is entered into by and between the Mississippi Transportation Commission (the "Commission") and the undersigned contractor (the "Contractor"), as follows:

As consideration for this Contract, the Commission agrees to pay the Contractor the amount(s) set out in the Proposal attached hereto. Said payment will be made in the manner and at the time(s) specified in the Specifications and/or Special Provisions, if any. In exchange for said consideration, the Contractor hereby agrees to accept the prices stated in the Proposal as full compensation for the furnishing of all labor, materials and equipment, and the execution of the scope of work identified for this referenced Project as contemplated in this Contract, and as more fully outlined in the Contract Documents (the "Work"). The Contract Documents consist of the Advertisement, the Notice to Bidders, the Proposal, the Specifications, the Special Provisions, and the approved Plans, all of which are hereby made a part of this Contract and incorporated herein by reference.

The Contractor shall be responsible for all loss or damage arising out of, or in any way in connection with the Work, or from any unforeseen obstructions or difficulties that may be encountered in the prosecution of the Work, and for all risks of every description connected with the Work, with the exception of any items specifically excluded in the Contract Documents. The Contractor shall fully and faithfully complete the Work in a good and workmanlike manner, according to the Contract Documents and any Supplemental Agreements thereto.

The Contractor further agrees that the Work shall be done under the direct supervision of, and to the complete satisfaction of, the Executive Director of the Mississippi Department of Transportation, or his authorized representative(s), and, when federal funds are involved, subject to the inspection and approval of the Federal Highway Administration, or its agents, and/or the agents of any other state or federal agency whose funds are involved. Further, the Work shall be done in accordance with any applicable state and federal laws, and any such rules and regulations issued by the Commission and/or any relevant Federal Agency.

The Contractor agrees that all labor as outlined in the Contract Documents may be secured from a list furnished by the Manager of the Win Job Center nearest the project location, or any successor thereto.

It is agreed and understood that each and every provision of law and clause required by law to be inserted into this Contract shall be deemed to be inserted herein, and this Contract shall be read and enforced as though it were included herein. If through mere mistake or otherwise, any such provision is not inserted, then upon the application of either party hereto, the Contract shall be physically amended to make such insertion.

The Contractor agrees that he has read each and every clause of the Contract Documents, and fully understands the meaning of same, and hereby acknowledges that he will comply with all terms, covenants and agreements therein.

Witness our signatures, this the _____ day of _____, 20___.

_____
Contractor

By: _____
Title: _____

_____
Signed and sealed in the presence of: (name and address of witness)

_____
_____

MISSISSIPPI TRANSPORTATION COMMISSION

_____
Executive Director

_____
Secretary to the Commission

Award authorized by the Mississippi Transportation Commission in session on the ____ day of _____, _____, Minute Book No._____, Page No. _____.

SECTION 903
PERFORMANCE BOND

PERFORMANCE BOND FOR THE FOLLOWING CONTRACT:
Project No.: _____

For the construction of: _____

Contract date: _____ Contract Price: _____

FOR OWNER: MISSISSIPPI TRANSPORTATION COMMISSION, 401 N. WEST STREET, JACKSON, MISSISSIPPI 39201.

CONTRACTOR (full legal name, contact person, phone number and address):
_____
_____
_____
_____

SURETY (legal name, phone number, principal place of business and address ***for notice purposes***):
_____
_____
_____

Second Surety (if applicable):
_____
_____
_____

The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns, to the Owner for the performance of the Contract, which is incorporated herein by reference, and subject to the following terms:

1. If the Contractor fully and faithfully performs the Contract, the Surety and the Contractor shall have no obligation under this Bond.

2. The Surety's obligation under this Bond shall arise after:
   (a) the Owner first provides notice to the Contractor and the Surety that termination is imminent, pursuant to the current edition of the Mississippi Standard Specifications for Road and Bridge Construction, which is a part of the Contract; and
   (b) the Owner declares a Contractor Default, terminates the Contract, and notifies the Surety.

3. Within 20 calendar days as set forth in Section 108.08 of the current edition of the Mississippi Standard Specifications for Road and Bridge Construction, the Surety shall, after discussions with and consent from the Owner, and at the Surety's expense, elect to take one of the following actions:
   (a) Arrange for the Contractor, with the consent of the Owner, to perform and complete the Contract;
   (b) Undertake to perform and complete the Contract itself, through its agents or independent contractors;
   (c) Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and after investigation, determine the amount for which it may be liable to the Owner (subject to the consent of the Owner) and as soon as practicable after the amount is determined, make payment to the Owner.

4. If the Surety does not proceed, within a reasonable time frame, to enact and carry out the election made in Paragraph 3, then the Surety shall be deemed to be in default on this Bond, and the Owner shall be entitled to enforce any remedy available to it under the Contract and applicable law.

5. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for
   (a) the responsibilities of the Contractor for correction of defective work and completion of the Contract;
   (b) additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 3; and
   (c) liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.

6. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

7. The penal sum of the Bond shall be equal to the Contract Price; however, the penal sum may be increased or decreased as the result of any subsequent Supplemental Agreements and/or final contract quantities.

8. Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address listed for notice purposes on the first page of this Bond.

CONTRACTOR AS PRINCIPAL
Company: _____

Signature: _____
Name: _____
Title: _____
Address: _____
_____

SURETY
Company: _____

Signature: _____ MS Insurance ID # _____
Name: _____
Title: _____
Address: _____
_____

SURETY (if applicable)
Company: _____

Signature: _____ MS Insurance ID # _____
Name: _____
Title: _____
Address: _____
_____

SECTION 903
PAYMENT BOND

PAYMENT BOND FOR THE FOLLOWING CONTRACT:
Project No.: _____

For the construction of: _____

Contract date: _____ Contract Price: _____

FOR OWNER: MISSISSIPPI TRANSPORTATION COMMISSION, 401 N. WEST STREET, JACKSON, MISSISSIPPI 39201.

CONTRACTOR (full legal name, contact person, phone number and address):
_____
_____
_____

SURETY (legal name, phone number, principal place of business and address ***for notice purposes***):
_____
_____
_____
Second Surety (if applicable):
_____
_____
_____

The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns, to the Owner for payment of labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference, subject to the following terms:

1. If the Contractor promptly makes payment of all sums due to any and all subcontractors, sub-subcontractors, suppliers to the Contractor, suppliers to subcontractors and/or laborers who have performed work on the project site, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Contract, then the Surety and the Contractor shall have no obligation under this Bond.

2. The Owner shall provide notice to the Surety of any claims, demands, liens or suits against the Owner or the Owner's property that it receives from any person or entity ("Claimants") seeking payment for labor, materials or equipment furnished for use in the performance of the Contract.

3. Upon notice of any claims, demands, liens or suits provided by the Owner or Contractor or given to the Surety by a Claimant, the Surety shall promptly and at the Surety's expense, defend, indemnify and hold harmless the Owner against said claim, demand, lien or suit and shall take the following additional actions:
    (a) Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
    (b) Pay or arrange for payment of any undisputed amounts.

4. The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond and shall have no obligation under this Bond to make payments to, or give notice on behalf of, Claimants, or otherwise have any obligations to Claimants under this Bond.

5. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.

6. The penal sum of the Bond shall be equal to the Contract Price; however, the penal sum may be increased or decreased as the result of any subsequent Supplemental Agreements and/or final contract quantities.

CONTRACTOR AS PRINCIPAL
Company: _____

Signature: _____
Name: _____
Title: _____
Address: _____
_____

SURETY
Company: _____

Signature: _____ MS Insurance ID # _____
Name: _____
Title: _____
Address: _____
_____

SURETY (if applicable)
Company: _____

Signature: _____ MS Insurance ID # _____
Name: _____
Title: _____
Address: _____
_____

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we_____
Contractor

_____
Address

_____
City, State ZIP

As principal, hereinafter called the Principal, and _____
Surety

a corporation duly organized under the laws of the state of _____

as Surety, hereinafter called the Surety, are held and firmly bound unto **State of Mississippi, Jackson, Mississippi**

As Obligee, hereinafter called Obligee, in the sum of **Five Per Cent (5%) of Amount Bid**

Dollars($_____)

for the payment of which sum will and truly to be made, the said Principal and said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for **Bridge Replacements on US 80 (Bridge Nos. 56.8A & 56.8B) at KCS Railroad, known as Federal Aid Project No. BR-2904-00(018) / 107643302 in Rankin County.**

NOW THEREFORE, the condition of this obligation is such that if the aforesaid Principal shall be awarded the contract, the said Principal will, within the time required, enter into a formal contract and give a good and sufficient bond to secure the performance of the terms and conditions of the contract, then this obligation to be void; otherwise the Principal and Surety will pay unto the Obligee the difference in money between the amount of the bid of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder exceed the penal sum hereof.

Signed and sealed this _____day of _____, 20___

_____
(Principal) (Seal)

_____ By:_____
(Witness) (Name) (Title)

_____
(Surety) (Seal)

_____ By:_____
(Witness) (Attorney-in-Fact)

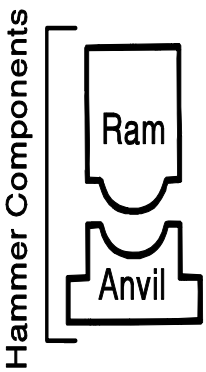
_____
(MS Agent)

_____
Mississippi Insurance ID Number

Rev. 04/18)

MISSISSIPPI DEPARTMENT OF TRANSPORTATION
PILE AND DRIVING EQUIPMENT DATA FORM

Project No.: _____ Bridge No.: _____
Contract No.: _____ Pile Driving Contractor: _____
Termini: _____ County: _____



Hammer

Manufacturer: _____ Model No.: _____
Hammer Type: _____ Serial No.: _____
Manufacturer's Maximum Rated Energy: _____ ft·lbs
Stroke at Maximum Rated Energy: _____ ft
Range in Operating Energy: _____ to _____ ft·lbs
Range in Operating Stroke: _____ to _____ ft
Ram Weight: _____ kips
Modifications: _____

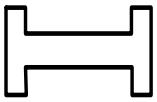
Striker Plate

Weight: _____ kips Diameter: _____ in.
Thickness: _____ in.

Hammer Cushion

	Material #1	Material #2 (for composite cushion)
Name:	_____	_____
Area:	_____ in.²	_____ in.²
Thickness/Plate:	_____ in.	_____ in.
No. of Plates:	_____	_____

Total Thickness of Hammer Cushion: _____ in.

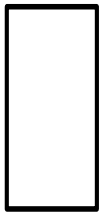


Helmet (Drive Head)

Weight: _____ including inserts, kips

Pile Cushion

Pile Cushion Material: _____
Area: _____ in.² Thickness/Sheet: _____ in.
No. of Sheets:
Total Thickness of Pile Cushion: _____ in.



Pile

Pile Type: _____
Wall Thickness: _____ in. Taper: _____
Cross Sectional Area: _____ in.² Weight/ft: _____
Nominal Driving Resistance: _____ Kips
Driving Shoe/Closure Plate Description: _____
_____

Submitted By: _____ Date: _____
Telephone No.: _____ Fax No.: _____
Email Address: _____