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13 -



SM No. CSP9999090741

# PROPOSAL AND CONTRACT DOCUMENTS

FOR THE CONSTRUCTION OF  
(EXEMPT)

13

Installing traffic counter stations at various location in Harrison County, known as State Project No. SP-9999-09(074) / 105847301, in the County of Harrison, State of Mississippi.

Project Completion: December 17, 2010

## NOTICE

BIDDERS MUST PURCHASE A BOUND PROPOSAL  
FROM MDOT CONTRACT ADMINISTRATION DIVISION  
TO BID THIS PROJECT.

Electronic addendum updates will be posted on [www.gomdot.com](http://www.gomdot.com)

**SECTION 900**  
**OF THE CURRENT**  
**(2004) STANDARD SPECIFICATIONS**  
**FOR ROAD AND BRIDGE CONSTRUCTION**  
**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**  
**JACKSON, MISSISSIPPI**

**BIDDER CHECK LIST  
(FOR INFORMATION ONLY)**

- \_\_\_\_\_ All unit prices and item totals have been entered in accordance with Subsection 102.06 of the Mississippi Standard Specifications for Road and Bridge Construction.
- \_\_\_\_\_ If the bid sheets were prepared using the Electronic Bid System, proposal sheets have been stapled and inserted into the proposal package.
- \_\_\_\_\_ First sheet of SECTION 905--PROPOSAL has been completed.
- \_\_\_\_\_ Second sheet of SECTION 905--PROPOSAL has been completed and signed.
- \_\_\_\_\_ Addenda, if any, have been acknowledged. Second sheet of Section 905 listing the addendum number has been substituted for the original second sheet of Section 905. Substituted second sheet of Section 905 has been properly completed, signed, and added to the proposal.
- \_\_\_\_\_ DBE/WBE percentage, when required by contract, has been entered on last sheet of the bid sheets of SECTION 905 - PROPOSAL.
- \_\_\_\_\_ Form OCR-485, when required by contract, has been completed and signed.
- \_\_\_\_\_ The last sheet of the bid sheets of SECTION 905--PROPOSAL has been signed.
- \_\_\_\_\_ Combination Bid Proposal of SECTION 905--PROPOSAL has been completed for each project which is to be considered in combination (See Subsection 102.11).
- \_\_\_\_\_ Equal Opportunity Clause Certification, when included in contract, has been completed and signed.
- \_\_\_\_\_ The Certification regarding Non-Collusion, Debarment and Suspension, etc. has been executed in duplicate.
- \_\_\_\_\_ A certified check, cashier's check or bid bond payable to the State of Mississippi in the principal amount of 5% of the bid has been included with project number identified on same. A bid bond has been signed by the bidder and has also been signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent for the Surety with Power of Attorney attached.
- \_\_\_\_\_ Non-resident Bidders: ON STATE FUNDED PROJECTS ONLY, a copy of the current laws regarding any preference for local Contractors from State wherein domiciled has been included. See Subsection 103.01, Mississippi Standard Specifications for Road and Bridge Construction, and Section 31-7-47, MCA, 1972 regarding this matter.

Return the proposal and contract documents in its entirety in a sealed envelope. **DO NOT** remove any part of the contract documents; exception - an addendum requires substitution of second sheet of Section 905. A stripped proposal is considered as an irregular bid and will be rejected.

Failure to complete any or all of the applicable requirements will be cause for the proposal to be considered irregular.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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CERTIFICATION REGARDING NON-COLLUSION, DEBARMENT AND SUSPENSION,  
SECTION 902 - CONTRACT FORM, AND SECTION 903 - CONTRACT BOND FORM.

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

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SECTION 901 - ADVERTISEMENT

Sealed bids will be received by the Mississippi Transportation Commission in the Office of the Contract Administration Engineer, Room 1013, Mississippi Department of Transportation Administration Building, 401 North West Street, Jackson, Mississippi, until 10:00 o'clock A.M., Tuesday, April 27, 2010; and shortly thereafter publicly opened on the Sixth Floor for:

Installing traffic counter stations at various location in Harrison County, known as State Project No. SP-9999-09(074) / 105847301, in the County of Harrison, State of Mississippi.

The attention of bidders is directed to the predetermined minimum wage rate set by the U. S. Department of Labor under the Fair Labor Standards Act.

The Mississippi Department of Transportation hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, age, disability, religion or national origin in consideration for an award.

Plans and specifications are on file in the offices of the Mississippi Department of Transportation.

Bid proposals must be acquired from the MDOT Contract Administration Division. These proposal are available at a cost of Ten Dollars (\$10.00) per proposal. Specimen proposals are also available at the MDOT Contract Administration Division at a cost of Ten Dollars (\$10.00) per proposal, or can be viewed or downloaded at no cost at [www.gomdot.com](http://www.gomdot.com).

Plans may be acquired on a cost per sheet basis from MDOT Plans Print Shop, MDOT Shop Complex, Building C, Room 114, 2567 North West Street, Jackson, Mississippi 39216, Telephone (601) 359-7460 or e-mail at [plans@mdot.state.ms.us](mailto:plans@mdot.state.ms.us) or FAX (601) 359-7461. Plans will be shipped upon receipt of payment.

Bid bond, signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent, with Power of Attorney attached or on file with the Contract Administration Engineer of the Department, 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.

LARRY L. "BUTCH" BROWN  
EXECUTIVE DIRECTOR

# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1**

**CODE: (IS)**

**DATE: 05/03/2004**

**SUBJECT: Governing Specifications**

The current (2004) 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 herein. Copies of the specification book may be purchased from the MDOT Construction Division.

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 1990 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 2004 Edition of the Standard Specifications.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 640

CODE: (IS)

| DATE: 09/26/2005

SUBJECT: Fiber Reinforced Concrete

Bidders are hereby advised that synthetic structural fibers meeting the requirements of Subsection 907-711.04 may be used in lieu of wire mesh in some items of construction. Substitution of fibers for wire mesh will be allowed in the construction of paved ditches, paved flumes, paved inlet apron, driveways, guard rail anchors and pile encasements. Substitution in any other items of work must be approved by the State Construction Engineer prior to use.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| **SECTION 904 - NOTICE TO BIDDERS NO. 777**

**CODE: (IS)**

| **DATE: 04/13/2006**

**SUBJECT: On-The-Job Training Program**

| Payment for training hours will be handled as outlined in Special Provision 906-6. A pay item for trainees will not be included in individual construction projects. Payment for training individuals will be processed in accordance with the conditions in MDOT's ON-THE-JOB TRAINING PROGRAM (Special Provision 906-6).

| On Federal-Aid projects, failure on the part of the Contractor to carryout the terms of the Alternate Training Special Provision (Special Provision 906-6) will be considered grounds to preclude the Contractor from participating in the Alternate On-The-Job Training Program. In the event the Department is required to preclude the Contractor from participating in the program, the Contractor will be required to adhere to the requirements of the Training Special Provision (Special Provision 906-3), for which purpose the special provision is also made a part of this proposal.

## **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 883**

**CODE: (IS)**

**DATE: 04/28/2006**

**SUBJECT: Payroll Requirements**

Bidders are hereby advised that the Contractor and Subcontractor(s) are required to submit payroll information to the Project Engineers on a weekly basis.

On Federal-Aid Projects, CAD-880, CAD-881 and certified payroll submissions are required each week the Contractor or a Subcontractor performs work on the project. This is addressed in Section V, page 6 of Form FHWA-1273.

On State-Funded Projects, CAD-880 is required each week the Contractor or a Subcontractor performs work on the project.

When no work is performed on either Federal-Aid and State-Funded Projects, the Contractor should only submit CAD-880 showing no work activities.

The Contractor shall make all efforts necessary to submit this information to the Project Engineer in a timely manner. The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to submit the required information. Submission of forms and payrolls shall be current through the first full week of the month for the estimate period in order for the Project Engineer to process an estimate.

Bidders are advised to review the requirements regarding payroll submissions in Section 110 of the Standard Specifications.



## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 1405

CODE: (IS)

| DATE: 03/15/2007

SUBJECT: ERRATA AND MODIFICATIONS TO THE 2004 STANDARD SPECIFICATIONS

<u>Page</u>	<u>Subsection</u>	<u>Change</u>
101	201.01	In the second sentence of the first paragraph, change “salvable” to “salvageable”.
107	202.04	In the fourth sentence of the fourth paragraph, change “yard” to “feet”.
107	202.05	In the list of units measurements for 202-B, add “square foot”.
132	211.03.4	In the second sentence of the second paragraph, change “planted” to “plated”.
192	306.02.4	In the first line of the first paragraph, delete the word “be”.
200	307.03.7	In the fourth sentence of the second paragraph, change “lime-fly ash” to “treated”.
236	401.01	Change the header from “Section 403” to “Section 401”.
242	401.02.3.2	In the first sentence of the third full paragraph, add “1/8” in the blank before the inch mark.
250	401.02.6.3	In the second sentence of the first paragraph on page 250, change “rutting over ” ” to “rutting over 1/8" ”.
253	401.02.6.4.2	In the paragraph preceding the table, change “91.0” to “89.0”.
259	401.03.1.4	In the first paragraph, change “92.0 percent” to “the specified percentage (92.0 or 93.0)”.
269	403.03.2	In the table at the top of page 269, change the PI requirement from “ = ” to “ ≤ ”.

278	404.04	In the second sentence, change the subsection from “401.04” to “403.04”.
283	409.02.2	Change “PG 64-22” to “PG 67-22”.
294	413.02	In the first sentence of the second paragraph, change “707.02.1.3” to “Subsection 707.02.1.3”.
340	511.04	In the second sentence of the second paragraph, change “412” to “512”.
349	601.03.3	In the first sentence, change “804.03.2” to “804.03.5”.
355	603.02	Change the subsection reference for Joint mortar from “707.03” to “714.11”.
369	604.04	In the first sentence, change “601.04” to “Subsection 601.04”.
427	619.04	Delete the second paragraph.
442	625.04	In the third paragraph, change “626.04” to “Subsection 626.04”.
444	626.03.1.2	Delete the third sentence of the first paragraph.
464	631.02	Change the subsection reference for Water from “714.01.0” to “714.01.1”.
570	682.03	Change the subsection number from “682-03” to “682.03”.
575	683.10.4	Change the subsection number from “683.10.4” to “683.04”.
575	683.10.5	Change the subsection number from “683.10.5” to “683.05”.
596	701.02	In the table under the column titled “Cementations material required”, change Class F, FA” to “Class F FA,”.
603	702.11	In the first sentence, change “702.12” to “Subsection 702.12”.
612	703.04.2	In the fifth paragraph, delete “Subsection 703.11 and”.
616	703.07.2	In the Percentage By Weight Passing Square Mesh Sieves table, change the No. 10 requirement for Class 7 material from “30 - 10” to “30 - 100”.

618	703.13.1	In the first sentence of the first paragraph, change “703.09” to “703.06”.
618	703.13.2	In the first sentence, change “703.09” to “703.06”.
671	712.06.2.2	In the first sentence, change “712.05.1” to “Subsection 712.05.1”.
689	714.11.2	In the first sentence, change “412” to “512”.
709	715.09.5	In the first sentence of the first paragraph, change “guage” to “gauge”.
717	717.02.3.4	In the top line of the tension table, change “1 1/2” to “1 1/8” and change “1 1/8” to “1 1/2”.
741	720.05.2.2	In the last sentence of this subsection, change “720.05.2.1” to “Subsection 720.05.2.1”.
827	803.03.2.3.7.5.2	In the first sentence of the second paragraph, change “803.03.5.4” to “803.03.2.3.4”.
833	803.03.2.6	In the first sentence, change “803.03.7” to “803.03.2.5”.
854	804.02.11	In the last sentence of the first paragraph, change “automatically” to “automatic”.
859	804.02.13.1.3	In the last sentence, change Subsection “804.02.12.1” to “804.02.12”.
879	804.03.19.3.2	In the first sentence of the third paragraph, change “listed on of Approved” to “listed on the Approved”.
879	804.03.19.3.2	In the last sentence of the last paragraph, change “804.03.19.3.1” to “Subsection 804.03.19.3.1”.
962	814.02.3	In the first sentence, change “710.03” to “Subsection 710.03”.
976	820.03.2.1	In the first sentence, change “803.02.6” to “803.03.1.7”.
976	820.03.2.2	In the first sentence, change “803.03.9.6” to “803.03.1.9.2”.
985	Index	Change the subsection reference for Petroleum Asphalt Cement from “702.5” to “702.05”.

985	Index	Change the subsection reference for the Definition of Asphaltic Cement or Petroleum Asphalt from “700.2” to “700.02”.
985	Index	Change the subsection reference for Automatic Batchers from “501.03.2.4” to “804.02.10.4”.
986	Index	Delete “501.03.2” as a subsection reference for Batching Plant & Equipment.
988	Index	Change the subsection reference for the Central Mixed Concrete from “501.03.3.2” to “804.02.11”.
988	Index	Change the subsection reference for the Concrete Batching Plant & Equipment from “501.03.2” to “804.02.11”.
999	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers.
1001	Index	Change the subsection reference for Edge Drain Pipes from “605.3.5” to “605.03.5”.
1002	Index	Change the subsection reference for Metal Posts from “713.05.2” to “712.05.2”.
1007	Index	Change the subsection reference for Coarse Aggregate of Cement Concrete Table from “703.3” to “703.03”.
1007	Index	Change the subsection reference for Composite Gradation for Mechanically Stabilized Courses Table from “703.8” to “703.08”.
1009	Index	Delete “501.03.3.3” as a subsection reference for Truck Mixers and Truck Agitators.
1010	Index	Delete reference to “Working Day, Definition of”.

**MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 1546**

**CODE: (SP)**

**DATE: 05/23/2007**

**SUBJECT: Advancement of Materials**

Bidders are advised that **NO ADVANCEMENT OF MATERIALS**, as addressed in Subsection 109.06.2 of the Standard Specifications, will be allowed on this project.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 1808

CODE: (IS)

DATE: 09/09/2008

SUBJECT: Safety Apparel

Bidders are advised that the Code of Federal Regulations CFR 23 Part 634 final rule was adopted November 24, 2006 with an effective date of November 24, 2008. This rule requires that **"All workers within the right-of-way of a Federal-Aid Highway who are exposed either to traffic (vehicles using the highway for the purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel"**. High-visibility safety apparel is defined in the CFR as **"personnel protective safety clothing that is intended to provide conspicuity during both daytime and nighttime usage, and that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107-2004 publication entitled American National Standard for High-Visibility Safety Apparel and Headwear"**. All workers on Mississippi State Highway right-of-way shall comply with this Federal Regulation. Workers are defined by the CFR as **"people on foot whose duties place them within the right-of way of a Federal-Aid Highway, such as highway construction and maintenance forces, survey crews, utility crews, responders to incidents within the highway right-of-way, and law enforcement personnel when directing traffic, investigating crashes, and handling lane closures, obstructed roadways, and disasters within the right-of-way of a Federal-Aid Highway"**.

You can access this final rule at the following link:

<http://a257.g.akamaitech.net/7/257/2422/01jan20061800/edocket.access.gpo.gov/2006/pdf/E6-19910.pdf>

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 1928

CODE: (IS)

| DATE: 04/14/2008

SUBJECT: Federal Bridge Formula

Bidders are hereby advised that Federal Highway Administration Publication No. FHWA-MC-94-007, **BRIDGE FORMULA WEIGHTS**, dated January 1994, 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 7<sup>th</sup> Street, SW  
Washington, DC 20590  
(202) 366-2212

or

| [http://ops.fhwa.dot.gov/freight/sw/brdgcalt/calc\\_page.htm](http://ops.fhwa.dot.gov/freight/sw/brdgcalt/calc_page.htm)

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 2382

CODE: (IS)

| DATE: 02/12/2009

| SUBJECT: Status of Right-of-Way

Although it is desirable to have acquired all rights-of-way and completed all 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, relocatees and utilities which have not been completed.

| The status of right-of-way acquisition, utility adjustments, encroachments, potentially contaminated sites and asbestos containment 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  
SP-9999-09(074)  
105847-301000  
HARRISON COUNTY  
March 19, 2010**

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

**NONE.**

STATUS OF POTENTIALLY CONTAMINATED SITES

SP-9999-09(074)

105847-301000

Harrison County

March 16, 2010

THERE IS NO RIGHT OF WAY REQUIRED FOR THIS PROJECT. NO INITIAL SITE ASSESSMENT WILL BE PERFORMED. IF CONTAMINATION ON EXISTING RIGHT OF WAY IS DISCOVERED, IT WILL BE HANDLED BY THE DEPARTMENT.

ASBESTOS CONTAMINATION STATUS OF BUILDINGS  
TO BE REMOVED BY THE CONTRACTOR  
SP-9999-09(074)  
105847-301000  
Harrison County  
March 16, 2010

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 is no Right of Way required for this project. There are no buildings to be removed by the contractor.

**ENCROACHMENT CERTIFICATION**

SP-9999-09(074)

105847301

HARRISON COUNTY(IES)

03/192010

This is to certify that the above captioned project has been inspected and no encroachments were found.

**STATUS OF UTILITIES  
PROJECT NO. SP-9999-09(074) – 105847/301000  
HARRISON COUNTY**

All work associated with this project is to be done within existing rights-of-way. No conflict with contractor's operations is anticipated.

Forty-eight hours prior commencing any excavation operations the contractor is advised to call MS One-Call at 1 800-227-6477.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SECTION 904 - NOTICE TO BIDDERS NO. 2818

CODE: (SP)

| DATE: 10/01/2009

SUBJECT: Non-Quality Control / Quality Assurance Concrete

Bidders are advised that the following pay items will not be accepted based on the Quality Control / Quality Assurance (QC/QA) requirements of Section 804 of the specifications. The acceptance of these pay items will be based on sampling and testing at the project site by MDOT forces. The Contractor is required to submit mix designs to accomplish this work in accordance with Section 804 and perform normal Quality Control functions at the concrete plant. Acceptance will be in accordance with the requirements of 907-601, Structural Concrete, and TMD-20-04-00-000. At the discretion of the Engineer, the Contractor may request that the concrete be accepted based on QC/QA requirements.

<u>Pay Item</u>	<u>Description</u>
221	Paved Ditches
601	Minor Structures - manholes, inlets, catch basins, junction boxes, pipe headwalls, and pipe collars.
606	Guardrail Anchors
607	Fence Post Footings
608	Sidewalks
609	Curb and Gutter
614	Driveways
616	Median and Island Pavement
630	Sign Footings, except Overhead Sign Supports

## **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 2858**

**CODE: (SP)**

**DATE: 11/12/2009**

**SUBJECT: Petroleum Products Base Prices**

Bidders are advised that the Notice To Bidders entitled “Monthly Petroleum Products Base Prices” previously included in the proposal documents will no longer be a printed part of the proposal beginning with the January 2010 letting. Monthly petroleum products base prices will be available at the web site listed below. Current monthly prices will be posted to this web site on or before the 15<sup>th</sup> of each month. Bidders are advised to use the petroleum base prices on this web site when preparing their bids. The current monthly petroleum products base prices will become part of the contract during the execution of the contract.

Monthly Petroleum Products Base Prices can be viewed at:

<http://www.gomdot.com/Applications/BidSystem/Home.aspx>

## **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

**SECTION 904 - NOTICE TO BIDDERS NO. 2937**

**CODE: (SP)**

**DATE: 01/11/2010**

**SUBJECT: Reduced Speed Limit Signs**

Bidders are advised that all black and white speed limits signs that are used to reduce the speed limit through construction zones shall be covered or removed during times when the Contractor is not performing work. If the Contractor has a routine daytime operation and is not working at night, the signs shall be covered or removed during the nighttime when there is no work activity.



## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SECTION 904 - NOTICE TO BIDDERS NO. 3029

CODE: (SP)

DATE: 03/18/2010

SUBJECT: Contract Time

PROJECT: SP-9999-09(074) / 105847301 -- Harrison County

The calendar date for completion of work to be performed by the Contractor for this project shall be **December 17, 2010**, 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 **May 11, 2010**, and the effective date of the Notice to Proceed/Beginning of Contract Time will be **June 10, 2010**.

Should the Contractor request a Notice to Proceed earlier than **June 10, 2010** and it is agreeable with the Department for an early Notice to Proceed, the requested date will become the new Notice to Proceed / Beginning of Contract Time date.

A progress schedule as referenced to in Subsection 108.03 will not be required for this contract..

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-101-4**

**CODE: (IS)**

**DATE: 11/05/2008**

**SUBJECT: Definitions**

Section 101, Definitions and Terms, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-101.02--Definitions.** Replace the following definitions in Subsection 101.02 on pages 3 through 13.

**Contract** - The written agreement between the Mississippi Transportation Commission and the Contractor setting forth the obligations of the parties thereunder, including but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The contract includes the invitation for bids, proposal, contract form and contract bonds, specifications, supplemental specifications, interim specifications, general and detailed plans, special provisions, notices to bidders, notice to proceed, and also any agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

**Contract Bonds** - The approved form of security, executed by the Contractor and the Contractor's Surety(ies), guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the project. This term includes Performance and Payment Bond(s).

**Surety** - A corporate body, qualified under the laws of Mississippi, which is bound with and for the successful bidder by "contract bond(s)" to guarantee acceptable performance of the contract and payment of all legal taxes and debts pertaining to the construction of the project, including payment of State Sales Tax as prescribed by law, and any overpayment made to the Contractor.

Add the following to the list of definitions in Subsection 101.02 on pages 3 through 13.

**Performance Bond** - The approved form of security, executed by the Contractor and issued by the Contractor's Surety(ies), guaranteeing satisfactory completion of the contract and all supplemental agreements pertaining thereto.

**Payment Bond** - The approved form of security, executed by the Contractor and issued by the Contractor's Surety(ies), guaranteeing the payment of all legal debts pertaining to the construction of the project including, but not limited to, the labor and materials of subcontractors and suppliers to the prime contractor.

# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

## **SUPPLEMENT TO SPECIAL PROVISION NO. 907-102-4**

**DATE:** 12/10/2009

**SUBJECT:** Bidding Requirements and Conditions

Delete the first sentence of the second paragraph of 907-102.08 on page 2, and substitute the following:

If a bid bond is offered as guaranty, the bond must be on a form approved by the Executive Director, made by a Surety acceptable to the Executive Director and signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent and the Bidder.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-102-4**

**CODE: (IS)**

**DATE: 11/25/2008**

**SUBJECT: Bidding Requirements and Conditions**

**907-102.06--Preparation of Proposal.** Delete the fifth, sixth, and seventh paragraphs of Subsection 102.06 on page 18 and substitute the following:

Bid sheets generated by the Department's Electronic Bid System (Trns•port Expedite Bid) along with a completed proposal package will constitute the official bid and shall be signed on the last sheet of the Expedite Bid generated bid sheets and delivered to the Department in accordance with the provisions of Subsection 102.09.

Bidders are cautioned that using other versions of the Expedite Bid may result in improperly printed bid sheets. The correct version of Expedite Bid can be obtained at no cost from the MDOT Contract Administration Division or at the MDOT website, [www.gomdot.com](http://www.gomdot.com).

If bidders submit Expedite Bid generated bid sheets, then the bid sheets included in the proposal should not be completed. The Expedite Bid generated bid sheets should be stapled together, signed and included in the bid proposal package in the sealed envelope. If both the forms in the proposal and the Expedite Bid generated bid sheets are completed and submitted, only the Expedite Bid generated sheets will be recognized and used for the official bid. The USB Flash Drive containing the information printed on the Expedite Bid generated bid sheets should be placed in the padded envelope included with the bid proposal package and enclosed in the sealed envelope. Bid sheets printed from Expedite Bid should be a representation of the data returned on the flash drive. To have a true representation of the bid sheets, the Bidder must copy the EBS and EBS amendment files used to prepare the bid sheets to the flash drive. Otherwise, the unit prices bid will not be recorded to the flash drive. Bidders are cautioned that failure to follow proper flash drive handling procedures could result in the Department being unable to process the flash drive. Any modification or manipulation of the data contained on the flash drive, other than entering unit bid prices and completing all required Expedite Bid sections, will not be allowed and will cause the Contractor's bid to be considered irregular.

**907-102.08--Proposal Guaranty.** Delete the first and second paragraphs in Subsection 102.08 on page 20 and substitute the following:

No proposal will be considered unless accompanied by certified check, cashier's check or bid bond, made payable to the State of Mississippi, in an amount of not less than five percent (5%) of the total amount of the proposal offered. The guaranty shall be evidence of good faith that, if awarded the contract, the bidder will execute the contract and give performance and payment contract bond(s) as stipulated in Subsection 907-103.05.1, 907-103.05.2, and as required by law.

If a bid bond is offered as guaranty, the bond must be on a form approved by the Executive Director, made by a Surety acceptable to the Executive Director and signed or countersigned by a qualified Mississippi resident agent or qualified nonresident agent and the bidder. Such bid bond shall also conform to the requirements and conditions stipulated in Subsection 907-103.05.2 as applicable.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-103-8**

**CODE: (SP)**

**DATE: 12/15/2009**

**SUBJECT: Award and Execution of Contract**

Section 103, Award and Execution of Contract, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-103.04--Return of Proposal Guaranty.** Delete the second paragraph of Subsection 103.04 on page 23 and substitute the following:

Certified checks or cashier's checks submitted as proposal guaranties, except those of the two lowest bidders, will be returned within 10 days of contract award. The retained proposal guaranty of the unsuccessful of the two lowest bidders will be returned within ten days following the execution of a contract with the successful low bidder. The retained proposal guaranty of the successful bidder will be returned after satisfactory performance and payment bonds have been furnished and the contract has been executed.

In the event all bids are rejected by the Commission, certified checks or cashier's checks submitted as proposal guaranty by all bidders will be returned within 10 days of rejection.

Delete Subsection 103.05 on page 23 and substitute the following:

**907-103.05--Contract Bonds.**

**907-103.05.1--Requirement of Contract Bonds.** Prior to the execution of the contract, the successful bidder shall execute and deliver to the Executive Director a performance and payment bond(s), in a sum equal to the full amount of the contract as a guaranty for complete and full performance of the contract and the protection of the claimants and the Department for materials and equipment and full payment of wages [in accordance with Section 65-1-85 Miss. Code Ann. \(1972 as amended\)](#). In the event of award of a joint bid, each individual, partnership, firm or corporation shall assume jointly the full obligations under the contract and the contract bond(s).

**907-103.05.2--Form of Bonds.** The form of bond(s) shall be that provided by or acceptable to the Department. These bonds shall be executed by a [Mississippi agent](#) or [qualified](#) nonresident agent and shall be accompanied by a certification as to authorization of the attorney-in-fact to commit the Surety company. A power of attorney [exhibiting the Surety's original seal](#) supporting the [Mississippi agent](#) or [the qualified](#) nonresident agent's signature shall be furnished with each bond. The Surety company shall be currently authorized and licensed in good standing to conduct business in the State of Mississippi with a minimum rating by A.M. Best of (A-) in the latest printing "Best's Key Rating Guide" to write individual bonds up to ten percent of the policy holders' surplus or listed on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as

published by the United States Department of the Treasury, Financial Management Service, Circular 570 (latest revision as published and supplemented on the Financial Management Service Web site and in the Federal Register) within the underwriting limits listed for that Surety. All required signatures on the bond(s) and certifications shall be original signatures, in ink, and not mechanical reproductions or facsimiles. The [Mississippi agent](#) or [qualified nonresident agent](#) shall be in good standing and currently licensed by the Insurance Commissioner of the State of Mississippi to represent the Surety company(ies) executing the bonds.

Surety bonds shall continue to be acceptable to the Commission throughout the life of the Contract and shall not be canceled by the Surety without the consent of the Department. In the event the Surety fails or becomes financially insolvent, the Contractor shall file a new Bond in the amount designated by the Executive Director within thirty (30) days of such failure, insolvency, or bankruptcy. Subsequent to award of Contract, the Commission or the Department may [require additional security for any supplemental agreements executed under the contract or replacement security in the event of the surety\(ies\) loss of the ratings required above](#). Suits concerning bonds shall be filed in the State of Mississippi and adjudicated under its laws without reference to conflict of laws principles.

**907-103.08--Failure to Execute Contract.** In the first sentence of Subsection 103.08 on page 24, change “bond” to “performance and payment bonds”.

# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

## **SUPPLEMENT TO SPECIAL PROVISION NO. 907-105-3**

**DATE: 03/31/2008**

**SUBJECT: Cooperation By Contractor**

Delete the first sentence of the first paragraph under 907-105-05 on page 1, and substitute the following:

On projects that include erosion control pay items, the Contractor shall also designate a responsible person whose primary duty shall be to monitor and maintain the effectiveness of the erosion control plan, including NPDES permit requirements.



## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-105-3**

**CODE: (IS)**

**DATE: 02/14/2006**

**SUBJECT: Cooperation By Contractor**

Section 105, Control of Work, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is modified as follows:

**907-105.05--Cooperation by Contractor.** In the third sentence of the second paragraph of Subsection 105.05 on page 35, change “Notice to Proceed” to “Notice of Award”.

Delete the fourth paragraph of Subsection 105.05 on page 35, and substitute the following.

The Contractor shall also designate a responsible person whose primary duty shall be to monitor and maintain the effectiveness of the erosion control plan, including NPDES permit requirements. This responsible person must be a Certified Erosion Control Person certified by an organization approved by the Department. Prior to or at the pre-construction conference, the Contractor shall designate in writing the Certified Erosion Control Person to the Project Engineer. The designated Certified Erosion Control Person shall be assigned to only one (1) project. When special conditions exist, such as two (2) adjoining projects or two (2) projects in close proximity, the Contractor may request in writing that the State Construction Engineer approve the use of one (1) Certified Erosion Control Person for both projects. The Contractor may request in writing that the Engineer authorize a substitute Certified Erosion Control Person to act in the absence of the Certified Erosion Control Person. The substitute Certified Erosion Control Person must also be certified by an organization approved by the Department. A copy of the Certified Erosion Control Person's certification must be included in the Contractor's Protection Plan as outlined in Subsection 907-107.22.1. This in no way modifies the requirements regarding the assignment and availability of the superintendent.

# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

## **SUPPLEMENT TO SPECIAL PROVISION NO. 907-107-7**

**DATE:** 12/10/2009

**SUBJECT:** Legal Relations and Responsibility to Public

Delete the last sentence of the first paragraph of Subsection 907-107.14.2.1 on page 1, and substitute the following:

Each policy shall be signed or countersigned by a Mississippi Agent or Qualified Nonresident Agent of the Insurance Company.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-107-7**

**CODE: (IS)**

**DATE: 11/05/2008**

**SUBJECT: Legal Relations and Responsibility to Public**

Section 107, Legal Relations and Responsibility to Public, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-107.02--Permits, Licenses and Taxes.** Delete in toto Subsection 107.02 on page 49 and substitute the following:

The Contractor or any Subcontractor shall have the duty to determine any and all permits and licenses required and to procure all permits and licenses, pay all charges, fees and taxes and issue all notices necessary and incidental to the due and lawful prosecution of the work. At any time during the life of this contract, the Department may audit the Contractor's or Subcontractor's compliance with the requirements of this section.

The Contractor or any Subcontractor is advised that the "Mississippi Special Fuel Tax Law", Section 27-55-501, et seq. and the Mississippi Use Tax Law, Section 27-67-1, et seq., and their requirements and penalties, apply to any contract or subcontract for construction, reconstruction, maintenance or repairs, for contracts or subcontracts entered into with the State of Mississippi, any political subdivision of the State of Mississippi, or any Department, Agency, Institute of the State of Mississippi or any political subdivision thereof.

The Contractor or any Subcontractor will be subject to one or more audits by the Department during the life of this contract to make certain that all applicable fuel taxes, as outlined in Section 27-55-501, et seq., and any sales and/or use taxes, as outlined in Section 27-67-1, et seq. are being paid in compliance with the law. The Department will notify the Mississippi State Tax Commission of the names and addresses of any Contractors or Subcontractors.

**907-107.14.2--Liability Insurance.** Delete in toto Subsection 107.14.2 beginning on page 60 and substitute:

**907-107.14.2.1--General.** The Contractor shall carry Contractor's liability, including subcontractors and contractual, with limits not less than: \$500,000 each occurrence; \$1,000,000 aggregate; automobile liability - \$500,000 combined single limit - each accident; Workers' Compensation and Employers' Liability - Statutory & \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. Each policy shall be signed or countersigned by a Mississippi Resident Agent or qualified nonresident agent of the insurance company.

The Contractor shall have certificates furnished to the Department from the insurance companies providing the required coverage. The certificates shall be on the form furnished by the Department and will show the types and limits of coverage.

**907-107.14.2.2--Railroad Protective.** The following provisions are applicable to all work performed under a contract on, over or under the rights-of-way of each railroad shown on the plans.

The Contractor shall assume all liability for any and all damages to work, employees, servants, equipment and materials caused by railroad traffic.

Prior to starting any work on railroad property, the Contractor shall furnish satisfactory evidence to the Department that insurance of the forms and amounts set out herein in paragraphs (a) and (b) has been obtained. Also, the Contractor shall furnish similar evidence to the Railroad Company that insurance has been obtained in accordance with the Standard Provisions for General Liability Policies and the Railroad Protective Liability Form as published in the Code of Federal Regulations, 23 CFR 646, Subpart A. Evidence to the Railroad Company shall be in the form of a Certificate of Insurance for coverages required in paragraph (b), and the original policy of the Railroad Protective Liability Insurance for coverage required in paragraph (a).

All insurance herein specified shall be carried until the contract is satisfactorily complete as evidenced by a release of maintenance from the Department.

The Railroad Company shall be given at least 30 days notice prior to cancellation of the Railroad Protective Liability Insurance policy.

For work within the limits set out in Subsection 107.18 and this subsection, the Contractor shall provide insurance for bodily injury liability, property damage liability and physical damage to property with coverages and limits no less than shown in paragraphs (a) and (b). Bodily injury shall mean bodily injury, sickness, or disease, including death at anytime resulting therefrom. Property damage shall mean damages because of physical injury to or destruction of property, including loss of use of any property due to such injury or destruction. Physical damage shall mean direct and accidental loss of or damage to rolling stock and their contents, mechanical construction equipment or motive power equipment.

(a) **Railroad Protective Liability Insurance** shall be purchased on behalf of the Railroad Company with limits of \$2,000,000 each occurrence; \$6,000,000 aggregate applying separately to each annual period for lines without passenger trains. If the line carries passenger train(s), railroad protective liability insurance shall be purchased on behalf of the Railroad Company with limits of \$5,000,000 each occurrence; \$10,000,000 aggregate applying separately to each annual period.

Coverage shall be limited to damage suffered by the railroad on account of occurrences arising out of the work of the Contractor on or about the railroad right-of-way, independent of the railroad's general supervision or control, except as noted in paragraph 4 below.

Coverage shall include:

- (1) death of or bodily injury to passengers of the railroad and employees of the railroad not covered by State workmen's compensation laws,

- (2) personal property owned by or in the care, custody or control of the railroads,
- (3) the Contractor, or any of the Contractor's agents or employees who suffer bodily injury or death as a result of acts of the railroad or its agents, regardless of the negligence of the railroads, and
- (4) negligence of only the following classes of railroad employees:
  - (i) any supervisory employee of the railroad at the job site
  - (ii) any employee of the railroad while operating, attached to, or engaged on, work trains or other railroad equipment at the job site which are assigned exclusively to the Contractor, or
  - (iii) any employee of the railroad not within (i) or (ii) above who is specifically loaned or assigned to the work of the Contractor for prevention of accidents or protection of property, the cost of whose services is borne specifically by the Contractor or Governmental authority.

(b) **Regular Contractor's Liability**, including subcontractors, XCU and railroad contractual with limits of \$1,000,000 each occurrence; \$2,000,000 aggregate. **Automobile** with limits of \$1,000,000 combined single limit any one accident; **Workers' Compensation and Employer's Liability** - statutory and \$100,000 each accident; \$100,000 each employee; \$500,000 policy limit. **Excess/Umbrella Liability** \$5,000,000 each occurrence; \$5,000,000 aggregate. All coverage to be issued in the name of the Contractor shall be so written as to furnish protection to the Contractor respecting the Contractor's operations in performing work covered by the contract. Coverage shall include protection from damages arising out of bodily injury or death and damage or destruction of property which may be suffered by persons other than the Contractor's own employees.

In addition, the Contractor shall provide for and on behalf of each subcontractor by means of a separate and individual liability and property damage policy to cover like liability imposed upon the subcontractor as a result of the subcontractor's operations in the same amounts as contained above; or, in the alternative each subcontractor shall provide same.

**907-107.15--Third Party Beneficiary Clause.** In the first sentence of the first paragraph of Subsection 107.15 on page 61, change "create the public" to "create in the public".

**907-107.17--Contractor's Responsibility for Work.** Delete the fifth sentence of the fifth paragraph of Subsection 107.17 on page 63 and substitute the following:

The eligible permanent items shall be limited to traffic signal systems, changeable message signs, roadway signs and sign supports, lighting items, guard rail items, delineators, impact attenuators, median barriers, bridge railing or pavement markings. The eligible temporary items shall be limited to changeable message signs, guard rail items, or median barriers.

# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

## **SUPPLEMENT TO SPECIAL PROVISION NO. 907-108-18**

**DATE:** 02/24/2010

**SUBJECT:** Prosecution and Progress

Before the sentence in 907-108.02 on page 1, add the following:

Delete the second paragraph of Subsection 108.02 on page 75 and substitute the following:

The anticipated date of the Notice to Proceed (NTP) / Beginning of Contract Time (BCT) will be specified in the proposal.

After Subsection 907-108.02 on page 1, add the following:

**907-108.03.2--Preconstruction Conference.** Delete the first paragraph of Subsection 108.03.2 on page 76 and substitute the following:

Prior to commencement of the work, a preconstruction conference shall be held for the purpose of discussing with the Contractor essential matters pertaining to the prosecution and satisfactory completion of the work. The Contractor will be responsible for scheduling the preconstruction conference. The Contractor will advise the Project Engineer in writing 14 days prior to the requested date that a conference is requested. When the contract requires the Contractor to have a certified erosion control person, the Contractor's certified erosion control person shall be at the preconstruction conference. The Department will arrange for utility representatives and other affected parties to be present.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-108-18

CODE: (IS)

| DATE: 11/05/2008

**SUBJECT: Prosecution and Progress**

Section 108, Prosecution and Progress, of the 2004 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.** At the end of the last paragraph of Subsection 108.01.1 on page 73, add the following:

The Engineer will have the authority to suspend the work wholly or in part and to withhold payments because of the Contractor's failure to make prompt payment within 15 calendar days as required above, or failure to submit the required OCR-484 Form, Certification of Payments to Subcontractors, which is also designed to comply with prompt payment requirements.

**907-108.02--Notice To Proceed.** Delete the fourth paragraph of Subsection 108.02 on page 75 and substitute the following:

Upon written request from the Contractor and if circumstances permit, the Notice to Proceed may be issued at an earlier date subject to the conditions stated therein. The Contractor shall not be entitled to any monetary damages or extension of contract time for any delay claim or claim of inefficiency occurring between the early issuance Notice To Proceed date and the Notice to Proceed date stated in the contract.

### **907-108.06--Determination and Extension of Contract Time.**

#### **907-108.06.1--Based on Time Units.**

**907-108.06.1.2--Contract Time Assessment.** At the end of the eighth paragraph of Subsection 108.06.1.2 on page 81, add the following:

When the approved progress schedule indicates that a controlling phase(s) is to be completed prior to December 1 and the physical features of the phase(s) have not been satisfactorily completed, beginning on December 1 the miscellaneous phase will be shown as the only active phase during the months of December, January, and February. Under this condition, time units, monthly time units divided by monthly calendar days, will be assessed in accordance with the applicable column in the TABLE OF TIME UNITS. If the physical features of the phase(s) have not been completed by March 1, the phase will resume as a controlling phase and time assessment will be made accordingly.

Delete the fourth and fifth sentence of the thirteenth paragraph of Subsection 108.06.1.2 on page 82, and substitute the following:

In the event mutual agreement cannot be reached, the Contractor will be allowed a maximum of 25 calendar days following the Contractor's receipt of the monthly report in question to file a protest Notice of Claim in accordance with the provisions of Subsection 105.17. Otherwise, the Engineer's assessment shall be final unless mathematical errors of assessment are subsequently found to exist.

**907-108.06.2--Based on Calendar Date Completion.** After Subsection 108.06.2.1 on page 85, add the following:

**907-108.06.2.2--Cessation of Contract Time.** When the Engineer by written notice schedules a final inspection, time will be suspended until the final inspection is conducted and for an additional 14 calendar days thereafter. If after the end of the 14-day suspension all necessary items of work have not been completed, time charges will resume. If the specified completion date had not been reached at the time the Contractor called for a final inspection, the calendar day difference between the specified completion date and the date the Contractor called for a final inspection will be added after the 14-day period before starting liquidation damages. If a project is on liquidated damages at the time a final inspection is scheduled, liquidated damages will be suspended until the final inspection is conducted and for seven (7) calendar days thereafter. If after the end of the 7-day suspension all necessary items of work have not been completed, liquidated damages will resume. When final inspection has been made by the Engineer as prescribed in Subsection 105.16 and all items of work have been completed, the daily time charge will cease.

**907-108.10--Termination of Contractor's Responsibility.** In the last sentence of Subsection 108.10 on page 88, change "bond" to "performance and payment bond(s)".



# **MISSISSIPPI DEPARTMENT OF TRANSPORTATION**

## **SUPPLEMENT TO SPECIAL PROVISION NO. 907-109-4**

**DATE:** 12/02/2009

**SUBJECT:** Measurement and Payment

Delete Subsection 907-109.07 on page 1, and substitute the following:

**907-109.07--Changes in Material Costs.** Delete the third full paragraph of Subsection 109.07 on page 96 and substitute the following:

A link to the established base prices for bituminous products and fuels will be included in the contract documents under a Notice to Bidders entitled "Petroleum Products Base Prices."

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-109-4**

**CODE: (IS)**

**DATE: 11/05/2008**

**SUBJECT: Measurement and Payment**

Section 109, Measurement and Payment, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-109.04--Extra and Force Account Work.** In the last sentence of subparagraph (b) in Subsection 109.04 on page 91, change “bond” to “bond(s)”.

Delete the first sentence of the second paragraph of subparagraph (d) in Subsection 109.04 on page 92 and substitute the following:

In the event an agreement cannot be reached for a particular piece of equipment, the book entitled "Rental Rate Blue Book For Construction Equipment" as published by EquipmentWatch® and is current at the time the force account work is authorized will be used to determine equipment ownership and operating expense rates.

**907-109.06--Partial Payment.**

**907-109.06.1--General.** Delete the fourth and fifth sentences of the third paragraph of Subsection 109.06.1 on page 94, and substitute the following:

In the event mutual agreement cannot be reached, the Contractor will be allowed a maximum of 25 calendar days following the Contractor's receipt of the monthly estimate in question to file in writing, a protest Notice of Claim in accordance with the provisions Subsection 105.17. Otherwise, the Engineer's estimated quantities shall be considered acceptable pending any changes made during the checking of final quantities.

**907-109.07--Changes in Material Costs.** Delete the second sentence of the first paragraph of Subsection 109.07 on page 95, and substitute the following:

When a pay item on the bid sheets indicate that an adjustment is allowed and when a notice to bidders is included in the contract showing current monthly base prices, an adjustment will be provided as follows:

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-637-3**

**CODE: (SP)**

**DATE: 04/30/2009**

**SUBJECT: ITS Equipment Cabinets**

Section 637, Equipment Cabinets, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete in total Section 637 beginning on page 479, and substitute the following:

### **SECTION 907-637--ITS EQUIPMENT CABINETS**

**907-637.01--Description.** This special provision specifies the minimum requirements for equipment cabinets furnished and installed for Mississippi Intelligent Transportation Projects. The cabinet will provide a protective outdoor housing enclosure in which to install field hardware required for ITS devices. Major elements of the equipment cabinet include the cabinet housing and equipment mounting hardware, interior wiring and termination facilities, power supplies, electrical accessories, and field installation.

This work may also include making modifications to existing ITS cabinets in accordance with the plans, specials provisions, Notice to Bidders, and contract documents

### **907-637.02--Materials.**

**907-637.02.1--General.** The Contractor shall only furnish equipment cabinets and integral materials recommended by the manufacturers for outside plant use and the intended application. This requirement includes wiring and electrical materials and configurations (including connector pin-outs) that are wholly or partially related to the field device applications (CCTV, RDS, VDS, etc.).

Equipment cabinets shall be furnished, configured and installed at locations as shown in the Plans. All equipment and materials for each specific location shall be furnished and configured as shown in the Plans.

Electrical system and components shall have UL-listings.

Unless otherwise specified, wire and cable shall be provided with stranded copper conductors, 75°/90° Celsius wet/dry rated insulation, and sized for the maximum voltage and current in the circuit.

**907-637.02.2--Rail Mounted Components.** Components specified as Rail-Mounted shall be DIN EN 50022 (NS35) component rails. Component rails shall be the perforated type and of sufficient length as to protrude beyond the mounted components for fastening to cabinet panels as specified herein. They shall be UL 1059, UL 486E, and NEMA ISC-4 rated.

Alternate Rail configurations may be submitted to the Engineer for consideration and approval.

**907-637.02.3--Terminal Blocks and Component Terminals.** Terminal blocks and component terminals shall be nickel-plated copper, copper alloy or brass.

Terminal blocks shall have voltage and current ratings greater than the ratings of the wires that are terminated, be able to terminate wires from #8 AWG to #1/0 AWG wiring, and shall be assembled into housing enclosures such that all exposed surfaces are touch-safe. Conductor fastening screws shall be captive.

Terminal block housings shall be colored as follows:

1. 120 VAC line/hot: black
2. 120 VAC neutral: white
3. 24 VDC positive: red
4. 24 VDC negative: gray
5. RS485 communications: orange
6. Ground: green or green/yellow

**907-637.02.4--Door Locks.** Door locks shall be provided for all cabinet doors, keyed to MDOT standard Corbin No. 15481RS lock keyed to be operated with a traffic industry conventional No. 2 Key, Corbin No. 1R6380 made from heavy-duty blanks. Two (2) keys shall be provided with each cabinet.

**907-637.02.5--Labels.** All cabinets shall be labeled with the agency name, device name and ID. Labels shall meet the following minimum requirements:

1. Labels shall be flat black lettering on a reflective white background. Lettering shall be a minimum of one (1) inch in height.
2. Labels shall be manufactured from pre-coated adhesive backed reflective sheeting material meeting the minimum requirements of AASHTO M268 Type 1.
3. The agency name labels shall be "MDOT ITS" in one continuous adhesive sheet.
4. The device ID labels shall include the device name as an acronym and a hyphen, and shall be one continuous adhesive sheet. Device name acronyms are "CCTV-", "RDS-", "VDS-" or "DMS-".
5. The device ID shall be numerals corresponding to the location and shall be installed adjacent to the acronym sheet. Multiple device IDs of the same type shall be on the same line separated with a space. Examples: "CCTV-73", "RDS-219 220", "VDS-303 304".
6. Labels shall be installed along the top of the cabinet door (front cabinet door on Type B cabinets), with MDOT ITS label at the top and the device ID labels immediately underneath.

All cabinets or enclosures shall be provided with a voltage label in accordance with the NEC labeling requirements. Voltage labels shall meet the following minimum requirements:

1. Labels shall be flat black lettering on a reflective yellow background. Lettering shall be a minimum of 1 inch in height.

2. Labels shall be manufactured from pre-coated adhesive backed reflective sheeting material meeting the minimum requirements of AASHTO M268 Type 1.
3. Labels shall include the voltages entering the cabinet and shall be one continuous adhesive sheet. Examples are "120VAC" or "24VDC".
4. Labels shall be installed on all cabinet doors.

**907-637.02.5--Type A Cabinet.** All Type A cabinets shall be identical in manufacture and assembly, capable of supporting Radar Detection System units. A Type A cabinet shall be provided for outdoor use with a minimum NEMA 3R rating. The cabinet enclosure shall be manufactured from 0.125-inch aluminum. The cabinet shall provide a minimum of one ventilation louver on at least two sides. Any louver opening greater than 3/16 inch in any dimension shall be screened to prevent insect entry. The cabinet shall be intended for strapped pole-mounting; with all necessary mounting hardware, including 1/2-inch stainless steel mounting straps. The Type A cabinet enclosure shall be 18 inches (H) by 14 inches (W) by 8 inches (D) with a tolerance of  $\pm 0.25$  inches. Cabinet door shall reveal the entire front opening of the cabinet for accessibility. The hinge shall be designed to prevent the door from sagging. A single-piece 0.125-inch aluminum back panel shall be provided which covers no less than 90% of the cabinet back wall. Back panel shall be affixed to the enclosure with threaded fasteners and shall be removable from the enclosure with hand tools only and without requirement to remove the cabinet door, mounting straps, or any other components other than communications or device wiring. The cabinet shall be furnished with doorstops, which retain the doors open in a 90 degree and 120 degree positions. A grounding lug shall be provide on the back panel which is directly bonded to the back panel and capable of terminating #6 AWG wire.

**907-637.02.5.1--RDS Communications Wiring.** The RDS communication wiring shall meet the following:

1. Component rail physically and electrically fastened to the cabinet back panel.
2. Strain relief brackets for the RDS comm. cable(s) and the RDS unit harness cables.
3. Parallel-connection single-stage surge suppressors for the four wire RS-232 data signal for the RDS units with integral or separate terminals for a minimum of three RDS comm. Cables.
4. Parallel-connection zero-power dissipation surge suppressor for the 12-24VDC power supply for the RDS units with integral or separate terminals for a minimum of three RDS comm. cables and two RDS unit harness cables.
5. Connection/jumper wiring between the surge suppressors and the local/remote communications disconnect module(s) shall be of the same conductor size, type, and insulation color as in the RDS comm. cable.

**907-637.02.6--Type B Cabinet.** All Type B cabinets shall be uniform in manufacture and assembly, and capable of supporting the field equipment as shown on the Plans. As a minimum support is required for two RDS units, one Type A or B network switch, one video encoder, one Type A radio/antenna, RDS comm. cable and fiber drop panel terminations, regardless of the devices shown in the Plans at a specific location. A complete Type B cabinet shall be an assembly consisting of a cabinet housing and electrical subsystems. Type B cabinet housing shall conform to the standards for a Type 170 336S (approximate exterior dimensions 46 inches (H) x 24 inches (W) x 23 inches (D)), including standard EIA 19-inch rack cabinet cage, as

defined in the latest version of the Caltrans Transportation Electrical Equipment Specifications (TEES). The minimum clear vertical inside dimension of the 19-inch rack for equipment mounting shall be 39.5 inches. Standard cabinet accessories for traffic signal operations, such as controller, power distribution assembly, input/output file and termination panels, and the police panel, are not required as part of this cabinet assembly.

**907-637.02.6.1--Hardware.** All mounting hardware necessary for base or pole mounting cabinets shall be provided as shown in the plans. As a minimum, three (3) ¾-inch stainless steel mounting straps shall be provided for pole mounted cabinets. Hooks shall be welded to the inside of each cabinet door for hanging a side-opening, opaque re-sealable, heavy-duty plastic documentation pouch with metal or hard-plastic reinforced holes for the door hooks. One pouch shall be provided with each cabinet.

A rack-mounted cabinet sliding storage drawer shall be provided in accordance with the following:

- Approximate exterior dimensions 1.75 inches (H) x 16 inches (W) x 14 inches (D).
- Telescoping drawer guides to allow full extension from the rack cage.
- Opening storage compartment lid to access storage space for cabinet documentation and other items.
- Supports a weight of 25 lb when extended.
- Non-slip plastic laminate surface attached to the compartment lid which covers a minimum of 90% of the surface area of the lid.
- Mounted in the rack cage with the bottom surface approximately 9 inches above the bottom of the rack cage.

Hardware shall include side panels within the two sides of the rack cabinet cage, inserted and fastened from the inside of the cage. The side panels shall be fabricated from 0.125-inch, 5052 sheet aluminum alloy and sized to the full inside dimensions of the rack cabinet cage. Side panel surfaces for equipment mounting are denoted by cabinet side, with the “right” side being the cabinet door hinge side and by upper or lower as related to the sliding storage drawer. Upper right side panel (cabinet door hinge side of cabinet, above the drawer) and lower left side panel (opposite side from the cabinet door hinge side, below the drawer) are example side panel surface names. A 12-inch long DIN rail (for future components) shall be included and mounted in the horizontal and vertical center of the lower left side panel.

**907-637.02.6.2--Electrical Subsystems.** A Type B cabinet electrical subsystems meeting the following requirements:

1. Electrical distribution module which consist of a DIN rail-mounted service entrance terminal block with positions for 120VAC line, neutral, and ground and capable of terminating minimally #6 through #8 AWG wire, located at one end of the mounting rail with an approximately 0.75-inch blank spacer module adjacent to the main cabinet breaker.
2. Main cabinet automatic overcurrent 15A circuit breaker that is UL-listed and of the mechanical-magnetic type rated for use from -18°C to 50°C minimum.

3. Main cabinet surge suppressor for single-phase 120VAC service entrance, parallel wired with a clamp voltage of approximately 280V and capable of a surge current of at least 20,000 amps.
4. Main cabinet filter for power line noise and switching transient suppression, integral to, or separate from and wired to, the main cabinet surge suppressor.
5. Electrical distribution terminal block for line and neutral conductors parallel wired to the main cabinet surge suppressor but non-filtered, with a minimum terminating capability of six conductors of #10 to #18 AWG. Label the terminal block as "ACCY POWER".
6. Electrical distribution terminal block for line and neutral conductors for circuits on the load/equipment side of the power line filter, with a minimum terminating capability of six conductors of #10 to #18 AWG. Label the block as "EQUIP POWER".
7. Electrical distribution terminal block for grounding and bonding conductors located on the same rail but separate from the service entrance terminal block and connected to the entrance ground with a #6 AWG green insulated wire. The grounding block shall have a minimum terminating capability of two #6 AWG conductors and ten #10 to #18 AWG conductors.
8. Ground fault interrupt duplex receptacle (NEMA 5-15R) with 2.5A circuit breaker connected to the ACCY POWER distribution block. Two red, orange or green/yellow labels with minimum 0.25-inch lettering with the legend "300 WATTS MAX" permanently affixed to the receptacle. This receptacle is for technician use only and shall not be used to power equipment.
9. Two duplex non-GFCI equipment power receptacles (NEMA 5-15R) connected to the EQUIP POWER distribution block mounted on the upper rear corner of the cabinet upper right side panel. Two red, orange or green/yellow labels with minimum 0.25-inch lettering with the legend "75 WATTS MAX" permanently affixed to the receptacle.
10. Interconnection wiring between all electrical distribution module components and the other systems included in or housed in the Type B cabinet.

**907-637.02.6.3--Lighting Subsystem.** A cabinet lighting subsystem shall be provided comprised of the following components:

1. One fluorescent lighting fixture, minimum 15 watt, mounted on the inside top front portion of the cabinet, with a cool white lamp with shatter-proof cover and operated by a normal power factor UL listed ballast.
2. A resistor-capacitor network noise suppressor installed across the light fixture power terminals.
3. Two door-actuated switches installed to turn on the cabinet light when either door is opened.
4. Powered from the ACCY POWER distribution block.

**907-637.02.6.4--RDS Communications Subsystem.** Where RDS are shown in the Plans, DIN rail-mounted components shall be provided that include the following:

1. Nominal 24VDC output power supply, capable of user setting between 23 and 28VDC minimum, with minimum 1A output rating and minimum operating temperature range of -25°C to +70°C. Power supply shall provide terminal facilities for a minimum of three sets of #14 AWG conductors (in the RDS comm cable). Maximum size of the power supply

shall be one (1) inch (W) X seven (7) inches (H) X seven (7) inches (D). The power supply shall be connect to the EQUIP POWER distribution block for 120VAC input.

2. Surge suppressor for a RS485 data signal, wired between the video encoder and the RDS units. The surge suppressor shall protect the 4-wire RS485 data signal with hybrid multi-stage suppression components including gas tube and silicon avalanche diode. The surge suppressor shall have a response time no greater than 1 nanosecond. The surge suppressor shall provide terminal facilities for a minimum of four two-pair cables of #22 AWG conductors (in the RDS comm cable).

Interconnection wiring shall be provided between the RDS communications subsystem and the Terminal Server.

**907-637.02.6.5--CCTV Subsystem.** The requirements listed in Subsection 650.2.12 shall be met by installing the required CCTV support equipment in the Type B Cabinet.

**907-637.03--Construction Requirements.**

**907-637.03.1--General Installation Requirements.** The cabinet shall be installed and configured as shown in the Plans.

All cabinets shall be bonded to the pole grounding lug with minimum #6 AWG stranded copper bare or green-insulated cabinet grounding wire. Alternately on existing poles only, the cabinet grounding wire shall be bonded to an existing pole grounding wire with a cast brass or copper alloy threaded compression connector within four (4) inches of the existing pole grounding lug.

Do not install electrical service or electronic devices in the cabinet or connect to the cabinet until ground testing has been successfully completed and accepted, and the cabinet ground connection has been installed.

A cabinet wiring and interface diagram shall be provided and included with each cabinet. The documents shall be stored in the cabinet door pouch which shall be a side-opening, re-sealable, opaque, heavy-duty plastic documentation pouch.

**907-637.03.2--Type B.** Equipment in the Type B cabinets shall be installed and configured in accordance with the requirements for that equipment, including RDS units, CCTV, Type A and B network switches, video encoders, Type A radio/antennas, RDS comm. cables and/or fiber distribution or drop panels.

Do not install electronic devices in the cabinet until electrical service has been installed and activated, and the cabinet ventilation fan is operational.

Type A network switches and video encoders shall be installed in the top most area of the cabinet rack. The equipment receptacles shall be used for power.

Supporting equipment/electronics for CCTV shall be installed on the lower area of the cabinet upper left side panel. Ensure there is no physical or access conflict with the network switch and video encoder. Use the EQUIP POWER distribution block for the power source.



Fiber drop panels shall be installed in a vertical configuration on the lower rear edge of the cabinet upper right side panel.

**907-637.03.3--Testing.** The Contractor shall conduct a project testing program for all equipment cabinets. The project testing program shall include but is not limited to the specific requirements in this subsection. All test results shall confirm physical and performance compliance with this Special Provision. All test results documentation shall be submitted to the Engineer within 14 days of completion of the tests. The Engineer will review test documentation.

**907-637.03.3.1--Standalone Acceptance Test (SAT).** A SAT shall be performed on all equipment cabinets on this project after field installation is complete, including but not limited to all field devices (RDS, CCTV, communications electronics, etc.) to be installed in or connected to that given cabinet.

A SAT for a given equipment cabinet shall only be performed in conjunction with the SAT for all devices installed in or connected to that given cabinet.

The installation shall be visually inspected. The cabinet documentation shall be inspected.

Functional test of all cabinet equipment, including circuit breaker, receptacles, fan and thermostat, and lights and door switches shall be performed.

**907-637.04--Method of Measurement.** Equipment Cabinet of the type specified will be measured per each. Such measurement shall include all items necessary to complete the installation.

Equipment Cabinet will be paid per each as follows:

- 1) 40% of the contract unit price for delivery of the cabinet housings.
- 2) Additional 40% of the contract unit price for complete installation of equipment cabinet and all interior components, electrical service feed (activated), interior cabinet components, all conduit entrances, grounding connection, and testing.
- 3) Additional 10% of the contract unit price for completion of Stand Alone Site Test of all field devices housed or connected to the equipment cabinet.
- 4) Final 10% of the contract unit price upon Final System Acceptance.

ITS Equipment Cabinet modifications, complete in place, tested, and accepted, will be measured as unit quantities per each for a complete and operable unit in accordance with the contract provisions.

**907-637.05--Basis of Payment.** Equipment Cabinet, measured as prescribed above, will be paid for at the contract price per each, which price shall include furnishing and installing the equipment cabinet and all related material and equipment specified in the Plans and this specification, and all labor, system integration, testing, system documentation and miscellaneous materials necessary for a complete and accepted installation. The unit price shall also include but is not limited to the cabinet and all interior materials, mounting hardware, foundations and

bases, external conduit entrances including conduit bodies and nipples, electrical service and pole grounding terminations. This price shall be full compensation for all labor, tools, materials, equipment and incidentals necessary to complete the work.

Equipment Cabinet Modifications shall be paid for as each, which price shall include all materials, mounting hardware, fiber splicing identified in the contract for each cabinet being modified.

Payment will be made under:

907-637-A: Equipment Cabinet, Type ____	-per each
907-637-B: ITS Equipment Cabinet Modifications ____	-per each

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-639-4**

**CODE: (SP)**

**DATE: 04/10/2009**

**SUBJECT: Traffic Signal Equipment Poles**

Section 639, Traffic Signal Equipment Poles, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-639.02--Materials.**

**907-639.02.2--Mast Arms.** Delete the sentence in Subsection 639.02.2 on page 481 and substitute the following:

Mast arms and mast arm extensions shall be steel meeting the requirements of Subsection 722.16

**907-639.02.3--Foundations.** Delete the first sentence Subsection 639.02.3 on page 481 and substitute the following:

Cast-in-place foundations for concrete, steel, and/or aluminum shafts shall be as specified on plans, and shall be cast of reinforced Class “B” Concrete conforming to the requirements of Sections 601 and 602, unless otherwise indicated on the plans.

**907-639.03.1--Foundations.** Before the first paragraph of Subsection 639.03.1 on page 481, add the following:

Pole foundations shall be constructed as per the details on the plans, these specifications, and Section 803 of the Standard Specifications. Casings, if required, will be in accordance with Section 803 of the Standard Specifications.

In the first sentence of the first paragraph of Subsection 639.03.1 on page 481, change “Section 206” to “Section 801”.

After the first paragraph of Subsection 639.03.1 on page 482, add the following:

Due to the soil conditions in certain areas, the plans may indicate locations where the concrete shall be placed with a tremie. When a tremie is used, it shall perform in accordance with the requirements in Subsection 804.03.9 of the Standard Specifications.

In some instances, it may be necessary to use slip casing to keep the holes open. Casing may be required in portions of the holes that are not stable. Casings authorized by the Engineer shall be of suitable size and strength to accommodate the drilling equipment and to withstand ground-pressures and removal operations without deformation of the poured shaft. When removed, the casings shall revert to the Contractor for disposal.

**907-639.04--Method of Measurement.** Delete the first and second paragraphs of Subsection 639.04 on page 482, and substitute the following:

Traffic signal equipment pole of the type specified will be measured as unit quantities per each. Such measurement shall include the pole, mast arms and all other incidentals necessary to complete the equipment pole.

Traffic signal equipment pole shaft extension of the type specified will be measured as a unit quantity per each. Such measurements shall include the pole attachment, shaft, and all other mounting attachments necessary to extend a shaft as required in the plans

Pole foundations of the size specified will be measured by the cubic yard, which measurement shall be the area bounded by the vertical planes of the neat lines of the foundation.

Slip casings of the size specified will be measured by the linear foot from the ground elevation to the bottom of the strata needing to be cased.

Traffic signal equipment pole mast arm extension, as indicated, will be measured as a unit quantity per each. Such measurements shall include the mast arm extension and all other mounting attachments necessary to extend the arm as indicated.

**907-639.05--Basis of Payment.** Delete the first paragraph of Subsection 639.05 on page 482, and substitute the following:

Traffic signal equipment pole and traffic signal equipment pole extension of the type specified, measured as provided in above, will be paid for at the contract unit price per each, which price shall be full compensation for furnishing all materials, erecting, installing, connecting and testing poles, pole bases, mast arms, caps, covers, ground wire, ground rods, hardware and for all equipment, tools, labor and incidentals necessary to complete the equipment pole.

Pole foundations, measured as prescribed above, will be paid for at the contract unit price per cubic yard, which price shall include full compensation for structure excavation, reinforcing steel, anchor bolts; for placing, curing, and installing concrete; for replacing sod and final clean-up; and for all equipment, labor, tools and incidentals necessary to complete the foundation.

Slip casings, measured as prescribed above, will be paid for at the contract price per linear foot, which price shall be full compensation for all materials, tools, equipment, labor, and incidentals necessary to complete to work.

Traffic signal equipment pole mast arm extension, measured as provided above, will be paid for at the contract unit price per each, which price shall be full compensation for furnishing all materials, for installing the mast arm extension and for all equipment, tools, labor, and incidentals necessary to complete the work.

Delete the list of pay items on page 482, and substitute the following:.

907-639-A: Traffic Signal Equipment Pole, Type ____	- per each
907-639-B: Traffic Signal Equipment Pole Shaft Extension, <u>Description</u>	- per each
907-639-C: Pole Foundations, ____ Diameter	- per cubic yard
907-639-D: Slip Casing, ____ Diameter	- per linear foot
907-639-G: Traffic Signal Equipment Pole Mast Arm Extension *	- per each

\* Additional information may be indicated

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-641-3**

**CODE: (SP)**

**DATE: 04/30/2009**

**SUBJECT: Radar Detection System (RDS)**

Section 907-641, Radar Detection System (RDS), is hereby added to and becomes a part of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as follows:

## **SECTION 907-641--RADAR DETECTION SYSTEM (RDS)**

**907-641.01--Description.** This special provision specifies the minimum requirements for Radar Detection Systems (RDS) furnished and installed on this project. The work shall consist of providing all labor, materials, equipment, and incidentals necessary to furnish, install, test, train and operate the RDS.

The RDS will provide roadway monitoring capabilities via microwave radar detectors. The data provided includes, but is not limited to, speeds, volume, lane occupancy and classification.

### **907-641.02--Materials.**

**907-641.02.1--Microwave Transmission.** The microwave radar detector shall transmit in the 24 GHz frequency band (Center Frequency 24.125 GHz).. The RDS shall not interfere with any known equipment.

**907-641.02.2--Area of Coverage.** The RDS's field of view shall cover an area with a minimum detection range of 6 feet from the RDS and a maximum detection range of 250 feet from the RDS.

**907-641.02.3--Detection Zones.** The minimum number of detection zones defined shall be no less than ten (10) for simultaneous detection. The range resolution of each zone shall be no greater than 1.3 feet, and the zone width shall be user defined within a range of 6 to 20 feet for the area of coverage limits described above.

**907-641.02.4--Capabilities.** The RDS shall be a true presence detector. It shall be suitable for mounting on roadside poles or on overhead structure and provide the following:

1. Presence indication of moving or stopped vehicles in its detection zones, provided by contact closure to existing controllers.
2. Traffic data, periodically accumulated over user defined time intervals in a 10 to 600 sec range, shall be transmitted to the TMC via the communications network.

3. Traffic data shall be available simultaneously with detection zone contact closures and serial communications.
4. Side-fired configuration data shall include the following in each of up to ten (10) detection zones (lanes): Volume, lane occupancy, and average speed, as well as vehicle classification by length in up to 6 user-defined classes.
5. RDS in forward-looking configuration shall monitor traffic in one lane and be capable of providing the following data: Volume, occupancy, average speed and travel direction in the lane.
6. Furnish the unit with the required software for data collection, processing, configuration and set-up, and data logging and retrieval. An operator shall be able to use the software to set detector count periods, sensitivities, and other operational features and parameters. The software must be capable of providing both manual and automatic setup and calibration.

**907-641.02.5--Measurement Accuracy.** The following error levels shall be achievable and demonstrated during testing:

<u>Parameter</u>	<u>Error Percentage</u>
Volume	±8%
Average Speed	±10% or ±5 mph
Lane Occupancy	±10%

**907-641.02.6--Environmental Conditions and Protection.** Except as stated otherwise herein, the equipment shall meet all its specified requirements during and after subjecting to any combination of the following:

1. Ambient temperature range of -37° to +74°C
2. Relative humidity from 5 to 95 percent, non-condensing
3. Winds up to 90 mph (sustained) with a 30% gust factor
4. Rain and other precipitation up to 3.5 inches/hour
5. Power surge that meets the EN 61000-4-5 standards shall be included.

**907-641.02.7--Mechanical.** The microwave radar detector shall be enclosed in a rugged weatherproof box and sealed to protect the unit from wind up to 90 mph, dust and airborne particles, and exposure to moisture ).

The mounting assembly shall have all coated steel, stainless steel, or aluminium construction, and shall support a load of 20 pounds. The mounting assembly shall be constructed in a manner to provide the necessary degrees of rotation to ensure proper installation.

**907-641.02.8--Electrical.** The RDS unit and power supply shall operate on 12 to 24 volt AC or DC or 115 or 220 VAC input voltage with power converter provided.. The AC to DC power

converter shall be provided in the cabinet. The actual RDS shall consume less than 8 Watts with a DC input between 12VDC and 28VDC.

Surge Suppression shall be provided to protect the equipment from surges on the RDS power supply and the RS 232 or RS 485 communications wiring. Surge suppression shall meet all manufacturer recommendations

**907-641.02.9--RDS Comm Cables.** The RDS Comm Cable shall be a composite cable for power and communications. RDS Comm Cable shall be provided between the RDS and the cabinet located on the same pole as the RDS. This length of RDS Comm cable shall be included in the cost of the RDS and is not called out separately on the plans.

The plans also identify additional locations where RDS Comm Cable is measured and paid separately. These longer runs are between the standalone RDS and the closest Type B cabinet. These longer runs of RDS Comm Cable shall provide power and communications to the RDS. The size and design of this RDS Comm Cable shall meet manufacturers recommendations based on a maximum length of 4,000 feet from the RDS to the Type B cabinet. The same cable type shall be used at all locations.

Cable connectors and termination pin-out on all cables shall be in accordance with the manufacturer's recommendations.

Connection between the RDS and the cabinet equipment shall be provided by a single RDS Comm Cable using a single MS crimp multi-pin connector providing multiple options of power and output signals meeting all manufacturer's recommendations.

At a minimum, the RDS Comm Cable shall be outdoor wet/dry rated UV-resistant and provide multiple twisted pairs of stranded AWG wire size and materials as recommended by manufacturer based on specific field conditions.

The MS connector pins must be crimped to the cable conductors and assembled and tested by the manufacturer prior to installation and pulling of cable on site.

**907-641.02.10--Electrical Isolation and Surge Protection.** All communication and power lines, contact closures and the serial port shall be surge protected within the unit. Contact closures and the serial port shall be isolated. When RDS Comm cable lengths exceed 40 feet, surge suppression shall also be provided on each end of the RDS Comm Cable. All surge suppression shall meet RDS manufacturers recommendations for the specific field conditions present and shall be included in the cost of the RDS. . Surge protection shall be provided in a cabinet mounted on the same pole as the RDS. If the RDS is mounted on a CCTV pole, the surge protection shall be provided inside the Type B cabinet. If the RDS is mounted on a standalone pole, a separate fiberglass enclosure cabinet shall be provided. This cabinet size and design shall meet manufacturer recommendations and shall be included in the cost of the RDS.

Surge suppressor for the RS485 data signal, wired between the terminal server and the RDS units. The surge suppressor shall protect the 4-wire RS485 data signal with hybrid multi-stage suppression components including gas tube and silicon avalanche diode. The surge



suppressor shall have a response time no greater than 1 nanosecond. The surge suppressor shall provide terminal facilities for a minimum of four two-pair cables of #22 AWG conductors

**907-641.02.11--Data Interface.** Data communications shall be full duplex asynchronous, configurable as:

1. The RDS shall include isolated Serial ports programmable to RS-232 or RS-485.
2. Both point-to-point and multi-dropped configurations shall be supported.
3. The RDS shall be upgradable (optional) to include integral 10/100 Base-T Ethernet supporting TCP, UDP, IP, ARP, ICMP.

**907-641.03--Construction Requirements.** The RDS shall be mounted in side-fired configuration on poles as shown in the Plans, using mounting brackets. The brackets shall be attached with approved 3/4-inch wide stainless steel bands.

The Contractor shall install the detector unit on a pole at the manufacturers recommended height above the road surface so that the masking of vehicles is minimized and that all detection zones are contained within the specified elevation angle as suggested by the manufacturer.

When installing a detector near metal structures, such as building, bridges, or sign supports, the sensor shall be mounted and aimed so that the detection zone is not under and does not pass through any structure to avoid distortion and reflection.

The RDS mode of operation, detection zones and other calibration and set up will be performed using an MS-Windows-based software and a Notebook PC. The software shall allow verification of correct setup and diagnostics. It shall include facilities for saving verification data and collected data as well as saving and retrieving sensor setup from disk file.

Unused conductors in the RDS Comm Cable shall be grounded or terminated in the cabinet in accordance with the manufacturer's recommendations. Terminated conductors shall be individually doubled back and taped, then loosely bundled and secured.

**907-641.03.1--RDS Test Requirements.** The Contractor shall conduct a Project Testing Program as required below. All costs associated with the Project Testing Program shall be included in overall contract prices; no separate payment will be made for any testing.

The Contractor is responsible for planning, coordinating, conducting and documenting all aspects of the Project Testing Program. The Project Engineer and/or the Project Engineer's representatives are only responsible for attending and observing each test, and reviewing and approving the Contractor's test results documentation. The Project Engineer and/or the Project Engineer's representatives reserve the right to attend and observe all tests.

Each test shall fully demonstrate that the equipment being tested is clearly and definitely in full compliance with all project requirements. Test procedures shall be submitted and approved for each test as part of the project submittals. Test procedures shall include every action necessary

to fully demonstrate that the equipment being tested is clearly and definitively in full compliance with all project requirements. Test procedures shall cross-reference to these Special Provisions or the Project Plans. Test procedures shall contain documentation regarding the equipment configurations and programming.

No testing shall be scheduled until approval of all project submittals and approval of the test procedures for the given test.

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

The Contractor shall request in writing the Project 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 equipment to be tested. The Project Engineer reserves the right to reschedule test request if needed.

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

All tests deemed by the Project Engineer to be unsatisfactorily completed shall be repeated by the Contractor. 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. The test procedures for a repeated test occurrence shall meet all the requirements of the original test procedures, including review and approval by the Project Engineer and ITS Manager.

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

**907-641.03.2--Standalone Acceptance Test (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 (fiber, leased copper, wireless), control cables, poles, etc. An SAT shall be conducted at every field device site. Where applicable, a SAT shall be conducted for a fully installed and completed connection to the designated Traffic Management Center (TMC) or central data/video collection site.

The SAT shall demonstrate that all equipment and materials are in full compliance with all project requirements and fully functional as installed and in final configuration. The SAT shall also demonstrate full compliance with all operational and performance requirements of the project. All SATs will include a visual inspection of the cabinet and all construction elements at the site to ensure they are compliant with the specifications.

**907-641.03.3--Warranty.** The Radar Detection System shall be warranted to be free of manufacturer defects in materials and workmanship for a period of one year from the date of

Final Acceptance. Equipment covered by the manufacturer's warranties shall have the registration of that component placed in MDOT's name prior to Final Inspection. The Contractor is responsible for ensuring that the vendors and/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 or refurbished material, 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 supplier via telephone within four hours of the time a call is made by the Department, and this support shall be available from factory certified personnel. During the warranty period, updates and corrections to control unit software shall be made available to the Department by the supplier at no additional cost.

**907-641.03.4--MDOT Employee Training.** The supplier of the Radar Detection System shall, at a minimum, provide a 4-hour operations and maintenance training class with suitable documentation for up to eight (8) persons selected by the Department. The training must include both classroom style training and hands-on training in the field of the maintenance and troubleshooting procedures required for the system. The training should also consist of a hands-on demonstration of all software configuration and functionality where applicable. The operations and maintenance class shall be scheduled at a mutually acceptable time and location.

**907-641.03.5--Maintenance and Technical Support.** The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the Radar Detection System. The manufacturer of the Radar Detection System must provide, and have a parts support system capable of providing parts for a period of five (5) years from the date of system acceptance. Spare parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale of said spare parts.

The suppliers shall maintain an ongoing program of technical support for the Radar Detection System. This technical support shall be available via telephone or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale of said technical support services.

**907-641.04--Method of Measurement.** The Radar Detection System provided, constructed and installed as specified in the Plans will be measured in units of each, which shall include furnishing, installing, system integration and testing and training of a complete RDS including the unit, the RDS Comm Cable between the unit and the cabinet, pole mounted cabinet (except where Type B cabinet is required), surge suppressions, Communication Converters (if required), all conduit, risers and weatherhead between the RDS and the cabinet, interconnection wiring, power supply, surge suppression, connections to support structures (includes all incidental components, attachment hardware, mounting brackets, mounting arms, bolts, or any other items to mount the RDS as intended), satisfactory completion of testing and training requirements and all work, equipment and appurtenances as required to effect the full operation including remote

and local control of the RDS site complete in place and ready for use. The price bid shall also include all system documentation including: shop drawings, operations and maintenance manuals, wiring diagrams, block diagrams and other material necessary to document the operation of the RDS.

The Radar Detection System will be measured for payment on a per each basis as follows:

- 30% of the contract unit price upon delivery to the site. Delivery cannot be more than 60 days before anticipated installation.
- 70% of the contract unit price upon complete installation and Stand Alone testing of the Radar Detection System
- 90% of the contract upon Conditional System acceptance.
- 100% of the contract unit price upon Final System Acceptance.

RDS Comm Cable, where specified in the plans, will be measured by the linear foot, measured horizontally along the conduit. Note that the RDS Comm Cable between the actual RDS unit and the cabinet on the same pole is NOT measured or paid separately and shall be included in the cost of the RDS.

**907-641.05--Basis of Payment.** Radar Detection System, measured as prescribed above, will be paid for at the contract unit price bid per each, which price shall be full compensation for furnishing all materials, construction installation, connecting, testing, for all equipment, tools, labor, and incidentals required to complete the work.

RDS Comm Cable, measured as prescribed above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for furnishing, installing, system integration, all connections and terminations, and testing of the RDS Comm Cable.

Payment will be made under:

907-641-A: Radar Detection System	- per each
907-641-B: RDS Comm Cable	- per linear foot

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-701-3

**DATE:** 11/25/2009

**SUBJECT:** Hydraulic Cement

Delete Subsection 907-701.02.2.1 on pages 2, 3, & 4, and substitute the following:

**907-701.02.2.1--Portland Cement Concrete Exposed to Soluble Sulfate Conditions or Seawater.** When Portland cement concrete is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash, GGBFS, or silica fume shall be as follows in Table 1.

**Table 1- Cementitious Materials for Soluble Sulfate Conditions**

Sulfate Exposure	Water-soluble sulfate (SO <sub>4</sub> ) in soil, % by mass	Sulfate (SO <sub>4</sub> ) in water, ppm	Cementitious material required*
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type II **, ***, **** cement, or Type I cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, or 8% silica fume
Severe	0.20 - 2.00	1,500 - 10,000	Type I cement with a replacement by weight of 50% GGBFS, or Type II ** cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, or 8% silica fume

\* The values listed in this table for replacement of Portland cement by the cementitious materials listed are maximums and shall not be exceeded. The minimum tolerance for replacement shall be 0.5% below the maximum replacement content. Replacement contents below this minimum tolerance by the cementitious

materials listed in this table do not meet the requirements for the exposure conditions listed and shall not be allowed.

- \*\* Type I cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate ( $C_3A$ ) may be used in lieu of Type II cement; this cement is given the designation "Type I(MS)". Type III cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate ( $C_3A$ ) may be used in lieu of Type II cement as allowed in Subsection 907-701.02.1; this cement is given the designation "Type III(MS)".
- \*\*\* Blended cement meeting the sulfate resistance requirements of Subsection 907-701.04 may be used in lieu of Type II as allowed in Subsection 907-701.04. No additional cementitious materials shall be added to or as a replacement for blended cement.
- \*\*\*\* Class F fly ash or GGBFS may be added as a replacement for cement as allowed in Subsection 907-701.02.2.

Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed above.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-701-3**

**CODE: (IS)**

**DATE: 11/30/2007**

**SUBJECT: Hydraulic Cement**

Section 701, Hydraulic Cement, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

Delete Subsection 701.01 on pages 595 & 596, and substitute the following:

**907-701.01--General.** The following requirements shall be applicable to hydraulic cement:

Only hydraulic cements conforming to Section 701 shall be used. Hydraulic cements shall not be listed or designated as meeting more than one AASHTO or Department type.

Different brands of hydraulic cement, or the same brand of hydraulic 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 hydraulic cement treatment of design soils, or bases.

The Contractor shall provide suitable means for storing and protecting the hydraulic cement against dampness. Hydraulic cement, which for any reason, has become partially set or which contains lumps of caked hydraulic cement will be rejected. Hydraulic cement salvaged from discarded or used bags shall not be used.

The temperature of bulk hydraulic cement shall not be greater than 165°F at the time of incorporation in the mix.

Acceptance of hydraulic cement will be based on the certification program as described in the Department's Materials Division Inspection, Testing, and Certification Manual and job control sampling and testing as established by Department SOP.

Retests of hydraulic cement may be made for soundness and expansion within 28 days of test failure and, if the hydraulic cement passes, it may be accepted. Hydraulic cement shall not be rejected due to failure to meet the fineness requirements if upon retests after drying at 212°F for one hour, it meets such requirements.

Delete Subsection 701.02 on page 596, and substitute the following:

**907-701.02--Portland Cement.**

**907-701.02.1--General.**

**907-701.02.1.1--Types of Portland Cement.** Portland cement (cement) shall be either Type I or Type II conforming to AASHTO Designation: M85 or Type I(MS), as defined by the description below Table 1. Type III cement conforming to AASHTO Designation: M85 or Type III(MS), as defined by the description below Table 1, may be used for the production of precast or precast-prestressed concrete members.

**907-701.02.1.2--Alkali Content.** All cement types in this Subsection shall meet the Equivalent alkali content requirement for low-alkali cements listed in AASHTO Designation: M85, Table 2.

**907-701.02.2--Replacement by Other Cementitious Materials.** The maximum replacement of cement by weight is 25% for fly ash or 50% for ground granulated blast furnace slag (GGBFS). The minimum tolerance for replacement shall be 5% below the maximum replacement content. Replacement contents below this minimum tolerance by fly ash or GGBFS may be used, but shall not be given any special considerations, like the maximum acceptance temperature for Portland cement concrete containing pozzolans. Special considerations shall only apply for replacement of cement by fly ash or GGBFS.

**907-701.02.2.1--Portland Cement Concrete Exposed to Soluble Sulfate Conditions or Seawater.** When Portland cement concrete is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash, GGBFS, metakaolin, or silica fume shall be as follows in Table 1.



**Table 1- Cementitious Materials for Soluble Sulfate Conditions**

Sulfate Exposure	Water-soluble sulfate (SO <sub>4</sub> ) in soil, % by mass	Sulfate (SO <sub>4</sub> ) in water, ppm	Cementitious material required*
Moderate and Seawater	0.10 - 0.20	150 - 1,500	Type II **, ***, **** cement, or Type I cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, 10% metakaolin, or 8% silica fume
Severe	0.20 - 2.00	1,500 - 10,000	Type II ** cement with one of the following replacements of cement by weight: 25% Class F fly ash, 50% GGBFS, 10% metakaolin, or 8% silica fume

\* The values listed in this table for replacement of Portland cement by the cementitious materials listed are maximums and shall not be exceeded. The minimum tolerance for replacement shall be 0.5% below the maximum replacement content. Replacement contents below this minimum tolerance by the cementitious materials listed in this table do not meet the requirements for the exposure conditions listed and shall not be allowed.

\*\* Type I cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate (C<sub>3</sub>A) may be used in lieu of Type II cement; this cement is given the designation "Type I(MS)". Type III cement conforming to AASHTO Designation: M85 with a maximum 8% tricalcium aluminate (C<sub>3</sub>A) may be used in lieu of Type II cement as allowed in Subsection 907-701.02.1; this cement is given the designation "Type III(MS)".

\*\*\* Blended cement meeting the sulfate resistance requirements of Subsection 907-701.04 may be used in lieu of Type II as allowed in Subsection 907-701.04. No additional cementitious materials shall be added to or as a replacement for blended cement.

\*\*\*\* Class F fly ash or GGBFS may be added as a replacement for cement as allowed in Subsection 907-701.02.2.

Class C fly ash shall not be used as a replacement for cement in any of the sulfate exposure conditions listed above.

**907-701.02.2.2--Cement for Soil Stabilization Exposed to Soluble Sulfate Conditions or Seawater.** When Portland cement for use in soil stabilization is exposed to moderate or severe soluble sulfate conditions, or to seawater, cement types and replacement of cement by Class F fly ash or GGBFS shall meet the requirements of Subsection 907-701.02.2.1. Neither metakaolin nor silica fume shall be used to bring the cementitious materials into compliance with the requirements of Table 1.

Delete Subsection 701.03 on page 596, and substitute the following:

**907-701.03--Masonry Cement.** Masonry cement shall conform to ASTM Designation: C 91 and shall only be used in masonry applications.

Delete Subsection 701.04 on page 596, and substitute the following:

**907-701.04--Blended Hydraulic Cement.**

**907-701.04.1--General.**

**907-701.04.1.1--Types of Blended Cement.** Blended hydraulic cements (blended cements) shall be of the following types and conform to AASHTO Designation: M 240:

- Type I(SM) – Slag-modified Portland cement
- Type IS – Portland blast-furnace slag cement
- Type I(PM) – Pozzolan-modified Portland cement
- Type IP – Portland-pozzolan cement

Blended cement for use in Portland cement concrete or soil stabilization exposed to the moderate soluble sulfate condition or exposure to seawater as defined in Table 1 shall meet the Sulfate resistance requirement listed in AASHTO Designation: M 240, Table 2 and the “(MS)” suffix shall be added to the type designation.

**907-701.04.1.2--Alkali Content.** All blended cement types in this Subsection shall meet the Mortar expansion requirements listed in AASHTO Designation: M 240, Table 2.

**907-701.04.2--Replacement by Other Cementitious Materials.** No additional cementitious materials, such as Portland cement, performance hydraulic cement, fly ash, GGBFS, metakaolin, or others, shall be added to or as a replacement for blended cement.

**907-701.04.3--Exposure to Soluble Sulfate Conditions or Seawater.** When Portland cement concrete or blended cement for soil stabilization is exposed to moderate soluble sulfate conditions or to seawater, where the moderate soluble sulfate condition is defined in Table 1, the

blended cement shall meet the sulfate resistance requirement listed in AASHTO Designation: M 240, Table 2.

When Portland cement concrete or blended cement for soil stabilization is exposed to severe soluble sulfate conditions, where the severe soluble sulfate condition is defined in Table 1, blended cements shall not be used.

## MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-711-4

CODE: (IS)

DATE: 06/26/2009

SUBJECT: Synthetic Structural Fiber Reinforcement

Section 711, Reinforcement and Wire Rope, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After Subsection 711.03.4.3 on page 665, add the following:

**907-711.04--Synthetic Structural Fiber.** The synthetic structural fibers shall be approved for listing in the Department's "Approved Sources of Materials" prior to use. The synthetic structural fibers shall be added to the concrete and mixed in accordance with the manufacturer's recommended methods.

**907-711.04.1--Material Properties.** The fibers shall meet the requirements of ASTM Designation: C 1116, Section 4.1.3. The fibers shall be made of polypropylene, polypropylene/polyethylene blend, nylon, or polyvinyl alcohol (PVA).

**907-711.04.2--Minimum Dosage Rate.** The dosage rate shall be such that the average residual strength ratio ( $R_{150,3.0}$ ) of fiber reinforced concrete beams is a minimum of 20.0 percent when the beams are tested in accordance with ASTM Designation: C 1609. The dosage rate for fibers shall be determined by the following.

The fiber manufacturer shall have the fibers tested by an acceptable, independent laboratory acceptable to the Department and regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology and approved to perform ASTM Designations: C 39, C 78, and C192.

The laboratory shall test the fibers following the requirements of ASTM Designation: C 1609 in a minimum of three (3) test specimens cast from the same batch of concrete, molded in 6 x 6 x 20-inch standard beam molds meeting the requirements of ASTM Designation: C 31. The beams shall be tested on an 18-inch span. The tests for  $R_{150,3.0}$  shall be performed when the average compressive strength of concrete used to cast the beams is between 3500 and 4500 psi. The tests for compressive strength shall follow the requirements of ASTM Designation: C 39. The average compressive strength shall be determined from a minimum of two (2) compressive strength cylinders.

The value for  $R_{150,3}$  shall be determined using the following equation:

$$R_{150,3.0} = \frac{f_{150,3.0}}{f_1} \times 100$$

The residual flexural strength ( $f_{150,3.0}$ ) shall be determined using the following equation:

$$f_{150,3.0} = \frac{P_{150,3.0} \times L}{b \times d^2}$$

where:

$f_{150,3.0}$  is the residual flexural strength at the midspan deflection of  $L/150$ , (psi),

$P_{150,3.0}$  is the residual load capacity at the midspan deflection of  $L/150$ , (lbf),

$L$  is the span, (in),

$b$  is the width of the specimen at the fracture, (in), and

$d$  is the depth of the specimen at the fracture, (in).

For a 6 x 6 x 20-inch beam, the  $P_{150,3.0}$  shall be measured at a midspan deflection of 0.12 inch.

Additionally,  $R_{150,3.0}$ ,  $f_{150,3.0}$ , and  $P_{150,3.0}$  may also be referred to as  $R_{150}^{150}$ ,  $f_{150}^{150}$ , and  $P_{150}^{150}$  respectively.

At the dosage rate required to achieve the minimum  $R_{150,3}$ , the mixture shall both be workable and the fibers shall not form clumps.

The manufacturer shall submit to the State Materials Engineer certified test reports from the independent laboratory showing the test results of each test specimen.

**907-711.04.3--Job Control Requirements.** The synthetic structural fibers shall be one from the Department's "Approved Sources of Materials."

At the required dosage rate, the mixture shall both be workable and the fibers shall not form clumps to the satisfaction of the Engineer. If the mixture is determined by the Engineer to not be workable or have clumps of fibers, the mixture may be rejected.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-713-1**

**CODE: (IS)**

**DATE: 12/11/2007**

**SUBJECT: Admixtures for Concrete**

Section 713, Concrete Curing Materials and Admixtures, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

After the second paragraph of Subsection 713.01.2 on page 676, add the following.

Type 1-D compound may be used on bridge rails, median barriers, and other structures requiring a spray finish. When Type 1-D compound is used, it will be the Contractor's responsibility to assure that the compound has dissipated from the structure prior to applying the spray finish and that the spray finish adheres soundly to the structure.

Delete Subsection 713.02 on pages 676 & 677, and substitute the following:

**907-713.02--Admixtures for Portland Cement Concrete.** Admixtures shall only be approved by the Department for classification as a single type following the applicable types from AASTHO Designation: M 154 or M 194, or the definition of a mid-range water reducer listed below with the following exception: when requested by the manufacturer the Department will consider classifying an admixture as both a Type A and a Type D. Admixtures shall only be used in accordance with the manufacturer's recommended dosage range for that type. Where an admixture is classified as both a Type A and Type D, the dosage range for use as a Type A shall not overlap the dosage range for use as a Type D.

Air-entraining admixtures shall comply with AASHTO Designation: M 154. Set-retarding, accelerating, and/or water-reducing admixtures shall comply with AASHTO Designation: M 194. Mid-range water-reducers are classified as water-reducing admixtures that reduce the mix water a minimum of 8% when compared to a control mix with no admixtures when tested in accordance with the requirements in AASHTO Designation: M 194. The type designation for admixtures approved by the Department and classified as meeting the requirements of a mid-range water-reducer shall be "MR".

**907-713.02.1--Source Approval.** In order to obtain approval of an admixture, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the admixture meets all the requirements of the applicable AASHTO or Department Specification for the specific type and the dosage range for the specific type of admixture.

**907-713.02.2--Specific Requirements.** Admixtures containing chlorides will not be permitted.

**907-713.02.3--Acceptance.** The Department reserves the right to sample, for check tests, any shipment or lot of admixture delivered to a project.

The Department reserves the right to require tests of the material to be furnished, using the specific cement and aggregates proposed for use on the project, as suggested in AASHTO Designation: M 154 and outlined in AASHTO Designation: M 194.

Failure to maintain compliance with any requirement of these specifications shall be cause for rejection of any previously approved source or brand of admixture.

With each new lot of material shipped the Contractor shall submit to the State Materials Engineer, a notarized certification from the manufacturer showing that the material complies with the requirements of the applicable AASHTO or Department Specification.

When an admixture is used, it shall be the responsibility of the Contractor to produce satisfactory results.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-714-5

**DATE:** 04/21/2009

**SUBJECT:** Miscellaneous Materials

Delete the second exception under the first paragraph in Subsection 907-714.05.2 regarding the strength activity index.

Delete Subsection 907-714.11.6 on page 5, and substitute the following:

Delete Subsection 714.11.6 on pages 690 and 691, and substitute the following:

**907-714.11.6--Rapid Setting Cementitious Patching Compounds for Concrete Repair.**

Rapid setting concrete patching compounds must be approved for listing in the Department's "Approved Sources of Materials" prior to use. Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list. Each product shall be pre-measured and packaged dry by the manufacturer. All liquid solutions included by the manufacturer as components of the packaged material shall be packaged in a watertight container. The manufacturer may include aggregates in the packaged material or recommend the addition of Contractor furnished aggregates.

The type, size and quantity of aggregates, if any, to be added at the job site shall be in accordance with the manufacturer's recommendations and shall meet the requirements of Subsection 703.02 for fine aggregate and Subsection 703.03 for coarse aggregate. Required mixing water to be added at the job site shall meet the requirements of Subsection 714.01.2.

Only those bonding agents, if any, recommended by the manufacturer of the grout or patching compounds may be used for increasing the bond to old concrete or mortar surfaces.

Patching compounds containing soluble chlorides will not be permitted when in contact with steel.

Site preparation, proportioning of materials, mixing, placing and curing shall be performed in accordance with the manufacturer's recommendation for the specific type of application, and the Contractor shall furnish a copy of these recommendations to the Engineer.

Rapid setting cementitious concrete patching compounds, including components to be added at the job site, shall conform to the following physical requirements:

Non-shrink cementitious grouts shall not be permitted for use.



Compressive strength shall equal or exceed 3000 psi in 24 hours in accordance with ASTM C 928 for Type R2 concrete or mortar.

Bond strength shall equal or exceed 1000 psi in 24 hours in accordance with ASTM C 928 for Type R2 concrete or mortar.

The material shall have a maximum length change of  $\pm 0.15\%$  in accordance with ASTM C 928 for Type R2 concrete or mortar.

The Contractor shall furnish to the Engineer three copies of the manufacturer's certified test report(s) showing results of all required tests and certification that the material meets the specifications when mixed and placed in accordance with the manufacturer's instructions. When the mixture is to be placed in contact with steel, the certification shall further state that the packaged material contains no chlorides. Certified test report(s) and certification shall be furnished for each lot in a shipment.

The proportioning of materials must be approved by the State Materials Engineer and any subsequent change in proportioning must also be approved. A sample of each component shall be submitted to the Engineer along with the quantity or percentage of each to be blended. At least 45 days must be allowed for initial approval.

The proportioning of materials for subsequent lots may be approved by the State Materials Engineer upon receipt of certification from the manufacturer that the new lot of material is the same composition as that originally approved by the Department and that the material has not been changed or altered in any way.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION NO. 907-714-5

CODE: (IS)

DATE: 06/18/2008

SUBJECT: Miscellaneous Materials

Section 714, Miscellaneous Materials, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

**907-714.05--Fly Ash.** Delete Subsections 714.05.1 & 714.05.2 on pages 680 & 681, and substitute the following:

**907-714.05.1--General.** The fly ash source must be approved for listing in the Department's "Approved Sources of Materials" prior to use. The acceptance of fly ash 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.

Different classes of fly ash or different sources of the same class shall not be mixed or used in the construction of a structure or unit of a structure without written permission from the Engineer.

The Contractor shall provide suitable means for storing and protecting the fly ash from dampness. Separate storage silos, bins, or containers shall be provided for fly ash. Fly ash which has become partially set or contains lumps of caked fly ash shall not be used.

The temperature of the bulk fly ash shall not be greater than 165°F at the time of incorporation into the work.

All classes of fly ash shall meet the supplementary option chemical requirement for available alkalis listed in AASHTO Designation: M 295, Table 2. **Class F fly ash shall have a calcium oxide (CaO) content of less than 6.0%. Class C fly ash shall have a CaO content of greater than or equal to 6.0%.**

The replacement of Portland cement with fly ash shall be in accordance with the applicable replacement content specified in Subsection 907-701.02.2.

In addition to these requirements, fly ash shall meet the following specific requirements for the intended use.

**907-714.05.2--Fly Ash for Use in Concrete.** When used with Portland cement in the production of concrete or grout, the fly ash shall meet the requirements of AASHTO Designation: M 295, Class C or F, with the following exceptions:

The loss on ignition shall not exceed 6.0 percent.

The strength activity index with Portland cement shall be at least 55 percent of the control mix at seven days.

No additional cementitious materials, such as blended hydraulic cement, GGBFS, metakaolin, or others, shall be added to or as a replacement for Portland cement when used with fly ash.

**907-714.06--Ground Granulated Blast Furnace Slag (GGBFS).** Delete Subsection 714.06.1 on page 681, and substitute the following:

**907-714.06.1--General.** The GGBFS source must be approved for listing in the Department's "Approved Sources of Materials" prior to use. The acceptance of GGBFS 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 GGBFS against dampness and contamination. Separate storage silos, bins, or containers shall be provided for GGBFS. GGBFS which has become 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 GGBFS during production.

GGBFS 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 Portland cement when used with GGBFS in the production of concrete. The replacement of Portland cement with GGBFS shall be in accordance with the applicable replacement content specified in Subsection 907-701.02.2.

Delete Subsection 714.07 on page 682, and substitute the following:

**907-714.07--Additional Cementitious Materials.**

**907-714.07.1--Metakaolin.**

**907-714.07.1.1--General.** Metakaolin shall only be used as a supplementary cementitious material in Portland cement concrete for compliance with the requirements for cementitious materials exposed to soluble sulfate conditions. Metakaolin from different sources shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer. No additional cementitious materials, such as blended hydraulic cement, fly ash, GGBFS, or others, shall be added to or as a replacement for Portland cement when used with metakaolin in the production of concrete.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing, or other additions made to the metakaolin during production.

**907-714.07.1.2--Source Approval.** The approval of each metakaolin source shall be on a case by case basis as determined by the State Materials Engineer. In order to obtain approval of a metakaolin source, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable, independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the metakaolin meets all the requirements of AASHTO Designation: M295, including the Effectiveness in contributing to sulfate resistance, Procedure A, listed in AASHTO Designation: M295, Table 4 for Supplementary Optional Physical Requirements, and other requirements listed herein.

In order to demonstrate effectiveness in contributing to sulfate resistance, included in this test data shall be results of metakaolin from the proposed source tested in accordance with ASTM Designation: C 1012. There shall be two sets of test specimens per the following:

- a. One set of test specimens shall be prepared using a Type I Portland cement meeting the requirements of AASHTO Designation: M85 and having a tricalcium aluminate ( $C_3A$ ) content of more than 8.0%,
- b. One set of test specimens shall be prepared using a Type II Portland cement meeting the requirements of AASHTO Designation: M85.
- c. The proposed metakaolin shall be incorporated at the rate of 10% cement replacement in each set of test specimens and shall meet both of the acceptance criteria listed below for source approval.

The requirement for acceptance of the test sample using Type I Portland cement is an expansion of 0.10% or less at the end of six months. The requirement for acceptance of the test sample using Type II Portland cement is an expansion of 0.05% or less at the end of six months.

**907-714.07.1.3--Storage.** The Contractor shall provide suitable means for storing and protecting the metakaolin against dampness and contamination. Metakaolin which has become partially set, caked, or contains lumps shall not be used.

**907-714.07.1.4--Specific Requirements.** Metakaolin shall meet the requirements of AASHTO Designation: M 295, Class N with the following modifications:

1. The sum of  $SiO_2 + Al_2O_3 + Fe_2O_3$  shall be at least 85%. The Material Safety Data Sheet shall indicate that the amount of crystalline silica, as measured by National Institute of Occupation Safety and Health (NIOSH) 7500 method, after removal of the mica interference, is less than 1.0%.
2. The loss on ignition shall be less than 3.0%.
3. The available alkalies, as equivalent  $Na_2O$ , shall not exceed 1.0%.
4. The amount of material retained on a No. 325 mesh sieve shall not exceed 1.0%.
5. The strength activity index at seven (7) days shall be at least 85%.

**907-714.07.1.5--Acceptance.** With each new lot of material shipped the Contractor shall submit to the State Materials Engineer a certified test report from the manufacturer showing that the material meets the requirements AASHTO Designation: M295, Class N and the requirements of this Subsection.

The Department reserves the right to sample, for check tests, any shipment or lot of metakaolin delivered to a project.

**907-714.07.2--Silica Fume.**

**907-714.07.2.1--General.** Silica fume shall only be used as a supplementary cementitious material in Portland cement concrete for compliance with the requirements for cementitious materials exposed to soluble sulfate conditions. Silica fume from different sources shall not be mixed or used alternately in any one class of construction or structure without written permission from the Engineer. No additional cementitious materials, such as blended hydraulic cement, performance hydraulic cement, fly ash, GGBFS, or others, shall be added to or as a replacement for Portland cement when used with silica fume in the production of concrete.

The State Materials Engineer shall be notified in writing of the nature, amount and identity of any processing, or other additions made to the silica fume during production.

**907-714.07.2.2--Source Approval.** The approval of each silica fume source shall be on a case by case basis as determined by the State Materials Engineer. In order to obtain approval of a silica fume source, the Producer/Suppliers shall submit to the State Materials Engineer the following for review: certified test reports, made by an acceptable, independent laboratory regularly inspected by the Cement and Concrete Reference Laboratory of the National Institutes of Standards and Technology, which show that the silica fume meets all the requirements of AASHTO Designation: M307, Table 3, including the Sulfate resistance expansion, listed in the table for Optional Physical Requirements, and other requirements listed herein.

In order to demonstrate effectiveness in contributing to sulfate resistance, included in this test data shall be results of silica fume from the proposed source tested in accordance with ASTM Designation: C 1012. There shall be two sets of test specimens per the following:

- a. One set of test specimens shall be prepared using a Type I Portland cement meeting the requirements of AASHTO Designation: M85 and having a tricalcium aluminate ( $C_3A$ ) content of more than 8.0%,
- b. One set of test specimens shall be prepared using a Type II Portland cement meeting the requirements of AASHTO Designation: M85.
- c. The proposed silica fume shall be incorporated at the rate of 8% cement replacement in each set of test specimens and shall meet both of the acceptance criteria listed below for source approval.

The requirement for acceptance of the test sample using Type I Portland cement is an expansion of 0.10% or less at the end of six months. The requirement for acceptance of the test sample using Type II Portland cement is an expansion of 0.05% or less at the end of six months.

**907-714.07.2.3--Storage.** The Contractor shall provide suitable means for storing and protecting the silica fume against dampness and contamination. Silica fume which has become partially set, caked, or contains lumps shall not be used.

**907-714.07.2.4--Acceptance.** With each new lot of material shipped, the Contractor shall submit to the State Materials Engineer a certified test report from the manufacturer showing that the material meets the Chemical and Physical Requirements of AASHTO Designation: M307.

The Department reserves the right to sample, for check tests, any shipment or lot of silica fume delivered to a project.

**907-714.11.6--Rapid Setting Commercial Grouts and Concrete Patching Compounds.** Delete the first sentence of the first paragraph of Subsection 714.11.6 on page 690 and substitute the following:

Rapid setting commercial grouts and concrete patching compounds must be approved for listing in the Department's "Approved Sources of Materials" prior to use. Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list. Each product shall be pre-measured and packaged dry by the manufacturer.

**907-714.11.7--Commercial Grout for Anchoring Doweled Tie Bars in Concrete.** Before Subsection 714.11.7.1 on page 691, add the following:

Approved Non-"Fast Set" Epoxy anchor systems as specified below may be used for the repair of concrete pavements that do not involve permanent sustained tension applications or overhead applications.

***"Fast Set Epoxy"*** may not be used for any Adhesive Anchor Applications. Adhesive Anchor Systems (Fast Set epoxy or otherwise) shall not be used for permanent sustained tension applications or overhead applications. "Fast Set Epoxy" refers to an epoxy produced by the Sika Corporation called Sikadur AnchorFix-3 and repackaged for sale under a variety of names/companies listed at the Federal Highway Administration web site at the following link:

<http://www.fhwa.dot.gov/Bridge/adhesives.cfm>

**907-714.11.7.4--Acceptance Procedure.** After the last sentence of the first paragraph of Subsection 714.11.4 on page 691, add the following:

Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list.

**907-714.11.8--Epoxy Joint Repair System.**

**907-714.11.8.1--General.** After the last sentence of the first paragraph of Subsection 714.11.8.1 on page 692, add the following:

Upon approval, a product must be recertified every four (4) years to remain on the "Approved Sources of Materials" list.

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## SUPPLEMENT TO SPECIAL PROVISION NO. 907-804-8

**DATE:** 06/09/2008

**SUBJECT:** Concrete Bridges and Structures

Before the first sentence of 907-804.02.1 on page 1, add the following:

Delete the third and fourth sentences of the first paragraph of Subsection 804.02.1 on page 846, and substitute the following:

For projects with 1000 cubic yards and more, quality control and acceptance shall be achieved through statistical evaluation of test results. For projects of more than 200 but less than 1000 cubic yards, quality control and acceptance shall be achieved by individual test results.

Before the first sentence of Subsection 907-804.02.10 on page 2, add the following:

Delete the first sentence of the first paragraph of Subsection 804.02.10 on page 850 and substitute the following:

At least 30 days prior to production of concrete, the Contractor shall submit to the Engineer proposed concrete mix designs complying with the Department's *Concrete Field Manual*.

Delete the second paragraph of Subsection 907-804.02.11 on page 3 and substitute the following:

For projects with 1000 cubic yards and more, the concrete batch plant shall meet the requirements for an automatic system capable of recording batch weights. It shall also have automatic moisture compensation for the fine aggregate. For projects of more than 200 but less than 1000 cubic yards the plant can be equipped for manual batching with a fine aggregate moisture meter visible to the plant operator.

Delete Subsection 907-804.02.13 on page 4 and substitute the following:

**907-804.02.13--Quality Assurance Sampling and Testing.** Delete subparagraph c) in Subsection 804.02.13 on page 858 and substitute the following:

- c) For concrete, the Contractor's QC and Department's QA testing of concrete compressive strengths compare when using the data comparison computer program with an alpha value of 0.01 for projects with 1000 cubic yards and more; or, strength comparisons are within 990 psi for projects of more than 200 but less than 1000 cubic yards.

In Table 5 of Subsection 804.02.13 on page 858, delete "and FM" from the requirements on line A.3.

After Subsection 907-804.02.13.1.4 on page 4, add the following:

**907-804.02.13.1.5--Compressive Strength.** Delete the heading of the second paragraph of Subsection 804.02.13.1.5 on page 860 and substitute the following:

**Projects with 1000 Cubic Yards and More.**

Delete the second heading in Subsection 804.02.13.1.5 on page 860 and substitute the following:

**Projects of More Than 200 but Less Than 1000 Cubic Yards.**



# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**SPECIAL PROVISION NO. 907-804-8**

**CODE: (IS)**

**DATE: 02/05/2008**

**SUBJECT: Concrete Bridges And Structures**

Section 804, Concrete Bridges And Structures, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction is hereby amended as follows:

## **907-804.02-- Materials.**

**907-804.02.1--General.** Add the following materials to the list of materials in Subsection 804.02.1 on page 847.

Blended Cement..... 907-701.01 and 907-701.04  
Ground Granulated Blast Furnace Slag (GGBFS)..... 907-714.06  
Metakaolin ..... 907-714.07  
Silica Fume ..... 907-714.07.2

**907-804.02.8--Laboratory Accreditation.** In Table 1 of Subsection 804.02.8 on page 849, substitute AASHTO: R 39 - Making and Curing Concrete Test Specimens in the Laboratory for AASHTO: T 126 - Making and Curing Concrete Test Specimens in the Laboratory.

**907-804.02.9--Testing Personnel.** Delete Table 2 in this subsection and replace it with the following.

**Table 2**

<b>Concrete Technician's Tasks</b>	<b>Test Method Required</b>	<b>Certification Required**</b>
Sampling or Testing of Plastic Concrete	AASHTO Designation: T 23, T 119, T 121, T 141, T 152, T 196, and ASTM Designation: C 1064	MDOT Class I certification
Compressive Strength Testing of Concrete Cylinders	AASHTO Designation: T 22 and T 231	MDOT Concrete Strength Testing Technician certification
Sampling of Aggregates	AASHTO Designation: T 2	Work under the supervision of an MDOT Class II certified technician
Testing of Aggregates	AASHTO Designation: T 19, T 27, T 84, T 85, T 248, and T 255	MDOT Class II certification
Proportioning of Concrete Mixtures*	AASHTO Designation: M 157 and R 39	MDOT Class III
Interpretation and Application of Maturity Meter Readings	AASHTO Designation: T 325 and ASTM Designation: C 1074	MDOT Class III or 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.

For specifics about the requirements for each level of certification, please refer to the latest edition of the Department's *Concrete Field Manual*. Technicians holding current MDOT Class I, MDOT Class II and/or MDOT Class III certifications shall be acceptable until those certifications expire. Upon a current certification expiration, recertification with the certifications listed in Table 2 shall be required. Technicians currently performing either specific gravity testing of aggregates or compressive strength tests shall be required to either:

- have the required MDOT certification listed in Table 2, or
- have a current MDOT Class III certification or work under the direct supervision of current MDOT Class III technician, and have demonstrated the specific gravity and/or compressive strength test during the inspection of laboratory equipment by the Materials Division, Concrete Section.

**907-804.02.10--Portland Cement Concrete Mix Design.** Delete the Notes under Table 3 of Subsection 804.02.10 on pages 850 & 851, and substitute the following:

- \* Maximum size aggregate shall conform to the concrete mix design for the specified aggregate.
- \*\* The replacement limits of Portland cement by weight by other cementitious materials (such as fly ash, GGBFS, metakaolin, silica fume, or others) shall be in accordance with the values in Subsection 907-701.02. Other hydraulic cements may be used in accordance with the specifications listed in Section 701.
- \*\*\* The slump may be increased up to six (6) inches with an approved mid-range water reducer or up to eight (8) inches with an approved type F or G high range water reducer, in accordance with 907-713.02. Minus slump requirements shall meet those set forth in Table 3 of AASHTO M157 specifications.
- \*\*\*\* Entrained air is not required except for concrete exposed to seawater. For concrete exposed to seawater, the total air content shall be 3.0 % to 6.0%. For concrete not exposed to seawater, the total air content shall not exceed 6.0%.
- \*\*\*\*\* Class DS Concrete for drilled shafts shall have an  $8 \pm 1$ -inch slump.

Delete the last paragraph of Subsection 804.02.10 on page 851 and substitute the following:

Either Type A, D, F, G or mid-range chemical admixture, shall be used in all classes of concrete. Any combinations of water reducing admixtures shall be approved by the Engineer before their use.

**907-804.02.10.1.1--Proportioning on the Basis of Previous Field Experience of Trial Mixtures.** Delete the first sentence of the first paragraph of Subsection 804.02.10.1.1 on page 851, and substitute the following:

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.

**907-804.02.10.3--Field Verification of Concrete Mix Design.** Delete the third sentence of the third paragraph of Subsection 804.02.10.3 on page 853, and substitute the following:

If the requirements of yield, slump, or total air content are not met within three (3) production days after the first placement, subsequent field verification testing shall not be permitted on department projects, and the mix design shall not be used until the requirements listed above are met

**907-804.02.10.4--Adjustments of Mixture Proportions.** Delete the paragraph in Subsection 804.02.10.4 on page 854, and substitute the following:

The mixture may be adjusted by the Class III Certified Technician representing the Contractor in accordance with the allowable revisions listed in the Department's Concrete Field Manual, paragraph 5.7. 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 804.02.10.3 and approval by the Engineer.

**907-804.02.11--Concrete Batch Plants.** Delete the first three paragraphs of Subsection 804.02.11 on page 854, and substitute the following:

The concrete batch plant shall meet the requirements of the National Ready Mixed Concrete Association *Quality Control Manual, Section 3, Plant Certification Checklist* as outlined in the latest edition of the Department's *Concrete Field Manual*. The Contractor shall submit a copy of the approved checklist along with proof of calibration of batching equipment, i.e., scales, water meter, and admixture dispenser, to the Engineer 30 days prior to the production of concrete.

For large volume projects the concrete batch plant shall meet the requirements for an automatic system capable of recording batch weights. It shall also have automatic moisture compensation for the fine aggregate. For small volume projects, the concrete batch plant can be equipped for manual batching with a fine aggregate moisture meter visible to the plant operator.

The concrete batch plant shall have available adequate facilities to cool concrete during hot weather.

Mixer trucks to be used on the project are to be listed in the checklist and shall meet the requirements of the checklist.

**907-804.02.12--Contractor's Quality Control.** Delete the fourth paragraph of Subsection 804.02.12 on page 854 & 855, and substitute the following:

The Contractor's Quality Control program shall encompass the requirements of AASHTO Designation: M 157 into concrete production and control, equipment requirements, testing, and batch ticket information. The requirement of AASHTO Designation: M 157, Section 11.7 shall

be followed except, on arrival to the job site, a maximum of 1½ gallons per cubic yard is allowed to be added. Water shall not be added at a later time. If the maximum permitted slump is exceeded after the addition of water at the job site, the concrete shall be rejected.

**907-804.02.12.3--Documentation.** After the second sentence of the second paragraph of Subsection 804.02.12.3 on page 856, add the following:

Batch tickets and gradation data shall be documented in accordance with Department requirements. Batch tickets shall contain all the information in AASHTO Designation: M157, Section 16 including the additional information in Subsection 16.2 with the following exception: the information listed in paragraphs 16.2.7 and 16.2.8 is not required. Batch tickets shall also contain the concrete producer's permanent unique mix number assigned to the concrete mix design.

**907-804.02.12.5--Non-Conforming Materials.** In Table 4 of Subsection 804.02.12.5 on page 857, delete “/ FM” from the requirements on line B.3.a.

**907-804.02.13--Quality Assurance Sampling and Testing.** In Table 5 of Subsection 804.02.13 on page 858, delete “and FM” from the requirements on line A.3.

**907-804.02.13.1.4--Temperature.** Delete the first paragraph of Subsection 804.02.13.1.4 on pages 859 & 860, and substitute the following:

Cold weather concreting shall follow the requirements of Subsection 907-804.03.16.1. Hot weather concreting shall follow the requirements of Subsection 804.03.16.2 with a maximum temperature of 95°F for Class DS concrete or for concrete mixes containing cementitious materials meeting the requirements of Subsection 907-701.02.2 as a replacement of Portland cement. For other concrete mixes, the maximum concrete temperature shall be 90°F. Concrete with a temperature more than the maximum allowable temperature shall be rejected and not used in Department work.

### **907-804.03--Construction Requirements.**

**907-804.03.15--Removal of Falsework, Forms, and Housing.** Delete the first sentence of the second paragraph of Subsection 804.03.15 on page 871, and substitute the following:

Concrete in the last pour of a continuous superstructure shall have attained a compressive strength of 2,400 psi, as determined by cylinder tests or maturity meter probe, prior to striking any falsework.

Delete the first sentence of the third paragraph of Subsection 804.03.15 on page 871, and substitute the following:

At the Contractor's option and with the approval of the Engineer, the time for removal of forms may be determined by cylinder tests, in accordance with the requirements listed in Table 6, in which case the Contractor shall furnish facilities for testing the cylinders.

Delete the fourth and fifth paragraphs of Subsection 804.03.15 on pages 871 & 872, and substitute the following:

The cylinders shall be cured under conditions which are not more favorable than those existing for the portions of the structure which they represent.

Delete the table in Subsection 804.03.15 on page 872, and substitute the following:

**Table 6**  
**Minimum Compressive Strength Requirements for Form Removal**

**Forms:**

Columns .....	1000 psi
Side of Beams .....	1000 psi
Walls not under pressure .....	1000 psi
Floor Slabs, overhead .....	2000 psi
Floor Slabs, between beams .....	2000 psi
Slab Spans .....	2400 psi
Other Parts .....	1000 psi

**Centering:**

Under Beams .....	2400 psi
Under Bent Caps .....	2000 psi

**Limitation for Placing Beams on:**

Pile Bents, pile under beam .....	2000 psi
Frame Bents, two or more columns .....	2200 psi
Frame Bents, single column .....	2400 psi

In lieu of using concrete strength cylinders to determine when falsework, forms, and housings can be removed, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Table 7. Falsework, forms, and housings may be removed when maturity meter readings indicate that the required concrete strength is achieved. Procedures for using the maturity meter and developing the strength/maturity relationship shall follow the requirements of AASHTO Designation: T 325 and ASTM Designation: C 1074 specifications. Technicians using the maturity meter or calculating strength/maturity graphs shall be required to have at least two hours of training prior to using the maturity equipment.

**Table 7**  
**Requirements for use of Maturity Meter Probes**

<b>Structure Component</b>	<b>Quantity of Concrete</b>	<b>No. of Probes</b>
Slabs, beams, walls, & miscellaneous items	0 - 30 yd <sup>3</sup>	2
	> 30 to 60 yd <sup>3</sup>	3
	> 60 to 90 yd <sup>3</sup>	4
	> 90 yd <sup>3</sup>	5
Footings, Columns & Caps	0 - 13 yd <sup>3</sup>	2
	> 13 yd <sup>3</sup>	3
Pavement, Pavement Overlays	1200 yd <sup>2</sup>	2
Pavement Repairs	Per repair or 900 yd <sup>2</sup>	2
	Whichever is smaller	

**907-804.03.16--Cold or Hot Weather Concreting.**

**907-804.03.16.1--Cold Weather Concreting.** After the third paragraph of Subsection 804.03.16.1 on page 873, add the following:

In lieu of the protection and curing of concrete in cold weather, at the option of the Contractor with the approval of the Engineer, when concrete is placed during cold weather and there is a probability of ambient temperatures lower than 40°F, an approved maturity meter may be used to determine concrete strengths by inserting probes into concrete placed in a structure. The minimum number of maturity meter probes required for each structural component shall be in accordance with Table 7. An approved insulating blanketing material shall be used to protect the work when ambient temperatures are less than 40°F and shall remain in place until the required concrete strength in Table 6 is achieved. Procedures for using the maturity meter and developing the strength/maturity relationship shall follow the requirements of AASHTO Designation: T 325 and ASTM Designation: C 1074 specifications. Technicians using the maturity meter or calculating strength/maturity graphs shall be required to have at least two hours of training prior to using the maturity equipment.

Rename the Table in Subsection 804.03.16.1 on page 874 from "Table 6" to "Table 8".

**907-804.03.19--Finishing Concrete Surfaces.****907-804.03.19.7--Finishing Bridge Floors.**

**907-804.03.19.7.4--Acceptance Procedure for Bridge Deck Smoothness.** After the first sentence of the second paragraph of Subsection 804.03.19.7.4 on page 886, add the following:

Auxiliary lanes, tapers, shoulders and other areas that are not checked with the profilograph, shall meet a 1/8 inch in 10-foot straightedge check made transversely and longitudinally across the deck or slab.

**907-804.05--Basis of Payment.** Add the "907" prefix to the pay items listed on page 898.

### **SPECIAL PROVISION NO. 906-3**

#### **Training Special Provisions**

This Training Special Provision supersedes subparagraph 7b of the Special Provision entitled "Specific Equal Employment Opportunity Responsibilities," (Attachment 1), and is in implementation of 23 U.S.C. 140(a).

As part of the Contractor's equal employment opportunity affirmative action program training shall be provided as follows:

The Contractor shall provide on-the-job training aimed at developing full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under this special provision will be as indicated in the bid schedule of the contract.

In the event that a Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided, however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also insure that this training special provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The number of trainees shall be distributed among the work classifications on the basis of the Contractor's needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Prior to commencing construction, the Contractor shall submit to the State highway agency for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications. The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeymen status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a

journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the State highway agency and the Federal Highway Administration. The State highway agency and the Federal Highway Administration shall approve a program if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the division office. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed 80 cents per hour of training given an employee on this contract in accordance with an approved training program. As approved by the engineer, reimbursement will be made for training persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other does not specifically prohibit the Contractor from receiving other reimbursement. Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirements of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program. It is not required that all trainees be on board for the entire length of the contract. A



Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily completed.

The Contractor will provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

## **SPECIAL PROVISION NO. 906-6**

### **MISSISSIPPI DEPARTMENT OF TRANSPORTATION ON-THE-JOB TRAINING PROGRAM**

#### **ALTERNATE TRAINING SPECIAL PROVISION**

##### **PURPOSE**

The purpose of the On-The-Job Training (OJT) Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained.

##### **INTRODUCTION**

This voluntary OJT Program has been developed through the partnering efforts of the Road Builders of Mississippi, the Federal Highway Administration (FHWA) and the Mississippi Department of Transportation (MDOT).

The OJT Program has been designed for use by participating contractors and subcontractors in meeting their training needs. The objective of the OJT Program is to develop skilled workers in the skilled craft trade areas of highway construction who are sufficiently trained to be productive employees in the highway construction industry work force.

The success of the OJT Program will require that contractors and subcontractors take part in the program and follow uniform procedures in training and in tracking trainee's progress.

##### **FUNDING**

MDOT will establish an annual OJT Fund from which, contractors and subcontractors may bill the Department directly for hours worked by trainees. The funding source of this money will be state and federal funds for MDOT's OJT Program.

##### **DISBURSEMENT OF FUNDS**

MDOT will pay \$3.00 per hour toward the trainee's salary for each hour of training performed by each trainee in an approved training program. Program reimbursements will be made directly to the prime or sub contractor. Requests for payment will be submitted to the Office of Civil Rights for approval.

Contractors must provide a signed invoice providing the following information to be reimbursed.

- Contractor's Name
- Mailing Address
- Trainee Name
- Social Security Number

- Race
- Sex
- Project Number
- Job Classification
- Total Number of Hours Completed

### **TRAINING PROGRAM APPROVAL**

- A. To use the OJT Program on highway construction projects, the contractor will notify the Department Office of Civil Rights using the On-the-Job Trainee Schedule Form. The notification must include the following information:
- Trainee Starting Date
  - Project number (s) trainee starting on
  - Training program (classification) to be used; and
  - Number of Training Hours Required
- B. If a contractor chooses to use a training program different from those listed in the OJT Program Manual, or desires to train in a different classification, the training program must be submitted in its entirety for approval by the Department and FHWA. The training proposal must include the following:
1. The primary objective of the program: To provide training for minority, female and economically disadvantaged individuals for development to full journey status in the work classifications in which they are being trained.
  2. The minimum number of hours and type of training the trainee will receive as it relates to each specific task required to achieve journey status.
  3. No less than minimum wage.
  4. Trainee certification of completion.
  5. Records and reports submitted to the Office of Civil Rights on a monthly basis.

### **DEPARTMENT RESPONSIBILITY**

1. Department project staff will monitor trainees on the project. They will monitor payrolls for payment of correct wage rates and fringe benefits. The Office of Civil Rights will maintain a master list by contractor name, project number, trainee name and trainee social security number to aid project staff in monitoring trainees who work on multiple projects.
2. The Office of Civil Rights may elect to interview trainees periodically during the training period to assess their performance and training program.

## **CONTRACTOR RESPONSIBILITY**

1. Trainees must be identified on payrolls (i.e. dragline trainee).
2. When any trainee completes a program, or is terminated for a reason or reasons other than successful completion, the contractor must include the date of completion or an explanation for the termination and date of termination on the OJT Termination Report.
3. The contractor will assign each trainee to a particular person--either a supervisor or a journeyman/woman who is proficient in the craft the trainee is being trained in, to ensure that timely instructional experience is received by the trainee. This person, cooperating with the appropriate company personnel, will see that proper records and the total intended training hours are completed during the allocated number of hours set up in the classification criteria.
4. The contractor has the prerogative of terminating the training period of the trainee and advancing the trainee to journey status. Approval requests must be submitted to the Office of Civil Rights with an explanation (*refer to 2 above*).
5. Upon notification from the contractor, the Department will issue a skill verification card and certificate of training to the trainee.
6. Trainees may be transferred to state-aid highway construction projects in order to complete the training program. If transfers are made the Office of Civil Rights must be notified on the Monthly Trainee Form. All of the training hours completed by trainees will count toward overall program completion.
7. Program reimbursements will be made directly to the prime or sub contractor.

## **WAGE RATE**

The wage rate for all trainees is [the current Minimum Federal Wage Rate](#), during their OJT training program. Trainees shall be paid full fringe benefit amounts, where applicable. At the completion of the training program, the trainee shall receive the wages of a skilled journey.

## **RECRUITMENT AND SELECTION PROCEDURES**

### **A. Prerequisites for Trainees**

To be qualified for enrollment in the OJT Program, trainees must possess basic physical fitness for the work to be performed, dependability, willingness to learn and ability to follow instructions.

### **B. Licenses**

Truck driver trainees must possess appropriate driver permits or licenses for the operation of Class A, B and C trucks. However, when an instructional permit is used in lieu of a license, the trainee must be accompanied by an operator who:

1. Holds a license corresponding to the vehicle being operated;
2. Has had at least one year of driving experience; and
3. Is occupying the seat next to the driver.

#### C. Recruitment

1. Notices and posters setting forth the contractor's Equal Employment Opportunity Policy and availability of training programs will be placed in areas readily accessible to employees, applicants for employment and potential employees.
2. The contractor must target minority, female or economically disadvantaged trainees.
3. The contractor will conduct systematic and direct recruitment through public and private employee referral sources. Contractors must submit the trainee's name and completed application form to the Office of Civil Rights for review and approval. Approval must be obtained before the trainee can begin work under the training program.
4. Present employees will be screened for upgrading.

#### D. Selection

1. The selection and employment of a person by participating contractor shall qualify the person for the OJT Program.
  2. Selection will be made without regard to race, color, religion, sex, age or national origin and shall be completely nondiscriminatory.
  3. Employment of trainees will be in accordance with the work force requirements of the contractor. Each contractor will hire and train the trainees for uses in their own organization.
  4. Written certification of individuals under the category of economically disadvantaged can be provided to the contractor at the time of the interview. This certification must then be provided to the Office of Civil Rights with the other required information as part of the approval process for trainees.
- **NOTE:** The OJT Program is to provide training for minority, female and economically disadvantaged individuals in order that they may develop marketable skills and gain journey status in the skilled craft classifications in which they are being trained. However, this program does not exclude trainees that are not members of the above groups.

## 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.

Attached hereto is a certified check, cashier's check or Proposal Guaranty Bond in the amount as required in the Advertisement (or, by law).

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.

## SECTION 905 -- PROPOSAL (CONTINUED)

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) enclose 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.

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.

Section 905  
Proposal (Sheet 2 - 1)

SP-9999-09(074) / 105847301  
Harrison County

Installing traffic counter stations at various location in Harrison County, known as State Project No. SP-9999-09(074) / 105847301, in the County of Harrison, State of Mississippi.

I (We) agree to complete the entire project within the specified contract time.

**\*\*\* SPECIAL NOTICE TO BIDDERS \*\*\***

**BIDS WILL NOT BE CONSIDERED UNLESS BOTH UNIT PRICES AND ITEM TOTALS ARE ENTERED.  
BIDS WILL NOT BE CONSIDERED UNLESS THE BID CERTIFICATION LOCATED AT THE END OF THE BID SHEETS IS SIGNED**

**\*\*\*BID SCHEDULE\*\*\***

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Item Amount	
						Dollar	Ct	Dollar	Ct
Roadway Items									
0010	618-A001		1	Lump Sum	Maintenance of Traffic	XXXXXXXX	XXX		
0020	620-A001		1	Lump Sum	Mobilization	XXXXXXXX	XXX		
0030	647-A003		8	Each	Pullbox, Type 4				
0040	666-B022		640	Linear Feet	Electric Cable, Underground in Conduit, IMSA 20-1, AWG 8, 2 Conductor				
0050	668-A029		525	Linear Feet	Traffic Signal Conduit, Underground, Rolled Pipe, 2"				
0060	668-A031		135	Linear Feet	Traffic Signal Conduit, Structure Mounted, Type I Rigid Galvanized Steel, 2"				
0070	668-B024		565	Linear Feet	Traffic Signal Conduit, Underground Drilled or Jacked, Rolled Pipe, 2"				
0080	907-637-A001		5	Each	Equipment Cabinet, Type B				



Section 905  
Proposal (Sheet 2 - 2)

SP-9999-09(074) / 105847301  
Harrison County

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0090	907-639-C004		2	Cubic Yard	Pole Foundations, 30" Diameter , State Furnished Pole				
0100	907-641-A001		9	Each	Radar Detection System				
0110	907-641-B001		595	Linear Feet	RDS Comm Cable				

\*\*\* BID CERTIFICATION \*\*\*

TOTAL BID.....\$\_\_\_\_\_

\*\*\* SIGNATURE STATEMENT \*\*\*

BIDDER ACKNOWLEDGES THAT HE/SHE HAS CHECKED ALL ITEMS IN THIS PROPOSAL FOR ACCURACY AND CERTIFIED THAT THE FIGURES SHOWN THEREIN CONSTITUTE THEIR OFFICIAL BID.

\_\_\_\_\_  
BIDDER'S SIGNATURE

\_\_\_\_\_  
BIDDER'S COMPANY

\_\_\_\_\_  
BIDDER'S FEDERAL TAX ID NUMBER

**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.

\*\*\*\*\*

**COMBINATION BID PROPOSAL**

I. 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).

<u>Project No.</u>	<u>County</u>	<u>Project No.</u>	<u>County</u>
1. _____	_____	6. _____	_____
2. _____	_____	7. _____	_____
3. _____	_____	8. _____	_____
4. _____	_____	9. _____	_____
5. _____	_____	10. _____	_____

- A. If option (a) has been selected, then go to II, and sign Combination Bid Proposal.
- B. If option (b) has been selected, then complete the following, go to II, and sign Combination Bid Proposal.

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. _____	_____ _____	_____ _____	_____ _____	_____ _____	

SECTION 905 - COMBINATION BID PROPOSAL (Continued)

Project Number	Pay Item Number	Unit	Unit Price Reduction	Total Item Reduction	Total Contract Reduction
9. _____	_____ _____	_____ _____	_____ _____	_____ _____	
10. _____	_____ _____	_____ _____	_____ _____	_____ _____	

C. If option (c) has been selected, then initial and complete one of the following, go to II. and sign Combination Bid Proposal.

\_\_\_\_\_ 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.

II. 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), the undersigned, agree to complete each contract on or before its specified completion date.

SIGNED \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TO: EXECUTIVE DIRECTOR, MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
JACKSON, MISSISSIPPI

**CERTIFICATE**

If awarded this contract, I (we) contemplate that portions of the contract will be sublet. I (we) certify that those subcontracts which are equal to or in excess of fifty thousand dollars (\$50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on January 13, 1999.

I (we) agree that this notification of intent DOES NOT constitute APPROVAL of the subcontracts.

NOTE: Insert name and address of subcontractors. (Subcontracts equal to or in excess of fifty thousand dollars (\$50,000.00) ONLY.)

_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)
_____ (Individual or Firm)	_____ (Address)

NOTE: Failure to complete the above DOES NOT preclude subsequent subcontracts. Subsequent subcontracts, if any, equal to or in excess of fifty thousand dollars (\$50,000.00) will be in accordance with regulations promulgated and adopted by the Mississippi State Board of Contractors on January 13, 1999.

Contractor \_\_\_\_\_

By \_\_\_\_\_

Title \_\_\_\_\_

**CERTIFICATE MUST BE EXECUTED**

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## CERTIFICATION (Execute in duplicate)

I, \_\_\_\_\_,  
(Name of person signing certification)

individually, and in my capacity as \_\_\_\_\_ of  
(Title)

\_\_\_\_\_ 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. **SP-9999-09(074) / 105847301** \_\_\_\_\_,

in **Harrison** 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 are not currently under suspension, debarment, voluntary exclusion or determination of ineligibility; nor have a debarment pending; nor been suspended, debarred, voluntarily excluded or determined ineligible within the past three years by the Mississippi Transportation Commission, the State of Mississippi, any other State or a federal agency; nor been indicted, convicted or had a civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Initial here "\_\_\_\_\_" if exceptions are attached and made a part thereof. 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.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on \_\_\_\_\_  
Signature

(5/29/2008S)

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

## CERTIFICATION (Execute in duplicate)

I, \_\_\_\_\_,  
(Name of person signing certification)

individually, and in my capacity as \_\_\_\_\_ of  
(Title)

\_\_\_\_\_ 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. **SP-9999-09(074) / 105847301** \_\_\_\_\_,

in **Harrison** 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 are not currently under suspension, debarment, voluntary exclusion or determination of ineligibility; nor have a debarment pending; nor been suspended, debarred, voluntarily excluded or determined ineligible within the past three years by the Mississippi Transportation Commission, the State of Mississippi, any other State or a federal agency; nor been indicted, convicted or had a civil judgment rendered by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three years.

Initial here "\_\_\_\_\_" if exceptions are attached and made a part thereof. 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.

All of the foregoing and attachments (when indicated) is true and correct.

Executed on \_\_\_\_\_  
Signature

(5/29/2008S)



**S E C T I O N   9 0 2**

CONTRACT FOR SP-9999-09(074) / 105847301

LOCATED IN THE COUNTY(IES) OF Harrison

STATE OF MISSISSIPPI,

COUNTY OF HINDS

This contract entered into by and between the Mississippi Transportation Commission on one hand, and the undersigned contractor, on the other witnesseth;

That, in consideration of the payment by the Mississippi Transportation Commission of the prices set out in the proposal hereto attached, to the undersigned contractor, such payment to be made in the manner and at the time of times specified in the specifications and the special provisions, if any, the undersigned contractor hereby agrees to accept the prices stated in the proposal in full compensation for the furnishing of all materials and equipment and the executing of all the work contemplated in this contract.

It is understood and agreed that the advertising according to law, the Advertisement, the instructions to bidders, the proposal for the contract, the specifications, the revisions of the specifications, the special provisions, and also the plans for the work herein contemplated, said plans showing more particularly the details of the work to be done, shall be held to be, and are hereby made a part of this contract by specific reference thereto and with like effect as if each and all of said instruments had been set out fully herein in words and figures.

It is further agreed that for the same consideration the undersigned contractor shall be responsible for all loss or damage arising out of the nature of the work aforesaid; or from the action of the elements and unforeseen obstructions or difficulties which may be encountered in the prosecution of the same and for all risks of every description connected with the work, exceptions being those specifically set out in the contract; and for faithfully completing the whole work in good and workmanlike manner according to the approved Plans, Specifications, Special Provisions, Notice(s) to Bidders and requirements of the Mississippi Department of Transportation.

It is further agreed that the work shall be done under the direct supervision and to the complete satisfaction of the Executive Director of the Mississippi Department of Transportation, or his authorized representatives, and when Federal Funds are involved subject to inspection at all times and approval by the Federal Highway Administration, or its agents as the case may be, or the agents of any other Agency whose funds are involved in accordance with those Acts of the Legislature of the State of Mississippi approved by the Governor and such rules and regulations issued pursuant thereto by the Mississippi Transportation Commission and the authorized Federal Agencies.

The Contractor agrees that all labor as outlined in the Special Provisions may be secured from list furnished by

It is agreed and understood that each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and this contract shall be read and enforced as though it were included herein, and, if through mere mistake or otherwise any such provision is not inserted, then upon the application of either party hereto, the contract shall forthwith be physically amended to make such insertion.

The Contractor agrees that he has read each and every clause of this Contract, and fully understands the meaning of same and that he will comply with all the terms, covenants and agreements therein set forth.

Witness our signatures this the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
Contractor (s)

By \_\_\_\_\_

MISSISSIPPI TRANSPORTATION COMMISSION

Title \_\_\_\_\_

By \_\_\_\_\_

Signed and sealed in the presence of:  
(names and addresses of witnesses)

Executive Director

\_\_\_\_\_  
Secretary to the Commission  
Award authorized by the Mississippi Transportation Commission in session on the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, Minute Book No. \_\_\_\_\_, Page No. \_\_\_\_\_.

Revised 8/06/2003

**S E C T I O N   9 0 3**  
**PERFORMANCE AND PAYMENT BOND**

CONTRACT BOND FOR: SP-9999-09(074) / 105847301

LOCATED IN THE COUNTY(IES) OF: Harrison

STATE OF MISSISSIPPI,

COUNTY OF HINDS

Know all men by these presents: that we, \_\_\_\_\_  
( Contractor )

\_\_\_\_\_ Principal, a \_\_\_\_\_

residing at \_\_\_\_\_ in the State of \_\_\_\_\_

and \_\_\_\_\_  
( Surety )

residing at \_\_\_\_\_ in the State of \_\_\_\_\_,

authorized to do business in the State of Mississippi, under the laws thereof, as surety, are held and firmly bound  
unto the State of Mississippi in the sum of \_\_\_\_\_

(\$ \_\_\_\_\_ ) Dollars, lawful money of the United States of America, to be paid  
to it for which payment well and truly to be made, we bind ourselves, our heirs, administrators, successors, or  
assigns jointly and severally by these presents.

Signed and sealed this the \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_.

The conditions of this bond are such, that whereas the said \_\_\_\_\_

principal, has (have) entered into a contract with the Mississippi Transportation Commission, bearing the date of  
\_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_ hereto annexed, for the construction of certain projects(s)  
in the State of Mississippi as mentioned in said contract in accordance with the Contract Documents therefor, on  
file in the offices of the Mississippi Department of Transportation, Jackson, Mississippi.

Now therefore, if the above bounden \_\_\_\_\_

\_\_\_\_\_ in all things shall stand to and abide by and well and truly observe,  
do keep and perform all and singular the terms, covenants, conditions, guarantees and agreements in said contract,  
contained on his (their) part to be observed, done, kept and performed and each of them, at the time and in the  
manner and form and furnish all of the material and equipment specified in said contract in strict accordance with  
the terms of said contract which said plans, specifications and special provisions are included in and form a part of  
said contract and shall maintain the said work contemplated until its final completion and acceptance as specified in  
Subsection 109.11 of the approved specifications, and save harmless said Mississippi Transportation Commission  
from any loss or damage arising out of or occasioned by the negligence, wrongful or criminal act, overcharge, fraud,  
or any other loss or damage whatsoever, on the part of said principal (s), his (their) agents, servants, or employees in

## SECTION 903 - CONTINUED

the performance of said work or in any manner connected therewith, and shall be liable and responsible in a civil action instituted by the State at the instance of the Mississippi Transportation Commission or any officer of the State authorized in such cases, for double any amount in money or property, the State may lose or be overcharged or otherwise defrauded of, by reason of wrongful or criminal act, if any, of the Contractor(s), his (their) agents or employees, and shall promptly pay the said agents, servants and employees and all persons furnishing labor, material, equipment or supplies therefor, including premiums incurred, for Surety Bonds, Liability Insurance, and Workmen's Compensation Insurance; with the additional obligation that such Contractor shall promptly make payment of all taxes, licenses, assessments, contributions, damages, any liquidated damages which may arise prior to any termination of said principal's contract, any liquidated damages which may arise after termination of the said principal's contract due to default on the part of said principal, penalties and interest thereon, when and as the same may be due this state, or any county, municipality, board, department, commission or political subdivision: in the course of the performance of said work and in accordance with Sections 31-5-51 et seq. Mississippi Code of 1972, and other State statutes applicable thereto, and shall carry out to the letter and to the satisfaction of the Executive Director of the Mississippi Department of Transportation, all, each and every one of the stipulations, obligations, conditions, covenants and agreements and terms of said contract in accordance with the terms thereof and all of the expense and cost and attorney's fee that may be incurred in the enforcement of the performance of said contract, or in the enforcement of the conditions and obligations of this bond, then this obligation shall be null and void, otherwise to be and remain in full force and virtue.

Witness our signatures and seals this the \_\_\_\_\_ day of \_\_\_\_\_ A.D. \_\_\_\_\_.

_____ (Contractors) Principal	_____ Surety
By _____	By _____ (Signature) Attorney in Fact
	Address _____ _____ _____
Title _____ (Contractor's Seal)	_____ (Printed) MS Agent
	_____ (Signature) MS Agent
	Address _____ _____ _____ (Surety Seal)
	_____ Mississippi Insurance ID Number



# 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 **Installing traffic counter stations at various location in Harrison County, known as State Project No. SP-9999-09(074) / 105847301, in the County of Harrison, State of Mississippi.**

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)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
(Name) (Title)

\_\_\_\_\_  
(Surety) (Seal)

\_\_\_\_\_  
(Witness)

By: \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
MS Agent

\_\_\_\_\_  
Mississippi Insurance ID Number