SECTION 905 -- PROPOSAL (CONTINUED)

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

Bidder acknowledges receipt of and has added to and made a part of the proposal and contract documents the following addendum (addenda): **DATED** 4/13/2022 ADDENDUM NO. ADDENDUM NO. DATED ADDENDUM NO. DATED ADDENDUM NO **DATED** DATED ADDENDUM NO **DATED** ADDENDUM NO. Number Description TOTAL ADDENDA: (Must agree with total addenda issued prior to opening of bids) Revised Table of Contents; Added Special Provision 907-505-2; Amendment EBSx Download Required. Respectfully Submitted, DATE _ Contractor Signature TITLE ADDRESS CITY, STATE, ZIP ____ 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: Address President Address Secretary

Address

The following is my (our) itemized proposal.

MP-1015-58(005)/ 307715301000

Pontotoc County(ies)

Treasurer

Revised 01/26/2016

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04/13/2022 02:29 PM

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

CODE: (SP)

SPECIAL PROVISION NO. 907-505-2

DATE: 04/13/2022

SUBJECT: Grinding Concrete Surfaces

Section 907-505, Grinding Concrete Surfaces, is hereby added to and made a part of the 2017 Edition of the Standard Specifications for Road and Bridge Construction as follows.

SECTION 907-505 -- GRINDING CONCRETE SURFACES

<u>907-505.01--Description</u>. This work shall consist of grinding portland cement concrete surfaces to substantially eliminate joint faulting, restore proper drainage, improve riding characteristics and/or improve skid resistance to the pavement surface. The work shall be accomplished in accordance with these specifications and in reasonably close conformity to the details on the plans.

907-505.02--Blank.

907-505.03--Construction Requirements.

<u>907-505.03.1--Equipment.</u> The grinding equipment shall be a power driven, self-propelled machine that is specifically designed to smooth and texture hydraulic cement concrete pavement with diamond blades. The effective wheelbase of the machine shall not be less than 12.0 feet. It shall have a set of pivoting tandem bogey wheels at the front of the machine and the rear wheels shall be arranged to travel in the track of the fresh cut pavement. The center of the grinding head shall be no further than 3.0 feet forward from the center of the back wheels.

The equipment shall be of a size that will cut or plane at least 3.0 feet wide. It shall also be of a shape and dimension that does not encroach on traffic movement outside of the work area. The equipment shall be capable of grinding the surface without causing spalls at cracks, joints, or other locations.

907-505.03.2--Grinding.

<u>907-505.03.2.1--Grinding Concrete Surfaces.</u> The plans will designate the <u>approximate</u> areas to be ground for bidding purposes. The revised grinding areas will be determined by the Contractor and approved by the Engineer. The Contractor shall develop and submit to the Engineer for approval a Grinding Plan at least 45 days prior to starting any grinding operations.

The construction operation shall be scheduled and proceed in a manner that produces a uniform finished surface. Grinding will be accomplished in a manner that eliminates joint or crack faults while providing positive lateral drainage by maintaining a constant cross-slope between grinding extremities in each lane. Auxiliary or ramp lane grinding shall transition as required from the mainline edge to provide positive drainage and acceptable riding surface.

The entire area designated on the plans shall be ground until the pavement surfaces of adjacent sides of transverse joints and cracks are in the same plane. Transverse joints and random cracks shall be visually inspected to ensure that adjacent surfaces are in the same plane. Misalignment of the planes of the surfaces on adjacent sides of the joints or cracks greater than 1/16 inch shall be ground until the surfaces are flush. The operation shall result in pavement that conforms to the typical cross-section and the ride requirements specified below. It is the intention of this specification that the faulting at joints and cracks be eliminated, that the overall riding characteristics be within the limits specified, and that substantially all the uneven pavement surface be textured, except that extra depth grinding to eliminate minor depressions in order to provide texturing for 100 percent of the pavement surface will not be required.

The Contractor shall establish positive means for removal of grinding residue. Solid residue shall be removed from pavement surfaces before it is blown by traffic action or wind. Residue shall not be permitted to flow across lanes used by public traffic or into gutters or drainage facilities but may be allowed to flow into adjacent ditches.

907-505.03.2.2--Final Surface Finish. The grinding process shall produce a pavement surface that is true to grade and uniform in appearance with a longitudinal line type texture. The line type texture shall contain parallel longitudinal corrugations that present a narrow ridge corduroy type appearance. The peaks of the ridges shall be approximately 1/16 inch higher than the bottoms of the grooves with approximately 50 to 52 evenly spaced grooves per foot for pavements constructed with limestone coarse aggregate and 53 to 57 evenly spaced grooves for pavements constructed with aggregate other than limestone. Grinding chip thickness shall be a minimum of 0.100 inches thick for pavements constructed with limestone coarse aggregate and a minimum of 0.080 inches thick for pavements constructed with coarse aggregate other than limestone.

The finished pavement surface shall be measured for riding quality. The grinding shall produce a mainline riding surface which does not exceed the specified requirements indicated below.

Profiles of the mainline pavement surface will be established, evaluated and the pavement surface corrected, as necessary, so that the final surface shall not exceed a long continuous interval Mean Roughness Index (MRI) of 90 inches per mile when tested in accordance with Department procedures.

In addition to the above requirements for the MRI, all areas of localized roughness greater than 160 inches per mile as determined by the short continuous interval (25') report shall be corrected by the Contractor utilizing grinding methods and equipment specified in this special provision.

After correcting areas of localize roughness, corrective action shall be made to reduce the MRI to 90 inches per mile or less, except as otherwise provided herein.

On those sections where corrections are made, the pavement will be tested to verify that corrections have produced a MRI of 90 inches per mile or less.

Grinding along the inside edge of the existing pavement shall conform to the straightedge requirements.

The transverse slope of the pavement shall be uniform to a degree that no depressions or misalignment of slope greater than 1/4 inch in 12 feet are present when tested with a straightedge placed perpendicular to the centerline.

<u>907-505.03.2.3--High Speed Inertial Profiling System.</u> The high-speed inertial profiling system shall meet the applicable requirements of Subsection 401.02.6.9.

<u>907-505.04--Method of Measurement</u>. Grinding concrete bridge deck and pavement will be measured by the square yard. The quantity for bridge deck grinding will be determined by measuring the area actually ground. Grinding concrete pavement will be measured by the square yard. The quantity of pavement grinding will be determined by multiplying the finished ground width by the total length ground.

<u>907-505.05--Basis of Payment.</u> Grinding concrete bridge deck and pavement, measured as prescribed above, will be paid for at the contract unit price per square yard, which price shall be full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all work involved in grinding the existing surface, for removing residue and cleaning in accordance with these specifications and as shown on the plans, for testing for conformity to pavement surface requirements, providing maintenance of traffic and all necessary traffic handling devices to complete the work.

Payment will be made under:

907-505-A: Grinding Concrete Bridge Deck - per square yard

907-505-B: Grinding Concrete Pavement - per square yard

<u>907-505.05.1--Price Adjustments for Grinding Concrete Pavement.</u> When the MRI is more than ninety inches per mile (90.0 inches/mile) corrective action will be required to obtain 90.0 inches / mile. When the MRI of the ground pavement surface is less than or equal to fifty inches per mile (50.0 inches/mile), per segment, a unit price increase will be added. The following schedule lists MRI ranges and the corresponding contract price adjustment:

Mean Roughness Index	Contract Price Adjustment
inches/mile	Percent of Grinding Contract Unit Bid Price
Less than 35.0	108
35.1 to 40.0	106
40.1 to 45.0	104
45.1 to 50.0	102
50.0 to 90.0	100
Over 90.0	Corrective work required
	(with correction of MRI<=90.0)

The adjusted unit price will be computed using the contract unit price of grinding concrete pavement and will apply to the total area of the segment.