

**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.

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

ADDENDUM NO.   1   DATED   7/20/2010      ADDENDUM NO.            DATED             
 ADDENDUM NO.   2   DATED   8/16/2010      ADDENDUM NO.            DATED           

Number	Description
1	Revised NTB 3124; Wage Rate, replaces same; Amendment EBS Download Required.
2	Table of Content, replaces same; Advertisement, replaces same; Revised Notice To Bidder Nos. 3122 & 3124, replace same; Add SP 907-626-5; Bidsheets, replace same; Amendment EBS Download Required.

TOTAL ADDENDA:   2    
 (Must agree with total addenda issued prior to opening of bids)

Respectfully Submitted,

DATE \_\_\_\_\_

\_\_\_\_\_  
 Contractor

BY \_\_\_\_\_

Signature

TITLE \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY, STATE, ZIP \_\_\_\_\_

PHONE \_\_\_\_\_

FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

(To be filled in if a corporation)

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

_____ President	_____ Address
_____ Secretary	_____ Address
_____ Treasurer	_____ Address

The following is my (our) itemized proposal.

HSIP-0054-02(023) / 105874301    HSIP-0020-01(194) / 105874302    Hinds County(ies)

Revised 09/21/2005

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

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Hinds County**

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CERTIFICATION REGARDING NON-COLLUSION, DEBARMENT AND SUSPENSION,  
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OCR-485.

(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, August 24, 2010, and shortly thereafter publicly opened on the Sixth Floor for:

Overlaying approximately 24 miles of SR 27 from the Copiah County Line to the Warren County Line, and approximately 1 mile of I-20 at Norrell Road, known as Federal Aid Project No. HSIP-0054-02(023) / 105874301 & HSIP-0020-01(194) / 105874302, in the County of Hinds, State of Mississippi.

The attention of bidders is directed to the Contract Provisions governing selection and employment of labor. Minimum wage rates have been predetermined by the Secretary of Labor and are subject to Public Law 87-58 1, Work Hours Act of 1962, as set forth in the Contract Provisions.

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.

**The award of this contract will be contingent upon the Contractor satisfying the DBE requirements.**

The 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 proposals 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).

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. 3122**

**CODE: (SP)**

**DATE: 06/03/2010**

**SUBJECT: Contract Time**

**PROJECT: HSIP-0054-02(023) & HSIP-0020-01(194) / 105874301 & 302 - Hinds County**

The calendar date for completion of work to be performed by the Contractor for this project shall be **May 31, 2011** 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 **September 14, 2010** and the effective date of the Notice to Proceed / Beginning of Contract Time will be **October 7, 2010**.

Should the Contractor request a Notice to Proceed earlier than **October 7, 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

**SECTION 904 - NOTICE TO BIDDERS 3124**

**CODE: (SP)**

**DATE: 08/16/2010**

**SUBJECT: Scope Of Work**

**PROJECT: HSIP-0054-02(023) & HSIP-0020-01(194) / 105874301 & 302 - Hinds County**

The contract documents do not include an official set of construction plans, but may by reference include some Standard Drawings when so specified in a Notice To Bidders entitled, "Standard Drawings". All other references to plans in the contract documents and Standard Specifications for Road and Bridge Construction are to be disregarded.

**Bidders are advised that work under this contract consists of the following 2 locations and that the first order of work shall be the completion of the overlay of I20 (Location 1). Work on Location 2 (SR27) shall not commence prior to the placement of all required HMA/WMA on I20.**

## **Location 1**

### **HSIP-0020-01(194) / 105874-302000 - I20 IN HINDS COUNTY**

The work shall consist of overlaying approximately 1,300 feet of existing asphalt pavement on I-20 Eastbound in Hinds County, for the purpose of correcting the superelevation rate of the roadway and the adjacent I20 entrance ramp from Norrell Road, and to provide an overall 1 lift overlay of the roadway, entrance ramp, and paved shoulders after correction of the cross slopes and superelevation rates (See Typical Section).

Prior to overlay, the Department will determine the existing cross slopes and superelevation rates of the eastbound lanes of I20 and the I20 entrance ramp from Norrell Road. The Department will determine the overlay grade profile required to correct the mainline lanes and the entrance ramp to the required cross slopes and superelevation rates. The Department will provide all staking necessary for the establishment of the required superelevation rates and grade profile in the field for all required courses of HMA/WMA.

The Contractor shall place that total thickness of HMA/WMA leveling course, 12.5mm Mix, HT, Polymer Modified, which is necessary in order to bring the I20 lanes and the I20 entrance ramp from Norrell Road to the required cross slopes, superelevation rates, and grade profile as determined and staked by the Department. Maximum single lift thickness for the leveling course(s) is 2 ½". After placement of the leveling course(s), an overall lift of HMA/WMA, 9.5mm Mix, HT, Polymer Modified, 1 ½" thick will be placed across the I20 lanes and the I20 entrance ramp from Norrell Road. The existing paved shoulders along I20 and the entrance ramp from Norrell Road will also be overlaid. The thickness and course designations for the overlay of the shoulders are to match that of the adjacent main line or ramp. The break over slope

between the right edge (high side) of the mainline or ramp and the paved shoulder shall be -7% minus the superelevation rate, not to exceed - 4%.

Potholes that may exist are to be patched as directed by the Engineer prior to beginning the asphalt overlay. Patching of potholes shall be considered an absorbed item.

Cracks of significant depth or depressions in the existing surface which, in the opinion of the Engineer, may cause reflective cracking shall be filled with HMA immediately prior to overlay operations. No separate payment will be made for this operation.

Ground in rumble strips are to be placed on the mainline paved shoulders.

Existing raised pavement markers are to be removed prior to beginning the overlay operation. No measurement will be made for separate payment; the cost is to be absorbed in the prices for other items of work.

All permanent striping will be thermoplastic. Edge lines will be placed so as to maintain the original lane width. In addition to these markings, raised pavement markers will be placed at 80 foot intervals in tangents, 40 foot intervals in curves or as directed by the Engineer.

Temporary traffic stripe will be required immediately after placement of each lift of HMA and prior to opening to traffic. Temporary stripe is to be placed in the same location and configuration as the permanent stripe. Temporary raised pavement markers are required, and are to be placed as soon as the overlay is completed.

The Contractor shall provide all traffic control devices in accordance with the Standard Specifications, special provisions and drawings included elsewhere in the contract. Payment shall be made under pay item number 618-A001, Maintenance of Traffic.

The Contractor shall erect and maintain construction signing and provide all signs and traffic handling devices necessary to safely maintain traffic around and through the work areas in accordance with the Standard Drawing and the MUTCD. The cost is to be included in the price bid for Pay Items . 619-D1001 & 619-D2001.

Incidental work such as removing vegetation, removing and resetting signs, shaping and compacting shoulders, removing excess asphalt material, project clean-up, and other incidental work necessary to complete the project will not be measured for separate payment and will be considered included in the prices of items bid.

It shall be the responsibility of the Contractor to protect existing structures such as pipes, aprons, bridges, etc., from damage occurring during construction. The Contractor shall replace or repair, as directed by the Engineer, any structures damaged during the life of the contract. No payment will be made for replacements and or repairs resulting from such damages.

**Location 2**

**HSIP-0054-02(023) / 105874-301000 - SR27 IN HINDS COUNTY**

The work shall consist of milling and overlaying approximately 23.4 miles of the existing asphalt pavement on MS 27 in Hinds County, from the Copiah County Line to the intersection of MS 27 and MS 18 at Utica (approximately 11.2 miles), and from the intersection of MS 27 and MS 18 just north of Utica to the Warren County Line (approximately 12.2 miles).

The width of cold milling is 24 feet and variable and the depth is 2" and variable. The thickness of the HMA/WMA overlay is 2" and variable.

Publicly maintained roads or streets are to be milled and overlaid to the existing right-of-way. Currently paved privately owned driveway entrances or pads shall be milled and overlaid to the shoulder line per the typical drawing in the contract. Currently un-paved privately owned driveway entrances or pads shall be paved to the shoulder line per the typical drawing in the contract. Pads shall be shaped horizontally and vertically to prevent excessive drop-offs. Granular material (Class 5, Group 'C') shall be provided around the pads to prevent shoulder drop-offs as directed and shall be placed in a timely manner. Drop-offs exceeding 2.5" shall be corrected within 2 calendar days of the placement of the pad. Stabilizer aggregate shall be used to maintain egress and ingress as directed by the Engineer.

Prior to beginning overlay operations, preliminary leveling of the existing roadway in selected short locations will be required to correct vertical alignment as directed by the Engineer.

Potholes are to be patched prior to paving operations as directed by the Engineer. Patching of potholes shall be considered an absorbed item.

Unpaved shoulders are to be paved two (2) feet wide on each lane in locations where existing shoulder widths allow. It is estimated that 50% of the project length has shoulders sufficiently wide to accommodate the 2' pavement widening. Locations to be widened will be determined by the Engineer. Prior to placement of the pavement widening, the shoulders are to be bladed 2 ½ inches below the milled surface. The cost of blading will be an absorbed item and is not to be included in the price of pay items bid. The widening will consist of 4.5" HMA/WMA, 12.5mm Mix, HT, Polymer Modified, and will be placed in one lift with the placement of the overlay.

All existing guard rail, terminal end sections, and bridge-end sections shall be removed and replaced. Voids created by the removal of posts, concrete anchors, footings, etc., shall be backfilled and tamped with suitable soil obtained from the adjacent shoulder. Terminal end sections are to be installed per manufacturer's specifications. (See Table)

The Contractor shall be responsible for the removal of existing raised pavement markers on the roadway and bridges, as well as for the removal of non-paint traffic striping, and any painted traffic striping which will not be covered by the new permanent thermoplastic striping on existing bridge deck surfaces prior to placement of the new raised pavement markers and new



thermoplastic striping. Cost of removing existing raised pavement markers is to be included in the cost of other items of work. Cost of stripe removal to be paid under Pay Item 202-B076.

The ground in rumble strips (center line and edge line) and all pavement markings shall be installed in accordance with the Standard Specifications, special provisions and enclosed drawings.

The Contractor shall provide all traffic control devices in accordance with the Standard Specifications, special provisions and enclosed drawings. Payment shall be made under pay item number 618-A001, Maintenance of Traffic. Incidental work that is necessary to complete the work shall not be measured for separate payment, and the cost shall be included in the items bid.

Temporary stripe, either paint or tape, will be required immediately after overlaying and prior to opening any area to traffic. Payment will be made for temporary traffic stripe, under Pay Item Nos. 619-A1002 through 619-A6001. Temporary stripe is to be placed in the same location and layout as permanent stripe. Temporary raised pavement markers are required, and are to be placed as soon as a section of overlay is completed.

All permanent striping will be thermoplastic. Edge lines will be placed so as to maintain the original lane width. In addition to these markings, raised pavement markers will be placed at 80 foot intervals in tangents, 40 foot intervals in curves and as directed by the Engineer.

The Contractor shall erect and maintain construction signing and provide all signs and traffic handling devices necessary to safely maintain traffic around and through the work areas in accordance with the STANDARD DRAWINGS and the MUTCD.

The cost is to be included in the price bid for Pay Items 619-D1001 & 619-D2001.

Where applicable the existing shoulders are to be raised to match the new pavement elevation by placing variable depth Granular Material (Class 5, Group C) on the existing shoulders. Placement of the granular material on the finished asphalt course shall not be permitted. The material shall be bladed, rolled, and compacted to a finished slope of four percent (4%). The quantity of material placed shall be the minimum amount required to provide a finished shoulder to match the existing width. Shoulders with adequate shoulder material in place shall be bladed to a slope of four percent (4%). The cost of blading will be an absorbed item.

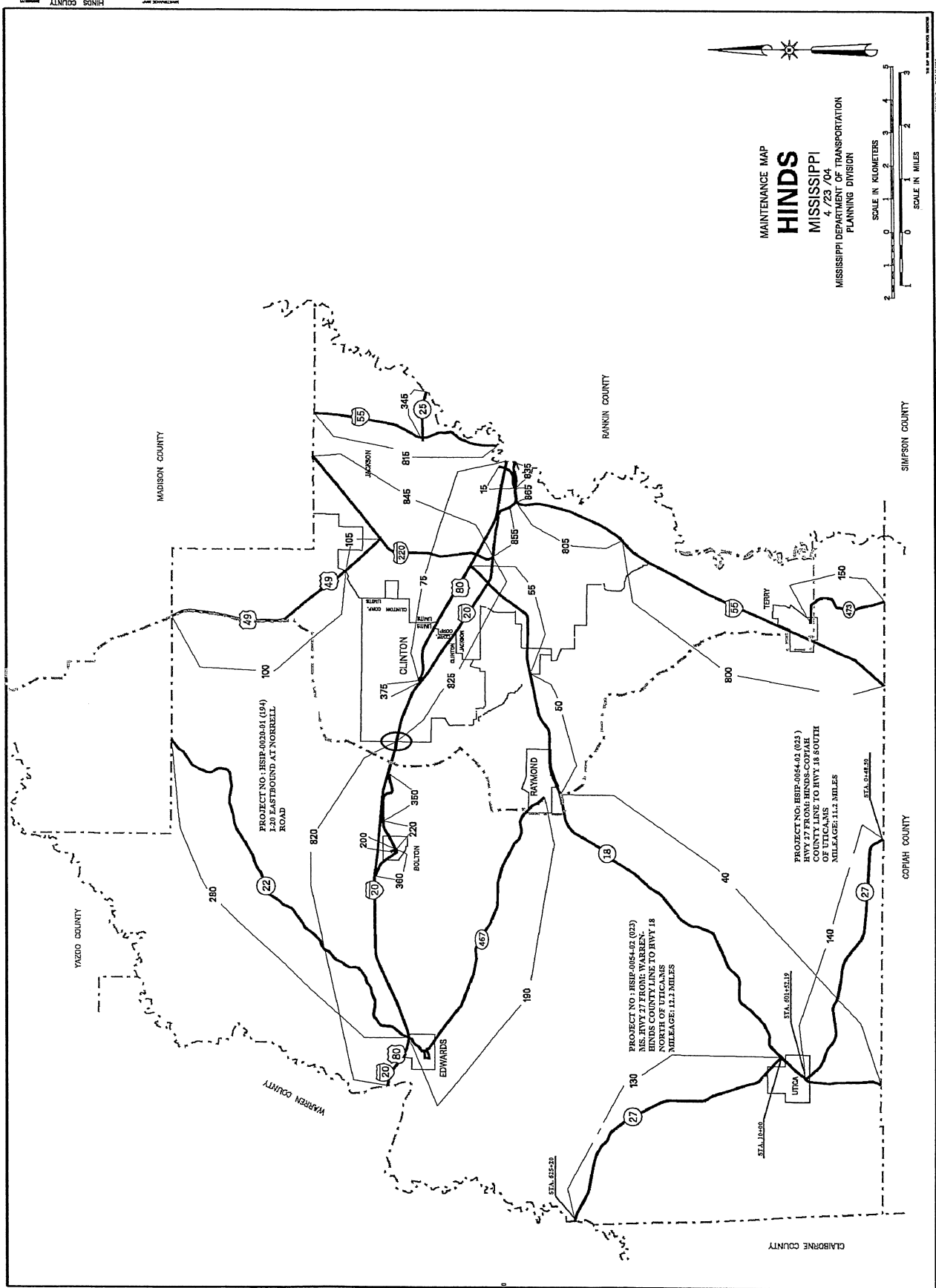
All material excavated from the existing shoulder shall be used to raise the existing shoulder to match the new pavement elevation where needed, and any surplus material shall be spread along the edge of the shoulders, foreslopes, or other adjacent areas as directed by the Engineer and will be an absorbed item.

Incidental work such as removing vegetation, shaping and compacting shoulders, removing and resetting signs and/or mailboxes, removing excess asphalt material, project clean-up, and other items of incidental work necessary to complete the project will not be measured for separate payment and will be considered included in the prices of items bid.

The Reclaimed Asphalt Pavement (RAP) material removed by the milling operation on Hwy 27 only shall become the property of the contractor with the exception of 91,000 square yards which is to be stockpiled at the MDOT storage location approximately 300' south of the intersection of south MS 27 and MS 18, in the southwest quadrant. Unless the Contractor desires otherwise, the Contractor's RAP shall be obtained first. At the MDOT storage location, the Contractor shall be required to push the milled material into one stockpile. The Contractor shall be responsible for placing and operating equipment necessary to "push up" the milled material. All costs associated with the hauling, placing, and stockpiling the RAP shall be included in the price bid for cold milling.

Joint sealing and shoulder wedge procedures shall be utilized on both routes of the project in accordance with supplements to Special Provisions 907-401-2 as well as 907-403-4.

It shall be the responsibility of the Contractor to protect existing structures such as pipes, aprons, bridges, etc., from damage occurring during construction. The Contractor shall replace or repair, as directed by the Engineer, any structures damaged during the life of the contract. No payment will be made for replacements and or repairs resulting from such damages.



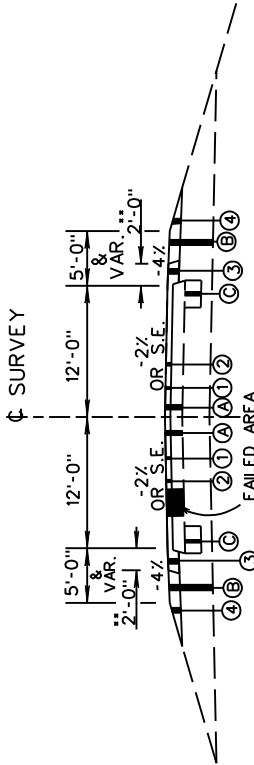
STATE	PROJECT NO.
MSS.	

NOTE:  
GROUND IN RUMBLE STRIPS REQUIRED ON THE CENTERLINE AND BOTH EDGES OF PAVEMENT SEE DETAILS ON SHEETS DRS\_CL AND D2L\_ERS

FAILED AREAS SHALL BE REPAIRED WITH FULL DEPTH HMA/WMA 12.5mm MIX HT, POLYMER MODIFIED

EXISTING PAVEMENT

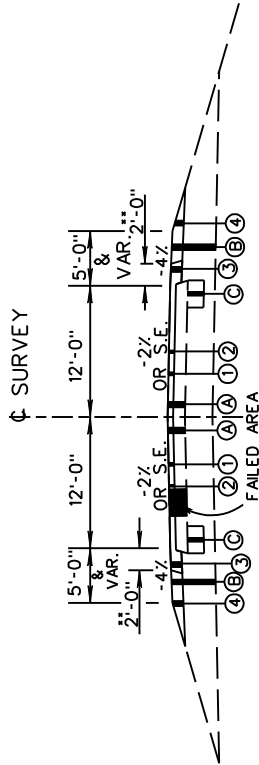
- Ⓐ 9.5" AND VARIABLE DEPTH HOT MIX ASPHALT IN PLACE
- Ⓑ 8.0" AND VARIABLE DEPTH CLAY-GRAVEL BASE IN PLACE
- Ⓒ 10.5" AND VARIABLE DEPTH HMA TRENCH WIDENING IN PLACE



TYPICAL SECTION HWY. 27

B.O.P. STA. 0+48.30 TO STA. 601+52.19  
(FROM COPIAH LINE TO HWY 18 AT UTICA)

\*\* 2'-0" WIDENING REQUIRED IN ALL LOCATIONS WHERE EXISTING SHOULDERS HAVE SUFFICIENT WIDTH



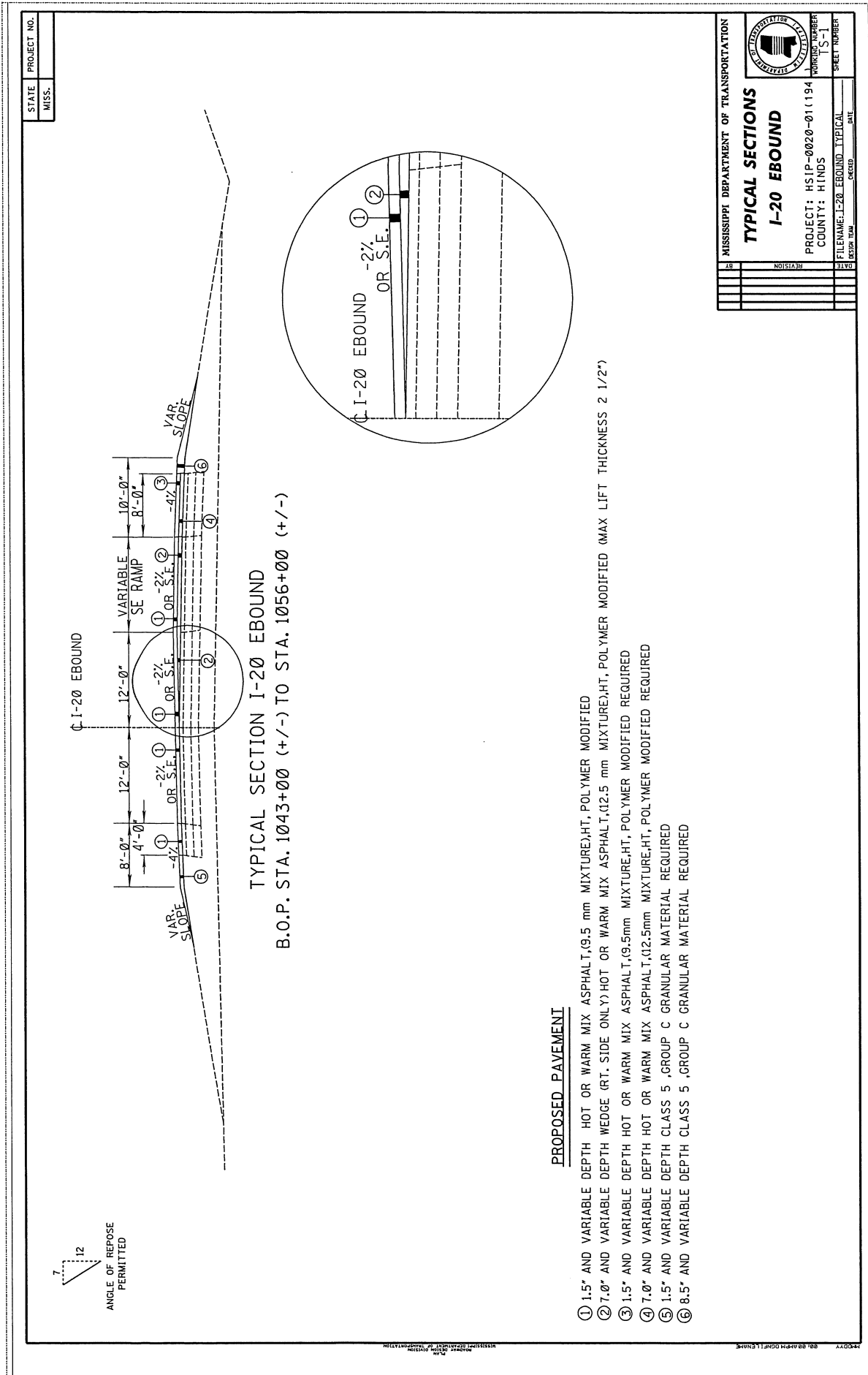
TYPICAL SECTION HWY. 27

STA. 10+00 TO STA. 625+20  
(FROM HWY 18 JUST NORTH OF UTICA TO WARREN COUNTY LINE)

PROPOSED PAVEMENT

- Ⓐ 2.0" AND VARIABLE MILLING REQ'D.
- Ⓑ 2.0" AND VARIABLE DEPTH HOT OR WARM MIX ASPHALT,(12.5 mm MIXTURE),HT,POLYMER MODIFIED
- Ⓒ EXCAVATE 2.5" BELOW MILLED SURFACE AND PLACE 4.5" HOT OR WARM MIX ASPHALT,12.5mm MIX,HT,POLYMER MODIFIED REQ'D.(1 @ 4.5" WITH SURFACE LIFT )
- Ⓓ VARIABLE DEPTH CLASS 5 ,GROUP C GRANULAR MATERIAL REQUIRED

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
TYPICAL SECTION	
HWY 27	
PROJECT: HSIP-0064-02(023)	
COUNTY: HINDS	
DATE	FILENAME: HWY27TYPICAL.DGN
REVISION	USER
	CHECK
	SHEET NUMBER

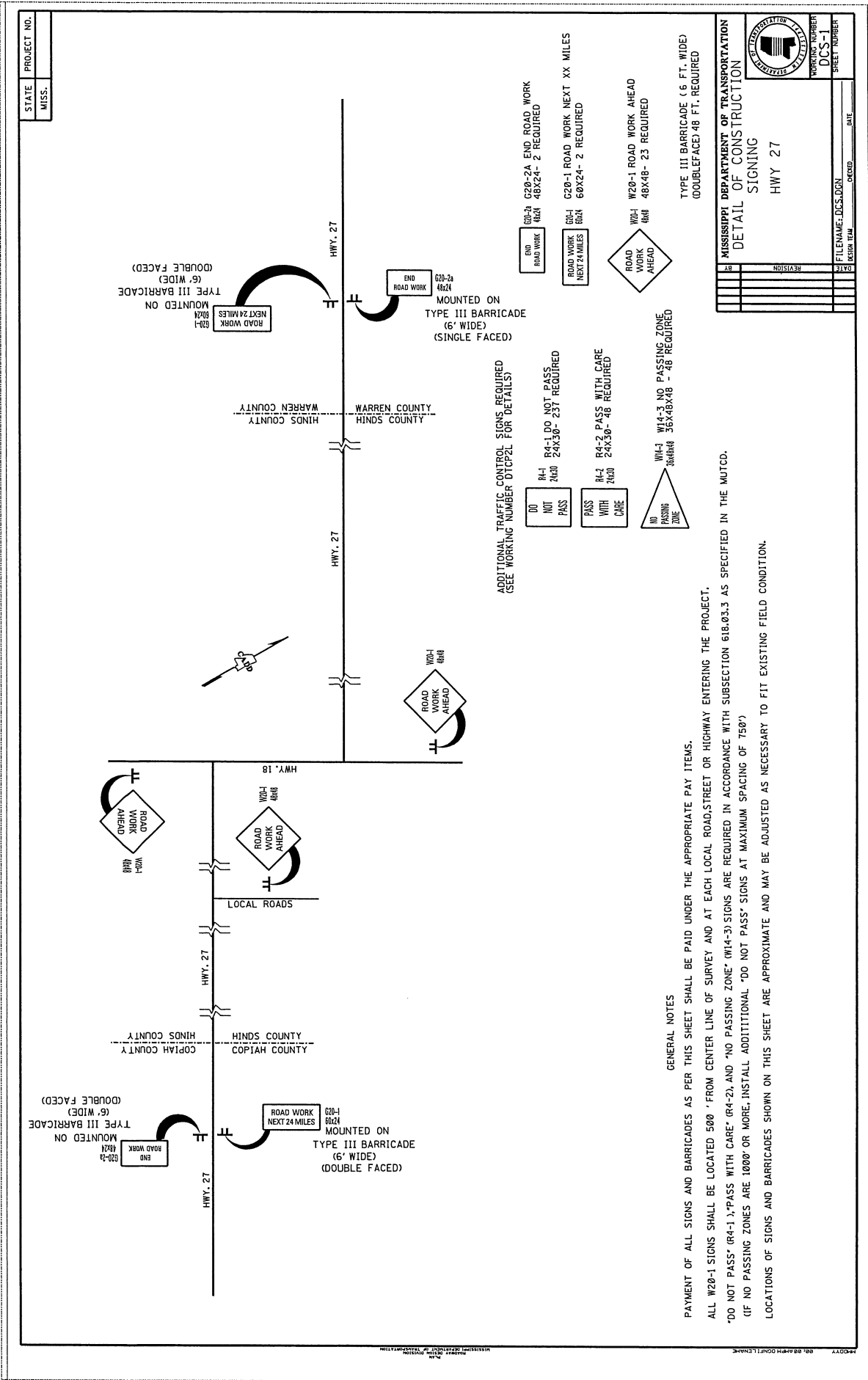


TYPICAL SECTION I-20 EBOUND  
 B.O.P. STA. 1043+00 (+/-) TO STA. 1056+00 (+/-)

PROPOSED PAVEMENT

- ① 1.5" AND VARIABLE DEPTH HOT OR WARM MIX ASPHALT, 9.5 mm MIXTURE, HT, POLYMER MODIFIED
- ② 7.0" AND VARIABLE DEPTH WEDGE (RT. SIDE ONLY) HOT OR WARM MIX ASPHALT, 12.5 mm MIXTURE, HT, POLYMER MODIFIED (MAX LIFT THICKNESS 2 1/2')
- ③ 1.5" AND VARIABLE DEPTH HOT OR WARM MIX ASPHALT, 9.5mm MIXTURE, HT, POLYMER MODIFIED REQUIRED
- ④ 7.0" AND VARIABLE DEPTH HOT OR WARM MIX ASPHALT, 12.5mm MIXTURE, HT, POLYMER MODIFIED REQUIRED
- ⑤ 1.5" AND VARIABLE DEPTH CLASS 5, GROUP C GRANULAR MATERIAL REQUIRED
- ⑥ 8.5" AND VARIABLE DEPTH CLASS 5, GROUP C GRANULAR MATERIAL REQUIRED

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
<b>TYPICAL SECTIONS</b>	
<b>I-20 EBOUND</b>	
PROJECT: HSIP-0020-01 (194)	FORM NO. 100
COUNTY: HINDS	TS-1
FILE NAME: I-20_EBOUND_TYPICAL	SHEET NUMBER
DESIGN TEAM	DATE
DATE	DATE
REVISION	DATE



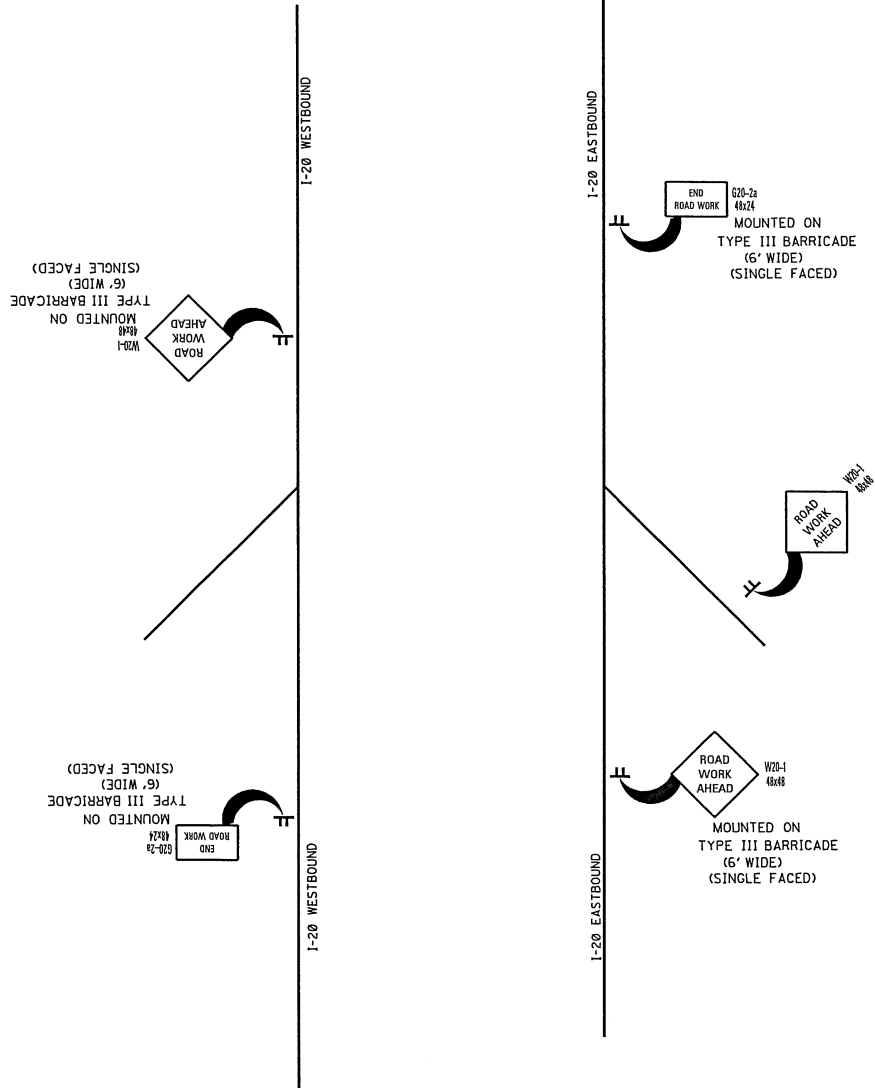
GENERAL NOTES

PAYMENT OF ALL SIGNS AND BARRICADES AS PER THIS SHEET SHALL BE PAID UNDER THE APPROPRIATE PAY ITEMS.  
 ALL W20-1 SIGNS SHALL BE LOCATED 500' FROM CENTER LINE OF SURVEY AND AT EACH LOCAL ROAD, STREET OR HIGHWAY ENTERING THE PROJECT.  
 "DO NOT PASS" (R4-1), "PASS WITH CARE" (R4-2), AND "NO PASSING ZONE" (W14-3) SIGNS ARE REQUIRED IN ACCORDANCE WITH SUBSECTION 618.03.3 AS SPECIFIED IN THE MUTCD.  
 (IF NO PASSING ZONES ARE 1000' OR MORE, INSTALL ADDITIONAL "DO NOT PASS" SIGNS AT MAXIMUM SPACING OF 750')  
 LOCATIONS OF SIGNS AND BARRICADES SHOWN ON THIS SHEET ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY TO FIT EXISTING FIELD CONDITION.

STATE	PROJECT NO.
MISS.	

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
DETAIL OF CONSTRUCTION	
SIGNING	
HWY 27	
FILE NAME: DCS.DGN	DATE
WORKING NUMBER DCS-1	SHEET NUMBER
DESIGN TEAM	

STATE	PROJECT NO.
MISS.	



END ROAD WORK  
G20-2a  
48x24 - 2 REQUIRED

ROAD WORK AHEAD  
W20-1  
48x18 - 3 REQUIRED

TYPE III BARRICADE (6 FT. WIDE)  
(SINGLEFACE) 24 FT. REQUIRED

MISSISSIPPI DEPARTMENT OF TRANSPORTATION  
DETAIL OF CONSTRUCTION  
SIGNING  
1-20

NO.	REVISION	DATE

WORKING NUMBER  
DCS-1  
SHEET NUMBER

FILENAME: DCS.DGN  
REVISOR: JEM  
CHECKED: \_\_\_\_\_  
DATE: \_\_\_\_\_

GENERAL NOTES

ALL W20-1 SIGNS SHALL BE LOCATED 500' FROM CENTER LINE OF SURVEY AND AT EACH LOCAL ROAD, STREET OR HIGHWAY ENTERING THE PROJECT. LOCATIONS OF SIGNS AND BARRICADES SHOWN ON THIS SHEET ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY TO FIT EXISTING FIELD CONDITION.

RECAP OF GUARD RAIL

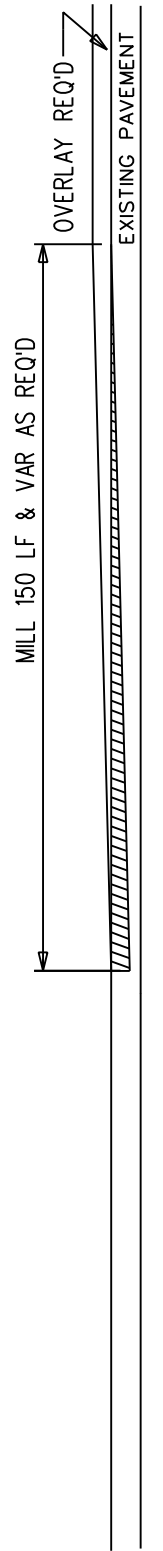
STATION	BRIDGE NUMBER	DIRECTION	GUARD RAIL REG.	TERMINAL END SECTION NONFLARED	CABLE ANCHOR TYPE 1	BRIDGE END SECTION TYPE A	SPECIAL BRIDGE CONNECTOR	THRIE RAIL	THRIE TRANSITION	DELINEATOR WHITE
625+20	117.9	NB	112.5	1		1	1			4
625+20	117.9	SB	62.5	1		1	1			3
623+39	114.7	NB	62.5	1		1	1			3
623+39	114.7	SB	112.5	1		1	1			4
620+23.5	114.7	NB	112.5	1		1	1			4
620+23.5	114.7	SB	62.5	1		1	1			3
496+85	111.1	NB	62.5	1		1	1			3
496+85	111.1	SB	112.5	1		1	1			4
495+65	111.1	NB	112.5	1		1	1			4
495+65	111.1	SB	62.5	1		1	1			3
200+94	110	NB	62.5	1		1	1			3
200+94	110	SB	112.5	1		1	1			4
200+18	110	NB	112.5	1		1	1			4
200+18	110	SB	62.5	1		1	1			3
536+50	NA	NB	42.5	1	1					3
536+50	NA	SB	42.5	1	1			50	2	3
500+50	102.5	NB	62.5	1		1	1			3
500+50	102.5	SB	112.5	1		1	1			4
498+03	102.5	NB	112.5	1		1	1			4
498+03	102.5	SB	62.5	1		1	1			3
202+20	93.1	NB	62.5	1		1	1			3
202+20	93.1	SB	112.5	1		1	1			4
201+23	93.1	NB	112.5	1		1	1			4
201+23	93.1	SB	62.5	1		1	1			3
43+85	NA	NB	162.5	1	1					
43+85	NA	SB	162.5	1	1					
7+44	84.9	NB	62.5	1		1	1			3
7+44	84.9	SB	112.5	1		1	1			4
6+24	84.9	NB	112.5	1		1	1			4
6+24	84.9	SB	62.5	1		1	1			3
		UNITS	LIN.FT.	EACH	EACH	EACH	EACH	LIN.FT.	EACH	EACH
			2685	30	4	26	26	50	2	97

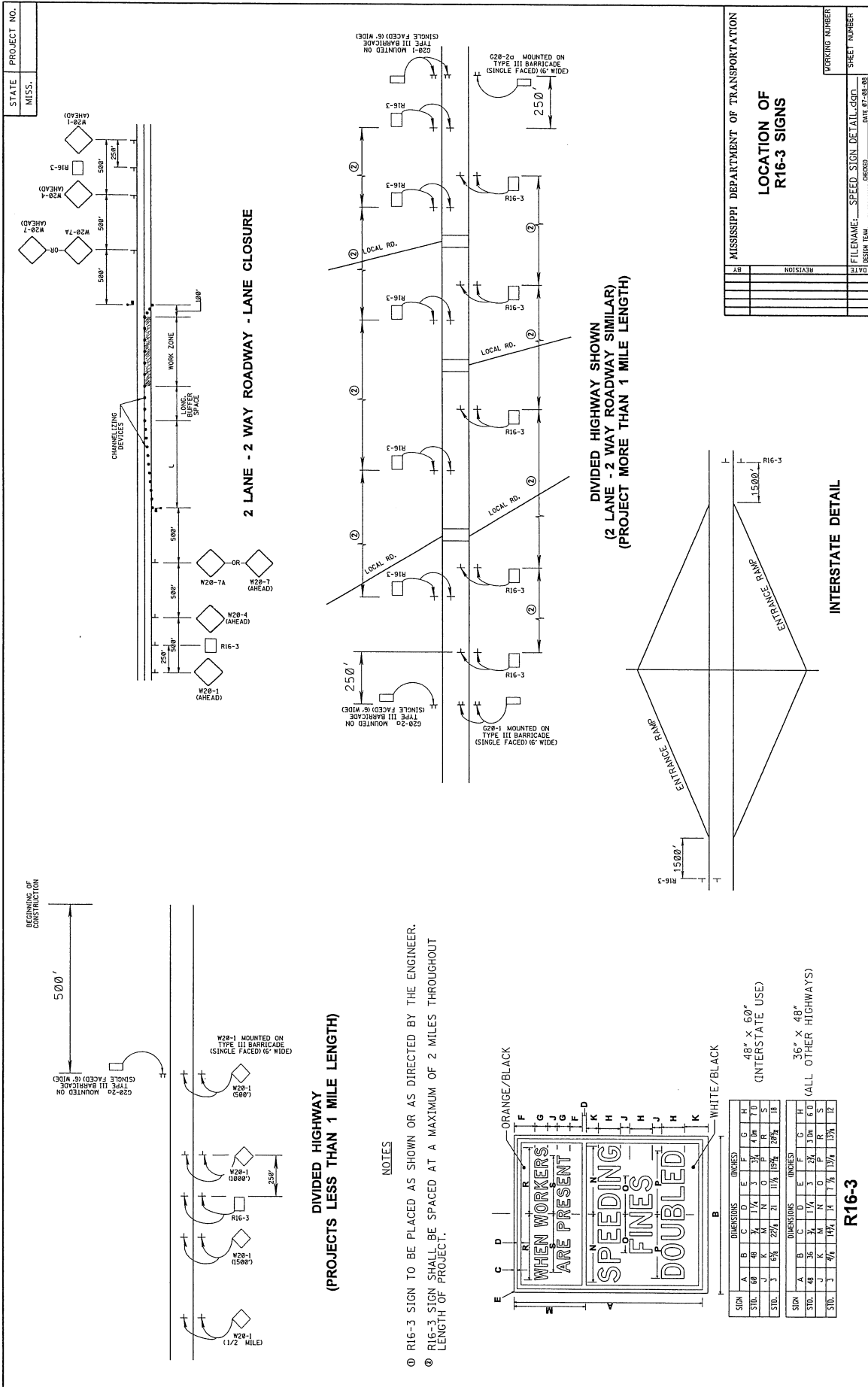
\*\*\*NOTE: GUARDRAIL QUANTITY SHALL BE VERIFIED BY CONTRACTOR\*\*\*

\*\*\*NON-FLARED TERMINAL ENDS SHALL BE EACH, BUT THE MEASURED LENGTH SHALL BE 50 L.F.\*\*\*



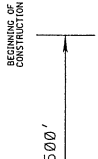
BOP and EOP Paving Detail





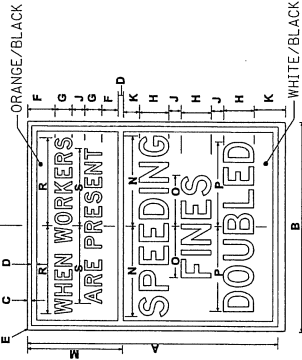
STATE	PROJECT NO.
MISS.	

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
<b>LOCATION OF R16-3 SIGNS</b>	
FILE NAME: SPEED SIGN DETAIL 400	WORKING NUMBER
DATE	SHEET NUMBER
BY	DATE PLOTTED
REVISION	



**DIVIDED HIGHWAY (PROJECTS LESS THAN 1 MILE LENGTH)**

- ① R16-3 SIGN TO BE PLACED AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- ② R16-3 SIGN SHALL BE SPACED AT A MAXIMUM OF 2 MILES THROUGHOUT LENGTH OF PROJECT.

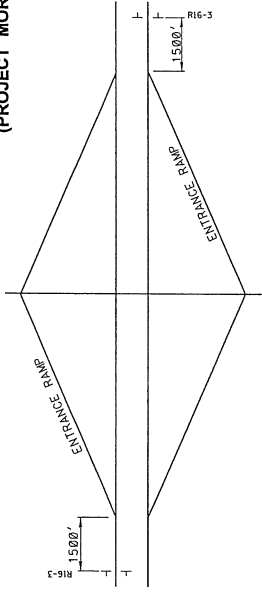


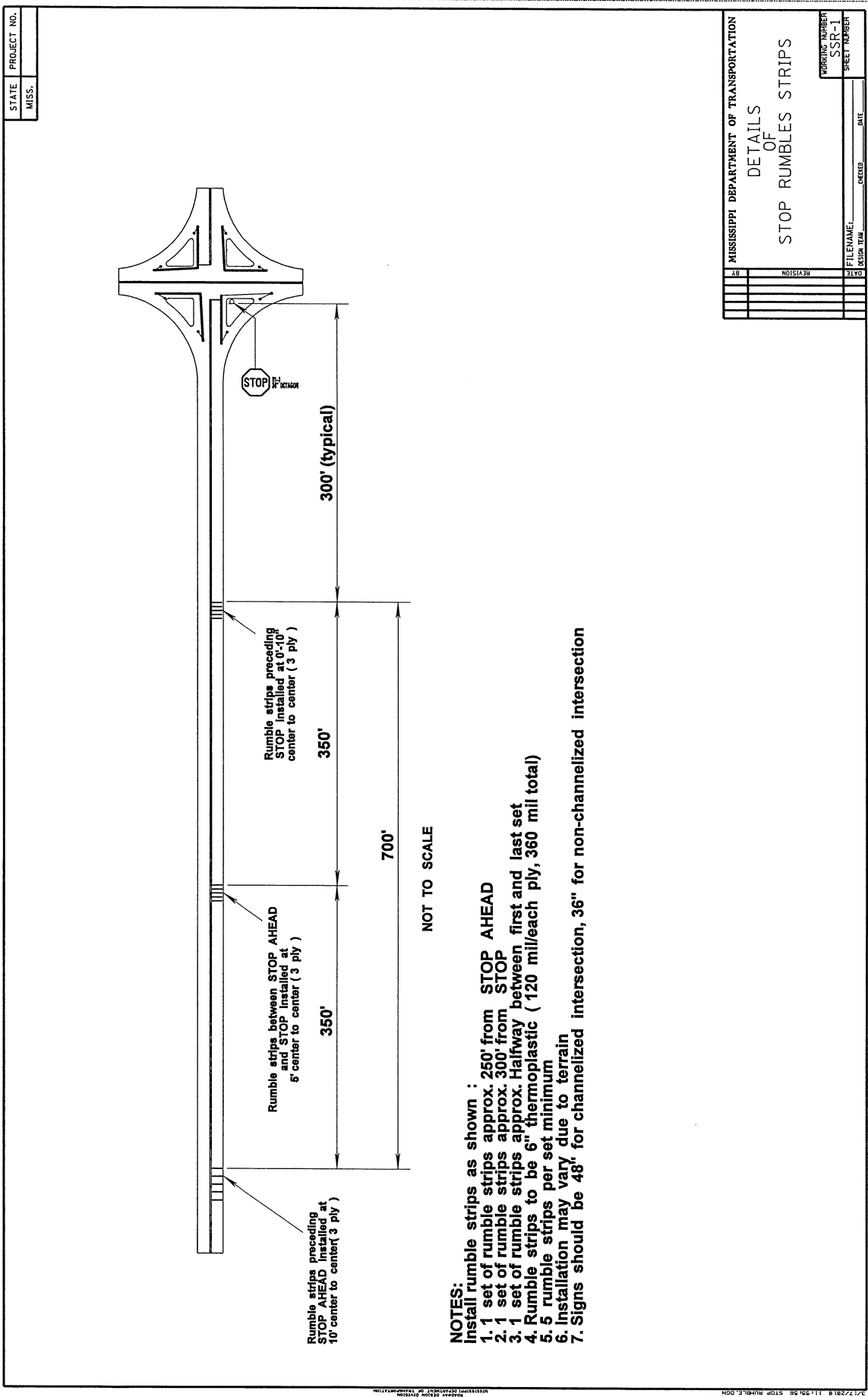
SIGN	DIMENSIONS (INCHES)											
S10	A	B	C	D	E	F	G	H	I	J	K	L
	60	48	3 1/4	3 3/4	4 1/8	7 0						
	CENTER STATE USE											
S10	A	B	C	D	E	F	G	H	I	J	K	L
	60	48	3 1/4	3 3/4	4 1/8	7 0						
	ALL OTHER HIGHWAYS											

**R16-3**

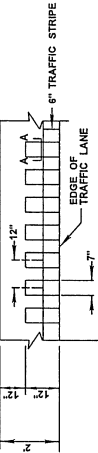
DATE	REVISION

**INTERSTATE DETAIL**

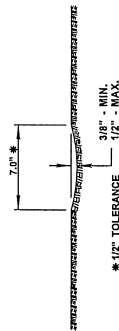




STATE	PROJECT NO.
MISS.	

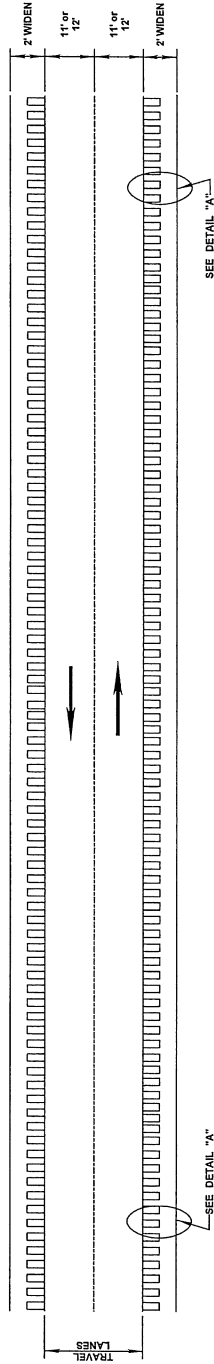


**DETAIL "A"**



**SECTION "A-A"**

- GENERAL NOTES**
- GROUND-IN RUMBLE STRIPES SHALL BE APPLIED ON LEFT AND RIGHT SHOULDERS OF ALL PAVED SHOULDERS ON THIS PROJECT
  - GROUND-IN RUMBLE STRIPES SHALL BE OMITTED ACROSS PRINCIPAL INTERSECTING ROADWAYS OR OTHER INTERRUPTIONS IN NORMAL SHOULDER WIDTH AS DIRECTED BY THE ENGINEER
  - COST TO BE PAID FOR USING APPROPRIATE PAY ITEMS
  - GROUND-IN RUMBLE STRIPES SHALL BE APPLIED TO MAINLINE ONLY.
  - DO NOT USE WHERE TRAVEL LANE IS LESS THAN 11' WIDE.

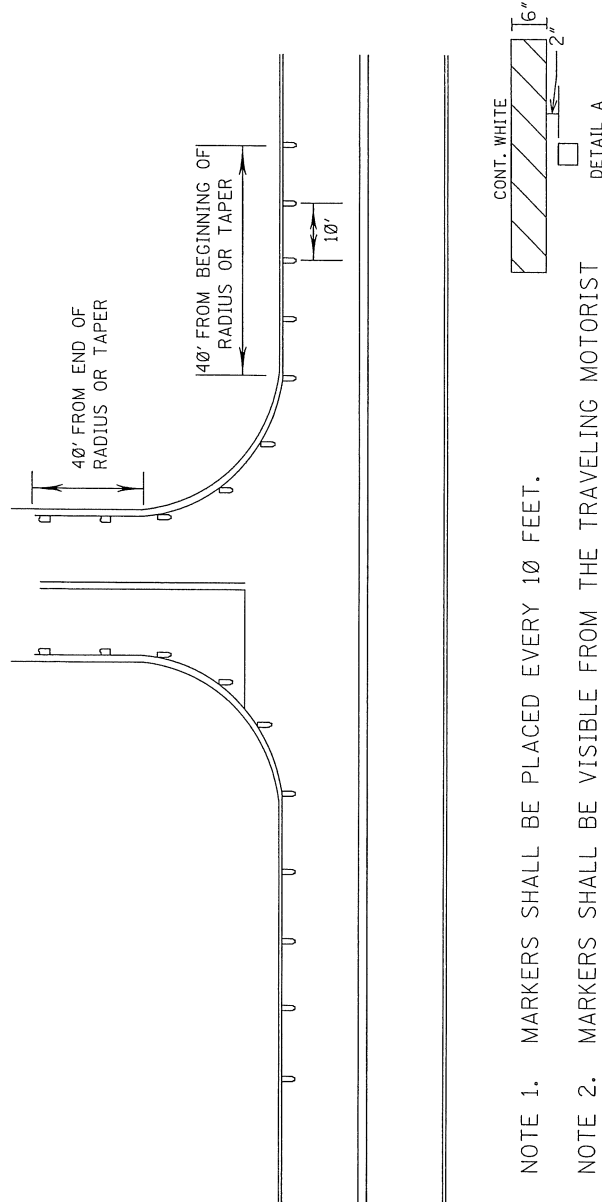


**PLAN**  
NOT TO SCALE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
SPECIAL DESIGN: RUMBLE STRIPES (GROUND-IN) 2 LANE	
PROJECT NO.:	
COUNTY :	
FILE NAME: D2L ERS.DGN	DATE
DESIGNER: TLM	CHECKED:
PAGE	
REVISION	
BY	
WORKING NUMBER D2L ERS	SHEET NUMBER

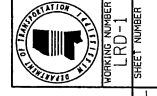
STATE	PROJECT NO.
MISS.	

TYPICAL FOR RAISED PAVEMENT MARKERS  
PLACED ON SIDE ROAD RADIUS

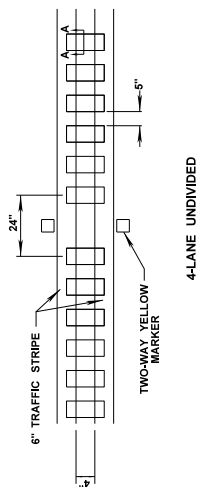
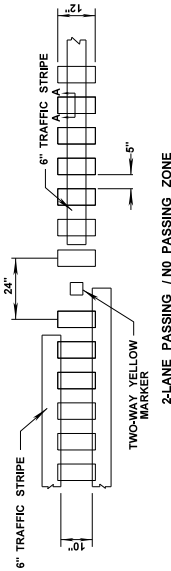


- NOTE 1. MARKERS SHALL BE PLACED EVERY 10 FEET.
- NOTE 2. MARKERS SHALL BE VISIBLE FROM THE TRAVELING MOTORIST ON STATE DESIGNATED HIGHWAYS.
- NOTE 3. MARKERS SHALL BE HIGH PERFORMANCE TWO WAY CLEAR.
- NOTE 4. FIVE (5) MARKERS SHALL BE PLACED ALONG MAINLINE EDGE STRIPE.
- NOTE 5. MARKERS FOR COUNTY ROADS SHALL CONTINUE DOWN THE EDGE STRIPE A DISTANCE OF 40 FEET.

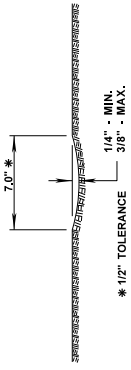
MISSISSIPPI DEPARTMENT OF TRANSPORTATION	
STRIPING DETAILS	
FOR	
LOCAL ROADS	
PROJECT NO.:	
COUNTY :	
DESIGN TEAM	PROJECT NO.
FILE NAME: LRD-1.DGN	PROJECT NO.
DATE	DATE



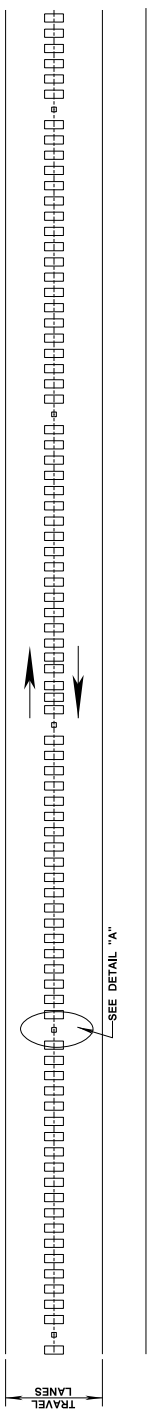
STATE	PROJECT NO.
MISS.	



**DETAIL "A"**



**SECTION "A-A"**



**PLAN**  
NOT TO SCALE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

**CENTERLINE RUMBLE STRIPS DETAIL**

PROJECT NO.:  
COUNTY:

FILE NAME: DBS-CL.DGN  
DESIGN TEAM

DATE

BY	REVISION	DATE

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

WORKING NUMBER: DBS-CL

SPEC. NUMBER: 100

# MISSISSIPPI DEPARTMENT OF TRANSPORTATION

| SPECIAL PROVISION NO. 907-626-5

CODE: (SP)

| DATE: 09/15/2004

**SUBJECT: Inverted Profile Thermoplastic Traffic Stripe**

Section 626, Thermoplastic Traffic Markings, of the 2004 Edition of the Mississippi Standard Specifications for Road and Bridge Construction as amended by this special provision is applicable for inverted profile thermoplastic traffic stripe only:

**907-626.01--Description.** Inverted profile thermoplastic pavement markings consists of furnishing materials and placing inverted profile thermoplastic pavement markings in reasonably close conformity with these specifications and the details shown on the plans or established.

Inverted profile thermoplastic pavement markings, high contract, shall consist of furnishing materials and placing inverted profile thermoplastic pavement markings over a black thermoplastic pavement marking in order to enhance the marking's visibility.

**907-626.02--Materials.**

| **907-626.02.1--General.** The inverted profile thermoplastic marking material shall consist of an alkyd/maleic or hydrocarbon based formulation. The material shall be so manufactured as to be applied to the pavement in a molten form, with internal and surface application of glass spheres, and upon cooling to normal pavement temperature, shall produce an adherent, reflectorized pavement marking of specified thickness and width, capable of resisting deformation.

Materials shall be obtained from approved sources as listed on the Department's "List of Approved Sources" for Inverted Profile Thermoplastic Pavement Marking Materials. The material shall not scorch, break down, discolor, or deteriorate when held at the application temperature for four hours or when reheated four times to the application temperature. Temperature-vs-viscosity characteristics of the plastic material shall remain constant when reheated four times, and shall be the same from batch to batch.

The thermoplastic material shall be a product especially compounded for pavement markings. The pavement markings shall maintain their original dimension and shall not smear or spread under normal traffic at temperatures below 140°F. The markings shall have a uniform cross section. Pigment shall be evenly dispersed throughout its thickness. The exposed surface shall be free from tack and shall not be slippery when wet. The material shall not lift from pavement in freezing weather. Cold ductility of the material shall be such as to permit normal movement with the pavement surface without chipping or cracking.

| Black thermoplastic compound for the placement of inverted profile thermoplastic pavement markings, high contract, shall consist of a hydrocarbon or alkyd/maleic based formulation.

The manufacturers of the thermoplastic compound, glass beads and epoxy primer sealer shall furnish to the Engineer three copies of certified test reports showing results of all tests specified herein and shall further certify that the materials meet all requirements. The Contractor shall provide the warranty as specified herein to the Engineer.

**907-626.02.2--Inverted Profile Thermoplastic Material.** The thermoplastic material shall consist of homogeneously mixed pigments, fillers, resins and glass beads, and shall be available in both white and yellow. The material shall be free from all skins, dirt, and foreign objects. Materials shall conform to AASHTO Designation: M 249 with the following modifications:

**907-626.02.2.1--Intermixed Glass Beads.** The thermoplastic material shall contain a minimum of 40 percent Class H glass beads by weight. Class H glass beads shall meet the requirements of ASTM Designation: D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +20 sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

<b><u>U. S. Standard Sieve</u></b>	<b><u>% Passing</u></b>
12	100
14	95 - 100
16	80 - 100
18	30 - 100
20	15 - 100
30	10 - 100
50	0 - 50
100	0 - 5

**907-626.02.2.2--Binder Content.** The binder content of the thermoplastic material shall be 19 percent minimum.

**907-626.02.2.3--Titanium Dioxide.** The titanium dioxide shall meet ASTM Designation: D 476, Type II, Rutile grade - 10 percent minimum titanium content.

**907-626.02.2.4--Yellow Pigment.** The yellow pigment for the yellow thermoplastic material shall be five (5) percent minimum.

**907-626.02.2.5--Specific Gravity.** The specific gravity of the thermoplastic pavement marking material shall not exceed 2.35.

**907-626.02.2.6--Flow Characteristics.**

**907-626.02.2.6.1--Flowability.** After heating the thermoplastic material for four (4) hours  $\pm$ 5 minutes at 425  $\pm$ 3°F and testing flowability, the white thermoplastic shall have a maximum



percent residue of 22 percent and the yellow thermoplastic shall have a maximum residue of 24 percent.

**907-626.02.2.6.2--Flow Resistance.** The material shall exhibit a maximum flow of 10%. The material's ability to form ribs on the markings shall be evaluated by casting a disc of material approximately 3.5 inches wide by 1.0 inch long by and 0.60 inch deep. After the material is cooled to ambient temperature, measure the exact height. The material shall then be stored at 190°F for four (4) hours. After the material is cooled to ambient temperature, re-measure the exact height and express the flow resistance as a flow percentage.

**907-626.02.2.7--Reflectivity.** The initial reflectance for the in-place marking shall have a minimum reflectance value of 450 mcd/fc/sq. ft. for white and 350 mcd/fc/sq. ft. for yellow, when measured with a Mirolux 30 retroreflectometer, or approved equal.

**907-626.02.2.8--Wet Reflectivity.** The initial reflectance for the in-place marking when wet shall have a minimum reflectance value of 200 mcd/fc/sq. ft. for white and 175 mcd/fc/sq. ft. for yellow, when measured with an approved retroreflectometer. The stripe shall be wetted utilizing a pump type sprayer for five (5) seconds. After 30 seconds, place the retroreflectometer on the stripe and measure the reflectance.

**907-626.02.2.9--Inverted Profile.** The thermoplastic pavement marking material shall be applied to have individual profiles having a minimum height of 0.140 inches with the recessed inverted profiles having a thickness of 0.025 to 0.050 inches. The profiles shall be well defined, spaced approximately one (1) inch apart, and not excessively run back together.

**907-626.02.3--Black Pavement Marking Material for High Contrast Inverted Profile Pavement Markings.**

**907-626.02.3.1--General.** In the molten state, the material shall not give off fumes that are toxic or otherwise injurious to persons or property. The manufacturer shall provide material safety data sheets for the product.

The temperature versus viscosity characteristic of the plastic material shall remain constant and the material shall not deteriorate in any manner during three reheating processes. There shall be no obvious change in color of the material as a result of up to three reheatings, or in maintaining the material at application temperature up to an aggregate time of four (4) hours, or from batch to batch. The maximum elapsed time after application at which normal traffic will leave no impression or imprint on the new stripe shall be 30 seconds when the air and road surface temperature is approximately  $68 \pm 5^\circ\text{F}$ . The applied stripe shall remain free from tack and shall not lift from the pavement under normal traffic conditions within a road temperature range of  $-20^\circ\text{F}$  to  $150^\circ\text{F}$ . The stripe shall maintain its original dimensions and placement. Cold ductility of the material shall be such as to permit normal dimensional distortion as a result of tire impact within the temperature range specified.

The material shall provide a stripe that has a uniform thickness throughout its cross section.

**907-626.02.3.2--Binder.** The binder shall be hydrocarbon or alkyd/maleic based. The binder shall consist of a homogeneous mixture of pigment, fillers, resins, waxes and plasticizers. The total binder content shall be well distributed throughout the compound. The binder shall be free from all foreign objects or ingredients that would cause bleeding, staining or discoloration. The binder shall be 19 percent minimum by weight of the thermoplastic compound.

**907-626.02.3.3--Pigment.** The pigment used for black pavement marking compound shall be as required and shall be uniformly distributed throughout the marking compound.

**907-626.02.3.4--Filler.** The filler to be incorporated with the resins shall be a white calcium carbonate, silica or any approved substitute.

**907-626.02.3.5--Specific Gravity.** The specific gravity of the marking compound shall not exceed 2.0.

**907-626.02.3.6--Softening Point.** After heating the marking compound for 4 hours  $\pm 5$  minutes at  $375 \pm 3^\circ\text{F}$  and testing in accordance with ASTM Designation: E 28, the material shall have a minimum softening point of  $180^\circ\text{F}$  as measured by the ring and ball method.

**907-626.02.3.7--Tensile Bond Strength.** After heating the marking compound for 4 hours  $\pm 5$  minutes at  $375 \pm 3^\circ\text{F}$ , the tensile bond strength shall exceed 180 psi when tested in accordance with ASTM Designation: D 4806. The material shall be applied to unprimed, sandblasted Portland cement concrete block at a thickness of 0.0625-inch and at a temperature of  $375 \pm 3^\circ\text{F}$ . The test shall be conducted at room temperature.

**907-626.02.3.8--Impact Resistance.** After heating the marking compound for 4 hours  $\pm 5$  minutes at  $375 \pm 3^\circ\text{F}$ , the impact resistance shall be a minimum of 50 inch-pounds minimum when tested in accordance with ASTM Designation: D 2794. No cracks or bond loss shall occur when a 0.0625-inch thick film drawdown is made at  $375 \pm 3^\circ\text{F}$  on an unprimed sandblasted Portland cement concrete block. The sample is tested with a male indenter  $5/8$ -inch and no female Die at room temperature.

**907-626.02.3.9--Identification.** Each package of material shall be stenciled with the manufacturer's name, the type of material and specification number, the month and year the material was packaged and lot number. The letters and numbers used in the stencils shall be a minimum of  $1/2$  inch in height.

**907-626.02.3.10--Packaging.** The material shall be packaged in suitable containers that will not adhere to the product during shipment and storage. The container of pavement marking material shall weigh approximately 50 lbs. Each container shall designate the color, type of resin, type of application and user information. The label shall warn the user that the material shall be heated in the range of  $350^\circ$  to  $425^\circ\text{F}$ .

**907-626.02.3.11--Storage Life.** The material shall meet the requirements of this specification for a period of one year. The material must also meet uniformly with no evidence of skins or

unmelted particles for this one-year period. The manufacturer shall replace any material not meeting the above requirements.

**907-626.02.3.12--Certifications.** The material manufacturer shall furnish a certified copy of material test reports to the Engineer.

**907-626.02.4--Drop-On Glass Beads.** Drop-on glass beads shall be separated into two (2) classes, as follows:

**907-626.02.4.1--Class G Glass Beads.** Class G glass beads shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2 and shall exhibit the following characteristics:

- **Color and Clarity:** The glass beads shall be colorless and clear, and shall be free of carbon residues.
- **Index of Refraction:** minimum 1.50
- **Roundness:** The glass beads shall have a minimum of 80% true spheres per screen for the two highest sieve quantities, determined visually, and a maximum of 3% angular particles per sieve, determined visually. The remaining sieves shall have a minimum of 75% true spheres, determined visually per aspect ratio using microfiche reader.
- **Air Inclusions:** 10% maximum
- **Specific Gravity:** The specific gravity of the glass beads shall be a minimum of 2.50.
- **Gradation:** The gradation of Class G glass beads shall be as follows:

<b><u>U. S. Standard Sieve</u></b>	<b><u>% Passing</u></b>
12	100
14	100 - 95
16	100 - 80
18	100 - 20
20	90 - 20
30	100 - 50
Pan	100 - 90

All Class G glass beads shall be coated with an adhesion promoting coating.

**907-626.02.4.2--Class H Glass Beads.** Class H glass beads shall meet the requirements of ASTM Designation: D 1155, and shall be coated with an adhesion promoting coating which shall also provide moisture resistance as tested by AASHTO Designation: M 247, Section 4.4.2. Class H beads shall have a minimum of 70 percent true spheres and the +20 sieve shall be tested visually.

The gradation of the Class H beads shall meet the following:

<u>U. S. Standard Sieve</u>	<u>% Passing</u>
16	99 - 100
20	75 - 100
30	55 - 95
50	10 - 35
100	0 - 5

**907-626.03--Construction Requirements.**

**907-626.03.1--Equipment.** The application equipment shall be specifically designed for placing thermoplastic material in a hot molten state on the pavement surface utilizing a pressure type application method. The thermoplastic stripe shall be formed by a die that is allowed to drag along in proximity with the pavement surface. The die is pulled forward by a special linkage that will allow it to automatically level itself as to float and remain parallel with the pavement surface. The traffic stripe shall be formed by reason that the hot thermoplastic material is forced under pressure through four sides to the die onto the pavement surface. The top of the die shall be enclosed and provide entry means for the hot molten thermoplastic material to enter the die cavity. The bottom of the die shall contain a movable door that is remote controlled so as to start or stop the flow of thermoplastic material onto the pavement surface. When the movable door is open, thermoplastic material can flow through the die and will apply a thermoplastic stripe that will be formed rearward of the advancing die. The pavement surface shall be at the bottom of the die enclosure. Thermoplastic material shall be fed to the die under pressure through flexible oil-jacketed stainless steel hoses. The thermoplastic material must be either pumped or fed from a pressure vessel to the die under pressure in order to obtain the proper adhesion with the pavement surface.

The system shall consist of a low pressure drop-on type glass bead gun, (bead coat #1). The thermoplastic die shall be oil-jacketed on four (4) sides and is formed from a single solid block of steel. The glass bead gun shall dispense glass beads onto the hot thermoplastic stripe from a height of approximately one (1) inch above the pavement surface. The point at which the glass beads strike the surface of the stripe shall be approximately three inches (3”) behind the strike point of the thermoplastic material itself. This reflective bead coat #1 shall utilize Class G glass beads as specified herein, and shall provide a surface coating of 50 percent of the thermoplastic stripe surface. Of this 50 percent stripe coverage, at least 50 percent of the beads shall be embedded to a depth of 60 percent of their diameter.

A second curtain coater, low pressure drop-on type glass bead gun capable of applying a continuous sheet or ribbon of glass beads, shall follow at an interval of approximately 10 inches behind the first bead gun. This second glass bead gun shall apply bead coat #2 which will form a continuous drop-on coat of Class H glass beads immediately in front of the profiling device. This second curtain of glass beads shall have a low impact speed so that they are not forced into the stripe under pressure.

A special rotatable wheel profiling device shall be located approximately eight (8) inches behind bead gun #2. This rotatable wheel device shall be approximately seven (7) inches in diameter and shall have a plurality of spaced projections located around its circumference. The profiling device shall be wider than the stripe being applied in order that the stripe shall be adequately covered. The projections on the rotatable profiling device shall have an angular profiling surface set at an angle to the pavement surface. The rotatable profile device shall be mounted with an automatic leveling device to the same carriage assembly as the thermoplastic gun. This is required so that a traffic stripe of accurate and uniform definition can be obtained. The inverted profile grooves shall be pressed into the hot molten thermoplastic stripe within one (1) second of the thermoplastic material application in order to insure proper bead adhesion to the stripe. Using rollers to place grooves in the traffic stripe utilizing a separate vehicle or grooves that are not pressed within one (1) second of the thermoplastic material application will not be allowed. To insure that no thermoplastic material adheres to the wheel as it rotates and profiles the stripe, a small air atomizer water jet shall apply a thin mist coat of water to the rotatable profile wheel. It is the intent of this specification that a minimum amount of water be used and that no water puddles greater than ¼ inch in diameter be allowed to accumulate on the pavement surface in proximity to the freshly placed stripe. Excess water on the pavement surface can cause bond failure of the thermoplastic material.

All parts of the thermoplastic holding tank including manifolds, hoses, pipes, dies, etc., shall be oil-jacketed to insure accurate temperature control. The thermoplastic material shall be preheated in kettles designed specifically for that purpose. Each kettle of preheated thermoplastic material shall be properly mixed and heated to the correct application temperature. The preheated material shall then be fed to the thermoplastic gun for application.

The striping machine shall contain enough glass beads and water to apply one full kettle of thermoplastic material.

**907-626.03.2--Cleaning of Pavement Surface.** Immediately before application, the areas to receive markings shall be cleaned thoroughly using equipment capable of cleaning without damaging the pavement surface. This will include, but not be limited to, all vegetation, loose soil, oils, and other debris. On areas of pavement cured with compound, the membrane shall be removed completely by "shot" blasting, sand blasting or other approved method. Striping shall follow as closely as practical after the pavement surface has been cleaned.

**907-626.03.3--Application Over Existing Striping.** Where shown on the plans or directed by the Engineer, the existing traffic stripe shall be removed by grinding or sandblasting. When placing inverted profile thermoplastic pavement markings on existing pavement that has more than one light coat (pavement not showing through stripe) of striping material, the existing stripe shall be removed to the point that 80 percent of the pavement surface is visible.

Removal of existing stripe will be paid for as a separate item of work.

Where unsatisfactory striping performed by the Contractor must be removed and replaced in accordance with these specifications, the Contractor shall use the removal method described

above. No payment will be made for removal or replacement of the Contractor's unsatisfactory striping.

**907-626.03.4--Surface Conditions.** When placing inverted profile thermoplastic pavement markings, no striping shall be permitted when the pavement surface temperature is less than 60°F. A non-contact infrared pyrometer shall be furnished by the Contractor for use by the Engineer for verification of the temperature. Striping shall not be performed when there is moisture on the pavement surface or when winds exceed 12 mph. When unseen moisture is suspected to be present, a moisture test shall be performed. The test shall be as follows:

- 1) Place a piece of roofing felt on the pavement surface.
- 2) Pour 0.5 gallon of thermoplastic material at application temperature onto the paper.
- 3) After two (2) minutes, lift the paper and inspect to see if moisture has been drawn from the pavement.
- 4) If moisture is present, striping is not to begin until the surface is moist free.

Documentation of weather and pavement conditions shall be recorded as part of completing the MDOT Inverted Profile Thermoplastic Pavement Marking Inspectors Report.

**907-626.03.5--Application.** Prior to the placement of pavement markings, the Contractor shall furnish the Engineer three copies of the manufacturer's warranty stating that the manufacturer will guarantee the pavement marking to meet the requirements of this specification.

The thermoplastic material shall be preheated and thoroughly mixed. The application temperature of the thermoplastic material shall be between 400°F and 430°F. A digital thermometer complete with a 24-inch probe shall be furnished by the Contractor for use by the Engineer for verification of the temperature.

When measured at the highest point of the profile, the cold thickness of the in-place thermoplastic stripe shall be a minimum of 0.140 inch for Inverted Profile Thermoplastic Pavement Markings. The thickness of the thermoplastic material in the bottom of the profiles shall range from 0.025 to 0.050 inch. The individual profiles shall be located transversely across the stripe at intervals of approximately one (1) inch. The bottoms of these intervals shall be between 3/32 inch and 5/16 inch wide. In order to drain water and to reflect light, it is normal for the top surface of the inverted profiles to be irregular. The application rate of thermoplastic material for Inverted Profile Thermoplastic Pavement Markings shall be a minimum of 2700± pounds per mile for a continuous 6-inch stripe.

The application rate for Class G glass beads (bead coat #1) shall be 300± pounds per mile for 6-inch continuous stripe.

The application rate for Class H glass beads (bead coat #2) shall be 300± pounds per mile for 6-inch continuous stripe.

The thickness of the striping materials shall be verified periodically (at least every 1320 feet) and any thickness more than five (5) percent under the designated thickness shall be reworked. A

consistent, uncorrected under-run will not be allowed and the Contractor will be required to install the specified minimum thickness of 0.140 inch. A wet thickness gauge and cold thickness gauge shall be furnished by the Contractor for use by the Engineer for the verification of film thickness.

When striping over existing painted stripe (one light coat), on old oxidized asphalt, on all concrete surfaces or on asphalt surfaces when ambient temperatures are below 70°F, a two component epoxy primer sealer shall be used and installed as recommended in writing by the thermoplastic material manufacturer. The epoxy primer sealer shall be EX255/EX256 as manufactured by Crown Paint Company of Oklahoma City, Oklahoma, or approved equal. The Contractor shall furnish certification of compatibility of the epoxy primer sealer to be used with the thermoplastic material supplied. If an alternate epoxy primer sealer to the EX255/EX256 is used, the Contractor shall furnish a mill analysis and proof of adequate performance of the alternate epoxy primer sealer when used with thermoplastic pavement markings.

**907-626.03.6--Inverted Profile Thermoplastic Traffic Stripe, High Contrast.** Before applying the black pavement marking material, the Contractor shall remove any dirt, glaze, grease or any other material that would reduce the adhesion of the thermoplastic to the pavement.

The pavement marking material shall be installed in a molten state by the spray method at a minimum temperature of 350°F and a maximum temperature of 425°F. Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the thermoplastic gun, maintain the material in the molten state.

The pavement marking materials shall not be applied when air and pavement surface temperatures are below 60°F or when the surface of the pavement contains any evidence of moisture.

The pavement marking material shall be applied at a thickness of not less than 0.040-inch.

The equipment used to install hot applied pavement marking material shall provide continuous mixing and agitation of the material while maintaining a minimum temperature exceeding 400°F. A strainer shall be in place between the main material reservoir and the gun to prevent accumulation and clogging. The equipment shall be constructed for easy accessibility to parts requiring cleaning and maintenance.

After the black thermoplastic pavement markings are applied, inverted profile thermoplastic markings shall be placed over the black thermoplastic pavement markings in accordance with the specifications and to the dimensions and details shown on the plans or established.

**907-626.03.7--Warranty.** The manufacturer shall warrant that the inverted profile thermoplastic markings will meet the minimum performance level of 150 mcd/fc/sq. ft. dry and 75 mcd/fc/sq. ft. wet for a period of 48 months from the date of final inspection when exposed to normal roadway conditions regardless of the average daily traffic. Failure to meet this requirement will result in the total replacement of the portion of the stripe shown to be below these minimums.

All costs of labor, material and other incidentals necessary for the replacement of unacceptable pavement markings shall be at no additional costs to the State.

Compliance will be determined by an average brightness reading over a minimum zone marking length of 300 linear feet, using an approved reflectometer. The zone of measurement referred to includes centerline stripe, edge lines and skip lines.

<b>Performance Requirements:</b>	<b>White</b>		<b>Yellow</b>	
	<u><b>Dry</b></u>	<u><b>Wet</b></u>	<u><b>Dry</b></u>	<u><b>Wet</b></u>
Initial Reflectivity, mcd/fc/sq. ft.	450	200	350	175
48-Month Retained Reflectivity	150	75	150	75

The measurement procedure for this warranty will entail a visual night inspection by a manufacturer representative and a MDOT representative to identify areas of the installation, which appear to be below the specified minimum, warranted reflectance value. All reflectance measurements for dry conditions shall be made on a clean dry surface at a minimum temperature of 40°F. All reflectance measurements for wet conditions shall be made using the setting conditions of Subsection 907-626.02.2.8 at a minimum temperature of 40°F.

Measurement intervals for installations with areas less than, or equal to, three (3) miles shall be at a minimum of three (3) check points for each zone. These check points should include the start point, approximate mid-point and the end point.

Measurement intervals for installations with areas greater than three (3) miles shall be at a minimum of three (3) check points, one at the start point, one at the end point and additional measurements spaced at 3-mile intervals between the start and end points of the area in question.

The number of measurements at each check point for each zone will be as follows:

- (A) Skip Lines: Eighteen (18) measurements, distributed over six (6) skip lines, shall be made at each check point.
- (B) Center Lines and/or Edge Lines: Eighteen (18) measurements shall be made over 300 linear feet of continuous stripe.

When taking reflectivity measurements, the value of the measurement shall be determined by averaging three measurements; one at the left edge of the stripe, one at the center of the stripe and one at the right edge of the stripe.

In addition, the reflectance values measured at each check point shall be averaged by zone to determine conformance to the minimum warranted reflective values.

**907-626.04--Method of Measurement.** Inverted profile thermoplastic traffic stripe of the type specified will be measured by the mile or by the linear foot, as indicated, from end-to-end of individual stripes. In the case of skip lines the measurement will include skips. The length used to measure centerline and edge stripes will be the horizontal length computed along the stationed



control line. Inverted profile thermoplastic detail traffic stripe will be measured by the linear foot from end-to-end of individual stripes. Measurements will be made along the surface of each stripe and will exclude skip intervals where skips are specified. Stripes more than six (6) inches in width will be converted to equivalent lengths of six-inch widths.

**907-626.05--Basis of Payment.** Inverted profile thermoplastic traffic stripe, measured as prescribed above, will be paid for at the contract unit price per mile or linear foot, as applicable, which shall be full compensation for completing the work.

Payment will be made under:

907-626-I:	6" Inverted Profile Thermoplastic Traffic Stripe, Skip White	- per linear foot or mile
907-626-J:	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous White	- per linear foot or mile
907-626-K:	6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow	- per linear foot or mile
907-626-L:	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow	- per linear foot or mile
907-626-M:	Inverted Profile Thermoplastic Detail Traffic Stripe, <u>Color</u>	- per linear foot
907-626-II:	6" Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Skip White	- per linear foot or mile
907-626-JJ:	6" Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Continuous White	- per linear foot or mile
907-626-KK:	6" Inverted Profile Thermoplastic Traffic Stripe, High Contrast Skip Yellow	- per linear foot or mile
907-626-LL:	6" Inverted Profile Thermoplastic Traffic Stripe, High Contrast, Continuous Yellow	- per linear foot or mile
907-626-MM:	Inverted Profile Thermoplastic Detail Traffic Stripe, High Contrast, <u>Color</u>	- per linear foot

Overlying approximately 24 miles of SR 27 from the Copiah County Line to the Warren County Line, and approximately 1 mile of I-20 at Norrell Road, known as Federal Aid Project No. HSIP-0054-02(023) / 105874301 & HSIP-0020-01(194) / 105874302, in the County of Hinds, 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
<b>Roadway Items</b>									
0010	202-B005		1,000	Square Yard	Removal of Asphalt Pavement, All Depths				
0020	202-B053		2,750	Linear Feet	Removal of Guard Rail Including Post, Blockouts & Hardware				
0030	202-B076		6,000	Linear Feet	Removal of Traffic Stripe				
0040	406-A001		345,845	Square Yard	Cold Milling of Bituminous Pavement, All Depths				
0050	423-A001		67	Mile	Rumble Strips, Ground In				
0060	606-B007 Changed 08/16/2010		2,685	Linear Feet	Guard Rail, Class A, Type 1, 'W' Beam, Metal Post				
0065	606-B010 Added 08/16/2010		50	Linear Feet	Guard Rail, Class A, Type 1, Thrie Beam, Metal Post				
0066	606-B017 Added 08/16/2010		2	Each	Guard Rail, Class A, Type 1, Thrie Beam, Transition Section				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0070	606-C002		4	Each	Guard Rail, Cable Anchor Type 1, Metal Post				
	Changed 08/16/2010								
0080	606-D001		26	Each	Guard Rail, Bridge End Section, Type A				
	Changed 08/16/2010								
0085	606-E003		30	Each	Guard Rail, Terminal End Section, Non-Flared				
	Added 08/16/2010								
0090	609-E001		200	Linear Feet	Bituminous Curb				
0100	618-A001		1	Lump Sum	Maintenance of Traffic	XXXXXXXX	XXX		
0110	619-A1002		47	Mile	Temporary Traffic Stripe, Continuous White				
0120	619-A2002		32	Mile	Temporary Traffic Stripe, Continuous Yellow				
0130	619-A3006		1	Mile	Temporary Traffic Stripe, Skip White				
0140	619-A4006		15	Mile	Temporary Traffic Stripe, Skip Yellow				
0150	619-A5001		1,130	Linear Feet	Temporary Traffic Stripe, Detail				
0160	619-A6001		1,680	Linear Feet	Temporary Traffic Stripe, Legend				
0170	619-C7001		2,790	Each	Two-Way Yellow Reflective High Performance Raised Marker				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0180	619-D1001		1,745	Square Feet	Standard Roadside Construction Signs, Less than 10 Square Feet				
0190	619-D2001		436	Square Feet	Standard Roadside Construction Signs, 10 Square Feet or More				
0200	619-G4001		24	Linear Feet	Barricades, Type III, Single Faced				
0210	620-A001		1	Lump Sum	Mobilization	XXXXXXXXX	XXX		
0220	627-J001		630	Each	Two-Way Clear Reflective High Performance Raised Markers				
0230	627-K001		33	Each	Red-Clear Reflective High Performance Raised Markers				
0240	627-L001		2,791	Each	Two-Way Yellow Reflective High Performance Raised Markers				
0250	630-F001 Changed 08/16/2010		97	Each	Delineators, Guard Rail, White				
0260	630-G002		24	Each	Type 3 Object Markers, OM-3R or OM-3L, Post Mounted				
0270	907-304-A001 (GY)		6,660	Cubic Yard	Granular Material, LVM, Class 5, Group C				
0275	907-403-S002 Added 08/16/2010		24	Mile	Joint Sealant for HMA				
0280	907-407-A001 (A2)		48,845	Gallon	Asphalt for Tack Coat				

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0286	907-606-PP002		26	Each	Guard Rail, Bridge Connector, Per Plans				
	Added 08/16/2010								
0290	907-626-A006		1,300	Linear Feet	6" Thermoplastic Double Drop Traffic Stripe, Skip White				
0300	907-626-C004		46	Mile	6" Thermoplastic Edge Stripe, Continuous White				
0310	907-626-C005		1,300	Linear Feet	6" Thermoplastic Double Drop Edge Stripe, Continuous White, 90 mil min				
0320	907-626-D003		15	Mile	6" Thermoplastic Traffic Stripe, Skip Yellow				
0330	907-626-E004		31	Mile	6" Thermoplastic Traffic Stripe, Continuous Yellow				
0340	907-626-F007		1,300	Linear Feet	6" Thermoplastic Double Drop Edge Stripe, Continuous Yellow, 90 mil min				
0350	907-626-G004		6,800	Linear Feet	Thermoplastic Detail Stripe, White				
0360	907-626-H004		1,480	Linear Feet	Thermoplastic Legend, White				
0370	907-626-H005		840	Square Feet	Thermoplastic Legend, White				
<b>ALTERNATE GROUP AA NUMBER 1</b>									
0380	907-403-A011 (BA1)					XXXXXXXXXX	XXX	XXXXXXXXXX	XXX
	Deleted 08/16/2010								

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0390	907-403-A015	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0400	907-403-B001	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0405	907-403-E001	(BA1)	1,170	Ton	Hot Mix Asphalt, HT, 12.5-mm mixture, Polymer Modified, Leveling				
Added 08/16/2010									
0410	907-403-D001	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0415	907-403-D001	(BA1)	48,200	Ton	Hot Mix Asphalt, HT, 12.5-mm mixture, Polymer Modified				
Changed 08/16/2010									
0420	907-403-D004	(BA1)	440	Ton	Hot Mix Asphalt, HT, 9.5-mm mixture, Polymer Modified				
Changed 08/16/2010									
<b>ALTERNATE GROUP AA NUMBER 2</b>									
0430	907-403-M001	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0440	907-403-M003	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0450	907-403-N006	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
Deleted 08/16/2010									
0455	907-403-Q002	(BA1)	1,170	Ton	Warm Mix Asphalt, HT, 12.5-mm mixture, Polymer Modified, Leveling				
Added 08/16/2010									
0460	907-403-P001	(BA1)	440	Ton	Warm Mix Asphalt, HT, 9.5-mm mixture, Polymer Modified				
Changed 08/16/2010									

Line No.	Item Code	Adj Code	Quantity	Units	Description	Unit Price		Bid Amount	
0470	907-403-P002	(BA1)				XXXXXXXX	XXX	XXXXXXXX	XXX
	Deleted 08/16/2010								
0475	907-403-P002	(BA1)	48,200	Ton	Warm Mix Asphalt, HT, 12.5-mm mixture, Polymer Modified				
	Changed 08/16/2010								
<b>ALTERNATE GROUP BB NUMBER 1</b>									
0480	628-I002		3,000	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Skip White				
0490	628-L002		500	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Skip Yellow				
0500	628-M002		2,500	Linear Feet	6" High Performance Cold Plastic Traffic Stripe, Continuous Yellow				
<b>ALTERNATE GROUP BB NUMBER 2</b>									
0510	907-626-I003		3,000	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Skip White				
0520	907-626-K003		500	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Skip Yellow				
0530	907-626-L001		2,500	Linear Feet	6" Inverted Profile Thermoplastic Traffic Stripe, Continuous Yellow				

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

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

\*\*\* DBE/WBE SECTION \*\*\*

Complete item nos. 1, 2, and/or 3 as appropriate. See Notice to Bidders addressing Disadvantaged Business Enterprises in Highway Construction.

1. I/We agree that no less than \_\_\_\_\_ percent shall be expended with small business concerns owned and controlled by socially and economically disadvantaged individuals (DBE and WBE).
2. Classification of Bidder: Small Business (DBE)\_\_\_\_\_ Small Business (WBE)\_\_\_\_\_
3. A joint venture with a Small Business (DBE/WBE): \_\_\_\_\_

\*\*\* 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