

CALHOUN COUNTY ROAD DEPARTMENT

# 3 Mile Road Reconstruction

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From M-66 to S Drive S

Athens Township, Calhoun County



### Schedule of Items

<u>Pay Item Code</u>	<u>Item Description</u>	<u>Units</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1500001	Mobilization, Max	LSUM	1		
2050006	Ditch Cleanout	Sta	72		
2090001	Project Cleanup	LSUM	1		
3020001	Aggregate Base	Ton	2300		
3050002	HMA Base Crushing and Shaping	Syd	8802		
3070021	Approach, Cl II - Modified	Ton	25		
3070200	Trenching	Sta	72		
5010033	HMA, 13A	Ton	2520		
8110231	Pavt Mrkg, Waterborne, 4 inch, White	Ft	7202		
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	Ft	7202		
8120022	Barricade, Type III, High Intensity, Lighted, Furn	Ea	4		
8120023	Barricade, Type III, High Intensity, Lighted, Oper	Ea	4		
8120140	Lighted Arrow, Type C, Furn	Ea	2		
8120141	Lighted Arrow, Type C, Oper	Ea	2		
8120170	Minor Traf Devices	LSUM	1		
8120250	Plastic Drum, High Intensity, Furn	Ea	50		
8120251	Plastic Drum, High Intensity, Oper	Ea	50		
8120350	Sign, Type B, Temp, Prismatic, Furn	Sft	150		
8120351	Sign, Type B, Temp, Prismatic, Oper	Sft	150		
8120370	Traf Regulator Control	LSUM	1		
		<b>Total Cost:</b>			

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**Invitation for Bids  
for  
3 Mile Road Reconstruction  
from M-66 to S Drive S  
Athens Township, Calhoun County**

Sealed bids will be received by the Calhoun County Road Department at their offices on 13300 15 Mile Road, Marshall, MI until 12:00 p.m. on Friday, October 14, 2016. All bids must be sealed and marked:

**“3 Mile Road Reconstruction”**

The right is reserved to reject any or all bids and to make the award in the best interest of Calhoun County and the Calhoun County Road Department.

## **General Provisions & Instructions**

### **Scope of Work**

The work covered by this proposal consists of trenching the shoulders, crushing and shaping the existing HMA surface, reconstructing the roadway profile, including paving shoulders, restoring disturbed areas along 3 Mile Road, and placement of embankment as needed.

All work shall be performed in accordance with the Michigan Department of Transportation's (MDOT) 2012 Standard Specifications for Construction or as modified by these General Provisions & Instructions.

### **Special Requirements**

1. **Persons wishing to submit a bid on this project shall be on the Michigan Department of Transportation prequalified bidders list.** Bid sheets should be submitted to the Calhoun County Road Department. After the bid opening, a decision will be made to pursue what is in the best interest of the Calhoun County Road Department and the County of Calhoun.
2. In accordance with section 107.10 of the MDOT 2012 Standard Specifications for Construction, the contractor shall submit all necessary copies of insurance certificates to the Calhoun County Road Department prior to starting work.
3. A preconstruction meeting will be held to finalize a progress schedule and to determine execution-administration of the contract. Work on the project shall begin on or about October 19, 2016 or on a date agreeable to the Calhoun County Road Department and the County of Calhoun. The completion date for all work shall be November 15, 2016. Failure of the contractor to complete the work within the contract time will result in assessment of liquidated damages in accordance with Section 108.10 of MDOT 2012 Standard Specifications for Construction. Liquidated damages will be deducted from contractor payments.
4. This project is subject to the terms of the 1931 Davis-Bacon Act, which requires the payment of prevailing wage rates to all laborers and mechanics on Federal or Federally assisted construction contracts (see Appendix A for Davis-Bacon Wage Rates for Calhoun County, MI). Payroll shall be submitted to the Calhoun County Road Department (Kristine Parsons, P.E.).
5. Payment: The contractor shall submit invoices for completed contract items to the Calhoun County Road Department (Kristine Parsons, P.E.). The invoice will be processed and payment for approved contract items will be made within thirty (30) calendar days or less of receiving the invoice.
6. The contractor shall furnish a statement to the Calhoun County Road Department certifying that all subcontractors and suppliers that furnished labor, equipment, and materials for the project have been paid before the final payment on the contract is made.

## **Questions/Additional Information**

Questions regarding this project should be directed to:

Kristine Parsons, P.E.  
Senior Civil Engineer  
Calhoun County Road Department  
13300 15 Mile Road  
Marshall, MI 49068  
(269) 781-0038  
[kparsons@calhouncountymi.gov](mailto:kparsons@calhouncountymi.gov)

## **NHBP Job Bank Employment**

### **A. Number of Workers and Job Classification**

The Tribe requires this Project to employ a minimum of two (2) NHBP Job Bank Members who shall be employed as *Traffic Control (Flagger)* or a trade suitable to the skills of the worker.

### **B. Type of Employment**

NHBP Job Bank Members shall be employed  $\frac{3}{4}$  to full-time by the Contractor and compensated payroll expenses relating to their employment. These expenses shall include wages, benefits, payroll taxes, and social security contributions. Other expenses relating to the immediate training of the Job Bank Workers, wages for trainers, equipment, educational materials, etc. shall not be drawn from this allowance.

### **C. Funding**

The Tribe shall provide an allowance for "Job Bank Employment" and shall reimburse actual expenses as documented via certified payroll.

### **D. Employment Discipline/Termination**

If circumstances arise outside the control of the Contractor which prevent or hinder the implementation of this employment, the Contractor shall notify the Owner immediately so that adjustments to the employment plan can be arranged which are mutually acceptable to both parties. These circumstances shall include, but not be limited to the following:

1. Job Bank Employee failing to adhere to the Contractor or Subcontractor's standard employment practices.
2. Termination of subcontract with Subcontractor scheduled to provide employment.
3. Job Bank Employee resigning from position and NHBP Job Bank.



### **Bonding**

Performance and payment bonds with penal amounts equal to **100%** and **50%**, respectively, of the amount of the contract are required by law when the bid exceeds \$25,000. Such bonds are not required if all work performed under this contract is solely performed by the Tribe, or public non-profit corporations serving as a government instrumentality of the Tribe. Proof of public non-profit corporate status must be furnished to, and be satisfactory to, the Awarding Official. All subcontractors performing work under this contract are subject to bonding requirements. A **bid bond of 20%** is required, and performance and payment bonds are required with penal amounts equal to 100% and 50%, respectively, of the amount of the contract. Bonds are to be made payable to the Contractor. Corporate sureties offered for bonds furnished with this contract must be original documents and must appear on the list contained in the Department of Treasury Circular 570, entitled "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and Acceptable Reinsuring Companies".

- A. **Bid Bond:** 20% of amount of contract
  
- B. **Performance Bond:** 100% of amount of contract
  
- C. **Payment Bond:** 50% of amount of contract

### **Progress Clause**

Start work on October 19, 2016, or on the date agreed upon with the Engineer. In no case shall any work be commenced prior to receipt of formal notice of award by the Department.

### **Completion Dates:**

The Project shall be completed in its entirety, including final site restoration and clean-up, on or before November 15, 2016.

The Low Bidder for the work covered by this proposal will be required to prepare and submit a progress schedule to the Engineer within seven (7) calendar days of confirmation of the low bid. The progress schedule must be approved by the Project Engineer in order for the contractor to receive contract award. Lack of timely submittal by the contractor will delay contract award per subsection 102.15 of the Standard Specifications for Construction.

The Progress Schedule shall include, as a minimum, the controlling work items for the completion of the project and the planned dates that these work items will be controlling operations. When specified in the bidding proposal, the date the project is to be opened to traffic, as well as the final project completion date, shall also be included in the Project Schedule.

If the bidding proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

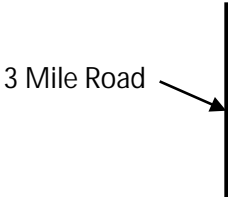
The Project Engineer will arrange the time and place for the preconstruction meeting after contract award.

The named subcontractor(s) for Designated and/or Specialty Items, as shown in the proposal, is recommended to be at the preconstruction meeting if such items materially affect the work schedule.

Liquidated Damages shall be assessed in accordance with Section 108.10 of the 2012 Standard Specifications for Construction.

# CALHOUN COUNTY ROAD DEPARTMENT

## 3 MILE ROAD RECONSTRUCTION ATHENS TOWNSHIP



**GENERALNOTES:**

- 1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION'S 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- 2. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED AND OPERATED IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SECTION 812 OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

**PROJECT DESCRIPTION:**

3 Mile Road Reconstruction from M-66 to S Drive South

October 3, 2016

ANGELA KLINE, P.E.  
Director of Engineering

## Project Log

### **Project Location**

This project begins at the intersection of 3 Mile Road and M-66 at STA 0+00 and proceeds north along 3 Mile Road, ending at station 36+01 or S Drive S. The project length is approximately 0.7 mile.

The Engineer will establish the location for all items of work.

### **Description of Work**

The project provides for approximately 0.7 mile of HMA Base Crushing and Shaping and HMA Resurfacing from the north spring point of the intersection of M-66 and 3 Mile Road and continues north to the edge of pavement of the intersection of 3 Mile Road and S Drive S intersection. There are approximately 11 driveways within the limits of the project (6 gravel, 3 asphalt, & 2 concrete). All gravel driveways will be re-graveled with 21AA to no more than 10-feet from the edge of road, paid for by Approach CI II, Modified. All asphalt & concrete driveways shall be saw cut and removed for a distance of no more than 10-feet and then will be tied back in to the existing roadway using HMA during paving operations. This work will be paid for by HMA, 13A.

From Sta. 0+00 to Sta. 36+01, the existing gravel shoulder shall be trenched 3-feet wide and 3-inches deep to remove top soil and/or vegetation prior to HMA Base Crushing and Shaping. This will be paid for by Trenching. Trenched material shall be used to stabilize the embankment behind the 3-foot paved shoulder and should be graded to provide positive drainage to the ditch line or toe of slope. This will be paid for as Trenching.

From Sta. 0+00 to Sta. 36+01, the existing ditches may need to be cleaned to maintain drainage. This will be paid for by Ditch Cleanout.

From Sta. 0+00 to Sta. 36+01, the existing road shall be crushed and shaped over the entire width of the roadway and the 3-foot wide trenched shoulders. This will be paid for as HMA Base Crushing and Shaping. Four (4) inches of additional material (22A) will be added to the roadway prior to HMA Base Crushing and Shaping. This will be paid for as Aggregate Base.

### **SURFACING ITEMS**

**Station 0+00 to Station 36+01:** Items of work are to be placed in accordance with the typical cross sections and as directed by the Engineer.

HMA, 13A	2520 Ton
HMA Base Crushing and Shaping	8,802 Syd
Trenching	72.0 Sta
Aggregate Base	2300 Ton
Approach CI II, Modified	25 Ton
Ditch Cleanout	72.0 Sta
Project Cleanup	1 LS
Mobilization, Max.	1 LS

### **MAINTENANCE OF TRAFFIC**

Maintain traffic in accordance with special provision for traffic control and as directed by the Engineer.

Lighted Arrow, Type C, Furn	2 Ea
Lighted Arrow, Type C, Oper	2 Ea

Plastic Drum, High Intensity, Furn	50 Ea
Plastic Drum, High Intensity, Oper	50 Ea
Minor Traf Devices	1 LSUM
Sign, Type B, Temp, Prismatic, Furn	150 Sft
Sign, Type B, Temp, Prismatic, Oper	150 Sft
Barricade, Type III, High Intensity, Lighted, Furn	4 Ea
Barricade, Type III, High Intensity, Lighted, Oper	4 Ea
Traf Regulator Control	1 Ea

**PAVEMENT MARKINGS**

Place solid white edge lines, 10-ft off center, the entire length. Match the existing pavement markings from Sta. 0+00 to Sta. 36+01.

Pavt Mrkg, Waterborne, 4 inch, White	7202 Ft
Pavt Mrkg, Waterborne, 4 inch, Yellow	7202 Ft

**Project Log**

1. Contractor will install all necessary traffic control items for road closure.
2. The entire scope of work includes trenching of the roadway shoulders, clean out of roadside ditches/toes of slope, crushing & shaping of the existing HMA surface, reconstruction of the roadway profile to provide adequate drainage & sight distance, paving the shoulders, restoring disturbed areas, and placement of embankment as needed.
3. Construction methods, including material testing and density requirements, shall be met according to MDOT 2012 Standard Specifications for Construction.

### **Utility Coordination**

The contractor shall cooperate with & coordinate construction activities with the owners of utilities as stated in Section 104.08 of the 2012 MDOT Standard Specifications for Construction. Contractor delay claims resulting from a utility will be determined based upon Section 109.05 of the MDOT Standard Specifications for Construction.

For protection of underground utilities and in conformance with Public Act 53, the contractor shall dial 1-800-482-7171 a minimum of three full working days, excluding Saturdays, Sundays and holidays, prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "MISS DIG" alert system.

The following public utilities have facilities located within the right-of-way:

#### **Natural Gas**

SEMCO Energy  
15851 Helmer Rd S  
Battle Creek, MI 49015  
Julie Conant – [julie.conant@semcoenergy.com](mailto:julie.conant@semcoenergy.com)  
(269) 966-0404

#### **Telephone**

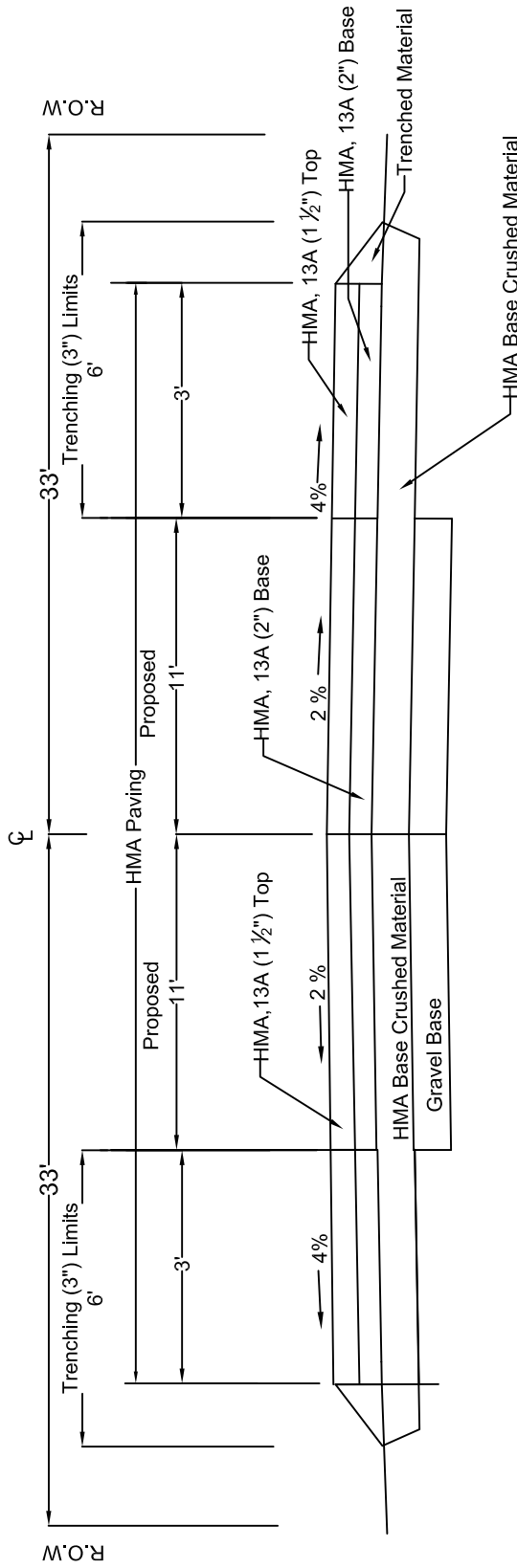
AT&T  
2919 Millcork St., Room 101  
Kalamazoo, MI 49001  
Jeff Saylor – [js9268@att.com](mailto:js9268@att.com)  
(269) 384-4490

#### **Electric**

Consumers Energy  
311 E. Michigan Ave.  
Battle Creek, MI 49014  
Lisa Zyonse – [lisa.zyonse@cmsenergy.com](mailto:lisa.zyonse@cmsenergy.com)  
(269) 969-8595

The owners of existing service facilities that are within grading or structure limits will move them to locations designated by the Engineer or will remove them entirely from the roadway right-of-way. Owners of public utilities will not be required by the CCRD to more additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structure constitute a hard to the public or are extraordinarily dangerous to the Contractor's operations.





Typical Section  
P.O.B. 0+00 to P.O.E 36+01

HMA Application Table

Item	Rate	AWI	Performance Grade
Base	HMA, 13A	220 lb./Syd.	PG 58-28
Top	HMA, 13A	165 lb./Syd.	PG 58-28
Approach	HMA Approach (13A)	330 lb./Syd.	PG 58-28
*HMA Bond Coat 0.05-0.15 gal/syd (information only, Not bid item) *The AWI for the resurface shall be 260.			







## Schedule of Items (Itemized Bid Sheet)

**Letting Date:** Friday, October 14, 2016 12:00 PM

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**Contract ID:** 3 Mile Road  
**Location:** 3 Mile Road, Athens Township from M-66 to S Drive South  
**Description:** Crush & Shape

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**Project Number:** 3 Mile Road  
**Estimate Number:** 1  
**Project Type:** Miscellaneous  
**Location:** M-66  
S Drive South  
**Description:** Crush and shape

**Project Engineer:** Kristine Parsons  
**Date Created:** 8/18/2016  
**Fed/State #:**  
**Fed Item:**  
**Control Section:**

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**Instructions to Bidders:** IMPORTANT NOTICE:  
If the proposal establishes a maximum price for any of the following work items, and if you bid a price higher than that maximum price, your bid will be considered to have quoted the maximum price and your bid total will be adjusted to reflect that maximum price.

If the proposal provides a specified price for any of the following work items, and if you bid a price higher or lower than that specified price, your bid will be adjusted to reflect that specified price.

If your bid is the lowest accepted bid, and if you refuse to accept the award of the contract due to the change in what you quoted as a maximum or specified price, you will forfeit your proposal guaranty.



Pay Item	Description	Quantity	Units	Unit Price		Bid Amount	
				Dollars	Cts	Dollars	Cts
1500001	Mobili ation, Max	1	LSUM				
2050006	Ditch Cleanout	72	Sta				
2090001	Project Cleanup	1	LSUM				
3020001	Aggregate Base	2,300	Ton				
3050002	HMA Base Crushing and Shaping	8,802	Syd				
3070021	Approach, CI II Modified	25	Ton				
3070200	Trenching	72	Sta				
5010033	HMA, 13A	2,520	Ton				
8110231	Pavt Mrkg, Waterborne, 4 inch, White	7,202	Ft				
8110232	Pavt Mrkg, Waterborne, 4 inch, Yellow	7,202	Ft				
8120022	Barricade, Type III, High Intensity, Lighted, Furn	4	Ea				
8120023	Barricade, Type III, High Intensity, Lighted, Oper	4	Ea				
8120140	Lighted Arrow, Type C, Furn	2	Ea				
8120141	Lighted Arrow, Type C, Oper	2	Ea				
8120170	Minor Traf Devices	1	LSUM				
8120250	Plastic Drum, High Intensity, Furn	50	Ea				
8120251	Plastic Drum, High Intensity, Oper	50	Ea				
8120350	Sign, Type B, Temp, Prismatic, Furn	150	Sft				
8120351	Sign, Type B, Temp, Prismatic, Oper	150	Sft				
8120370	Traf Regulator Control	1	LSUM				

Pay Item	Description	Quantity	Units	Unit Price		Bid Amount		
				Dollars	Cts	Dollars	Cts	
<b>Total Bid:</b>								

**Contractor:** \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

# Special Provisions

- Maintaining Traffic
- Recycled Hot Mix Asphalt Mixture on Local Agency Projects
- Acceptance of Hot Mix Asphalt Mixture on Local Agency Projects









MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS**

CFS:KPK

1 of 2

APPR:JWB:CJB:03-13-14  
FHWA:APPR:03-13-14

**Add the following subsection to subsection 501.02.A.2, on page 234 of the Standard Specifications for Construction.**

- c. **Reclaimed Asphalt Pavement (RAP) and Binder Grade Selection.** The method for determining the binder grade in HMA mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to HMA mixtures with the following exception: Superpave mixture types E3, E3 High Stress, E10, E10 High Stress, E30, E30 High Stress, E50, and E50 High Stress used as leveling or top course must be limited to a maximum of 27 percent RAP binder by weight of the total binder in the mixture.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures in accordance with contract.

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.
- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

The required asphalt binder grade must be at least one grade lower for the low temperature than the design binder grade required for the specified project mixture type. Lowering the high temperature of the binder one grade is optional. For example, if the design binder grade for the mixture type is PG 58-22, the required grade for the binder in the HMA mixture containing RAP would be a PG 52-28 or a PG 58-28.

For Marshall Mixes, no binder grade change will be required when Average Daily Traffic (ADT) is above 7000 or Commercial Average Daily Traffic (CADT) is above 700. No binder grade change will occur for LVSP, E03 and E1 mixtures used as leveling or top course.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. Supply the blending chart and the RAP test data used in determining the binder selection according to *AASHTO M 323*.

- **Tier 3 ( $\geq$  28% RAP binder by weight of the total binder in the mixture).** The binder

grade for the asphalt binder is selected using a blending chart for high and low temperatures per *AASHTO M 323*. Supply the blending chart and the RAP test data used in determining the binder selection.

MICHIGAN  
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION  
FOR  
**ACCEPTANCE OF HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS**

CFS:KPK

1 of 7

APPR:CJB:JWB:07-05-16  
FHWA:APPR:07-05-16

**a. Description.** This special provision provides sampling and testing requirements for local agency projects using the roller method and the nuclear density gauge testing. Provide the hot mix asphalt (HMA) mixture in accordance with the requirements of the standard specifications, except where modified herein.

**b. Materials.** Provide aggregates, mineral filler (if required), and asphalt binder to produce a mixture proportioned within the master gradation limits shown in the contract, and meeting the uniformity tolerance limits in Table 1.

**Table 1: Uniformity Tolerance Limits for HMA Mixtures**

Parameter		Top and Leveling Course		Base Course		
Number	Description	Range 1 (a)	Range 2	Range 1 (a)	Range 2	
1	% Binder Content	-0.30 to +0.40	±0.50	-0.30 to +0.40	±0.50	
2	% Passing	# 8 and Larger Sieves	±5.0	±8.0	±7.0	±9.0
		# 30 Sieve	±4.0	±6.0	±6.0	±9.0
		# 200 Sieve	±1.0	±2.0	±2.0	±3.0
3	Crushed Particle Content (b)	Below 10%	Below 15%	Below 10%	Below 15%	
<p>a. This range allows for normal mixture and testing variations. The mixture must be proportioned to test as closely as possible to the Job-Mix-Formula (JMF).</p> <p>b. Deviation from JMF.</p>						

Parameter number 2 as shown in Table 1 is aggregate gradation. Each sieve will be evaluated on one of the three gradation tolerance categories. If more than one sieve is exceeding Range 1 or Range 2 tolerances, only the one with the largest exceedance will be counted as the gradation parameter.

The master gradation should be maintained throughout production; however, price adjustments will be based on Table 1. Aggregates which are to be used in plant-mixed HMA mixtures must not contain topsoil, clay, or loam.

**c. Construction.** Submit a Mix Design and a JMF to the Engineer. Do not begin production and placement of the HMA until receipt of the Engineer's approval of the JMF. Maintain the binder content, aggregate gradation, and the crushed particle content of the HMA mixture within the Range 1 uniformity tolerance limits in Table 1. For mixtures meeting the definition of top or leveling course, field regress air void content to 3.5 percent with liquid asphalt cement unless

specified otherwise on HMA application estimate. For mixtures meeting the definition of base course, field regress air void content to 3.0 percent with liquid asphalt cement unless specified otherwise on HMA application estimate.

Ensure all persons performing Quality Control (QC) and Quality Assurance (QA) HMA field sampling are "Local Agency HMA Sampling Qualified" samplers. At the Pre-Production or Pre-Construction meeting, the Engineer will determine the method of sampling to be used. Ensure all sampling is done in accordance with *MTM 313 (Sampling HMA Paving Mixtures)* or *MTM 324 (Sampling HMA Paving Mixtures Behind the Paver)*. Samples are to be taken from separate hauling loads.

For production/mainline type paving, obtain a minimum of two samples, each being 20,000 grams, each day of production, for each mix type. The Engineer will sample and maintain possession of the sample. Sampling from the paver hopper is prohibited. Each sample will be divided into two 10,000 gram parts with one part being for initial testing and the other part being held for possible dispute resolution testing. Obtain a minimum of three samples for each mix type regardless of the number of days of production.

Obtain samples that are representative of the day's paving. Sample collection is to be spaced throughout the planned tonnage. One sample will be obtained in the first half of the tonnage and the second sample will be obtained in the second half of the tonnage. If planned paving is reduced or suspended, when paving resumes, the remaining sampling must be representative of the original intended sampling timing.

Ensure all persons performing testing are Bit Level One certified or Bit QA/QC Technician certified.

Ensure daily test samples are obtained, except, if the first test results show that the HMA mixture is in specification, the Engineer has the option of not testing additional samples from that day.

At the Pre-Production or Pre-Construction meeting, the Engineer and Contractor will collectively determine the test method for measuring asphalt content (AC) using *MTM 319 (Determination of Asphalt Content from Asphalt Paving Mixtures by the Ignition Method)* or *MTM 325 (Quantitative Extraction of Bitumen from HMA Paving Mixtures)*. Back calculation will not be allowed for determining asphalt content.

Ensure all labs performing local agency acceptance testing are qualified labs per the *HMA Production Manual* and participate in the MDOT round robin process, or they must be *AASHTO Materials Reference Laboratory (AMRL)* accredited for *AASHTO T 30* or *T 27*, and *AASHTO T 164* or *T 308*. Ensure on non-National Highway System (NHS) routes, Contractor labs are made available, and may be used, but they must be qualified labs as previously stated. Contractor labs may not be used on NHS routes. Material acceptance testing will be completed by the Engineer within 14 calendar days, except holidays and Sundays, for projects with less than 5,000 tons (plan quantity) of HMA and within 7 calendars days, except holidays and Sundays, for projects with 5,000 tons (plan quantity) or more of HMA, after the Engineer has obtained the samples. QA test results will be provided to the Contractor after the Engineer receives the QC test results. Failure on the part of the Engineer or the laboratory to provide Quality Assurance test results within the specified time frame does not relieve the Contractor of their responsibility to provide an asphalt mix within specifications.

The correlation procedure for ignition oven will be established as follows. Asphalt binder content based on ignition method from MTM 319. Gradation (*ASTM D 5444*) and Crushed particle content (*MTM 117*) based on aggregate from *MTM 319*. The incineration temperature will be established at the Pre-Production Meeting. The Contractor will provide a laboratory mixture sample to the acceptance laboratory to establish the correction factor for each mix. Ensure this sample is provided to the Engineer a minimum of 14 calendar days prior to production.

For production/mainline type paving, the mixture may be accepted by visual inspection up to a quantity of 500 tons per mixture type, per project (not per day). For non-production type paving defined as driveways, approaches, and patching, visual inspection may be allowed regardless of the tonnage.

The mixture will be considered out-of-specification, as determined by the acceptance tests, if for any one mixture, two consecutive tests per parameter, (for Parameter 2, two consecutive aggregate gradations on one sieve) are outside Range 1 or Range 2 tolerance limits. If a parameter is outside of Range 1 tolerance limits and the second consecutive test shows that the parameter is outside of Range 2, then it will be considered to be a Range 1 out-of-specification. Consecutive refers to the production order and not necessarily the testing order. Out-of-specification mixtures are subject to a price adjustment per the Measurement and Payment section of this special provision.

Contractor operations will be suspended when the mixture is determined to be out-of-specification, but contract time will continue to run. The Engineer may issue a Notice of Non-Compliance with Contract Requirements (Form 1165), if the Contractor has not suspended operations and taken corrective action. Submit a revised JMF or proposed alterations to the plant and/or materials to achieve the JMF to the Engineer. Effects on the Aggregate Wear Index (AWI) and mix design properties will be taken into consideration. Production and placement cannot resume until receipt of the Engineer's approval to proceed.

Pavement in-place density will be measured using one of two approved methods. The method used for measuring in-place density will be agreed upon at a pre-production or pre-construction meeting.

Pavement in-place density tests will be completed by the Engineer during paving operations and prior to traffic staging changes. Pavement in-place density acceptance testing will be completed by the Engineer prior to paving of subsequent lifts and being open to traffic.

#### Option 1 – Direct Density Method

Use of a nuclear density gauge requires measuring the pavement density using the Gmm from the JMF for the density control target. The required in-place density of the HMA mixture must be 92.0 to 98.0 percent of the density control target. Nuclear density testing and frequency will be in accordance with the *MDOT Density Testing and Inspection Manual*.

#### Option 2 – Roller Method

The Engineer may use the Roller Method with a nuclear or non-nuclear density gauge to document achieving optimal density as discussed below.

Use of the density gauge requires establishing a rolling pattern that will achieve the required in-place density. The Engineer will measure pavement density with a density gauge using the Gmm from the JMF for the density control target.

Use of the Roller Method requires developing and establishing density frequency curves, and meeting the requirements of Table 2. A density frequency curve is defined as the measurement and documentation of each pass of the finished roller until the in-place density results indicate a decrease in value. The previous recording will be deemed the optimal density. The Contractor is responsible for establishing and documenting an initial or QC rolling pattern that achieves the optimal in-place density. When the density frequency curve is used, the Engineer will run and document the density frequency curve for each half day of production to determine the number of passes to achieve the maximum density. Table 5, located at the end of this special provision, can be used as an aid in developing the density frequency curve. The Engineer will perform density tests using an approved nuclear or non-nuclear gauge per the manufacturer's recommended procedures.

**Table 2: Minimum Number of Rollers Recommended Based on Placement Rate**

Average Laydown Rate, Square Yards per Hour	Number of Rollers Required (a)	
	Compaction	Finish
Less than 600	1	1 (b)
601 - 1200	1	1
1201 - 2400	2	1
2401 - 3600	3	1
3601 and More	4	1

a. Number of rollers may increase based on density frequency curve.  
b. The compaction roller may be used as the finish roller also.

After placement, roll the HMA mixture as soon after placement as the roller is able to bear without undue displacement or cracking. Start rolling longitudinally at the sides of the lanes and proceed toward the center of the pavement, overlapping on successive trips by at least half the width of the drum. Ensure each required roller is 8 tons minimum in weight unless otherwise approved by the Engineer.

Ensure the initial breakdown roller is capable of vibratory compaction and is a maximum of 500 feet behind the paving operations. The maximum allowable speed of each roller is 3 miles per hour (mph) or 4.5 feet per second. Ensure all compaction rollers complete a minimum of two complete rolling cycles prior to the mat temperature cooling to 180 degrees Fahrenheit (F). Continue finish rolling until all roller marks are eliminated and no further compaction is possible. The Engineer will verify and document that the roller pattern has been adhered to. The Engineer can stop production when the roller pattern is not adhered to.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for using applicable pay items as described in subsection 501.04 of the Standard Specifications for Construction, or the contract, except as modified below.

Base Price. Price established by the Department to be used in calculating incentives and adjustments to pay items and shown in the contract.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 1, but not the Range 2, tolerance limits, that mixture parameter will be subject to a 10 percent penalty. The 10 percent penalty will be assessed based on the acceptance tests only unless the Contractor requests that the 10,000 gram sample part retained for possible dispute resolution testing be tested. The Contractor has 4 calendar days from receipt of the acceptance test results to notify the Engineer, in writing, that dispute resolution testing is requested. The Contractor's QC test results for the corresponding QA test results must result in an overall payment greater than QA test results otherwise the QA tests will not be allowed to be disputed. The Engineer has 4 calendar days to send the dispute resolution sample to the lab once dispute resolution testing is requested. The dispute resolution sample will be sent to an independent lab selected by the Local Agency, and the resultant dispute test results will be used to determine the penalty per parameter, if any. Ensure the independent lab is a MDOT QA/QC qualified lab or an AMRL HMA qualified lab. The independent lab must not have conflicts of interest with the Contractor or Local Agency. If the dispute testing results show that the mixture parameter is out-of-specification, the Contractor will pay for the cost of the dispute resolution testing and the contract base price for the material will be adjusted, based on all test result parameters from the dispute tests, as shown in Table 3 and Table 4. If the dispute test results do not confirm the mixture parameter is out-of-specification, then the Local Agency will pay for the cost of the dispute resolution testing and no price adjustment is required.

If acceptance tests, as described in section c. of this special provision, show that a Table 1 mixture parameter exceeds the Range 2 tolerance limits, the 10,000 gram sample part retained for possible dispute resolution testing will be sent, within 4 calendar days, to the MDOT Central Laboratory for further testing. The MDOT Central Laboratory's test results will be used to determine the penalty per mixture parameter, if any. If the MDOT Central Laboratory's results do not confirm the mixture parameter is out-of-specification, then no price adjustment is required. If the MDOT Central Laboratory's results show that the mixture is out-of-specification and the Engineer approves leaving the out-of-specification mixture in place, the contract base price for the material will be adjusted, based on all parameters, as shown in Table 3 and Table 4.

In the case that the Contractor disputes the results of the test of the second sample obtained for a particular day of production, the test turn-around time frames given would apply to the second test and there would be no time frame on the first test.

The laboratory (MDOT Central Laboratory or independent lab) will complete all Dispute Resolution testing and return test results to the Engineer, who will provide them to the Contractor, within 13 calendar days upon receiving the Dispute Resolution samples.

In all cases, when penalties are assessed, the penalty applies to each parameter, up to two parameters, that is out of specification.



**Table 3: Penalty Per Parameter**

Mixture Parameter out-of-Specification per Acceptance Tests	Mixture Parameter out-of-Specification per Dispute Resolution Test Lab	Price Adjustment per Parameter
NO	N/A	None
YES	NO	None
	YES	Outside Range 1 but not Range 2: decrease by 10%
		Outside Range 2: decrease by 25%

The quantity of material receiving a price adjustment is defined as the material produced from the time the first out-of-specification sample was taken until the time the sample leading to the first in-specification test was taken.

Each parameter of Table 1 is evaluated with the total price adjustment applied to the contract base price based on a sum of the two parameter penalties resulting in the highest total price adjustment as per Table 4. For example, if three parameters are out-of-specification, with two parameters outside Range 1 of Table 1 tolerance limits, but within Range 2 of Table 1 limits and one parameter outside of Range 2 of Table 1 tolerance limits and the Engineer approves leaving the mixture in place, the total price adjustment for that quantity of material is 35 percent.

**Table 4: Calculating Total Price Adjustment**

Cost Adjustment as a Sum of the Two Highest Parameter Penalties		
Number of Parameters Out-of-Specification	Range(s) Outside of Tolerance Limits of Table 1 per Parameter	Total Price Adjustment
One	Range 1	10%
	Range 2	25%
Two	Range 1 & Range 1	20%
	Range 1 & Range 2	35%
	Range 2 & Range 2	50%
Three	Range 1, Range 1 & Range 1	20%
	Range 1, Range 1 & Range 2	35%
	Range 1, Range 2 & Range 2	50%
	Range 2, Range 2 & Range 2	50%

**Table 5: Density Frequency Curve Development**

Tested by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Route/Location:		Air Temp:
Control Section/Job Number:		Weather:
Mix Type:	Tonnage:	Gauge:
Producer:	Depth:	Gmm:

Roller #1 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #2 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Roller #3 Type:

Pass No.	Density	Temperature	Comments
1			
2			
3			
4			
5			
6			
7			
8			
Optimum			

Summary: \_\_\_\_\_

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## Appendix A

# Davis-Bacon Wage Rates



General Decision Number: MI160079 09/30/2016 MI79

Superseded General Decision Number: MI20150079

State: Michigan

Construction Type: Building

County: Calhoun County in Michigan.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/08/2016
1	02/26/2016
2	06/24/2016
3	07/22/2016
4	07/29/2016
5	08/19/2016
6	09/30/2016

ASBE0047-002 07/01/2016

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 30.22	16.48

BOIL0169-001 01/01/2014

	Rates	Fringes
BOILERMAKER.....	\$ 32.78	28.39

BRMI0009-031 08/01/2013

	Rates	Fringes
BRICKLAYER.....	\$ 26.32	15.47
TILE FINISHER.....	\$ 19.90	10.38
TILE SETTER.....	\$ 21.27	11.58

\* CARP0525-003 09/01/2016

	Rates	Fringes
CARPENTER, Includes Acoustical Ceiling Installation, Drywall Hanging, and Form Work.....	\$ 21.43	18.82

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CARP1102-001 06/01/2013

	Rates	Fringes
MILLWRIGHT.....	\$ 26.04	20.69

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ELEC0445-011 06/03/2013

	Rates	Fringes
ELECTRICIAN.....	\$ 29.48	16.63

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\* ENGI0324-002 06/01/2016

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 37.33	22.80
GROUP 2.....	\$ 34.03	22.80
GROUP 3.....	\$ 31.38	22.80
GROUP 4.....	\$ 29.67	22.80
GROUP 5.....	\$ 29.67	22.80
GROUP 6.....	\$ 23.91	22.80
GROUP 7.....	\$ 21.33	22.80

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50  
per hour above the group 1 rate.

Crane operator with main boom and jib 400' or longer: \$3.00  
per hour above the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of  
July, Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or  
220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or  
longer, tower crane, gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator/Trackhoe; Crane; Concrete Pump;  
Grader/Blade; Highlift; Hoist; Loader; Roller; Scraper;  
Stiff Leg Derrick; Trencher

GROUP 4: Bobcat/Skid Loader; Broom/Sweeper; Fork Truck (over  
20' lift)

GROUP 5: Boom Truck (non-swinging)

GROUP 6: Fork Truck (20' lift and under for masonry work)

## GROUP 7: Oiler

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IRON0340-002 06/01/2015		
	Rates	Fringes
IRONWORKER, REINFORCING AND STRUCTURAL.....	\$ 21.68	24.37
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LABO0355-022 06/01/2016		
	Rates	Fringes
LABORER		
Common or General; Grade		
Checker; Mason Tender -		
Brick; Mason Tender -		
Cement/Concrete;		
Sandblaster.....	\$ 20.09	12.85
Pipelayer.....	\$ 20.34	12.85
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PAIN0312-002 06/12/2016		
	Rates	Fringes
PAINTER: Brush and Roller.....	\$ 23.50	12.04
PAINTER: Drywall		
Finishing/Taping.....	\$ 23.50	12.04
PAINTER: Spray.....	\$ 24.70	12.04
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PLAS0016-007 04/01/2014		
	Rates	Fringes
PLASTERER.....	\$ 21.18	12.43
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PLUM0333-006 06/01/2016		
	Rates	Fringes
PIPEFITTER, Includes HVAC		
Pipe and Unit Installation.....	\$ 34.89	21.13
PLUMBER, Excludes HVAC Pipe		
and Unit Installation.....	\$ 34.89	21.13
FOOTNOTE:		
Paid Holidays: Memorial Day, Independence Day and Labor Day, if the employee works the work day preceding and following the holiday unless proven illness or injury prevents the employee from working.		
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ROOF0070-002 06/01/2013		
	Rates	Fringes
ROOFER.....	\$ 22.25	13.38



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 SFMI0669-001 04/01/2016

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers).....	\$ 33.62	18.02

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SHEE0007-004 05/01/2014

	Rates	Fringes
SHEET METAL WORKER (Including HVAC Duct Installation; Excluding HVAC System Installation).....	\$ 27.82	19.55

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SUMI2011-004 02/01/2011

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...\$	25.23	1.80
IRONWORKER, ORNAMENTAL.....\$	18.48	7.93
LABORER: Landscape & Irrigation.....\$	10.38	0.50
OPERATOR: Bulldozer.....\$	19.68	6.64
OPERATOR: Compactor.....\$	17.68	6.70
OPERATOR: Tractor.....\$	19.10	8.48
TRUCK DRIVER, Includes Dump and Tandem Truck.....\$	17.26	11.42
TRUCK DRIVER: Lowboy Truck.....\$	14.50	0.44
TRUCK DRIVER: Tractor Haul Truck.....\$	13.57	1.18

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

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

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the

cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of

each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

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

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION