

# HIGHWAY WORK PROPOSAL

Wisconsin Department of Transportation  
DT1502 10/2010 s.66.29(7) Wis. Stats.

Proposal Number:

Ø 6

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Waukesha	2722-10-70	WISC 2014 002	Coffee Road Calhoun Road to National Avenue	Local Street

This proposal, submitted by the undersigned bidder to the Wisconsin Department of Transportation, is in accordance with the advertised request for proposals. The bidder is to furnish and deliver all materials, and to perform all work for the improvement of the designated project in the time specified, in accordance with the appended Proposal Requirements and Conditions.

Proposal Guaranty Required, \$ 75,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due  Date: January 14, 2014 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code
Contract Completion Time  October 15, 2014	<b>SAMPLE</b> <b>NOT FOR BIDDING PURPOSES</b>
Assigned Disadvantaged Business Enterprise Goal  15%	This contract is exempt from federal oversight.

This certifies that the undersigned bidder, duly sworn, is an authorized representative of the firm named above; that the bidder has examined and carefully prepared the bid from the plans, Highway Work Proposal, and all addenda, and has checked the same in detail before submitting this proposal or bid; and that the bidder or agents, officer, or employees have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this proposal bid.

**Do not sign, notarize, or submit this Highway Work Proposal when submitting an electronic bid on the Internet.**

Subscribed and sworn to before me this date \_\_\_\_\_

\_\_\_\_\_  
(Signature, Notary Public, State of Wisconsin)

\_\_\_\_\_  
(Print or Type Name, Notary Public, State Wisconsin)

\_\_\_\_\_  
(Date Commission Expires)

Notary Seal

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

\_\_\_\_\_  
(Print or Type Bidder Name)

\_\_\_\_\_  
(Bidder Title)

## For Department Use Only

Type of Work Grading, storm sewer, dense graded base, concrete curb and gutter, asphaltic concrete pavement, signals, street lighting, erosion control, pavement marking.	Date Guaranty Returned
Notice of Award Dated	

**PLEASE ATTACH  
PROPOSAL GUARANTY HERE**

**Effective with November 2007 Letting**

**PROPOSAL REQUIREMENTS AND CONDITIONS**

The bidder, signing and submitting this proposal, agrees and declares as a condition thereof, to be bound by the following conditions and requirements.

If the bidder has a corporate relationship with the proposal design engineering company, the bidder declares that it did not obtain any facts, data, or other information related to this proposal from the design engineering company that was not available to all bidders.

The bidder declares that they have carefully examined the site of, and the proposal, plans, specifications and contract forms for the work contemplated, and it is assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, special provisions and contract. It is mutually agreed that submission of a proposal shall be considered conclusive evidence that the bidder has made such examination.

The bidder submits herewith a proposal guaranty in proper form and amount payable to the party as designated in the advertisement inviting proposals, to be retained by and become the property of the owner of the work in the event the undersigned shall fail to execute the contract and contract bond and return the same to the office of the engineer within fourteen (14) days after having been notified in writing to do so; otherwise to be returned.

The bidder declares that they understand that the estimate of quantities in the attached schedule is approximate only and that the attached quantities may be greater or less in accordance with the specifications.

The bidder agrees to perform the said work, for and in consideration of the payment of the amount becoming due on account of work performed, according to the unit prices bid in the following schedule, and to accept such amounts in full payment of said work.

The bidder declares that all of the said work will be performed at their own proper cost and expense, that they will furnish all necessary materials, labor, tools, machinery, apparatus, and other means of construction in the manner provided in the applicable specifications and the approved plans for the work together with all standard and special designs that may be designed on such plans, and the special provisions in the contract of which this proposal will become a part, if and when accepted. The bidder further agrees that the applicable specifications and all plans and working drawings are made a part hereof, as fully and completely as if attached hereto.

The bidder, if awarded the contract, agrees to begin the work not later than ten (10) days after the date of written notification from the engineer to do so, unless otherwise stipulated in the special provisions.

The bidder declares that if they are awarded the contract, they will execute the contract agreement and begin and complete the work within the time named herein, and they will file a good and sufficient surety bond for the amount of the contract for performance and also for the full amount of the contract for payment.

The bidder, if awarded the contract, shall pay all claims as required by Section 779.14, Statutes of Wisconsin, and shall be subject to and discharge all liabilities for injuries pursuant to Chapter 102 of the Statutes of Wisconsin, and all acts amendatory thereto. They shall further be responsible for any damages to property or injury to persons occurring through their own negligence or that of their employees or agents, incident to the performance of work under this contract, pursuant to the Standard Specifications for Road and Bridge Construction applicable to this contract.

In connection with the performance of work under this contract, the contractor agrees to comply with all applicable state and federal statutes relating to non-discrimination in employment. No otherwise qualified person shall be excluded from employment or otherwise be subject to discrimination in employment in any manner on the basis of age, race, religion, color, gender, national origin or ancestry, disability, arrest or conviction record (in keeping with s.111.32), sexual orientation, marital status, membership in the military reserve, honesty testing, genetic testing, and outside use of lawful products. This provision shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The contractor further agrees to ensure equal opportunity in employment to all applicants and employees and to take affirmative action to attain a representative workforce.

The contractor agrees to post notices and posters setting forth the provisions of the nondiscrimination clause, in a conspicuous and easily accessible place, available for employees and applicants for employment.

If a state public official (section 19.42, Stats.) or an organization in which a state public official holds at least a 10% interest is a party to this agreement, this contract is voidable by the state unless appropriate disclosure is made to the State of Wisconsin Ethics Board.

## BID PREPARATION

### Preparing the Proposal Schedule of Items

#### A General

- (1) Obtain bidding proposals as specified in **section 102** of the standard specifications prior to 11:45 AM of the last business day preceding the letting. Submit bidding proposals using one of the following methods:
  1. Electronic bid on the internet.
  2. Electronic bid on a printout with accompanying diskette or CD ROM.
  3. Paper bid under a waiver of the electronic submittal requirements.
- (2) Bids submitted on a printout with accompanying diskette or CD ROM or paper bids submitted under a waiver of the electronic submittal requirements govern over bids submitted on the internet.
- (3) The department will provide bidding information through the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm>. The contractor is responsible for reviewing this web site for general notices as well as information regarding proposals in each letting. The department will also post special notices of all addenda to each proposal through this web site no later than 4:00 P.M. local time on the Thursday before the letting. Check the department's web site after 5:00 P.M. local time on the Thursday before the letting to ensure all addenda have been accounted for before preparing the bid. When bidding using methods 1 and 2 above, check the Bid Express™ on-line bidding exchange at <http://www.bidx.com/> after 5:00 P.M. local time on the Thursday before the letting to ensure that the latest schedule of items Expedite file (\*.ebs or \*.00x) is used to submit the final bid.
- (4) Interested parties can subscribe to the Bid Express™ on-line bidding exchange by following the instructions provided at the [www.bidx.com](http://www.bidx.com) web site or by contacting:

Info Tech Inc.  
5700 SW 34th Street, Suite 1235  
Gainesville, FL 32608-5371  
email: <mailto:customer.support@bidx.com>

- (5) The department will address equipment and process failures, if the bidder can demonstrate that those failures were beyond their control.
- (6) Contractors are responsible for checking on the issuance of addenda and for obtaining the addenda. Notice of issuance of addenda is posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserv/bid-letting-information.htm> or by calling the department at (608) 266-1631. Addenda can ONLY be obtained from the departments web site listed above or by picking up the addenda at the Bureau of Highway Construction, Room 601, 4802 Sheboygan Avenue, Madison, WI, during regular business hours.

#### B Submitting Electronic Bids

##### B.1 On the Internet

- (1) Do the following before submitting the bid:
  1. Have a properly executed annual bid bond on file with the department.
  2. Have a digital ID on file with and enabled by Info Tech Inc. Using this digital ID will constitute the bidder's signature for proper execution of the bidding proposal.
- (2) In lieu of preparing, delivering, and submitting the proposal as specified in **102.6** and **102.9** of the standard specifications, submit the proposal on the internet as follows:

1. Download the latest schedule of items reflecting all addenda from the Bid Express™ web site.
  2. Use Expedite™ software to enter a unit price for every item in the schedule of items.
  3. Submit the bid according to the requirements of Expedite™ software and the Bid Express™ web site. Do not submit a bid on a printout with accompanying diskette or CD ROM or a paper bid. If the bidder does submit a bid on a printout with accompanying diskette or a paper bid in addition to the internet submittal, the department will disregard the internet bid.
  4. Submit the bid before the hour and date the Notice to Contractors designates.
  5. Do not sign, notarize, and return the bidding proposal described in 102.2 of the standard specifications.
- (3) The department will not consider the bid accepted until the hour and date the Notice to Contractors designates.

## **B.2 On a Printout with Accompanying Diskette or CD ROM**

- (1) Download the latest schedule of items from the Wisconsin pages of the Bid Express™ web site reflecting the latest addenda posted on the department's web site at <http://www.dot.wisconsin.gov/business/engrserve/bid-letting-information.htm>. Use Expedite™ software to prepare and print the schedule of items. Provide a valid amount for all price fields. Follow instructions and review the help screens provided on the Bid Express™ web site to assure that the schedule of items is prepared properly.
- (2) Staple an 8 1/2 by 11 inch printout of the Expedite™ generated schedule of items to the other proposal documents submitted to the department as a part of the bidder's sealed bid. As a separate submittal not in the sealed bid envelop but due at the same time and place as the sealed bid, also provide the Expedite™ generated schedule of items on a 3 1/2 inch computer diskette or CD ROM. Label each diskette or CD ROM with the bidder's name, the 4 character department-assigned bidder identification code from the top of the bidding proposal, and a list of the proposal numbers included on that diskette or CD ROM as indicated in the following example:

**Bidder Name**

**BN00**

**Proposals: 1, 12, 14, & 22**

- (3) If bidding on more than one proposal in the letting, the bidder may include all proposals for that letting on one diskette or CD ROM. Include only submitted proposals with no incomplete or other files on the diskette or CD ROM.
- (4) The bidder-submitted printout of the Expedite™ generated schedule of items is the governing contract document and must conform to the requirements of section 102 of the standard specifications. If a printout needs to be altered, cross out the printed information with ink or typewriter and enter the new information and initial it in ink. If there is a discrepancy between the printout and the diskette or CD ROM, the department will analyze the bid using the printout information.
- (5) In addition to the reasons specified in section 102 of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
  1. The check code printed on the bottom of the printout of the Expedite™ generated schedule of items is not the same on each page.
  2. The check code printed on the printout of the Expedite™ generated schedule of items is not the same as the check code for that proposal provided on the diskette or CD ROM.

3. The diskette or CD ROM is not submitted at the time and place the department designates.

### **C Waiver of Electronic Submittal**

- (1) The bidder may request a waiver of the electronic submittal requirements. Submit a written request for a waiver in lieu of bids submitted on the internet or on a printout with accompanying diskette or CD ROM. Use the waiver that was included with the paper bid document sent to the bidder or type up a waiver on the bidder's letterhead. The department will waive the electronic submittal requirements for a bidding entity (individual, partnership, joint venture, corporation, or limited liability company) for up to 4 individual proposals in a calendar year. The department may allow additional waivers for equipment malfunctions.
- (2) Submit a schedule of items on paper conforming to [section 102](#) of the standard specifications. The department charges the bidder a \$75 administrative fee per proposal, payable at the time and place the department designates for receiving bids, to cover the costs of data entry. The department will accept a check or money order payable to: "Wisconsin, Dept. of Transportation."
- (3) In addition to the reasons specified in [section 102](#) of the standard specifications, proposals are irregular and the department may reject them for one or more of the following:
  1. The bidder fails to provide the written request for waiver of the electronic submittal requirements.
  2. The bidder fails to pay the \$75 administrative fee before the time the department designates for the opening of bids unless the bidder requests on the waiver that they be billed for the \$75.
  3. The bidder exceeds 4 waivers of electronic submittal requirements within a calendar year.
- (4) In addition to the reasons specified in [section 102](#) of the standard specifications, the department may refuse to issue bidding proposals for future contracts to a bidding entity that owes the department administrative fees for a waiver of electronic submittal requirements.





# PROPOSAL BID BOND

DT1303 1/2006

Wisconsin Department of Transportation

Proposal Number	Project Number	Letting Date
Name of Principal		
Name of Surety	State in Which Surety is Organized	

We, the above-named Principal and the above-named Surety, are held and firmly bound unto the State of Wisconsin in the sum equal to the Proposal Guaranty for the total bid submitted for the payment to be made; we jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. The condition of this obligation is that the Principal has submitted a bid proposal to the State of Wisconsin acting through the Department of Transportation for the improvement designated by the Proposal Number and Letting Date indicated above.

If the Principal is awarded the contract and, within the time and manner required by law after the prescribed forms are presented for signature, enters into a written contract in accordance with the bid, and files the bond with the Department of Transportation to guarantee faithful performance and payment for labor and materials, as required by law, or if the Department of Transportation shall reject all bids for the work described, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. In the event of failure of the Principal to enter into the contract or give the specified bond, the Principal shall pay to the Department of Transportation **within 10 business days of demand** a total equal to the Proposal Guaranty as liquidated damages; the liability of the Surety continues for the full amount of the obligation as stated until the obligation is paid in full.

The Surety, for value received, agrees that the obligations of it and its bond shall not be impaired or affected by any extension of time within which the Department of Transportation may accept the bid; and the Surety does waive notice of any such extension.

IN WITNESS, the Principal and Surety have agreed and have signed by their proper officers and have caused their corporate seals to be affixed this date: **(DATE MUST BE ENTERED)**

## PRINCIPAL

\_\_\_\_\_  
(Company Name) **(Affix Corporate Seal)**

\_\_\_\_\_  
(Signature and Title)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Signature and Title)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Signature and Title)

\_\_\_\_\_  
(Company Name)

\_\_\_\_\_  
(Signature and Title)

## NOTARY FOR PRINCIPAL

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

State of Wisconsin )  
 ) ss.  
\_\_\_\_\_ County )

On the above date, this instrument was acknowledged before me by the named person(s).

\_\_\_\_\_  
(Signature, Notary Public, State of Wisconsin)

\_\_\_\_\_  
(Print or Type Name, Notary Public, State of Wisconsin)

\_\_\_\_\_  
(Date Commission Expires)

**Notary Seal**

\_\_\_\_\_  
(Name of Surety) **(Affix Seal)**

\_\_\_\_\_  
(Signature of Attorney-in-Fact)

## NOTARY FOR SURETY

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

State of Wisconsin )  
 ) ss.  
\_\_\_\_\_ County )

On the above date, this instrument was acknowledged before me by the named person(s).

\_\_\_\_\_  
(Signature, Notary Public, State of Wisconsin)

\_\_\_\_\_  
(Print or Type Name, Notary Public, State of Wisconsin)

\_\_\_\_\_  
(Date Commission Expires)

**Notary Seal**

**IMPORTANT: A certified copy of Power of Attorney of the signatory agent must be attached to the bid bond.**



# CERTIFICATE OF ANNUAL BID BOND

DT1305 8/2003

Wisconsin Department of Transportation

Time Period Valid (From/To)	
Name of Surety	
Name of Contractor	
Certificate Holder	Wisconsin Department of Transportation

This is to certify that an annual bid bond issued by the above-named Surety is currently on file with the Wisconsin Department of Transportation.

This certificate is issued as a matter of information and conveys no rights upon the certificate holder and does not amend, extend or alter the coverage of the annual bid bond.

**Cancellation:** Should the above policy be cancelled before the expiration date, the issuing surety will give thirty (30) days written notice to the certificate holder indicated above.

\_\_\_\_\_  
(Signature of Authorized Contractor Representative)

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



## March 2010

## LIST OF SUBCONTRACTORS

Section 66.0901(7), Wisconsin Statutes, provides that as a part of the proposal, the bidder also shall submit a list of the subcontractors the bidder proposes to contract with and the class of work to be performed by each. In order to qualify for inclusion in the bidder's list a subcontractor shall first submit a bid in writing, to the general contractor at least 48 hours prior to the time of the bid closing. The list may not be added to or altered without the written consent of the municipality. A proposal of a bidder is not invalid if any subcontractor and the class of work to be performed by the subcontractor has been omitted from a proposal; the omission shall be considered inadvertent or the bidder will perform the work personally.

No subcontract, whether listed herein or later proposed, may be entered into without the written consent of the Engineer as provided in Subsection 108.1 of the Standard Specifications.

[illegible]

**DECEMBER 2000**

**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER  
RESPONSIBILITY MATTERS - PRIMARY COVERED TRANSACTIONS**

Instructions for Certification

1. By signing and submitting this proposal, the prospective contractor is providing the certification set out below.
2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective contractor shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective contractor to furnish a certification or an explanation shall disqualify such person from participation in this transaction.
3. The certification in this clause is a material representation of fact upon which reliance was placed when the department determined to enter into this transaction. If it is later determined that the contractor knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government the department may terminate this transaction for cause or default.
4. The prospective contractor shall provide immediate written notice to the department to whom this proposal is submitted if at any time the prospective contractor learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department to which this proposal is being submitted for assistance in obtaining a copy of those regulations.
6. The prospective contractor agrees by submitting this proposal that, should this contract be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department entering into this transaction.
7. The prospective contractor further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," which is included as an addendum to PR-1273 - "Required Contract Provisions Federal Aid Construction Contracts," without

modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. The contractor may rely upon a certification of a prospective subcontractor/materials supplier that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A contractor may decide the method and frequency by which it determines the eligibility of its principals. Each contractor may, but is not required to, check the Disapproval List (telephone # 608/266/1631).
9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
10. Except for transactions authorized under paragraph 6 of these instructions, if a contractor in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department may terminate this transaction for cause or default.

Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

- (1) The prospective contractor certifies to the best of its knowledge and belief, that it and its principals:
  - (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offense enumerated in paragraph (1)(b) of this certification; and
  - (d) Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

## Special Provisions

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## **SPECIAL PROVISIONS**

### **1. General.**

Perform the work under this construction contract for Project 2722-10-70, Coffee Road, Calhoun Road to National Avenue, Local Street, City of New Berlin, Waukesha County, Wisconsin as the plans show and execute the work as specified in the State of Wisconsin, Department of Transportation, Standard Specifications for Highway and Structure Construction, 2014 Edition, as published by the department, and these special provisions.

If all or a portion of the plans and special provisions are developed in the SI metric system and the schedule of prices is developed in the US standard measure system, the department will pay for the work as bid in the US standard system.

100-005 (20130615)

### **2. Scope of Work.**

The work under this contract shall consist of grading, storm sewer, dense graded base, concrete curb and gutter, asphaltic concrete pavement, signals, street lighting, erosion control, pavement marking and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.

104-005 (20090901)

### **3. Prosecution and Progress.**

Begin work within ten calendar days after the engineer issues a written notice to do so.

Provide the start date to the engineer in writing within a month after executing the contract but at least 14 calendar days before the preconstruction conference. Upon approval, the engineer will issue the notice to proceed within ten calendar days before the approved start date.

To revise the start date, submit a written request to the engineer at least two weeks before the intended start date. The engineer will approve or deny that request based on the conditions cited in the request and its effect on the department's scheduled resources.

Construct driveway approaches to commercial businesses in stages such that access to the property is provided at all times for the duration of the project. If the closure of a commercial driveway is required, coordinate with the business to determine the best time to close the driveway.

Construct and stabilize the detention pond located between Station 194+00 to Station 198+00 LT, including temporary seeding, prior to connecting the storm sewer pipes.

Construct the work to be done in the intersections of Coffee Road with Calhoun Road, Moorland Road and National Avenue under staged construction, allowing one lane of traffic a minimum of 11 feet wide in each direction at all times.

Permanent signing, marking and lighting shall be complete before Coffee Road is permanently opened to traffic.

During the staging and single lane closures, install underground items (for example storm sewer, conduit, etc.) to the staging limits or lane closures. Adequately extend the underground items past the new pavement so that underground items can be extended into the next stage. Contractor is responsible for damage to the pavement, locating installed underground items, and maintaining traffic flow for two lanes of traffic.

#### **4. Traffic.**

Close Coffee Road within the project limits to through traffic during the duration of construction.

Prior to any traffic control being placed, provide the engineer and the City of New Berlin Police Department with the name and telephone number of a local person responsible for the emergency maintenance of traffic control.

Coordinate all traffic handling with the engineer. Notify the engineer at least 2 working days (48 hours) in advance of any changes in traffic routing or restrictions.

Place roadway signing as detailed on the plans and in conformance with the Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

Maintain access to the side roads located on the project at all times during construction operations and the residential access at all times. When residential access must be interrupted, notify the residents a minimum of 48 hours in advance. Reopen all residential access prior to the weekend except as mutually agreed to between the resident, the contractor and the engineer.

Employ such flag person, signs, barricades, and drums as may be necessary to safeguard or protect hazards in the work zone, such as exposed manholes or drop-offs for vehicles and direct traffic at locations where construction operations may interfere or restrict the smooth flow of traffic. Make arrangements and be responsible for the prompt replacement of damaged or dislocated traffic control or guidance signs, day or night.

Maintain emergency vehicle access to all properties at all times.

Once the contractor commences work, the contractor will be responsible to maintain the existing/temporary and proposed traffic signals and street lights in the work area due to failures and knock downs.

## **5. Holiday Work Restrictions.**

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying Coffee Road traffic, and entirely clear the traveled way and shoulders of such portions of the highway of equipment, barricades, signs, lights, and any other material that might impede the free flow of traffic during the following holiday periods:

- From noon Friday, May 23, 2014, to 6:00 AM Tuesday, May 27, 2014 for Memorial Day;
- From noon Thursday, July 3, 2014, to 6:00 AM Monday, July 7, 2014 for Independence Day;
- From noon Friday, August 29, 2014, to 6:00 AM Tuesday, September 2, 2014 for Labor Day.

107-005 (20050502)

## **6. Utilities.**

This contract does not come under the provision of Administrative Rule Trans 220.

107-065 (20080501)

Underground and overhead utility facilities are located within the project limits. Utility adjustments are required for this construction project as noted below. Coordinate construction activities with a call to Diggers Hotline or a direct call to the utilities that have facilities in the area as required per statutes. Use caution to insure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

Contact each utility company listed in the plans, prior to preparing bids, to obtain current information on the status of existing and any new utility relocation work.

All the listed utility companies are members of Diggers Hotline.

### **We Energies - Electric**

We Energies – Electric has overhead and buried facilities the entire project length. Below is a listing and locations of existing and proposed facilities and the work proposed.

**WE Energies (Electric)**

<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
165+83 RT56'	100	13-	New pole inside slope intercept-set pole 1' extra depth
165+47 RT56'	100		New anchor inside slope intercept- o.k. to grade around
168+18 RT20'	115	62-3273	Remove pole
168+34 RT51'	110	13-	New pole outside slope intercept
170+86 RT46'	120	13-	New pole inside slope intercept, 1.5' fill o.k.
170+86 RT40'	120		New anchor inside slope intercept, 1' fill o.k.
171+58 RT20'	125	70-28219	Remove pole
173+19 RT46'	130	13-	New pole inside slope intercept
174+82 RT20'	145	01-19354	Remove pole
175+51 RT46'	140	13-	New pole inside slope intercept
177+83 RT46'	150	13-	New pole outside slope intercept
178+12 RT21'	155	UNKNOWN	Remove pole
180+07 RT21'	165	12-01729	Remove pole
180+15 RT46'	160	13-	New pole outside slope intercept
181+41 RT23'	167	12-01730	Remove pole
182+85 RT46'	170	13-	New pole inside slope intercept
184+65 RT23'	185	12-01731	Remove pole
185+55 RT46'	180	13-	New pole outside slope intercept
187+58 RT23'	195	86-04575	Remove pole
187+92 RT23'	197	58-40056	Remove pole and anchor
188+25 RT46'	190	13-	New pole outside slope intercept
188+26 LT34'	205	96-10710	Remove pole and anchor

<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
188+25 LT51'	200	13-	New pole outside slope intercept, private property
188+25 LT41'	200		New anchor outside slope intercept
189+87 RT46'	210	13-	New pole outside slope intercept
189+91 RT27'	215	56-19949	Remove pole
191+19 RT60'	220		Splice pit outside slope intercept, private property
191+23 LT60'	230		Splice pit outside slope intercept, private property
	220-230		New underground cable for Coffee rd. crossing, placed in duct at elevation 871 for ditch cuts.
192+23 RT46'	240	13-	New pole inside slope intercept-set pole 4' extra depth
192+88 RT28'	245	62-1489	Remove pole and anchor
194+07 RT46'	260	13-	New pole outside slope intercept
196+03 RT46'	270	13-	New pole outside slope intercept
196+03 RT36'	270		New anchor outside slope intercept
196+14 RT26'	275	57-5694	Remove pole and anchor
197+95 RT46'	280	13-	New pole outside slope intercept
198+34 RT46'	280		New anchor outside slope intercept
197+92 RT24'	285	55-13250	Remove pole and anchor
199+10 RT46'	290	13-	New pole outside slope intercept
199+10 RT38'	290		New anchor at slope intercept
199+12 RT25'	295	46-3377	Remove pole and anchor
200+46 RT26'	297	46-3383	Remove pole and anchor
198+18 LT51'	300	13-	New pole outside slope intercept

<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
197+83 LT51'	300		New anchor outside slope intercept
198+15 LT48'	305	55-13253	Remove pole and anchor
200+04 LT51'	310	13-	New pole outside slope intercept
200+02 LT50'	315	05-10584	Remove pole
201+75 LT51'	320	13-	New pole outside slope intercept
201+70 LT50'	325	05-10583	Remove pole and anchor
202+91 LT51'	330	13-	New pole outside slope intercept
202+88 LT50'	335	96-17254	Remove pole
202+60.5 RT35.5	336	13-	New pole (St. light) inside slope intercept, o.k. to fill around
202+49 RT20'	337	71-1076	Remove pole
204+58 LT51'	340	13-	New pole outside slope intercept
204+62 LT51'	345	57-64003	Remove pole
204+73 RT51'	346	13-	New pole outside slope intercept
204+70 RT50'	347	56-3957	Remove pole
206+00 LT51'	350	13-	New pole outside slope intercept
206+03 LT50'	355	57-40040	Remove pole
207+15 LT51'	360	13-	New pole outside slope intercept
207+18 LT50'	365	88-27800	Remove pole
206+90 LT37'	366	13-	New pole (St. Light) inside slope intercept, set 1' extra depth. O.k. to grade around.
206+94 LT28'	367	69-5435	Remove pole
208+51 LT51'	370	13-	New pole outside slope intercept
208+54 LT51'	371	88-27801	Remove pole
207+96 RT51'	372	13-	New pole outside slope intercept
207+97 RT52'	373	55-64008	Remove pole and anchor

<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
209+06 RT51'	374	13-	New pole outside slope intercept
209+04 RT50'	375	55-64007	Remove pole
210+10 RT51'	377	55-64006	Remove pole
210+00 LT51'	380	13-	New pole outside slope intercept
209+97 LT51'	385	56-64006	Remove pole and anchor
211+22 LT50'	390	90-28169	Pole to remain outside slope intercept
211+57 LT50'	390		New anchor outside slope intercept
211+15 RT46'	394	90-28160	Pole and anchors to remain, outside slope intercept
212+24 RT47'	396	90-28161	Pole to remain outside slope intercept, remove anchor
212+26 LT38.5	400	13-	New pole outside slope intercept
212+26 LT52.5	400		New anchor outside slope intercept
212+80 LT37'	410	13-	New pole (St. Light) inside slope intercept. O.k. to grade around.
212+89 LT23'	415	70-1097	Remove pole
213+29 RT48'		90-28166	Pole to remain
214+36 RT49'		90-28158	Pole to remain
214+50 LT56'	420	13-	New pole (Area light) at slope intercept
214+48 LT27'	425	67-5754	Remove pole
215+38 RT50'		90-28162	Pole to remain
216+50 RT51'		90-28163	Pole to remain
217+32 RT50'	430	13-	New pole inside slope intercept. O.k. to grade around.
217+46 RT45'	431	90-28158	Remove pole
105+11 LT56.6 Moorland Rd.	434	Splice pit	Splice new underground cable to existing cable outside slope intercept
105+11 LT62' Moorland Rd.	436	Bore pit	Bore pit for underground cable outside slope intercept



<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
106+89 LT59' Moorland Rd.	438	Bore pit	Bore pit for underground cable outside slope intercept
	434 - 436		New underground cable for Coffee Rd. crossing, placed at min. elevation 915.
	434 - 438		Abandon underground cable
106+89 LT51' Moorland Rd.	450	Bore pit	Bore pit for underground cable outside slope intercept
106+89 RT58' Moorland Rd.	452	Bore pit	Bore pit for underground cable outside slope intercept
	450 - 452		New underground cable for Moorland Rd. crossing, placed in duct outside construction area.
220+66 LT53'	456	Bore pit	Bore pit for underground cable outside slope intercept
	452 - 456		Bury electric in easement outside slope intercept
220+69 RT58'	458	Bore pit	Bore pit for underground cable inside slope intercept at min. elevation 920
	456 - 458		New underground cable for Coffee Rd. crossing, placed in duct min. elevation 918.
	450 - 458		Abandon underground cable
219+11.5 RT46'	460	13-	New pole inside slope intercept, set 1' extra depth
219+10 RT37'	465	90-28164	Remove pole
220+92 RT43.4'	470	13-	New pole inside slope intercept, set 2' extra depth
220+95 RT58'	470		New anchor inside slope intercept, o.k. to grade around
221+28 RT42'	470		New anchor inside slope intercept, o.k. to grade around
220+18 RT35'	475	90-28157	Remove pole
220+88 LT51'	480	13-	New pole outside slope intercept.

<b>Station No.</b>	<b>Sequence No.</b>	<b>Pole No.</b>	<b>Work Proposed</b>
220+52 LT 51'	480		New anchor outside slope intercept.
220+82 LT50'	485	57-7283	Remove pole and anchor
222+20 LT51'	490	13-	New pole outside slope intercept
222+24 LT49'	495	84-06528	Remove pole
223+58 LT49'	500	90-28155	Pole to remain - at slope intercept
222+66 RT33'	505	10-04670	Remove pole
223+44 RT30'	507	90-28168	Remove pole and anchor
224+81 LT51'	510	13-	New pole outside slope intercept.
224+85 LT50'	511	60-3554	Remove pole
224+46 RT50'	514	13-	New pole outside slope intercept
224+50 RT30'	515	90-28167	Remove pole
226+26 LT51'	520	13-	New pole outside slope intercept
226+23 LT50'	525	60-3556	Remove pole
227+75 LT51'	530	13-	New pole outside slope intercept
227+72 LT50'	531	60-3551	Remove pole
227+72 LT38'	533	UNKNOWN	Remove pole
226+91 RT49'	534	13-	New pole outside slope intercept
227+18 RT35'	535	96-17300	Remove pole
229+14 LT51'	540	13-	New pole in slope intercept. O.k. to grade around.
229+18 LT50'	545	60-3555	Remove pole
229+86 LT51'	550	13-	New pole at slope intercept
229+82 LT51'	551	60-3553	Remove pole and anchor
229+79 RT49'	554	13-	New pole outside slope intercept
229+81 RT32'	555	52-64011	Remove pole
231+41 LT46'	560	13-	Pole to remain - outside slope intercept
231+39 RT51'		08-16343	Pole to remain - outside slope intercept

Station No.	Sequence No.	Pole No.	Work Proposed
232+12 LT59'		91-08342	Pole to remain - outside slope intercept
232+75 LT100'	570	91-08341	Pole to remain - outside slope intercept
111+87 LT90' National Ave.	580	13-	New pole outside slope intercept
112+18 LT56' National Ave.	590	01-09029	Pole to remain - outside slope intercept
109+40 LT52' National Ave.	600	13-	New pole outside slope intercept
109+52 LT47' National Ave.	605	01-01895	Remove pole

The contractor should be aware that all utility pole relocations have been engineered to minimize the impact to the contractor's operations, but some facilities will be located within the grading limits. The contractor will therefore be required to work around these facilities in accordance with state statutes.

WE Energies plans to begin relocation work in November 2013 and will require 120 working days to complete.

#### **We Energies - Gas**

We Energies – Gas has buried gas main throughout the project at the following locations:

Station	R/L	Offset (ft)	LT/RT
187+40 to 190+00	Coffee	38	RT
190+25 to 191+36	Coffee	23	RT
191+36 to 197+84	Coffee	38	RT
197+84 to 200+30	Coffee	27	RT
200+30 to 206+37	Coffee	35 to 38	RT
212+94 to 214+50	Coffee	25	RT
214+50 to 217+27	Coffee	10	RT
218+70 to 219+15	Coffee	71 to 36	LT
219+15	Coffee	Crossing	
219+15 to 220+86	Coffee	45	RT
224+39 to 230+50	Coffee	21 to 22	RT
230+50 to 233+30	Coffee	36 to 44	RT
233+30	Coffee Crossing	-	
36+42 to 36+98	S. 159 <sup>th</sup> St.	20 to 26	RT
36+96 to 42+30	S. 159 <sup>th</sup> St.	21 to 23	LT
15+10 to 18+68	St. Francis Dr.	18 to 22	RT
70+00 to 73+68	Monterey Dr.	19 to 22	LT
104+00 to 108+00	Moorland Rd.	52	LT

106+50 to 108+00	Moorland Rd.	50	RT
106+75	Moorland Rd.	Crossing	
108+80 to 112+00	National	56 to 61	LT

In addition there are gas service crossings throughout the project.

The existing gas main will be abandoned in place at locations deemed to be not in conflict. The contractor shall contact WE Energies (Gas) for abatement and removal if abandoned main has been exposed and is in conflict with the proposed project.

We Energies (Gas) proposes to relocate their conflicting buried facilities as follows:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>
187+37 to 212+88	Coffee	40 45	LT
206+32	Coffee	Crossing	
212+88 to 217+44	Coffee	58.5	LT
217+25	Coffee	Crossing	
217+46	Coffee	60.5	LT
217+50	Coffee	66	LT

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>
217+50 to 217+67	Coffee	66 to 85	LT
220+53 to 224+00	Coffee	49	RT
224+00 to 224+48	Coffee	49 to 34	RT
224+48 to 230+00	Coffee	33	RT
230+00 to 231+50	Coffee	33 to 44	RT
231+50 to 233+08	Coffee	44	RT
233+08 to 233+43	Coffee	44 to 74	RT
36+42 to 36+89	S. 159 <sup>th</sup> St.	20 to 28	RT
36+89	S. 159 <sup>th</sup> St.	Crossing	
36+96 to 40+04	S. 159 <sup>th</sup> St.	28	LT
15+10 to 18+68	St. Francis Dr.	28	RT
15+55	St. Francis Dr.	Crossing	
70+42 to 73+68	Monterey Dr.	27	RT
106+80 to 108+00	Moorland Rd.	52	LT
109+61 to 110+00	National	57	LT

We Energies plans to relocate its facilities prior to the start of road construction, dependent on the conditions specified in this work plan.

This work plan is subject to change due to plan changes and soil conditions. This work plan does not cover field adjustments made by the contractor.

If either gas or electric facilities are discovered as "unmarked" by Diggers Hotline, never assume that they are abandoned. You must take proper and prudent action by calling We Energies for verification of dead and abandoned gas mains or electrical cables. If

something is found, please call Gas Leak Emergency (800) 261-5325 for gas mains and Electric Emergency (800) 662-4797 for WE Energies electric facilities.

If you accidentally hit a gas main or service, please call 911 first before calling our emergency numbers.

We energies will locate test stands and valves prior to construction. The contractor is responsible to contact We Energies if these facilities are damaged or buried. Please contact Nick Ernster at (414) 944-5574.

Any facilities not explicitly identified as being relocated have been deemed to be not in conflict and will remain in place as is. It is expected that contractors will work safely around any facilities left within the work zone but not in conflict. If plans change such that facilities become in conflict, it is expected that coordination that will be required.

Locations of facilities may change based on negotiated agreements between landowners and We Energies.

In addition, WE Energies plans to replace all gas service crossings concurrent with roadway construction operations.

WE Energies plans to begin relocation work in November 2013 and will require 60 working days to complete.

Hand digging by the contractor will be required to expose gas mains and service lines when crossing or paralleling within 18 inches.” +1/2 dia. of facilities, power equipment may be used within 12" once facilities are exposed.

If either gas or electric facilities are discovered as "unmarked" by Diggers Hotline, never assume that they are abandoned. You must take proper and prudent action by calling We Energies for verification of dead and abandoned gas mains or electrical cables. If something is found, please call (800) 261-5325 for gas mains and (800) 662-4797 for electrical cables before continuing your construction work at that site location.

The existing gas mains discussed above were installed during an era when “coal tar” wraps were common. It is possible that this wrap was supplemented with a small percentage of asbestos fibers. Typically the fibers are imbedded in the coal tar and do not present a hazard during normal handling. However, WE-Energies company policy dictates that the gas pipe in conflict with the proposed road construction be removed with either company crews or licensed asbestos removal contractors. If asbestos is discovered, WE Energies will work ahead of the road contractor and remove any steel gas pipe that is coated with coal tar wrap containing the asbestos fibers. The gas pipe will need to be removed at any location where the proposed grading and storm sewer operations will conflict with it. If any additional gas pipe removal is required due to plan changes or unforeseen conditions, the contractor shall coordinate with WE Energies for the removal of the pipe in conflict. WE Energies will require a minimum of 24 hours notice to respond to the request and perform an assessment.

The contractor will be given an estimate of the time required to remove the pipe in conflict at the time of the assessment. Contact Russ Ackerman at (262) 552-3215 or be e-mail at [Russ.Ackerman@we-energies.com](mailto:Russ.Ackerman@we-energies.com) for more information regarding the removal of the existing gas pipe.

#### **AT&T (Telephone)**

AT&T has buried facilities at the following locations:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
179+00 to 231+00	Coffee	33 to 50	LT/RT	Buried Cable
194+07.73	Coffee	51.61	RT	Telephone Pedestal
196+03.67	Coffee	67.53	RT	Telephone Pedestal
197+90.65	Coffee	54.96	RT	Telephone Pedestal
200+21.88	Coffee	46.37	RT	Telephone Pedestal
204+68.88	Coffee	49.43	RT	Telephone Pedestal
207+99.79	Coffee	49.28	RT	Telephone Pedestal
209+03.18	Coffee	48.39	RT	Telephone Pedestal
211+18.80	Coffee	51.09	RT	Telephone Pedestal
212+26.66	Coffee	43.55	RT	Telephone Pedestal
213+31.65	Coffee	51.02	RT	Telephone Pedestal
215+47.92	Coffee	49.85	RT	Telephone Pedestal
216+54.60	Coffee	50.64	RT	Telephone Pedestal
216+58.32	Coffee	50.4	RT	Telephone Pedestal
219+06.66	Coffee	34.72	RT	Telephone Pedestal
219+15.15 to 220+75	Coffee	40.81 to 18	RT	Buried Telephone
220+75 to 226+92.18	Coffee	40 to 17	RT	Buried Telephone
226+92.18	Coffee	17.18	RT	Telephone Manhole
226+92	Coffee	Crossing	RT	Buried Telephone
227+20.60	Coffee	32.11	RT	Telephone Manhole
227+21.5 to 229+40	Coffee	28 to 29	RT	Buried Telephone
229+40 to 230+05	Coffee	29 to 24	RT	Buried Telephone
229+74.86	Coffee	29.44	RT	Telephone Pedestal
218+73+220+25	Coffee	39 to 35	LT	Buried Telephone
220+25 to 224+10	Coffee	35 to 34	LT	Buried Telephone
220+82.71	Coffee	46.68	LT	Telephone Pedestal
222+23.39	Coffee	47.3	LT	Telephone Pedestal
224+85.46	Coffee	40.41	LT	Telephone Pedestal
226+48.01	Coffee	35.16	LT	Telephone Manhole
226+50 to 231+35	Coffee	35 to 55	LT	Buried Telephone
231+33.95	Coffee	70.58	LT	Telephone Vault
233+13.53	Coffee	153.56	LT	Telephone Pedestal (x's 3)
110+00 to 110+15	Moorland	66 to 58	RT	Buried Telephone
108+60 to 110+00	Moorland	58 to 66	RT	Buried Telephone

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
106+40 to 108+60	Moorland	56 to 58	RT	Buried Telephone
218+73.41	Coffee	38.98	LT	Telephone Manhole
218+75 to 219+36	Coffee	39 to 41	LT	Buried Telephone
218+75 to 219+45	Coffee	38 to 37	LT	Buried Telephone
219+45 to 224+34	Coffee	38 to 29	LT	Buried Telephone
224+34 to 226+46	Coffee	29 to 35	LT	Buried Telephone
226+45 to 227+80	Coffee	35 to 40	LT	Buried Telephone
227+80 to 229+25	Coffee	40 to 37	LT	Buried Telephone
229+25 to 229+78	Coffee	37 to 46	LT	Buried Telephone
25+40 to 25+45	153rd	Crossing	LT	Buried Telephone
229+78 to 233+43	Coffee	46 to 164	LT	Buried Telephone
223+43 to 233+75	Coffee	164 to 208	LT	Buried Telephone
112+45 to 133+30	National	15 to 40	LT	Buried Telephone

AT&T will relocate their facilities in conflict with construction to the following locations:

### **AT&T Buried Cables**

AT&T has existing buried cables routing (east-west), near present property lines, along the north and south sides of Coffee Road from Station 179+00 to Station 231+00. Because of the expanded right-of-way, grade cuts, new storm sewers, and enlarged pavement areas the existing buried cables will be replaced as indicated below.

Stations 179+00 to 208+00 (south side of roadway): A new buried cable will be installed 2' north of the south property line to avoid the expanded roadway grade cuts and proposed storm sewers.

Stations 211+20 and 212+20: A present buried cable crossing at 211+20 will be replaced with a new crossing at 212+20 to avoid a proposed storm sewer and new pavement grade cuts. The north side routing is planned at 45' north of the base line between stations 212+20 and 211+20, then routing north on Station 211+20 to a present closure at the property line.

Station 216+60 RT 45'+-: Two present cabinets (one in the new pavement) will be relocated to station 212+00 LT 45'. Present buried cables routing west from the new cabinet location are picked up with the proposed crossing cable identified above.

Stations 212+00 to 216+60: A new buried cable will be installed 45' north of the base line, then crossing south at station 216+60, to reach the present cabinet splice location at Station 216+60 RT 50'.

Stations 220+00 to 232+00: The present, north side of the roadway, buried cable that routes 1' to 8' south of the right-of-way line is replaced with a new buried cable at 5'south of the right-of-way and cable loops are extended north where terminals are located at the property line. The south side of the roadway buried cable, at the present right-of-way line, will be replaced with a new buried cable routing 5' north of the proposed south right-of-way

line between Station 224+50 and 229+80, then south to 2' north of the existing right-of-way line at RT 50', continuing east to Station 231+45 where the cable routes into an existing easement. The buried cable design will include information to avoid a proposed street light pole at 231+39.21 RT 49.1'. These proposed cables are connected (north/south) to a present AT&T manhole at 226+95 RT15'.

### **AT&T Underground Conduit**

Stations 217+70 to 226+95: Present AT&T conduit routing from an existing manhole in South Moorland Road at 217+70 RT 50' to 221+50 RT 15', then routing east at 15' south of the baseline to 226+95, will be adjusted due to 3 proposed storm sewers and grade cuts.

Stations 226+95 to 232+75: Existing AT&T conduit routing north from the manhole at 226+95 RT 15' to 226+95 LT 33', Then routing east to 232+75 at 27' & 33' north of the base line to 232+00 will be adjusted do to proposed grade cuts and two storm sewers.

Underground conduit adjustments by AT&T will take place just prior to, or during, the road reconstruction.

The manhole entrance collar at station 226+95 RT 15' will need to be adjusted by AT&T during road reconstruction due to grade changes at that time.

It is anticipated that some facilities will remain within the construction limits and work around these facilities will need to be coordinated with AT&T. The contractor shall contact AT&T 5 working days prior to working in the area, and allow 3 days at each site for AT&T to accomplish their work.

AT&T plans to begin relocation work in February 2014 and will require 70 working days to complete.

### **Time Warner Cable**

Time Warner cable has overhead facilities on We Energies power poles. Time Warner Cable will relocate their facilities after We Energies – Electric has moved their facilities. Time Warner Cable anticipates beginning their work in February of 2014 and completing in 60 working days.

### **City of New Berlin - Sanitary**

The City of New Berlin has Sanitary Sewer at the following locations:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
221+15-231+40	Coffee	40-28	RT	Sanitary Sewer
206+60	Coffee	Crossing	-	Sanitary Sewer
12+56-12+52	ST Francis	0-29	RT	Sanitary Sewer
12+50-13+60	ST Francis	1	LT	Sanitary Sewer
13+60-16+90	ST Francis	0-2	LT	Sanitary Sewer
15+80	ST Francis	Crossing	-	Sanitary Sewer



37+20-41+05	ST Francis	0-2	RT	Sanitary Sewer
40+75	ST Francis	Crossing	-	Sanitary Sewer

No conflicts are anticipated with the sanitary sewer or laterals. Manhole adjustments will be part of the contractor's work for this project and completed during construction.

### **City of New Berlin - Water**

The City of New Berlin has watermain utilities at the following locations:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
10+00 to 10+75	ST Francis	0 to 7	RT	12" Water
10+75 to 11+50	ST Francis	3 to 7	RT	12" Water
11+50 to 12+60	ST Francis	-3 to 12	LT to RT	12" Water
11+85	ST Francis	Crossing	-	12" Water
12+60 to 13+60	ST Francis	11 to 12	LT	12" Water
13+60 to 17+00	ST Francis	11 to 12	LT	12" Water
37+29 159th	Crossing	-		12" Water
37+00 to 40+35	159th	10 to 15	RT	8" Water
40+35 to 42+25	159th	12 to 15	RT	8" Water
206+71	Coffee	Crossing	-	8" Water
105+65 to 108+00	Moorland	40	RT	Water
105+05 to 103+85	Moorland	40 to 41	RT	Water
218+55	Moorland	Crossing	-	Water
217+65 to 218+80	Coffee	20 to 22	LT	Water
106+20	Moorland	Crossing	-	Water
219+00	Coffee	Crossing	-	Water
219+00 to 231+92	Coffee	25 to 0	RT	Water
233+60 to 233+28	Coffee	100 to 95	LT	Water
233+60 to 233+91	Coffee	100 to 155	LT	Water
229+60	Coffee	Crossing	-	Water
25+00 to 26+75	Coffee	10 to 17	RT	Water
26+75 to 27+60	153rd	17 to 23	RT	Water
26+75 to 27+60	153rd	17+23	RT	Water
27+60	153rd	Crossing	-	Water

Hydrant, water valve and watermain vertical offsets will be part of the contractor's work for this project and completed during construction.

### **City of New Berlin – Fiber Optic**

The City of New Berlin has buried fiber optic facilities in 2" conduit at the following locations:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
202+05 to 231+50	Coffee Road	45 to 48	LT	2" Conduit
202+05	Coffee Road	Crossing	-	2" Conduit
111+52	National Ave.	Crossing	-	2" Conduit

Conflicts are anticipated with this project at the intersection of Coffee Road and Moorland Road with the new traffic signals at the following locations:

<b>Station</b>	<b>R/L</b>	<b>Offset (ft)</b>	<b>LT/RT</b>	<b>Type</b>
217+63.5	Coffee Road	63	LT	Signal Pole Base (SB4)
218+23.1	Coffee Road	61	LT	Signal Pole Base (SB5)
218+90.2	Coffee Road	48	LT	Signal Pole Base (SB8)
219+07.5	Coffee Road	47	LT	Signal Pull Box (PB7)

If these 4 facilities are in conflict the fiber optic line will be adjusted to avoid the conflict.

The contractor should be aware that the construction of the project storm sewer will cross these facilities, which are to remain in place at the crossing locations.

#### **TW Telecom – Fiber Optic**

TW Telecom will be constructing a new buried fiber optic line approximately 48” in depth crossing Coffee Road at Station 224+45. The new line will then continue from Station 224+45 to Station 224+80, 38’ LT, where they will connect to the new we energies pole.

This work is anticipated to be completed in November 2013, and the contractor shall take precautions when working in this area to protect the facility.

### **7. Municipality Acceptance of Sanitary Sewer and Water Main Construction.**

Both the department and municipalities personnel will inspect construction of sanitary sewer and water main under this contract. However, construction staking, testing, and final acceptance of the sanitary sewer and water main construction will be by the municipalities.

(100906)

### **8. Referenced Construction Specifications.**

Sanitary sewer and water main bid items reference the Standard Specifications for Sewer and Water Construction in Wisconsin. If there is a discrepancy or conflict between the referenced specification and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

### **9. Work By Others - Removing Signs.**

All signs and sign supports to be removed on local city streets will be removed by the municipalities.

Give the municipalities ten business days advance notice of his schedule for beginning work in areas where city signs are to be removed.

## **10. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.**

The department has obtained a U.S. Army Corps of Engineers Section 404 Permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the district office by contacting Kathy Kramer, at (262) 548-8772.  
107-054 (20080901)

## **11. Erosion Control.**

*Supplement standard spec 107.20 with the following:*

Provide the Erosion Control Implementation Plan (ECIP) 14 days prior to the pre-construction conference. Pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial removals and topsoil stripping operations through the subsequent grading, paving, and re-topsoiling to minimize the period of exposure to possible erosion.

Topsoil graded areas, as designated by the engineer, within 7 days after grading has been completed within those areas. Seed and mulch, or sod, and fertilize all topsoiled areas within 7 days after placement of topsoil.

Furnish and apply water to sodded areas. After staking and cleanup, moisten the sod thoroughly by sprinkling with water. Keep all sodded areas thoroughly moist by watering or sprinkling if rainfall is not sufficient to achieve sod rooting to the earth bed. Water for 30 days after placement, or as the engineer directs. Apply water in a manner to preclude washing or erosion.

Do not pump water from the construction site to a storm water conveyance without the water first passing through a sediment trap.

## **12. Information to Bidders Wetlands.**

The department has obtained a U.S. Army Corps of Engineers Section 404 Permit and WisDNR 401 Water Quality Certification for work being performed on this project in or adjacent to wetlands. Copy(s) of the permit and certification letter are available for viewing at the Region office or at the project field office.

Comply with the requirements of the permit and certification in addition to requirements of the contract. Perform remedial activities without extra compensation if not in compliance.

### **13. Notice to Contractor – Potential Contamination Beyond Construction Limits.**

The department completed testing for soil and ground water contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following site in front of the Kwik Trip Inc. property:

- Station 231+50 to Station 233+50 from 33 feet Right of centerline to 50 feet Right of centerline.

The contaminated soils at the above sites are expected to be beyond the excavation limits necessary to complete the work under this project. Control construction operations at these locations to ensure that they do not extend beyond the excavation limits indicated in the plans. If contaminated soils or groundwater are encountered at these sites or elsewhere on the project during excavation, terminate excavation in the area and notify the engineer.

The Hazardous Materials Report is available by contacting: Kapur & Associates, Inc. 7711 N. Port Washington Rd., Milwaukee, WI 53217, phone (414) 351-6668.

### **14. Public Convenience and Safety.**

*Revise standard spec 107.8(6) as follows:*

Do not operate motorized construction equipment from 7:00 PM until the following 6:00 AM, unless prior written approval is obtained from the engineer.  
107-001 (20060512)

### **15. Coordination with Businesses.**

The contractor shall arrange and conduct a meeting between the subcontractors, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work under this contract and hold two meetings per month thereafter.  
108-060 (20030820)

### **16. Clearing and Grubbing.**

This applies to projects in the emerald ash borer (EAB) quarantined zones to include Fond du Lac, Milwaukee, Ozaukee, Sheboygan, and Washington counties.

*Supplement standard spec 201.3 with the following:*

The emerald ash borer (EAB) has resulted in a quarantine of ash trees (*Fraxinus, sp*) by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) and the Wisconsin Department of Natural Resources (DNR).

Ash trees include the following species:

Green ash (*F. pennsylvanica*) is found throughout the state, but is most common in southern Wisconsin. It may form pure stands or grow in association with black ash, red maple, swamp white oak, and elm. It grows as an associate in upland hardwood stands, but is most common in and around stream banks, floodplains, and swamps.

Black ash (*F. nigra*) is distributed over the entire state but is most frequently found in northern Wisconsin. It is most common in swamps, but is also found in other wet forest types.

Blue ash (*F. quadrangulata*) is a threatened species that is currently found only at a few sites in Waukesha county. The species is at the edge of its range in Wisconsin, but is common in states farther south. The species is not of commercial importance.

Mountain ash (*Sorbus Americana* and *S. decora*) is not a true ash and is not susceptible to EAB infestation.

Follow and obey the following Wisconsin Department of Agriculture, Trade, and Consumer Protection order:

ATCP 21.17 Emerald ash borer; import controls and quarantine.

- (1) IMPORTING OR MOVING REGULATED ITEMS FROM INFESTED AREAS; PROHIBITION. Except as provided in sub. (3), no person may do any of the following:
  - (a) Import a regulated item under sub. (2) into this state if that item originates from an emerald ash borer regulated area identified in 7CFR 301.53-3.
  - (b) Move any regulated item under sub. (2) out of an emerald ash borer regulated area that is identified in 7CFR 301.53-3 and located in this state.

Note: the United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS) periodically updates the list of regulated areas in 7CFR 301.53-3. Subsection (1) applies to new regulated areas as those areas are identified in the CFR.

- (2) REGULATED ITEMS. The following are regulated items for purposes of sub. (1):
  - (a) the emerald ash borer, *Agrilus planipennis* Fairmaire in any living stage.
  - (b) Ash trees.

- (c) Ash limbs, branches, and roots.
- (d) Ash logs, slabs or untreated lumber with bark attached.
- (e) Cut firewood of all non-coniferous species.
- (f) Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.
- (g) Any other item or substance that may be designated as a regulated item if a DATCP pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

### **Regulatory Considerations**

The quarantine means that ash wood products may not be transported out of the quarantined area. If ash trees are identified within clearing and grubbing limits of the Project, the following measures are required for the disposal:

#### **Chipped ash trees**

- 1) May be left on site if used as landscape mulch within the project limits.
- 2) May be buried on site within the right-of-way in accordance to standard spec 201.3 (14).
- 3) May be buried on adjacent properties to projects within the quarantined zone with prior approval of the engineer in accordance to standard spec 201.3 (15).
- 4) May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).
- 5) Burning chips is optional if in compliance with standard spec 201.3.
- 6) Chips must be disposed of immediately and may not be stockpiled.
- 7) Chipper equipment must be cleaned following post-chipping activities to ensure no spread of wood chip debris into non-quarantined counties.

#### **Ash logs, branches, and roots**

- 1) May be buried without chipping within the existing right-of-way or on adjacent properties in accordance to standard spec 201.3 (14)(15).
- 2) May be trucked to a licensed landfill within the quarantined zone with the engineer's approval in accordance to standard spec 201.3 (15).
- 3) Burning is optional if in compliance with standard spec 201.3.
- 4) Ash logs, branches, and roots must be disposed of immediately and may not stockpile.

All additional costs will be incidental to clearing and grubbing items.

Anyone moving firewood or ash products from the state or these counties is subject to state and federal fines up to \$1,000.00. All fines are the responsibility of the contractor. Obtain updated quarantine information at the DNR Firewood Information Line at (800) 303-WOOD.

### **Furnishing and Planting Plant Materials**

This applies to projects in the emerald ash borer (EAB) quarantined zones to include Fond du Lac, Ozaukee, Sheboygan, and Washington counties.

*Supplement standard spec 632.2.2 with the following:*

The emerald ash borer (EAB) has resulted in a quarantine of ash trees (*Fraxinus, sp*) by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) and the Wisconsin Department of Natural Resources (DNR).

Ash trees may be obtained from inside or outside the quarantine area and planted within the quarantined area. Ash trees from within the quarantine area may not be transported and planted into the non-quarantined area.

### **Updates for compliance**

Each year, as a service, the Wisconsin department of agriculture, trade and consumer protection distributes an updated federal CFR listing to nursery license holders and other affected persons in this state. More frequent updates, if any, are available on the department's website at [www.datcp.state.wi.us](http://www.datcp.state.wi.us). Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the department. Persons may request update notices by calling (608) 224-4573, by visiting the department's website, or by writing to the following address:

Wisconsin Department of Agriculture, Trade and Consumer Protection  
Division of Agricultural Resource Management  
P.O. Box 8911  
Madison WI 53708-8911

(2) REGULATED ITEMS. More frequent updates, if any, are available on the department's website at [www.datcp.state.wi.us](http://www.datcp.state.wi.us). Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the department. Persons may request update notices by calling (608) 224-4573, by visiting the department's website, or by writing to the above address.

## **17. Reference Monuments.**

Two weeks prior to the start of construction operations, notify the Southeastern Wisconsin Planning Commission surveyor, Lee Kreblin, at W239 N1812 Rockwood Drive, Waukesha, WI 53187-1607, of Public Land Survey System (PLSS) section corners that may be destroyed during construction. Coordinate with the commission or consultant personnel the relocation or reestablishment of PLSS monument(s) during the construction operations.

## **18. Backfill Granular.**

Conform to the gradation requirements of grade 2 granular backfill in accordance to standard spec 209.2.1.

## **19. QMP Base Aggregate.**

### **A A Description**

#### **A.1 General**

- (1) This special provision describes contractor quality control (QC) sampling and testing for base aggregates, documenting those test results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.
- (2) Conform to standard spec 301, standard spec 305, and standard spec 310 as modified here in this special provision. Apply this special provision to material placed under all of the Base Aggregate Dense and Base Aggregate Open Graded bid items, except do not apply this special provision to material classified as reclaimed asphaltic pavement placed under the Base Aggregate Dense bid items.
- (3) Do not apply this special provision to material placed under the Aggregate Detours, Salvaged Asphaltic Pavement Base, Breaker Run, Select Crushed, Pit Run, Subbase, or Riprap bid items.
- (4) Provide and maintain a quality control program, defined as all activities related to and documentation of the following:
  1. Production and placement control and inspection.
  2. Material sampling and testing.
- (5) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

#### **A.2 Contractor Testing for Small Quantities**

- (1) The department defines a small quantity, for each individual Base Aggregate bid item, as a plan quantity of 9000 tons or less of material as shown in the schedule of items under that bid item.
- (2) The requirements under this special provision apply equally to a small quantity for an individual bid item except as follows:
  1. The contractor need not submit a full quality control plan but shall provide an organizational chart to the engineer including names, telephone numbers, and current certifications of all persons involved in the quality control program for material under affected bid items.



2. Divide the aggregate into uniformly sized sublots for testing as follows:

<b>Plan Quantity</b>	<b>Minimum Required Testing</b>
$\leq 1500$ tons	One test from production, load-out, or placement at the contractor's option <sup>[1]</sup>
$> 1500$ tons and $\leq 6000$ tons	Two tests of the same type, either from production, load-out, or placement at the contractor's option <sup>[1]</sup>
$> 6000$ tons and $\leq 9000$ tons	Three placement tests <sup>[2][3]</sup>

<sup>[1]</sup> If using production tests for acceptance, submit test results to the engineer for review prior to incorporating the material into the work. Production test results are valid for a period of 3 years.

<sup>[2]</sup> For 3-inch material, obtain samples at load-out.

<sup>[3]</sup> If the actual quantity overruns 9000 tons, create overrun sublots to test at a rate of one additional placement test for each 3000 tons, or fraction of 3000 tons, of overrun.

3. No control charts are required. Submit aggregate load-out and placement test results to the engineer within one business day of obtaining the sample. Assure that all properties are within the limits specified for each test.

4. Department verification testing is optional for quantities of 6000 tons or less.

(3) Material represented by a subplot with any property outside the specification limits is nonconforming. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

## **B Materials**

### **B.1 Quality Control Plan**

(1) Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not place base before the engineer reviews and comments on the plan. Construct the project as that plan provides.

(2) Do not change the quality control plan without the engineer's review. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in each of the contractor's laboratories as changes are adopted. Ensure that the plan provides the following elements:

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. A list of source and processing locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
4. Test results for wear, sodium sulfate soundness, freeze/thaw soundness, and plasticity index of all aggregates requiring QC testing. Obtain this information from the region materials unit or from the engineer.
5. Descriptions of stockpiling and hauling methods.

6. Locations of the QC laboratory, retained sample storage, and where control charts and other documentation is posted.
7. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.

## **B.2 Personnel**

- (1) Have personnel certified under the department's highway technician certification program (HTCP) perform sampling, testing, and documentation as follows:

<b>Required Certification Level:</b>	<b>Sampling or Testing Roles:</b>
Aggregate Technician IPP Aggregate Sampling Technician Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Sampling <sup>[1]</sup>
Aggregate Technician IPP Aggregate Assistant Certified Technician (ACT-AGG)	Aggregate Gradation Testing, Aggregate Fractured Particle Testing, Aggregate Liquid Limit and Plasticity Index Testing

<sup>[1]</sup> Plant personnel under the direct observation of an aggregate technician certified at level one or higher may operate equipment to obtain samples.

- (2) A certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

## **B.3 Laboratory**

- (1) Perform QC testing at a department-qualified laboratory. Obtain information on the Wisconsin laboratory qualification program from:  
Materials Management Section  
3502 Kinsman Blvd.  
Madison, WI 53704  
Telephone: (608) 246-5388  
<http://www.dot.state.wi.us/business/engrserv/lab-qualification.htm>

## **B.4 Quality Control Documentation**

### **B.4.1 General**

- (1) Submit base aggregate placement documentation to the engineer within 10 business days after completing base placement. Ensure that the submittal is complete, neatly organized, and includes applicable project records and control charts.

### **B.4.2 Records**

- (1) Document all placement observations, inspection records, and control adjustments daily in a permanent field record. Also include all test results in the project records. Provide test results to the engineer within 6 hours after obtaining a sample. For 3-inch

base, extend this 6-hour limit to 24 hours. Post or distribute tabulated results using a method mutually agreeable to the engineer and contractor.

#### **B.4.3 Control Charts**

- (1) Plot gradation and fracture on the appropriate control chart as soon as test results are available. Format control charts according to CMM 8.30. Include the project number on base placement control charts. Maintain separate control charts for each base aggregate size, source or classification, and type.
- (2) Provide control charts to the engineer within 6 hours after obtaining a sample. For 3-inch base, extend this 6-hour limit to 24 hours. Post or distribute charts using a method mutually agreeable to the engineer and contractor. Update control charts daily to include the following:
  1. Contractor individual QC tests.
  2. Department QV tests.
  3. Department IA tests.
  4. Four-point running average of the QC tests.
- (3) Except as specified under B.8.2.1 for nonconforming QV tests, include only QC tests in the running average. The contractor may plot process control or informational tests on control charts, but do not include these tests, conforming QV tests, or IA tests in the running average.

#### **B.5 Contractor Testing**

- (1) Test gradation, fracture, liquid limit and plasticity index during placement for each base aggregate size, source or classification, and type.
- (2) Test gradation once per 3000 tons of material placed. Determine random sample locations and provide those sample locations to the engineer. Obtain samples after the material has been bladed, mixed, and shaped but before compacting; except collect 3-inch samples from the stockpile at load-out. Do not sample from material used to maintain local traffic or from areas of temporary base that will not have an overlying pavement. On days when placing only material used to maintain local traffic or only temporary base that will not have an overlying pavement, no placement testing is required.
- (3) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.
- (4) The engineer may require additional sampling and testing to evaluate suspect material or the technician's sampling and testing procedures.

- (5) Test fracture for each gradation test until the fracture running average is above the lower warning limit. Subsequently, the contractor may reduce the frequency to one test per 10 gradation tests if the fracture running average remains above the warning limit.
- (6) Test the liquid limit and plasticity index for the first gradation test. Subsequently, test the liquid limit and plasticity index a minimum of once per 10 gradation tests.

## **B.6 Test Methods**

### **B.6.1 Gradation**

- (1) Test gradation using a washed analysis conforming to the following as modified in CMM 8.60:  
 Gradation..... AASHTO T 27  
 Material finer than the No. 200 sieve..... AASHTO T 11
- (2) For 3-inch base, if 3 consecutive running average points for the percent passing the No. 200 sieve are 8.5 percent or less, the contractor may use an unwashed analysis. Wash at least one sample out of 10. If a single running average for the percent passing the No. 200 sieve exceeds 8.5 percent, resume washed analyses until 3 consecutive running average points are again 8.5 percent passing or less.
- (3) Maintain a separate control chart for each sieve size specified in standard spec 305 or standard spec 310 for each base aggregate size, source or classification, and type. Set control and warning limits based on the standard specification gradation limits as follows:
  1. Control limits are at the upper and lower specification limits.
  2. There are no upper warning limits for sieves allowing 100 percent passing and no lower control limits for sieves allowing 0 percent passing.
  3. Dense graded warning limits, except for the No. 200 sieve, are 2 percent within the upper and lower control limits. Warning limits for the No. 200 sieve are set 0.5 percent within the upper and lower control limits.
  4. Open graded warning limits for the 1-inch, 3/8-inch, and No. 4 sieves are 2 percent within the upper and lower control limits. Upper warning limits for the No. 10, No. 40, and No. 200 sieves are 1 percent inside the upper control limit.

### **B.6.2 Fracture**

- (1) Test fracture conforming to CMM 8.60. The engineer will waive fractured particle testing on quarried stone.
- (2) Maintain a separate fracture control chart for each base aggregate size, source or classification, and type. Set the lower control limit at the contract specification limit, either specified in another special provision or in table 301-2 of standard spec 301.2.4.5. Set the lower warning limit 2 percent above the lower control limit. There are no upper limits.

### **B.6.3 Liquid Limit and Plasticity**

- (1) Test the liquid limit and plasticity according to AASHTO T 89 and T 90.
- (2) Ensure the material conforms to the limits specified in standard spec table 301-2.

## **B.7 Corrective Action**

### **B.7.1 General**

- (1) Consider corrective action when the running average trends toward a warning limit. Take corrective action if an individual test exceeds the contract specification limit. Document all corrective actions both in the project records and on the appropriate control chart.

### **B.7.2 Placement Corrective Action**

- (1) Do not blend additional material on the roadbed to correct gradation problems.
- (2) Notify the engineer whenever the running average exceeds a warning limit. When 2 consecutive running averages exceed a warning limit, the engineer and contractor will discuss appropriate corrective action. Perform the engineer's recommended corrective action and increase the testing frequency as follows:
  1. For gradation, increase the QC testing frequency to at least one randomly sampled test per 1000 tons placed.
  2. For fracture, increase the QC testing frequency to at least one test per gradation test.
- (3) If corrective action improves the property in question such that the running average after 4 additional tests is within the warning limits, the contractor may return to the testing frequency specified in B.5.3. If corrective action does not improve the property in question such that the running average after 4 additional individual tests is still in the warning band, repeat the steps outlined above starting with engineer notification.
- (4) If the running average exceeds a control limit, material starting from the first running average exceeding the control limit and ending at the first subsequent running average inside the control limit is nonconforming and subject to pay reduction.
- (5) For individual test results significantly outside the control limits, notify the engineer, stop placing base, and suspend other activities that may affect the area in question. The engineer and contractor will jointly review data, data reduction, and data analysis; evaluate sampling and testing procedures; and perform additional testing as required to determine the extent of potentially unacceptable material. The engineer may direct the contractor to remove and replace that material. Individual test results are significantly outside the control limits if meeting one or more of the following criteria:

1. A gradation control limit for the No. 200 sieve is exceeded by more than 3.0 percent.
2. A gradation control limit for any sieve, except the No. 200, is exceeded by more than 5.0 percent.
3. The fracture control limit is exceeded by more than 10.0 percent.

## **B.8 Department Testing**

### **B.8.1 General**

- (1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

### **B.8.2 Verification Testing**

#### **B.8.2.1 General**

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in B.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests of each base aggregate size, source or classification, and type during placement conforming to the following:
  1. One non-random test on the first day of placement.
  2. At least one random test per 30,000 tons, or fraction of 30,000 tons, placed.
- (3) The department will sample randomly, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will collect QV samples after the material has been bladed, mixed, and shaped but before compacting; except, for 3-inch aggregates, the department will collect samples from the stockpile at load-out. The department will split each sample, test half for QV, and retain half.
- (4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to the specification, the department will take no further action. If QV test results are nonconforming, add the QV to the QC test results as if it were an additional QC test.

#### **B.8.3 Independent Assurance**

- (1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform an IA review

according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
  2. Proficiency sample testing.
  3. Witnessing sampling and testing.
  4. Test equipment calibration checks.
  5. Reviewing required worksheets and control charts.
  6. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in B.9.

### **B.9 Dispute Resolution**

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate sampling and testing procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) Production test results, and results from other process control testing, may be considered when resolving a dispute.
- (3) If the project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

### **C (Vacant)**

### **D (Vacant)**

### **E Payment**

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to this work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the non-performance of QMP administrative item.

- (2) For material represented by a running average exceeding a control limit, the department will reduce pay by 10 percent of the contract price for the affected Base Aggregate bid items listed in subsection A. The department will administer pay reduction under the Nonconforming QMP Base Aggregate Gradation or Nonconforming QMP Base Aggregate Fracture Administrative items. The department will determine the quantity of nonconforming material as specified in B.7.2.

301-010 (20100709)

## **20. Base Aggregate Dense 1¼-Inch for Lower Base Layers.**

*Replace standard spec 305.2.2.1(2) with the following:*

- Use 1¼-inch base throughout the full base depth.
- Use ¾-inch base in the top 3 inches of the unpaved portion of shoulders. Use ¾-inch base or 1¼-inch base elsewhere in shoulders.

305-020 (20080902)

## **21. QMP Ride; Incentive IRI Ride, Item 440.4410.S.**

### **A Description**

- (1) This special provision describes profiling pavements with a non-contact profiler, locating areas of localized roughness, and determining the International Roughness Index (IRI) for each wheel path segment.
- (2) Profile the final riding surface of all mainline pavements. Include auxiliary lanes in Category I and II segments; crossroads with county, state or U.S. highway designations greater than 1500 feet in continuous length; bridges, bridge approaches; and railroad crossings. Exclude roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections.
- (3) The engineer may direct straightedging under standard spec 415.3.10 for pavement excluded from localized roughness under C.5.2 (1); for bridges; and for roundabouts and pavements within 150 feet of the points of curvature of roundabout intersections. Other surfaces being tested under this provision are exempt from straightedging requirements.

### **B (Vacant)**

### **C Construction**

#### **C.1 Quality Control Plan**

- (1) Submit a written quality control plan to the engineer at or before the pre-pave meeting. Ensure that the plan provides the following elements:



1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of all quality control personnel.
2. The process by which quality control information and corrective action efforts will be disseminated to the appropriate persons. Include a list of recipients, the communication means that will be used, and action time frames.
3. The methods and timing used for monitoring and/or testing ride quality throughout the paving process. Also indicate the approximate timing of acceptance testing in relation to the paving operations.
4. The segment locations of each profile run used for acceptance testing.
5. Traffic Control Plan

## **C.2 Personnel**

- (1) Have a profiler operator, certified under the department's highway technician certification program (HTCP), operate the equipment, collect the required data, and analyze the results using the methods taught in the HTCP profiling course. Ensure that an HTCP-certified profiler operator supervises data entry into the material records system (MRS).

## **C.3 Equipment**

- (1) Furnish a profile-measuring device capable of measuring IRI from the list of department-approved devices published on the department's web site:  
<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>
- (2) Unless the engineer and contractor mutually agree otherwise, arrange to have a calibrated profiler available when paving the final riding surface.
- (3) Perform daily calibration verification of the profiler using test methods according to the manufacturer's recommendations. Notify the engineer before performing the calibration verification. If the engineer requests, arrange to have the engineer observe the calibration verification and operation. Maintain records of the calibration verification activities, and provide the records to the engineer upon request.

## **C.4 Testing**

### **C.4.1 Run and Reduction Parameters**

- (1) Enter the equipment-specific department-approved filter settings and parameters given in the approved profilers list on the department's QMP ride web site.  
<http://roadwaystandards.dot.wi.gov/standards/qmp/profilers.pdf>

### **C.4.2 Contractor Testing**

- (1) Operate profilers within the manufacturer's recommended speed tolerances. Perform all profile runs in the direction of travel. Measure the longitudinal profile of each wheel track of each lane. The wheel tracks are 6.0 feet apart and centered in the traveled way of the lane.

- (2) Coordinate with the engineer to schedule profile runs for acceptance. The department may require testing to accommodate staged construction or if corrective action may be required.
- (3) Measure the profiles of each standard or partial segment. Define primary segments starting at a project terminus and running contiguously along the mainline to the other project terminus. Field-locate the beginning and ending points for each profile run. When applicable, align segment limits with the subplot limits used for testing under the QMP Concrete Pavement specification. Define segments one wheel path wide and distinguished by length as follows:
  1. Standard segments are 500 feet long.
  2. Partial segments are less than 500 feet long.
- (4) Treat partial segments as independent segments.

The department will categorize each standard or partial segment as follows:

<b>Segments with a Posted Speed Limit of 55 MPH or Greater</b>	
<b>Category</b>	<b>Description</b>
HMA I	Asphalt pavement with multiple opportunities to achieve a smooth ride. The following operations performed under this contract are considered as opportunities: a layer of HMA, a leveling or wedging layer of HMA, and diamond grinding or partial depth milling of the underlying pavement surface.
HMA II	Asphalt pavement with a single opportunity to achieve a smooth ride.
HMA III	Asphalt pavement segments containing any portion of a bridge, bridge approach, railroad crossing, or intersection. An intersection is defined as the area within the points of curvature of the intersection radii.
PCC II	Concrete pavement.
PCC III	Concrete pavement segments containing any portion of a bridge, bridge approach, railroad crossing, intersection or gap. An intersection is defined as the area within the points of curvature of the intersection radii.

<b>Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH</b>	
<b>Category</b>	<b>Description</b>
HMA IV	Asphalt pavement including intersections, bridges, approaches, and railroad crossings.
PCC IV	Concrete pavement including gaps, intersections, bridges, approaches, and railroad crossings.

#### **C.4.3 Verification Testing**

- (1) The department may conduct verification testing (QV) to validate the quality of the product. A HTCP certified profiler operator will perform the QV testing. The department will provide the contractor with a listing of the names and telephone numbers of all verification personnel for the project.

- (2) The department will notify the contractor before testing so the contractor can observe the QV testing. Verification testing will be performed independent of the contractor's QC work using separate equipment from the contractor's QC tests. The department will provide test results to the contractor within 1 business day after the department completes the testing.
- (3) The engineer and contractor will jointly investigate any testing discrepancies. The investigation may include additional testing as well as review and observation of both the department's and contractor's testing procedures and equipment. Both parties will document all investigative work.
- (4) If the contractor does not respond to an engineer request to resolve a testing discrepancy, the engineer may suspend production until action is taken. Resolve disputes as specified in C.6.

#### **C.4.4 Documenting Profile Runs**

- (1) Compute the IRI for each segment and analyze areas of localized roughness using the ProVAL software. Also, the contractor shall prepare the ProVAL Ride Quality Module Reports, showing the IRI for each segment and the areas of localized roughness exceeding an IRI of 200 in/mile. Use ride quality module report as follows:

	<u>Fixed Interval</u>	<u>Continuous (Localized Roughness)</u>
Base-length	500'	25'
Threshold	140"/Mile	200"/Mile

The ProVAL software is available for download at:

<http://www.roadprofile.com>.

- (2) As part of the profiler software outputs and ProVAL reports, document the areas of localized roughness. Field-locate the areas of localized roughness prior to the engineer's assessment for corrective actions. Document the reasons for areas excluded and submit to the engineer.
- (3) Within 5 business days after completing profiling of the pavement covered under this special provision, unless the engineer and contractor mutually agree to a different timeline, submit the electronic ProVAL project file containing the .ppf files for each profiler acceptance run data and Ride Quality Module Reports, in .pdf format using the department's Materials Reporting System (MRS) software available on the department's web site:

<http://www.atwoodsystems.com/mrs>

Notify the engineer when the Profiler Acceptance Run data and the Ride Quality Report have been submitted to the MRS system.

## **C.5 Corrective Actions**

### **C.5.1 General**

- (1) Analyze the data from the PROVAL reports and make corrective action recommendations to the department. The department will independently assess whether a repair will help or hurt the long-term pavement performance before deciding on corrective action. Correct the ride as the engineer directs in writing.

### **C.5.2 Corrective Actions for Localized Roughness**

- (1) Apply localized roughness requirements to all pavements, including HMA III, PCC III, HMA IV, and PCC IV; except localized roughness requirements will not be applied to pavements within 25 feet of the following surfaces if they are not constructed under this contract: bridges, bridge approaches, or railroad crossings. The department may direct the contractor to make corrections to the pavement within the 25-foot exclusionary zones.
- (2) The engineer will review each individual wheel track for areas of localized roughness. The engineer will assess areas of localized roughness within 5 business days of receiving notification that the reports were uploaded. The engineer will analyze the report documenting areas that exceed an IRI of 200 in/mile and do one of the following for each location:
  1. Direct the contractor to correct the area to minimize the effect on the ride.
  2. Leave the area of localized roughness in place with no pay reduction.
  3. Except for HMA IV and PCC IV segments, assess a pay reduction as follows for each location in each wheel path:

<b>Localized Roughness IRI (in/mile)</b>	<b>Pay Reduction<sup>[1]</sup> (dollars)</b>
> 200	(Length in Feet) x (IRI –200)

<sup>[1]</sup> A maximum \$250 pay reduction may be assessed for locations of localized roughness that are less than or equal to 25 feet long. Locations longer than 25 feet may be assessed a maximum pay reduction of \$10 per foot.

- (3) The engineer will not direct corrective action or assess a pay reduction for an area of localized roughness without independent identification of that area as determined by physically riding the pavement. For corrections, use only techniques the engineer approves.
- (4) Re-profile corrected areas to verify that the IRI is less than 140 in/mile after correction. Submit a revised ProVAL ride quality module report to the reference documents section of the MRS for the corrected areas to validate the results.

### **C.5.3 Corrective Actions for Excessive IRI**

- (1) If an individual segment IRI exceeds 140 in/mile for HMA I, HMA II, and PCC II pavements after correction for localized roughness, the engineer may require the contractor to correct that segment. Correct the segment final surface as follows:

HMA I:	Correct to an IRI of 60 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling the full lane width, if required, of the riding surface including adjustment of the paved shoulders.
HMA II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Mill and replace the full lane width of the riding surface excluding the paved shoulder. Continuous diamond grinding or fine-tooth milling of the full lane width, if required, of the riding surface including adjustment of the paved shoulders
PCC II:	Correct to an IRI of 85 in/mile using whichever of the following methods as approved by the engineer: Continuous diamond grinding of the full lane width, if required, of the riding surface including adjustment of the paved shoulders. Conform to sections C.1 through C.4 of Concrete Pavement Continuous Diamond Grinding Special provision contained elsewhere in the contract. Remove and replace the full lane width of the riding surface.

- (2) Re-profile corrected segments to verify that the final IRI meets the above correction limits and there are no areas of localized roughness. Enter a revised ProVAL ride quality module report for the corrected areas to the reference documents section of the MRS. Segments failing these criteria after correction are subject to the engineer's right to adjust pay for non-conforming work under standard spec 105.3.

### **C.6 Dispute Resolution**

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor may review the data, examine data reduction and analysis methods, evaluate testing procedures, and perform additional testing.
- (2) If the project personnel cannot resolve a dispute and the dispute affects payment or could result in incorporating nonconforming pavement, the department will use third party testing to resolve the dispute. The department's Quality Assurance Unit, or a mutually agreed on independent testing company, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in

error will pay service charges incurred for testing by an independent tester. The department may use third party tests to evaluate the quality of questionable pavement and determine the appropriate payment.

#### **D Measurement**

- (1) The department will measure Incentive IRI Ride by the dollar, adjusted as specified in E.2.

#### **E Payment**

##### **E.1 Payment for Profiling**

- (1) Costs for furnishing and operating the profiler, documenting profile results, and correcting the final pavement surface are incidental to the contract. The department will pay separately for engineer-directed corrective action performed within the 25-foot exclusionary zones under C.5.2 as extra work.

##### **E.2 Pay Adjustment**

- (1) The department will pay incentive for ride under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
440.4410.S	Incentive IRI Ride	DOL

- (2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.
- (3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.
- (4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.
- (5) The department will adjust pay for each segment based on the initial IRI for that segment. If corrective action is required, the department will base disincentives on the IRI after correction for pavement meeting the following conditions:
  - All Pavement: The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
  - HMA Pavements: The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
  - Concrete Pavements: The corrective work is a full depth replacement and conforms to standard spec 415.
- (6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation “QMP 1.04” as follows:

<b>HMA I</b>	
<b>Initial IRI (inches/mile)</b>	<b>Pay Adjustment<sup>[1]</sup> (dollars per standard segment)</b>
< 30	250
≥ 30 to <35	1750 – (50 x IRI)
≥ 35 to < 60	0
≥ 60 to < 75	1000 – (50/3 x IRI)
≥ 75	-250

<b>HMA II and PCC II</b>	
<b>Initial IRI (inches/mile)</b>	<b>Pay Adjustment<sup>[1][2]</sup> (dollars per standard segment)</b>
< 50	250
≥ 50 to < 55	2750 – (50 x IRI)
≥ 55 to < 85	0
≥ 85 to < 100	(4250/3) – (50/3 x IRI)
≥ 100	-250

<b>HMA IV and PCC IV</b>	
<b>Initial IRI (inches/mile)</b>	<b>Pay Adjustment<sup>[1][2]</sup> (dollars per standard segment)</b>
< 35	250
≥ 35 to < 45	1125-(25xIRI)
≥ 45	0

<sup>[1]</sup> If the engineer directs placing upper layer asphaltic mixtures between October 15 and May 1 for department convenience as specified in standard spec 450.3.2.1(5), the department will not adjust pay for ride on pavement the department orders the contractor to place when the temperature, as defined in standard spec 450.3.2.1(2), is less than 36 F.

<sup>[2]</sup> If the engineer directs placing concrete pavement for department convenience, the department will not adjust pay for ride on pavement the department orders the contractor to place when the air temperature falls below 35 F.

- (7) The department will prorate the pay adjustment for partial segments based on their length.  
440-010 (20130615)

## **22. QMP HMA Pavement Nuclear Density.**

### **A Description**

Replace standard spec 460.3.3.2 (1) and standard spec 460.3.3.2 (4) with the following:

- (1) This special provision describes density testing of in-place HMA pavement with the use of nuclear density gauges. Conform to standard spec 460 as modified in this special provision.

- (2) Provide and maintain a quality control program defined as all activities and documentation of the following:
  1. Selection of test sites.
  2. Testing.
  3. Necessary adjustments in the process.
  4. Process control inspection.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes required procedures. Obtain the CMM from the department's web site at:  
<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>
- (4) The department's Materials Reporting System (MRS) software allows contractors to submit data to the department electronically, estimate pay adjustments, and print selected reports. Qualified personnel may obtain MRS software from the department's web site at:  
<http://www.atwoodsystems.com/mrs>

## **B Materials**

### **B.1 Personnel**

- (1) Perform HMA pavement density (QC, QV) testing using a HTCP certified nuclear technician I, or a nuclear assistant certified technician (ACT-NUC) working under a certified technician.
- (2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

### **B.2 Testing**

- (1) Conform to ASTM D2950 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter position. Perform each test for 4 minutes of nuclear gauge count time.

### **B.3 Equipment**

#### **B.3.1 General**

- (1) Furnish nuclear gauges from the department's approved product list at  
<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>.
- (2) Have the gauge calibrated by the manufacturer or an approved calibration service within 12 months of its use on the project. Retain a copy of the manufacturer's calibration certificate with the gauge.



- (3) Prior to each construction season, and following any calibration of the gauge, the contractor must perform calibration verification for each gauge using the reference blocks located in the department's central office materials laboratory. To obtain information or schedule a time to perform calibration verification, contact the department's Radiation Safety Officer at:  
Materials Management Section  
3502 Kinsman Blvd.  
Madison, Wisconsin 53704  
Telephone: (608) 243-5998

### **B.3.2 Correlation of Nuclear Gauges**

#### **B.3.2.1 Correlation of QC and QV Nuclear Gauges**

- (1) Select a representative section of the compacted pavement prior to or on the first day of paving for the correlation process. The section does not have to be the same mix design.
- (2) Correlate the 2 or more gauges used for density measurement (QC, QV). The QC and QV gauge operators will perform the correlation on 5 test sites jointly located. Record each density measurement of each test site for the QC, QV and back up gauges.
- (3) Calculate the average of the difference in density of the 5 test sites between the QC and QV gauges. Locate an additional 5 test sites if the average difference exceeds 1.0 lb/ft<sup>3</sup>. Measure and record the density on the 5 additional test sites for each gauge.
- (4) Calculate the average of the difference in density of the 10 test sites between the QC and QV gauges. Replace one or both gauges if the average difference of the 10 tests exceeds 1.0 lb/ft<sup>3</sup> and repeat correlation process from B.3.2.1 (2).
- (5) Furnish one of the QC gauges passing the allowable correlation tolerances to perform density testing on the project.

#### **B.3.2.2 Correlation Monitoring**

- (1) After performing the gauge correlation specified in B.3.2.1, establish a project reference site approved by the department. Clearly mark a flat surface of concrete or asphalt or other material that will not be disturbed during the duration of the project. Perform correlation monitoring of the QC, QV, and all back-up gauges at the project reference site.
- (2) Conduct an initial 10 density tests with each gauge on the project reference site and calculate the average value for each gauge to establish the gauge's reference value. Use the gauge's reference value as a control to monitor the calibration of the gauge for the duration of the project.
- (3) Check each gauge on the project reference site a minimum of one test per day if paving on the project. Calculate the difference between the gauge's daily test result and its reference value. Investigate if a daily test result is not within 1.5 lb/ft<sup>3</sup> of its

reference value. Conduct 5 additional tests at the reference site once the cause of deviation is corrected. Calculate and record the average of the 5 additional tests. Remove the gauge from the project if the 5-test average is not within 1.5 lb/ft<sup>3</sup> of its reference value established in B.3.2.2(2).

- (4) Maintain the reference site test data for each gauge at an agreed location.

## **B.4 Quality Control Testing and Documentation**

### **B.4.1 Lot and Sublot Requirements**

#### **B.4.1.1 Mainline Traffic Lanes, Shoulders, and Appurtenances**

- (1) A lot consists of the tonnage placed each day for each layer and target density specified in standard spec 460.3.3.1. A lot may include partial sublots.
- (2) Divide the roadway into sublots. A sublot is 1500 lane feet for each layer and target density.
- (3) A sublot may include HMA placed on more than one day of paving. Test sublots at the pre-determined random locations regardless of when the HMA is placed. No additional testing is required for partial sublots at the beginning or end of a day's paving.
- (4) If a resulting partial quantity at the end of the project is less than 750 lane feet, include that partial quantity with the last full sublot of the lane. If a resulting partial quantity at the end of the project is 750 lane feet or more, create a separate sublot for that partial quantity.
- (5) Randomly select test locations for each sublot as specified in CMM 8.15 prior to paving and provide a copy to the engineer. Locate and mark QC density test sites when performing the tests. Perform density tests prior to opening the roadway to traffic.
- (6) Use Table 1 to determine the number of tests required at each station, depending on the width of the lane being tested. When more than one test is required at a station, offset the tests 10 feet longitudinally from one another to form a diagonal testing row across the lane.

<b>Lane Width</b>	<b>No. of Tests</b>	<b>Transverse Location</b>
5 ft or less	1	Random
Greater than 5 ft to 9 ft	2	Random within 2 equal widths
Greater than 9 ft	3	Random within 3 equal widths

**Table 1**

#### **B.4.1.2 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts**

- (1) A lot represents a combination of the total daily tonnage for each layer and target density.

- (2) Each side road, crossover, turn lane, ramp, and roundabout must contain at least one subplot for each layer.
- (3) If a side road, crossover, turn lane, or ramp is 1500 feet or longer, determine sublots and random test locations as specified in B.4.1.1.
- (4) If a side road, crossover, turn lane, or ramp is less than 1500 feet long, determine sublots using a maximum of 750 tons per subplot and perform the number of random tests as specified in Table 2.

<b>Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage</b>	<b>Minimum Number of Tests Required</b>
25 to 100 tons	1
101 to 250 tons	3
251 to 500 tons	5
501 to 750 tons	7

**Table 2**

## **B.4.2 Pavement Density Determination**

### **B.4.2.1 Mainline Traffic Lanes and Appurtenances**

- (1) Calculate the average subplot densities using the individual test results in each subplot.
- (2) If all subplot averages are no more than one percent below the target density, calculate the daily lot density by averaging the results of each random QC test taken on that day's material.
- (3) If any subplot average is more than one percent below the target density, do not include the individual test results from that subplot when computing the lot average density and remove that subplot's tonnage from the daily quantity for incentive. The tonnage from any such subplot is subject to disincentive pay according to standard spec 460.5.2.2.

### **B.4.2.2 Mainline Shoulders**

#### **B.4.2.2.1 Width Greater Than 5 Feet**

- (1) Determine the pavement density as specified in B.4.2.1.

#### **B.4.2.2.2 Width of 5 Feet or Less**

- (1) If all subplot test results are no more than 3.0 percent below the minimum target density, calculate the daily lot density by averaging all individual test results for the day.
- (2) If a subplot test result is more than 3.0 percent below the target density, the engineer may require the unacceptable material to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine the limits of the unacceptable material according to B.4.3.

#### **B.4.2.3 Side Roads, Crossovers, Turn Lanes, Ramps, and Roundabouts**

- (1) Determine the pavement density as specified in B.4.2.1.

#### **B.4.2.4 Documentation**

- (1) Document QC density test data as specified in CMM 8.15. Provide the engineer with the data for each lot within 24 hours of completing the QC testing for the lot.

#### **B.4.3 Corrective Action**

- (1) Notify the engineer immediately when an individual test is more than 3.0 percent below the specified minimum in standard spec 460.3.3.1. Investigate and determine the cause of the unacceptable test result.
- (2) The engineer may require unacceptable material specified in B.4.3(1) to be removed and replaced with acceptable material or allow the nonconforming material to remain in place with a 50 percent pay reduction. Determine limits of the unacceptable area by measuring density of the layer at 50-foot increments both ahead and behind the point of unacceptable density and at the same offset as the original test site. Continue testing at 50-foot increments until a point of acceptable density is found as specified in standard spec 460.5.2.2(1). Removal and replacement of material may be required if extended testing is in a previously accepted subplot. Testing in a previously accepted subplot will not be used to recalculate a new lot density.
- (3) Compute unacceptable pavement area using the product of the longitudinal limits of the unacceptable density and the full subplot width within the traffic lanes or shoulders.
- (4) Retesting and acceptance of replaced pavement will be according to standard spec 105.3.
- (5) Tests indicating density more than 3.0 percent below the specified minimum, and further tests taken to determine the limits of unacceptable area, are excluded from the computations of the subplot and lot densities.
- (6) If 2 consecutive subplot averages within the same paving pass and same target density are more than one percent below the specified target density, notify the engineer and take necessary corrective action. Document the locations of such sublots and the corrective action that was taken.

### **B.5 Department Testing**

#### **B.5.1 Verification Testing**

- (1) The department will have a HTCP certified technician, or ACT working under a certified technician, perform verification testing. The department will test randomly at locations independent of the contractor's QC work. The department will perform verification testing at a minimum frequency of 10 percent of the sublots and a minimum of one subplot per mix design. The sublots selected will be within the active work zone. The contractor will supply the necessary traffic control for the department's testing activities.

- (2) The QV tester will test each selected subplot using the same testing requirements and frequencies as the QC tester.
- (3) If the verification subplot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.
- (4) If the verification subplot average is more than one percent below the specified target density, compare the QC and QV subplot averages. If the QV subplot average is within 1.0 lb/ft<sup>3</sup> of the QC subplot average, use the QC tests for acceptance.
- (5) If the first QV/QC subplot average comparison shows a difference of more than 1.0 lb/ft<sup>3</sup> each tester will perform an additional set of tests within that subplot. Combine the additional tests with the original set of tests to compute a new subplot average for each tester. If the new QV and QC subplot averages compare to within 1.0 lb/ft<sup>3</sup>, use the original QC tests for acceptance.
- (6) If the QV and QC subplot averages differ by more than 1.0 lb/ft<sup>3</sup> after a second set of tests, resolve the difference with dispute resolution specified in B.6. The engineer will notify the contractor immediately when density deficiencies or testing precision exceeding the allowable differences are observed.

#### **B.5.2 Independent Assurance Testing**

- (1) Independent assurance is unbiased testing the department performs to evaluate the department's verification and the contractor's QC sampling and testing including personnel qualifications, procedures, and equipment. The department will perform the independent assurance review according to the department's independent assurance program.

#### **B.6 Dispute Resolution**

- (1) The testers may perform investigation in the work zone by analyzing the testing, calculation, and documentation procedures. The testers may perform gauge correlation according to B.3.2.1.
- (2) The testers may use correlation monitoring according to B.3.2.2 to determine if one of the gauges is out of tolerance. If a gauge is found to be out of tolerance with its reference value, remove the gauge from the project and use the other gauge's test results for acceptance.
- (3) If the testing discrepancy cannot be identified, the contractor may elect to accept the QV subplot density test results or retesting of the subplot in dispute within 48 hours of paving. Traffic control costs will be split between the department and the contractor.
- (4) If investigation finds that both gauges are in error, the contractor and engineer will reach a decision on resolution through mutual agreement.

## **B.7 Acceptance**

- (1) The department will not accept QMP HMA Pavement Nuclear Density if a non-correlated gauge is used for contractor QC tests.

## **C (Vacant)**

## **D (Vacant)**

## **E Payment**

### **E.1 QMP Testing**

- (1) Costs for all sampling, testing, and documentation required under this special provision are incidental to the work. If the contractor fails to perform the work required under this special provision, the department may reduce the contractor's pay. The department will administer pay reduction under the Non-performance of QMP administrative item.

### **E.2 Disincentive for HMA Pavement Density**

- (1) The department will administer density disincentives according to standard spec 460.5.2.2.

### **E.3 Incentive for HMA Pavement Density**

- (1) Delete standard spec 460.5.2.3.
- (2) If the lot density is greater than the minimum specified in standard spec table 460-3 and all individual air voids test results for that mixture are within +1.0 percent or -0.5 percent of the design target in standard spec table 460-2, the department will adjust pay for that lot as follows:

<b>Percent Lot Density Above Minimum</b>	<b>Pay Adjustment Per Ton</b>
From -0.4 to 1.0 inclusive	\$0
From 1.1 to 1.8 inclusive	\$0.40
More than 1.8	\$0.80

- (3) The department will adjust pay under the Incentive Density HMA Pavement bid item. Adjustment under this item is not limited, either up or down, to the bid amount shown on the schedule of items.
- (4) If a traffic lane meets the requirements for disincentive, the department will not pay incentive on the integrally paved shoulder.
- (5) Submit density results to the department electronically using the MRS software. The department will validate all contractor data before determining pay adjustments.

460-020 (20100709)

## **23. Cover Plates Temporary, Item 611.8120.S.**

### **A Description**

This special provision describes furnishing, installing and removing a steel plate to cover and support asphaltic pavement and traffic loading at manholes, inlets and similar structures during milling and paving operations.

### **B Materials**

Provide a 0.25-inch minimum thickness steel plate that extends to the outside edge of the existing masonry.

### **C (Vacant)**

### **D Measurement**

The department will measure Cover Plates Temporary as each individual unit, acceptably completed in place.

### **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, adjusting for lower pavement lifts, and removing the cover plates.

All related work for the adjustment including sawing asphalt, removals, base aggregate, HMA pavement and other items will be paid for at the contract unit prices.

The steel plates shall become the property of the contractor when no longer needed in the contract work.

## **24. Pipe Grates, Item 611.9800.S.**

### **A Description**

This special provision describes furnishing and installing pipe grates on the ends of pipes as shown in the plans, and as hereinafter provided.

### **B Materials**

Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish pipe grates galvanized in accordance to ASTM A123.

Furnish angles and brackets galvanized in accordance to ASTM A123.

Furnish required hardware galvanized in accordance to ASTM A153.

**C Construction**

Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

**D Measurement**

The department will measure Pipe Grates in units of work, where one unit is one grate, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; drilling and connecting grates to pipes.

611-010 (20030820)

**25. Insulation Board Polystyrene, 2 Inch Item 612.0902.S.01.****A Description**

This special provision describes furnishing and placing polystyrene insulation board as shown on the plans and as hereinafter provided.

**B Materials**

Provide polystyrene insulation board that conforms to the requirements for Extruded Insulation Board, AASHTO Designation M230, except as hereinafter revised.

Delete flammability requirement.

**B.1 Certification**

Before installation, obtain from the manufacturer a certification indicating compliance and furnish it to the engineer.

**C (Vacant)****D Measurement**

The department will measure Insulation Board Polystyrene (size) by area in square yards of work, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
612.0902.S.01	Insulation Board Polystyrene 2 Inch	SY



Payment is full compensation for furnishing all excavation; furnishing and placing the insulation board.  
(082003) 612-005

## **26. Water.**

*Modify standard spec 624.1 as follows:*

### **Description**

This special provision describes furnishing, hauling and application of water for dust control within the right-of-way, in the amounts and at the location ordered or permitted by the engineer and in accordance to the requirements of the plans and specification. Water required for the compaction of embankments and base courses, or for recompaction of existing base course is incidental to these items.

## **27. Landscape Planting Surveillance and Care Cycles.**

If the care specialist fails to perform any of the required care cycles as specified in standard spec 632.3.19.1, the department will assess daily damages in the amount of \$200.00 to cover the cost of performing the work with other forces. The department will assess these damages for each day the requirements of the care cycle remain incomplete, except when the engineer extends the required time period.

632-005 (20070510)

## **28. Traffic Control.**

Perform the work under this item in accordance to the requirements of standard spec 643, as shown on the plans or as approved by the engineer, except as herein modified.

Permanently label each barricade, sign or other traffic control device with the name and telephone number for 24-hour emergency service, printed in letters at least 3/4-inches in height.

Do not proceed with any operation until all traffic control devices for such work are in the proper location.

During the life of this contract, provide 24 hour-a-day availability of equipment and forces to promptly restore barricades, lights, or other traffic control devices that are damaged or disturbed. In no case may any barricade, light, or other traffic control device be out of service for more than 2 hours. The cost to maintain and restore the above items is incidental to the item of traffic control and no additional payment will be made therefore.

Have available at all times sufficient experienced personnel to promptly install, remove and reinstall the required traffic control devices to route traffic in order to perform the operations.

Provide the municipalities Police departments and the engineer a current telephone number with which the contractor or his representative can be contacted during non-working hours in the event a safety hazard develops.

Mask out all traffic control signs and remove flags when not in use.

The traffic requirements are subject to change at the direction of the engineer in the event of an emergency.

Receive prior approval from the engineer for the location of egress or ingress for construction vehicles to prosecute the work.

Park or store equipment and materials only at work sites approved by the engineer.

Do not disturb, remove, or obliterate any traffic control signs, advisory signs, shoulder delineators, or beam guard in place along the traveled roadways without the approval of the engineer.

Install appropriate advance and intermediate warning signs of standard design. Install the signs at locations indicated on the plan and at locations as directed by the engineer in accordance to Part VI of the Manual of Uniform Traffic Control Devices. Sign shape, message and color must be in accordance to Part VI of the Manual of Uniform Traffic Control Devices. All signs must be reflectorized.

## **29. Traffic Signals, General.**

Work under this item shall consist of furnishing and installing all materials for traffic signals at the following intersections, in accordance to the plans, the standard specifications, and these special provisions.

- Coffee Road and Calhoun Road (City of New Berlin)
- Coffee Road and CTH O (Moorland Road) (Waukesha County)
- Coffee Road and National Avenue (Waukesha County)

The contractor shall furnish all materials, which include but are not limited to, the traffic signal cabinet and controller, and traffic signal control equipment as listed in the plans (such as, pedestal bases, transformer bases, traffic signal standards, poles, trombone arms, monotube poles and arms, traffic signal faces, backplates, pedestrian signal faces, pedestrian push buttons, traffic signal mounting hardware, video detection system, emergency vehicle preemption system, concrete foundations, etc.). Certain materials may be removed and reinstalled; if such items are included in this project, these items are identified as “SALVAGED” in the Miscellaneous Quantities tables in the plans.

Furnish the engineer with material lists and specifications of all traffic control equipment for approval prior to installation.

The contractor is responsible for requesting the electrical service installation or relocation from the power company and the city or county shall pay the installation costs. The contractor shall coordinate with the city or county to verify a contact person and address to be listed in the electrical service application.

The contractor shall stake the proposed locations of traffic signal items 10 days prior to starting work so that the locations of the proposed facilities can be approved by the city or county. Any field changes regarding the location of the signal poles, pull boxes, etc. shall be approved either by the city or county personnel or by the city or county's on-site construction management representative.

The contractor shall request an inspection of the underground wiring upon completion of its installation and a full inspection of the completed signal installation prior to, or at the time of, signal start up testing. This request shall be made to the city or county at least three working days prior to the time of the requested inspection.

Note that failure to comply with the state standards and specifications may result in the cost of the corrections to be made at the contractor's expense.

### **30. Geotextile Fabric Type SR.**

Furnish and install Geotextile Fabric Type SR conforming to standard spec 645 and conforming to the following physical properties:

<b>Test</b>	<b>Method</b>	<b>Value<sup>(1)</sup></b>
Minimum Tensile Strength	ASTM D 4595	110 lb/in
Maximum Elongation at Required Strength	ASTM D 4595	5%
Minimum Puncture Strength	ASTM D 4833	900 lb
Maximum Apparent Opening Size	ASTM D 4751	600 micrometer
Minimum Permittivity	ASTM D 4491	0.7 s <sup>-1</sup>

<sup>1.</sup> All numerical values represent minimum/maximum average roll values. Average test results from all rolls in a lot must conform to the tabulated values.

645-035 (20080902)

### **31. Pedestrian Push Buttons, Item 658.0500.**

*Append standard spec 658.2.5 with the following:*

The contractor shall furnish vandal resistant, pressure activated, pedestrian push buttons, with die cast body type, in unfinished aluminum or yellow. Button constructed shall be constructed of stainless steel, with a Piezo driven solid state switch, momentary LED display and beeper that sounds simultaneously with button push.

The contractor shall furnish low profile, unfinished cast aluminum, vandal resistant, and flush mounting pole mount.

The contractor shall place a Size 1, Type H reflective (R10-3EL, R, D) sign sticker (per state sign plate), message series – B, directly above each push button. Include a directional arrow or arrows on the sign as the plans show.

**32. Temporary Traffic Signals for Intersections Coffee Road and CTH O (Moorland Road), Item 661.0200.01; Coffee Road and National Avenue, Item 661.0200.02.**

*Append standard spec 661.2.1 with the following:*

- (1) The contractor shall furnish all temporary traffic signal equipment as shown on the plan. The signal controller shall be capable of operating with video camera detection.
- (3) Contractor shall use existing underground electric service and meter breaker pedestal for the operation of the temporary traffic signal. The County will pay for all energy costs for the operation of the temporary traffic signal.
- (5) Furnish a video image detector system consisting of video image detector cameras, mounting brackets and hardware, power cable, video image processor card, and auxiliary equipment to make the video detector system fully operational.

*Append standard spec 661.3.1 with the following:*

- (4) Install temporary video detection cameras at the locations shown on the plans at a minimum 30-foot mounting height. Install power cable and signal cabinet equipment. Aim the video cameras to provide detection at the locations shown on the plans and make the video detector system fully operational. The temporary video detection equipment is not allowed to be used for the permanent installations.
- (5) In the event, at installation or turn on date, a noticeable obstruction is present in line with the video detection zone(s), advise the engineer before setting the zone.
- (6) The video camera shall be mounted on a wooden pole or luminaire arm. Relocate the video camera to a suitable location if there is impedance on the sensor operation, construction related or otherwise.
- (7) The video detection system, as shown in the traffic signal construction plans, shall be complete, in place, tested, and in full operation during each stage and sub-stage of construction.

*Append standard spec 661.3.1.1 with the following:*

- (2) Sawcut existing pavement and concrete curb and gutter as needed to install the wood poles and guy wire anchors. Sawcut existing pavement in accordance to the pertinent provisions in standard spec 690.3, Construction. Remove pavement and concrete curb and gutter as shown on the plans and if needed to install the wood poles and guy wire

anchors. Remove only as much pavement as needed to install the wood poles. Remove pavement and curb and gutter in accordance to the pertinent provisions in standard spec 204.3, Construction. Hold any wood poles in place and/or move wood poles during construction due to conflicts with proposed work.

*Append standard spec 661.3.1.4 with the following:*

(1) Arrange for weekly inspections with the engineer to check the height of the span wire above the roadways to ensure that the bottom of the traffic signal heads remain within the minimum and maximum heights allowed above the roadway. Make all height adjustments within 1-hour of an inspection indicating that adjustments are required. Notify the engineer in writing upon completion of all necessary adjustments. Maintain a written log to properly document the date of each monthly inspection, the heights above the roadway, the roadway clearance after adjustments have been made and acceptance by the engineer. Provide all documentation related to the weekly span wire height checks as well as all records related to maintenance performed on the temporary traffic signal installations to the engineer prior to surrendering the temporary traffic signals.

(4) Maintain all temporary vehicle detection zones as the plans show or as the engineer directs. The temporary vehicle detection zones shall be set near the vicinity and within the approximate distance from the stop bar as shown on the plans. Check temporary vehicle detection zones every other week and at the opening of each stage of temporary traffic signal operation to ensure that they are working and are aimed properly. Periodic adjustment of the detection zones and/or moving of the temporary vehicle detection sensors may be required due to changes in traffic control, staging, or other construction operations.

Ensure that the temporary vehicular detection system stays in clean working order. Periodic cleaning of the equipment may be required due to dirt and dust build-up.

*Append standard spec 661.3.2.6 with the following:*

(6) Remove the video detection system from the temporary traffic signal poles and cabinet.

*Append standard spec 661.5 with the following:*

ITEM NUMBER	DESCRIPTION	UNIT
661.0200.01	Temporary Traffic Signals for Intersections Intersection of Coffee Road and CTH O (Moorland Road)	LS
661.0200.02	Temporary Traffic Signals for Intersections Intersection of Coffee Road and National Avenue	LS
661.0300	Generators	Day

Payment for the Temporary Traffic Signals for Intersections bid item is full compensation for providing, operating, maintaining, and repairing the complete temporary installation; and for removal. Payment also includes the following:

1. Furnishing and installing the replacement equipment.
2. The cost of delivery and pick-up of the cabinet assemblies.
3. Removal of service and site restoration.

Payment is full compensation for drilling holes; furnishing and installing all materials, including bricks, and coarse aggregate; for excavation, bedding, and backfilling, including any sand or other required materials; furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; for making inspections; for checking and/or adjusting the temporary detection zones every other week; for maintaining and changing the temporary detection zones to match the plans, traffic control, and construction staging; for relocating the temporary detection sensors due to construction activities, if required; for periodically cleaning all temporary vehicle detector equipment; for removing the temporary vehicle detector system; and for cleaning up and properly disposing of waste.

### **33. Traffic Signal Controller and Cabinet Fully Actuated 8-Phase, Item SPV.0060.01.**

#### **A Description**

This specification describes furnishing and installing a fully equipped and operational NEMA TS2 Type 2 traffic signal control cabinet.

#### **B General Requirements**

##### **B.1 General**

Furnish and install equipment and assemble the cabinet conforming to the latest revision of NEMA Standards Publication TS 2-2003, *Traffic Controller Assemblies with NTCIP Requirements*, National Electrical Manufacturers Association, hereinafter called NEMA TS2 Standard, except where modified in this specification. All work shall conform to the Wisconsin State Electrical Code (WSEC). All work shall conform to standard spec 651 as supplemented or modified in this specification.

Provide cabinets designed for TS2 Type 2 operation. Pre-wire cabinets for a minimum of sixteen phases as specified herein.

The traffic signal controller shall be an Eagle Signal Controls EPAC 3808M52.

Furnish and install at no extra cost any equipment and materials not specifically described but required in order to perform the intended functions in the cabinet.

Install the cabinet on the foundation and terminate all connections. Test for correct operation.

## **B.2 Definitions**

Contractor or vendor – the firm under contract with the county or other entity for furnishing and installing the traffic signal cabinet

Construction contractor – the firm under contract with the county or another entity to construct a roadway facility. The construction contractor may designate a subcontractor, such as an electrical subcontractor, to represent them with regards to the signal cabinet installation.

County – Waukesha County

City – City of New Berlin

Manufacturer – the firm that builds or produces the traffic signal equipment other than the cabinet. For example, the “controller manufacturer”

## **C Cabinet**

### **C.1 Design**

Furnish a door-in-door ground mounted (without anchor bolts) aluminum cabinet of clean-cut design and appearance. Provide a cabinet of minimum size 44 inches wide, minimum 24 inches deep and minimum 52 inches to maximum 60 inches high. The size of the cabinet shall provide ample space for housing the controller, all of the associated devices which are to be furnished with the controller, all other auxiliary devices herein specified, and all equipment to be furnished and installed by others as listed in the Description section of this specification.

The cabinet shall comply with the environmental and operating standards outlined in the NEMA TS2 Standard. The cabinet shall provide reasonable vandalism protection. The cabinet shall have a NEMA 3R rating.

Construct the cabinet from type 5052-H32 aluminum with a minimum thickness of 0.125 inches. Furnish the cabinet with a natural, uncoated, aluminum finish inside and outside. Continuously weld all seams. The surface shall be smooth, free of marks and scratches. Use stainless steel for all external hardware.

On the top of the cabinet, incorporate a 1-inch slope toward the rear to prevent rain accumulation. Incorporate a rain channel into the design of the main door opening to prevent liquids from entering the enclosure.

Include an exhaust plenum with a vent screen into the roof of the cabinet. Perforations in the vent screen shall not exceed 0.125 inches in diameter.

Equip the lower section of the cabinet door with a louvered air entrance. The air inlet shall be large enough to allow sufficient air flow per the rated fan capacity. Louvers must satisfy the NEMA rod entry test for Type 3R ventilated enclosures. Secure a washable, fiberglass, removable air filter to the air entrance. The filter shall fit snugly against the

cabinet door wall. Attach an aluminum, easily removable, gasketed cover over the air filter and louver.

## **C.2 Doors**

The cabinet door opening shall be a minimum of 80 percent of the front surface of the cabinet. The main door and police door-in-door shall each close against a weatherproof and dust-proof, closed-cell neoprene gasket seal. The gasket material for the main door shall be a minimum of 0.188 inches thick by 1.00 inch wide. The gasket material for the police door shall be a minimum of 0.188 inches thick by 0.500 inches wide. Permanently bond the gaskets to the cabinet.

Equip the main door with a three-point latching mechanism. The upper and lower locking points of the latching mechanism shall each have a pair of nylon rollers. The handle on the main door shall utilize a shank of stainless steel 3/4 inches minimum diameter. The handle shall include a hasp for the attachment of an optional padlock. The cabinet door handle may turn either clockwise or counterclockwise to open, and shall not extend outwards past the edge of the door at any time. Position the lock assembly so the key will not cause any interference with the handle, or a person's hand on the handle, when opening the cabinet door.

Include on the main door a solid stainless steel rod stop and catch mechanism capable of rigidly holding the door open at approximately 90, 120, and 180 degrees under windy conditions. The operator must be able to engage and disengage the catch with a shoed or booted foot.

The main door hinge shall be a one-piece, continuous piano hinge with a minimum 0.25 inch stainless steel pin running the entire length of the right side of the door (right-handed). Attach the hinge in such a manner that no rivets or bolts are exposed.

Equip the main door with a brass Corbin tumbler lock No. 2, swing away dust cap, and provide two keys No. 2. Equip the police door-in-door with a standard police lock and provide one key.

Electrically bond the door to the rest of the cabinet with a braided copper grounding conductor. The length of the grounding conductor shall allow the door to swing fully open, without using the stop bar, without stretching or breaking the grounding conductor. The grounding conductor shall not interfere with normal door operation.

Provide a door switch for the main cabinet door. When the door is opened the switch shall send a signal to the controller sufficient for the controller to log an alarm.

## **C.3 Shelves and Mountings**

Mount a minimum of three vertical "C" channels, compatible with Unistrut channel nuts, on each interior side wall of the cabinet for the purpose of mounting the cabinet components. The channels shall accommodate spring mounted nuts or studs. Install three vertical "C" channels or three slotted rails on the interior back wall of the cabinet. All



mounting channels and rails shall extend to within 7 inches of the top and bottom of the cabinets and shall be of sufficient strength to rigidly hold specified shelves and equipment.

Provide two full-width, 11-inch deep, fully adjustable, aluminum shelves to support the controller and other equipment. Mount the lower shelf at a height above the bottom of the cabinet such that the shelf and attached drawer does not interfere with the ability to tilt the terminal facility forward on its hinges for maintenance purposes. Mount the top shelf at least 13 inches above the surface of the lower shelf.

Locate the controller and Malfunction Management Unit (MMU) on the top shelf. Locate the loop detector racks and other auxiliary equipment on the lower shelf. The power supply may be mounted on either shelf.

Provide an under-shelf drawer under the lower shelf. The drawer shall be approximately 20 inches wide and the full depth of the shelf. The drawer shall operate easily and smoothly, and shall have a stop to prevent inadvertently pulling the drawer out of its support. Design the stop to allow purposeful complete removal of the drawer without the use of tools.

#### **C.4 Auxiliary Cabinet Equipment**

Ventilate the cabinet by means of a 120 VAC, 60HZ, tube axial compact type fan located in the top of the cabinet plenum. The fan's free delivery airflow shall be equal to or greater than 100 cubic feet per minute. The magnetic field of the fan motor shall not affect the performance of control equipment. The fan bearings shall operate freely. The fan unit shall not crack, creep, warp, or have bearing failure within a seven year duty cycle. The maximum noise level shall be less than 40 decibels. The fan unit shall be corrosion resistant. The thermostat's turn on setting shall be adjustable from 90 to 120 degrees F. The fan shall run until the cabinet temperature decreases below the turn-on temperature setting by approximately 30 degrees F. The fan shall be fused.

Mount an incandescent lamp and socket in the cabinet to sufficiently illuminate the field terminals. Wire the lamp to a 15-amp ON/OFF toggle switch mounted on the rear cover of the police panel as specified in the Cabinet Switches section of this specification.

Provide a 250 watt element heater. Install the heater on the face of the aluminum, louvered air filter cover such that feed air is supplied through the cover. Provide a protective, ventilated cover over the heater. Provide a cord and twist-off plug to an electrical receptacle on the cabinet door. Provide a thermostat with an adjustable setting from 0 to 100 degrees F. Install the thermostat on the interior ceiling of the cabinet well away from the cabinet light or any heat source. Provide a thermal limit switch to prevent the heater's protective cover from exceeding 170 degrees F.

## **D Terminals and Facilities**

### **D.1 Terminal Facility**

The terminal facility panel shall be constructed from 5052-H32 brushed aluminum of 0.125 inches minimum thickness and formed so as to eliminate any flexing when plug-in components are installed.

Mount the bottom of the terminal facility a minimum of nine inches from the bottom of the cabinet. Hinge the terminal facility at the bottom to allow easy access with simple tools to all wiring on the rear of the panel. It shall not be necessary to remove the lower shelf, the shelf drawer, or any shelf-mounted equipment to hinge down the terminal facility. Provide sufficient slack in the load bay wiring to allow for dropping the load bay.

Fully wire the terminal facility with sixteen load switch sockets: eight phases of vehicular, four phases of pedestrian, and four phases of overlap operation; eight flash transfer relay sockets; one flasher socket; and two terminal facility Bus Interface Unit (BIU) rack slots. The use of printed circuit boards is not acceptable on the terminal facility, except printed circuit boards are acceptable for the BIU interface with the load bay. Position the 16 load switch sockets in two horizontal rows of eight sockets each. Support the load switches and flasher by a bracket or shelf extending at least three inches from the terminal facility.

Label all terminals, load switches, and flash transfer relay sockets. Label reference designators by silk-screening on the front and rear of the terminal facility to match drawing designations.

Provide rack mounted BIU's. Provide a dual-row, 64-pin female DIN 41612 Type B connector for each BIU rack position. Provide card guides for both edges of the BIU. Terminal and facilities BIU mounting shall be an integral part of the terminal facility.

Provide two each 16-channel, 8-position, TS2 detector racks, each with an integrally mounted BIU mounting. Racks shall be addressable. Power each detector rack by the cabinet power supply. Fasten the loop detector racks towards the left side of the lower shelf.

For BIU rack connectors, provide pre-wired address pins or jumper plugs corresponding to the requirements of the NEMA TS2 Standard. The address pins or jumper plugs shall control the BIU mode of operation. BIUs shall be capable of being interchanged with no additional programming.

For the terminal facility, contain all field wires within one or two rows of horizontally-mounted Marathon heavy duty terminal blocks. Terminate all field output circuits on an unfused terminal block with a minimum rating of 10 amps. Use mechanical connector lugs rated for copper wire. Angle the lower section of the terminal block out from the back of the cabinet at approximately a 45 degree angle.

Identify all field input/output (I/O) terminals by permanent alphanumeric labels. All labels shall use standard nomenclature per the NEMA TS2 Standard.

All field flash sequence programming at the field terminals shall be able to be accomplished with the use of only a screwdriver.

Wire field terminal blocks to use three positions per vehicle or overlap phase (green, yellow, red).

Wire one RC network in parallel with each flash transfer relay coil.

Permanently label all logic-level, NEMA-controller and MMU input and output terminations on the terminal facility. Identify the function of each terminal position on the cabinet drawings.

Terminal blocks for DC signal interfacing shall have a number 6-32 x 7/32 inch screw as minimum. Functions to be terminated shall be as specified in the listing of Input/ Output Terminals in Section 5 of the NEMA TS2 Standard.

Conform all terminal facility and cabinet wiring to the Wisconsin State Electrical Code (WSEC). The green/ walk, yellow, and red/ don't walk load switch outputs shall be minimum 16 gauge wire. The MMU (other than AC power), controller I/O, and logic ground shall be minimum 22 gauge wire. All wire colors shall be consistent in all cabinets furnished in one order.

## **D.2 Auxiliary Panels**

### **D.2.1 Vehicle Detection Interface Panel**

Provide a 32-position interface panel or two 16-position panels. Each interface panel shall allow for the connection of 32 or 16 independent field loops, respectively. The panels shall have barrier strip type terminals using 8-32 screws and be rated for 20 inch pounds of torque. Provide a ground bus terminal between each loop pair terminal to provide a termination for the loop lead-in cable ground wire. Secure the interface panels to a mounting plate attached to the left interior side wall of the cabinet.

Provide a cable consisting of 20 AWG twisted pair wires to enable connection to and from the interface panel to a detector rack. The twisted pair wires shall be color-coded wires. Provide a cable of sufficient length to allow the detector rack to be placed on either shelf.

Identify all termination points by a unique number silk screened on the panel.

### **D.2.2 Intersection Lighting**

Provide an intersection lighting control panel as described. The intersection lighting control panel shall consist of an aluminum panel 0.125 inches thick and approximately 5 inches by 10 inches. Determine the actual panel size by the cabinet's mounting rail placement. Attach to the panel a 2 pole-30 amp contactor-120vac coil (Square D #8910DPA32V02 or equal), and a heavy duty six position terminal block (Marathon DJ1606 or equal). Use wire sizes 10AWG for power and load wiring, and 16AWG for control wires. Wire the terminal strip as follows:

1. Control coil
2. L1 in
3. L2 in
4. Neutral in and control coil
5. L1 out
6. L2 out

Protect each output by a MOV (V150LA20A) wired between the output and neutral. Include a photo control (Intermatic #K4021C or equal). Mount the photo control just above the cabinet door and approximately 12 inches from the right side of the cabinet. Wire the photo control to a 3 position terminal strip using 16AWG wire color coded to match the photo control wiring connected to the intersection lighting control panel.

### **D.3 Conductors and Cabling**

All conductors in the cabinet shall be copper 22 AWG or larger. All 14 AWG and smaller wire shall conform to MIL-W-16878/1, Type B, 600V, 19-strand tinned copper. The wire shall have a minimum of 0.010 inches thick PVC insulation without clear nylon jacket and rated to 105 degrees Celsius. All 12 AWG and larger wire shall be UL or NRTL listed THHN/THWN 90 degrees Celsius, 600V, 0.020 inches thick PVC insulation, and clear nylon jacketed.

Provide controller and MMU cables of sufficient length to allow the units to be placed on either cabinet shelf in the operating mode. Connecting cables shall be sleeved in a braided nylon mesh. Exposed tie-wraps and interwoven cables are unacceptable.

Provide the cabinet configuration with enough SDLC RS-485 Port 1 communication cables to allow full capabilities of that cabinet. Each communication cable connector shall be a 15-pin metal shell D subminiature type. The cable shall be a shielded cable suitable for RS-485 communications. Secure all connecting cables and wire runs by mechanical clamps. Stick-on type clamps are not acceptable.

Pre-wire the terminal facility for a Type 16 MMU.

All wiring shall be neat in appearance. Stow excess cable behind the terminal facility or below the shelves in order to allow easy access to the terminal facility and cabinet components. All cabinet wiring shall be continuous from its point of origin to its termination point. Butt type connections/splices are not acceptable.

Wire the grounding system in the cabinet into three separate circuits: AC Neutral, Earth Ground, and Logic Ground.

Optoisolate all pedestrian pushbutton inputs from the field to the controller through the BIU and operate at 12 VAC.

Hook or loop all wire, size 16 AWG or smaller, at solder joints around the eyelet or terminal block post prior to soldering to ensure circuit integrity. Lap joint soldering is not acceptable.

#### **D.4 Cabinet Switches**

Locate the following switches on a maintenance panel on the inside of the cabinet door:

- a. Controller On/Off
- b. Cabinet Light
- c. Stop Time (Three Position)
- d. Manual Detector Switches (Three Position)

<b>Position</b>	<b>Switch Label</b>	<b>Function</b>
Upper	Stop Time	Place stop time on the controller
Center	Run	Remove the stop time input to the controller
Lower		Normal Connects the MMU to the controller stop time input

Locate the following switches behind the police access door:

- a. Signal/Off
- b. Flash/Normal
- c. Hand/ auto
- d. Coiled hand control and cable

The above switches shall function as follows:

Off: Signals Dark

Signal: Signals On and operating as follows:

<b>Auto</b>		<b>Hand</b>
Flash:	Signals Flash	Signals Flash
Normal:	Signals Normal	Signals Advance by use of hand control

Provide manual detector switches. Provide a minimum of 16 vehicle detector switches, and four pedestrian detector switches. The switches shall be spring loaded and automatically return to the center position. Wire the vehicle detector switches to detector

BIU slot 1. Wire the pedestrian switches to the T&F BIU slot 1. The switches shall operate as follows:

<b>Position</b>	<b>Function</b>
Up	Detector Disabled
Center	Detector Enabled
Down	Detector Called

## **E Power Panel**

### **E.1 Design**

The power panel shall consist of a separate module, securely fastened to the interior right side wall of the cabinet. Wire the power panel to provide the necessary power to the cabinet, controller, MMU, cabinet power supply, and all auxiliary equipment. Manufacture the power panel from 0.090-inch, 5052-H32 aluminum. Panel layout shall facilitate field inspection and maintenance accessibility without excessive disassembly or special tools.

Provide a light, tough, transparent, weather-resistant, non-yellowing, thermoplastic cover, rigidly mounted over the full power panel, with access holes for circuit breakers and other equipment, and open on the sides for ventilation.

### **E.2 Bus Bar**

Provide a minimum 20-position neutral bus bar capable of connecting three #12 AWG wires per position.

### **E.3 Circuit Breakers**

House in the power panel the following vertically mounted, single pole, 120 volts AC, 60 Hertz, circuit breakers, with the ON position being up:

- One 30-amp signal breaker. This breaker shall supply power for all cabinet functions not powered through one of the other breakers or fuses listed below. Streetlights will be powered from outside the cabinet in the meter breaker pedestal. This breaker shall feed a signal bus supplied through a solid state bus relay and a radio interference line filter. The bus relay, in all cases, shall be a solid state contactor and shall not be jack mounted. Breakers shall be thermal magnetic type, UL or NRTL listed, with a minimum of 22,000 amp interrupting capacity.
- One 15-amp auxiliary breaker. This breaker shall supply power to the fan and heater.
- One 10-amp breaker. This breaker shall supply power for control equipment: controller, MMU, and cabinet power supply.
- One 20-amp circuit breaker for future use.

Power the cabinet light through the GFI fuse, not a circuit breaker.

#### **E.4 Radio Interference Suppressor**

Equip each control cabinet with a single radio interference suppressor (RIS) of sufficient ampere rating to handle the load requirements. Install the RIS at the input power point. The RIS shall minimize interference in both the broadcast and the aircraft frequencies, and shall provide a maximum attenuation of 50 DB over a frequency range from 200 KHZ to 75 MHZ, when used in connection with normal installations. The RIS shall be hermetically sealed in a substantial metal case filled with a suitable insulating compound. The terminals shall be nickel-plated brass studs of sufficient external length to provide space to connect two #8 AWG wires and shall be so mounted that they cannot be turned in the case. Ungrounded terminals shall be properly insulated from each other, and shall maintain a surface leakage distance of not less than 6.35 mm between any exposed current conductor and any other metallic parts. The terminals shall have an insulation factor of 100-200 megohms dependent upon external conditions. The RIS shall be rated at minimum 50 amperes. Design the RIS for operation on 115 VAC +/- 10%, 60HZ, single-phase circuits, and to meet the standards of UL or a NRTL and Radio Manufacturer's Association.

#### **E.5 Bus Relay**

Provide a normally-open, 60 amp, solid state relay.

#### **E.6 Surge Protector**

Install a plug-in type EDCO SHA-1250, or Atlantic/Pacific approved equal, surge protector across the load terminal of the 10-amp circuit breaker. Install a General Electric Varistor, catalog #V130PA20A, at the load terminals of the circuit breaker from the hot line to the grounded current carrying neutral conductor.

#### **E.7 Power receptacles**

Mount a 120 VAC 20 amp, NEMA 5-20R GFCI duplex convenience outlet at each of these two locations:

- On the interior right side wall above the power panel. The outlet shall be fully operational and fuse protected.
- Near the power panel where it will not interfere with power panel maintenance. This outlet is to be wired by field installation personnel.

#### **E.8 Suppressors and RC Network**

Provide a suppressor for each 120 VAC circuit that serves an inductive device, such as a fan motor or a mechanical relay, to protect the controller's solid state devices from excessive voltage surges. Such suppressors shall be in addition to the surge protector at the input power point. Wire one RC network in parallel with each inductive device.

## **F Auxiliary Devices**

### **F.1 Load Switches**

Provide 16 solid state load switches conforming to the requirements of section 6.2 of the NEMA TS2 Standard.

### **F.2 Flashers**

Provide one solid state flasher conforming to the requirements of section 6.3 of the NEMA TS2 Standard.

### **F.3 Flash Transfer Relays**

Provide four flash transfer relays conforming to the requirements of section 6.4 of the NEMA TS2 Standard.

### **F.4 Inductive Loop Detector Units**

Provide the quantity of inductive loop detector units required by the plans and conforming to the requirements of section 6.5 of the NEMA TS2 Standard for 2-channel, rack mount detector units, type C. Install all required units in one detector rack.

### **F.5 Cabinet Power Supply**

Provide one cabinet power supply with each cabinet conforming to the requirements of section 5.3.5 of the NEMA TS2 Standard. Provide LED indicators for the 12 VDC, 12 VAC, and 24 VDC outputs. Provide jack plugs on the front panel for access to the +24 VDC for test purposes.

## **G Bus Interface Units (BIU)**

Provide three BIUs conforming to the requirements of section 8 of the NEMA TS2 Standard. Provide two BIUs with the main panel and one BIU with one of the detector racks.

## **H Malfunction Management Unit (MMU)**

Provide one shelf-mountable, 16 channel, solid-state MMU with Ethernet capability. The MMU shall meet the requirements of Section 4 of the NEMA TS2 Standard.

The MMU shall be capable of the following:

- Detecting simultaneously active inputs of Green (Walk), Yellow, or Red (Don't Walk) on the same channel.
- Determining if the field signal input states detected as active or inactive by the MMU correspond with the data provided by the Controller Unit.
- Monitoring an optional external watchdog output from a Controller Unit or other external cabinet device.
- Monitoring an intersection with up to four approaches using the Flashing Yellow Arrow (for protected/permissive left and right turn movements).



- Event logging for the following; AC Line log, Prior/Previous Faults log, and Monitor Reset Log. All log entries shall include a date and time stamp.
- All monitor functions shall be capable of being programmed through the front panel, without the need for computers or special programs cards.
- A built-in Diagnostic Wizard shall be provided that displays detailed diagnostic information regarding the fault being analyzed. This mode shall provide a concise view of the signal states involved in the fault, pinpoint faulty signal inputs, and provide guidance on how the technician should isolate the cause of the malfunction.

The MMU shall have an LCD display that allows for viewing of log files and field indications, as well as the viewing and setting of date and time and configuration parameters.

## **I Traffic Signal Controller**

The traffic signal controller provided shall be a Siemens m50 series model EPAC3108M52, compatible with the NEMA TS2 Type 2 specifications.

### **I.1 Firmware**

Provide installed in the controller current, fully operational, controller firmware and software sufficient for the controller to perform all functions shown on the plans, sequence of operation plan sheet, specifications, and signal timing plan for the local intersection. Provide all software licenses.

The firmware and software shall be compatible with and able to fully communicate with:

- All phase sequences used by the county, including flashing yellow for both left and right turns.
- Communications, closed loop, and on-street control software designed for use with the provided controller and provided under separate bid items.
- Both the controller and the MMU.
- County PC laptop and desktop computers with Windows XP and Windows 7 operating systems.
- Backwards compatibility with older traffic signal controllers and software produced by the controller manufacturer and installed in county traffic signals since 2000.
- The supplier's multi-level central operation software programs for potential future application.

## **I.2 Features/ Functions**

### **I.2.1 General**

Provide shelf-mounted controller units.

Provide intersection controller units with up to 16-phase operation plus 16 programmable overlaps regardless of whether or not preemption, coordination, or other special programming is used.

Provide a four-ring, programmable for both single and dual entry concurrent timing, nine-phase frame or equivalent. Provide volume density timing for eight phases and pedestrian timing for all phases. Provide MUTCD flash capability. All controls shall be in accordance to the NEMA TS2 Standard.

All controller timing parameters shall be fully programmable from the front panel keyboard inputs, and memory storage features shall be non-volatile under power-off conditions for at least thirty days. A security code must be entered before any timing parameters can be changed. The locking, non-locking detection mode and per phase recall shall also be accessible on the front panel.

Provide a data key port on the controller to load and store intersection programming.

Internally buffer all logic circuit inputs to withstand transients and noise, such as might result from normal usage, without damage to any mechanism components.

### **I.2.2 Front Panel Display**

Provide a display panel on the front panel consisting of a backlit alphanumeric LCD display. The face of the display shall be scratch, chemical, and solvent resistant. The operator shall access the controller through a menu system. By selecting various menu options, real time operational status or stored parameter tables shall be presented to the operator.

Show on the LCD display, in addition to information required elsewhere:

- a. The status of each signal phase on.
- b. The interval status.
- c. Phase termination information.
- d. The presence of vehicular and pedestrian calls for each phase.

### **I.2.3 Timing**

The passage timer shall time concurrently with the minimum green timer, such that the duration of the minimum green time is directly adjustable and is independent of the passage time setting.

In the dual-ring application, no more than two phases shall be permitted to time concurrently, and no more than one phase per ring. Provide barrier protection against concurrent timing of two conflicting phases; no phases assigned to one side of the barrier

shall be permitted to time concurrently, if a conflict will occur. Service calls on a single entry basis. Both rings shall cross the barrier simultaneously in accordance to the following logic:

- (a) Phases timing concurrently shall terminate simultaneously if both have a gap-out due to excessive time between actuations.
- (b) Phases timing concurrently shall terminate simultaneously if both have a maximum timeout.
- (c) Phases timing concurrently shall terminate simultaneously if one has a gap-out and the other has a maximum time-out.
- (d) In the event that one phase has not achieved a gap-out or maximum time-out, the other gapped-out phase shall be permitted to leave the gapped-out condition and retime an extension when an actuation is received.

Controllers shall not accept any operator input or stored timing parameters that would result in intervals shorter than the following:

- Yellow clearance - 3.0 seconds
- Standard minimum walk - 4.0 seconds
- Preemption minimum walk = 0.0 seconds
- Minimum pedestrian clearance - 6.0 seconds

At the beginning of each of the above intervals, the controller shall check the previously stored data against these minimums. If an operator attempts to load an incorrect timing parameter the controller unit shall output a unique error code on the front panel display. As an alternate to minimum timing control a coded keyboard entry security feature may be provided.

#### **I.2.4 Manual (Police) Control**

If manual control is used, actuation of the manual control shall permit manual advance of the Walk, Pedestrian Clearance, and Green interval terminations only. Manual termination of Yellow or All-Red clearance intervals shall not be permitted.

#### **I.2.5 Coordination**

The controller shall be capable of operation in progressive coordination systems and mutual coordination and shall contain, but not be limited to, the following external inputs, with all functions brought out:

- Vehicle/Pedestrian Detectors (per phase)
- Pedestrian Omit (per phase)
- Phase Omit (per phase)
- Hold (per phase)
- Omit Red Clearance (per ring)
- Internal Maximum Inhibit (per ring)
- Maximum II (per ring)
- Red Rest (per ring)

- Stop Timing (per ring)
- Force-Off (per ring)
- Select Minimum Recall (per controller)
- Manual Control (per controller)
- Semi-Modes (per controller)
- External Start (per controller)

### **I.2.6 Diagnostic Program**

Provide a diagnostic program prepared by the manufacturer of the controller unit which will demonstrate the proper operation of all of the inputs, outputs, controls and indicators in the controller, and have visual confirmation on the front panel. The diagnostic program shall be resident in each controller. The controller shall continuously run a diagnostic routine in the background to assure unit integrity.

### **I.2.7 Message Logging**

Provide user programmable, data logging of local events or alarm events including, but not limited to: Conflict Flash, Remote Flash, Local Flash, Controller Voltage Monitor, Detector Failure, On Line and Data Change. The time and date shall be recorded as a part of the message logged. The logging function shall be resident in the controller unit. The logging function shall be viewed from the front panel LCD display. If the logging function cannot be viewed from the front panel LCD display, it shall be performed by supplemental auxiliary equipment supplied with this specification.

### **I.2.8 Closed Loop Operation**

The controller shall be able to be used in a closed loop system using twisted pair copper, single mode fiber, multimode fiber, or wireless radio to connect to compatible equipment.

### **I.2.9 RS-232 Interface and Ethernet Port**

Provide a RS-232C interface and connector for interconnecting to a conflict monitor, printer, another like controller unit, or a local personal computer, as well as a remote personal computer through an external modem. A modem is not required to be provided with this specification. Include Ethernet communications capability as a standard feature and provide an Ethernet port. Ports shall be on the front panel of the controller.

## **J Documentation**

### **J.1 Cabinet Intersection Wiring Diagrams**

For each individual cabinet ordered, within 10 calendar days after receipt of the procurement order, furnish to the County's traffic engineer two sets of 22X34-inch detailed printed cabinet intersection wiring diagrams for information only.

At the time of the cabinet delivery, furnish to the County's traffic engineer two sets of printed 22X34-inch cabinet intersection wiring diagrams per cabinet. Printing the 22X34-inch sheet in smaller sizes is not acceptable. Leave a third drawing in the under-shelf drawer in the signal cabinet. After cabinet acceptance is complete, if any cabinet wiring changes were made, revise the cabinet wiring diagrams, leave one drawing in the under-shelf drawer in the signal cabinet, and furnish to the County's traffic engineer two

sets of as-built printed cabinet wiring diagrams per cabinet. If no changes were made from time of cabinet delivery, notify the County's traffic engineer in writing.

## **J.2 MMU and Controller Programming**

At the time of cabinet delivery, furnish to the County's traffic engineer two printed copies of the MMU programming and two copies of the signal timing in the traffic signal controller. Leave a third copy in the under-shelf drawer in the signal cabinet. After cabinet acceptance is complete, if any MMU or controller timing changes were made, revise the documents, leave one copy in the under-shelf drawer in the signal cabinet, and furnish to the County's traffic engineer two copies per cabinet. If no changes were made from time of cabinet delivery, notify the County's traffic engineer in writing.

## **J.3 Manuals**

At the time of the cabinet delivery, furnish to the County's traffic engineer one set of installation, operations, and maintenance manuals per cabinet including each type of equipment in the cabinet. The manuals shall as a minimum include the following information:

- Table of contents
- Operating procedure
- Step-by-step maintenance and trouble-shooting information for the entire assembly
- Schematic diagrams
- Pictorial diagrams of parts locations
- Itemized parts lists with parts numbers
- Theory of operation
- Maintenance checklists.

The itemized parts lists shall include the manufacturer's name and parts number for all components (such as IC, diodes, switches, relays, etc.) used. The list shall include crossreferences to parts numbers of other manufacturers who make the same replacement parts.

For each of the traffic signal controller and MMU, in addition to the above manual requirements, furnish one reference manual for the processor and components proposed to perform the controller and MMU functions. Include a complete set of schematics for the controller, MMU, and any auxiliary circuit boards either in the reference manual or in a separate volume. In addition, furnish a written narrative describing the controller and MMU operation and front panel configuration, and a conceptual flow chart illustrating the control logic for comparison with these specifications. The narrative shall include a discussion of any limitation or exceptions to the performance described in these specifications, and a discussion of any control capabilities provided in addition to that required in these specifications.

**K Cabinet Delivery**

The construction contractor will provide the traffic signal specifications and plans, including the sequence of operation, to the contractor. The vendor shall determine the required cabinet equipment and assembly requirements from the plans and specifications and provide the county's traffic engineer a list of procurement items. The county's traffic engineer will approve or request resubmittal of the procurement items list prior to the cabinet being built.

Provide the list of procurement items to the county's traffic engineer a minimum of 30 days before the cabinet is scheduled to be installed in the field. The vendor is responsible for coordinating with the project construction contractor to determine the scheduled cabinet installation date. Cabinets shall be completed, delivered, and accepted within 50 calendar days after the county's traffic engineer approves the procurement item list.

If the county makes a modification to any cabinet order before the entire cabinet is completely built in the vendor's shop, the delivery time does not change. If the county accepts a vendor requested cabinet order or other modification at any time, the delivery time does not change. All cabinet modifications will be made without additional cost to the county, except if an additional equipment item is added at the county's request and the additional item is not to remedy any contractor or vendor error.

The contractor shall deliver the fully wired and equipped cabinets to the intersection where the cabinet will be installed, or other site as designated by the county or the project construction contractor. The contractor is responsible for arranging the unloading of the cabinet.

When the county exercises its right to test a cabinet in the county's shop as described in the Acceptance Testing section of this specification, deliver the cabinet to the location specified by the county's traffic engineer. When the testing is complete, pick up the cabinet from the shop within three business days of notification.

The contractor is notified that delivery times and schedules may be changed or delayed at any time for any reason. The contractor may be required to store completed cabinets at their facility for extended periods of time.

**L Acceptance Testing**

Complete on-site traffic signal acceptance testing in the presence of the county. The acceptance testing will occur after the signal cabinet is fully installed at the project intersection and before the traffic signal is turned on. The construction contractor and the county will determine the time for the acceptance testing. In addition to the cabinet as specified in this specification, add-on accessory items, traffic signal interconnect, system communication, and closed loop system operation are included in the acceptance testing.

Provide an IMSA certified Traffic Signal Bench Technician, Level II or an IMSA certified Traffic Signal Field Technician, Level II with a minimum of three years' experience in construction and operation of traffic signal cabinets similar to the cabinets

specified in this specification. Alternatively, provide a technician or electrician with a minimum of three years' experience in construction and operation of traffic signal cabinets similar to the cabinets specified in this specification. The technician or electrician shall be on-site during the entire acceptance testing, and shall be capable and equipped to make in-field revisions / repairs to the signal cabinet and controller to conform to this specification.

Upon successful completion of the acceptance testing as determined by the county, a 30-day conditional acceptance of the signal cabinet will be provided to the contractor. Should the cabinet within the 30-day conditional acceptance period fail to perform in any way as determined by the county, the contractor shall repair the cabinet to bring it into conformance with this specification and the acceptance testing shall be repeated. Repair times shall conform to the warranty service response times in this specification. The acceptance testing shall be repeated. Upon successful completion of the retesting, a new 30-day conditional acceptance period shall begin. After the signal cabinet runs 30 days without failure, the cabinet will be fully accepted by the county. The contractor will be allowed up to two 30-day conditional acceptance periods. If the cabinet fails during the second 30-day period, an entirely new cabinet shall be furnished and installed in the field by the contractor at no cost to the county and a new acceptance testing procedure shall begin. Cabinet replacement times shall conform to the warranty service response times in this specification. The original cabinet becomes the property of the contractor.

The county reserves the right to perform its own tests on the traffic signal cabinet at any time using the county's control equipment. Should an individual traffic signal cabinet be found to not meet the requirements of these specifications, the contractor shall pick up the traffic signal cabinet from the county or from the field, perform at their shop repairs / revisions as necessary to bring the traffic signal cabinet into conformance with these specifications, and deliver the repaired / revised traffic signal cabinet back to the designated location, all at no additional cost to the county.

### **M Certification**

Provide a written certification with the cabinet delivery that the equipment meets the requirements of the plans and specifications and will fully run the sequence of operation and the signal timing, including closed loop system operation if applicable. The certification shall be on the contractor's company letterhead, shall be addressed to both the department and the construction contractor, and shall be signed by a company officer authorized to legally obligate the company.

### **N Manufacturer Warranty**

Provide a warranty and guarantee statement which stipulates that the cabinet and all supplied equipment, including add-on accessory items, to be, individually and as a cabinet system, free from defects in materials and workmanship for a period of at least two years from the date of cabinet installation and acceptance in the field, or in the case of a cabinet that is not installed in the field, from the date of delivery of an accepted cabinet to the county. Delivery of a cabinet for testing does not constitute acceptance of the cabinet. Turn over to the county warranties and guarantees that are offered by the



manufacturer as a customary trade practice. Name the county as the obligee on all manufacturers' warranties and guarantees. Shipping costs, both to the actory or an Authorized Repair Depot, and return, shall be paid by the contractor.

The warranty shall provide for full repair or replacement, as determined by the county, of the failed item or cabinet system, including removal and installation, at no cost to the county. Contractor warranty service response times after notification by the county:

- 4 hours to have qualified service personnel on site at the intersection.
- 12 hours to have the signal safely operational, including all phases and enough detection to run the intersection phasing (minimum 8 detectors).
- 48 hours on business days to restore the signal to full original operations.

If a malfunction in the controller unit, MMU, module, or any auxiliary equipment occurs during the warranty period, the contractor shall, within 24 hours after notification (excluding Saturday and Sunday), furnish and install an identical, programmed, controller unit, MMU, module, or auxiliary equipment, for use while the warranted unit is being repaired or replaced. The isolation of any malfunction during the warranty period shall be the responsibility of the contractor.

The county reserves the right to make repairs to malfunctioning cabinets and equipment that are under warranty, up to and including complete replacement of the cabinet, when in the county's determination the safety of the traveling public is best served. Such repair work will not in any way void or limit the contractor's warranty and guarantee specified above. The county will notify the contractor in writing of the repair. The contractor shall within five business days after notification replace all cabinets, equipment, and supplies used by the county in making repairs, with new parts meeting the requirements of this specification.

If any cabinet has three or more equipment or cabinet system failures, resulting from poor workmanship, within the first six months of operation after county acceptance, an entirely new cabinet exactly matching the existing cabinet shall be furnished and installed in the field by the contractor at no additional cost to the county. Any traffic control, including but not limited to signing, channelizing devices, temporary signals, police control, and flaggers, that becomes necessary as determined by the county in order to safely replace the cabinet, is the full responsibility of the contractor. The original cabinet becomes the property of the contractor.

Provide, at no additional cost, firmware / software maintenance, problem resolution phone technical support, problem resolution technical support in the supplier's facility, firmware / software patches, and firmware / software upgrades for a minimum of three years. The lead for technical support and primary department contact for support shall be a qualified person employed by the contractor's local office who is personally familiar with the county's software and signal operations. Help desks and manufacturer's representatives may be utilized by the lead technical support person as resources, but are not acceptable for lead technical support.



Maintain an inventory of the firmware / software version on each controller provided. Notify the county's traffic engineer in writing when a firmware / software patch or upgrade is available. The county will direct the contractor when to install the patch or upgrade for each controller. Install the patch or upgrade and provide a usable copy of the patch or upgrade to the county. Alternatively, when requested by the county, provide the patch or upgrade to the county for installation by the county.

#### **O Measurement**

The department will measure Traffic Signal Controller and Cabinet Fully Actuated 8-Phase as each individual unit, acceptably completed.

#### **P Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Traffic Signal Controller and Cabinet Fully Actuated 8-Phase	Each

Payment is full compensation for furnishing and installing a complete traffic signal cabinet, including the signal controller and conflict monitor together with cabinet, all required control units, all necessary wiring, switches, and fittings to assure that the controller will perform the functions required in the plans.

### **34. Poles Type 9, Item SPV.0060.02; Type 12, Item SPV.0060.03.**

#### **A Description**

Work under this item consists of furnishing and installing monotube poles.

#### **B Materials**

Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaries, and traffic signals. Use a design life of 50 years. Design to withstand a 3 second gust wind speed of 90 mph (145 km/h). Do not use the methods of Appendix C of those AASHTO standards.

Use Category III criteria for Type 9 and Type 10 Poles. Use Category II criteria for Type 12 and Type 13 Poles.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

After welding and before zinc coating, clean the exterior surface of each steel pole free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply a zinc coating conforming to the process specified for steel sign bridges in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After completing manufacturing, clean the exterior surfaces of each pole free of all loose scale, dirt, oil or grease, and other foreign substances.

Provide a reinforced hand hole measuring 4 inches by 6 inches (100 mm by 150 mm) as the plans show. Locate the hand hole 18 inches (450 mm) from the bottom of the pole base to the center of the door.

For the hand hole, include an access cover mounted to the pole by two  $\frac{1}{4}$ "-20 x  $\frac{3}{4}$ " (m6 x 1.00 x 19 mm) hex-head stainless steel bolts.

Provide a grounding lug complete with mounting hardware, as required, inside the pole as the plans show.

Provide access to the grounding lug from the hand hole. Weld the ground lug directly opposite the hand hole on the inside wall of the pole.

Equip the top of the shaft with a removable, ventilated cap held securely in place by at least 3  $\frac{1}{4}$ "-20 x  $\frac{3}{4}$ " (m6 x 1.00 x 19 mm) hex-head stainless steel set screws.

Ensure that all castings are clean, smooth, and with all details well defined and true to pattern.

Attach base plates firmly to the pole shaft by welding or other approved method.

Include anchor bolts meeting AASHTO standards applicable to the pole type and loading. Provide a mounting template that ensures correct installation of anchor bolts in foundation.

### **C Construction**

Install poles as specified in the plan details and using appropriate contractor-furnished anchor bolts and hardware. Use the appropriate anchor bolt template to ensure correct installation. Secure pole to anchor assembly and document tensioning procedures conforming to standard spec 641.3.1.2.

After completing erection using normal pole shaft raking techniques, ensure the centerline of the shaft appears vertical.

### **D Measurement**

The department will measure Poles (Type) as each individual pole, acceptably completed.

### **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.02	Poles Type 9	Each
SPV.0060.03	Poles Type 12	Each

Payment is full compensation for providing and installing poles including all hardware and fittings necessary to install the poles, and for installing identification plaques.

**35. Concrete Bases Type 10, Contractor Supplied Anchor Bolts and Anchor Rod Template, Item SPV.0060.04; Concrete Bases Type 13, Contractor Supplied Anchor Bolts and Anchor Rod Template, Item SPV.0060.05.**

**A Description**

This special provision describes constructing concrete bases, including the use of contractor supplied anchor bolts and anchor rod templates.

**B Materials**

**B.1. Concrete Bases**

Furnish grade A, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501.2 as modified in standard spec 716 of the standard specification. Provide QMP for class III ancillary concrete as specified in standard spec 716.

Furnish bar steel reinforcement conforming to 505.2.

Use schedule 40 PVC electrical conduit conforming to the electrical conduit specified in standard spec 652.

**B.2. Anchor Bolts**

Provide anchor bolts conforming to AASHTO M 314, grade 55 and Supplementary Specification S1, or ASTM F1554 Grade 55. Threads on bolts shall be formed by rolling.

Hot-dip galvanize the entire length of the anchor rods according to AASHTO M111. Hot-dip the nuts and washers according to AASHTO M232. Use zinc coated nuts manufactured with sufficient allowance to allow nuts to run freely on the threads.

**B3. Anchor Rod Template**

Furnish a steel top and bottom template conforming to ASTM A709, grade 36 as part of each anchor assembly. Provide a top template of sufficient gauge to hold the anchor rods securely in position at the top, and resist racking or twisting during the pour. Use a ½-inch thick bottom anchor plate-template and secure it to each anchor rod. Templates shall not be welded to the anchor rods.

**C Construction**

**C1. Concrete Bases** Construct concrete bases, including necessary hardware, as specified in standard spec 501 and plan details, and provide the surface finish specified in standard spec 502.3.7.2 of the standard specification. Inspect the forming and applicable

reinforcement for concrete bases before pouring the concrete. Cure exposed portions of concrete bases as specified for concrete pavement in standard spec 415.3.12 of the standard specification except the contractor may use curing compound conforming to standard spec 501.2.9. Wait at least 7 days before installing poles.

## **C2. Anchor Bolts**

Lubricate anchor bolt threads and nuts with bees wax or other high-wax lubricant. Set leveling nuts to the required elevation before installing the structure. Adjust top nuts and leveling nuts to align and plumb the structure. Ensure that all nuts are snug-tight with no gaps. Tighten each top nut 1/3 turn past snug for bolts 1 1/2 inch or smaller in diameter and 1/6 turn for larger diameter bolts conforming to the tightening sequence specified on department form DT 2321. If required, install jamb nuts wrench tight.

Complete department form DT 2321 for each structure. Indicate the parties responsible for the installation and submit the form to the engineer for inclusion in the permanent project record.

## **C3. Anchor Rod Templates**

Secure the anchor rod template to all anchor rods at one time in its correct position as the plan details show. Ensure relative movement and misalignment does not occur. If any twisting, racking, or other movement of the anchor rods out of plumb, projection, or pattern, or any damage to the threads exists the engineer will reject the entire base.

Maintain the clear distance between the soil and the reinforcing steel cage using the means the plan detail shows. Do not weld the anchor rods to each other, the reinforcing steel cage, and the templates or to any other component of the foundation.

If an anchor rod template is located above the concrete surface, it may be removed 24 hours after placing the concrete.

## **D Measurement**

The department will measure Concrete Bases (Type), Contractor Supplied Anchor Bolts and Anchor Rod Template by each individual unit, acceptably completed.

## **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.04	Concrete Bases Type 10, Contractor Supplied Anchor Bolts and Anchor Rod Template	Each
SPV.0060.05	Concrete Bases Type 13, Contractor Supplied Anchor Bolts and Anchor Rod Template	Each

Payment for the Concrete Bases Type 10 or 13, Contractor Supplied Anchor Bolts and Anchor Rod Template is full compensation for providing concrete, reinforcing steel, and electrical conduit; for providing anchor rods, templates, nuts, and washers; for

excavating; for driving steel piling if required; for installing electrical conduit, electrical ground, templates; for placing and curing concrete; for backfilling; and for disposing of surplus material and restoring the site.

**36. Monotube Arms 25-FT, Item SPV.0060.06; 30-FT, Item SPV.0060.07; 35-FT, Item SPV.0060.08.**

**A Description**

Work under this item consists of furnishing and installing monotube arms.

**B Materials**

Design support structures conforming to the minimum wall thickness the plan details show and to AASHTO design and fabrication standards for structural supports for highway signs, luminaires, and traffic signals. Use a design life of 50 years. Design to withstand a 3 second gust wind speed of 90 mph (145 km/h). Do not use the methods of appendix C of those AASHTO standards.

Use category III criteria for 15 to 30-foot arms. Use category II criteria for 35 to 55-foot arms.

For structures requiring a fatigue analysis, use 45 mph (72 km/h) for truck-induced gusts.

Base the designs on the completed maximum loading configuration the standard detail drawing shows. Along with the materials list, submit a certificate of compliance certifying that the arms as furnished, conform to the above structural performance requirements. Ensure that the certificate of compliance is on the manufacturer's letterhead, signed by an authorized company officer, and notarized. Send a copy of the certificate and a copy of the monotube arm shop drawings to the department electrical engineer.

Furnish monotube arms conforming to the following:

1. Consist of zinc coated steel round or oval members.
2. Have a mounting device welded to the pole end of the monotube arm that allows the attachment of the arm to a pole as the plans show.
3. Have stiffeners or gussets if required between the arm tube and the arm mounting device to provide adequate strength to resist side loads.
4. Have a clean, uniform natural finish. No paint or other corrosion preventive maintenance coating is required.

After welding and before zinc coating, clean exterior surfaces of each arm free of all loose rust and mill scale, dirt, oil or grease, and other foreign substances.

Apply zinc coating as specified for sign bridge components in standard spec 641.2.8. Ensure that the zinc coating is tight, free from rough areas or slag, and presents a uniform appearance.

After manufacturing is complete, clean the exterior surfaces of each pole free of all loose scale, dirt, oil, or grease, and other foreign substances.

**C (Vacant)**

**D Measurement**

The department will measure Monotube Arms (Length) as each individual arm, acceptably completed.

**E Payment**

The department will pay for the Monotube Arms measured quantity at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.06	Monotube Arms 25-FT	Each
SPV.0060.07	Monotube Arms 30-FT	Each
SPV.0060.08	Monotube Arms 35-FT	Each

Payment is full compensation for providing and installing all materials, including all hardware, fittings, mounting devices, shims, and attachments necessary to completely install the arms.

**37. Concrete Bases Type 5 Modified, Item SPV.0060.09.**

**A Description**

This special provision describes Type 5 concrete bases similar to the standard Type 5 concrete bases modified for a 12-inch bolt circle.

**B Materials**

Conform to materials requirements for standard Type 5 concrete base items according to standard spec 654.

**C Construction**

Conform to construction requirements for standard Type 5 concrete bases according to standard spec 654 with the exception that the bolt circle shall be increased from 11.5 inches to 12 inches.

**D Measurement**

The department will measure Concrete Bases Type 5 Modified as each individual unit, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.09	Concrete Bases Type 5 Modified	Each

Payment is full compensation according to standard spec 654 on the same basis as standard Type 5 concrete bases items.

### **38. Decorative Pole, Arm, Luminaire LED, Item SPV.0060.10.**

#### **A Description**

The work under this item shall consist of furnishing and installing decorative poles, arms and LED luminaires at locations as shown in plans, in accordance to the applicable provisions of standard spec 659. The pole, arm and luminaires are proprietary to match existing pedestrian lighting units. The concrete pole bases are provided under a separate bid item.

#### **B Materials**

##### **B.1 Pole**

The pole shall be:

Manufacturer: Lumec

Model Number: SA8V-15-BAS18-GFI-BKTX

Pole shall be 15'-0", 6061-T6 aluminum with a 0.25-inch wall thickness welded to the base. Base shaft shall be 8.625" long extruded 6062-T6 extruded aluminum having a 0.148-inch wall thickness. Base cover shall consist of a two piece round base cover cast from 356 aluminum and secured with stainless steel screws. Unit shall have upper and lower fixed arms of 1-1/16 inch (OD) steel tubes secured to the pole as banner arms and have cast aluminum decorative balls. Units shall also have 120V duplex GFI receptacles with pad lockable in-use aluminum weatherproof painted aluminum covers. Receptacles shall be NEMA 5-15R. Wiring from the base to luminaire and receptacle is provided as a separate bid item.

##### **B.2 Arm**

The Arm shall be:

Manufacturer: Lumec

Type: CC

Model Number: IF-2-COLTX

Arm shall be 6061-T6 aluminum with an outside diameter of 2-3/8 inches with an overall 2'-0" curve of 180 degrees.

##### **B.3 LED Luminaire**

Luminaire shall be:

Manufacturer: Lumec

Type: LED

Model Number: DMS50-65W49LED4k-LE2F-240-IF-1A-BKTX

LEDs shall be type ES with a minimum of 120 lumens/watt for a total of 65 watts per unit, color temperature of 6000 Kelvin, 70 CRI, L70 of a minimum of 50,000 hours, Light distribution shall Type III. Unit shall be IP66 rated. Housing shall be a round shape of cast 356 aluminum with a watertight grommet. Hood shall be die cast A369.1 aluminum dome with hinge and latch for tool-free access. Heat sink shall be die cast A360.1 aluminum and shall allow passive cooling. LED driver shall be a Class 1, high power factor (95%) auto adjusting for voltage between 120 and 277V. Total harmonic distortion (THD) of 20% maximum. Driver shall be capable of operating between -40 Degree F to 130 Degree F. Driver shall reduce current to the LED array if the temperature exceeds 176 Degree F. Drive shall also protect against short circuits, voltage and current overloads and shall auto recover upon correction. Surge protector shall be 3 pole rated 10KV and protect against L-Gnd, L-N, N-Gnd surges an accordance with IEEE/ANSI c62.41.2 guidelines.

#### **C Construction**

Install unit where shown. Install in accordance to manufacturer's instructions and in accordance to standard spec 657.

#### **D Measurement**

The department will measure Decorative Pole, Arm, Luminaire LED as each individual light pole, arm and luminaire, acceptably completed.

#### **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.10	Decorative Light Pole, ARM, Luminaire LED	Each

Payment is full compensation for furnishing all the materials and work required under this bid item.

### **39. Lighting Distribution Center 120/240V, Item SPV.0060.11.**

#### **A Description**

This special provision describes furnishing and installing cabinets used for distributing electrical power for lighting of pathways. The electric service and concrete base are provided under a separate bid items.

#### **B Materials**

The unit shall be a single phase, 3 wire, weatherproof, NEMA 3R cabinet, and shall contain circuit breakers, lighting contactor(s), photoelectric control with test switch(es), power distribution blocks when specified, and neutral/ground bonding bar(s).

The distribution center shall comply with the requirements of the Underwriters Laboratory Inc. (UL) standards UL-508 and UL-508A for the cabinet and all of its contents.



Shall be in accordance to “Roadway / Sidepath Lighting Control Center – Wiring Schematic” and DOT Standard Detail Drawing S.D.D. 9 D 2-2.

Shall have a duplex outlet and manually switched incandescent lamp socket and lamp provided. The outlet shall be a GFCI type. Power for the light and outlet shall be protected by a 15 amp circuit breaker. This circuit breaker shall be powered directly from the incoming power source and shall be live even with all other circuit breakers turned off. If a toggle switch is used to control the light it shall not be installed in the same housing with the control switches.

Shall have a photoelectric control mounting receptacle. Photo Cell shall be a Twist Lock Photocontrol DP Series by American Electric Lighting or approved equal. A time delay control circuit shall prevent false turn offs by transient lighting conditions. The unit shall include a fail safe circuit for the lighting load such that the lighting systems remain energized if any functional failure of the photoelectric control circuit occurs.

One copy of the cabinet drawings, one line diagram, a luminaire schedule, and a list of all system components and their manufacturers shall be placed in a heavy duty plastic envelop with side opening that is attached to the inside cabinet door.

#### **Cabinet Enclosure Construction**

Shall be constructed from a minimum 0.125 inch thick aluminum conforming to the requirements of ASTM B 209 for 5052-H32 aluminum sheet. The Aluminum cabinet shall be anodized to match the Duranodic finish #335 after all machining has been completed.

Shall have dimensions of 60 inches high, 30 inches wide and 16.5 inches deep.

Shall have a gasket provided for mounting the cabinet on a concrete pad. The gasket shall consist of a four piece ½ inch thick x 2 inch wide solid butyl rubber gasket with drilled holes, shaped to match the mounting flange and slots on the bottom of the cabinet.

Shall have a weather tight hinged door opening to the right (right-handed door). The door shall be equipped with a three-point locking mechanism that operates from a single easy-turning handle. The upper and lower locking points of the locking mechanism shall each have a pair of nylon rollers. The shaft size of the handle shall be a minimum of ¾ inch diameter. The cabinet door shall lock with a No. 2510 lock and No. IR6380 key. (2 keys shall be furnished).

Shall have hinges, hinge pins, locks and lock covers made of stainless steel or other non-corroding material. Hinges may be welded on or fastened with stainless steel tamperproof bolts.

Shall have a cabinet door with three sets of 4 inch x 3 3/8 inch louvered vents, with screening or perforated metal, installed approximately 4 5/8 inches from the bottom. The three sets of vents shall be separated by approximately 1½ inches.

Shall have a cabinet top that is crowned or slanted to the rear to prevent standing water, and shall provide a 2 inch overhang above the door beyond the front of the cabinet. The overhang shall provide venting for the entire cabinet.

Shall be of good workmanship. All seams and joints shall be smooth and even, without cracks or pinholes. There shall be no sharp corners or jagged edges.

Shall have exterior seams for both cabinet and doors that are continuously welded or sealed with silicon sealant. All exterior welds shall be ground smooth. All sharp edges shall be filed.

### **Electrical Equipment and Wiring**

Shall have two copper power distribution blocks to provide tapping from the primary feeds to the 100 amp circuit breaker. The power distribution block shall have lugs suitable for use with 75°C (167°F) conductors; shall be rated for 600 volt; and shall have a flammability rating of UL 94V-0.

Shall be provided with one 2-pole, 100 A main circuit breaker. Main breakers shall carry a minimum 18,000 AIR (Ampere Interrupting Rating); three 2-pole, 30 A lighting contactor; three 30-A double pole branch circuit breakers for lighting; four 20-A single pole circuit breakers for outlets and capacity for a total of twelve single pole branch circuit breakers.

Shall have circuit breakers and lighting contactor contacts rated for 240 VAC for luminaires rated at 240 V. The lighting contactor coil shall be rated for 120 VAC.

All lighting systems shall include a weatherproof cabinet housing the street light controls.

All construction shall be in accordance to the attached details. All systems shall be 120/240 volt.

The cabinet shall be grounded with grounding rods in conformance with the National Electric Code.

The contractor shall arrange with the local electric power company for electric service and shall bear the expense of any charges by the power company to furnish the service connection.

### **C Construction**

Prior to final acceptance, the contractor shall demonstrate to the engineer's satisfaction that all electrical and lighting equipment installations are in proper working condition. Temporary power and all cable connections required for testing shall be provided by the contractor.

The contractor shall operate the lighting system from sunset to sunrise for ten consecutive days. Lamps, ballasts, power generators and photoelectric control that fail shall be replaced immediately. However, replacement of these items will not require a restart of the test.

The contractor shall perform grounding tests at each grounding system location including light standards, lighting control centers, and other ground rod locations. Grounding tests shall show that the ground resistance is 10 ohms or less. If the measured resistance to ground exceeds 10 ohms, additional ground rods shall be added to the grounding electrode system.

The contractor shall perform voltage drop tests at furthest point on each circuit such that voltage drop is within 3 percent of supply voltage.

The contractor shall certify the records of all testing including grounding, voltage drop (within 3 percent) and other required tests as meeting specification requirements and submit the records to the engineer.

#### **D Measurement**

The department will measure Lighting Distribution Center 120/240V as each individual distribution center, acceptably completed.

#### **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.11	Lighting Distribution Center 120/240V	Each

Payment is full compensation for furnishing all materials; installing a complete distribution center; and for furnishing all documentation.

### **40. Construction Staking Curb Ramp, Item SPV.0060.12.**

#### **A Description**

Perform this work in accordance to the applicable provisions of standard spec 650.

#### **B (Vacant)**

#### **C Construction**

Set and maintain construction stakes or marks as necessary to achieve the required accuracy and to support the method of operations. Set additional construction stakes as necessary to establish location and grade of the curb map including points of change in alignment grade. Locate stakes to within 0.02 feet horizontally and establish the grade elevation to within 0.01 feet vertically.

**D Measurement**

The department will measure Construction Staking Curb Ramp as each individual curb ramp, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV .0060.12	Construction Staking Curb Ramp	Each

Payment is full compensation for locating and setting all construction stakes; for relocating and resetting damaged or missing construction stakes.

**41. Galvanized Trash Rack, Item SPV.0060.13.****A Description**

This special provision describes furnishing and installing trash racks on the top of outlet structures as shown in the plans, and as hereinafter provided.

**B Materials**

Furnish steel conforming to the requirements of standard spec 506.2.2.1. Furnish steel pipe conforming to the requirements of standard spec 506.2.3.6.

Furnish trash racks galvanized in accordance to ASTM A123.

Furnish angles and brackets galvanized in accordance to ASTM A123.

Furnish required hardware galvanized in accordance to ASTM A153.

**C Construction**

Repair pipes, rods, angles and brackets on which the galvanized coating has been damaged in accordance to the requirements of AASHTO M36M.

**D Measurement**

The department will measure Galvanized Trash Rack as each individual unit of work, where one unit is one grate, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.13	Galvanized Trash Rack	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.

## **42. Check Valve 24-Inch, Item SPV.0060.14.**

### **A Description**

This special provision describes providing and installing a rubber check valve inside a proposed storm sewer pipe at location as shown on the plan.

### **B Materials**

All valves shall be of the slip-in CheckMate™ as manufactured by Tideflex Technologies®, A Division of Red Valve Company, Carnegie, PA 15106.

Check valves are to be all rubber and the flow operated check type with slip-in cuff or flange connection. The entire check valve shall be ply reinforced throughout the body, disc and bill, which is cured and vulcanized into a one-piece unibody construction. A separate valve body or pipe used as the housing is not acceptable. The valve shall be manufactured with no metal, mechanical hinges or fasteners, which would be used to secure the disc or bill to the valve housing. The port area of the disc shall contour down, which shall allow passage of flow in one direction while preventing reverse flow. The entire valve shall fit within the pipe I.D. Once installed, the check valve shall not protrude beyond the face of the storm sewer structure or end of the pipe.

The downstream end of the valve must be circumferentially in contact with the pipe while in the closed positions.

Furnish slip-in style check valve with a set of stainless steel expansion clamps. The clamps, which will secure the valve in place, shall be installed inside the cuff portion of the valve, based on installation orientation, and shall expand outwards by means of a turnbuckle. Each clamp shall be pre-drilled allowing for the valve to be pinned and secured into position in accordance to the manufacturer's installation instructions. Flange style check valves will be furnished with a stainless steel, ANSI 125/150 drilled, retaining ring unless specified otherwise.

### **C Construction**

Install valve in accordance to manufacturer's written Installation and Operation Manual.

Manufacturer's customer service and/or authorized representative shall be available during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve.

### **D Measurement**

The department will measure Check Valve (size) by each individual valve, acceptably completed.

### **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.14	Check Valve 24-Inch	Each

Payment is full compensation for furnishing all materials, installation, manufacturer's customer service and/or authorized representative present at the construction site during installation and start-up, and to train personnel in the operation, maintenance and troubleshooting of the valve; and all other incidentals necessary to complete the work.

### **43. Reconstructing Sanitary Manholes, Item SPV.0060.15.**

#### **A Description**

Manholes that cannot be brought to final grade by adding or removing adjusting rings shall be brought to grade by adding or removing barrel sections of the manhole and/or rotating the cone portion of the manhole so that the manhole frame and cover are out of proposed curb and gutter areas, in accordance to the plan details, the "Standard Specifications for Sewer and Water Construction in Wisconsin", with Addendum No. 1, dated December 22, 2004, herein referred to as the "S&W Specifications", and as hereinafter provided.

#### **B Materials**

Joints for precast manhole riser sections shall be made with rubber "O"-ring gaskets, a continuous ring of butyl rubber sealant (EZ-Stik or Kent-Seal in rope form) or equal. The butyl sealant shall be 1" diameter equivalent or as recommended by the manhole manufacturer.

External manhole chimney seals shall be provided as manufactured by Cretex Specialty Products, Waukesha, Wisconsin; NPC, Inc., Milford, New Hampshire; or equal.

#### **C Construction**

Reconstruct sanitary manholes if by conventional adjusting methods cause the height of adjusting rings on the existing manhole to exceed 18" or less than 4"; or if the cone portion of the manhole needs to be rotated out of the proposed curb and gutter.

Remove casting, rings, cone section, and riser section(s) as required.

Place new riser section(s) and/or cone section and 4" to 18" of concrete adjusting rings, and reset casting to grade. Salvaged materials in satisfactory condition may be reused if approved by the engineer. A flattop slab may be substituted for the cone section.

Rotate cone section(s) as detailed on the plans and reset on top of riser. Remove all steps in the sanitary manhole.

Construct manholes in accordance to Chapter 3.5.0 and File Nos. 12, 12A, 13, and 15 of the "S&W Specifications" and these special provisions.

The external manhole seal shall be installed in accordance to the manufacturer's instructions.

Furnish and install manhole seals to span (cover) the entire chimney height. Provide extensions as required.

Water test the seal for leaks after the bottom compression band is installed. After the seal has successfully passed the leakage test, drain the water and install the top band.

**D Measurement**

The department will measure Reconstructing Sanitary Manholes by each individual unit acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.15	Reconstructing Sanitary Manholes	Each

Payment is full compensation for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the contract work.

**44. Adjusting Sanitary Manhole Covers, Item SPV.0060.16.**

**A Description**

Perform this work in accordance to standard spec 611 and as hereinafter provided. Adjust existing sanitary manhole covers to grade by adding or removing concrete adjusting rings.

**B Materials**

Furnish concrete adjusting rings from a department-approved source; rings shall match the dimensions of existing rings and/or manhole castings. Reinforce concrete rings with one line of steel centered within the ring.

**C Construction**

Set adjusting rings and manhole frames with both butyl rubber sealant and non-shrink grout as follows. Use EZ-Stik or Kent-Seal butyl base sealant in trowelable grade or equal butyl rubber sealant and apply in a ¼" thick layer to the outside 1" of the 6" wide horizontal surface of all adjusting rings and cone section. Apply a non-shrink grout in a ¼" thick layer to the remaining 5" of inside horizontal surface of all adjusting rings and cone section.

Furnish and use non-shrink grout that is a premixed, non-metallic, cementitious, controlled expansion, high strength, versatile grout; PenngROUT by IPA Systems, Inc. or equal.

Cover the entire outside surface of the manhole chimney, including all adjusting rings, and overlap both the manhole cone or flat-top slab (a minimum of 4") and the manhole frame with a minimum 1/4" thick coating of butyl rubber sealant. The butyl rubber sealant shall be EZ-Stik or Kent-Seal butyl base sealant in trowelable grade or equal.

**D Measurement**

The department will measure Adjusting Sanitary Manhole Covers by each individual unit, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.16	Adjusting Sanitary Manhole Covers	Each

Payment is full compensation for the interior and/or exterior sealing of all manhole chimneys and between the manholes; and for furnishing all labor, tools, equipment incidentals necessary to complete the contract work.

**45. Sanitary Manhole Seal Internal, Item SPV.0060.017.**

**A Description**

This special provision describes furnishing and installing internal seals as shown in the construction details on the plans for all new or adjusted sanitary manholes. The work shall conform to the pertinent requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition.

**B Materials**

Sanitary Manhole Seal Internal - as shown in the construction details on the plans, shall meet the material requirements of standard spec 6.42.3 and the performance requirements of standard spec 6.42.4 of the Standard Specifications for Sewer and Water Construction, latest edition.

**C Construction**

Install seals in accordance to the manufacturer's recommended installation procedures.

**D Measurement**

The department will measure Sanitary Manhole Seal Internal as each individual unit, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.17	Sanitary Manhole Seal Internal	Each

Payment is full compensation for furnishing and installing internal rubber chimney seals.



#### **46. Adjusting Water Valve Boxes, Item SPV.0060.18.**

##### **A Description**

This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the paving project, to all municipal water service boxes, water gate valve boxes and water manhole frames and lids located within the project limits.

##### **B Materials**

All material for the adjustment of these facilities must meet City of New Berlin specifications. If there is contractor damage, the contractor will repair or replace the damage at their own expense.

##### **C Construction**

The approximate location of water valves is indicated on the plans. Adjust these items as necessary to proper placement according to the plans and standard drawings.

Engineer must approve prior to beginning work, any method of adjustment of water valves other than that indicated on the plans or standard drawings.

All water service boxes, water gate valve boxes and water manhole frames and lids within the project limits shall be adjusted to proposed elevations by the contractor using materials meeting city specifications.

The city will locate, mark, inspect and repair all water service boxes, water gate valve boxes and water manhole frames and lids within the limits of the project prior to commencement of work on the project.

Throughout the duration of the project, the contractor must ensure that all water service boxes, water gate valve boxes, and water manholes are adequately located and identified by blue paint, and that at all times, all water appurtenances remain accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility.

Upon completion of the contract, the city will inspect all water facilities to ensure the water boxes and manholes are clean, properly aligned, and accessible. The contractor shall be responsible to make identified repairs and adjustments, and if any repairs or adjustments are made by the city, the cost will be charged to the contractor.

A valve extension is required if valve nut is more than 8' below finished surface.

##### **D Measurement**

The department will measure Adjusting Water Valve Boxes as each individual unit, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.18	Adjusting Water Valve Boxes	Each

Payment full compensation for furnishing and installing all materials, excavation, backfill, and for compaction.

**47. Salvage and Relocate Hydrant and Valve, SPV.0060.19.****A Description**

This special provision describes removal, salvage, and relocation of fire hydrant and valve. The work shall be in accordance to pertinent requirements of section 4.14.6 of the Standard Specifications for Sewer and Water Construction in Wisconsin.

**B Materials**

Necessities to remove and salvage fire hydrant and/or valve.

**C Construction**

Contact the effected fire district at least 24 hours prior to removing or interrupting service to existing fire hydrants.

Carefully remove the components of the existing fire hydrant assemblies and bulkhead the open end of the remaining hydrant branch and drain, if any. Damage to the fire hydrant, valve, valve box, or barrel impairing re-use shall be determined by the engineer. Replace damaged components using factory-supplied parts from the same manufacturer.

The engineer will determine the usefulness of the removed fire hydrant assembly components. Deliver the useful components to the specified location. Dispose the remaining components.

If an existing fire hydrant assembly is removed at the tee, the tee shall be plugged in accordance to the standard details, and disinfect the existing water main between isolating valves as specified.

At the discretion of the engineer, conduct a hydrostatic pressure test conforming to the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition, between isolating valves along the existing water main.

Restore all surface features to preconstruction condition or better, including, but not limited to, sidewalks, curbs, gutters, mailboxes, culverts, and other facilities distributed by the construction.

Relocation of existing fire hydrant shall conform to the requirements of the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition, except the fire hydrant piping shall be connected to the existing water valve, or to the piping on the

street side of the water valve. If the fire hydrant is connected to the existing valve, this valve shall be fully opened with the existing valve box removed.

**D Measurement**

The department will measure Salvage and Relocate Hydrant and Valve as each individual hydrant and valve removed and salvaged, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.19	Salvage, and Relocate Hydrant and Valve	Each

Payment is full compensation for furnishing all materials excavation, backfill, compaction, tools, equipment, and incidentals required to complete the work.

**48. Watermain Vertical Offset, Item SPV.0060.20.**

**A Description**

This special provision describes furnishing and installing watermain vertical offsets as shown in the construction detail on the plans where required to provide proper clearance between the watermain and a catch basin or other structure.

**B Materials**

The watermain vertical offset shall be constructed of C-900 PVC pipe and ductile iron fittings with polyethylene encasement (restrained joint).

**C Construction**

The watermain vertical offset shall be constructed per the Standard Specifications for Sewer and Water Construction in Wisconsin, latest edition, and the construction detail on the plans.

**D Measurement**

The department will measure Watermain Vertical Offset by each individual unit, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.20	Watermain Vertical Offset	Each

Payment is full compensation for furnishing all labor, tools, equipment, materials, and incidentals necessary to complete the work.

## **49. Construction Staking Concrete Sidewalk, Item SPV.0090.01.**

### **A Description**

This special provision describes furnishing and setting construction stakes or control points, including all calculations required, necessary to establish the horizontal and vertical position of the concrete sidewalk as shown on the plans.

### **B (Vacant)**

### **C Construction**

#### **C.1 General**

Obtain or calculate benchmark data, grades, and alignment from data in the plan and verify with the engineer prior to beginning the work. This work includes reestablishing the plan horizontal roadway alignment, alignment ties, and control points. Obtain approval from the engineer for methods of survey and prior to beginning the work. The degree of accuracy used in the survey work must be consistent with third order, Class II. Establish additional benchmarks and control points as necessary or as directed by the engineer. Check plan dimensions, alignment, and elevations for accuracy with existing field conditions. Notify the engineer immediately of any errors and apparent discrepancies for correction or interpretation prior to proceeding with the work. Adjust elevations as necessary in order to match existing conditions and uphold positive drainage in compliance with the requirements of the American Disability Act (ADA) of 1990 and any subsequent revisions and amendments.

Maintain neat, orderly and complete survey notes and computations used in establishing the lines and grades. Make the survey notes and computations available to the engineer within 24 hours upon request as the work progresses.

#### **C.2 Concrete Sidewalk**

Place construction stakes for concrete sidewalk at intervals of 25 feet. A minimum of three stakes per cross section are required. Set and maintain additional stakes per cross section as necessary to achieve the required accuracy and to satisfy the contractors' method of operations. Set additional stakes as necessary to establish location and grade along intersecting road radii; at all ADA accessible curb ramps, and for auxiliary lanes, vertical curves, horizontal curves, and curve transitions. Locate all concrete sidewalk construction stakes to within 0.25 feet of the true horizontal position and establish the grade elevation to within 0.01 feet of the true vertical position. Confirm that all sidewalk and curb ramps meet the requirements as set forth in the ADA of 1990 and notify the engineer of any discrepancies or changes in the field prior to the contractor placing concrete sidewalk.

### **D Measurement**

The department will measure Construction Staking Concrete Sidewalk, by the linear foot of work for construction staking, acceptably completed.

## **E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.01	Construction Staking Concrete Sidewalk	LF

Payment is full compensation for work necessary to stake all concrete sidewalk along the entire project length including new sidewalk, replacing existing walk, and replacing curb ramps in accordance to ADA requirements; for providing all calculations and documentation required to verify compliance; to locate and set all concrete sidewalk construction stakes including additional stakes per cross section set to achieve the required accuracy and to satisfy the contractors' method of operations including intersecting road radii, curb ramps, auxiliary lanes, vertical curves, horizontal curves, and curve transitions; for resetting damaged or missing concrete sidewalk construction stakes; and for furnishing all labor, tools, stakes, lath, flags, equipment and incidentals necessary to complete the work.

## **50. Video Vehicle Detection System, Intersection of Coffee Road and CTH O (Moorland Road), Item SPV.0105.01; Intersection of Coffee Road and National Avenue, Item SPV.0105.02.**

### **A Description**

This specification describes furnishing and installing a system that detects vehicles on a roadway using only video images of vehicle traffic. This item includes all materials and labor necessary to install a completely functional vehicle detection system including but not limited to cameras, processors, video monitor, mounting hardware, power cable, and coaxial cable.

### **B General Requirements**

#### **B.1 System Hardware**

The video detection system (VDS) shall consist of up to four video cameras, a video detection processor (VDP) capable of processing from one to four video sources, either wired or wireless, wireless video transmission receiver, receiver antenna and a pointing device.

The Video Vehicle Detection System shall consist of the Iteris Vantage Edge2 system.

#### **B.2 System Software**

The system shall include software that detects vehicles in multiple lanes using only the video image. Detection zones shall be defined using only an on board video menu and a pointing device to place the zones on a video image. Up to 24 detection zones per camera view shall be available. A separate computer shall not be required to program the detection zones.

## **C Functional Capabilities**

### **C.1 System Configuration**

The VDS will be deployed at locations where site conditions and roadway geometry vary. The VDS system may also be deployed at locations where existing cabinets or equipment exist. Existing site configurations will dictate the availability of cabinet space and VDS usage.

The proposed VDS shall be available in various configurations to allow maximum deployment flexibility. Each configuration shall have identical user interface for system setup and configuration. The communications protocol to each configuration shall be identical and shall be hardware platform independent. The proposed VDS shall have multiple configurations available for deployment.

**Table 1. VDS Configuration**

<b>Description</b>	<b>No. Video Inputs</b>	<b>No. Video Outputs</b>	<b>Mounting Configuration</b>	<b>Power Supply Requirements</b>
Single-Channel Rack Mounted	1	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12/24 VDC Power From Rack
Dual-Channel Rack Mounted	2	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12/24 VDC Power From Rack
Quad-Channel Rack Mounted	4	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12/24 VDC Power From Rack

- a. An option to have wireless video transmission between the camera sensor and VDP shall also be available from the VDS manufacturer.
- b. Wired camera systems shall be able to transmit NTSC or PAL video signals, with minimal degradation, up to 1000 feet under ideal conditions.
- c. Wireless camera systems shall be able to transmit an NTSC video signal, with minimal signal degradation, up to 500 feet under normal conditions and up to 900 feet under ideal electromagnetic interference conditions. Adjacent sources of electromagnetic radiation, or the absence of a direct line of sight between transmitter and receiver antennas, may result in video signal degradation.

### **C.2 System Interfaces**

The following interfaces shall be provided for each of the configurations identified in Table 1.

- a. Video Input: Each video input shall accept RS170 (NTSC) or CCIR (PAL) signals from an external video source (camera sensor or VCR). The interface connector shall be BNC type and shall be located on the front of the video processing unit. The video input shall have the capability to select 75-ohm or high impedance (Hi-Z) termination.
- b. Video Lock LED: A LED indicator shall be provided to indicate the presence of the video signal. The LED shall illuminate upon valid video synchronization and turn off when the presence of a valid video signal is removed.
- c. Video Output: One video output shall be provided. The video output shall be RS170 or CCIR compliant and shall pass through the input video signal. For multi-channel video input configurations, a momentary push-button shall be provided on the front panel to toggle through each input video channel. In the absence of a valid video signal, the channel shall be skipped and the next valid video signal shall be switched. The video output shall have the capability to show text and graphical overlays to aid in system setup. The overlays shall display real-time actuation of detection zones upon vehicle detection or presence. Overlays shall be able to be turned off by the user. Control of the overlays and video switching shall also be provided through the serial communications port. The video output interface connector shall be BNC type.
- d. Serial Communications: A serial communications port shall be provided on the front panel. The serial port shall compliant with EIA232 electrical interfaces and shall use a DB9 type connector. The serial communications interface shall allow the user to remotely configure the system and/or to extract calculated vehicle/roadway information. The interface protocol shall be documented or interface software shall be provided. The interface protocol shall support multi-drop or point-to-multipoint communications. Each VDS shall have the capability to be addressable.
- e. Contact Closure Output : Open collector contact closure outputs shall be provided. Four (4) open collector outputs shall be provided for the single, dual or quad channel rack-mount configuration. Additionally, the VDPs shall allow the use of extension modules to provide up to 24 open collector contact closures per camera input. Each open collector output shall be capable of sinking 30 mA at 24 VDC. The open collector output will be used for vehicle detection indicators as well as discrete outputs for alarm conditions.
- f. Detection LEDs: LEDs shall be provided on the front panel. The LEDs shall illuminate when a contact closure output occurs. Rack-mounted video processors shall have a minimum of four (4) LEDs. Rack-mounted extension modules shall have two (2) or four (4) LEDs to indicate detection.

- g. Mouse Port: A USB mouse shall be provided on the front panel of the rack mount video processing unit. The mouse port shall not require special mouse software drivers. The mouse port shall be used as part of system setup and configuration. A mouse shall be provided with each video processor.

### **C.3 General System Functions**

Detection zones shall be programmed via an on board menu displayed on a video monitor and a pointing device connected to the VDP. The menu shall facilitate placement of detection zones and setting of zone parameters or to view system parameters. A separate computer shall not be required for programming detection zones or to view system operation.

The VDP shall store up to three different detection zone patterns. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device.

The VDP shall detect vehicles in real time as they travel across each detection zone.

The VDP shall have an EIA232 port for communications with an external computer. The VDP EIA232 port shall be multi-drop capable.

The VDP shall accept new detection patterns from an external computer through the EIA232 port when the external computer uses the correct communications protocol for downloading detection patterns. A Microsoft Windows-based software designed for local or remote connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system.

The VDP system shall have the capability to automatically switch to any one of the stored configurations based on the time of day which shall be programmable by the user.

The VDP shall send its detection patterns to an external computer through the EIA232 port when requested when the external computer uses the correct communications protocol for uploading detection patterns.

The VDP shall default to a safe condition, such as a constant call on each active detection channel, in the event of unacceptable interference with the video signal.

The system shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all defined detection zones in a constant call mode. A user-selected output shall be active during the low-visibility condition that can be used to modify the controller operation if connected to the appropriate controller input modifier(s). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists.



#### **C.4 Vehicle Detection**

Up to 24 detection zones per camera input shall be supported and each detection zone can be sized to suit the site and the desired vehicle detection region.

The VDP shall provide up to 24 open collector output channels per camera input using one or more extension modules.

A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR'ed as the default or may be AND'ed together to indicate vehicle presence on a single phase of traffic movement.

Placement of detection zones shall be done by using only a pointing device, and a graphical interface built into the VDP and displayed on a video monitor, to draw the detection zones on the video image from each video camera. No separate computer shall be required to program the detection zones.

Up to 3 detection zone patterns shall be saved for each camera within the VDP memory. The VDP's memory shall be non-volatile to prevent data loss during power outages.

The selection of the detection zone pattern for current use shall be done through a menu. It shall be possible to activate a detection zone pattern from VDP memory and have that detection zone pattern displayed within 1 second of activation.

The VDP system shall have the capability to automatically switch to any one of the stored configurations based on the time of day which shall be programmable by the user.

When a vehicle is detected within a detection zone, the corners of the detection zone shall activate on the video overlay display to confirm the detection of the vehicle.

Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather conditions (e.g. rain, snow, or fog) which reduce visibility. Detection accuracy is dependent upon site geometry, camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality.

The VDP shall provide dynamic zone reconfiguration (DZR). DZR enables normal operation of existing detection zones when one zone is being added or modified during the setup process. The VDP shall output a constant call on any detector channel corresponding to a zone being modified.

Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.

The VDP shall process the video input from each camera at 30 frames per second. Multiple camera processors shall process all video inputs simultaneously.

The VDP shall output a constant call for each enabled detector output channel if a loss of video signal occurs. The VDP shall output a constant call during the background learning period.

Detection zone outputs shall be configurable to allow the selection of presence, pulse, extend, and delay outputs. Timing parameters of pulse, extend, and delay outputs shall be user definable between 0.1 to 25.0 seconds.

Up to six detection zones per camera view shall have the capability to count the number of vehicles detected. The count value shall be internally stored for later retrieval through the EIA232 port. The zone shall also have the capability to calculate and store average speed and lane occupancy at bin intervals of 10 seconds, 20 seconds, 1 minute, 5 minutes, 15 minutes, 30 minutes and 60 minutes.

## **D Hardware**

### **D.1 General**

The VDP and extension module (EM) shall be specifically designed to mount in a standard detector rack, using the edge connector to obtain power and provide contact closure outputs. No adapters shall be required to mount the VDP or EM in a standard detector rack. Detector rack rewiring shall not be required.

The EM shall be available to avoid the need of rewiring the detector rack, by enabling the user to plug an extension module into the appropriate slot in the detector rack. The extension module shall be connected to the VDP by a 8 wire cable with modular connectors, and shall output contact closures in accordance to user selectable channel assignments. The EM is available in 2, 4, or 24 channel configurations.

### **D.2 Input Power**

The VDP and EM shall be powered by 12/24 volts DC. VDP power consumption shall not exceed 7 watts. The EM power consumption shall not exceed 2.5 watts.

### **D.3 Detection Outputs**

The VDP and EM shall include detector output pin out compatibility with industry standard detector racks. The 24-channel EM shall provide output through a 37-pin “D” connector on the front panel.

### **D.4 Video Inputs**

VDPs shall include one, two or four BNC video input connections suitable for composite video inputs. The video input shall include a switch selectable 75-ohm or high impedance termination to allow camera video to be routed to other devices, as well as input to the VDP for vehicle detection.

### **D.5 Video Outputs**

The front of the VDP shall include one BNC video output providing real time video output that can be routed to other devices.

## **D.6 Mechanical and Environmental**

The VDP shall operate satisfactorily in a temperature range from -34 °C to +74 °C and a humidity range from 0%RH to 95%RH, non-condensing as set forth in NEMA specifications.

The front panel of the VDP shall have detector test switches to allow the user to place calls on each channel. The test switch shall be able to place either a constant call or a momentary call depending on the position of the switch.

The front face of the VDP shall contain indications, such as LED displays, to enable the user to view real time detections for each channel of detection when the system is operational.

The VDP shall include an EIA232 port for serial communications with a remote computer. This port shall be a 9-pin "D" subminiature connector on the front of the VDP.

The VDP shall utilize non-volatile memory technology to enable the loading of modified or enhanced software through the EIA232 port and without modifying the VDP hardware.

## **D.7 Video Detection Camera**

Video detection cameras used for traffic detection shall be furnished by the video detection processor (VDP) supplier and shall be qualified by the supplier to ensure proper system operation.

The camera shall produce a useable video image of the bodies of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range 1.0 lux to 10,000 lux.

The imager luminance signal to noise ratio (S/N) shall be more than 50 dB.

The camera shall be digital signal processor (DSP) based and shall use a CCD sensing element and shall output color video with resolution of not less than 470 TV lines. The CCD imager shall have a minimum effective area of 768(h) x 494(v) pixels.

The camera shall include an electronic shutter control based upon average scene luminance and shall be equipped with an auto-iris lens that operates in tandem with the electronic shutter.

The camera shall utilize automatic white balance.

The camera shall include a variable focal length lens with variable focus that can be adjusted, without opening up the camera housing, to suit the site geometry by means of a portable interface device designed for that purpose and manufactured by the detection system supplier.

The horizontal field of view shall be adjustable from 5.4 to 50.7 degrees. This camera configuration may be used for the majority of detection approaches in order to minimize the setup time and spares required by the user. The lens shall be a 10x zoom lens with a focal length of 3.8mm to 38.0 mm.

The lens shall also have an auto-focus feature with a manual override to facilitate ease of setup.

The camera shall incorporate the use of preset positioning that store zoom and focus positioning information. The camera shall have the capability to recall the previously stored preset upon application of power.

The camera electronics shall include automatic gain control (AGC) to produce a satisfactory image at night.

The camera shall be housed in a weather-tight sealed enclosure. The enclosure shall be made of 6061 anodized aluminum. The housing shall be field rotatable to allow proper alignment between the camera and the traveled road surface.

The camera enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 6" diameter, less than 18" long, and shall weigh less than 6 pounds when the camera and lens are mounted inside the enclosure.

The enclosure shall be design so that the pan, tilt and rotation of the camera assembly can be accomplished independently without affecting the other settings.

The camera enclosure shall include a proportionally controlled heater, where the output power of the heater varies with temperature, to assure proper operation of the lens functions at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure.

The glass face on the front of the enclosure shall have an anti-reflective coating to minimize light and image reflections.

The glass face shall also employ a special coating to minimize the buildup of environmental debris such as dirt and water.

When mounted outdoors in the enclosure, the camera shall operate satisfactorily in a temperature range from -34 °C to +60 °C and a humidity range from 0% RH to 100% RH. Measurement of satisfactory video shall be based upon VDP system operation.

The camera shall be powered by 120-240 VAC 50/60 Hz. Power consumption shall be 45 watts or less under all conditions. An optional DC power configuration shall be available for 12 VDC operation.

Recommended camera placement height shall be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection the camera should be centered above the traveled roadway. The camera shall view approaching vehicles at a distance not to exceed 350 feet for reliable detection (height to distance ratio of 10:100). Camera placement and field of view (FOV) shall be unobstructed and as noted in the installation documentation provided by the supplier.

The camera enclosure shall be equipped with separate, weather-tight connections for power and video cables at the rear of the enclosure. These connections may also allow diagnostic testing and viewing of video at the camera while the camera is installed on a mast arm or pole using a lens adjustment module (LAM) supplied by the VDP supplier. Video and power shall not reside within the same connector.

The video signal shall be fully isolated from the camera enclosure and power cabling.

#### **D.8 Video Monitor**

The monitor shall be a flat screen color video monitor with a minimum 9" diagonal picture display. It shall support EIA standards RS-170 composite video signal (1.0 v p-p, 75 OHM).

It shall have a resolution of 900 lines at center. Video bandwidth shall be >11 MHz. Loop through connectors shall be provided, and both input and output connectors shall be BNCs.

The monitor power source shall be 120 VAC +/- 10%, 60 Hz. Power consumption shall not be greater than 18 W. Ambient operating temperature shall be +50 to +122 degrees Fahrenheit.

Located on the front panel, the controls shall be on/off, contrast, bright, vertical hold, and horizontal hold. Rear panel shall have controls for vertical size, vertical linearity and scan switch.

Dimensions shall not exceed 9" (W), 10" (H), and 7" (D). Weight shall not exceed 10 pounds.

#### **D.9 Coaxial Cable**

The coaxial cable to be used between the camera and the VDP in the traffic cabinet shall be Belden 8281. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. BNC plug connectors should be used at both the camera and cabinet ends. The coaxial cable, BNC connector, and crimping tool shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.

**D.10 Power Cable**

The power cabling shall be 16 AWG three conductor cable with a minimum outside diameter of 0.325 inch and a maximum diameter of 0.490 inch. The cabling shall comply with the National Electric Code, as well as local electrical codes. Cameras may acquire power from the luminaire if necessary.

**E Installation**

The video detection camera shall be installed by factory-certified installers as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided.

**F Supplier Warranty**

The supplier shall provide a three-year warranty on the video detection system.

During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.

During the warranty period, updates to VDP software shall be available from the supplier without charge.

**G Maintenance and Support**

The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.

The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for on site technical support services.

Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.

All product documentation shall be written in the English language.

**H Measurement**

The department will measure Video Vehicle Detection System (Intersection) as each individual unit, acceptably completed per intersection.

**I Payment**

The department will pay for measured quantities at the contract lump sum price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Video Vehicle Detection System, Intersection of Coffee Road and CTH O (Moorland Road)	LS
SPV.0105.02	Video Vehicle Detection System, Intersection of Coffee Road and National Avenue	LS

Payment is full compensation for furnishing and installing control units, cameras, cabling, mounting brackets, testing and setting up the system.

**51. Emergency Vehicle Preemption System, Intersection of Coffee Road and Calhoun Road, Item SPV.0105.03; Intersection of Coffee Road and CTH O (Moorland Road), Item SPV.0105.04; Intersection of Coffee Road and National Avenue, Item SPV.0105.05.**

**A Description**

This work shall consist of furnishing and installing an Emergency Vehicle Preemption (EVP) System at a single intersection, as shown on the plans and as hereinafter provided.

**B Materials and Construction Methods**

The Emergency Vehicle Preemption System shall include Opticom discriminator Model 454, Model 711 detectors, and Model 138 detector cable. This equipment shall be furnished and installed by the contractor.

Detectors shall be mounted on the mast arms and signal poles as shown on the Plans.

The traffic signal mast arms and poles shall be drilled, and tapped to accommodate the mounting of the detector units as shown in the plans. The installation method shall be approved by the county traffic engineer.

In the event, at installation, a noticeable obstruction is present in line with the detector, the contractor shall be obligated to advise the engineer before installation.

Unless otherwise directed by the county, the detector shield tube shall be installed with the drain hole at the bottom.

There shall be NO detector cable splices from the detector assembly to the controller terminations.

The EVP detector cables shall be routed to the controller. Each lead shall be appropriately marked as to which street or avenue it is associated. The contractor will perform all terminations inside the cabinet.

The EVP as specified and shown in the plans shall be complete in place, tested, and in full operation.

### **C Measurement**

The department will measure Emergency Vehicle Preemption System (Intersection) as a single lump sum unit of work, acceptably completed per intersection.

### **D Payment**

The department will pay for measured quantities at the contract lump sum price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.03	Emergency Vehicle Preemption System, Intersection of Coffee Road and Calhoun Road	LS
SPV.0105.04	Emergency Vehicle Preemption System, Intersection of Coffee Road and CTH O (Moorland Road)	LS
SPV.0105.05	Emergency Vehicle Preemption System, Intersection of Coffee Road and National Avenue	LS

Payment is full compensation for furnishing and installing all equipment, cabling, necessary additional items, testing and setting up the system.

## **52. Remove Traffic Signals and Street Lighting Intersection of Coffee Road and CTH O (Moorland Road), Item SPV.0105.06, and Intersection of Coffee Road and National Avenue, Item SPV.0105.07.**

### **A Description**

This special provision describes removing existing traffic signals and street lighting at the listed project intersections in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided. Specific removal items are noted in the plans.

### **B (Vacant)**

### **C Construction**

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signal items can be removed.

Notify the county Department of Public Works at least five working days prior to the removal of the traffic signal items. Complete the removal work as soon as possible following shut down of this equipment.

The county assumes that all equipment is in good condition and in working order prior to the contractor's removal operation. Prior to removal, inspect and provide a list of any damaged or non-working traffic signal equipment to the engineer. Any equipment not identified as damaged or not working, prior to removal, will be replaced by the contractor at no cost to the department.



Remove identified standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the identified transformer bases from each pole. Remove the identified signal heads, mast arms, luminaires, wiring/cabling, and traffic signal mounting devices from each signal standard, arm or pole. Ensure that all access hand hole doors and all associated hardware remain intact. Properly dispose of the underground signal cable, internal wires and street lighting cable. Deliver the remaining materials to the County Department of Public Works. Contact the county at least 5 working days prior to delivery to make arrangements.

#### **D Measurement**

The department will measure Remove Traffic Signals and Street Lighting (Intersection) as a single lump sum unit of work for each intersection, acceptably completed.

#### **E Payment**

The department will pay for Remove Traffic Signals and Street Lighting for measured quantities at the contract unit price under the following bid item.

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.06	Remove Traffic Signals and Street Lighting Intersection of Coffee Rd and CTH O (Moorland Road)	LS
SPV.0105.07	Remove Traffic Signals and Street Lighting Intersection of Coffee Rd and National Avenue	LS

Payment is full compensation for removing, disassembling traffic signals, scrapping of some materials, disposing of scrap material, and for delivering the requested materials to the department.

### **53. Construction Staking Detention Ponds, Item SPV.0105.08.**

#### **A Description**

Perform work in accordance to standard spec 650 and as herein provided. This section describes the contractor performed construction staking required under individual contract bid items to establish the horizontal and vertical position for the detention pond.

#### **B (Vacant)**

#### **C Construction**

Standard spec 650.3.1 applies. Set and maintain construction stakes or marks as necessary to achieve the required accuracy and to support the method of operations. Locate stakes to within 0.10 feet of the true horizontal position. Establish the grade elevation to within 0.10 feet of the true vertical position below the permanent water line, and within 0.02 feet of the true vertical position above the permanent water line. This work will include establishing subgrade elevations below all riprap and the clay liner. This work does not include layout of headwalls, inlets, or pipes, which are paid for under construction staking storm sewer system.

#### **D Measurement**

The department will measure Construction Staking Detention Ponds as a single lump sum unit of work, acceptably completed.

#### **E Payment**

The department will pay measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.08	Construction Staking Detention Ponds	LS

Payment is full compensation according to paragraphs (2) and (3) of standard spec 650.5.

### **54. Removing Geodetic Survey Monument, Item SPV.0105.09.**

#### **A Description**

This special provision describes removing the concrete Height Modernization Geodetic Survey Monument NEW BERLIN C GPS located at Station 170+39.47, 27.16' LT and salvaging the 3.5-inch bronze disc on top of the monument as shown on the plans and in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided. The monument is concrete that is approximately 16-inches in diameter and 8 feet deep. The bronze disc to be salvaged for department use is embedded in the concrete.

Height Mod Station information can be found at:

- Wisconsin State Cartographer's web site – [www.sco.wisc.org](http://www.sco.wisc.org)
- U.S. Department of Commerce web site – [www.ngs.noaa.gov](http://www.ngs.noaa.gov)

#### **B (Vacant)**

#### **C Construction**

Remove the concrete height modernization geodetic survey monument and salvage the bronze disc and return to the department in accordance to standard spec 204.3.

Notify the Waukesha County Surveyor and Thomas Lipsky, RLS Wis-DOT/SE Region-Waukesha five working days prior to construction operations that may disturb existing monument, with pertinent questions or to return salvaged bronze disc to the department. Thomas Lipsky can be reached at (262) 548-6737 office or (414) 750-1508 cell, or email [thomas.lipsky@dot.wi.gov](mailto:thomas.lipsky@dot.wi.gov).

Please report endangered Wisconsin Height Modernization program geodetic control survey stations by calling toll free (866) 568-2852 or by emailing information to [geodetic@dot.wi.gov](mailto:geodetic@dot.wi.gov).

- Diane Arendt - Wisconsin Department of Transportation(WisDOT)
- Elliot Smith - WISCORS Network Administrator

**D Measurement**

The department will measure Removing Geodetic Survey Monument as a single complete lump sum unit of work, acceptably completed.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.09	Removing Geodetic Survey Monument	LS

Payment is full compensation for removing concrete geodetic survey monument, proper disposal of all materials, and for salvaging 3.5-inch bronze disc and returning it to the department.

**55. Test Rolling, Item SPV.0170.01.****A Description**

This special provision describes the testing of the stability of the finished earth subgrade by rolling with a tri-axle dump truck, the restoration of any soft or yielding areas evidenced by the test rolling, and retesting as determined by the engineer.

**B Equipment**

Fully load a tri-axle dump truck to within 3 tons of the vehicle legal load limit and provide a minimum gross vehicle weight of 30 tons. Uniformly inflate all tires to the pressure recommended by the manufacturer for the applicable wheel load.

**C Construction**

Completely compact and shape the subgrade to approximate grade and cross section; but not yet staked for blue top grades for areas to be tested. Test roll at normal walking speed under the direction of the engineer or his representative.

Roll the earth subgrade at a width equal to the finished base course width. Make multiple passes throughout the length of the subgrade test area. Center each pass on a proposed lane or applicable shoulder. When the shoulder width is less than 8 feet, the engineer will determine the number and location of passes required such that any wheel track will be within 3 to 4 feet of the previous adjacent wheel track.

Repair and consolidate any soft or yielding areas or depressions evidenced under the action of the test rolling to withstand retesting. Excavate and replace any unstable material from the roadbed with selected materials. Correct any yielding subgrade areas discovered during the test rolling operations prior to blue top staking and finish grading operations. Perform corrective work in accordance to the standard specifications.

**D Measurement**

The department will measure Test Rolling by the station along the roadway centerline or reference line, acceptably completed. The department will measure two or more separate roadways by the station along each separate roadway as designated on the plans.

**E Payment**

The department will pay for measured quantities at the contract unit price under the following item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0170.01	Test Rolling	STA

Payment is full compensation for performing the Test Rolling; for any preparation of the subgrade, including the furnishing and incorporation of water, if required; for retesting as determined by the engineer and for restoration of the subgrade.

**56. QMP Base Aggregate Dense 1 1/4-inch Compaction, Item SPV.0195.01.****A Description**

- (1) This special provision modifies the compaction and density testing documentation requirements of work done under the Base Aggregate Dense 1 1/4-inch bid items. Conform to standard specification section 305 as modified in this special provision and to the contract QMP Base Aggregate article.
- (2) Provide and maintain a quality management program. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process related to construction of dense graded base which meets all the requirements of this provision.
- (3) Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:  
<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>
- (4) This special provision applies to Base Aggregate Dense 1 1/4-inch material placed on both the mainline traveled way and its adjacent mainline shoulders in accordance to the typical finished sections. Unless otherwise specified by the contract; all Base Aggregate Dense 1 1/4-inch material placed on side roads, private and public entrances, ramps, tapers, turn lanes, and other locations not described as the mainline traveled way and its adjacent mainline shoulders is exempt from the compaction and density requirement modifications and testing contained within this special provision.

**B (Vacant)****C Construction****C.1 General**

- (1) The engineer shall approve the grade prior to placement of the base. Approval of the grade shall be in accordance with applicable provisions of the standard specifications.

*Supplement standard spec 305.3.2.2 with the following:*

- (3) Compact the 1 1/4-inch dense graded base to a minimum of 93.0% of the material target density. Ensure that adequate moisture is present during placement and compaction operations to prevent segregation and to help achieve compaction. The material target density will be identified using one of the following methods:
  1. For 1 1/4-inch dense graded base composed of  $\leq 20\%$  reclaimed asphaltic pavement (RAP) or crushed concrete (RCA); as determined by classification of material (aggregate or RAP and/or RCA), and percentage by weight of each material type, retained on the No. 4 Sieve; maximum dry density as determined by AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity ( $G_m$ ) in accordance with AASHTO T 85, Bulk Specific Gravities determined in accordance with Standard Specification 106.3.4.2.2 for aggregate source approval may be utilized
  2. For 1 1/4-inch dense graded base composed of  $>20\%$  RAP or RCA; as determined by classification of material (aggregate or RAP and/or RCA), and percentage by weight of each material type, retained on the No. 4 Sieve; the contractor's option of:
    - a. Maximum dry density as determined by AASHTO T-180, Method D, with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity ( $G_m$ ) in accordance with AASHTO T 85.
    - b. Maximum wet density as determined by AASHTO T-180, Method D, modified to define *Maximum Density* as the wet density in pounds per cubic foot of soil at optimum moisture content under the Method D specified compaction, and with correction for coarse particles as determined by AASHTO T224; modified to require determination of Bulk Specific Gravity ( $G_m$ ) in accordance with AASHTO T 85.
    - c. Average of 10 random control strip wet density measurements as described in section C.2.4.1.
- (4) Base aggregate dense 1 1/4-inch will be accepted for compaction on a target density lot basis.
- (5) Field density tests on materials using contractor elected target density methods C.1(4).2.b or C.1(4).2.c will not be considered for lot acceptance on the basis of compaction under the requirements of this provisions until the moisture content of the in-place material is less than 2.0 percentage points above of the maximum wet density optimum moisture or 2.0 percentage points of the average moisture content of the 10 density tests representing a control strip, respectively.

## **C.2 Quality Management Program**

### **C.2.1 Quality Control Plan**

- (1) Submit a comprehensive written quality control plan to the engineer no later than 10 business days before placement of material. Do not place any dense graded base before the engineer reviews and accepts the plan. Construct the project as the plan provides.
- (2) Do not change the quality control plan without the engineer's review and acceptance. Update the plan with changes as they become effective. Provide a current copy of the plan to the engineer and post in the contractor's laboratory as changes are adopted. Ensure that the plan provides the following elements:
  1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
  2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
  3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
  4. Descriptions of stockpiling and hauling methods.
  5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
  6. Location of the QC laboratory, retained sample storage, and other documentation.
  7. A summary of the locations and calculated quantities to be tested under this provision.

### **C.2.2 Personnel**

- (1) Perform the quality control sampling, testing, and documentation required under this provision using technicians certified by the Department's Highway Technician Certification Program (HTCP). Have a HTCP Nuclear Density Technician I, or ACT certified technician, perform field density and field moisture content testing.
- (2) If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing is performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

### **C.2.3 Equipment**

- (1) Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

- (2) Furnish nuclear gauges from the department's approved product list at:  
<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>
- (3) Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.
- (4) For all target density methods; conform to ASTM D 6938 and CMM 8.15 for wet density testing and gauge monitoring methods.
- (5) For the specified target density method C.1(4).1 compute dry densities for dense graded base composed of  $\leq 20\%$  RAP or RCA, according to ASTM D 6938.
- (6) For contractor elected target density method C.1(4).2.a compute dry densities of dense graded base composed of  $>20\%$  RAP or RCA using a moisture correction factor and the nuclear wet density value. Determine the moisture correction value; for each Proctor produced under the requirements of C.2.4.2; using the moisture bias, as shown in CMM 8.15.4.1, except the one-point Proctor tests of the 5 random tests is not required. Determine natural moistures in the laboratory.
- (7) Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Backscatter may be used only if the material being tested cannot reliably maintain an undistorted Direct Transmission test hole. Direct transmission tests must be performed at the greatest possible probe depth of 2 inches, 4 inches, or 6 inches; not to exceed the depth of the compacted layer being tested. Perform each test for 4 minutes of nuclear gauge count time.

#### **C.2.4 Contractor Testing**

- (1) Perform compaction testing on the mainline dense graded base material, as defined by A.(4). Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians as required in C.2.2. Conform to CMM 8.15 for testing and gauge monitoring methods.
- (2) Select test sites randomly using ASTM Method D3665. Do not test less than 1 ½ feet from the unsupported edge of the dense graded base layer. Test sites must be located within the mainline traveled way or the traveled way's adjacent mainline shoulder.

##### **C.2.4.1 Contractor Required Quality Control (QC) Testing**

- (1) Conduct testing at a minimum frequency of one test per lot. A lot will consist of each 1500 tons, of each layer with a minimum lift thickness of 2", of base aggregate dense 1 1/4-inch material placed; regardless of location of placement. Each lot of in-place mainline, as defined by A.(4), 1 1/4-inch base aggregate dense material will be accepted for compaction when the lot field density meets the required minimum 93.0% of target density, or for lots not achieving 93.0% of target density in accordance with C.2.6.

- (2) Notify the engineer, if a lot field density test falls below the required minimum value. Document and perform corrective action in accordance with C.2.6. Deliver documentation of all compaction testing results to the engineer at the time of testing.

#### **C.2.4.1.1 Target Density Determination**

##### **C.2.4.1.1.1 Density Control Strip Method**

- (1) For contractor elected target density method C.1(4).2.c; construct a control strip for each layer of placement to identify the target wet density for the base aggregate dense material. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.
- (2) Unless the Engineer approves otherwise, construct control strips to a minimum dimension of 300 feet long and one full lane width.
- (3) Completed control strips may remain in-place to be incorporated into the final roadway cross-section.
- (4) Construct additional control strips, at a minimum, when:
  1. The gradation on any one sieve differs from the original gradation test result for that sieve, by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.
  2. The source of base aggregate changes.
  3. The percentage of blended recycled materials; from classification of material retained on the No. 4 sieve; in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.
  4. The layer thickness changes in excess of 2.0 inches.
  5. The percent target density exceeds 103.0% on two consecutive density measurements.
- (5) Construct control strips using equipment and methods representative of the operations to be used to place and compact the remaining 1 1/4-inch base aggregate dense material. Wet the base, as mutually agreed upon by the contractor and engineer, to obtain and/or maintain adequate moisture content to ensure proper compaction. Discontinue water placement if the base begins to exhibit signs of saturation or instability.
- (6) After compacting the control strip with a minimum of 2 passes, mark and take density measurements at 3 random locations, at least 1 1/2 feet from the edge of the base. Subsequent density measurements will be taken at the same 3 locations.
- (7) After each subsequent pass of compaction equipment over the entirety of the control strip, take density measurements at the 3 marked locations. Continue compacting and testing until the increase in density measurements is less than 2.0 lb/ft<sup>3</sup>, or the density measurements begin to decrease.



- (8) Upon completion of control strip compaction, take 10 randomly located density measurements within the limits of the control strip, at least 1 ½ feet from the edge of the base. The final measurements recorded at the 3 locations under article C.2.4.1.1(6) may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density and target moisture for use in contractor elected method C.1(4).2.c.

#### **C.2.4.1.1.2 Maximum Wet and/or Dry Density Methods**

- (1) For contractor elected target density methods C.1(4).2.a, C.1(4).2.b, and contractually specified target density method C.1(4).1; perform one gradation and 5-point Proctor test before placement of 1 1/4-inch dense graded base. Perform additional gradations every 3000 tons. If sampling requirements are identical, samples/testing performed for the QMP Base Aggregate specification may be used to fulfill the gradation testing requirements of this specification.
- (2) Perform additional 5-point Proctor tests, at a minimum, when:
1. The gradation on any one sieve differs from the original gradation test result for that sieve, by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to create a 5-point Proctor. Each 5-point Proctor test will remain valid for any material with gradation for all sieves within 10.0 percentage points of that Proctor's original gradation test.
  2. The source of base aggregate changes.
  3. The percentage of blended recycled materials ; from classification of material retained on the No. 4 sieve; in the original gradation test, differs by more than 10 percentage points. The original gradation test is defined as the gradation of the material used to construct the control strip.
  4. Percent target density exceeds 103.0% on two consecutive density tests.
- (3) Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.
- (4) Split each contractor QC sample and identify it according to CMM 8.30. Retain the split for 7 calendar days in a dry, protected location. If requested for department comparison testing, deliver the split to the engineer within one business day.

#### **C.2.4.2 Optional Contractor Assurance (CA) Testing**

- (1) CA Testing is optional and is conducted to further validate QC testing. The contractor may submit recorded CA data to provide additional information for the following:
1. Process control decisions
  2. Troubleshooting possible sampling, splitting, or equipment problems.
  3. Limiting liability and/or corrective action limits as a result of QV or QC testing. These provisions do not supersede the department's rights under standard spec 107.16

- (2) CA testing used to limit liability and/or corrective action limits must conform to all the requirements of required contractor QC testing, with the exclusion of a required test frequency.

## **C.2.5 Department Testing**

### **C.2.5.1 General**

- (1) The department will conduct verification testing to validate the quality of the product and independent assurance testing to evaluate the sampling and testing. The department will provide the contractor with a listing of names and telephone numbers of all QV and IA personnel for the project, and provide test results to the contractor within 2 business days after the department obtains the sample.

### **C.2.5.2 Quality Verification (QV) Testing**

- (1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.2.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.
- (2) The department will conduct QV tests at the minimum frequency of 30% of the required gradation, density and proctor contractor tests.
- (3) The department will locate gradation, proctor and nuclear density test samples, at locations independent of the contractor's QC work, collecting one sample at each QV location. The department will split each QV sample, test half for QV, and retain the remaining half for 7 calendar days.
- (4) The department will conduct QV tests in a separate laboratory and with separate equipment from the contractor's QC tests. The department will use the same methods specified for QC testing.
- (5) The department will utilize control strip target density testing results in lieu of QV proctor sampling and testing when the contractor elected C.1(4).2.c target density method is used.
- (6) The department will assess QV results by comparing to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, take corrective actions in accordance with C.2.6 until the requirements of this special provision are met. Differing QC and QV nuclear density values of more than 2.0 pcf will be investigated and resolved.

### **C.2.5.3 Independent Assurance (IA)**

- (1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review

according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
  2. Proficiency sample testing.
  3. Witnessing sampling and testing.
  4. Test equipment calibration checks.
  5. Requesting that testing personnel perform additional sampling and testing.
- (2) If the department identifies a deficiency, and after further investigation confirms it, correct that deficiency. If the contractor does not correct or fails to cooperate in resolving identified deficiencies, the engineer may suspend placement until action is taken. Resolve disputes as specified in C.2.5.4.

#### **C.2.5.4 Dispute Resolution**

- (1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor shall review the data, examine data reduction and analysis methods, evaluate sampling and testing methods/procedures, and perform additional testing. Use ASTM E 178 to evaluate potential statistically outlying data.
- (2) Production test results, and results from other process control testing, may be considered when resolving a dispute.
- (3) If project personnel cannot resolve a dispute, and the dispute affects payment or could result in incorporating non-conforming product or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

#### **C.2.6 Corrective Action**

- (1) Lots not achieving 93.0% of target density may be addressed and accepted for compaction in accordance with the requirements of this section. Unless otherwise stated, the actions taken to address an unacceptable lot must be applied to the entire lot.

Passing CA test results in accordance with section C.2.4.2, will reduce the limits of lot investigations and/or corrective actions.

- (2) At no additional cost to the department, investigate the moisture content of material in an unacceptable lot. Moisture content testing/samples collected under the QC and/or QV testing articles of this specification may be used to complete this investigation. Obtain moisture content readings in accordance with ASTM D 6938. For material composed of >20% RAP or RCA, correct the moisture content with the moisture correction value using the moisture bias, as shown in CMM 8.15.4.1, except the one-point Proctor tests of the 5 random tests is not required.
- (3) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; and exhibiting no signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations; will be, at no additional cost to the department, compacted a minimum of one more pass using equipment and methods representative of the operations used to place and compact the base aggregate dense; and density tested at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft<sup>3</sup> continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft<sup>3</sup>, the lot is accepted as satisfying the compaction requirements of this provision.
- (4) Lots with moisture contents within 2.0 percentage points of optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; and exhibiting signs of deflection when subjected to loading by the heaviest roller used in the placement and compaction operations; will be reviewed by the engineer. The engineer may request subgrade improvement methods, such as excavation below subgrade (EBS), installation of geotextile fabrics, installation of breaker run material or others to be completed and paid for in accordance with standard spec 301.5; or may request, at no additional cost to the department, an additional pass of compactive effort using equipment and methods representative of the operations used to place and compact the base aggregate dense and density test.
  1. If, after an additional pass, the change in density at the same location (station and offset) as the failing QC and/or QV density tests exceeds 2.0 lb/ft<sup>3</sup> in a lot continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density at the same location (station and offset) as the failing QC and/or QV density tests is less than or equal to 2.0 lb/ft<sup>3</sup>, and subgrade improvement methods are not requested by the engineer, the lot is accepted as satisfying the compaction requirements of this provision.

2. If subgrade improvement methods are requested by the engineer, upon completion, including compaction of the restored base material, conduct a density test within the improved subgrade limits. This density test result will replace the prior field density value. If the lot field density equals or exceeds 93.0% of target density the lot is accepted as satisfying the compaction requirements of this provision. If the lot field density fails to achieve 93.0% of target density, at no additional cost to the department, compact the lot a minimum of one more pass using equipment and methods representative of the operations used to place and compact the base aggregate dense; and density test at the same location (station and offset) as the failing QC and/or QV density tests. If the change in density exceeds 2.0 lb/ft<sup>3</sup> continue subsequent compactive efforts and density testing on that lot, at no additional cost to the department. If the change in density is less than or equal to 2.0 lb/ft<sup>3</sup>, the lot is accepted as satisfying the compaction requirements of this provision.
- (5) Lots with moisture contents in excess of 2.0 percentage points above or below optimum moisture for target density methods C.1(4).1, C.1(4).2.a, or C.1(4).2.b ; or within 2.0 percentage points of the target moisture content for target density method C.1(4).2.c; shall receive contractor performed and documented corrective action; including additional density testing; at no additional cost to the department.
- (6) Density tests completed subsequent to any corrective action will replace previous field density test results for that lot. Continue corrective actions until 93.0% of target density is achieved; or an alternate compaction acceptance criteria is met in accordance with this section.
- (7) Field moisture contents of materials tested using contractor elected target density methods C.1(4).2.b or C.1(4).2.c cannot exceed 2.0 percentage points of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively. Density tests on materials using contractor elected target density methods C.1(4).2.b or C.1(4).2.c will not be considered for lot compaction acceptance until the moisture content of the corresponding density test of the in-place material is less than 2.0 percentage points above of the optimum moisture content or 2.0 percentage points of the target moisture content, respectively.

#### **D Measurement**

- (1) The department will measure QMP Base Aggregate Dense 1 1/4-inch Compaction by the ton. The measured tons of QMP Base Aggregate Dense 1 1/4-inch Compaction equals the tons of Base Aggregate Dense 1 1/4-inch, acceptably completed, regardless of placement location and density testing eligibility.

**E Payment**

- (1) The department will pay for the measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	QMP Base Aggregate Dense 1 1/4-inch Compaction	TON

- (2) Payment is full compensation for performing compaction testing; for sampling and laboratory testing; and for developing, completing, and documenting the compaction quality management program. The department will pay separately for providing the aggregate under the Base Aggregate Dense 1 1/4-inch bid item.



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**ADDITIONAL SPECIAL PROVISION 1 (ASP 1)  
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)  
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS**

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The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 5204(e) – Surface Transportation Workforce Development Training and Education, provides for 100 percent Federal funding if the core program funds are used for training, education, or workforce development purposes, including “pipeline” activities. The core programs includes: Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Highway Bridge Program (HBP), Interstate Maintenance (IM), National Highway System (NHS), and Surface Transportation Program (STP). These workforce development activities cover surface transportation workers, including OJT/SS programs for women and minorities as authorized in 23 U.S.C. §140(b).

*TrANS* is an employment program originally established in 1995 in Southeastern Wisconsin. Currently TrANS has expanded to include TrANS program locations to serve contractors in Southeast (Milwaukee and surrounding counties), Southcentral (Dane County and surrounding counties including Rock County), and most Northeastern Wisconsin counties from locations in Keshena, Rhinelander and surrounding far Northern areas. TrANS attempts to meet contractor’s needs in other geographic locations as possible. It is an industry driven plan of services to address the outreach, preparation, placement and retention of women, minorities and non-minorities as laborers and apprentices in the highway skilled trades. These candidate preparation and contractor coordination services are provided by community based organizations. For a list of the TrANS Coordinators contact the Disadvantaged Business Enterprise Office at (414) 438-4583 in Milwaukee or (608) 266-6961 in Madison. These services are provided to you at no cost.

***I. BASIC CONCEPTS***

Training reimbursements to employing contractors for new placements, rehires or promotions to apprentice of TrANS Program graduates will be made as follows:

- 1) **On-the-Job Training, Item ASP.1T0G, ASP 1 Graduate.** At the rate of \$5.00 per hour on federal aid projects when TrANS graduates are initially hired, or seasonally rehired, as unskilled laborers or the equivalent.

Eligibility and Duration: To the employing contractor, for up to 2000 hours from the point of initial hire as a TrANS program placement.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that   3   (number) TrANS Graduate(s) be utilized on this contract.

- 2) **On-the-Job Training, Item ASP.1T0A, ASP 1 Apprentice.** At the rate of \$5.00 per hour on federal aid projects at the point when an employee who came out of the TrANS Program is subsequently entered into an apprenticeship contract in an underutilized skilled trade (this will include the Skilled Laborer Apprenticeship when that standard is implemented).



Eligibility and Duration: To the employing contractor, for the length of time the TrANS graduate is in apprentice status.

Contract Goal: To maintain the intent of the Equal Employment Opportunity program, it is a goal that   2   (number) TrANS Apprentice(s) be utilized on this contract.

- 3) The maximum duration of reimbursement is two years as a TrANS graduate plus time in apprentice status.
- 4) If a TrANS program is not available in the contractor's area and another training program is utilized, payment of On-the-Job Training hours may be approved by the Wisconsin Department of Transportation (WisDOT) if the training program meets the established acceptance criteria. Only On-the-Job Training Hours accumulated after WisDOT approval will be reimbursed as specified under Items ASP.1T0G and ASP.1T0A. For more information, contact the Disadvantaged Business Enterprise Office at the phone numbers listed above.
- 5) WisDOT reserves the right to deny payments under items ASP.1T0G and ASP.1T0A if the contractor either fails to provide training or there is evidence of a lack of good faith in meeting the requirements of this training special provision.

## ***I. RATIONALE AND SPECIAL NOTE***

The \$5.00 per hour now being paid for TrANS placements is intended to cover the duration of two years to allow for reaching entry-level laborer status. An additional incentive, the \$5.00 rate, would promote movement into the underutilized skilled trades' apprenticeships and applies until the individual completes their apprenticeship. These incentives benefit TrANS candidates by giving them a better opportunity to enter a skilled trade; benefits contractors who will be assisted in meeting their EEO profiles and goals; and benefits the public who will see the program reinforce larger public-private employment reform in Wisconsin. The pool of TrANS graduates was created for the purpose of addressing underutilization in the skilled trades, an objective that is further reinforced by a parallel retention pilot program, known as the Companywide Reporting. *Whether or not reimbursement is involved, the WisDOT reassures contractors who are in the Companywide Program that TrANS placements still contribute toward fulfilling the new hire goal of 50% women and minorities.* Based on data administered by United States Department of Labor (US DOL), the highway skilled trades remain underutilized for women statewide (less than 6.9%); and for minorities in all counties (% varies by county).

NOTE: *Unless using other advancement strategies, contractors are encouraged to use some or all of this monetary incentive to offset the cut in hourly wages an individual may incur when entering an apprenticeship if the full general laborer hourly rate has been previously paid. No special accounting measures are required.*

## ***II. IMPLEMENTATION***

The implementation of ASP 1 is intended to cover only the amount of time it takes for underutilization to be resolved across the trades. This will be measured annually at the county and/or state levels using data administered by WisDWD in relation to goals set by the USDOL-

OFCCP. With appropriate state and federal approvals, we may also do some measurement at the company level.

It is the contractor's responsibility to note on their Certified Payrolls if their employee is a TrANS graduate or a TrANS apprentice. The District EEO Coordinators utilize the information on the Certified Payrolls to track the hours accumulated by TrANS Graduates and TrANS apprentices on WisDOT contracts. Payment under this ASP 1 is made based on the hours recorded off of the Certified Payrolls. Tracking may eventually include improved linkages with the WisDWD apprentice database, information from company and committee level sources.

TrANS is nondiscriminatory by regulation, and is a tool for optional use by contractors to address the underutilization of women and minorities as laborers and apprentices in our industry's skilled trades.

#### **IV. TRANS TRAINING**

As part of the contractor's equal employment opportunity affirmative action program, training shall be provided to employees enrolled in apprenticeship and on-the-job training programs as follows:

The contractor shall provide on-the-job training aimed at developing full journey workers in the type of trade or job classifications involved. In the event the contractor subcontracts a portion of the contract work, the contractor shall determine how many, if any, of the trainees are to be trained by the subcontractor provided, however, that the contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The contractor shall also insure that this training special provision is made applicable to such subcontract.

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

No employee shall be employed as a trainee in any classification in which they have successfully completed a training course leading to journey workers status or in which they have been employed as a journey worker. The contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the contractor's records should document the findings in each case.

#### **V. APPRENTICESHIP TRAINING**

The Federal Highway Administration's (FHWA) policy is to require full use of all available training and skill improvement opportunities to assure increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The FHWA On-the-Job Training (OJT) Program requires the State transportation agencies (STAs) to establish apprenticeships and training programs targeted to move women, minorities, and disadvantaged individuals into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical underrepresentation of members of these groups in highway construction skilled crafts.

The OJT Supportive Services (OJT/SS) Program was established in Title 23 Code of Federal Regulations (CFR), Part 230) to supplement the OJT program and support STA training programs by providing services to highway construction contractors and assistance to highway construction apprentices and trainees. The primary objectives of OJT/SS are:

- (1) To increase the overall effectiveness of the State highway agencies' approved training programs.
- (2) To seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

The STAs are responsible for establishing procedures, subject to the availability of Surface Transportation and Bridge Funds under 23 U.S.C. §140(b) (Nondiscrimination), for the provision of supportive services with respect to training programs approved under 23 CFR, Part 230(a) (Equal Employment Opportunity on Federal and Federal-aid Construction Contracts – including Supportive Services).

The contractor and subcontractor shall maintain records to demonstrate compliance with these apprenticeship requirements. Reasonable exemptions and modifications to and from any or all of these requirements will be determined by the Wisconsin Department of Transportation-Civil Rights Office. A request for an exemption or modification, with justification, shall be made in writing, addressed to WisDOT Civil Rights Office, 4802 Sheboygan Avenue, P.O. Box 7965, Rm. 451, Madison, WI 53707.

### ADDITIONAL SPECIAL PROVISION 3 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

#### 1. Description

##### General

- a. The disadvantaged business enterprise (DBE) requirements of 49 CFR Part 26 apply to this contract. The department's DBE goal is shown on the cover of the bidding proposal. The contractor can meet the specified contract DBE goal by procuring services or materials from a DBE or by subcontracting work to a DBE. The department calculates the DBE participation as the dollar value of DBE participation included in the bid expressed as a percentage of the total contract bid amount.
- b. Under the contract, the contractor agrees to provide the assistance to participating DBE's in the following areas:
  - i. Produce accurate and complete quotes.
  - ii. Understand highway plans applicable to their work.
  - iii. Understand specifications and contract requirements applicable to their work.
  - iv. Understand contracting reporting requirements.
- c. The department encourages the contractor to assist and develop DBE firms to become fully knowledgeable contractors to successfully perform on its contracts.
- d. For information on the disadvantaged business program, visit the department's Civil Rights and Compliance Section website at:

<http://www.dot.wisconsin.gov/business/engrserv/dbe-main.htm>

#### 2. Definitions

- a. Interpret these terms, used throughout this additional special provision, as follows:
  - i. **Bid Percentage:** The DBE percentage indicated in the bidding proposal at the time of bid.
  - ii. **DBE:** A disadvantaged business enterprise (DBE) certified as a DBE by the department and included on the department's list of certified DBE's who are determined to be ready, willing and able.
  - iii. **DBE goal:** The amount of DBE participation expected in the contract as shown on the cover of the Highway Work Proposal.
  - iv. **Discretionary Goal:** A contractor assigned DBE goal, typically abbreviated as "Disc" on the cover of the Highway Work Proposal, which is enforced as committed.
  - v. **Manufacturer:** A firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract.
  - vi. **Supplier:** A firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment required under the contract are bought, kept in stock, and regularly sold or leased to the public.
  - vii. **Voluntary Achievement:** The amount of DBE participation achieved and reported in the contract in excess of the assigned goal.

#### 3. DBE Percentage Required at Bid Submission

Indicate the bid percentage (i.e. 0% through 100%) of DBE participation on the completed bidding proposal, including projects with discretionary goals. For electronic submittals, show the percentage in the miscellaneous data folder, Item 3, DBE Percent. For paper submittals, show the percentage on the sheet included after the schedule of items. By submission of the bid, the bidder contractually commits to DBE participation at or above the bid percentage, or certifies that they have utilized

comprehensive good faith efforts to solicit and utilize DBE firms to meet the DBE participation requirements of this contract proposal, and that the bid percentage is reflective of these good faith efforts. If the bidder does not indicate the bid percentage of DBE participation on the completed bidding proposal, the department will consider the bid irregular and may reject the bid.

#### **4. Department's DBE Evaluation Process**

##### **a. Documentation Submittal**

Within 10 business days after the notification of contract award, the contractor is to identify, by name, the DBE firms whose utilization is intended to satisfy this provision, the items of work of the DBE subcontract or supply agreement and the dollar value of those items of work by completing the Commitment to Subcontract to DBE Form [DT1506] and all necessary attachment A forms, as well as, Good Faith Waiver Form [DT1202] and supporting documentation as necessary. If the contractor fails to furnish the required forms within the specified time, the department may cancel the award. Delay in fulfilling this requirement is not a cause for extension of the contract time and shall not be used as a tool to delay execution.

##### **i. Bidder Meets DBE Goal**

If the bidder indicates that the contract DBE goal is met, after award and before execution, the department will evaluate the Commitment to Subcontract to DBE Form DT1506 and attachment A(s) to verify the actual DBE percentage achieved. If the DBE commitment is verified, the contract is eligible for execution with respect to the DBE commitment.

##### **ii. Bidder Does Not Meet DBE Goal**

- (1) If the bidder indicates a bid percentage on the Commitment to Subcontract to DBE Form [DT1506] that does not meet the contract DBE goal, the bidder must submit a Good Faith Waiver Form [DT1202] and supporting documentation. After award and before execution, the department will evaluate the bidder's DBE commitment and consider the bidder's good faith waiver request.
- (2) The department will review the bidder's good faith waiver request and notify the bidder of one of the following:
  - a. If the department grants a good faith waiver, the bid is eligible for contract execution with respect to DBE commitment.
  - b. If the department rejects the good faith waiver request, the department may declare the bid ineligible for execution. The department will provide a written explanation of why the good faith waiver request was rejected. The bidder may appeal the department's rejection as allowed under 7 a. & b.

#### **5. Department's Criteria for Good Faith Effort**

The Code of Federal Regulations {CFR}, 49 CFR Part 26-Appendix A, is the guiding regulation concerning good faith efforts. However, the federal regulations do not define "good faith" but states that bidder must actively and aggressively attempt to meet the goal. The federal regulations are general and do not include every factor or effort that can be considered. As a result, each state must establish its own processes and consider the factors established in its own process when making a determination of good faith.

- a. The department will only grant a good faith waiver if the bidder has made the effort, given the relevant circumstances under the contract that a bidder actively and aggressively seeking to meet the goal would make. The department will evaluate the bidder's good faith effort to determine whether a good faith waiver will be granted. The bidder must demonstrate, on the DT1202 that they have aggressively solicited DBE participation in an attempt to meet the contract DBE goal and attaining the stated DBE goal is not feasible.

- b. The department, in conjunction with industry stakeholders, has developed the following guidance for contractor good faith effort. The guidance and the attached appendices provide a framework for the actions required by all parties in the processing and evaluation of bidder's total efforts to achieve the project specific DBE goal prior to the bid letting date.
- c. Prime Contractors should:
  - i. Document all efforts and decisions made toward achieving the DBE goal on the contract. The bidder should use the Civil Rights & Compliance System [CRCS] and related WisDOT-approved DBE outreach tools, including the Bid Express Small Business Network, to foster DBE participation on all applicable contracts.
  - ii. Request quotes by identifying potential items to subcontract and solicit. Prime contractors are strongly encouraged to include in their initial contacts a single page including a detailed list of items for which they are accepting quotes, by project, within a letting. *See attached sample entitled "Sample Contractor Solicitation Letter" in Appendix A.* Prime contractors should also indicate a willingness to accept quotes in areas they are planning to perform themselves, **as required by federal rules**. In some cases, it might be appropriate to use DBE's to do work in a prime contractor's area of specialization.
    - (1) Solicit quotes through all reasonable and available means from certified DBE firms who match 'possible items to subcontract' and send copies to DBESS office, highlighting areas in which you are seeking quotes. Email is acceptable.
    - (2) SBN is the preferred outreach tool. <https://www.bidx.com/wi/main>. Other acceptable means include postal mail, email, fax, phone call.
      - a. Primes must ask DBE firms for a response in their solicitations. See *Sample Contractors Solicitation Letter* in Appendix. This letter can be included as an attachment to the SBN sub-quote request.
      - b. Solicit quotes at least 10 calendar days prior to the letting date {ideally two Fridays before the letting} to allow DBE firms sufficient time to respond. Prime contractors should contact DBE firms early, asking them if they need help in putting together a quote, or helping to arrange for equipment needs, or solve other problems.
    - (3) Second solicitation should take place within 5 days
      - a. An email solicitation is highly recommended for this second solicitation
    - (4) Upon request, provide interested DBE firms with adequate information about plans, specifications and the requirements of the contract by letter, information session, email, phone call and/or referral.
    - (5) When potential exists, advise interested DBE firms on how to obtain bonding, line of credit or insurance as may be requested.
    - (6) Document DBE firm's interest in quoting by taking appropriate steps to follow up initial solicitation with:
      - a. Email to all prospective DBE firms in relevant work areas
      - b. Phone call log to DBE firms who express interest via written response or call.
      - c. Fax/letter confirmation
      - d. Copy of the DBE quotes
      - e. Signed copy of Bid Express SBN Record of Subcontractor Outreach Effort.
- d. Evaluate DBE quotes as documentation is critical if the prime does not utilize the DBE firm's quote for any reason.
  - i. Evaluate DBE firm's capability to perform 'possible items to subcontract' using legitimate reasons, including but not limited to, **a discussion with the DBE firm** regarding its

- capabilities prior to the bid letting. If lack of capacity is your reason for not utilizing the DBE quote, you are required to contact the DBE directly regarding their ability to perform the work indicated in the UCP directory as their work area [NAICS code]; only the work area and/or NAICS code listed in the UCP directory will be counted for DBE credit. Documentation of the conversation is required.
- ii. In striving to meet a DBE conscious contract goal, prime contractors are expected to use DBE quotes that are responsive and reasonable. This includes DBE quotes that are not the low quote.
  - iii. **Special Circumstance:** Evaluation of DBE quotes with tied bid items. "Tied quotes are the condition in which a subcontractor submits quotes including multiple areas of expertise across multiple work areas noting that the items and price are tied. Typically this type of quoting represents a cost saving to the prime but is not clearly stated as a discount; tied quotes are usually presented as 'all or none' quote to the prime." When non-DBE subcontractors submit tied bid items in their quotes to the prime, the DBE firms' quote may seem not competitive. In such a case, the following steps are taken in comparing the relevant quotes. These are qualitative examples.
    - (1) Compare bid items common to both quotes, noting the reasonableness in the price comparison.
    - (2) Review quotes from other firms for the bid items not quoted by the DBE firm to see if combining both can provide the same competitive advantage that the tied bid items offered.
- e. After notification of contract award, submit '**Commitment to Subcontract**' form within the time period specified in the contract.
    - i. Provide the following information along with department form DT1202:
      - (1) The names, addresses, e-mail addresses, telephone numbers of DBE's contacted. The dates of both initial and follow-up contact. A printed copy of SBN solicitation is acceptable.
      - (2) A description of information provided to the DBE's regarding the plans, specifications, and estimated quantities for portions of the work to be performed by that DBE.
      - (3) Photocopies or electronic copies of all written solicitations to DBE's.
      - (4) Documentation of each quote received from a DBE and, if rejected, the reason for that rejection.
      - (5) Bidder attendance at any pre-solicitation or pre-bid meetings the department held to inform DBE's of participation opportunities available on the project.
  - f. The department's DBE Support Services Office is available by phone, email or in writing to request assistance in meeting the DBE goal:

DBE Support Services Office  
6150 Fond du Lac Ave.  
Milwaukee, WI 53218  
Phone: 414-438-4583 / 608-266-6961  
Fax: 414-438-5392  
E-mail: [DOTDBESupportServices@dot.wi.gov](mailto:DOTDBESupportServices@dot.wi.gov)

## 6. Bidder's Appeal Process

- a. A bidder can appeal the department's decision to deny the bidder's good faith waiver request. The bidder must provide written documentation refuting the specific reasons for rejection as stated in the department's rejection notice. The bidder may meet in person with the department if so

requested. Failure to appeal within 7 calendar days after receiving the department's written notice of rejection of a good faith waiver request under constitutes a forfeiture of the bidder's right of appeal. If the bidder does not appeal, the department may declare the bid ineligible for execution.

- b. The department will appoint a representative, who did not participate in the original determination, to assess the bidder's appeal. The department will issue a written decision within 7 calendar days after the bidder presents all written and oral testimony. In that written decision, the department will explain the basis for finding that the bidder did or did not meet the contract DBE goal or make an adequate good faith effort to meet the contract DBE goal. The department's decision is final. If the department finds that the bidder did not meet the contract DBE goal or did not make adequate efforts to meet the DBE goal, the department may declare the bid ineligible for execution.

## **7. Department's Criteria for DBE Participation**

### **Department's DBE List**

- a. The department maintains a DBE list on the department's website at  
<http://app.mylcm.com/wisdot/Reports/WisDotUCPDirectory.aspx>
- b. The DBE office is also available to assist at 414-438-4583 or 608-266-6961.

## **8. Counting DBE Participation**

### **Assessing DBE Work**

- a. The department will only count the DBE usage towards the contract DBE goal if the DBE firm is certified as a DBE by one of the unified certification program agencies. If a firm becomes DBE certified before entering into a subcontract, the department may consider that DBE usage towards the contract goal. The department only counts the value of the work a DBE actually performs towards the DBE goal. The department assesses the DBE work as follows:
- b. The department counts work performed by the DBE's own resources. The department includes the cost of materials and supplies the DBE obtains for the work. The department also includes the cost of equipment the DBE leases for the work. The department will not include the cost of materials, supplies, or equipment the DBE purchases or leases from the prime contractor or its affiliate, except the department will count non-project specific leases the DBE has in place before the work is advertised.
- c. The department counts fees and commissions the DBE charges for providing a bona fide professional, technical, consultant, or managerial services. The department also counts fees and commissions the DBE charges for providing bonds or insurance. The department will only count costs the engineer deems reasonable based on experience or prevailing market rates.
- d. If a DBE subcontracts work, the department counts the value of the subcontracted work only if the DBE's subcontractor is also a DBE.
- e. The contractor shall maintain records and may be required to furnish periodic reports documenting its performance under this item.
- f. It is the prime contractor's responsibility to determine the DBE's ability to perform the work with the use of the UCP directory.

## **9. Commercially Useful Function**

- a. The department counts expenditures of a DBE toward the DBE goal only if the DBE is performing a commercially useful function on that contract.
- b. A DBE is performing a commercially useful function if the following conditions are met:
- c. For contract work, the DBE is responsible for executing a distinct portion of the contract work and it is carrying out its responsibilities by actually performing, managing, and supervising that work.
- d. For materials and supplies, the DBE is responsible for negotiating price, determining quality and quantity, ordering, and paying for those materials and supplies.



**10. Trucking**

All bidders are expected to adhere to the department's current trucking policy posted on the HCCI website at

<http://www.dot.wisconsin.gov/business/engrserv/docs/dbe-trucking-notice.pdf>

**11. Manufacturers and Suppliers**

The department counts material and supplies a DBE provides under the contract. The department will give full credit toward the DBE goal if the DBE is a manufacturer of those materials or supplies. The department will give 60 percent credit toward the DBE goal if the DBE is merely a supplier of those materials or supplies. It is the bidder's responsibility to find out if the DBE is considered a supplier or a manufacturer before listing them on Commitment to Subcontract to DBE form DT1506.

**12. DBE Prime**

If the prime contractor is a DBE, the department will only count the work the contractor performs with its own forces, the work DBE subcontractors perform, and the work DBE suppliers or manufacturers perform.

**13. Joint Venture**

If a DBE performs as a participant in a joint venture, the department will only count that portion of the total dollar value of the contract equal to that portion of the work that the DBE performs with its own forces.

**14. Mentor Protégé**

- a. If a DBE performs as a participant in a mentor protégé agreement, the department will credit the portion of the work performed by the DBE protégé firm
- b. On every other project that the mentor protégé team identifies itself on.
- c. For no more than one half of the total contracted DBE goal on any WisDOT project.

**15. DBE Replacement**

In the event a Prime Contractor needs to replace a DBE firm originally listed on the approved DBE Commitment Form DT1506, the Prime Contractor must comply with the department's DBE Replacement Policy located on the DBE page on the following web site:

<http://www.dot.wisconsin.gov/business/engrserv/docs/policyreplacingdbe.pdf>

**16. Changes to the approved DBE Commitment Form DT1506**

If there are any changes to the approved Commitment to Subcontract to DBE Form DT1506, the prime contractor must submit a revised DBE Commitment Form DT1506 and relevant attachment A(s) to the DBE Programs Office within 5 business days.

**17. Contract Modifications**

When additional opportunity is available by contract modifications, the Prime Contractor shall utilize DBE Subcontractors, that were committed to equal work items, in the original contract.

**18. Payment**

Costs for conforming to this Additional Special Provision (ASP) and any associated DBE requirements are incidental to the contract.

**APPENDIX A**  
**Sample Contractor Solicitation Letter Page 1**  
*This sample is provided as a guide not a requirement*

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GFW SAMPLE MEMORANDUM

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**TO:** DBE FIRMS  
**FROM:** POTENTIAL PRIME CONTRACTOR OR MAJOR SUBCONTRACTOR  
**SUBJECT:** REQUEST FOR DBE QUOTES  
LET DATE & TIME  
**DATE:** MONTH DAY YEAR  
**CC:** DBE OFFICE ENGINEER

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Our company is considering bidding on the projects indicated on the next page, as a prime and/or a subcontractor for the Wisconsin Department of Transportation Month- date -year Letting. Page 2 lists the projects and work items that we may subcontract for this letting. We are interested in obtaining subcontractor quotes for these projects and work categories. Also note that we are willing to accept quotes in areas we may be planning to perform ourselves as required by federal rules.

Please review page 2, respond whether you plan to quote, highlight the projects and work items you are interested in performing and return it via fax or email within 3 days. Plans, specifications and addenda are available through WisDOT at the DBE Support Services office or at the Highway Construction Contract Information (HCCI) site at <http://roadwaystandards.dot.wi.gov/hcci/>

Your quote should include all of the costs required to complete the items you propose to perform including labor, equipment, material, and related bonding or insurance. The quote should note items that you are DBE certified to perform, tied items, and any special terms. Page 2, with the indicated projects and items you plan to quote, should be used as a cover sheet for your quote.

Please make every effort to have your quotes into our office by time deadline the prior to the letting date. **Make sure the correct letting date, project ID and proposal number, unit price and extension are included in your quote.** We prefer quotes be sent via SBN but prime's alternative's are acceptable. Our office hours are include hours and days. Please call our office as soon as possible prior to the letting if you need information/clarification to prepare your quote at contact number.

If you wish to discuss or evaluate your quote in more detail, contact us after the contract is awarded. Status of the contract can be checked at WisDOT's HCCI site at <http://roadwaystandards.dot.wi.gov/hcci/>

All questions should be directed to:

Project Manager, John Doe,  
Phone: (000) 123-4567  
Email: [Joe@joetheplumber.com](mailto:Joe@joetheplumber.com)  
Fax: (000) 123- 4657

## Sample Contractor Solicitation Letter Page 2

*This sample is provided as a guide not a requirement*

### REQUEST FOR QUOTATION

Prime's Name: \_\_\_\_\_

Letting Date: \_\_\_\_\_

Project ID: \_\_\_\_\_

**Please check all that apply**

- ☐ Yes, we will be quoting on the projects and items listed below
- ☐ No, we are not interested in quoting on the letting or its items referenced below
- ☐ Please take our name off your monthly DBE contact list
- ☐ We have questions about quoting this letting. Please have some one contact me at this number

**Prime Contractor 's Contact Person**

Phone: _____
Fax: _____
Email: _____
_____

**DBE Contractor Contact Person**

Phone: _____
Fax: _____
Email: _____
_____

**Please circle the jobs and items you will be quoting below**

Proposal No.	1	2	3	4	5	6	7
County							

**WORK DESCRIPTION:**

Clear and Grub	X		X	X		X	X
Dump Truck Hauling	X		X	X		X	X
Curb & Gutter/Sidewalk, Etc.	X		X	X		X	X
Erosion Control Items	X		X	X		X	X
Signs and Posts/Markers	X		X	X		X	X
Traffic Control		X	X	X		X	X
Electrical Work/Traffic Signals		X	X	X		X	
Pavement Marking		X	X	X	X	X	X
Sawing Pavement		X	X	X	X	X	X
QMP, Base	X	X		X	X	X	X
Pipe Underdrain	X			X			
Beam Guard				X	X	X	X
Concrete Staining							X
Trees/Shrubs	X						X

Again please make every effort to have your quotes into our office by time deadline prior to the letting date.

We prefer quotes be sent via SBN but prime's preferred alternative's are acceptable.

If there are further questions please direct them to the prime contractor's contact person at phone number.

## **APPENDIX B BEST PRACTICES FOR PRIME CONTRACTOR & DBE SUBCONTRACTOR GOOD FAITH EFFORT**

*This list is not a set of requirements; it is a list of potential strategies*

### **Primes**

- Prime contractor open houses inviting DBE firms to see the bid “war room” or providing technical assistance
- Participate in speed networking and mosaic exercises as arranged by DBE office
- Host information sessions not directly associated with a bid letting;
- Participate in a formal mentor protégé or joint venture with a DBE firm
- Participate in WisDOT advisory committees i.e. TRANSAC, or Mega Project committee meetings
- Facilitate a small group DBE ‘training session’ Clarifying how your firm prepares for bid letting, evaluates subcontractors, preferred qualifications and communication methods
- Encourage subcontractors to solicit and highlight DBE participation in their quotes to you
- Quality of communication, not quantity creates the best results. Contractors should do as thorough a job as possible in communicating with DBE firms before the bid and provide any assistance requested to assure best possible bid.

### **DBE**

- DBE firms should contact primes as soon as possible with questions regarding their quotes or bid; seven days prior is optimal.
- Continually check for contract addendums on the HCCI website through the Thursday prior to letting to stay abreast of changes.
- Review the status of contracts on the HCCI website reviewing the ‘apparent low bidder’ list, and bid tabs at a minimum.
- Prepare a portfolio or list of related projects and prime and supplier references; be sure to note transportation-related projects of similar size and scope, firm expertise and staffing.
- Participate in DBE office assessment programs
- Participate on advisory and mega-project committees
- Sign up to receive the DBE Contracting Update
- Consider membership in relevant industry or contractor organizations
- Active participation is a must. Quote as many projects as you can reasonably work on; quoting the primes and bidding as a prime with the department are the only ways to get work.

## APPENDIX C

### Types of Efforts considered in determining GFE

*This list represents concepts being assessed; analysis requires additional steps*

1. Whether the contractor attended any pre-solicitation or pre-bid meetings that were scheduled by WisDOT to inform DBEs of contracting and subcontracting opportunities;
2. Whether the contractor provided written notice to a reasonable number of specific DBEs that their interest in the contract was being solicited, in sufficient time to allow the DBEs to participate effectively;
3. Whether the contractor followed up initial solicitations of interest by contacting DBEs to determine if the DBEs were interested; returned the phone calls of interested DBE firms.
4. Whether the contractor selected portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goal;
5. Whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;
6. Whether the contractor negotiated in good faith with interested DBEs, not rejected DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;
7. Whether the contractor made efforts to assist interested DBEs in being more competitive.
8. Whether the contractor effectively used the services of available minority community organizations: minority contractors groups, local, state, and Federal minority business assistance offices, and other organizations that provide assistance to small businesses and DBE firms.
9. Whether Prime used CRCS to identify DBE who specialize in relevant work areas.
10. Whether the contractor used available resources including contacting the DBE office, using WisDOT's website
11. Whether the contractor returned calls of firms expressing interest in a timely manner.

**APPENDIX D**  
**Good Faith Effort Evaluation Guidance**  
*Excerpt from Appendix A of 49 CFR Part 26*

**APPENDIX A TO PART 26 -- GUIDANCE CONCERNING GOOD FAITH EFFORTS**

- I. When, as a recipient, you establish a contract goal on a DOT assisted contract, a bidder must, in order to be responsible and/or responsive, make good faith efforts to meet the goal. The bidder can meet this requirement in either of two ways. First, the bidder can meet the goal, documenting commitments for participation by DBE firms sufficient for this purpose. Second, even if it doesn't meet the goal, the bidder can document adequate good faith efforts. This means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to obtain sufficient DBE participation, even if they were not fully successful.
- II. In any situation in which you have established a contract goal, part 26 requires you to use the good faith efforts mechanism of this part. As a recipient, it is up to you to make a fair and reasonable judgment whether a bidder that did not meet the goal made adequate good faith efforts. It is important for you to consider the quality, quantity, and intensity of the different kinds of efforts that the bidder has made. The efforts employed by the bidder should be those that one could reasonably expect a bidder to take if the bidder were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. We emphasize, however, that your determination concerning the sufficiency of the firm's good faith efforts is a judgment call: meeting quantitative formulas is not required.
- III. The Department also strongly cautions you against requiring that a bidder meet a contract goal (i.e., obtain a specified amount of DBE participation) in order to be awarded a contract, even though the bidder makes an adequate good faith efforts showing. This rule specifically prohibits you from ignoring bona fide good faith efforts.
- IV. The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain DBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.
  - A. Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract. The bidder must solicit this interest within sufficient time to allow the DBEs to respond to the solicitation. The bidder must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.
  - B. Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.
  - C. Providing interested DBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

- D.
    - (1) Negotiating in good faith with interested DBEs. It is the bidder's responsibility to make a portion of the work available to DBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of DBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional agreements could not be reached for DBEs to perform the work.
    - (2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable.
  - E. Not rejecting DBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non solicitation of bids in the contractor's efforts to meet the project goal.
  - F. Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.
  - G. Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.
  - H. Effectively using the services of available minority/women community organizations; minority/women contractors' groups; local, state, and Federal minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.
- V. In determining whether a bidder has made good faith efforts, you may take into account the performance of other bidders in meeting the contract. For example, when the apparent successful bidder fails to meet the contract goal, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts, the apparent successful bidder could have met the goal. If the apparent successful bidder fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders, you may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made good faith efforts.

## Appendix E

### Small Business Network [SBN] Overview

The Small Business Network is a part of the Bid Express® service that was created to ensure that prime bidders have a centralized online location to find subs - including small and disadvantaged business enterprises (DBEs). It is available for prime bidders to use as part of their Basic Service subscription. Within the Small Business Network, **Prime Contractors** can:

1. Easily select proposals, work types and items:
  - a. After adding applicable work types, select items that you wish to quote. Enter the sub-quote quantities and add comments, if desired. Adding or removing items and work types can be done quickly. If needed, you can save the sub-quote for completion at a later time.
2. Create sub-quotes for the subcontracting community:
  - a. Create sub-quotes with ease using the intuitive sub-quote creator. In seven short steps, you can rapidly create a custom sub-quote directed to all subcontractors that bid on the applicable work types. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
  - b. Create a sub-quote to send to subcontractors or suppliers that lists the items in a proposal that you want quoted
  - c. Create an unlimited number of sub-quotes for items you want quoted, and optionally mark them as a DBE-preferred request
  - d. Add attachments to sub-quotes
3. View sub-quote requests & responses:
  - a. After logging into the Bid Express service, you can quickly review all of your sub-quote requests and all unsolicited sub-quote requests from subcontractors. To simplify the Small Business Network home screen, sub-quote requests can be hidden with one click if they are not applicable.
  - b. View or receive unsolicited sub-quotes that subcontractors have posted, complete with terms, conditions and pricing
4. View Record of Subcontractor Outreach Effort:
  - a. For each sub-quote produced, a *Record of Subcontractor Outreach Effort* is generated that shows the response statistics for a particular sub-quote. If accepted by the letting agency, this report may serve as proof of a “Good Faith” effort in reaching out to the DBE community.
  - b. Easily locate pre-qualified and certified small and disadvantaged businesses
  - c. Advertise to small and disadvantaged businesses more efficiently and cost effectively
  - d. Document your interactions with subs/DBEs by producing an Outreach Report (may be accepted as proof of DBE outreach at the discretion of each agency)



The Small Business Network is a part of the Bid Express® service that was created to ensure that small businesses have a centralized area to access information about upcoming projects. It can help small businesses learn more about opportunities, compete more effectively, network with other contractors and subcontractors, and win more jobs.

1. View and reply to sub-quote requests from primes:
  - a. After logging into the Bid Express service, you can quickly review all incoming sub-quote requests and all unsolicited sub-quotes created by your company. Receive notifications by selected work type. To simplify on the Small Business Network home screen, sub-quote requests can be filtered by work types relevant to your interests, or hidden with one click if they are not applicable.
2. Select items when responding to sub-quote requests from primes:
  - a. You have the freedom to choose and price any number of items when responding to a sub-quote request. Quantities can be modified, and per-item comments are also available.
  - b. View requests for sub-quotes for work that primes have posted for projects they are bidding, add your pricing, terms, and conditions, and submit completed sub-quotes to the requesting primes
  - c. Add attachments to a sub-quote
3. Create and send unsolicited sub-quotes to specific contractors:
  - a. Create unsolicited sub-quotes with ease using the intuitive sub-quote creator. In eight short steps, you can rapidly create a custom sub-quote directed at any number of specific vendors of your choosing. Steps include: provide contact information and sub-quote expiration date, select letting and proposal, add work types and items, specify terms and conditions, upload attachments, and select vendors.
4. Easily select and price items for unsolicited sub-quotes:
  - a. After adding applicable work types, select items that you wish to quote. The extended price calculates automatically, cutting out costly calculation errors. Comments can be provided on an per-item basis as well.
  - b. Create an unsolicited sub-quote that lists the items from a proposal that you want to quote, include pricing, terms and conditions, and send it to selected prime/plan holder
  - c. Add attachments to a sub-quote
  - d. Add unsolicited work items to sub-quotes that you are responding to
5. Easy Access to Valuable Information
  - a. Receive a confirmation that your sub-quote was opened by a prime
  - b. View Bid Tab Analysis data from past bids, including the high, average and low prices of items.
  - c. View important notices and publications from DOT targeted to small and disadvantaged businesses
6. Accessing Small Business Network for WisDOT contracting opportunities
  - a. If you are a contractor not yet subscribing to the Bid Express service, go to **www.bidx.com** and select “Order Bid Express.” The Small Business Network is a part of the Bid Express Basic Service.
  - b. DBE firms can request a Bid Express Small Business Network Account at no cost by calling 414-438-4588

## **ADDITIONAL SPECIAL PROVISION 4**

### **Payment to First-Tier Subcontractors**

Within 10 calendar days of receiving a progress payment for work completed by a subcontractor, pay the subcontractor for that work. The prime contractor may withhold payment to a subcontractor if, within 10 calendar days of receipt of that progress payment, the prime contractor provides written notification to the subcontractor and the department documenting "just cause" for withholding payment.

The prime contractor may also withhold routine retainage from payments due subcontractors.

### **Payment to Lower-Tier Subcontractors**

Ensure that subcontracting agreements at all tiers provide prompt payment rights to lower-tier subcontractors that parallel those granted first-tier subcontractors in this provision.

### **Release of Routine Retainage**

After granting substantial completion the department may reduce the routine retainage withheld from the prime contractor to 75 percent of the original total amount retained.

When the Department sends the semi-final estimate the department may reduce the routine retainage withheld from the prime contractor to 10 percent of the original total amount retained.

Within 30 calendar days of receiving the semi-final estimate from the department, submit written certification that subcontractors at all tiers are paid in full for acceptably completed work and that no routine retainage is being withheld. The department will pay the prime contractor in full and reduce the routine retainage withheld from the prime contractor to zero when the department approves the final estimate.

This special provision does not limit the right of the department, prime contractor, or subcontractors at any tier to withhold payment for work not acceptably completed or work subject to an unresolved contract dispute.

**ADDITIONAL SPECIAL PROVISION 6****ASP 6 - Modifications to the standard specifications**

*Make the following revisions to the 2014 edition of the standard specifications:*

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**101.3 Definitions**

*Replace the definition of semi-final estimate with the following effective with the December 2013 letting:*

**Semi-final estimate** An estimate indicating the engineer has measured and reported all contract quantities and materials requirements.

---

**105.11.1 Partial Acceptance**

*Replace paragraph two with the following effective with the December 2013 letting:*

- (2) Partial acceptance will relieve the contractor of maintenance responsibility for the designated portion of the work. By relieving the contractor of maintenance, the department does not relieve the contractor of responsibility for defective work or damages caused by the contractor's operations. Do not construe partial acceptance to be conditional final acceptance or final acceptance of any part of the project, or a waiver of any legal rights specified under 107.16.
- 

**105.11.2 Final Acceptance**

*Retitle and replace the entire text with the following effective with the December 2013 letting:*

**105.11.2 Project Acceptance****105.11.2.1 Inspection****105.11.2.1.1 General**

- (1) Notify the engineer when the project is substantially complete as defined in 105.11.2.1.3. As soon as it is practical, the engineer will inspect the work and categorize it as one of the following:
  1. Unacceptable or not complete.
  2. Substantially complete.
  3. Complete.

**105.11.2.1.2 Unacceptable or Not Complete**

- (1) The engineer will identify, in writing, work that is unacceptable or not complete. Immediately correct or complete that work. The engineer will assess contract time until the work is corrected or completed.
- (2) Proceed as specified in 105.11.2.1.1 until the engineer determines that the work is complete.

**105.11.2.1.3 Substantially Complete**

- (1) The project is substantially complete and the engineer will no longer assess contract time if the contractor has completed all contract bid items and change order work, except for the punch-list. As applicable, the following must have occurred:
  1. All lanes of traffic are open on a finished surface.
  2. All signage and traffic control devices are in place and operating.
  3. All drainage, erosion control, excavation, and embankments are completed.
  4. All safety appurtenances are completed.
- (2) The engineer will provide a written punch-list enumerating work the contractor must perform and documents the contractor must submit before the the engineer will categorize the work as complete.
  1. Punch-list work includes uncompleted cleanup work required under 104.9 and minor corrective work. Immediately correct or complete the punch-list work. The engineer may restart contract time if the contractor does not complete the punch-list work within 5 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 5-day requirement.
  2. Punch-list documents include whatever contract required documentation is missing. The engineer may restart contract time if the contractor does not submit the punch-list documents within 15 business days after receiving the written punch-list. The engineer and contractor may mutually agree to extend this 15-day requirement.
- (3) Proceed as specified in 105.11.2.1.1 until the work is complete.

**105.11.2.1.4 Complete**

- (1) The project is complete when the contractor has completed all contract bid items, change order work, and punch-list work including the submission of all missing documentation.

**105.11.2.2 Conditional Final Acceptance**

- (1) When the engineer determines that the project is complete, the engineer will give the contractor written notice of conditional final acceptance relieving the contractor of maintenance responsibility for the completed work.

**105.11.2.3 Final Acceptance**

- (1) The engineer will grant final acceptance of the project after determining that all contract is work complete; all contract, materials, and payroll records are reviewed and approved; and the semi-final estimate quantities are final under 109.7.
- (2) Failure to discover defective work or materials before final acceptance does not prevent the department from rejecting that work or those materials later. The department may revoke final acceptance if the department discovers defective work or materials after it has accepted the work.

**105.13.3 Submission of Claim**

*Replace paragraph one with the following effective with the December 2013 letting:*

- (1) Submit the claim to the project engineer as promptly as possible following the submission of the Notice of Claim, but not later than final acceptance of the project as specified in 105.11.2.3. If the contractor does not submit the claim before final acceptance of the project, the department will deny the claim.

**107.17.3 Railroad Insurance Requirements**

*Replace paragraph one with the following effective with the December 2013 letting:*

- (1) If required by the special provisions, provide or arrange for a subcontractor to provide railroad protective liability insurance in addition to the types and limits of insurance required in 107.26. Keep railroad protective liability insurance coverage in force until completing all work, under or incidental to the contract, on the railroad right of way or premises of the railroad and until the engineer determines that the work is complete as specified in 105.11.2.1.4.

**107.26 Standard Insurance Requirements**

*Replace paragraph one with the following effective with the December 2013 letting:*

- (1) Maintain the following types and limits of commercial insurance in force until the engineer determines that the work is complete as specified in 105.11.2.1.4.

**TABLE 107-1 REQUIRED INSURANCE AND MINIMUM COVERAGES**

TYPE OF INSURANCE	MINIMUM LIMITS REQUIRED <sup>[1]</sup>
1. Commercial general liability insurance endorsed to include blanket contractual liability coverage. <sup>[2]</sup>	\$2 million combined single limits per occurrence with an annual aggregate limit of not less than \$4 million.
2. Workers' compensation.	Statutory limits
3. Employers' liability insurance.	Bodily injury by accident: \$100,000 each accident Bodily injury by disease: \$500,000 each accident \$100,000 each employee
4. Commercial automobile liability insurance covering all contractor-owned, non-owned, and hired vehicles used in carrying out the contract. <sup>[2]</sup>	\$1 million-combined single limits per occurrence.

<sup>[1]</sup> The contractor may satisfy these requirements with primary insurance coverage or with excess/umbrella policies.

<sup>[2]</sup> The Wisconsin Department of Transportation, its officers, agents, and employees shall be named as an additional insured under the general liability and automobile liability insurance.

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**108.14 Terminating the Contractor's Responsibility**

Replace paragraph one with the following effective with the December 2013 letting:

- (1) The contractor's responsibilities are terminated, except as set forth in the contract bond and specified in 107.16, when the department grants final acceptance as specified in 105.11.2.3.
- 

**109.2 Scope of Payment**

Replace paragraph two with the following effective with the December 2013 letting:

- (2) The department will pay for the quantity of work acceptably completed and measured for payment as the measurement subsection for each bid item specifies. Within the contract provide means to furnish and install the work complete and in-place. Payment is full compensation for everything required to perform the work under the applicable bid items including, but not limited to, the work elements listed in the payment subsection. Payment also includes all of the following not specifically excluded in that payment subsection:
    1. Furnishing and installing all materials as well as furnishing the labor, tools, supplies, equipment, and incidentals necessary to perform the work.
    2. All losses or damages, except as specified in 107.14, arising from one or more of the following:
      - The nature of the work.
      - The action of the elements.
      - Unforeseen difficulties encountered during prosecution of the work.
    3. All insurance costs, expenses, and risks connected with the prosecution of the work.
    4. All expenses incurred because of an engineer-ordered suspension, except as specified in 104.2.2.3.
    5. All infringements of patents, trademarks, or copyrights.
    6. All other expenses incurred to complete and protect the work under the contract.
- 

**109.6.1 General**

Replace paragraphs three and four with the following effective with the December 2013 letting:

- (3) The department's payment of an estimate before conditional final acceptance of the work does not constitute the department's acceptance of the work, and does not relieve the contractor of responsibility for:
    1. Protecting, repairing, correcting, or renewing the work.
    2. Replacing all defects in the construction or in the materials used in the construction of the work under the contract, or responsibility for damage attributable to these defects.
  - (4) The contractor is responsible for all defects or damage that the engineer may discover on or before the engineer's conditional final acceptance of the work. The engineer is the sole judge of these defects or damage, and the contractor is liable to the department for not correcting all defects or damage.
- 

**109.7 Acceptance and Final Payment**

Replace paragraphs one and two with the following effective with the December 2013 letting:

- (1) After the engineer grants conditional final acceptance of the work as specified in 105.11.2.2 and reviews required document submittals and materials test reports, the engineer will issue the semi-final estimate.
- (2) Within 30 calendar days after receiving the semi-final estimate, submit to the engineer a written statement of agreement or disagreement with the semi-final estimate. For an acceptable statement of disagreement, submit an item-by-item list with reasons for each disagreement. If the contractor does not submit this written statement within those 30 days, the engineer will process the final estimate for payment. The engineer and the contractor can mutually agree to extend this 30-day submission requirement.

**450.3.3 Maintaining the Work**

*Replace paragraph one with the following effective with the December 2013 letting:*

- (1) Protect and repair the prepared foundation, tack coat, base, paved traffic lanes, shoulders, and seal coat. Correct all rich or bleeding areas, breaks, raveled spots, or other nonconforming areas in the paved surface.

**455.3.2.5 Maintaining Tack Coat**

*Replace paragraph one with the following effective with the December 2013 letting:*

- (1) Protect and repair the existing surface and the tack coat. Correct areas with excess or deficient tack material and any breaks, raveled spots, or other areas where bond might be affected.

**460.2.2.3 Aggregate Gradation Master Range**

*Replace paragraph one with the following effective with the January 2014 letting:*

- (1) Ensure that the aggregate blend, including recycled material and mineral filler, conforms to the gradation requirements in table 460-1. The values listed are design limits; production values may exceed those limits.

**TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS**

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm	25.0 mm	19.0 mm	12.5 mm	9.5 mm	SMA 12.5 mm	SMA 9.5 mm
50.0-mm	100						
37.5-mm	90 – 100	100					
25.0-mm	90 max	90 - 100	100				
19.0-mm	—	90 max	90 - 100	100		100	
12.5-mm	—	—	90 max	90 - 100	100	90 - 97	100
9.5-mm	—	—	—	90 max	90 - 100	58 - 72	90 - 100
4.75-mm	—	—	—	—	90 max	25 - 35	35 - 45
2.36-mm	15 – 41	19 - 45	23 - 49	28 - 58	20 - 65	15 - 25	18 - 28
75-µm	0 – 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	8.0 - 12.0	10.0 - 14.0
% MINIMUM VMA	11.0	12.0	13.0	14.0 <sup>[1]</sup>	15.0 <sup>[2]</sup>	16.0	17.0

<sup>[1]</sup> 14.5 for E-3 mixes.

<sup>[2]</sup> 15.5 for E-3 mixes.

**460.2.7 HMA Mixture Design**

*Replace paragraph one with the following effective with the January 2014 letting:*

- (1) For each HMA mixture type used under the contract, develop and submit an asphaltic mixture design according to the department's test method number 1559 as described in CMM 8-66 and conforming to the requirements of table 460-1 and table 460-2. The values listed are design limits; production values may exceed those limits. The department will review mixture designs and report the results of that review to the designer according to the department's test method number 1559.

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	E - 0.3	E - 1	E - 3	E - 10	E - 30	E - 30x	SMA
ESALs x 10 <sup>6</sup> (20 yr design life)	< 0.3	0.3 - < 1	1 - < 3	3 - < 10	10 - < 30	>= 30	—
LA Wear (AASHTO T96)							
100 revolutions(max % loss)	13	13	13	13	13	13	13
500 revolutions(max % loss)	50	50	45	45	45	45	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12	12	12	12
Freeze/Thaw (AASHTO T103) (specified counties, max % loss)	18	18	18	18	18	18	18
Fractured Faces (ASTM 5821) (one face/2 face, % by count)	60 / —	65 / —	75 / 60	85 / 80	98 / 90	100/100	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	20 (3:1ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	40	40	43	45	45	45	45
Sand Equivalency (AASHTO T176, min)	40	40	40	45	45	50	50
Gyratory Compaction							
Gyrations for N <sub>ini</sub>	6	7	7	8	8	9	8
Gyrations for N <sub>des</sub>	40	60	75	100	100	125	65
Gyrations for N <sub>max</sub>	60	75	115	160	160	205	160
Air Voids, %V <sub>a</sub> (%G <sub>mm</sub> N <sub>des</sub> )	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% G <sub>mm</sub> N <sub>ini</sub>	<= 91.5 <sup>[1]</sup>	<= 90.5 <sup>[1]</sup>	<= 89.0 <sup>[1]</sup>	<= 89.0	<= 89.0	<= 89.0	—
% G <sub>mm</sub> N <sub>max</sub>	<= 98.0	<= 98.0	<= 98.0	<= 98.0	<= 98.0	<= 98.0	—
Dust to Binder Ratio <sup>[2]</sup> (% passing 0.075/P <sub>be</sub> )	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80 <sup>[4] [5]</sup>	65 - 78 <sup>[4]</sup>	65 - 75 <sup>[3] [4]</sup>	65 - 75 <sup>[3] [4]</sup>	65 - 75 <sup>[3] [4]</sup>	65 - 75 <sup>[3] [4]</sup>	70 - 80
Tensile Strength Ratio (TSR) (ASTM 4867)							
no antistripping additive	0.70	0.70	0.70	0.70	0.70	0.70	0.70
with antistripping additive	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Draindown at Production Temperature (%)	—	—	—	—	—	—	0.30

<sup>[1]</sup> The percent maximum density at initial compaction is only a guideline.

<sup>[2]</sup> For a gradation that passes below the boundaries of the caution zone(ref. AASHTO MP3), the dust to binder ratio limits are 0.6 - 1.6.

<sup>[3]</sup> For 9.5mm and 12.5 mm nominal maximum size mixtures, the specified VFB range is 70 - 76%.

<sup>[4]</sup> For 37.5mm nominal maximum size mixes, the specified VFB lower limit is 67%.

<sup>[5]</sup> For 25.0mm nominal maximum size mixes, the specified VFB lower limit is 67%.

**460.2.8.2.1.5 Control Limits**

*Replace paragraph one with the following effective with the January 2014 letting:*

- (1) Conform to the following control limits for the JMF and warning limits based on a running average of the last 4 data points:

ITEM	JMF LIMITS	WARNING LIMITS
Percent passing given sieve:		
37.5-mm	+/- 6.0	+/- 4.5
25.0-mm	+/- 6.0	+/- 4.5
19.0-mm	+/- 5.5	+/- 4.0
12.5-mm	+/- 5.5	+/- 4.0
9.5-mm	+/- 5.5	+/- 4.0
2.36-mm	+/- 5.0	+/- 4.0
75-µm	+/- 2.0	+/- 1.5
Asphaltic content in percent	- 0.3	- 0.2
Air voids in percent	+/- 1.3	+/- 1.0
VMA in percent <sup>[1]</sup>	- 0.5	- 0.2

<sup>[1]</sup> VMA limits based on minimum requirement for mix design nominal maximum aggregate size in Table 460-1.

- (2) Warning bands are defined as the area between the JMF limits and the warning limits.

**460.2.8.2.1.6 Job Mix Formula Adjustment**

*Replace the entire text with the following effective with the January 2014 letting:*

- (1) The contractor may request adjustment of the JMF according to the department's test method number 1559. Have an HTCP HMA technician certified at a level appropriate for process control and troubleshooting or mix design submit a written JMF adjustment request. Ensure that the resulting JMF is within specified master gradation bands. The department will have an HMA technician certified at level III review the proposed adjustment and, if acceptable, issue a revised JMF.
- (2) The department will not allow adjustments that do the following:
- Exceed specified JMF tolerance limits.
  - Reduce the JMF asphalt content unless the production VMA running average meets or exceeds the minimum VMA design requirement defined in table 460-1 for the mixture produced.
- (3) Have an HMA technician certified at level II make related process adjustments. If mixture redesign is necessary, submit a new JMF, subject to the same specification requirements as the original JMF.

**520.3.8 Protection After Laying**

*Delete the entire subsection.*

**614.2.1 General**

*Replace paragraphs five and six with the following effective with the December 2013 letting:*

- (5) Furnish zinc coated wire rope and fitting conforming to the plans and galvanized according to ASTM A741.
- (6) Before installation store galvanized components above ground level and away from surface run off. The department may reject material if the zinc coating is physically damaged or oxidized.
- (7) Provide manufacturer's drawings, and installation and maintenance instructions when providing proprietary systems.



---

**614.2.3 Steel Rail and Fittings**

Replace paragraph one with the following effective with the December 2013 letting:

- (1) Furnish galvanized steel rail conforming to AASHTO M180 class A, type II beam using the single-spot test coating requirements. Furnish plates, anchor plates, post mounting brackets, and other structural steel components conforming to 506.2.2.1 and hot-dip galvanized according to ASTM A123.
- 

**614.2.7 Crash Cushions**

Replace paragraph one with the following effective with the December 2013 letting:

- (1) Furnish permanent and temporary crash cushions from the department's approved products list. Use cushions as wide or wider than the plan back-width. Furnish transitions conforming to the crash cushion manufacturer's design and specifications. Submit manufacturer crash cushion and transition design details to engineer before installing.
- 

**616.3.1 General**

Replace paragraph six with the following effective with the December 2013 letting:

- (6) Remove and dispose of all excess excavation and surplus materials from the fence site.
- 

**618.3.3 Restoration**

Replace paragraph one with the following effective with the December 2013 letting:

- (1) Upon termination of hauling operations and before conditional final acceptance, restore all haul roads, including drainage facilities and other components, to the equivalent of pre-hauling conditions.
- 

**627.3.1 General**

Replace paragraph four with the following effective with the December 2013 letting:

- (4) Maintain the mulched areas and repair all areas damaged by wind, erosion, traffic, fire or other causes.
- 

**637.3.2.1 General**

Delete paragraph three effective with the December 2013 letting.

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**670.3.4.2 Post-Construction Work**

Replace paragraph one with the following effective with the December 2013 letting:

- (1) Submit 5 copies of ITS documentation including but not limited to the following:
  - Operator's manual: for contractor furnished equipment, submit a manual containing detailed operating instructions for each different type or model of equipment and or operation performed.
  - Maintenance procedures manuals: for contractor furnished equipment, submit a manual containing detailed preventive and corrective maintenance procedures for each type or model of equipment furnished.
  - Cabinet fiber optic wiring diagram: submit a cabinet wiring diagram, identified by location for each cabinet. Include both electrical wiring and fiber optic conductor and cable connections. Place one copy of the fiber optic wiring diagram in a weatherproof holder in the cabinet. Deliver the other copies to the engineer.
  - As-built drawings: submit final as-built drawings that detail the final placement of all conduit, cabling, equipment, and geometric modifications within the contract. Provide all documentation in an electronic format adhering to the region's ITS computer aided drafting standards and according to the department's as-built requirements. The department will review the as-built drawings for content and electronic format. Modify both the content and format of as-built drawings until meeting all requirements.
  - Equipment inventory list: submit an inventory list including serial number, make, model, date installed, and location installed of all equipment installed under the contract.

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**Errata**

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*Make the following corrections to the 2013 edition of the standard specifications:*

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**415.3.14 Protecting Concrete**

Correct errata by referencing the opening to service specification.

- (1) Erect and maintain suitable barricades and, if necessary, provide personnel to keep traffic off the newly constructed pavement until it is opened for service as specified in 415.3.15. Conform to 104.6 for methods of handling and facilitating traffic.
- 

**501.2.9 Concrete Curing Materials**

Correct errata by changing AASHTO M171 to ASTM C171.

- (2) Furnish sheeting conforming to ASTM C171 for white opaque polyethylene film, except that the contractor may use clear or black polyethylene for cold weather protection.
- 

**607.2 Materials**

Correct errata by changing AASHTO M198 to ASTM C990.

- (1) Use materials conforming to the requirements for the class of material named and specified below.
- |  |            |
|--|------------|
| Composite pipe, couplings, fittings and joint materials .....            | ASTM D2680 |
| Annular rubber and plastic gaskets for flexible, watertight joints ..... | ASTM C990  |
| External rubber gaskets, mastic, and protective film.....                | ASTM C877  |
| Mortar .....   | 519.2.3    |
- 

**637.2.1.3 Sheet Aluminum**

Correct errata by changing ASTM B449 to B921 and eliminating the specification for coating thickness.

- (4) Degrease, etch, and coat the sign blank on both sides with a chromate treatment conforming to ASTM B921, class 2.
- 

**637.3.3.4 Performance**

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

- (1) Under 105.11.2.3 the department may revoke acceptance and direct the contractor to repair or replace previously accepted sign installations if the department subsequently discovers evidence of defective materials or improper installation. Deficiencies that warrant department action include but are not limited to the following:
- Sign posts more than five degrees out of plumb.
  - Signs twisted by more than 5 degrees from plan orientation.
  - Signs with delaminated or warped plywood.
  - Signs with bubbling, fading, delaminating, or buckling sheeting.
- 

**646.3.3.4 Proving Period**

Correct errata to reference to 105.11.2.3 as revised to implement changes to the finals process.

- (4) Replace all marking within sections with a percent failing more than 10% and repair or replace all markings that, in the engineer's assessment, show evidence of improper construction. If post-acceptance inspections uncover evidence of defective materials or improper construction, the department may revoke acceptance under 105.11.2.3.

**ADDITIONAL SPECIAL PROVISION 7**

- A. Reporting 1<sup>st</sup> Tier and DBE Payments During Construction
1. Comply with reporting requirements specified in the department's Civil Rights Compliance, Contractor's User Manual, Sublets and Payments.
  2. Report payments to all DBE firms within 10 calendar days of receipt of a progress payment by the department or a contractor for work performed, materials furnished, or materials stockpiled by a DBE firm. Report the payment as specified in A(1) for all work satisfactorily performed and for all materials furnished or stockpiled.
  3. Report payments to all first tier subcontractor relationships within 10 calendar days of receipt of a progress payment by the department for work performed. Report the payment as specified in A(1) for all work satisfactorily performed.
  4. All tiers shall report payments as necessary to comply with the DBE payment requirement as specified in A(2).
  5. Require all first tier relationships, DBE firms and all other tier relationships necessary to comply with the DBE payment requirement in receipt of a progress payment by contractor to acknowledge receipt of payment as specified in A(1), (2), (3) and (4).
  6. All agreements made by a contractor shall include the provisions in A(1), (2), (3), (4) and (5), and shall be binding on all first tier subcontractor relationships and all contractors and subcontractors utilizing DBE firms on the project.
- B. Costs for conforming to this special provision are incidental to the contract.



**ADDITIONAL SPECIAL PROVISION 9**  
**Electronic Certified Payroll Submittal**

(1) Use the department's Civil Rights Compliance System (CRCS) to submit certified payrolls electronically. Details are available online through the department's highway construction contractor information (HCCI) site on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm>

(2) Ensure that all tiers of subcontractors, as well as all trucking firms, submit their weekly certified payrolls electronically through CRCS. These payrolls are due within seven calendar days following the close of the payroll period. Every firm providing physical labor towards completing the project is a subcontractor under this special provision.

(3) Upon receipt of contract execution, promptly make all affected firms aware of the requirements under this special provision and arrange for them to receive CRCS training as they are about to begin payrolls. The department will provide training either in a classroom setting at one of our regional offices or by telephone. Contact Tess Mulrooney at 608-267-4489 to schedule the training.

(4) The department will reject all paper submittals of forms DT-1816 and DT-1929 for information required under this special provision. All costs for conforming to this special provision are incidental to the contract.

(5) Firms wishing to export payroll data from their computer system into CRCS should have their payroll coordinator send several sample electronic files to Tess two months before a payroll needs to be submitted. Not every contractor's payroll system is capable of producing export files. For details, see pages 17-22 of the CRCS System Background Information manual available online on the Labor, Wages, and EEO Information page at: <http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/crc-basic-info.pdf>

## REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

### ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

### I. GENERAL

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

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

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

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

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

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

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

### II. NONDISCRIMINATION

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

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

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

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

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

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

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

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

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

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

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

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

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

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

#### **10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on [Form FHWA-1391](#). The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor



will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

## **2. Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

## **3. Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### **4. Apprentices and trainees**

##### **a. Apprentices (programs of the USDOL).**

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

##### **b. Trainees (programs of the USDOL).**

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.



## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

## **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

## **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

### **1. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

\* \* \* \* \*

## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

## **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

\* \* \* \* \*

**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\* \* \* \* \*

**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.



**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SEPTEMBER 2002

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE  
EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)**

1. The Offeror's or Bidder's attention is called to the "Employment Practices" and "Equal Opportunity Clause" set forth in the Required Contract Provisions, FHWA 1273.
2. The goals and timetables for minority and female participation expressed in percentage terms for the contractor's aggregate work force in each trade, on all construction work in the covered area, are as follows:

**Goals for Minority Participation for Each Trade:**

<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>	<u>County</u>	<u>%</u>
Adams	1.7	Iowa	1.7	Polk	2.2
Ashland	1.2	Iron	1.2	Portage	0.6
Barron	0.6	Jackson	0.6	Price	0.6
Bayfield	1.2	Jefferson	7.0	Racine	8.4
Brown	1.3	Juneau	0.6	Richland	1.7
Buffalo	0.6	Kenosha	3.0	Rock	3.1
Burnett	2.2	Kewaunee	1.0	Rusk	0.6
Calumet	0.9	La Crosse	0.9	St. Croix	2.9
Chippewa	0.5	Lafayette	0.5	Sauk	1.7
Clark	0.6	Langlade	0.6	Sawyer	0.6
Columbia	1.7	Lincoln	0.6	Shawano	1.0
Crawford	0.5	Manitowoc	1.0	Sheboygan	7.0
Dane	2.2	Marathon	0.6	Taylor	0.6
Dodge	7.0	Marinette	1.0	Trempealeau	0.6
Door	1.0	Marquette	1.7	Vernon	0.6
Douglas	1.0	Menominee	1.0	Vilas	0.6
Dunn	0.6	Milwaukee	8.0	Walworth	7.0
Eau Claire	0.5	Monroe	0.6	Washburn	0.6
Florence	1.0	Oconto	1.0	Washington	8.0
Fond du Lac	1.0	Oneida	0.6	Waukesha	8.0
Forest	1.0	Outagamie	0.9	Waupaca	1.0
Grant	0.5	Ozaukee	8.0	Waushara	1.0
Green	1.7	Pepin	0.6	Winnebago	0.9
Green Lake	1.0	Pierce	2.2	Wood	0.6

**Goals for female participation for each trade: 6.9%**

These goals are applicable to all the contractor's construction work, (whether or not it is federal or federally assisted), performed in the covered area. If the contractor performs construction work in the geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and nonfederally involved construction.

The contractor's compliance with the Executive Order and the Regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the Regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor, employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

As referred to in this section, the Director means:

Director  
Office of Federal Contract Compliance Programs  
Ruess Federal Plaza  
310 W. Wisconsin Ave., Suite 1115  
Milwaukee, WI 53202

The "Employer Identification Number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

4. As used in this notice, and in the contract resulting from solicitation, the "covered area" is the county(ies) in Wisconsin to which this proposal applies.

**APRIL 2013**

**ADDITIONAL FEDERAL-AID PROVISIONS**

**NOTICE TO ALL BIDDERS**

To report bid rigging activities call:

**1-800-424-9071**

The U.S. Department of Transportation (DOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., Eastern Time. Anyone with knowledge of possible bid rigging, bidding collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

**DECEMBER 2013**

**BUY AMERICA PROVISION**

All steel and iron materials permanently incorporated in this project shall be domestic products and all manufacturing and coating processes for these materials from smelting forward in the manufacturing process must have occurred within the United States. Coating includes epoxy coating, galvanizing, painting and any other coating that protects or enhances the value of a material subject to the requirements of Buy America. The exemption of this requirement is the minimal use of foreign materials if the total cost of such material permanently incorporated in the product does not exceed one-tenth of one percent (1/10 of 1%) of the total contract cost or \$2,500.00, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the subject products as they are delivered to the project. The contractor shall take actions and provide documentation conforming to CMM 2-28.5 to ensure compliance with this "Buy America" provision.

<http://roadwaystandards.dot.wi.gov/standards/cmm/cm-02-28.pdf#cm2-28.5>

Upon completion of the project certify to the engineer, in writing using department form WS4567, that all steel, iron, and coating processes for steel or iron incorporated into the contract work conform to these "Buy America" provisions. Attach a list of exemptions and their associated costs to the certification form. Department form WS4567 is available at:

<http://roadwaystandards.dot.wi.gov/standards/forms/ws4567.doc>

**Effective with September 2004 Letting**

**WISCONSIN DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS AND TRANSPORTATION FACILITIES**

**SUPPLEMENTAL REQUIRED CONTRACT PROVISIONS**

- I. Wage Rates, Hours of labor and payment of Wages
- II. Payroll Requirements
- III. Postings at the Site of the Work
- IV. Affidavits
- V. Wage Rate Redistribution
- VI. Additional Classifications

**I. WAGE RATES, HOURS OF LABOR AND PAYMENT OF WAGES**

The schedule of "Minimum Wage Rates" attached hereto and made a part hereof furnishes the prevailing wage rates that have been determined pursuant to Section 103.50 of the Wisconsin Statutes. These wage rates are the minimum required to be paid to the various laborers, workers, mechanics and truck drivers employed by contractors and subcontractors on the construction work embraced by the contract and subject to prevailing hours and wages under Section 103.50, Stats. If necessary to employ laborers, workers, mechanics or truck drivers whose classification is not listed on the schedule, they shall be paid at rates conformable to those listed for similar classifications. Apprentices shall be paid at rates not less than those prescribed in their state indenture contracts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this is not a representation that labor can be obtained at these rates. It is the responsibility of bidders to inform themselves as to the local labor conditions and prospective changes or adjustments of wage rates. No increase in the contract price shall be allowed or authorized on account of the payment of wage rates in excess of those listed herein.

Pursuant to Section 103.50 of the Wisconsin Statutes, the prevailing hours of labor have been determined to be up to 10 hours per day and 40 hours per calendar week Monday through Friday. If any laborer, worker, mechanic or truck driver is permitted or required to work more than the prevailing number of hours per day or per calendar week on this contract, they shall be paid for all hours in excess of the prevailing hours at a rate of at least one and one-half (1 1/2) times their hourly rate of pay. All work on Saturday, Sunday and the following holidays is to be paid at time and a half: (1) January 1, (2) the last Monday in May, (3) July 4, (4) the first Monday in September, (5) the fourth Thursday in November, (6) December 25, (7) the day before if January 1, July 4 or December 25 falls on a Saturday and (8) the day following if January 1, July 4 or December 25 falls on a Sunday.

All laborers, workers, mechanics and truck drivers shall be paid unconditionally not less often than once a week. Persons who own and operate their own trucks must receive the prevailing truck driver rate for the applicable type of truck (i.e. 2 axle, 3 or more axle, articulated, eculid or dumptor) he or she operates, plus an agreed upon amount for the use of his or her truck. Every owner-operator MUST be paid separately for their driving and for the use of their truck.

For those projects subject to the requirements of the Davis-Bacon Act, the Secretary of Labor will also have determined "Minimum Wage Rates" for work to be performed under the contract. These rates are, for all or most of the labor, worker, mechanic or truck driver classifications, identical to those established under Section 103.50 of the Wisconsin Statutes. In the event the rates are not identical, the higher of the two rates will govern.

## **II. PAYROLL REQUIREMENTS**

All contractors and subcontractors must submit weekly Certified Payrolls and Compliance Statement verifying that all laborers, workers, mechanics and truck drivers working on the project have been paid the prevailing wage rates for all work performed under the contract required by Section 103.50 of the Wisconsin Statutes.

## **III. POSTINGS AT THE SITE OF THE WORK**

In addition to the required postings furnished by the Department, the contractor shall post the following in at least one conspicuous place at the site of work:

- a. "NOTICE TO EMPLOYEES," which provides information required to be posted by the provisions of Section 103.50 of the Wisconsin Statutes.
- b. A copy of the State of Wisconsin Minimum Wages Rates. (Four pages.)
- c. A copy of the contractor's Equal Employment Opportunity Policy.
- d. On any project involving federal aid, in addition to the furnished postings, the contractor shall post a copy of the "Davis-Bacon Act, Minimum Wage Rates". (Three pages.)

## **IV. WAGE RATE REDISTRIBUTION**

The amount specified as the hourly basic rate of pay and the amount(s) specified as the fringe benefit contribution(s), for all classes of laborers, workers, mechanics or truck drivers may be redistributed, when necessary, to conform to those specified in any applicable collective bargaining agreement, provided that both parties to such agreement

request and receive the approval for any such redistribution from both the Department of Transportation and the Department of Workforce Development prior to the implementation of such redistribution.

## **V. ADDITIONAL CLASSIFICATIONS**

Any unlisted laborer or mechanic classification that is needed to perform work on this project, and is not included within the scope of any of the classifications listed in the application prevailing wage rate determination, may be added after award only if all of the following criteria have been met:

1. The affected employer(s) must make a written request to WisDOT Central Office to utilize the unlisted classification on this project.
2. The request must indicate the scope of the work to be performed by the unlisted classification and must indicate the proposed wage/fringe benefit package that the unlisted classification is to receive.
3. The work to be performed by the unlisted classification must not be performed by a classification that is included in the applicable prevailing wage rate determination.
4. The unlisted classification must be commonly employed in the area where the project is located.
5. The proposed wage/fringe benefit package must bear a reasonable relationship to those set forth in the applicable prevailing wage rate determination.
6. The request should be made prior to the actual performance of the work by the unlisted classification.
7. DWD must approve the use of the unlisted classification and the proposed wage/fringe benefit package. USDOL also must approve the use of the unlisted classification and the proposed wage/fringe benefit package on federal aid projects.
8. WisDOT and DWD may amend the proposed wage/fringe benefit package, as deemed necessary, and may set forth specific employment ratios and scope of work requirements in the approval document.

The approved wage/fringe benefit package shall be paid to all laborers, workers, mechanics or truck drivers performing work within the scope of that performed by the unlisted classification, from the first day on which such work is performed. In the event that work is performed by the unlisted classification prior to approval, the wage/fringe benefit package to be paid for such work must be in conformance with the wage/fringe



benefit package approved for such work. Under this arrangement a retroactive adjustment in wages and/or fringe benefits may be required to be made to the affected laborers, workers, mechanics or truck drivers by the affected employer(s).

**ANNUAL PREVAILING WAGE RATE DETERMINATION  
FOR ALL STATE HIGHWAY PROJECTS  
WAUKESHA COUNTY**

Compiled by the State of Wisconsin - Department of Workforce Development  
for the Department of Transportation  
Pursuant to s. 103.50, Stats.  
Issued on September 1, 2013

**CLASSIFICATION:** Contractors are required to call the Department of Workforce Development if there are any questions regarding the proper trade or classification to be used for any worker on a public works project.

**OVERTIME:** Time and one-half must be paid for all hours worked over 10 hours per day and 40 hours per calendar week and for all hours worked on Saturday, Sunday and the following six (6) holidays: January 1; the last Monday in May; July 4; the 1st Monday in September; the 4th Thursday in November; December 25; the day before if January 1, July 4 or December 25 falls on a Saturday; the day following if January 1, July 4 or December 25 falls on a Sunday.

**FUTURE INCREASE:** If indicated for a specific trade or occupation, the full amount of such increase MUST be added to the "TOTAL" indicated for such trade or occupation on the date(s) such increase(s) becomes effective.

**PREMIUM PAY:** If indicated for a specific trade or occupation, the full amount of such pay MUST be added to the "HOURLY BASIC RATE OF PAY" indicated for such trade or occupation, whenever such pay is applicable.

**SUBJOURNEY:** Wage rates may be available for some of the classifications indicated below. Any employer that desires to use any subjourney classification on a project MUST request the applicable wage rate from the Department of Workforce Development PRIOR to the date such classification is used on such project. Form ERD-10880 is available for this purpose and can be obtained by writing to the Department of Workforce Development, Equal Rights Division, P.O. Box 8928, Madison, WI 53708.

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Bricklayer, Blocklayer or Stonemason	35.58	19.20	54.78
Carpenter	32.93	19.81	52.74
Future Increase(s): Add \$.75/hr on 6/3/2013. Add \$1.25/hr on 6/2/2014. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Cement Finisher	30.69	17.53	48.22
Future Increase(s): Add \$1.87 on 6/1/13; Add \$1.87 on 6/1/14; Add \$1.87 on 6/1/15; Add \$1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	31.54	21.14	52.68
Fence Erector	28.00	4.50	32.50
Ironworker	31.31	21.99	53.30
Line Constructor (Electrical)	31.29	15.34	46.63
Painter	29.22	16.69	45.91
Pavement Marking Operator	29.22	16.69	45.91
Piledriver	30.66	15.31	45.97
Roofer or Waterproofor	29.40	15.05	44.45
Teledata Technician or Installer	23.10	10.11	33.21
Tuckpointer, Caulker or Cleaner	34.35	12.36	46.71
Underwater Diver (Except on Great Lakes)	37.45	19.45	56.90
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	29.64	16.95	46.59
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	33.35	14.23	47.58
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.94	13.57	39.51

<b>TRADE OR OCCUPATION</b>	<b>HOURLY BASIC RATE OF PAY</b>	<b>HOURLY FRINGE BENEFITS</b>	<b>TOTAL</b>
	<b>\$</b>	<b>\$</b>	<b>\$</b>
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.08	12.96	37.04
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.90	33.65

**TRUCK DRIVERS**

Single Axle or Two Axle	33.22	18.90	52.12
Three or More Axle	23.31	17.13	40.44
Future Increase(s): Add \$1.85/hr on 6/1/2013. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	27.77	19.90	47.67
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Pavement Marking Vehicle	23.84	14.92	38.76
Shadow or Pilot Vehicle	33.22	18.90	52.12
Truck Mechanic	22.50	16.19	38.69

**LABORERS**

General Laborer	25.39	18.40	43.79
Future Increase(s): Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Pay: Add \$.15/hr for air tool operator, joint sawer and filler (pavement), vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add \$.35/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add \$.50/hr for line and grade specialist; Add \$.65/hr for blaster and powderman; Add \$2.01/hr for topman; Add \$2.46/hr for bottomman; Add \$3.23/hr for pipelayer. / DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Asbestos Abatement Worker	18.00	0.00	18.00
Landscaper	25.39	18.40	43.79
Future Increase(s): Add \$1.70/hr on 6/1/13; Add \$1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	21.88	18.40	40.28
Future Increase(s): Add \$1.70/hr on 6/1/2013; Add \$1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	17.24	15.03	32.27
Railroad Track Laborer	14.50	4.81	19.31

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
<b>HEAVY EQUIPMENT OPERATORS</b>			
Crane, Tower Crane, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 176 Ft or Over; Crane, Tower Crane, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of Over 100 Tons, Self-Erecting Tower Crane With a Lifting Capacity Of Over 4,000 Lbs., Crane With Boom Dollies; Traveling Crane (Bridge Type). Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .	35.22	19.90	55.12
Backhoe (Track Type) Having a Mfr.'s Rated Capacity of 130,000 Lbs. or Over; Caisson Rig; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With Boom, Leads &/or Jib Lengths Measuring 175 Ft or Under; Crane, Tower Crane, Portable Tower, Pedestal Tower or Derrick, With or Without Attachments, With a Lifting Capacity of 100 Tons or Under, Self-Erecting Tower Crane With A Lifting Capacity Of 4,000 Lbs., & Under; Dredge (NOT Performing Work on the Great Lakes); Licensed Boat Pilot (NOT Performing Work on the Great Lakes); Pile Driver. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .	34.72	19.90	54.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a Mfr.'s Rated Capacity of Under 130,000 Lbs., Backhoe (Mini, 15,000 Lbs. & Under); Bituminous (Asphalt) Plant & Paver, Screed; Boatmen (NOT Performing Work on the Great Lakes); Boring Machine (Directional, Horizontal or Vertical); Bridge (Bidwell) Paver; Bulldozer or Endloader; Concrete Batch Plant, Batch Hopper; Concrete Breaker (Large, Auto, Vibratory/Sonic, Manual or Remote); Concrete Bump Cutter, Grinder, Planing or Grooving Machine; Concrete Conveyor System; Concrete Laser/Screed; Concrete Paver (Slipform); Concrete Pump, Concrete Conveyor (Rotec or Bidwell Type); Concrete Slipform Placer Curb & Gutter Machine; Concrete Spreader & Distributor; Crane (Carry Deck, Mini) or Truck Mounted Hydraulic Crane (10 Tons or Under); Crane With a Lifting Capacity of 25 Tons or Under; Forestry Equipment, Timbco, Tree Shear, Tub Grinder, Processor; Gradall (Cruz-Aire Type); Grader or Motor Patrol; Grout Pump; Hydro-Blaster (10,000 PSI or Over); Loading Machine (Conveyor); Material or Stack Hoist; Mechanic or Welder; Milling Machine; Post Hole Digger or Driver; Roller (Over 5 Ton); Scraper (Self Propelled or Tractor Drawn) 5 cu yds or More Capacity; Shoulder Widener; Sideboom; Skid Rig; Stabilizing or Concrete Mixer (Self-Propelled or 14S or Over); Straddle Carrier or Travel Lift; Tractor (Scraper, Dozer, Pusher, Loader); Tractor or Truck Mounted Hydraulic Backhoe; Trencher (Wheel Type or Chain Type); Tube Finisher; Tugger (NOT Performing Work on the Great Lakes); Winches & A- Frames. Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14.	34.22	19.90	54.12

<u>TRADE OR OCCUPATION</u>	<u>HOURLY BASIC RATE OF PAY</u>	<u>HOURLY FRINGE BENEFITS</u>	<u>TOTAL</u>
	\$	\$	\$
Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Belting, Burlap, Texturing Machine; Broom or Sweeper; Compactor (Self-Propelled or Tractor Mounted, Towed & Light Equipment); Concrete Finishing Machine (Road Type); Environmental Burner; Farm or Industrial Type Tractor; Fireman (Asphalt Plant, Pile Driver & Derrick NOT Performing Work on the Great Lakes); Forklift; Greaser; Hoist (Tugger, Automatic); Jeep Digger; Joint Sawyer (Multiple Blade); Launch (NOT Performing Work on the Great Lakes); Lift Slab Machine; Mechanical Float; Mulcher; Power Subgrader; Robotic Tool Carrier (With or Without Attachments); Roller (Rubber Tire, 5 Ton or Under); Self Propelled Chip Spreader; Shouldering Machine; Skid Steer Loader (With or Without Attachments); Telehandler; Tining or Curing Machine.	33.96	19.90	53.86
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Air Compressor (&/or 400 CFM or Over); Air, Electric or Hydraulic Jacking System; Augers (Vertical & Horizontal); Automatic Belt Conveyor & Surge Bin; Boiler (Temporary Heat); Concrete Proportioning Plant; Crusher, Screening or Wash Plant; Generator (&/or 150 KW or Over); Heaters (Mechanical); High Pressure Utility Locating Machine (Daylighting Machine); Mudjack; Oilier; Prestress Machine; Pug Mill; Pump (3 Inch or Over) or Well Points; Rock, Stone Breaker; Screed (Milling Machine); Stump Chipper; Tank Car Heaters; Vibratory Hammer or Extractor, Power Pack.	33.67	19.90	53.57
Future Increase(s): Add \$2/hr on 6/1/13; Add \$1.75/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add \$1.50/hr night work premium. See DOT's website for details about the applicability of this night work premium at: <a href="http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm">http://roadwaystandards.dot.wi.gov/hcci/labor-wages-eeo/index.shtm</a> .			
Fiber Optic Cable Equipment.	20.00	9.90	29.90

SUPERSEDES DECISION WI20120010  
U. S. DEPARTMENT OF LABOR  
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: September 27, 2013

LABORERS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits	Truck Drivers:	Basic Hourly Rates	Fringe Benefits
Group 1: General Laborer; Tree Trimmer; Conduit Layer; Demolition and Wrecking Laborer; Guard Rail, Fence and Bridge Builder; Landscaper, Multiplate Culvert Assembler; Stone Handler; Bituminous Worker (Shoveler, Loader, Utility Man); Batch Truck Dumper; or Cement Handler; Bituminous Worker; (Dumper, Ironer, Smoother, Tamper); Concrete Handler .....	\$26.06	18.15	1 & 2 Axles .....	23.82	18.32
Group 2: Air Tool Operator; Joint Sawyer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer.....	26.21	18.15	Three or More Axles; Euclids, Dumptrucks & Articulated, Truck Mechanic.....	23.97	18.32
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man .....	26.41	18.15			
Group 4: Line and Grade Specialist .....	26.56	18.15			
Group 5: Blaster and Powderman .....	26.71	18.15			
Group 6: Flagperson traffic control person .....	22.55	18.15			

CLASSES OF LABORER AND MECHANICS

Bricklayer .....	35.58	16.07
Carpenter .....	30.52	14.41
Piledriverman .....	27.25	19.46
Ironworker .....	30.52	23.47
Cement Mason/Concrete Finisher .....	30.69	17.53
Electrician .....	See Page 3	
Line Construction		
Lineman.....	38.25	18.00
Heavy Equipment Operator .....	34.43	16.71
Equipment Operator.....	30.60	15.41
Heavy Groundman Driver.....	26.78	14.11
Light Groundman Driver .....	24.86	13.45
Groundsman.....	21.04	12.16
Millwrights.....	26.32	13.98
Painter, Brush.....	29.52	18.79
Painter, Spray and Sandblaster .....	30.27	18.79
Painter, Bridge.....	29.87	18.79
Well Drilling:		
Well Driller .....	16.52	3.70

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. 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 (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0, dated January 4, 2013; Modification #1 dated February 1, 2013; Modification #2 dated June 7, 2013; Modification #3 dated July 19, 2013; Modification #4 dated August 23, 2013; Modification #5 dated September 13, 2013; Modification #6 dated September 27, 2013.

SUPERSEDES DECISION WI20120010  
U. S. DEPARTMENT OF LABOR  
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: September 27, 2013

<u>POWER EQUIPMENT OPERATORS CLASSIFICATION:</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>	<u>POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)</u>	<u>Basic Hourly Rates</u>	<u>Fringe Benefits</u>
Group 1: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of over 100 tons or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 176 feet or longer .....	\$36.72	\$20.10	(scraper, dozer, pusher, loader); scraper - rubber tired (single or twin engine); endloader hydraulic backhoe (tractor-type); trenching machine; skid rigs; tractor, side boom (heavy); drilling or boring machine (mechanical heavy); roller (over 5 tons); percussion or rotary drilling machine; air track; blaster; loading machine (conveyor); tugger; boatmen; winches and A-frames; post driver; material hoist operator. ....	\$35.72	\$20.10
Group 2: Cranes, tower cranes and derricks, with or without attachments, with a lifting capacity of 100 tons or less or cranes, tower cranes and derricks with boom, leads and/or jib lengths measuring 175 feet or less, and backhoes (excavators) having a manufacturer's rated capacity of 3 cu. yds. and over, caisson rigs, pile driver, dredge operator, dredge engineer. ....	\$36.22	\$20.10	Group 4: Greaser, roller steel (5 tons or less); roller (pneumatic tired) - self-propelled; tractor (mounted or towed compactors and light equipment); shouldering machine; self-propelled chip spreader; concrete spreader; finishing machine; mechanical float; curing machine; power subgrader; joint saw (multiple blade) belting machine; burlap machine; texturing machine; tractor, endloader (rubber tired) - light; jeep digger; fork lift; mulcher; launch operator; fireman; environmental burner. ....	\$35.46	\$20.10
Group 3: Mechanic or welder - heavy duty equipment, cranes with a lifting capacity of 25 tons or less, concrete breaker (manual or remote); vibrator/sonic concrete breaker; concrete laser screed; concrete slipform paver; concrete batch plant operator; concrete pavement spreader - heavy duty (rubber tired); concrete spreader and distributor, automatic subgrader (concrete); concrete grinder and planing machine; concrete slipform curb and gutter machine; slipform concrete placer; tube finisher; hydro blaster (10,000 psi and over); bridge paver; concrete conveyor system; concrete pump; stabilizing mixer (self propelled); shoulder widener; asphalt plant engineer; bituminous paver; bump cutter and grooving machine; milling machine; screed (bituminous paver); asphalt heater, planer and scarifier; backhoes (excavators) having a manufacturers rated capacity of under 3 cu. yds.; grader or motor patrol; tractor			Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete proportioning plants generators; mudjack operator; rock breaker; crusher or screening plant; screed (milling machine); automatic belt conveyor and surge bin; pug mill operator; oiler; pump (over 3 inches); drilling machine helper. ....	\$35.17	\$20.10
			Group 6: Off - road material hauler with or without ejector.....	\$29.27	\$20.10
			Premium Pay: EPA Level "A" protection - \$3.00 per hour EPA Level "B" protection - \$2.00 per hour EPA Level "C" protection - \$1.00 per hours		

SUPERSEDES DECISION WI20120010  
U. S. DEPARTMENT OF LABOR  
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin

GENERAL DECISION NUMBER: WI130010

DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

DATE: September 27, 2013

LABORERS CLASSIFICATION:

Rates

Benefits

			Area 4 -	BROWN, DOOR, KEWAUNEE, MANITOWOC (except Schleswig), MARINETTE (Wausauke and area south thereof), OCONTO, MENOMINEE (East of a line 6 miles West of the West boundary of Oconto County), SHAWANO (except area North of Townships of Aniwa and Hutchins) COUNTIES.
Electricians				
Area 1 .....	\$28.40	16.676		
Area 2:				
Electricians.....	29.13	17.92	Area 5 -	ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausauke), MENOMINEE (Area West of a line 6 miles West of the West boundary of Oconto County), ONEIDA, PORTAGE, SHAWANO (Area North of the townships of Aniwa and Hutchins), VILAS AND WOOD COUNTIES
Area 3:				
Electrical contracts under \$130,000 .....	26.24	16.85		
Electrical contracts over \$130,000 .....	29.41	16.97		
Area 4: .....	28.10	17.24	Area 6 -	KENOSHA COUNTY
Area 5 .....	28.61	16.60		
Area 6 .....	35.25	19.30	Area 8 -	DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES
Area 8				
Electricians.....	30.60	24.95% + 10.33	Area 9 -	COLUMBIA, DANE, DODGE, (area west of Hwy. 26, except Chester & Emmet Townships), GREEN LAKE (except townships of Berlin, Seneca and St. Marie), IOWA, MARQUETTE (except townships of Neshkoka, Crystal Lake, Newton and Springfield), and SAUK COUNTIES
Area 9:				
Electricians.....	32.94	18.71	Area 10 -	CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES
Area 10 .....	28.97	19.55	Area 11 -	DOUGLAS COUNTY
Area 11 .....	31.91	23.60	Area 12 -	RACINE (except Burlington township) COUNTY
Area 12 .....	32.87	19.23	Area 13 -	MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES
Area 13 .....	32.82	22.51	Area 14 -	Statewide.
Teledata System Installer			Area 15 -	DODGE (East of Hwy 26 including Chester Twp, excluding Emmet Twp), FOND DU LAC (Except Waupun), MILWAUKEE, OZAUKEE, MANITOWOC (Schleswig), WASHINGTON, AND WAUKESHA COUNTIES.
Area 14				
Installer/Technician .....	21.89	11.83		
Sound & Communications				
Area 15				
Installer .....	16.47	14.84		
Technician .....	24.75	16.04		
Area 1 -	CALUMET (except township of New Holstein), GREEN LAKE (N. part, including Townships of Berlin, St. Marie and Seneca), MARQUETTE (N. part, including Townships of Crystal Lake, Neshkoro, Newton & Springfield), OUTAGAMIE, WAUPACA, WAUSHARA and WINNEBAGO COUNTIES.			
Area 2 -	ASHLAND, BARRON, BAYFIELD, BUFFALO, BURNETT, CHIPPEWA, CLARK (except Mayville, Colby, Unity, Sherman, Fremont, Lynn and Sherwood), CRAWFORD, DUNN, EAU CLAIRE, GRANT, IRON, JACKSON, LA CROSSE, MONROE, PEPIN, PIERCE, POLK, PRICE, RICHLAND, RUSK, ST. CROIX, SAWYER, TAYLOR, TREMPLEAU, VERNON and WASHBURN COUNTIES			
Area 3 -	FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)			



**FEBRUARY 1999**

**NOTICE TO BIDDERS  
WAGE RATE DECISION**

The wage rate decision of the Secretary of Labor which has been incorporated in these advertised specifications is incomplete in that the classifications may be omitted from the Secretary of Labor's decision.

Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any governmental liability for increased labor cost if it is subsequently determined that such classifications are required.

There may be omissions and/or errors in the federal wage rates. The bidder is responsible for evaluating and determining the correct applicable rate. The higher of state or federal rate will apply.



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REVISED:

CONTRACT:  
20140114006PROJECT(S):  
2722-10-70FEDERAL ID(S):  
WISC 2014002

CONTRACTOR : \_\_\_\_\_

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS

## SECTION 0001 ROADWAY ITEMS

0010	201.0105 CLEARING	48.000				
		STA	.		.	
0020	201.0205 GRUBBING	48.000				
		STA	.		.	
0030	203.0100 REMOVING SMALL PIPE CULVERTS	40.000				
		EACH	.		.	
0040	204.0100 REMOVING PAVEMENT	929.000				
		SY	.		.	
0050	204.0120 REMOVING ASPHALTIC SURFACE MILLING	1,401.000				
		SY	.		.	
0060	204.0150 REMOVING CURB & GUTTER	860.000				
		LF	.		.	
0070	204.0155 REMOVING CONCRETE SIDEWALK	332.000				
		SY	.		.	
0080	204.0180 REMOVING DELINEATORS AND MARKERS	18.000				
		EACH	.		.	
0090	204.0195 REMOVING CONCRETE BASES	13.000				
		EACH	.		.	
0100	204.0210 REMOVING MANHOLES	2.000				
		EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0110	204.0220 REMOVING INLETS	8.000				
	EACH		.		.	
0120	204.0245 REMOVING STORM SEWER (SIZE) 01. 12-INCH	442.000				
	LF		.		.	
0130	204.0245 REMOVING STORM SEWER (SIZE) 02. 18-INCH	82.000				
	LF		.		.	
0140	204.0270 ABANDONING CULVERT PIPES	2.000				
	EACH		.		.	
0150	205.0100 EXCAVATION COMMON	52,021.000				
	CY		.		.	
0160	205.0400 EXCAVATION MARSH	1,000.000				
	CY		.		.	
0170	209.0100 BACKFILL GRANULAR	9,750.000				
	CY		.		.	
0180	213.0100 FINISHING ROADWAY (PROJECT) 01. 2722-10-70	1.000				
	EACH		.		.	
0190	305.0110 BASE AGGREGATE DENSE 3/4-INCH	1,220.000				
	TON		.		.	
0200	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	36,462.000				
	TON		.		.	
0210	312.0110 SELECT CRUSHED MATERIAL	23,405.000				
	TON		.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0220	415.0090 CONCRETE PAVEMENT 9-INCH	72.000 SY	.		.	
0230	416.0270 CONCRETE DRIVEWAY HES 7-INCH	464.000 SY	.		.	
0240	416.0610 DRILLED TIE BARS	56.000 EACH	.		.	
0250	440.4410.S INCENTIVE IRI RIDE	5,838.000 DOL	1.00000		5838.00	
0260	455.0115 ASPHALTIC MATERIAL PG64-22	313.000 TON	.		.	
0270	455.0120 ASPHALTIC MATERIAL PG64-28	251.000 TON	.		.	
0280	455.0605 TACK COAT	1,970.000 GAL	.		.	
0290	460.1101 HMA PAVEMENT TYPE E-1	10,260.000 TON	.		.	
0300	460.2000 INCENTIVE DENSITY HMA PAVEMENT	6,650.000 DOL	1.00000		6650.00	
0310	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	177.000 TON	.		.	
0320	465.0315 ASPHALTIC FLUMES	28.000 SY	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0330	520.0112 CULVERT PIPE CLASS III 12-INCH	173.000 LF	.		.	
0340	520.0115 CULVERT PIPE CLASS III 15-INCH	31.000 LF	.		.	
0350	520.0118 CULVERT PIPE CLASS III 18-INCH	513.000 LF	.		.	
0360	520.1012 APRON ENDWALLS FOR CULVERT PIPE 12-INCH	8.000 EACH	.		.	
0370	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH	2.000 EACH	.		.	
0380	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH	24.000 EACH	.		.	
0390	520.8000 CONCRETE COLLARS FOR PIPE	8.000 EACH	.		.	
0400	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH	1.000 EACH	.		.	
0410	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	1.000 EACH	.		.	
0420	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH	1.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0430	522.1048 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH	EACH 1.000	.		.	
0440	523.0424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH	LF 126.000	.		.	
0450	523.0429 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29X45-INCH	LF 128.000	.		.	
0460	523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH	EACH 4.000	.		.	
0470	523.0529 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29X45-INCH	EACH 4.000	.		.	
0480	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A	LF 93.000	.		.	
0490	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	LF 11,054.000	.		.	
0500	602.0410 CONCRETE SIDEWALK 5-INCH	SF 16,333.000	.		.	
0510	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF 328.000	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0520	606.0200 RIPRAP MEDIUM	632.000 CY	.		.	
0530	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	969.000 LF	.		.	
0540	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	902.000 LF	.		.	
0550	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	543.000 LF	.		.	
0560	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	1,123.000 LF	.		.	
0570	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH	250.000 LF	.		.	
0580	608.0342 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 42-INCH	248.000 LF	.		.	
0590	608.0348 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 48-INCH	1,257.000 LF	.		.	
0600	611.0420 RECONSTRUCTING MANHOLES	3.000 EACH	.		.	
0610	611.0530 MANHOLE COVERS TYPE J	14.000 EACH	.		.	
0620	611.0612 INLET COVERS TYPE C	3.000 EACH	.		.	



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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0630	611.0642 INLET COVERS TYPE MS	8.000 EACH	.		.	
0640	611.0660 INLET COVERS TYPE WM	44.000 EACH	.		.	
0650	611.1004 CATCH BASINS 4-FT DIAMETER	42.000 EACH	.		.	
0660	611.2004 MANHOLES 4-FT DIAMETER	3.000 EACH	.		.	
0670	611.2005 MANHOLES 5-FT DIAMETER	5.000 EACH	.		.	
0680	611.2008 MANHOLES 8-FT DIAMETER	1.000 EACH	.		.	
0690	611.2066 MANHOLES 6X6-FT	8.000 EACH	.		.	
0700	611.3901 INLETS MEDIAN 1 GRATE	8.000 EACH	.		.	
0710	611.8120.S COVER PLATES TEMPORARY	25.000 EACH	.		.	
0720	611.9800.S PIPE GRATES	1.000 EACH	.		.	
0730	612.0204 PIPE UNDERDRAIN UNPERFORATED 4-INCH	200.000 LF	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
0740	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	250.000 LF	.		.	
0750	612.0700 DRAIN TILE EXPLORATION	1,000.000 LF	.		.	
0760	612.0902.S INSULATION BOARD POLYSTYRENE (INCH) 01. 2-INCH	127.000 SY	.		.	
0770	619.1000 MOBILIZATION	1.000 EACH	.		.	
0780	620.0300 CONCRETE MEDIAN SLOPED NOSE	800.000 SF	.		.	
0790	624.0100 WATER	359.000 MGAL	.		.	
0800	625.0500 SALVAGED TOPSOIL	61,858.000 SY	.		.	
0810	627.0200 MULCHING	52,216.000 SY	.		.	
0820	628.1104 EROSION BALES	1,110.000 EACH	.		.	
0830	628.1504 SILT FENCE	9,991.000 LF	.		.	
0840	628.1520 SILT FENCE MAINTENANCE	9,991.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0850	628.1905 MOBILIZATIONS EROSION CONTROL	1.000 EACH	.		.	
0860	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	2.000 EACH	.		.	
0870	628.6510 SOIL STABILIZER TYPE B	2.500 ACRE	.		.	
0880	628.7005 INLET PROTECTION TYPE A	9.000 EACH	.		.	
0890	628.7015 INLET PROTECTION TYPE C	53.000 EACH	.		.	
0900	628.7504 TEMPORARY DITCH CHECKS	165.000 LF	.		.	
0910	628.7555 CULVERT PIPE CHECKS	105.000 EACH	.		.	
0920	628.7570 ROCK BAGS	10.000 EACH	.		.	
0930	629.0205 FERTILIZER TYPE A	6.000 CWT	.		.	
0940	629.0210 FERTILIZER TYPE B	33.000 CWT	.		.	
0950	630.0130 SEEDING MIXTURE NO. 30	655.000 LB	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0960	630.0175 SEEDING MIXTURE NO. 75	230.000 LB	.		.	
0970	630.0200 SEEDING TEMPORARY	449.000 LB	.		.	
0980	631.0300 SOD WATER	153.000 MGAL	.		.	
0990	631.1100 SOD EROSION CONTROL	6,792.000 SY	.		.	
1000	632.0101 TREES (SPECIES, ROOT, SIZE) 01. SPRUCE BLACK HILLS B&B, 6-FT HT	24.000 EACH	.		.	
1010	632.0101 TREES (SPECIES, ROOT, SIZE) 02. PINE WHITE, B&B, 6-FT HT	14.000 EACH	.		.	
1020	632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	26.000 EACH	.		.	
1030	633.5200 MARKERS CULVERT END	9.000 EACH	.		.	
1040	634.0612 POSTS WOOD 4X6-INCH X 12-FT	2.000 EACH	.		.	
1050	634.0614 POSTS WOOD 4X6-INCH X 14-FT	27.000 EACH	.		.	
1060	634.0616 POSTS WOOD 4X6-INCH X 16-FT	7.000 EACH	.		.	

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PROJECT(S):

FEDERAL ID(S):

20140114006

2722-10-70

WISC 2014002

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1070	637.2210 SIGNS TYPE II REFLECTIVE H	204.320 SF	.		.	
1080	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	88.060 SF	.		.	
1090	637.2230 SIGNS TYPE II REFLECTIVE F	48.000 SF	.		.	
1100	638.2602 REMOVING SIGNS TYPE II	57.000 EACH	.		.	
1110	638.3000 REMOVING SMALL SIGN SUPPORTS	35.000 EACH	.		.	
1120	642.5201 FIELD OFFICE TYPE C	1.000 EACH	.		.	
1130	643.0100 TRAFFIC CONTROL (PROJECT) 01. 2722-10-70	1.000 EACH	.		.	
1140	643.0300 TRAFFIC CONTROL DRUMS	3,819.000 DAY	.		.	
1150	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	5,555.000 DAY	.		.	
1160	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	11,110.000 DAY	.		.	
1170	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	894.000 DAY	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1180	643.0900 TRAFFIC CONTROL SIGNS	4,711.000 DAY	.		.	
1190	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	175.000 SF	.		.	
1200	645.0120 GEOTEXTILE FABRIC TYPE HR	1,034.000 SY	.		.	
1210	645.0135 GEOTEXTILE FABRIC TYPE SR	1,500.000 SY	.		.	
1220	646.0106 PAVEMENT MARKING EPOXY 4-INCH	29,643.000 LF	.		.	
1230	646.0126 PAVEMENT MARKING EPOXY 8-INCH	3,732.000 LF	.		.	
1240	646.0600 REMOVING PAVEMENT MARKINGS	2,060.000 LF	.		.	
1250	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	37.000 EACH	.		.	
1260	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	2.000 EACH	.		.	
1270	647.0206 PAVEMENT MARKING ARROWS BIKE LANE EPOXY	38.000 EACH	.		.	
1280	647.0306 PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	38.000 EACH	.		.	

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			DOLLARS	CTS	DOLLARS	CTS
1290	647.0356 PAVEMENT MARKING WORDS EPOXY	19.000 EACH	.		.	
1300	647.0456 PAVEMENT MARKING CURB EPOXY	235.000 LF	.		.	
1310	647.0526 PAVEMENT MARKING YIELD LINE SYMBOLS EPOXY 18-INCH	20.000 EACH	.		.	
1320	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	553.000 LF	.		.	
1330	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	11.000 EACH	.		.	
1340	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	322.000 LF	.		.	
1350	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	1,465.000 LF	.		.	
1360	647.0955 REMOVING PAVEMENT MARKINGS ARROWS	8.000 EACH	.		.	
1370	647.0965 REMOVING PAVEMENT MARKINGS WORDS	7.000 EACH	.		.	
1380	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	6,108.000 LF	.		.	
1390	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	270.000 LF	.		.	

## SCHEDULE OF ITEMS

REVISED:

CONTRACT:  
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2722-10-70FEDERAL ID(S):  
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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1400	649.1200 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 18-INCH	36.000 LF	.		.	
1410	650.4000 CONSTRUCTION STAKING STORM SEWER	74.000 EACH	.		.	
1420	650.4500 CONSTRUCTION STAKING SUBGRADE	7,965.000 LF	.		.	
1430	650.5000 CONSTRUCTION STAKING BASE	7,965.000 LF	.		.	
1440	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	11,147.000 LF	.		.	
1450	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	21.000 EACH	.		.	
1460	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 2722-10-70	LUMP	LUMP		.	
1470	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 2722-10-70	LUMP	LUMP		.	
1480	650.9920 CONSTRUCTION STAKING SLOPE STAKES	7,965.000 LF	.		.	
1490	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	2,865.000 LF	.		.	



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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1500	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	1,810.000 LF	.		.	
1510	652.0615 CONDUIT SPECIAL 3-INCH	610.000 LF	.		.	
1520	652.0800 CONDUIT LOOP DETECTOR	374.000 LF	.		.	
1530	653.0135 PULL BOXES STEEL 24X36-INCH	4.000 EACH	.		.	
1540	653.0140 PULL BOXES STEEL 24X42-INCH	21.000 EACH	.		.	
1550	653.0905 REMOVING PULL BOXES	27.000 EACH	.		.	
1560	654.0101 CONCRETE BASES TYPE 1	13.000 EACH	.		.	
1570	654.0102 CONCRETE BASES TYPE 2	8.000 EACH	.		.	
1580	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	3.000 EACH	.		.	
1590	655.0220 CABLE TRAFFIC SIGNAL 4-14 AWG	320.000 LF	.		.	
1600	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	670.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1610	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG	1,110.000 LF	.		.	
1620	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG	4,965.000 LF	.		.	
1630	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG	285.000 LF	.		.	
1640	655.0290 CABLE TRAFFIC SIGNAL 21-14 AWG	505.000 LF	.		.	
1650	655.0305 CABLE TYPE UF 2-12 AWG GROUNDED	2,290.000 LF	.		.	
1660	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	4,340.000 LF	.		.	
1670	655.0610 ELECTRICAL WIRE LIGHTING 12 AWG	3,940.000 LF	.		.	
1680	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG	10,272.000 LF	.		.	
1690	655.0700 LOOP DETECTOR LEAD IN CABLE	3,275.000 LF	.		.	
1700	655.0800 LOOP DETECTOR WIRE	1,292.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1710	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. COFFEE ROAD AND CTH O (MOORLAND RD)	LUMP	LUMP		.	
1720	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. COFFEE ROAD AND NATIONAL AVENUE	LUMP	LUMP		.	
1730	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 03. COFFEE ROAD AND CALHOUN ROAD	LUMP	LUMP		.	
1740	657.0100 PEDESTAL BASES	12.000 EACH	.		.	
1750	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	9.000 EACH	.		.	
1760	657.0310 POLES TYPE 3	4.000 EACH	.		.	
1770	657.0315 POLES TYPE 4	5.000 EACH	.		.	
1780	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	8.000 EACH	.		.	
1790	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	4.000 EACH	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1800	657.0590 TROMBONE ARMS 20-FT	2.000 EACH	.		.	
1810	657.0595 TROMBONE ARMS 25-FT	2.000 EACH	.		.	
1820	657.0614 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 8-FT	13.000 EACH	.		.	
1830	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	27.000 EACH	.		.	
1840	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	4.000 EACH	.		.	
1850	658.0120 TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	6.000 EACH	.		.	
1860	658.0155 TRAFFIC SIGNAL FACE 3-12 INCH HORIZONTAL	1.000 EACH	.		.	
1870	658.0165 TRAFFIC SIGNAL FACE 5-12 INCH HORIZONTAL	4.000 EACH	.		.	
1880	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	28.000 EACH	.		.	
1890	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	4.000 EACH	.		.	
1900	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	10.000 EACH	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
1910	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	16.000 EACH	.		.	
1920	658.0500 PEDESTRIAN PUSH BUTTONS	12.000 EACH	.		.	
1930	658.0600 LED MODULES 12-INCH RED BALL	34.000 EACH	.		.	
1940	658.0605 LED MODULES 12-INCH YELLOW BALL	34.000 EACH	.		.	
1950	658.0610 LED MODULES 12-INCH GREEN BALL	34.000 EACH	.		.	
1960	658.0615 LED MODULES 12-INCH RED ARROW	8.000 EACH	.		.	
1970	658.0620 LED MODULES 12-INCH YELLOW ARROW	26.000 EACH	.		.	
1980	658.0625 LED MODULES 12-INCH GREEN ARROW	14.000 EACH	.		.	
1990	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	16.000 EACH	.		.	
2000	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 01. COFFEE ROAD AND CALHOUN ROAD	LUMP	LUMP		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2010	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 02. COFFEE ROAD & CTH O (MOORLAND ROAD)	LUMP	LUMP		.	
2020	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 03. COFFEE ROAD AND NATIONAL AVENUE	LUMP	LUMP		.	
2030	659.0125 LUMINAIRES UTILITY HPS 250 WATTS	13.000 EACH	.		.	
2040	659.0802 PLAQUES SEQUENCE IDENTIFICATION	21.000 EACH	.		.	
2050	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. COFFEE ROAD & CTH O (MOORLAND ROAD)	LUMP	LUMP		.	
2060	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 02. COFFEE ROAD AND NATIONAL AVENUE	LUMP	LUMP		.	
2070	661.0300 GENERATORS	2.000 DAY	.		.	
2080	690.0150 SAWING ASPHALT	1,342.000 LF	.		.	
2090	690.0250 SAWING CONCRETE	621.000 LF	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2100	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT \$5.00/HR	1,600.000 HRS	5.00000		8000.00	
2110	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT \$5. 00/HR	1,200.000 HRS	5.00000		6000.00	
2120	SPV.0060 SPECIAL 01. TRAFFIC SIGNAL CONTROLLER AND CABINET 8-PHASE FULLY ACTUATED	2.000 EACH	.		.	
2130	SPV.0060 SPECIAL 02. POLES TYPE 9	2.000 EACH	.		.	
2140	SPV.0060 SPECIAL 03. POLES TYPE 12	2.000 EACH	.		.	
2150	SPV.0060 SPECIAL 04. CONC BASES TYPE 10 CONTR SUPPLIED ANCHOR BOLTS & ANCHOR ROD TEMPLATE	2.000 EACH	.		.	
2160	SPV.0060 SPECIAL 05. CONC BASES TYPE 13 CONTR SUPPLIED ANCHOR BOLTS & ANCHOR ROAD TEMPLATE	2.000 EACH	.		.	
2170	SPV.0060 SPECIAL 06. MONOTUBE ARMS 25-FT	1.000 EACH	.		.	
2180	SPV.0060 SPECIAL 07. MONOTUBE ARMS 30-FT	1.000 EACH	.		.	
2190	SPV.0060 SPECIAL 08. MONOTUBE ARMS 35-FT	2.000 EACH	.		.	

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2722-10-70

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2200	SPV.0060 SPECIAL 09. CONCRETE BASES TYPE 5 MODIFIED	20.000 EACH	.		.	
2210	SPV.0060 SPECIAL 10. DECORATIVE POLE, ARM, LUMINAIRE LED	20.000 EACH	.		.	
2220	SPV.0060 SPECIAL 11. LIGHTING DISTRIBUTION CENTER 120/240V	1.000 EACH	.		.	
2230	SPV.0060 SPECIAL 12. CONSTRUCTION STAKING CURB RAMP	23.000 EACH	.		.	
2240	SPV.0060 SPECIAL 13. GALVANIZED TRASH RACK	1.000 EACH	.		.	
2250	SPV.0060 SPECIAL 14. CHECK VALVE 24-INCH	1.000 EACH	.		.	
2260	SPV.0060 SPECIAL 15. RECONSTRUCTING SANITARY MANHOLES	2.000 EACH	.		.	
2270	SPV.0060 SPECIAL 16. ADJUSTING SANITARY MANHOLE COVERS	3.000 EACH	.		.	
2280	SPV.0060 SPECIAL 17. SANITARY MANHOLE SEAL INTERNAL	5.000 EACH	.		.	
2290	SPV.0060 SPECIAL 18. ADJUSTING WATER VALVE BOXES	14.000 EACH	.		.	
2300	SPV.0060 SPECIAL 19. SALVAGE AND RELOCATE HYDRANT AND VALVE	3.000 EACH	.		.	



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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
2310	SPV.0060 SPECIAL 20. WATER MAIN VERTICAL OFFSET	4.000 EACH	.		.	
2320	SPV.0090 SPECIAL 01. CONSTRUCTION STAKING CONCRETE SIDEWALK	2,900.000 LF	.		.	
2330	SPV.0105 SPECIAL 01. VIDEO VEHICLE DETECTION SYSTEM COFFEE RD & CTH O (MOORLAND RD)	LUMP	LUMP		.	
2340	SPV.0105 SPECIAL 02. VIDEO VEHICLE DETECTION SYSTEM COFFEE RD & NATIONAL AVENUE	LUMP	LUMP		.	
2350	SPV.0105 SPECIAL 03. EMERGENCY VEHICLE PREEMPTION SYSTEM COFFEE RD & CALHOUN ROAD	LUMP	LUMP		.	
2360	SPV.0105 SPECIAL 04. EMERGENCY VEHICLE PREEMPTION SYSTEM COFFEE ROAD & CTH O (MOORLAND ROAD)	LUMP	LUMP		.	
2370	SPV.0105 SPECIAL 05. EMERGENCY VEHICLE PREEMPTION SYSTEM COFFEE RD & NATIONAL AVENUE	LUMP	LUMP		.	
2380	SPV.0105 SPECIAL 06. REMOVE TRAFFIC SIGNALS AND STREET LIGHTING COFFEE RD & CTH O (MOORLAND RD)	LUMP	LUMP		.	

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			DOLLARS	CTS	DOLLARS	CTS
2390	SPV.0105 SPECIAL 07. REMOVE TRAFFIC SIGNALS AND STREET LIGHTING COFFEE RD & NATIONAL AVENUE	LUMP	LUMP			.
2400	SPV.0105 SPECIAL 08. CONSTRUCTION STAKING DETENTION PONDS	LUMP	LUMP			.
2410	SPV.0105 SPECIAL 09. REMOVING GEODETIC SURVEY MONUMENT	LUMP	LUMP			.
2420	SPV.0170 SPECIAL 01. TEST ROLLING	81.000 STA	.			.
2430	SPV.0195 SPECIAL 01. QMP BASE AGGREGATE DENSE 1 1/4-INCH COMPACTION	36,462.000 TON	.			.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

**PLEASE ATTACH SCHEDULE OF ITEMS HERE**