HIGHWAY WORK PROPOSAL

Proposal Number: 2 6

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Washington	2310-19-70	WISC 2015 290	Sumner St, City of Hartford Main St (STH 83) to Kettle Moraine Rd	STH 60

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: May 12, 2015 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time October 31, 2015	
Assigned Disadvantaged Business Enterprise Goal 20%	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 Pavement removal, grading, base aggregate dense, base aggregate open graded, HMA pavement, concrete pavement, concrete curb and gutter, concrete sidewalk, storm sewer, permanent signing, pavement marking, and traffic signals.	
Notice of Award Dated	Date Guaranty Returned

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.

Effective with August 2007 Letting

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 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/engrserv/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

Wisconsin Department of Transportation

DT1303 1/2006

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)

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

(Signature of Attorney-in-Fact)

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

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

Wisconsin Department of Transportation

DT1305 8/2003

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.

Name of Subcontractor	Class of Work	Estimated Value

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 2310-19-70 Sumner Street, City of Hartford, Main Street (STH 83) to Kettle Moraine Road; STH 60, located in Washington 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, 2015 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 (20141107)

2. Scope of Work.

The work under this contract shall consist of pavement removal, grading, base aggregate dense, base aggregate open graded, HMA pavement, concrete pavement, concrete curb and gutter, concrete sidewalk, storm sewer, permanent signing, pavement marking, traffic signals, 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.

A General
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 10 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.

B Work Restrictions
Comply with all local ordinances which apply to work operations, including those pertaining to work during night-time hours. Furnish any and all ordinance variances issued by the municipality or required permits to the engineer in writing three working days before performing such work. Night-time and weekend work will not be allowed without written approval from the engineer and the City of Hartford Department of Public Works at least three working days in advance of the work during night-time and weekend hours.

Where the engineer in conjunction with the contractor's work schedule has permitted lane closure(s), make a continuous effort to complete the work within said lane closure(s) in a timely manner. If, in the engineer's judgment, the contractor's operations fail to meet the approved schedule, permission for a full-time lane closure will be rescinded.

Do not begin or continue any work that closes traffic lanes outside the allowed time periods specified in the Traffic article in these special provisions.

C Schedule of Operations

There may be multiple mobilizations for such items as: traffic control, signing items, temporary pavement marking, topsoil, sodding, drainage items and other incidental items related to staging. No additional payment will be made by the department for said mobilizations.

Place the lower layer of HMA pavement Type E-10 the same day as removing asphaltic surface, and milling shall be completed to maintain less than a 3-inch drop-off along the longitudinal lane joints within the mill and overlay sections of the project. At all other locations, drop-offs greater than 6 inches within 4 feet of an open traffic lane shall be graded or paved to maintain a 3:1 maximum slope.

The contractor shall have 14 calendar days to complete concrete pavement repairs and sidewalk curb ramp reconstruction within the outside eastbound lane of STH 60 from Main Street to Grand Avenue and any other work necessary to move the eastbound lane closure shift to east of South Street and reopen the outside eastbound lane of STH 60 from Main Street to South Street during Stage 2 to traffic.

If the contractor fails to complete the required work within 14 calendar days, the department will assess the contractor $1810 in interim liquidated damages for each calendar day the contract work required to move the eastbound lane closure shift east of South Street and reopen the outside eastbound lane of STH 60 remains incomplete beyond 14 calendar days from the time the outside eastbound lane was closed. An entire calendar day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

The contractor shall have 14 calendar days to complete concrete pavement repairs within the inside eastbound lane of STH 60 from Main Street to Grand Avenue and any other work necessary to move the eastbound lane closure shift to east of South Street and reopen the inside eastbound lane of STH 60 from Main Street to South Street during Stage 3 to traffic.

If the contractor fails to complete the required work within 14 calendar days, the department will assess the contractor $1810 in interim liquidated damages for each calendar day the contract work required to move the eastbound lane closure shift east of South Street and reopen the inside eastbound lane of STH 60 remains incomplete beyond 14 calendar days from the time the inside eastbound lane was closed. An entire calendar

day will be charged for any period of time within a calendar day that the road remains closed beyond 12:01 AM.

If contract time expires prior to completing all work specified in the contract, additional liquidated damages will be affixed according to standard spec 108.11.

The schedule of operations shall conform to the construction staging as shown in the construction staging plans, unless the engineer approves modifications to the schedule in writing. The schedule of operations shall conform to the following construction staging as described herein:

Stage 1

Install temporary signals at the STH 60/Grand Avenue intersection.

Install temporary signals at the STH 60/CTH K intersection.

Extend the westbound left turn lane and the permanent raised median at the STH 60/Wilson Drive intersection.

Remove both the raised and corrugated medians and construct temporary asphaltic pavement on STH 60 at the STH 60/CTH K intersection.

Stage 2

Complete concrete pavement repairs and replacement and curb and gutter replacement on STH 60 in the outside lanes between Main Street (STH 83) and Station 142+72. If any repair areas are within an intersection, perform the repairs during non-peak travel periods.

Construct the westbound right-turn lane and sidewalk at the STH 60/Grand Avenue intersection.

Construct eastbound permanent right-turn lane and pavement widening areas at the STH 60/CTH K intersection.

Construct the storm sewer at the STH 60/CTH K intersection in the outside lanes.

Complete pre-overlay asphaltic surface patching and curb and gutter replacement and mill and overlay the existing asphalt pavement on STH 60 in the outside lanes from Station 142+72 to the east project limit. Perform milling and paving operations through intersections during non-peak travel periods.

Reconstruct sidewalk curb ramps.

Begin construction of permanent traffic signals at the STH 60/Grand Avenue and STH 60/CTH K intersections.

Substage 2A

Concrete pavement repairs and sidewalk curb ramp reconstruction within the eastbound lane of STH 60 from Main Street to Grand Avenue shall be completed within a 14 calendar day time period of Stage 2. After completion of this work, the lane merge shall be moved east of South Street as shown in the traffic control plan. Stage 2 work may be done concurrently with Stage 2A work.

Stage 3

Perform concrete pavement repair and replacement on STH 60 in the inside lanes between Main Street (STH 83) and Station 142+72. If any repair areas are within an intersection perform the repairs during non-peak travel periods.

Construct eastbound and westbound left-turn lanes and median areas at the STH 60/CTH K intersection.

Construct the storm sewer at the STH 60/CTH K intersection in the inside lanes.

Complete pre-overlay asphaltic surface patching and curb and gutter replacement and mill and overlay the existing asphalt pavement on STH 60 in the inside lanes from Station 142+72 to the east project limit. Perform milling and paving operations through intersections during non-peak travel periods.

Complete construction of permanent traffic signals at the STH 60/Grand Avenue and STH 60/CTH K intersections.

Substage 3A

Concrete pavement repairs within the eastbound lane of STH 60 from Main Street to Grand Avenue shall be completed within a 14 calendar day time period of Stage 3. After completion of this work, the lane merge shall be moved east of South Street as shown in the traffic control plan. Stage 3 work may be done concurrently with Stage 3A work.

D Contractor Coordination

The prime contractor shall have a superintendent or designated representative on the job site during all controlling work operations, including periods limited to only subcontractor work operations, to serve as a primary contact person and to coordinate all work operations.

Hold prosecution and progress meetings once a week. The contractor's superintendent or designated representative and subcontractor's representatives for ongoing subcontract work or subcontractor work expected to begin within the next two weeks shall attend and provide a written schedule of the next week(s)' operations. The written schedule shall include begin and end dates of specific prime and subcontractor work operations. City of Hartford representatives shall be invited to attend the prosecution and progress meetings. Agenda items at the meeting shall include review of the contractor's schedule and subcontractors' schedule, evaluation of progress and pay items, and making revisions if necessary. Plans and specifications for upcoming work shall be reviewed to prevent potential problems or conflicts between contractors.

Based on the progress meeting, if the engineer requests a new revised schedule, submit it within seven calendar days. Failure to submit a new schedule within seven days shall result in the engineer holding pay requests until received.

4. Traffic.

A General

Accomplish the construction sequence, including the associated traffic control as detailed in the Construction Staging section of the plans, and as described in the Prosecution and Progress article, and in this Traffic article.

Place portable changeable message signs at least one week prior to the start of construction indicating the anticipated start date of construction.

Traffic control stage changes are only allowed during off peak traffic periods.

Employ flaggers, signs, barricades, and drums as necessary to safeguard and direct traffic at all locations where construction operations may interfere with or restrict the smooth flow of traffic.

Use drums and barricades to direct vehicular and pedestrian traffic in the work zone and to protect and delineate hazards such as open excavations, abrupt drop-offs, and exposed manholes and inlets.

Place roadway and sidewalk signing and roadway temporary pavement marking as detailed on the plans and in conformance to the Manual on Uniform Traffic Control Devices (MUTCD), latest edition. Traffic control shall be completely in place by the end of the working day of a traffic switch. The contractor shall cover or remove signs conflicting with traffic control.

Coordinate traffic requirements under this project with other adjacent department or local municipality projects. Contractor is responsible for implementing and coordinating with other contractors all traffic control shown in the plans. Modifications to the traffic control plan may be required by the engineer to be safe and consistent with adjacent work by others.

Do not store equipment, vehicles, or materials on adjacent streets beyond the project limits without specific approval of the engineer. Park and store equipment and material only at work sites approved by the engineer.

Maintain vehicle and pedestrian access at all times to buildings within the limits of construction.

Unless detailed in the plans, do not begin or continue any work that closes traffic lanes outside the allowed time periods specified in this article.

Submit to the engineer for approval a detailed traffic control plan if different than the traffic control plan provided in the plan set. Submit this plan ten days prior to the pre-construction conference.

Submit all traffic control change requests to the engineer at least 3 working days prior to an actual traffic control change. A request does not constitute approval.

B Definitions

The following definitions shall apply to this contract:

Peak Travel Periods

6:00 AM to 9:00 AM Monday, Tuesday, Wednesday, Thursday, and Friday
3:00 PM to 6:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday

Non-Peak Travel Periods

9:00 AM to 3:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday

Night-Time Periods

6:00 PM Monday, Tuesday, Wednesday, Thursday, and Friday to 6:00 AM the following day

Weekend Periods

6:00 AM Saturday to 6:00 AM Monday

C Traffic Control Description

Stage 1

STH 60

Close the inside lanes of STH 60 from west of Wilson Avenue to east of CTH K.
Provide one through lane eastbound and westbound.
Provide left-turn lanes at all signalized intersections within the work zone.

Stage 2

STH 60

Close the outside lanes of STH 60 from Main Street (STH 83) to Kettle Moraine Road.
Provide one through lane eastbound and westbound on STH 60.
Maintain existing left-turn lanes.
Construct concrete pavement repairs, base patching asphaltic, milling, and HMA pavement within intersection areas during non-peak periods. Do not close adjacent intersections concurrently.
Concrete pavement repair and base patching asphaltic areas shall be completed the same day they are excavated.

CTH K (south of STH 60)

During peak travel periods maintain one through lane in each direction and a northbound left-turn lane. During non-peak travel periods the northbound left-turn lane may be closed for storm sewer installation and paving operations.

Stage 3
STH 60

Close the inside lanes of STH 60 from Main Street (STH 83) to Kettle Moraine Road.

Provide one through lane eastbound and westbound on STH 60.

Provide left-turn lanes at all intersections where there is an existing left-turn lane. Left turn lanes may be closed during non-peak periods to complete concrete pavement repairs, base patching asphaltic, milling, and HMA paving.

Construct concrete pavement repairs, base patching asphaltic, milling, and HMA pavement within intersection areas during non-peak periods. Do not close adjacent intersections concurrently.

Concrete pavement repair and base patching asphaltic areas shall be completed the same day they are excavated.

D Pedestrian Access

Provide pedestrian access at all times. The contractor shall conduct his construction operations in a safe manner taking into consideration the traveling public, his workers, and access to-and-from the construction zone.

Maintain sidewalk and curb ramps at all times except under direction of the engineer. In areas of sidewalk or curb ramp construction, provide a temporary surface for pedestrian access at all times. The temporary surface shall meet Americans with Disabilities Act Accessibility Guidelines (ADAAG) requirements and shall consist of temporary asphaltic surface, any grade of concrete, skid resistant steel plating, warning fields, or alternative material as approved by the engineer. Maintaining sidewalk and curb ramps is considered incidental to the contract.

Keep the sidewalk open, including curb ramps, on either the north or south side of STH 60. Maintain pedestrian movements at all times crossing STH 60. Maintain pedestrian movements at all times crossing the construction zone. Pedestrian crossings of intersections shall meet requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and shall consist of temporary asphaltic surface, any grade of concrete, skid resistant steel plating, warning fields, or alternative material as approved by the engineer. Gravel or base course material is not acceptable. Maintain ADA accessible pedestrian walkways that are free from mud, sand, and construction debris.

E Emergency Room Access at Hartford Memorial Hospital

Access to the Emergency Room at Hartford Memorial Hospital shall be maintained at all times. The driveway access to the Emergency Room is located on the west leg of Sell drive just north of STH 60.

Notify Hartford Memorial Hospital 48 hours ahead of any work within the intersection of the west leg of Sell Drive that may impact access to the Emergency Room.

F Property Access

Notify property owners at least two days (48 hours) prior to restricting driveway access in advance of storm sewer installation, concrete curb and gutter installation, driveway installation, concrete pavement repair, and include any associated curing time. Use high early strength concrete when restricting driveway access to a property or business. If a business has two driveways, keep one open while constructing the other. If a property has one driveway, construct one half at a time or coordinate with the property owner. Commercial driveways shall be constructed in stages or a temporary access shall be placed. Construct temporary driveway approaches with Base Aggregate Dense 1 ¼-Inch within 4 hours of the removal of the existing driveway approach. Width of the temporary driveway approach shall be wide enough for one car to access the existing driveway. The temporary driveway approach shall be maintained until the concrete curb and gutter and driveway apron are constructed.

G Advance Notification

Notify the City of Hartford Police and Fire Departments of all roadway closures and traffic control changes 48 hours in advance of roadway closures. Notifications must be given by 4:00 PM on Thursday for any such work to be done on the following Monday.

City of Hartford Police Department:	(262) 673-2600
City of Hartford Fire Department:	(262) 673-8290
Washington County Sheriff's Department:	(262) 335-4378
Wisconsin State Patrol:	(262) 785-4700

5. Holiday Work Restrictions.

Do not perform work on, nor haul materials of any kind along or across any portion of the highway carrying STH 60 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, July 3, 2015 to 6:00 AM Monday, July 6, 2015 for Independence Day;
From noon Friday, September 4, 2015 to 6:00 AM Tuesday, September 8, 2015 for Labor Day.

107-005 (20050502)

6. Utilities.

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

There are underground and overhead utility facilities located within the project limits and there are known utility adjustments required for this construction project. Coordinate construction activities with a call to Digger's Hotline or a direct call to the utilities which have facilities in the area as required per statutes. Use caution to ensure the integrity of underground facilities and maintain code clearance from overhead facilities at all times.

Some of the work described below is dependent on coordination of work being performed by the contractor at a specific location. In such situations, provide a good faith notice to both the engineer and the affected utility of when the utility is to start work at the site. Provide this notice 14 to 16 calendar days in advance of when you anticipate the prior work being completed and the site will be available to the utility. Follow-up with and provide a confirmation notice to the engineer and the utility not less than three working days before the site will be ready for the utility to begin its work.

Bidders are advised to contact each utility company listed in the plans prior to preparing their bids, to obtain current information on the status of any utility within the project work limits.

If a conflict with abandoned utility facilities is encountered, contact the appropriate utility owner/representative for instructions on proper removal and disposal of said facility.

Known utilities on the projects are as follows:

AT&T Wisconsin (telecommunications) has aerial and underground facilities within the construction project. The existing facilities include:

<u>STH 60:</u>

Aerial cable along the north side on Hartford Electric Poles from STH 83 to east of CTH K and on We Energies Electric poles from CTH K to the east project limits.

Underground cable along the south side of STH 60 for the entire length of the project, generally under the outside eastbound travel lane or the sidewalk.

Underground cable along the north side of STH 60 from west of CTH K to Hilldale Drive and from Pike Lake Road to High Road.

Numerous crossings exist throughout the project length.

Location and Conflict	Resolution
1. Aerial facilities attached to Hartford Electric poles that are in conflict with construction/grading:	
STH 60 Station 113+31, 41' LT; Station 114+66, 41' LT Station 116+04, 44' LT	AT&T to relocate overhead facilities attached to Hartford Electric poles to underground prior to construction
2. Aerial facilities attached to We Energies poles that are in conflict with construction/grading:	
Station 208+90, 65' LT	AT&T to relocate overhead facilities attached to We Energies poles prior to construction
3. Buried telephone cable potentially in conflict with proposed construction/grading:	
STH 60 Station 113+31, 67' LT	Conversion of AT&T aerial cable to buried cable will eliminate this conflict prior to construction
Station 154+40 – Station 156+40, 55' LT Station 154+40 – Station 156+40, 58' RT Station 215+50 – Station 217+40, 60' RT	Not in conflict per AT&T.
Station 160+20 – Station 173+00, 55' RT Station 163+00 – Station 169+05, 50' LT Station 181+11, 48' RT	Not in conflict per AT&T.
4. Buried telephone cable potentially in conflict with proposed storm sewer:	
Station 113+31, 48' LT	Conversion of AT&T aerial cable to buried cable will eliminate this conflict prior to construction
Station 166+26, 57' RT; Station 166+62, 57' RT Station 167+73, 57' RT; Station 169+52, 39' RT Station 170+23, 39' RT	Not in conflict per AT&T.
5. Manholes, pedestals, and pull boxes in conflict with construction/grading:	
STH 60 Station 113+23, 67' RT (Hand hole) Station 144+15, 61' RT (Pedestal) Station 165+32, 52' LT (Pedestal) Station 169+05, 52' LT (Pedestal)	AT&T to relocate facilities prior to construction

The AT&T Wisconsin contact is Alper Kolcu, (262) 970-8494 office, (262) 352-3791 mobile, email: ak308x@att.com.

Charter Communications (cable television and telecommunications) has aerial and underground facilities within the construction project. The existing facilities include:

STH 60:

Aerial cable along the north side on Hartford Electric (STH 83 to CTH K) and We Energies Electric (CTH K to east project limits) poles for the entire length of the project.

Numerous crossings exist throughout the project length.

Location and Conflict	Resolution
1. Aerial facilities attached to Hartford Electric poles that are in conflict with construction/grading:	
STH 60 Station 113+31, 41' LT Station 114+66, 41' LT Station 116+04, 44' LT	Charter Communications will relocate overhead facilities attached to Hartford Electric poles to an underground duct in conjunction with Hartford Electric prior to construction.
2. Aerial facilities attached to We Energies poles that are in conflict with construction/grading:	
STH 60 Station 208+90, 65' LT	Charter Communications will relocate overhead facilities in conjunction with We Energies Electric prior to construction.
2. Buried cable facilities potentially in conflict with proposed construction/grading:	
STH 60 Station 113+31, 48' LT	Charter Communications will relocate underground facilities to an underground duct in conjunction with Hartford Electric prior to construction.

The Charter Communications contact is Ron Frase, phone: (608) 438-9648, email: ronald.frase@charter.com.

City of Hartford Electric Utility has facilities within the construction project. The existing facilities include:

STH 60:

Hartford Electric has overhead electric on the north side of STH 60 from STH 83 to CTH K. Overhead crossings are located throughout this segment.

Light poles with underground electric are located on the north and south sides of STH 60 intermittently throughout the corridor from STH 83 to Teri Lane.

Hartford Electric has underground electric facilities on the north side of STH 60 from CTH K to the east project limits.

Overhead and underground electrical crossings of STH 60 exist throughout the project length.

Location and Conflict	Resolution
1. Utility poles and guys in conflict with construction/grading:	
STH 60 Station 113+31, 41' LT Station 114+66, 41' LT (Pole and Guy Wire) Station 116+04, 44' LT	Hartford Electric to remove poles and relocate underground prior to construction.
Station 143+40, 63' RT (Pole and Guy Wire)	Pole to remain in place. Hartford Electric to place new anchor and guy with sidewalk attachment during construction.
Station 126+60, 28' LT, Station 149+46, 59' LT Station 155+89, 58' LT, Station 165+64, 54' LT Station 166+00, 54' LT, Station 166+30, 54' LT	Poles to remain in place. Anchors and guys to remain in place. Contractor should use extreme caution when excavating in these areas.
2. Light poles in conflict with construction/grading:	
STH 60 Station 161+17, 37' RT (Light pole) Station 164+65, 51' RT (Light pole)	Light poles to be relocated by Hartford Electric prior to construction. Innerduct is buried between the curb and bike path from Station 155+75 to 164+75. The innerduct from Station 161+00 to Station 164+75 will be abandoned in place. The transformer near Station 160+50 RT is the source for the street lights in this area. This transformer will continue to be the source for the street lights to the west. The innerduct form the transformer to the next street light is not in conflict per Hartford Electric. The contractor should dig with caution in this area. If the innerduct causes a conflict with the curb during construction contact Hartford Electric for relocation.
Station 169+75, 41' LT	Light pole will be relocated to Station 169+40 RT by Hartford Electric prior to construction. The new pole will be set behind the bike path next to the existing transformer. The innerduct between Station 169+75 LT and Station 173+31 LT will be abandoned.

Location and Conflict	Resolution
Station 171+34, 38’ RT Station 173+31, 37’ LT	Light pole will be relocated to Station 171+75 RT by Hartford Electric prior to construction. The new pole will be set between the proposed curb and the bike path. Innerduct is buried behind the existing curb starting at Station 169+40 RT and ending near Station 180+00 RT. The innerduct between Station 169+40 and Station 171+75 will be abandoned. New innerduct will be installed between Station 171+75 RT and Station 173+20 RT by Hartford Electric prior to construction. Light pole will be relocated to Station 173+20 RT by Hartford Electric prior to construction. The new pole will be set between the proposed curb and the bike path. The innerduct between Station 173+31 LT and Station 176+75 LT will be abandoned.
3. Manholes/pedestals/pull boxes in conflict with construction/grading:	
STH 60 Station 150+61, 39’ RT; (pedestal) Station 161+17, 37’ RT Station 162+00, 37’ RT; Station 173+27, 38’ LT	 Facilities to be adjusted by Hartford Electric during construction. Manhole to be removed by Hartford Electric prior to construction. Pullbox to be removed by Hartford Electric prior to construction.
4. Underground electric facilities adjacent to construction/grading:	
Station 161+50 – Station 164+00, 55’ RT Station 168+00 – Station 170+75, 52’ LT Station 169+50 – Station 173+00, 50’ RT Station 180+15 – Station 181+00, 72’ LT Station 180+75 – Station 181+45, 61’ RT Station 207+80 – Station 209+35, 53’ RT	High voltage feeder in this area. Contractors should hand dig around existing conducts and use extreme caution.

The City of Hartford Electric Utility contact is Brian Rhodes, phone: (262) 670-3701, email: brhodes@wppienergy.org.

City of Hartford Wastewater Utility has sanitary sewer throughout the project limits. The existing facilities include:

STH 60:

8-inch main is located under the center of the roadway from the beginning of the project to Station 129+00. The main continues under the eastbound travel lanes to Station 138+00. The main crosses to the north side sidewalk and continues to Station 140+00. The main runs under the westbound travel lanes from Station 140+00 to Station 149+75, where it crosses to the eastbound travel lanes and continues to Station 152+75.

8-inch main continues from Station 157+00 to Station 178+50, approximately 40' LT, Station 188+00 to Station 197+00, approximately 43' LT, Station 197+00 to Station 219+40, approximately 36' RT.

8-inch main continues from Station 202+50 to Station 239+50, approximately 50' LT.

Grand Avenue:

Sanitary sewer main runs under the centerline south of STH 60 and on the west side behind the sidewalk north of STH 60.

Wilson Avenue:

8-inch main runs under the east side behind the sidewalk south of STH 60.

CTH K/Lone Oak Lane:

8-inch main runs under the northbound left-turn lane south of STH 60 and under the centerline north of STH 60.

Pike Lake Road:

8-inch main runs under the centerline and crosses STH 60.

Numerous sanitary sewer laterals exist throughout the project length.

Location and Conflict	Resolution
1. Buried sanitary sewer potentially in conflict with proposed storm sewer:	
STH 60 Station 167+18, 75' RT, Station 170+39, 36' LT Station 173+97, 35' LT	Not in conflict per the City of Hartford Wastewater Utility.
2. Sanitary manholes in conflict with construction/grading :	
STH 60 Station 115+80, 51' LT; Station 149+76, 15' LT Station 149+77, 23' RT; Station 152+74, 26' RT Station 155+31, 25' LT; Station 156+19, 5' LT Station 156+86, 37' LT; Station 167+10, 126' RT Station 167+18, 94' RT; Station 167+21, 36' LT	Contractor to adjust manholes during construction as necessary in conjunction with paving operations.

Location and Conflict	Resolution
Station 167+26, 39’ RT; Station 167+41, 38’ RT Station 170+23, 23’ RT; Station 170+25, 36’ LT Station 173+21, 24’ RT; Station 173+22, 36’ LT Station 175+67, 34’ LT; Station 176+96, 27’ RT Station 187+94, 74’ LT; Station 188+41, 44’ LT Station 190+11, 41’ LT; Station 197+22, 36’ RT Station 202+57, 51’ LT; Station 208+18, 50’ LT Station 208+45, 76’ LT; Station 211+30, 12’ RT Station 216+40, 46’ RT; Station 216+53, 39’ RT Station 216+53, 49’ LT; Station 219+39, 35’ RT Station 248+79, 51’ LT	

The City of Hartford will rehabilitate sanitary sewer from Station 113+00 to Station 137+00 using cure in place pipe prior to construction.

The City of Hartford Wastewater Utility contact is Dave Piquett, phone: (262) 673-2423, email: dpiquett@ci.hartford.wi.us.

City of Hartford Water Utility has facilities within the construction project. The existing facilities include:

STH 60:

Water main is located under the eastbound travel lanes from the beginning of the project to Station 126+00. Water main is located under the centerline from Station 126+00 to Station 129+00. The main bends to the northeast at Station 130+00 under the south side sidewalk and continues under the westbound travel lanes to Station 134+00.

Water main crosses over to eastbound travel lanes at Station 134+75 and continues to Station 141+00, where it transitions to the south side terrace and continues to Station 162+50. The main picks up again under the eastbound travel lanes at Station 169+00 and continues under the south sidewalk to Station 176+00.

Water main crosses to the north sidewalk at Station 142+00 and continues to Station 150+00.

Numerous water laterals exist throughout the project length.

Location and Conflict	Resolution
1. Buried water main potentially in conflict with proposed storm sewer:	
STH 60 Station 169+52, 40’ RT; Station 170+27, 42’ RT Station 171+50, 39’ RT	Not in conflict per City of Hartford Water Utility.
2. Water valves potentially in conflict with roadway:	
STH 60 Station 149+87, 35’ LT; Station 149+99, 59’ LT Station 149+99, 39’ LT; Station 150+94, 29’ LT Station 155+10, 29’ RT; Station 155+12, 32’ RT Station 155+15, 29’ RT; Station 155+25, 37’ RT Station 163+49, 31’ RT; Station 166+61, 42’ RT Station 167+05, 13’ RT; Station 167+09, 40’ RT Station 167+35, 31’ LT; Station 170+56, 31’ LT Station 187+83, 45’ RT; Station 187+86, 47’ RT Station 187+86, 39’ RT; Station 187+89, 46’ RT Station 208+35, 72’ LT; Station 216+48, 52’ RT	Contractor to adjust water valves as necessary during construction.
3. Water manholes potentially in conflict with roadway:	
STH 60 Station 157+63, 27’ RT; Station 166+32, 34’ RT Station 166+86, 41’ RT; Station 216+36, 52’ RT	Contractor to adjust manholes as necessary during construction.
4. Water valves potentially in conflict with construction/grading:	
STH 60 Station 104+04, 26’ LT; Station 112+51, 38’ LT Station 113+85, 36’ LT; Station 114+40, 36’ LT; Station 166+63, 106’ RT Station 172+51, 47’ RT; Station 179+90, 57’ LT	Contractor to adjust water valves as necessary during construction.
5. Hydrants in conflict with construction/grading:	
STH 60 Station 170+55, 47’ LT; Station 171+60, 41’	Hartford Water Utility to relocate prior to

Location and Conflict	Resolution
RT	construction.

The City of Hartford Water Utility will replace 8 inch water main and associated valves and laterals under the westbound traffic lane from Station 149+50 to Station 155+50 prior to construction.

The City of Hartford Water Utility will remove the hydrant at Station 216+30, 91’ LT, and abandon the water main crossing STH 60 at this location prior to construction.

The City of Hartford Water Utility will replace the hydrant and associated valves at Station 219+25, 66’ RT prior to construction.

The City of Hartford Water Utility contact is Brian Rhodes, phone: (262) 670-3710, email: brhodes@wppienergy.org.

We Energies (Electric) has aerial and underground facilities within the construction project. We Energies Electric facilities are located at the following locations:

STH 60:

Aerial cable runs along the north side of STH 60 from just west of CTH K to the east project limits. for the entire project length.

Numerous crossings exist throughout the project length.

Location and Conflict	Resolution
1. Power poles in conflict with construction/grading:	
STH 60 Station 168+09, 53’ LT; Station 169+10, 53’ LT Station 179+77. 41’ RT Station 208+90, 65’ LT	Pole to be left in place per We Energies. Minimal grading around pole can be tolerated. Pole to be relocated to Station 209+03, 64’ LT by WE Energies prior to construction.
2. Guys and anchors in conflict with construction/grading:	
STH 60 Station 166+37, 69’ RT Station 176+46, 46’ LT (Guy Wire); Station 166+00, 54’ LT	We Energies to remove this anchor prior to construction. Anchor to be removed, new anchor to be placed at ST 176+46, 50’ LT by We Energies prior to construction Anchors to be left in place per We Energies. Minimal grading around anchors can be tolerated.

Give We Energies three days minimum notice for electric adjustments required during construction. The We Energies (Electric) contact is Al Schmitt, office: (262) 338-7662, mobile: (414) 332-1824, email: alan.schmitt@we-energies.com.

We Energies (Gas) has underground facilities in conflict with the project limits. The existing gas facilities are as follows:

STH 60:

1-¼-inch PE main runs along the north side from Station 101+35 to Station 114+50, approximately 35' LT.

6-inch steel main runs along the north side from Station 138+69 to Station 167+50 under the sidewalk.

4-inch PE main runs along the north side from Station 167+50 to Station 188+00 under the sidewalk.

4-inch steel main runs along the north side from Station 188+00 to approximately Station 230+00. The main is under the roadway to Station 218+00 and outside the roadway from Station 218+00 to Station 230+00.

4-inch PE main runs along the north side of STH 60 from approximately Station 230+00 to the end of the project, typically about 50'-55' LT.

6-inch steel main runs along the south side of STH 60 from the beginning of the project to Station 138+75, varying 30'-50' RT.

1-¼" PE main runs along the south side from Station 147+75 to Station 154+00 under the sidewalk.

2-inch PE main runs along the south side from Station 167+50 to Station 182+25 between the curb and the sidewalk.

1 ¼-inch PE main runs along the south side from Station 216+75 to Station 219+25 under the sidewalk.

Lone Oak Lane:

Gas main runs south along the east side of Lone Oak Lane under the sidewalk and crosses STH 60.

Numerous gas laterals exist throughout the project length.

Location and Conflict	Resolution
1. Gas main potentially in conflict with proposed storm sewer:	
STH 60 Station 113+63, 37' LT	1 ¼" plastic gas main from Station 112+17, 37' LT to Station 114+75, 35' LT will be cut off and abandoned at Station 112+17, 37' LT to avoid storm sewer and road construction conflicts. The contractor shall remove and dispose of any abandoned main segment in direct conflict with their operation. Contractor is to contact We Energies Gas prior to

Location and Conflict	Resolution
Station 167+46, 77' RT; Station 167+77, 46' RT Station 169+52, 46' RT; Station 170+27, 45' RT	removal of any main segment to confirm it is no longer in service. We Energies will alter the gas main to avoid storm sewer at these locations during construction. Provide 8 working days notification prior to each alteration
2. Gas valves in conflict with construction/grading:	
STH 60 Station 102+67, 39' LT; Station 103+33, 33' LT Station 114+56, 40' LT; Station 114+61, 38' LT Station 126+60, 37' LT; Station 143+17, 57' RT Station 167+95, 54' RT; Station 168+08, 45' RT Station 208+20, 64' LT; Station 216+89, 54' RT	We Energies Gas to adjust valves during construction. Give 4 week notification to We Energies.

Give We Energies three days minimum notice for gas main adjustments required during construction.

The We Energies (Gas Operations) contact is Paul Osmanski, office: (414) 944-5796, mobile: (414) 315-1278, email paul.osmanski@we-energies.com.

Windstream (cable television and telecommunications) has aerial and underground facilities within the construction project. The existing facilities include:

STH 60:

Aerial cable along the north side of STH 60 on Hartford Electric poles from east fo South Street to Wilson Avenue.

Underground cable along the south side of STH 60 from just east of South Street to just east of Grand Avenue.

Numerous crossings exist throughout the project length.

Location and Conflict	Resolution
1. Aerial facilities attached to Hartford construction/grading:	Electric poles that are in conflict with
STH 60 Station 113+31, 41' LT Station 114+66, 41' LT Station 116+04, 44' LT	Windstream will relocate overhead facilities attached to Hartford Electric poles, to an underground duct in conjunction with Hartford Electric prior to construction.

All other aerial facilities will be relocated in conjunction with Hartford Electric. The Windstream contact is Jim Kostuch, phone: (262) 792-7938, email: james.kostuch@windstream.com.
107-065 (20080501)

7. Erosion Control, General.

Prepare and submit an erosion control implementation plan (ECIP) for the project including borrow sites, material disposal sites, dust control, and dewatering in accordance to Chapter TRANS 401 requirements. The erosion control implementation plan shall supplement information shown on the plans and shall not reproduce it. The erosion control implementation plan shall identify how the contractor intends to implement the project's erosion control plan.

Provide the ECIP 14 calendar days prior to the pre-construction conference. Provide one copy of the ECIP to WisDOT and one copy of the ECIP to the WDNR Liaison (*insert DNR liaison contact information here*). 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. Do not implement the ECIP until it has been approved by the department.

Re-topsoil graded areas, as designated by the engineer, immediately after grading is completed within those areas. Sod and fertilize, top-soiled areas, as designated by the engineer, within five calendar days after placement of topsoil. If graded areas are left exposed for more than 14 calendar days, seed those areas with temporary seed.

When performing roadway cleaning operations, the contractor shall use equipment having vacuum or water spray mechanism to eliminate the dispersion of dust. If vacuum equipment is employed, it shall have suitable self-contained particulate collectors to prevent discharge from the collection bin into the atmosphere.

Stockpile excess material or soils on upland areas away from wetlands, floodplains and waterways. Stockpiled soil shall be protected against erosion. If stockpiled material is left for more than 14 calendar days, seed the stockpile with temporary seed.

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

8. Public Convenience and Safety.

Revise standard spec 107.8(6) as follows:

Check for and comply with local ordinances governing the hours of operation of construction equipment. Do not operate motorized construction equipment from 6:00 PM until the following 6:00 AM, unless prior written approval is obtained from the engineer.
107-001 (20060512)

9. Coordination with Businesses and Residents.

The contractor shall arrange and conduct a meeting between the contractor, the department, affected residents, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting at least one week prior to the start of work under this contract and hold two meetings per month thereafter. The contractor shall arrange for a suitable location for the meeting(s) that provides reasonable accommodation for public involvement. The department will prepare and coordinate publication of the meeting notices and mailings for the meeting(s). The contractor shall schedule the meeting(s) with at least two weeks prior notice to the engineer to allow for these notifications.
108-060 (20141107)

10. General Requirements for Electrical Work.

Append standard spec 651.3.3 (3) with the following:

Request a signal inspection of the completed signal installation from the engineer at least five working days prior to the time of the requested inspection. The engineer will notify the City Public Works Department at (262) 673-8260 to coordinate the inspection. The city's electrical personnel will perform the inspection.

11. Traffic Signals, General.

All traffic signal work shall be in accordance to the State of Wisconsin Department of Transportation Standard Specifications for Highway and Structure Construction, 2015 edition, and these plans and specifications.

Note that failure to comply with the state standards and specifications may result in the cost of the corrections to be made at the contractors expense. Also, any additional disruption of city-owned facilities shall be repaired or relocated as needed at the contractors expense.

Notify the City of Hartford Public Works Department at (262) 673-8260 at least three weeks prior to the beginning of the traffic signal work.

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

12. Excavation, Hauling, and Disposal of Petroleum Contaminated Soil, Item 205.0501.S.

A Description

A.1 General

This special provision describes excavating, loading, hauling, and disposing of petroleum contaminated soil at a DNR approved bioremediation facility. The closest DNR approved bioremediation facilities are:

Waste Management Orchard Ridge Landfill
N96W13503 County Line Road
Menomonee Falls, WI 53051

Veolia Glacier Ridge Landfill
N7296 County Road V
Horicon, WI 53032

Perform this work in accordance to standard spec 205 and with pertinent parts of Chapters NR 700-754 of the Wisconsin Administrative Code, as supplemented herein. Per NR 718.07, a solid waste collection and transportation service-operating license is required under NR 502.06 for each vehicle used to transport contaminated soil.

A.2 Notice to the Contractor – Contaminated Soil Location(s)

The department completed testing for soil and groundwater contamination for locations within this project where excavation is required. Testing indicated that petroleum-contaminated soil is present at the following location(s) as shown on the plans:

1. Station 171+00 to 173+00 from the reference line to the project limits left. Soil contaminated with DRO is present from approximately 1 to 5 feet bgs. Approximately 20 cubic yards (approximately 40 tons) of soil to be excavated from this area for reconstruction of the storm sewer will require bioremediation.

If contaminated soils are encountered elsewhere on the project, terminate excavation activities in the area and notify the engineer.

If dewatering is required at the above location, conduct the dewatering in accordance to Section C below. No active groundwater monitoring wells were observed within the construction limits; if any are encountered during construction, notify the engineer and protect them to maintain their integrity.

The excavation management plan for this project has been designed to minimize the offsite disposal of contaminated material. The excavation management plan, including these special provisions, has been developed in cooperation with the WDNR. The WDNR concurrence letter is on file at the Wisconsin Department of Transportation.

For further information regarding previous investigation and remediation activities at these sites contact:

Name:	Mr. Bryan Bergmann
Address:	150 N. Patrick Blved. Ste. 180, Brookfield, WI 53045
Phone:	(262) 879-1212
Fax:	(262) 879-1220
E-mail:	bbergmann@trcsolutions.com

A.3 Coordination

Coordinate work under this contract with the environment consultant:

Consultant:	TRC Environmental Corporation
Address:	150 N. Patrick Blved. Ste. 180, Brookfield, WI 53045
Contact:	Mr. Bryan Bergmann
Phone:	(262) 879-1212
Fax:	(262)879-1220
E-mail:	bbergmann@trcsolutions.com

The role of the environmental consultant will be limited to:

1. Determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous investigations, visual observations, and field screening of soil that is excavated;
2. Identifying contaminated soils to be hauled to the bioremediation facility;
3. Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein; and
4. Obtaining the necessary approvals for disposal of contaminated soil from the bioremediation facility.

Provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the areas of contamination to the environmental consultant. Also notify the environmental consultant at least three calendar days prior to commencement of excavation activities in each of the contaminated areas.

Coordinate with the environmental consultant to ensure that the environmental consultant is present during excavation activities in the contaminated areas. Perform excavation work in each of the contaminated areas on a continuous basis until excavation work is completed.

Identify the DNR approved bioremediation facility that will be used for disposal of contaminated soils, and provide this information to the environmental consultant no later than 30 calendar days prior to commencement of excavation activities in the contaminated areas or at the preconstruction conference, whichever comes first. The environmental consultant will be responsible for obtaining the necessary approvals for disposal of contaminated soils from the bioremediation facility. Do not transport contaminated soil offsite without prior approval from the environmental consultant.

A.4 Health and Safety Requirements
Supplement standard spec 107.1 with the following:

During excavation activities, expect to encounter soil contaminated with gasoline, diesel fuel, fuel oil, or other petroleum related products. Site workers taking part in activities that will result in the reasonable probability of exposure to safety and health hazards associated with hazardous materials shall have completed health and safety training that meets the Occupational Safety and Health Administration (OSHA) requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER), as provided in 29 CFR 1910.120.

Prepare a site-specific Health and Safety Plan, and develop, delineate and enforce the health and safety exclusion zones for each contaminated site location as required by 29 CFR 1910.120. Submit the site-specific health and safety plan and written documentation of up-to-date OSHA training to the engineer prior to the start of work.

B (Vacant)

C Construction
Supplement standard spec 205.3 with the following:

Control operations in the contaminated areas to minimize the quantity of contaminated soil excavated.

The environmental consultant will periodically evaluate soil excavated from the contaminated areas to determine if the soil will require offsite bioremediation. The environmental consultant will evaluate excavated soil based on field screening results, visual observations, and soil analytical results from previous environmental investigations. Assist the environmental consultant in collecting soil samples for evaluation using excavation equipment. The sampling frequency shall be a maximum of one sample for every 20 cubic yards excavated.

On the basis of the results of such field-screening, the material will be designated for disposal as follows:

Excavation Common – clean soil, construction and demolition fill (such as clean soil, boulders, concrete, reinforced concrete, bituminous pavement, bricks, building stone, unpainted or untreated wood), which under NR 500.08 are exempt materials.

Low-level contaminated material for reuse as fill within the construction limits, or
Contaminated soil for disposal at the WDNR-licensed disposal facility, or
Potentially contaminated for temporary stockpiling and additional characterization prior to disposal.

If during excavations outside the areas of known contamination, materials are encountered that exhibit characteristics of municipal wastes or contain significant quantities of industrial-type wastes, such as fly ash, foundry sand, and cinders, or when conditions such as unknown underground storage tanks or soil/fill material with noticeable impacts from petroleum or chemical products, or other obvious potentially contaminated materials are encountered, suspend excavation in that area and notify the engineer and the environmental consultant.

Some material may require additional characterization prior to disposal. Provide for the temporary stockpiling of up to 200 cubic yards of contaminated soil on-site that require additional characterization. Construct and maintain a temporary stockpile of the material in accordance to NR 718.05(3), including, but not limited to, placement of the contaminated soil/fill material on an impervious surface and covering the stockpile with material to prevent infiltration of precipitation. The department's environmental consultant will collect representative samples of the stockpiled material, laboratory analyze the samples, and advise the contractor, within 10 business days of the construction of the stockpile, of disposal requirements. The stockpiled material shall be disposed either at the WDNR-licensed disposal facility by contractor or if characterized as a hazardous wastes, by the department. As an alternative to temporarily stockpiling contaminated soil/fill material that requires additional characterization, the contractor has the option of suspending excavation in those areas where such soil is encountered until such time as characterization is completed.

Directly load and haul soils designated by the environmental consultant for offsite bioremediation to the DNR approved bioremediation facility. Use loading and hauling practices that are appropriate to prevent any spills or releases of petroleum-contaminated soils or residues. Prior to transport, sufficiently dewater soils designated for off-site bioremediation so as not to contain free liquids.

D Measurement

The department will measure Excavation, Hauling, and Disposal of Petroleum Contaminated Soil in tons of contaminated soil, accepted by the bioremediation facility as documented by weight tickets generated by the bioremediation facility.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON

Payment is full compensation for excavating, segregating, loading, hauling, and treatment via bioremediation of contaminated soil; obtaining solid waste collection and transportation service operating licenses; assisting in the collection soil samples for field evaluation; and dewatering of soils prior to transport, if necessary. No additional payment will be made for tipping fees associated with the disposal of contaminated soil.
205-003 (20080902)

13. QMP Base Aggregate.

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:

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

[1] 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.

[2] For 3-inch material, obtain samples at load-out.

[3] 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 sublot 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:

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

[1] 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)

14. 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 throughout the full base depth of the unpaved portion of shoulders. Use ¾-inch base or 1¼-inch base elsewhere in shoulders.
305-020 (20080902)

15. 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 sublot 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:

Segments with a Posted Speed Limit of 55 MPH or Greater	
Category	**Description**
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.

Segments with Any Portion Having a Posted Speed Limit Less Than 55 MPH	
Category	**Description**
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:

	Fixed Interval	Continuous (Localized Roughness)
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:

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

[1] 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

(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:

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

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

HMA IV and PCC IV

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

[1] The department will not assess a ride disincentive for HMA pavement placed in cold weather because of a department-caused delay as specified in 450.5(4) of the contract additional special provisions (ASP 6).

[2] 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.

16. 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^3. 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^3 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^3 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^3 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.

Lane Width	No. of Tests	Transverse Location
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 sublot 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 sublot and perform the number of random tests as specified in Table 2.

Side Roads, Turn Lanes, Crossovers, Ramps, Roundabouts: Sublot/Layer tonnage	Minimum Number of Tests Required
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 sublot densities using the individual test results in each sublot.

(2) If all sublot 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 sublot average is more than one percent below the target density, do not include the individual test results from that sublot when computing the lot average density and remove that sublot's tonnage from the daily quantity for incentive. The tonnage from any such sublot 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 sublot 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 sublot 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 sublot. Testing in a previously accepted sublot 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 sublot 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 sublot and lot densities.

(6) If 2 consecutive sublot 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 sublot 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 sublot using the same testing requirements and frequencies as the QC tester.

(3) If the verification sublot average is not more than one percent below the specified minimum target density, use the QC tests for acceptance.

(4) If the verification sublot average is more than one percent below the specified target density, compare the QC and QV sublot averages. If the QV sublot average is within 1.0 lb/ft^3 of the QC sublot average, use the QC tests for acceptance.

(5) If the first QV/QC sublot average comparison shows a difference of more than 1.0 lb/ft^3 each tester will perform an additional set of tests within that sublot. Combine the additional tests with the original set of tests to compute a new sublot average for each tester. If the new QV and QC sublot averages compare to within 1.0 lb/ft^3, use the original QC tests for acceptance.

(6) If the QV and QC sublot averages differ by more than 1.0 lb/ft^3 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 sublot density test results or retesting of the sublot 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:

Percent Lot Density Above Minimum	Pay Adjustment Per Ton
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)

17. Traffic Control.

Supplement standard spec 643.2.1 with the following:

Within the asphaltic surface milling area, narrow traffic control drums may be used. Space the devices at one half the spacing for standard traffic control drums as shown in the plans. The department will pay for narrow traffic control drums at the same contract unit price as standard traffic control drums. No additional payment will be made for the use of narrow traffic control drums. Submit detailed product information to the engineer for pre-approval of the narrow traffic control drums prior to use.

Supplement standard spec 643.3.1 with the following:

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

Prior to the installation of traffic control devices, provide the name and telephone number of a local representative of the contractor responsible for emergency maintenance of traffic control to the engineer, State Highway Patrol, Washington County Sheriff, and Hartford Police Department.

Do not park or store equipment, vehicles or construction materials within the clear zone as designated in the plans on any roadway carrying traffic during non-working hours except at locations and periods of time approved by the engineer.

Do not permit equipment or vehicles to directly cross the live traffic lanes of the highway. Yield to all through traffic at all locations. Equip all contractor's vehicles or equipment operating in the live traffic lanes with a hazard identification beam (flashing yellow signal light). Operate the flashing yellow beam only when merging or exiting live traffic lanes or when parked or operating on shoulders.

All construction vehicles and equipment operating on or near roadways open or closed to traffic shall be equipped with at least one flashing amber light. The flashing amber light shall be activated when vehicles or equipment are operated on the roadway, parked in close proximity to the roadway, and when entering or exiting live lanes of traffic. The flashing amber light shall be mounted approximately midway between the transverse extremities of the vehicles or machinery and at the highest practical point that provides visibility from all directions. The light shall be of the flashing strobe or revolving type meeting the following minimum requirements:

Flashing Strobe Type Light	Revolving Type Light
360-degree lens	360-degree lens
60 to 90 flashes per minute	45 to 90 flashes per minute
5-inch minimum height	4-5/8 inch minimum height
3-3/4 inch minimum diameter	3-3/4 inch minimum diameter

The light shall be equipped with bulbs of 50 candlepower minimum. Mounting shall be either magnetic or permanent. No compensation for furnishing and installing the flashing amber light to contractor owned construction equipment or vehicles will be provided for in the contract.

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

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

Replace standard spec 643.3.1(6) with the following:

Provide 24-hour a day availability of equipment, forces and materials to promptly restore barricades, lights, or other traffic control devices that are damaged or disturbed. Restore any barricade, light, or other traffic control so that the device is not out of service for more than 48 hours.

18. Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch, Item 646.0841.S; 8-Inch, Item 646.0843.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking contrast tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish wet reflective pavement marking contrast tape and adhesive material, per manufacturer's recommendation if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking contrast tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and the pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt

Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt
Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.6 Tape Application
Apply the tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations..

Apply P-50 during October 1 to April 30, both dates inclusive. –

For the remainder counties:

Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking contrast tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement
The department will measure Pavement Marking Grooved Wet Reflective Contrast Tape, 4-Inch and Pavement Marking Grooved Wet Reflective Contrast Tape, 8-Inch for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment
The department will pay for measured quantities at the contract unit price under the following bid items:
ITEM NUMBER DESCRIPTION UNIT

646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF
646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.
646-022 (20120615)

19. Pavement Marking Grooved Wet Reflective Tape 4-Inch, Item 646.0881.S; 8-Inch, Item 646.0883.S.

A Description

This special provision describes furnishing, grooving and installing preformed wet reflective pavement marking tape for grooved applications as shown on the plans, according to standard spec 646, and as hereinafter provided.

B Materials

Furnish grooved wet reflective pavement marking tape and adhesive material per manufacturer's recommendations, if required, from the department's approved products list.

Furnish a copy of the manufacturer's recommendations to the engineer before preparing the pavement marking grooves.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of pavement marking tape.

Plane the grooved lines according to details in the plan and per manufacturer's recommendations. Use grooving equipment with a free-floating, independent cutting head. Plane a minimum number of passes to create a grooved surface per manufacturer's recommendations.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ± 10 mils from the pavement surface or, if tined, from the high point of the tined surface. To measure the depth, the contractor may use a depth plate placed in the groove and a straightedge placed across the plate and groove, or the contractor may use a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Longitudinal Markings

Cut the groove one-inch wider than the width of the tape.

C.4 Groove Position

Position the groove edge according to plan details. Groove a minimum of 4 inches, but not greater than, 12 inches from both ends of the tape segment. Achieve straight alignment with the grooving equipment.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with high-pressure water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, and prior to pavement marking application. The groove surface shall be clean and dry before applying the adhesive, and pavement marking tape. Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt

Groove pavement five or more days after paving.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

Use a high-pressure air blower with at least 185 ft^3/min air flow and 120 psi air pressure to clean the groove.

C.6 Tape Application

Apply the wet reflective pavement marking tape when both the air and surface temperature are 40 degrees F and rising.

Apply tape in the groove as per manufacturer's recommendations. If manufacturer's recommendations require surface preparation adhesive

For the Southeast Region and the ozone non-attainment Northeast Region counties of Sheboygan, Manitowoc, and Kewaunee:

Apply SPA-60 during May 1 to September 30, both dates inclusive due to Volatile Organic Compound Limitations.

Apply P-50 during October 1 to April 30, both dates inclusive.

For the remainder counties:

Apply either adhesive.

Refer to the manufacturer's instructions for determining when the surface preparation adhesive is set.

Tamp the wet reflective pavement marking tape with a tamper cart roller, with a minimum of a 200-lb load, cut to fit the groove. Tamp a minimum of three complete cycles (6 passes) with grooved modified tamper roller cart.

D Measurement

The department will measure Pavement Marking Grooved Wet Reflective Tape, 4-Inch and Pavement Marking Grooved Wet Reflective Tape, 8-Inch for grooved applications in length by the linear foot of tape placed according to the contract and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF
646.0883.S	Pavement Marking Grooved Wet Reflective Tape 8-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface; furnishing and installing the material; and for removing temporary pavement marking, if necessary.
646-018 (20120615)

20. Concrete Bases Type 10, Item 654.0110; Concrete Bases Type 13, Item 654.0113.

Modify standard spec 654.2(4) with the following:

For monotube pole bases, types 10 and 13; use contractor-furnished anchor rods, nuts, and washers.

Modify standard spec 654.5 (2) with the following:

Payment for the Bases bid items is full compensation for providing concrete bases; for embedded conduit and electrical components; for anchor rods, nuts, and washers; for bar steel reinforcement, if required; and for excavating, backfilling, and disposing of surplus materials.

21. Concrete Control Cabinet Bases, Type 9 Special, Item 654.0217.

Conform to standard spec 654 and as follows:

Extend the concrete control cabinet pad for a battery back-up unit that is mounted on the side of the cabinet by 1' x 3' x 7" for the unit and 2' x 3' x 4" for a maintenance platform.

22. Electrical Service Meter Breaker Pedestal, STH 60 and Grand Avenue, Item 656.0200.01; STH 60 and CTH K (Lone Oak Lane), Item 656.0200.02.

Append standard spec 656.3.4 with the following:

The contractor will be responsible for electrical service installation or relocation requests. The City of Hartford will be responsible for any charges from WE Energies.

Electrical utility company service installation or relocation and energy cost will be billed to and paid for by the maintaining authority.

Install the cabinet base and meter breaker pedestal first, so the electrical utility company can install the service lateral. Finish grade the service trench, replace topsoil that is lost or contaminated with other materials.

Append standard spec 656.5(3) with the following:

Payment is full compensation for grading the service trench and replacing topsoil; and for fertilizing, seeding, and mulching to restore the disturbed area of the service trench if necessary.

23. Traffic Signal Mounting Hardware, STH 60 and Grand Avenue, Item 658.5069.01; STH 60 and CTH K (Lone Oak Lane), Item 658.5069.02.

Replace standard spec 658.2.1 (2) with the following:

Use an approved type of pole or standard vertical mounting brackets/clamps for signal faces from an approved manufacturer. Pedestrian traffic signal heads mounted in the median shall use federal yellow aluminum side of pole 2-way upper and lower arm assemblies providing 16 ½-inch center to center spacing.

24. Temporary Traffic Signals for Intersections, STH 60 and Grand Avenue, Item 661.0200.01; STH 60 and CTH K (Lone Oak Lane), Item 661.0200.02.

Append standard spec 661.2.1 with the following:

(5) Coordinate temporary traffic signal pole installation and removal at the intersection of STH 60 and CTH K (Lone Oak Lane) with WE Energies. Temporary traffic signal pole installation and removal at the intersection of STH 60 and CTH K (Lone Oak Lane) in the vicinity of WE Energies overhead facilities will be performed by WE Energies. Contact WE Energies at least 4 weeks in advance of planned temporary traffic signal pole installation and at least 4 weeks in advance of temporary traffic signal pole removal. To coordinate temporary signal pole installation and removal,

contact Alan Schmitt, WE Energies, at (262) 338-7662. All poles installed by WE Energies will be furnished by WE Energies and billed to the contractor.

25. Pavement Marking Grooved Preformed Thermoplastic Words, Item SPV.0060.01; Arrows Type 2, Item SPV.0060.02; Arrows Type 3, Item SPV.0060.03; Stop Bar 18-Inch, Item SPV.0090.01; Crosswalk 6-Inch, Item SPV.0090.02.

A Description

This special provision describes grooving the pavement surface, and furnishing and installing preformed thermoplastic pavement marking as shown on the plans, in accordance to standard spec 647, and as hereinafter provided.

B Materials

Furnish preformed thermoplastic pavement marking and sealant material, if required, from the department's approved products list.

C Construction

C.1 General

For quality assurance, provide the engineer and the region's Marking Section evidence of manufacturer training in the proper placement and installation of preformed thermoplastic pavement marking.

Plane the grooved lines in accordance to the plan details. Use grooving equipment with a free-floating, independent cutting or grinding head. Plane a minimum number of passes to create a smooth groove.

C.2 Groove Depth

Cut the groove to a depth of 120 mils ±10 mils deeper than the thermoplastic thickness, from the pavement surface or, if tined, from the high point of the tined surface. Measure depth using a straightedge placed perpendicular to the groove. The department may periodically check groove depths.

C.3 Groove Width – Linear Markings

Cut the groove 1-inch wider than the width of the thermoplastic.

C.4 Groove Position

Position the groove edge in accordance to the plan details.

C.4.1 Linear Marking

Groove at a minimum of 4-inches, but not greater than, 12-inches from both ends of the line segment. Achieve straight alignment with the grooving equipment.

C.4.2 Special Marking

Groove a box around the special marking up to 4 inches from the perimeter of the special marking. Groove multiple boxes for Word Items.

C.5 Groove Cleaning

C.5.1 Concrete

Cooling the cutting head with water may be necessary for some applications and equipment. If cooling water is necessary, flush the groove immediately with water after cutting to remove any build-up of cement dust and water slurry. If this is not done, the slurry may harden in the groove.

If water is used in the grooving process, allow the groove to dry a minimum of 24 hours after groove cleaning, after removal of excess water, and prior to pavement marking application. Clean and dry the groove for proper application of the sealant, and placement of the pavement marking. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove; use of the air blower does not decrease the amount of time required for the groove to dry.

C.5.2 New Asphalt

Groove pavement 10 or more days after paving. Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.5.3 Existing Asphalt

Check for structural integrity in supporting grooving operations. If the structural integrity of the asphalt pavement is inadequate to support grooving operations, immediately notify the engineer.

C.5.2 Asphalt

Use a high-pressure air blower with at least 185 ft^3/min air flow and 90 psi air pressure to clean the groove.

C.6 Preformed Thermoplastic Application

Preheat the surface if necessary based on manufacturer's recommendation.

Application of the preformed thermoplastic in the groove without sealant will be as follows:

- May 1 to September 30, both dates inclusive – the Southeast Region and the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.
- June 1 to August 31 – the Southwest Region, and the Northeast, North Central, and Northwest Regions except for the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.

Application of the preformed thermoplastic in the groove with sealant materials will be as follows:

- October 1 to April 30, both dates inclusive – the Southeast Region and the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.

- September 1 to May 31, both dates inclusive – the Southwest Region and the Northeast, North Central, and Northwest Regions, except for the ozone non-attainment or maintenance Northeast Region counties of Sheboygan, Manitowoc, Kewaunee, and Door.

The sealant must be wet.

D Measurement
The department will measure Pavement Marking Grooved Preformed Thermoplastic (Type) by each individual unit, acceptably completed.

The department will measure Pavement Marking Grooved Preformed Thermoplastic (Type) in length by the linear foot of tape, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.01	Pavement Marking Grooved Preformed Thermoplastic Words	Each
SPV.0060.02	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	Each
SPV.0060.03	Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	Each
SPV.0090.01	Pavement Marking Grooved Preformed Thermoplastic Stop Bar 18-Inch	LF
SPV.0090.02	Pavement Marking Grooved Preformed Thermoplastic Crosswalk 6-Inch	LF

Payment is full compensation for cleaning and preparing the pavement surface, furnishing and installing the material.

26. Concrete Maintenance Platform 48” X 36” X 4”, Item SPV.0060.04.

A Description
This special provision describes installing a concrete maintenance platform at an automatic traffic recorder station.

B Materials
The contractor shall furnish the concrete and concrete forms. Furnish concrete conforming to standard spec 654.2(2).

C Construction
Under this bid item, a 48” x 36” x 4” concrete maintenance platform shall be constructed. Install concrete maintenance platform as specified in the plan details.

Before installation of the concrete maintenance platform, the earth shall be leveled and compacted around the type 2 concrete pole base.

Fifty two inches by forty inches of earth 4 inches deep shall be removed on the side of the pole opposite the roadway. (When you are standing on the platform looking into the cabinet you are also looking straight ahead at the roadway.)

Two by four lumber forms shall be constructed and laid in the area that the earth was removed from. The forms shall be leveled and squared before the concrete is poured.

The poured concrete shall be leveled and finished with a broom finish.

The area around the maintenance platform and type 2 concrete pole base shall be leveled to the top of the maintenance platform and seeded.

D Measurement

The department will measure Concrete Maintenance Platform 48" X 36" X 4" as each individual concrete maintenance platform, 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 Maintenance Platform 48" X 36" X 4"	Each

Payment is full compensation for furnishing and installing all materials, including concrete.

27. ATR General Notes.

The department will furnish a portion of equipment to be installed by the contractor. This department-furnished equipment includes the following:

Department-furnished Items:

Poles Type 2 (30') (including Transformer Base)
Wavetronix Detector (HD 125) Module and Cable (40')
Wavetronix Mini Power Module
Wavetronix Click 200 Module
CCTV Pole Mounted Cabinet 24"x51" (including-U-Bolt 5/8" x 8" – 2)
Cabinet Heater & Thermostat

All other materials needed are the responsible of the contractor.

Pick-up all department-furnished equipment from the SE Region West Allis Service Facility at 935 S. 60th Street, West Allis, WI 53214 at a mutually agreed upon time. Contact Mike Prebish at (414) 266-1170 to coordinate pick-up of equipment. Call Jane Oldenburg at (608) 245-2679 two weeks prior to contacting Mike Prebish to ensure that

equipment has been shipped to the West Allis Service Facility. Transportation of the equipment between the West Allis Service Facility and the field or interim location(s) shall be the responsibility of the contractor.

The contractor shall be responsible for coordinating electrical service installation to the ATR equipment with the electrical utility company. The department will be responsible for any charges from WE Energies.

Electrical utility company service installation or relocation and energy cost will be billed to and paid for by the department.

Payment is incidental to other ATR items and includes full compensation for grading the electrical utility company service trench and replacing topsoil; and for fertilizing, seeding, and mulching to restore the disturbed area of the service trench if necessary.

28. Installing Wavetronix Mini Power Module, Item SPV.0060.05.

A Description
This section describes installing department furnished Wavetronix mini power module.

B Materials
The units will consist of a Wavetronix mini power module, DIN racks, terminal block, and wiring. Provide stainless steel bolts and any other mounting or wiring hardware not furnished by the department

C Construction
Install and test the charge regulator, in the enclosure. Make the necessary electric connections between the components of the Wavetronix mini power module.

D Measurement
The department will measure Installing Wavetronix Mini Power Module as each individual assembly 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.0060.05	Installing Wavetronix Mini Power Module	Each

Payment for Installing Wavetronix Mini Power Module is full compensation for installing the Wavetronix mini power module and module rack in cabinet, for making all connections, for furnishing all programming and for furnishing all testing.

29. Installing Wavetronix Click 200 Module, Item SPV.0060.06.

A Description

This special provision describes installing department furnished Wavetronix Click 200 Module as shown on the plans and as hereinafter provided.

B Materials
The units will consist of a Wavetronix Click 200 Module, DIN racks, terminal block, and wiring. Provide stainless steel bolts and any other mounting or wiring hardware not furnished by the department.

C Construction
Install the Wavetronix Click 200 Module in the cabinet on to the DIN rail as shown on the plans. The DIN rail shall maintain good physical contact with the cabinet to assure proper grounding.

Connect the Wavetronix Click 200 Module to the Wavetronix Mini Power Module and to the Wavetronix unit as shown on the plan.

After the Wavetronix Click 200 Module is installed and the Wavetronix cable is connected to the Wavetronix unit, test to ensure that all of the traffic lanes are being collected correctly.

D Measurement
The department will measure Installing Wavetronix Click 200 Module as each Wavetronix Click 200 Module, 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.0060.06	Installing Wavetronix Click 200 Module	Each

Payment is full compensation for installing antennas and connections; for furnishing and installing mast brackets and mounting hardware; for testing; and for transportation.

30. Installing Wavetronix Detector (HD 125) Module and Cable, SPV.0060.07.

A Description
This special provision describes installing and testing a department furnished Wavetronix Detector (HD 125) Module as shown on the plans and as hereinafter provided.

B Materials
The department will provide the Wavetronix Detector (HD 125) Module.

C Construction
Make all Wavetronix detector cable connections to the field cabinet and Wavetronix detector (HD 125) module, to provide the required operation.

If any work proceeds at a location without completion of testing procedures, the contractor shall be responsible for the ultimate correct operation of the module and cables. The cost of correcting the Wavetronix Detector (HD 125) cables shall be borne entirely by the contractor.

The contractor shall demonstrate the functionality and accuracy of the vehicle detectors connected to each location. The traffic flow information obtained from each detector shall be within +/- 5% of each of two 10-minute manual data periods.

A field test shall be successfully conducted by the ITS Field System Integrator for each Wavetronix Detector (HD 125) Module, complete with connections. The test is designed to demonstrate that Wavetronix Detector (HD 125) Module integrated by the contractor operates correctly, and that all functions are in conformance with these Specifications.

Following successful completion of the above tests, the Wavetronix Detector (HD 125) Module shall be activated and left on for 30 consecutive days. During this period, all materials and components of the Wavetronix Detector (HD 125) Module shall operate as specified and without any failure.

In the event that any component of the Wavetronix Detector (HD 125) Module malfunctions or operates below the level specified, the test period will be terminated, and the ITS Field System Integrator shall be required to determine the problem and report the findings to the engineer. Upon correction of the problems, to the satisfaction of the engineer, a new 30-day test period will be started. In the event a malfunction is the result of equipment not installed by the contractor (e.g., power service), the acceptance test period will be suspended until correction of these problems by others.

The contractor / ITS Field System Integrator shall submit copies of the test results, including any unsuccessful and subsequently successful tests to the engineer, prior to any field operations testing.

D Measurement

The department will pay for Installing Wavetronix Detector (HD 125) Module and Cable as each Wavetronix Detector (HD 125) module, 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.0060.07	Installing Wavetronix Detector (HD 125) Module and Cable	Each

Payment is full compensation for installing the Wavetronix Detector (HD 125) Module and cable; for making all connections; for furnishing all testing; and for transportation.

31. Installing Cabinet Heater and Thermostat, Item SPV.0060.08.

A Description
This special provision describes installing department furnished Cabinet Heater and Thermostat as shown on the plans and as hereinafter provided.

B Materials
The unit will consist of a cabinet heater and a thermostat. Provide stainless steel bolts and any other mounting or wiring hardware not furnished by the department.

C Construction
Install the cabinet heater in the cabinet in the lower part of the cabinet as shown on the plan.

Connect the cabinet heater to the AC power supply and place the thermostat in the upper part of the cabinet as shown on the plan.

D Measurement
The department will measure Installing Cabinet Heater and Thermostat as each cabinet heater and thermostat, 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.0060.08	Installing Cabinet Heater and Thermostat	Each

Payment is full compensation for installing heater and connections; for furnishing and installing mounting hardware; for testing; and for transportation.

32. Installing Poles Type 2, Item SPV.0060.09.

A Description
This section describes installing department-furnished Poles Type 2 for automatic traffic recorder stations.

B (Vacant)

C Construction
Install poles, ventilated pole caps, and all necessary miscellaneous hardware to complete the installation of the poles.

Install poles as specified in the plan details.

Before installation, clean each pole of all oil and foreign matter. Coat the following surfaces of aluminum poles with an approved corrosion preventative: the bottom 24 inches of the inside of the pole; the top and bottom of the pole base plate and the top and bottom of shims.

Follow the application procedure and drying time instructions provided by the corrosion preventative manufacturer.

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

D Measurement
The department will measure Installing Poles Type 2 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.0060.09	Installing Poles Type 2	Each

Payment is full compensation for installing all materials, including poles and all hardware and fittings necessary to install the pole; providing and applying corrosion prevention materials; and for transportation.

33. Installing CCTV Pole Mounted Cabinet 24” X 51”, Item SPV.0060.10.

A Description
This special provision describes installing department-furnished aluminum 24” X 51” cabinet enclosures on poles for intelligent transportation systems equipment, as shown on the plans and as hereinafter provided.

B Materials
All bolts, nuts, and washers that are subject to corrosion shall be stainless steel unless otherwise specified.

All conductors, terminals, and parts that could be hazardous to maintenance personnel shall be protected with suitable insulating material.

The cabinet will be equipped with service panels. Two panels will be provided and mounted on the cabinet sidewalls. The left side panel will be designated as “Input/Communications”, and the right side panel will be designated as the “Service Panel”.

The service panel will be equipped with a four-outlet handi-box. The handi-box shall be wired to the series portion of the SHA-1210 specified herein.

The cabinet will be protected by a filtering surge protector. The protector will have the following minimum features:

Peak Current	20,000 amps

Life Test	5% change
Clamp Voltage (L-N)	280V @ 20KA
Response Time	Voltage never exceeds 28 volts during surge
Continuous Service Current	10 amps maximum
	120VAC 60Hz

Metallic conduit, fittings, and adapters required from the underground conduit transition point to the cabinet shall be provided as part of this item. Metallic conduit shall be supplied in accordance to standard spec 652. Conduit and fittings shall be sized according to the plan. Installation shall require one two-inch conduit for electrical wire.

C Construction

The contractor shall securely fasten the field cabinet onto a pole (pole paid separately). Provide bolted stainless steel connections with lock washers, locking nuts, or other engineer-approved means to prevent the connection nuts from backing off. Isolate dissimilar materials from one another by stainless steel fittings.

Make all power connections to the cabinet as specified in standard spec 656.

The cabinet shall be drilled and tapped, as necessary, to mount the terminal blocks and other attachments to the service panel, to provide an entrance on the back of the cabinet for cable from the pole mounted intelligent transportation systems equipment, and to mount the service panel to the cabinet as shown in the details. Sharp edges, or burrs, caused by the cutting or drilling process shall be removed. All openings shall be sealed to prevent water from entering the cabinet.

The surge protector shall be mounted to the service panel.

Conduit shall be installed exterior to the pole (for entrance to the cabinet from the ground) as shown in the plans, and in accordance to the applicable requirements of standard spec 652.

D Measurement

The department will measure Installing Pole Mounted Cabinet 24” X 51” as each individual assembly, 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	Installing CCTV Pole Mounted Cabinet 24” X 51”	Each

Payment for Installing Pole Mounted Cabinet 24” X 51” is full compensation for installing the pole mounted cabinet, for making all connections and conduit/wire entrances, and for furnishing all testing.

34. Adjusting Water Valve Boxes, Item SPV.0060.11.

A Description
This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the project, to all City of Hartford Water Utility water valve boxes located within the project limits.

B (Vacant)

C Construction
Adjust all water gate boxes within the project limits to proposed elevations using materials meeting city specifications.

Throughout the duration of the project, ensure that all water valve boxes are accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility. During the project, any water facilities inspected by the engineer or city and found to be inoperable, damaged, or unidentified by the contractor, will be repaired by the contractor at the contractor's cost.

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.0060.11	Adjusting Water Valve Boxes	Each

Payment is full compensation for furnishing all excavation, backfilling, disposal of surplus materials, water box clean-out, and restoration of the work site; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

Upon completion of the contract, the city will inspect all water facilities to ensure the manholes are clean, properly aligned, and accessible. The contractor shall be responsible to make identified repairs and adjustments.

35. Adjusting Water Manhole Covers, Item SPV.0060.12.

A Description
This special provision describes adjusting, protecting, and maintaining accessibility, for the duration of the project, to all City of Hartford Water Utility water manhole frames and lids located within the project limits.

B (Vacant)

C Construction

Adjust all water manhole frames and lids within the project limits to proposed elevations using materials meeting city specifications.

Throughout the duration of the project, ensure that all water manholes are accessible for operation by city forces. Exercise caution working adjacent to water facilities to avoid damage and ensure accessibility. During the project, any water facilities inspected by the engineer or city and found to be inoperable, damaged, or unidentified by the contractor, will be repaired by the contractor at the contractor's cost.

D Measurement

The department will measure Adjusting Water Manhole Covers 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.0060.12	Adjusting Water Manhole Covers	Each

Payment is full compensation for furnishing all excavation, backfilling, disposal of surplus materials, manhole clean-out, and restoration of the work site; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

Upon completion of the contract, the city will inspect all water facilities to ensure the manholes are clean, properly aligned, and accessible. The contractor shall be responsible to make identified repairs and adjustments.

36. Poles Type 9, Item SPV.0060.13; Poles Type 10, Item SPV.0060.14; Poles Type 12, Item SPV.0060.15; Poles Type 13, Item SPV.0060.16.

A Description

Work under this item consists of furnishing and installing monotube traffic signal 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 ¼”-20 x ¾” (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 ¼” -20 x ¾” (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 quantity at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.13	Poles Type 9	Each
SPV.0060.14	Poles Type 10	Each
SPV.0060.15	Poles Type 12	Each
SPV.0060.16	Poles Type 13	Each

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

37. Monotube Arms, 25-FT, Item SPV.0060.17; Monotube Arms, 30-FT, Item SPV.0060.18; Monotube Arms, 35-FT, Item SPV.0060.19; Monotube Arms, 40-FT, Item SPV.0060.20.

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 Arm (FT) as each individual arm, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.17	Monotube Arms, 25-FT	Each
SPV.0060.18	Monotube Arms, 30-FT	Each
SPV.0060.19	Monotube Arms, 35-FT	Each
SPV.0060.20	Monotube Arms, 40-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.

38. Adjusting Sanitary Sewer Manhole Covers, Item SPV.0060.21.

A Description
This special provision describes furnishing and installing Cretex Pro-Ring grade adjustment rings for adjusting sanitary sewer manhole covers.

Grade adjustment rings meeting the requirements of this section shall be used to adjust and support the frame and cover or grate to the final elevation on all sanitary manholes as shown in the plans.

The grade adjustment rings shall be designed to allow final adjustment of the frame and cover or grate to the grade established by the engineer. The rings shall also be designed to

accommodate flat or sloping surfaces to within approximately ¼" (one quarter inch) to ½" (one half inch) of the final elevation. The grade adjustment system shall have a minimum 50 (fifty) year design life.

The grade adjustment rings shall be capable of supporting the minimum requirements of AASHTO H-25 and HS-25, be UV stable and be resistant to chemicals and corrosion commonly associated with the sanitary and storm sewer environments.

The manufacturer of the grade adjustment rings shall provide certification to the engineer stating that the product meets the design life and material requirements of this specification.

B Materials

Manhole and catch basin grade adjustment rings shall consist of a variety of heights (thicknesses), diameters and shapes all conforming to the following requirements:

The grade adjustment rings shall be manufactured from ARPRO® Expanded Polypropylene (EPP), black. 5000 series meeting ASTM D3575. The rings shall be manufactured using a high compression molding process to produce a finished density of 120 g/l ((7.5 pcf).

Grade adjustment rings may contain either an upper and lower keyway (tongue and groove) for vertical alignment and/or an adhesive trench on the underside with a flat top.

"Finish" or "Flat" rings may either have a keyway (groove) on the underside for vertical alignment and/or an adhesive trench with a flat upper surface. These rings shall be available in heights (thicknesses) which will allow final adjustment of the frame and cover or grate to within ¼" (one quarter inch) to ½" (one half inch) of the specified final elevation. "Finish" rings may also have a keyway on the upper surface of the inner diameter to facilitate installation of an "Angle" ring.

"Angle" rings may either have an upper and lower keyway (tongue and groove) for vertical alignment and/or an adhesive trench on the underside. When required, the "Angle" ring or rings shall allow final adjustment of the frame and cover or grate to within ¼" (one quarter inch) to ½" (one half inch) of the specified final elevation.

Acceptable Manufacturer – PRO-RING™ by Cretex Specialty Products

The contractor shall provide the tools and equipment necessary to facilitate proper installation of the grade adjustment rings.

Any adhesive or sealant used for watertight installation of the manhole grade adjustment rings shall be M-1 Structural Adhesive/Sealant or equal meeting the following specifications:

ASTM C-920, Type S, Grade NS, Class 25, Uses NT, T, M, G, A and O
Federal Specification TT-S-00230-C Type II, Class A
Corps of Engineers CRD-C-541, Type II, Class A
Canadian Standards Board CAN 19, 13-M82
AAMA 802.3-08 Type II, AAMA 803.3-08 Type I and AAMA 805.2-08 Group C

Other adhesives or sealants must be approved by the engineer prior to use.

Repair mortar shall be a one component, quick set, high strength, non-shrink; polymer modified cementitious patching mortar, which has been formulated for vertical or overhead use meeting the requirements of ASTM C-109 for Compressive Strength, C-348 and C-78 for Flexural Strength and C-882 for Slant Shear Bond Strength. Repair mortar shall not contain any chlorides, gypsums, plasters, iron particles, aluminum powder or gas-forming agents nor shall it promote the corrosion of any steel that it may come in contact with.

Cementitious grout shall be a premixed, non-metallic, high strength, non-shrink grout which meets the requirements of ASTM C-191 and C-827 as well as CRD-C-588 and C-621. When mixed to a mortar or "plastic" consistency, it shall have minimum one day and 28 day compressive strength of 6,000 and 9,000 psi, respectively.

C Construction

Installation and surface preparation shall be in accordance to the manufacturer's instructions.

The joint between the first grade ring and top of the sanitary manhole shall be sealed using an adhesive/sealant meeting the requirements of Section 2.03.

If the top of the sanitary manhole is not level or is irregular, then a non-shrink repair mortar meeting the requirements of Section 2.04 or non-shrink cementitious grout meeting the requirements of Section 2.05 shall be used. A bed of the specified mortar or grout shall be placed on the top surface of the sanitary manhole and then the first grade ring shall be embedded and leveled into the bed of material.

The remaining joints between all manhole adjustment rings and the frame and cover or grate shall be sealed using an adhesive/sealant meeting the requirements of Section 2.03.

No other materials shall be used in the construction of the grade adjustment area beyond those specified above. Prohibited materials include, but are not limited to wood or wood shims of any kind, concrete, brick, block, stones, etc.

The use of any heat shrinkable chimney seals will not be permitted.

D Measurement

The department will measure Adjusting Sanitary Sewer Manhole Covers as each sanitary manhole, 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.0060.21	Adjusting Sanitary Sewer Manhole Covers	Each

Payment is full compensation for furnishing and installing the grade adjustment rings, providing the materials and equipment necessary to complete the work, and performing all operations necessary to adjust the manholes to final grade.

39. Luminaire Arms Steel 15-FT, Item SPV.0060.22.

A Description
Work under this item consists of furnishing and installing steel luminaire 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 if mounted on top of a Type 10 pole and category II criteria if mounted on top of a Type 13 pole.

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 luminaire arm shop drawings to the department electrical engineer.

Furnish luminaire 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 luminaire 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 Luminaire Arms Steel 15-Foot as each individual arm, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.22	Luminaire Arms Steel 15-FT	Each

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

40. Temporary Traffic Signal Controller Programming, Item SPV.0060.23.

A Description
This special provision describes temporary traffic signal controller programming necessary to accommodate intersection phasing and timing changes during various stages of construction. Specific timing plans, if necessary, shall be developed by the city and provided to the contractor.

B (Vacant)

C Construction
Program the traffic signal timings into the temporary traffic signal controller per the traffic signal timings provided by the city.

D Measurement
The department will measure Temporary Traffic Signal Controller Programming as each signal retiming performed per intersection.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.23	Temporary Traffic Signal Controller Programming	Each

Payment is full compensation for controller programming and timing modifications needed to accommodate fully functional traffic signal operation, as shown in the sequence of operations and timing plan.

41. Drainage Structure Repair and Cleaning, Item SPV.0060.24.

A Description
This special provision describes repairing and cleaning storm sewer manholes and inlets that are not covered under other contract items.

B Materials
Furnish materials conforming to standard spec 519.

C Construction
Clean out all soils, debris, or other accumulated matter from all storm sewer manholes or inlets as indicated in the contract.

Inspect the structures for loose or failing mortar, remove loose or failing mortar, and clean the area prior to repairing.

Fill large voids with sound pieces from bricks or blocks. Apply a plaster coat of mortar to the area of repair and make this plaster coat not less than ½-inch thick. Before applying a plaster coat, wet the surface with water and let the surface dry enough to prevent slipping.

As soon as possible after applying the plaster coat to a structure, apply a uniform coating of liquid membrane curing compound to the repaired surfaces.

D Measurement
The department will measure Drainage Structure Repair and Cleaning 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.0060.24	Drainage Structure Repair and Cleaning	Each

Payment is full compensation for performing all work required under this bid item including disposal of any waste material from cleaning the structures.

42. Concrete Pavement Joint Layout, Item SPV.0105.01.

A Description
This special provision describes providing a concrete pavement or concrete base joint layout design for intersections and marking the location of all joints in the field.

B (Vacant)

C Construction
Plan and locate all points necessary to establish the horizontal position of the transverse and longitudinal joints in the concrete to prevent uncontrolled cracking. Submit a joint

layout design to the engineer before paving each intersection. Mark the location of all concrete joints in the field. Make adjustments as required to fit field conditions.

D Measurement
The department will measure Concrete Pavement Joint Layout as a single lump sum unit for all joint layout designs and marking, acceptably completed under the contract.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Concrete Pavement Joint Layout	LS

Payment is full compensation for providing the intersection joint layout designs and marking all joints in the field.

The department will adjust pay for crack repairs as specified in standard spec 415.5.3.

43. Remove Traffic Signals STH 60 and Grand Avenue, Item SPV.0105.02; STH 60 and CTH K (Lone Oak Lane), Item SPV.0105.03.

A Description
This special provision describes removing existing traffic signals and traffic signal cabinets at the STH 60 intersections with Grand Avenue and CTH K 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
Notify the City of Hartford Public Works Department at (262) 673-8260 at least five working days prior to the removal of the traffic signals.

The department 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.

Arrange for the de-energizing of the traffic signals with the local electrical utility after receiving approval from the engineer that the existing traffic signals can be removed. Contact Alan Schmitt, WE Energies, at (262) 338-7662 at least four weeks in advance of service removal and to coordinate any conflicts with existing utility infrastructure.

Remove all standards and poles per plan from their concrete footings and disassemble out of traffic. Remove the transformer bases from each pole. Remove the signal heads, mast arms, luminaires, wiring / cabling and traffic signal mounting devices from each signal standard, arm or pole. Ensure that access handhole doors and hardware remain intact. Dispose of the underground signal cable, internal wires, and street lighting cable. Deliver the remaining materials to the City of Hartford Public Works Garage, 710 W. Sumner Street. Contact the City of Hartford Public Works Department at (262) 673-8260 at least five working days prior to delivery to make arrangements.

D Measurement

The department will measure Remove Traffic Signals [Location] as a 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 items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Remove Traffic Signals STH 60 and Grand Avenue	LS
SPV.0105.03	Remove Traffic Signals STH 60 and CTH K (Lone Oak Lane)	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.

44. Video Vehicle Detection System, STH 60 and Grand Avenue, Item SPV.0105.04; STH 60 and CTH K (Lone Oak Lane), Item SPV.0105.05.

A Description

Furnish and install an Iteris Vantage Edge2 or approved equal video traffic detection system meeting the following minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle traffic. In addition, install incidental items that are necessary to make the video detection system complete from the traffic signal controller to the most remote unit.

B Materials and Construction

1. System Components

1.1 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.

1.2 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.

2. Functional Capabilities

2.1 Available System Configuration

a. 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.

b. 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

Description	No. Video Inputs	No. Video Outputs	Mounting Configuration	Power Supply Requirements
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

c. An option to have wireless video transmission between the camera sensor and VDP shall also be available from the VDS manufacturer.

d. Wired camera systems shall be able to transmit NTSC or PAL video signals, with minimal degradation, up to 1000 feet under ideal conditions.

e. 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.

2.2 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 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 LEDs. Rack-mounted extension modules shall have two or four 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.

2.3 General System Functions

a. 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.

b. 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.

c. The VDP shall detect vehicles in real time as they travel across each detection zone.

d. The VDP shall have an EIA232 port for communications with an external computer. The VDP EIA232 port shall be multi-drop capable.

e. 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 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.

f. 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.

g. 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.

h. 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.

i. 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.

3. Vehicle Detection

3.1 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.

3.2 The VDP shall provide up to 24 open collector output channels per camera input using one or more extension modules.

3.3 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.

3.4 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.

3.5 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.

3.6 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.

3.7 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.

3.8 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.

3.9 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.

3.10 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.

3.11 Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.

3.12 The VDP shall process the video input from each camera at 30 frames per second. Multiple camera processors shall process all video inputs simultaneously.

3.13 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.

3.14 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.

3.15 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.

4. VDP Hardware

4.1 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.

4.2 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.

4.3 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.

4.4 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.

4.5 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.

4.6 Mechanical

a. 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.

b. 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.

c. 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.

d. 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.

e. 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.

5. Video Detection Camera

5.1 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.

5.2 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.

5.3 The imager luminance signal to noise ratio (S/N) shall be more than 50 dB.

5.4 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.

5.5 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.

5.6 The camera shall utilize automatic white balance.

5.7 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.

5.8 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.

5.9 The lens shall also have an auto-focus feature with a manual override to facilitate ease of setup.

5.10 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.

5.11 The camera electronics shall include automatic gain control (AGC) to produce a satisfactory image at night.

5.12 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.

5.13 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.

5.14 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.

5.15 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.

5.16 The glass face on the front of the enclosure shall have an anti-reflective coating to minimize light and image reflections.

5.17 The glass face shall also employ a special coating to minimize the buildup of environmental debris such as dirt and water.

5.18 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.

5.19 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.

5.20 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.

5.21 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.

5.22 The video signal shall be fully isolated from the camera enclosure and power cabling.

6. Installation

6.1 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.

6.2 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.

6.3 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.

7. Limited Warranty

7.1 The supplier shall provide a limited three-year warranty on the video detection system.

7.2 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.

7.3 During the warranty period, updates to VDP software shall be available from the supplier without charge.

8. Maintenance and Support

8.1 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.

8.2 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 onsite technical support services.

8.3 Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.

C Measurement

The department will measure Video Vehicle Detection System (Location) as a single complete lump sum unit of work for each intersection, acceptably completed.

D Payment

The measured quantity will be paid at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.04	Video Vehicle Detection System, STH 60 and Grand Avenue	LS
SPV.0105.05	Video Vehicle Detection System, STH 60 and CTH K (Lone Oak Lane)	LS

Payment for Video Vehicle Detection System (Location) is full compensation for furnishing and installing VDP, cameras, cabling, mounting brackets, testing and set up.

45. Traffic Signal Cabinet, Controller, and Battery Backup System STH 60 and Grand Avenue, Item SPV.0105.06; STH 60 and CTH K (Lone Oak Lane), Item SPV.0105.07.

A Description

This specification describes furnishing and installing an equipped NEMA TS2 Type 1 traffic signal control cabinet at the STH 60 intersections with Grand Avenue and CTH K in the City of Hartford. Cabinet components, including, but not limited to the traffic signal controller, malfunction management unit (MMU), bus interface units (BIU), flash transfer relays, and battery backup system will also be furnished and installed as part of this bid item.

The traffic signal cabinet shall be manufactured by Siemens Energy and Automation, Inc and include an Eagle/EPAC M50 Series Traffic Signal Controller.

B Materials

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. Conform all work to the Wisconsin State Electrical Code (WSEC).

Provide cabinets designed for TS2 Type 1 operation. Pre-wire cabinets for a minimum of sixteen phases as specified herein.

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.

C Construction

C.1 Cabinet

C.1.1 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.1.2 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.

C.1.3 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 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.1.4 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 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 shall be from exceeding 170 degrees F.

Furnish a police hand cord. Include a five foot long, stranded two-wire, coiled cord and a hand held push button unit for advancing the signal phasing.

C.2 Terminals and Facilities

C.2.1 Terminal Facility

The terminal facility panel 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 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. Identity 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 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.

C.3 Auxiliary Panels

C.3.1 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.

C.3.2 Intersection Lighting Control Panel
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:

- Control coil
- L1 in
- L2 in
- Neutral in and control coil
- L1 out
- 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 switch using 16AWG wire color coded to match the photo control wiring connected to the intersection lighting control panel.

C.3.3 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 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.

C.3.4 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)

Position	Switch Label	Function
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

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:

Position	Function
Up	Detector Disabled
Center	Detector Enabled
Down	Detector Called

C.4 Power Panel

C.4.1 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.

C.4.2 Bus Bar

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

C.4.3 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 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.

C.4.4 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 and Radio Manufacturer's Association.

C.4.5 Bus Relay
Provide a normally-open, 60 amp, solid state relay.

C.4.6 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. Provide one additional uninstalled surge protector for every 20 cabinets delivered.

C.4.7 Power receptacles
Mount a 120 VAC 20 amp**,** NEMA 5-20R GFCl convenience duplex 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.

C.4.8 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.

C.5 Auxiliary Devices
C.5.1 Load Switches
Provide solid state load switches conforming to the requirements of Section 6.2 of the NEMA TS2 Standard.

Supply all 16 load switches with each cabinet.

C.5.2 Flashers
Provide a solid state flasher conforming to the requirements of section 6.3 of the NEMA TS2 Standard.

C.5.3 Cabinet Power Supply
Supply one cabinet power supply with each cabinet, meeting 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.

C.5.4 Battery Backup System (BBS)
Furnish a BBS that will provide uninterruptible reliable emergency power to a traffic signal system in the event of a power failure or interruption. The BBS shall be capable of providing power for full run-time operation and for flashing mode operation of all traffic

signals at an intersection. The BBS system shall have a shelf mounted configuration and shall include:

- Inverter/charger
- Automatic power transfer switch
- Automatic bypass switch
- Manually operated non-electronic bypass switch
- Manually operated non-electronic generator transfer switch
- All auxiliary equipment, hardware, and wiring to provide a complete operating BBS system
- Cabinet and cabinet equipment
- Batteries and battery equipment

The system shall be designed for outdoor applications, shall meet the environmental requirements of NEMA Standards Publication TS2 – 2003v02.06 – Traffic Controller Assemblies with NTCIP Requirements, except as modified herein, and shall be capable of receiving power from a generator.

Configure the BBS to provide a minimum of two hours of full run-time operation for an intersection using LED traffic signals, LED pedestrian signals, and LED blank out message signs with a total operating load of 1500 watts minimum.

C.5.4.1 Uninterruptible Power Supply

C.5.4.1.1. Features

The UPS shall be an inverter/charger complying with UL 1778.

When utilizing battery power, the BBS output voltage shall be between 110 VAC and 125 VAC, pure sine wave output with THD < 3% at 60 Hz +/- 3 Hz.

Provide buck and boost capability to provide constant output voltage without battery input.

The range of operating temperatures for the inverter/charger shall be -34° C to +74° C.

The UPS shall be fully programmable and controllable, both locally using the UPS touch pad and remotely using a standard personal computer USB interface with Windows XP operating system, including all UPS features listed in this specification; all settings, controls, logs, tests, and counters; and all other electronic features.

Provide a backlit LCD display to indicate current battery charge status, input/output voltages, power output, battery temperature, faults, alarms, date, time, and settings of the various relays.

UPS shall be fully SNMP Ethernet ready, including a RJ-45 (also known as an 8P8C) Ethernet connector port, for future activation. A SNMP card is not required with this specification.

Provide on the UPS a resettable inverter event counter and a cumulative inverter timer.

All controls and external connections shall be on the front panel. The UPS unit shall sit horizontally on a shelf. All controls and labels shall be oriented to read horizontally.

Provide lightning/ surge protection complying with ANSI/IEEE C.62.41 and C.62.45 Cat A & B and UL 1449.

Equip the UPS with an event log for at minimum the last 100 events. The events shall be time and date stamped. The event log shall be retrievable via the USB port and the last event in the log shall be viewable from the LCD screen.

The UPS shall be capable of performing a SELF-TEST of the BBS. The duration of the SELF-TEST shall be programmable in 1-minute increments from one minute to four hours.

The operation of the flash mode shall be field programmable to activate at various times, battery capacities, or alarm conditions.

Provide password protection for certain maintenance controls such as Battery Test, BBS inverter ON/OFF, viewing the Event log, and changing default settings. Furnish the UPS with a default password and the ability for the user to change the password.

Use the following LED lights conditions to indicate current status:

Red LED Flashing	for ALARM
Red LED steady ON	for FAULT
Green LED Flashing	for battery back-up mode
Green LED steady ON	for normal line mode operation

Provide on the UPS at least four sets of NO / NC panel-mounted and potential free contact relays rated 1 Amp, 120 VAC, and labeled 1 through 4. Each relay's setting shall be either preset or programmable to activate under any number of conditions. The available settings for the relays shall be:

- ON BATTERY – relay activates when BBS switches to battery power.
- LOW BATTERY – relay activates when batteries have reached a certain level of remaining useful capacity while on battery power. This number is adjustable by battery voltage.
- TIMER – relay activates after being on battery power for a given amount of time. This number is adjustable from 0 to 8 hours.
- UPS FAILURE – relay activates in the event of UPS inverter/charger failure to be able to run according to these specifications.

C.5.4.1.2 Specifications

Battery String Voltage	48 Vdc

Input Specifications

Nominal Input Voltage	120 VAC, Single Phase
Input Voltage Range	120 VAC +/- 25%
Input Frequency	60 Hz +/- 5%

Output Specifications

Nominal Output Voltage	120 VAC, Single Phase
Power Rating	2000 VA minimum at 25° C (1500 Watts at 74° C)
Output Frequency	60 Hz (+/- 3%)
Voltage Wave Form	Pure Sine Wave, THD < 3.0%
Efficiency (nominal)	Minimum 85% at 100% load

C.5.4.2 Switches

The four switches listed in this section may be in separate units or may be integrated into one or more units.

The range of operating temperatures for all switches shall be -34° C to +74° C.

C.5.4.2.1 Automatic Transfer Switch

Provide an automatic transfer switch to transfer the critical load to the UPS when the utility line fails or is out of tolerance range. The transfer from utility power to battery power shall not interfere with the normal operations of the traffic controller, conflict monitor, or any other peripheral devices within the traffic control system. The automatic transfer switch shall automatically disconnect the battery heater pads when the critical load is operating from the UPS.

Input / Output Specifications

Nominal Voltage	120 VAC, Single Phase
Voltage Range	92 to 135 VAC
Input Frequency	60 Hz +/- 5%
Current	20 A minimum

C.5.4.2.2 Automatic Bypass Switch

Furnish an automatic bypass switch to transfer the critical load to the utility line if there is a fault on the UPS, if there is battery failure, and upon complete battery discharge. The transfer from battery power to utility power shall not interfere with the normal operations of the traffic controller, conflict monitor, or any other peripheral devices within the traffic control system.

Input / Output Specifications

Nominal Voltage	120 VAC, Single Phase
Voltage Range	92 to 135 VAC
Input Frequency	60 Hz +/- 5%
Current	20 A minimum

C.5.4.2.3 Manual Bypass Switch

Furnish a manual bypass switch to provide a mechanical bypass of the UPS without any interruption of power to the intersection.

Input / Output Specifications

Nominal Voltage	120 VAC, Single Phase
Voltage Range	92 to 135 VAC
Input Frequency	60 Hz +/- 5%
Current	20 A minimum

C.5.5.2.4 Generator Transfer Switch

Furnish a generator transfer switch to automatically transfer the input to the UPS from the utility line to a portable AC generator. The switch shall break both line and neutral to the utility, and prevent back-feeding the utility lines.

Input / Output Specifications

Nominal Voltage	120 VAC, Single Phase
Voltage Range	92 to 135 VAC
Input Frequency	60 Hz +/- 5%
Current	20 A minimum

C.5.4.3 Other Equipment

Furnish all equipment, mounting hardware, wire, cable, fasteners, and connectors not otherwise specified to provide a complete and operational BBS, including but not limited to, the cable connections to the batteries.

C.5.4.4 Operation

C.5.4.4.1 Loss / Restoration of Utility Power

The BBS shall transfer the load to battery power when the utility line voltage is outside the High and Low Limits. Set the default high and low limits as 130 and 100 VAC, respectively. Operate in the Buck and Boost modes for partial line voltage correction.

For the low line voltage condition, the BBS shall return to line mode when the utility power has been restored to above 105 VAC for the specified line qualification time. This line qualification time shall be user adjustable from 3 to 30 seconds.

For the high line voltage condition, the BBS shall return to line mode when the utility power has been restored to below 125 VAC for the specified line qualification time. This line qualification time shall be user adjustable from 3 to 30 seconds. In cases where the

nominal voltage is between 125 and 130 VAC, the BBS shall return to line mode when the utility power is back to nominal.

The maximum transfer time allowed, from disruption of normal utility line voltage to stabilized inverter line voltage from batteries, shall be 65 milliseconds. The same maximum allowable transfer time shall also apply when switching from inverter line voltage to utility line voltage.

C.5.4.4.2 Battery Operation
In the event of UPS failure, battery failure, or complete battery discharge, the automatic power transfer switch shall revert to the NC (and de-energized) state, where utility power is supplying the cabinet.

Provide a temperature compensated battery charging system. The charging system shall compensate over a wide range of 2.5 to 4 mV / °C / Cell. The charger shall be rated 10 amps at 48 VDC. Batteries shall not be charged when battery temperature exceeds manufacturer's recommendations for the specific batteries being used. The charging system shall fully recharge the batteries within 20 hours.

C.5.4.4.3 Product Compatibility
The BBS shall be compatible with all of the following for full phase operation mode, flash operation mode, or a combination of both full and flash mode operation:

- NEMA TS2 controllers and cabinet components

The complete BBS system including batteries shall fit inside and be compatible with a NEMA type traffic control cabinet of minimum size 26-inch wide X 40-inch high X 13-inch deep and maximum size 32-inch wide X 51-inch high X 18-inch deep, with minimum 3-inches in the front and minimum 1-inch air space on the top, back, and sides of a shelf mounted UPS.

C.5.4.4.4 Electrical Protections
The BBS shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service per UL 1778, Section 48 "Back-feed Protection Test". The upstream back-feed voltage from the BBS system shall be less than 1 volt AC.

C.5.4.4.5 Maintenance
The individual BBS parts shall be easily replaced and installed (complete turnkey system with all necessary hardware). The BBS shall not require any special tools for removal or installation.

C.5.4.4.6 Cabinet
Furnish a non-ground mounted, aluminum, outdoor rated, NEMA type 3R traffic control cabinet of minimum size 26-inch wide X 40-inch high X 13-inch deep and maximum size 32-inch wide X 51-inch high X 18-inch deep. The size of the cabinet shall be of sufficient size to provide ample space for housing all equipment specified herein, all equipment furnished with the Uninterruptible Power Supply (UPS) specification, and all batteries.

Provide a minimum clear space of 3-inches in the front of a shelf mounted UPS, and minimum 1-inch on both sides, back, and top of the UPS. Slope the top of the cabinet towards the door with a 2-inch drip lip over the door and cabinet front. All sheet metal parts shall be 0.125-inch thick aluminum of type 5052-H32. All seams shall be continuously welded.

Provide an access door on the front of the cabinet with a continuous hinge, door latch assembly with 3-point locking mechanism, #2 Corbin lock, dust cap, and two #2 keys. The door shall have a closed-cell neoprene gasket on all four edges. The continuous hinge shall be heavy gauge aluminum with ¼-inch diameter stainless steel hinge pin. Secure hinge with ¼-inch X 20 TPI stainless steel carriage bolts and stainless steel nylon locking nuts. The 3-point locking system shall have ½-inch X ¼-inch X length required latch bars and nylon rollers. Door handle shall be a ¾-inch solid stainless steel inward-turning handle with provisions for padlocking. Provide a steel rod door holder. All hardware shall be stainless steel, unless otherwise specified.

Provide ventilation louvers on the front of the cabinet of sufficient open area to provide air flow for the cabinet fan. Provide a 1/2-inch air filter over all the louver area. Air filter shall slide into a channel and shall be easily removed and replaced.

Provide installed a minimum of three full width and depth, aluminum shelves sufficient to hold all equipment furnished with the Uninterruptible Power Supply specification, and all batteries. All shelves shall have neoprene (or similar material) pads. The shelves shall not be the swing out type. The shelf locations shall be adjustable to within six inches of the top of the cabinet and 12 inches from the bottom of the cabinet. The shelves shall be capable of supporting up to 180 pounds.

C.5.4.4.7 Cabinet Equipment

Provide and install a power distribution terminal block for wire connections, wire size up to #8AWG, from the traffic signal cabinet. Locate the block on one side of the UPS cabinet between one and two feet from the top of the cabinet.

Provide a generator connection outlet installed on one side of the cabinet placement shall not interfere with the installation or use of batteries, UPS, or any switches. The outlet shall be a Marinco 125/250 V 50A turn and pull or equivalent, back wired, surface mounted, twist lock receptacle with a watertight cover and meter seal tabs, or equal.

Ventilate the UPS cabinet by means of an installed 120 VAC, 60HZ, tube axial compact type fan. The fan's free delivery airflow shall be greater than 2.83 cubic meters 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 7-year duty cycle. The maximum noise level shall be less than 40 decibels. The fan unit shall be corrosion resistant. The fan shall be thermostatically controlled. Thermostat shall be set to manufacturer required settings. The fan shall be fused.

Provide installed and operational heating pads for the batteries. Heating pads shall be 120 volt, 70 watt, polyester, G30200X, P07141A2 D0452, PowerBack pads from Hi-Heat, Industries, Inc., Lewiston, MT, or equal. Provide a temperature sensor bonded to the pad, electrical power cord, and a thermal fuse in each power cord.

Provide a battery voltage balancer, battery cable for each battery, and interface cable of the size compatible with the battery string. Balancer shall be ALPHAGuard Charge Management SC, 48-volt, compatible with the battery string, or equal.

In all controller cabinets and auxiliary cabinets, the AC common, the logic ground, and the chassis ground shall be isolated from each other as detailed by NEMA Standard.

Each 120 VAC circuit that serves an inductive device, such as a fan motor or a mechanical relay, shall have a suppressor 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.

C.5.4.4.8 Batteries

Furnish four batteries for each cabinet as recommended by the UPS supplier. Batteries shall be newly built and fully charged when delivered.

C.5.4.4.9 Equipment Installation

Install the furnished BBS, batteries, and battery equipment according to manufacturer’s requirements. Bolt the BBS cabinet firmly to the back or side of the traffic signal control cabinet as required by the design of each signal cabinet. Use a minimum of four bolts of the size recommended by the BBS cabinet manufacturer. Use fender washers on the inside of both cabinets. Use all stainless steel hardware.

Furnish and install from the electrical service to the BBS cabinet and back to the signal cabinet, the larger of 1) #10 AWG, 600 volt, electric wire, 2) the wire size recommended by the UPS manufacturer, 3) the largest size wire used in the signal cabinet for the power connections, or 4) the wire size required by WSEC. Install the wire through a 3/4-inch hole drilled between the cabinets and install two ¾-inch bushings in the hole. Provide grounding, suppressors and lightning arrestors according to the WSEC requirements.

Program and/or enter configuration settings for the equipment and make the equipment fully operational.

C.5.4.4.10 Certification

Provide a written certification with the cabinet delivery that the equipment meets the requirements of the plans and specifications and will fully operate the traffic signal cabinet. The certification shall be on the contractor’s company letterhead, shall be addressed to both the City of Hartford and the construction contractor, if there is one, and shall be signed by a company officer authorized to legally obligate the company. Cabinet testing and quality control documents may accompany the certification.

C.5.4.4.11 Documentation

Submit detailed equipment layout drawings and inter-equipment wiring diagrams furnished under this specification to the City of Hartford for approval. Two sets of approved equipment layout drawings and inter-equipment wiring diagrams shall be contained in a heavy-duty clear plastic envelope mounted on the inside of the front door.

For the cabinet and cabinet equipment, at the time of the delivery, furnish two printed sets, and one .pdf file on a CD-ROM or flash drive, of cabinet installation, operations, and maintenance manuals per cabinet and an itemized price list for each type of equipment, and their replacement parts. The manuals shall as a minimum include the following information: a) table of contents, b) operating procedure, c) step-by-step maintenance and trouble-shooting information for the entire assembly, d) part numbers, and e) maintenance checklists. Also provide two prints and the .dgn or CADD file of the as-built cabinet design and layout.

For the installed equipment, at the time of the delivery, furnish two printed sets, and one .pdf file on a CD-ROM or flash drive, of equipment installation, operations, and maintenance manuals per cabinet and an itemized price list for each type of equipment, their sub-assemblies, and their replacement parts. The manuals shall as a minimum include the following information for each piece of equipment: a) table of contents, b) startup procedure, c) operating procedure, d) step by step maintenance and trouble-shooting information for the entire assembly, e) circuit wiring diagrams, f) pictorial diagrams of parts locations, g) part numbers, h) theory of operation, and i) maintenance checklists. The instructional manuals shall include an itemized parts list. The itemized parts list shall include the manufacturer's name and part numbers for all components (such as IC's, diodes, switches, relays, etc.) used in each piece of equipment. The list shall include cross-references to part numbers of other manufacturers who make the same replacement parts. Also provide the .dgn CAD files for the equipment layout drawings and inter-equipment wiring diagrams.

C.5.4.4.12 Manufacturer Warranty

Certify in writing at the time of delivery that the cabinet and all equipment meet the required specification and supply a complete catalog description.

Provide a warranty and guarantee statement which stipulates that the cabinet and all supplied equipment 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 the combined traffic signal cabinet and BBS cabinet installation in the field, or in the case of a cabinet that is not installed in the field, from the date of delivery to, and acceptance by, the City of Hartford. Turn over to the City of Hartford warranties and guarantees that are offered by the manufacturer as a customary trade practice. Name the City of Hartford as the obligee on all manufacturers' warranties and guarantees. Shipping costs, both to the factory or an Authorized Repair Depot, and return, shall be at no cost to the Department or the City of Hartford.

Batteries shall be warranted against failure for a minimum of five years. Failure is inability to hold a full charge for an extended period of time, or any defect that does not allow the battery to be functional for the purpose intended in the BBS, as determined by the City of Hartford.

The warranty shall provide for full repair or replacement, as determined by the City of Hartford, of the failed item or cabinet system, including removal and installation, at no cost to the City of Hartford, within 20 calendar days of notification by the City of Hartford.

Work by others in the cabinet to install the modems and autodialers will not void or alter the warranty in any way.

C.6 Documentation

C.6.1 Shop Drawings

For each cabinet order, submit two sets of 22X34-inch detailed printed shop/drawings of the control cabinet, equipment layout drawings, and wiring diagrams of all equipment installed in the controller cabinet to the City of Hartford for review and approval, a minimum of 60 days before the designated cabinet delivery date. Also provide all drawings as .dgn or .dwg files. Revise the files and drawings in accordance to City of Hartford comments and resubmit, both printed and .dgn/.dwg files. If cabinet designs change within an order with the permission of the City of Hartford, resubmit all drawings and files for review, comment, and approval.

C.6.2 Manuals

At the time of the cabinet delivery, furnish the following:

- One set of installation, operations, and maintenance manuals per cabinet for each type of equipment and their replacement parts. The manuals shall as a minimum include the following information: a) table of contents, b) operating procedure, c) step-by-step maintenance and trouble-shooting information for the entire assembly, d) part numbers, and e) maintenance checklists.
- Two sets of cabinet wiring diagrams per cabinet.

C.7 Cabinet Delivery

Deliver the fully wired and equipped cabinets the project site and securely store the materials if not immediately installing the equipment. Contact the construction leader a minimum of one 24-hour business day ahead of the desired delivery date to confirm the site is ready for installation.

D Measurement

The department will measure Traffic Signal Cabinet, Controller, and Battery Backup System (Location) as a lump sum unit of work for each intersection, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.06	Traffic Signal Cabinet, Controller, and Battery Backup System STH 60 and Grand Avenue	LS
SPV.0105.07	Traffic Signal Cabinet, Controller, and Battery Backup System STH 60 and CTH K (Lone Oak Lane)	LS

Payment is full compensation for furnishing and installing the signal controller (including programming an initial timing program provided by the city) and conflict monitor together with cabinet, all required control units, switches for flashing operation, and fittings as are necessary to assure that the controller will perform the said functions.

46. Remove Loop Detector Wire and Lead-in Cable STH 60 and Grand Avenue, Item SPV.0105.08.; STH 60 and CTH K (Lone Oak Lane), Item SPV.0105.09.

A Description

This special provision describes the removing loop detector wire and lead-in cable at the STH 60 intersections with Grand Avenue and CTH K. Specific removal items are noted in the plans.

B (Vacant)

C Construction

Notify the City of Hartford at (262) 673-8260 at least five working days prior to the removal of the loop detector wire and lead-in cable.

Remove and dispose of detector lead-in cable including loop wire for abandoned loops per plan.

D Measurement

The department will measure Remove Loop Detector Wire and Lead-in Cable as a single lump sum unit of work for each intersection 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.0105.08	Remove Loop Detector Wire and Lead-in Cable STH 60 and Grand Avenue	LS
SPV.0105.09	Remove Loop Detector Wire and Lead-in Cable, STH 60 and CTH K (Lone Oak Lane)	LS

Payment is full compensation for removing, scrapping and disposing of scrap material.

47. Wall Modular Block Gravity LRFD, Item SPV.0165.01.

A Description

This special provision describes designing, furnishing materials, and erecting a permanent earth retention system in accordance to the lines, dimension, elevations and details as shown on the plans and provided in the contract. The design life of the wall and all wall components shall be 75 years.

B Materials

B.1 Proprietary Modular Block Gravity Wall Systems

The supplied wall system must be from the department's approved list of modular block gravity wall systems. Match the color of the proposed wall system to adjacent walls located within the project corridor

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved by the departments' Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved systems of retaining walls. To be eligible for use on this project, a system must have been pre-approved and added to that list prior to the bid opening date. The name of the companies supplying pre-approved material shall be furnished within 25 days after the award of contract.

Applications for pre-approval may be submitted at any time. Applications must be prepared in accordance to the requirements of chapter 14 of the department's LRFD Bridge Manual. Information and assistance with the pre-approval process can be obtained by contacting the Structures Design Section in Room 601 of the Hill Farms State Transportation Building in Madison or by calling (608) 266-8494.

B.2 Design Requirements

It is the responsibility of the contractor to supply a design and supporting documentation as required by this special provision for review by the department to show that the proposed wall design is in compliance with the design specifications. The following shall be submitted to the engineer for review and acceptance no later than 21 days before wall construction will begin.

The design/shop plans shall be prepared on reproducible sheets 11 inch x 17 inch, including borders. Each sheet shall have a title block in the lower right corner. The title block shall include the project identification number and structure number. Design calculations and notes shall be on 8½ inch x 11 inch sheets, and shall contain the project identification number, name or designation of the wall, date of preparation, initials of designer and checker, and page number at the top of the page. All plans and calculations shall be signed, sealed, and dated by a professional engineer licensed in the State of Wisconsin.

The wall shall be designed for the heights shown on the plans. The design shall be in compliance with the *AASHTO LRFD Design Specifications 5*th *Edition* 2010 (AASHTO LRFD) with latest interim specifications for Mechanically Stabilized Earth Walls, WisDOT's current *Standard Specifications for Highway and Structure Construction* (Standard Specifications), Chapter 14 of the WisDOT LRFD Bridge Manual and standard design procedures as determined by the department. Loads, load combinations and load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table 11.5.6-1 in AASHTO LRFD.

The design must include analyses at critical sections that clearly show the Capacity Demand Ratio (CDR) for sliding, eccentricity, and bearing check. Internal stability shall also be considered at each block level. The design shall include an overburden surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as shown on the plans. The width of the modular block from front face to back face of the wall shall be included in the design computations and shown on the wall shop drawings. The minimum embedment to the bottom of the modular block shall be 1 foot 6 inches, or as specified in the plan.

Submit the following to the engineer for review: complete design calculations, explanatory notes, supporting materials, specifications, and detailed plans and shop drawings for the proposed wall system. Sample analyses and hand output shall be submitted to verify the output by the software. The design calculations and notes shall clearly indicate the Capacity to Demand Ratios (CDR) for all internal stabilities as defined in AASHTO LRFD.

The wall submittal package shall be submitted electronically to the engineer and Structures Design Section. Submit all required information no later than 30 days prior to beginning construction of the wall. The detailed plans and shop drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the walls.

B.3 Wall System Components

Materials furnished under this contract shall conform to the requirements of this specification. All certifications related to material and components of the wall systems specified in this subsection shall be submitted to the engineer.

B.3.1 Backfill

Wall Backfill, Type A, shall comply with the requirements for coarse aggregate No. 1 as given in standard spec 501.2.5.4. All backfill placed within a zone from the base of the leveling pad to the top of the final layer of wall facing units and within 1 foot behind the back face of the wall shall be Wall Backfill, Type A. This includes all material used to fill openings in the wall facing units.

A layer of Geotextile Fabric Type "DF" (Schedule B) shall be placed vertically between the retained soil and the Type A backfill. The geotextile fabric shall extend from the top of the leveling pad to 6 inches below the surface of the retained soil. The geotextile shall then wrap across the top of the Type A backfill to the back of the block wall facing.

B.3.2 Wall Facing

Provide wall facing units that consist of precast modular concrete blocks. All units shall incorporate a mechanism or devices that will develop a mechanical connection between vertical block layers. Units that are cracked, chipped or have other imperfections in accordance to ASTM C1372 or excessive efflorescence shall not be used within the wall. A single block type and style shall be used throughout each wall. The color and surface texture of the block shall be as given on the plan, or chosen by the engineer.

The top course of facing units shall be a solid precast concrete unit designed to be compatible with the remainder of the wall unless a cast-in-place concrete cap is shown on the plans. The finishing course shall be bonded to the underlying facing units with a durable, high strength, flexible adhesive compound compatible with the block material. A formed cast-in-place concrete cap may also be used to finish the wall. A cap of this type shall be designed to have color and an appearance that complements the remainder of the wall. Concrete for all cast-in-place caps shall be Grade A and shall conform to the requirements of standard spec 501. Reinforcement steel shall have a yield of stress of 60 ksi. The vertical dimension of the cap shall not be less than 3½ inches. Expansion joints shall be placed in the cap to correspond with each 24-inch change in vertical wall height and at maximum spacing of 10 feet.

Block dimensions may vary no more than ±1/8 inch from the standard values published by the manufacturer, in accordance to ASTM C1372. Blocks must have a minimum depth (front face to back face) of 8 inches. The minimum front face thickness of blocks shall be 4 inches measured perpendicular from the front face to inside voids greater than 4 square inches. The minimum allowed thickness of any other portion of the block is 1.75 inches. The front face of the blocks shall conform to plan requirements for color, texture, or patterns.

Cementitious materials and aggregates for modular blocks shall conform to the requirements of ASTM C1372 section 4.1 and 4.2. Modular blocks shall meet the following requirements:

Test	Method	Requirement
Compressive Strength (psi)	ASTM C140	5000 min.
Water Absorption (%)	ASTM C140	6 max.
Freeze-Thaw Loss (%) 40 cycles, 5 of 5 samples 50 cycles, 4 of 5 samples	ASTM C1262[(1)]	 1.0 max.[(2)] 1.5 max.[(2)]

(1) Test shall be run using a 3% saline solution.

(2) Test results that meet either of the listed requirements for Freeze-Thaw Loss are acceptable

All blocks shall be certified as to strength, absorption, and freeze-thaw requirements unless, due to contract changes after letting, certified blocks are not available when required. At the time of delivery of the certified blocks, furnish the engineer a certified test report from a department-approved independent testing laboratory for each lot of modular blocks. The certified test report shall clearly identify the firm conducting the sampling and testing, the type of block, the date sampled, name of the person conducting the sampling, the represented lot, the number of blocks in the lot, and the specific test results for each of the stated requirements of this specification. A lot shall not exceed 5000 blocks or fraction thereof produced in day. The certified test results will represent all blocks within the lot. Each pallet of blocks delivered shall bear lot identification information. Block lots that do not meet the requirements of this specification or blocks without supporting certified test reports will be rejected and shall be removed from the project at the contractor's expense.

A department-approved independent testing laboratory shall control and conduct all modular block sampling and testing for certification. Prior to sampling, the manufacturer's representative shall identify all pallets of modular blocks contained in each lot. All pallets of blocks within the lot shall be numbered and marked to facilitate random sample selection. The representative of the independent testing laboratory shall identify five pallets of blocks by random numbers and shall then select one block from each of these pallets. Solid blocks used as a finishing or top course shall not be selected. The selected blocks shall remain under the control of the person who conducted the sampling until shipped or delivered to the testing laboratory. All pallets of blocks within a lot shall be strapped or wrapped to secure the contents and tagged or marked for identification. The engineer will reject any pallet of blocks delivered to the project without intact security measures. The contractor shall remove all rejected blocks from the project at no expense to the department.

The department may conduct testing of certified or non-certified modular blocks lots delivered to the project. The department will not conduct freeze-thaw testing on blocks less than 45 days old. If a random sample of five blocks of any lot tested by the department fails to meet any of the requirements of this specification (nonconforming), the contractor shall remove from the project site all blocks from the failed lot that have not been installed in the finished work at no cost to the department, unless the engineer allows otherwise. Nonconforming blocks installed in the finished work will be considered approved by the department as stated in standard spec 106.5(2) and any adjustment to the contract price will not exceed the price of the blocks charged by the supplier.

B.3.3 Leveling Pad

The leveling pad shall step to follow the general slope of the ground line. The leveling pad steps shall keep the bottom of the wall below the minimum embedment. Additional embedment that is greater than the minimum embedment will not be measured for payment. The bottom row of blocks shall be horizontal and 100% of the block surface shall bear on the leveling pad.

Provide a wall leveling pad that consists of poured concrete masonry, Grade A, A-FA, A-S, A-T, A-IS, or A-IP concrete conforming to standard spec 501 as modified in standard spec 716. Provide QMP for leveling pad concrete as specified in standard spec 716.

The concrete leveling pad shall be 6 inches deep. The leveling pad shall be as wide as the proposed blocks plus six inches, with six inches of the leveling pad extending beyond the front face of the blocks. A concrete leveling pad shall be provided in the following scenarios:

a. When the wall height measured from the top of the leveling pad to the top of the wall exceeds 5 feet at any point along the entire wall length.
b. A structure number has been assigned (such as R-XX-XXX), regardless of wall height.

Additionally, for walls that are less than or equal to 5 feet in height and do not have a wall number assigned to them, a compacted 1 foot (minimum) deep leveling pad made from base aggregate dense 1¼-inch in conformance with Standard spec 305, may be used. The aggregate leveling pad shall be as wide as the blocks plus 12 inches, and the modular blocks shall be centered on the leveling pad.

C Construction

C.1 General

Construct the modular block gravity wall in accordance to the manufacturer's instructions, at the locations and to the dimensions shown on the plan and as directed by the engineer. At the end of each working day, provide good temporary drainage such that the backfill shall not become contaminated with run-off soil or water if it should rain. Do not stockpile or store materials or large equipment within 10 feet of the back face of the wall.

Place materials in the areas as indicated on the plans and as detailed in this specification. Backfill lifts shall be no more than 8-inches in depth. Backfilling shall closely follow erection of each course of wall facing units.

Compact each layer of wall backfill Type A with at least three passes of lightweight manually operated compaction equipment acceptable to the engineer.

Conduct backfilling operations in such a manner as to prevent damage or misalignment of the wall facing units. At no expense to the department, correct any such damage or misalignment as directed by the engineer.

Do not operate tracked or wheeled equipment within 3 feet of the back face of the blocks. The engineer may order the removal of any large or heavy equipment that may cause damage or misalignment of the wall facing units.

After construction of the wall, restore the surrounding area located above and below all precast block retaining wall sites to its original condition and to the finished details on the plans.

C.2 Geotechnical Information
Geotechnical data to be used in the design of the wall is given on the wall plan. After completion of excavation, notify the department and allow two days for the Regional Soils Engineer to review the foundation.

D Measurement
The department will measure Wall Modular Block Gravity LRFD in area by the square foot acceptably completed, measured as the vertical area within the pay limits the contract plans show. No other measurement of quantities shall be made in the field unless the engineer directs in writing a change to the limits indicated on the contract plans.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.01	Wall Modular Block Gravity LRFD	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of surplus materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system and wall drainage system; providing backfill, backfilling, and compacting the backfill; and furnishing and installing geotextile fabric. Parapets, railings, and other items above the wall cap or coping will be paid for separately.

Any required topsoil, fertilizer, seeding or sodding and mulch will be paid for at the contract unit price of topsoil, fertilizer, seeding or sodding and mulch, respectively.

48. Management of Solid Waste, Item SPV.0195.01.

A Description
A.1 General
This work will conform with the requirements of standard spec 205; to pertinent parts of the Wisconsin Administrative Code, Chapters NR 700-736 Environmental Investigation and Remediation of Environmental Contamination; Wisconsin Administration Code, Chapters NR 500-538, Solid Waste; and as shown on the plans and as supplemented herein.

Contaminated waste material excavated during construction which cannot in the opinion of the environmental consultant be managed as petroleum contaminated soil will be managed as solid waste. Solid waste within fill material may be encountered within the limits of the construction and may include materials such as historic fill.

This work consists of excavating, segregating, temporary stockpiling, loading, hauling, and disposing of solid waste material at a DNR-approved disposal facility. The nearest DNR-approved disposal facilities are:

Waste Management Orchard Ridge Landfill
N96W13503 County Line Road
Menomonee Falls, WI 53051

Veolia Glacier Ridge Landfill
N7296 County Road V
Horicon, WI 53032

Provide information to the environmental consultant and engineer that indicates the DNR-approved disposal facility that the contractor will use.

A.2 Notice to the Contractor – Contaminated Soil Location(s)
The department and others completed testing for soil contamination for locations within this project where excavation is required. Testing indicated that contaminated soil may be present at the following location as shown on the plans:

- Station 169+50 to 171+00, from reference line to project limits left. Soil contaminated with PCBs and lead may be present from approximately 1 to 5 feet bgs. Approximately 20 cubic yards (approximately 40 tons) of soil to be excavated from this area for reconstruction of the storm sewer will require direct landfilling.

If contaminated soils are encountered elsewhere on the project, terminate excavation activities in the area and notify the engineer. No active groundwater monitoring wells were observed within the construction limits. If active groundwater monitoring wells are encountered during construction, notify engineer and protect them to maintain their integrity.

The excavation management plan for this project has been designed to minimize the offsite disposal of contaminated material. The excavation management plan, including these special provisions, has been developed in cooperation with the WDNR. The WDNR concurrence letter is on file at the Wisconsin Department of Transportation. For further information regarding previous investigation and remediation activities at these sites contact:

Name: Mr. Bryan Bergmann
Address: 150 N. Patrick Blvd. Ste. 180, Brookfield, WI 53045
Phone: (262) 879-1212
Fax: (262) 879-1220
E-mail:bbergmann@trcsolutions.com

A.3 Coordination
Coordinate work under this contract with the environment consultant:

Consultant: TRC Environmental Corporation
Address: 150 N. Patrick Blvd. Ste. 180, Brookfield, WI 53045
Contact: Mr. Bryan Bergmann

Phone: (262) 879-1212
Fax: (262) 879-1220
E-mail:bbergmann@trcsolutions.com

The role of the environmental consultant will be limited to:

- Determining the location and limits of contaminated soil to be excavated based on soil analytical results from previous investigations, visual observations, and field screening of soil that is excavated;
- Identifying contaminated soils to be hauled to the landfill facility;
- Documenting that activities associated with management of contaminated soil are in conformance with the contaminated soil management methods for this project as specified herein; and
- Obtaining the necessary approvals for disposal of contaminated soil from the landfill facility.

Provide at least a 14-calendar day notice of the preconstruction conference date to the environmental consultant. At the preconstruction conference, provide a schedule for all excavation activities in the areas of contamination to the environmental consultant. Also notify the environmental consultant at least three calendar days prior to commencement of excavation activities in each of the contaminated areas.

Coordinate with the environmental consultant to ensure that the environmental consultant is present during excavation activities in the contaminated areas. Perform excavation work in each of the contaminated areas on a continuous basis until excavation work is completed.

Identify the DNR licensed landfill facility that will be used for disposal of contaminated soils, and provide this information to the environmental consultant no later than 30 calendar days prior to commencement of excavation activities in the contaminated areas or at the preconstruction conference, whichever comes first. The environmental consultant will be responsible for obtaining the necessary approvals from the landfill facility for disposal of contaminated soils. Do not transport contaminated soil offsite without prior approval from the environmental consultant.

A.4 Health and Safety Requirements
Supplement standard spec 107.1 with the following:

During excavation activities, expect to encounter petroleum-contaminated soil and historic fill, which may contain low levels of PCBs and lead. Site workers taking part in activities that will result in the reasonable probability of exposure to safety and health hazards associated with hazardous materials shall have completed health and safety training that meets the Occupational Safety and Health Administration (OSHA) requirements for Hazardous Waste Operations and Emergency Response (HAZWOPER), as provided in 29 CFR 1910.120.

Prepare a site-specific Health and Safety Plan, and develop, delineate and enforce the health and safety exclusion zones for each contaminated site location as required by 29 CFR 1910.120. Submit the site-specific health and safety plan and written documentation of up-to-date OSHA training to the engineer prior to the start of work.

B (Vacant)

C Construction

Supplement standard spec 205.3 with the following:

Solid waste is defined as PCB-contaminated material or material containing non-exempt materials such as railroad ties, treated wood, household waste, glass, plastic, or similar wastes not exempt from licensing and requirements of Wisconsin Administrative Code NR 500–538 of the solid waste regulations. Directly load and haul soils designated by the environmental consultant for offsite disposal to the DNR approved landfill facility. Prior to transport, sufficiently dewater soils designated for off-site disposal so as not to contain free liquids.

Groundwater was not encountered in the Phase 2.5 investigation to a depth of 10 feet below grade.

During excavations in the area of known contamination, larger chunks of clean concrete (~2 cubic feet) and bricks will be segregated from the fill, to the extent practical and managed as common excavation. Under NR 500.08 this material is exempt from licensing and requirements of Wisconsin Administrative Code NR 500-538 of the solid waste regulations, and will be reused as designated by the environmental consultant or engineer as fill on the project, or it will be disposed of off-site at the contractor's disposal site(s).

Verify that the vehicles used to transport material are licensed for such activity in accordance to applicable state and federal regulations.

D Measurement

The department will measure Management of Solid Waste by the ton of waste accepted by the disposal facility and as documented by weight tickets, 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.0195.01	Management of Solid Waste	LS

Payment for Management of Solid Waste is full payment for excavating, segregating, temporary stockpiling, loading, transporting, and disposal of solid waste material. No additional payment will be made for tipping fees associated with the disposal of solid waste.

ADDITIONAL SPECIAL PROVISION 1 (ASP 1)
FOR TRANSPORTATION ALLIANCE FOR NEW SOLUTIONS (TrANS)
PROGRAM EMPLOYMENT PLACEMENTS AND APPRENTICESHIPS

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 __4__ *(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 under-representation 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

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.wi.gov/business/dbe/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

GFW SAMPLE MEMORANDUM

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

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
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		DBE Contractor Contact Person	
Phone:		Phone	
Fax:		Fax	
Email:		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 standard specifications:

450.3.2.1 General

Replace the entire text with the following effective with the January 2015 letting:

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 36 F for upper layers or 32 F for lower layers unless the engineer allows in writing. The contractor should place HMA pavement for projects on or north of STH 29 between May 1 and October 15 inclusive and for projects south of STH 29 between April 15 and November 1 inclusive. Notify the engineer at least one business day before paving.

(2) Unless the contract specifies otherwise, conform to the following:

- Keep the road open to all traffic during construction.
- Prepare the existing foundation for treatment as specified in 211.
- Incorporate loose roadbed aggregate as a part of preparing the foundation, in shoulder construction, or dispose of as the engineer approves.

(3) Place asphaltic mixture only on a prepared, firm, and compacted base, foundation layer, or existing pavement substantially surface-dry and free of loose and foreign material. Do not place over frozen subgrade or base, or where the roadbed is unstable.

450.5 Payment

Replace the entire text with the following effective with the May 2015 letting:

(1) All costs of furnishing, maintaining, and operating the truck scale or other weighing equipment and furnishing the weigh tickets are incidental to the contract.

(2) Nonconforming material allowed to remain in place is subject to price adjustment under 105.3.2.

(3) Full-depth sawing to remove integrally placed safety edge where not required is incidental to the contract.

(4) The contractor is responsible for the quality of HMA pavement placed in cold weather. If because of an excusable compensable delay under 108.10.3, the engineer directs the contractor to pave when the temperature is less than 36 F for the upper layer or less than 32 F for lower layers, the department:

- Will relieve the contractor of responsibility for damage and defects the engineer attributes to cold weather paving.
- Will not assess disincentives for density or ride.

455.3.2.1 General

Replace the paragraphs one and two with the following effective with the January 2015 letting:

(1) Apply tack coat only when the air temperature is 32 F or more unless the engineer approves otherwise in writing. Before applying tack coat ensure that the surface is dry and reasonably free of loose dirt, dust, or other foreign matter. Do not apply if weather or surface conditions are unfavorable or before impending rains.

(2) Use tack material of the type and grade the contract specifies. The contractor may, with the engineer's approval, dilute tack material as allowed under 455.2.4. Provide calculations using the asphalt content as-received from the supplier and subsequent contractor dilutions to show that as-placed material has 50 percent or more residual asphalt content. Apply at 0.050 to 0.070 gallons per square yard, after dilution, unless the contract designates otherwise. The engineer may adjust the application rate based on surface conditions. Limit application each day to the area the contractor expects to pave during that day.

460.2.2.3 Aggregate Gradation Master Range

Replace paragraph one with the following effective with the December 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[1]	15.0[2]	16.0	17.0

[1] 14.5 for E-0.3 and E-3 mixes.

[2] 15.5 for E-0.3 and E-3 mixes.

460.3.4 Cold Weather Paving

Add a new subsection as follows effective with the May 2015 letting:

460.3.4 Cold Weather Paving

460.3.4.1 Cold Weather Paving Plan

(1) Submit a written cold weather paving plan to the engineer at the preconstruction meeting. In that plan outline material, operational, and equipment changes for paving when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F. Include the following:

- Use a department-accepted HMA mix design that incorporates a warm mix additive from the department's approved products list. Do not use a foaming process that introduces water into the mix.
- Use additional rollers.

(2) Engineer written acceptance is required for the cold weather paving plan. Engineer acceptance of the plan does not relieve the contractor of responsibility for pavement performance except as specified in 450.5(4).

460.3.4.2 Cold Weather Paving Operations

(1) Do not place asphaltic mixture when the air temperature approximately 3 feet above grade, in shade, and away from artificial heat sources is less than 40 F unless a valid engineer-accepted cold weather paving plan is in effect.

(2) If the national weather service forecast for the construction area predicts ambient air temperature less than 40 F at the projected time of paving within the next 24 hours, confirm or submit revisions to a previously engineer-accepted cold weather paving plan for engineer validation. Upon validation of the plan, the engineer will allow paving for the next day. Once in effect, pave conforming to the engineer-accepted cold weather paving plan for the balance of that work day or shift regardless of the temperature at the time of paving.

460.4 Measurement

Add paragraph two as follows effective with the January 2015 letting:

(2) The department will measure HMA Cold Weather Paving by the ton of HMA mixture for pavement placed conforming to an engineer-accepted cold weather paving plan.

460.5.1 General

Revise paragraph one as follows effective with the January 2015 letting:

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
460.1100	HMA Pavement Type E-0.3	TON
460.1101	HMA Pavement Type E-1	TON
460.1103	HMA Pavement Type E-3	TON
460.1110	HMA Pavement Type E-10	TON
460.1130	HMA Pavement Type E-30	TON
460.1132	HMA Pavement Type E-30X	TON
460.1700	HMA Pavement Type SMA	TON
460.2000	Incentive Density HMA Pavement	DOL
460.4000	HMA Cold Weather Paving	TON

460.5.2.2 Disincentive for HMA Pavement Density

Revise paragraph two as follows effective with the January 2015 letting:

(2) The department will not assess density disincentives for pavement placed in cold weather because of a department-caused delay as specified in 450.5(4).

460.5.2.4 Cold Weather Paving

Add a new subsection as follows effective with the May 2015 letting:

460.5.2.4 Cold Weather Paving

(1) Payment for HMA Cold Weather Paving is full compensation for additional materials and equipment specified for cold weather paving under 460.3.4 including costs for preparing, administering, and following the contractor's cold weather paving plan. The department will not pay for HMA Cold Weather Paving for HMA placed on days when the department is assessing liquidated damages.

(2) If HMA pavement is placed under 460.3.4 and the HMA Cold Weather Paving bid item is not in the contract, the department will pay for the additional costs specified in 460.5.2.4(1) as extra work. The department will pay separately for HMA pavement under the appropriate HMA Pavement bid items.

465.2 Materials

Replace paragraph two with the following effective with the December 2014 letting:

(2) Under the other 465 bid items, the contractor need not submit a mix design. Furnish aggregates mixed with a type AC asphaltic material, except under the Asphaltic Curb bid item furnish PG58-28 asphaltic material. Use coarse and fine mineral aggregates uniformly coated and mixed with the asphaltic material in an engineer-approved mixing plant. The contractor may include reclaimed asphaltic pavement materials in the mixture.

506.3.2 Shop Drawings

Replace the entire text with the following effective with the May 2015 letting:

(1) Ensure that shop drawings conform to the contract plans and provide additional details, dimensions, computations, and other information necessary for completely fabricating and erecting the work. Include project and structure numbers on each shop drawing sheet.

(2) Check shop drawings and submit electronically to the department for review before beginning fabrication. For primary fabrication items, also certify that shop drawings conform to quality control standards by submitting department form DT2333. Department review does not relieve the contractor from responsibility for errors or omissions on shop drawings.

(3) Shop drawings are part of the contract. The department must approve differences between shop drawings and contract plans. The contractor bears the costs of department-approved substitutions. Do not deviate from or revise drawings without notifying the department and resubmitting revised drawings.

(4) Ensure that the fabricator delivers 3 sets of shop drawings for railroad structures to the railroad company upon contract completion.

Bid Items Added

Add the following new bid item effective with the January 2015 letting:

ITEM NUMBER	DESCRIPTION	UNIT
460.4000	HMA Cold Weather Paving	TON

Errata

Make the following corrections to the standard specifications:

501.3.2.4.4 Water Reducer

Correct errata by deleting the reference to footnote 6 for grade D concrete.

(1) Add a water reducing admixture conforming to 501.2.3. Determine the specific type and rate of use based on the atmospheric conditions, the desired properties of the finished concrete and the manufacturer's recommended rate of use. The actual rate of use shall at least equal the manufacturer's recommended rate, and both the type and rate used require the engineer's approval before use.

506.5 Payment

Correct errata by changing the reference to 506.3.22.

(9) The department will limit costs for inspections conducted under 506.3.22 to $0.05 per pound of material and deduct costs in excess of that amount from payment due the contractor. The department will determine costs for in-house inspections based on hourly rates for department staff plus overhead and use invoiced costs for contracted-out inspections. The department will administer deductions for the contractor's share of the total inspection cost under the Excess Costs For Fabrication Shop Inspection administrative item.

ADDITIONAL SPECIAL PROVISION 7

A. Reporting 1st 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://www.dot.wi.gov/business/civilrights/laborwages/index.htm

(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://www.dot.wi.gov/business/civilrights/laborwages/docs/crc-payroll-manual.pdf

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

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 contacting 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:

County	%	County	%	County	%
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

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 contacts.

While the wage rates shown are the minimum rates required by the contract to be paid during its life, this in 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
WASHINGTON COUNTY

Compiled by the State of Wisconsin - Department of Workforce Development
for the Department of Transportation
Pursuant to s. 103.50, Stats.
Issued on May 1, 2015

CLASSIFICATION: Contractors are required to call the Department of Workforce Development if there are any questions reqarding 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.

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Bricklayer, Blocklayer or Stonemason	35.37	17.99	53.36
Carpenter	34.13	20.61	54.74
Future Increase(s): Add $1.50/hr on 6/1/2015; Add $1.65/hr on 6/1/2016.			
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	32.75	19.21	51.96
Future Increase(s): 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	33.93	22.77	56.70
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.			
Fence Erector	23.73	19.09	42.82
Ironworker	30.77	23.97	54.74
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.			
Line Constructor (Electrical)	39.50	18.39	57.89
Painter	29.22	16.69	45.91
Pavement Marking Operator	30.27	18.79	49.06
Piledriver	30.11	26.51	56.62
Future Increase(s): Add $1.50/hr on 6/1/2015; Add $1.60/hr on 6/1/2016.			
Premium Pay: Add $.65/hr for Piledriver Loftsman; Add $.75/hr for Sheet Piling Loftsman. 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.			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Roofer or Waterproofer	29.40	11.20	40.60
Teledata Technician or Installer	24.89	17.15	42.04
Tuckpointer, Caulker or Cleaner	33.76	17.82	51.58
Underwater Diver (Except on Great Lakes)	35.40	15.90	51.30
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	35.55	15.57	51.12
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	31.60	14.64	46.24
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	27.65	13.44	41.09
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	25.68	12.83	38.51
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	11.63	33.38
TRUCK DRIVERS			
Single Axle or Two Axle	25.18	18.31	43.49
Future Increase(s): Add $1.15/hr on 6/1/2015. 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.			
Three or More Axle	25.28	18.31	43.59
Future Increase(s): Add $1.15/hr on 6/1/2015. 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	30.27	21.15	51.42
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Pavement Marking Vehicle	23.16	17.13	40.29
Shadow or Pilot Vehicle	24.37	17.77	42.14
Truck Mechanic	24.52	17.77	42.29
LABORERS			
General Laborer	26.31	20.03	46.34
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 Premium Pay: Add $.10/hr for air tool operator, vibrator or tamper operator (mechanical hand operated), chain saw operator and demolition burning torch laborer; Add $.15/hr for bituminous worker (raker and luteman), formsetter (curb, sidewalk and pavement) and strike off man; Add $.20/hr for blaster and powderman; Add $.35/hr for line and grade specialist; Add $2.79/hr for topman; Add $3.21/hr for bottomman; Add $3.98/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	22.05	18.41	40.46
Landscaper	26.31	20.03	46.34
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 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			

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
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	23.40	20.03	43.43
Future Increase(s): Add $1.05/hr eff. 06/01/2015; Add $1.00/hr eff. 06/01/2016; Add $1.00/hr eff. 06/01/2017 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)	17.71	16.01	33.72
Railroad Track Laborer	17.00	3.28	20.28
HEAVY EQUIPMENT OPERATORS			
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).	37.72	21.15	58.87
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Backhoe (Track Type) Having a Mfgr.'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.	37.22	21.15	58.37
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
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 Mfgr.'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	36.72	21.15	57.87

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
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 $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
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 Sawer (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.	36.46	21.15	57.61
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
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; Oiler; 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.	36.17	21.15	57.32
Future Increase(s): Add $1.25/hr on 6/1/2015; Add $1.30/hr on 6/1/2016; Add $1.25/hr on 6/1/2017. 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: http:/ / www.dot.wi.gov/ business/ civilrights/ laborwages/ pwc. htm.			
Fiber Optic Cable Equipment.	28.89	17.95	46.84

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI150010
DATE: March 20, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

LABORERS CLASSIFICATION:	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	$26.31	18.75
Group 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated);	26.41	18.75
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	26.46	18.75
Group 4: Line and Grade Specialist	26.66	18.75
Group 5: Blaster and Powderman	26.51	18.75
Group 6: Flagperson and Traffic Control Person	23.40	18.75

CLASSES OF LABORER AND MECHANICS

Bricklayer	35.37	18.47
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	40.81	32% + 5.00
Heavy Equipment Operator	38.77	32% + 5.00
Equipment Operator	32.65	32% + 5.00
Heavy Groundman Driver	26.78	14.11
Light Groundman Driver	24.86	13.45
Groundsman	22.45	32% + 5.00
Millwrights	26.32	13.98
Painter, Brush	29.52	20.04
Painter, Spray and Sandblaster	30.27	20.04
Painter, Bridge	29.87	20.04
Well Drilling:		
Well Driller	16.52	3.70

Truck Drivers:	Basic Hourly Rates	Fringe Benefits
1 & 2 Axles	25.18	18.31
Three or More Axles; Euclids, Dumptor & Articulated, Truck Mechanic	25.38	18.31

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 2, 2015; Modification #1 dated January 16, 2015; Modification #2 dated March 20, 2015.

SUPERSEDES DECISION WI20120010
U. S. DEPARTMENT OF LABOR
(DAVIS-BACON ACT, MINIMUM WAGE RATES)

STATE: Wisconsin
GENERAL DECISION NUMBER: WI150010
DATE: March 20, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

POWER EQUIPMENT OPERATORS CLASSIFICATION:	Basic Hourly Rates	Fringe Benefits
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	$37.72	$20.93
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.....	$37.22	$20.93
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		

POWER EQUIPMENT OPERATORS CLASSIFICATION: (Continued)	Basic Hourly Rates	Fringe Benefits
(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.	$36.72	$20.93
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.	$36.46	$20.93
Group 5: Air compressor; power pack; vibratory hammer and extractor; heavy equipment, leadman; tank car heaters; stump chipper; curb machine operator; concrete pro-portioning 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.....	$36.17	$20.93
Group 6: Off – road material hauler with or without ejector	$30.27	$20.93

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: WI150010
DATE: March 20, 2015
DESCRIPTION OF WORK: Highways and Airport Runway and Taxiway Construction

LABORERS CLASSIFICATION:	Rates	Benefits
Electricians		
Area 1	$29.00	26.5%+ 9.15
Area 2:		
Electricians	30.59	18.43
Area 3:		
Electrical contracts under $130,000	26.24	16.85
Electrical contracts over $130,000	29.41	16.97
Area 4:	29.32	28.50% + 9.27
Area 5	28.96	24.85% + 9.70
Area 6	35.25	19.30
Area 8		
Electricians	31.30	24.93% + 10.40
Area 9:		
Electricians	34.82	19.575
Area 10	29.64	20.54
Area 11	32.54	24.07
Area 12	32.87	19.23
Area 13	33.93	22.67
Teledata System Installer		
Area 14		
Installer/Technician	22.50	12.72
Sound & Communications		
Area 15		
Installer	16.47	14.84
Technician	25.63	17.21

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, TREMPEALEAU, VERNON and WASHBURN COUNTIES

Area 3 - FLORENCE (townships of Aurora, Commonwealth, Fern, Florence and Homestead), MARINETTE (Niagara township)

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.

Area 5 - ADAMS, CLARK (Colby, Freemont, Lynn, Mayville, Sherman, Sherwood, Unity), FOREST, JUNEAU, LANGLADE, LINCOLN, MARATHON, MARINETTE (Area North of the town of Wausaukee), 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 6 - KENOSHA COUNTY

Area 8 - DODGE, (Emmet Township only), GREEN, JEFFERSON, LAFAYETTE, RACINE (Burlington township), ROCK and WALWORTH COUNTIES

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 10 - CALUMET (Township of New Holstein), DODGE (East of Hwy. 26 including Chester Township), FOND DU LAC, MANITOWOC (Schleswig), and SHEBOYGAN COUNTIES

Area 11 - DOUGLAS COUNTY

Area 12 - RACINE (except Burlington township) COUNTY

Area 13 - MILWAUKEE, OZAUKEE, WASHINGTON and WAUKESHA COUNTIES

Area 14 - Statewide.

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.

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 omision 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.

CONTRACT: 20150512026 PROJECT(S): 2310-19-70 FEDERAL ID(S): WISC 2015290

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 Roadway Items					
0010	204.0100 Removing Pavement	1,226.000 SY		.		.
0020	204.0110 Removing Asphaltic Surface	13,013.000 SY		.		.
0030	204.0115 Removing Asphaltic Surface Butt Joints	3,433.000 SY		.		.
0040	204.0125 Removing Asphaltic Surface Milling	14,100.000 TON		.		.
0050	204.0150 Removing Curb & Gutter	4,923.000 LF		.		.
0060	204.0155 Removing Concrete Sidewalk	2,017.000 SY		.		.
0070	204.0185 Removing Masonry	35.000 CY		.		.
0080	204.0195 Removing Concrete Bases	20.000 EACH		.		.
0090	204.0210 Removing Manholes	1.000 EACH		.		.
0100	204.0220 Removing Inlets	25.000 EACH		.		.

CONTRACT: 20150512026 PROJECT(S): 2310-19-70 FEDERAL ID(S): WISC 2015290

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0110	204.0245 Removing Storm Sewer (size) 12. 12-Inch	355.000	LF	.		.	
0120	204.0245 Removing Storm Sewer (size) 18. 18-Inch	147.000	LF	.		.	
0130	204.0245 Removing Storm Sewer (size) 24. 24-Inch	11.000	LF	.		.	
0140	204.0245 Removing Storm Sewer (size) 30. 30-Inch	4.000	LF	.		.	
0150	204.0250 Abandoning Manholes	10.000	EACH	.		.	
0160	205.0100 Excavation Common	6,046.000	CY	.		.	
0170	205.0501.S Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	40.000	TON	.		.	
0180	213.0100 Finishing Roadway (project) 01. 2310-19-70	1.000	EACH	.		.	
0190	305.0110 Base Aggregate Dense 3/4-Inch	607.000	TON	.		.	
0200	305.0120 Base Aggregate Dense 1 1/4-Inch	4,386.000	TON	.		.	
0210	310.0110 Base Aggregate Open Graded	1,611.000	TON	.		.	

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0220	311.0110 Breaker Run	4,365.000 TON		.		.
0230	415.0100 Concrete Pavement 10-Inch	1,051.000 SY		.		.
0240	416.0170 Concrete Driveway 7-Inch	800.000 SY		.		.
0250	416.0610 Drilled Tie Bars	1,265.000 EACH		.		.
0260	416.0620 Drilled Dowel Bars	2,024.000 EACH		.		.
0270	416.1710 Concrete Pavement Repair	786.000 SY		.		.
0280	416.1715 Concrete Pavement Repair SHES	375.000 SY		.		.
0290	416.1720 Concrete Pavement Replacement	32.000 SY		.		.
0300	440.4410.S Incentive IRI Ride	15,740.000 DOL	1.00000		15740.00	
0310	455.0120 Asphaltic Material PG64-28	990.000 TON		.		.
0320	455.0605 Tack Coat	10,146.000 GAL		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0330	460.1110 HMA Pavement Type E-10	17,854.000	TON		.		.
0340	460.2000 Incentive Density HMA Pavement	11,500.000	DOL	1.00000		11500.00	
0350	460.4000 HMA Cold Weather Paving	2,100.000	TON		.		.
0360	465.0105 Asphaltic Surface	218.000	TON		.		.
0370	465.0110 Asphaltic Surface Patching	1,800.000	TON		.		.
0380	465.0120 Asphaltic Surface Driveways and Field Entrances	20.000	TON		.		.
0390	465.0125 Asphaltic Surface Temporary	230.000	TON		.		.
0400	520.8000 Concrete Collars for Pipe	7.000	EACH		.		.
0410	601.0405 Concrete Curb & Gutter 18-Inch Type A	2,049.000	LF		.		.
0420	601.0411 Concrete Curb & Gutter 30-Inch Type D	5,047.000	LF		.		.
0430	601.0600 Concrete Curb Pedestrian	453.000	LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0440	602.0410 Concrete Sidewalk 5-Inch	32,362.000 SF		.		.
0450	602.0505 Curb Ramp Detectable Warning Field Yellow	992.000 SF		.		.
0460	602.1500 Concrete Steps	17.000 SF		.		.
0470	608.0330 Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	3.000 LF		.		.
0480	608.0412 Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	632.000 LF		.		.
0490	608.0415 Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	33.000 LF		.		.
0500	608.0418 Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	192.000 LF		.		.
0510	608.0424 Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	10.000 LF		.		.
0520	611.0530 Manhole Covers Type J	9.000 EACH		.		.
0530	611.0610 Inlet Covers Type BW	2.000 EACH		.		.
0540	611.0624 Inlet Covers Type H	25.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0550	611.0666 Inlet Covers Type Z	10.000 EACH		.		.
0560	611.2004 Manholes 4-FT Diameter	9.000 EACH		.		.
0570	611.2005 Manholes 5-FT Diameter	4.000 EACH		.		.
0580	611.2006 Manholes 6-FT Diameter	2.000 EACH		.		.
0590	611.3004 Inlets 4-FT Diameter	16.000 EACH		.		.
0600	611.3230 Inlets 2x3-FT	13.000 EACH		.		.
0610	611.8110 Adjusting Manhole Covers	13.000 EACH		.		.
0620	611.8115 Adjusting Inlet Covers	9.000 EACH		.		.
0630	612.0104 Pipe Underdrain 4-Inch	4,610.000 LF		.		.
0640	612.0106 Pipe Underdrain 6-Inch	493.000 LF		.		.
0650	612.0406 Pipe Underdrain Wrapped 6-Inch	234.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0660	619.1000 Mobilization	1.000 EACH		.		.
0670	620.0300 Concrete Median Sloped Nose	491.000 SF		.		.
0680	623.0200 Dust Control Surface Treatment	26,059.000 SY		.		.
0690	625.0100 Topsoil	5,720.000 SY		.		.
0700	627.0200 Mulching	1,300.000 SY		.		.
0710	628.1104 Erosion Bales	500.000 EACH		.		.
0720	628.1504 Silt Fence	2,770.000 LF		.		.
0730	628.1520 Silt Fence Maintenance	700.000 LF		.		.
0740	628.1905 Mobilizations Erosion Control	20.000 EACH		.		.
0750	628.1910 Mobilizations Emergency Erosion Control	10.000 EACH		.		.
0760	628.2002 Erosion Mat Class I Type A	2,180.000 SY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0770	628.6510 Soil Stabilizer Type B	0.500 ACRE		.		.
0780	628.7005 Inlet Protection Type A	42.000 EACH		.		.
0790	628.7010 Inlet Protection Type B	23.000 EACH		.		.
0800	628.7015 Inlet Protection Type C	151.000 EACH		.		.
0810	628.7020 Inlet Protection Type D	44.000 EACH		.		.
0820	628.7504 Temporary Ditch Checks	100.000 LF		.		.
0830	628.7555 Culvert Pipe Checks	5.000 EACH		.		.
0840	629.0210 Fertilizer Type B	4.170 CWT		.		.
0850	630.0140 Seeding Mixture No. 40	90.000 LB		.		.
0860	630.0200 Seeding Temporary	75.000 LB		.		.
0870	631.1000 Sod Lawn	5,720.000 SY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0880	634.0616 Posts Wood 4x6-Inch X 16-FT	130.000 EACH		.		.
0890	634.0618 Posts Wood 4x6-Inch X 18-FT	90.000 EACH		.		.
0900	634.0816 Posts Tubular Steel 2x2-Inch X 16-FT	3.000 EACH		.		.
0910	637.2210 Signs Type II Reflective H	1,851.450 SF		.		.
0920	637.2215 Signs Type II Reflective H Folding	193.960 SF		.		.
0930	637.2230 Signs Type II Reflective F	153.750 SF		.		.
0940	638.2102 Moving Signs Type II	3.000 EACH		.		.
0950	638.2602 Removing Signs Type II	154.000 EACH		.		.
0960	638.3000 Removing Small Sign Supports	141.000 EACH		.		.
0970	642.5201 Field Office Type C	1.000 EACH		.		.
0980	643.0100 Traffic Control (project) 01. 2310-19-70	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0990	643.0300 Traffic Control Drums	108,910.000 DAY		.		.
1000	643.0420 Traffic Control Barricades Type III	10,090.000 DAY		.		.
1010	643.0500 Traffic Control Flexible Tubular Marker Posts	43.000 EACH		.		.
1020	643.0600 Traffic Control Flexible Tubular Marker Bases	43.000 EACH		.		.
1030	643.0705 Traffic Control Warning Lights Type A	20,180.000 DAY		.		.
1040	643.0715 Traffic Control Warning Lights Type C	3,106.000 DAY		.		.
1050	643.0800 Traffic Control Arrow Boards	222.000 DAY		.		.
1060	643.0900 Traffic Control Signs	20,678.000 DAY		.		.
1070	643.1000 Traffic Control Signs Fixed Message	32.000 SF		.		.
1080	643.1050 Traffic Control Signs PCMS	306.000 DAY		.		.
1090	646.0106 Pavement Marking Epoxy 4-Inch	42,051.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1100	646.0600 Removing Pavement Markings	345.000 LF		.		.
1110	646.0841.S Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	2,490.000 LF		.		.
1120	646.0843.S Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	1,015.000 LF		.		.
1130	646.0881.S Pavement Marking Grooved Wet Reflective Tape 4-Inch	5,855.000 LF		.		.
1140	646.0883.S Pavement Marking Grooved Wet Reflective Tape 8-Inch	3,800.000 LF		.		.
1150	647.0456 Pavement Marking Curb Epoxy	715.000 LF		.		.
1160	647.0606 Pavement Marking Island Nose Epoxy	25.000 EACH		.		.
1170	647.0716 Pavement Marking Diagonal Epoxy 8-Inch	255.000 LF		.		.
1180	649.0200 Temporary Pavement Marking Reflective Paint 4-Inch	27,549.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1190	649.0400 Temporary Pavement Marking Removable Tape 4-Inch	41,971.000 LF		.		.
1200	649.0701 Temporary Pavement Marking 8-Inch	800.000 LF		.		.
1210	649.0801 Temporary Pavement Marking Removable Tape 8-Inch	2,780.000 LF		.		.
1220	649.1200 Temporary Pavement Marking Stop Line Removable Tape 18-Inch	66.000 LF		.		.
1230	649.1700 Temporary Pavement Marking Arrows	2.000 EACH		.		.
1240	649.1800 Temporary Pavement Marking Arrows Removable Tape	24.000 EACH		.		.
1250	649.1900 Temporary Pavement Marking Words	2.000 EACH		.		.
1260	649.2000 Temporary Pavement Marking Words Removable Tape	14.000 EACH		.		.
1270	650.4000 Construction Staking Storm Sewer	44.000 EACH		.		.
1280	650.4500 Construction Staking Subgrade	1,598.000 LF		.		.
1290	650.5000 Construction Staking Base	1,598.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1300	650.5500 Construction Staking Curb Gutter and Curb & Gutter	7,096.000 LF		.		.
1310	650.6500 Construction Staking Structure Layout (structure) 01. Grand Avenue Modular Block Gravity Wall SW	LUMP	LUMP			.
1320	650.6500 Construction Staking Structure Layout (structure) 01. Sell Drive Modular Block Gravity Wall SE	LUMP	LUMP			.
1330	650.6500 Construction Staking Structure Layout (structure) 02. Grand Avenue Modular Block Gravity Wall NW	LUMP	LUMP			.
1340	650.7000 Construction Staking Concrete Pavement	654.000 LF		.		.
1350	650.8000 Construction Staking Resurfacing Reference	10,388.000 LF		.		.
1360	650.8500 Construction Staking Electrical Installations (project) 01. 2310-19-70	LUMP	LUMP			.
1370	650.9910 Construction Staking Supplemental Control (project) 01. 2310-19-70	LUMP	LUMP			.
1380	650.9920 Construction Staking Slope Stakes	15,060.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1390	652.0210 Conduit Rigid Nonmetallic Schedule 40 1-Inch	30.000 LF		.		.
1400	652.0225 Conduit Rigid Nonmetallic Schedule 40 2-Inch	481.000 LF		.		.
1410	652.0235 Conduit Rigid Nonmetallic Schedule 40 3-Inch	776.000 LF		.		.
1420	652.0605 Conduit Special 2-Inch	61.000 LF		.		.
1430	652.0615 Conduit Special 3-Inch	1,160.000 LF		.		.
1440	652.0800 Conduit Loop Detector	739.000 LF		.		.
1450	652.0900 Loop Detector Slots	652.000 LF		.		.
1460	653.0135 Pull Boxes Steel 24x36-Inch	3.000 EACH		.		.
1470	653.0140 Pull Boxes Steel 24x42-Inch	21.000 EACH		.		.
1480	653.0900 Adjusting Pull Boxes	2.000 EACH		.		.
1490	653.0905 Removing Pull Boxes	31.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1500	654.0101 Concrete Bases Type 1	9.000 EACH		.		.
1510	654.0102 Concrete Bases Type 2	7.000 EACH		.		.
1520	654.0110 Concrete Bases Type 10	2.000 EACH		.		.
1530	654.0113 Concrete Bases Type 13	2.000 EACH		.		.
1540	654.0217 Concrete Control Cabinet Bases Type 9 Special	2.000 EACH		.		.
1550	655.0230 Cable Traffic Signal 5-14 AWG	1,094.000 LF		.		.
1560	655.0240 Cable Traffic Signal 7-14 AWG	1,160.000 LF		.		.
1570	655.0260 Cable Traffic Signal 12-14 AWG	3,285.000 LF		.		.
1580	655.0265 Cable Traffic Signal 15-12 AWG	275.000 LF		.		.
1590	655.0305 Cable Type UF 2-12 AWG Grounded	666.000 LF		.		.
1600	655.0515 Electrical Wire Traffic Signals 10 AWG	3,061.000 LF		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1610	655.0610 Electrical Wire Lighting 12 AWG	536.000 LF		.		.
1620	655.0700 Loop Detector Lead In Cable	728.000 LF		.		.
1630	655.0800 Loop Detector Wire	2,376.000 LF		.		.
1640	656.0200 Electrical Service Meter Breaker Pedestal (location) 01. STH 60 & Grand Avenue	LUMP	LUMP			.
1650	656.0200 Electrical Service Meter Breaker Pedestal (location) 02. STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
1660	657.0100 Pedestal Bases	9.000 EACH		.		.
1670	657.0255 Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	7.000 EACH		.		.
1680	657.0310 Poles Type 3	4.000 EACH		.		.
1690	657.0315 Poles Type 4	2.000 EACH		.		.
1700	657.0420 Traffic Signal Standards Aluminum 13-FT	5.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1710	657.0425 Traffic Signal Standards Aluminum 15-FT	2.000 EACH		.		.
1720	657.0430 Traffic Signal Standards Aluminum 10-FT	2.000 EACH		.		.
1730	657.0585 Trombone Arms 15-FT	2.000 EACH		.		.
1740	657.0595 Trombone Arms 25-FT	2.000 EACH		.		.
1750	657.0609 Luminaire Arms Single Member 4-Inch Clamp 6-FT	6.000 EACH		.		.
1760	658.0110 Traffic Signal Face 3-12 Inch Vertical	26.000 EACH		.		.
1770	658.0120 Traffic Signal Face 5-12 Inch Vertical	4.000 EACH		.		.
1780	658.0215 Backplates Signal Face 3 Section 12-Inch	26.000 EACH		.		.
1790	658.0225 Backplates Signal Face 5 Section 12-Inch	4.000 EACH		.		.
1800	658.0412 Pedestrian Signal Face 12-Inch	16.000 EACH		.		.
1810	658.0500 Pedestrian Push Buttons	18.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1820	658.0600 Led Modules 12-Inch Red Ball	30.000 EACH		.		.
1830	658.0605 Led Modules 12-Inch Yellow Ball	30.000 EACH		.		.
1840	658.0610 Led Modules 12-Inch Green Ball	30.000 EACH		.		.
1850	658.0620 Led Modules 12-Inch Yellow Arrow	4.000 EACH		.		.
1860	658.0625 Led Modules 12-Inch Green Arrow	4.000 EACH		.		.
1870	658.0660 Led Modules Countdwn Timer 12-Inch	16.000 EACH		.		.
1880	658.5069 Signal Mounting Hardware (location) 01. STH 60 & Grand Avenue	LUMP	LUMP			.
1890	658.5069 Signal Mounting Hardware (location) 02. STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
1900	659.1125 Luminaires Utility LED C	4.000 EACH		.		.
1910	661.0200 Temporary Traffic Signals for Intersections (location) 01. STH 60 & Grand Avenue	LUMP	LUMP			.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1920	661.0200 Temporary Traffic Signals for Intersections (location) 02. STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
1930	690.0150 Sawing Asphalt	26,635.000 LF		.		.
1940	690.0250 Sawing Concrete	5,076.000 LF		.		.
1950	715.0415 Incentive Strength Concrete Pavement	500.000 DOL	1.00000		500.00	
1960	ASP.1T0A On-the-Job Training Apprentice at $5.00/HR	1,100.000 HRS	5.00000		5500.00	
1970	ASP.1T0G On-the-Job Training Graduate at $5.00/HR	1,600.000 HRS	5.00000		8000.00	
1980	SPV.0060 Special 01. Pavement Marking Grooved Preformed Thermoplastic Words	25.000 EACH		.		.
1990	SPV.0060 Special 02. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 2	48.000 EACH		.		.
2000	SPV.0060 Special 03. Pavement Marking Grooved Preformed Thermoplastic Arrows Type 3	5.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2010	SPV.0060 Special 04. Concrete Maintenance Platform 48" X 36" X 4"	1.000 EACH		.		.
2020	SPV.0060 Special 05. Installing Wavetronix Mini Power Module	1.000 EACH		.		.
2030	SPV.0060 Special 06. Installing Wavetronix Click 200 Module	1.000 EACH		.		.
2040	SPV.0060 Special 07. Installing Wavetronix Detector (HD 125) Module & Cable	1.000 EACH		.		.
2050	SPV.0060 Special 08. Installing Cabinet Heater & Thermostat	1.000 EACH		.		.
2060	SPV.0060 Special 09. Installing Poles Type 2	1.000 EACH		.		.
2070	SPV.0060 Special 10. Installing CCTV Pole Mounted Cabinet 24" X 51"	1.000 EACH		.		.
2080	SPV.0060 Special 11. Adjusting Water Valve Boxes	25.000 EACH		.		.
2090	SPV.0060 Special 12. Adjusting Water Manhole Covers	8.000 EACH		.		.
2100	SPV.0060 Special 13. Poles Type 9	1.000 EACH		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2110	SPV.0060 Special 14. Poles Type 10	1.000 EACH		.		.
2120	SPV.0060 Special 15. Poles Type 12	1.000 EACH		.		.
2130	SPV.0060 Special 16. Poles Type 13	1.000 EACH		.		.
2140	SPV.0060 Special 17. Monotube Arms 25-Ft	1.000 EACH		.		.
2150	SPV.0060 Special 18. Monotube Arms 30-Ft	1.000 EACH		.		.
2160	SPV.0060 Special 19. Monotube Arms 35-Ft	1.000 EACH		.		.
2170	SPV.0060 Special 20. Monotube Arms 40-Ft	1.000 EACH		.		.
2180	SPV.0060 Special 21. Adjusting Sanitary Sewer Manhole Covers	27.000 EACH		.		.
2190	SPV.0060 Special 22. Luminaire Arms Steel 15-Ft	2.000 EACH		.		.
2200	SPV.0060 Special 23. Temporary Traffic Signal Controller Programming	8.000 EACH		.		.
2210	SPV.0060 Special 24. Drainage Structure Repair and Cleaning	162.000 EACH		.		.

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2220	SPV.0090 Special 01. Pavement Marking Grooved Preformed Thermoplastic Stop Bar 18-Inch	869.000 LF		.		.
2230	SPV.0090 Special 02. Pavement Marking Grooved Preformed Thermoplastic Crosswalk 6-Inch	3,546.000 LF		.		.
2240	SPV.0105 Special 01. Concrete Pavement Joint Layout	LUMP	LUMP			.
2250	SPV.0105 Special 02. Remove Traffic Signals STH 60 & Grand Avenue	LUMP	LUMP			.
2260	SPV.0105 Special 03. Remove Traffic Signals STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
2270	SPV.0105 Special 04. Video Vehicle Detection System STH 60 & Grand Avenue	LUMP	LUMP			.
2280	SPV.0105 Special 05. Video Vehicle Detection System STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
2290	SPV.0105 Special 06. Traffic Signal Cabinet, Controller, and Battery Backup STH 60 & Grand Avenue	LUMP	LUMP			.
2300	SPV.0105 Special 07. Traffic Signal Cabinet, Controller, and Battery Backup STH 60 & CTH K (Lone	LUMP	LUMP			.

CONTRACT: 20150512026 PROJECT(S): 2310-19-70 FEDERAL ID(S): WISC 2015290

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2310	SPV.0105 Special 08. Remove Loop Detector Wire & Lead-In Cable STH 60 & Grand Avenue	LUMP	LUMP			.
2320	SPV.0105 Special 09. Remove Loop Detector Wire & Lead-In Cable STH 60 & CTH K (Lone Oak Lane)	LUMP	LUMP			.
2330	SPV.0165 Special 01. Wall Modular Block Gravity LRFD	705.000 SF		.		.
2340	SPV.0195 Special 01. Management of Solid Waste	40.000 TON		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE