HIGHWAY WORK PROPOSAL

Proposal Number: Ø 7

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

COUNTY	STATE PROJECT ID	FEDERAL PROJECT ID	PROJECT DESCRIPTION	HIGHWAY
Dane	5411-02-74	WISC 2014 433	Stoughton - Madison Cottage Grove Road SB Bridge B-13-632	USH 51
Dane	5411-02-75		Stoughton - Madison Cottage Grove Road - Municipal Utilities	N/A

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, $ 270,000.00 Payable to: Wisconsin Department of Transportation	Attach Proposal Guaranty on back of this PAGE.
Bid Submittal Due Date: February 10, 2015 Time (Local Time): 9:00 AM	Firm Name, Address, City, State, Zip Code **SAMPLE** **NOT FOR BIDDING PURPOSES**
Contract Completion Time October 1, 2016	
Assigned Disadvantaged Business Enterprise Goal 5%	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 Structures B-13-632, B-13-660, R-13-228, R-13-229, grading, base aggregate, concrete pavement, HMA pavement, storm sewer, sanitary sewer, permanent signing, pavement marking, lighting, 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)

NOTARY FOR PRINCIPAL

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

(Signature of Attorney-in-Fact)

NOTARY FOR SURETY

(Date)

State of Wisconsin)
) ss.
_____ County)

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

(Signature, Notary Public, State of Wisconsin)

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

(Date Commission Expires)

Notary Seal

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

CERTIFICATE OF ANNUAL BID BOND

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 5411-02-74 and 5411-02-75, Stoughton Road – Madison Road, Cottage Grove Road SB Bridge B-13-632, USH 51, Dane 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 (20140630)

2. Scope of Work.

The work under this contract shall consist of grading, base, concrete pavement, concrete curb and gutter, HMA pavement, concrete sidewalk, structure removal, structures, storm sewer, pavement marking, signing, traffic signals, lighting, sanitary sewer and all incidental items necessary to complete the work as shown on the plans and included in the proposal and contract.
104-005 (20090901)

3. Prosecution and Progress.

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

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

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

Complete Stage 1B construction operations on the southbound USH 51, and entrance and exit ramps to the stage necessary to reopen it to through traffic prior to 12:01 AM October 1, 2015. Do not reopen the ramps until completing the following work: all work necessary to reopen the ramps to traffic, including B-13-0660 permanent and temporary pavements, signing, pavement markings, guard rail, temporary barrier, and erosion control.

Complete construction operations on Cottage Grove Road and the Capital City Trail to the stage necessary to reopen Cottage Grove Road to two lanes of through traffic in each direction and Capital City Trail to bicycle and pedestrian traffic prior to 12:01 AM October 1, 2015. Do not reopen until completing the following work: all sanitary sewer and storm sewer work, pavement, curb and gutter, concrete sidewalk, permanent traffic signals, street lighting, signing, marking, erosion control, and finishing items.

At the beginning of temporary pavement removal and ramp pavement construction in Stage 3, close the southbound USH 51 exit and entrance ramps to through traffic for a maximum of 14 calendar days. Do not reopen until completing the following work: all work necessary to reopen the ramps to traffic, including permanent and temporary pavements, signing, pavement markings, guard rail, and erosion control.

Replace standard spec 108.10.2.2(1) as follows:

(1) The engineer will award a time extension for severe weather on calendar day and completion date contracts. Submit a request for severe weather days if the number of adverse weather days, as defined in standard spec 101.3, exceeds the anticipated number of adverse weather days tabulated below.

Total Anticipated Adverse Weather Days for Each Calendar Month[2]

Jan[1]	31	Aug	6
Feb[1]	28	Sept	4
Mar[1]	31	Oct	5
April	8	Nov 1 through 15	2
May	7	Nov 16 through 30[1]	15
June	7	Dec[1]	31
July	6		

[1] Includes an anticipated winter suspension from November 16 through March 31.

[2] The number of days will be modified in the special provision for year-round and painting contracts.

If the contractor fails to complete Stage 1B necessary to reopen the southbound USH 51 entrance and exit ramps to through traffic prior to 12:01 AM October 1, 2015, the department will assess the contractor $1,690.00 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, October 1, 2015. 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 the contractor fails to complete the work necessary to reopen Cottage Grove Road and the Capital City Trail prior to 12:01 AM October 1, 2015, the department will assess the contractor $1,690.00 in interim liquidated damages for each calendar day that the roadway remains closed after 12:01 AM, October 1, 2015. 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 the contractor fails to complete the work necessary to reopen the southbound USH 51 entrance and exit ramps to traffic within 14 calendar days of closing the ramps during Stage 3, the department will assess the contractor $1,690.00 in interim liquidated damages for each calendar day the contract work remains incomplete beyond 14 calendar days. 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.

B Schedule of Operations

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 1A

- Construct temporary median shoulder widening and traffic control items on USH 51 southbound for Stage 1A traffic. Complete this work prior to closing the right shoulder of USH 51 southbound.
- Construct the storm sewer box culvert extension.
- Begin construction of the USH 51 southbound exit ramp bridge (B-13-660) and abutment retaining walls.
- Complete the drainage blanket and wick drain bid items and construct the highway embankment from Station 116+00 LT to the north project limits (Station 116'TC'+00 to Station 137'TC'+00O) prior to 12:01 AM June 1, 2015.
- Complete installation of the Fence Chain Link 6-FT along the new highway right-of-way except as needed for grading and embankment construction for Stage 2 traffic. Install temporary fence temporary at this location.

Stage 1B

- Construct the USH 51 southbound exit and entrance ramps, including all guard rail, signing, pavement marking, and lighting necessary to open the ramps to traffic.
- Complete construction of the USH 51 southbound exit ramp bridge (B-13-660).
- Construct the temporary USH 51 roadway between the ramp bridge (B-13-660) and southbound USH 51 lanes.
- Cottage Grove Road: Complete stages CG1 through CG4 during Stage 1B.
- Cottage Grove Road Stage CG1: Remove median curb and gutter, construct temporary pavement for Stage CG2, complete temporary traffic signals and railroad signal relocations.

- Cottage Grove Road Stage CG2: Complete work on the eastbound lanes of Cottage Grove Road, including sidewalk and curb ramps across the southbound ramp intersection and the curb ramp for the Capital City Trail on the south side of Cottage Grove Road. Complete railroad signal relocations and adjustments prior to switching to Stage CG3.

- Cottage Grove Road Stage CG3: Complete work on the westbound lanes of Cottage Grove Road, including sidewalk and curb ramps at Cottage Court and the curb ramp for the Capital City Trail on the north side of Cottage Grove Road. Complete railroad signal relocations and adjustments prior to switching to Stage CG4.

- Cottage Grove Road Stage CG4: Complete remaining median curb and gutter and median restoration work including the sidewalk and curb ramps across the median for the Capital City Trail.

- Complete concrete surface repairs on USH 51 northbound bridge (B-13-008) substructure units.

Complete all work necessary to reopen the USH 51 southbound exit and entrance ramps to traffic, including all pavement marking, signing, and safety features prior to switching USH 51 mainline traffic to Stage 2.

Stage 2

- Remove existing USH 51 southbound bridge (B-13-210).
- Construct new USH 51 southbound mainline bridge (B-13-632) and complete the abutment retaining walls.
- Construct mainline pavement, guardrail, signing, pavement marking, and temporary pavement connections necessary to open USH 51 southbound mainline bridge (B-13-632) to traffic.

Stage 3

- Remove the temporary roadway between the ramp bridge (B-13-660) and southbound mainline pavement. Remove temporary pavement markings and install permanent ramp pavement markings. Finish grading the infield area between the ramps and mainline roadways.
- Complete construction of mainline USH 51 southbound pavement.
- Complete construction of the USH 51 southbound entrance and exit ramp pavement.

Stage 4

- Remove temporary widening pavement and complete grading and finishing items on the outside and median shoulders.
- Complete remaining rumble strip milling for the shoulders.

USH 51 northbound bridge (B-13-008)

- Complete concrete deck repairs and the polymer deck overlay. Complete this work between June 15 and August 15, 2015.
- Remove street lighting units from the northbound bridge and approaches.

The above outlined construction staging schedule is not intended to dictate contractor means and methods, but is intended to be a guide for completion of the work. Notify the engineer, in writing, of any proposed modifications to the proposed schedule of operations.

Do not switch traffic over to the next construction stage until all signing, pavement marking, temporary and permanent traffic barriers, reflectors, tubular marker posts, and traffic control drums for the stage are in place, and conflicting pavement markings and signs are removed as shown in the traffic control section of the plans and as directed by the engineer.

C Contractor Coordination

Hold prosecution and progress meetings once per week. The prime 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 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. Invite City of Madison, Metro Transit, and utility company representatives to attend the prosecution and progress meetings. Agenda items at the meeting will include review of the contractor's schedule and subcontractors' schedule and, evaluation of progress and pay items. Plans, schedule, and specifications for upcoming work will be reviewed.

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 the new schedule is received.

Notify Brian Smith, City of Madison Traffic Engineering at (608) 261-9625 one week prior to the start of a traffic change or stage change on Cottage Grove Road. Coordinate the schedule for signal timing and phasing set up for temporary traffic signals.

Notify Brian Smith, City of Madison Traffic Engineering at (608) 261-9625 upon completion of conduit, pull boxes, manholes and bases for each set of permanent traffic signals.

Notify Brian Smith, City of Madison, at (608) 261-9625 a minimum of ten business days in advance of the scheduled activation of the temporary and new signals to provide signal timings.

Notify Joanna Bush, Wisconsin Department of Transportation, at (608) 261-5845 a minimum of ten business days in advance of the scheduled activation of the temporary and new signals to provide signal timings for railroad preemption.

Do not commence utility work, disrupt a utility, or commence sidewalk construction in front of a driveway entrance without notifying the property owner or business a minimum of 48 hours in advance. Do not shut off utilities or entrances to businesses during the business open times unless approved by the engineer.

Notify Roger Schaalma, Superintendent Maintenance of Way, Wisconsin and Southern Railroad; 1890 E. Johnson Street, Madison, WI 53704; rschaalma@watcocompanies.com; (414) 750-3702, a minimum of 30 calendar days in advance of beginning work on Cottage Grove Road to schedule Wisconsin and Southern Railroad crews to complete the installation and adjustments to the active warning devices for the Cottage Grove Road crossing. Provide Roger with the work and staging schedule for Cottage Grove Road and when Wisconsin and Southern Railroad can expect to be onsite to complete additional work prior to switching Cottage Grove Road to stage CG3 and stage CG4. Temporary active warning devices and adjustments to existing devices shall be completed prior to any staging changes on Cottage Grove Road.

D Street Lighting

The existing street lighting system for the entire interchange, including Cottage Grove Road, is served from a control cabinet at Station 20'CGW'+40' LT. Parts of this system will be maintained, and some replaced. Existing luminaires on poles within the system that will remain will be exchanged for LED lighting.

The lights on the northbound ramps shall be operational at all times. Do not disconnect and remove the existing lighting cabinet until the lights can be transferred over to the new cabinet.

The existing lights on Cottage Grove Road shall remain operational until required to be disconnected to replace conduit and restore connections. Work to restore operation of the street lights on Cottage Grove Road shall begin immediately after disconnecting lights and continue until operation is restored.

The finished street lighting system along USH 51 southbound and northbound mainline, entrance, and exit ramps, and the street lights along Cottage Grove Road shall be installed and operational prior to switching to Stage 2. The only exception is the proposed underdeck lighting on Structure B-13-632.

4. Traffic.

A General

Complete the construction sequence, including the associated traffic control as detailed in the construction staging section of the plans, the prosecution and progress article, and as described below. Submit all traffic control change requests in writing to the engineer at least 3 working days prior to a change in traffic control plans. A request does not constitute approval.

Traffic operations during all stages at all times

- USH 51: Maintain two lanes of through traffic for USH 51 southbound and northbound traffic at all times, except during off-peak travel hours as defined in this article.
- USH 51 southbound exit and entrance ramps: Maintain USH 51 southbound exit and entrance ramps open to traffic at all times, except during Stage 1B and 3 as detailed in this article.
- USH 51 northbound exit and entrance ramps: Maintain USH 51 northbound exit and entrance ramps open to traffic at all times.
- Cottage Grove Road: Maintain two lanes of through traffic for Cottage Grove Road, except during Stage 1B (Stage CG1 through CG4) and during off-peak lane closures as defined in this article.

Traffic – Stage 1A

- USH 51 southbound: Construct the temporary median shoulder widening. Upon completion of the median shoulder widening, maintain two lanes of traffic, shifted to the median shoulder north and south of the existing mainline bridge.
- USH 51 exit and entrance ramps: Ramps shall remain open at all times.
- Cottage Grove Road: Maintain two lanes of traffic. Off-peak travel hour lane closures may be utilized for temporary signal work, utility relocations, and temporary pavement construction.

Traffic – Stage 1B

- USH 51 southbound: Maintain two lanes of traffic, shifted to the median on temporary pavement north and south of the existing mainline bridge. Single lane closures are allowed during off-peak travel hours utilizing SDD 15D20-02 as approved by the engineer for pavement construction in preparation for Stage 2.
- USH 51 exit and entrance ramps: Close to through traffic. Interim liquidated damages apply for ramp closures beyond the interim completion dates. Furnish and operate portable changeable message boards for 10 calendar days on USH 51 southbound in advance of the exit ramp and on Cottage Grove Road as shown in the detour plans prior to closing the ramps to traffic.
- Cottage Grove Road:
- Cottage Grove Road Stage CG1: Close median lanes of traffic on the eastbound and westbound lanes as shown in the plan details.
- Cottage Grove Road Stage CG2: Maintain bi-directional vehicle and bicycle traffic on the westbound lanes at all times.
- Cottage Grove Road Stage CG3: Maintain bi-directional vehicle and bicycle traffic on the eastbound lanes at all times.
- Cottage Grove Road Stage CG4: Close median lanes of traffic on the eastbound and westbound lanes as shown in the plan details.

Traffic – Stage 2

- USH 51 southbound: Maintain two lanes of traffic utilizing the southbound exit ramp bridge (B-13-660) and temporary road connecting the ramp bridge with the mainline southbound pavement.
- USH 51 exit and entrance ramps: Maintain open to traffic at all times. Open the ramps to traffic within one calendar day of switching USH 51 southbound traffic to Stage 2.
- Cottage Grove Road: Maintain two lanes of traffic in each direction at all times. Temporary lane closures are allowed during off-peak travel hours for bridge removal and construction work. Flagging operations are permitted during off-peak travel hours for girder setting.

Traffic – Stage 3

- USH 51 southbound: Maintain two lanes of traffic on the USH 51 southbound mainline bridge (B-13-632). Temporary pavement widening is required.
- USH 51 exit and entrance ramps: Close to through traffic at the beginning of Stage 3. Interim liquidated damages apply for ramp closures exceeding the maximum number of 14 calendar days. Furnish and operate portable changeable message boards for 10 calendar days on USH 51 southbound in advance of the exit ramp and on Cottage Grove Road as shown in the detour plans prior to closing the ramps to traffic.
- Cottage Grove Road: Maintain two lanes of traffic at all times. .

Traffic – Stage 4

- USH 51 southbound: Maintain two lanes of traffic. Single lane closures are allowed during off-peak travel hours to remove temporary shoulder widening and traffic control installations.
- USH 51 southbound exit and entrance ramps: Ramps shall remain open at all times.
- Cottage Grove Road: Two lanes of traffic shall remain open at all times.

Traffic – Northbound Bridge (B-13-008)

- Maintain two lanes of USH 51 northbound traffic at all times, except during off-peak travel hours. Single lane closures during off-peak travel hours are required to complete concrete deck repair, polymer overlay, and street lighting removal work items.
- Maintain access to the northbound exit ramp at all times.

B Definition of Off-Peak Travel Hours

Off-peak travel hours are any hours not defined as Peak Travel Hours.

Peak Travel Hours (Monday, Tuesday, Wednesday, Thursday, and Friday)

- 7:00 AM to 9:00 AM
- 3:30 PM to 6:00 PM

Peak Travel Hours (Saturday)

- 10:00 AM to 6:00 PM

Peak Travel Hours (Sunday)

- 11:00 AM to 5:00 PM

C Intersections and Driveway Access

The intersection of Claire Street and Cottage Grove Road may be closed one time for a maximum of five calendar days to complete pavement removal and sanitary sewer work items. The intersection of Claire Street and Cottage Grove Road may be closed two times for a maximum of one calendar day each time to complete HMA paving.

Concrete Pavement Gap and Concrete Pavement High Early Strength bid items are included for use at the intersection of Cottage Court and Cottage Grove Road. Pavement removal, concrete pavement, concrete curb and gutter, and HMA pavement placement shall be completed in stages. Access to Cottage Court shall be maintained at all times. The driveway at Station 9'CGW'+25 shall be kept open and clear of equipment, materials, and construction operations at any time that construction operations restrict access to Cottage Court.

The driveway at Station 9'CGW'+25 may be closed a maximum of two times. The maximum closure time is 4 calendar days total for the duration of the project. Concrete Pavement Gap and Concrete Pavement High Early Strength bid items are included for use at the driveway at Station 9'CGW'+25.

Private, commercial driveways are present within the traffic control limits between Dempsey Road and Claire Street and between the northbound ramp terminal intersection and Atlas Avenue. Provide access to these driveways at all times. Do not store materials or equipment in the closed lanes in a manner that restricts access to these driveways or reduces sight distance from the driveway to the open lanes of Cottage Grove Road.

D Capital City Bike Path

The Capital City Bike Path will be closed and relocated with this project. A detour route is included in the construction staging details. The detour route signing shall be in place prior to closing the Capital City Path to bicycle and pedestrian traffic.

E Pedestrian Traffic

Pedestrians are prohibited from USH 51 and the USH 51 ramps.

Maintain pedestrian traffic on the north and south sidewalk of Cottage Grove Road at all times. Pedestrian Safety Fence and Pedestrian Overhead Protection items are included in the contract to separate open sidewalks from the work zone. Utilize these items if the work zone is adjacent to or overhead of an open sidewalk. In lieu of these items, with the engineer's approval, close either the north or south sidewalk adjacent to or below active work zones. Sidewalk closure and sidewalk detour signs shall be in place at Dempsey Road and Atlas Avenue prior to closing either sidewalk on Cottage Grove Road. The north and south Cottage Grove sidewalks shall not be closed at the same time.

The bid item Temporary Crosswalk is included in the contract. Complete and maintain the Temporary Crosswalk at the southbound ramp terminal intersection during Stage CG3.

5. Notification to Federal Aeronautics Administration (FAA).

Within 45 days of construction, file a Notice of Proposed Construction or Alteration form to the Federal Aeronautics Administration (FAA) (FAA Form 7460-1 per the provisions of Title 14 Code of Federal Regulations (14 CFR part 77). Send the form should to the FAA Obstruction Evaluation Service (OES). The FAA will acknowledge, in writing, receipt of the FAA Form 7460-1 notice received.

Form 7460-1 is available at the following web address:

http://www.faa.gov/documentLibrary/media/Form/FAA%20Form%207460-1_2012.pdf

Supplemental Notice Requirement
If required, the FAA will include a FAA Form 7460-2, Notice of Actual Construction or Alteration, with a determination of FAA Form 7460-2 Part 1. If received, complete and send FAA Form 7460-2 to the FAA at least 48 hours prior to starting the actual construction or alteration of a structure. Additionally, submit Part 2 no later than 5 days after the structure has reached its greatest height. The form should be sent to the OES as well.

6. Utilities.

This contract comes under the provision of Administrative Rule Trans 220.
107-065 (20080501)

There are underground and overhead facilities located within the project limits. There are known utility adjustments required for the construction project as noted below. Coordinate construction activities with a call to Diggers Hotline or by directly calling the utilities, which have facilities in the area as required per statutes. Use caution to ensure the integrity of underground facilities and maintain code clearances from overhead facilities at all times.

American Transmission Company (ATC)

ATC owns two 69,000 volt (69kV) overhead transmission lines within the project limits.

Transmission line 6938 crosses USH 51 south of existing structure B-13-210 at Station 111+25 and crosses Cottage Grove Road west of existing structure B-13-210 at Station 16 ‘CGE’+77. The transmission tower at Station 112’B’+83, 23’ RT is in conflict with the proposed structure B-13-660 (ramp bridge). ATC will relocate this tower to approximately Station 109’B’+50, 110’ LT prior to construction. The existing reinforced concrete caisson foundation will be abandoned in place. The foundation is approximately 7’ in diameter and 32’ deep. With this relocation, ATC will relocate the transmission tower at Station

15’CGW’+20 76’ LT approximately 10’ southeast of the existing location. This tower is outside the project limits.

Transmission line 6934 parallels the west side of the USH 51 southbound lanes, turning at the entrance ramp to parallel the south and west sides of the USH 51 southbound entrance ramp. This line crosses Cottage Grove Road west of the southbound ramp terminal intersection and continues west along the north side of Cottage Grove Road. A transmission pole at Station 105’A’+00 is in conflict with the proposed grading for the entrance ramp. ATC will relocate this pole approximately 8’ northwest prior to construction. The new pole will be installed on a concrete caisson foundation.

Existing 69kV transmission lines 6938 and 6934 will remain energized during construction. Maintain minimum OSHA electrical approach distances for 69kV at all times based on the latest OSHA criteria. Standard NESC part section 23 clearance has been verified. If OSHA clearance to the transmission lines cannot be met for specific construction operations, notify ATC 120 calendar days prior to requesting the line be de-energized. The lines will not be de-energized during summer ratings or high temperature/high useage days, typically between May 15 and October 1.

Contact Tom Betthauser (262) 993-1296 a minimum of 5 working days prior to any excavation at a depth of more than 2 feet within 20 feet of any transmission line structure.

AT&T

AT&T owns and maintains buried and overhead telecommunication line (fiber optic and copper cable) within the project limits.

Overhead telecommunication line is located above the south terrace of Cottage Grove Road from Dempsey Road to Claire Street. This overhead line crosses the eastbound lanes of Cottage Grove Road between approximately Station 9’CGE’+50 and 11’CGE’+10, continuing in the median of Cottage Grove Road to a pole at Station 14’CGE’+43. The line drops to below ground at this pole and continues underground to a pole at Station 20’CGE’+30. The line returns above ground and continues down the median of Cottage Grove Road and exits the project limits. The overhead line and poles are in conflict with the new median layout. The buried line is in conflict with the pier construction.

AT&T will remove the overhead line and abandon the buried line in place prior to construction. Utility poles associated with this line are located at the approximate locations in the table below and will be addressed as indicated.

STATION	**LOCATION**	**ACTION**
9’CGE’+47	South terrace	To remain
11’CGE’+10	Median	Removed by AT&T
12’CGE’+92	Median	Remove

14’CGE’+43	Median	Remove	
20’CGE’+30	Median	Removed AT&T	by
22’CGE’+00	Median	Removed AT&T	by
23’CGE’+75	Median	Removed AT&T	by

Poles that will be removed by AT&T will be removed prior to construction. Poles indicated to be removed have an associated bid item in the contract.

These lines will be replaced with a new buried telecommunication package on the south side of Cottage Grove Road between Dempsey Road and the east project limits. The line will be located approximately 1’ south of the existing sidewalk. A new pedestal will be installed on the southeast corner of the southbound ramp intersection, behind the existing sidewalk, at approximately Station 15’CGE’+70 RT. This pedestal will be outside the construction limits.

Buried telecommunications line is located between the pole at Station 14’CGE’+43 and a pedestal at Station 14’CGW’+37 LT. AT&T will abandon this line in place and replace it with a new buried line in the north terrace of Cottage Grove Road from the pedestal at Station 14’CGW’+37 LT to approximately Station 15’CGW’+70 LT. This line will then cross below Cottage Grove Road to the new pedestal at Station 15’CGE’+70 RT.

From the pedestal at Station 14’CGW’+37 LT, buried telecommunication lines extend west below the north terrace of Cottage Grove Road and northwest along Cottage Court. Conflict with these lines is not anticipated.

AT&T’s relocation work extends beyond the west and east limits of the project.

Charter Communications

Charter Communications owns and maintains a buried 2-inch duct with fiber optic telecommunication cable within the project limits.

The duct crosses east to west across USH 51 mainline at Station 104+00 and enters a vault at Station 104’A’+03 LT. The duct continues north along the west edge of USH 51, crossing below the railroad then Cottage Grove Road at Stations 18’CGE’+55 and 18’CGW’+41. The duct enters another vault at Station 18’CGW’+11 LT and continues north along the west right-of-way of USH 51.

This duct is in conflict with the mainline structure B-13-632. Charter will abandon this line in place. Charter will remove the vaults at Station 104’A’+03 LT and 18’CGW’11 LT prior to construction.

From the communications vault at Station 18'CGW'+11 LT, a buried 2-inch duct with fiber optic cable extends west along the north side of the north Cottage Grove Road sidewalk. No conflicts with this line are anticipated; however it will be abandoned in place prior to construction.

Charter Communications owns aerial telecommunication cable within the project limits. The cable crosses Cottage Grove Road overhead, beginning at a pole located at Station 20'CGE'+45 RT, south of the existing sidewalk. The cable crosses to an MG&E pole at Station 20'CGW'+33 LT on the north side of the sidewalk. This aerial cable continues with MG&E's overhead electric distribution lines to the east, extending beyond the project limits. No conflict with this cable is anticipated.

City of Madison Engineering

The city of Madison Engineering Division owns and maintains sanitary sewer main and manholes below the westbound lanes of Cottage Grove Road. The contract includes work items to replace this sanitary sewer main with a new main and manholes below the westbound lanes of Cottage Grove Road.

The city of Madison Engineering Division owns and maintains a sanitary sewer main crossing USH 51 south of the interchange. The main crosses the USH 51 Southbound Entrance Ramp reference line at approximately Stations 105'A'+17. The contract includes work items to adjust a manhole at approximately Station 105'A'+20, 11' LT.

The city of Madison Engineering Division owns and maintains a storm sewer crossing the TLE area at approximately Station 128+50 LT which will be unaffected by this project.

City of Madison Traffic Engineering

The city of Madison Traffic Engineering Division maintains the street lighting and traffic signal facilities at this interchange. The contract includes work items to remove, adjust, replace, and relocate these facilities.

The traffic signal controller cabinets for each of the ramp terminal intersections are connected by overhead traffic signal interconnect cable. The interconnect cable also connects to the Dempsey Road traffic signal cabinet and the Atlas Avenue traffic signal cabinet. This cable is supported by MG&E owned poles within the project limits and is suspended from the southbound bridge (B-13-210). Maintain interconnect between these signals at all times during construction. Coordinate with MG&E for removal of this interconnect cable from MG&E poles after completion of the permanent interconnect cable. Temporary relocation of the interconnect cable to accommodate equipment for bridge construction may be necessary.

City of Madison Water Utility

The City of Madison Water Utility owns and maintains an 8-inch water main below the westbound lanes of Cottage Grove Road along the north curb and gutter. No conflicts with this main or associated hydrants, services, or valves are anticipated. The contract includes work items to adjust water valve boxes to final pavement grade.

Level 3 Communications

Level 3 Communications owns and maintains buried fiber optic communication cable on the east side of the railroad. The cable crosses over to the west side of the railroad near the north side of Cottage Grove Road. This fiber optic is in conflict with the footing for Pier 1 of the southbound USH 51 mainline bridge (B-13-632).

Level 3 Communications will wreck out their existing facility along the railroad from Station 109+13 199' RT to Station 16'CGW'+46' LT. The new 1.25" HDPE innerducts will bend at station 110+49 150' RT to follow the USH 51 existing right of way line. The new line will proceed beneath Cottage Grove Road at ~Station 20'CGE'+32 to behind the existing north sidewalk (21-24' behind the curb). From here, Level 3 Communications will bore along the back of sidewalk underneath both USH 51 bridges to a depth of 8-16'. East of the railroad tracks, Level 3 Communications will then continue to bore behind the back of sidewalk under the railroad facility to a depth of 17'; this stretch will consist of 1.25" HDPE innerducts in 4" HDPE casing. On the west side of the tracks, the line will bend to the northwest and tie into an existing handhole. Level 3 Communications will complete this work prior to construction.

MG&E – Electric

MG&E Electric owns and maintains overhead electric distribution facilities along the north side of Cottage Grove Road. Between the ramp terminal intersections, the overhead poles are on the north side of the sidewalk. The overhead poles are in the sidewalk terrace east and west of the ramp terminal intersections. The overhead line is in conflict with construction of both the USH 51 southbound bridge (B-13-632) and the USH 51 southbound exit ramp bridge (B-13-660).

MG&E will remove poles located at:

- Station 16'CGW'+10 16' LT
- Station 17'CGW'+48, 16' LT
- Station 19'CGW'+12, 16' LT

MG&E will install new poles at:

- Station 15'CGW'+63, 16' LT - guy anchors at Station 15'CGW'+87, 16' LT
- Station 20'CGW'+73, 19'LT – guy anchors at Station 20'CGW'+52, 19' LT

MG&E will replace the overhead line with a buried facility behind and below the north sidewalk of Cottage Grove Road. A pull box will be installed at Station 20'CGW'+65, 13' LT.

MG&E owns and maintains an overhead crossing of USH 51, crossing the USH 51 southbound entrance ramp at Station 104'A'+97 and USH 51 southbound mainline at Station 104+89. MG&E will take ownership of the existing ATC pole at Station 105'A'+00 LT that supports this overhead line. Guy wires and anchors will be removed from this pole. MG&E will install a pole wrap prior to construction. Take care during grading operations not to damage the pole.

The temporary traffic signal plans require installation of a temporary pole in the north terrace of Cottage Grove Road, south of MG&E's existing pole at Station 14'CGW'+39, 15' Lt. Notify MG&E a minimum of 15 working days prior to installing the temporary pole so that the lines can be de-energized prior to installation.

MG&E Gas

MG&E owns and maintains a 4" steel gas main below the north curb line and sidewalk on Cottage Grove Road. MG&E will install a new gas main below the south sidewalk on Cottage Grove Road from the west project limits to the east project limits. The existing gas main on the north side of Cottage Grove Road will be abandoned in place. MG&E will complete this work prior to construction.

MMSD

MMSD owns and maintains a 36-inch concrete pipe sewer force main within the project limits. The force main crosses Cottage Grove Road on the east side of the northbound bridge (B-13-008). No conflicts are anticipated with this force main. A Utility Line Opening work item is included in the contract to locate and verify the elevation of the force main where the proposed city of Madison sanitary sewer line crosses the force main. Perform the ULO prior to ordering structures for the sanitary sewer construction. Notify Eric Hjellen, MMSD, at (608) 222-1201 Ext. 348 at least 3 working days prior to performing the ULO. MMSD staff shall be present during the excavation activity for the ULO and will document the location of the main when it is exposed. MMSD staff will furnish and install a marker ball above the force main.

Sprint

Sprint owns and maintains fiber optic line along the west side of the railroad. This fiber optic line is in conflict with the south MSE wall (R-13-228) and abutment pilings for the ramp bridge (B-13-660).

Sprint will relocate their buried facilities from Station 108+85, 173'RT to Station 15'CGW'+42, 112' LT. The existing line will be abandoned in place. A 36"x48"x24" handhole will be placed at Station 108+85, 173' RT. 75' of the existing line that parallels the railroad tracks will be uncovered with a trench to gain slack for a splice. The new 1-4" HDPE SDR 11 E/W 1-1 ¼" innerduct and 2-1" innerducts facilities will bend at Station 109+66, 140' RT and follow the USH 51 existing right of way line at a 10' offset. The line will be bored at a depth of approximately 10' underneath Cottage Grove Road. A

36”x48”x24” handhole will be placed at approximately Station 20’CGW’+19, 60’LT. The 10’ deep bored line will then bend to parallel Cottage Grove Road and continue beneath the proposed box culvert extension and the railroad tracks, running approximately 55’ behind the face of the north curb and gutter. A 36”x48”x24” handhole will be placed at approximately Station 15’CGW’+98, 63’LT. A 75’ trench will uncover the existing line that parallels the railroad tracks to gain slack for a splice. A 36”48”24” handhole will be placed at approximately Station 15’CGW’+42’ 112’ LT. At the time publication of these special provisions, the schedule for relocation of their facility was not provided.

Railroad Fiber Optic Lines
Union Pacific Railroad Company Fiber Optic Lines

Call “Diggers Hotline” and additionally contact the Union Pacific Railroad Company “call before you dig” office at (800) 336-9193. Normal business hours are 7:00 AM to 9:00 PM, Central Time, Monday through Friday, except holidays. Reference Madison, Wisconsin, Mile Post 77.84 on the Cottage Grove Subdivision to verify the location of fiber optic lines located on railroad right-of-way at the construction site. Calls will be routed at all times in case of an emergency.

7. Other Contracts.

The following projects are scheduled to be constructed concurrently with this project:

WisDOT ID 5410-01-72
Madison – DeForest Road
(Broadway – Milwaukee Street, northbound)
USH 51
Dane County
Anticipated construction start: June 2015
Work type: Resurfacing

Work description: Mill and overlay the northbound lanes of USH 51 from Broadway to Milwaukee Street in the City of Madison. The work will be completed under traffic utilizing night time, off peak travel hour lane closures. The limits of pavement resurfacing on the northbound lanes of USH 51 are within the proposed traffic control limits of this project for the polymer overlay and concrete deck repair work items on this project. Traffic control coordination is required.

WisDOT ID 5410-01-73
Madison – DeForest Road
(Broadway – Milwaukee Street, southbound)
USH 51
Dane County
Anticipated construction start: May 2016
Work type: Resurfacing

Work description: Repair concrete pavement joints and overlay the southbound lanes of USH 51 from Broadway to Milwaukee Street in the City of Madison. The work will be completed under traffic utilizing night time, off peak travel hour lane closures. The limits of pavement resurfacing on the southbound lanes of USH 51 are within the proposed traffic control limits of this project for Stage 2, 3 and 4. Traffic control and work zone coordination is required.

City of Madison Project No. 53W1537
Contract No. 6983
Royster Corners Interior Streets
Anticipated construction start: April 2015

Work description: Construction of local street network for the redevelopment of Royster Corners. The work includes reconstructing the sidewalk along the north side of Cottage Grove Road and the east side of Dempsey Road. Minor traffic control coordination is required for the detour signing on the Capital City Trail.

City of Madison Project No. 53W1681
Cottage Grove Road and Dempsey Road Improvements
Anticipated construction start: April 2015

Work description: Utility and street reconstruction on Cottage Grove Road from Drexel Avenue to 200' east of Dempsey Road. Utility reconstruction and pavement resurfacing on Dempsey Road from Davidson Street to Steinies Drive. Construction work and traffic control are within the traffic control limits of this project. Traffic control and work zone coordination is required.

8. Municipality Acceptance of Sanitary Sewer and Water Main Construction.

Both the department and City of Madison personnel will inspect construction of sanitary sewer and water main under this contract. However, construction staking, testing, and acceptance of the sanitary sewer and water main construction will be by the City of Madison.
105-001 (20140630)

9. Referenced Construction Specifications.

Construct the work enumerated below conforming to the City of Madison Standard Specifications for Public Works Construction - 2015 Edition, herby also referred to as the city standard specifications. If there is a discrepancy or conflict between the referenced specification and the standard specifications regarding contract administration, part 1 of the standard specifications governs.

Conform to the referenced construction specifications for the following:

- Sanitary Sewer Pipe, Sanitary Sewer Access Structures, and associated work items. (Project 5411-02-75)
- Adjust Water Valve Box (Project 5411-02-75)

105-002 (20130615)

10. Railroad Insurance and Coordination.

A Description
Comply with standard spec 107.17 for all work affecting b1 property and any existing tracks.

A.1 Railroad Insurance Requirements
In addition to standard spec 107.26, provide railroad protective liability insurance coverage as specified in standard spec 107.17.3. Insurance is filed in the name of Wisconsin Southern Railroad (WSOR).

Notify evidence of the required coverage, and duration to Ms Janice Wilson, WATCO Companies, 315 W 3rd Street, Pittsburg KS, 66762, TELEPHONE (620)-231-2230, jwilson@watcocompanies.com. Include the following information on the insurance document:

Project: 5411-02-74
Route Name: USH 51, Dane County
Crossing ID: 177332K
Railroad Subdivision: COTTAGE GROVE
Railroad Milepost: 77.84

A.2 Work by Railroad
The railroad will perform the work described in this section, except for work described in other special provisions and will be accomplished without cost to the contractor.

Active Warning Devices

Stage CG1 – Short term median lane closures for both westbound and eastbound Cottage Grove Road. Existing active warning devices will be operational in their existing locations. A temporary active warning device (signals and gate) will be installed for eastbound traffic operating on the westbound lanes in Stage CG2.

Stage CG2 – A temporary active warning device (signals and gate) will be installed at approximately Station 16'CGW'+84 RT during stage CG1 and will operate for eastbound traffic on the westbound lanes during stage CG2. The gate arm will be temporarily removed from the active warning device at Station 17'CGW'+45 RT. The active warning device at Station 17'CGW'+19 LT will operate at its existing location.

The gate arm at Station 17'CGE'+27 RT will be temporarily removed from the active warning device so as not to interfere with paving operations.

A temporary active warning device (signals and gate) will be installed for westbound traffic operating on the eastbound lanes in Stage CG3

Stage CG3 – A temporary active warning device (signal and gate) will be installed at approximately Station 17'CGE' +78 LT during stage CG2 and will operate for eastbound traffic on the westbound lanes during stage CG3. The existing active warning device at Station 17'CGE'+27 RT will operate at its existing location.

The gate arm at Station 17'CGW'+19 LT will be temporarily removed from the active warning device so as not to interfere with paving operations. The gate arm at Station 17'CGW' +45 RT will remain removed.
The temporary active warning device at Station 16'CGW'+84 RT will be removed at the beginning of Stage CG3.

Stage CG4 – The temporary active warning device at Station 17'CGE'+78 LT will be removed and gate arms reinstalled where removed.

A.3 Names and addresses of Railroad Representatives for Consultation and Coordination

Contact for flagging for WSOR is as follows: Roger Schaalma, Superintendent Maintenance of Way Wisconsin and Southern Railroad 1890 E Johnson Street, Madison, WI, 53704 rschaalma@watcocompanies.com, (414) 750 3702.

Amend standard spec 108.4 to include the railroad in the distribution of the initial bar chart, and monthly schedule updates. The bar chart shall specifically show work involving coordination with the railroad.

A.4 Temporary Grade Crossing

If a temporary grade crossing is desired, submit a written request to the railroad representative named in A.3 several weeks prior to the time needed. Approval is subject to the discretion of the railroad. The department has made no arrangements for a temporary grade crossing.

A.5 Train Operation

0 passenger trains and approximately two through freight trains operate daily through the construction site. Through freight trains operate at up to 20 mph. Up to two switching movements per day may occur.

A.6 Temporary Clearances During Construction

Replace subparagraphs (3) 4.1 and (3) 4.2 of standard spec 107.17.1 with the following:

Provide 12 feet 0 inches (3.66 m) plus 1.5 inches (38 mm) per degree of track curvature, measured horizontally from the track center line.

Provide 21 feet 6 inches (6.55 m) plus compensation for super-elevated track, measured vertically above the top of the highest rails.

B Railroad Flagging

Arrange with the railroad for the flagging of trains and safety of railroad operations if clearances specified in standard spec 107.17.1 are not maintained during construction operations. The following conditions may also warrant flagging:

- Cranes swinging or handling materials or equipment.
- Construction operations that are in proximity of power lines or railroad signal and communication lines, underground cables, fuel oil facilities or pipe lines and which might result in fire or damage to such facilities, danger to railroad operations or danger to the public in the transaction of business on railroad premises.
- Excavation, tunneling, blasting, pile driving, placing, or removing cofferdams or sheeting, or similar activities might cause the railroad's tracks or buildings to be undermined, heaved out of normal level, shifted out of alignment, or otherwise impaired.
- Bridge painting activities including rigging of falsework, scaffolding or similar activities within 25 feet of the centerline of any track.
- Deck removal activities within 25 feet of the centerline of any track.
- Pouring of bridge decks in spans over an operated track.
- At any other time in railroad representative's judgment, the contractor's work or operations constitute an intrusion into the track zone and create an extraordinary hazard to railroad traffic, and at any other time when flagging protection is necessary for safety to comply with the operating rules of the railroad.

Projects with concurrent activity may require more than one flagger.

Projects with heavy contractor activity within 25 feet of the centerline of any track or unusual or heavy impact on railroad facilities will normally require a full-time flagger.

The department and railroad will monitor operations for compliance with the above flagging requirements. Violations may result in removal from railroad property until arrangements to adhere to the flagging requirements are satisfied. If the railroad imposes additional flagging requirements beyond the above flagging requirements due to the previous violations, the contractor shall bear all costs of the additional flagging requirements.

C Flagging by Railroad– Railroad Does Not Pay Flagging Costs

C.1 General

Replace paragraph (3) of standard spec 107.17.1 with the following:

Comply with the railroad's rules and regulations regarding operations on railroad right-of-way. If the railroad's chief engineering officer requires, arrange with the railroad to obtain the services of qualified railroad employees to protect railroad traffic through the work area. Bear the cost of these services and make payment directly to the railroad. Notify the appropriate railroad representative as listed in section A.3 above, in writing, at least five business days before starting work near a track. Provide the specific time planned to start the operations.

C.2 Rates – Wisconsin and Southern Railroad Company

The following rates, reimbursement provisions, and excluded conditions will be used to determine the contractor's cost of flagging:

$90 per hour for up to nine-hours at the work-site per day (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$135 per hour for all hours over nine in any week-day (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$135 per hour for up to nine hours at the work-site on Saturdays (including wages, labor surcharges, meals, lodging, vehicle and mileage expenses),

$180 per hour for all hours over nine on Saturdays (including wages, labor surcharges, meal, lodging, vehicle and mileage expenses).

$180 per hour for up to nine hours on Sundays or holidays (including wages, labor surcharges, meal, lodging, vehicle and mileage expenses).

The flagger is required to set flags each day in advance of the contractor commencing work that will require flagging. The flagger must also remove the flags each day after the completion of work that required flagging. Any time worked before or after the minimum eight-hour flagging day to set or remove flags will be billed at the overtime rate. The contractor is responsible for knowing the requirements of the railroad for arranging and terminating flagging services and for the associated costs of those services.

C.3 Reimbursement Provisions

The actual cost for flagging will be billed by the railroad. After the completion of the work requiring flagging protection as provided in section B above, the department will reimburse 50% of the cost of such services up to the rates provided above based on paid railroad invoices, except for the excluded conditions enumerated below. In the event actual flagging rates exceed the rates stated above, the department will reimburse 100% of the portion of the rate that is greater than the rates stated above.

C.4 Excluded Conditions

The department will not reimburse any of the cost for additional flagging attributable to the following:

- Additional flagging requirements imposed by the railroad beyond the flagging requirements provided in subsection B above due to violations by the contractor.
- Temporary construction crossings arranged for by the contractor.

The contractor shall bear all costs of the additional flagging requirements for the excluded conditions.

C.5 Payment for Flagging

Railroads may issue progressive bills. Notify the railroad when the work is completed and request a final bill from the railroad. The railroad will issue a final bill. Promptly pay railroad-flagging bills, less any charges that may be in dispute. The department will pay for flagging reimbursement under the Railroad Flagging Reimbursement administrative item. The department will withhold flagging reimbursement until any disputed charges are resolved and the final bill is paid. No reimbursement for flagging will be made by the department if a violation of subsection B is documented.

11. Information to Bidders, U.S. Army Corps of Engineers Section 404 Permit.

The department has obtained a U.S. Army Corps of Engineers Section 404 permit. Comply with the requirements of the permit in addition to requirements of the special provisions. A copy of the permit is available from the regional office by contacting Bob Lex at (608) 246-5622.

107-054 (20080901)

12. Dewatering.

A Description

Dewater the site during construction or work with the water on-site in a manner that allows the project to be constructed in accordance to the plans and specifications. This work includes the dewatering of groundwater, surface water runoff, and trench dewatering. The contractor is responsible for all work, materials and equipment required to comply with permit conditions to dewater the site. At a minimum, pump water into a settling tank as described below to remove suspended solids prior to discharging the water to the storm sewer system.

B General

Prepare a dewatering plan as part of the Erosion Control Implementation Plan (ECIP) and provide to the engineer for review and approval prior to starting dewatering operations. The plan shall include a description of the proposed dewatering methods and maps or drawings indicating the location of the dewatering facilities and points of discharge of the water.

Use the Wisconsin Department of Natural Resources Technical Standard on Dewatering (standard number 1061) as found on their website at http://www.dnr.wi.gov/runoff/stormwater/techstds.htm for the appropriate best

management practice and proper application and sizing of such practice. As part of the Erosion Control Implementation Plan (ECIP) submittal, supply all pertinent information and calculations used to determine the best management practice for dewatering at each location it is required. Prior to construction, obtain approval from the engineer for the proposed method of treatment including supporting calculations.

Discharge non-contaminated water (of any type or from any source) to the storm sewer system. For the purposes of this project, suspended solids shall not be considered a type of contamination.

Provide all equipment and personnel necessary to conduct dewatering operations as required for the proper completion of the work. Prepare a dewatering plan and submit it to the engineer for review and approval prior to starting dewatering operations. Include in the plan a description of the proposed dewatering methods and maps or drawings indicating the location of the dewatering facilities and points of surface discharge of the water.

The contractor is solely responsible for choosing a method of water control that is compatible with the constraints defined. The contractor is responsible for the adequacy of the water control system, and shall take all necessary measures to ensure that the water control operation will not endanger or damage any existing adjacent utility or structure.

Design, install, and operate the method or methods of water control in such a manner as to provide satisfactory working conditions and to maintain the progress of work. Design the methods and systems so as to avoid settlement or damage to adjacent property in accordance to the applicable legislative statutes and judicial decisions of the State of Wisconsin. Perform all required pumping, drainage and disposal of water without damaging adjacent property or structures, or damaging the operations of other contractors and without causing interference with the access rights of public or private parties.

Review and approval of the dewatering plan does not relieve the contractor of the dewatering requirements stated in these specifications. The engineer assumes no liability for the performance or safety of the dewatering system.

Comply with all local ordinances and state statutes for the disposal of water from dewatering operations. Furthermore, it is the contractor's responsibility to contact the Wisconsin Department of Natural Resources Private Water Supply Section prior to construction for dewatering discharge requirements and permits and to comply with all conditions of the Department of Natural Resources. In accordance to paragraph 144.025(2)(e), Wisconsin Statutes, permits are required for all groundwater control wells that singly or in aggregate produce 70 or more gallons per minute. Drill and seal all wells in accordance to requirements of the WDNR for installing and abandoning wells. The address for obtaining well permits is:

Wisconsin Department of Natural Resources
Private Water Supply Section
Box 7921
Madison, WI 53707

File a copy of the permit with the owner 48 hours prior to commencement of any dewatering.

C Construction
Supplement standard spec 205.3 with the following:

Do not allow water in trenches while pipe is being laid.

Do not install any masonry in water and do not allow any water to rise over masonry or concrete if there is danger of flotation or of setting up unequal pressures in the concrete until the concrete has set at least 24 hours and any danger of flotation has been removed.

Dewater in such a manner that assures safe working conditions and provides stable trench side slopes and trench bottom for adequate support of the pipe and appurtenances. Dewater sufficiently to minimize or eliminate groundwater pressures below the proposed trench bottom which otherwise may tend to cause boiling or a "quick" condition at the trench bottom. Where silty sands or other impervious soils are encountered at and/or below the pipe zone, the dewatering equipment must be adequate to relieve the groundwater pressure below the impervious soil layer and accomplish sufficient drainage of the impervious soils to provide a stable trench bottom.

Pump water from the dewatering operations directly to a minimum 1,500 gallon holding tank to allow for settlement of large solids. Periodically pump water from the top of the settling tank into the storm sewer system.

Notify the engineer at least three days in advance of any proposed changes to the dewatering plan.

Any flooding or erosion damage caused by dewatering operations is the responsibility of the contractor. If flooding or erosion damage occurs, take immediate steps to eliminate those conditions and to correct any damage. The control of all surface and subsurface water, ice, and snow are considered part of the dewatering. Exercise erosion control at all times, including placing silt fences, sedimentation basins and any other devices necessary for proper control.

Dispose of all water removed so as not to endanger public health, private and public property, or completed work. Only use electrically driven pumps for dewatering. Provide sufficient mufflers or other noise reduction devices necessary to minimize the noise of the equipment. If ordered by the engineer, reduce noise to an acceptable level (as determined by the engineer) or supply an alternate system capable of meeting the noise requirements. This shall apply to any equipment utilized as part of the dewatering system.

Provide stand-by equipment to maintain continuous dewatering in the event of mechanical breakdown to part of the system.

Any polymers or other materials included in the dewatering plan for sediment coagulation are incidental to the dewatering and shall be on the Wisconsin Department of Natural Resource approved list for these projects.

The contractor is responsible for removal and/or abandonment of dewatering wells. Remove and/or abandon wells in accordance to all state and local regulations.

D Measurement
The department will not measure Dewatering.

E Payment
Dewatering is considered incidental to the contract. Dewatering includes all work necessary for pumping, settling, and discharging water; for paying any permit fees required; for eliminating and correcting all flooding or erosion damage caused by dewatering operations; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

No disposal fees are required by the City of Madison for discharge to the storm sewer system. The contractor shall pay all other permit fees.

13. Dust Abatement.

Supplement standard spec 104.6.1 with the following;

Dry brooming of the pavement will not be allowed.

When engaged in roadway cleaning operations, use equipment having vacuum or water spray mechanisms to eliminate the dispersion of particulate matter into the atmosphere. If vacuum equipment is employed, it must have a suitable self-contained particulate collector to prevent discharge from the collection bin into the atmosphere.

14. Erosion Control.

Supplement standard spec107.20 with the following:

The contractor shall pursue operations in a timely and diligent manner, continuing all construction operations methodically from the initial topsoil stripping operation through the subsequent grading and re-topsoiling to minimize the period of exposure to possible erosion. Re-topsoiling of graded areas, as designated by the engineer, shall be done immediately after grading is completed within those areas. All topsoiled areas shall be seeded, fertilized, and mulched within ten calendar days after placement of topsoil.

Topsoil, seed, fertilize, mulch and install erosion mat on all exposed graded areas and install erosion control measures as noted in the plans or as directed by the engineer prior to the first frost in the Fall of 2015.

15. Wetlands.

Wetland areas are identified within the project and grading limits.

Do not disturb wetland areas outside the proposed grading limits by storing or stockpiling materials or equipment; loading, unloading, or moving equipment; or any other activities that will damage vegetation.

The contract includes marsh excavation. The top 2 feet of soil material within the areas of marsh excavation for grading and embankment construction are classified as hydric soils. These soils shall be salvaged and placed on the south side of the entrance ramp to a depth of two feet as detailed in the plans. Strip the existing topsoil in the area designated for placement of the hydric soils prior to placement. Excess hydric soil material may be hauled from the site or used on the project as directed by the engineer.

16. 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 7:00 PM until the following 7:00 AM, except for work required for the polymer overlay of the northbound USH 51 bridge (B-13-008).

17. Coordination with Businesses.

The contractor shall arrange and conduct a meeting between the contractor, the department, local officials and business people to discuss the project schedule of operations including vehicular and pedestrian access during construction operations. Hold the first meeting prior to the start of work each construction year under this contract and prior to any major traffic or construction staging change that will impact traffic on either Cottage Grove Road or USH 51.

18. Notice to Contractor – Borrow Site.

Potential borrow material in close proximity to the project is available on the northwest corner of Cottage Grove and Dempsey Road.

The material is located at the former Royster site on the north side of Cottage Grove Road between Dempsey Road and Clover Lane. Contact Dave Nelson at (608) 249-2012, Ext. 205 (office) or (608) 212-1605 (cell) for more information about this material.

19. Abatement of Asbestos Containing Material B-13-210, Item 203.0210.S.01.

A Description

This special provision describes abating asbestos containing material on structures in accordance to the plans, the pertinent provisions of the standard specifications, and as hereinafter provided.

B (Vacant)

C Construction

John Roelke, License Number AII-119523, inspected Structure B-13-210 for asbestos on April 7, 2010. Regulated Asbestos Containing Material (RACM) was found on this structure in the following locations and quantities:

- Gaskets between the parapet railing and concrete parapet wall, approximately 20 square feet.

The RACM on this structure must be abated by a licensed abatement contractor. A copy of the inspection report is available from Bob Lex, (608) 246-5622. In accordance to NR447 and DHS159 , ensure that DNR or DHS receives a completed Notification of Demolition and/or Renovation (DNR Form 4500-113 (R 4/11), or subsequent revision) via U.S. mail, hand-delivery, or using the online notification system at least 10 working days prior to beginning any construction or demolition. Pay all associated fees. Provide a copy of the completed 4500-113 form and the abatement report to Robert Lex, (608) 246-5622, and DOT BTS-ESS attn: Hazardous Materials Specialist PO Box 7965, Madison, WI, 53707-7965. In addition, comply with all local or municipal asbestos requirements.

Use the following information to complete WisDNR form 4500-113 :

- Site Name: Structure B-13-210, USH 051over Cottage Grove Road and CNW RR.
- Site Address: Section 09 Town 07N Range 10E, City of Madison
- Ownership Information: WisDOT Transportation Southwest Region, 2101 Wright Street, Madison, WI 53704.
- Contact: Bob Lex, P.E.
- Phone: (608) 246-5622
- Age: 47 years old. This structure was constructed in 1967.
- Area: 17,262 SF of deck

Insert the following paragraph in Section 6.g.:

- If asbestos not previously identified is found or previously non-friable asbestos becomes crumbled, pulverized, or reduced to a powder, stop work immediately, notify the engineer, and the engineer will notify the department's Bureau of Technical Services at (608) 266-1476 for an emergency response in accordance to standard spec 107.24. Keep material wet until it is abated or until it is determined to be non-asbestos containing material.

D Measurement

The department will measure Abatement of Asbestos Containing Material (Structure) as a single complete unit of work, completed in accordance to the contract and accepted.

E Payment

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

ITEM NUMBER DESCRIPTION UNIT

203.0210.S.01	Abatement of Asbestos Containing Material Structure B-13-210	LS

Payment is full compensation for submitting necessary forms; removing all asbestos; properly disposing of all waste materials; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.
203-005 (20120615)

20. Debris Containment B-13-210, Item 203.0225.S.01.

A Description
This special provision describes providing a containment system to prevent debris from structure removal, reconstruction, or other construction operations from falling onto facilities located under the structure. Using this containment system does not relieve the contractor of requirements under standard spec 107.17 and standard spec 107.19 or requirements under a US Army Corps of Engineers Section 404 Permit.

B (Vacant)

C Construction
Prior to starting work, submit a debris containment plan to the engineer for review. Incorporate engineer-requested modifications. Do not start work over Cottage Grove Road and the railroad until the engineer approves the debris containment plan.

Maintain adequate protection throughout construction for people and property within the potential fall zone. Ensure that a containment system capable of protecting underlying facilities from falling construction debris is in place before beginning deck repair, parapet removal, or other operations that may generate debris.

At least 15 working days before conducting potential debris generating operations, contact the following owners or lessees:

- Bob Lex, WisDOT Southwest Region Project Manager – 2101 Wright Street, Madison, WI 53704; (608) 246-5622; Robert.Lex@dot.wi.gov
- Steve Sonntag, City of Madison Engineering – 210 Martin Luther King Jr. Blvd., Room 115, Madison, WI 53703; (608) 267-1997; ssonntag@cityofmadison.com
- John Venice, Manager Special Projects – Industry and Public Projects Engineering Department, 101 North Wacker Drive – Suite 1920, Chicago, IL 60606; TELEPHONE (312) 777-2043 - FAX (402) 233-2769; jnvenice@up.com

D Measurement
The department will measure Debris Containment B-13-210 as a single lump sum unit of work for each structure, 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
203.0225.S.01	Debris Containment B-13-210	LS

Payment is full compensation for furnishing, installing, maintaining, and removing a debris containment system.
203-010 (20080902)

21. Removing Concrete Sidewalk.

Supplement standard spec 204.3.2.2 (6) with the following:

The engineer will mark all removals. Only that concrete, which must be removed to accommodate grade changes to replace deteriorated sidewalk, or to accommodate storm sewer, sanitary sewer, water main, or conduit construction, will be eligible for payment. The department will pay for removal of concrete drive aprons under the item of Removing Concrete Sidewalk. Maintain all pedestrian walkways ADA accessible and free from construction debris. Replace concrete sidewalk that is removed within the same calendar day.

Supplement standard spec 204.5.1 (2) with the following:

Payment for Removing Concrete Sidewalk includes sawing at the removal limits, where required.

22. Removing Wood Guard Posts, Item 204.9060.S.01.

A Description
This special provision describes removing abandoned wood posts for guard rail posts in accordance to standard spec 204.

B (Vacant)

C Construction
Remove and dispose of abandoned wood guard rail posts. Backfill all post holes.

D Measurement
The department will measure Removing Wood Guard Posts by each 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
204.9060.01	Removing Wood Guard Posts	Each

Payment is full compensation for removing, hauling, and disposing of materials off the highway right-of-way; for providing granular backfill; and for backfilling.

23. Removing Lighting Unit, Item 204.9060.S.02.

A Description
This special provision describes removing street lighting units in accordance to standard spec 204. A lighting unit includes the transformer base, pole, arm, luminaire, and internal luminaire, arm, pole, and base wiring. The lighting unit also includes removing the wiring that feeds that street light from the adjacent street light or power control cabinet.

B (Vacant)

C Construction
Disconnect, remove and haul lighting units from the project.

D Measurement
The department will measure Removing Lighting Unit by each 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
204.9060.02	Removing Lighting Unit	Each

Payment is full compensation for removing, hauling, and disposing of materials off the highway right-of-way.

24. Removing Luminaire, Item 204.9060.S.03.

A Description
This special provision describes removing existing HPS utility luminaires from existing street light poles in accordance to standard spec 204.

B (Vacant)

C Construction
Disconnect and remove the luminaire from the luminaire arm. Do not damage the arm, pole, transformer base, or base during removal.

D Measurement
The department will measure Removing Luminaire by each 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

204.9060.03	Removing Luminaire	Each

Payment is full compensation for removing, hauling, and disposing of materials off the highway right-of-way.

25. Removing Lighting Cabinet, Item 204.9060.S.04.

A Description
This special provision describes removing the existing lighting cabinet in accordance to standard spec 204.

B (Vacant)

C Construction
Disconnect and remove the cabinet after the new cabinets are installed and operational and the street lighting system is transferred over to the new cabinets. Remove and dispose of the cabinet and all associated breaker and control equipment and wire.

D Measurement
The department will measure Removing Lighting Cabinet by each 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
204.9060.04	Removing Lighting Cabinet	Each

Payment is full compensation for removing, hauling, and disposing of materials off the highway right-of-way.

26. Removing Tubular Railing, Item 204.9090.S.01.

A Description
This special provision describes removing tubular pedestrian railing in accordance to standard spec 204.

B (Vacant)

C Construction
Disconnect, remove, and dispose of tubular pedestrian railing off the highway right-of-way.

D Measurement
The department will measure Removing Tubular Railing by the linear foot, 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
204.9090.01	Removing Tubular Railing	LF

Payment is full compensation for removing, hauling, and disposing of materials off the highway right-of-way.

27. Removing Traffic Signal Equipment (USH 51 SB and Cottage Grove Road), Item 204.9105.S.01; Removing Traffic Signal Equipment (USH 51 NB and Cottage Grove Road), Item 204.9105.S.02.

A Description

This special provision describes removing existing traffic signal equipment at the intersection of USH 51 SB and Cottage Grove Road and at the intersection of USH 51 northbound and Cottage Grove Road in accordance to the pertinent provisions of standard spec 204 and as hereinafter provided.

B (Vacant)

C Construction

Prior to removing any traffic signal equipment, review the temporary signal plan and the salvage and reinstall bid item to verify the ability to reuse existing and proposed signal equipment during the pertinent temporary and permanent traffic signal construction stages.

The signal shall remain in operation in compliance with MUTCD standards while the existing equipment is removed and the temporary equipment is installed. The existing traffic signal controller and cabinet, interconnect wire, railroad preemption wire shall be reused in place for the temporary signals.

Notify Mike Christoph at the City of Madison at (608) 266-9031 at least five working days prior to the removal of the traffic signals to coordinate delivery of existing equipment. Complete the removal and temporary signal setup work as soon as possible once the work commences. Removal and temporary signal set up shall be completed outside the peak hours of 7:00 AM- 9:00 AM and 3:00 PM to 6:00 PM.

Remove items as indicated on the traffic signal removal plan and in accordance to the temporary signal plans. Remove standards, poles, and arms from their concrete footings and disassemble out of traffic. Remove the transformer or pedestal bases from each pole. Remove the signals heads, mast arms, luminaries, wiring/cabling and traffic signal mounting devices from each signal standard, pole or arm. Ensure that access handhole doors and hardware remain intact. Dispose of the overhead and underground signal cable, street lighting cable, detector lead-in cable and all wires, including loop wire at such point in time that the wires are no longer needed for temporary or new permanent signal

operation. Do not damage equipment that is to remain in operation or be salvaged for use as either temporary or permanent equipment for the new signal installation.

At the time the new permanent signal is operational, remove the signal cabinet from its footing.

Deliver removed equipment after it is no longer required for temporary or new permanent signal operation including the signal cabinet and all contents including controller, signal heads, signal standards, mast arms, luminaire arms, transformer bases, poles, pull box covers, and traffic signal heads to the City of Madison Electric Shop at 1120 Sayle Street. Contact Mike Christoph at the City of Madison at (608) 266-9031 at least five working days prior to delivery.

D Measurement
The department will measure Removing Traffic Signal Equipment (Location) as a single complete unit of work for the intersection, acceptably completed.

E Payment
Supplement standard spec 204.5 to include the following:

ITEM NUMBER	DESCRIPTION	UNIT
204.9105.S.01	Removing Traffic Signal Equipment (USH 51 SB and Cottage Grove Road)	LS
204.9105.S.02	Removing Traffic Signal Equipment (USH 51 NB and Cottage Grove Road)	LS

28. Removing Modular Block Retaining Wall, Item 204.9165.S.01; Removing Concrete Masonry Wall, Item 204.9165.02.

A Description
This special provision describes removing retaining walls in accordance to standard spec 204.

B (Vacant)

C Construction
Remove and dispose of wall items in accordance to standard spec 204.

D Measurement
The department will measure Removing Modular Block Retaining Wall and Removing Concrete Masonry Wall by the square foot, measured from the base of the wall to the top of the wall, including concrete masonry footing and cap, acceptably completed. If the engineer directs portions of the wall that are greater than 2 feet below finished grade to remain, this quantity will not be measured for payment.

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

ITEM NUMBER	DESCRIPTION	UNIT
204.9165.01	Removing Modular Block Retaining Wall	SF
204.9165.02	Removing Concrete Masonry Wall	SF

Payment is full compensation for removing and disposing of materials.

29. Removing Concrete Slope Paving Waterway, Item 204.9180.S.01.

A Description
This special provision describes removing concrete slope paving for drainage ditches.

B (Vacant)

C Construction
Do not commence removals until all erosion control measures for the drainage ditch and culvert extension are in place. Begin construction of the culvert extension within two working days of removals. Remove the concrete side slope paving and bottom of channel paving in accordance to standard spec 204.

D Measurement
The department will measure Removing Concrete Drainage Ditch by the square foot, measured from the top of the paving and horizontally across the bottom of the channel, including concrete masonry cap, 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
204.9180.S.01	Removing Concrete Slope Paving Wateray	SY

Payment is full compensation for removing and disposing of materials.

30. Special Compaction.

Replace standard spec 207.3.6.3, paragraph (2) with the following:

207.3.6.3(2) Special Compaction
Compact the roadway foundation to at least the dry density specified in standard spec 207.3.6.3(3). Compact embankment areas outside the roadway foundation as specified in standard spec 207.3.6.1(4), unless those embankment areas are adjacent to the proposed MSE walls. In embankments adjacent to the proposed MSE walls, compact the embankment areas outside the roadway foundation as specified in standard spec 207.3.6.3(3).

31. Embankment and R-13-0229 Construction.

Construct the proposed embankments from Station 116+00 B to Station 126+00 B and R-13-0229, in accordance with the plan, standard spec 207, and as hereinafter provided.

Place the embankment fill to the extent of the proposed side slopes and from Station 116+00 B to Station 126+00 B, including R-13-0229 in consecutive 2-foot vertical sections (compact 8-inch layers within each 2-foot vertical section), do not start the next two foot vertical section prior to completion of the subsequent layer.

The control and placement of embankment fill will be based on the results of monitoring geotechnical instrumentation in the field. Install the vibrating wire piezometer instrumentation system after installation of the wick drains and drainage blanket.

Construct and compact the fill in accordance with standard spec 207.3.6.2.

The project engineer may stop embankment construction operations at any time if instrumentation monitoring indicates impending movement or instability of the embankment fill.

Cooperate with the department and its representatives in the monitoring and protection of the geotechnical instrumentation in the embankment. Conduct construction activities such that the department has reasonable access to the terminal boxes and other geotechnical instrumentation. Take all necessary precautions to ensure that all geotechnical instrumentation is not damaged, displaced, or misaligned by contractor activities. Furthermore if a geotechnical instrument is damaged by construction operations, the contractor shall pay for the repair of the geotechnical instrument, or if necessary, the replacement and installation of a new geotechnical instrument.

32. Select Borrow, Item 208.1100.

Conform to the requirements of standard spec 208 and as hereinafter provided.

Material
Furnish and use material that consists of granular material meeting the following requirements: Maximum particle size of 12 inches when measured from any face. The material passing the No. 4 sieve shall have a maximum of 20% by weight passing the No. 200 sieve.
208-005 (20031103)

33. Base Aggregate Dense 1 ¼-Inch, Item 305.0120.

Revise standard spec 305.2.2.1 as follows:

Use 1 ¼-Inch base aggregate that conforms to the following gradation requirements:

SIEVE	PERCENT PASSING

	BY WEIGHT
1 1/4 inch	95 - 100
1 inch	---
3/4 inch	70 - 90
3/8 inch	45 - 75
No. 4	30 - 60
No. 10	20 - 40
No. 40	7 - 25
No. 200	2 - 12 [1], [2]

[1] Limited to a maximum of 8.0 percent for base placed between old and new pavement.

[2] 3 - 10 percent passing when base is ³ 50% crushed gravel

34. 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)

35. 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
440.4410.S	Incentive IRI Ride	DOL

(2) Incentive payment is not limited, either up or down, to the amount the schedule of items shows.

(3) The department will administer disincentives for ride under the Disincentive IRI Ride administrative item.

(4) The department will not assess disincentive on HMA III or PCC III segments. Incentive pay for HMA III and PCC III segments will be according to the requirements for the category of the adjoining segments.

(5) The department will adjust pay for each segment based on the initial IRI for that segment. If corrective action is required, the department will base disincentives on the IRI after correction for pavement meeting the following conditions:

All Pavement:	The corrective work is performed in a contiguous, full lane width section 500 feet long, or a length as agreed with the engineer.
HMA Pavements:	The corrective work is a mill and inlay or full depth replacement and the inlay or replacement layer thickness conforms to standard spec 460.3.2.
Concrete Pavements:	The corrective work is a full depth replacement and conforms to standard spec 415.

(6) The department will adjust pay for 500-foot long standard segments nominally one wheel path wide using equation "QMP 1.04" as follows:

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] If the department will not assess a ride disincentive for HMA pavement placed in cold weather because of a department-caused delay as specified in standard spec 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.

36. Expansion Device Modular B-13-0632, Item 502.3110.S.01.

A Description

This special provision describes furnishing and installing a shop-fabricated waterproof modular expansion device in accordance to standard spec 502, the plans, and as hereinafter provided. The modular expansion joint device shall seal the deck surface, curbs, gutters,

and parapet walls as indicated on the plans. Any leaking or seeping of water through the joint will be cause for rejection of the modular expansion device.

B Materials

B.1 General

Furnish parts and elements that have material properties meeting the physical and chemical requirements shown in their manufacturer's technical data or as noted below, except as modified by pertinent parts of the standard specifications, this special provision, or the plans. Furnish certified test results from the manufacturer attesting to physical and chemical properties. Do not use any aluminum components or hardware.

B.2 Modular Expansion Device System Components

Furnish components for the Modular Expansion Device System from one of the following manufacturers and model series:

- D.S. Brown Company, Steelflex Modular D-Series
  (419) 257-3561

- R.J. Watson, Inc., Modular RJW-Series
  (716) 741-2166

- Watson, Bowman, & Acme Inc., Wabo-Maurer STM-Series
  (716) 691-7566

B.3 Steel Plates, Bars, Shapes, and Sheets

Furnish steel plates, bars, shapes, and extrusions that have been fabricated from high strength, low alloy grade 50 or grade 50W steel conforming to ASTM A709, or as shown on the approved shop drawings. Anchor bars and support bar boxes may be fabricated from ASTM A709 grade 36 steel. Furnish anchor bolts, bolts, nuts, and washers that conform to the requirements of ASTM A325. Secondary shapes or joint components may be assembled with bolts, nuts, and washer conforming to ASTM A490.

Furnish stainless steel sheets for the sliding surfaces of support bars that conform to the requirements of ASTM A167, alloy 304, 20 micro-inch RMS finish.

B.4 Elastomeric Seal Elements

Furnish preformed elastomeric seal elements that are polychloroprene (neoprene) of a rectangular or strip cross section having a minimum thickness of ¼-inch and conform to ASTM D3542 modified to omit the recovery test. The elastomeric seal elements shall meet the following physical properties:

Property	Requirement	Test Method
Tensile Strength, min	2000 psi	ASTM D412
Elongation @ Break, min	250%	ASTM D412
Hardness, Type A, Durometer	60± 5 pts	ASTM D2240
Compression Set, 70 Hrs @ 212º F, max	35%	D395 Method, B Modified
Ozone Resistance, after 70 hours at 100º F under 20% Strain with 100 pphm ozone	No Cracks	ASTM D1149 and D518, Method A
Mass Change in Oil 3 after 70 hours @ 212º F, Mass Change, max	45%	ASTM D471

Furnish manufacturer's certification for production of polychloroprene represented, showing test results for the cured material supplied and certifying that it meets all specified requirements.

The seal element shall be one piece, and full length of the expansion joint including curb and parapet face projections. The lubricated adhesive for installing the preformed elastomeric elements in place shall be one-part moisture curing polyurethane and hydrocarbon solvent mixture as recommended by the manufacturer.

B.5 Support Bars

Place support bars parallel to the roadway at a maximum support assembly spacing of 4'-0". Furnish support bars that are not less than 1½-inches in width and at least 4-inches in height; each transverse center beam shall have an individual support bar.

Support bars shall incorporate stainless steel sliding surfaces to minimize resistances to joint movements. Stainless steel shall be welded to support bars. Support the support bars above, below, and laterally as required to prevent uplifting, transmit bearing loads, and to maintain positioning of the bar.

Fabricate support bar bearings from polyurethane compound with PTFE self lubricating surfaces having engineering properties equivalent to adiprene, Teflon, or cast nylon with MDS. Positively lock the support bar bearings and springs or spacers into the support box by a dowel or pin. The connection must permit subsequent removal and replacement of the bearings and springs. The support bar springs shall be constructed similarly to the bearings but shall provide the required precompressive force to maintain the support bar in place while under traffic loads. Use a suitable equilibrium device that works counter to the compression forces of the sealing elements to maintain equalized expansion properties for each element across the modular joint assembly. Furnish anchor plates for the support bar springs or neoprene blocks that have a minimum thickness of ¾-inch.

B.6 Transverse Center Beams

Transverse center beams shall be at least of 4½-inches in height and have a minimum vertical web thickness of ¾-inch. Design transverse center beams for an AASHTO HS25 live loading plus 30 percent impact. Make shop splices in the transverse center beam with a full penetration weld. The exterior transverse beams shall have a minimum vertical web thickness of ¾-inch.

The connections between the transverse center beams and support bars shall be a full penetration weld in accordance to the details shown on the plans. Full penetration welds to be tested by ultrasound using the compressive criteria.

B.7 Support Bar Boxes

Furnish support bar boxes that consist of steel plates not less than ½-inch in thickness fabricated with continuous welds at all joints. The inside dimensions of the box shall be consistent with all boxes and within +0.040 inches of prescribed height as measured where the bearings and spring compress about the support bar. Fabricate support box plates with a continuous weld. Make anchorage details as shown on the plans.

B.8 Structural Steel Surfaces

Galvanize after fabrication, in accordance to ASTM A123, all structural steel surfaces of the expansion joint devices and anchorages, except ASTM A-490 bolts, components of stainless steel, and parts coated with polyurethane, adipene, nylon, or Teflon.

Galvanize or metallize in accordance to standard spec 635 all bolts, nuts, washers, and steel components that are not galvanized using the above procedure, including all ASTM A-490 bolts.

If a retainer clip is used for locking the neoprene strip type seal, continuously weld it on its top side. Due to the galvanizing coating requirement, also make a continuous weld underneath the clip.

All welding shall be in accordance to AWS D1.5 or D1.6 of the welding code and shall be done by certified welders only. A shop certified under AISC category for simple structures shall perform fabrication.

The fabricator will be permitted to shop weld pre-galvanized transverse roadway sections, complete with anchorages, of the expansion device steel extrusions. The pre-galvanized roadway sections shall be not less than 10 feet long. The pre-galvanized roadway side sections shall have additional anchorages, if required, so as to provide an anchorage within 9 inches of each end of the section. Abutting ends shall be beveled ¼-inch on three sides and deburred. All galvanizing shall be completely removed from the areas to be welded. The pre-galvanized sections shall be groove welded on three sides with care taken to prevent weld material from entering the gland groove. The weld across the top of the extrusion shall be ground smooth and all areas of galvanizing damaged by the welding operations shall be repaired in accordance to standard spec 635. Make field splices in transverse center roadway sections with a partial penetration weld.

C Construction

The manufacturer of the prefabricated expansion joint assembly shall prepare shop drawings showing details of the assembly and installation.

Support the modular joint assembly at 8'-0 minimum spacing along both sides of the joint. Construct the modular expansion device system in accordance to the details shown on the shop drawings. Tolerance requirements shall be in accordance to AASHTO specifications.

Install in accordance to the plan details, the manufacturer's and supplier's approved shop drawings, and as directed by the engineer. In addition, the manufacturer shall submit current product literature with the shop drawings and the shop drawings shall reflect that literature.

Remove all modular expansion joint forming material from the joint opening. Pre-set the modular joint assembly in accordance to the approved shop drawings, joint temperature setting data, and specifications. The maximum joint opening for a single modular unit shall be 3 inches.

The joint assembly manufacturer shall furnish technical assistance to the contractor and engineer through the personal services of a technical representative, who is a fulltime employee of the manufacturer during installation of the joint sealing systems. This representative shall be accessible to the engineer and shall be at the site during the work that involves the setting of all parts of each modular expansion joint assembly. The contractor shall be responsible for informing the representative prior to the date of installation.

D Measurement

The department will measure Expansion Device Modular (Structure) as a single lump sum unit for the structure, 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
502.3110.S.01	Expansion Device Modular B-13-0632	LS

Payment is full compensation for furnishing and placing the device complete in place; furnishing and completely installing all elements and parts of the joints, anchors, armor or structural metal; galvanizing materials; furnishing and installing all hardware, pads, bonding material, and reinforcing bars within the blockout not otherwise covered for payment, and barrier railing plates.

502-021 (20100709)

37. Polymer Overlay, Item 509.5100.S.

A Description

This special provision describes furnishing and applying two layers of a two-component polymer overlay system to the bridge decks shown on the plans. The minimum total thickness of the overlay system shall be ¼".

B Materials

B.1 General

Furnish materials specifically designed for use over concrete bridge decks. Furnish polymer liquid binders from the department's approved product list.

B.2 Polymer Resin

The polymer resin base and hardener shall be composed of two-component, 100% solids, 100% reactive, thermosetting compound with the following properties:

Property	Requirements	Test Method
Gel Time [A]	15 - 45 minutes @ 73° to 75° F	ASTM C881
Viscosity [A]	7 - 70 poises	ASTM D2393, Brookfield RVT, Spindle No. 3, 20 rpm
Shore D Hardness [B]	60-75	ASTM D2240
Absorption [B]	1% maximum at 24 hr	ASTM D570
Tensile Elongation [B]	30% - 70% @ 7 days	ASTM D638
Tensile Strength [B]	>2000 psi @ 7 days	ASTM D638
Chloride Permeability [B]	<100 coulombs @ 28 days	AASHTO T277

[A] Uncured, mixed polymer binder
[B] Cured, mixed polymer binder

B.3 Aggregates

Furnish natural or synthetic aggregates that have a proven record of performance in applications of this type. Furnish aggregates that are non-polishing, clean, free of surface moisture, fractured or angular in shape; free from silt, clay, asphalt, or other organic materials; and meet the following properties and gradation requirements:

Aggregate Properties:

Property	Requirement	Test Method
Moisture Content*	½ of the measured aggregate absorption, %	ASTM C566
Hardness	³ 6.5	Mohs Scale
Fractured Faces	100% with at least 1 fractured face and 80% with at least 2 fractured faces of material retained on No.16	ASTM 5821
Absorption	≤1%	ASTM C128

* Sampled and tested at the time of placement.

Gradation:

Sieve Size	% Passing by Weight
No. 4	100
No. 8	30 – 75
No. 16	0 – 5
No. 30	0 – 1

B.4 Required Properties of Overlay System

The required properties of the overlay system are listed in the table below:

Property	Requirement [A]	Test Method
Minimum Compressive Strength at 8 Hrs. (psi)	1,000 psi @ 8 hrs 5,000 psi @ 24 hrs	ASTM C 579 Method B, Modified [B]
Thermal Compatibility	No Delaminations	ASTM C 884
Minimum Pull-off Strength	250 psi @ 24 hrs	ACI 503R, Appendix A

[A] Based on samples cured or aged and tested at 75°F

[B] Plastic inserts that will provide 2-inch by 2-inch cubes shall be placed in the oversized brass molds.

B.5 Approval of Bridge Deck Polymer Overlay System

A minimum of 20 working days prior to application, submit product data sheets and specifications from the manufacturer, and a certified test report to the engineer for approval. The engineer may request samples of the polymer and/or aggregate, prior to application, for the purpose of acceptance testing by the department.

For materials not pre-qualified, in addition to the above submittals, submit product history/reference projects and a certified test report from an independent testing laboratory showing compliance with the requirements of the specification.

The product history/reference projects consist of a minimum of 5 bridge/roadway locations where the proposed overlay system has been applied in Wisconsin or in locations with a similar climate - include contact names for the facility owner, current phone number or e-mail address, and a brief description of the project.

Product data sheets and specifications from the manufacture consists of literature from the manufacturer showing general instructions, application recommendations/methods, product properties, general instructions, or any other applicable information.

C Construction

C.1 General

Conduct a pre-installation conference with the manufacturer's representative prior to construction to establish procedures for maintaining optimum working conditions and coordination of work. Furnish the engineer a copy of the recommended procedures and apply the overlay system according to the manufacturer's instructions. The manufacturer's representative familiar with the overlay system installation procedures shall be present at all times during surface preparation and overlay placement to provide quality assurance that the work is being performed properly.

Store resin materials in their original containers in a dry area. Store and handle materials according to the manufacturer's recommendations. Store all aggregates in a dry environment and protect aggregates from contaminants on the job site.

C.2 Deck Preparation

C.2.1. Deck Repair

Remove all asphaltic patches and unsound or disintegrated areas of the concrete decks as the plans show, or as the engineer directs. Work performed to repair the concrete deck will be paid for under other items. Ensure that products used for deck patching are compatible with the polymer overlay system.

NOTE: Some polymer systems require concrete patch material to be in place a minimum of 28-days before overlaying - contact polymer manufacturer before completing deck patching/repair.

C.2.2 Surface Preparation

Determine an acceptable shotblasting machine operation (size of shot, flow of shot, forward speed, and/or number of passes) that provides a surface a profile meeting CSP 5 according to the International Concrete Repair Institute Technical Guideline No. 03732. If the engineer requires additional verification of the surface preparation, test the tensile bond strength according to ACI 503R, Appendix A of the ACI *Manual of Concrete Practice*. The surface preparation will be considered acceptable if the tensile bond strength is greater than or equal to 250 psi or the failure area at a depth of ¼ inches or more is greater than 50% of the test area. Continue adjustment of the shotblasting machine and necessary testing until the surface is acceptable to the engineer or a passing test result is obtained.

Prepare the entire deck using the final accepted adjustments to the shotblasting machine as determined above. Thoroughly blast clean with hand-held equipment any areas inaccessible by the shotblasting equipment. Do not perform surface preparation more than 24 hours prior to the application of the overlay system.

Prepare the vertical concrete surfaces adjacent to the deck a minimum of 2" above the overlay according to SSPC-SP 13 by sand blasting, using wire wheels, or other approved method.

Just prior to overlay placement, clean all dust, debris, and concrete fines from the prepared surfaces including the vertical surfaces with compressed air. When using compressed air, the air stream must be free of oil. Any grease, oil, or other foreign matter that rests on or has absorbed into the concrete shall be removed completely. If any prepared surfaces (including the first layer of the polymer overlay) are exposed to rain or dew, lightly sandblast (breeze blast) the exposed surfaces.

Protect drains, expansion joints, access hatches, or other appurtenances on the deck from damage by the shot and sand blasting operations and from materials adhering and entering. Tape or form all construction joints to provide a clean straight edge.

Create a transitional area approaching transverse expansion joints and ends of the deck using the shotblasting machine or other approved method. Remove 5/16" to 3/8" of concrete adjacent to the joint or end of deck and taper a distance of 3 feet.

Create a transitional area approaching deck drains using the shotblasting machine or other approved method. Remove 5/16" to 3/8" of concrete adjacent to the deck drains and taper a distance of 3 feet.

The engineer may consider alternate surface preparation methods per the overlay system manufacture's recommendations. The engineer will approve the final surface profile and deck cleanliness prior to the contractor placing the polymer overlay.

C.3 Application of the Overlay

Perform the handling and mixing of the polymer resin and hardening agent in a safe manner to achieve the desired results according to the manufacturer's instructions. Do not apply the overlay system if any of the following exists:

- Ambient air temperature is below 50^{o}F;
- Deck temperature is below 50^{o}F;
- Moisture content in the deck exceeds 4.5% when measured by an electronic moisture meter or shows visible moisture after 2 hours when measured in accordance to ASTM D4263;
- Rain is forecasted during the minimum curing periods listed under C.5;
- Materials component temperatures below 50^{o}F or above 99^{o}F;
- Concrete age is less than 28 days unless approved by the engineer.
- The deck temperature exceeds 100^{o}F.
- If the gel time is 10 minutes or less at the predicted high air temperature for the day.

After the deck has been shotblasted or during the overlay curing period, only necessary surface preparation and overlay application equipment will be allowed on the deck. Begin overlay placement as soon as possible after surface preparation operations.

The polymer overlay shall consist of a two-course application of polymer and aggregate. Each of the two courses shall consist of a layer of polymer covered with a layer of aggregate in sufficient quantity to completely cover the polymer. Apply the polymer and aggregate

according to the manufacturer's requirements. Apply the overlay using equipment designed for this purpose. The application machine shall feature positive displacement volumetric metering and be capable of storing and mixing the polymer resins at the proper mix ratio. Disperse the aggregate using a standard chip spreader or equivalent machine that can provide a uniform, consistent coverage of aggregate. First course applications that do not receive enough aggregate before the polymer gels shall be removed and replaced. A second course applied with insufficient aggregate may be left in place, but will require additional applications before opening to traffic.

After completion of each course, cure the overlay according to the manufacturer's instructions. Follow the minimum cure times listed under C.5 or as prescribed by the manufacturer. Remove the excess aggregate from the surface treatment by sweeping, blowing, or vacuuming without tearing or damaging the surface; the material may be re-used if approved by the engineer and manufacturer. Apply all courses of the overlay system before opening the area to traffic. Do not allow traffic on the treated area until directed by the engineer.

After the first layer of coating has cured to the point where the aggregate cannot be pulled out, apply the second layer. Prior to applying the second layer, broom and blow off the first layer with compressed air to remove all loose excess aggregate.

Prior to opening to traffic, clean expansion joints and joint seals of all debris and polymer. If required by the engineer, a minimum of 3 days following opening to traffic, remove loosened aggregates from the deck, expansion joints, and approach pavement.

C.4 Application Rates

Apply the polymer overlay in two separate courses in accordance to the manufacturer's instructions, but not less than the following rate of application.

Course	Minimum Polymer Rate [A] (GAL/100 SF)	Aggregate [B] (LBS/SY)
1	2.5	10+
2	5.0	14+

[A] The minimum total applications rate is 7.5 GAL/100 SF.

[B] Application of aggregate shall be of sufficient quantity to completely cover the polymer.

C.5 Minimum Curing Periods

As a minimum, cure the coating as follows:

	Average temperature of deck, polymer and aggregate components in °F							
Course	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85-99**
1	6 hrs.	5 hrs.	4 hrs.	3 hrs.	2.5 hrs	2 hrs	1.5 hrs.	1 hr.
2	8 hrs.	6.5 hrs.	6.5 hrs.	5 hrs.	4 hrs.	3 hrs.	3 hrs.	3 hrs.

C.6 Repair of Polymer Overlay

Repair all areas of unbonded, uncured, or damaged polymer overlay for no additional compensation. Submit repair procedures from the manufacturer to the engineer for approval. Absent a manufacturer's repair procedures and with the approval of the engineer, complete repairs according to the following: Saw cut the limits of the area to the top of the concrete; remove the overlay by scarifying, grinding, or other approved methods; shot blast or sand blast and air blast the concrete prior to placement of polymer overlay; and place the polymer overlay according to section C.3.

D Measurement

The department will measure Polymer Overlay in area by the square yard, 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
509.5100.S	Polymer Overlay	SY

Payment is full compensation for preparing the surface; for tensile bond testing; for providing the overlay; for cleanup; and for sweeping/vacuuming and disposing of excess materials. Concrete Deck Repair will be paid for separately.

38. Concrete Staining B-13-632, Item 517.1010.S.01; B-13-660, Item 517.1010.S.02; R-13-228, Item 517.1010.S.03; R-13-229, Item 517.1010.S.04.

A Description

Furnish and apply a two coat concrete stain to the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials

B.1 Mortar

Use mortar for sack rubbing the concrete surfaces as given in standard spec 502.3.7.5 or use one of the following products:

Preblended, Packaged Type II Cement:	Tri-Mix by TK Products
	Thoroseal Pearl Gray by Thoro Products

The mortar shall contain one of the following acrylic bonding admixtures mixed and applied in accordance to manufacturer's recommendations:

Acrylic Bonding Admixture:	TK-225 by TK Products
	Achro 60 by Thoro Products
	Achro Set by Master Builders

B.2 Concrete Stain

Use concrete stain manufactured for use on exterior concrete surfaces, consisting of a base coat and a pigmented sealer finish coat. Use the following products, or equal as approved by the department, as part of the two coat finish system:

Tri-Sheen Concrete Surfacer, Smooth by TK Products
Tri-Sheen Acrylic by TK Products
TK-1450 Natural Look Urethane Anti-Graffiti Primers by TK Products
Safe-Cure & Seal EPX by Chem Masters
H&C Concrete Stain Solid Color Water Based by Sherwin-Williams

C Construction

C.1 General

Furnish, prepare, apply, cure, and store all materials in accordance to the product manufacturer's specifications for the type and condition of application required.

Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining.

C.2 Preparation of Concrete Surfaces

Provide a sack rubbed finish in accordance to standard spec 502.3.7.5, using mortar as indicated above on concrete surfaces with open voids or honeycombing.

Following the sack rubbing, clean all concrete surfaces that are to be coated to ensure that the surface is free of all laitance, dirt, dust, grease, efflorescence, and any foreign material and that the surface will accept the coating material according to product requirements. As a minimum, clean the surface using a 3000-psi water blast. Hold the nozzle of the water blaster approximately 6 inches from the concrete surface and move it continuously in a sweeping motion. Give special attention to smooth concrete surfaces to produce an acceptable surface texture. Correct any surface problems resulting from the surface preparation methods. Grit blasting of the concrete surface is not allowed.

C.3 Staining Concrete Surfaces

Apply the concrete stain in accordance to the manufacturer's recommendations.

Apply the concrete stain when the temperature of the concrete surface is 45º F or higher, or as given by the manufacturer.

The color of the stain shall be as given on the plan. Tint the base coat to match the finish coat; the two coats shall be compatible with each other.

Do not begin staining the structure until earthwork operations are completed to a point where this work can begin without receiving damage. Where this work is adjacent to exposed soil or pavement areas, provide temporary covering protection from overspray or splatter.

C.4 Test Areas
Prior to applying stain to the structure, apply the stain to sample panels measuring a minimum of 48-inches x 48-inches and constructed to demonstrate workmanship in the use of the form liner specified on the structure if applicable. Match or exceed the stain manufacturer's minimum recommended curing time of the concrete or 28 days, whichever is greater, prior to staining. Prepare the concrete surfaces of the sample panels and apply stain using the same materials and in the same manner as proposed for the structure, including staining of the joints between the stones produced by the form liner if applicable. Do not apply stain to the structure until the department approves the test panels.

C.5 Surfaces to be Coated.
Apply concrete stain to the surfaces in accordance to the plan.

D Measurement
The department will measure Concrete Staining (Structure) in area by the square foot of surface, acceptably prepared and stained.

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

ITEM NUMBER	DESCRIPTION	UNIT
517.1010.S.01	Concrete Staining B-13-632	SF
517.1010.S.02	Concrete Staining B-13-660	SF
517.1010.S.03	Concrete Staining R-13-228	SF
517.1010.S.04	Concrete Staining R-13-229	SF

Payment is full compensation for furnishing and applying the two coat system; for preparing the concrete surface; and for preparing the sample panels.
517-110 (20140630)

39. Architectural Surface Treatment B-13-632, Item 517.1050.S.01; B-13-660, Item 517.1050.S.02; R-13-228, Item 517.1050.S.03; R-13-229, Item 517.1050.S.04.

A Description
Construct a concrete masonry architectural surface treatment on the exposed concrete surfaces of the structure, as detailed in the plans and as hereinafter provided.

B Materials
Use form liners that attach easily to the forming system, and do not compress more than ¼-inch when poured at a rate of 10 vertical feet/hour.

Use a release agent that is compatible with the form liner and coloring materials.

Wall ties shall have set "break-backs" at a minimum of ¾-inches from the finished concrete surface.

C Construction

C.1 Equipment

Equipment and tools necessary for performing all parts of the work shall be satisfactory as to design, capacity, and mechanical condition for the purposes intended. Repair, improve, replace, or supplement all equipment that is not maintained in full working order, or which is proven inadequate to obtain the results prescribed.

C.2 Form Liner Preparation

Clean the form liner prior to each pour and ensure that it is free of any build-up. Visually inspect each liner for blemishes or tears, and repair if necessary per manufacturer's recommendations.

Apply form release per manufacturer's recommendations.

C.3 Form Liner Attachment

Place adjacent liners less than ¼-inch from each other, attach liner securely to forms in accordance to the manufacturer's recommendations, and coordinate wall ties with form liner and form manufacturer, e.g., diameter, size, and frequency.

C.4 Surface Finishing

Ensure that the textured surface is free of laitance; sandblasting is not permitted.

Grind or fill pouring blemishes.

D Measurement

The department will measure Architectural Surface Treatment (Structure) in area by the square foot of architectural surface 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
517.1050.S.01	Architectural Surface Treatment B-13-632	SF
517.1050.S.02	Architectural Surface Treatment B-13-660	SF
517.1050.S.03	Architectural Surface Treatment R-13-228	SF
517.1050.S.04	Architectural Surface Treatment R-13-229	SF

Payment is full compensation for producing the proposed architectural surface treatment including: preparing the foundation; finishing and protecting the surface treatment; and for properly disposing of surplus material.

517-150 (20110615)

40. General Provisions for Storm Sewer.

Reconnection of existing pipes at new structures, or new pipes at new structures, shall be considered to be part of the work required to construct the new structure or to construct the new sewer pipe and shall not be rewarded with additional compensation. However, if the structure being removed is larger than the new structure, thus requiring additional pipe, the new pipe shall be paid under the appropriate bid item and the connection of the old pipe to the new pipe shall be accomplished with a concrete collar.

Where a new structure is to be constructed at an existing pipe, it is expected that the contractor shall saw cut the existing pipe in the required location to accommodate the placement of the new structure. If the contractor for his or her convenience deems it more suitable to remove the existing pipe to a full joint, the additional pipe and concrete collar required to reconnect to the new structure shall be the contractor's responsibility and shall not be compensated.

If there are structures where the pipe walls are to be poured into the structure roof or both the pipe walls and the structure casting are to be poured in the structure roof, the contractor shall not be provided additional compensation for complying with the structure requirements detailed on the storm sewer chart and plans.

Construct all round and elliptical shape storm sewers in accordance to the pertinent provisions of standard specs 608, 610 and 611 as shown on the plans, and as follows.

Prior to ordering drainage pipes and structures, verify related drainage information in the plan with the engineer. This shall include all information obtained from the bid item "Utility Line Opening" (ULO).

Seal the joints for reinforced concrete pipe with either mastic or internal rubber gaskets as described in standard specs 607.2.3 and 607.2.4. The use of mortar as a pipe joint method is prohibited.

Lay all round and elliptical shape storm sewers on a 6-inch minimum thick bed of Base Aggregate Dense Graded 1¼-Inch in accordance to standard spec 305.2.1 or when water is encountered, No. 1 coarse concrete aggregate in accordance to standard spec 501.2.5.4. Bedding for round and elliptical pipe shall be incidental to the installation costs of the round or elliptical pipe.

Dewatering trenches shall be incidental to the unit price for all storm sewer pipe installation.

Construct all inlets rectangular in shape. All structures shall be reinforced concrete. Concrete brick and block options are prohibited.

Construct all structures (manholes and inlets) on a 12-inch minimum thick bed of Base Aggregate Dense Graded 1¼-Inch in accordance to standard spec 305.2.1 or when water is encountered, No. 1 coarse concrete aggregate in accordance to standard spec 501.3.6.4.5, and as shown on the plans. Bedding for structures shall be incidental to the installation costs of the structure.

Bid all structures (manholes and inlets) as field-poured, and construct all structures as field-poured, unless the contractor receives approval of the City of Madison design engineer to precast the structures. This approval will not be given until it can be confirmed that the proposed design will fit existing conditions including possible utility conflicts. No precast approval shall be authorized for any structure until such time as all utility line openings that could affect the structure/structures in question have been completed and the City of Madison design engineer has had a minimum of three working days to review all the relevant information.

Submit shop drawings for all precast structures to the city of Madison design engineer. The city design engineer shall have three days to approve or reject the shop drawings. Under no circumstance shall a precast structure be brought to, or used on, the construction site without a written approval of the shop drawing for that structure prior to its use on site.

Do not use station and offset for inlet structures, as given on the storm plans, for final layout of the structure. Determine the curb line in the area of the inlet prior to pouring the inlet structure to assure proper location of the inlet relative to the curb line.

The costs to connect storm sewer to existing structures or pipes and the costs to plug pipes for future use including tapping the hole, placing the pipe and sealing the joint, furnishing and installing a plugging device as specified above, will be included in the unit price bid for the pipe of the type, class and diameter used.

41. Adjusting Manhole Covers.

This work shall be according to the pertinent provisions of standard spec 611, as shown on the plans, and as hereinafter provided.

Revise standard spec 611.3.7 by deleting the last paragraph.

Set the manhole frames so that they comply with the surface requirements of standard spec 450.3.2.9. At the completion of the paving, a 6-foot straightedge shall be placed over the centerline of each manhole frame parallel to the direction of traffic. A measurement shall be made at each side of the frame. The two measurements shall be averaged. If this average is greater than 5/8 inches, reset the manhole frame to the correct plane and elevation. If this average is 5/8 inches or less but greater than 3/8 inches, the manhole frame shall be allowed to remain in place but shall be paid for at 50 percent of the contract unit price.

If the manhole frame is higher than the adjacent pavement, the two measurements shall be made at each end of the straightedge. These two measurements shall be averaged. The same criteria for acceptance and payment as above, shall apply.
611-005 (20030820)

42. Cover Plates Temporary, Item 611.8120.S.

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

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

C (Vacant)

D Measurement
The department will measure Cover Plates Temporary as units, acceptably completed in place.

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

ITEM NUMBER	DESCRIPTION	UNIT
611.8120.S	Cover Plates Temporary	Each

Payment is full compensation for furnishing, installing, and removing the cover plates.

The steel plates shall become the property of the contractor when no longer needed in the contract work.
611-006 (20030820)

43. Pipe Grates, Item 611.9800.S.

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

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

Furnish pipe grates galvanized according to ASTM A123.

Furnish angles and brackets galvanized according to ASTM A123.

Furnish required hardware galvanized according to ASTM A153.

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

D Measurement
The department will measure Pipe Grates in units of work, where one unit is one grate completed and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
611.9800.S	Pipe Grates	Each

Payment is full compensation for furnishing and installing all materials; and for drilling and connecting grates to pipes.
611-010 (20030820)

44. Fence Temporary, Item 616.0600.S.

A Description
This special provision describes furnishing, erecting, and removing temporary fencing at the locations shown on the plans and as directed by the engineer.

B Materials
Furnish 6 foot chain link fence in accordance to standard spec 616.2.3 or salvage existing chain link fencing removed with this contract.

C Construction
Install the fencing in accordance to standard spec 616.3. Complete installation of the fence temporary within 2 calendar days of removing existing fencing.

D Measurement
The department will measure Fence Temporary in place by the linear foot from end posts, center to center, along the ground line.

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

ITEM NUMBER	DESCRIPTION	UNIT
616.0600.S	Fence Temporary	LF

Payment is full compensation for furnishing all materials; erecting posts and fence; and for removing and disposing of fencing.

45. Fence Track Clearance, Item 616.0800.S.

A Description

This special provision describes construction of a plastic fence at locations specified in the plan.

B Materials

Provide notched conventional metal "T" or "U" shaped fence posts.

Provide fence fabric that meets the following requirements:

Color:	International Orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1-inch min to 3-inch max
Resin/Construction:	High density polyethylene diamond mesh
Service Temperature:	-60° F to 200° F (ASTM D648)
Tensile Yield:	Avg. 2000 lbs per 4 feet width (ASTM D638)
Ultimate Yield:	Avg. 2900 lbs per 4 feet width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction

C.1 Track Clearance Fences

Erect track clearance fences prior to construction work 14 feet from the centerline of the track and on both sides of the track running continuously from the points located 100 feet beyond the edges of the overpass structure(s).

Prior to driving posts, arrange with the railroad company and utility owners to have any buried signal cable, fiber optic lines or other underground facilities located and marked where the fence is to be placed. Place the posts to avoid underground facilities.

Drive posts into the ground 12 to 18 inches, and space posts at 7.0 feet. Secure the fence at each post with a minimum of three wire ties. Weave tension wire through the top row of strands to provide a top stringer to prevent sagging.

Overlap two rolls at a post and secure with wire ties.

Where buried facilities or subsurface conditions do not permit driving posts, support posts by some other means that will provide stability comparable to driven posts.

D Measurement

The department will measure Fence Track Clearance in length by the linear feet along the base of the fence, center to center of posts.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
616.0800.S	Fence Track Clearance	LF

Payment is full compensation for underground facility locating and marking services by the railroad and utility owners; furnishing and installing fence and posts; maintaining the fence and posts in satisfactory condition at all times; and for removing and disposing of fence and posts at the completion of the project.

616-050 (20050502)

46. Field Facilities.

Provide sanitary facilities meeting ADA requirements.

Replace standard spec 642.2.2.1 (1) with the following:

Provide the field office with up to three communication services, designated as follows: 1-voice, 1-fax, and 1-high speed Internet connection for computer(s) at a setting no less than 1MB and up to 10 MB. The high speed Internet connection must utilize either DHCP or PPPoE as the connection. Provide a high speed wireless network with connection to a separate copier/printer/scanner which has the ability to copy, print and scan 11" x 17" paper.

Provide two programmable touch-tone telephones of which one will be a cordless type operating at no less than 2.4 GHz and one will have an answering machine unless voice mail service is available. The telephones and the communication services are for the sole use of the department staff.

Replace standard spec 642.2.2.4 (1) with the following:

Under bid item Field Office Type D, furnish a facility with a minimum interior space of 700 square feet with separate offices, and a meeting area, having a parking facility with a minimum capacity of 10 passenger vehicles. An existing commercial building or portion of that is located within 1/2 mile of the project corridor is an acceptable alternative as approved by the engineer.

Equip the office with the following: minimum electrical service of 100A and 120 VAC, four suitable office desks with drawers, six office chairs, one four-drawer file cabinet, three 2.5-foot x 6-foot folding tables and 15 folding chairs.

Maintain the field office, field office equipment and supplies as requested by the engineer, including all paper and print cartridges.

47. Field Office Ramp.

A Description
Construct a field-office ramp to provide wheelchair access to the WisDOT field office. The ramp shall be in place prior to the start of construction in conjunction with the set up of the field office.

B Materials
Construct the field office ramp of a minimum ½-inch thick treated plywood deck and treated dimensional lumber framing or of similar materials as approved by the engineer.

C Construction
The sloped portion of the ramp shall be a minimum 4 feet wide and of sufficient length such that safe wheelchair access is achieved without tipping. The top flat platform shall measure 4-foot by 8-foot, or as directed by the engineer. Include safety railings and traction strips.

D (Vacant)

E Payment
Furnishing the materials for, and constructing the field office ramp as provided above shall be incidental to the contract unit price for Field Office, which price shall be full compensation for furnishing and installing the ramp.

48. Nighttime Work Lighting-Stationary.

A Description
Provide portable lighting as necessary to complete nighttime work. Nighttime operations consist of work specifically scheduled to occur after sunset and before sunrise.

B (Vacant)

C Construction
C.1 General
This provision shall apply when providing, maintaining, moving, and removing portable light towers and equipment-mounted lighting fixtures for nighttime stationary work operations, for the duration of nighttime work on the contract.

At least 14 days prior to the nighttime work, furnish a lighting plan to the engineer for review and acceptance. Address the following in the plan:

1. Layout, including location of portable lighting – lateral placement, height, and spacing. Clearly show on the layout the location of all lights necessary for every aspect of work to be done at night.

2. Specifications, brochures, and technical data of all lighting equipment to be used.

3. The details on how the luminaires will be attached.

4. Electrical power source information.

5. Details on the louvers, shields, or methods to be employed to reduce glare.

6. Lighting calculations. Provide illumination with average to minimum uniformity ratio of 5:1 or less throughout the work area.

7. Detail information on any other auxiliary equipment.

C.2 Portable Lighting

Provide portable lighting that is sturdy and free standing and does not require any guy wires, braces, or any other attachments. Furnish portable lighting capable of being moved as necessary to keep up with the construction project. Position the portable lighting and trailers to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment. Provide lightning protection for the portable lighting. Portable lighting shall withstand up to 60 mph wind velocity.

If portable generators are used as a power source, furnish adequate power to operate all required lighting equipment without any interruption during the nighttime work. Provide wiring that is weatherproof and installed according to local, state, federal (NECA and OSHA) requirements. Equip all power sources with a ground-fault circuit interrupter to prevent electrical shock.

C.3 Light Level and Uniformity

Position (spacing and mounting height) the luminaires to provide illumination with an average to minimum uniformity ratio of 5:1 or less throughout the work area.

Illuminate the area as necessary to incorporate construction vehicles, equipment, and personnel activities.

C.4 Glare Control

Design, install, and operate all lighting supplied under these specifications to minimize or avoid glare that interferes with all traffic on the roadway or that causes annoyance or discomfort for properties adjoining the roadway. Locate, aim, and adjust the luminaires to provide the adequate level of illumination and the specified uniformity in the work area without the creation of objectionable glare.

Provide louvers, shields, or visors, as needed, to reduce any objectionable levels of glare. As a minimum, ensure the following requirements are met to avoid objectionable glare on the roadways open to traffic in either direction or for adjoining properties:

1. Aim tower-mounted luminaires, either parallel or perpendicular to the roadway, so as to minimize light aimed toward approaching traffic.

2. Aim all luminaires such that the center of beam axis is no greater than 60 degrees above vertical (straight down).

If lighting does not meet above-mentioned criteria, adjust the lighting within 24 hours.

C.5 Continuous Operation
Provide and have available sufficient fuel, spare lamps, generators, and qualified personnel to ensure that the lights will operate continuously during nighttime operation. In the event of any failure of the lighting system, discontinue the operation until the adequate level of illumination is restored. Move and remove lighting as necessary.

D (Vacant)

E Payment
Costs for furnishing a lighting plan, and for providing, maintaining, moving, and removing portable lighting, tower mounted lighting, and equipment-mounted lighting required under this special provision are incidental to the contract.
643-010 (20100709)

49. 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 (Width) 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)

50. Install Conduit Into Existing Item, Item 652.0700.S.

A Description
This special provision describes installing proposed conduit into an existing manhole, pull box, junction box, communication vault, or other structure.

B Materials
Use Nonmetallic Conduit or Conduit Special as indicated on the plans and as provided and paid for under other items in this contract. Furnish backfill material, topsoil, fertilizer,

seed, and mulch conforming to the requirements of pertinent provisions of the standard specifications.

C Construction

Expose the outside of the existing structure without disturbing existing conduits or cabling. Drill the appropriate sized hole for the entering conduit(s) at a location within the structure without disturbing the existing cabling and without hindering the installation of new cabling within the installed conduit. Fill void area between the drilled hole and conduit with an engineer-approved filling material to protect against conduit movement and entry of fill material into the structure. Tamp backfill into place.

D Measurement

The department will measure Install Conduit Into Existing System by the unit, acceptably installed. Up to five conduits entering a structure per entry point into the existing structure will be considered a single unit. Conduits in excess of five, or conduits entering at significantly different entry points into the existing pull box, manhole, or junction box will constitute multiple units of payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
652.0700.S	Install Conduit Into Existing Item	Each

Payment is full compensation for excavating, drilling holes; furnishing and installing all materials, including bricks, coarse aggregate, sand, bedding, and backfill; for excavating and backfilling; and for furnishing and placing topsoil, fertilizer, seed, and mulch in disturbed areas; for properly disposing of surplus materials; and for making inspections.
652-070 (20100709)

51. Traffic Signals, General.

Work under this contract shall be performed in accordance to the plans and standard spec 651 through standard spec 678, and these special provisions.

Work items shall be considered incidental to construction if not specifically listed on the unit price schedule.

All underground conduit and concrete base forms shall be inspected by the owner or the representative before any trench is backfilled or concrete is poured. Any work completed without such inspection is subject to rejection as unacceptable work and shall be immediately removed and replaced or otherwise satisfactorily corrected by and at the expense of the contractor. It is the contractor's responsibility to arrange for inspections. There will not be any additional compensation to the contractor for delays and inconveniences associated with arranging and waiting for inspections.

52. General Requirement for Electrical.

The approved products list is located at:
http://www.dot.wisconsin.gov/business/engrserv/ap2014.htm

53. Pedestrian Push Button.

Replace standard spec 658.2.5 with the following:

Furnish freeze-proof ADA compliant pedestrian push buttons made by an approved manufacturer. Band a standard R10-3e series sign direction above each push button. Include a directional arrow or arrows on the sign as appropriate for each location.

54. General Provisions for Madison Sanitary Sewer.

Utility Standard Specifications
Perform work in accordance to these provisions and City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

Work Sequence
Contact the identified person below 10 working days prior to starting work on the sanitary sewer and provide a schedule of operations. Construct sanitary sewer main and laterals in stages in accordance to the traffic control plan and in proper coordination with construction for activities adjacent to the sanitary sewer main.

Provide bypass pumping of sanitary sewage to maintain sanitary sewer service when new sewer access structures are being constructed over the existing mains.

Shop Drawings and Samples
Submit shop drawings and samples to the engineer and City of Madison Engineering Department as required in these special provisions and for the following:

- Sanitary Sewer Pipe Material
- Sanitary Sewer Access Structure Casting and Manhole Covers Type MAD
- Sanitary Sewer Access Structure (4-Foot Diameter, 5’ Diameter)
- Sewer Electronic Markers
- Select Fill for Sanitary Sewer

Contractor's responsibilities include:

- Review shop drawings and samples prior to submittal;
- Determine and verify field measurements, field construction criteria, catalog numbers and similar data, and conformance with specifications;
- Coordinate each submittal with requirements of work and of special provisions;
- Notify city engineer or city engineer's representative, in writing, at time of submittal of deviations in submittals from requirements of Special Provisions.

NOTE: Do not begin any fabrication or work listed above as requiring shop drawings or samples until return of submittals with city engineer's or city engineer representative's approval.

Provide shop drawings containing the following:

- Date of submittal and dates of previous submittals.
- Project title and number.
- Contract identification.
- Names of contractor, supplier, and manufacturer.
- Identification of product, with identification numbers, and drawing and specification section numbers.
- Field dimensions clearly identified.
- Identification of details required on drawings and in specifications.
- Manufacturer and model number (give dimensions and provide clearances).
- Relation to adjacent or critical features or work or materials.
- Applicable standards, such as ASTM, and identification of deviations from contract documents.
- Source of samples and material properties.
- Identification of revisions on re-submittals.
- Eight-inch and three-inch blank space for contractor and city engineer stamps.
- Contractor's stamp, signed, certifying to review of submittal, verification of products, field measurement, field construction criteria, and coordination of information with submittal with requirements of work and Special Provisions.

If required by the city engineer or city engineer’s representative, resubmit shop drawings that include the following:

- Corrections or changes from previous submittals as indicated by city engineer or city engineer’s representative. Re-submittals are required until approved.

- Shop Drawings and Product Data: Review initial drawings or data and resubmit as specified for initial submittal. Indicate changes, which have been made other than those requested by city engineer.

Testing and Acceptance: Submit materials production and field placement testing results as required by the City of Madison Standard Specifications for Public Works Construction - 2015 Edition or as required by the city engineer or city engineer's representative. Final acceptance of sanitary sewer and related materials such as backfill, concrete, slurry, etc. will come from the city engineer or city engineer's representative.

Allow the City of Madison to sample/test materials as requested. Provide complete copies of required submittals as follows:

Shop Drawings:	Six copies
Sampling/Testing Results:	Three copies

Deliver required copies of submittals and testing results to Mark Moder, City of Madison, Department of Public Works, City-County Building, Room 115, 210 Martin Luther King Jr. Boulevard, Madison, Wisconsin, 53710, mmoder@cityofmadison.com. Use of email in lieu of hard copy transmittal is an accepted transmittal method of materials for approval.

The city engineer or city engineer's representative will review and return shop drawings to the contractor within one week of date of receipt.

Protection of Sewers: Take adequate measures to prevent impairment of operation of existing sanitary sewer and storm sewer systems. Prevent construction material, concrete, earth, or other debris from entering sewer or sewer structure.

Divert sewage flow interfering with construction to sanitary sewers leading away from construction area. Prior to commencing excavation and construction of work impacting existing city sewer, submit to city engineer for review, detailed plans, including routing and connections, required to handle and dispose of sanitary wastes. By reviewing the plan, the city engineer neither accepts responsibility for adequacy thereof nor for damages to public or private property resulting there from, such responsibilities remain with the contractor.

Sanitary sewer damaged or removed during construction, which is to remain in service, will be restored or replaced to original material and workmanship used for original construction.

All City of Madison manhole castings removed from sewer access structures (removed, abandoned, or swapped out with a casting elevation adjustment) will be delivered to City Engineering's Service Building, 1600 Emil Street, Madison, WI 53713.

The costs to remove all abandoned utility pipes within the sanitary sewer pipe trench or sewer access structure excavation will be included in the unit price bid for the pipe of the type, class and diameter used. The cost includes installing a concrete plug in the portion of the abandon pipe that remains in place after completion of sanitary sewer trench.

In accordance to the City of Madison Standard Specifications for Public Works Construction – 2015 Edition, "Pipe to be removed that is in the same trench as a new pipe will not be compensated as remove pipe and will be considered to be incidental to the new pipe installation." Same trench will considered to be any pipe located with 3' horizontally of the pipe being installed.

City of Madison (sanitary sewer) has underground facilities located within the project area. Relocation of the underground facilities will be accomplished as part of contract 5411-02-75 by the contractor. Existing facilities and anticipated proposed relocations are as follows:

- Cottage Grove Road –Center of street (15" diameter RCP): Station 9'CGE'+03.5 LT 10' to Station 24'CGW' +13.6 RT 27.3'

Sanitary Sewer removals, replacements, and adjustments are included as part of the project as shown on the plans. Coordinate operations with the City of Madison. Contact Mark Moder, (608) 261-9250.

55. Drainage Blanket, Item SPV.0035.01.

A Description

This special provision describes furnishing and placing granular backfill within the limits shown on the plans and as directed by the engineer.

B Materials

The granular backfill for the drainage blanket shall meet the requirements of standard spec 209.2 for Granular Backfill, Grade 2.

C Construction

Place the granular backfill at the locations designated in the plan documents. Uniformly place the granular backfill to a depth of two feet, within the proposed embankment limits and leveled. Compact the granular backfill in accordance to standard spec 207.3.6.2. Repair any excessive rutting or deformations in the drainage blanket caused by construction operations as directed by the engineer.

D Measurement

The department will measure Drainage Blanket by the cubic yard measured in place in its final position and condition, 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.0035.01	Drainage Blanket	CY

Payment is full compensation for preparing the foundation; and for stockpiling, placing, shaping, and compacting the drainage blanket area.

56. Abandon Sanitary Sewer With Slurry, Item SPV.0035.02.

A Description
This work consists of abandoning sanitary sewer pipe with slurry as shown in the plans and hereinafter provided.

B Materials
Furnish slurry conforming to Type B Slurry Mix as specified in Article 301.9 of the City of Madison Standard Specifications for Public Works Construction - Latest Edition.

Perform materials testing as required in the Madison Standard Specifications for Public Works Constriction - Latest Edition.

C Construction
Provide replacement sanitary sewers and laterals or appropriate bypass pumping prior to abandoning sanitary sewer pipe. These items are not included in this bid item.

Sawcut and remove the ends of the sanitary sewer pipe to be abandoned as necessary to complete the abandonment. The sawcut and removal is incidental to this bid item.

Maintain service in all existing sewers until the replacement sewers or appropriate bypasses, approved the engineer, have been installed, at which time bulkheads or plugs may be placed.

Plug the downstream end of the sanitary sewer pipe to be abandoned. Fill the entire pipe with concrete slurry. Provide vent holes, as directed by the engineer, to verify the slurried pipe is free of air voids.

D Measurement
The department will measure Abandon Sanitary Sewer With Slurry by the cubic yard of slurry, 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.0035.02	Abandon Sanitary Sewer With Slurry	CY

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete this item of work. Replacement sanitary sewer pipe and laterals or appropriate bypass pumping are not included in this bid item.

57. Temporary Crosswalk, Item SPV.0045.01.

A Description

This special provision describes maintaining accessible crosswalks crossing the construction zone.

A crosswalk is defined as an accessible crossing of a single leg of an intersection, including curb ramps.

B Materials

Furnish a hard temporary surface material consisting of asphaltic surface temporary in accordance with standard spec 465.2, any grade of concrete in accordance to standard spec 602.2, skid resistant steel plating, or alternative material as approved by the engineer. Gravel or base course material is not acceptable.

Furnish safety fence in accordance with the following specifications:

Furnish notched conventional metal "T" or "U" shaped fence posts.

Furnish fence fabric meeting the following requirements.

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

Furnish 4-inch diameter polyvinyl chloride drainage pipe conforming to AASHTO M 278.

Furnish a protective layer for use in protecting the existing curb and gutter and existing pavement from asphaltic surface temporary in order to allow easy removal of asphaltic surface. Obtain approval from the engineer for the protective layer material.

C Construction

Maintain accessible crosswalks on existing pavement, new pavement, or temporary surface material. Provide one accessible crosswalk, across Cottage Grove Road at the ramp terminal intersections whenever sidewalk is closed on either the north or south side of

Cottage Grove Road. Provide an accessible crosswalk across Cottage Court at all times during construction. Provide safety

C.1 Crosswalk
Install, maintain, relocate (if necessary to accommodate work or operations), and remove temporary surface material at Temporary Crosswalk Access locations as shown on the plans and as directed by the engineer. Level and compact the surface prior to placing temporary surface material. The temporary crosswalk shall have a minimum clear width of 4 feet; be located outside the immediate work area, as approved by the engineer; and meet the requirements of the current Americans with Disabilities Act Accessibility Guidelines (ADAAG). Install safety fence along both sides of the temporary crosswalk. Provide a gap in the safety fence as necessary to provide access for construction vehicles across the temporary crosswalk. The maximum width of the gap shall be 18 feet. Reconstruct Temporary Crosswalk Access when disturbed by construction operations or utility trenches.

C.2 Temporary Curb Ramp
Place 4-inch PVC drainage pipe in the flow line of the curb and gutter to maintain storm water drainage.

Place a protective layer between the existing curb and gutter or existing pavement and the asphaltic surface or concrete for temporary curb ramp.

For the portion of the temporary curb ramp in the terrace area, form the foundation by excavating at least 3 inches. Tamp or compact the foundation to ensure stability.

Place asphaltic surface temporary in accordance to standard spec 465.3.1 or place concrete in accordance to standard spec 602.3.2.3, and as shown in the plan.

Maintain temporary curb ramps until permanent curb ramps and crosswalks are in place and open to pedestrian traffic as directed by the engineer.

Remove temporary curb ramps once permanent curb ramps and crosswalks are open and restore the site.

C.3 Safety Fence
Drive posts into the ground 12 to 18 inches. Space posts at 7 feet.

Use a minimum of three wire ties to secure the fence at each post. Weave tension wire through the top row of strands to provide a top stringer that prevents sagging.

Overlap two rolls at a post and secure with wire ties.

D Measurement
The department will measure Temporary Crosswalk Access by the day acceptably in service. The measured quantity will equal the number of calendar days a crosswalk

through the work area is open to pedestrian traffic. A crosswalk is defined as an accessible crossing of a single leg of an intersection with existing, temporary, or finished curb ramps meeting ADA requirements. A crossing of a street with an island within the route will be considered a single crosswalk. Each day that the crosswalk is out of service for more than 2 hours will result in 1 day being deducted from the quantity measured for payment. Temporary Crosswalk Access will only be measured and paid for on Cottage Grove Road during Stage 1B after commencement of pavement removal, when necessary for sidewalk closures, and only until the finished concrete pavements, sidewalks, and crosswalks are 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.0045.01	Temporary Crosswalk Access	Day

Payment is full compensation for furnishing, loading, and hauling materials; for preparing the foundation; for furnishing, placing, maintaining, and removing temporary surface material; for reconstructing or relaying the temporary surface material; for furnishing and installing, and maintaining safety fence.

58. Utility Line Opening (ULO), Item SPV.0060.01.

A Description

This special provision describes performing the necessary excavation to uncover utilities for the purpose of determining elevation and potential conflicts with proposed storm sewer, as shown on the plans or as directed by the engineer.

B (Vacant)

C Construction

Perform the excavation in such a manner that the utility in question is not damaged and the safety of the workers is not compromised.

Perform the utility line openings as soon as possible and at least 10 days in advance of proposed utility construction to allow any conflicts to be resolved with minimal disruption. Prior to ordering structures, perform ULO's. Where utilities are within 6 feet of each other at a potential conflict location, only one utility line opening is called for. In these cases, a single utility line opening will be considered full payment to locate multiple utilities. Utility line openings include a trench up to 10 feet long as measured at the trench bottom, and of any depth required to locate the intended utility.

Obtain prior approval for all utility line openings from the engineer and coordinate all ULOs with the engineer. Notify the utility engineers on their agents of this work a minimum of three days prior to the work so they may be present when the work is completed. Verify the need for performing ULO's as shown on the plans, since some of the utilities may have been or will be relocated prior to the start of construction.

D Measurement
The department will measure Utility Line Opening by each 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.0060.01	Utility Line Opening (ULO)	Each

Payment is full compensation for the excavation required to expose the utility line; backfilling with existing material removed from the excavation; compacting the backfill material; restoring the site; and for cleanup.

Existing pavement, concrete curb, gutter, and sidewalk removals necessary to facilitate utility line openings shall not be considered part of or paid for under Utility Line Openings, but are considered separate and measured and paid for separately as removal items. Replacement pavement, concrete curb, gutter, and sidewalk items shall also be considered separate from Utility Line Openings and will be measured and paid for separately.

59. Manhole Cover Type Special Logo, Item SPV.0060.02.

A Description
This special provision describes furnishing and installing manhole covers.

B Materials
Furnish manhole covers in accordance to standard spec 611.2, the plan details and Article 507 of the city standard specifications.

C Construction
Install manhole covers in accordance to standard spec 611.3.

D Measurement
The department will measure Manhole Cover Special Logo by each 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.0060.02	Manhole Cover Type Special Logo	Each

Payment is full compensation for furnishing new covers, including frames, grates, curb plates and all other required materials; for installing and adjusting each cover; and for furnishing all equipment, labor, tools, and incidentals necessary to complete the contract work.

60. Inlet Covers Type Special MS-A, Item SPV.0060.03.

Furnish and install Neenah Foundry Company combination inlet cover 3290-A or approved equal from East Jordan Ironworks and in accordance to standard spec 611.

61. Salvage And Reinstall Lighting Unit, Item SPV.0060.04.

A Description
This special provision describes removing and salvaging street lighting units and reinstalling them. A lighting unit for this item includes the pole and arm.

B Materials
Furnish wiring and fusing materials that is according to the pertinent requirements of standard spec 659.3.2.

C Construction
Install salvaged lighting units on new concrete bases and transformer bases as shown in the plans. Install the pole in accordance to standard spec 657.

D Measurement
The department will measure Salvage and Reinstall Lighting Unit by each unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.04	Salvage and Reinstall Lighting Unit	Each

Payment is full compensation for disconnecting existing wire; removing and salvaging the lighting unit; and installing the lighting unit.

62. Salvage and Reinstall Traffic Equipment, Item SPV.0060.05.

A Description
The work under this item shall consist of salvaging and storing existing traffic equipment and reinstalling the items for use in the new permanent signal as showni ng the plans and in accordance to the applicable provisions of standard spec 204 and standard spec 651 through standard spec 670.

B Materials
Salvage and reinstall items as shown in the plans and miscellaneous quantities.

C Construction
Inspect the traffic signal equipment prior to removal from the existing concrete bases. Inform the engineer of any times of concern or potential problems that may interfere with the reuse of the traffic signal equipment. Removal of the traffic signal equipment is included

in the bid item Removing Traffic Signal Equipment. Use of the equipment as part of the temporary signal during construction is included in the bid item Temporary Traffic Signals Intersections.

Store the equipment in a location where it can be protected from theft and damage. Protect equipment to be reused from damage to maintain functionality for permanent traffic signal operation. Prior to completion of the project and turn off of the temporary traffic signal, reinstall traffic signal equipment as shown on the plans. The reinstalled equipment shall be tested in the presence of the engineer and City of Madison representative to ensure proper operation prior to permanent traffic signal use. Notify the City of Madison to request an inspection a minimum of five working days in advance of the equipment testing.

Equipment approved for reinstallation by the city and engineer prior to removal that becomes damaged during removal, storage or reinstallation shall be replaced in kind with new equipment at the contractor's expense.

D Measurement

The department will measure Salvage and Reinstall Traffic Equipment as each pole assembly successfully salvaged with the pertinent signal heads, backplates and other salvageable items as noted on the plans and 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	Salvage and Reinstall Traffic Equipment	Each

Payment is full compensation for salvaging and storing removed equipment, for testing equipment and for reinstalling equipment on new concrete bases, for adjusting or moving the equipment, including all required materials, tools, and supplies; for furnishing all labor; for clean-up and waste disposal; and for furnishing all incidentals necessary to complete this item of work.

63. Abandon Concrete Base, Item SPV.0060.06.

A Description

This special provision describes abandoning existing concrete bases in place.

B (Vacant)

C Construction

Ensure above ground equipment screwed, bolted or otherwise mounted to the existing concrete base has been removed. Payment for removal of equipment is included under the bid item Removing Traffic Signal Equipment (Location).

Remove bolts, rebar, and other metallic protrusions by sawing or grinding the items flush with the concrete surface of the base.

Seal conduit and other holes in the base with grout.

Upon completion of the work, the upper surface of the item shall be flat as to not create a safety hazard for vehicle, bicycle, or pedestrian traffic.

D Measurement
The department will measure Abandon Concrete Base as each 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.0060.06	Abandon Concrete Base	Each

Payment is full compensation for furnishing all labor, tools, and equipment necessary to create a flat surface on top of the base, and for furnishing all incidentals necessary to complete this item of work.

64. Cleaning and Painting Bearings, Item SPV.0060.07.

A Description
This special provision describes cleaning and painting the existing steel bearings on structures as shown on the plans, as directed by the engineer, and in accordance to standard spec 517.

B Materials
Furnish a complete epoxy coating system from the department's approved product list. Use the same coating system for all repairs due to handling, shipping and erecting, and for all other uncoated areas. The color of epoxy shall be white and the urethane coating material shall be gray #26293 in accordance to Federal Standard Number 595B, as printed in 1989. Supply the engineer with the product data sheets before any coating is applied. The product data sheets shall indicate the mixing and thinning directions, the minimum drying time for shop or field applied coats, and the recommended procedures for coating galvanized bolts, nuts, and washers.

C Construction
C.1 Surface Preparation
Clean areas of loose paint and rust by wire brushing, grinding, or other mechanical means. Sound paint does not need to be removed.

After clean up and storage of waste material, blast cleaning is allowed for only those areas where paint has been removed. Shield adjacent painted areas during blast cleaning operations. The blasting sand does not have to be collected.

Furnish adequate containment methods as required to contain and collect waste material resulting from the preparation of painted steel surfaces for painting. All cleanup activities should minimize dust. Store waste materials in hazardous waste containers provided by the department.

C.2 Coating Application
Apply paint in a neat, workmanlike manner, and in accordance to the manufacturer's instructions and recommendations. Paint application shall be brushed on.

D Measurement
The department will measure Cleaning and Painting Bearings as each individual bearing, 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	Cleaning and Painting Bearings	Each

Payment is full compensation for preparing and cleaning the designated bearings; furnishing and applying the paint; and for cleaning up, and containing and collecting all waste materials.

65. Adjust Water Valve Box, Item SPV.0060.08.

A Description
This special provision describes adjusting existing water main valve boxes to finished grade, meeting approval of both the department and the owner, the City of Madison Water Utility, and in accordance to section 704.18 of the *city standard specifications.*

B Materials
Furnish valve box extensions that are in accordance to section 702.3 of the *city standard specifications*.

Granular backfill shall meet the requirements of standard spec 209.

C Construction
Excavate and expose the existing water main valve box to the depth needed to adjust the valve box to grade, add or remove an extension as needed, and backfill with compacted granular material in accordance to the requirements for the adjacent roadway base course construction.

D Measurement
The department will measure Adjust Water Valve Box by each 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.0060.08	Adjust Water Valve Box	Each

Payment is full compensation for excavating; installing and adjusting the water main valve boxes; backfilling and compacting the backfill; properly disposing of all surplus materials; cleanup; and for furnishing all labor, tools, equipment and incidentals necessary to complete the contract work. Granular fill material used for backfilling will be considered part of Adjust Water Valve Boxes, and will not be measured and paid for separately.

66. Sanitary Sewer Access Structure, 4-Foot Diameter, Item SPV.0060.09; 5-Foot Diameter, Item SPV.0060.10.

A Description

This special provision describes installing Sewer Access Structures at the depths and locations shown on the plan.

B Materials

Provide precast concrete Sanitary Sewer Access Structure (4-Foot Diameter, 5-Foot Diameter) meeting the requirements of Standard Detail Drawing 5.7.2, 5.7.15, and Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

Furnish and install Sewer Access Structure Frames and Covers, in accordance to Standard Detail Drawing 5.7.16 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition, will be paid for separately under the Manhole Covers Type Special Logo, Bid Item SPV.0060.02.

C Construction

Install Sanitary Sewer Access Structure (4-Foot Diameter, 5-Foot Diameter) in accordance to Article 507.3 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition. Maintain the normal flow of wastewater at all times during installation of the new sanitary sewer access structure and when connecting pipes to the new structure. All bypass pumping, temporary piping, and/or temporary connections, which are required to maintain the normal flow of wastewater throughout construction, is incidental to this bid item.

Construct concrete benches and flow lines as directed by the City of Madison or as directed by the engineer.

D Measurement

The department will measure Sanitary Sewer Access Structure (Diameter) by each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.09	Sanitary Sewer Access Structure 4-Foot Diameter	Each
SPV.0060.10	Sanitary Sewer Access Structure 5-Foot Diameter	Each

Payment is full compensation for furnishing and installing sewer access structures; for excavation and disposal of excess material; for constructing benches and flow lines; for furnishing and installing all bypass or temporary piping and connections; and for backfilling.

67. Adjust SAS Special, Item SPV.0060.11.

A Description

This special provision describes adjusting sanitary sewer access structure castings as called for on the plan set to the final proposed grades. This bid item is required because the casting adjustment is greater than 9" of vertical adjustment to set the casting to the final grade or the chimney was determined to be in poor condition. Manhole adjustments less than 9" shall be paid for separately under standard bid item 611.811 Adjusting Manhole Covers.

B Materials

Furnish precast concrete barrel sections and manhole adjustment rings meeting the requirements of Article 507.3, as well as SDD 5.7.2 and 5.7.15 of the c*ity standard specifications*.

C Construction

Adjust sanitary sewer access structures in accordance to Article 507.3 of the c*ity standard specifications*. Remove adjustment rings and install concrete barrel sections. The maximum allowed adjustment on the Sewer Access Structure shall not exceed 9 inches and the final configuration of the structure shall be in accordance of SDD 5.7.2 and 5.7.15 of the c*ity standard specifications*.

D Measurement

The department will measure Adjust SAS Special by each 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	Adjust SAS Special	Each

Payment is full compensation removing existing covers, frames, adjustment rings, cone sections, and barrel sections; for installing barrel sections; for re-installing and rotating existing offset cone sections; and for installing adjustment rings, frames, and covers all in accordance to Article 507 of the c*ity standard specifications*, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

68. Sanitary Sewer Tap, Item SPV.0060.12.

A Description

This special provision describes connecting new laterals or main to an existing structure and connecting an existing lateral or main to a new structure.

B Materials

Provide Kor-n-Seal flexible connector, or approved equal, in the tapped hole, in accordance to Standard Detail Drawing 5.7.31 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C Construction

C.1 New Pipe to Existing Structure

Use a portable coring drill to produce a pipe opening that is round, clean and free of any pitting of the concrete.

Make a watertight connection of the pipe to the sewer access structure with a Kor-n-Seal-flexible connector, or approved equal, in accordance to Standard Detail Drawing 5.7.31 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C.2 Existing Pipe to New Structure

Provide a flexible connector to connect the existing pipe to any new pipe which is required to make the connection to the structure.

Provide PVC (SDR-26 or SDR-35) that matches the existing pipe's diameter, or the next larger diameter, to reconnect the existing sewer main or lateral. The PVC (SDR-26 or SDR-35) sanitary sewer pipe is considered incidental to this bid item.

The pouring and construction of concrete benches and flowlines in new sewer access structures for the inlet or outlet pipes is not included in this bid item and is considered incidental to the bid item Sanitary Sewer Access Structure (4-Foot Diameter or 5-Foot Diameter).

The downstream pipe connection to a Sewer Access Structure (4-Foot Diameter or 5-Foot Diameter) is considered incidental to the Sewer Access Structure (4-Foot Diameter or 5-Foot Diameter).

D Measurement

The department will measure Sanitary Sewer Tap by each 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	Sanitary Sewer Tap	Each

Payment is full compensation for providing all connectors; for coring; and for furnishing all work, materials, labor and incidentals required to complete the work.

69. Sewer Electronic Markers, Item SPV.0060.13.

A Description

This special provision describes installing Sewer Electronic Markers in accordance to Article 503.2 of the City of Madison Standard Specification for Public Works Construction - 2015 Edition. These sewer electronic markers will be installed where called for on the plan set above sanitary sewer and storm sewer facilities.

B Materials

All materials are described in Article 503.2(f) of the City of Madison Standard Specification for Public Works Construction - 2015 Edition. Markers will be provided by the City of Madison.

C Construction

Install Sewer Electronic Markers (sanitary) in accordance to Article 503.2(f) of the Standard Specifications for Public Works Construction – 2015 Edition.

For storm sewer, place a marker ball for each storm tap located above the connection on the storm sewer main, as shown on plans. Place the marker ball so the marker ball will be no deeper that 4.5-feet below finished grade and directly above the storm lateral. If the location of the lateral is below 4.5 feet from finished grade, partially backfill trenches prior to placement of the marker ball at the desired locations.

Notify the engineer when marker balls are installed. Each marker ball will be tested by the city after completion of final pavement surface to confirm that it is installed and functioning properly. If it is not installed or functioning, excavate to expose the existing marker ball or lateral and place a new marker ball. No additional compensation will be provided for this work.

D Measurement

The department will measure Sewer Electronic Markers be each 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.0060.13	Sewer Electronic Markers	Each

Payment is full compensation for furnishing all work, materials, labor and incidentals required to complete the installation and all associated work to provide a complete functioning system. The department will not pay for replacing those marker balls that are non-functional. Balls will be provided by the City of Madison.

70. Sanitary Lateral Reconnect, Item SPV.0060.14.

A Description

This special provision describes sanitary sewer lateral connections encountered during the course of this project that connect to the sanitary sewer main. There are no laterals expected with the project but the camera was under water while televising the sewer main.

B Material

Furnish sanitary sewer pipe and fittings that are solid-wall Poly Vinyl Chloride (PVC) and that conform to the requirements of the Specification for PVC Sewer Pipe and Fittings, ASTM D 3034.

For lateral wye connections to 8" diameter sewer main, provide sanitary sewer pipe and fittings having a standard dimension ratio of 26 or 35 depending on the depth of the pipe.

For lateral wye connections to 21" diameter sewer, provide solid-wall Poly (Vinyl Chloride) (PVC) sanitary sewer pipe and fittings meeting the requirements for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, ASTM F679 PS46 and PS115.

Sewer lateral pipe and fittings deeper than 12' will have ASTM D3034 SDR 26 pipe.

Assemble joints using or elastomeric or solvent cement as recommended by the pipe manufacturer. The assembled joints will be required to pass the performance tests as required in ASTM D3212 elastomeric or ASTM D2564-solvent cement.

C Construction

The pipe for the connection of laterals is not to exceed a length of 5 feet.

Install risers, where necessary, in accordance to Standard Detail Drawing 5.3.1 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition. Risers five feet in length are included in the bid item Sanitary Lateral Reconnect. Backfill and compaction in accordance to Article 202.3(b) of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition utilizing select fill.

D Measurement

The department will measure Sanitary Lateral Reconnect as each individual sanitary sewer reconnect, acceptably completed.

Sanitary sewer lateral pipe exceeding five feet in length will be paid under bid item. Sanitary Sewer Lateral, Item SPV.0090.10.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.14	Sanitary Lateral Reconnect	Each

Payment is full compensation for furnishing all materials, including fill material; plugging the ends of all sewer mains and sewer laterals; excavation; trimming and chipping; cutting, protecting or removing reinforcing steel; disposal of surplus materials from the structure or excavation; excavation and compaction of the backfill material; and for restoring the site.

71. Remove Sanitary Sewer Structure, Item SPV.0060.15.

A Description
This special provision describes removing sanitary sewer access structures as shown on the plans. The work includes salvaging and disposing of the resulting materials and backfilling the trenches with select fill.

B Materials
Provide select fill meeting the requirements of Article 202.2 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition; furnishing and placing select fill in void created by the structure removal is included with this bid item.

C Construction
Remove sanitary sewer access structures in accordance to Article 203.2(a) of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition. Sewer mains and laterals that are connected to a removed Sanitary Sewer Access Structure will be plugged with a concrete plug incidental to the removal of the structure. Payment for Concrete Slurrying of an entire sewer main or lateral will be paid for separately under Abandon Sanitary Sewer with slurry (Abandon Sanitary Sewer With Slurry, Item SPV.0035.02).

D Measurement
The department will measure Remove Sanitary Sewer Structure as each unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.15	Remove Sewer Access Structure	Each

Payment is full compensation for furnishing all materials, including fill material; for disposal of surplus materials; excavation and compaction of select fill material; restoring the site; and for furnishing all labor, tools equipment, and incidentals necessary to complete the contract work.

72. Abandon Sewer Access Structures, Item SPV.0060.16.

A Description
This special provision describes abandoning existing sanitary sewer access structures in accordance to Article 203.2(c) of the *city standard specifications.* Any plugs required to

abandon the sewer access structures shall considered incidental to the Abandon Sewer Access Structure.

B Materials
Furnish backfill in accordance to the material requirements of the Select Fill For Sanitary Sewer article.

C Construction
Abandon existing sanitary sewer access structures in accordance to Articles 203.2(c) and 203.2(e) of the *city standard specifications*.

D Measurement
The department will measure Abandon Sewer Access Structure by each unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.16	Abandon Sewer Access Structures	Each

Payment is full compensation for removing structure roofs and walls; furnishing, placing, and compacting select backfill in the abandoned structure; for disposal of materials; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the contract work.

73. Abandon Sanitary Sewer - Pipe Plug, Item SPV.0060.17.

A Description
This special provision describes plugging pipes as shown in the plans and hereinafter provided. In accordance to Article 203.2c, City of Madison Standard Specifications for Public Works Construction - 2015 Edition, Article 203.2(c), any pipe found in a trench that is less than 10" in diameter while installing a sewer facility will be considered incidental to the pipe being installed.

B Material
Provide concrete conforming to Article 301 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C Construction
Abandon sanitary sewer pipe with a plug in accordance to Article 203 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

Provide replacement sanitary sewers and laterals or appropriate bypass pumping prior to abandoning sanitary sewer pipe.

Saw cut end of existing pipe and clean interior of pipe to create a good bonding surface. Form and pour a minimum 1-FT deep concrete plug completely filling the opening of the pipe.

Any pipe plugs required to abandon or remove a sewer access structure (pipes directly connected to the structure) will be considered incidental to abandoning or removing the structure regardless of the size of the pipe being abandoned

Any plugs required to abandon the existing sanitary main where laterals are being extended will be considered incidental to sanitary sewer lateral (Sanitary Sewer Lateral, Item SPV.0090.10). Concrete Slurrying of an entire sewer main or lateral will be paid for separately under Abandon Sanitary Sewer with slurry (Abandon Sanitary Sewer With Slurry, Item SPV.0035.02) or pipe plug (Abandon Sanitary Sewer - Pipe Plug, Item SPV.0060.17).

D Measurement

The department will measure Abandon Sanitary Sewer - Pipe Plug by each unit, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.17	Abandon Sanitary Sewer – Pipe Plug	Each

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete this item of work.

74. Temporary Sanitary Sewer Connection, Item SPV.0060.18.

A Description

This special provision describes providing a temporary sanitary sewer connection to existing sanitary sewer. A temporary connect is a connection that is needed to provide temporary sanitary service to the sanitary mainline, force main or laterals during staging and phasing of the sanitary sewer construction as part of the overall project.

B Materials

Furnish all materials needed for the temporary connection in accordance to Article 503 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition. Flexible corrugated piping may be utilized as a temporary connection but may not be left in place as a permanent pipe connection.

C Construction

C.1 New Pipe to Existing Structure

Use a portable coring drill to produce a pipe opening that is round, clean and free of any pitting of the concrete.

Make a watertight connection of the pipe to the sewer access structure with a flexible connector in accordance to Standard Detail Drawing 5.7.31 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C2. Existing Pipe to New Structure
Provide a flexible connector to connect the existing pipe to any new pipe which is required to make the connection to the structure.

Provide PVC (SDR-26 or SDR-35) that matches the existing pipe's diameter, or the next larger diameter, to reconnect the existing sewer main or lateral. The PVC (SDR-26 or SDR-35) sanitary sewer pipe is considered incidental to this bid item.

The pouring and construction of concrete benches and flowlines in new sewer access structures for the inlet or outlet pipes is not included in this bid item and is considered incidental to the bid item Sanitary Sewer Access Structure.

The downstream pipe connection to a Sanitary Sewer Access Structure is considered incidental to the Sanitary Sewer Access Structure.

Provide a temporary connection at the locations to be determined and approved by the City of Madison in accordance to Article 503 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C.3 New Pipe to New Pipe
Provide jointing materials which conform to the requirements specified in Article 503.2 of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition, for the type of pipe being installed.

Prior to making joints, inspect jointed surfaces for chips, cracks, or other defects in the joints and jointing materials. Clean and lubricate jointing surfaces with a vegetable lubricant or a lubricating adhesive. Apply lubricant to both the bell and spigot surfaces of the joint.

Provide proper alignment and proper grade prior to applying the pressure necessary to make the joint.

C.4 New Pipe to Existing Pipe
Couple the junction of a new pipe to an existing pipe as required in the field by the City of Madison. Saw cut the existing main to accommodate a clean joint for the installation of the compression couplings. Placed the coupling as directed by the City of Madison and per Standard Detail Drawing 5.3.3, Coupling Details, from the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

D Measurement
The department will measure Temporary Sanitary Sewer Connection by each unit, acceptably completed.

Work associated with permanent connections and taps will be measured separately (Sanitary Lateral Reconnect, Item SPV0060.14, Sanitary Force Main Connection, Item SPV0060.21 and Sanitary Sewer Tap, Item SPV.0060.12). Select Fill for piping for the temporary sanitary sewer connections is considered incidental to the temporary sanitary sewer connection.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.18	Temporary Sanitary Sewer Connection	Each

Payment is full compensation for excavating, backfilling, and compacting; removal and disposal of temporary sanitary sewer connections; making all connections and disposing of surplus materials; and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the contract work. Permanent connection to an existing sanitary sewer will be paid under bid item sanitary sewer tap for a connection to a Sewer Access Structure (Sanitary Sewer Tap, Item SPV.0060.12) or sanitary lateral to a sewer main (Sanitary Lateral Reconnect, Item SPV0060.14) or a force main to a Sewer Access Structure (Sanitary Force Main Connection, Item SPV0060.21).

75. Install Compression Coupling, Item SPV.0060.19.

A Description
This special provision describes a permanent sanitary sewer connection of the proposed sewer main to existing sanitary sewer main.

B Materials
Provide select fill meeting the requirements of Article 503.3(f) of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition for select fill for sanitary sewer mains and laterals.

C Construction
Install Compression Couplings in accordance to all applicable provisions of Article 503.3(f) of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition. If the compression coupling is a proposed sewer main to an existing sewer main, the pipe slope of the proposed sewer main will match the slope of the existing sewer pipe.

D Measurement
The department will measure Install Compression Coupling by each 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.0060.19	Install Compression Coupling	Each

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

76. Pipe Supports, Item SPV.0060.20.

A Description
This special provision describes installing two concrete pipe supports as shown on the plans or as directed by the engineer. This item is needed when the vertical clearance between pipes is less than 12".

B Materials
Provide pipe supports meeting the requirements of Standard Detail Drawing 5.8.1 and Article 508.1(b) of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

C Construction
Install pipe supports in accordance to Article 508.1(b) of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

D Measurement
The department will measure Pipe Supports by each unit, acceptably completed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.20	Pipe Supports	Each

Payment is full compensation for providing and installing pipe supports.

77. Sanitary Force Main Connection, Item SPV.0060.21.

A Description
This special provision describes sanitary sewer lateral connections encountered during the course of this project that connect to the sanitary sewer main.

B Material
Furnish sanitary sewer pipe and fittings that are solid-wall Poly Vinyl Chloride (PVC) Pressure pipe conforming to AWWA C900 DR 18.

Provide mechanical fittings conforming to the requirements of the American National Standard for Ductile- Iron and Gray-Iron fittings for Water and other liquids, ASA A21.10 (AWWA C110) where the sewer main being installed is Pressure Sanitary Sewer Pipe.

C Construction
Provide pipe and mechanical fittings as needed to connect the Atlas Lift Station Force Main to SAS#9 at the elevation called out on the plan set.

Sawcut and remove force main pipe as needed to make a clean flush mechanical joint to 8" diameter AWWA C900 DR 18 force main piping connecting to SAS #9. Install compacted Backfill in accordance to Article 202.3(b) of the City of Madison Standard Specifications for Public Works Construction - 2015 Edition utilizing select fill.

D Measurement
The department will measure Sanitary Force Main Connection by each 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.0060.21	Sanitary Force Main Connection	Each

Payment is full compensation for furnishing all materials, labor tools, equipment, and incidentals necessary to complete the contract work. Work will include but not be limited to installation AWWA C900 DR 18 force main pipe, mechanical joints, and select backfill; for sawcutting and removal, and disposal of the existing force main piping necessary make the new force main connection to SAS #9. No additional compensation will be granted for additional force main removal.

78. 4x4x4-Inch Flush Mounted Junction Box, Item SPV.0060.22.

Furnish and install a 4x4x4-inch flush mounted electrical junction box as shown in the plans and in accordance to standard spec 653.

79. Settlement Gauges, Item SPV.0060.23.

A Description
This special provision describes furnishing and installing settlement gauges and extensions in accordance with the details shown in the plans and as herein provided.

B Materials
Furnish a 0.5-inch thick steel plate, 24 inches square in size, placed upon a minimum of 1 inch thick mortar leveling course, and with a 1-1/2 inch steel riser pipe that is welded in position perpendicular to the plate at its center.

Furnish sections of 1-1/2 inch diameter standard threaded galvanized steel riser pipe welded to the base plate and extended progressively upward at a vertical plumbness as embankment fill is placed and compacted. A 1-1/2 inch standard galvanized steel cap shall be attached to the threaded inner riser pipe as a survey reference member, and

progressively removed and extended upward as each new section of riser pipe and external sleeve are added due to fill.

Furnish sections of 3-inch diameter standard threaded steel pipe or threaded PVC pipe sleeve initially placed with a 2-foot separation from the base plate and then extended progressively upward encompassing the 1-1/2 inch pipe with the internal annulus filled with grease to promote free sliding between sleeve and internal pipe. This sleeve is intended to be continuous so as to prevent embankment soils from coming in contact with the internal riser pipe over the length of sleeve to the surface as progressive lifts of fill are placed.

C Construction

Install the settlement gauges at field locations as determined by the engineer and under the supervision of the department's Geotechnical Unit and at the following locations:

Point No.	Feature	Station	Off set
SG1	Settlement Gauge	116+20B	60' right
SG2	Settlement Gauge	116+40B	30' left
SG3	Settlement Gauge	119+00B	30' left
SG4	Settlement Gauge	121+00B	30' left
SG5	Settlement Gauge	123+00B	30' left

Initially install settlement gauges subsequent to the installation of the wick drains and drainage blanket and prior to the placement of the embankment fill.

The bottom of the plate shall be level and riser pipe shall be vertical. Mortar may be used to level the 2-foot x 2-foot x 0.5-inch thick plate. Determine the elevation of the plate and the lengths of any added riser pipe(s) to a measured accuracy of 0.02 feet (GPS vertical measurement is not acceptable) and record and transmit the information to the engineer.

Position and weld the initial 1-1/2 inch diameter threaded galvanized steel riser pipe perpendicular to the steel settlement plate with a fillet weld.

Place end cap, consisting of 1-1/2 inch standard galvanized steel, at the top of the riser pipe for purposes as a survey reference point.

Obtain the first measured readings of the settlement plate and end cap.

Place embankment fills as indicated.

As soon as embankment soils achieve 2 feet of cover over the steel settlement plate, position a 3-inch diameter sleeve loosely around the smaller diameter riser pipe to isolate and protect the inner pipe for subsequent readings.

Fill the inner annulus between steel pipe and outer sleeve with sufficient lubricant grease to prevent rust from occurring and resulting in binding of the inner pipe to the outer sleeve.

Progressively add both inner riser pipe and outer sleeve pipe in section increments of 5.0 feet (or other calibrated and measured increments) as embankment fill is continued to be placed, always transferring the end cap to the newest riser pipe top, and always obtaining new elevation readings at each time of extension addition.

Provide updated elevation readings at the end of each day's activities to the engineer.

No embankment fill shall be placed around settlement gauges until the elevation of the top of the new riser section has been determined by the contractor's surveyor.

Embankment material in the vicinity of the riser pipe shall be compacted to specification requirements, taking precautions to keep alignment of the riser and the cover pipes vertical at all times.

Take all necessary precautions to ensure that the settlement gauges are not damaged, displaced, or misaligned. If a gauge is damaged, it shall immediately be repaired or replaced by the contractor at this/her own expense. Contractor to protect and maintain all settlement gauges installed as part of this contract.

D Measurement

The department will measure Settlement Gauges 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.0060.23	Settlement Gauges	Each

Payment is full compensation for furnishing and placing all materials including extensions; for excavation.

80. Vibrating Wire Piezometer Instrumentation System, Item SPV.0060.24.

A Description

This special provision describes furnishing and delivering a vibrating wire piezometer instrumentation system a minimum of 21 days prior to start of placing embankments. It also includes providing a technical assistance representative from the company to aid in piezometer installation and to provide on-site technical support. Perform all according to the special provision.

B Materials

Materials for the vibrating wire piezometer system shall include six vibrating wire piezometers, one data recorder, two terminal boxes, and necessary appurtenances.

Vibrating Wire Piezometers: A total of six vibrating wire piezometers shall be Geokon Model 4500S, 100 psi range (Geokon Incorporated, 48 Spencer Street, Lebanon, NH 03766, (603) 448-1562) or Slope Indicator Part Number 52611030 (Slope Indicator Company, 316 Forsyth Street, Raleigh, NC 27609-6314, (800) 929-4712), or an approved equal.

Each vibrating wire piezometer shall meet the following specifications:

Pressure Range (psi):	0-100
Over Range/Maximum Pressure:	2X rated pressure range
Resolution:	0.025% full scale (F.S.) minimum
Accuracy:	±0.1% of F.S.
Operating Temperature:	-20 °F to 150 °F
Thermal Zero Shift:	<0.05% F.S./°C or <0.04 psi/°C
Cable:	Four conductor, 20 or 22 gauge shielded cable with polyethylene jacket or an approved equal, connection between cable and instrument factory sealed (see table below for required length of cable)
Filter:	50 micron sintered stainless steel
Diameter of piezometer:	a 0.75 inches

Provide a canvas bag, 2 1/2-inch by 18-inch, with each piezometer.

Calibrate all piezometers at the factory. Make calibrations while pressure is both increasing and decreasing for at least two cycles, to document hysteresis throughout the maximum range of the instrument. Take readings at a minimum number of eight equal increments, and require the manufacturer to supply a calibration curve with data points clearly indicated, and a tabulation of the data. Use the data recorder that is to be supplied under this item number during the factory calibrations. Make readings at a sufficient number of different temperatures which range from -20 °F to 120 °F to provide a calibration curve, and substantiate it, indicating the effect of temperature change on the instruments. Mark each piezometer with a unique identification number.

Signal cables and mechanical waterproof seals between the cable and the piezometer for each of the vibrating wire piezometers shall be factory installed. No splices shall be allowed. All cables shall be terminated with connectors compatible with terminal boxes furnished under this item. The required cable lengths shall be determined to extend from the tip of the piezometers to the ground level to the location of the readout box.

Point No.	Feature	Station	Off set	Estimated Tip Elev.
PZ1	Piezometer	116+10B	60’ right	858’
PZ2	Piezometer	116+40B	30’ left	853’
PZ3	Piezometer	119+00B	30’ left	847’
PZ4	Piezometer	119+00B	30’ left	862’
PZ5	Piezometer	121+00B	30’ left	850’
PZ6	Piezometer	121+00B	30’ left	860’

Data Recorder: The data recorder shall include a battery charger, adaptors, and cables necessary for field operation, and the computer software required for downloading the data to an IBM compatible personal computer. The software shall also be capable of generating reports and annotated graphs from the data. Acceptable readout and data loggers include Geokon Model GK-403 (Portable Readout Unit and SPLIT Data Formatting Software), Slope Indicator Part Numbers 52620900 AND 52620920 (VS Datamate and Datamate Manager Software), or an approved equal.

The data recorder shall have waterproof seals incorporated into its face place, switches and input connectors. It shall have a backup power source or battery which will keep data secure if the main battery should become discharged. It shall have the capacity of manually recording a minimum of 250 readings, and of automatically recording data at any interval specified and entering a low power mode between the readings taken. It shall have the electronic transfer capability of linking itself and a personal computer for data transfer. Include an interface cable. It shall be able to do the following: display battery charge, display internal temperature and humidity, set date and time, display all data in its memory, and adjust viewing angle of display. It shall have a backlit display. It shall be able to display pore water pressure readings in standard English and metric units of pressure, and temperature readings in degrees Celsius and degrees Fahrenheit.

The data recorder shall also meet the following specifications:

Temperature Range:	Fully operable from -4 ºF to 120 ºF
Excitation Range:	450 - 6000 Hz
Resolution:	0.01% Full Scale
Weight :	˜ 12 lb

Two Terminal Boxes: Acceptable terminal boxes shall be Geokon Terminal Box Model 4999, Slope Indicator Terminal Box 57711600, or an approved equal. The terminal box enclosures shall be constructed of baked enamel coated steel or fibreglass, and shall be waterproof. Each box shall handle a minimum of six 4-conductor sensors. Cable entries on each box shall have watertight cable glands fixed in place with strain reliefs. The boxes shall be modified as necessary to permit connection to the data recorder. Protect each terminal box from lightening damage by installing at the factory surge arrestors, and with a ground rod and grounding cable.

Furnish the project engineer for approval, a minimum of 14 days prior to delivery of the vibrating wire piezometer instrumentation system to the site, the following:

1. Name and phone number of manufacturer's designated technical assistance representative,
2. Manufacturer's certifications for all components of the system,
3. Factory calibration certifications for all components of the system,
4. Factory quality assurance checklist,
5. Factory preshipment inspection checklist,
6. Factory warranties for all components of the system,
7. Shipping documents and shipping schedule,
8. Unique instrument identification numbers for all components, and
9. Instruction manuals for each component of the system supplied by the manufacturer.
10. The location of the readout boxes for the individual areas.

Include a comprehensive instruction manual with the vibrating wire piezometer instrumentation system. It shall contain the following: (1) *theory of operation*, i.e. the basic measuring principle of the instrument with appropriate illustrations, limitations of the instrument, factors which may affect measurement uncertainty, and a specificiation sheet; (2) *calibration procedures*, i.e. step-by-step acceptaince test procedures to ensure correct functioning when the instrument is first received, procedures for performing calibration checks, and procedures for regular calibration of the readout and data logger; (3) *installation procedures*, i.e. step-by-step procedure for installation, with illustrations of the system and its components, showing correct juxtaposition when installed, and statement of all factors that should be recorded during installation for later use during data evaluation; (4) *maintenance procedures and trouble-shooting guide* with names, addresses, and telephone numbers of instrument service representatives; (5) *data collection procedures*, i.e. cautions pertaining to personnel and equipment, procedure for obtaining initial reading, procedure for obtaining readings subsequent to initial readings, listing of equipment and tools required during instrument reading, a field data sheet, and a sample completed field data sheet; and (6) *data processing, presentation, and interpretation procedures*, i.e. data calculation sheet, step-by-step calculation procedure, instruction manual(s) for software supplied by the manufacturer, sample data calculations, alternative methods of plotting the data, sample data plots, and notes on data interpretation.

There shall be a product warranty on all parts of the vibrating wire piezometer instrumentation system of a minimum of one year from the date of delivery to the department against defects in materials and workmanship.

All components of the Vibrating Wire Piezometer Instrumentation System shall be made by the same manufacturer. Each component of the Vibrating Wire Piezometer Instrumentation System shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the project engineer. The term *approved equal* shall be understood to indicate that the *equal* product shall meet all of the specifications, and

shall be the same or superior to the products named previously in the specifications in function, performance, accuracy, tolerances, and general configuration. The engineer shall make the final determination if the approved equal is acceptable. Components which do not meet the requirements of the specifications shall be unacceptable and will be rejected by the engineer. The engineer reserves the right to prohibit delivery of any component until certifications provided by the manufacturer, and supplied by the contractor, indicates full compliance with the specifications.

Technical Support: Make available an on-site technical assistance representative from the manufacturer which supplies the Vibrating Wire Piezometer Instrumentation System to instruct the contractor on how to install the first vibrating wire piezometer installed on the project. Also make available on-site the technical assistance representative to assist in the final connections of the vibrating wire piezometer cables to the terminal boxes during construction operations and to assist in initial calibration and reading of the instrumentation.

Notify the Foundation and Pavement Unit of the delivery of the vibrating wire piezometer instrumentation system a minimum of 14 days prior to its arrival. Deliver the Vibrating Wire Piezometer Instrumentation System to the Bureau of Highway Construction, c/o Foundation and Pavement Unit, 3502 Kinsman Boulevard, Madison, WI 53704. Upon delivery, the data recorder with its appurtenances becomes the property of the department. Upon completion of the project, ownership of the data recorder with its appurtenances becomes the property of the Foundation and Pavement Unit Section.

C (Vacant)

D Measurement

The department will measure Vibrating Wire Piezometer Instrumentation System as each individual unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0060.24	Vibrating Wire Piezometer Instrumentation System	Each

Payment is full compensation for furnishing and delivering all components of the Vibrating Wire Piezometer Instrumentation System for the project, and for providing technical support at the project site.

81. Bar Steel Reinforcement HS Stainless Bridges, Item SPV.0085.01.

A Description

This work consists of furnishing and placing stainless steel reinforcing bars as shown in the plans and as hereinafter provided.

B Materials

B.1 General

Conform to standard spec 505.2 except as modified in this special provision.

B.2 Grade and Type

The material shall conform to ASTM A 955 and to one of the following Unified Numbering System (UNS) designations: S31653, S31803, S32205, or S32304.

Supply Grade 60 bars, all of the same UNS designation.

B.3 Evaluation of Corrosion Resistance

Prior to fabrication, supply test results from an independent testing agency certifying that stainless steel reinforcement from the selected UNS designation meets the requirements of Annex A1 of ASTM A955. Corrosion performance for the selected UNS designation shall be redemonstrated if the processing method is significantly altered. Removal of mill scale or pickling processes used for stainless steel reinforcement supplied under this contract shall be the same as those used to prepare the samples tested per Annex A1 of ASTM A955

B.4 Chemical Composition

Material shall conform to that specified in ASTM A276, Table 1, Chemical Requirements, for the given UNS designation.

B.5 Heat Treatment

Bars may be furnished in one of the heat treatment conditions listed in ASTM A955, and as needed to meet the requirements of this specification.

B.6 Finish

Supply bars that are free of dirt, mill scale, oil and debris by pickling to a bright or uniform light finish. Bars supplied with a tarnished or mottled finish are sufficient cause for rejection. Fabricate and bend bars using equipment that has been thoroughly cleaned or otherwise modified to prohibit contamination of the stainless steel from fragments of carbon steel or other contaminants.

Bars displaying rust/oxidation, questionable blemishes, or lack of a bright or uniform pickled surface are subject to rejection.

B.7 Bending and Cutting

Bend bars in accordance to standard spec 505.3.2 and ASTM A955. Use fabrication equipment and tools that will not contaminate the stainless steel with black iron particles. To prevent such contamination, equipment and tools used for fabrication, including bending and cutting, shall be solely used for working with stainless steel. Do not use carbon steel tools, chains, slings, etc. when fabricating or handling stainless steel reinforcing bars.

B.8 Control of Material

All reinforcement bars or bar bundles delivered to the project site shall be clearly identified with tags bearing the identification symbols used in the Plans. The tags shall also include the UNS designation, heat treat condition, heat number, grade (corresponding to minimum yield strength level), and sufficient identification to track each bar bundle to the appropriate Mill Test Report.

Provide samples for department testing and acceptance in accordance to the CMM requirements for Concrete Masonry Reinforcement – Bar Steel (Uncoated).

Provide Mill Test Reports (MTR) for the project that:

- Are from the supplying mill verifying that the stainless reinforcement provided has been sampled and tested and the test results meet ASTM A 955, ASTM A 276, Table 1 and the Contract requirements;

- Include a copy of the chemical analysis of the steel provided, with the UNS designation, the heat lot identification, and the source of the metal if obtained as ingots from another mill;

- Include a copy of tensile strength, yield strength and elongation tests per ASTM A955 on each of the sizes of stainless steel reinforcement provided;

- Permit positive determination that the reinforcement provided is that which the test results cover;

- Include a statement certifying that the materials meet standard spec 106 regarding material being melted and manufactured in the United States; and

- Certify that the bars have been pickled to a bright or uniform light finish.

C Construction

C.1 General

Conform to the construction methods in standard spec 505.3 except as modified in this special provision:

Ship, handle, store, and place the stainless steel reinforcing bars according to the applicable provisions with the following additions and exceptions:

- Prior to shipping, ensure that all chains and steel bands will not come into direct contact with the stainless steel reinforcing bars. Place wood or other soft materials (i.e., thick cardboard) under the tie-downs. Alternatively, use nylon or polypropylene straps to secure the stainless steel reinforcing bars.

- When bundles of reinforcing steel and stainless steel reinforcing bars must be shipped one on top of the other, load the stainless steel reinforcing bars on top. Use wooden spacers to separate the two materials. Space supports sufficiently close to prevent sags in the bundles.

- Outside storage of stainless steel reinforcing bars is acceptable. Cover the stainless steel reinforcing bars with tarpaulins.

- Store stainless steel reinforcing bars off the ground or shop floor on wooden supports and separately from carbon steel reinforcement. Space supports sufficiently close to prevent sags in the bundles.

- Do not use carbon steel tools, chains, slings, etc. when fabricating or handling stainless steel reinforcing bars. Only use nylon or polypropylene slings. Protect from contamination during construction operations including any cutting, grinding, or welding above or in the vicinity of the stainless steel bars. Flame cutting or welding of stainless steel reinforcing bars is prohibited.

- Place all stainless steel reinforcing bars on bar chairs that are solid plastic or stainless steel. Fabricate stainless steel metal chairs and continuous metal stainless steel supports from stainless steel conforming to the same requirements and UNS designations as stainless steel reinforcing bar as listed in Section B, “Materials”. Use stainless steel chairs with plastic-coated feet above steel beams.
-
- Use stainless steel tie wires to tie stainless steel reinforcing bars. Tie wires shall conform to the same requirements and UNS designations as stainless steel reinforcing bars as listed in Section B, “Materials”, dead soft annealed, annealed at size. The tie wire does not need to be of the same UNS designation as the bar reinforcement.

Do not tie stainless steel reinforcing bars to, or allow contact with uncoated reinforcing bars, galvanized forming hardware or attachments, or galvanized conduits. Direct contact with these materials is not acceptable. When stainless steel reinforcing bars or dowels must be near uncoated steel reinforcing bars, galvanized forming hardware, or other galvanized metals, maintain a minimum 1-inch clearance between the two metals. Where insufficient space exists to maintain this minimum, sleeve the bars with a continuous 1/8-inch minimum thickness polyethylene or nylon tube extending at least 1 inch in each direction past the point of closest contact between the two dissimilar bars and bind them with nylon or polypropylene cable ties. Sleeves are not required between stainless steel reinforcing bars and welded girder shear studs. Stainless steel reinforcing bars are allowed to be in direct contact with undamaged epoxy-coated reinforcing bars.

Uncoated fasteners (such as used for static safety lines on beams), anchors, lifting loops, etc., that extend from the top flange of prestressed concrete beams into the bridge deck shall be completely removed or cut off flush with the top flange of the beam prior to casting the deck.

C.2 Splices
Splices shall be as shown in the plans. Substitution of stainless steel mechanical splices in lieu of lap slices shown on the plans may be permitted in certain situations subject to written approval by the engineer. Provide mechanical splices for stainless steel reinforcing bars made of stainless steel conforming to one of the UNS designations listed in section B, "Materials" and meeting the minimum capacity, certification, proof testing and written approval requirements of standard spec 550.3.3.4.

If it is necessary or the contractor elects to increase or alter the number or type of bar splices from those indicated in the plans, provide copies of plan sheets to the engineer showing the revised reinforcement layout, type, length and location of revised bar splices and revised bar lengths. The engineer must approve the location of new lap splices or substitution of mechanical bar couplers in lieu of bar lap splices prior to fabrication. New lap splices must be at least as long as those shown in the plans.

D Measurement
The department will measure Bar Steel Reinforcement HS Stainless Bridges by the pound acceptably completed. The department will compute the stainless steel bar weight using the standard weight per foot of equivalent size carbon steel reinforcing bars (ASTM A615) regardless of which stainless steel alloy is provided.

If the contractor is permitted to alter the reinforcement layout per C.2, no adjustment to the reinforcement bar quantity will be made for such alterations. Mechanical bar couplers that are provided but not shown in the plans are included in the item Bar Steel Reinforcement HS Stainless Bridges and will not be measured separately.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0085.01	Bar Steel Reinforcement HS Stainless Bridges	LB

Payment is full compensation for providing, transporting and placing the stainless steel reinforcing bars with all component materials as described above.

If the contractor is permitted to alter the reinforcement layout per C.2, no additional compensation will be made for such alterations. Mechanical bar couplers that are provided, but not shown in the plans are included in the item Bar Steel Reinforcement HS Stainless Bridges and will not be paid for separately.

82. Concrete Curb and Gutter Special 24-Inch Type A, Item SPV.0090.01; Concrete Curb and Gutter Special 24-Inch Type D, Item SPV.0090.02.

Construct concrete curb and gutter as shown in the plans and in accordance to standard spec 601.

83. Concrete Curb Integral Special 12-inch Type D, Item SPV.0090.03.

Construct concrete curb integral to concrete pavement as shown in the plans and in accordance to standard spec 601.

84. Fence Chain Link Polymer-Coated 4-Ft., Item SPV.0090.04; 6-Ft., Item SPV.0090.05.

A Description

This special provision describes furnishing and installing a new polymer-coated fence system on structures in accordance to the pertinent plan details, as directed by the engineer and as hereinafter provided. The color of all components in this fence system shall be the same and shall be as specified on the plans.

B Materials

All materials for this fence system shall be new stock, free from defects impairing strength, durability, and appearance. Fabric shall be produced by methods recognized as good commercial practice. Wire used in the manufacture of the fabric shall be capable of being woven into fabric without the polymer-coating cracking or peeling. Pipes used in framework shall be straight, true to section and free of defects. All burrs at the ends of pipes shall be removed before galvanizing. The polymer-coating shall be a dense impervious covering, applied without voids, tears or cuts that reveal the substrate. Excessive roughness, bubbles, blisters and flaking in the polymer-coating will be a basis for rejection.

B.1 Fabric

Provide steel chain link fence fabric that conforms to the requirements of ASTM F668, Class 2b, a polymer-coating fused and adhered to wire that is zinc-coated. Provide fabric woven from 9-gage wire using plan specified mesh size, diamond pattern, with both the top and bottom selvages knuckled. The minimum breaking strength of the wire shall be 1290 lbs. The color of polymer-coating shall conform to the requirements of ASTM F934.

B.2 Framework

Provide steel rails, posts and post sleeves conforming to the requirements of ASTM F1083, Standard Weight Pipe (Schedule 40) of the size (O.D.) and weight as shown on the plans. The minimum yield strength shall be 30,000 psi and the minimum tensile strength shall be 48,000 psi. These components shall be zinc-coated inside and outside by the hot-dip process as stated in ASTM F1083. Provide polymer-coating over zinc-coating that conforms to ASTM F1043. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components. Weld base plate to posts or post sleeves and complete any additional welding of components before galvanizing.

B.3 Fittings

Provide end post caps, line post caps, top rail sleeves, rail ends, line rail clamps, brace bands, tension bands, tension bars, and tie wires that are steel and conform to the

requirements of ASTM F626. Tie wires shall be round and 9-gage wire. These components (excluding tie wires) shall be zinc-coated by the hot-dip process as stated in ASTM F626. Provide polymer-coating over zinc-coating on components (excluding tie wires) that conforms to the requirements of ASTM F626. For tie wires, provide polymer-coating on wire that is zinc-coated using the same procedure as used for the wires in the fence fabric. End post caps and line post caps shall fit tightly over posts to prevent moisture intrusion. Supply dome style caps for end posts and loop type caps for line posts. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components.

B.4 Bolts

All bolts are to be supplied with lock washers and nuts. Use galvanized steel bolts, nuts and washers per plan details.

B.5 Tests

B.5.1 Fabric and Tie Wire

Breaking Strength:	ASTM A370
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM F668
Adhesion:	ASTM F668
Accelerated Aging Test:	ASTM F668, D1499
Mandrel Bend Test:	ASTM F668

B.5.2 Framework

Tensile and Yield Strength:	ASTM E8
Zinc-Coating Requirements	
Weight of Zinc-Coating:	ASTM A90
Polymer-Coating Requirements	
Thickness of Polymer-Coating:	ASTM E376
Adhesion:	ASTM F1043
Accelerated Aging Test:	ASTM F1043, D1499

B.5.3 Fittings

Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM F626	
Adhesion:	ASTM F1043	(same test as for framework)
Accelerated Aging Test:	ASTM F1043, D1499	(same test as for framework)

B.6 Submittals

In addition to the engineer, send submittals listed in this section to the name below for informational purposes:

David Nelson
WisDOT (Bureau of Structures)
4802 Sheboygan Ave. (Room 601)
PO Box 7916
Madison, WI 53707

B.6.1 Shop Drawings
Submit shop drawings showing the details of fence construction. Show the fence height, post spacing, rail location, and all dimensions necessary for the construction of the chain link fence. Label the end posts, line posts, rails, post sleeves, top rail sleeves, bolts and fittings. State the polymer-coating type used on the fabric, framework and fittings and the Class of coating used on the fabric. State the color of polymer-coating to be used on the fence components. For the fabric, state the wire gage, mesh size, and type of selvages used. For the framework, state the size (O.D.) and unit weight for the posts and rails. For the fittings, state the size for top rail sleeves, brace bands, tension bands, tension bars, line rail clamps, size and type of bolts, and the tie wire gage. State the material type used for fabric, framework, and fittings. Also give the breaking strength for the fabric wire and the tensile and yield strength properties for the framework.

B.6.2 Specification Compliance
Submit certification of compliance with material specifications. Provide material certification and test documentation for fabric, framework, fittings and hardware that shows that all materials meet or exceed the specifications of this contract and the tests in **B5**. This document shall provide the name, address and phone number of the manufacturer, and the name of a contact person.

C Construction
C.1 Delivery, Storage and Handling
Deliver material to the site in an undamaged condition. Upon receipt at the job site, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and condition of materials is in conformance with these specifications. If polymer-coating is damaged, contractor shall repair or replace components as necessary to the approval of the engineer at no additional cost to the Owner. Carefully store material off the ground to ensure proper ventilation and drainage and to provide protection against damage caused by ground moisture. Handle all polymer-coated material with care.

C.2 Touch-up and Repair
For minor damage caused by shipping, handling or installation to polymer-coated surfaces, touch-up the finish in conformance with the manufacturer's recommendations. Provide touch-up coating such that repairs are not visible from a distance of 6-feet. If damage is beyond repair, the fencing component shall be replaced at no additional cost to the Owner. The contractor shall provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

C.3 General

Install the chain link fence in accordance to ASTM F567 and the manufacturer's instructions. The contractor shall provide staff that is thoroughly familiar with the type of construction involved and materials and techniques specified. Chain link fabric shall be installed on the side of the posts indicated on the plans. Fabric shall be attached to the end posts with tension bars and tension bands. It shall be attached to rails, and posts without tension bands, with tie wires. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Install top rail to pass through line post caps and form a continuous brace between end posts. Minimum length of top rail between splices shall be 20-feet. Splice top rail at joints with sleeves for a rigid connection. Locate splices near ¼ point of post spacing. Heads of bolts shall be on the side of the fence adjacent to pedestrian traffic.

D Measurement

The department will measure Fence Chain Link Polymer-Coated X-Ft. by the linear foot, satisfactorily furnished and installed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.04	Fence Chain Link Polymer-Coated 4-Ft.	LF
SPV.0090.05	Fence Chain Link Polymer-Coated 6-Ft.	LF

Payment is full compensation for fabricating, galvanizing and polymer-coating all fence components, and transporting to jobsite; for erecting components to create a polymer-coated fence system, including any touch-up and repairs.

85. Wick Drains, Item SPV.0090.06.

A Description

This special provision describes furnishing and installing prefabricated wick drains after topsoil has been removed, ground has been graded for positive drainage, and drainage blanket has been placed. Perform all work according to the plans and as provided herein.

B Materials

The wick drains shall be prefabricated and consist of a plastic or polyethylene core wrapped in a filter geotextile fabric. They shall be ALIDRAIN, AMER-DRAIN Type 407, MEBRA-DRAIN or an approved equal. The core shall be fabricated with suitable drainage channels.

Every component of the wick drains shall be insect, rodent, mildew, and rot resistant. Furnish the wick drains in a wrapping which will protect them from abrasion due to shipping and hauling. The wick drains are to be kept dry until installed.

Clearly mark the wick drain rolls showing the type of vertical drain.

Furnish the engineer for approval manufacturer's certifications and wick drain samples a minimum of 14 days prior to delivery of the wick drains to the site. Only one type of wick drain, i.e. wick drain made by the same manufacturer and of the same dimensions and inplane flow rate, is to be used for the entire project. The delivered wick drains shall bear markings to clearly identify it with the manufacturer's certifications previously furnished to the engineer.

C Construction

Install wick drains with approved equipment of a type which will cause a minimum disturbance of the subsoil during the installation operation. Install the wick drain using a mandrel or sleeve which completely encloses the wick drain, thereby protecting it from tears, cuts, and abrasions during installation. The mandrel or sleeve shall be of minimal cross-sectional area.

Submit details of the sequence and method of wick drain installation to the engineer by the contractor a minimum of 14 days prior to the installation of the vertical drains for the engineer's approval. Approval by the engineer will not relieve the contractor of his responsibility to install the wick drains in accordance to these specifications.

Prior to the installation of wick drains within the designated areas, demonstrate that equipment, installation method, and materials produce a satisfactory installation in accordance to these specifications. For this purpose the contractor shall be required to install trial wick drains at locations designated by the engineer. Payment will be at the unit price per linear foot for the wick drains. Payments will not be made for installing unsatisfactory trial wick drains.

Approval by the engineer of the method and equipment used to install the trial drains shall not constitute acceptance of the method for the remainder of the project. If at any time the engineer considers that the method of installation does not produce a satisfactory drain, the contractor shall alter his method or equipment as necessary to comply with these specifications.

Wick drains shall be located, numbered, and staked out by the contractor. Do not vary the locations of drains by more than 6 inches from the locations indicated in the plan documents or as directed by the engineer.

Force vertically the mandrel with the wick drain inside into the ground to the depth shown on the contract documents. Retract the mandrel leaving the wick drain in place to function as a vertical drain. Cut the wick drain neatly at its upper end with a 12 inch length of drain material extending above the drainage blanket.

Re-level the surface of the granular sub-base course disturbed by wick drain installation equipment. Regrading will not be allowed. Repair any excessive rutting or deformations in the drainage blanket as directed by the engineer at no additional cost to the department.

Splices or connections in the wick drain material will not be allowed. Carefully check the equipment for plumbness prior to advancing each wick drain and must not deviate more than 1 inch per foot from the vertical.

When obstructions are encountered below the working surface which in the opinion of the engineer cannot be penetrated using normal and accepted procedures, complete the drain from the elevation of the obstruction to the working surface. At the direction of the engineer, install a new drain within 18 inches from the obstructed drain. The department will pay the contractor for all obstructed drains at the contract unit price unless the drain is improperly installed.

Wick drains that are out of their proper location by more than 6 inches, wick drains that are damaged during construction or wick drains that are improperly installed shall be rejected by the engineer and no compensation will be allowed for any materials furnished or for any work performed on such drains.

Supply the engineer with a suitable means of making a linear determination of the quantity of wick drain material used at each wick drain location. During installation of the wick drain, provide suitable means of determining the depth of the wick drain.

Do not install wick drains within five feet of any underground utility.

D Measurement

The department will measure Wick Drains by the linear foot for the full length of wick drain installed, acceptably completed. The contractor will not be paid for any more than an 18-inch length of wick drain extending above the drainage blanket.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.06	Wick Drains	LF

Payment is full compensation for the cost of furnishing the wick drain material; installation, and altering of the equipment and methods of installation in order to produce the required end result in accordance to the plans and specifications. No payment will be made for unacceptable wick drains or for any delays or expense incurred through changes necessitated by improper or unacceptable material or equipment.

86. Pedestrian Safety Fence, Item SPV.0090.07.

A Description

This special provision describes providing a pedestrian safety fence.

B Materials

Furnish engineer-approved commercially available "T" or "U" shaped fence posts and 2 x 4 dimensional lumber. 2 x 4 lumber shall be free of significant knots and defects as approved by the engineer.

Furnish fence fabric meeting the following requirements:

Color:	International orange (UV stabilized)
Roll Height:	4 feet
Mesh Opening:	1 inch min to 3 inch max
Resin/Construction:	High density polyethylene mesh
Service Temperature:	-60° F to 200° (ASTM D648)
Tensile Yield:	Avg. 2000 lb per 4 ft. width (ASTM D638)
Ultimate Tensile Strength:	Avg. 3000 lb per 4 ft. width (ASTM D638)
Elongation at Break (%):	Greater than 100% (ASTM D638)
Chemical Resistance:	Inert to most chemicals and acids

C Construction

Construct wooden frames as the plans show using nails or screws as fasteners.

Secure fence fabric to frame with staples. Overlap fence fabric rolls at a vertical member of the frame.

Drive fence posts to the depth the plans show. Provide a post for each vertical member of the frame.

Secure frame to fence posts as shown in the plans, with the fence fabric facing away from the pedestrian facility.

D Measurement

The department will measure Pedestrian Safety Fence by the linear foot, acceptably completed, measured along the base of the fence.

E Payment

The department will pay for Pedestrian Safety Fence at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.07	Pedestrian Safety Fence	LF

Payment is full compensation for providing the fence and posts; maintaining the fence and posts; removing and disposing of fence and posts at staging revisions or project completion.

87. Pedestrian Overhead Protection, Item SPV.0090.08.

A Description
This special provision describes furnishing and installing a pedestrian overhead protection at locations directed by the engineer and as hereinafter provided.

B Materials
Furnish conventional 2 x 4 dimensional lumber.

Furnish conventional CDX plywood in thicknesses shown on the plans.

C Construction
Construct frame of 2 x 4 dimensional lumber as shown in the plans using nails or screws as fasteners.

Sheath the sides and top with CDX plywood as shown on the plans.

Light the interior of the Pedestrian Overhead Protection at all times. Install lights on the ceiling and the level of illumination shall be the equivalent of that produced by 100 watt, 1,700 lumen minimum, standard incandescent lamps enclosed in vandal-resistant fixtures and spaced sixteen feet (16 FT) apart and eight feet (8 FT) above the floor level. Lights must be left on overnight. Inspect lighting nightly, and replace burned out or repair inoperative by the next business day. Lighting shall comply with the National Electrical Code.

D Measurement
The department will measure Pedestrian Overhead Protection in length by the linear foot, acceptably completed.

E Payment
The department will measure Pedestrian Overhead Protection at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.08	Pedestrian Overhead Protection	LF

Payment is full compensation for furnishing, installing the unit, maintaining the unit in satisfactory condition; and for removing the disposing of the unit at staging revisions or project completion.

88. Sanitary Sewer Pipe PVC, 8-Inch, Item SPV.0090.09.

A Description
This special provision describes installing Sanitary Sewer Pipe (size) at the alignment and grades shown on the plan. All sections of the sewer mainline are required to pass a low pressure air test, mandrel test, and a visual inspection via televising as specified in Article 501.3(b) of the City of Madison Standard Specifications for Public Works Construction –

2015 Edition. Costs associated with the testing of the gravity main are included in the contract unit price bid for this item.

B Materials
Provide solid-wall Poly (Vinyl Chloride) (PVC) sanitary sewer pipe and fittings meeting the requirements for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, ASTM D 3034.

Provide pipe and fittings having a standard dimension ratio of 26 or 35 as called out on the plan set.

Assemble joints using or elastomeric or solvent cement as recommended by the pipe manufacturer.

The assembled joints will be required to pass the performance tests as required in ASTM D3212 elastomeric or ASTM D2564-solvent cement.

Sewer mains deeper than 12' will be required to meet the standards or ASTM D3034 SDR-26.

The pipe materials (ASTM D3034 SDR 35 or 26) will be the same pipe material type from sewer access structure to sewer access structure.

C Construction
Install the sanitary sewer pipe in accordance to all applicable provisions of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

Remove all abandoned or existing material located in the new sanitary sewer alignment. Removal of material (including existing sanitary sewer/water main/etc) is incidental to this bid item.

Use manufactured wye fittings to install new laterals to the new main as called for on the plans; provide and place in accordance to standard spec 503 for Public Works Construction – 2015 Edition. Do not install saddle type wyes without prior approval from the city of Madison.

Complete testing and televising of new sewer lines in accordance to Article 501 of the City Standard Specifications for Public Works Construction - 2015 Edition.

D Measurement
The department will measure Sanitary Sewer Pipe PVC, (Size) in length by the linear foot, acceptably completed.

Sanitary Sewer Pipe, (Size) will be measured through sanitary sewer structures, from the center of sanitary sewer casting to center of sanitary sewer casting. Sanitary Sewer Pipe (Size) not terminating at a sanitary sewer structure will be measured to the end of pipe. Deductions from the measure length will not be made for wye installations.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.09	Sanitary Sewer Pipe PVC, 8-Inch	LF

Payment is full compensation for furnishing all materials, necessary to perform the work; excavation of the trench, except tunneling and jacking; installation and removal of sheeting and bracing; removal of water from the trench; disposal of surplus material from the trench; backfilling the trench and compaction of the backfill material; embankment over the sewer using surplus material from the excavation of the trench; bedding the pipe; laying the pipe and installing the fittings and accessories; jointing and sealing of joints in pipe, fittings and accessories; encasement, where specified; connections to existing structures; cleaning out the sewer; restoring the site; and all other work incidental to the installation of sanitary sewers.

89. Sanitary Sewer Pipe PVC, 21-Inch, Item SPV.0090.10.

A Description

This special provision describes installing Sanitary Sewer Pipe (size) at the alignment and grades shown on the plan. All sections of the sewer mainline are required to pass a low pressure air test, mandrel test, and a visual inspection via televising as specified in Article 501.3(b) of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition. Costs associated with the testing of the gravity main are included in the contract unit price bid for this item.

B Materials

Provide solid-wall Poly (Vinyl Chloride) (PVC) sanitary sewer pipe and fittings meeting the requirements for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, ASTM F679 PS46 and PS115.

Assemble joints using or elastomeric or solvent cement as recommended by the pipe manufacturer.

The assembled joints will be required to pass the performance tests as required in ASTM D3212 elastomeric or ASTM D2564-solvent cement.

Sewer mains shallower than 12’ will be required to meet the standards of ASTM F679 PS 46.

Sewer mains deeper than 12’ will be required to meet the standards of ASTM F679 PS 115.

The pipe materials (ASTM F679 PS46 or PS 115) will be the same pipe material type from sewer access structure to sewer access structure.

C Construction

Install the sanitary sewer pipe in accordance to all applicable provisions of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

Remove all abandoned or existing material located in the new sanitary sewer alignment. Removal of material (including existing sanitary sewer/water main/etc) is incidental to this bid item.

Use manufactured wye fittings to install new laterals to the new main as called for on the plans; provide and place in accordance to standard spec 503 for Public Works Construction – 2015 Edition. Do not install saddle type wyes without prior approval from the city of Madison.

Complete testing and televising of new sewer lines in accordance to Article 501 of the City Standard Specifications for Public Works Construction - 2015 Edition.

D Measurement

The department will measure Sanitary Sewer Pipe, (Size) in length by the linear foot, acceptably completed.

Sanitary Sewer Pipe, (Size) will be measured through sanitary sewer structures, from the center of sanitary sewer casting to center of sanitary sewer casting. Sanitary Sewer Pipe (Size) not terminating at a sanitary sewer structure will be measured to the end of pipe. Deductions from the measure length will not be made for wye installations.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.010	Sanitary Sewer Pipe PVC, 21-Inch	LF

Payment is full compensation for furnishing all materials, necessary to perform the work; excavation of the trench, except tunneling and jacking; installation and removal of sheeting and bracing; removal of water from the trench; disposal of surplus material from the trench; backfilling the trench and compaction of the backfill material; embankment over the sewer using surplus material from the excavation of the trench; bedding the pipe; laying the pipe and installing the fittings and accessories; jointing and sealing of joints in pipe, fittings and accessories; encasement, where specified; connections to existing structures; cleaning out the sewer; restoring the site; and all other work incidental to the installation of sanitary sewers.

90. Sanitary Sewer Lateral, Item SPV.0090.11.

A Description

This work consists of excavating required trenches, connecting the lateral to the mainline pipe, placing bedding material, connecting the new lateral to the existing lateral, all required fittings, couplings, and bends, backfilling and compacting the trenches and restoring the work site as provided by the plans, specifications and contract. This work also consists of locating, identifying, and abandoning "inactive" laterals.

B Materials

Furnish sanitary sewer pipe and fittings that are solid-wall Poly Vinyl Chloride (PVC) and that conform to the requirements of the Specification for PVC Sewer Pipe and Fittings, ASTM D 3034.

Provide sanitary sewer pipe and fittings having a standard dimension ratio of 26 and 35.

Furnish elastomeric or solvent cement joints made as recommended by the manufacturer.

Sewer lateral pipe deeper than 12' will be required to be ASTM D3034 SDR-26.

Compression coupling connections to the existing sewer laterals in conformance to Standard Detail Drawing 5.3.3, Coupling detail, from the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

C Construction

Install laterals in accordance to Article 503.3 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

The use of 45-degree bends is not permitted except with connecting to a wye at the sanitary sewer main. Bends of 22.5 degrees or less may be used, provided they are separated by at least two feet of straight pipe. Provide new lateral pipe having a minimum diameter of four inches that is also greater than or equal to the diameter of the adjoining lateral. Connecting a new lateral pipe to an existing lateral having a smaller diameter than the existing lateral is not permitted.

Per the City of Madison Standard Specifications for sanitary sewer lateral construction on street reconstruction projects, contractors are encouraged to begin installation of sanitary lateral pipe at the proposed sewer main. If contractor starts excavation for the lateral at the property line, it will be at the contractor's risk. A portion of the sanitary sewer laterals were located and surveyed prior to design. Laterals located are marked on the plan as Lateral Located (TYP). If tree conflicts are encountered during the sanitary lateral replacement process, contractors are instructed to follow the new policy set in the Standard Specifications for Public Works Construction - 2015 Edition. No Utility Line Openings (ULOs) will be granted for the inability to locate the sanitary lateral at the property line. Any extra sidewalk removal will not be compensated to the contractor looking for an existing sanitary lateral at the property line.

Contractors will be required to have a locator device on-site if they intend to start laying lateral pipe at the property line to minimize the amount of extra sidewalk removal. Each sanitary lateral will have a maximum of 4 sidewalk squares removed and replaced. No additional compensation will be awarded beyond this amount for the replacement of a sewer lateral. If laterals called for reinstatement on the plans are to be plugged under the direction of the engineer on-site, contractors are required to use a sonde device to confirm that the laterals that are called abandonment are not active, Couple the junction of a new lateral pipe to an existing lateral pipe as required in the field by the City of Madison. Saw cut the existing main to accommodate a clean joint for the installation of the compression couplings. Placed the coupling as directed by the City of Madison and per Standard Detail Drawing 5.3.3, Coupling Details, from the City of Madison Standard Specifications for Public Works Construction - 2015 Edition.

D Measurement

The department will measure Sanitary Sewer Lateral, by the linear foot, acceptably completed.

The quantity to be paid will be measured from the connection of the mainline sewer pipe to the connection of the existing sanitary lateral along the centerline of the pipe.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.11	Sanitary Sewer Lateral	LF

Payment is full compensation for determining whether laterals are “active”, “inactive”, or abandoned, and the exact location and size of “active” lateral reconnections; all labor, tools, equipment and incidentals necessary to complete the work.

Connection of lateral to the proposed sewer main and the first 5 feet of lateral pipe associated with the connection is paid under bid item Sanitary Lateral Reconnect.

Select fill for sanitary sewer later is paid under bid item Select Fill For Sanitary Sewer. The quantity for this item may be increased or decreased beyond the limits set forth in Article 104 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

91. Select Fill for Sanitary Sewer, Item SPV.0090.12.

A Description

This special provision describes furnishing and placing select fill over the sanitary sewer main and laterals along the entire length of the pipe.

B Materials
Provide select fill meeting the requirements of Article 202.2(b) of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition for select fill for sanitary sewer mains and laterals.

C Construction
Install select fill for sanitary sewer in accordance to all applicable provisions of Article 502.1(e) of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition.

D Measurement
The department will measure Select Fill for Sanitary Sewer in length by the linear foot, acceptably completed. Measurement will be completed along the centerline of the installed sanitary sewer pipe and includes the length through Sewer Access Structures.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.12	Select Fill For Sanitary Sewer	LF

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

92. Remove Sanitary Sewer Pipe, Item SPV.0090.13.

A Description
This special provision describes removing sanitary sewer pipe within the Right of Way as called for on the plan set in accordance to Article 203 of the City of Madison Standard Specifications for Public Works Construction – 2015 Edition. "Pipe to be removed that is in the same trench as a new pipe will not be compensated as remove pipe and will be considered to be incidental to the new pipe installation." The same trench will be considered to be any pipe located with 3' horizontally of the pipe being installed. This includes unidentified pipe that is smaller than 10 inches in diameter. If the pipe to be removed ends along a pipe run, as opposed to ending at a structure, the contractor will end the removal with a saw cut of the existing pipe and plug the remaining end as directed by the engineer. Plugging the structure or pipe to which the pipe being removed was connected will be compensated for under a separate bid item (Abandon Sanitary Sewer - Pipe Plug, Item SPV.0060.17). If the contractor, for his convenience, decides to remove a section of pipe to a full section, the additional removal will not be given consideration for additional compensation.

B (Vacant)

C Construction

Sawcut the pipe ends at the pipe removal limits if the pipe as a whole is not called for removal. Dispose all pipe removed. All trenches, holes and pits resulting from the removal or abandoning of pipe and other miscellaneous structures will be filled with satisfactory soil or select fill, placed in layers not more than 12 inches in thickness. Select backfill will be required for any structure or pipe within the roadway that will not be filled with another structure or pipe. All fill material required will be considered incidental to the removal or abandonment. Each layer will be thoroughly compacted by means of approved tampers, rollers or vibrators. Water will not be used to expedite settlement of backfill except with the approval of the engineer; this provision will not be construed to require an excavation to be dewatered before placing backfill, if backfilling can be performed in such manner as to displace the water or prevent its entrapment in the backfill

D Measurement

The department will measure Remove Sanitary Sewer Pipe by the linear foot, measured along the centerline of the sanitary sewer pipe removed.

E. Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.13	Remove Sanitary Sewer Pipe	LF

Payment is full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete this item of work Payment will include the Select Fill material required to backfill the trench created by pipe being removed.

93. Bore and Jack Sanitary Sewer 21-Inch, Item SPV.0090.14.

A Description

This special provision describes installing a sanitary sewer main on engineered spacers within steel casing pipes by trenchless bore and jack method.

B Materials

Provide all materials necessary to install sanitary sewer within steel casing pipes via trenchless bore and jack method. Provide steel casing pipe, sized to provide a minimum of 36-inch diameter casing for a 21-inch sanitary sewer pipe and 36-inch diameter casing. Provide steel casing pipe adequately sized to allow for proper and complete installation of the carrier pipe to the elevations and slopes shown in the drawings. Oversizing of the casing pipe to allow for installation is at the discretion of the contractor and is included in this item.

Provide steel casing pipes meeting the following standards:

- ASTM specification A139 Grade B or AWWA specification C200.
- Outside diameter as specified by the contractor.
- Not coated or cathodically protected, no hydrostatic testing required.
- 0.5625" minimum thickness for 21-inch diameter sewer (see casing pipe detail).
- Specified minimum yield strength, SMYS, of at least 35,000 psi.
- New and unused pipe.
- Straight and round pipe.
- Beveled ends for butt welding.

Provide two-piece stainless steel pipe spacers meeting the following requirements:

- Stainless Steel Band.
- 8-inches wide stainless steel with 2-inch wide glass reinforced polymer runners.
- 14 Gauge (0.074-inch) thickness.
- 100 percent 304 Stainless Steel.
- Polyvinylchloride (PVC) liner.
- Thickness: 0.090-inches.
- Hardness: Durometer "A" 85-90.
- Dielectric Strength: 60,000 V min. (1/8" Surge Test), 58,000 V min. (Step-by-step test).
- Water Absorption: 1 percent maximum.
- Functional Temperature Range: -40°F to 170°F.
- Risers
- 10 Gauge (0.135") thickness.
- 100% 304 Stainless Steel, MIG welded to the band.
- Hardware
- 8-inch stainless steel band with 6 studs, 12 nuts and washers.
- Threaded Studs: 5/16-inch - 18-inch x 2 1/2-inch 304 stainless steel or plated.
- Hex Nuts: 5/16-inch hex nuts.
- Washers: 5/16-inch SAE 2330.

Provide sanitary sewer carrier pipes meeting the requirements of Sanitary Sewer Pipe, 21-Inch- ASTM F679, PS 115. The 21" diameter sanitary sewer main inside the casing will be included with the Bore and Jack bid item.

Install spacers in accordance to the manufacturer's specifications with maximum spacing of 8'.

Provide sand or limestone screenings conforming to Article 502.1 (d) of the City of Madison Standard Specification for Public Works Construction - Latest Edition.

C Construction

Submit the following documents to the City of Madison for approval prior to ordering of materials and the start of construction:

- Certificate of compliance for the steel casing pipe.
- Pipe loading calculations for steel casing pipe.
- Sieve analysis and material specification for sand or limestone screenings for filling of annular space between carrier pipe and casing pipe.
- Sieve analysis and material specification for casing spacers.
- Casing spacer design and layout plan.
- Boring and receiving pits excavation and soil retention design and plan.
- Site security plan.
- Material data and design mix and methods for bulkheading the casing ends.
- Design and mix for cementious grout and installation plan for filling voids between casing pipe and surrounding soil.

Excavate the boring and receiving pits in accordance to Article 201.2 of the City of Madison Standard Specifications for Public Works Construction-Latest Edition. Dispose of excess excavated material off site at a location to be determined by the contractor. Backfilled material will meet City of Madison Standard Specifications for Road Construction - 2015 Edition. Necessary work and materials to adequately secure the pits with full cover or security fencing will be incidental to this bid item. Also incidental to this bid item will be the removal and replacement of items damaged while installing the new sewer and casing: culverts or other similar features. Facilities called for replacement with the road improvement project will not be replaced by the contractor unless the facility needs to remain in service while the project is underway.

Complete trenchless construction via dry auger boring and jacking. Water jacking for excavation of the soil is not allowed. The use of water to facilitate removal of spoil is permitted. At a minimum, extend trenchless construction to limits shown on the drawings. Trenchless limits may be extended at the contractor's discretion, and as approved by the City of Madison.

For casing pipe installation, excavate the bore hole to match the outside diameter of the casing pipe. In soft, unstable soil, maintain auger within the casing pipe and do not extend auger past the end of the casing to minimize creation of a void between the casing and surrounding soil. Fill any voids between casing pipe and surrounding soil with cementious grout installed under pressure.

Connect adjacent lengths of steel casing pipe by continuous, circumferential, field butt welding in accordance to AWWA C206. Provide connections that are straight and true, and watertight in the existing groundwater conditions.

Prior to installing the carrier pipe inside of the casing pipe, strap a set of four wood blocks at equal spacing around the circumference to both ends of the pipe five feet from each end. Set the blocks so that the carrier pipe does not touch the casing pipe. Construct all pipe joints outside of the casing pipe. Install sand or pea gravel into the annular space between

the carrier pipe and casing pipe up to the spring line of the carrier pipe to provide bedding under the carrier pipe.

Provide and install non-centered stainless steel pipe spacers in the casing pipe at regular intervals to the new sanitary sewer main joints to set the sewer main to the elevations and slopes shown on the plans. Install pipe spacers as recommended by the manufacturer, with a maximum spacing of 8 feet.

Install carrier pipe inside of the casing pipe to line and grade shown in the drawings. Install approved casing spacers at the approved distances. Fill the annular space between the casing pipe and carrier pipe with the approved material (sand or pea gravel).

The pipe design slope will be verified by the city or construction staking surveyor. If the slope is back-pitched or not at an acceptable slope, the construction engineer will require the pipe be adjusted.

Contractor is solely responsible for any damage created by thrust and lateral earth pressures created by the installation process. Protect existing utilities in or around the boring and receiving pit areas. Any damage to utilities- public or private will be the responsibility of the contractor to repair.

D Measurement

The department will measure Bore and Jack Sanitary Sewer 21-Inch by the linear foot, acceptably completed.

Measurement will be made on a straight line from one end of the steel casing pipe to the other, measured at the invert.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.14	Bore and Jack Sanitary Sewer 21-Inch	LF

Payment is full compensation for furnishing all materials necessary to perform the work; excavation of the boring and receiving pits; site security; for installation of the steel casing pipe via trenchless bore and jack method, installation of the carrier pipe inside of the casing pipe with casing spacers as described, and filling of annular space between carrier pipe and casing pipe; for bulkheading of the finished installation; for backfilling excavations, disposal of excess materials, and restoration of the site; for protection or replacement of existing structures and utilities; and all labor, tools, equipment and incidentals necessary to complete the work. This bid item will include a 21” diameter sanitary sewer main inside the casing- ASTM F679, PS 11.

The casing pipe must be sized by the contractor in order for the inner sanitary sewer lateral to properly fit within the casing pipe. All costs for furnishing and installing the steel casing pipe, casing spacers, access and receiving pits, and all work necessary to push the casing pipe will be included with this bid item.

94. Fence Chain Link Polymer-Coated 8-Ft., Item SPV.0090.15.

A Description

This special provision describes furnishing and installing a new polymer-coated fence system on structures in accordance to the pertinent plan details, as directed by the engineer and as hereinafter provided. The color of all components in this fence system shall be the same and shall be as specified on the plans.

B Materials

All materials for this fence system shall be new stock, free from defects impairing strength, durability, and appearance. Fabric shall be produced by methods recognized as good commercial practice. Wire used in the manufacture of the fabric shall be capable of being woven into fabric without the polymer-coating cracking or peeling. Pipes used in framework shall be straight, true to section and free of defects. All burrs at the ends of pipes shall be removed before galvanizing. The polymer-coating shall be a dense impervious covering, applied without voids, tears or cuts that reveal the substrate. Excessive roughness, bubbles, blisters and flaking in the polymer-coating will be a basis for rejection.

B.1 Fabric

Provide steel chain link fence fabric that conforms to the requirements of ASTM F668, Class 2b, a polymer-coating fused and adhered to wire that is zinc-coated. Provide fabric woven from 9-gage wire using plan specified mesh size, diamond pattern, with both the top and bottom selvages knuckled. The minimum breaking strength of the wire shall be 1290 lbs. The color of polymer-coating shall conform to the requirements of ASTM F934.

B.2 Framework

Provide steel rails, posts and post sleeves conforming to the requirements of ASTM F1083, Standard Weight Pipe (Schedule 40) of the size (O.D.) and weight as shown on the plans. The minimum yield strength shall be 30,000 psi and the minimum tensile strength shall be 48,000 psi. These components shall be zinc-coated inside and outside by the hot-dip process as stated in ASTM F1083. Provide polymer-coating over zinc-coating that conforms to ASTM F1043. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components. Weld base plate to posts or post sleeves and complete any additional welding of components before galvanizing.

B.3 Fittings

Provide end post caps, line post caps, top rail sleeves, rail ends, line rail clamps, brace bands, tension bands, tension bars, and tie wires that are steel and conform to the requirements of ASTM F626. Tie wires shall be round and 9-gage wire. These components (excluding tie wires) shall be zinc-coated by the hot-dip process as stated in ASTM F626.

Provide polymer-coating over zinc-coating on components (excluding tie wires) that conforms to the requirements of ASTM F626. For tie wires, provide polymer-coating on wire that is zinc-coated using the same procedure as used for the wires in the fence fabric. End post caps and line post caps shall fit tightly over posts to prevent moisture intrusion. Supply dome style caps for end posts and loop type caps for line posts. The color of polymer-coating shall conform to the requirements of ASTM F934, and match the color of the other fence components.

B.4 Bolts

All bolts are to be supplied with lock washers and nuts. Use galvanized steel bolts, nuts and washers per plan details.

B.5 Tests

B.5.1 Fabric and Tie Wire

Breaking Strength:	ASTM A370	
Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM F668	
Adhesion:	ASTM F668	
Accelerated Aging Test:	ASTM F668, D1499	
Mandrel Bend Test:	ASTM F668	

B.5.2 Framework

Tensile and Yield Strength:	ASTM E8	
Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM E376	
Adhesion:	ASTM F1043	
Accelerated Aging Test:	ASTM F1043, D1499	

B.5.3 Fittings

Zinc-Coating Requirements		
Weight of Zinc-Coating:	ASTM A90	
Polymer-Coating Requirements		
Thickness of Polymer-Coating:	ASTM F626	
Adhesion:	ASTM F1043	(same test as for framework)
Accelerated Aging Test:	ASTM F1043, D1499	(same test as for framework)

B.6 Submittals

In addition to the engineer, send submittals listed in this section to the name below for informational purposes:

David Nelson
WisDOT (Bureau of Structures)
4802 Sheboygan Ave. (Room 601)
PO Box 7916
Madison, WI 53707

B.6.1 Shop Drawings

Submit shop drawings showing the details of fence construction. Show the fence height, post spacing, rail location, and all dimensions necessary for the construction of the chain link fence. Label the end posts, line posts, rails, post sleeves, top rail sleeves, bolts and fittings. State the polymer-coating type used on the fabric, framework and fittings and the Class of coating used on the fabric. State the color of polymer-coating to be used on the fence components. For the fabric, state the wire gage, mesh size, and type of selvages used. For the framework, state the size (O.D.) and unit weight for the posts and rails. For the fittings, state the size for top rail sleeves, brace bands, tension bands, tension bars, line rail clamps, size and type of bolts, and the tie wire gage. State the material type used for fabric, framework, and fittings. Also give the breaking strength for the fabric wire and the tensile and yield strength properties for the framework.

B.6.2 Specification Compliance

Submit certification of compliance with material specifications. Provide material certification and test documentation for fabric, framework, fittings and hardware that shows that all materials meet or exceed the specifications of this contract and the tests in **B5**. This document shall provide the name, address and phone number of the manufacturer, and the name of a contact person.

C Construction

C.1 Delivery, Storage and Handling

Deliver material to the site in an undamaged condition. Upon receipt at the job site, all materials shall be thoroughly inspected to ensure that no damage occurred during shipping or handling and condition of materials is in conformance with these specifications. If polymer-coating is damaged, contractor shall repair or replace components as necessary to the approval of the engineer at no additional cost to the Owner. Carefully store material off the ground to ensure proper ventilation and drainage and to provide protection against damage caused by ground moisture. Handle all polymer-coated material with care.

C.2 Touch-up and Repair

For minor damage caused by shipping, handling or installation to polymer-coated surfaces, touch-up the finish in conformance with the manufacturer's recommendations. Provide touch-up coating such that repairs are not visible from a distance of 6-feet. If damage is beyond repair, the fencing component shall be replaced at no additional cost to the owner. The contractor shall provide the engineer with a copy of the manufacturer's recommended repair procedure and materials before repairing damaged coatings.

C.3 General
Install the chain link fence in accordance to ASTM F567 and the manufacturer's instructions. The contractor shall provide staff that is thoroughly familiar with the type of construction involved and materials and techniques specified. Chain link fabric shall be installed on the side of the posts indicated on the plans. Fabric shall be attached to the end posts with tension bars and tension bands. It shall be attached to rails, and posts without tension bands, with tie wires. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance free from sag, without permanently distorting the fabric diamond or reducing the fabric height. Install top rail to pass through line post caps and form a continuous brace between end posts. Minimum length of top rail between splices shall be 20-feet. Splice top rail at joints with sleeves for a rigid connection. Locate splices near ¼ point of post spacing. Heads of bolts shall be on the side of the fence adjacent to pedestrian traffic.

D Measurement
The department will measure Fence Chain Link Polymer-Coated 8-Ft. by the linear foot, satisfactorily furnished and installed.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0090.15	Fence Chain Link Polymer-Coated 8-Ft.	LF

Payment is full compensation for fabricating, galvanizing and polymer-coating all fence components, and transporting to jobsite; for erecting components to create a polymer-coated fence system, including any touch-up and repairs.

95. Chain Dragging Deck, Item SPV.0105.01.

A Description
This special provision describes chain dragging the deck surface and marking the boundaries of the unsound areas for removal. The boundaries of the unsound areas will be at least 2-inches and not greater than 6-inches outside of the unsound areas of concrete, as directed or marked by the engineer in the field.

B (Vacant)

C Construction
Chain drag the deck surface and mark any unsound areas of concrete.

D Measurement
The department will measure Chain Dragging Deck as a single lump sum unit of work, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.01	Chain Dragging Deck	LS

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

96. Dewatering for Sanitary Sewer Construction, Item SPV.0105.02.

A Description

Groundwater is expected to be encountered during excavation for the sanitary sewer. Provide and maintain ample means and devices with which to promptly remove all water entering excavations, trenches, and other parts of the work and keep said excavations dry until the structures to be built therein are completed.

Installation of concrete or masonry structures will not be acceptable if placed in water or if water is allowed to rise over masonry or concrete and there is danger of flotation or of setting up unequal pressures in the concrete until the concrete has set at least 24 hours and any danger of flotation has been removed.

The contractor is responsible for all work, materials, and equipment required to comply with permit conditions to dewater the site. At a minimum, pump water into a settling tank as described below to remove suspended solids prior to discharging the water into the storm sewer system.

B General

The contractor is responsible for obtaining all applicable State of Wisconsin permits for all groundwater control wells including if necessary the Wisconsin Department of Natural Resources (WDNR). In accordance to Paragraph 144.025(2)(e), Wisconsin Statutes, permits are required for all groundwater control wells that singly or in aggregate produce 70 or more gallons per minute. Drill and seal all wells in accordance to requirements of the WDNR for installing and abandoning well.

If necessary, the WDNR address for obtaining well permits is:

Wisconsin Department of Natural Resources
Private Water Supply Section
BOX 7921
Madison, Wisconsin 53707

Maintain a copy of the permit with the City of Madison 48 hours prior to commencement of dewatering.

Where requested on the WDNR Dewater Permit Application, list the contractor as the owner. Adhere to all of the requirements of the dewatering permit including reporting requirements.

C Construction

The contractor is solely responsible for choosing a method of groundwater control which is compatible with the constraints defined. The contractor is responsible for the adequacy of the groundwater control system and will take all necessary measures to ensure that the groundwater control operation will not endanger or damage any existing adjacent utility or structure.

Design, install, and operate all dewatering methods in such a manner to provide satisfactory working conditions and to maintain the progress of work. Design dewatering methods to avoid settlement or damage to adjacent property in accordance to the applicable legislative statutes and judicial decisions of the State of Wisconsin. Complete all required pumping, drainage and disposal of groundwater without damage to adjacent property or structures, or to the operations of other contractors and without interference with the access rights of public or private parties.

Dewater in such a manner that assures safe working conditions and provides stable trench side slopes and trench bottom for adequate support of the pipe and appurtenances. Dewater sufficiently to minimize or eliminate groundwater pressures below the proposed trench bottom which otherwise may tend to cause boiling or "quick" condition at the trench bottom.

Pump water from dewatering operations directly to a minimum 1,500 gallon holding tank to allow for settlement of large solids. Periodically pump water from the top of the settling tank.

Notify the engineer at least three days in advance of any proposed changes to the dewatering plan.

The contractor is responsible for removal and/or abandonment of dewatering wells. Remove and/ or abandon wells in accordance to all state and local regulations.

Obtain permission to use any storm sewers, or drains, for groundwater disposal purposes from the engineer and the city of Madison. The contractor is responsible for identifying and obtaining any permits required for the discharge of groundwater to the surface or to a sewerage system. Complete dewatering operations without causing flooding by over-loading or blocking the flow in the drainage facilities. Leave the facilities unrestricted and as clean as originally found. Upon completion of dewatering operations, repair any damage to facilities and restore facilities as directed by the engineer or the City of Madison Engineering Department. Costs for cleaning, repairing and restoring existing facilities will be considered incidental.

D Measurement

The department will measure Dewatering for Sanitary Sewer Construction as a single complete lump sum unit of work, completed in accordance to the contract, and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.02	Dewatering for Sanitary Sewer Construction	LS

Payment is considered full compensation for furnishing all work necessary for pumping, settling and discharging water; for paying permit fees required; for eliminating and correcting all flooding or erosion damage caused by dewatering operations.

97. Heavy Wastewater Control 2000 GPM, Item SPV.0105.03.

A Description

Work under this item includes controlling or diverting, to the city of Madison's satisfaction, sanitary sewer flows during reconstruction of the sanitary sewer. There is a Lift Station Force Main connected to the city sewer on the eastern project limits that will need to be accounted for.

B (Vacant)

C Construction

New 21" Diameter Sewer Mainline

Provide a pump with a capacity of 2000 gallons per minute and all associated equipment required to maintain a functioning sanitary sewer system during construction. It is not acceptable, at any time, to disrupt normal flow of wastewater in sanitary sewer service laterals without prior approval from the City of Madison. This condition also holds at the time of connection of an existing lateral to the new sewer main.

If the contractor elects to use bypass pumping as a means of wastewater control, the methods, equipment, type of hose, etc. are subject to approval by the City of Madison Engineer. Ramp any hoses crossing streets, driveways, parking areas, etc., to prevent damage to hoses. Contain spillage of wastewater to be within the utility trench and dispose of spillage into existing sewer downstream to previously installed sewer piping. Spillage of wastewater to adjacent streets, lawns, etc. will not be tolerated. Should spillage occur, cease all construction operations immediately and begin cleanup operations. Clean site thoroughly to the satisfaction of the engineer prior to the resumption of any construction operations.

Connection to Existing Force Main:

Provide a bypass pumping system in working condition in order to install the proposed SAS #9 and connecting the force main temporarily as well as permanently to the city sewer on Cottage Grove Road. Notify Mark Moder, City of Madison Engineering

(mmoder@cityofmadison.com, (608) 261-9250) 72-hours prior to shutting down the lift station and dewatering the force main. Contractor will be responsible for designing a bypass system that will maintain flow during the period of construction. The city will coordinate with MMSD to provide access to the wet well and de-energize the station.

The bypass system must be capable of handling the existing flow to the station. The contractor will design and submit a bypass system to the City of Madison for approval prior to the commencement of construction. The current station has two 400 gallon per minutes pumps. The station's average flow is 33,000 gallons per day and has very limited amount of storage. According to MMSD, the pumps run every hour from 6:00 AM to 11:00 PM. It is anticipated that pumper tucks will need to be utilized for the Atlas Station connection to the city sewer. Pumper trucks will also likely need a booster pump.

MMSD provided the city with the following data regarding the Atlas Station, 702 Atlas Ave.

- Bottom of Well Elevation- 847.10'
- 8" EI entering Wet well- 851.53'
- High Water Alarm- 857.60'
- Top of Wet Well- 868.35'
- Wet Well Diameter- 6'
-

MMSD has provided average hours per day of run time for each month in 2012. Below is a table of the data.

	Pump 1 (hrs)	Pump 2 (hrs)
June 2012	22.80	27.90
July 2012	28.30	22.30
August 2012	26.20	25.90
September 2012	19.60	20.00
November 2012	17.00	17.00
December 2012	19.10	20.60

Additional data is available from MMSD if requested. The bypass system must have redundant pumping capacity.

If the contractor would prefer to do the force main reconnection between the hours of 7:00 PM and 7:00 AM, a noise variance would be necessary requiring a public hearing, Board of Public Works and Common Council approval. If the contractor would prefer to do the final force main connection during these hours, upon being awarded the bid, the contractor will be required to request a noise variance to Mark Moder (261-9250, mmoder@cityofmadison.com) so that the process to acquire a noise variance can be initiated.

D Measurement

The department will measure Heavy Wastewater Control 2000 GPM as a single complete lump sum unit of work, as completed in accordance to the contract, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.03	Heavy Wastewater Control 2000 GPM	LS

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

98. Construction Staking Sanitary Sewer, Item SPV.0105.04.

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

B (Vacant)

C Construction
Set and maintain construction stakes or marks as necessary to achieve the required accuracy and to support the method of operations. Set and maintain a minimum of two construction stakes to establish location and grade of sanitary sewer structures in accordance to the plans and details for sanitary sewer structures. Set and maintain construction stakes to establish location and grade of sanitary sewer main. Provide stakes that establish the horizontal and grade elevation of sanitary main at intervals of 25 feet for a minimum of 100 feet from each structure and at intervals of 50 feet thereafter. Determine offsets in conjunction with contractor requirements. Verify the invert elevations of existing structures which are to remain and be connected into. Locate all stakes included in this bid item to within 0.02 feet horizontally and establish the grade elevation to within 0.01 feet vertically.

Place additional intermittent stakes as necessary to provide staking information at critical areas such as utility, driveway, roadway, and structure crossings.

D Measurement
The department will measure Construction Staking Sanitary Sewer as a single complete unit of work, completed in accordance to the contract, and accepted.

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.04	Construction Staking for Sanitary Sewer	LS

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

99. Concrete Pavement Joint Layout, Item SPV.0105.05.

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. Follow the plan details for joints in concrete making adjustments as required to fit field conditions.

D Measurement
The department will measure Concrete Pavement Joint Layout as a single lump sum unit of work 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.0105.05	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.

100. Outlet Gate C-13-2075, Item SPV.0105.06.

A Description
This special provision describes furnishing and installing an outlet gate for box culvert Structure C-13-2075.

B Materials
Furnish a galvanized steel pipe grate that is according to the pertinent requirements of bid item 611.9800.S Pipe Grates.

C Construction
Construct and install the pipe grate in accordance to the plan detail and to the pertinent requirements of bid item 611.9800.S Pipe Grates.

D Measurement
The department will measure Outlet Gate C-13-2075 as a single lump sum unit.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.06	Outlet Gate C-13-2075	LS

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

101. Temporary Vehicle Detection (USH 51 SB and Cottage Grove Road), Item SPV.0105.07; Temporary Vehicle Detection (USH 51 NB and Cottage Grove Road), Item SPV.0105.08.

A Description

This special provision describes furnishing, installing, and maintaining vehicle detection systems at the intersections of Cottage Grove Road with USH 51 SB and USH 51 NB in conjunction with temporary traffic signals as shown in the plans

The desired vehicle detection zones and temporary signal phasing are shown on the plans.

The contractor, with prior approval of the engineer and the City of Madison, shall select the vehicle detection technology best suited for the site conditions and the anticipated construction work zones and activities. The engineer reserves the right to request a demonstration of any or all temporary vehicle detection technologies prior to said approval. Vehicle detection technologies considered shall include; but are not limited to, temporary inductive loops, microwave detection, or video detection. Damage to new pavement for temporary detection loops will not be allowed. Any pavement damaged during installation shall be replaced at the contractor's expense.

Detection technology shall provide for true presence detection.

Provide immediate response, 24-hour/7-days per week, to maintain any aspect of the temporary vehicle detection that is defective, completing repairs or adjustment the same day as notification.

Adjust, relocate, add, or remove temporary vehicle detection equipment for each traffic control stage or sub stage as shown in the plans, requested by the engineer, or as modified by the contractor's operations to maintain the required traffic and complete the proposed work.

B Materials

Provide all necessary equipment for the approved method of temporary vehicle detection.

C (Vacant)

D Measurement

The department will measure Temporary Vehicle Detection (Intersection), demonstrated furnished, installed, and completely operational, as a single lump sum unit of work per intersection, complete in place and accepted.

If repairs or adjustments to restore vehicle detection to full function are not made the same day as notification, the associated pay item shall be reduced by the following amounts:

a) First instance: No deduct if repaired within 24 hours.
b) Each subsequent instance: 5% deduct for each day or partial day of non-compliance.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.07	Temporary Vehicle Detection (USH 51 SB and Cottage Grove Road)	LS
SPV.0105.08	Temporary Vehicle Detection (USH 51 NB and Cottage Grove Road)	LS

Payment is full compensation for demonstrating and selecting the vehicle detector technology, furnishing, installing, and adjusting or moving the equipment, including all required materials, tools, and supplies; for furnishing all labor; for clean-up and waste disposal; and for furnishing all incidentals necessary to complete this item of work.

102. Install Vendor Supplied Traffic Signal Cabinet (USH 51 SB and Cottage Grove Road), Item SPV.0105.09; Install Vendor Supplied Traffic Signal Cabinet (USH 51 NB and Cottage Grove Road), Item SPV.0105.10.

A Description

This special provision describes the installing of the vendor furnished Traffic Signal Cabinet for traffic signals.

B Materials

Receive the Traffic Signal Cabinet furnished by the vendor and deliver it to the City of Madison Electric Shop at 1120 Sayle Street a minimum of 30 days prior to the installation of the cabinets. Once the cabinet arrives at the project site protect it from all damage and loss. The department will provide notification at the preconstruction meeting of the Traffic Signal Cabinet vendor and provide the vendor's contact information.

Provide the project plans and specifications to the department's Traffic Signal Cabinet vendor a minimum of 100 calendar days prior to scheduled field installation. Ensure that a battery backup unit and dedicated cabinet are included for each installation. Coordinate directly with the department's Traffic Signal Cabinet vendor to schedule cabinet delivery date, time and project site location. Notify Mike Christoph of the City of Madison at (608) 266-9031 to coordinate the delivery to the city electric shop.

Coordinate directly with the department's Traffic Signal Cabinet vendor to schedule the cabinet acceptance testing. Notify the Mike Christoph of the City of Madison at (608) 266-9031 and participate in the acceptance testing. The City of Madison and the department have the final determination of the cabinet acceptance testing date and time. The acceptance testing procedures will be provided by the department or designated representative.

Append standard spec 651.3.3 (6) with the following:

Operate the completed traffic signal installation for 30 days consecutively, using the specified signal sequence(s) and all special functions, such as preemption as the plans show or as specified by the engineer.

The department or city shall not be responsible for project delays and costs due to the delays of delivery by the vendor or by the failure of the Traffic Signal Cabinet to pass acceptance testing.

Provide all other needed materials in conformance with standard specs 651.2, 652.2, 653.2, 654.2, 655.2, 656.2, 657.2, 658.2 and 659.2.

C Construction

Perform work in accordance to standard specs 651.3, 652.3, 653.3, 654.3, 655.3, 656.3, 657.3, 658.3 and 659.3 except as specified below.

Request a signal inspection of the completed signal installation to the engineer at least five working days prior to the time of the requested inspection. The departments' Region Electrical personnel will perform the inspection. Contact Mike Christoph of the City of Madison to allow for city presence at the inspection at (608) 266-9031.

D Measurement

The department will measure Traffic Signal Cabinet Installation [Location] as a single lump sum unit of work, in place and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.09	Install Vendor Supplied Traffic Signal Cabinet (USH 51 SB and Cottage Grove Road)	LS
SPV.0105.10	Install Vendor Supplied Traffic Signal Cabinet (USH 51 NB and Cottage Grove Road)	LS

Payment is full compensation for transporting, installing and testing the Traffic Signal Cabinet including battery backup unit and cabinet; for furnishing and installing all other items necessary (such as wire nuts, splice kits and/or connectors, tape, insulating varnish,

ground lug fasteners, etc.) to make the proposed system complete from the source of supply to the most remote unit and for clean-up and waste disposal.

103. Install State Furnished EVP Equipment (USH 51 SB and Cottage Grove Road), Item SPV.0105.11; Install State Furnished EVP Equipment (USH 51 NB and Cottage Grove Road), Item SPV.0105.12.

A Description

This special provision describes the installing of the State Furnished EVP Equipment for traffic signals at the intersections of Cottage Grove Road with USH 51 SB and USH 51 NB as shown in the plans.

B (Vacant)

C Construction

Mount the department furnished brackets to the pole locations indicated on the plans. Coordinate with the City of Madison to determine the exact locations to ensure that the installation does not create a sight obstruction. Mount the heads, terminate the ends, and install the discriminators and card rack in the cabinet.

The traffic signal arms and poles shall be drilled and tapped to accommodate the mounting of the detector units at the locations shown in the plans. The installation method shall be approved by the engineer.

In the event, at installation, a noticeable obstruction is present in line with the detector, the contractor shall be obligated to advise the engineer before installation.

Unless otherwise directed by the engineer, the detector shield tube shall be installed with the drain hole at the bottom.

There shall be no detector cable splices from the detector assembly to the controller terminations.

The EVP detector cables shall be routed to the controller. Each lead shall be appropriately marked as to which street or avenue it is associated. The contractor will perform all terminations inside the cabinet.

The EVP system as specified and shown in the plans shall be complete in place, tested, and in full operation.

D Measurement

The department will measure Install State Furnished EVP Equipment (Location) as a single lump sum unit of work, in place and accepted.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0105.11	Install State Furnished EVP Equipment (USH 51 SB and Cottage Grove Road)	LS
SPV.0105.12	Install State Furnished EVP Equipment (USH 51 NB and Cottage Grove Road)	LS

Payment is full compensation installing all equipment, and necessary additional items; testing; and setting up the system.

104. Geotechnical Instrumentation, Item SPV.0105.13.

A Description

A.1 General

This special provision describes installing geotechnical instrumentation and collecting data for the project for the purpose of monitoring ground movement in the vicinity of structures and nearby adjacent property and movement during construction of the embankments. The instrumentation program specified herein is not intended to be used to ensure the safety of the work.

Install the required instrumentation and collecting the required ground monitoring data as specified herein. The instrumentation program required by this article does not relieve the contractor of responsibility for providing additional instrumentation and monitoring if, in the contractor's opinion, such additional instrumentation and monitoring are necessary to accomplish the work.

This article covers the work necessary to furnish and install geotechnical instrumentation, maintaining installed instruments, taking initial and subsequent instrument readings, and removal and abandonment, if necessary, of the instruments after construction.

A.2 Submittals

Submit the following specific information for information only, at least 30 days prior to the start of instrument installation, except submit copies of DNR forms as soon as possible after instruments are installed or abandoned:

- Submit qualifications and experience of instrumentation specialists and personnel.
- Instrumentation shop drawings detailing locations, depths based on general information shown in the special provisions, type, details, and other pertinentinformation showing the installation details for each type of instrumentation required.
- Drawing that indicates the locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation.
- Description of methods for installing and protecting all instruments.
- Schedule of instrument installation related to significant activities or milestones in the overall project.

- Following installation of the instruments and prior to the start of construction, submit as-built shop drawings showing the exact installed location, the instrument identification number, the instrument type, the installation date and time, the heading station or portal on the installation date, when applicable, and the anchor or tip elevation and instrument length, when applicable, and installed locations of control points and benchmarks associated with surveys for monitoring geotechnical instrumentation. Include details of installed instruments, accessories, and protective measures including all dimensions and materials used.
- Manufacturer's literature describing installation, operation, and maintenance procedures for all instruments, materials, readout units, and accessories.
- Drilling and installation logs for instrumentation installations prepared by the instrumentation specialist.
- Submit for each instrument to be installed, as applicable, a certificate issued by the instrument's manufacturer stating that the manufacturer has inspected and tested each instrument before it leaves the factory to see that the instrument is working correctly and has no defects or missing parts.
- Submit permits and consents for drilling holes from ground surface and conducting monitoring activities.
- Plans for geotechnical instrumentation to be installed at contractor's option.
- Copies of completed DNR abandonment forms for subsurface settlement markers, settlement system and vibrating wire piezometers.

A.2 Definitions and Locations

Open Ground: Ground without any above- or below-grade facilities, paved or unpaved roads, and utilities within a 25-foot horizontal radius.

Piezometer (PZ): A vibrating wire piezometer constructed in a borehole.

Point No.	Feature	Station	Off set	Estimated Tip Elev.
PZ1	Piezometer	116+10B	60' right	858'
PZ2	Piezometer	116+40B	30' left	853'
PZ3	Piezometer	119+00B	30' left	847'
PZ4	Piezometer	119+00B	30' left	862'
PZ5	Piezometer	121+00B	30' left	850'
PZ6	Piezometer	121+00B	30' left	860'

Readout Post (ROP): Posts with the readout box, positioned with agreement between the contractor and engineer.

Slope Inclinometers (SI): The Department will install slope inclinometers at the following locations. Do not damage slope inclinometers. Contractor at his own expense will replace any damaged slope inclinometers.

Point No.	Feature	Station	Off set	Estimated Tip Elev.
SI1	Slope Inclinometer	116+00B	50’ right	830’
SI2	Slope Inclinometer	119+00B	80’ left	830’
SI3	Slope Inclinometer	121+00B	80’ left	830’

Settlement Gauge (SG): A plate and riser system.

Point No.	Feature	Station	Off set
SG1	Settlement Gauge	116+20B	60’ right
SG2	Settlement Gauge	116+40B	30’ left
SG3	Settlement Gauge	119+00B	30’ left
SG4	Settlement Gauge	121+00B	30’ left
SG5	Settlement Gauge	123+00B	30’ left

A.4 Quality Assurance

A.4.1 General

Notify the engineer at least 24 hours prior to all instrumentation installation operations so that the engineer may monitor the installation work.

Each instrument specified herein shall be the product of an acceptable manufacturer currently engaged in manufacturing geotechnical instrumentation hardware of the specified types.

A.4.2 Personnel Qualifications

Qualified technicians with a minimum of 2 years experience in the installation of geotechnical instrumentation similar to those specified herein.

Instrumentation Specialist: A professional civil or geotechnical engineer or engineering geologist, with a minimum of 5 years experience in the installation of instrumentation specified herein, shall prepare instrumentation shop drawings and supervise and direct technicians and be responsible for instrument installation required. The instrumentation specialist shall be physically present at the installation sites to supervise the installations.

A.4.3 Control Points

Surveys for monitoring geotechnical instrumentation shall be referenced to the same control points and benchmarks established for setting out the work. Control points shall be tied to benchmarks and other monuments outside of the zone of ground movements that might result from underground excavations.

A.4.4 Tolerances

SGs and PZs shall be installed within 12 inches of the horizontal locations indicated in this special provision or approved shop drawings.

Should actual field conditions prohibit installation at the locations and elevations indicated in the special provisions, prior acceptance shall be obtained from the engineer for new instrument locations and elevations.

A.4.5 Project Conditions
Obtain necessary permits for the installation of monitoring systems.

Provide the engineer and the department access to the instruments at all times.

All PZs shall be protected from vandalism or other accidental damage.

B Materials
B.1 Protection
Provide a protection cover for readout post.

B.2 Filter Pack
Filter pack shall be clean natural silica sand; graded such that all of the material passes the No. 4 sieve and is retained on the No. 30 sieve.

B.3 Filter Pack Seal
Filter pack seal shall be clean natural silica sand; graded such that all of the material passes the No. 10 sieve and is retained on the No. 40 sieve.

B.4 Bentonite Seal
Bentonite pellets used to form bentonite seals shall be 3/8-inch diameter compressed pellets made from high swelling montmorillonite.

B.5 Grout
Grout mixes for each instrument type are specified herein.

B.6 Piezometers (PZ)
The vibrating wire piezometer cable will run to the cable box in a trench backfilled with granular backfill.

B.7 Settlement Guage (SG)
Settlement gauges placed on granular material.

C Construction
C.1 General
Instrumentation shall be installed at the locations indicated on this special provision or approved shop drawings, and as approved by the engineer.

Locate conduits and underground utilities in all areas where borings are to be drilled and instruments installed. Instrument locations shall be modified, as approved by the engineer, to avoid interference with the existing conduits and utilities. Repair damage to existing utilities resulting from instrument installations at no additional cost to the department.

Geotechnical instrumentation shall be installed and baseline surveys or initial readings completed as described in Embankment Construction.

An as-installed position survey shall be conducted to determine the horizontal and vertical positions of all instruments in accordance to the requirements herein. Furnish the engineer with a copy of the results within 3-days of field survey data acquisition.

C.2 Review of Instrumentation Plan

The instrumentation plan specified herein and shown in the special provision may be modified by the engineer prior to installation, to suit the contractor's means and methods of construction. Prior to ordering materials or installation of instruments, confer with the engineer as to the suitability of the planned instruments and locations, regarding proximity to excavations and compatibility with the means and methods of excavation, ground support and groundwater control.

Replace, at no cost to the department, instrumentation in place that becomes inaccessible or unreadable as a result of the contractor’s means and methods of construction or changes in the contractor's means and methods of construction that could have been anticipated by the contractor prior to installation. The locations of replacement instruments shall be jointly determined by the engineer and contractor.

C.3 Installation

Complete installation and testing of each instrument a minimum of 1 week prior to as described in Embankment Construction.

The anticipated general locations of instrumentation are shown in this special provision. Check instruments to be installed in borings for interference with utilities and subsurface facilities. Mark locations of all instruments in the field prior to installation acceptance of the location obtained from the engineer. Confer with the engineer in the event that conflicts with utilities occur, and changes to the planned locations become necessary.

All instruments shall be clearly marked, permanently labeled, and protected to avoid being obstructed or otherwise damaged by construction operations or the general public. Protective housing and box or vault covers shall be marked.

After installation of each instrument, survey the as-built location to define the vertical and lateral positions of the exposed parts.

C.4 Protection and Maintenance

Flag and protect all locations. Exercise care during construction so as to avoid damage to instrumentation. Repair or replace instrumentation that is damaged as a result of the contractor's operation at his expense. The engineer will determine whether repair or replacement is required. Complete the repair or replacement as soon as practical after notification by the engineer as to whether a repair or replacement is required.

Maintain exposed parts of installed instruments as necessary to ensure their availability for use for the duration of the work. The engineer will perform maintenance and calibration of readout devices.

C.5 Soil Drilling and Sampling

Hollow stem auger methods may be used to provide a casing for temporary soil support. Boreholes shall be oversized at the ground surface as necessary to accommodate installation of protective covers.

Arrange ports in the drilling bit so that there is no jetting action of the drilling fluid ahead of the bit. Use the minimum amount of fluid necessary to carry away the cuttings.

Complete soil sampling at intervals of 5.0 feet or less using standard penetration tests that are conducted in accordance to ASTM D 1586.

Store representative sample portions not retained for analytical laboratory testing in glass jars approximately 5 inches high and 1-3/4 inches in inside diameter at the mouth. Provide jars with metal screw caps containing a rubber or waxed paper gasket that forms an airtight seal when closed. Provide jars with labels large enough to identify the jar with the project number and name, boring number, sample number, depths at top and bottom of sample, blow count and recovery. Perform the laboratory testing on retained samples as deemed necessary.

Observe all soil drilling and sampling and prepare a log of the boring.

Upon completion of drilling, flush the boring with clear water prior to instrument installation.

C.6 Potholing

Potholing is defined as use of vacuum excavating or low pressure water jetting and vacuum excavating to advance holes with low risk of utility damage to confirm utility locations or to advance holes for grout pipes or geotechnical instrumentation to depths below utilities of concern. Perform potholing to at least one foot below anticipated utility bottom levels prior to installing piezometers.

C.7 Tremie Grouting

Perform tremie grouting by pumping grout through a tremie pipe positioned 3 to 5 feet above the bottom of the space to be grouted. Keep the bottom end of the tremie pipe submerged in grout as the grout level is brought up to the ground surface. The density of the grout flowing from the space at the ground surface shall be the same as the density of the grout being placed. Allow the grout to set for a minimum 12-hour period before additional materials are placed on top of the grout. Top off any settling of grout.

C.8 Installing vibrating wire piezometer

Drill, sample and log borings in soil drilled for the purpose of installing vibrating wire piezometers as specified here in subsection, Soil Drilling and Sampling. Drill borings using

4-inch minimum inside diameter casing and water. Drill the borings so as not to damage adjacent utilities. If use of drilling fluid is necessary to stabilize the borehole, use a biodegradable organic polymeric drilling fluid. Perform a standard penetration test at 5.0-foot depth intervals.

Install the vibrating wire piezometer tip, filter pack, filter pack seal, and annular space seal as determined by contractor's engineer or approved alternatives. The engineer will determine the depth of the sensing zone for each vibrating wire piezometer installed based upon observations of retained soil samples. Withdraw the drill casing in small increments as the backfill materials are placed, so that collapse of the borehole does not occur. Do not rotate casing during withdrawal.

Place filter pack material slowly so that bridging does not occur in the boring and to prevent the instrument from being lifted as the casing is withdrawn. Use a measuring rod or similar device to measure the height of the filter pack to ensure that the filter pack is installed over the proper depth interval. Carefully raise and lower the measuring rod while the filter pack is installed, to prevent bridging and to tamp the filter pack in place.

Place a filter pack seal above the filter pack. Place the filter pack seal in a similar manner as for filter pack material. Place a bentonite seal above the filter pack seal.

Place the annular space seal by tremie grouting. Place the grout in such a manner as to not disturb the integrity of the filter pack and seal.

Grout for the annular space seal for piezometers shall consist of a bentonite to cement ratio of 0.15/1 by weight, with sufficient water to allow pumping. Mix bentonite and water first.

C.9 Installing Settlement Guage (SG)
Install settlement guage(SG) at the locations indicated in the special provisions.

C.10 Schedule of Instruments Installed
For the retaining wall, install instruments of the number and type, at the location and to the depths indicated on this special provision.

C.11 Initial Readings
Record initial readings for each instrument as described in Embankment Construction. Notify the engineer when initial readings will be made, and the engineer may elect to participate or observe in taking initial readings.

Record initial vibrating wire piezometer readings a minimum of 48 hours after completing installation and testing of each piezometer. Two sets of vibrating wire piezometer readings, at least 4 hours apart will be taken. If the variation in vibrating wire piezometer readings exceeds 0.1 foot, the two sets of readings will be repeated. The arithmetic average of the two sets of vibrating wire piezometer readings that do not vary by more than 0.1 foot will be used as the initial baseline vibrating wire piezometer readings.

Record initial readings of settlement markers a minimum of 24 hours after completing each settlement marker installation. Obtain a minimum of two readings. The arithmetic average of the two initial recorded data readings will be recorded as the initial baseline reading.

C.12 Monitoring Instruments

Obtain and record data readings at regular intervals as specified herein. Submit any newly obtained recorded data to the engineer within 24 hours of obtaining new readings. Record settlement gauge elevations to the nearest 0.01 feet using survey grade equipment.

After initial readings, obtain and record subsequent regular data readings at each structure or embankment area on regular intervals based on the following criteria:

1. Prior to embankment and R-13-0229 construction:
   Record a minimum of one reading per week per instrument.

2. During embankment and R-13-0229 construction:
   Record one reading per instrument for every 5 feet of vertical retaining wall construction or at least every two days, whichever is the shorter interval.

3. After embankment and R-13-0229 construction is completed:
   Record a minimum of one reading per instrument every two days.

4. Obtain weekly readings from all settlement gauges for a minimum of three months after embankment placement and R-13-0229 are completed.

Based on evaluation of the data collected, the engineer will determine if continued Instrumentation readings are necessary. If additional readings are necessary, the readings will be obtained by the engineer.

C.13 Abandonment of Instrumentation

At the completion of the job or as directed by the engineer, abandon or remove instrumentation. Grout the full depth of instrument casings and pipes by tremie method or by pressure injection from the ground surface. Grout shall consist of cement and water, with the minimum amount of water necessary to allow pumping.

C.14 Protection

Protect instrumentation and terminal boxes from damage as a result of construction activity. Replace any instrumentation and terminal boxes at the contractor costs. Extend existing settlement gauges as part of this work.

D Measurement

The department will measure Geotechnical Instrumentation as a complete single unit of work on a lump sum basis, 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.0105.13	Geotechnical Instrumentation	LS

Payment is full compensation for providing submittals, furnishing materials, installation, testing, protection, maintenance, replacement or repair of damaged instruments or installations, obtaining data readings, and abandonment.

105. Deck Surface Patching, Item SPV.0165.01.

A Description

This special provision describes sawing the boundaries of the unsound deck areas, removing the unsound concrete, and patching the holes in accordance to the material supplier's instructions.

B Materials

Furnish patching materials that are compatible with the polymer liquid binder used for the polymer overlay and require less than 24 hours of cure time between the application of the patching material and the application of the polymer overlay.

C Construction

Saw cut a minimum of 1-inch in depth at the locations marked. Use a diamond blade for sawing that will allow the concrete to be sawed dry. Use caution to avoid saw cutting any steel. Remove all unsound concrete per standard spec 509.3.4.

Follow the supplier's instructions for application of the patching material, including preparing the surface, application of the material, and cure times.

D Measurement

The department will measure Deck Surface Patching by the square foot, acceptably completed.

The department will not measure for payment over-cuts, cuts made beyond the limits marked in the field.

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	Deck Surface Patching	SF

Payment is full compensation for making all saw cuts; for removing and disposing of unsound concrete; and for patching the holes.

106. Concrete Surface Repair Special, Item SPV.0165.02.

A Description

This special provision describes Concrete Surface Repair Special on Pier 8.

B Materials

Work shall be in accordance to the standard spec 509 pertaining to concrete surface repair with the following modifications.

Supplement standard spec 509.2(3) to add the following after paragraph 1.

For overhead areas the contractor shall provide a fiber reinforced shotcrete repair in accordance to ACI 506R, Guide to Shotcrete. Fiber reinforced shotcrete may be used for repair of vertical surfaces also. The wet-mix shotcrete method shall be used. The contractor shall supply the engineer with a copy of ACI 506R, 7 days prior to beginning work.

A prepackaged, pre-blended, and dry combination of materials for the wet-mix shotcrete method shall be provided according to ASTM C 1480. An accelerator is prohibited except the shotcrete may be modified at the nozzle with a non-chloride accelerator for overhead applications. The shotcrete shall be Type FA or CA, Grade FR, Class I according to ASTM C1480. All packaging shall be identified as conforming to ASTM Specifications C 1480. Prior to delivery the contractor shall provide to the engineer laboratory performance data, provided by the producer, that the product meets the specified type and grades.

The reinforcing fibers shall be Type III synthetic according to ASTM C 1116. All packaging shall be identified as conforming to ASTM Specifications C 1116.

The 28-day compressive strength of the shotcrete shall be 5,000 psi. Contractor shall produce two, 18 in. x 18 in. x 3.5 in test panel on the first day of the shotcrete repairs and for every 1,500 s.f. of repairs made. The contractor shall cure the test panels in accordance to standard spec 502.3.8.1.3 while stored at the jobsite and during delivery to the laboratory. The contractor shall perform or hire a laboratory to perform testing to determine the 28-day compressive strength for one of the test panels. The second panel shall be made available to the engineer for independent testing. After delivery to the laboratory for testing, curing and testing shall be according to ASTM C 1140.

The water/cement ratio shall be determined on a weight (mass) basis. The maximum water/cement ratio shall be 0.42.

The air content shall be 4.0 to 8.0 percent. Shotcrete shall be tested by the contractor and engineer daily for air content. Obtain the sample in a damp, non-absorbent container from the discharge end of the nozzle. Air content shall be tested in accordance to standard spec 501.3.2.4.2(2).

C Construction

Supplement standard spec 509.3.7(2) as follows:

Exposed reinforcement bars shall be cleaned of concrete and corrosion using mechanically powered wire brushes or blast cleaning. After cleaning, all exposed reinforcement shall be carefully evaluated to determine if replacement or additional reinforcement bars are required. Reinforcing bars that have been cut or have lost 25 percent or more of their original cross sectional area shall be supplemented by new in kind reinforcement bars. New bars shall be lapped a minimum of 32 bar diameters to existing bars. A mechanical bar splicer shall be used when it is not feasible to provide the minimum bar lap. No welding of bars shall be performed.

Intersecting reinforcement bars shall be tightly secured to each other using 0.006 inch or heavier gauge tie wire, and shall be adequately supported to minimize movement during concrete placement or shotcrete application.

All repair areas shall be inspected by the engineer prior to placement of concrete or application of shotcrete.

Placement of shotcrete and method of alignment control (i.e. ground wires, guide strips, depth gauges and form work) shall be done in accordance to ACI 506R. All repaired members shall be restored as close as practicable to their plan dimensions. The application of shotcrete shall be done in a manner that does not result in cold joints, laminations, sandy areas, voids, sags or separations. In addition, the shotcrete shall be applied in a manner that results in maximum densification of the shotcrete. Shotcrete identified as unacceptable while still plastic shall be removed and reapplied.

Shotcrete shall be cut back to line and grade using trowels, cutting rods, screeds or other suitable devices. The shotcrete shall be allowed to stiffen sufficiently before cutting. Cutting shall not cause cracks or delaminations of the shotcrete. For depressions, cut material may be used for filling in small areas. Rebound material shall not be incorporated in the work. For final finish, a wood float shall be used to approximately match the existing concrete texture. All repaired members shall be restored as close as practicable to their plan dimensions.

Curing of repairs shall be done concurrently with concrete placement and shotcrete application. Curing compound shall be in accordance to standard spec 502.3.8.

For shotcrete repairs, the nozzleman who performs the work shall have current American Concrete Institute (ACI) certification for vertical and overhead wet applications. A copy of the nozzleman’s certificate(s) shall be given to the engineer.

The contractor shall provide all appropriate access equipment and operators to the engineer to inspect repaired areas. Twenty-eight days after placement of concrete or application of shotcrete the repairs shall be examined for conformance with the original dimensions,

cracks, voids and delaminations. Sounding for delaminations shall be done with a hammer or by other methods determined by the engineer.

Repaired areas inspected that are found to not be in conformance with original dimensions, to have surface cracks greater than 0.01 inches in width, map cracking with a crack spacing in any direction of 18 inches or less, voids or delaminations shall be removed and replaced at no additional cost to the department.

D Measurement
The department will measure Concrete Surface Repair Special according to standard spec 509.4.

Supplement standard spec 509.4(4) as follows:

Add the following as the second sentence:

For a repair at a corner, both sides will be measured.

E Payment
Replace standard spec 509.5 with the following:

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.02	Concrete Surface Repair Special	SF

Payment is full compensation for cleaning reinforcing steel; for forming, furnishing, hauling, placing, curing, and protecting all materials.

107. Fiber Wrap Pier Reinforcing, Item SPV.0165.03.

A Description
This special provision describes providing a fiber wrap system around the concrete pier shafts and pier cap of Pier 8 using high-strength, hybrid fiber/epoxy composites field-applied to the concrete elements in accordance to the details shown on the plans, as directed by the engineer, and as hereinafter provided.

B Materials
Furnish a fabric for the composite casing that is a continuous filament woven fabric meeting the following requirements:

- Primary fibers for the fabric shall be electrical (E) glass fibers.
- The minimum ultimate tensile strength shall be 40,000 psi.

Minimum thickness of the fiber wrap shall be 1/8-inch.

Use an epoxy that is supplied by the manufacturer. Polyester resin shall not be allowed as a substitute for epoxy resin.

Suppliers must have a minimum of ten installations and shall furnish certified test reports including 1,000 hour tests for 140° Fahrenheit, water, salt water, alkaline soil, ozone, and efflorescence.

C Construction

Smooth the pier surfaces so that they are free from fins, sharp edges, and protrusions that may cause voids behind the casing or that, in the opinion of the engineer, may damage the fiber.

Ensure that all contact surfaces of the pier are completely dry at the time of applying the composite. Coat with water-based epoxy paint, or other approved sealer, newly repaired or patched surfaces that have not cured a minimum of seven days.

At the time of mixing, the ambient temperature and the temperature of the epoxy resin components shall be between 55 and 95 degrees F. Apply the composite when the relative humidity is less than 85 percent and the surface temperature is more than 5 degrees F above the dew point. Begin application within one hour after the batch has been mixed.

Mix the components of the epoxy resin with a mechanical mixer and apply the epoxy resin uniformly to the fiber at a rate that shall ensure complete saturation of the fabric.

Apply the fabric in one continuous piece surrounding the column. The fiber wrap shall be a minimum of one layer with edge laps of 6-inches and end laps of 12-inches. Multiple layers shall have end laps offset by a minimum of 90 degrees.

In order to achieve complete bond between layers, place successive layers of composite materials before polymerization of the previous layer of epoxy is complete. If polymerization does occur between layers, roughen the surface using a light abrasive that will not damage the fiber. Release or roll-out entrapped air before the epoxy sets.

Cover the final layer of fabric with a 15-mil thick coat of epoxy that produces a uniform finished surface.

After the final epoxy coat is completely polymerized, clean and roughen the exterior surfaces of the composite wrap using a light abrasive. The abrasive shall be of the appropriate hardness to roughen the surface without damaging the fibers. Before painting, dust and dry all cleaned and roughened surfaces.

An additional coating system consisting of paint is required to protect the fibers from the elements, specifically UV radiation, and to give the final aesthetic effect. Paint the areas with a minimum of two finish coats of acrylic paint. The color, to be selected by the engineer, is to closely match the concrete color. The total dry film thickness of all applications of the finish coats shall be not less than 4 mils nor more than 8 mils.

Remove and reattach the drain downspout as necessary to complete the work. Clean and paint the downspout following the methods described under the special provision for Cleaning and Painting Bearings. Provide new anchor bolts at pier column connections.

D Measurement
The department will measure Fiber Wrap Pier Reinforcing by the square foot, 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.0165.03	Fiber Wrap Pier Reinforcing	SF

Payment is full compensation for cleaning the column surfaces; furnishing, transporting, handling, and installing the fabric, finish coat of epoxy, and the final paint-coating system; removing, cleaning, painting, and reattaching the drain downspout.

No extra measurement or payment will be made for overlap areas.

108. Under Deck Spall Repair, Item SPV.0165.04.

A Description
This special provision describes removing and disposing of concrete patches or unsound concrete on the underside of the deck as detailed on the plans, as directed by the engineer, and as hereinafter provided; and coating the exposed bar steel.

B Materials
Furnish materials for coating bar steel in accordance to standard spec 505.2.4.2.

C Construction
Remove and dispose of concrete patches or unsound concrete from those areas under the deck located over WSOR Railroad or CTH BB as detailed in the plans or as directed by the engineer. Use construction methods conforming to standard spec 203 and the following:

1. Take necessary precautions while removing deteriorating concrete to preserve all existing reinforcing steel. Clean, realign, and retie existing reinforcing steel, as the engineer considers necessary.
2. Remove concrete to sound concrete.
3. Make a ½-inch deep saw cut at the limits of the repair area before removal of the deteriorated concrete.
4. Dispose of removed material as specified in standard spec 509.3.4.
5. Clean the exposed surfaces to remove all loose particles and dust.
6. Coat any exposed bar steel in accordance to standard spec 505.2.4.2.

D Measurement

The department will measure Under Deck Spall Repair in area by the square foot, acceptably completed, measured as the exposed surface area, following removal, as delineated by the saw cuts.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.04	Under Deck Spall Repair	SF

Payment is full compensation for removing and disposing of deteriorated concrete; and for cleaning and coating bar steel.

109. Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.05.

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 minimum.

This special provision describes the quality management program (QMP) for MSE walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

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

B Materials

B.1 Proprietary Mechanically Stabilized Earth Concrete Panel Wall Systems

The supplied wall system must be from the department's approved list of Concrete Panel Mechanically Stabilized Earth Wall systems (Concrete Panel MSE Walls).

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved Concrete Panel

Mechanically Stabilized Earth Wall systems. 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 pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract. The location of the plant manufacturing the concrete panels shall be furnished to the engineer at least 14 days prior to the start of panel production.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. 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 the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The plans and shop drawings 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 8 ½ 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, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Concrete Panel MSE Wall shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 5th 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 engineering design procedures as determined by the department. Loads, load combinations, load and resistance factors shall be as specified in AASHTO LRFD Section 11. The associated resistance factors shall be defined in accordance to Table11.5.6-1 LRFD.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. Where walls or wall sections intersect with an included angle of 130 degrees or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing standard panels. The corner element shall have ground reinforcement connected specifically to that panel and shall be designed to preclude lateral spread of the intersecting

panels. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the contract plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided on the wall plans.

The design of the Concrete Panel Mechanically Stabilized Earth Wall by the contractor shall consider the internal and compound stability of the wall mass in accordance to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

Facing panels shall meet the design requirements of AASHTO LRFD 11.10.2.3. The Facing panels shall also be designed to resist compaction stresses that occur during the wall erection. The minimum thickness of the Facing panel shall be 5.5 inches. The surface area of a standard single panel cannot exceed 60 square feet. The maximum height of a standard panel shall be 5 feet. The top and bottom panels may exceed 5 foot in height based on site topography subject to the approval by the Structures Design Section. The design of the steel reinforcement within the panels shall be based on one-way bending action. Design the wall panels and joints between panels to accommodate a maximum differential settlement of 1 foot over a 100-foot length, unless the plans indicate other.

The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 the wall height or as shown on the plan. In no case shall this length be less than 8 feet. The soil reinforcement length shall be the same from the bottom to the top of the wall. The soil reinforcement shall extend a minimum of 3.0 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 31 inches. The uppermost layer of the reinforcement shall be located between 6 inches and 18 inches below the bottom of an overlying slab, footing or top of the wall. The upper

layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

All soil reinforcement steel required for the reinforced soil zone shall be connected to the face panels. The reinforcement and the reinforcement/facing connection strength shall be designed to resist maximum factored reinforcement loads in accordance to AASHTO LRFD Section 11.10.6. Facing connection strength shall be defined as the resistance factor times the failure load, or the load at 0.5 inch deformation times 0.9, whichever is less. The nominal long term design strength in steel reinforcement and connections shall be based upon assumed conditions at the end of the design life.

Soil reinforcement shall be prefabricated into single or multiple elements before galvanizing. Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Cutting or altering of the basic structural section of either the strip or grid at the site is prohibited unless approved by the Structures Design Section. A minimum clearance of 3" shall be maintained between any obstruction and reinforcement unless otherwise approved by the Structures Design Section. Splicing steel reinforcement is not allowed, unless approved by the Structures Design Section.

MSE facing panels shall be installed on concrete leveling pads. The minimum cross section of the leveling pad shall be 6-inches deep by 1-foot wide. Potential depth of frost penetration at the wall location shall not be considered in designing the wall for depth of leveling pad.

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 for wall system components 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 General

The walls shall have modular precast concrete face panels produced by a wet cast process, and have cast-in-place concrete pads or footings. The concrete panels shall have a minimum strength of 4000 psi at 28 days. The concrete for the panels shall be air

entrained, with an air content of 6% +/- 1.5%. All materials for the concrete mixture for the panels shall meet the requirements of standard spec 501. The panel edges shall be configured so as to conceal the joints. The detail shall be a shiplap, tongue and groove or other detail adequate to prevent vandalism or ultraviolet light damage to the backside of the wall joint covering. Joints between panels shall be no more than 0.75 inch. Use full wall height slip joints at points of differential settlement when detailed on the plan. Horizontal joints must be provided with a compressible bearing material to prevent concrete to concrete contact.

A minimum of two bearing pads shall be used per panel. The allowable bearing stress shall not exceed 900 psi. The bearing pads shall be preformed EPDM rubber conforming to ASTM D-2000, Grade 2, Type A, Class A with a minimum Durometer Hardness of 80, or high- density polyethylene pads with a minimum density of 0.034 lb/in^3 in accordance to ASTM 1505.

An 18-inch wide geotextile shall be used on the backface of the wall panels to cover all panel joints. The geotextile shall meet the physical requirements stated in standard spec 645.2.4 for Geotextile Fabric, Type DF, Schedule B, except that the grab tensile strength shall be a minimum of 180 pounds in both the machine and cross-machine directions. The geotextile shall be attached with a standard construction adhesive suitable for use on concrete surfaces and cold temperatures. The adhesive shall be applied to the panels, not to the geotextile.

All steel portions of the wall system exposed to earth shall be galvanized. All soil reinforcement and attachment devices shall be carefully inspected to ensure they are true size and free from defects that may impair the strength and durability.

For cast in place sections of cap and coping, use 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 cast in place cap and coping concrete as specified in standard specification standard spec 716, Class II Concrete.

Use 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, Class II Concrete.

The minimum embedment to the top of the leveling pad shall be 1 foot 6 inches or as given on the contract plan. Step the leveling pad to follow the general slope of the ground line. The leveling pad's steps shall keep the bottom of the wall within one half the panel heights of the minimum embedment i.e. the minimum embedment plus up to one half the height of one panel. Additional embedment may be detailed by the contractor, but will not be measured for payment.

B.3.2 Backfill

Furnish and place backfill for Concrete Panel MSE Walls as shown on the plans and as hereinafter provided.

Provide and use backfill that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material conforming to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0 - 60
No. 200	0 - 15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Organic Content	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236*	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.2.)

*If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1” material, as

per AASHTO T-236, with a large shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests (except Angle of Internal Friction test), are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2000 cubic yards of backfill, or portion thereof, used per wall. All certified report of test results shall be less than 6 months old and performed by a certified independent laboratory.

C Construction

C.1 Excavation and Backfill

Excavation will encompass preparing the leveling pad foundation and the area below the reinforcing strips in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the leveling pad unless shown or noted otherwise on the plan. 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 of the wall.

C.2 Compaction Compact all backfill behind the wall as specified in 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99, or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test, compact the sample at a moisture content of 6%, then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the panels.

Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. The MSE reinforcement shall lay horizontally on the top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstructions in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater angle is shown on the plans. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C.3 Panel Tolerances

As backfill material is placed behind a panel, maintain the panel in its proper inclined position according to the supplier specifications and as approved by the engineer. The supplier shall specify the back batter so that the final position of the wall is vertical. Vertical tolerances and horizontal alignment tolerances shall not exceed ¾-inch when measured along a 10-foot straight edge. The maximum allowable offset in any panel joint shall be ¾-inch. The overall vertical tolerance of the wall (plumbness from top to bottom) shall not exceed ½-inch per 10 feet of wall height. Erect the precast face panels to ensure that they are located within 1 inch from the contract plan offset at any location to ensure proper wall location at the top of the wall. Provide a ¾-inch joint separation between all adjacent face panels to prevent direct concrete-to-concrete contact. Maintain this gap by the use of bearing pads and/or alignment pins. Failure to meet this tolerance shall cause the engineer to require the contractor to disassemble and re-erect the affected portions of the wall. In addition, imperfect molding, honeycombing, cracking or severe chipping of panels shall be cause of panel rejection.

C4 Quality Management Program

C.4.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

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

1. An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
2. The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
3. A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.

4. Descriptions of stockpiling and hauling methods.
5. An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
6. Location of the QC laboratory, retained sample storage, and other documentation.
7. A summary of the locations and calculated quantities to be tested under this provision.

C.4.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Level I Grading Technician, Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Level I Nuclear Density Technician or Assistant Certified Nuclear Density Technician (ACT) perform field density and field moisture content testing.

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

C.4.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at http://www.atwoodsystems.com/materials. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.4.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic

yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.2) every 2000 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.4.5 Department Testing

C.4.5.1 General

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

C.4.5.2 Quality Verification (QV) Testing

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.4.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

(3) The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

(4) The department will conduct QV Proctor and gradation 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 this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.4.5.3 Independent Assurance (IA)

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. 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 C.4.5.4.

C.4.5.4 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor 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 or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C.5 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP 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 plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.05	Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system including cap and copings; constructing the retaining system including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, and for performing compaction testing. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid 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.
(20140716)

110. Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP, Item SPV.0165.06.

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 minimum.

This special provision describes the quality management program (QMP) for MSE walls. A quality management program is defined as all activities, including process control, inspection, sampling and testing, and necessary adjustments in the process that are related to the construction of the MSE wall, which meets all the requirements of this provision.

This special provision describes contractor quality control (QC) sampling and testing for backfill density testing, documenting those results, and documenting related production and placement process changes. This special provision also describes department quality verification (QV), independent assurance (IA), and dispute resolution.

Chapter 8 of the department's construction and materials manual (CMM) provides additional detailed guidance for QMP work and describes sampling and testing procedures. The contractor may obtain the CMM from the department's web site at:

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

B Materials

B.1 Proprietary Wire Faced Mechanically Stabilized Earth Wall Systems

The supplied wall system must be from the department's approved list of Wire Faced Mechanically Stabilized Earth Wall systems (Wire Faced MSE Walls).

Proprietary wall systems may be used for this work, but must conform to the requirements of this specification and be pre-approved for use by the department's Bureau of Structures, Structures Design Section. The department maintains a list of pre-approved Wire Faced Mechanically Stabilized Earth Wall systems. The name of the pre-approved proprietary wall system selected shall be furnished to the engineer within 25 days after the award of contract.

To receive pre-approval, the retaining wall system must comply with all pertinent requirements of this provision. 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 current 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 the proposed wall design is in compliance with the design specifications. Four copies of the following shall be submitted to the engineer for review and acceptance no later than 60 days from the date of notification to proceed with the project.

The plans and shop drawings 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 8 ½ 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, shop drawings, and calculations shall be signed, sealed and dated by a professional engineer licensed in the State of Wisconsin.

The design of the Wire Faced MSE Walls shall be in compliance with the *AASHTO LRFD Bridge Design Specifications 5th 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 engineering design procedures as determined by the department. Loads, load combinations, 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 LRFD.

Design and construct the walls in accordance to the lines, grades, heights and dimensions shown on the plans, as herein specified, and as directed by the engineer. If the wall is installed in front of a bridge abutment or wing, it shall also be designed to resist the applied abutment/bridge lateral forces specified on the contract plans.

Walls parallel to supporting highway traffic shall be designed for the effects of highway surcharge loading equivalent of 2 feet soil surcharge weight or 240 psf. The design shall also consider the traffic barrier impact where applicable. Walls that do not carry highway traffic shall be designed for a live load surcharge of 100 psf in accordance to Chapter 14 of the WisDOT LRFD Bridge Manual or as stated on the plans.

A maximum value of the angle of internal friction of the wall backfill material used for design shall be assumed to be 30 degrees without a certified report of tests. If a certified report of tests yields an angle of internal friction greater than 30 degrees, the larger test value may be used for design, up to a maximum value of 36 degrees.

An external stability check at critical wall stations showing Capacity Demand Ratios (CDR) for sliding, eccentricity, and bearing checks is performed by the department and are provided in the wall plans.

The design of the Wire Faced MSE Walls by the contractor shall consider the internal and compound stability of the wall mass in accordance to AASHTO LRFD 11.10.6. The internal stability shall include soil reinforcement pullout, soil reinforcement rupture, and panel-reinforcement connection failure at each soil reinforcement level. The design shall be performed using the Simplified Method or Coherent Gravity Method. Calculations for factored stresses and resistances shall be based upon assumed conditions at the end of the design life. Compound stability shall be computed for the applicable strength limits.

The minimum embedment of the Wire Faced MSE wall shall be 1 foot 6 inches, or as given on the contract plan. Frost depth shall not be considered. Additional embedment may be detailed by the contractor, but will not be measured for payment. The wall facings shall be designed in accordance to AASHTO 11.10.2.3. A fine metallic screen and a geotextile filter fabric shall be used at the front face of the wall to retain the fines of the soil mass.

The nominal long term design strength to be used in steel reinforcement and connector design shall consider the corrosion losses and based upon conditions at the end of the design life. The minimum length of soil reinforcement measured from the back face of the wall shall be equal to 0.7 of the wall height or as shown on the plan. In no case shall this length be less than 8 feet. The soil reinforcement shall be the same length from the bottom to the top of each wall section. All soil reinforcement layers shall be connected to facings.

The soil reinforcement shall extend 3 feet beyond the theoretical failure plane in all cases. The maximum vertical spacing of soil reinforcement layers shall be 24 inches. The uppermost layer of the reinforcement shall be located between 6" and 12" below the bottom of an overlying slab, footing or top of the wall. The upper layers of the soil reinforcement shall also be checked to verify that they have sufficient tensile resistance against traffic barrier impact where applicable.

Soil reinforcement shall be fabricated or designed to avoid piling, drainage structures or other obstacles in the fill without field modifications. Cutting or altering of the basic structural section of either the strip or grid at the site is prohibited unless approved by the Structures Design Section. A minimum clearance of 3" shall be maintained between any obstruction and reinforcement unless otherwise approved by the Structures Design Section. Splicing steel reinforcement is not allowed unless approved by the Structures Design Section.

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 the 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 for wall system components 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 Steel Components

All steel components of permanent Wire-Faced MSE walls shall be galvanized in accordance to ASTM A-123. Provide steel reinforcement that meets the following requirements:

Welded Wire Fabric Soil Reinforcement

Provide shop fabricated welded wire reinforcement from cold drawn steel wire that has a yield stress of 65,000 psi and conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. A minimum galvanization coating of 2 oz/ft^2 or 3.4 mils thickness is required. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department.

Steel Reinforcing Strips and Tie Strips

As an alternate to Welded Wire Reinforcing mesh, provide Steel Reinforcing strips or ladder Reinforcing strips or equal, hot-rolled from bars, to the required shape and dimensions meeting the requirements of ASTM A-572 Grade 65 minimum and galvanized to a minimum thickness of 3.4 mils. Tie strips shall be shop fabricated of hot-rolled steel meeting the requirements of ASTM A-1011 Grade 50.

Welded Wire Fabric Facing Panels

Provide welded wire fabric that is used to fabricate the facings of the wire-Faced wall that has a yield stress of 65,000 psi. All steel shall be shop fabricated of cold drawn steel wire conforming to the minimum requirements of ASTM A-82 and be welded into the finished configuration in accordance to ASTM A-185. Replace welded wire fabric that has been damaged during handling, placing or backfilling at the direction of the engineer, at no expense to the department.

Fasteners

Galvanized high strength bolts meeting the requirements of AASHTO M164 or equivalent.

Connector Pins and Mat Bars

Connector pins and mat bars fabricated from cold drawn steel wire meeting the requirements of ASTM A-82 and galvanized to according to ASTM 123 to a minimum thickness of 3.4 mils.

Metallic Screen

Provide a stainless steel or galvanized steel metallic screen per AASHTO M-111. The metallic screen should have an approximate opening of ¼" and be made of 0.025" (minimum) gauge wire.

B.3.2 Geotextile Filter Fabric

Geotextile filter fabric shall be used behind the metallic screen. Use geotextile as recommended by the wall manufacturer. If none is recommended, use Type DF (schedule B) as shown in standard spec 645 or as specified on the contract plans.

B.3.3 Backfill

Furnish and place backfill for Wire- Faced MSE wall as shown on the plans and as herein provided.

Provide and use material that consists of natural sand or a mixture of sand with gravel, crushed gravel or crushed stone. It shall not contain foundry sand, bottom ash, blast furnace slag, crushed/recycled concrete, crushed/milled asphaltic concrete or other potentially corrosive material.

Provide material that conforms to the following gradation requirements as per AASHTO T27.

Sieve Size	% by Weight Passing
1 inch	100
No. 40	0-60
No. 200	0-15

The material shall have a liquid limit not greater than 25, as per AASHTO T89, and a plasticity index not greater than 6, as per AASHTO T90. Provide the percent by weight, passing the #4 sieve.

In addition, backfill material shall meet the following requirements.

Test	Method	Value
pH	AASHTO T-289	5 – 10.0
Sulfate content	AASHTO T-290	200 ppm max.
Chloride content	AASHTO T-291	100 ppm max.
Electrical Resistivity	AASHTO T-288	3000 ohm/cm min.
Organic Content	AASHTO T-267	1.0% max.
Angle of Internal Friction	AASHTO T-236*	30 degrees min. (At 95.0% of maximum density and optimum moisture, per AASHTO T99, or as modified by C.1)

*If the amount of P-4 material is greater than 60%, use AASHTO 236 with a standard-size shear box. Test results of this method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

If the amount of P-4 material is less than or equal to 60%, two options are available to determine the angle of internal friction. The first method is to perform a fractured faces count, per ASTM 5821, on the R-4 material. If more than 90% of the material is fractured on one face and more than 50% is fractured on two faces, the material meets the specifications and the angle of internal friction can be assumed to be 30 degrees. The second method allows testing all P-1" material, as per AASHTO T-236, with a large shear box. Test results of this second method may allow the use of larger angles of internal friction, up to the maximum allowed by this specification.

Prior to placement of the backfill, obtain and furnish to the engineer a certified report of test results that the backfill material complies with the requirements of this specification. Specify the method used to determine the angle of internal friction. This certified report of test shall be less than 6 months old. Tests will be performed by a certified independent laboratory. In addition, when backfill characteristics and/or sources change, provide a certified report of tests for the new backfill material. Additional certified report of tests

(except Angle of Internal Friction test), are also required. These additional backfill tests may be completed at the time of material production or material placement, with concurrence of the engineer. If this additional testing is completed at the time of material production, complete testing for every 2000 cubic yards of backfill or portion thereof. If this additional testing is completed at the time of material placement, complete testing for every 2000 cubic yards of backfill, or portion thereof, used per wall. All certified report of these test results shall be less than 6 months old and performed by a certified independent laboratory.

C Construction

C.1 Methods

All excavation and preparation of the foundation for the Wire-Faced Mechanically Stabilized Earth wall shall be in accordance to standard spec 206. The volume of excavation covered is limited to the width of the reinforced mass and to the depth of the bottom of the wall unless shown or noted otherwise on the plan. 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 is should rain. Do not stockpile or store any materials or large equipment within 10 feet of the back of the wall.

Stagger vertical joints in the welded wire facing.

Compact all backfill behind the wall as specified in 207.3.6. Compact the backfill to 95.0% of maximum dry density as determined by AASHTO T-99 or as modified as follows. If the gradation of the granular backfill is such that the P-200 material is less than 7% and the P-40 is less than 30%, a one-point Proctor test can be conducted in place of the 5-point Proctor. To complete this one-point test, compact the sample at a moisture content of 6%, then compute the actual (as-tested) sample moisture after completion of the test. Use Method B or D, and perform this test without removing oversize particles and without correction for coarse particles, as per AASHTO T224. The one-point as-tested moisture content represents the optimum moisture, and the measured one-point density represents the maximum wet density of the material. From these values, the maximum dry density can be computed.

Ensure adequate moisture is present in the backfill during placement and compaction to prevent segregation and to help achieve compaction.

Compaction of backfill within 3 feet of the back face of the wall should be accomplished using lightweight compaction devices. Use of heavy compaction equipment or vehicles should be avoided within 3 feet of the wall face.

Erect welded wire facing and other associated elements according to the wall manufacturer’s construction guide. Place and compact the MSE backfill to the level of the next higher layer of MSE reinforcement before placing the MSE reinforcement or connecting it to the wall facing. Place remaining courses in vertical or battered positions as shown on the contract plans.

The MSE reinforcement shall lay horizontally on top of the most recently placed and compacted layer of MSE backfill. Bending of MSE reinforcement that result in a kink in the reinforcement shall not be allowed. If skewing of the reinforcement is required due to obstruction in the reinforced fill, the maximum skew angle shall not exceed 15 degrees from the normal position unless a greater skew angle is shown on the wall shop drawings. The adequacy of the skewed reinforcement in such a case shall be addressed by supporting calculations.

C2 Tolerances

- The overall vertical tolerance of the wall and the horizontal alignment tolerance shall not exceed 2 inches per 10 feet for permanent installations.
- Where a cast-in-place facing or a precast concrete panel facing is installed, the overall vertical tolerance shall not exceed ±1 inch or as shown on the contract plans.
- For battered wire facing, the final deviation from the design batter shall be within ±3/4 inch for each 10 feet of battered wall height.
- The offset limit between consecutive rows of facing shall not exceed one inch.

C3 Quality Management Program

C.3.1 Quality Control Plan

Submit a comprehensive written quality control plan to the engineer at or before the pre-construction meeting. Do not perform MSE wall construction work before the engineer reviews and accepts the plan. Construct the project as the plan provides.

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

- An organizational chart with names, telephone numbers, current certifications and/or titles, and roles and responsibilities of QC personnel.
- The process used to disseminate QC information and corrective action efforts to the appropriate persons. Include a list of recipients, the communication process that will be used, and action time frames.
- A list of source locations, section and quarter descriptions, for all aggregate materials requiring QC testing.
- Descriptions of stockpiling and hauling methods.
- An outline for resolving a process control problem. Include responsible personnel, required documentation, and appropriate communication steps.
- Location of the QC laboratory, retained sample storage, and other documentation.
- A summary of the locations and calculated quantities to be tested under this provision.

C.3.2 Quality Control Personnel

Perform the quality control sampling, testing, and documentation required under this provision using HTCP certified technicians. Have a HTCP Level I Grading Technician,

Level I Aggregate Technician, or Assistant Certified Aggregate Technician (ACT) present at the each grading site during all wall backfill placement, compaction, and nuclear testing activities. Have a HTCP Level I Nuclear Density Technician or Assistant Certified Nuclear Density Technician (ACT) perform field density and field moisture content testing.

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

C.3.3 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at http://www.atwoodsystems.com/materials. Ensure that the gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to ASTM D 6938 and CMM 8.15 for density testing and gauge monitoring methods. Perform nuclear gauge measurements using gamma radiation in the backscatter or direct transmission position. Perform each test for 4 minutes of nuclear gauge count time.

Split each Proctor sample and identify so as to provide comparison with the department's test results. Unless the engineer directs otherwise, retain the QC split samples for 14 calendar days and promptly deliver the department's split samples to the department

C.3.4 Quality Control (QC) Testing

Perform compaction testing on the backfill. Conform to CMM 8.15 for testing and gauge monitoring methods. Conduct testing at a minimum frequency of 1 test per 150 cubic yards of backfill, or major portion thereof. A minimum of one test for every lift is required. Deliver documentation of all compaction testing results to the engineer at the time of testing.

Perform 1 gradation test every 750 cubic yards of fill and one 5-point Proctor test (or as modified in C.1) every 2000 cubic yards of fill. Provide the region split samples of both within 72 hours of sampling, at the region laboratory. Test sites shall be selected using ASTM Method D3665. Provide Proctor test results to the engineer within 48 hours of sampling. Provide gradation test results to the engineer within 24 hours of sampling.

C.3.5 Department Testing

C.3.5.1 General

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

C.3.5.2 Quality Verification (QV) Testing

(1) The department will have an HTCP technician, or ACT working under a certified technician, perform QV sampling and testing. Department verification testing personnel must meet the same certification level requirements specified in C.3.2 for contractor testing personnel for each test result being verified. The department will notify the contractor before sampling so the contractor can observe QV sampling.

(2) The department will conduct QV tests at the minimum frequency of 30% of the required contractor density, Proctor and gradation tests.

(3) The department will locate density tests and gradation samples randomly, at locations independent of the contractor's QC work. The department will split each Proctor and gradation QV sample, testing half for QV, and retaining the remaining half for 10 business days.

(4) The department will conduct QV Proctor and gradation 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 this special provision, the department will take no further action. If density QV test results are nonconforming, the area shall be reworked until the density requirements of this special provision are met. If the gradation test results are nonconforming, standard spec 106.5 will apply. Differing QC and QV nuclear density values of more than 1.5 pcf will be investigated and resolved. QV density tests will be based on the appropriate QC Proctor test results, unless the QV and QC Proctor result difference is greater than 3.0 pcf. Differing QC and QV Proctor values of more than 3.0 pcf will be investigated and resolved.

C.3.5.3 Independent Assurance (IA)

(1) Independence assurance is unbiased testing the department performs to evaluate the department's QV and the contractor's QC sampling and testing, including personnel qualifications, procedures, and equipment. The department will perform an IA review according to the department's independent assurance program. That review may include one or more of the following:

1. Split sample testing.
2. Proficiency sample testing.
3. Witnessing sampling and testing.
4. Test equipment calibration checks.
5. 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 C.3.5.4.

C.3.5.4 Dispute Resolution

(1) The engineer and contractor should make every effort to avoid conflict. If a dispute between some aspect of the contractor's and the engineer's testing program does occur, seek a solution mutually agreeable to the project personnel. The department and contractor 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 or work, the department will use third party testing to resolve the dispute. The department's central office laboratory, or a mutually agreed on independent testing laboratory, will provide this testing. The engineer and contractor will abide by the results of the third party tests. The party in error will pay service charges incurred for testing by an independent laboratory. The department may use third party test results to evaluate the quality of questionable materials and determine the appropriate payment. The department may reject material or otherwise determine the final disposition of nonconforming material as specified in standard spec 106.5.

C.4 Geotechnical Information

Geotechnical data to be used in the design of the wall is given on the wall plan. After completing wall excavation of the entire reinforced soil zone, notify the department and allow the Regional Soils Engineer two working days to review the foundation.

D Measurement

The department will measure Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP 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 plan, wall area constructed above or below these limits will not be measured for payment.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0165.06	Wall Wire Faced Mechanically Stabilized Earth LRFD/QMP	SF

Payment is full compensation for supplying a design and shop drawings; preparing the site, including all necessary excavation and disposal of materials; supplying all necessary wall components to produce a functional system constructing the retaining system, including drainage system; providing backfill, backfilling, compacting, developing/completing/documenting the quality management program, and for performing compaction testing. Parapets, railings, abutment bodies and other items above the wall cap or coping will be paid for separately. Vehicle barrier and its support will be paid 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. (20140716)

111. Slope Paving Concrete Waterway Special, Item SPV.0180.01.

Construct slope paving concrete waterway conforming to standard spec 604.

Amend standard spec 604 as follows:

Saw cut the existing slope paving full depth at the construction limits shown on the plans or as directed by the engineer. Saw cut the existing slope paving at a partial depth a minimum of 2 feet downstream of the full depth cut at the construction limits. The partial depth saw cut shall be to the depth necessary to expose and salvage existing reinforcing. Reinforce the concrete slope paving as specified in the plan details, including tying the new reinforcing to the existing reinforcing. A 2-foot minimum overlap is required.

Match the existing slab thickness, except that the minimum slab thickness shall be 6 inches.

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 __1__ *(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 __1__ *(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 PROVISIONS 5

Fuel Cost Adjustment

A Description

Fuel Cost Adjustments will be applied to partial and final payments for work items categorized in Section B as a payment to the contractor or a credit to the department. ASP-5 shall not apply to any force account work.

B Categories of Work Items

The following items and Fuel Usage Factors shall be used to determine Fuel Cost Adjustments:

(1) Earthwork.		Unit	Gal. Fuel Per Unit
205.0100	Excavation Common	CY	0.23
205.0200	Excavation Rock	CY	0.39
205.0400	Excavation Marsh	CY	0.29
208.0100	Borrow	CY	0.23
208.1100	Select Borrow	CY	0.23
209.0100	Backfill Granular	CY	0.23
350.0102	Subbase	CY	0.28
350.0104	Subbase	Ton	0.14
350.0115	Subbase 6-Inch	SY	0.05
350.0120	Subbase 7-Inch	SY	0.05
350.0125	Subbase 8-Inch	SY	0.06
350.0130	Subbase 9-Inch	SY	0.07
350.0135	Subbase 10-Inch	SY	0.08
350.0140	Subbase 11-Inch	SY	0.09
350.0145	Subbase 12-Inch	SY	0.09

C Fuel Index

A Current Fuel Index (CFI) in dollars per gallon will be established by the Department of Transportation for each month. The CFI will be the price of No. 2 fuel oil, as reported in U.S. Oil Week, using the first issue dated that month. The CFI will be the average of prices quoted for Green Bay, Madison, Milwaukee and Minneapolis.

The base Fuel Index (BFI) for this contract is $2.90 per gallon.

D Computing the Fuel Cost Adjustment

The engineer will compute the ratio CFI/BFI each month. If the ratio falls between 0.85 and 1.15, inclusive, no fuel adjustment will be made for that month. If the ratio is less than 0.85 a credit to the department will be computed. If the ratio is greater than 1.15 additional payment to the contractor will be computed. Credit or additional payment will be computed as follows:

(1) The engineer will estimate the quantity of work done in that month under each of the contract items categorized in Section B.

(2) The engineer will compute the gallons of fuel used in that month for each of the contract items categorized in Section B by applying the unit fuel usage factors shown in Section B.

(3) The engineer will summarize the total gallons (Q) of fuel used in that month for the items categorized in Section B.

(4) The engineer will determine the Fuel Cost Adjustment credit or payment from the following formula:

$$FA = \left(\frac{CFI}{BFI} - 1 \right) x\ Q\ x\ BFI$$

(plus is payment to contractor; minus is credit to the department)

Where	FA	=	Fuel Cost Adjustment (plus or minus)
	CFI	=	Current Fuel Index
	BFI	=	Base Fuel Index
	Q	=	Monthly total gallons of fuel

E Payment

A Fuel Cost Adjustment credit to the department will be deducted as a dollar amount each month from any sums due to the contractor. A Fuel Cost Adjustment payment to the contractor will be made as a dollar amount each month.

Upon completion of the work under the contract, any difference between the estimated quantities and the final quantities will be determined. An average CFI, calculated by averaging the CFI for all months that fuel cost adjustment was applied, will be applied to the quantity differences. The average CFI shall be applied in accordance with the procedure set forth in Section D.

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 January 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 pavement performance. 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 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 January 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.
- 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 January 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.

(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 section 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.

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.

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
DANE 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, 2014

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	32.01	17.35	49.36
Carpenter	30.48	15.90	46.38
Cement Finisher	33.51	16.13	49.64
Future Increase(s): Add $1.87 on 6/1/14; Add $1.87 on 6/1/15; Add $1.75 on 6/1/16. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.40/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Electrician	34.07	19.25	53.32
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	24.72	0.00	24.72
Ironworker	31.25	19.46	50.71
Line Constructor (Electrical)	38.25	17.31	55.56
Painter	21.87	11.37	33.24
Pavement Marking Operator	30.00	0.00	30.00
Piledriver	30.98	15.90	46.88
Roofer or Waterproofer	29.40	6.25	35.65
Teledata Technician or Installer	21.89	11.85	33.74
Tuckpointer, Caulker or Cleaner	35.25	13.15	48.40
Underwater Diver (Except on Great Lakes)	34.48	15.90	50.38
Heavy Equipment Operator - ELECTRICAL LINE CONSTRUCTION ONLY	34.43	15.24	49.67
Light Equipment Operator -ELECTRICAL LINE CONSTRUCTION ONLY	35.50	15.89	51.39
Heavy Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	26.78	13.63	40.41
Light Truck Driver - ELECTRICAL LINE CONSTRUCTION ONLY	24.86	12.97	37.83

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
Groundman - ELECTRICAL LINE CONSTRUCTION ONLY	21.75	12.70	34.45
TRUCK DRIVERS			
Single Axle or Two Axle	34.22	19.90	54.12
Three or More Axle	24.52	17.77	42.29
Future Increase(s): Add $1.30/hr on 6/1/2014. Premium Pay: DOT PREMIUM: Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day.			
Articulated, Euclid, Dumptor, Off Road Material Hauler	29.27	20.40	49.67
Future Increase(s): Add $1.75/hr on 6/1/14); Add $1.25/hr on 6/1/15); Add $1.30/hr on 6/1/16); Add $1.25/hr on 6/ 1/ 17. 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	23.31	17.13	40.44
Shadow or Pilot Vehicle	34.22	19.90	54.12
Truck Mechanic	23.31	17.13	40.44
LABORERS			
General Laborer	29.32	14.63	43.95
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: Add $.10/hr for topman, 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 $.25/hr for bottomman; Add $.35/hr for line and grade specialist; Add $.45/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	24.36	14.44	38.80
Landscaper	29.32	14.63	43.95
Future Increase(s): Add $1.60/hr on 6/1/14. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr for work on projects involving temporary traffic control setup, for lane and shoulder closures, when work under artificial illumination conditions is necessary as required by the project provisions (including prep time prior to and/or cleanup after such time period).			
Flagperson or Traffic Control Person	25.67	14.63	40.30
Future Increase(s): Add $1.60/hr on 6/1/2014. Premium Pay: DOT PREMIUMS: 1) Pay two times the hourly basic rate on Sunday, New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day & Christmas Day. 2) Add $1.25/hr when the Wisconsin Department of Transportation or responsible governing agency requires that work be performed at night under artificial illumination with traffic control and the work is completed after sunset and before sunrise.			
Fiber Optic Laborer (Outside, Other Than Concrete Encased)	18.31	12.67	30.98
Railroad Track Laborer	23.46	3.30	26.76

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY $	HOURLY FRINGE BENEFITS $	TOTAL $
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). Future Increase(s): Add $1.75/hr on 6/1/2014); 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.	36.72	20.40	57.12
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. Future Increase(s): Add $1.75/hr on 6/1/2014); 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.	36.22	20.40	56.62
Air Track, Rotary or Percussion Drilling Machine &/or Hammers, Blaster; Asphalt Heater, Planer & Scarifier; Asphalt Milling Machine; Asphalt Screed; Automatic Subgrader (Concrete); Backhoe (Track Type) Having a 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 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	35.72	20.40	56.12

TRADE OR OCCUPATION	HOURLY BASIC RATE OF PAY	HOURLY FRINGE BENEFITS	TOTAL
	$	$	$
& A- Frames. Future Increase(s): Add $1.75/hr on 6/1/2014); 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. Future Increase(s): Add $1.75/hr on 6/1/2014); 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.	35.46	20.40	55.86
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. Future Increase(s): Add $1.75/hr on 6/1/2014); 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.	35.17	20.40	55.57
Fiber Optic Cable Equipment.	26.69	16.65	43.34

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

STATE: Wisconsin
GENERAL DECISION NUMBER: WI140010
DATE: November 28, 2014
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	$30.41	15.04
Group 2: Air Tool Operator; Joint Sawer and Filler (Pavement); Vibrator or Tamper Operator (Mechanical Hand Operated); Chain Saw Operator; Demolition Burning Torch Laborer	30.51	15.04
Group 3: Bituminous Worker (Raker and Luteman); Formsetter (Curb, Sidewalk, and Pavement); Strike Off man	30.56	15.04
Group 4: Line and Grade Specialist	30.76	15.04
Group 5: Blaster and Powderman	30.61	15.04
Group 6: Flagperson and Traffic Control Person	26.76	15.04

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

CLASSES OF LABORER AND MECHANICS

Bricklayer	28.41	12.81
Carpenter	30.48	15.80
Millwright	32.11	15.80
Piledriverman	30.98	15.80
Ironworker	31.50	20.03
Cement Mason/Concrete Finisher	32.09	16.13
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
Painter, Brush	24.50	16.27
Painter, Spray, Structural Steel,Bridges	25.50	16.27
Well Drilling:		
Well Driller	16.52	3.70

Notes: Welders receive rate prescribed for craft performing operation to which welding is incidental. Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR, 5.5(a)(1)(ii)). Includes Modification #0, dated January 3, 2014; Modification #1, dated February 7, 2014; Modification #2, dated March 14, 2014; Modification #3, dated May 2, 2014; Modification #4, dated June 27, 2014; Modification #5, dated July 4, 2014; Modification #6, dated July 25, 2014; Modification #7, dated August 1, 2014; Modification #8, dated November 28, 2014.

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

STATE: Wisconsin
GENERAL DECISION NUMBER: WI140010
DATE: November 28, 2014
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 (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: WI140010
DATE: November 28, 2014
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:	28.50	28.75% + 9.27
Area 5	28.96	24.85% + 9.70
Area 6	35.25	19.30
Area 8		
Electricians	31.10	24.95% + 10.41
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.

SCHEDULE OF ITEMS REVISED:

CONTRACT:	PROJECT(S):	FEDERAL ID(S):
20150210007	5411-02-74	WISC 2014433
	5411-02-75	N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 CONTRACT ITEMS					
0010	201.0105 CLEARING	18.000 STA		.		.
0020	201.0120 CLEARING	128.000 ID		.		.
0030	201.0205 GRUBBING	18.000 STA		.		.
0040	201.0220 GRUBBING	128.000 ID		.		.
0050	203.0200 REMOVING OLD STRUCTURE (STATION) 01. STA. 114+76.20	LUMP	LUMP			.
0060	203.0200 REMOVING OLD STRUCTURE (STATION) 02. STA. 52'BP'+89.11	LUMP	LUMP			.
0070	203.0210.S ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-13-210	LUMP	LUMP			.
0080	203.0225.S DEBRIS CONTAINMENT (STRUCTURE) 01. B-13-210	LUMP	LUMP			.
0090	204.0100 REMOVING PAVEMENT	23,265.000 SY		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0110 REMOVING ASPHALTIC SURFACE	310.000 SY		.		.
0110	204.0150 REMOVING CURB & GUTTER	1,550.000 LF		.		.
0120	204.0155 REMOVING CONCRETE SIDEWALK	670.000 SY		.		.
0130	204.0165 REMOVING GUARDRAIL	1,115.000 LF		.		.
0140	204.0170 REMOVING FENCE	1,345.000 LF		.		.
0150	204.0175 REMOVING CONCRETE SLOPE PAVING	170.000 SY		.		.
0160	204.0185 REMOVING MASONRY	3.300 CY		.		.
0170	204.0195 REMOVING CONCRETE BASES	59.000 EACH		.		.
0180	204.0205 REMOVING UTILITY POLES	2.000 EACH		.		.
0190	204.0210 REMOVING MANHOLES	3.000 EACH		.		.
0200	204.0220 REMOVING INLETS	17.000 EACH		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0210	204.0245 REMOVING STORM SEWER (SIZE) 01. 12-INCH TO 15-INCH	290.000 LF		.		.
0220	204.0245 REMOVING STORM SEWER (SIZE) 02. 18-INCH TO 24-INCH	470.000 LF		.		.
0230	204.0245 REMOVING STORM SEWER (SIZE) 03. 36-INCH	30.000 LF		.		.
0240	204.9060.S REMOVING (ITEM DESCRIPTION) 01. WOOD GUARD POSTS	5.000 EACH		.		.
0250	204.9060.S REMOVING (ITEM DESCRIPTION) 02. LIGHTING UNIT	37.000 EACH		.		.
0260	204.9060.S REMOVING (ITEM DESCRIPTION) 03. LUMINAIRE	35.000 EACH		.		.
0270	204.9060.S REMOVING (ITEM DESCRIPTION) 04. LIGHTING CABINET	1.000 EACH		.		.
0280	204.9090.S REMOVING (ITEM DESCRIPTION) 01. TUBULAR RAILING	65.000 LF		.		.
0290	204.9105.S REMOVING (ITEM DESCRIPTION) 01. TRAFFIC SIGNAL EQUIPMENT (USH 51 SB & COTTAGE GROVE ROAD)	LUMP	LUMP			.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	204.9105.S REMOVING (ITEM DESCRIPTION) 02. TRAFFIC SIGNAL EQUIPMENT (USH 51 NB & COTTAGE GROVE ROAD)	LUMP	LUMP			.
0310	204.9165.S REMOVING (ITEM DESCRIPTION) 01. MODULAR BLOCK RETAINING WALL	440.000 SF		.		.
0320	204.9165.S REMOVING (ITEM DESCRIPTION) 02. CONCRETE MASONRY WALL	320.000 SF		.		.
0330	204.9180.S REMOVING (ITEM DESCRIPTION) 01. CONCRETE SLOPE PAVING WATERWAY	615.000 SY		.		.
0340	205.0100 EXCAVATION COMMON	87,512.000 CY		.		.
0350	205.0400 EXCAVATION MARSH	30,096.000 CY		.		.
0360	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-13-632	LUMP	LUMP			.
0370	206.1000 EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 02. B-13-660	LUMP	LUMP			.
0380	206.2000 EXCAVATION FOR STRUCTURES CULVERTS (STRUCTURE) 01. C-13-2075	LUMP	LUMP			.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0390	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-13-228	LUMP	LUMP			.
0400	206.3000 EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 02. R-13-229	LUMP	LUMP			.
0410	208.0100 BORROW	87,471.000 CY		.		.
0420	208.1100 SELECT BORROW	45,143.000 CY		.		.
0430	210.0100 BACKFILL STRUCTURE	1,100.000 CY		.		.
0440	213.0100 FINISHING ROADWAY (PROJECT) 01. 5411-02-74	1.000 EACH		.		.
0450	305.0110 BASE AGGREGATE DENSE 3/4-INCH	1,850.000 TON		.		.
0460	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH	30,377.000 TON		.		.
0470	311.0115 BREAKER RUN	86.000 CY		.		.
0480	312.0110 SELECT CRUSHED MATERIAL	21,110.000 TON		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0490	415.0090 CONCRETE PAVEMENT 9-INCH	8,715.000 SY		.		.
0500	415.0100 CONCRETE PAVEMENT 10-INCH	19,095.000 SY		.		.
0510	415.0210 CONCRETE PAVEMENT GAPS	2.000 EACH		.		.
0520	415.0410 CONCRETE PAVEMENT APPROACH SLAB	411.000 SY		.		.
0530	415.1090 CONCRETE PAVEMENT HES 9-INCH	335.000 SY		.		.
0540	416.0610 DRILLED TIE BARS	766.000 EACH		.		.
0550	416.0620 DRILLED DOWEL BARS	8.000 EACH		.		.
0560	416.1010 CONCRETE SURFACE DRAINS	6.300 CY		.		.
0570	416.1110 CONCRETE SHOULDER RUMBLE STRIPS	1,775.000 LF		.		.
0580	440.4410.S INCENTIVE IRI RIDE	6,000.000 DOL		1.00000		6000.00
0590	455.0105 ASPHALTIC MATERIAL PG58-28	55.000 TON		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0600	455.0120 ASPHALTIC MATERIAL PG64-28	31.000 TON		.		.
0610	455.0605 TACK COAT	201.000 GAL		.		.
0620	460.1100 HMA PAVEMENT TYPE E-0.3	550.000 TON		.		.
0630	460.1103 HMA PAVEMENT TYPE E-3	525.000 TON		.		.
0640	460.1110 HMA PAVEMENT TYPE E-10	425.000 TON		.		.
0650	460.2000 INCENTIVE DENSITY HMA PAVEMENT	960.000 DOL	1.00000		960.00	
0660	465.0105 ASPHALTIC SURFACE	35.000 TON		.		.
0670	465.0125 ASPHALTIC SURFACE TEMPORARY	4,615.000 TON		.		.
0680	465.0310 ASPHALTIC CURB	515.000 LF		.		.
0690	465.0315 ASPHALTIC FLUMES	5.000 SY		.		.
0700	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS	2,315.000 LF		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0710	502.0100 CONCRETE MASONRY BRIDGES	2,315.000 CY		.		.
0720	502.3110.S EXPANSION DEVICE MODULAR (STRUCTURE) 01. B-13-632	LUMP	LUMP			.
0730	502.3200 PROTECTIVE SURFACE TREATMENT	4,307.000 SY		.		.
0740	502.6105 MASONRY ANCHORS TYPE S 5/8-INCH	34.000 EACH		.		.
0750	503.0155 PRESTRESSED GIRDER TYPE I 54W-INCH	1,282.000 LF		.		.
0760	503.0172 PRESTRESSED GIRDER TYPE I 72W-INCH	3,107.000 LF		.		.
0770	504.0100 CONCRETE MASONRY CULVERTS	155.000 CY		.		.
0780	504.0500 CONCRETE MASONRY RETAINING WALLS	89.000 CY		.		.
0790	505.0405 BAR STEEL REINFORCEMENT HS BRIDGES	32,635.000 LB		.		.
0800	505.0410 BAR STEEL REINFORCEMENT HS CULVERTS	15,670.000 LB		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0810	505.0605 BAR STEEL REINFORCEMENT HS COATED BRIDGES	415,540.000 LB		.		.
0820	505.0610 BAR STEEL REINFORCEMENT HS COATED CULVERTS	240.000 LB		.		.
0830	505.0615 BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	9,550.000 LB		.		.
0840	506.2605 BEARING PADS ELASTOMERIC NON-LAMINATED	52.000 EACH		.		.
0850	506.2610 BEARING PADS ELASTOMERIC LAMINATED	16.000 EACH		.		.
0860	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 01. B-13-632	42.000 EACH		.		.
0870	506.4000 STEEL DIAPHRAGMS (STRUCTURE) 02. B-13-660	16.000 EACH		.		.
0880	509.1500 CONCRETE SURFACE REPAIR	730.000 SF		.		.
0890	509.5100.S POLYMER OVERLAY	2,390.000 SY		.		.
0900	511.1100 TEMPORARY SHORING	1,700.000 SF		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0910	511.1200 TEMPORARY SHORING (STRUCTURE) 01. B-13-632	850.000 SF		.		.
0920	511.1200 TEMPORARY SHORING (STRUCTURE) 02. B-13-660	500.000 SF		.		.
0930	511.1200 TEMPORARY SHORING (STRUCTURE) 03. R-13-228	338.000 SF		.		.
0940	511.1200 TEMPORARY SHORING (STRUCTURE) 04. R-13-229	400.000 SF		.		.
0950	513.2000 RAILING PIPE (STRUCTURE) 01. R-13-228	LUMP	LUMP			.
0960	513.2000 RAILING PIPE (STRUCTURE) 02. R-13-229	LUMP	LUMP			.
0970	516.0500 RUBBERIZED MEMBRANE WATERPROOFING	88.000 SY		.		.
0980	517.1010.S CONCRETE STAINING (STRUCTURE) 01. B-13-632	17,200.000 SF		.		.
0990	517.1010.S CONCRETE STAINING (STRUCTURE) 02. B-13-660	7,510.000 SF		.		.
1000	517.1010.S CONCRETE STAINING (STRUCTURE) 03. R-13-228	7,509.000 SF		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1010	517.1010.S CONCRETE STAINING (STRUCTURE) 04. R-13-229	5,182.000 SF		.		.
1020	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 01. B-13-632	8,005.000 SF		.		.
1030	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 02. B-13-660	2,870.000 SF		.		.
1040	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 03. R-13-228	7,159.000 SF		.		.
1050	517.1050.S ARCHITECTURAL SURFACE TREATMENT (STRUCTURE) 04. R-13-229	4,484.000 SF		.		.
1060	520.8000 CONCRETE COLLARS FOR PIPE	5.000 EACH		.		.
1070	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH	9.000 EACH		.		.
1080	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH	1.000 EACH		.		.
1090	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH	4.000 EACH		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1100	550.1100 PILING STEEL HP 10-INCH X 42 LB	3,960.000 LF		.		.
1110	550.1120 PILING STEEL HP 12-INCH X 53 LB	3,355.000 LF		.		.
1120	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A	2,395.000 LF		.		.
1130	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D	720.000 LF		.		.
1140	601.0574 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE G	415.000 LF		.		.
1150	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J	100.000 LF		.		.
1160	602.0410 CONCRETE SIDEWALK 5-INCH	4,620.000 SF		.		.
1170	602.0420 CONCRETE SIDEWALK 7-INCH	620.000 SF		.		.
1180	602.0515 CURB RAMP DETECTABLE WARNING FIELD NATURAL PATINA	192.000 SF		.		.
1190	603.1142 CONCRETE BARRIER TYPE S42	915.000 LF		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1200	603.2142 CONCRETE BARRIER FIXED OBJECT PROTECTION TYPE S42	15.000 LF		.		.
1210	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	3,325.000 LF		.		.
1220	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	6,150.000 LF		.		.
1230	604.0400 SLOPE PAVING CONCRETE	330.000 SY		.		.
1240	604.0500 SLOPE PAVING CRUSHED AGGREGATE	665.000 SY		.		.
1250	606.0200 RIPRAP MEDIUM	105.000 CY		.		.
1260	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	1,032.000 LF		.		.
1270	608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH	66.000 LF		.		.
1280	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH	97.000 LF		.		.
1290	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH	484.000 LF		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1300	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH	31.000 LF		.		.
1310	609.0112 RELAID STORM SEWER 12-INCH	8.000 LF		.		.
1320	609.0115 RELAID STORM SEWER 15-INCH	16.000 LF		.		.
1330	609.0130 RELAID STORM SEWER 30-INCH	8.000 LF		.		.
1340	611.0612 INLET COVERS TYPE C	2.000 EACH		.		.
1350	611.0624 INLET COVERS TYPE H	15.000 EACH		.		.
1360	611.0642 INLET COVERS TYPE MS	9.000 EACH		.		.
1370	611.0654 INLET COVERS TYPE V	4.000 EACH		.		.
1380	611.2004 MANHOLES 4-FT DIAMETER	2.000 EACH		.		.
1390	611.2005 MANHOLES 5-FT DIAMETER	2.000 EACH		.		.
1400	611.3003 INLETS 3-FT DIAMETER	3.000 EACH		.		.

CONTRACT: 20150210007
PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1410	611.3004 INLETS 4-FT DIAMETER	2.000 EACH		.		.
1420	611.3230 INLETS 2X3-FT	14.000 EACH		.		.
1430	611.3901 INLETS MEDIAN 1 GRATE	7.000 EACH		.		.
1440	611.3902 INLETS MEDIAN 2 GRATE	1.000 EACH		.		.
1450	611.8115 ADJUSTING INLET COVERS	2.000 EACH		.		.
1460	611.8120.S COVER PLATES TEMPORARY	4.000 EACH		.		.
1470	611.9800.S PIPE GRATES	4.000 EACH		.		.
1480	612.0406 PIPE UNDERDRAIN WRAPPED 6-INCH	1,535.000 LF		.		.
1490	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH	1.000 EACH		.		.
1500	614.0150 ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	6.000 EACH		.		.

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PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1510	614.0800 CRASH CUSHIONS PERMANENT	1.000 EACH		.		.
1520	614.0905 CRASH CUSHIONS TEMPORARY	4.000 EACH		.		.
1530	614.2300 MGS GUARDRAIL 3	3,062.500 LF		.		.
1540	614.2330 MGS GUARDRAIL 3 K	150.000 LF		.		.
1550	614.2500 MGS THRIE BEAM TRANSITION	197.000 LF		.		.
1560	614.2610 MGS GUARDRAIL TERMINAL EAT	4.000 EACH		.		.
1570	614.2620 MGS GUARDRAIL TERMINAL TYPE 2	3.000 EACH		.		.
1580	616.0206 FENCE CHAIN LINK 6-FT	940.000 LF		.		.
1590	616.0600.S FENCE TEMPORARY	180.000 LF		.		.
1600	616.0800.S FENCE TRACK CLEARANCE	410.000 LF		.		.

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PROJECT(S): 5411-02-74, 5411-02-75
FEDERAL ID(S): WISC 2014433, N/A

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1610	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 5411-02-74	1.000 EACH		.		.
1620	619.1000 MOBILIZATION	1.000 EACH		.		.
1630	620.0300 CONCRETE MEDIAN SLOPED NOSE	165.000 SF		.		.
1640	624.0100 WATER	500.000 MGAL		.		.
1650	625.0100 TOPSOIL	5,900.000 SY		.		.
1660	625.0500 SALVAGED TOPSOIL	54,500.000 SY		.		.
1670	627.0200 MULCHING	13,800.000 SY		.		.
1680	628.1504 SILT FENCE	7,500.000 LF		.		.
1690	628.1520 SILT FENCE MAINTENANCE	15,000.000 LF		.		.
1700	628.1905 MOBILIZATIONS EROSION CONTROL	30.000 EACH		.		.

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PROJECT(S): 5411-02-74, 5411-02-75
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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	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	15.000 EACH		.		.
1720	628.2002 EROSION MAT CLASS I TYPE A	40,000.000 SY		.		.
1730	628.2006 EROSION MAT URBAN CLASS I TYPE A	5,900.000 SY		.		.
1740	628.7005 INLET PROTECTION TYPE A	14.000 EACH		.		.
1750	628.7020 INLET PROTECTION TYPE D	47.000 EACH		.		.
1760	628.7560 TRACKING PADS	3.000 EACH		.		.
1770	629.0210 FERTILIZER TYPE B	37.000 CWT		.		.
1780	630.0130 SEEDING MIXTURE NO. 30	180.000 LB		.		.
1790	630.0140 SEEDING MIXTURE NO. 40	135.000 LB		.		.
1800	630.0160 SEEDING MIXTURE NO. 60	110.000 LB		.		.
1810	630.0170 SEEDING MIXTURE NO. 70	30.000 LB		.		.

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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	630.0175 SEEDING MIXTURE NO. 75	110.000 LB		.		.
1830	630.0180 SEEDING MIXTURE NO. 80	115.000 LB		.		.
1840	630.0200 SEEDING TEMPORARY	290.000 LB		.		.
1850	633.0500 DELINEATOR REFLECTORS	8.000 EACH		.		.
1860	633.1000 DELINEATOR BRACKETS	8.000 EACH		.		.
1870	633.5100 MARKERS ROW	2.000 EACH		.		.
1880	633.5200 MARKERS CULVERT END	14.000 EACH		.		.
1890	634.0612 POSTS WOOD 4X6-INCH X 12-FT	10.000 EACH		.		.
1900	634.0614 POSTS WOOD 4X6-INCH X 14-FT	5.000 EACH		.		.
1910	634.0616 POSTS WOOD 4X6-INCH X 16-FT	16.000 EACH		.		.
1920	634.0618 POSTS WOOD 4X6-INCH X 18-FT	2.000 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
1930	636.0100 SIGN SUPPORTS CONCRETE MASONRY	8.000 CY		.		.
1940	636.1000 SIGN SUPPORTS STEEL REINFORCEMENT HS	980.000 LB		.		.
1950	637.1220 SIGNS TYPE I REFLECTIVE SH	210.000 SF		.		.
1960	637.2210 SIGNS TYPE II REFLECTIVE H	163.250 SF		.		.
1970	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING	14.920 SF		.		.
1980	637.2230 SIGNS TYPE II REFLECTIVE F	196.280 SF		.		.
1990	638.2102 MOVING SIGNS TYPE II	7.000 EACH		.		.
2000	638.2601 REMOVING SIGNS TYPE I	1.000 EACH		.		.
2010	638.2602 REMOVING SIGNS TYPE II	41.000 EACH		.		.
2020	638.3000 REMOVING SMALL SIGN SUPPORTS	13.000 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
2030	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS	1.000 EACH		.		.
2040	638.4000 MOVING SMALL SIGN SUPPORTS	10.000 EACH		.		.
2050	641.1200 SIGN BRIDGE CANTILEVERED (STRUCTURE) 01. S-13-440	LUMP	LUMP			.
2060	642.5201 FIELD OFFICE TYPE C	1.000 EACH		.		.
2070	643.0100 TRAFFIC CONTROL (PROJECT) 01. 5411-02-74	1.000 EACH		.		.
2080	643.0300 TRAFFIC CONTROL DRUMS	96,227.000 DAY		.		.
2090	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	6,495.000 DAY		.		.
2100	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	100.000 EACH		.		.
2110	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	100.000 EACH		.		.
2120	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A	9,918.000 DAY		.		.
2130	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	14,620.000 DAY		.		.

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2140	643.0800 TRAFFIC CONTROL ARROW BOARDS	210.000 DAY		.		.
2150	643.0900 TRAFFIC CONTROL SIGNS	20,713.000 DAY		.		.
2160	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I	1.000 EACH		.		.
2170	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE	115.500 SF		.		.
2180	643.1050 TRAFFIC CONTROL SIGNS PCMS	390.000 DAY		.		.
2190	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) 01. 5411-02-74	1.000 EACH		.		.
2200	643.3000 TRAFFIC CONTROL DETOUR SIGNS	27,115.000 DAY		.		.
2210	645.0105 GEOTEXTILE FABRIC TYPE C	295.000 SY		.		.
2220	645.0120 GEOTEXTILE FABRIC TYPE HR	290.000 SY		.		.
2230	646.0106 PAVEMENT MARKING EPOXY 4-INCH	20,805.000 LF		.		.
2240	646.0126 PAVEMENT MARKING EPOXY 8-INCH	995.000 LF		.		.

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2250	646.0600 REMOVING PAVEMENT MARKINGS	5,225.000 LF		.		.
2260	646.0841.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	750.000 LF		.		.
2270	646.0843.S PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	1,665.000 LF		.		.
2280	647.0110 PAVEMENT MARKING RAILROAD CROSSINGS EPOXY	4.000 EACH		.		.
2290	647.0166 PAVEMENT MARKING ARROWS EPOXY TYPE 2	7.000 EACH		.		.
2300	647.0176 PAVEMENT MARKING ARROWS EPOXY TYPE 3	1.000 EACH		.		.
2310	647.0356 PAVEMENT MARKING WORDS EPOXY	3.000 EACH		.		.
2320	647.0456 PAVEMENT MARKING CURB EPOXY	20.000 LF		.		.
2330	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH	245.000 LF		.		.
2340	647.0606 PAVEMENT MARKING ISLAND NOSE EPOXY	2.000 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
2350	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	50.000 LF		.		.
2360	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	415.000 LF		.		.
2370	647.0786 PAVEMENT MARKING CROSSWALK EPOXY 18-INCH	200.000 LF		.		.
2380	649.0200 TEMPORARY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH	33,595.000 LF		.		.
2390	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	28,860.000 LF		.		.
2400	649.0701 TEMPORARY PAVEMENT MARKING 8-INCH	655.000 LF		.		.
2410	649.0801 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	300.000 LF		.		.
2420	649.1700 TEMPORARY PAVEMENT MARKING ARROWS	3.000 EACH		.		.
2430	649.1800 TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	4.000 EACH		.		.
2440	649.1900 TEMPORARY PAVEMENT MARKING WORDS	1.000 EACH		.		.

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CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
2450	649.2000 TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE	1.000 EACH		.		.
2460	650.4000 CONSTRUCTION STAKING STORM SEWER	25.000 EACH		.		.
2470	650.4500 CONSTRUCTION STAKING SUBGRADE	7,893.000 LF		.		.
2480	650.5000 CONSTRUCTION STAKING BASE	3,313.000 LF		.		.
2490	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	5,855.000 LF		.		.
2500	650.6000 CONSTRUCTION STAKING PIPE CULVERTS	9.000 EACH		.		.
2510	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-13-632	LUMP	LUMP			.
2520	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 02. B-13-660	LUMP	LUMP			.
2530	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 03. R-13-228	LUMP	LUMP			.
2540	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 04. R-13-229	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
2550	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 05. C-13-2075	LUMP	LUMP			.
2560	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT	7,931.000 LF		.		.
2570	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER	915.000 LF		.		.
2580	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS (PROJECT) 01. 5411-02-74	LUMP	LUMP			.
2590	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5411-02-74	LUMP	LUMP			.
2600	650.9920 CONSTRUCTION STAKING SLOPE STAKES	5,556.000 LF		.		.
2610	652.0125 CONDUIT RIGID METALLIC 2-INCH	44.000 LF		.		.
2620	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	5,214.000 LF		.		.
2630	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH	2,785.000 LF		.		.
2640	652.0310 CONDUIT RIGID NONMETALLIC SCHEDULE 80 1-INCH	8.000 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
2650	652.0325 CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	1,086.000 LF		.		.
2660	652.0335 CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	1,048.000 LF		.		.
2670	652.0605 CONDUIT SPECIAL 2-INCH	925.000 LF		.		.
2680	652.0615 CONDUIT SPECIAL 3-INCH	1,085.000 LF		.		.
2690	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM	15.000 EACH		.		.
2700	652.0800 CONDUIT LOOP DETECTOR	1,110.000 LF		.		.
2710	653.0140 PULL BOXES STEEL 24X42-INCH	53.000 EACH		.		.
2720	653.0208 JUNCTION BOXES 8X8X8-INCH	2.000 EACH		.		.
2730	653.0905 REMOVING PULL BOXES	14.000 EACH		.		.
2740	654.0101 CONCRETE BASES TYPE 1	16.000 EACH		.		.
2750	654.0102 CONCRETE BASES TYPE 2	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
2760	654.0105 CONCRETE BASES TYPE 5	2.000 EACH		.		.
2770	654.0106 CONCRETE BASES TYPE 6	18.000 EACH		.		.
2780	654.0110 CONCRETE BASES TYPE 10	4.000 EACH		.		.
2790	654.0217 CONCRETE CONTROL CABINET BASES TYPE 9 SPECIAL	2.000 EACH		.		.
2800	654.0224 CONCRETE CONTROL CABINET BASES TYPE L24	2.000 EACH		.		.
2810	655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG	288.000 LF		.		.
2820	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG	897.000 LF		.		.
2830	655.0250 CABLE TRAFFIC SIGNAL 9-14 AWG	1,070.000 LF		.		.
2840	655.0270 CABLE TRAFFIC SIGNAL 15-14 AWG	3,740.000 LF		.		.
2850	655.0410 COMMUNICATION CABLE INSTALLED IN CONDUIT	830.000 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
2860	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS 10 AWG	4,240.000 LF		.		.
2870	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG	8,850.000 LF		.		.
2880	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG	30,045.000 LF		.		.
2890	655.0700 LOOP DETECTOR LEAD IN CABLE	3,038.000 LF		.		.
2900	655.0800 LOOP DETECTOR WIRE	3,002.000 LF		.		.
2910	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE	1,160.000 LF		.		.
2920	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. STA. 20'CGW'+15.0, 40.0' LT.	LUMP	LUMP			.
2930	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. STA. 14'CGW'+34.0, 24.0' LT.	LUMP	LUMP			.
2940	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 03. STA. 14'CGW'+11.0, 23.0' LT.	LUMP	LUMP			.

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2950	656.0200 ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 04. STA. 21'CGW'+83.0, 47.0' LT.	LUMP	LUMP			.
2960	657.0100 PEDESTAL BASES	16.000 EACH		.		.
2970	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	20.000 EACH		.		.
2980	657.0322 POLES TYPE 5-ALUMINUM	2.000 EACH		.		.
2990	657.0327 POLES TYPE 6-ALUMINUM	16.000 EACH		.		.
3000	657.0420 TRAFFIC SIGNAL STANDARDS ALUMINUM 13-FT	1.000 EACH		.		.
3010	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT	5.000 EACH		.		.
3020	657.0430 TRAFFIC SIGNAL STANDARDS ALUMINUM 10-FT	2.000 EACH		.		.
3030	657.0615 LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT	12.000 EACH		.		.
3040	657.0715 LUMINAIRE ARMS TRUSS TYPE 4 1/2-INCH CLAMP 15-FT	8.000 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
3050	657.1345 INSTALL POLES TYPE 9	4.000 EACH		.		.
3060	657.1530 INSTALL MONOTUBE ARMS 30-FT	4.000 EACH		.		.
3070	658.0110 TRAFFIC SIGNAL FACE 3-12 INCH VERTICAL	9.000 EACH		.		.
3080	658.0115 TRAFFIC SIGNAL FACE 4-12 INCH VERTICAL	9.000 EACH		.		.
3090	658.0120 TRAFFIC SIGNAL FACE 5-12 INCH VERTICAL	2.000 EACH		.		.
3100	658.0215 BACKPLATES SIGNAL FACE 3 SECTION 12-INCH	9.000 EACH		.		.
3110	658.0220 BACKPLATES SIGNAL FACE 4 SECTION 12-INCH	9.000 EACH		.		.
3120	658.0225 BACKPLATES SIGNAL FACE 5 SECTION 12-INCH	2.000 EACH		.		.
3130	658.0416 PEDESTRIAN SIGNAL FACE 16-INCH	12.000 EACH		.		.
3140	658.0500 PEDESTRIAN PUSH BUTTONS	12.000 EACH		.		.
3150	658.0600 LED MODULES 12-INCH RED BALL	24.000 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
3160	658.0605 LED MODULES 12-INCH YELLOW BALL	24.000 EACH		.		.
3170	658.0610 LED MODULES 12-INCH GREEN BALL	24.000 EACH		.		.
3180	658.0615 LED MODULES 12-INCH RED ARROW	9.000 EACH		.		.
3190	658.0620 LED MODULES 12-INCH YELLOW ARROW	20.000 EACH		.		.
3200	658.0625 LED MODULES 12-INCH GREEN ARROW	11.000 EACH		.		.
3210	658.0635 LED MODULES PEDESTRIAN COUNTDOWN TIMER 16-INCH	12.000 EACH		.		.
3220	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 01. USH 51 SB & COTTAGE GROVE ROAD	LUMP	LUMP			.
3230	658.5069 SIGNAL MOUNTING HARDWARE (LOCATION) 02. USH 51 NB & COTTAGE GROVE ROAD	LUMP	LUMP			.
3240	659.1115 LUMINAIRES UTILITY LED A	36.000 EACH		.		.
3250	659.1120 LUMINAIRES UTILITY LED B	17.000 EACH		.		.

CONTRACT: 20150210007
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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
3260	659.1205 LUMINAIRES UNDERDECK LED A	4.000 EACH		.		.
3270	659.2124 LIGHTING CONTROL CABINETS 120/240 24-INCH	2.000 EACH		.		.
3280	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 01. USH 51 SB & COTTAGE GROVE ROAD	LUMP	LUMP			.
3290	661.0200 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS (LOCATION) 02. USH 51 NB & COTTAGE GROVE ROAD	LUMP	LUMP			.
3300	670.0100 FIELD SYSTEM INTEGRATOR	LUMP	LUMP			.
3310	678.0500 COMMUNICATION SYSTEM TESTING	LUMP	LUMP			.
3320	690.0150 SAWING ASPHALT	540.000 LF		.		.
3330	690.0250 SAWING CONCRETE	2,621.000 LF		.		.
3340	715.0415 INCENTIVE STRENGTH CONCRETE PAVEMENT	8,550.000 DOL	1.00000		8550.00	

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3350	715.0502 INCENTIVE STRENGTH CONCRETE STRUCTURES	930.000 DOL	1.00000		930.00	
3360	ASP.1T0A ON-THE-JOB TRAINING APPRENTICE AT $5.00/HR	1,000.000 HRS	5.00000		5000.00	
3370	ASP.1T0G ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	550.000 HRS	5.00000		2750.00	
3380	SPV.0035 SPECIAL 01. DRAINAGE BLANKET	2,677.000 CY	.		.	
3390	SPV.0035 SPECIAL 02. ABANDON SANITARY SEWER WITH SLURRY	16.720 CY	.		.	
3400	SPV.0045 SPECIAL 01. TEMPORARY CROSSWALK	45.000 DAY	.		.	
3410	SPV.0060 SPECIAL 01. UTILITY LINE OPENING (ULO)	10.000 EACH	.		.	
3420	SPV.0060 SPECIAL 02. MANHOLE COVER TYPE SPECIAL LOGO	11.000 EACH	.		.	
3430	SPV.0060 SPECIAL 03. INLET COVERS TYPE SPECIAL MS-A	1.000 EACH	.		.	
3440	SPV.0060 SPECIAL 04. SALVAGE AND REINSTALL LIGHTING UNIT	2.000 EACH	.		.	

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3450	SPV.0060 SPECIAL 05. SALVAGE & REINSTALL TRAFFIC EQUIPMENT	8.000 EACH		.		.
3460	SPV.0060 SPECIAL 06. ABANDON CONCRETE BASE	1.000 EACH		.		.
3470	SPV.0060 SPECIAL 07. CLEANING AND PAINTING BEARINGS	40.000 EACH		.		.
3480	SPV.0060 SPECIAL 08. ADJUST WATER VALVE BOX	4.000 EACH		.		.
3490	SPV.0060 SPECIAL 09. SANITARY SEWER ACCESS STRUCTURE, 4-FOOT DIAMETER	1.000 EACH		.		.
3500	SPV.0060 SPECIAL 10. SANITARY SEWER ACCESS STRUCTURE, 5-FOOT DIAMETER	8.000 EACH		.		.
3510	SPV.0060 SPECIAL 11. ADJUST SAS SPECIAL	1.000 EACH		.		.
3520	SPV.0060 SPECIAL 12. SANITARY SEWER TAP	4.000 EACH		.		.
3530	SPV.0060 SPECIAL 13. SEWER ELECTRONIC MARKERS	1.000 EACH		.		.
3540	SPV.0060 SPECIAL 14. SANITARY LATERAL RECONNECT	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
3550	SPV.0060 SPECIAL 15. REMOVE SANITARY SEWER STRUCTURE	4.000 EACH		.		.
3560	SPV.0060 SPECIAL 16. ABANDON SEWER ACCESS STRUCTURES	4.000 EACH		.		.
3570	SPV.0060 SPECIAL 17. ABANDON SANITARY SEWER - PIPE PLUG	4.000 EACH		.		.
3580	SPV.0060 SPECIAL 18. TEMPORARY SANITARY SEWER CONNECTION	2.000 EACH		.		.
3590	SPV.0060 SPECIAL 19. INSTALL COMPRESSION COUPLING	1.000 EACH		.		.
3600	SPV.0060 SPECIAL 20. PIPE SUPPORTS	1.000 EACH		.		.
3610	SPV.0060 SPECIAL 21. SANITARY FORCE MAIN CONNECTION	2.000 EACH		.		.
3620	SPV.0060 SPECIAL 22. 4X4X4-INCH FLUSH MOUNTED JUNCTION BOX	4.000 EACH		.		.
3630	SPV.0060 SPECIAL 23. SETTLEMENT GAUGES	5.000 EACH		.		.
3640	SPV.0060 SPECIAL 24. VIBRATING WIRE PIEZOMETER INSTRUMENTATION SYSTEM	6.000 EACH		.		.

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	SPV.0085 SPECIAL 01.					
3650	BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES	2,040.000 LB		.		.
	SPV.0090 SPECIAL 01.					
3660	CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE A	2,045.000 LF		.		.
	SPV.0090 SPECIAL 02.					
3670	CONCRETE CURB & GUTTER SPECIAL 24-INCH TYPE D	110.000 LF		.		.
	SPV.0090 SPECIAL 03.					
3680	CONCRETE CURB INTEGRAL SPECIAL 12-INCH TYPE D	70.000 LF		.		.
	SPV.0090 SPECIAL 04.					
3690	FENCE CHAIN LINK POLYMER-COATED 4-FT	408.000 LF		.		.
	SPV.0090 SPECIAL 05.					
3700	FENCE CHAIN LINK POLYMER-COATED 6-FT	165.000 LF		.		.
	SPV.0090 SPECIAL 06.					
3710	WICK DRAINS	23,040.000 LF		.		.
	SPV.0090 SPECIAL 07.					
3720	PEDESTRIAN SAFETY FENCE	300.000 LF		.		.
	SPV.0090 SPECIAL 08.					
3730	PEDESTRIAN OVERHEAD PROTECTION	150.000 LF		.		.
	SPV.0090 SPECIAL 09.					
3740	SANITARY SEWER PIPE PVC, 8-INCH	46.000 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
3750	SPV.0090 SPECIAL 10. SANITARY SEWER PIPE PVC, 21-INCH	1,318.000 LF		.		.
3760	SPV.0090 SPECIAL 11. SANITARY SEWER LATERAL	35.000 LF		.		.
3770	SPV.0090 SPECIAL 12. SELECT FILL FOR SANITARY SEWER	1,624.000 LF		.		.
3780	SPV.0090 SPECIAL 13. REMOVE SANITARY SEWER PIPE	17.000 LF		.		.
3790	SPV.0090 SPECIAL 14. BORE AND JACK SANITARY SEWER 21-INCH	225.000 LF		.		.
3800	SPV.0090 SPECIAL 15. FENCE CHAIN LINK POLYMER-COATED 8-FT	114.000 LF		.		.
3810	SPV.0105 SPECIAL 01. CHAIN DRAGGING DECK	LUMP	LUMP			.
3820	SPV.0105 SPECIAL 02. DEWATERING FOR SANITARY SEWER CONSTRUCTION	LUMP	LUMP			.
3830	SPV.0105 SPECIAL 03. HEAVY WASTEWATER CONTROL 2000 GPM	LUMP	LUMP			.
3840	SPV.0105 SPECIAL 04. CONSTRUCTION STAKING SANITARY SEWER	LUMP	LUMP			.

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3850	SPV.0105 SPECIAL 05. CONCRETE PAVEMENT JOINT LAYOUT	LUMP	LUMP			.
3860	SPV.0105 SPECIAL 06. OUTLET GATE C-13-2075	LUMP	LUMP			.
3870	SPV.0105 SPECIAL 07. TEMPORARY VEHICLE DETECTION (USH 51 SB & COTTAGE GROVE ROAD)	LUMP	LUMP			.
3880	SPV.0105 SPECIAL 08. TEMPORARY VEHICLE DETECTION (USH 51 NB & COTTAGE GROVE ROAD)	LUMP	LUMP			.
3890	SPV.0105 SPECIAL 09. INSTALL VENDOR SUPPLIED TRAFFIC SIGN AL CABINET(USH 51 SB & COTTAGE GROVE RD)	LUMP	LUMP			.
3900	SPV.0105 SPECIAL 10. INSTALL VENDOR SUPPLIED TRAFFIC SIGN AL CABINET(USH 51 NB & COTTAGE GROVE RD)	LUMP	LUMP			.
3910	SPV.0105 SPECIAL 11. INSTALL STATE FURNISHED EVP EQUIPMEN T (USH 51 SB & COTTAGE GROVE ROAD)	LUMP	LUMP			.
3920	SPV.0105 SPECIAL 12. INSTALL STATE FURNISHED EVP EQUIPMEN T (USH 51 NB & COTTAGE GROVE ROAD)	LUMP	LUMP			.

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3930	SPV.0105 SPECIAL 13. GEOTECHNICAL INSTRUMENTATION	LUMP	LUMP			.
3940	SPV.0165 SPECIAL 01. DECK SURFACE PATCHING	250.000 SF		.		.
3950	SPV.0165 SPECIAL 02. CONCRETE SURFACE REPAIR SPECIAL	900.000 SF		.		.
3960	SPV.0165 SPECIAL 03. FIBER WRAP PIER REINFORCING	1,050.000 SF		.		.
3970	SPV.0165 SPECIAL 04. UNDER DECK SPALL REPAIR	15.000 SF		.		.
3980	SPV.0165 SPECIAL 05. WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	11,643.000 SF		.		.
3990	SPV.0165 SPECIAL 06. WALL WIRE FACED MECHANICALLY STABILIZED EARTH LRFD/QMP	1,572.000 SF		.		.
4000	SPV.0180 SPECIAL 01. SLOPE PAVING CONCRETE WATERWAY SPECIAL	220.000 SY		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.

PLEASE ATTACH SCHEDULE OF ITEMS HERE